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IBM Db2 Analytics Accelerator Loader for z/OS
User Guide

SC27-6777-01

Note:

Before using this information and the product it supports, read the "Notices" topic at the end of this information.

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This edition applies to Version 2 Release 1 of IBM® Db2® Analytics Accelerator Loader for z/OS (product number 5639-OLE) and to all subsequent releases and modifications until otherwise indicated in new editions.

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About this information

IBM Db2 Analytics Accelerator Loader for z/OS (also referred to as Db2 Analytics Accelerator Loader and Accelerator Loader) is a tool that efficiently loads data on IBM Db2 Analytics Accelerator for z/OS and on IBM Db2 for z/OS®.

These topics provide instructions for installing, configuring, and using Db2 Analytics Accelerator Loader.

These topics are designed to help database administrators, system programmers, application programmers, and system operators perform these tasks:

- Plan for the installation of Db2 Analytics Accelerator Loader
- Install and operate Db2 Analytics Accelerator Loader
- Customize your Db2 Analytics Accelerator Loader environment
- Diagnose and recover from Db2 Analytics Accelerator Loader problems
- Design and write applications for Db2 Analytics Accelerator Loader
- Use Db2 Analytics Accelerator Loader with other Db2 or IMS products

Tip: To find the most current version of this information, always use IBM Knowledge Center, which is updated more frequently than PDF books.

Chapter 1. Overview

Use IBM Db2 Analytics Accelerator Loader for z/OS to load data to IBM Db2 Analytics Accelerator for z/OS and to IBM Db2 for z/OS. Accelerator Loader increases loading efficiency by enabling you to continue updating production tables while data is loading to IBM Db2 Analytics Accelerator for z/OS.

The IBM Db2 Analytics Accelerator Loader for z/OS appliance:

- Combines System z and Netezza technologies
- Delivers mixed workload performance for complex analytic needs
- Runs complex queries up to 2000 times faster
- Retains single-record lookup speed
- Eliminates costly query tuning while offloading query processing

What's new in Db2 Analytics Accelerator Loader

This section describes recent technical changes to Db2 Analytics Accelerator Loader.

New and changed information is marked with a vertical bar to the left of a change, like this paragraph. Editorial changes that have no technical significance are not marked.

Older changes and enhancements are described in “What's new in previous editions” on page 997.

New and changed functions

This topic summarizes recent enhancements and changes in Db2 Analytics Accelerator Loader.

Updates in previous releases

Description	Related APARs
Card BUFFERS_IN_31_BIT is now always enabled by default and cannot be turned off.	None
For Db2 for z/OS V12 and function level 500 or above SSID. When running an Accelerator Loader job using AUTH_COMPATIBILITY=SELECT_FOR_UNLOAD: HALOAD jobs with multiple tables load only those tables having SELECT privilege. LOAD steps for tables that do not have SELECT privilege end with return code 4 and message HLOU4115W. If no tables have SELECT privilege, the HALOAD job ends with return code 8. Tables without SELECT privilege loaded using IDAA_ONLY or IDAA_DUAL do not load, and the job ends with return code 8 and error messages HLOU4115W and HLOU4117E.	PH19777
Accelerator Loader External load and HALOAD no longer require interception of the UNLOAD utility in the DSNUTILU WLM address space when using IBM Db2 Analytics Accelerator for z/OS V5.1.8 and above. Now, for a given Db2 subsystem or Db2 data-sharing group, you must concatenate the APF-authorized Accelerator Loader load library in the STEPLIB of the WLM environment that runs the SYSPROC.ACCEL_LOAD_TABLES stored procedure. For more information, see “Using Analytics Accelerator V5.1.8” on page 116	PH22761
For Accelerator Loader External load, you can now use keyword ACCEL_LOCKMODE with IDAA_ONLY and IDAA_DUAL load jobs. The Accelerator Loader default value for ACCEL_LOCKMODE is ROW.	PH22761

Description	Related APARs
The option **Inline copy** has been added to panel **Load Accelerator from Specified Image Copy** in the ISPF interface. Using this option, the TO_IC_INLINE keyword can now be generated into the JCL from the ISPF interface. See “Load Accelerator from Specified Image Copy panel” on page 966.	PH16516
A new keyword, DB2_SORT, is provided that specifies if the Db2 Sort program is to be used for load job sort processing. This specification now occurs at the job level only; previously, this specification was made globally. As part of this enhancement, options "Use Db2 Sort when possible" and "Sort program installed" have been removed from panel DB2 Parameters: DB2 Accelerator Loader (CCQPDB2) in Tools Customizer and from panel Accelerator Loader Parameters (HLOLLDXP).	PH16516
Multiple HALOAD jobs can now run in parallel to load the same table to different accelerators. The accelerators must be version 7.1 or later. Previously, only the first job to be submitted would run normally while any subsequent job would fail with the message HLOU4027E. For more information about the HALOAD utility, see Chapter 8, “Loading data from Db2 to one or more accelerators,” on page 263.	PH16516
When using the HALOAD utility, you can now control if the REFRESH_TIME value in SYSACCEL.SYSACCELERATEDTABLES is updated when no data is loaded to a table on a specific accelerator. This feature is controlled by the new started task initialization option ACCEL_UPDATE_REFRESH_TIME_NOLOAD. The parameter value is set globally in Tools Customizer using the parameter **Refresh timestamp**, and it can also be overridden for a specific job by specifying parameter ACCEL_UPDATE_REFRESH_TIME_NOLOAD as part of the utility syntax for the job.	PH11523
For a new installation of Accelerator Loader where product repository table spaces do not exist, the repository table spaces are now created as partition-by-growth universal table spaces. This change does not impact existing installations, even after migrating to Db2 12 function level 504.	PH13717
The Accelerator Loader high availability (HALOAD) utility no longer requires interception of the UNLOAD utility in the DSNUTILU WLM address space. This feature requires IBM Db2 Analytics Accelerator for z/OS V7.1.7. For more information, see “Using Analytics Accelerator V7.1.7, or later, or V7.5.0, or later” on page 115.	PH13717
The Accelerator Loader backup utility now reports the first five positive SQL codes that are encountered and processing continues. After a successful execution with only warnings and no errors, the final return code is set to 4. When a negative SQL code is encountered, the Accelerator Loader backup utility reports the error and the job terminates with return code 8. See Chapter 9, “Backing up and recovering accelerator data,” on page 269.	PH11526
Information has been added about applying product maintenance and recustomizing Accelerator Loader using Tools Customizer. See “Applying product maintenance” on page 190.	None
For Consistent loads and Image Copy loads, a manually-specified input image copy on the TO_IC keyword that is an inline image copy created by the REORG or LOAD utility or an image copy of a compressed object must be sorted. By including the TO_IC_INLINE keyword, a sort will be performed on the specified input image copy. For more information, see “Syntax diagram: Consistent load” on page 299 and “Syntax definitions: Consistent load and Image Copy load” on page 306.	None

Description	Related APARs
When using the startup CLIST to start the Accelerator Loader ISPF interface, you can now specify the Db2 SSID and Server ID values to use initially on the main menu. See “Using the startup CLIST” on page 943.	PH09817
You can now use Tools Customizer to configure the Accelerator Loader server to access a Microsoft SQL Server database using DRDA. See “Configuring access to data in Microsoft SQL Server” on page 140.	PH09817
The batch utilities for Consistent load and Image Copy load now support accelerator groups. Previously, only individual accelerator names could be specified on the ACCELNAME control card in the JCL. If you specify an accelerator group, the single accelerator group name expands to its individual accelerator names when you run the job. See “Syntax definitions: Consistent load and Image Copy load” on page 306.	PH09817
The DISPLAY SESSIONS command has been enhanced to report the number of rows that have been loaded. See “Console commands for the Accelerator Loader started task” on page 993.	PH09817
When using SMF log streams, you can use the LS_TIMESTAMP and LS_TIMESTAMP_LOCAL virtual columns to retrieve timestamp values. When used in a WHERE predicate, the timestamp is searched using the respective time zone. See “System Management File sample code” on page 232.	PH07675
The *JDBC Gateway* is an Accelerator Loader distributed application server that allows direct connectivity to JDBC data sources. See Chapter 13, “JDBC Gateway,” on page 449.	PH00695
A new option is provided that controls whether existing rows are deleted from the Db2 table when loading to the accelerator only and using the REPLACE option (IDAA_ONLY REPLACE). Previously, when using IDAA_ONLY REPLACE, existing rows were deleted from the Db2 table and data was loaded to the accelerator-shadow table only. By adding the new option ACCEL_SKIP_DB2_REPLACE to the IDAA_ONLY REPLACE job syntax, existing rows are not deleted from the Db2 table and data is loaded to the accelerator-shadow table only. This new option is valid only when used with the IDAA_ONLY option; it is ignored when used with the IDAA_DUAL option. See Chapter 11, “Syntax,” on page 283.	PH03210
Accelerator Loader now provides a way to monitor load processing by periodically issuing a product message (“HLOU5062I” on page 639) that reports the number of rows that have been loaded. The interval (in rows loaded) at which the message is issued is controlled by the new parameter ACCEL_ROWS_REPORT_THRESHOLD. The parameter value is set globally in Tools Customizer using the parameter **Report loaded rows threshold**, and it can also be overridden for a specific job by specifying parameter ACCEL_ROWS_REPORT_THRESHOLD as part of the utility syntax for the job. See “Monitoring load job progress” on page 918.	PH03209
The ISPF interface has been updated to support discard processing when loading from an external file to the accelerator only. On the Load Accelerator(s) from External File panel, options to generate the DISCARDS and DISCARDDN keywords are now provided. See “Load Accelerator(s) from External File panel” on page 978 and “Syntax definitions: Load from an external file” on page 322.	PH03042
Virtual table rule support is provided for specifying the number of tracks to read ahead (MULTACC) when reading sequential data sets for individual requests. See “Reading ahead tracks for sequential file access” on page 161.	PH01448

Description	Related APARs
You can control whether native Db2 database subsystems appear in ISPF and the Accelerator Loader studio and if attempts to connect to native Db2 subsystems are allowed. See “Controlling display and access for native Db2 subsystems ” on page 151.	PH00641 PH02162
Virtual table rule support is provided for overriding data buffer and index buffer values for VSAM files for individual requests. See “Modifying the data and index buffer values for VSAM files” on page 159.	PH00034
Accelerator Loader now supports the IBM Db2 Analytics Accelerator for z/OS V7.1.2 interface to the SYSPROC.ACCEL_LOAD_TABLES stored procedure (SP level 66). The new interface bypasses the running of the UNLOAD utility and the intercept in the DSNUTILU WLM address space for Analytics Accelerator V7.1.2 and later versions. The HALOAD utility still requires the intercept in the DSNUTILU WLM address space, as do any Accelerator Loader jobs running against an Analytics Accelerator appliance prior to the V7.1.2 release. To use the Analytics Accelerator V7.1.2 interface, you must concatenate the Accelerator Loader product load library in the STEPLIB of the Db2 allied WLM environment that runs the SYSPROC.ACCEL_LOAD_TABLES stored procedure. See “Using Analytics Accelerator V7.1.2 through V7.1.6” on page 115.	PI99095
Adabas password support has been added to the batch Data Mapping Facility (DMF). When creating Adabas virtual tables in batch using DMF, the Adabas password for the file (ADASCR) is now supported. Additionally, this password can be encoded using an ISPF panel, where you can specify the plain text password and then use the returned encoded version of the password in the batch JCL. See the following topics: “Generating an encrypted Adabas password” on page 207, “Server Management Menu” on page 989, “DMF Map Adabas Password Encryption panel” on page 961.	PI97941
A new option is provided to map Adabas binary fields to numeric packed decimal format. See “Creating virtual tables for Adabas data” on page 205.	PI93753
When option **Load DB2 if load to accelerator fails** (options module parameter ACCEL_ON_UNSUPPORTED_LOAD) is set to LOAD_DB2 and the table to be loaded is not defined on the accelerator, data will be loaded into Db2 when running a dual load job (IDAA_DUAL). Previously, the load job would have failed and data would not have been loaded into the Db2 table. See “Task: Create the started task and its components (required)” on page 46.	PI96524
Db2 Direct is a new Accelerator Loader server access method used to access Db2 data by reading the data in the underlying Db2 VSAM linear data sets directly. The Db2 data access method is specified when creating virtual tables for access to Db2 data. See the following topics: • “Db2 for z/OS data access methods” on page 135 • “Configuring Db2 Direct” on page 136 • “Creating virtual tables for RDBMS data sources” on page 207	PI95700
A command-line installation method has been provided for installing the Accelerator Loader plug-in into IBM Data Studio or any supported Eclipse. This new installation method is provided in addition to the existing installation method, which uses the Eclipse GUI. See “Installing the Accelerator Loader studio (required)” on page 119.	PI94841
SQL query access to Db2 unload data sets is now provided. See “Configuring access to Db2 unload data sets” on page 133 and “Accessing Db2 unload data” on page 233.	PI94345

Description	Related APARs
The process of creating maps to access VSAM and sequential data has been simplified by support of the following methods: • Querying information in the IBM Application Discovery and Delivery Intelligence (ADDI) dictionary. See "Configuring access to ADDI" on page 175 and "Creating virtual tables for VSAM and sequential access using ADDI" on page 223. • Querying information in the IBM Rational Asset Analyzer (RAA) dictionary. See "Configuring access to RAA" on page 181, "Creating virtual tables for VSAM and sequential access using RAA" on page 225 and "Metadata Discovery preferences" on page 242.	PI94344
The Accelerator Loader server can now listen for ENF 55 auxiliary storage shortage signals and throttle storage utilization when an auxiliary storage shortage is signaled. The point at which the Accelerator Loader server will reject new connection attempts when an auxiliary storage shortage is signaled by the system Event Notification Facility is controlled by the server parameter **DSCLIENTAUXSTGCUTOFF**. See "Modifying the client auxiliary storage cut-off parameter" on page 423.	PI94260
When connecting from the Accelerator Loader studio to the Accelerator Loader server, password phrase authentication is supported. See "Connecting to the Accelerator Loader server" on page 199.	PI93497
Accelerator Loader supports IBM Db2 Analytics Accelerator for z/OS Version 7.1. See "Set up your environment prior to customization" on page 29.	PI92661
SQL access to IBM MQ is now provided. See "Configuring access to IBM MQ" on page 173 and "Creating virtual tables for IBM MQ" on page 214. Delimited data can now be used with virtual tables. See "Configuring delimited data support" on page 187.	PI92074
DRDA authentication has been enhanced to support encrypted passwords and create a global default user ID, as described in the following topics: • "Configuring rules and authentication for Big SQL" on page 147 • "Configuring rules and authentication for dashDB" on page 148 • "Configuring rules and authentication for LUW databases" on page 149 • "Configuring rules and authentication for Microsoft SQL Server" on page 141 • "Configuring rules and authentication for Oracle DRDA" on page 143 • "Configuring rules and authentication for QMF DRDA Server" on page 150	PI91200
IMS Direct now supports calls to Guardium encryption and decryption exits. See Using exits.	PI91070
When generating JCL in the Accelerator Loader studio, you can specify an alternate authorization ID under which the DROP TABLE and CREATE TABLE statements will be executed. The new **SET CURRENT SQLID** field appears on the final page of the **Generate JCL to Load Accelerator** wizard. See "Generating JCL" on page 228.	PI90310
IMS Direct supports access to multiple IMS subsystems. For updated procedures, see "Modifying the server configuration member for IMS Direct" on page 155 and "Creating virtual tables for IMS data" on page 209.	PI89416

Description	Related APARs
You can specify a generation data group base name when defining a virtual table, which will cause all active generations of the group to be read. Using a virtual table rule, you can also read only a subset of a generation data group. See “Creating virtual tables for sequential data” on page 217 and “Configuring generation data set retrieval” on page 186.	PI89518
You must APF-authorize the *hlq*.SHLVRPC library. See “APF-authorizing the load libraries (required)” on page 112. In the Accelerator Loader studio, when generating JCL to load the accelerator, the option **Enable Loader Parallelism** now defaults to enabled. The default degree of parallelism is set to 4. See “Generating JCL” on page 228.	PI89079
The handling of discarded records when loading from an external file using Accelerator Loader has changed, behaving more like the Db2 LOAD utility. Under some conditions, Accelerator Loader may now complete with a different return code than it would have previously. • When you load only the accelerator, a discard data set is now supported when running a load with a SYSREC data set. The DISCARDS keyword can also be specified to force Accelerator Loader to fail once a specified number of records are discarded. • The IGNORE keyword of the Db2 LOAD utility is now supported. The IGNORE keyword controls how different types of discards are handled by Accelerator Loader. Ignored discards are not written to the discard data set and do not count towards the discard limit. • A data conversion error will now cause Accelerator Loader to fail unless a discard data set is provided or IGNORE(CONV) is specified in the LOAD control cards. Previously, the record that caused the violation would be discarded and processing would continue. • Accelerator Loader will now end with RC=0 even when records are discarded, provided the associated discard reasons are being IGNOREd. Previously, any discard would cause Accelerator Loader to end with RC=4. Since loads from an Accelerator Loader server data source do not support a discard data set, these loads will complete with RC=4 any time there are discards regardless of IGNORE settings. See “Discard data set restrictions and considerations” on page 255 for more information.	PI90862
The HALOAD DETECT_DATA_CHANGES option updates the REFRESH_TIME (in SYSACCEL.SYSACCELERATEDTABLES) of all tables specified on the call.	PI88521
When loading from an external file to the accelerator and Db2 (Dual load), if Accelerator Loader cannot determine the status of an accelerator from the ACCEL_CONTROL_ACCELERATOR stored procedure, the accelerator is considered unreachable and will be treated as offline. Previously, an unreachable accelerator would have caused the load job to fail.	PI90296
When performing Consistent and Image Copy loads, Accelerator Loader performs additional row data validation prior to applying redo log records.	PI88335

Description	Related APARs
Target Unicode accelerator tables can be loaded from an Accelerator Loader server data source containing EBCDIC data. You can load EBCDIC data stored on the mainframe into target tables defined as CCSID Unicode. One of the primary use cases for this feature is compatibility between tables loaded from EBCDIC data and existing tables populated by other means. In particular, the accelerator does not support joins between Unicode and EBCDIC tables. Options **CCSID** and **Enable Unicode Column Expansion** in the **Generate JCL to Load Accelerator** wizard in the Accelerator Loader studio are provided for use when generating Accelerator Loader server load jobs.	PI85070
In the Accelerator Loader studio, when creating virtual tables for CA IDMS data, the database name can be edited. When doing discovery, the studio gets back the first database name that is found relating to a record's area name; however, it is possible for records to be defined in multiple databases for the same schema/subschema combination. With the database name being editable in the virtual table map editor for CA IDMS data in the Accelerator Loader studio, the user can modify the map to point to a different database.	PI85070
Accelerator Loader can now process SMF data in zEDC-compressed log streams. The Accelerator Loader server automatically detects when SMF log stream data has been compressed, and calls zEDC services to inflate the data in the log stream buffer before processing the SMF records.	PI86772
When the primary Db2 subsystem to which Accelerator Loader is connected goes down, the Accelerator Loader started task now remains active and will automatically attach to another member of the data sharing group on the same LPAR, if applicable. Previously, this condition caused the started task to terminate. See "Considerations for Db2 data sharing environments" on page 35 for more information. If a subsystem has been in maintenance mode, you can run the following z/OS **MODIFY** command to update the Accelerator Loader started task so that Accelerator Loader will begin to monitor that subsystem: `MODIFY <started_task_name>,--REFRESH DB2` where *started_task_name* is the name of the Accelerator Loader started task. See "Console commands for the Accelerator Loader started task" on page 993 for more information.	PI84052
When loading from an external file to the accelerator and Db2, Accelerator Loader can issue a user-supplied return code when Db2 LOAD discards rows that Accelerator Loader has already delivered to the accelerator. A new Accelerator Loader started task option, RC_WHEN_DB2_DISCARDS, is provided for defining the return code. This new option does not change the return code when a row is discarded from both Db2 and the accelerator.	PI85815
Accelerator Loader now offloads more CPU cycles to the IBM z Integrated Information Processor (zIIP). This additional zIIP exploitation is available only when External load does not sort the data. External load sorts data only when loading a range-partitioned or index-partitioned object from a single SYSREC data set (that is, when partition level SYSREC data sets are not used).	PI86642

Description	Related APARs
Accelerator Loader now provides reduced CPU usage in cases where External load must wait for Db2 LOAD to build indexes. This performance improvement can reduce CPU usage when running an IDAA_DUAL type External load to a Db2 table that has indexes. CPU reduction is limited to cases where Accelerator Loader does not sort the data. Data sorting occurs only when loading a range or index-partitioned table from a single SYSREC dataset.	PI85898
When loading from an external file to the accelerator and Db2, you can optionally stop the target table space before loading a table enabled for replication. The stop drains all claimers and ensures that no updates are made to the Db2 table while the accelerator is being loaded. This behavior is controlled by the options module parameter **STOP the target table space before initiating the load**.	PI84115
Changes have been made to reduce External load's CPU usage when running in task mode. The change that has the most impact will only reduce CPU usage in cases where External load does not sort the data. Sorting of data is currently only required when loading a range-partitioned or index-partitioned table.	PI85219

Description	Related APARs
The following list highlights the enhancements to the Accelerator Loader server: • AES 256-bit can now be used to encrypt the password when the driver is establishing a connection with the server. • A new composite SMF virtual table rule replaces all existing SMF virtual table rules. The updated member *hlq*.SHLVXVTB(HLVSMFT1) contains all the functionality in the previous SMF virtual table rules HLVSMFT1, HLVSMFT2, HLVSMFT3, HLVSMFT4, and HLVSMFT5. • MapReduce and parallelism support is now available for accessing native IMS OSAM files. IMS compression exit support is also included for all supported IMS Direct database types. • SQL access to CA IDMS record and set information managed by CA IDMS central versions running on z/OS is now provided. Virtual tables are mapped to IDMS records and sets that can be joined using standard SQL to navigate IDMS information. MapReduce processing is supported to improve performance of large data extracts of IDMS information. • The ability to access IBM dashDB data sources via DRDA Virtual Request Facility (VRF) using standard SQL processing is provided. DRDA VRF is a feature that is designed to access data sources which provide the DRDA protocol. • IBM Big SQL data sources are now uniquely identified by TYPE(BIGSQL) in the DEFINE DATABASE statement. • In the Accelerator Loader studio, when virtualizing Db2/DRDA data sources, the user can select multiple Db2/DRDA tables and run the new wizard once to generate the required virtual tables. Previously, the user was required to run the Virtual Table creation wizard multiple times for each Db2/DRDA source table. • The user can now set the data and index buffers for VSAM files. Two new Accelerator Loader server parameters, SQLENGVSAMDATABUFF and SQLENGVSAMINDEXBUFF, have been introduced to control these settings. Previously, the values were hardcoded. • Virtual Parallel Data (VPD) now supports Adabas files; VSAM ESDS, KSDS, and RRDS files; and IAM files. • IMS Direct now supports Fast Path data entry databases (DEDBs). • A batch job with sample DRDARange and IMSRange commands, which are used to populate the Accelerator Loader server metadata repository, is now provided. The job is located in *hlq*.SHLVCNTL(HLVRANGE). Instructions for required edits to the job are provided in the member. • MapReduce now supports Innovation Access Method (IAM) files. IAM is a VSAM optimization product distributed by Innovation Data Processing. • A new set of SQL preferences has been added to the Accelerator Loader studio. These settings are related to SQL query generation, the SQL Results view, and SQL metadata retrieval. These new settings can improve the performance of metadata retrieval for Db2 and DRDA tables. • A new Accelerator Loader server parameter has been introduced which specifies to automatically map all DECFLOAT columns defined in Accelerator Loader server virtual tables to DOUBLE at runtime. DECFLOAT is not a supported data type in the accelerator.	PI76778 PI80385 PI80386 PI80783 PI81983

Description	Related APARs
The following changes have been made to Tools Customizer: • The default size of the global variable file that is used by the Accelerator Loader server has been increased. • The following server parameters have been added to the Product Parameters panel: – **Enable support for SMF log streams and in-memory resources** – **Call the interface module for IAM** • The following changes have been made in the HLOIN00 template: – Parameters have been added for Virtual Parallel Data support. – Parameters have been added for enhanced MapReduce support.	PI83170
High availability load is now available for Consistent load and Image Copy load.	PI65840
A new method is available for terminating a Db2 utility for which DSNUTILB intercept processing is occurring or has occurred and performing the associated maintenance tasks related to DSNUTILB interception. In addition to using the Accelerator Loader maintenance utility HLOMAINT, you can now perform these tasks by specifying a new value, HLORESET, on the EXEC statement for the DSNUTILB program. Using this new method, you can terminate a stopped utility (if one exists), perform the associated maintenance tasks, and issue the new DSNUTILB request, all in one job. Previously, you had to submit an additional job to use the HLOMAINT utility separately to terminate a stopped utility and perform the associated maintenance tasks prior to running DSNUTILB.	PI81870
Using the HALOAD utility, you can load only those tables or partitions that have been updated in Db2 for z/OS since the accelerator-shadow tables were last loaded. This feature is controlled through a new keyword on the HALOAD command, DETECT_DATA_CHANGES.	PI82046
Accelerator Loader now allows operation with only a single bootstrap data set (BSDS) defined for a Db2 subsystem. To define only a single BSDS for a subsystem, on the **Db2 Subsystem Parameters** panel panel, you can leave the **Db2 Bootstrap DSN #02** field blank. Previously, a value in this field was required.	PI80838
When performing a load from an external file (DUAL or ACCELERATOR ONLY profile), Accelerator Loader now supports SYSREC data sets in Db2 LOAD delimited file format.	PI80293
When performing a load from an external file, Accelerator Loader can now convert string data from one character set to another when data is loaded from a SYSREC data set to the accelerator, Db2, or both. For example, you can now load data from an EBCDIC-encoded SYSREC data set to a Unicode Db2 table and the accelerator.	PI79055

Description	Related APARs
When loading the accelerator and Db2 from an external file, you can now control the action that Accelerator Loader takes when the Db2 LOAD utility discards records that have already been loaded to the accelerator. Using the Tools Customizer option **Action when DB2 LOAD discards records loaded to the accelerator** (Accelerator Loader started task options module parameter **ACCEL_WHEN_DB2_DISCARDS**), you can configure Accelerator Loader to leave the records in the accelerator and disable acceleration on the loaded table or to roll back the data loaded to the accelerator and leave the query acceleration status unchanged.	PI79574
When loading data from a virtualized data source or remote DBMS, you can now load data to both the accelerator and Db2. Previously, when loading from these sources, you could load to the accelerator only. To use this feature, you must manually edit the JCL generated by the Accelerator Loader studio.	PI79298

Description	Related APARs
Accelerator Loader now supports the new Virtual Parallel Data (VPD) feature, which lets you group multiple simultaneous requests against the same data source and run them in parallel, while performing the input and output only once. For example, using VPD, users can load several SMF record types from a virtualized data source with only a single read of the data set. Previously, the data set would have been read once for each record type. The following list highlights the enhancements to the Accelerator Loader server: • Distributed DRDA Data Servers (for example, Db2 LUW and Db2 Federation Servers) execute on servers that can support USERID values of various lengths. The Accelerator Loader server now supports Alternate Authentication USERID values up to 255 characters. • Through added MapReduce and parallelism support for accessing native IMS files, the Accelerator Loader server can now access IMS data directly (a feature named “IMS Direct”), as opposed to accessing the data through IMS DLI calls. This access method is similar to how the Db2 UNLOAD utility works and provides a significant increase in performance and reduced elapsed time. • The Accelerator Loader server can now call compression exits when reading IMS files with IMS Direct. • The Accelerator Loader server now supports SQL access to SMF stored in log streams. • Support has been provided for a metadata repository in the server. This repository is used for MapReduce and parallelism exploitation of DRDA and IMS data sources by gathering metadata and persisting this information across server restarts. This support applies to all DRDA-backed data sources including those accessed using the IBM Federated Server, such as Terradata and Sybase, as well as data sources supported by direct DRDA support for the server, such as Db2 LUW and Oracle. • The Accelerator Loader server now implements SAF security in the SQL engine for virtual table access so multi-tenant environments are possible that limit both visibility and access to virtual tables between different tenants. • The Accelerator Loader server now provides enhanced distributed DRDA VRF support for Microsoft SQL Server using HIS 2016 DRDA AS. • The Accelerator Loader server now provides support for SQL access to zFS and HFS files. • The Accelerator Loader server now provides consistent uniqueness to parent and child keys across virtual table joins. The default size of the global variable file that is used by the Accelerator Loader server has been increased.	PI68386 PI70322 PI70677 PI70996 PI71512 PI72331 PI72044 PI72880 PI74052 PI76118 PI76382
A new keyword, CHECK_DATA, has been introduced to Accelerator Loader to enable you to specify if and when to check the integrity of Db2 for z/OS data pages. This keyword is available for Consistent and Image Copy loads. This feature has been introduced under the direction of IBM Support	PI76856
The Accelerator Loader high availability load feature can be invoked as a batch job or by using a stored procedure call.	PI77145

Description	Related APARs
Use Accelerator Loader to back up and recover data that resides only in the accelerator. This data can be in an accelerator-only table or an accelerator-shadow table that has been loaded to the accelerator only.	PI70981
Accelerator Loader provides support for Db2 Version 12. Db2 Version 12 PBR2 objects are not yet supported. When performing an external load and BACKOUT YES is specified on the Db2 LOAD utility RESUME YES clause, Accelerator Loader recognizes when backout processing occurs and backs out the data sent to the accelerator, leaving the table with the same data it had before the load started. On an accelerator-only load, Accelerator Loader backs out the data sent to the accelerator when a data conversion error occurs. See “Restrictions and considerations for adding data to a table (LOAD RESUME)” on page 254 for more information.	PI69894 PI67007
Accelerator Loader supports EBCDIC Japanese code pages and double-byte character sets when loading from data sources connected to the Accelerator Loader server. This includes single-byte KATAKANA and double-byte KANJI code page 931. See “Configuring support for code pages and DBCS ” on page 118 for more information.	PI67792 PI68753
With Tools Customizer, you can perform the following Accelerator Loader customization tasks: • Add the SYSAFF parameter to generated JCL for all non-Db2 tasks • Create and use product staging libraries. Product staging libraries are a complete set of product data sets. Using staging libraries, you can retain customized modules when maintenance is applied to the product base libraries. • Specify a UNIT value to use in some configuration jobs • Include the Tools Customizer job card when generating the installation verification procedure (IVP) jobs • Specify to use DSNUPROC (or another stored procedure) to run the utilities in the IVP jobs for each Db2 SSID • Include STOGROUP and BUFFERPOOL in the IVP jobs • Customize the Loader Policy for all SSIDs being customized	PI67020
Accelerator Loader now supports accelerator groups, which allow users to load multiple accelerators by specifying a single accelerator group name. Users can specify either one group name or a list of accelerator names.	PI67510
To access Oracle data, you can configure the Accelerator Loader server to access Oracle’s application server using a DRDA connection. Using Db2 LUW AESE or InfoSphere Federation Server is no longer required.	PI63948 PI65565
Use Accelerator Loader to load data to multiple accelerators on the same Db2 subsystem in parallel from a single LOAD utility statement. This feature is referred to as *high availability load*. For more information, see “Features and benefits” on page 16.	PI59666
When performing an External load, you can load data to an accelerator only table (AOT). VSAM objects do not exist in Db2 for AOTs; therefore, you cannot load to both Db2 and the accelerator (Dual load).	PI49338

Description	Related APARs
When performing a Consistent load, you can load image copy and log data as follows: • from a specified table into an alternate accelerator only table (AOT) on the same Db2 subsystem or an alternate target Db2 subsystem on the same LPAR • to the accelerator table of a standard Db2/accelerator table on an alternate target Db2 subsystem This function is especially useful when you are consolidating data from different Db2 systems into a single Db2 system that is connected to an accelerator, such as a data warehouse. When performing an Image Copy load, you can take an image copy of a regular Db2 table and load the data into an accelerator only table (AOT) with the same columns in the same order.	PI49351 PI49354
When loading data from non-Db2 and remote Db2 sources, when using the Accelerator Loader studio to generate the JCL, you can specify an accelerator only table (AOT).	PI59263
When performing an External load to only the accelerator, Accelerator Loader bypasses the Db2 LOAD utility when running a LOAD RESUME. This enhancement provides query access to the data while Accelerator Loader performs the load.	PI58755
Accelerator Loader can load data from a remote system, enabling you to load remote data sources that are not directly accessible from the local system (not configured to the accelerator). To perform this type of load, an Accelerator Loader server must be running on the remote LPAR and the local server must be configured to communicate with that remote server. Accelerator Loader supports IBM z Systems Data Compression (zEDC) to optimize cross-platform exchange of data by reducing network flow between the two servers when loading from a remote server.	PI56636 PI57068 PI57070 PI58602
Accelerator Loader supports Adabas as a selectable data source. To enable this feature, when customizing the product with Tools Customizer, specify the Adabas load library for the server to use to connect to the Adabas databases.	PI58663
When performing a load from an external file, you can use a UNICODE SYSREC file to load data to a UNICODE TABLE.	PI57063
When performing a load from an external file, you can load SYSREC data that is already in Db2 internal row format. The Db2 UNLOAD utility supports an option to unload the data from a table in FORMAT INTERNAL. This enhancement provides the benefits of reduced CPU consumption and elapsed time in both the UNLOAD and in Accelerator Loader jobs. Restrictions that the Db2 LOAD utility imposes when FORMAT INTERNAL is specified also apply to Accelerator Loader.	PI57066

Db2 12 function level support

When you activate new Db2 12 function levels in a Db2 subsystem or data sharing group, enhancements might become available that impact Db2 Analytics Accelerator Loader.

The levels of function level support are defined as follows:

Tolerated
Accelerator Loader works as it did on a previous release or function level of Db2 for z/OS, but does not support the new features of this function level.

Supported
Accelerator Loader supports most, but not necessarily all, of the new function-level features that IBM deems the most significant.

The following function levels are tolerated or supported by Accelerator Loader and are listed with the corresponding PTF, if any are available. PTFs are listed with the function level they were first introduced. Later function levels require installation of PTFs introduced by prior function levels.

When upgrading to a later Db2 version, use the IBM Tools Customizer to create and then run the generated bind JCL. See the HOLDDATA entry for the toleration PTF associated with a Db2 function level.

Db2 Analytics Accelerator Loader PTFs in support of Db2 12 function levels

Db2 12 function level	Toleration PTF	Support PTF
FL508: APAR PH29392 - October 2020	No PTF required	To be determined
FL507: APAR PH24371 - June 2020	No PTF required	No PTF required
FL506: APAR PH16829 - October 2019	No PTF required	No PTF required
FL505: APAR PH09191 - June 2019	No PTF required	No PTF required
FL504: APAR PH07672 - April 2019	No PTF required	PTF UI65065 (APAR PH13717) Changed installed repository tables to universal table spaces
FL503: APAR PH00506 - October 2018	No PTF required	No PTF required
FL502: APAR PI95511 - May 2018	No PTF required	No PTF required
FL501: APAR PI70535 - May 2017	No PTF required	No PTF required
FL500: October 2016	No PTF required	No PTF required

What does Accelerator Loader do?

Accelerator Loader enables efficient loading of data to IBM Db2 Analytics Accelerator for z/OS and IBM Db2 for z/OS.

IBM Db2 Analytics Accelerator Loader for z/OS enables you to load data to one or more IBM Db2 Analytics Accelerator for z/OS. Because Accelerator Loader reduces several manual loading steps to a single batch job, you reduce time, effort, and cost. Accelerator Loader enables you to load to IBM Db2 Analytics Accelerator for z/OS from mainframe or non-mainframe, relational or non-relational, and remote sources. After loading, you can query these data sources in IBM Db2 Analytics Accelerator for z/OS using standard Structured Query Language (SQL).

Accelerator Loader enables you to:

- Extract and convert data to Db2 internal format from non-Db2 and remote sources including IMS, VSAM, SMF Data, and others.

- Load directly to the accelerator without first loading the data into Db2, reducing CPU and storage resources.
- Load data into Db2 and the multiple accelerators in parallel from the same external load file, reducing two steps to one.
- Load the accelerator with current Db2 data or with data from a historical point in time without stopping update activity to the production Db2 tables.
- Load the accelerator with data from an image copy that you specify.
- Load the same Db2 for z/OS or non-Db2 for z/OS data into multiple accelerators at the same time.
- Load data into a table that exists only on the accelerator, called an accelerator-only table. In this case, Db2 has a placeholder description for the accelerator-only table in the catalog, but no VSAM data sets exist for the object.
- Add data to existing accelerator-only tables using LOAD RESUME YES.
- Back up and restore data in accelerator-only tables.

Features and benefits

Accelerator Loader provides several advantages loading data to IBM Db2 Analytics Accelerator for z/OS.

High availability load

Use Accelerator Loader to load data to multiple accelerators in parallel from a single LOAD utility statement, referred to as *high availability load*. To perform a high availability load, you must configure two or more accelerators on the same Db2 subsystem. You can perform a high availability load in the following ways:

- Use the HALOAD utility program to copy table data from Db2 to multiple accelerators in parallel. You must configure each accelerator-shadow table, which exists in both Db2 for z/OS and Analytics Accelerator, on a different accelerator. The utility runs as a batch job and is not invoked under the control of the DSNUTILB LOAD utility. You can also run the utility using a stored procedure call.
- Use the Accelerator Loader server to load data from a virtualized data source to up to four accelerators. The tables can be accelerator-shadow tables or accelerator-only tables.
- Use extended syntax to the DSNUTILB LOAD utility to load data from an external sequential data set to up to four accelerators. The tables can accelerator-shadow tables or accelerator-only tables.
- Use the ISPF interface to generate a batch JCL job that can load data to up to four accelerators.
- Use Consistent load and Image Copy load functionality to load into multiple accelerators.

Remote data load

You can configure Accelerator Loader to load data from a remote system, which enables loading of data sources that are not directly accessible from the local system. For example, you can load data from an IMS database on a remote LPAR. Remote data loading requires you to have an Accelerator Loader server running on the remote LPAR and to configure the local server to communicate with the remote server.

Non-Db2 and DRDA data load

Accelerator Loader allows data sources to be defined and analyzed for the purpose of extracting subsets of data from the source. It provides an interface that enables Accelerator Loader to retrieve data from a mapped source without first landing the data in a flat file.

Using the Accelerator Loader studio, a plug-in to the IBM Data Studio, you can load non-Db2 data and data from non-Db2 and remote Db2 sources into the accelerator with less effort and time.

The Accelerator Loader enables you to load data from many different sources directly to the accelerator in a single in-memory process. The source data is accessed, converted to the necessary format, and loaded to the accelerator in a single step without first landing or loading the data into an intermediate file format.

This feature increases processing efficiency, enterprise-wide analytics, and helps automate loading a variety of non-Db2 data to the accelerator.

Consistent Load and Historical load

Accelerator Loader leverages the power, speed, and efficiency of IBM FlashCopy®. Accelerator Loader enables you to:

- Create a FlashCopy consistent image copy of data loaded from Db2 to the accelerator. Using a valid image copy of an object on Db2, Accelerator Loader applies log records forward up to the current time, or for multiple objects, to a consistent historical time.
- Load data from multiple related Db2 tables in one batch job without having to take them offline for updates, eliminating downtime otherwise incurred with the accelerator load process.
- Load related sets of data to the accelerator and perform analytics according to a consistent historical point in time.

Image Copy load

Using a Db2 image copy that you specify, Db2 Analytics Accelerator Loader loads the data for a single table into the accelerator. You do not need to specify an end time or roll through logs.

Do not confuse Image Copy load with an enhanced load from an external file (discussed below). Db2 image copies are registered within the Db2 catalog and are therefore not considered an external source.

Enhanced load from an external file

Db2 Analytics Accelerator Loader loads data into the accelerator and optionally to Db2 in parallel from the same input file. You can load data from the following source files:

- For Db2 data, a file that was created by the Db2 UNLOAD utility.
- For data from an external source, such as IMS or VSAM data, or a non-mainframe source, a file that is compatible with the Db2 LOAD utility.

When loading external data into the accelerator, Db2 Analytics Accelerator Loader does not require that you first load the data into Db2 before loading the data into the accelerator. This feature eliminates CPU and storage resources spent loading data unnecessarily to Db2 and is especially helpful when building a data warehouse on Db2. In this scenario, all table queries you are loading must be eligible for acceleration, and you must maintain the data and back up the data outside Db2.

Accelerator backup and recovery

You can backup and recover Db2 Analytics Accelerator Loader data in an accelerator-only table or an accelerator-shadow table using a batch job. You can generate the JCL through the ISPF panels or using a profile. Because the data resides in the accelerator, you cannot use the standard Db2 COPY and RECOVER utilities.

You can create backup copies using either of the following methods:

- *Backup utility*. The Accelerator Loader backup utility fetches all data from the accelerator table and writes out a full copy. To use the backup utility, generate JCL using a backup profile in the ISPF panels.
- *Inline copy*. An inline copy is a backup copy of an accelerator table that is created as the data is loaded to the accelerator. This method creates a full copy when running the Accelerator Loader with the syntax LOAD REPLACE and an incremental copy when running the Accelerator Loader with the syntax LOAD RESUME.

The backup and recovery feature supports up to four data copy sets: a primary and backup copy for the local site, and a primary and backup copy for the remote recovery site. The backup program determines and sets RECFM, LRECL, and BLKSIZE. You can create backups for the local site only or the recovery site only. When creating a backup copy for a site, you must also create a primary copy for that site. Copy datasets are registered in the backup copy registration table HLOUCOPY, and each Db2 system the Accelerator Loader is installed on has its own copy of this table.

Related concepts

“Backing up and recovering accelerator data” on page 269
You can backup and recover Db2 Analytics Accelerator Loader data in an accelerator-only table or an accelerator-shadow table using a batch job. You can generate the JCL through the ISPF panels or using a profile. Because the data resides in the accelerator, you cannot use the standard Db2 COPY and RECOVER utilities.

“Creating a backup using JCL” on page 332
You can backup and recover Db2 Analytics Accelerator Loader data in an accelerator-only table or an accelerator-shadow table using a batch job. You can generate the JCL through the ISPF panels or using a profile. Because the data resides in the accelerator, you cannot use the standard Db2 COPY and RECOVER utilities.

zIIP support

The following table lists which Db2 Analytics Accelerator Loader load types offload data processing to IBM z Systems Integrated Information Processor (zIIP), which reduces CPU usage and offsets costs.

Accelerator Loader zIIP support

For more information about IBM zIIP, see https://www.ibm.com/us-en/marketplace/z-integrated-information-processor-ziip

Table 1. zIIP support

Component	Supports zIIP	Exploitation
High availability load	No	not applicable
External load / Dual load	Yes	Always, if possible
Consistent load / Image Copy load	Yes	Always, if possible
Backup	No	not applicable

Components and interfaces

Accelerator Loader provides the following interfaces and components.

ISPF interface

Use the ISPF interface to select options for building JCL when you want to load or refresh data on the accelerator. After you select options, use the ISPF interface to generate JCL to execute the function. The generated JCL is placed in a data set you specify.

Batch interface

The batch interface is an alternative to the ISPF interface for loading or refreshing data on the accelerator. If your existing LOAD utility JCL meets certain requirements, you can use that JCL with only minor modifications.

Accelerator Loader studio

The Accelerator Loader studio is a plug-in that you access from the IBM Data Studio client. The Data Studio client is built on Eclipse technology and provides an integrated development environment (IDE) for database and instance administration, routine and Java™ application development, and query tuning.

Use the Accelerator Loader studio to quickly transform and load relational and non-relational data to an accelerator. You are not required to extract and write data to a separate file before transforming and

loading the data. You get real-time access to the data, which is read directly from the mapped source and transformed while loading to the accelerator tables.

Accelerator Loader server

The Accelerator Loader server resides on the mainframe and provides access to Db2 and non-Db2 data sources. This server enables you to map non-relational source data, such as VSAM or IBM IMS DB, to a relational table format. After you map source data, the server executes an industry-standard SQL statement to access the data to load to the accelerator. Use the SQL statement to select from a single data source or join data from several data sources. The server executes the SQL statement, accesses the data sources, passes the data to a batch job that converts the data to the necessary format, then loads it directly to the accelerator.

An Accelerator Loader server on one LPAR can communicate and share data with another Accelerator Loader server that is installed and configured on another LPAR in the z System.

An Accelerator Loader server started task is required if non-Db2 for z/OS data is accessed from an LPAR.

Accelerator Loader started task

The Accelerator Loader started task receives input from the interfaces through the supervisor call (SVC) and then communicates with the Db2 subsystems to load data to the accelerator. A single started task can process simultaneous requests from multiple users across the system. After you start the started task, you can perform product functions.

Tools Customizer overview

IBM Tools Customizer for z/OS (also referred to as Tools Customizer) standardizes many of the customization processes that are required to customize IBM Tools that run on z/OS.

Tools Customizer provides a consistent ISPF interface to ensure that the customization process is the same for all IBM Tools products and solution pack components. It also provides the ability to "discover" parameter values from products or solution pack components that you previously customized manually or by using Tools Customizer.

Features and benefits

Tools Customizer provides the following features:

- A single, consistent ISPF interface ensures that the customization process is the same for all IBM Tools products and solution pack components.
- A Discover EXEC discovers values for common product, LPAR, and Db2 parameters from a product or solution pack component that you previously customized manually or by using Tools Customizer. Each IBM Tools product and solution pack component has a unique Discover EXEC. The discovered parameters are stored in the data store. If the product or solution pack component that you want to customize exists in the Tools Customizer data store, Tools Customizer issues a warning before it overwrites existing values. Use the Discover EXEC by issuing the DISCOVER command on the **Customizer Workplace** panel.
- The data store retains discovered and manually specified parameter values. Because the parameter information is persistently stored, you have to manually specify or discover parameter values only once. Tools Customizer uses these parameter values where they are applicable.
- A metadata repository contains the members that define the following customization attributes for products and solution pack components:
  - Parameters, tasks, and steps for the product or solution pack component to be customized. Some product or solution pack parameters, tasks, and steps are required.
  - LPAR parameters for the local LPAR. All of the LPAR parameters are required.

  - Db2 parameters for the Db2 subsystem, Db2 group attach name, or Db2 data sharing member on which you will customize the product or solution pack component. All of the Db2 parameters are required.
- Multiple configurations let you save unique sets of parameter values, selected customization tasks and steps, and associated Db2 entries depending on your environment.
- Default values are provided for product parameters and solution pack component parameters, LPAR parameters, and Db2 parameters. The default values show examples of how to complete fields.

Scenarios

Accelerator Loader can be especially useful in several scenarios.

Loading data to multiple accelerators

When you have existing Db2 table data to load in parallel to multiple accelerators, use the HALOAD utility. For more information, see Chapter 8, “Loading data from Db2 to one or more accelerators,” on page 263.

You need to load data from a SYSREC data set into multiple accelerators and optionally to Db2. In the syntax of your batch job, specify up to four accelerator names in the ON clause of the IDAA_DUAL or IDAA_ONLY keyword. Alternatively, use the ISPF panels to select multiple accelerators and generate JCL.

You need to load non-Db2 data from a virtualized data source through the Accelerator Loader server. In the Accelerator Loader studio, select multiple accelerators when generating the JCL.

Loading data from a remote system

You have z System infrastructure that has multiple LPARs configured. Adabas is running on LPAR A and you need to access Adabas from LPAR B. Use Inter Data Communications (IDC) to enable communication between the LPARs and to gain access to data on those systems.

The Accelerator Loader server enables data processing to run on a z System Integrated Information Processor (zIIP) specialty engine for significantly reduced MIPS capacity usage. In this scenario, LPAR B can access Adabas data on LPAR A and use the zIIP processor to perform all processing.

Loading data from another z/OS data source, such as IMS, VSAM, or sequential

You want to load IMS data into the accelerator so that you can write queries to join IMS and Db2 data. You need a process to easily map this data to a relational model and load it into the accelerator. Using Accelerator Loader, map non-Db2 data to the Db2 table on the accelerator. Accelerator Loader finds data from the source you specify and loads the data to the accelerator.

Loading Db2 data from a platform other than z/OS

You have Db2 data on another platform, such as in Linux®, UNIX, or Microsoft Windows, and you want to move that data to z/OS. Map off-platform Db2 tables to the Db2 table on the accelerator. Accelerator Loader finds data from the source you specify and loads the data to the accelerator.

Loading data into IBM Db2 Analytics Accelerator for z/OS and Db2

You want to use Analytics Accelerator to perform analytics and speed up complex queries on Db2 data. You need to load the data into the accelerator and Db2.

To accomplish this goal without Accelerator Loader, you must first complete the following manual steps that load the data into Db2 and then the accelerator. While you perform the load, the production table remains inaccessible for query acceleration or data analysis.

1. Run a Db2 LOAD utility to load the data into Db2.
2. Write a program to pass the required parameters to the stored procedure SYSPROC.ACCEL_LOAD_TABLES.

3. Use the Analytics Accelerator stored procedure SYSPROC.ACCEL_LOAD_TABLES to load the data into the Analytics Accelerator. This stored procedure first runs the Db2 UNLOAD utility and passes the data to Analytics Accelerator.

By using Accelerator Loader, you run existing LOAD utility JCL with a few modifications. Accelerator Loader loads data into both Db2 and the accelerator in parallel. By using this feature of Accelerator Loader, the DBA eliminates the manual work that is otherwise required to load data into the accelerator. This feature also saves overall elapsed time.

You have the following options to automatically load data into both Db2 and into the accelerator at the same time:

- Add a new parameter and DD statement to existing LOAD utility batch jobs.
- Use the Accelerator Loader ISPF interface to generate the LOAD utility JCL.

Loading external data into IBM Db2 Analytics Accelerator for z/OS only

You have non-Db2 data and you want to take advantage of the analytic capabilities of Analytics Accelerator. To accomplish this goal without Accelerator Loader, you must first load non-Db2 data into Db2 tables. You must then use the Analytics Accelerator stored procedures to manually complete several tasks before you can use the analytic capabilities of Analytics Accelerator.

By using Accelerator Loader, you can load data into only Analytics Accelerator, and not into Db2. When loading non-Db2 data into the accelerator, Accelerator Loader reduces overall CPU consumption, elapsed time, and DASD requirements.

You have the following options to automatically load data into only the accelerator:

- Add a new parameter and DD statement to existing LOAD utility batch jobs.
- Use the Accelerator Loader ISPF interface to generate the LOAD utility JCL.

Refreshing current data in IBM Db2 Analytics Accelerator for z/OS for a group of related objects

You want to refresh sets of related Db2 data in an accelerator. To accomplish this goal without Accelerator Loader, you must run the stored procedure SYSPROC.ACCEL_LOAD_TABLES on each object within the group and specify to LOCK the tables. To do this, you'll need to stop update activity on the set of tables during the entire load.

By using Accelerator Loader, you can accomplish the goal in the following ways.

- Use Accelerator Loader to create a FlashCopy image copy for each table to the current point in time for all of the objects. It can then read the FlashCopy images and load the data into IBM Db2 Analytics Accelerator for z/OS.

  With this option, CPU, I/O, and time required to create the image copies is nominal because the FlashCopy image copy leverages the speed and power of the storage processor to create the copies. During the entire process, the tables are available for update.
- Use Accelerator Loader to start with existing image copies of the objects. Accelerator Loader then applies any log records to the image copy, and loads a copy of the data into Analytics Accelerator to the current point in time.

  With this option, you can load data into IBM Db2 Analytics Accelerator for z/OS to the current point in time without taking the tables offline for the update.

You have the following options to refresh current data:

- Use the example JCL to create a batch job.
- Use the Accelerator Loader ISPF interface to generate the batch job.

Loading historical data into IBM Db2 Analytics Accelerator for z/OS

You want to load historical data into an accelerator to a point in time in the past, but the accelerator by default does not support this scenario.

Using Accelerator Loader, you can load one or more tables into Analytics Accelerator to any historical time by specifying a timestamp or an RBA/LRSN at which to load the data. Accelerator Loader constructs the table data to the specified point in time by using an image copy taken before the point in time, and applying log records forward to the point in time. During the load, tables remain online for updates.

You have the following options to load historical data:

- Use the example JCL to create a batch job.
- Use the Accelerator Loader ISPF interface to generate the batch job.

Loading a specific image copy into an object on the IBM Db2 Analytics Accelerator for z/OS

You want to load data from a specific Db2 image copy into a table on the accelerator that is either not the last registered image copy in SYSIBM.SYSCOPY, or is not registered in the SYSCOPY table at all. This scenario cannot be accomplished without the Accelerator Loader.

Using the Accelerator Loader, you can load data from a specific image copy into its corresponding table on the accelerator. With this option, the Accelerator Loader writes only the data contained within the pages of the image copy to the table on the accelerator. No log records are applied and you do not need to specify the end point. The table in Db2 remains online during the update to the accelerator.

You have the following options to refresh image copy data:

- Use the example JCL to create a batch job.
- Use the Accelerator Loader ISPF interface to generate the batch job (if the image copy has only one table).

Backing up or recovering accelerator data

You have data that resides only in the accelerator, either in an accelerator-only table or in an accelerator-shadow table that has been loaded to the accelerator only. You need to make a backup or recover this data, but because the data resides only in the accelerator, the standard Db2 COPY and RECOVER utilities cannot be used.

To back up or recover this accelerator data, use features available in the Accelerator Loader, for example:

- To back up accelerator data, make a full copy using the Accelerator Loader backup utility, or make full or incremental copies inline during an accelerator-only load. You can generate backup JCL using the Backup profile or the Accelerator-only profile, as appropriate.
- To recover accelerator data, generate recovery JCL using the Recovery profile.

For more information, see Chapter 9, “Backing up and recovering accelerator data,” on page 269.

Service updates and support information

Service updates and support information for this product, including software fix packs, PTFs, frequently asked questions (FAQs), technical notes, troubleshooting information, and downloads, are available from the web.

To find service updates and support information, see the following website:

https://www.ibm.com/support/home/

Product documentation and updates

Db2 Tools information is available at multiple places on the web. You can receive updates to Db2 Tools information automatically by registering with the IBM My Notifications service.

Information on the web

The most current version of this information is available on IBM Knowledge Center:

http://www.ibm.com/support/knowledgecenter

A PDF version of this information is available on the Db2 Tools Product Documentation web page; however, IBM Knowledge Center is updated more frequently than PDF books. The Db2 Tools Product Documentation web page is located at:

https://www.ibm.com/support/pages/db2-tools-zos-product-documentation

IBM Redbooks® publications that cover Db2 Tools are available from the following web page:

http://www.redbooks.ibm.com

The IBM Information Management System website shows how IT organizations can maximize their investment in Db2 databases while staying ahead of today's top data management challenges:

https://www.ibm.com/analytics/us/en/db2/db2-for-zos/

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Accessibility features

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use a software product successfully.

The major accessibility features in this product enable users to perform the following activities:

- Use assistive technologies such as screen readers and screen magnifier software. Consult the assistive technology documentation for specific information when using it to access z/OS interfaces.
- Customize display attributes such as color, contrast, and font size.
- Operate specific or equivalent features by using only the keyboard. Refer to the following publications for information about accessing ISPF interfaces:
  - *z/OS ISPF User's Guide, Volume 1*
  - *z/OS TSO/E Primer*
  - *z/OS TSO/E User's Guide*

  These guides describe how to use the ISPF interface, including the use of keyboard shortcuts or function keys (PF keys), include the default settings for the PF keys, and explain how to modify their functions.

Chapter 2. Preparing to customize

Before you start to customize Db2 Analytics Accelerator Loader for the first time, determine all of the customization values that you need to specify during the customization process, and familiarize yourself with all of the customization tasks.

The following checklist lists and describes each significant customization step. Use this checklist to guide you through the entire customization process.

Tip: Print the following checklist and the data set names and parameter values worksheets. Use the worksheets to record your values, and refer to them during the customization process.

Task	Link to detailed instructions	Status
Tools Customizer basics		
Prior to the customization process, familiarize yourself with Tools Customizer terminology and data sets, and other essential information about Tools Customizer.	"Tools Customizer terminology and data sets" on page 937	
Hardware and software requirements		
Verify that your environment meets the minimum hardware requirements.	"Verify that your environment meets hardware requirements" on page 29	
Verify that your environment meets the minimum software requirements. To install and use Db2 Analytics Accelerator Loader, your environment must be running a supported version of the z/OS operating system and of Db2 for z/OS. Additionally, you'll need to ensure you are using minimum levels of maintenance.	"Verify that your environment meets software requirements" on page 29	
SMP/E installation		
Verify that Db2 Analytics Accelerator Loader has been installed correctly. Db2 Analytics Accelerator Loader is installed by using standard SMP/E processing.	"Verify that Db2 Analytics Accelerator Loader has been installed successfully" on page 31	
Verify that Tools Customizer for z/OS is installed correctly by using standard SMP/E processing.	"Verify that Tools Customizer has been installed successfully" on page 31	
Code page requirement		
Ensure that your BIND JCL uses the correct code page.	"Changing the BIND JCL to ENCODING(500) (optional)" on page 112	
Region size requirements		
Ensure that the correct minimum region size is used.	"Verify that your environment meets minimum region size requirements" on page 31	
Started task requirements and considerations		
Ensure that the Accelerator Loader started task runs under a user ID that has the required authority.	"Authorization requirements for the Accelerator Loader started task" on page 32	

Task	Link to detailed instructions	Status
If you have a very high volume of activity, you can run multiple started tasks concurrently to handle the workload more efficiently.	"Running multiple started tasks to monitor different Db2 subsystems" on page 34	
Data sharing considerations		
Review deployment and configuration issues for Db2 data sharing environments.	"Considerations for Db2 data sharing environments" on page 35	
Workload Manager requirements		
Ensure that the dispatching priority for the Accelerator Loader started tasks is set correctly with respect to other dispatching priorities. Review considerations for defining the server to WLM.	"WLM requirements for Accelerator Loader" on page 34	
WTO messages for automated operations		
Consider whether to use the write-to-operator (WTO) messages that Accelerator Loader issues for automated operations.	"WTO messages for automated operations" on page 38	
Gather data set names		
During the customization process, you must specify data set names for the following things: • Tools Customizer • FEC (common code) • Db2 Analytics Accelerator Loader	"Worksheets: Gathering required data set names" on page 38	
Gather parameter values		
During the customization process, you must specify parameter values for Db2 Analytics Accelerator Loader, for Db2, and for your LPAR.	"Worksheets: Gathering parameter values for Tools Customizer" on page 40	
Customize Db2 Analytics Accelerator Loader		
Start Tools Customizer by running a REXX EXEC from the ISPF Command Shell panel.	"Starting Tools Customizer" on page 78	
Set up Tools Customizer user settings. If you are running Tools Customizer for the first time, you must modify several user settings to suit your environment. If the user settings that you have already established are still appropriate, skip this step.	"Modifying Tools Customizer user settings" on page 79	
Complete steps in the customization roadmap based on the type of customization that you are performing.		
Customizing Db2 Analytics Accelerator Loader for the first time Follow this roadmap if you do not have a customized version of the product and you need to customize it for the first time.	"Roadmap: Customizing Db2 Analytics Accelerator Loader for the first time" on page 85	

Task	Link to detailed instructions	Status
Customizing a different version of Db2 Analytics Accelerator Loader Follow this roadmap if you have already customized a version of the product and you want to use the same parameter values to customize a different version.	“Roadmap: Customizing a new version of Db2 Analytics Accelerator Loader from a previous customization” on page 86	
Recustomizing Db2 Analytics Accelerator Loader Follow this roadmap if you have a customized version of the product and want to change parameter values and regenerate jobs.	“Roadmap: Recustomizing Db2 Analytics Accelerator Loader ” on page 87	
After using Tools Customizer to perform customization, complete the following required tasks.		
APF authorization		
Ensure the following data sets have APF authorization: • SHLOLOAD • SFECLOAD • SHLVLOAD	“APF-authorizing the load libraries (required)” on page 112	
Make the started task address spaces available to user interfaces		
Copy the Accelerator Loader and server started task PROCs to your system PROCLIB to ensure the started task address spaces are available to the product user interfaces.	“Copying the started task PROC (required)” on page 113	
Copy the DSNUTILF module		
The DSNUTILF module must be in an APF-authorized library in the STEPLIB or JOBLIB concatenation for the Db2 LOAD utility jobs and the WLM application environment.	“Copying the DSNUTILF module (required)” on page 114	
Set up the WLM-managed address space		
This step enables the Accelerator Loader started task to perform DSNUTILB interception services.	“Setting up the WLM application environment (required)” on page 114	
Start the started task		
Before you can use the product, you must start the started task.	“Starting the started task (required)” on page 118	
Accelerator Loader server requirements and considerations		
You can use a security product such as IBM RACF®, ACF2, or Top Secret. You must define the Accelerator Loader server name for the security product and authorize the data set.	“Authorization requirements for the Accelerator Loader server” on page 33	
Start and stop the Accelerator Loader server running on z/OS. Under normal circumstances, Accelerator Loader server starts at system startup and stops before the system shuts down.	“Starting and stopping the server (required)” on page 119	

Task	Link to detailed instructions	Status
Enable access to mainframe data sources		
Accelerator Loader server supports access to many data sources, and you must configure access to mainframe data sources. Refer to the sections for those data sources you want to use.	"Configuring access to data sources (required)" on page 122	
Configure rules and events		
If you use SMF, configure access to SMF files and set conditions for SMF.	• "System Management Facility logging" on page 424 • "Configuring access to System Management Facility (SMF) files" on page 166	
Install and configure the Accelerator Loader studio plug-in		
Accelerator Loader studio is an IBM Data Studio plug-in. Use Accelerator Loader studio to generate JCL to load data directly to the accelerator, without first extracting the data and writing it to a file.	"Installing the Accelerator Loader studio (required)" on page 119	
Set the Accelerator Loader studio connection to the Accelerator Loader server.	"Connecting to the Accelerator Loader server" on page 199	
Create a source library. A source library is a fully-qualified partitioned data set (PDS) on z/OS that contains the information required to map the data source to the target Db2 table on the accelerator.	"Creating virtual source libraries" on page 202	
Create a virtual table. A virtual table extracts information from the data definitions.	"Creating virtual tables" on page 204	

Migrating load profiles

A migration program copies and migrates load profiles that you created in an earlier version of the product to the format that the current version requires.

To migrate existing load profiles, complete the following steps during the Tools Customizer customization process:

1. On the **Product Parameters** panel (CCQPPRD), specify the following:
   - Create profile data sets and migrate profiles
   - Create profile data sets
   - Migrate profiles
   - High-level qualifiers for the new profile data set and the data set that contains the existing profiles.
   - (optional) The volume serial number for the profile data sets.
   - Startup CLIST1 and CLIST2. After submitting the customization jobs, CLIST2 uses the high-level qualifier for the new profile data set.
2. After specifying values on the **Product Parameters** panel (CCQPPRD) and the **DB2 Parameters** panel (CCQPDB2), generate and submit customization jobs to
   - create the new profile data set

- migrate profiles from the exiting data set to the new one
- generate new CLIST1 and CLIST2

Migrating batch jobs

Analytics Accelerator Loader version 2.1 enables you to migrate jobs that you created with a previous version and use them to build profiles in batch.

To migrate existing batch jobs you want to use with Accelerator Loader version 2.1, change the product libraries in the JCL to use the latest libraries.

Set up your environment prior to customization

Prior to customization, ensure that your environment meets all requirements, that you have installed all prerequisite software, and that you have considered how you want to customize optional features.

Verify that your environment meets hardware requirements

Db2 Analytics Accelerator Loader can be used on any hardware environment that supports the required software.

Verify that your environment meets software requirements

z/OS requirements

Ensure that you are using one of the following versions of z/OS at the latest maintenance level:

- Version 2.1 (5650-ZOS)

  Required maintenance:

  – UA75046
  – UA75273
- Version 2.2 (5650-ZOS)
- Version 2.3 (5650-ZOS)

Db2 requirements

Ensure that you are using one of the following supported versions of Db2 for z/OS at the latest maintenance level:

- Db2 V11:
  – Db2 V11 (5615-DB2)
  – Db2 Value Unit Edition V11.1 (5697-P43)
  – Db2 Utilities Suite for z/OS, V11 (5655-W87),

  Required maintenance:

  – AI26321
  – PI10162
  – PI35818 (UI29037)
  – PI59910
  – UI24306
  – UI24308
- Db2 V12:
  – Db2 12 for z/OS (5650-DB2)
  – Db2 12 for z/OS Value Unit Edition (5770-AF3)

– Db2 Utilities Suite for z/OS, V12 (5770-AF4),

Required maintenance:

– PI67007 (UI42441)
– PI69894 (UI42440)

Accelerator requirements

Ensure you are using a supported version of IBM Db2 Analytics Accelerator for z/OS.

Restriction: When you are loading with Accelerator Loader to one or more Analytics Accelerators V5.1.x and Analytics Accelerators V7.x.x at the same time, and all Analytics Accelerator versions are on the same Db2 SSID, your Analytics Accelerator V5.1.x must be at maintenance level PTF-8 or later (Analytics Accelerator V5.1.8 or later). For information, see IBM Db2 Analytics Accelerator for z/OS Version 5.1 documentation.

- Version 5.1.0 (5697-DA5)
- Version 7.1.0 (5697-DA7) with Update 7 applied to use all product features
- Version 7.5.x (5697-DA7)

Other software requirements

Ensure that you are using a supported version of the following software:

- ISPF V4 (5655-042) or later
- IBM SMP/E for z/OS V03.06.00 (5655-G44) or later
- IBM Tools Customizer for z/OS, V1.1 (5655-TC1) or later
- IBM Db2 Common Code for z/OS (FEC) V1R3 (5655-F55) or later

  Required maintenance:

  – PK43912
  – PK76167
  – PM06651
  – UK98321
  – UK98680
  – UI21883
  – UI26834
  – UI27815

Verify that your environment meets requirements for supported interfaces and data sources

Ensure that you are using supported versions of the data sources you are loading data from at the latest maintenance level:

- Db2 for z/OS as listed in “Verify that your environment meets software requirements” on page 29
- IMS Database Control (DBCTL) Version 12.1.0 (5635-A03) or later
- VSAM with the z/OS PTFs listed in “Verify that your environment meets software requirements” on page 29

  For optimal performance, ensure that the following VSAM APARs are applied:

  OA44111
  OA45279
  OA45280
  OA44277
  OA44064

- To load data from distributed relational database architecture (DRDA) sources, use one of the following products:
  - IBM Db2 Advanced Enterprise Server Edition Version 10.5.0 (5725-L47) or later. For product documentation, visit the Db2 for Linux UNIX and Windows IBM Knowledge Center.
  - IBM InfoSphere® Federation Server Version 9.7.0 (5724-N97) or later. For product documentation, visit the InfoSphere Federation Server IBM Knowledge Center.
  - IBM InfoSphere BigInsights® Enterprise Edition Version 1.0.0 (5725-C09) or later. For product documentation, visit the InfoSphere BigInsights IBM Knowledge Center.

Before you load relational and non-relational data to an accelerator, ensure that:

- IBM Data Studio 4.1.x for Windows 32-bit or 64-bit is installed on your system.
- The Accelerator Loader studio plug-in is installed on your system.
- Accelerator Loader studio can connect to the z/OS mainframe instance.

Verify that Db2 Analytics Accelerator Loader has been installed successfully

For installation instructions, see the Program Directory for Db2 Analytics Accelerator Loader. Installation and verification jobs have been included in the customization process. Be sure you select the step to generate the IVP jobs in Tools Customizer. Then, ensure you submit each IVP job and that each completes successfully.

Verify that Tools Customizer has been installed successfully

Tools Customizer provides a standard approach to customizing IBM Db2 for z/OS Tools. For installation instructions, see the Program Directory for IBM Tools Customizer for z/OS.

Verify that your environment meets minimum region size requirements

Db2 Analytics Accelerator Loader requires a minimum TSO region size of 50000.

Verify that Db2 Analytics Accelerator Loader installed successfully

You can complete steps to verify that Db2 Analytics Accelerator Loader is installed successfully. Installation instructions are provided in the Program Directory for Db2 Analytics Accelerator Loader.

About this task

Tools Customizer generates four IVP jobs that you can run to verify that your Db2 Analytics Accelerator Loader installation is successful.

Procedure

1. Run IVP1, which sets up objects for the IVP2 job that invokes Db2 Analytics Accelerator Loader External load. Note that objects are set up to run only as Dual load, which loads Db2 data to the accelerator and Db2 simultaneously.
2. Run IVP2 for External load run as a Dual load.

   If you do not receive return code 0, check the data on the accelerator and the control file for errors. If you receive return code 0, go to step 3.
3. Run IVP3, which sets up objects for the IVP4 job that invokes Db2 Analytics Accelerator Loader Consistent load using a Db2 Image Copy load.
4. Run IVP4 for Consistent load run as an Image Copy load.

   If you do not receive return code 0, check the data on the accelerator and the control file for errors. When all steps result in return code 0, Db2 Analytics Accelerator Loader is successfully installed.

Security requirements

Review the security requirements for Db2 Analytics Accelerator Loader.

Authorization requirements for the Accelerator Loader started task

Make sure that the Accelerator Loader started task *hloid*PROC runs under a user ID that has the required authority.

The Accelerator Loader started task *hloid*PROC must run under a user ID that has

- a valid OMVS segment definition.
- one of the following authority levels:
  - SYSADM
  - SYSCTRL
  - SYSOPR with MONITOR1 (minimum)

If you use the SYSOPR with MONITOR1 authority level, you must enter that user ID in the SET CURRENT SQLID field when you use Tools Customizer.

If you use the SYSOPR with MONITOR1 authority level for the started task authid, the following GRANTs are required to BIND the Accelerator Loader plan:

- GRANT SELECT ON
  - SYSIBM.SYSPLAN
  - SYSIBM.SYSPLANDEP
  - SYSIBM.SYSPACKAGE
  - SYSIBM.SYSPACKLIST
  - SYSIBM.SYSPACKDEP
  - SYSIBM.SYSTABLES
  - SYSIBM.SYSTABLESPACE
  - SYSIBM.SYSINDEXES
  - SYSIBM.SYSINDEXPART
  - SYSIBM.SYSCOLUMNS
  - SYSIBM.SYSTABLEPART
  - SYSIBM.SYSRELS
  - SYSIBM.SYSFOREIGNKEYS
  - SYSIBM.SYSUSERAUTH
  - SYSIBM.SYSKEYS
  - SYSIBM.SYSVIEWDEP
  - SYSIBM.SYSSYNONYMS
  - SYSIBM.SYSDATABASE
  - SYSACCEL.SYSACCELERATORS
  - SYSACCEL.SYSACCELERATEDTABLES
  - SYSIBM.LOCATIONS
  - SYSIBM.SYSCOPY
  - SYSIBM.SYSSEQUENCES
  - SYSIBM.SYSSEQUENCESDEP
  - SYSIBM.DSN_QUERYINFO_TABLE

- GRANT UPDATE ON TABLE SYSACCEL.SYSACCELERATEDTABLES
- GRANT EXECUTE ON PACKAGE SYSACCEL.*
- GRANT CREATEDBC

In addition to these GRANTs, STARTDB must be granted to any database that contains a Db2, accelerator-shadow or accelerator-only table that is a target for LOAD.

Authorization requirements for the Accelerator Loader server

To use an external security product, such as RACF, ACF2, or Top Secret, define the *hlvid*PROC started task name to the security product and authorize the data set.

About this task

The following table summarizes the access requirements by data definition name:

Table 2. Access requirements by data definition name

Data definition name	Access
SHLVLOAD	READ, EXECUTE
SHLVRPC	READ, EXECUTE
SHLVEXEC	READ
TRACE	READ, WRITE
SYSCHK1	READ, WRITE
SHLVMAP	READ, WRITE
SHLVTXVTB	UPDATE

Make sure that your z/OS Security Administrator reviews the security definitions. You might need to change definitions to meet requirements at your site.

If you use SYSOPR with MONITOR1, STARTDB authority may also be required for table spaces being loaded. This authority is required to allow the IDAA stored procedures to perform an ACCESS DB command to externalize RUNSTATS. See the *IDAA Installation Guide* for details.

Procedure

To define the server and other required permissions for your security product, edit one of the following jobs that are located in the *hlq*.SHLVCNTL library, and submit the job:

- HLVRAVDB is for IBM Resource Access Control Facility (RACF) security.
- HLVA2VDB is for CA ACF2 (Access Control Facility) security.
- HLVTSVDB is for CA Top Secret Security (TSS).

Authorization requirements for utilities

The user ID that is used to submit LOAD jobs must have a valid OMVS segment definition.

Db2 Analytics Accelerator Loader intercepts both the LOAD utility with Accelerator Loader extended syntax and the UNLOAD utility that is called by the SYSPROC.ACCEL_LOAD_TABLES stored procedure. The UNLOAD utility executes in the WLM environment that runs the DSNUTILU stored procedure. Temporary SYSOUT data sets might be allocated and opened for output in both the batch and WLM environments. The user ID that runs the batch Accelerator Loader utility job must have RACF authority to create and open temporary data sets for output.

Authorization requirements to access data sources

Accessing data sources requires the following authorizations:

- To access non-Db2 or remote Db2 data sources, your user ID must have READ authority to the data sources in your security product.
- To load System Management Facility (SMF) data, your user ID must have UPDATE authority to file SHLVXVTB.

Running multiple started tasks to monitor different Db2 subsystems

A single Accelerator Loader started task *hloid*PROC is usually sufficient to handle multiple user requests from the product interfaces to perform work on one or more Db2 subsystems. However, you can run multiple started tasks if necessary.

If you have a high volume of activity, to handle the workload more efficiently, run multiple Accelerator Loader started task *hloid*PROCs concurrently. Each started task monitors a different Db2 SSID. The following requirements apply when you run multiple concurrent started tasks:

- The SHLOSAMP library must contain a separate initialization options member for each started task.
- Each initialization options member must specify a unique SVC number and primary subsystem.
- Each Accelerator Loader started task must have its own set of product audit, logging, and DSNUTILB intercept tables.

Run Tools Customizer for each primary subsystem to generate the following items:

- DDL for creating the Db2 objects that the Accelerator Loader started task uses
- Statements for binding the Db2 plan and packages on the Db2 subsystems that the Accelerator Loader started task uses to communicate
- The Accelerator Loader started task *hloid*PROC
- The Accelerator Loader started task initialization options member
- The DSNUTILB intercept policy

A single Accelerator Loader server started task *hlvid*PROC is sufficient for processing a high volume of activity.

WLM requirements for Accelerator Loader

Review the Workload Manager (WLM) requirements for Db2 Analytics Accelerator Loader.

- The following Accelerator Loader components require WLM management for optimum performance. Customize the component names using Tools Customizer.
  - Accelerator Loader started task *hloid*PROC
  - Accelerator Loader server started task *hlvid*PROC
  - Accelerator Loader server subsystem *hlvid*
- When using Analytics Accelerator V7.1.1 or earlier, and you want to use parallelism in Accelerator Loader you must configure the WLM environment that runs DSNUTILU to allow WLM management of the DSNUTILU server address space. This allows you to start multiple DSNUTILU server address spaces as needed per system.

Setting WLM goals

Review recommendations for Accelerator Loader process goals with respect to other WLM performance goals.

The WLM Service Class and Classification rules determine the order in which a task uses the processor in a multitasking environment. The Accelerator Loader service classes priority values must be lower than those for the Db2 subsystems that Accelerator Loader will use, but higher than those for Db2 LOAD utilities that use the Accelerator Loader process. Set the goals for these items in the following order, from highest to lowest priority:

1. Address spaces of the Db2 subsystems that Accelerator Loader will use.
2. Accelerator Loader server started task, *hlvid*PROC, and the server subsystem, *hlvid*.
3. Db2 LOAD utility that Accelerator Loader intercepts (any service class under the Accelerator Loader server started task, *hlvid*PROC).
4. Accelerator Loader started task, *hloid*PROC.

Configuring WLM

Perform these WLM configuration steps for Accelerator Loader.

Procedure

1. Define the Accelerator Loader server subsystem, *hlvid*, to use a medium- to high-performing WLM velocity goal as its default service class:
   a) Go to the WLM ISPF application, and select option **6** (Classification Rules).
   b) Select option **1** to create a new rule.
   c) Set the Subsystem Type to HLV, and provide a description.
   d) Under the Class/Service Column next to DEFAULTS, set the desired default service class name. If a desired service class does not exist, then create one using option **4** (Service Classes) under the **Primary WLM** menu.
2. Define the Accelerator Loader started task, *hloid*PROC and the server started task, *hlvid*PROC.
   The goal of *hlvid*PROC should be equal to that of *hlvid*. Set a lower, non-aggressive goal for *hloid*PROC.
   a) Go to the WLM ISPF application, and select option **6** (Classification Rules).
   b) For the STC WLM-subsystem type, select **Modify**.
   c) Add entries for *hloid*PROC and *hlvid*PROC.
   d) Add an appropriate service class for each started task and define each relative to existing workload resource management objectives.
   e) Add a unique Report class for each started task.
3. Activate the new WLM policy definition.
4. Optional: When using Analytics Accelerator V7.1.1 or earlier, and you want to use parallelism in Accelerator Loader, ensure you configure the WLM environment that runs DSNUTILU for WLM management of the DSNUTILU server address space.

Considerations for Db2 data sharing environments

Before you deploy Accelerator Loader in a Db2 data sharing environment, review information about deployment and configuration issues for the started task *hloid*PROC.

A Db2 data sharing group is composed of one or more Db2 subsystems that are located on the same z/OS image or on different z/OS images. The member subsystems share a common Db2 catalog and can directly access and change the same data while maintaining data integrity.

An Accelerator Loader started task *hloid*PROC can perform DSNUTILB intercept processing on active subsystems within a data sharing group on the same LPAR that have a Db2 version that Accelerator

Loader supports. During customization, you must define at least one member subsystem as the *primary subsystem*. This subsystem must contain the Accelerator Loader audit and logging tables.

All members of the data sharing group on the same LPAR share the audit and logging tables on the primary subsystem and DSNUTILB intercept worklist tables on any active subsystem in the data sharing group. You can define these objects once on any active member subsystem in the data sharing group. If you define these objects on a subsystem that is not the primary subsystem, you must also define that subsystem as an *additional subsystem* during customization.

All members of the data sharing group that run on the LPAR where the Accelerator Loader is running must be included in the policy. You can use wild cards in the policy when specifying the SSID. For example, if members DB1A and DB1B are running on the same LPAR, in the policy, you can specify DB1% for the SSID.

So that the started task can communicate with the subsystems in a data sharing group, set **DB2_CONNECT_TO_ALL_SUBSYSTEMS** initialization option for the started task to YES. If you specify NO, only Db2 subsystems defined explicitly by the subsystem name in the option parameter **DB2_SSID** (that is, the primary subsystem) or implicitly by defining the Group Attach name in the option parameter **DB2_SSID** are intercepted when a corresponding definition is in the policy.

In the Accelerator Loader server started task *hlvid*PROC, define each database subsystem as a DRDA endpoint. A database can be an Oracle instance, a Db2 for LUW subsystem, or a Db2 for z/OS subsystem. If the database is a Db2 LUW or Db2 for z/OS subsystem, customize the DRDA endpoint through Tools Customizer. For other data sources, you must manually define the DRDA endpoint in data set *hlq*.SHLVEXEC member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.

Customizing Accelerator Loader for data sharing groups

If you are using a data sharing group, you can define the Accelerator Loader control file to use the group attachment name. For more information, see “Task: Create the control file, update it, or both” on page 62.

When the primary subsystem goes down

This section describes Accelerator Loader behavior when the primary subsystem goes down.

When the primary Db2 subsystem to which Accelerator Loader is connected goes down, the Accelerator Loader started task remains active and automatically attaches to another member of the data sharing group on the same LPAR, if applicable.

The primary Db2 subsystem is identified by the SSID or data sharing group attach name that is coded as the attribute value of the **DB2_SSID** parameter in the Accelerator Loader started task initialization options XML document. An SSID uniquely identifies the primary Db2 subsystem. A group attach name identifies a data sharing group; a member of the group that is currently up and running on the LPAR is selected by Db2 at CONNECT time and that member becomes the primary Db2 subsystem. The Accelerator Loader started task maintains a persistent connection to the primary Db2 subsystem in order to insert log and audit rows to Db2 tables.

Secondary Db2 subsystems are specified in the Accelerator Loader policy XML document (*hloid*PLCY). These subsystems can be accessed by the Accelerator Loader started task and client applications for the purpose of loading and backing up accelerator tables in addition to other administrative functions. A persistent connection to secondary Db2 systems is not maintained by the Accelerator Loader started task. You do not need to define Accelerator Loader log and audit tables on secondary subsystems.

The following message indicates the current primary subsystem:

```
HLOS0609I 248 12:27:10.29 TCB: 008BB4B8 DB2 system SSID is the primary subsystem for this
instance
```

Accelerator Loader behavior varies depending on the following conditions:

- Whether the **DB2_SSID** option specifies a standalone subsystem or a data sharing group name
- Whether the Accelerator Loader started task is starting up or already active

- Whether the primary Db2 subsystem shuts down or starts up
- Whether the number of data sharing group members active on the LPAR is one or multiple

The following scenarios describe the resulting behaviors depending on the conditions:

Scenario 1: Accelerator Loader started task starts up and the primary Db2 subsystem is a standalone SSID which is not active on the LPAR

In this scenario, the primary Db2 subsystem is a standalone Db2 subsystem; however, the same behavior would be seen if the primary subsystem was a member of a data sharing group and the only member of the group running on the LPAR when the Accelerator Loader started task is started. The Accelerator Loader started task comes up but the primary subsystem is disabled. Logging and auditing are disabled. The secondary Db2 systems will allow client connections and will perform requiredAccelerator Loader functions.

The following messages are issued, where RA1B is the primary Db2 subsystem:

```
HLOS0409W 248 13:50:54.82 Cannot connect to the primary DB2 subsystem RA1B as required.
HLOS0002I 248 13:50:54.82 Started task initialization is complete
```

The Accelerator Loader started task detects when the primary Db2 subsystem is started. Accelerator Loader then allows client connections to the primary subsystem and writes log and audit data to the Db2 tables.

When the primary subsystem starts up, the following messages are issued, where RA1B is the primary Db2 subsystem:

```
HLOS0607I 254 10:56:38.79 TCB: 008C2190 DB2 subsystem RA1B startup detected.
HLOS0600I 254 10:56:38.79 DSNUTILB interception for DB2 SSID=RA1B is enabled.
HLOS0606I 254 10:56:38.79 DB2 SSID=RA1B has DB2 Sort Enabled=YES
HLOS0830I 254 10:56:38.81 DSNUTILB Intercept Policy:
HLOS0831I 254 10:56:38.81 DB2 SSID: RA1B ACTION: LOAD_ACCELERATOR
HLOS0203I 254 10:56:38.82 TCB: 008BF448 Connection to DB2 was successful. SSID=RA1B
HLOS0609I 254 10:56:38.82 TCB: 008BF448 DB2 system RA1B is the primary subsystem for this
instance
HLOS0020I 254 10:56:38.98 Logging has been started.
HLOS0022I 254 10:56:38.98 Auditing has been started.
```

Scenario 2: Accelerator Loader started task is active, the primary Db2 subsystem is a standalone SSID or the only member of a data sharing group that is active on the LPAR, and the primary subsystem shuts down

If the primary subsystem is a standalone Db2 system or is the only member of a data sharing group that is active and running on the LPAR, then the Accelerator Loader started task will disable logging and auditing and issue the following messages:

```
HLOS0409W 254 11:03:12.11 Cannot connect to the primary DB2 subsystem RA1B as required.
HLOS0610I 254 11:03:12.11 TCB: 008BF448 DB2 subsystem RA1B shutdown detected.
HLOS0021I 254 11:03:12.11 Logging has been terminated.
HLOS0023I 254 11:03:12.11 Auditing has been terminated.
```

The primary subsystem is disabled. Logging and auditing are disabled. Secondary Db2 systems allow client connections and perform required Accelerator Loader functions.

Scenario 3: Accelerator Loader started task is active, the primary Db2 subsystem is defined with a group attach name and there are multiple members of the data sharing group on the LPAR, and the primary subsystem shuts down

If the primary Db2 system is a member of a data sharing group and there is another member of the group running on the LPAR, then the Accelerator Loader started task will assign primary status to that member. The member must be identified in the currently active Accelerator Loader policy member (*hloid*PLCY) and the group attach name must be coded as the **DB2_SSID** parameter in the Accelerator Loader started task initialization options module.

The following messages are issued:

```
HLOS0609I 254 11:24:40.99 TCB: 008BF9D8 DB2 system QBB is the primary subsystem for this
instance
```

```
HLOS0610I 254 11:25:11.38 TCB: 008BF528 DB2 subsystem QBB shutdown detected.
HLOS0204I 254 11:25:11.39 TCB: 008BF528 Disconnection from DB2 was successful. SSID=QBB
HLOS0203I 254 11:25:11.40 TCB: 008BF9D8 Connection to DB2 was successful. SSID=QBC
HLOS0609I 254 11:25:11.40 TCB: 008BF9D8 DB2 system QBC is the primary subsystem for this
instance
HLOS0203I 254 11:25:11.41 TCB: 008BF528 Connection to DB2 was successful. SSID=QBC
HLOS0020I 254 11:25:11.45 Logging has been started.
HLOS0022I 254 11:25:11.45 Auditing has been started.
```

Scenario 4: Accelerator Loader started task is active, the primary Db2 subsystem is defined with a group attach name and there are multiple members of the data sharing group on the LPAR, and the primary subsystem shuts down for maintenance

The primary Db2 subsystem (DB2A) is shut down and the Accelerator Loader started task rolls over to another member of the data sharing group (DB2B). DB2B is now the primary subsystem. DB2A is started with ACCESS(MAINT). The Accelerator Loader started task detects this event and attempts to connect to DB2A. This connect attempt will fail because of ACCESS(MAINT), and the Db2 system is flagged as a system in MAINT mode. Maintenance is completed on DB2A and the system is shut down and restarted in normal operational mode. Because of the prior connect failure when DB2A was started with ACCESS(MAINT), the Accelerator Loader started task cannot be notified by Db2 when the system is restarted for normal operation. As a result, the Accelerator Loader administrator must issue the following z/OS **MODIFY** command to refresh the status tracking of subsystem DB2A by the Accelerator Loader started task:

```
MODIFY <started_task_name>,--REFRESH DB2
```

where *started_task_name* is the name of the Accelerator Loader started task.

The following messages report on Db2 startup in ACCESS(MAINT) mode and normal startup after ACCESS(MAINT) mode:

```
HLOS0611I 257 14:34:19.68 TCB: 008C2650 DB2 subsystem DB2A is now running in ACCESS(MAINT) mode
HLOS0612I 257 14:37:28.33 TCB: 008C2130 ACCESS(MAINT) cleared for DB2 subsystem DB2A
```

WTO messages for automated operations

Accelerator Loader issues some messages as WTO messages that you can use to control the flow of automated operations in your environment.

The following messages report the beginning and end of the Accelerator Loader started task initialization and termination phases:

- HLOS0001I
- HLOS0002I
- HLOS0003I
- HLOS0004I

Worksheets: Gathering required data set names

Identify and record the data set names that you'll use during the customization process and ensure that you meet the requirements for certain data sets.

Data set names for Tools Customizer

Identify and record the following Tools Customizer data set names.

Data set name	Description	Your data set name
SCCQDENU	Metadata library for Tools Customizer	
SCCQLOAD	Executable load module library for Tools Customizer	

Data set name	Description	Your data set name
SCCQMENU	ISPF messages for Tools Customizer	
SCCQPENU	ISPF panels for Tools Customizer	
SCCQSAMP	Sample members for Tools Customizer	
SCCQTENU **Note:** You must have write access to this data set.	Table library for Tools Customizer	

Data set names for Db2 Analytics Accelerator Loader

Identify and record the following data set names. During the customization process, you'll enter the following values on panel CCQPPRD.

Data set name	Description	Your data set name
SHLOCLST	CLIST library for CLISTs that are used to start the product ISPF interface	
ISPSLIB	ISPF skeleton library to use with the product	
ISPMLIB	ISPF message library to use with the product	
ISPPLIB	ISPF panel library to use with the product	
ISPTLIB	ISPF table input library to use with the product	
SADBEXEC **Note:** Use only if you choose to add the product to the Db2 Admin Launchpad.	Db2 Admin Tool EXEC library	

Data set names of other libraries used by Tools Customizer

Identify and record the following data set names. During the customization process, you'll enter the following values on the Tools Customizer Settings panel (CCQPSET).

Data set name	Description	Your data set name
Product customization library **Note:** You must have write access to this data set.	Contains the customization jobs that Tools Customizer generates for the product. To customize the product, submit the members of the data set in the order they display on the Finish Product Customization panel. The data set naming convention is: `hlq.$LPAR-name$.xyzvrm` where: • *hlq* is the value of the Customization library qualifier field on the Tools Customizer Settings panel (CCQPSET) • *LPAR-name* is the four-character LPAR name • *xyzvrm* is the three-letter product identifier with the version, release, and modification level For example, the data set name might be DB2TOOL.PRODUCT.CUST. $MVS1$.XYZ410.	
Discover output data set **Note:** You must have write access to this data set.	Contains the output generated when you run the product Discover EXEC. The Discover EXEC retrieves the metadata and values for the parameters from a previous customization of the product. The default name of the data set is DB2TOOL.CCQ110. DISCOVER. You can change the default value on the Tools Customizer Settings panel or the **Discover Customized Product Information** panel.	
Data store data set **Note:** You must have write access to this data set.	Contains product, LPAR, and Db2 parameter values, and Db2 entry associations. Tools Customizer uses this data set to permanently store all information acquired about the product, Db2 subsystems, and LPAR when you customize products on the local LPAR. The default name of the data set is DB2TOOL.CCQ110. DATASTOR. You can change the default value on the Tools Customizer Settings panel.	

Worksheets: Gathering parameter values for Tools Customizer

During the customization process, you must provide parameter values for Db2 Analytics Accelerator Loader, Db2, IMS, and your LPAR.

Use the following worksheets to record your parameter settings and during the customization process. The worksheets are organized based on the order of the customization panels in Tools Customizer.

Metadata library for Db2 Analytics Accelerator Loader

Description

Use the following worksheet to identify and record the value of the metadata library for Db2 Analytics Accelerator Loader. During the customization process, enter this value on the **Specify the Metadata Library** panel (CCQPHLQ).

Parameter	Discovered?	Your value
Metadata library The default name of the metadata library after the product has been SMP/E installed is *hlq*.SHLODENU, where *hlq* is the high-level qualifier for Db2 Analytics Accelerator Loader.	No	

Customization values for the Discover EXEC

Description

Use the following worksheet to identify and record the customization values for the Tools Customizer Discover EXEC. During the customization process, enter these values on the **Discover Customized Product Information** panel (CCQPDSC).

Tip: Tools Customizer can use a control file and options module from a previous installation of Db2 Analytics Accelerator Loader to discover existing information. Specify values for **`Previous installation control file`** and **`Previous installation OPTS module name`**.

Parameter	Sample or default value	Your value
Discover EXEC library The fully qualified data set name that contains the product Discover EXEC.	*hlq*.SHLODENU	
Discover EXEC name The name of the Discover EXEC.	HLODISC	
Discover output data set The fully qualified name of the data set for the output from the product Discover EXEC.	The name that you specified in option 0 User Settings from the Tools Customizer main menu.	
DB2 HLO User Indicator The user indicator of Accelerator Loader. Configuration data related to the specified user indicator will be discovered in the previous installation control file. Valid values contain 1 to 3 characters.	HLO	
Previous installation control file The Db2 control file that was used with a previous installation of the Accelerator Loader. If the data set name is longer than 42 characters, you must enclose it in quotation marks.	DB2TOOL.V110110.CONTROL	

Parameter	Sample or default value	Your value
Previous installation SHLOSAMP data set The Accelerator Loader version 1.1 SHLOSAMP data set that contains the options module. The Discover EXEC reads the options module and populates the **Product Parameters** panel (CCQPPRD) with the discovered values, which reduces the amount of time required to customize the product and enables you to review values used previously. If the data set name is longer than 42 characters, you must enclose it in quotation marks.	HLO.V110.SHLOSAMP	
Previous installation OPTS module name The options module name that was used in Accelerator Loader. The Discover EXEC reads the options module and populates the **Product Parameters** panel (CCQPPRD) with the discovered values. The options module name pattern is *hloid*OPTS, where *hloid* is the four-character product ID that identifies your instance of Accelerator Loader.	No default. Sample value: HLO1OPTS	

Product to Customize section

The parameters in the Product to Customize section are read-only and contain information in other panels, by Tools Customizer, or by the Db2 Analytics Accelerator Loader metadata data set.

Parameter	Discovered?	Source of this value
Product metadata library The library that you specified on the **Specify the Product to Customize** panel. This field is scrollable. Place your cursor anywhere on the field and press PF11 to view its full contents.	Yes	This value is specified on the **Specify the Product to Customize** panel (CCQPHLQ).
LPAR The LPAR on Accelerator Loader you are customizing.	Yes	This value is supplied by Tools Customizer.
Product name The product that is being customized. In this example, Db2 Analytics Accelerator Loader displays in this field. This field is scrollable. Place your cursor anywhere on the field and press PF11 to view its full contents.	Yes	The default value Accelerator Loader is provided by the product metadata file.
Version The version, release, and maintenance of the product that you are customizing in the format V*n*.R*n*.*nn*.	Yes	This value is provided by the product metadata file. The default value for this release is 2.1.0.

Parameter	Discovered?	Source of this value
Product customization library The data set that will store the generated library customization jobs.	No	This value is derived from the user-specified customization library qualifier on the **Tools Customizer Settings** panel (CCQPSET).

Product Parameters panel (CCQPPRD) tasks and parameters

The parameters in the Common parameters section are required for all customizations. During the customization process, enter these values on the **Product Parameters** panel (CCQPPRD).

Note: Tools Customizer displays some parameters only after you select tasks or specify values on the **Product Parameters** panel (CCQPPRD). Therefore, you must first define a primary SSID on the **DB2 Parameters** panel (CCQPDB2), then select values on the **Product Parameters** panel (CCQPPRD). Return to the **DB2 Parameters** panel (CCQPDB2) to review options that were added as a result of your specifications on the **Product Parameters** panel (CCQPPRD).

Parameter	Required?	Discovered?	Default value	Your value
SYSAFF parameter for non-DB2 specific jobs The LPAR value to use in the SYSAFF parameter for those customization jobs that are not Db2-specific. This value does not override the SYSAFF parameter specified in each Db2 subsystem configuration. This value is used for Tools Customizer customization jobs that perform tasks such as creating the product CLISTs or creating the server files.	No	No	No default	
FEC common code high-level qualifier The HLQ for the FEC load modules. You can keep the FEC common code programs in the same library with the Accelerator Loader load modules or in their own library. If you keep the FEC code in its own set of libraries, specify the high-level qualifier.	No	No	No default	
Accelerator Loader high-level qualifier The HLQ for the product data sets, which can optionally include FEC load modules and Accelerator Loader server modules.	Yes	No	HLO.V210	
Staging library high-level qualifier The high-level qualifier to use for the staging libraries. Staging libraries enable you to retain customized copies of PDS members. When you specify this parameter, the staging libraries will be customized instead of the base product libraries. **Note:** If you previously customized staging libraries and then want to switch to using the product base libraries, you must re-customize Accelerator Loader using the base libraries.	No	No	No default	
Data set device type The device type to use for data sets allocated during the customization process. These data sets include the SEF rule data sets and the data sets used in the IVP jobs.	Yes	No	SYSALLDA	

Parameter	Required?	Discovered?	Default value	Your value
Accelerator Loader Server high-level qualifier The HLQ for the Accelerator Loader server data sets. You can keep the server code in the same set of libraries as the Accelerator Loader code or in a separate set of libraries. If you keep the server code in its own set of libraries, specify the server high-level qualifier.	No	No	No default	

Task: Create Accelerator Loader files

This required task creates files for the staging libraries, load libraries, and other components that Accelerator Loader uses. During customization, enter these values on the **Product Parameters** panel (CCQPPRD).

Jobs generated

The generated jobs are based on the templates HLOLIBS, HLOVOBJ, HLOVSEF, HLOUMAP, and HLODFDIV, which are generated once per LPAR. The generated jobs are stored in the Product Customization Library, which is displayed on the **Finish Product Customization** panel. The generated job names might vary, but the template names do not.

Step or parameter	Required?	Discovered?	Default value	Your value
Create staging libraries When you select this step, a job is generated that creates a copy of the base libraries, enabling you to retain customized modules when applying maintenance. The Tools Customizer batch jobs customize these staging libraries.	No	No	Selected	
Create the OBJ files When you select this step, a job is generated that creates the OBJ file used by the Accelerator Loader server at start up.	Yes	No	Selected	
Create the server event facility files When you select this step, a job is generated that creates the server event facility files used by the Accelerator Loader server at start up.	No	No	Selected	
Create a user-defined map data set When you select this step, a job is generated that creates the user-defined map file. A map file is used by the Accelerator Loader server and contains definitions that map records in the source to the target.	No	No	Selected	
User-defined map file Specifies the fully qualified user-defined map file to create for use by theAccelerator Loader server. This file contains definitions that associate fields in the source data record with columns in the target table for loading to the accelerator	No	No	No default	

Step or parameter	Required?	Discovered?	Default value	Your value
Create the trace and checkpoint files When this step is selected, a job is generated that creates the Trace browse file and the Global variable checkpoint files used by the server.	No	No	Selected	
Trace browse file Specifies the high-level qualifier of the trace browse data set for use by the Accelerator Loader server. This file will contain informational messages from the server as it processes source data	If the step is selected, you must specify a value.	No	No default	
Global variable checkpoint file Specifies the high-level qualifier of the global variable data set for use by the Accelerator Loader server. This file will contain parameters that define how the server is to process source data.	If the step is selected, you must specify a value.	No	No default	
Volume serial number Specifies the volume serial number that the server uses for the trace and checkpoint data sets. To let SMS choose the volume, leave the field blank. Do not place this data set on a volume that is subject to reserve conflicts.	No	No	No default	
Trace browse file primary allocation Specifies the primary allocation, in cylinders, for the trace data set. The trace data set must be large enough to contain the number of messages specified in the parameter Maximum rows to retain. Exactly 720 messages fit in a 3390 cylinder. Each message is 1024 bytes long.	Yes	No	525	
Trace browse file secondary allocation Specifies the secondary allocation, in cylinders, for the trace data set. The trace data set must be large enough to contain the number of messages specified in the parameter Maximum rows to retain. Exactly 720 messages fit in a 3390 cylinder. Each message is 1024 bytes long.	Yes	No	50	
Global variable file primary allocation Specifies the primary allocation, in cylinders, for the global variable checkpoint data set. Approximately 1180 variables can fit in one cylinder.	Yes	No	250	
Global variable file secondary allocation Specifies the secondary allocation, in cylinders, for the global variable checkpoint data set. Approximately 1180 variables can fit in one cylinder.	Yes	No	50	

Task: Configure the product CLISTs (required)

This required task configures the CLISTs that start the Accelerator Loader ISPF interface. During customization, enter these values on the **Product Parameters** panel (CCQPPRD).

Jobs generated

The generated jobs are based on the HLOCLIST and HLOCLST2 templates, which are generated once per configuration. The generated jobs are stored in the Product Customization Library, which is displayed on the **Finish Product Customization** panel. The generated job names might vary, but the template names do not. When the jobs run, the CLISTs are stored in the product's *hlq*.SHLOCLST data set.

If you have an ISPTLIB that you want to use, concatenate it before the supplied ISPTLIB that is provided in the first CLIST. For more information, see the comments in HLOCLST.

Step or parameter	Required?	Discovered?	Default value	Your value
Configure the startup CLISTs When this step and the task **Configure product CLISTs** are selected, jobs are generated that configure the CLISTs that start the product ISPF interface.	Yes	No	Selected	
Startup CLIST library The CLIST library name for the first and second CLISTs that start the product ISPF interface.	Yes	No	HLO.SHLOCLST	
Startup CLIST 1 The name of the first startup CLIST that starts the product ISPF interface.	Yes	No	HLOV21	
Startup CLIST 2 The name of the second startup CLIST.	Yes	No	HLOV21C	
User indicator The name of your work environment. You can run multiple instances of the product on the same LPAR, Db2 subsystem, or both. All of these instances can use the same control file.	No	Yes	HLO	

Task: Create the started task and its components (required)

This required task creates SAMPLIB members for the Accelerator Loader started task *hloid*PROC and creates maintenance members to clean up repository tables. During the customization process, you enter these values on the **Product Parameters** panel (CCQPPRD). The step **Create PROC, PLCY, and other SAMPLIB members** must be selected on the **Product Parameters** panel (CCQPPRD), and the SSID on which the JCL is being generated must be defined as the primary subsystem on the **DB2 Parameters** panel (CCQPDB2).

Note: To display the Accelerator Loader started task options that are associated with this task, you must first define a subsystem and designate it as the primary subsystem.

Jobs generated

These jobs are based on the HLOSTCJ and HLOSMPJ templates, which are generated once per configuration. The generated jobs are stored in the Product Customization Library, which is displayed on the **Finish Product Customization** panel. The generated job names might vary, but the template names do not. When the job is run, the members are stored in the product's *hlq*.SHLOSAMP data set.

Step or parameter	Required?	Discovered?	Default value	Your value
Started task identifier An identifier for the Accelerator Loader started task configuration (the *hloid*). This value must contain four alphanumeric characters. Many started tasks can run, each monitoring different subsystems. This unique value identifies the started task.	Yes	Yes	HLO1	
Create PROC, PLCY, and other SAMPLIB members When this step and the task **Create the Started Task and its components** are selected, jobs are generated that create the SAMPLIB members for the Accelerator Loader started task. The SSID on which the JCL is generated must be defined as the primary subsystem on the DB2 Parameters panel.	Yes	No	Selected	
Started task proc name Specifies the proc name for the Accelerator Loader started task. This proc can be copied into the system PROCLIB.	Yes	No	HLO1PROC	
The started task user ID The RACF user ID under which the Accelerator Loader started task will run. **Important:** Ensure that this user ID has one of the following authorities on each Db2 subsystem where the Accelerator Loader plan will be bound: • SYSOPR with MONITOR1 (minimum) • SYSADM • SYSCTRL	Yes	No	HLOSTC	

Step or parameter	Required?	Discovered?	Default value	Your value
SYSOUT class Specifies a SYSOUT class for the SYSOUT data sets that Accelerator Loader dynamically allocates during DSNUTILB interception for the SYSPRINT output for a utility job. This value can be any valid one-character JES SYSOUT class. The default value is an asterisk (*), which indicates that the product should use the default SYSOUT class that is specified for the job, Accelerator Loader started task, or TSO session under which DSNUTILB is running. If you have an output management product that captures and deletes SYSOUT data sets automatically, set this option to a SYSOUT class that your output management product will not delete. Otherwise, your output management product might attempt to delete the SYSOUT data sets that the product dynamically allocates and cause DSNUTILB interception errors. If you specify a value other than an asterisk (*), the HLOSORT data sets (which are used in sort processing for the DSNUTILB intercept) still use the default asterisk (*) class. **Note:** For JES3 environments: Customizing DYNAMIC_SYSOUT_CLASS="*class*"; using the default value (*) is not recommended. Set this option to a SYSOUT class that is defined with the **HOLD=TSO** parameter so that the DSNUTILB intercept can recombine SYSOUT files that are produced by the product and the DSNUTILB utility. In this case, the SYSOUT will show up in the JES3 spool as multiple files. Some of the files will be named SYSPRINT, and others will have a system-generated file name such as SYS*nnnn*.	Yes	Yes	*	
STC audit active Controls whether Accelerator Loader records audit information in a Db2 table. Specify YES to record this information, or specify NO to not record this information.	Yes	Yes	YES	
Maximum STC audit age Indicates the maximum number of days to retain rows for audit information in the audit table (HLOAUDIT). This number of days is counted from the time when the rows are inserted into the table. When a row reaches this age limit, it is automatically deleted from the table the next time a new row is inserted into the table. Valid values are 0 - 32767. The value 0 prevents the automatic deletion of old rows from the audit table. If you specify 0, manually delete old rows from the audit table periodically to prevent the table from becoming too large. Use the sample SQL that is provided in the SHLOSAMP member HLOCLNUP.	Yes	Yes	45	

Step or parameter	Required?	Discovered?	Default value	Your value
Connect to all DB2 subsystems Controls whether Accelerator Loader attempts to connect to all active Db2 subsystems on the z/OS system on which it is configured or only to the Db2 subsystem that is specified in the DB2_SSID initialization option (the subsystem that contains audit and logging information). If you specify YES (the default value) or omit this option from the initialization options member, the product attempts to connect to all active Db2 subsystems by default. If you specify NO, the product attempts to connect only to the primary subsystem that is specified in the DB2_SSID option. Only the primary subsystem is listed in the ISPF interface.	Yes	Yes	YES	
Connection idle timeout Specifies the maximum amount of time (in seconds) that the Db2 connection for a Accelerator Loader task can have no activity. When this time limit is reached, the connection to Db2 closes. Valid values are 0 - 32767. If you specify 0, this timeout option is disabled and will not cause an inactive connection to close. This timeout option does not apply to the subtask for the Accelerator Loader connection to the Db2 subsystem that is specified by the DB2_SSID option.	Yes	Yes	300	
The primary DB2 subsystem ID Defines the primary Db2 subsystem on which auditing and logging will take place. **Note:** The primary subsystem is the DB2_SSID that is displayed in the Accelerator Loader started task initialization options module. You can manually add secondary subsystems to the policy member (*hloid*PLCY).	Yes	Yes	ABCD	
DB2 tasks count Specifies the maximum number of z/OS tasks that Accelerator Loader can start for connection to a single Db2 subsystem. Valid values are 1 - 2147483647.	Yes	Yes	2	
DB2 task idle timeout Specifies the maximum amount of time (in seconds) that a subtask for a product connection to Db2 can remain inactive after the connection closes. That is, after the timeout limit has been met. When this time limit is reached, the subtask ends. Valid values are 0 - 32767. If you specify 0, this timeout option is disabled and will not cause an inactive subtask to end. This timeout option does not apply to the subtask for the product connection to the Db2 subsystem that is specified by the DB2_SSID option.	Yes	Yes	900	

Step or parameter	Required?	Discovered?	Default value	Your value
STC logging active Controls whether Accelerator Loader logs messages about product performance and operations in its Db2 log table. Specify YES to log messages, or specify NO to not log messages.	Yes	Yes	YES	
Maximum STC log age Indicates the maximum number of days to retain rows for logged messages in the logging table (HLOLOG). This number of days is counted from the time when the rows are inserted into the table. When a row reaches this age limit, it is automatically deleted from the table the next time a new row is inserted into the table. Valid values are 0 - 32767. The value 0 prevents the automatic deletion of old rows from the logging table. If you specify 0, manually delete old rows from the logging table periodically to prevent the table from becoming too large. To do so, use the sample SQL that is provided in the SHLOSAMP member HLOCLNUP.	Yes	Yes	45	
SVC number Specifies the numeric identifier for the product supervisor call (SVC) number. This number must be an integer from 200 - 255. Consult your system programmer to choose an available SVC number. The SVC is dynamically installed when the Accelerator Loader started task starts and is dynamically removed when the started task stops.	Yes	Yes	255	
STC trace active Controls whether the product collects trace information. Specify YES to enable tracing, or specify NO to disable tracing. A trace is a record of internal product processing and is primarily used by IBM Software Support to diagnose a problem.	Yes	Yes	YES	
Size of trace table Specifies the size (in megabytes) of the table that stores product trace information. Valid values are 1 - 2147483647. A value of 0 results in no trace table allocation. A trace is a record of internal product processing and is primarily used by IBM Software Support to diagnose a problem.	Yes	Yes	1	
Work file data class The name of a valid SMS data class for the temporary DASD data sets that are allocated by the product, or the value NONE.	Yes	Yes	NONE	
Work file management class The name of a valid SMS management class for the temporary DASD data sets that are allocated by the product, or the value NONE.	Yes	Yes	NONE	

Step or parameter	Required?	Discovered?	Default value	Your value
Work file storage class The name of a valid SMS storage class for the temporary DASD data sets that are allocated by the product, or the value NONE.	Yes	Yes	NONE	
Work file unit Specifies a unit name for the location where the temporary DASD data sets that are allocated by the product are stored. Specify the valid unit name of a storage device or the value NONE. You can specify the value VIO if VIO (virtual input/output) storage groups are supported on your system and you want the temporary data sets to reside entirely in paging storage to improve performance. The default value SYSALLDA indicates any available DASD device. If you specify NONE, the product does not use this parameter to determine where to store the work file data sets.	Yes	Yes	SYSALLDA	
Maximum worklist table age Specifies the maximum number of days to retain rows in the DSNUTILB intercept worklist-error tables. A DSNUTILB intercept worklist contains the enhanced SYSIN information for a Db2 utility. You can use the information for restart purposes if a utility terminates. Worklist data is moved to worklist-error tables, which are used by IBM Software Support to diagnose a problem. When a row reaches this age limit, it is automatically deleted from the table the next time that a row is inserted into the table. Valid values are 0 - 32767. The default value is 0, which prevents the deletion of old rows from the worklist-error tables based on this option. If you specify 0, manually delete old rows from the table periodically to prevent the table from becoming too large. To do so, use the sample SQL that is provided in the SHLOSAMP member HLOCLNUP.	Yes	Yes	0	
WTO routing code Specifies the routing code for write-to-operator (WTO) messages about product operations. Routing codes identify the z/OS console to which to send WTO messages and are defined when Db2 is installed. Valid values are 1 - 28.	Yes	Yes	11	

Step or parameter	Required?	Discovered?	Default value	Your value
Parallel load tasks Specifies the number of partitions to load into the accelerator and optionally into Db2 in parallel when loading from an external file. Valid values are in the range 1 - 20. This value should not exceed the value of the IBM Db2 Analytics Accelerator for z/OS parameter **AQT_MAX_UNLOAD_IN_PARALLEL**, which indicates the maximum number of partitions that can be loaded in parallel. If **AQT_MAX_UNLOAD_IN_PARALLEL** is set to 2, the maximum number of partitions that can be written to the accelerator at one time is 2, regardless of the value that you specify for this parameter. **Note:** When using Analytics Accelerator V7.1.1 or earlier, to use parallelism in Accelerator Loader, you must have the WLM environment that runs DSNUTILU configured for WLM management of the DSNUTILU server address space. See "WLM requirements for Accelerator Loader" on page 34 for more information.	Yes	Yes	4	
Enable acceleration after successful load Controls whether query acceleration is enabled for the table after a successful load. If Db2 discards any rows during the load, query acceleration is not enabled. Valid values are YES and NO.	Yes	Yes	NO	
Load DB2 if accelerator is offline Specifies the action to take when the product detects that the accelerator is unavailable. Valid values are: • FAIL: The load job fails. • LOAD_DB2: Continue to load the table on Db2. No data is sent to the accelerator. The product issues message HLOU5717W and the utility step ends with RC=4. If the accelerator becomes unavailable during a load after the product determined that the accelerator was available, the job fails, regardless of the value that you specify for this option. You can rerun the job, and if the accelerator is still unavailable, then only Db2 is loaded.	Yes	Yes	FAIL	

Step or parameter	Required?	Discovered?	Default value	Your value
Load DB2 if load to accelerator fails Specifies the action to take if the load to the accelerator cannot be performed when running a dual load profile. Valid values are: • FAIL: Fail the load to Db2 if the load to the accelerator cannot be performed. This action keeps the table on the accelerator and the table in Db2 in sync. • LOAD_DB2: Continue to load the table in Db2 if the load to the accelerator cannot be performed or if the table does not exist on the accelerator.	Yes	Yes	FAIL	
Optimize processing for CPU or elapsed time **Note:** This parameter applies to the following cases: • Loads that use a Dual load profile or the IDAA_DUAL extended syntax option • Nonparallel processing • Loads to tables that are not partitioned or are partitioned by growth Specifies whether to optimize the load for elapsed time or for CPU consumption. Valid values are: • BEST_ELAPSED_TIME: Reduces elapsed time. • BEST_CPU_TIME: Reduces CPU consumption.	Yes	Yes	BEST_ELAPSED_ TIME	
Action when DB2 LOAD discards records loaded to the accelerator Controls how dual load responds when Db2 LOAD discards records that have already been loaded to the accelerator. This situation can occur, for example, when Db2 detects a unique index violation during the INDEX BUILD phase, after all data has been loaded to both the Db2 table and accelerator table. Valid values are: **DISABLE_ACCELERATION** Commit all data that was loaded to the accelerator (including the rows discarded from the Db2 table) and disable query acceleration for the table. **ROLLBACK** Roll back all data loaded to the accelerator table, leaving the accelerator with the original data intact and the query acceleration status for the table unchanged.	No	Yes	DISABLE_ ACCELERATION	

Step or parameter	Required?	Discovered?	Default value	Your value
STOP the target table space before initiating the load Controls if the target table space is stopped before loading a table enabled for replication when performing a Dual load. YES stops the target table space (or partitions) to drain all claimers before the load starts, and occurs only when loading a table enabled for replication. After the space stops, it is started for UT access. After the load, the space is restored to its original status. With NO (default), the target table space is started for UT access before the load but is never stopped.	No	Yes	NO	
Report loaded rows threshold The threshold (in rows) to use when reporting the number of rows that have been loaded for a job. Message “HLOU5062I” on page 639, which includes the cumulative number of rows loaded for the job, is issued to the Accelerator Loader job SYSPRINT each time the threshold value is met. Note that message HLOU5062I will be issued when the threshold is exceeded but will contain the current row count in the loading process, which might be more than the value specified. Valid values are integers in the range 0 - 2147483647. A value of 0 specifies that no reporting messages will be issued. This setting also affects the results of the **DISPLAY SESSIONS** console command, which reports the number of rows loaded for a job to the Accelerator Loader started task. When the value is set to 0, the reported number of rows loaded will be 0. This setting applies globally to all Accelerator Loader IDAA_ONLY, IDAA_DUAL and HALOAD utility jobs that do not specify the ACCEL_ROWS_REPORT_THRESHOLD option in the job syntax.	Yes	No	0	

Step or parameter	Required?	Discovered?	Default value	Your value
Refresh timestamp This option controls whether Accelerator Loader updates the refresh timestamp (REFRESH_TIME in SYSACCEL.SYSACCELERATEDTABLES) if no data is loaded into a table on a specific accelerator when using the HALOAD utility. This setting applies globally to all Accelerator Loader HALOAD utility jobs that do not specify the ACCEL_UPDATE_REFRESH_TIME_NOLOAD option in the job syntax. **YES** Update the refresh timestamp when no rows are loaded to the table. **NO** Do not update the refresh timestamp when no rows are loaded to the table.	No	Yes	YES	
Create repository maintenance members When this step and the task **Create the started task and its components** are selected, a job is generated that creates maintenance members to clean up Accelerator Loader started task tables.	No	No	Not selected	

Task: Create the server and the server components (required)

This required task creates members for the Accelerator Loader server started task, load libraries, and other components that the Accelerator Loader server uses. During the customization process, you enter these values on the **Product Parameters** panel (CCQPPRD).

The steps **Create the server** and **Create the server parameters** must be selected, and **The primary DB2 subsystem ID** must be defined on the **Product Parameters** panel (CCQPPRD).

Jobs generated

These jobs are based on the templates HLOUMAP, HLODFDIV, HLOVOBJ, HLOHLVS, and HLOIN00, which are generated once per LPAR. The generated jobs are stored in the Product Customization Library, which is displayed on the **Finish Product Customization** panel. The generated job names might vary, but the template names do not.

Step or parameter	Required?	Discovered?	Default value	Your value
Create the server When this step and the task **Create the server and the server components** are selected, a job is generated that creates the Accelerator Loader server started task.	Yes	No	Selected	
Server proc name Specifies the name of the Accelerator Loader server started task PROC. The *hlvid*PROC can be copied into the system PROCLIB.	Yes	No	HLV1PROC	

Step or parameter	Required?	Discovered?	Default value	Your value
Server started task identifier Identifies the Accelerator Loader server started task (the *hlvid*). Many servers can be running, and each can monitor different Db2 and IMS subsystems. This value identifies the servers from each other. The specified identifier is the prefix for the server configuration PDS member *hlvid*IN00 in data set *hlq*.SHLVEXEC.	Yes	No	HLV1	
Create the server parameters When this step and the task **Create the server and the server components** are selected, a job is generated that creates parameters for the Accelerator Loader server.	No	No	Not selected	
Maximum rows to retain Specifies the maximum number of messages to retain in the trace file. As the server processes data, it writes messages to the trace file. Older messages are deleted to make room for new messages.	Yes	No	300000	
The server started task user ID Specifies the Accelerator Loader server started task user ID that must be defined to your security product. If the started task user ID is specified, this value is used instead of the server started task name.	Yes	No	HLV1PROC	
TCP/IP OE port number Defines the Open Edition TCP/IP port number port number on the host on which the server listens to service ODBC or JDBC requests. OE sockets can run over OE TCP/IP, z/OS TCP/IP, and other TCP/IP implementations.	Yes	No	1200	
Web service port number Defines the web service port number that the Accelerator Loader studio uses to communicate with the server.	Yes	No	1201	
Oracle DRDA application server provider Specifies the four-character identifier (SUBSYSID) for the Oracle DRDA application server provider. To use DRDA to access Oracle data to load to the accelerator, you must specify the server name.	No	No	No default	
Oracle application server domain name Specifies the domain name services identification for the remote Oracle DRDA application server provider. If you want to use DRDA to access Oracle data to load to the accelerator and you have specified the Oracle DRDA application server provider, then you must specify the domain name.	No	No	No default	

Step or parameter	Required?	Discovered?	Default value	Your value
Oracle listener alias name Specifies the alias of the Oracle listener server that Oracle will use to connect to the database associated with this server name. If you want to use DRDA to access Oracle data to load to the accelerator and you have specified the Oracle DRDA application server provider, then you must specify the listener server.	No	No	No default	
Oracle listener port number Specifies the listener server port number for the specified listener alias name. If you want to use DRDA to access Oracle data to load to the accelerator and you have specified the Oracle application server provider, then you must specify the Oracle listener port number.	No	No	No default	
MSSQL DRDA application server provider Specifies the four-character identifier (SUBSYSID) for the Microsoft SQL Server DRDA application server provider. To use DRDA to access SQL Server data to load to the accelerator, you must specify the server name.	No	No	No default	
MSSQL application server domain name Specifies the domain name services identification for the remote Microsoft SQL Server DRDA application server provider. If you want to use DRDA to access SQL Server data to load to the accelerator and you have specified the **MSSQL DRDA application server provider**, then you must specify the domain name.	No	No	No default	
MSSQL listener alias name Specifies the alias of the Microsoft SQL Server listener server that SQL Server will use to connect to the database associated with this server name. If you want to use DRDA to access SQL Server data to load to the accelerator and you have specified the **MSSQL DRDA application server provider**, then you must specify the listener server.	No	No	No default	
MSSQL listener port number Specifies the listener server port number for the specified Microsoft SQL Server listener alias name. If you want to use DRDA to access SQL Server data to load to the accelerator and you have specified the **MSSQL DRDA application server provider**, then you must specify the SQL Server listener port number.	No	No	446	
SMF record number Specifies the System Management Facility (SMF) number for the server to use as it creates SMF records using ODBC or JDBC connections.	No	No	No default	

Step or parameter	Required?	Discovered?	Default value	Your value
Enable support for SMF log streams and in-memory resources Specifies whether support for SMF log streams and in-memory resources is enabled. Valid values are YES and NO.	No	No	No	
Call the interface module for IAM Specifies whether to call the interface module for IAM to analyze keys and set ranges for MapReduce. Valid values are YES and NO.	No	No	No	
SMF Virtual Tables Enter Yes to add or No to remove an additional DD statement in the HLVMAPP DD in the HLOHLVS template.	No	No	No	
ADABAS load library Specifies the Adabas load library that the server uses to connect to the Adabas databases. If this value is defined, the server uses Adabas as a data source. If this value is not defined, the server does not use Adabas as a data source.	No	No	No default	
IMS subsystem ID Specifies the IMS subsystem ID that the server uses as a data source. The IMS subsystem must be on the LPAR for which the product is being configured. **Note:** If instructed to do so by IBM Software Support, modify IMS DB parameters. For more information, see "Configuring access to data in IBM IMS databases" on page 152.	No	No	No default	
IMS SDFSRESL library Specifies the IMS load library that the server uses to connect to the IMS systems on the LPAR that you are configuring. If this value is defined, the server uses IMS as a data source. If this value is not defined, the server does not use IMS as a data source. **Note:** If instructed to do so by IBM Software Support, modify IMS DB parameters. For more information, see "Configuring access to data in IBM IMS databases" on page 152.	No	No	No default	
IMS MODBLKS library Defines the IMS MODBLKS staging library that contains the control blocks to support online change of databases, programs, transactions, and MFS formats for the specified IMS subsystem. This data set enables the server to access IMS data directly.	If an IMS subsystem is defined, you must specify a value.	No	No default	

Step or parameter	Required?	Discovered?	Default value	Your value
IMS ACBLIB library Defines the IMS ACBLIB library that contains database and program descriptors for the specified IMS subsystem. This data set enables the server to access IMS data directly.	If an IMS subsystem is defined, you must specify a value.	No	No default	
IMSDALIB library Defines the IMSDALIB library that contains the DFSMDA members that are used for dynamic allocation for the specified IMS subsystem. This data set enables the server to access IMS data directly.	If an IMS subsystem is defined, you must specify a value.	No	No default	
RECON library Defines the first of two RECON libraries that contain system information for the specified IMS subsystem. This data set enables the server to access IMS data directly.	If an IMS subsystem is defined, you must specify a value.	No	No default	
RECON2 library Defines the second of two RECON libraries that contain system information for the specified IMS subsystem. This data set enables the server to access IMS data directly.	If an IMS subsystem is defined, you must specify a value.	No	No default	
RECON3 library Defines the spare RECON library for the specified IMS subsystem if the first two RECON files cannot be read. This data set enables the server to access IMS data directly.	No	No	No default	

Task: Create DDL and BIND jobs (required)

This required task creates repository objects and the BIND job, and grants EXECUTE authority on the Accelerator Loader plan name. During the customization process, enter these values on panel CCQPPRD.

Jobs generated

These jobs are based on the templates HLODROP, HLOIXDDL, HLODDL, HLORFREE, HLOVFREE, HLORBIND, HLOVBIND, HLORGRNT, and HLOVGRNT, which are generated once per subsystem or data sharing group. The generated jobs are stored in the Product Customization Library, which is displayed on the **Finish Product Customization** panel. The generated job names might vary, but the template names do not.

Step or parameter	Required?	Discovered?	Default value	Your value
Drop repository objects When this step and the task **Create DDL and BIND jobs** are selected, a job is generated that drops the repository objects in preparation for creating a new set of repository objects. This step is helpful if you have previously customized Accelerator Loader and want to create a new installation.	No	No	Not selected	
Upgrade repository objects for APAR# PI84115 When this step and the task **Create DDL and BIND jobs** are selected, a job is generated that drops and recreates the repository database index HLOOBJSTATX2 to pick up the new definition when repository is changed. Use this task only when applying PTF UI49839 APAR PI84115 as maintenance.	If applying PTF UI49839 APAR PI84115 as maintenance, this step is required.	No	No default	
Create repository objects When this step and the task **Create DDL and BIND jobs** are selected, a job is generated that creates repository objects. When the job is run, the DDL is created.	Yes	No	Selected	
Free product packages and plans When this step and the task **Create DDL and BIND jobs** are selected, a FREE job step is generated in the BIND job. When the job is run, the FREE job step is run.	No	No	Not selected	
Free server packages on DB2 for z/OS When this step and the task **Create DDL and BIND jobs** are selected, a job is generated to free the Accelerator Loader server packages and plans before running the product BIND job.	No	No	Not selected	
Bind packages and plans When this step and the task **Create DDL and BIND jobs** are selected, a job is generated that creates the BIND job. When the job is run, the BIND statements are run.	Yes	No	Selected	
Bind server packages on DB2 for z/OS When this step and the task **Create DDL and BIND jobs** are selected, a job is generated to bind product packages and plans for the Accelerator Loader server.	Yes	No	Selected	
Grant EXECUTE authority When this step and the task **Create DDL and BIND jobs** are selected, a job is generated that grants EXECUTE authority on the Accelerator Loader plan name. When the job is run, the GRANT statement is run.	Yes	No	Selected	

Step or parameter	Required?	Discovered?	Default value	Your value
Grant EXECUTE authority to server packages When this step and the task **Create DDL and BIND jobs** are selected, a job is generated that grants users execute authority on the Accelerator Loader server plan.	Yes	No	Selected	

Task: Create profile data sets and migrate profiles (required)

This required task creates jobs that create the profile data sets and optionally update existing profiles to the new format the product uses. During the customization process, you enter these values on panel CCQPPRD.

Jobs generated

These jobs are based on the templates HLOCPROF and HLOMPROF, which are generated once per configuration. The generated jobs are stored in the Product Customization Library, which is displayed on the **Finish Product Customization** panel. The generated job names might vary, but the template names do not.

Step or parameter	Required?	Discovered?	Default value	Your value
Create profile data sets When this step and the task **Create profile data sets and migrate profiles** are selected, a job is generated that creates the profile repository data sets.	Yes	No	Selected	
Profile data set high-level qualifier Specifies the high-level qualifier of the profile data sets to be used. The profile data sets contain options that are specified during the generation of JCL to load data from the functions that are provided in the ISPF panels. Specify the HLQ of the KSDS VSAM data sets that will contain the profile information for Accelerator LoaderV2.1.	Yes	No	HLO.V210	
Volume serial number The volume serial number of the VSAM data set to use for the product profile data sets. To let SMS select the volume, leave the field blank.	No	No	No default	
Migrate profiles When this step and the task **Create profile data sets and migrate profiles** are selected, a job is generated that updates load profiles that were created for an earlier version of the product to the current format for profiles.	No	No	Not selected	
Former profile data set high-level qualifier Specifies the high-level qualifier of the profile data sets that were used by the previous version of the product and from which you want to update the profiles for use by the current version.	No	No	No default	

Task: Create the control file, update it, or both

This optional task creates the control file if it does not exist, and updates the newly created control file or an existing control file with information from the configuration. The control file contains specific information about each Db2 subsystem or data sharing group the Db2 Analytics Accelerator Loader might run on. During the customization process, enter these values on panels CCQPPRD and CCQPDB2.

Jobs generated

These jobs are based on the templates HLOCCNTL, which is generated once per configuration, and HLOUCNTL, which is generated once per subsystem. The generated jobs are stored in the Product Customization Library, which is displayed on the **Finish Product Customization** panel. The generated job names might vary, but the template names do not.

Data sharing groups

If you are using a data sharing group, you must update the control file with the group attach name. You must meet the following requirements:

- When specifying Tools Customizer user settings, on the Tools Customizer Settings panel (CCQPSET), set **Use Db2 group attach** to YES. For details, refer to “Modifying Tools Customizer user settings” on page 79.
- When defining Db2 parameters for use with Accelerator Loader, on the Db2 Parameters panel (CCQPDB2), **Group attach name** must contain a value for the data sharing group. For details, refer to “Defining Db2 parameters” on page 103.

To include information in the control file for a Db2 member as well as the data sharing group, you must generate the customization job twice: once for the subsystem and once for the group attachment name.

1. Generate a customization job to update the control file for the data sharing group, as follows:
   a. Specify YES for **Use Db2 group attach** on the Tools Customizer Settings panel (CCQPSET).
   b. Specify the group attachment name for the data sharing group in **Group attach name** on the Db2 Parameters panel (CCQPDB2).
   c. Generate the customization job. The job is based on the HLOUCNTL template. For more information, see “Generating customization jobs” on page 105.
   d. Submit the customization job. For more information, see “Submitting customization jobs” on page 106.
2. Generate a customization job to update the control file for a Db2 member, as follows:
   a. Specify NO for **Use Db2 group attach** on the Tools Customizer Settings panel (CCQPSET).
   b. Clear **Group attach name** on the Db2 Parameters panel (CCQPDB2).
   c. Generate the customization job. The job is based on the HLOUCNTL template. For more information, see “Generating customization jobs” on page 105.
   d. Submit the customization job. For more information, see “Submitting customization jobs” on page 106.
3. In the control file, set up the group attach name, as follows:

   Note: If the group attach name is the same as one of the SSIDs in that data sharing group, you don't need to set up a control file for the group attach name.

   a. On panel **Finish Product Customization** go into one of the HLOUCNTL jobs generated for the member of that data sharing group.
   b. Run the job to set up the member in the control file. Take note that the SYS parameter indicates a member of the data sharing group.
   c. Change the value of SYS to the group attach name and run that job to set up the group attach name in the control file. You do not need to change any other parameters.

Step or parameter	Required?	Discovered?	Default value	Your value
Create a new control file When this step and the task **Create control file, update it, or both** are selected, a job is generated that creates the control file if one does not exist already. This control file is a VSAM KSDS file that is used by Accelerator Loader to store certain product and Db2-related information that is required as Accelerator Loader is processing. It is not necessary to create a new control file if one already exists. Accelerator Loader can share the same control file with other Db2 tools that use the same type of control file.	No	No	Not selected	
Control file The name of the data set that will contain product customization information, including Db2-specific information such as plan names. The control file contains configuration information for each Db2 subsystem against which the product can run. After customization, you can modify the control file by using the product main menu. Specify a name that has a maximum of 35 characters. Because the control file is a VSAM file, the corresponding data and index low-level qualifiers will be appended to the file name.	Yes	No	HLO.DB2.CONTROL	
Volume serial number for control file The volume serial number of the VSAM data set that will be used as the control file. To let SMS select the volume, leave the field blank.	No	No	No default	
Update the control file When this step and the task **Create control file, update it, or both** are selected, a job is generated that updates the newly created control file or an existing control file with information from the configuration.	No	No	Not selected	

Task: Create installation and verification jobs

This optional task creates and customizes installation verification procedure (IVP) jobs. Run these jobs to test the configuration of Db2 Analytics Accelerator Loader.

Jobs generated

These jobs are based on the HLOIVP template, which is generated once per configuration. The generated jobs are stored in the Product Customization Library, which is displayed on the **Finish Product Customization** panel. The generated job names might vary, but the template names do not. When the job is run, the members are stored in the product's *hlq*.SHLOSAMP data set and *hlq*.SHLVSAMP data set.

Step or parameter	Required?	Discovered?	Default value	Your value
Customize IVP jobs When this step and the task **Create the IVP jobs** are selected, two IVP jobs are created and customized for the Db2 subsystem that you are configuring.	No	No	Not selected	

Task: Add product to the DB2 Admin Launchpad

This optional task adds Db2 Analytics Accelerator Loader to the Db2 Administration Tool Launchpad. During customization, enter these values on panel CCQPPRD. When the job is run, the REXX EXEC is copied to the product's *hlq*.SHLOSAMP data set and then run to add Accelerator Loader to the Launchpad.

Jobs generated

This job is based on the template HLOADBI, which is generated once per configuration.

Step or parameter	Required?	Discovered?	Default value	Your value
Create the REXX to add product to the Launchpad When this step and the task **Add the Accelerator Loader to the DB2 Admin Launchpad** are selected, a two-part job is generated. Part 1 creates the REXX EXEC to add Db2 Analytics Accelerator Loader to the Db2 Administration Tool Launchpad. Part 2 runs that REXX EXEC and adds Db2 Analytics Accelerator Loader to that Launchpad.	No	No	Not selected	
DB2 Admin Tool Library high-level qualifier The high-level qualifier (up to 36 alphanumeric characters) of the Db2 Administration Tool product data sets.	No	No	ADB.V102	
DB2 Admin Tool EXEC Library The SADBEXEC library (up to 44 alphanumeric characters) for the Db2 Administration Tool.	If the task is selected, you must specify a value.	No	ADB.SADBEXEC	

LPAR Parameters section

This section contains LPAR parameters. The **LPAR Parameters** panel is available only if you select the option to add the Accelerator Loader to the Db2 Admin Launchpad. All parameters are required. During the customization process, you enter these values on panel CCQPLPR.

Parameter	Required?	Discovered?	Default value	Your value
Message library The data set name of the ISPF message library. Valid names are 1 – 46 characters. Specify a valid name for the ISPF message library. Examples of valid data set names are ISP.SISPMENU and ISPF.SISPMLIB.	Yes	No	ISP.SISPMENU	

Parameter	Required?	Discovered?	Default value	Your value
Panel library The data set name of the ISPF panel library. Valid names are 1 – 46 characters. Specify a valid name for the ISPF message library. Examples of valid data set names are ISPF.SISPPENU and ISPF.SISPPLIB.	Yes	No	ISP.SISPPENU	
Skeleton library The data set name of the ISPF skeleton library. Valid names are 1 – 46 characters. Specify a valid name for the skeleton library. Examples of valid data set names are ISP.SISPSENU and ISPF.SISPSLIB.	Yes	No	ISP.SISPSENU	
ISPF table input library The data set name of the ISPF table input library. Valid names are 1 – 46 characters. Specify a valid name for the ISPF table input library. Examples of valid data set names are ISP.SISPTENU and ISPF.SISPTLIB.	Yes	No	ISP.SISPTENU	
ISPF table output library The data set name of the ISPF table output library. Valid names are 1 – 46 characters. Specify a valid name for the ISPF table output library. An examples of a valid data set name is ISP.SISPTABL.	Yes	No	ISP.SISPTABL	

DB2 Parameters section

This section contains Db2 parameters. During the customization process, you enter these values on the **DB2 Parameters** panel (CCQPDB2). You can create a Db2 entry as the primary subsystem or secondary subsystem and associate it with Accelerator Loader. When customizing Accelerator Loader, you must define a primary subsystem before you can define product parameters.

You can customize Accelerator Loader only on Db2 entries that are associated with Accelerator Loader. The list of Db2 entries is on the **Customizer Workplace** panel. You can customize any associated Db2 entries for Accelerator Loader.

Note: Tools Customizer displays some parameters only after you have selected tasks or specified values on the **Product Parameters** panel. Therefore, you must first define a primary SSID on the **DB2 Parameters** panel, then select values on the **Product Parameters** panel. Return to the **DB2 Parameters** panel to review options that were added as a result of your specifications on the **Product Parameters** panel.

Parameter	Required?	Discovered?	Default value	Your value
DB2 subsystem ID A distinct instance of a relational database management system (RDBMS) that is not part of a data sharing group. An example of a Db2 subsystem name is DB01.	Yes	Yes	No default	

Parameter	Required?	Discovered?	Default value	Your value
Group attach name The generic attachment name that is used by the TSO/batch attachment, the call attachment facility (CAF), DL/I batch, utilities, and the Resource Recovery Services attachment facility (RRSAF). An example of a group attach name is DSG1.	No	No	No default	
This is the primary subsystem Specify YES if this Db2 SSID will be used as the primary subsystem.	Yes	Yes	YES	
Mode The mode in which the Db2 subsystem is running. Valid value for this product is NFM (new function mode on any Db2 version).	Yes	No	NFM	
Level number The version, release, and modification level of the Db2 subsystem. For system requirements, see "Set up your environment prior to customization" on page 29.	Yes	No	No default	
Load library The fully qualified data set name of the Db2 load library.	Yes	Yes	DSN.SDSNLOAD	
Run library The fully qualified data set name of the Db2 run library.	Yes	Yes	DSN.RUNLIB.LOAD	
Exit library The fully qualified data set name of the Db2 exit library.	Yes	Yes	DSN.SDSNEXIT	
Bootstrap data set The fully qualified data set name of the Db2 bootstrap data set.	Yes	Yes	DSN.SDSNBSDS	
SYSAFF for DB2 utilities Generates the /*JOBPARM value in a batch job.	No	No	No default	
DSNTEP2 plan name The name of the plan (up to eight alphanumeric characters) that is used for the Db2 DSNTEP2 program.	Yes	No	DSNTEP2	
Accelerator Loader plan name The name of the Db2 plan (up to eight alphanumeric characters) that Accelerator Loader uses to access its internal repository tables. The plan name must be unique on the Db2 subsystem where the plan is bound or within the data sharing group to which that subsystem belongs.	Yes	Yes	HLOV21PL	

Parameter	Required?	Discovered?	Default value	Your value
BIND owner ID The Db2 user ID (up to eight alphanumeric characters) that will be used as the OWNER in the bind job.	Yes	No	DB2USER	
Server BIND collection ID Specifies the collection ID for the Accelerator Loader server packages.	Yes	No	DB2USER	
User ID for GRANT statement Specifies the authorization ID to which usage privileges on the Accelerator Loader plan are granted.	Yes	No	PUBLIC	
DB2 ZPARMs member The ZPARM load module member name that is generated for the Db2 subsystem.	Yes	Yes	DSNZPARM	
IVP job utility stored procedure name The Db2 utility stored procedure name to use when executing utilities within the IVP jobs for Accelerator Loader.	Yes	No	DSNUPROC	
IVP job utility region size The region size in megabytes to use for the utility batch job step when executing the IVP jobs for Accelerator Loader.	Yes	No	0	
SET CURRENT SQLID The Db2 user ID (up to eight alphanumeric characters) to use to create the product objects.	Yes	No	DB2USER	
Subsystem type Specifies the type of subsystem that is being configured, as follows: • GROUP: The Db2 subsystem is on z/OS and is a data sharing group. • MEMBER: The Db2 subsystem is on z/OS and is a member of a data sharing group or is a non-data sharing subsystem. • LUW: The database is a non-z/OS database.	Yes	No	MEMBER	
Subsystem location Specifies the unique location name of the Db2 subsystem ID. This is the value from the LOCATIONS column in the LOCATIONS catalog table for the Db2 subsystem that is being configured. For LUW, this value specifies the database on the LUW subsystem that you want to use with the product.	Yes	No	DEV1DNS1	

Parameter	Required?	Discovered?	Default value	Your value
Subsystem status Specifies whether the subsystem is enabled or disabled in the Accelerator Loader server, as follows: • ENABLE: The server will connect to the Db2 subsystem. • DISABLE: The server will not connect to the Db2 subsystem and will therefore not use the subsystem as a data source.	Yes	No	ENABLE	
Subsystem port number Specifies the IP port number that is defined for DRDA access for this subsystem. For LUW, this value specifies the port that was defined on the server on which the LUW database exists.	Yes	No	443	
Subsystem domain name Specifies the fully qualified name that identifies the IP address of the Db2 subsystem that is being configured. The domain name is generated into the *hlvid*IN00 file. You can manually edit the file to specify the IP address instead. For LUW, this value specifies the DNS name for the server on which the LUW database exists.	Yes	No		
Subsystem CCSID value Specifies the CCSID value of the Db2 subsystem that is being configured. The CCSID value for this subsystem is on the Db2 installation panel DSNTIPF, within option 7.	Yes	No	37	
Subsystem LU name Specifies the LU name of the subsystem that you are configuring and that is used for RACF PassTicket generations. To find this value, see the main address space of the Db2 subsystem that you are configuring, or issue the DISPLAY DDF command.	Yes	No	DSN1LU	
Repository database name The name of the database (up to eight alphanumeric characters) that contains the product repository tables.	Yes	No		
Repository table schema The creator (up to eight alphanumeric characters) for the product repository tables. This value is also used as the bind qualifier and as the collection ID for the packages.	Yes	No	HLOV21TB	

Parameter	Required?	Discovered?	Default value	Your value
Repository database STOGROUP The storage group in which to create the product objects.	Yes	No	SYSDEFLT	
Repository table space primary quantity Defines the primary quantity in kilobytes to use to create the Accelerator Loader repository table spaces.	No	No	No default	
Repository table space secondary quantity Defines the secondary quantity in kilobytes to use to create the Accelerator Loader repository table spaces.	No	No	No default	
Repository table space buffer pool The buffer pool (up to six alphanumeric characters) that is used to create the Db2 table spaces.	Yes	No	BP0	
Repository index STOGROUP The storage group in which to create the product indexes.	Yes	No	SYSDEFLT	
Repository index primary quantity Defines the primary quantity in kilobytes to use to create the Accelerator Loader repository table indexes.	No	No	No default	
Repository index secondary quantity Defines the secondary quantity in kilobytes to use to create the Accelerator Loader repository table indexes.	No	No	No default	
Repository index buffer pool The buffer pool (up to eight alphanumeric characters) that is used to create the Db2 indexes.	Yes	No	BP0	
Utility region size The default region size, in megabytes, to be used when JCL is generated. The region size is set on the job step and the value is used for all job steps. If you include a **REGION** parameter in your job card, the job card **REGION** parameter overrides the **REGION** parameter on the EXEC statement. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	0000	
Virtual storage Specifies the virtual storage above the bar, in megabytes, for the Accelerator Loader server.	Yes	No	0200	

Parameter	Required?	Discovered?	Default value	Your value
Number of buffers The number of buffers to be used by the product. Valid values are in the range 1 - 99. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	5	
Channel programs The number of channel programs that the product uses. Valid values are in the range 0 - 99. The value 0 allows the product to use a predetermined channel program setting to attempt to gain optimal performance, or specify the number of channel programs. The number of channel programs that you specify controls how many outstanding QSAM channel programs can run at the same time before the earliest one is checked for completion. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	0	
Sort work file device type Specifies the sort work file unit device to use when utility JCL is generated. Sample values are SYSDA and DISK. You can change this value after installation on the **Accelerator Loader Parameters** panel.	Yes	Yes	SYSALLDA	
Number of sort work DDs Overrides the calculated number of sort work DD statements. Specify a value in the range 1 - 99. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	No default	
Primary sort work space Overrides the calculated primary sort work space, specified in cylinders. Specify a value in the range 1 - 999999. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	No default	
Secondary sort work space Overrides the calculated secondary sort work space, specified in cylinders. Specify a value in the range 1 - 999999. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	No default	
Device type The device type for any work data sets that the creates as it processes data. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	DISK	

Parameter	Required?	Discovered?	Default value	Your value
Data set type The type of data set that the product uses for work data sets it creates. Valid values are B (basic) and L (large). You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	B	
Track or cylinder The allocation unit for work data sets that Accelerator Loader creates. Valid values are T (tracks) and C (cylinders).	No	Yes	T	
Primary quantity The primary quantity (in units specified in **`Work file track or cylinder`**) for work data sets that the product creates. Specify a value in the range 1 - 16777215. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	10	
Secondary quantity The secondary quantity (in units specified in **`Work file track or cylinder`**) for work data sets that the product creates. Specify a value in the range 1 - 16777215. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	50	
Maximum volumes The maximum number of tape volumes that can be used for the work data sets (if the specified device type is TAPE). Specify a value in the range 1 - 255. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	No default	
SMS data class The SMS data class (up to eight alphanumeric characters) for work data sets that the product creates. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	No default	
SMS storage class The SMS storage class (up to eight alphanumeric characters) for work data sets that the product creates. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	No default	

Parameter	Required?	Discovered?	Default value	Your value
SMS management class The SMS management class (up to eight alphanumeric characters) for work data sets that the product creates. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	No default	
Device type The device type (up to eight characters) for any SYSPRINT data sets that the product creates. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	DISK	
Data set type The type of data set that will be used for SYSPRINT data sets that the product creates. Valid values are B (basic) and L (large). You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	B	
Track or cylinder The allocation unit for SYSPRINT data sets that the product creates. Valid values are T (tracks) and C (cylinders). You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	T	
Primary quantity The primary quantity (in units specified in **SYSPRINT track or cylinder**) for SYSPRINT sets data sets that the product creates. Specify a value in the range 1 -16777215. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	10	
Secondary quantity The secondary quantity (in units specified in **SYSPRINT track or cylinder**) for SYSPRINT sets data sets that the product creates. Specify a value in the range 1 -16777215. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	50	
Maximum volumes The maximum number of tape volumes that can be used for the SYSPRINT data sets (if the specified device type is TAPE). You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	No default	

Parameter	Required?	Discovered?	Default value	Your value
SMS data class The SMS data class (up to eight alphanumeric characters) for SYSPRINT data sets that the product creates. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	No default	
SMS storage class The SMS storage class (up to eight alphanumeric characters) for SYSPRINT data sets that the product creates. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	No default	
SMS management class The SMS management class (up to eight alphanumeric characters) for SYSPRINT data sets that the product creates. You can change this value after installation on the **Accelerator Loader Parameters** panel.	No	Yes	No default	

Chapter 3. Customizing Db2 Analytics Accelerator Loader

After you install the product by following the installation instructions in the Program Directory, you must run Tools Customizer to specify the variables for each Db2 subsystem and to customize the configuration and user parameters.

Complete the following required customization steps in the order listed:

1. Start and prepare Tools Customizer for use.
2. Identify Accelerator Loader as the product to customize.
3. Define the primary Db2 subsystem for the customization and specify Db2 parameter values (**DB2 Parameters** panel).
4. Specify values for Accelerator Loader parameters (**Product Parameters** panel).
5. Return to the **DB2 Parameters** panel to specify values for parameters that were enabled by your selections on the **Product Parameters** panel.

   Tools Customizer displays some Db2 parameters only after you select options or specify values on the **Product Parameters** panel.
6. Specify values on the **LPAR parameters** panel for the local LPAR that are required to customize Accelerator Loader.
7. Generate and submit the customization jobs.
8. Start and stop Accelerator Loader server.
9. Configure access to data sources.
10. Install and configure the Accelerator Loader studio.

Starting and preparing Tools Customizer for use

Use the provided REXX EXEC to start Tools Customizer. The first time that you use Tools Customizer, you must modify the settings that Tools Customizer uses to customize Db2 Analytics Accelerator Loader .

Best Practice: SMP/E and runtime libraries maintenance strategy for Tools Customizer

Tools Customizer creates relationships between the values for the Product Parameters, LPAR Parameters, and Db2 Subsystem Parameters for each Tools Customizer enabled product. Determining the correct maintenance strategy for your Tools Customizer runtime libraries, after SMP/E processing, can reduce problems working with Tools Customizer and the enabled products through their life cycles.

Tools Customizer has very specific requirements for data set names:

- Only one DATASTOR data set exists per LPAR
- The product metadata library data set names do not change during the life of that release of the Tools Customizer enabled product.

The DATASTOR data set is the repository for all the information that Tools Customizer requires to generate customization JCL for enabled products.

When you update and save the Tools Customizer Settings panel (CCQPSET), as described in “Modifying Tools Customizer user settings” on page 79, the name of the DATASTOR data set is saved in the ISPF profile. This allows Tools Customizer to know the active DATASTOR data set when the TSO user id logs in and starts the Tools Customizer EXEC.

Maintenance scenarios

IBM expects maintenance to be applied to libraries which are then used by Tools Customizer. In practice, different customer shops distribute SMP/E APPLY maintenance in different ways.

The following scenarios explains some considerations and alternatives for determining your maintenance strategy. The one overriding objective is to preserve and maintain the same data set names for the Tools Customizer instance.

Apply SMP/E maintenance to the same data sets (using the SMP/E APPLY command):
If you apply SMP/E maintenance (using the SMP/E APPLY command) using the same data set names with each maintenance cycle, you can either use these target libraries as your Tools Customizer runtime libraries or you can copy the SMP/E target data sets to the runtime libraries that are used by Tools Customizer to customize enabled products.

Tools Customizer assumes that if the product metadata library (*DENU) has the same name, this metadata library is for the same release of the enabled product. For example, assume that you customize Db2 Log Analysis Tool v3.3 and name the metadata library `SYS2.DB2TOOL.SALADENU`, with no indication of the version or release. You then upgrade to Db2 Log Analysis Tool v3.4 and employ the same naming convention, `SYS2.DB2TOOL.SALADENU`. Tools Customizer will assume that you are continuing to work with Db2 Log Analysis Tool v3.3 and will report v3.3 on panels and continue to use the same v3.3 Customization Library data set.

A more sustainable approach to naming the data sets is to include a product version, release identifier, or other distinguishing qualifier in the name of the metadata library, so that Tools Customizer can determine the new product release when you upgrade. For example, using metadata library names that include a product version, release identifier, or other distinguishing qualifier, similar to the following, can make product maintenance and upgrades easier:

- `DB2TOOL.R330.SALADENU` for Db2 Log Analysis Tool v3.3
- `DB2TOOL.R340.SALADENU` for Db2 Log Analysis Tool v3.4

Apply SMP/E maintenance to new data sets (using the SMP/E APPLY command):
If you apply SMP/E maintenance (using the SMP/E APPLY command) to new data sets rather than to the same data sets, the next time you open the product metadata library, Tools Customizer will return a data set error that indicates that the library name is being used by another product or component.

For example, assume that you name the Db2 High Performance Unload for z/OS target metadata libraries to reflect the date of an upgrade or to reflect a specific RSU, as follows:

- To reflect a specific upgrade date (August 2014):
  - `DB2TOOL.PTF420.SINZDBRM.D201408`
  - `DB2TOOL.PTF420.SINZDENU.D201408`
  - `DB2TOOL.PTF420.SINZLOAD.D201408`
- To reflect a specific RSU (RSU 1406):
  - `DB2TOOL.PTF420.SINZDBRM.RSU1406`
  - `DB2TOOL.PTF420.SINZDENU.RSU1406`
  - `DB2TOOL.PTF420.SINZLOAD.RSU1406`

Using either of these naming conventions, the next time you start the Tools Customizer EXEC, it will return a data set error.

To handle this type of SMP/E maintenance processing, you can do either of the following:

- Define aliases (using ALIAS control statements) to reference the appropriate libraries for Tools Customizer processing.
- Copy the SMP/E libraries to a set of runtime libraries that are specifically for Tools Customizer processing.

Define aliases (using ALIAS control statements) to reference the appropriate libraries for Tools Customizer processing:

Defining aliases (using ALIAS control statements) for the SMP/E created new product data set names is likely the best strategy when planning for Tools Customizer.

If you are setting up Tools Customizer for the first time, consider specifying the product library data set names with an indicator that these data sets will be used for Tools Customizer processing. For example, use data set names similar to the following names:

- `TCZ.PTF420.SINZDBRM`
- `TCZ.PTF420.SINZDENU`
- `TCZ.PTF420.SINZLOAD`

After applying maintenance using SMP/E, which creates new product library data sets, you should define aliases (using ALIAS control statements) for the new data set names to the data set names that Tools Customizer originally processed. For example, the following maintenance data sets have aliases defined to the original data sets:

- `DB2TOOL.PTF420.SINZDBRM.RSU1406` --> `TCZ.PTF420.SINZDBRM`
- `DB2TOOL.PTF420.SINZDENU.RSU1406` --> `TCZ.PTF420.SINZDENU`
- `DB2TOOL.PTF420.SINZLOAD.RSU1406` --> `TCZ.PTF420.SINZLOAD`

You will need to define an alias (using ALIAS control statements) to each of the following IBM-distributed Tools Customizer data sets:

- SCCQDENU
- SCCQEXEC
- SCCQLOAD
- SCCQMENU
- SCCQPENU
- SCCQSAMP
- SCCQTENU

If you have already set up Tools Customizer and customized the product, you will have to define aliases (using ALIAS control statements) for the newly created data set names to the data sets that were specified when the product was originally customized using Tools Customizer.

After defining the aliases, you should be able to run Tools Customizer successfully.

Note: Only define aliases for IBM-distributed SMP/E libraries.

Restriction:

Do not define an alias for any Tools Customizer created data sets, like the following three data sets on the Tools Customizer Settings panel (CCQPSET):

- Customization library qualifier
- Discover output data set
- Data store data set

Copy the SMP/E libraries to a set of runtime libraries that are specifically for Tools Customizer processing:

If you are setting up Tools Customizer for the first time, consider specifying the product library data set names with an indicator that these data sets will be used for Tools Customizer processing. For example, use data set names similar to the following names:

- `TCZ.R420.SINZDBRM`
- `TCZ.R420.SINZDENU`
- `TCZ.R420.SINZLOAD`

After applying maintenance using SMP/E, which creates new product library data sets, you should copy the new data sets to the data sets that Tools Customizer originally processed. For example, copy the following maintenance data sets to the original data sets:

- `DB2TOOL.PTF420.SINZDBRM.RSU1406` --> `TCZ.R420.SINZDBRM`
- `DB2TOOL.PTF420.SINZDENU.RSU1406` --> `TCZ.R420.SINZDENU`
- `DB2TOOL.PTF420.SINZLOAD.RSU1406` --> `TCZ.R420.SINZLOAD`

You will need to copy each of the following IBM-distributed Tools Customizer data sets:

- SCCQDENU
- SCCQEXEC
- SCCQLOAD
- SCCQMENU
- SCCQPENU
- SCCQSAMP
- SCCQTENU

If you have already set up Tools Customizer and customized the product, you will have to copy the newly created data sets to the data sets that were specified when the product was originally customized using Tools Customizer).

After copying the SMP/E data sets to the Tools Customizer instance libraries, you should be able to run Tools Customizer successfully.

Note: Only copy IBM-distributed SMP/E libraries.

Restriction:

Do not copy any Tools Customizer created data sets, like the following three data sets on the Tools Customizer Settings panel (CCQPSET):

- Customization library qualifier
- Discover output data set
- Data store data set

Related tasks

Modifying Tools Customizer user settings

Before you can customize a product or a component with Tools Customizer, you must review the settings that Tools Customizer uses.

Related information

The SMP/E APPLY command

Alias processing: SMP/E for z/OS Commands

Starting Tools Customizer

Start Tools Customizer by running a REXX EXEC from the ISPF Command Shell panel.

Before you begin

Tools Customizer must be SMP/E installed. You must know the high-level qualifier of where the Tools Customizer libraries reside. The high-level qualifier is considered to be all the segments of the data set name except the lowest-level qualifier, which is SCCQEXEC.

Attention: Ensure that Tools Customizer load libraries are not APF authorized. APF authorizing Tools Customizer libraries results in an abend.

About this task

To run the REXX EXEC, you must either change the placeholder in the EXEC for the high-level qualifier of the Tools Customizer EXEC library or pass the high-level qualifier as a parameter when you run the EXEC. The REXX EXEC is in the CCQTCZ member of the EXEC library.

Procedure

1. Optional: Change the placeholder for the high-level qualifier in the REXX EXEC:
   a) Find the EXEC library data set for Tools Customizer. The name of the data set is *high_level_qualifier*.SCCQEXEC.
   b) Edit data set member CCQTCZ and replace the <TCZ HLQ> string with the high-level qualifier of the EXEC library data set.
   For example, if the name of the Tools Customizer EXEC library is CCQTCZ.USABSAND.SCCQEXEC, replace <TCZ HLQ> with CCQTCZ.USABSAND.

   You have to change the placeholder for the high-level qualifier only once. When you run the REXX EXEC, you do not have to pass the high-level qualifier as a parameter.
2. Run the REXX EXEC (CCQTCZ):
   a) From the **ISPF Primary Option Menu**, select option 6.
   The **ISPF Command Shell** panel is displayed.
   b) Specify the EX command to run the REXX EXEC.
   For example, if the Tools Customizer EXEC library is CCQTCZ.USABSAND.SCCQEXEC and you changed the placeholder for the high-level qualifier in the REXX EXEC, specify:

   ```
   EX 'CCQTCZ.USABSAND.SCCQEXEC(CCQTCZ)'
   ```

   If you did not change the placeholder for the high-level qualifier in the REXX EXEC, specify:

   ```
   EX 'CCQTCZ.USABSAND.SCCQEXEC(CCQTCZ)' 'CCQTCZ.USABSAND'
   ```

   You can also specify a trace data set name and a user profile when you run the REXX EXEC.

   - The default trace data set name is *USERID*.CCQ.TRACE. To specify a different trace data set name, append the trace data set name to the command. For example, to specify a trace data set name of CCQTCZ.MYTRACE, enter:

     ```
     EX 'CCQTCZ.USABSAND.SCCQEXEC(CCQTCZ)' 'CCQTCZ.USABSAND, CCQTCZ.MYTRACE'
     ```

   - To specify a user profile other than your own, append the user profile name to the command. For example, to specify a user profile of SHRPROF, enter:

     ```
     CCQTCZ.USABSAND.SCCQEXEC(CCQTCZ)' 'CCQTCZ.USABSAND, ,CCQTCZ.SHRPROF'
     ```

     Tools Customizer will use the settings from the specified profile. This profile will be updated when you exit Tools Customizer, but your own profile will remain unchanged.

Results

The **IBM Customizer Tools for z/OS** main menu panel is displayed.

What to do next

If you are running Tools Customizer for the first time, you must modify the Tools Customizer user settings. If you have already set the Tools Customizer user settings, either customize or recustomize Db2 Analytics Accelerator Loader .

Modifying Tools Customizer user settings

Before you can customize Db2 Analytics Accelerator Loader with Tools Customizer, you must review the settings that Tools Customizer uses. You might have to change the default values to suit your

environment. In most cases, you can change the Tools Customizer values at any time. For example, after you have customized Db2 Analytics Accelerator Loader and are customizing a different product or solution pack, you might have to change the settings.

Procedure

1. On the **IBM Tools Customizer for z/OS** main panel (CCQPHME), specify option `0`, **User settings for Tools Customizer**.

   The **Tools Customizer Settings** panel (CCQPSET) is displayed, as shown in the following figure:

```
CCQPSET             Tools Customizer Settings               14:03:51
Command ===>
Enter the settings for customizing a product or press End to save and exit.

Commands: SAVE  OPTIONS

 Product Customization Settings

  *Customization library qualifier . . DB2TOOL.PRODUCT.CUST
     Volume serial  . . . .. . . . . .
  *Use DB2 group attach  . . . . . . . YES (YES/NO)

 Tools Customizer Library Settings

  *Metadata library . . . . . DB2TOOL.CCQ110.SCCQDENU
  *Discover output data set . DB2TOOL.CCQ110.DISCOVER
     Volume serial  . . . . .
  *Data store data set  . . . DB2TOOL.CCQ110.DATASTO1
     Volume serial  . . . . .

 User Job Card Settings for Customization Jobs

 ===> //         JOB
(ACCOUNT),'NAME',
```

   *Figure 1. The **Tools Customizer Settings** panel (CCQPSET)*

   Note: An asterisk next to a field indicates that the field is required.

2. Review the values for the following required fields. Use the default value or specify your own value.

   You must have appropriate READ and WRITE access to the data sets that are specified.

   Customization library qualifier
   The high-level qualifier that is used as the prefix for the customization library. The customization library is a data set in which the generated jobs to customize Db2 Analytics Accelerator Loader are stored. WRITE access to this qualifier is required.

   For each product to be customized, the first value that is specified for the qualifier is always used, even if you change it after you have generated the customization jobs. For example, if you customize a product and then specify a new qualifier for recustomization, although the new qualifier is saved and displayed, the original value is used.

   To maintain multiple instances of Tools Customizer, specify a unique customization library qualifier for each instance of Tools Customizer.

   Data set names that exceed 42 characters must be enclosed in single quotation marks (').

   Volume serial
   The volume name in which the customization library will reside. If you don't specify a volume name, it will be assigned by the system.

   Use DB2 group attach
   Determines the value that is used in the CONNECT statements in the generated customization jobs. Specify YES for data sharing environments, which causes the group attach name to be used. Specifying `NO`, in most cases, causes the SSID to be used in the Db2 CONNECT statement.

Important: This field has no effect when you are customizing a product on a Db2 subsystem that is not a member of a data sharing group. In this case, the Db2 subsystem ID (SSID) is always used in the CONNECT statements in the generated customization jobs.

When you are customizing a product on a Db2 subsystem that is a member of a data sharing group, how the Db2 subsystem is defined and the value of the **Use DB2 group attach** field determines the value that is used in the CONNECT statements in the generated jobs. The following table shows whether the SSID or the group attach name is used:

*Table 3. The effect of the value of the **Use DB2 group attach** field in a data sharing environment*

Db2 subsystem definition	Value of the Use DB2 group attach field	Value that is used in the CONNECT statements
The Db2 subsystem is defined with an SSID.	Yes	Group attach name
	No	SSID[1]
The Db2 subsystem is not defined with an SSID.	Yes or No	Group attach name

Note 1: If you generate jobs for multiple Db2 subsystems that are defined with an SSID and belong to the same data sharing group, the SSID of the first Db2 subsystem that is selected is used.

For example, assume that on the **Customizer Workplace** panel, you generated jobs for the following Db2 subsystems:

- DB2C, which is a stand-alone Db2 subsystem
- DB2A, which is a Db2 subsystem that is a member of data sharing group DSG1
- A Db2 subsystem that was not defined with an SSID that is a member of data sharing group DSGA

The following figure shows how these Db2 entries might be listed on the **Customizer Workplace** panel:

```
Associated DB2 Entries and Parameter Status
  Line commands: G - Generate jobs  E - Edit  B - Browse  C - Copy  R - Remove
  Cmd SSID GrpAttch Lvl Mode User ID Date       Status              Message
      DB2C  --      121 NFM  SYSADM  2017/11/09 Ready to Customize
      DB2A  DSG1    121 NFM  SYSADM  2017/11/09 Ready to Customize
      --    DSGA    121 NFM  SYSADM  2017/11/09 Ready to Customize
------------------------------ End of DB2 entries -----------------------------
```

The following table shows which values are used in the CONNECT statements in the generated jobs, based on the value of the **Use DB2 group attach** field.

Table 4. Value that is used in the CONNECT statements in the generated jobs

SSID	GrpAttch	Value of the Use DB2 group attach field	Value that is used in the CONNECT statements
DB2C	--	Yes	SSID
		No	SSID
DB2A	DSG1	Yes	Group attach name
		No	SSID
--	DSGA	Yes	Group attach name
		No	Group attach name

Tools Customizer metadata library
The name of the data set that contains the metadata that is used to display the Db2 and LPAR parameters. The parameters that are displayed on the **LPAR Parameters** panel and the **DB2 Parameters** panel depend on the parameters that you define and the tasks and steps that you select on the **Product Parameters** panel for the product that you are customizing. For example, the Db2 parameters that are required, based on the selected tasks and steps, are displayed on the **DB2 Parameters** panel, and you can edit them. If they are not required, they are not displayed. Read access to this data set is required. Data set names that exceed 42 characters must be enclosed in single quotation marks (').

Discover output data set
The name of the data set in which the output from the Db2 Analytics Accelerator Loader Discover EXEC is stored. Each product has its own Discover EXEC. The Discover EXEC retrieves the product, LPAR, and Db2 parameters from a previously customized product. Write access to this data set is required. Data set names that exceed 42 characters must be enclosed in single quotation marks (').

Volume serial
The volume name in which the discover output data set will reside. If you don't specify a volume name, it will be assigned by the system.

Data store data set
The name of the data set where Tools Customizer stores information about product, LPAR, and Db2 parameter values. Information about which products are associated with which Db2 entries (Db2 subsystems, Db2 group attach names, and Db2 data sharing members) is also stored in this data set. Data set names that exceed 42 characters must be enclosed in single quotation marks ('). The specified data store data set can be used with only one invocation of Tools Customizer at a time. Data set names that exceed 42 characters must be enclosed in single quotation marks (').

Volume serial
The volume name in which the data store data set will reside. If you don't specify a volume name, it will be assigned by the system.

User job card settings for customization jobs
The job card information to be inserted into the generated jobs for customizing a product. The default value is the job statement information from the **ISPF Batch Selection** panel.

The first line of the job card automatically begins with the following information:

```
//          JOB
```

where characters 3 - 10 are reserved by Tools Customizer for the job name and includes a blank space after JOB. This name cannot be edited. Information that you specify on the first line of the job card cannot exceed 57 characters. This character limit includes a continuation character. All other lines of the job card cannot exceed 72 characters.

3. Press End to save and exit.

   If the Discover output data set and the data store data set that you specified do not exist, Tools Customizer creates them.

   Important: If the ISPF sessions unexpectedly ends before you exit Tools Customizer, the fields on the **Tools Customizer Settings** panel (CCQPSET) will be repopulated with default values, and you will be required to review them or specify new values again.

Results
The values are saved, and the **IBM Tools Customizer for z/OS** main menu panel (CCQPHME) is displayed again.

What to do next
You are ready to customize or recustomize Db2 Analytics Accelerator Loader or to change parameter settings.

Related concepts

Customizing Db2 Analytics Accelerator Loader

Using Tools Customizer to customize Db2 Analytics Accelerator Loader consists of identifying the product to customize; defining any required Db2 Analytics Accelerator Loader , LPAR, and Db2 parameters; generating the customization jobs; and submitting the jobs.

Changing display options

You can choose which types of information to show on Tools Customizer panels. You can also copy your user profile to another data set so that it can be shared with other users.

About this task

By using the OPTIONS command, you can choose to show or hide the following information on Tools Customizer panels:

- The instructions on all panels
- The Product to Customize section on the **Customizer Workplace** panel (CCQPWRK)
- The Usage Notes section on the **Product Parameters** panel (CCQPPRD)

The OPTIONS command also allows you to copy your user profile to another data set so that it can be shared with other users. By sharing a copy of your profile, other uses can customize the same products that you initially customized or started to customize.

Procedure

1. On any Tools Customizer panel, issue the OPTIONS command.

   The **Miscellaneous Options** panel (CCQPOPT) is displayed, as shown in the following figure. By default, all panel display options are preselected with a slash (/), which means that they will be displayed.

```
CCQPOP1                    Miscellaneous Options
Command ===>
_____________________________________________________________


Enter a / to select options and press Enter. To cancel, press End.

Panel Display Options
  /  Show the panel instructions
  /  Show the Product to Customize section
  /  Show the Usage Notes section

User Profile Sharing Option
 _   Copy user profile to another data set
```

   *Figure 2. The **Panel Display Options** panel (CCQPOPT)*

2. To hide the panel instructions, the Product to Customize section, or the Usage Notes section, remove the slash from the appropriate option or options.
3. To copy your user profile to another data set so that it can be shared with other users:
   a) Type a slash in the **Copy user profile to another data set** field and press Enter.
   b) Specify the fully qualified name of the data set into which you want to copy the current user profile.

      If the data set name exceeds 42 characters, enclose the name in quotation marks. ALTER or UPDATE authorization to this data set is required.
   c) Optionally specify a volume name in which the user profile data set will reside. If you don't specify a volume name, it will be assigned by the system.
4. Press Enter to save your changes.

Sorting and filtering columns

You can sort data in Tools Customizer columns by up to two columns. You can also filter the data in columns to display only the data that matches the filter criteria that you specify.

About this task

Sorting and filtering is available only on the **Customizer Workplace** panel, the **Finish Product Customization** panel, the **Associate DB2 Entry for Product** panel, and the **Copy Associated DB2 Entry** panel.

Procedure

The following instructions describe how to sort and filter data in Tools Customizer columns:

- To sort data in Tools Customizer columns, issue the SORT command.

  On the SORT command, specify up to two column names followed by the sort order: A for ascending or D for descending. If you don't specify a sort order, the default sort order is used, which can change depending on the column type.

  For example, the following command sorts the column entries by SSID in ascending order, and then by GrpAttch in descending order within SSID.

  ```
  COMMAND ===> SORT SSID A GrpAttch D
  ```

  You cannot specify the **Cmd** column on the SORT command.
- To filter data in Tools Customizer columns, overwrite the asterisk (*) under the column names with the filtering arguments for those columns.

  For example, to filter SSIDs that start with DB, overwrite the *\ under the **SSID** column with DB or DB*. When you press Enter, all the SSIDS that meet that criteria, such as DB01 and DB02, are displayed.

  A filter argument in the form DB* means that only the characters up to the asterisk are considered. When you specify an asterisk in the last nonblank position of the argument, asterisks embedded in the argument are treated as data.

Customizing Db2 Analytics Accelerator Loader

Using Tools Customizer to customize Db2 Analytics Accelerator Loader consists of identifying the product to customize; defining any required Db2 Analytics Accelerator Loader , LPAR, and Db2 parameters; generating the customization jobs; and submitting the jobs.

Customization roadmaps describe the steps that you must complete to customize Db2 Analytics Accelerator Loader . Separate roadmaps are provided for the three most common types of customizations.

Use the following table to determine which roadmap corresponds to your environment.

Table 5. Customization roadmaps

Environment description	Roadmap
You do not have a customized version of Db2 Analytics Accelerator Loader , and you need to customize it for the first time.	“Roadmap: Customizing Db2 Analytics Accelerator Loader for the first time” on page 85
You have already customized a version of Db2 Analytics Accelerator Loader , and you want to use the same parameter values to customize a different version.	“Roadmap: Customizing a new version of Db2 Analytics Accelerator Loader from a previous customization” on page 86

Table 5. Customization roadmaps (continued)

Environment description	Roadmap
You have a customized version of of Db2 Analytics Accelerator Loader , but you want to change one or more parameter values.	“Roadmap: Recustomizing Db2 Analytics Accelerator Loader ” on page 87

Roadmap: Customizing Db2 Analytics Accelerator Loader for the first time

This roadmap lists and describes the steps that are required to customize Db2 Analytics Accelerator Loader for the first time.

If you are customizing a previous version of Db2 Analytics Accelerator Loader , see “Roadmap: Customizing a new version of Db2 Analytics Accelerator Loader from a previous customization” on page 86.

Before you complete these steps, ensure that the following prerequisites have been met:

- All of the product customization steps that must be done before Tools Customizer is started are complete.
- The LPAR ISPF libraries that are required to submit the jobs are known.
- Tools Customizer is started.
- The Tools Customizer settings have been reviewed or modified, and saved.

Complete the steps in the following table to customize Db2 Analytics Accelerator Loader for the first time.

Table 6. Steps for customizing Db2 Analytics Accelerator Loader for the first time

Step	Description	Instructions
1	Specify the product metadata library for the product that you want to customize. The name of this library is *hlq*.SHLODENU.	“Specifying the metadata library for the product to customize” on page 88
2	Create new Db2 entries and associate them with Db2 Analytics Accelerator Loader .	“Creating and associating Db2 entries” on page 91
3	Define the required parameters.	“Defining parameters” on page 99
4	Generate the customization jobs for the product or for the Db2 entries on which Db2 Analytics Accelerator Loader is ready to be customized.	“Generating customization jobs” on page 105
5	Submit the generated customization jobs.	“Submitting customization jobs” on page 106

The following table lists some of the common administrative tasks that you might need to do during the customization process.

Table 7. Administrative tasks

Description	Instructions
Manage multiple configurations of Db2 Analytics Accelerator Loader .	“Managing multiple configurations” on page 93
Browse the different types of parameters.	“Browsing parameters” on page 108
Copy an existing Db2 entry to the list of Db2 entries on which Db2 Analytics Accelerator Loader can be customized.	“Copying Db2 entries” on page 108

Table 7. Administrative tasks (continued)

Description	Instructions
Remove one or more Db2 entries from the associated list.	“Removing Db2 entries” on page 110
Delete one or more Db2 entries from the main list.	“Deleting Db2 entries” on page 110
Display a list of customization jobs that have been previously generated.	“Displaying customization jobs” on page 111
Maintain the customization jobs in the customization library.	“Maintaining customization jobs” on page 111

Roadmap: Customizing a new version of Db2 Analytics Accelerator Loader from a previous customization

This roadmap lists and describes the steps for customizing a new version of Db2 Analytics Accelerator Loader based on the existing customization values of a previous version of the same product.

Use this roadmap even if the previous version of Db2 Analytics Accelerator Loader was not customized by using Tools Customizer.

Before you complete these steps, ensure that the following prerequisites have been met:

- All of the product customization steps that must be done before Tools Customizer is started are complete.
- Tools Customizer is started.
- The Tools Customizer settings have been reviewed or modified, and saved.

Complete the steps in the following table to customize a new version of Db2 Analytics Accelerator Loader from a previous customization.

Table 8. Steps for customizing a new version of Db2 Analytics Accelerator Loader from a previous customization

Step	Description	Instructions
1	Specify the product metadata library for the product that you want to customize. The name of this library is *hlq*.SHLODENU.	“Specifying the metadata library for the product to customize” on page 88
2	Use the Db2 Analytics Accelerator Loader Discover EXEC to discover information about the version of Db2 Analytics Accelerator Loader that you previously customized manually.	“Discovering Db2 Analytics Accelerator Loader information automatically” on page 90
3	Define the required parameters.	“Defining parameters” on page 99
4	Generate the customization jobs for the product or for the Db2 entries on which Db2 Analytics Accelerator Loader is ready to be customized.	“Generating customization jobs” on page 105
5	Submit the generated customization jobs.	“Submitting customization jobs” on page 106

The following table lists some of the common administrative tasks that you might need to do during the customization process.

Table 9. Administrative tasks

Description	Instructions
Manage multiple configurations of Db2 Analytics Accelerator Loader .	“Managing multiple configurations” on page 93
Browse the different types of parameters.	“Browsing parameters” on page 108
Copy an existing Db2 entry to the list of Db2 entries on which Db2 Analytics Accelerator Loader can be customized.	“Copying Db2 entries” on page 108
Remove one or more Db2 entries from the associated list.	“Removing Db2 entries” on page 110
Delete one or more Db2 entries from the main list.	“Deleting Db2 entries” on page 110
Display a list of customization jobs that have been previously generated.	“Displaying customization jobs” on page 111
Maintain the customization jobs in the customization library.	“Maintaining customization jobs” on page 111

Roadmap: Recustomizing Db2 Analytics Accelerator Loader

This roadmap lists and describes the steps to change parameter values and regenerate customization jobs for Db2 Analytics Accelerator Loader after you have customized it for the first time.

The new customization jobs will replace the customization jobs that were previously generated and stored in the customization library. Part of the recustomization process includes selecting or deselecting optional tasks or steps, changing the definitions of parameters that have already been defined, or both. Use the method in this roadmap instead of deleting customization jobs from the customization library.

Before you complete these steps, ensure that the following prerequisites have been met:

- All of the product customization steps that must be done before Tools Customizer is started are complete.
- Tools Customizer is started.

Complete the steps in the following table to recustomize Db2 Analytics Accelerator Loader .

Table 10. Required steps for recustomizing Db2 Analytics Accelerator Loader

Step	Description	Instructions
1	Specify the product metadata library for the product that you want to recustomize. The name of this library is *hlq*.SHLODENU.	“Specifying the metadata library for the product to customize” on page 88
2	Edit the specific tasks, steps, or parameters that need to be changed.	• “Defining Db2 Analytics Accelerator Loader parameters” on page 99 • “Defining LPAR parameters” on page 101 • “Defining Db2 parameters” on page 103
3	Generate the customization jobs for the product or for the Db2 entries on which Db2 Analytics Accelerator Loader is ready to be customized.	“Generating customization jobs” on page 105
4	Submit the new generated customization jobs.	“Submitting customization jobs” on page 106

The following table lists some of the common administrative tasks that you might need to do during the customization process.

Table 11. Administrative tasks

Description	Instructions
Manage multiple configurations of Db2 Analytics Accelerator Loader .	“Managing multiple configurations” on page 93
Browse the different types of parameters.	“Browsing parameters” on page 108
Copy an existing Db2 entry to the list of Db2 entries on which Db2 Analytics Accelerator Loader can be customized.	“Copying Db2 entries” on page 108
Remove one or more Db2 entries from the associated list.	“Removing Db2 entries” on page 110
Delete one or more Db2 entries from the main list.	“Deleting Db2 entries” on page 110
Display a list of customization jobs that have been previously generated.	“Displaying customization jobs” on page 111
Maintain the customization jobs in the customization library.	“Maintaining customization jobs” on page 111

Specifying the metadata library for the product to customize

You must specify a metadata library for the product that you want to customize.

About this task

The product metadata library contains the information that determines which tasks, steps, and parameters are required to customize Db2 Analytics Accelerator Loader . This information controls what is displayed on the **Product Parameters** panel, the **LPAR Parameters panel**, and the **DB2 Parameters** panel.

After Db2 Analytics Accelerator Loader has been SMP/E installed, the default name of the product metadata library is *high_level_qualifier*.SHLODENU, where *high_level_qualifier* is all of the segments of the data set name except the lowest-level qualifier.

Procedure

1. Specify option 1 on the **Tools Customizer for z/OS** panel.

   The **Specify the Product or Pack Metadata Library** panel is displayed. This panel contains a list of the product metadata libraries that you specified most recently. If you are using Tools Customizer for the first time, this list is empty, as shown in the following figure:

```
CCQPHLQ      Specify the Product or Pack Metadata Library        HH:MM:SS
Command ===>                                                  Scroll ===> PAGE

Type the name of the metadata library for the product or the pack in the
Metadata library field, or select the library in the list of previous
libraries and press Enter to populate the field. Press Enter to continue.

The default name of the metadata library after the product or the pack has been
SMP/E installed is <hlq>.SxxxDENU, where <hlq> is the high-level qualifier for
the product or the pack, and xxx is the three-character prefix for the product
or the pack.

Product or pack metadata library . .
HLO.WRK0210.SHLODENU


Name                    Version  Metadata
Library

=>
=>
```

*Figure 3. The **Specify the Metadata Library** panel*

2. Use one of the following methods to specify the product metadata library:
   - Type the name of a fully qualified partitioned data set (PDS) or an extended partitioned data set (PDSE) in the **Product or pack metadata library** field. Double quotation marks (") cannot be used around the name. Single quotation marks (') can be used but are not required. If you are customizing Db2 Analytics Accelerator Loader for the first time, you must use this method.
   - Place the cursor in any column of the Recent Metadata Libraries list, and press Enter to populate **Product or pack metadata library** field. Press Enter again to select product or pack for customization.

Results

If you are customizing Db2 Analytics Accelerator Loader for the first time, the **Run Discover EXEC** panel is displayed. Otherwise, the **Customizer Workplace** panel is displayed, if you have only the base configuration, or if you have multiple configurations, the **Manage Multiple Configurations of a Product** panel is displayed.

What to do next

- Complete the steps that correspond to your environment:

  Customizing Db2 Analytics Accelerator Loader for the first time
  Do not run the Db2 Analytics Accelerator Loader Discover EXEC. Press End. The **Customizer Workplace** panel is displayed. If your environment requires associated Db2 entries, ensure that they are created and associated. If your environment does not require associated Db2 entries, skip this step, and edit Db2 Analytics Accelerator Loader parameters.

  Customizing Db2 Analytics Accelerator Loader from a previous or current customization
  You can use the Db2 Analytics Accelerator Loader Discover EXEC to discover information from a previous or current customization of Db2 Change Accumulation Tool V3.1. Press Enter to run the Db2 Analytics Accelerator Loader Discover EXEC. The **Discover Customized Product Information** panel is displayed. Specify the required information for running the EXEC.

  Customizing Db2 Analytics Accelerator Loader with multiple configurations that were discovered or manually defined
  Select one or more configurations that you want to use.

Discovering Db2 Analytics Accelerator Loader information automatically

You can use the Db2 Analytics Accelerator Loader Discover EXEC to discover information from a previous or current customization of Db2 Analytics Accelerator Loader .

About this task

Tip: Using the Db2 Analytics Accelerator Loader Discover EXEC to discover information from a previous or current customization saves time and reduces errors that can occur when parameters are specified manually.

Db2 Analytics Accelerator Loader provides the Discover EXEC that you will run. Therefore, the information that can be discovered depends on Db2 Analytics Accelerator Loader .

Parameter values that are discovered and parameter values that are specified manually are saved in the data store. If parameter values for the product that you want to customize exist in the data store, Tools Customizer issues a warning before existing values are replaced.

Procedure

1. On the **Customizer Workplace** panel, issue the DISCOVER command.

   If you chose to run the Db2 Analytics Accelerator Loader Discover EXEC on the pop-up panel after you specified the product to customize, skip this step.

   Tip:

   You can run any Tools Customizer primary command by using either of the following methods:

   - Place the cursor on the name of the primary command, and press Enter.
   - Type the primary command name in the command line, and press Enter.

   The **Discover Customized Product Information** panel is displayed, as shown in the following figure:

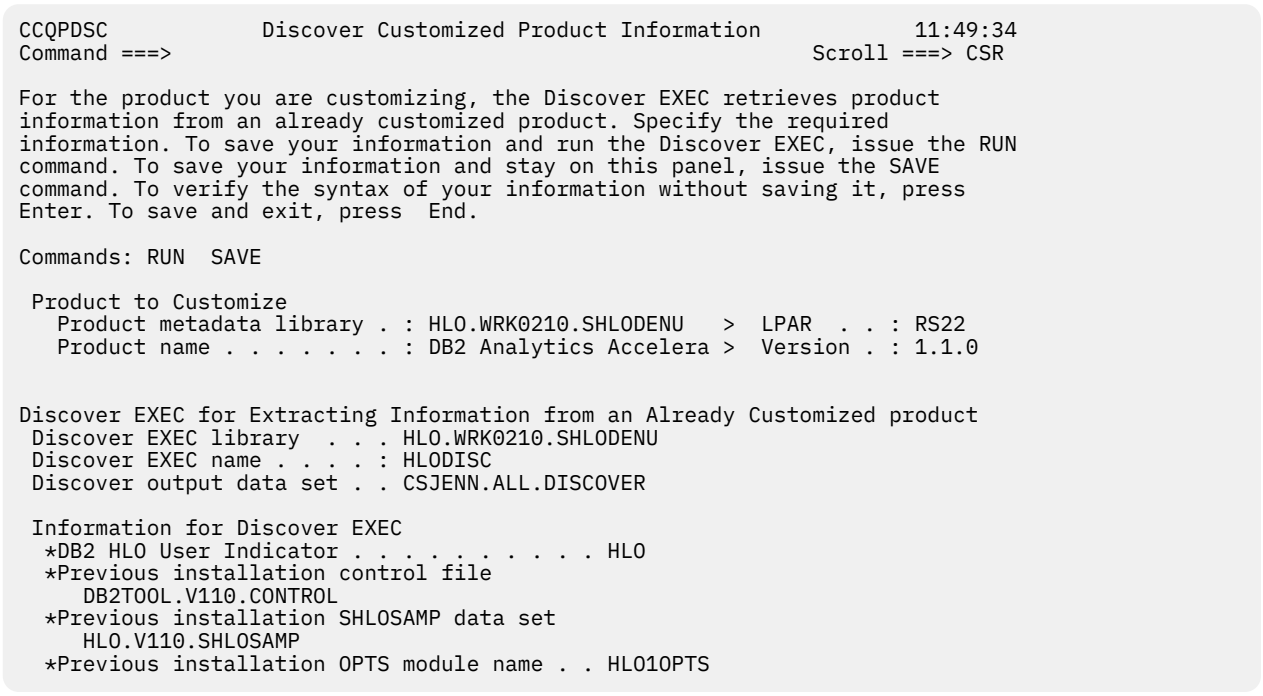


   *Figure 4. The **Discover Customized Product Information** panel*

2. Either accept the default values for the following input fields that Tools Customizer generates, or replace the default values with your own values:

Discover EXEC library
The fully qualified data set name that contains the Db2 Analytics Accelerator Loader Discover EXEC.

Discover EXEC name
The name of the Db2 Analytics Accelerator Loader Discover EXEC.

Discover output data set
The fully qualified data set where output from the Db2 Analytics Accelerator Loader Discover EXEC is stored.

3. Either accept or change the default values in the **Information for Discover EXEC** fields.

   These fields are generated by Db2 Analytics Accelerator Loader . They show the information that is required to run the Db2 Analytics Accelerator Loader Discover EXEC.
4. Issue the RUN command to run the Db2 Analytics Accelerator Loader Discover EXEC.

   Alternatively, save your information without running the Db2 Analytics Accelerator Loader Discover EXEC by issuing the SAVE command.

   If you issue the RUN command to run the Db2 Analytics Accelerator Loader Discover EXEC, the parameter information is discovered for Db2 Analytics Accelerator Loader , and the **Customizer Workplace** panel is displayed.

Results
The discovered parameter values for Db2 Analytics Accelerator Loader replace any existing values.

What to do next
The next step depends on your environment:

- If Db2 entries were not discovered, or if you need to customize Db2 Analytics Accelerator Loader on new Db2 entries, create and associate the entries.
- If Db2 entries were discovered and you want to customize Db2 Analytics Accelerator Loader on only these entries, define the parameters.

Related tasks

Creating and associating Db2 entries
You can create new Db2 entries and associate them with Db2 Analytics Accelerator Loader .

Defining parameters
To customize Db2 Analytics Accelerator Loader , you must define Db2 Analytics Accelerator Loader parameters, LPAR parameters, and Db2 parameters, if your customization requires Db2 entries.

Creating and associating Db2 entries

You can create new Db2 entries and associate them with Db2 Analytics Accelerator Loader .

About this task

The list of associated Db2 entries is on the **Customizer Workplace** panel.

Procedure

1. Issue the ASSOCIATE command on the **Customizer Workplace** panel.

   The **Associate DB2 Entry for Product** panel is displayed, as shown in the following figure:

```
CCQPDAD                Associate DB2 Entry for Product              16:36:42
Command ===>                                                 Scroll ===> PAGE

Select any of the following DB2 entries to add them to the Customizer
Workplace panel. You use the Customizer Workplace panel to choose the DB2
subsystems, data sharing members, and group attach names on which to
customize the product.

Commands:  CREATE - Create new DB2 entries

DB2 Entries
  Line commands: A - Associate  C - Copy  D - Delete
  Cmd SSID GrpAttch
      *    *
------------------------------ End of DB2 entries -----------------------------
```

*Figure 5. The **Associate DB2 Entry for Product** panel*

2. Create Db2 entries.

   If you need to associate Db2 entries that are already in the main list, skip this step and go to step 3.

   a) Issue the CREATE command to create one Db2 entry, or issue CREATE *nn* to create multiple Db2 entries, where *nn* is the number of new entries to be created.

   The **Create DB2 Entries** panel is displayed, as shown in the following figure:

```
CCQPCDB                    Create DB2 Entries                    Row 1 of 1
 Command ===>                                                Scroll ===> PAGE

 Specify the SSID, the group attach name, or both in the appropriate columns
 for each new DB2 entry and press Enter. To create additional entries, issue
 the Inn line command, where nn is the number of entries to be inserted, and
 press Enter. To cancel, press End.

 New DB2 Entries
   Line commands: I - Insert into list   R - Remove from list
   Cmd  SSID  GrpAttch  Message

 --------------------------- End of DB2 entries ---------------------------
```

*Figure 6. The **Create DB2 Entries** panel*

   b) In the appropriate columns, specify a Db2 subsystem ID, Db2 group attach name, or Db2 data sharing member name for the Db2 entry that you want to create, and press Enter.

   Valid values are 1 - 4 characters. You can use symbolic characters. You cannot use blanks.

   Tips:

   - To insert multiple Db2 entries, specify the I*nn* line command, where *nn* is the number of Db2 entries to be inserted.
   - You will define specific parameters for these new Db2 entries, such as parameters that define a subsystem as primary, on the **DB2 Parameters** panel. This panel is displayed after you select these new Db2 entries and issue the line command to generate the jobs, after you issue the primary command to generate the jobs for all associated Db2 entries, or when you manually edit the Db2 parameters.

   The **Associate DB2 Entry for Product** panel is displayed, and the new Db2 entry is displayed in the main list, as shown in the following figure:

```
CCQPDAD                Associate DB2 Entry for Product        Row 1 to 3 of 3
Command ===>                                                 Scroll ===> CSR

Select any of the following DB2 entries to add them to the Customizer
Workplace panel. You use the Customizer Workplace panel to choose the DB2
subsystems, data sharing members, and group attach names on which to
customize the product.

Commands:  CREATE - Create new DB2 entries

DB2 Entries
  Line commands: A - Associate  C - Copy  D - Delete
  Cmd SSID GrpAttch
      *    *
      DBAA  --
      DBAB  --
      DBAC  --
------------------------------ End of DB2 entries -----------------------------
```

Figure 7. Associate DB2 Entry for Product panel

c) Repeat steps b and c for each Db2 entry that you want to create.

d) When you have created all the Db2 entries, associate them with Db2 Analytics Accelerator Loader , or press End to display the **Customizer Workplace** panel.

3. Associate Db2 entries.

a) Specify A against one or more Db2 entries in the main list, and press Enter to associate them with Db2 Analytics Accelerator Loader .

Results

The **Customizer Workplace** panel is displayed with the associated Db2 entries displayed in the associated list.

What to do next

Define the parameters.

Related concepts

Tools Customizer terminology

Tools Customizer uses several unique terms that you should be familiar with before you begin to use Tools Customizer.

Managing multiple configurations

Db2 Analytics Accelerator Loader supports multiple configurations. A configuration is a unique set of specified parameter values, selected tasks and steps, and associated Db2 entries that you use to generate the jobs that customize Db2 Analytics Accelerator Loader .

For example, you might create unique configurations for development, test, and production environments.

You can manage multiple configurations for each metadata library. Customization jobs are generated for each configuration separately.

Topics:

Selecting configurations

You can select one configuration.

Procedure

1. Issue the CONFIGURATION command on the **Customizer Workplace** panel.
   The **Manage Multiple Configurations of a Product** panel is displayed, as shown in the following figure:

```
CCQPCNF           Manage Multiple Configurations of a Product   Row 1 to 1 of 1
 Command ===>                                                  Scroll ===> CSR

 Select the configuration that you want to use, or create a new configuration.
 Press Enter to continue or End to cancel.

 Commands: CREATE  - Create a new product configuration

 Product to Customize
   Product metadata library . : HLO.WRK0210.SHLODENU      > LPAR  . . : RS22
   Product name . . . . . . . : DB2 Analytics Accelerato  > Version . : 2.1.0

 Line commands:  / - Select  C - Copy  R - Remove  E - Edit

  Cmd ID   Description
  -   ---> ------------------------------------------------------------------->
      HLO  IBM DB2 Analytics Accelerator Loader for z/OS
 ----------------------------- End of Configurations -------------------------
```

   *Figure 8. The **Manage Multiple Configurations of a Product** panel*

2. Specify the / line command against the configuration that you want to use.
   The **Customizer Workplace** panel is displayed, as shown in the following figure:

```
CCQPWRK                     Customizer Workplace
Command ===>                                                Scroll ===> PAGE

Use the Generate jobs line command to select the DB2 entries on which to
customize the product, and press Enter to generate the customization jobs.

Commands:  ASSOCIATE  DISCOVER  GENERATEALL  JOBLIST  CONFIGURATION

Product to Customize
  Product metadata library . : HLO.WRK0210.SHLODENU   > LPAR  . . : RS22
  Product name . . . . . . . : DB2 Analytics Accelerato > Version . : 2.1.0
  Configuration ID: HLO   >  Description: DB2 Analytics Accelerator Loader   >

Product and LPAR Parameter Status
  Line commands: E - Edit  B - Browse
    Product Parameters.  : Incomplete
    LPAR parameters . . .: Not Required

Associated DB2 Entries and Parameter Status
  Line commands: G - Generate jobs  E - Edit  B - Browse  C - Copy  R - Remove
  Cmd SSID GrpAttch Lvl Mode User ID  Date          Status
    ------------------------- End of DB2 entries ----------------------------
```

   *Figure 9. The **Customizer Workplace** panel*

Creating configurations

You can create multiple configurations in addition to your default configuration.

Procedure

1. Issue the CONFIGURATION command on the **Customizer Workplace** panel.
   The **Manage Multiple Configurations of a Product** panel is displayed, as shown in the following figure:

```
CCQPCNF           Manage Multiple Configurations of a Product   Row 1 to 1 of 1
 Command ===>                                                 Scroll ===> CSR

 Select the configuration that you want to use, or create a new configuration.
 Press Enter to continue or End to cancel.

 Commands: CREATE  - Create a new product configuration

 Product to Customize
   Product metadata library . : HLO.WRK0210.SHLODENU      > LPAR  . . : RS22
   Product name . . . . . . . : DB2 Analytics Accelerato  > Version . : 2.1.0

 Line commands:  / - Select  C - Copy  R - Remove  E - Edit

  Cmd ID   Description
  -   ---> ------------------------------------------------------------------->
      HLO  IBM DB2 Analytics Accelerator Loader for z/OS
 ---------------------------- End of Configurations -------------------------
```

*Figure 10. The **Manage Multiple Configurations of a Product** panel*

2. Issue the CREATE command.

   The **Create a New Configuration of a Product** panel is displayed, as shown in the following figure:

```
CCQPCCN             Create a New Configuration of a Product
      Command ===>                                    Scroll ===> PAGE

      Specify the ID of the new configuration of the product and a
      description of the configuration. The new configuration will
      contain the default values for all parameters. Press Enter to
      continue or End to cancel.

        New Configuration
         ID. . . . . .        >
         Description .                                          >
```

*Figure 11. The **Create a New Configuration of a Product** panel*

3. In the **ID** field, specify an ID for the configuration.

   The length of valid values is set by Db2 Analytics Accelerator Loader .

4. In the **Description** field, specify a description of the configuration.

   Valid values are 1 - 72 characters.

5. Press Enter.

   The **Manage Multiple Configurations of a Product** panel is displayed, and the new configuration is in the table.

Copying configurations

You can copy configurations and rename them to reuse large sets of saved parameter values, selected tasks and steps, and associated Db2 entries.

About this task

You might want to copy a configuration when you want to use most of the same values but you need to change several of them.

Procedure

1. Issue the CONFIGURATION command on the **Customizer Workplace** panel.

   The **Manage Multiple Configurations of a Product** panel is displayed, as shown in the following figure:

```
CCQPCNF          Manage Multiple Configurations of a Product   Row 1 to 1 of 1
 Command ===>                                                Scroll ===> CSR

 Select the configuration that you want to use, or create a new configuration.
 Press Enter to continue or End to cancel.

 Commands: CREATE  - Create a new product configuration

 Product to Customize
   Product metadata library . : HLO.WRK0210.SHLODENU      > LPAR  . . : RS22
   Product name . . . . . . . : DB2 Analytics Accelerato  > Version . : 2.1.0

 Line commands:  / - Select  C - Copy  R - Remove  E - Edit

  Cmd ID   Description
  -   ---> ------------------------------------------------------------------->
      HLO  IBM DB2 Analytics Accelerator Loader for z/OS
 ---------------------------- End of Configurations -------------------------
```

*Figure 12. The **Manage Multiple Configurations of a Product** panel*

2. Specify the C line command against the configuration that you want to copy.

   The **Copy a Configuration of a Product** panel is displayed, as shown in the following figure. The ID and description of the configuration from which you are copying information is in the From Configuration section.

```
CCQPCCY         Copy a Configuration of a Product
Command ===>                                          Scroll ===> CSR

 Specify the ID of the configuration to which information will be
 copied, and specify a description of the configuration. Press Enter
 to continue or End to cancel.

 From Configuration
   ID. . . . . .: HLO   >
   Description .: IBM DB2 Analytics Accelerator Loader for z/OS      >

 To Configuration
   ID. . . . . .        >
   Description .                                                     >
```

*Figure 13. The **Copy a Configuration of a Product** panel*

3. In the **ID** field in the To Configuration section, specify an ID for the configuration.

   The length of valid values is set by Db2 Analytics Accelerator Loader .

4. In the **Description** field in the To Configuration section, specify a description of the configuration.

   Valid values are 1 - 72 characters.

5. Press Enter.

   The **Manage Multiple Configurations of a Product** panel is displayed, and the configuration that you copied is in the table.

Removing configurations

You can remove configurations when you do not need them.

About this task

You might want to remove configurations that you do not use. When you complete the following steps, configurations are removed only from the list on the **Manage Multiple Configurations of a Product** panel. They can be restored when you need them again.

If you remove a customized configuration, the customization jobs will be removed too.

Restriction: You cannot remove the configuration that you are currently using or the only configuration in the table.

Procedure

1. Issue the CONFIGURATION command on the **Customizer Workplace** panel.

   The **Manage Multiple Configurations of a Product** panel is displayed, as shown in the following figure:

```
CCQPCNF           Manage Multiple Configurations of a Product   Row 1 to 1 of 1
 Command ===>                                                  Scroll ===> CSR

 Select the configuration that you want to use, or create a new configuration.
 Press Enter to continue or End to cancel.

 Commands: CREATE  - Create a new product configuration

 Product to Customize
   Product metadata library . : HLO.WRK0210.SHLODENU      > LPAR  . . : RS22
   Product name . . . . . . . : DB2 Analytics Accelerato  > Version . : 2.1.0

 Line commands:  / - Select  C - Copy  R - Remove  E - Edit

  Cmd ID   Description
  -   ---> ------------------------------------------------------------------->
      HLO  IBM DB2 Analytics Accelerator Loader for z/OS
 ---------------------------- End of Configurations -------------------------
```

   *Figure 14. The **Manage Multiple Configurations of a Product** panel*

2. Specify the R line command against the ID of the configuration that you want to remove.

   The **Remove a Configuration of a Product** panel is displayed, as shown in the following figure:

```
CCQPCRM     Remove a Customized Configuration of a Product
Command ===>                                          Scroll ===> CSR

The following configuration was previously customized. If you
remove the configuration, it will be removed from the list, and
all customization jobs for this configuration will be removed.
Press Enter to remove this configuration and its customization
jobs, or press End to cancel.

 Remove Configuration
   ID. . . . . .: HLO   >
   Description .: New configuration                              >
```

   *Figure 15. The **Remove a Configuration of a Product** panel*

3. Press Enter to remove the configuration.

   The **Manage Multiple Configurations of a Product** panel is displayed, and the configuration that you removed is not in the table.

Editing configurations

You can edit the ID and description of configurations.

Procedure

1. Issue the CONFIGURATION command on the **Customizer Workplace** panel.

   The **Manage Multiple Configurations of a Product** panel is displayed, as shown in the following figure:

```
CCQPCNF           Manage Multiple Configurations of a Product   Row 1 to 1 of 1
 Command ===>                                                 Scroll ===> CSR

 Select the configuration that you want to use, or create a new configuration.
 Press Enter to continue or End to cancel.

 Commands: CREATE  - Create a new product configuration

 Product to Customize
   Product metadata library . : HLO.WRK0210.SHLODENU      > LPAR  . . : RS22
   Product name . . . . . . . : DB2 Analytics Accelerato  > Version . : 2.1.0

 Line commands:  / - Select  C - Copy  R - Remove  E - Edit

  Cmd ID   Description
  -   ---> ------------------------------------------------------------------->
      HLO  IBM DB2 Analytics Accelerator Loader for z/OS
 ---------------------------- End of Configurations -------------------------
```

*Figure 16. The **Manage Multiple Configurations of a Product** panel*

2. Specify E next to the configuration ID, and press Enter.

   The **Edit a Configuration of a Product** panel is displayed, as shown in the following figure:

```
CCQPCED                Edit a Configuration of a Product
 Command ===>                                          Scroll ===> CSR

 Specify a new ID and description for the configuration and press Enter
 to continue or End to cancel.

   Configuration
    ID. . . . . .  HLO   >
    Description .  IBM DB2 Analytics Accelerator Loader for z/OS      >
```

*Figure 17. The **Edit a Configuration of a Product** panel*

3. Edit the configuration ID, the configuration description, or both.
   - In the **ID** field, edit the ID of the configuration. The length of valid values is set by Db2 Analytics Accelerator Loader .
   - In the **Description** field, edit the description of the configuration. Valid values are 1 - 72 characters.
4. Press Enter.

   The **Manage Multiple Configurations of a Product** panel is displayed, and the modified configuration is listed in the table.

Restoring configurations

You can restore configurations that you previously removed.

About this task

Configurations that you remove are removed only from the list on the **Manage Multiple Configurations of a Product** panel. They are not deleted. You can restore them when you need them again.

Procedure

1. Issue the `CONFIGURATION` command on the **Customizer Workplace** panel.

   The **Manage Multiple Configurations of a Product** panel is displayed, as shown in the following figure:

```
CCQPCNF           Manage Multiple Configurations of a Product   Row 1 to 1 of 1
 Command ===>                                                 Scroll ===> CSR

 Select the configuration that you want to use, or create a new configuration.
 Press Enter to continue or End to cancel.

 Commands: CREATE  - Create a new product configuration

 Product to Customize
   Product metadata library . : HLO.WRK0210.SHLODENU      > LPAR  . . : RS22
   Product name . . . . . . . : DB2 Analytics Accelerato  > Version . : 2.1.0

 Line commands:  / - Select  C - Copy  R - Remove  E - Edit

  Cmd ID   Description
  -   ---> ------------------------------------------------------------------->
      HLO  IBM DB2 Analytics Accelerator Loader for z/OS
 ---------------------------- End of Configurations -------------------------
```

*Figure 18. The **Manage Multiple Configurations of a Product** panel*

2. Use one of the following methods to restore configurations:
   - Issue the CREATE command.
   - Specify the C line command against a configuration ID.
3. In the **ID** field, specify the ID of the configuration that you want to restore.

   The length of valid values is set by Db2 Analytics Accelerator Loader .
4. In the **Description** field, specify a description of the configuration.

   The description can be different than the description of the original configuration. Valid values are 1 - 72 characters.
5. Press Enter.

   The **Manage Multiple Configurations of a Product** panel is displayed, and the restored configuration is in the list.

Defining parameters

To customize Db2 Analytics Accelerator Loader , you must define Db2 Analytics Accelerator Loader parameters, LPAR parameters, and Db2 parameters, if your customization requires Db2 entries.

About this task

You must define the Db2 Analytics Accelerator Loader parameters first for the following reasons:

- If you ran the Db2 Analytics Accelerator Loader Discover EXEC, you must review the values that were discovered.
- If you select optional tasks and steps on the **Product Parameters** panel that affect the Db2 entry on which you will customize Db2 Analytics Accelerator Loader , additional parameters might be displayed on the **DB2 Parameters** panel.
- If other steps must be completed in a specific sequence, customization notes on the **Product Parameters** panel will display the correct sequence.

Defining Db2 Analytics Accelerator Loader parameters

Db2 Analytics Accelerator Loader parameters are specific to Db2 Analytics Accelerator Loader .

About this task

If you ran the Db2 Analytics Accelerator Loader Discover EXEC, you must review the parameters that were discovered.

Procedure

1. Specify E next to the **Product parameters** field on the **Customizer Workplace** panel, and press Enter.

   The **Product Parameters** panel is displayed, as shown in the following figure. If other steps must be completed in a specific sequence before you define the Db2 Analytics Accelerator Loader parameters, a note labeled **Important** will display the correct sequence on this panel.

```
CCQPPRD                  Product Parameters                          11:42:56
Command ===>                                                 Scroll ===> CSR

Complete the following tasks to customize the products. The required tasks,
required steps within a required or selected task, and required parameters
are preceded by an asterisk (*). Ensure that values are specified for the
required parameters. Press End to save and exit.

Commands: SAVE - Save parameter values
Line Commands: / - Select

Product customization library  : CSUSER.TESTB.$RS22$.HLO210

Usage Notes:
 - Tools Customizer displays some parameters only after you have selected
   tasks or specified values on the Product Parameters panel. Therefore, you
   must first define a primary SSID on the DB2 Parameters panel, then select
   values on the Product Parameters panel. Return to the DB2 Parameters panel
   to review options that were added as a result of your specifications on
   the Product Parameters panel.

Common parameters
  Accelerator Loader Server high-level qualifier
    CSUSER.HLV
 *Accelerator Loader high-level qualifier
    CSUSER.HLO
  FEC common code high-level qualifier

CSUSER.FEC

* Configure the product CLISTs

  * Configure the startup CLISTs
   *Startup CLIST library  CSUSER.HLO.SHLOCLST
   *Startup CLIST 1  . . . . . . . . . . . . HLOV21
   *Startup CLIST 2  . . . . . . . . . . . . HL0V21C
   *User indicator . . . . . . . . . . . . . HLO

* Create the started task and its components
 *Started task identifier  . . . . . . . . . HLO1

  * Create PROC, PLCY, and other SAMPLIB members
```

*Figure 19. The **Product Parameters** panel*

You can use the following primary commands on this panel:

SAVE
: Saves the specified product or component parameter values.

VERIFY / VERIFYOFF
: Use the VERIFY and VERIFYOFF commands to turn on and off parameter verification of product or component parameters. Before you can generate customization jobs, you must verify that all required parameters are set to a valid value. The product or component parameter status of `Verify Values` on the Customize Workplace panel indicates that the values have not been verified.

  Enter these commands either by typing them in the command field and pressing Enter or by positioning the cursor on the command and pressing Enter. When VERIFY is active, VERIFYOFF is displayed so that you can toggle between the two states. By default, verification is turned on when you display the **DB2 Parameters** panel, and the verification state is reset to VERIFY every time you exit the Customization Workplace panel by pressing PF3.

Turning verification off is useful when you need to exit the panel before you have entered all of the required parameters, but you want to save the parameters that you have specified. When you disable verification, it is disabled only for the Product or Component Parameters Values panel.

2. Select any required tasks and steps, and specify values for any parameters. After you select a task or step with a slash (/), put the cursor in the selected field and press Enter.

   If tasks, steps, and parameters are required, they are preselected with a slash (/). Otherwise, they are not preselected.

   All of the required parameters have default values, which you can either accept or change.

   Tips:

   - In the command line, specify the KEYS command, and map EXPAND to one of the function keys.
   - For a detailed description of all input fields, put the cursor in the field, and press F1 or the key that is mapped to Help.
   - The following elements apply to specific fields:
     - **Add** is displayed when parameters can have multiple values but currently have only one value. To specify multiple values in these fields, place the cursor on **Add**, and press Enter. Use the displayed panel to add or delete additional values.
     - **List** is displayed when the complete list of valid values for the fields is too long to be displayed on the panel. To see the complete list of values, place the cursor on **List**, and press F1 or the key that is mapped to Help.
     - **More** is displayed when input fields contains multiple values. To see all of the values in the field, place the cursor on **More**, and press Enter.
3. Optional: Select other tasks and steps with a slash (/) and press Enter to activate the input fields. Either accept or change the default values that are displayed.
4. Press End to save your changes and exit, or issue the SAVE command to save your changes and stay on the **Product Parameters** panel.

Results

The **Customizer Workplace** panel is displayed, and the status of the product parameters is Ready to Customize.

What to do next

If the status of other parameters on the **Customizer Workplace** panel is Incomplete, Verify Values, or Discovered, edit these parameters.

Related tasks

Defining LPAR parameters
LPAR parameters are parameters on the local LPAR that are required to customize Db2 Analytics Accelerator Loader .

Defining Db2 parameters
Db2 parameters are parameters for a Db2 entry.

Defining LPAR parameters

LPAR parameters are parameters on the local LPAR that are required to customize Db2 Analytics Accelerator Loader .

Procedure

1. Specify E next to the **LPAR parameters** field, and press Enter.

   The **LPAR Parameters** panel is displayed, as shown in the following figure:

```
CCQPLPR                          LPAR Parameters                      12:34:14
Command ===>                                                 Scroll ===> PAGE

Ensure that values are specified for the required LPAR parameters. Press End
to save and exit.

Commands: SAVE - Save parameter values

 Product to Customize
   Product metadata library . : HLO.WRK0210.SHLODENU   >  LPAR  . . : RS22
   Product name . . . . . . . : DB2 Analytics Accelera >  Version . : 2.1.0
   Configuration ID: HLO     >  Description: DB2 Analytics Accelerator Load >


 ISPF Libraries - common
  *Message library  . . . . ISP.SISPMENU                                  Add
  *Panel library  . . . . . ISP.SISPPENU                                  Add
  *Skeleton library . . . . ISP.SISPSENU                                  Add
  *ISPF table input library ISP.SISPTENU                                  Add
```

*Figure 20. The **LPAR Parameters** panel*

You can use the following primary commands on this panel:

SAVE
Saves the specified product or component parameter values.

VERIFY / VERIFYOFF
Use the VERIFY and VERIFYOFF commands to turn on and off parameter verification of LPAR parameters. Before you can generate customization jobs, you must verify that all required parameters are set to a valid value. The LPAR parameter status of `Verify Values` on the Customize Workplace panel indicates that the values have not been verified.

Enter these commands either by typing them in the command field and pressing Enter or by positioning the cursor on the command and pressing Enter. When VERIFY is active, VERIFYOFF is displayed so that you can toggle between the two states. By default, verification is turned on when you display the LPAR Parameters panel, and the verification state is reset to VERIFY every time you exit the Customization Workplace panel by pressing PF3.

Turning verification off is useful when you need to exit the panel before you have entered all of the required parameters, but you want to save the parameters that you have specified. When you disable verification, it is disabled only for the LPAR Parameters Values panel.

2. Specify values for all required parameters that are displayed.

   Many parameters have default values, which you can either accept or change.

   Tips:

   - In the command line, specify the KEYS command, and map EXPAND to one of the function keys.
   - For a detailed description of all input fields, put the cursor in the field, and press F1 or the key that is mapped to Help.
   - The following elements apply to specific fields:
     - **Add** is displayed when parameters can have multiple values but currently have only one value. To specify multiple values in these fields, place the cursor on **Add**, and press Enter. Use the displayed panel to add or delete additional values.
     - **List** is displayed when the complete list of valid values for the fields is too long to be displayed on the panel. To see the complete list of values, place the cursor on **List**, and press F1 or the key that is mapped to Help.
     - **More** is displayed when input fields contains multiple values. To see all of the values in the field, place the cursor on **More**, and press Enter.

   The following LPAR parameters can contain 1 - 64 values:

   - LPAR macro library
   - Message library

- Panel library
- Skeleton library
- ISPF table input library
- ISPF user profile library
- File tailoring output library
- Link list library
- Command procedures library
- Macro library
- Link-edit library
- Load library
- Started task library name

3. Press End to save your changes and exit, or issue the SAVE command to save your changes and stay on the same panel.

Results

The **Customizer Workplace** panel is displayed, and the status of the LPAR parameters is Ready to Customize.

What to do next

If the status of other parameters on the **Customizer Workplace** panel is Incomplete, Verify Values, or Discovered, edit these parameters.

Related tasks

Defining Db2 Analytics Accelerator Loader parameters
Db2 Analytics Accelerator Loader parameters are specific to Db2 Analytics Accelerator Loader .

Defining Db2 parameters
Db2 parameters are parameters for a Db2 entry.

Defining Db2 parameters

Db2 parameters are parameters for a Db2 entry.

About this task

If you did not run the Db2 Analytics Accelerator Loader Discover EXEC, you must create and associate one or more Db2 entries before you can define the Db2 parameters. For more information, see “Creating and associating Db2 entries” on page 91.

Procedure

1. Specify E next to one or more Db2 entries in the associated list, which is in the Associated Db2 Entries and Parameter Status section on the **Customizer Workplace** panel, and press Enter.

   The **DB2 Parameters** panel is displayed, as shown in the following figure:

```
CCQPDB2                          DB2 Parameters                  Top of data
Command ===>                                                  Scroll ===> CSR

 Ensure that values are specified for the required DB2 parameters. Press End
 to save and exit.

Commands: SAVE - Save parameter values

 Product to Customize
   Product metadata library . : HLO.WRK0210.SHLODENU   >  LPAR  . . : RS22
   Product name . . . . . . . : DB2 Analytics Accelera >  Version . : 2.1.0
   Configuration ID: HLO     >  Description: DB2 Analytics Accelerator Load >


 DB2 subsystem ID  . . . . . . . . . . . . : DA1A
 Group attach name . . . . . . . . . . . . :
*This is the primary subsystem . . . . . . . YES (YES, NO)

 General DB2 Information
  *Mode . . . . . . . . . . . . . . . . . . . NFM (NFM, CM)
  *Level number . . . . . . . . . . . . . . . 101 (101, 111)

 DB2 Libraries - common
  *Load library . . . . . . DSN.SDSNLOAD                                  Add
  *Run library  . . . . . . DSN.RUNLIB.LOAD                               Add
  *Exit library . . . . . . DSN.SDSNEXIT
Add
 DB2 Utilities - common
   SYSAFF for DB2 utilities . . . . . . . . .
  *DSNTEP2 plan name  . . . . . . . . . . . . DSNTEP2

 Accelerator Loader BIND Parameters
  *Accelerator Loader plan name . . . . . . . HLOV21PL
  *BIND owner ID  . . . . . . . . . . . . . . DB2USER                      >
  *User ID for GRANT statement  . . . . . . . PUBLIC

 Accelerator Loader DB2 Parameters
  *SET CURRENT SQLID  . . . . . . . . . . . . DB2USER
  *Accelerator Loader database name . . . . . HLOV21DB
  *Accelerator Loader Table schema  . . . . . HLOV21TB                     >
  *Accelerator Loader database STOGROUP . . . SYSDEFLT                     >
  *Accelerator Loader index STOGROUP  . . . . SYSDEFLT                     >
  *Accelerator Loader table space buffer pool BP0
```

*Figure 21. The **DB2 Parameters** panel*

You can use the following primary commands on this panel:

SAVE
Saves the specified product or component parameter values.

VERIFY / VERIFYOFF
Use the VERIFY and VERIFYOFF commands to turn on and off parameter verification of Db2 parameters. Before you can generate customization jobs, you must verify that all required parameters are set to a valid value. The Db2 parameter status of `Verify Values` on the Customize Workplace panel indicates that the values have not been verified.

Enter these commands either by typing them in the command field and pressing Enter or by positioning the cursor on the command and pressing Enter. When VERIFY is active, VERIFYOFF is displayed so that you can toggle between the two states. By default, verification is turned on when you display the **DB2 Parameters panel**, and the verification state is reset to VERIFY every time you exit the Customization Workplace panel by pressing PF3.

Turning verification off is useful when you need to exit the panel before you have entered all of the required parameters, but you want to save the parameters that you have specified. When you disable verification, it is disabled only for the **DB2 Parameters Values** panel.

2. Specify values for all parameters that are displayed.

Tips:

- In the command line, specify the KEYS command, and map EXPAND to one of the function keys.

- For a detailed description of all input fields, put the cursor in the field, and press F1 or the key that is mapped to Help.
- The following elements apply to specific fields:
  - **Add** is displayed when parameters can have multiple values but currently have only one value. To specify multiple values in these fields, place the cursor on **Add**, and press Enter. Use the displayed panel to add or delete additional values.
  - **List** is displayed when the complete list of valid values for the fields is too long to be displayed on the panel. To see the complete list of values, place the cursor on **List**, and press F1 or the key that is mapped to Help.
  - **More** is displayed when input fields contains multiple values. To see all of the values in the field, place the cursor on **More**, and press Enter.

  Many parameters have default values, which you can either accept or change.
3. Press End to save your changes and exit, or issue the SAVE command to save your changes and stay on the same panel.

Results

The status of the Db2 entries that you selected on the **Customizer Workplace** panel is Ready to Customize.

What to do next

If the status of other parameters on the **Customizer Workplace** panel is Incomplete, Verify Values, or Discovered, edit these parameters.

Related tasks

Defining Db2 Analytics Accelerator Loader parameters
Db2 Analytics Accelerator Loader parameters are specific to Db2 Analytics Accelerator Loader .

Defining LPAR parameters
LPAR parameters are parameters on the local LPAR that are required to customize Db2 Analytics Accelerator Loader .

Generating customization jobs

To generate customization jobs for Db2 Analytics Accelerator Loader and any associated Db2 entries, issue the GENERATEALL command, or select one or more Db2 entries on which to customize Db2 Analytics Accelerator Loader .

Procedure

Generate the customization jobs by using one of the following methods.

- If you want to generate customization jobs at the product level and for any associated Db2 entries, issue the GENERATEALL command, and press Enter.
- If you want to generate customization jobs for specific Db2 entries, select the Db2 entries by specifying the G line command against them, and press Enter. The available Db2 entries are in the associated list in the Associated Db2 Entries and Parameter Status section.

Important: Regenerating customization jobs will replace any existing jobs, including jobs that you might have manually modified after they were generated.

Results

If the status is Incomplete or Discovered for Db2 Analytics Accelerator Loader parameters, LPAR parameters, or Db2 parameters, Tools Customizer automatically starts an editing session for the types of parameters that are required. The session continues until the panel for each type of required parameter has been displayed.

What to do next

If an automatic editing session is started, accept the displayed parameter values or define values for the required types of parameters, select optional parameters, tasks, or steps for your environment, and save the parameter values. Otherwise, the customization jobs are generated, and you can submit them.

Tip: If the customization jobs are generated, but you are not ready to submit them, you can see them later by issuing the JOBLIST command on the **Customizer Workplace** panel. The JOBLIST command displays the **Finish Product Customization** panel, which you can use to submit the jobs.

Submitting customization jobs

Submit the customization jobs to customize Db2 Analytics Accelerator Loader .

Before you begin

Ensure that the correct jobs are generated.

About this task

The following figure shows part of the **Finish Product Customization** panel. The table on this panel shows the customization jobs that are generated by Tools Customizer. They are grouped by job sequence number.

```
CCQPCST                Finish Product Customization           Row 1 to 7 of 7
 For a first-time customization, submit the jobs in the members in the order
 in which they apply to the DB2 entries. Otherwise, submit only the necessary
 jobs that were generated after changes were made. To submit jobs, browse
 the members and issue the TSO SUBMIT command.

 Line Commands: E - Edit  B - Browse

     Product customization library .: TSUSRA.HLO210.$RS23$.HLO210              >

  Cmd Member   SSID GrpAttch Template Date       Description
  -   -------- ---- ----     -------- ---------- ------------------------------>
      A01CAA    --   --      HLO1CLST 2015/12/19 Configures startup CLIST 1
      A12CAA    --   --      HLO2CLST 2015/12/19 Configures startup CLIST 2
      A2STAA    --   --      HLOSTCJ  2015/12/19 Creates STC and components
      A3SMAA    --   --      HLOSMPJ  2015/12/19 Creates repository maintenance
      A4HLVS    --   --      HLOHLVS  2015/12/19 Creates the server
      A5IN00    --   --      HLOIN00  2015/12/19 Creates the server parms
      A6VOBJ    --   --      HLOVOBJ  2015/12/19 Creates OBJ file
      A7UMAP    --   --      HLOUMAP  2015/12/19 Creates user map file
      A8DFDIV   --   --      HLODFDIV 2015/12/19 Creates server files
      A9DRAAAA DA1A  --      HLODROP  2015/12/19 Drops repository objects
      B0DDAAAA DA1A  --      HLODDL   2015/12/19 Creates repository objects
      B1RFAAAA DA1A  --      HLORFREE 2015/12/19 Frees packages and plans
      B2VFAAAA DA1A  --      HLOVFREE 2015/12/19 Frees server packages
      B3RBAAAA DA1A  --      HLORBIND 2015/12/19 Binds packages and plans
      B4VBAAAA DA1A  --      HLOVBIND 2015/12/19 Binds server packages
      B5RGAAAA DA1A  --      HLORGRNT 2015/12/19 Grants EXECUTE authority
      B6VGAAAA DA1A  --      HLOVGRNT 2015/12/19 Grants EXEC to server pkgs
      B7CPAA    --   --      HLOCPROF 2015/12/19 Creates profile data sets
      B8MPAA    --   --      HLOMPROF 2015/12/19 Migrates profiles
      B9CCAA    --   --      HLOCCNTL 2015/12/19 Creates a new control file
      C0UCAAAA DA1A  --      HLOUCNTL 2015/12/19 Updates control file
      C1IVAA    --   --      HLOIVP   2015/12/19 Creates IVP jobs
      C2ADAA    --   --      HLOADBI  2015/12/19 Configures the REXX EXEC
 --------------------------- End of customized jobs ---------------------------
```

*Figure 22. The **Finish Product Customization** panel*

The member-naming conventions depend on whether the customization jobs are for Db2 entries, and LPAR, or the product.

The New filed indicates if the job member is newly created/updated. It is either YES or NO. YES indicates the job member is newly created or updated, and it needs to be submitted for customization. NO indicates the job member is not newly created/updated, it does not need to be submitted for customization.

Customization jobs for Db2 entries

The members use the following naming convention:

```
<job_sequence_number><job_ID><configuration_ID><DB2_entry_ID>
```

where

job_sequence_number
: Two alphanumeric characters, A0 - Z9, that Tools Customizer assigns to a customization job. The number for the first template in the sequence is A0, the number for the second template is A1, and so on.

job_ID
: Characters 4 - 5 of the template name, if the template name contains five or more characters. Otherwise, only character 4 is used. For example, for the XYZCRE8I template, the job ID is CR. For the XYZC template, the job ID is C. Db2 Analytics Accelerator Loader assigns the template name.

configuration_ID
: Two alphanumeric characters, AA - 99, that Tools Customizer assigns to a configuration.

DB2_entry_ID
: Two alphanumeric characters, AA - 99, that Tools Customizer assigns to a Db2 entry.

For example, the XYZBND*DB2_entry_ID_1* and XYZBND*DB2_entry_ID_2* jobs are generated from the XYZBNDGR template, and the XYZ4*DB2_entry_ID_1* and XYZ4*DB2_entry_ID_2* jobs are generated from the XYZ4 template. If the jobs are generated on two Db2 entries for two configurations, the following member names are listed sequentially: A0BNAAAA, A0BNABAB, A14AAAA, A14ABAB.

Customization jobs for an LPAR or the product

The members use the following naming convention:

```
<job_sequence_number><job_ID>
```

where

job_sequence_number
: Two alphanumeric characters, A0 - Z9, that Tools Customizer assigns to a customization job. The number for the first template in the sequence is A0, the number for the second template is A1, and so on.

job_ID
: Characters 4 - 8 of the template name, if the template name contains five or more characters. Otherwise, only character 4 is used. For example, for the XYZMAKE template, the job ID is MAKE. For the XYZM template, the job ID is M. Db2 Analytics Accelerator Loader assigns the template name, and it is displayed in the Template column.

For example, the XYZBNDGR job is generated from the XYZBNDGR template, and the XYZ4 job is generated from the XYZ4 template. The following member names are listed sequentially: A0BNDGR, A14.

Customization jobs for configurations

The members use the following naming convention:

```
<job_sequence_number><configuration_ID><DB2_entry_ID>
```

where

job_sequence_number
: Two alphanumeric characters, A0 - Z9, that Tools Customizer assigns to a customization job. The number for the first template in the sequence is A0, the number for the second template is A1, and so on.

configuration_ID
: Two alphanumeric characters, AA - 99, that Tools Customizer assigns to a configuration.

DB2_entry_ID
Two alphanumeric characters, AA - 99, that Tools Customizer assigns to a Db2 entry.

For example, for two configurations on the same Db2 entry, the XYZBIND job is generated from the XYZBNDGR template, and the XYZMAKE9 job is generated from the XYZ4 template. The following member names are listed sequentially: A0AAAA, A1ABAA.

Procedure

1. Submit the generated customization jobs by following the process that you use in your environment or by using the following method:
   a) Specify B or E against a customization job or the product customization library, and press Enter.
   An ISPF browsing or editing session is started.
   b) Browse the customization job or each member in the library to ensure that the information is correct.
   c) Run the TSO `SUBMIT` command.
2. Press End.

Results

Db2 Analytics Accelerator Loader is customized, and the **Customizer Workplace** panel is displayed. The status is Customized for the Db2 entries on which Db2 Analytics Accelerator Loader was customized.

What to do next

You can generate more customization jobs for other Db2 entries, view a list of customization jobs that you previously generated, or recustomize Db2 Analytics Accelerator Loader .

Browsing parameters

You can browse the product or component parameters, the LPAR parameters, and the Db2 parameters in read-only mode.

Procedure

1. On the **Customizer Workplace** panel, specify B next to the **Product parameters** field, the **LPAR parameters** field, or the Db2 entry that you want to browse, and press Enter.
   The panel that corresponds to your specification is displayed.
2. Press End to exit.

Copying Db2 entries

You can copy associated and not associated Db2 entries to other Db2 entries or to new Db2 entries.

About this task

Go to the step that applies to your environment:

- To copy an associated Db2 entry to another associated Db2 entry or to an entry that is not associated, go to step 1.
- To copy an associated Db2 entry to a new entry, go to step 2.
- To copy a Db2 entry that is not associated to a new entry, go to step 3.

Procedure

1. To copy an associated Db2 entry to another associated Db2 entry or to an entry that is not associated, complete the following steps:

a) Specify C against a Db2 entry in the associated list of Db2 entries on the **Customizer Workplace** panel, and press Enter.

   The **Copy Associated DB2 Entry** panel is displayed.

b) Select one or more Db2 entries to which information will be copied by specifying the / line command, and press Enter.

   The Associated column indicates whether the Db2 entry is associated.

   Tip: To copy information into all of the Db2 Entries in the list, issue the SELECTALL primary command, and press Enter.

   The **Copy DB2 Parameter Values** panel is displayed.

c) Specify an option for copying common and product-specific Db2 parameter values.

   Common Db2 parameter values apply to all Db2 entries for all products that you have customized by using Tools Customizer. Product-specific Db2 parameter values apply only to the product that you are currently customizing.

   - To copy the common Db2 parameter values and the product-specific Db2 parameter values, specify option 1, and press Enter.
   - To copy only the product-specified Db2 parameter values, specify option 2, and press Enter.

   In some cases, the Db2 parameter values might contain the Db2 subsystem ID as an isolated qualifier in data set names. For example, in the DB01.DB01TEST.DB01.SANLLOAD, data set name, the DB01 subsystem ID is isolated in the first and third qualifiers but is not isolated in the second qualifier. When the Db2 subsystem ID is an isolated qualifier in data set names, the **Change DB2 Subsystem ID in DB2 Parameter Values** panel is displayed. Otherwise, the **Customizer Workplace** panel is displayed.

d) If the **Change DB2 Subsystem ID in DB2 Parameter Values** panel is displayed, specify an option for changing the subsystem IDs. Otherwise, skip this step.

   - To change the subsystem ID in isolated qualifiers in data set names, specify option 1, and press Enter.
   - To use the same subsystem ID in all values, specify option 2, and press Enter.

   The **Customizer Workplace** panel is displayed with the copied associated entry in the list.

2. To copy an associated Db2 entry to a new entry, complete the following steps:

a) Specify C against a Db2 entry in the associated list of Db2 entries on the **Customizer Workplace** panel, and press Enter.

   The **Copy Associated DB2 Entry** panel is displayed.

b) Issue the CREATE command.

   The **Create DB2 Entries** panel is displayed.

c) Specify the SSID, the group attach name, or both in the appropriate columns for each new Db2 entry, and press Enter.

   Tip: To add rows for additional entries, specify the I*nn* line command, where *nn* is the number of entries to be created, and press Enter.

   The **Copy Associated DB2 Entry** panel is displayed with the new entries in the list. The new entries are preselected.

d) Press Enter to complete the copy process.

   The **Customizer Workplace** panel is displayed with the copied entries in the list.

3. To copy a Db2 entry that is not associated to a new entry, complete the following steps:

a) Issue the ASSOCIATE command on the **Customizer Workplace** panel.

   The **Associate DB2 Entry for Product** panel is displayed.

b) Select one or more Db2 entries by specifying the / line command, and press Enter.

   The **Copy a DB2 Entry** panel is displayed.

c) Specify the SSID, the group attach name, or both in the appropriate columns for the new Db2 entry, and press Enter.

The **Associate DB2 Entry for product** panel is displayed with the copied entry in the list.

d) If you want to associate the copied entry, specify A against it, and press Enter.

The **Customizer Workplace** panel is displayed with the copied entries in the list.

What to do next

Edit any of the parameters or generate the jobs.

Related concepts

Tools Customizer terminology

Tools Customizer uses several unique terms that you should be familiar with before you begin to use Tools Customizer.

Removing Db2 entries

You can remove Db2 entries from the associated list.

About this task

When you remove Db2 entries from the associated list, any customization jobs for the entries are removed from the list of jobs on the **Finish Product Customization** panel, and they are deleted.

Procedure

On the **Customizer Workplace** panel, specify R next to one or more Db2 entries that you want to remove, and press Enter.

The selected Db2 entries are removed from the associated list and added to the main list on the **Associate DB2 Entry for Product** panel, and the customization jobs are deleted.

Related concepts

Tools Customizer terminology

Tools Customizer uses several unique terms that you should be familiar with before you begin to use Tools Customizer.

Deleting Db2 entries

You can delete Db2 entries from the main list.

About this task

When you delete Db2 entries from the main list, any associations and all customization jobs for products that are customized on the entries will be deleted.

Procedure

1. On the **Customizer Workplace** panel, issue the ASSOCIATE command.

   The **Associate DB2 Entry for Product** panel is displayed.
2. Specify D next to one or more Db2 entries that you want to delete, and press Enter.

   If the entry is associated with any products, the **Delete Associated DB2 Entry** panel for the first Db2 entry that you selected is displayed. Otherwise, the **Delete DB2 Entry** panel is displayed.
3. To delete the Db2 entries, press Enter.

   If the Db2 entries are associated with any products in the table on the **Delete Associated DB2 Entry** panel, any associations and all customization jobs for the products that are customized on it are deleted. Otherwise, only the Db2 entries are deleted. If you selected multiple Db2 entries to delete, the next Db2 entry that you selected is displayed on either the **Delete Associated DB2 Entry** panel or the **Delete DB2 Entry** panel. Otherwise, the **Associate DB2 Entry for Product** panel is displayed.

What to do next

If you selected multiple Db2 entries to delete, repeat step 3 until all selected entries are deleted. Then, continue the customization process.

Displaying customization jobs

You can view a list of the members that contain the customization jobs before or after you submit the jobs.

About this task

The customization jobs that you generate for one Db2 entry are also displayed when you customize Db2 Analytics Accelerator Loader for another Db2 entry later.

Procedure

On the **Customizer Workplace** panel, issue the `JOBLIST` command.

The **Finish Product Customization** panel is displayed. This panel shows the list of jobs that you have previously generated. They are grouped by job sequence number. Use this panel to browse or edit the generated jobs before you submit them.

Maintaining customization jobs

Instead of deleting customization jobs outside of Tools Customizer, you can maintain the correct jobs for Db2 Analytics Accelerator Loader by completing the steps for recustomization.

About this task

You cannot delete or rename customization jobs from the customization library by starting an ISPF browse or edit session from the **Finish Product Customization** panel. If you try to delete customization jobs by using this method, the CCQC034S message is issued. If you try to rename customization jobs, the CCQC035S message is issued.

If you delete or rename customization jobs from the customization library by using ISPF outside of Tools Customizer, Tools Customizer will not recognize that the jobs were deleted, and the **Finish Product Customization** panel will still display them. If you browse or edit jobs that were deleted from the library outside of Tools Customizer, the CCQC027S message is issued.

Procedure

To maintain the correct customization jobs in the customization library, complete the steps for recustomization.

Using Tools Customizer in a multiple-LPAR environment

Currently, Tools Customizer supports only the local LPAR; however, you can propagate customizations to additional LPARs by using either of two different methods.

About this task

In a multiple-LPAR environment, Tools Customizer identifies the LPAR to which you are logged on. Tools Customizer uses this LPAR name for several different parameter settings, one of which is the data store. When you use the data store during the customization of Db2 Analytics Accelerator Loader that is on a different LPAR, Tools Customizer issues message CCQD586S, which indicates that the product has already been customized based on values from the data store on the first LPAR. This message is issued to prevent the data store from becoming corrupted.

This behavior occurs in the following conditions:

- Tools Customizer is installed on a DASD device that is shared by multiple LPARs.

- After a product is customized by using Tools Customizer, the data store is copied to another LPAR.

Procedure

To customize products running against a Db2 subsystem on an LPAR where Tools Customizer is not installed, consider using one of the following methods:

Install one instance of Tools Customizer on one LPAR

If you intend to reuse the customization values for all the instances of your products on all LPARs, use this method.

a. Associate all the Db2 entries in this one instance of Tools Customizer. The LPARs on which the Db2 subsystems reside do not matter.

b. Generate the customization jobs for each Db2 entry.

c. Copy the generated customization jobs to the LPAR to run against the specific Db2 entries. Some LPAR-specific edits might be required. You can make these edits in the customized jobs that you copied. Note that this situation is one of the few situations where you might need to make manual changes to the jobs that are customized by Tools Customizer.

Install one instance of Tools Customizer on each LPAR

If you do not want to reuse previous customization values and you want to start new customizations, use this method.

Important: This method will likely not be the preferred approach for most organizations because most organizations tend to use similar or identical customization values for each product instance on all LPARs.

Changing the BIND JCL to ENCODING(500) (optional)

By default, the Accelerator Loader plan and packages are bound using the character set ENCODING(EBCDIC). If your Db2 subsystem is defined with an EBCDIC code page in which the quotation character is not X'7F', you must change the BIND job to bind all plans and packages with ENCODING(500).

In the customized BIND JCL, run a CHANGE ALL command to change the character set from ENCODING(EBCDIC) to ENCODING(500).

APF-authorizing the load libraries (required)

Before you run the customization jobs, APF-authorize the product load libraries.

About this task

This task makes the libraries available when you execute the customization jobs.

Procedure

Include the following libraries in the system APF-authorized list:

- *hlq*.SHLVLOAD
- *hlq*.SHLOLOAD
- *hlq*.SFECLOAD
- *hlq*.SHLVRPC (Any data set allocated to ddname HLVRPCLB needs to be APF-authorized.)
- *hlqsp*.SAQTMOD, where *hlqsp* is the HLQ for the IBM Db2 Analytics Accelerator for z/OS stored-procedure libraries

The APF authorize can be done dynamically using the **SETPROG APF** command. For example, issue the following z/OS operator command:

```
SETPROG APF,ADD,DSNAME=hlq.SHLOLOAD,VOLUME=volser
```

Where *volser* is the volume serial number of the DASD device where the load library resides. You can also make the authorizations permanent for the next IPL (initial program load) by updating the appropriate system PARMLIB member. Contact your system administrator if you encounter difficulties starting Db2 Analytics Accelerator Loader.

Copying the started task PROC (required)

Copy the Accelerator Loader started task PROC and server PROC to your system PROCLIB to make the started task address space available to the user interfaces for the product.

About this task

Run the job members that are associated with templates HLOSTCJ and HLOHLVS. The jobs are located in the data set that is specified in the **Product Customization Library** field on the Tools Customizer **Finish Product Customization** panel. These jobs create the *hloid*PROC member in the *hlq*.SHLOSAMP library and the *hlvid*PROC member in the *hlq*.SHLVSAMP library, where *hloid* and *hlvid* represent the names of the Accelerator Loader and Accelerator Loader server started tasks that were customized by using Tools Customizer.

These jobs are created when both of the following criteria are met:

- On the **DB2 Parameters** panel, the subsystem for which you are generating JCL is identified as the primary subsystem.
- You selected the Tools Customizer subtasks **Create PROC, PLCY, and other SAMPLIB members** and Create the server.

Procedure

1. Copy the *hloid*PROC member that is created in the *hlq*.SHLOSAMP library to a member in the system PROCLIB.
2. Copy the *hlvid*PROC member that is created in the *hlq*.SHLVSAMP library to a member in the system PROCLIB.
3. In the EXEC statement of both PROCs, ensure that you have specified the following settings:
   - `REGION=0M` to avoid storage problems.
   - `TIME=1440` in *hloid*PROC to allow the product to run for an unlimited amount of time.
4. Ensure that the STEPLIB and SVCLIB data sets are APF-authorized.
5. Ensure that all data sets that the PROCs reference are APF-authorized.
6. If you plan to use Accelerator Loader on multiple Db2 subsystems that have different Db2 versions, ensure that the STEPLIB concatenation of *hloid*PROC specifies the earliest Db2 version as the DSNLOAD library.

   Otherwise, connection problems might occur when you attempt to use the product on Db2 subsystems other than the primary subsystem that contains the audit and logging tables.
7. If you plan to use the high availability load utility (HALOAD) or the backup utility, ensure that the product load library is in the JOBLIB or STEPLIB.

Copying the DSNUTILF module (required)

This customization step is required for the Accelerator Loader started task *hloid*PROC to perform DSNUTILB interception services.

About this task

When the DSNUTILF module is in the load library concatenation, the DSNUTILB program can operate normally even if the Accelerator Loader started task becomes unavailable.

Procedure

1. Copy the DSNUTILF load module into one of the APF-authorized libraries in the STEPLIB or JOBLIB concatenation of the Db2 LOAD utility jobs.
2. Optional: Leave the DSNUTILF module in the Accelerator Loader LOAD library, and add it to the STEPLIB or JOBLIB concatenation of the Db2 LOAD utility jobs.

Setting up the WLM application environment (required)

You must perform required steps to configure the WLM application environment for Accelerator Loader. The customization steps depend on the Analytics Accelerator version(s) you are running.

Use the following table to find the WLM environment setup steps you must complete for your Analytics Accelerator version(s). If you are loading to two Analytics Accelerator versions co-existing on the same Db2 for z/OS SSID, you'll need to complete steps for both versions.

Restriction: When you are loading with Accelerator Loader to one or more Analytics Accelerators V5.1.x and Analytics Accelerators V7.x.x at the same time, and all Analytics Accelerator versions are on the same Db2 SSID, your Analytics Accelerator V5.1.x must be at maintenance level PTF-8 or later (Analytics Accelerator V5.1.8 or later). For information, see IBM Db2 Analytics Accelerator for z/OS Version 5.1 documentation.

Table 12. WLM setup for Accelerator Loader versions

Analytics Accelerator version	Required WLM setup steps
7.5.0, or later 7.1.7, or later	“Using Analytics Accelerator V7.1.7, or later, or V7.5.0, or later” on page 115
7.1.6 7.1.5 7.1.4 7.1.3 7.1.2	“Using Analytics Accelerator V7.1.2 through V7.1.6” on page 115
7.1.1 7.1.0	“Using Analytics Accelerator V7.1.0 or V7.1.1” on page 116
5.1.8	“Using Analytics Accelerator V5.1.8” on page 116
5.1.7, or earlier	“Using Analytics Accelerator V5.1.7, or earlier” on page 117

Using Analytics Accelerator V7.1.7, or later, or V7.5.0, or later

Perform required steps to configure the WLM application environment when using Analytics Accelerator V7.1.7, or above, or Analytics Accelerator V7.5.0, or above.

Before you begin

Accelerator Loader APAR PH13717 must be applied.

Your Analytics Accelerator version must be at least 7.1.7, APAR PH10050.

About this task

To use Accelerator Loader with Analytics Accelerator V7.1.7, or later, or V7.5.0, or later, you must concatenate the Accelerator Loader product load library in the STEPLIB of the Db2 allied WLM environment that runs the SYSPROC.ACCEL_LOAD_TABLES stored procedure.

Note: The high availability load (HALOAD) utility can load multiple accelerators from a single Db2 table. The target accelerators do not have to be at the same version or maintenance level.

Procedure

1. Verify that Accelerator Loader APAR PH13717 has been applied.
2. Verify that Analytics Accelerator APAR PH10050 has been applied.
3. Concatenate the APF-authorized Accelerator Loader product load library in the STEPLIB statement for the startup JCL job for the WLM environment that runs SYSPROC.ACCEL_LOAD_TABLES.
4. Optional: If loading to multiple accelerators using the HALOAD utility and any of the target accelerators are at a version prior to V7.1.7, concatenate the APF-authorized Accelerator Loader product load library in the STEPLIB statement for the startup JCL job for the WLM environment that runs DSNUTILU.
5. Rebind Accelerator Loader packages and plans.

Using Analytics Accelerator V7.1.2 through V7.1.6

Perform required steps to configure the WLM application environment when using Analytics Accelerator V7.1.2 through V7.1.6.

Before you begin

Accelerator Loader APAR PI99095 must be applied.

Your Analytics Accelerator version must be at least at 7.1.2, APAR PI98213.

About this task

Accelerator Loader supports the Analytics Accelerator V7.1.2 interface to the SYSPROC.ACCEL_LOAD_TABLES stored procedure (SP level 66). This interface bypasses the running of the UNLOAD utility and the intercept in the DSNUTILU WLM address space for Analytics Accelerator V7.1.2, or later. To use the Analytics Accelerator V7.1.2 interface, you must concatenate the Accelerator Loader product load library in the STEPLIB of the Db2 allied WLM environment that runs the SYSPROC.ACCEL_LOAD_TABLES stored procedure, as described in the following procedure.

Restrictions: When using Analytics Accelerator V7.1.2 through V7.1.6, the HALOAD utility requires the intercept in the DSNUTILU WLM address space, as do any Accelerator Loader jobs running against an Analytics Accelerator appliance prior to the V7.1.2 release.

Procedure

1. Verify that Accelerator Loader APAR PI99095 has been applied.
2. Verify that Analytics Accelerator APAR PI98213 has been applied:

3. Use the following SQL statement to verify that the SYSPROC.ACCEL_LOAD_TABLES stored procedure is at SP level 66 or later:

```
SELECT DSNAQT.ACCEL_GETVERSION() FROM SYSIBM.SYSDUMMY1 ;
```

4. Concatenate the APF-authorized Accelerator Loader product load library in the STEPLIB statement for the startup JCL job for the WLM environment, as follows:
   - For IDAA_ONLY, IDAA_DUAL, IDAA_CONSISTENT_LOAD, and IDAA_LOAD_IC load jobs, concatenate the Accelerator Loader load library in the startup JCL job for the WLM environment that runs SYSPROC.ACCEL_LOAD_TABLES.
   - For the HALOAD utility, concatenate the Accelerator Loader load library in the startup JCL job for the WLM environment that runs DSNUTILU.
5. Rebind Accelerator Loader packages and plans.

Using Analytics Accelerator V7.1.0 or V7.1.1

Perform required steps to configure the WLM application environment when using Analytics Accelerator V7.1.0 or V7.1.1.

About this task

This customization step is required for the Accelerator Loader started task to perform DSNUTILB interception services. An additional step is provided for using parallelism in Accelerator Loader.

Note: For all Accelerator Loader jobs loading to an Analytics Accelerator version prior to V7.1.2, you must concatenate the APF-authorized Accelerator Loader product load library in the STEPLIB statement for the WLM environment that runs DSNUTILU.

Procedure

1. Place the following SHLOLOAD modules in the WLM STEPLIB concatenation for the WLM application environment for the Db2 stored procedure SYSPROC.DSNUTILU:
   - DSNUTILF
   - HLOPIPE
   - HLOPIPEA
   - HLOPOSRV

   Note: If Accelerator Loader and IBM Db2 Utilities Enhancement Tool must co-exist at the same time in the same environment, concatenate the Accelerator Loader load library before the Db2 UET load library. This concatenation order ensures that Accelerator Loader intercepts DSNUTILB only when loading the IBM Db2 Analytics Accelerator for z/OS and Db2 UET intercepts DSNUTILB for other processing.
2. Optional: Leave the DSNUTILF in the module in the Accelerator Loader load library and add it to the STEPLIB or JOBLIB concatenation of the WLM application environment.
3. Optional: To enable parallelism in Accelerator Loader, ensure that the WLM environment that runs DSNUTILU is configured for WLM management of the DSNUTILU server address space, which allows multiple DSNUTILU server address spaces to be started as needed per system. For more information, see “WLM requirements for Accelerator Loader” on page 34.

Using Analytics Accelerator V5.1.8

For a given Db2 subsystem or Db2 data sharing group, IBM Db2 Analytics Accelerator for z/OS V5.1.8 enables you to concatenate the APF-authorized Accelerator Loader load library in the STEPLIB of the

WLM environment that runs the SYSPROC.ACCEL_LOAD_TABLES stored procedure. This enhancement is available with Accelerator Loader External load and HALOAD.

About this task

Accelerator Loader External load and HALOAD no longer require interception of the UNLOAD utility in the DSNUTILU WLM address space. To exploit these enhancements, use Analytics Accelerator V5.1.8 with:

- Stored procedure V24, or later, delivered with Analytics Accelerator PTF-4, version 5.1.4
- Accelerator Loader APAR PH22761

If you are using the HALOAD utility to load multiple accelerators from a single Db2 table, the target accelerators do not have to be at the same version or maintenance level.

Procedure

1. Concatenate the APF-authorized Accelerator Loader load library in the STEPLIB of the WLM environment that runs SYSPROC.ACCEL_LOAD_TABLES.
2. Optional: If loading to multiple accelerators using the HALOAD utility and any one of the accelerators are version earlier than 5.1.8, concatenate the APF-authorized Accelerator Loader load library in the STEPLIB of the WLM environment that runs DSNUTILU.
3. Refresh any WLM environments you modified.

Using Analytics Accelerator V5.1.7, or earlier

Perform required steps to configure the WLM application environment when using Analytics Accelerator V5.1.7, or earlier.

About this task

This customization step is required for the Accelerator Loader started task to perform DSNUTILB interception services. An additional step is provided for using parallelism in Accelerator Loader.

Procedure

1. Place the following SHLOLOAD modules in the WLM STEPLIB concatenation for the WLM application environment for the Db2 stored procedure SYSPROC.DSNUTILU:
   - DSNUTILF
   - HLOPIPE
   - HLOPIPEA
   - HLOPOSRV

   Note: If Accelerator Loader and IBM Db2 Utilities Enhancement Tool must co-exist at the same time in the same environment, concatenate the Accelerator Loader load library before the Db2 UET load library. This concatenation order ensures that Accelerator Loader intercepts DSNUTILB only when loading the IBM Db2 Analytics Accelerator for z/OS and Db2 UET intercepts DSNUTILB for other processing.
2. Optional: Leave the DSNUTILF in the module in the Accelerator Loader load library and add it to the STEPLIB or JOBLIB concatenation of the WLM application environment.
3. Optional: To enable parallelism in Accelerator Loader, ensure that the WLM environment that runs DSNUTILU is configured for WLM management of the DSNUTILU server address space, which allows multiple DSNUTILU server address spaces to be started as needed per system. For more information, see “WLM requirements for Accelerator Loader” on page 34.

Starting the started task (required)

Start the Accelerator Loader started tasks so that you can begin using the product interfaces.

About this task

The variable *hlostc* in the command represents the member name of the Accelerator Loader PROC in the system PROCLIB.

Tools Customizer generated the started task name based on the value that you specified in the Tools Customizer field **Create the Started Task and its components**, and then inserted that name in the started task PROC. If you changed the started task name in the PROC, make sure that you use that new name in the **`Start`** command.

Procedure

Start the started task by using the z/OS console or the SDSF interface.

- From the z/OS console, issue the following operator command:

```
S hlostc
```

- From the SDSF interface, issue the following command, including the forward slash:

```
/S hlostc
```

Required naming conventions

You must follow the Accelerator Loader server naming conventions when configuring the server subsystem ID and the server initialization member.

The server subsystem name must follow the pattern *x*LV*y*, where *x* is any alphabetic character A - Z and *y* is any alphanumeric character A-Z or 0-9.

Depending on what you name the server subsystem, the server initialization member must follow the same naming convention as the server subsystem name, for example, *x*LV*y*IN00.

Note: The default server naming conventions used throughout this guide are *hlvid* for the server subsystem name and *hlvid*IN00 for the server initialization member.

Configuring support for code pages and DBCS

You can configure the server to support Japanese code pages and double-byte character sets (DBCS).

About this task

To support different code pages and double-byte character sets, you must manually customize the server initialization member.

Procedure

1. In data set *hlq*.SHLVEXEC, locate member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
2. In the member, locate the `DEFINE DATABASE` statement for your subsystem, and verify that the CCSID value is set correctly for the subsystem.
3. Locate the comment `Set CCSID for non-DB2 data`, as shown in the following example:

```
/*-------------------------------------*/
/* Set CCSID for non-DB2 data          */
/*-------------------------------------*/

if DoThis then
```

```
  do
                "MODIFY PARM NAME(SQLENGDFLTCCSID)      VALUE(1047)"
```

4. Change `DontDoThis` to `DoThis` to enable the parameters.
5. Update the following parameter:

Parameter	Description	Valid values
SQLENGDFLTCCSID	Specifies the CCSID to use for SQL engine tables. All host tables except for Db2 are assumed to be stored in this CCSID. Where possible, this CCSID should match the client CCSID used when connecting.	CCSID value Sample values: • 1047 (LATIN OPEN SYS EB) • 931 (JAPAN MIX EBCDIC) • 1390 (JAPAN MIX EBCDIC)

Starting and stopping the server (required)

The Accelerator Loader server runs as a z/OS started task. Under normal circumstances, the server starts at system startup and stops before the system shuts down.

Before you begin

Ensure that you have the privileges that are described in "Authorization requirements for the Accelerator Loader server" on page 33 and "Authorization requirements to access data sources" on page 34.

Procedure

1. To start the server use the following console command:

   S *hlvid*

   Where *hlvid* is the name you gave the Accelerator Loader server during customization.
2. If you use an automation package to start the system, associate the **START** command with the VTAM® initialization complete message (IST020I), the TCP/IP initialization complete message (EZB6473I), or both messages.
3. To verify that the startup is successful, look for the following entries in the server Job Entry Subsystem (JES) log.

```
SD74391I OE stack binding port 1200 to IP address 0.0.0.0
SD74391I OE stack binding port 1201 to IP address 0.0.0.0
SD74391I OE stack binding port 1202 to IP address 0.0.0.0
```

What to do next

To stop the server, issue the following command, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer:

P *hlvid*

If you issue a **CANCEL** command, all available connections terminate with an abend, and the server shuts down immediately.

Installing the Accelerator Loader studio (required)

Use the Accelerator Loader studio to load relational and non-relational data to the accelerator.

Before you begin

Accelerator Loader studio is available with Db2 Analytics Accelerator Loader. You install Accelerator Loader studio as a plug-in to IBM Data Studio or an equivalent Eclipse-based application.

Note: IBM Installation Manager is not supported.

Before installing the Accelerator Loader studio, verify that all installation prerequisites are met:

System component	Requirement
Supported operating systems	• Windows 7, 8, 10 • Linux – Red Hat Enterprise Linux 6.7 or higher; Ubuntu 16 or higher • macOS (Sierra)
Software	• The Accelerator Loader server must be installed and configured on IBM z/OS. • Eclipse Kepler (4.3.*x*) or Luna (4.4.*x*) is required for Accelerator Loader studio. For Windows and Linux users, it is recommended to have IBM Data Studio 4.1.*x* installed on the client system. **Note:** Updating software from IBM Data Studio can require that you log in as an administrator. • Java 1.7 or 1.8 is required.
System memory	4 GB of system memory is recommended.
Hard disk space	40 MB of hard disk space is recommended (the installed software will consume 20 MB).
Client permissions	You have appropriate user logon credentials and user privileges on your client system to install the Accelerator Loader studio. For example, to install the studio on Windows, you need administrator authority; ensure that your user profile has the appropriate privileges to write to the target system location.
Mainframe permissions and access	You have appropriate mainframe user logon credentials and user privileges, you can connect to the Accelerator Loader server on the mainframe, and the Accelerator Loader server can access other DBMS subsystems. **Note:** Connecting to the mainframe system requires the following information (these values are viewable in Accelerator Loader server messages, or you can get them from your system programmer): • Host name on which the Accelerator Loader server is running. • JDBC port number. During customization with Tools Customizer, the port number is specified in the field **TCP/IP OE port number**. In the server configuration file, the parameter name is **OEPORTNUMBER**. On the mainframe, use SDSF to browse the server JOB output and search for **OEPORTNUMBER**.

About this task

The Accelerator Loader studio provides a graphical user interface to help you generate the JCL you need to load data to the Accelerator Loader, enables a single, enterprise view across all mainframe integration components, and automatically discovers instances of the Accelerator Loader server running on the mainframe.

You can install the Accelerator Loader plug-in into IBM Data Studio using either of the following methods:

- *Eclipse GUI installation.* Using this method, you can use the IBM Data Studio to install the Accelerator Loader plug-in. Member *hlq*.SHLVBIN(HLVBIN) provides the Accelerator Loader studio plug-in files. To

perform the Eclipse GUI installation, you must transfer the HLVBIN file to a local workstation, rename the file, and then perform steps in the GUI to complete the installation.

- *Command-line installation.* Using this method, you can use a script-based mechanism for installing the Accelerator Loader plug-in into IBM Data Studio or any supported Eclipse from the command line. Member *hlq*.SHLVBIN(HLVBINS) provides the Accelerator Loader studio plug-in files as well as the installation scripts for Windows and Linux/Mac in zipped format. To perform the command-line installation, you must transfer the HLVBINS file to a local workstation, extract the contents, and then run the script.

Use the following procedure to perform either of the installation methods.

Procedure

Perform one of the following methods to install the Accelerator Loader plug-in:

- *Eclipse GUI installation*:
  a. Using File Transfer Protocol (FTP) in binary mode, perform a binary transfer of installation member *hlq*.SHLVBIN(HLVBIN) to a folder on your local workstation.
  b. Rename the file to `loader.zip`.
  c. From the IBM Data Studio, click **Help** > **Install New Software**, and then click **Add**.
  d. On the Add Repository dialog box, click **Archive**.
  e. Locate the `loader.zip` file and click **Open**.
  f. Enter the software file name, a name for the repository, and then click **OK**.
  g. Select the check box next to **Accelerator Loader** and click **Next**.
  h. Complete the remaining installation wizard steps, and then restart IBM Data Studio when prompted.
  i. Optional: Delete the `loader.zip` file.
- *Command-line installation*:
  a. Using File Transfer Protocol (FTP) in binary mode, perform a binary transfer of installation member *hlq*.SHLVBIN(HLVBINS) to your local workstation, and unzip the contents.
  b. Ensure that your Eclipse application (for example, IBM Data Studio) is not running.
  c. Perform one of the following steps:
     – **For Windows:** From a DOS prompt, navigate to the folder where the contents were extracted, and execute the `install.bat` script, passing the location of your Eclipse as an argument as in the following example:

       ```
       % install.bat "C:\Program Files\IBM\DS4.1.2"
       ```

       Note: If no argument is specified, the script will prompt you for the location. When prompted by the script, the double quotation marks must not be specified. The double quotation marks should only be used if the path name contains space characters and is being specified as a command-line argument.
     – **For Linux/Mac:** From the shell, navigate to the directory where the contents were extracted, and execute the `install.sh` script, passing the location of your Eclipse as an argument as in the following example:

       ```
       # ./install.sh /opt/ibm/DS4.1.2
       ```

       Note: If no argument is specified, the script will prompt you for the location.
  d. Start your Eclipse application (for example, IBM Data Studio).
  e. Optional: To confirm that the new plug-in installed successfully, select **Help** > **About IBM Data Studio**, and click **Installation Details**.

The **Installation Details** dialog shows the **Installed Software** and includes a line item for the **Accelerator Loader** with version details.

f. Optional: Delete the `.zip` file and the extracted contents from step 1.

What to do next

You can now open the Accelerator Loader perspective from IBM Data Studio.

Uninstalling the Accelerator Loader studio

Use the Workbench wizard to uninstall the Accelerator Loader studio from IBM Data Studio.

Procedure

1. Click **Help** > **About**, and then click **Installation Details**.
2. On the **Installed Software** tab, select **Accelerator Loader** and click **Uninstall**.
3. Verify your selection to uninstall and click **Uninstall**.
4. After successfully uninstalling the software, you are prompted to restart the Workbench. Click **Yes**.

Configuring access to data sources (required)

Configure the Accelerator Loader server to enable access to mainframe data sources.

Configuring access to data in Adabas

Set up access to data in Software AG Adabas databases by configuring the Accelerator Loader server and verifying access to the data.

Before you begin

The Accelerator Loader server must already be installed. Use these instructions to configure the Accelerator Loader server. The Adabas load library must be APF-authorized.

About this task

To access an Adabas database, the Accelerator Loader server started task and parameter file must be configured with information about the Adabas databases to which you want to connect. Customizing these members is done using Tools Customizer. No configuration changes are necessary to Adabas.

Procedure

1. Invoke Tools Customizer for z/OS.
2. Access the Product Parameters panel.
3. Under the task 'Create the server and the server components', select the steps **Create the server** and **Create the server parameters**, and provide values for the following fields:

Step or parameter	Required?	Discovered?	Default	Your value
ADABAS load library Specifies the Adabas load library that the server uses to connect to the Adabas databases. If this value is defined, the server uses Adabas as a data source. If this value is not defined, the server does not use Adabas as a data source.	No	No	No default	

4. Generate the customization jobs. The jobs are based on the HLOHLVS and HLOIN00 templates. For more information, see "Generating customization jobs" on page 105.

5. Submit the customization jobs. For more information, see “Submitting customization jobs” on page 106.

Configuring Adabas security

Configure security to access Adabas data at a DBID or file number level.

About this task

Securing Adabas files at a DBID or file number level requires the use of the following Accelerator Loader server parameters:

- RESOURCETYPE
- SQLVTRESOURCETYPE
- ADABASSECURITY

The following sample jobs for defining Adabas security-related definitions are provided in the *hlq*.SHLVCNTL library:

- HLVRAADA for RACF

  Note:

  When using job HLVRAADA, make the following changes for file ID security:

  ```
  RDEFINE FACILITY ADAxxxxx.FILyyyyy UACC(NONE)
  PERMIT ADAxxxxx.FILyyyyy CLASS(FACILITY) ID(<USERID>)
  ACCESS(aaaa)
  SETROPTS REFRESH RACLIST(FACILITY)
  ```

  – Change *xxxxx* to the Adabas database ID.
  – Change *yyyyy* to the Adabas file ID.
- HLVA2ADA for CA ACF2
- HLVTSADA for CA Top Secret

Procedure

1. In data set *hlq*.SHLVEXEC, locate member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
2. Ensure the following settings are set in the HLVIN00 file:

   ```
   MODIFY PARM NAME(RESOURCETYPE) VALUE(RAVZ)
   MODIFY PARM NAME(SQLVTRESOURCETYPE) VALUE(RAVZ)
   MODIFY PARM NAME(ADABASSECURITY) VALUE(YES)
   ```

Parameter name	Parameter description	Value
RESOURCETYPE	RESOURCE TYPE FOR RESOURCE RULES Specify the name of the security server's class (or resource type for ACF2) that is used to perform resource access authorization checks. When using RACF, the corresponding class name within RACF must start with R, for example, RHLV.	For RACF: RHLV

Parameter name	Parameter description	Value
SQLVTRESOURCETYPE	RESOURCE TYPE FOR SQL ACCESS TO VIRTUAL TABLES Specify the name of the security server's class (or resource type for ACF2) that is used to perform authorization checks for SQL access to metadata and virtual tables in the SQL Engine. When using RACF, the corresponding class name within RACF must start with R, for example, RHLV.	For RACF: RHLV
ADABASSECURITY	ADABAS SECURITY ACTIVATED Set this parameter to indicate that a resource rule is to be constructed consisting of DBID and file. **Note:** Both RESOURCETYPE and SQLVTRESOURCETYPE must be set in order for ADABASSECURITY to be in effect.	YES

Configuring access to data in relational database management systems

Configure the Accelerator Loader server to enable access to data in relational database management systems (RDBMS).

Topics:

Configuring access to IBM Db2 for z/OS

Configure Db2 to be accessed by the Accelerator Loader studio.

About this task

Using DRDA might yield a lower total cost of ownership than RRSAF because DRDA allows a higher percentage of Db2 work to run in SRB mode and offloaded to a zIIP specialty engine.

If you have a zIIP specialty engine, use DRDA. If you do not have a zIIP specialty engine, use RRSAF.

Configure access to Db2 for z/OS databases as follows.

Procedure

1. "Configuring security" on page 125
2. Configure for DRDA (Distributed Relational Database Architecture) or for RRSAF (Resource Recovery Services attachment facility) access method.
   - If you are using a zIIP specialty engine, enable the RDBMS access method for DRDA:
     a. "Modifying the server configuration member for DRDA" on page 125
     b. "Configuring Db2 for DRDA" on page 131
   - If you are not using a zIIP specialty engine, enable the RDBMS access method for RRSAF:
     a. "Modifying the server configuration member for RRSAF" on page 131
     b. "Configuring Db2 for RRSAF" on page 133

Configuring security

Configure security to provide user access to Db2.

About this task

If the Db2 being accessed does not have the DSNZPARM DDF option TCPALVER set to either YES or CLIENT, then a passticket is needed for certain Db2 on z/OS DRDA operations. These operations may include:

- Refreshing in-memory metadata catalog information at server startup for Db2 on z/OS defined virtual tables. Catalog information is refreshed at every server startup by the Accelerator Loader server connecting to each Db2 where virtual tables have been defined.
- Any SQL statement coming from the dsClient interface, dsSpufi or application APIs using the dsClient interface. This may also include running administrative tasks in batch using dsClient that accesses Db2 on z/OS such as updating MapReduce information using the DRDARange command.

Procedure

1. This step only applies to Db2 for z/OS. To grant users access to the Db2 subsystem and to enable passticket logon processing, you must define one RACF PTKTDATA resource for each unique DRDA APPLNAME. To define each PTKTDATA resource, customize and run the appropriate job.
   - HLVRADB2 is for IBM Resource Access Control Facility (RACF) security.
   - HLVA2DB2 is for CA ACF2 (Access Control Facility) security.
   - HLVTSDB2 is for CA Top Secret Security (TSS).
2. Assign users READ authority.
   - For DRDA, assign users READ authority to the *ssid*.DIST profile.

Configuring the server started task JCL

If you use Db2 z/OS, add the Db2 load library to the server started task JCL.

Before you begin

All LOAD library data sets allocated to the Accelerator Loader server in the server started task JCL must be APF-authorized.

Procedure

Edit the JCL in the *hlq*.SHLVCNTL (HLV1PROC) member to include in the PROC statement the DB2LIB parameter with the Db2 library name assigned, as shown in the following example:

```
DB2LIB='DSNX10'
```

The Db2 library must contain the Db2 interface modules, such as DSNALI and DSNHLI, and must be in uppercase and enclosed in quotation marks.

Modifying the server configuration member for DRDA

If you are using a zIIP specialty engine, enable the RDBMS access method for Distributed Relational Database Architecture (DRDA) in the server configuration member.

About this task

Configure the server to use Distributed Relational Database Architecture (DRDA) when accessing a RDBMS.

The server configuration member *hlvid*IN00 is in data set *hlq*.SHLVEXEC, where *hlvid* represents the name of the Accelerator Loader server started task that was customized using Tools Customizer.

Procedure

1. Verify that the Unicode translation of the Coded Character Set Identifier (CCSID) used in the DEFINE DATABASE statement and the CCSID used by the target RDBMS are defined for your z/OS environment.

   a) You should identify the CCSID of the RDBMS.

   For example, Oracle may use *ccsid1*. In your DEFINE DATABASE statement in the configuration member for the RDBMS you have *ccsid2*. For this example, where Oracle is using *ccsid1*, you need to verify that you have *ccsid1-ccsid2* and *ccsid2-ccsid1* defined in your Unicode translation table on z/OS using the command **D UNI,ALL**.

   b) If the entry is not present, you need to add the entry to your Unicode translation table and refresh.

   Please refer to the IBM z/OS documentation on how to add the entry.

   Note:

   As an alternative, the Unicode table can be appended within the server by using the following statement examples in the server configuration member:

   ```
   "DEFINE CONV SOURCE(ccsid1) TARGET(ccsid2) TECH(RE)"
   "DEFINE CONV SOURCE(ccsid2) TARGET(ccsid1) TECH(RE)"
   ```

2. In the *hlvid*IN00 member, locate the section that contains the comment `Enable DRDA access to DB2 database subsystems`.
3. Enable the DRDA parameters by changing the syntax `if DontDoThis` to `if DoThis`, and then set the DRDASKIPZSERVICES parameter to YES. The following example shows the section in the configuration member to enable:

   ```
   /*-------------------------------------------------------------------*/
   /* Enable DRDA access to DB2 database subsystems                     */
   /*-------------------------------------------------------------------*/
   if DoThis then
     do
           “MODIFY PARM NAME(TRACEOEDRDARW)        VALUE(YES)”
           “MODIFY PARM NAME(CLIENTMUSTELECTDRDA)  VALUE(NO)”
           “MODIFY PARM NAME(DRDASKIPWLMSETUP)     VALUE(NO)”
           “MODIFY PARM NAME(DRDAFORLOGGINGTASK)   VALUE(NO)”
           “MODIFY PARM NAME(DRDASKIPZSERVICES)    VALUE(YES)”
   ```

   The following table describes these parameters:

Parameter	Description	Valid values
TRACEOEDRDARW	If set to YES (recommended), TCP/IP communications via DRDA are traced. If set to NO, DRDA receive and send operations are not traced.	**YES** **NO** Default value.
CLIENTMUSTELECTDRDA	If set to YES, JDBC clients must explicitly opt in for DRDA to be used by setting the user parameter connection variable to 'DRDA'. **Note:** JDBC clients can always opt out of DRDA processing by setting the user parameter to 'NODRDA'. If set to NO, DRDA processing is used for access all configured RDBMSs.	**YES** **NO** Default value.

Parameter	Description	Valid values
DRDASKIPWLMSETUP	If set to YES, WLM information is not collected and sent to DRDA during JDBC logon processing. If captured, the DRDA equivalent to SET_CLIENT_ID calls is issued after logon to establish these values on the DRDA connection. If not captured, the transmission that is used to set these WLM-related values is bypassed. If set to NO, the client user ID, application name, workstation name, and accounting token that were sent in the initial client buffer are collected and sent separately after logon processing to DRDA.	**YES** **NO** Default value.
DRDAFORLOGGINGTASK	If set to YES, DRDA processing is used for the Db2 on z/OS logging subtask. If set to NO, SAF or RRSAF connections are used. **Note:** Passticket support must be enabled for the target DDF server. If passticket support is not configured, set the parameter to NO.	**YES** **NO** Default value.
DRDASKIPZSERVICES	Prevents DRDA from being used for z/Service Db2 processing. If set to YES, z/Services client tasks do not use DRDA processing for Db2 requests. If set to NO, DRDA will be used when configured for a particular Db2 connection. **Note:** Passticket support must be enabled for all target DDF servers.	**YES** **NO** Default value.

4. If you will need to map DECFLOAT columns defined in Accelerator Loader server virtual tables to DOUBLE, add the following statements:

```
        “MODIFY PARM NAME(SQLENGDECFLTTODBL)    VALUE(YES)”
        “MODIFY PARM NAME(SQLENGDRDATYPECONV)   VALUE(YES)”
```

The following table describes these parameters.

Note: For more information about this feature, see “Accelerator Loader server restrictions and considerations” on page 195.

Parameter	Description	Valid values
SQLENGDECFLTTODBL	Forces translation of DECFLOAT fields to DOUBLE (long hex float). You can override this option using a virtual table rule. This option will convert inbound DECFLOAT columns to DOUBLE (hex float long). The data will still be presented as DECFLOAT in the metadata. In a virtual table rule, set OPTBDRDF to Y to enable the conversion, or N to disable it. Any other value in OPTBDRDF will be ignored, and the global setting will be used.	**YES** **NO** Default value.
SQLENGDRDATYPECONV	Allow data type conversions for DRDA columns. This option allows the data type in the map to be different from the actual data type. When this occurs, the SQL engine will convert the data, and the metadata will reflect the data type in the map. You can override this option using a virtual table rule.	**YES** **NO** Default value.

5. Define DRDA RDBMSs by entering a definition statement. Provide your local environment values for all the parameters. The following example shows the section in the configuration member to enable:

```
"DEFINE DATABASE TYPE(type_selection)"         ,
                "NAME(name)"                   ,
                "LOCATION(location)"           ,
                "DDFSTATUS(ENABLE)"               ,
                "DOMAIN(your.domain.name)"     ,
                "PORT(port)"                   ,
                "IPADDR(1.1.1.1)"              ,
                "CCSID(37)"                    ,
                "APPLNAME(DSN1LU)"             ,
                "IDLETIME(110)"                ,
```

Where *type_selection* is either GROUP, MEMBER, or ZOSDRDA.

The previous example shows only a subset of the available parameters. The following table lists all available parameters for defining DDF endpoints:

Parameter	Description	Valid values
APPLNAME	Application name. The APPLNAME used by the target endpoint for passticket generations. (*Optional*)	A valid value is 1 - 8 characters. If APPLNAME is not specified in the definition statement, no default value is provided and passticket access is disabled. **Note:** APPLNAME is not required when connecting from the JDBC driver.

Parameter	Description	Valid values
AUTHTYPE	Authentication type. This can be either DES (Diffie Hellman Encryption Standard) or AES (Advanced Encryption Standard). When AUTHTYPE is not supplied, the default is DES. To force AES, the option must be added to the DEFINE DATABASE statement. Each server can be different in what is supported as to AES/DES. For this setting to have effect, you must specify a security mechanism (SECMEC) that requests encryption.	**DES** Diffie Hellman Encryption Standard (default value) **AES** Advanced Encryption Standard.
CCSID	Specify the EBCDIC single-byte application CCSID (Coded Character Set Identifier) configured for this RDBMS subsystem on the RDBMS installation panel DSNTIPF, option 7. (*Optional*)	Refer to the RDBMS vendor documentation for a list of valid CCSID.
DDFSTATUS	The DDF activation status can be altered online by using the ISPF 4-Db2 dialog panels. (*Required*)	**ENABLE** To make this DDF definition active within Accelerator Loader server. **DISABLE** DDF endpoint is not used.
DOMAIN	The part of a network address that identifies it as belonging to a particular domain.	No default value.
IPADDR	Specify the dot-notation IPV4 address of the DDF endpoint. (*Optional*)	If this parameter is not specified, the value 127.0.0.1 (local host) is the default. For group director definitions, use the DVIPA IP address of the group director.
LOCATION	For Db2: The Db2 location name. For LUW: The LUW database. For Oracle: The Oracle SSID as defined to the Oracle Database Provider (Gateway) (*Required*)	A valid value is a string 1 - 16 characters.

Parameter	Description	Valid values
NAME	The database name as known to the server. (*Required*)	A valid value consists of 1 - 4 characters. Clients use this ID when they request access to a specific Db2 subsystem.
PORT	The TCP/IP port at which the server is listening. (*Required*)	If this keyword is not entered, the default DRDA port number 443 is used.
SECMEC	The DRDA security mechanism in force. (*For GROUP and MEMBER types.*)	**USERIDPWD** User ID and password are sent as is. No encryption is used. **USRIDONL** User ID is sent as is. No encryption is used for the user ID only (client security). **USRENCPWD** Encrypt the password only. **EUSRIDPWD** Encrypt the user ID and password.
SYSTEMVCAT	The VCATNAME for the Db2 system catalog tables (in the DSNDB06 database). The VCATNAME for system catalog tables is a system bootstrap value and not available using the data discovery query. Use this parameter if you intend to access the system catalog tables using Db2 Direct or if the VCATNAME for database DSNDB06 is different from the subsystem name.	A valid value is 1 - 8 characters. If this parameter is not specified, the 4-character Db2 subsystem name is used by default as the high-level qualifier for Db2 data sets.

Parameter	Description	Valid values
TYPE	For Db2 for z/OS: **GROUP** DDF endpoint is a Db2 group director. **MEMBER** DDF endpoint is a Db2 instance or group member for z/OS. **ZOSDRDA** DDF endpoint is a remote z/OS Db2 on another LPAR. This setting allows you to use SEF ATH rules when z/OS Pass Ticket passwords cannot be used or the server administrator has the requirement to manage the authentication credentials for remote z/OS systems.	For Db2 for z/OS: GROUP MEMBER ZOSDRDA

Configuring Db2 for DRDA

If you are using a zIIP specialty engine, configure Db2 to use DRDA.

About this task

Before you can successfully issue DRDA requests, you must bind IBM Db2 Analytics Accelerator Loader for z/OS DBRMs into packages within each target Db2 subsystem.

Procedure

1. Set the DEFAULTDB2SUBSYS parameter in the server configuration member to a valid Db2 subsystem name.
2. Edit the HLVBINDD job that is supplied in the *hlq*.SHLVCNTL data set.

   Follow the instructions that are provided in the JCL.
3. Run the HLVBINDD job.

Modifying the server configuration member for RRSAF

If you are not using a zIIP specialty engine, enable the RDBMS access method for Resource Recovery Services attachment facility (RRSAF) in the server configuration member.

About this task

This task is only applicable for Db2 for z/OS.

The server configuration member *hlvid*IN00 is in data set *hlq*.SHLVEXEC, where *hlvid* represents the name of the Accelerator Loader server started task that was customized using Tools Customizer.

Procedure

1. Verify that the Unicode translation of the Coded Character Set Identifier (CCSID) used in the DEFINE DATABASE statement and the CCSID used by the target RDBMS are defined for your z/OS environment.

   a) You should identify the CCSID of the RDBMS.

For example, Oracle may use *ccsid1*. In your `DEFINE DATABASE` statement in the configuration member for the RDBMS you have *ccsid2*. For this example, where Oracle is using *ccsid1*, you need to verify that you have *ccsid1-ccsid2* and *ccsid2-ccsid1* defined in your Unicode translation table on z/OS using the command **`D UNI,ALL`**.

b) If the entry is not present, you need to add the entry to your Unicode translation table and refresh.

Please refer to the IBM z/OS documentation on how to add the entry.

Note:

As an alternative, the Unicode table can be appended within the server by using the following statement examples in the server configuration member:

```
"DEFINE CONV SOURCE(ccsid1) TARGET(ccsid2) TECH(RE)"
"DEFINE CONV SOURCE(ccsid2) TARGET(ccsid1) TECH(RE)"
```

2. Set the DEFAULTDB2SUBSYS parameter in the server configuration member hlvidIN00 to a valid Db2 subsystem name.
3. In the hlvidIN00 member, locate the comment `ENABLE DB2 RRSAF SUPPORT` section.
4. Enable the RRSAF parameters by changing the syntax `if DontDoThis` to `if DoThis`. The following example shows the section in the configuration member to enable:

```
if DoThis then
  do
        “MODIFY PARM NAME(RRS)                VALUE(YES)”
        “MODIFY PARM NAME(DB2ATTACHFACILIT)   VALUE(RRS)”
        “MODIFY PARM NAME(TRACERSSDATA)       VALUE(NO)”
        “MODIFY PARM NAME(TRACERSSEVENTS)     VALUE(YES)”
        “MODIFY PARM NAME(TRACERSSAF)         VALUE(YES)”
end
```

The following table lists the parameters for configuring support for RRSAF:

Parameter	Description	Valid values
DB2ATTACHFACILITY	Specifies the Db2 attach facility. The Resource Recovery Services attachment facility (RRSAF) uses the DSNRLI interface module and allows for 2–phase commit actions. The Call Attach Facility (CAF) uses the DSNALI interface module.	The default value is RRS. Valid values are RRS and CAF.
RRS	Activates RRS support. This parameter must be set to YES to activate RRS.	**YES** Default value. **NO**
TRACERSSDATA	Specifies whether to trace RRS data.	**YES** Default value. **NO**
TRACERSSEVENTS	Specifies whether to trace RRS events.	**YES** Default value. **NO**
TRACERSSAF	Creates an entry in the server trace for each call to `DSNRLI` for RRSAF requests.	**YES** Default value. **NO**

Configuring Db2 for RRSAF

If you are not using a zIIP specialty engine, configure RRSAF for access to local Db2.

About this task

This task only applies to Db2 for z/OS.

Procedure

1. Run the HLVBINDC member of the *hlq*.SHLVCNTL data set to bind the following server product plans:
   - HLVC1010 is bound using cursor stability.
   - HLVR1010 is bound using repeatable read.
   - HLVS1010 is bound using read stability.
   - HLVU1010 is bound using uncommitted read.

   Use HLVC1010 as the default server plan, and use the other product plans for operations that require those levels of isolation. To change the default plans, edit the BIND member and replace the default plan names with new names. You must run the BIND job of the *hlq*.SHLVCNTL data set against each Db2 subsystem that you want to access. Use the instructions in the JCL to customize the job.
2. Install the DSN3@SGN exit in the Db2 main task (normally placed in the SDSNEXIT data set). Installing this exit enables the server to use Db2 authority that was granted through secondary Db2 authorization IDs.

Verifying access to data in IBM Db2

To verify access to Db2 data, create a connection to the Accelerator Loader server and run a query. For information, see “Connecting to the Accelerator Loader server” on page 199.

Procedure

Complete the following steps to create a Db2 query:

a) In the **Server** view, select **SQL** > **Data** > **DB2** > **Subsystems**.

b) Select ***Subsystem_Name*** > **Tables by Owner**

Where *Subsystem_Name* is replaced by a subsystem name for your environment.

c) Expand the **Tables by Owner** list, and select the table that you want to query.

Note: You must have authorization to access the table that you select.

d) Right-click the name of the table that you want to query, and select **Generate Query**.

The Accelerator Loader studio creates a temporary JDBC data source and creates a connection to Accelerator Loader server.

e) Click **Execute** to run the query.

Verify that data displays in the SQL Results View.

Configuring access to Db2 unload data sets

To be able to access a Db2 unload data set directly with an SQL query, you must configure a virtual table rule to define the Db2 unload data set name to the Db2 virtual table.

About this task

To configure access to a Db2 unload data set, you must add the Db2 unload data set name to the Db2 virtual table in a Server Event Facility (SEF) virtual table rule. With this access, you can issue SQL queries directly against Db2 unload data sets using existing Db2 virtual tables.

Switching a Db2 virtual table to read an unload data set is done by assigning a data set name to the table in a virtual table rule. The VTB variable **vtb.optbdsna** is used to redirect access from Db2 to reading the sequential file named in the variable. The named sequential file must contain unload data created by the

Db2 UNLOAD utility. A model VTB rule, HLVMDLDU, is provided to demonstrate redirecting a Db2 virtual table to a Db2 unload data set.

As an example, consider a virtual table named DSNA_EMPLOYEES that maps the EMPLOYEES table in Db2 subsystem DSNA. By activating the model rule HLVMDLDU, you can query an unload sequential dataset named EMPLOYEE.UNLOAD.SEQ by issuing the following query:

```
SELECT * FROM MDLDU_DSNA_EMPLOYEES__EMPLOYEE_UNLOAD_SEQ
```

The HLVMDLDU rule performs the following steps:

1. Extracts the table name DSNA_EMPLOYEES and sets the VTB variable **vtb.optbmtna**.
2. Extracts the data set name EMPLOYEE_UNLOAD_SEQ, converts the underscores to periods, and sets the VTB variable **vtb.optbdsna**.

The following restrictions and considerations apply when using this feature:

- SQL access to Db2 unload files is limited to SQL queries only.
- The columns in Db2 virtual table definition must exactly match the table unloaded in Db2.

Use the following procedure to configure the sample rule HLVMDLDU.

Note: Sample rule HLVMDLDU is intended to be used as a model and may require customization. When customizing this rule, additional logic may need to be added if different unload data sets require different VTB variable settings for CCSID or internal/external format.

Procedure

1. Customize the server configuration member (hlvidIN00) to enable virtual table rule events by configuring the SEFVTBEVENTS parameter in the member, as follows:

   ```
   "MODIFY PARM NAME(SEFVTBEVENTS) VALUE(YES)"
   ```

2. Access the VTB rules, as follows:
   a) In the Accelerator Loader - Primary Option Menu, specify option E, **Rules Mgmt**.
   b) Specify option 2, **SEF Rule Management**.
   c) Enter VTB for **Display Only the Ruleset Named**.
3. Customize the HLVMDLDU rule, as follows:
   a) Specify S next to HLVMDLDU to edit the rule.
   b) Find the **vtb.optbdsna** variable and specify the name of the Db2 unload data set to process.
   c) Update additional rule options as needed. The following table describes the VTB rule options that support Db2 unload data set access.

VTB variable	Description
vtb.optbdlcv	If the data was unloaded with a DELIMITED statement, set **vtb.optbdlcv** to 1 to declare the data is in delimited format. It may also be necessary to declare the delimiters if the default column delimiter (,) and character string delimiter (“) were overridden when the data was unloaded.
vtb.optbdsna	Specifies the name of the sequential unload data set created by the Db2 UNLOAD utility to access.
vtb.optbduif	By default, the Db2 unload utility writes data in external format. If FORMAT INTERNAL is used when unloading data, **vtb.optbduif** must be set to 1 to declare that the data was unloaded in internal format.

VTB variable	Description
vtb.optbmtna	Specifies the map name of the Db2 virtual table describing the unload file.
vtb.optbtbcc	If the table CCSID is not compatible with the CCSID defined for the SQL engine (*hlvid*IN00 SQLENGDFLTCCSID parameter), **vtb.optbtbcc** can be used to declare the CCSID of the data. This is particularly important for Unicode tables and tables containing GRAPHIC columns.

d) Save your changes and exit the editor.

4. Enable the rule by specifying E next to HLVMDLDU and pressing Enter.
5. Set the rule to Auto-enable by specifying A next to HLVMDLDU and pressing Enter.

   Setting a rule to Auto-enable activates the rule automatically when the server is re-started.

Db2 for z/OS data access methods

Db2 for z/OS data can be accessed by the Accelerator Loader server using different data access methods.

The following Db2 for z/OS data access methods are available:

- Traditional Db2 access. This method loads data into an accelerator using traditional Db2 APIs. This access method allows for reading and writing of the data and provides transactional integrity.
- Db2 Direct. This method loads data into an accelerator by reading the underlying Db2 VSAM linear data sets directly, without issuing an SQL statement against Db2 for z/OS. This access method allows read-only access to the data and provides high performance, bulk data access. As a result of using Db2 Direct, loading data into an accelerator might be faster compared to executing an SQL statement in Db2 for z/OS.

The Db2 data access method is specified when creating virtual tables in the Accelerator Loader studio for access to Db2 data.

The following topics provide more information about the Db2 for z/OS data access methods.

Using traditional Db2 access

Traditional Db2 access methods access Db2 data through APIs such as Distributed Relational Database Architecture (DRDA), Call Attachment Facility (CAF), and Resource Recovery Services attachment facility (RRSAF). Using traditional Db2 access allows for reading and writing of the data and provides transactional integrity.

Traditional Db2 access methods provide MapReduce and Virtual Parallel Data support. MapReduce is an algorithm that enables the Accelerator Loader server to streamline how it accesses Db2 data, thereby reducing the processing time required to virtualize Db2 data. Statistics about the Db2 database are collected and stored within a metadata repository from which the SQL engine optimizes the MapReduce process.

In order to exploit MapReduce for Db2 when using traditional Db2 access, the Accelerator Loader server must collect information about the Db2 database. This information is collected using the **DRDARange** command and is stored within the Accelerator Loader server metadata repository.

Traditional Db2 access is used automatically when Db2 Direct access is not available.

Using Db2 Direct

Db2 Direct is an Accelerator Loader server access method that loads data into an accelerator by reading the data in the Db2 VSAM linear data sets directly instead of accessing the data through traditional Db2 APIs. Using Db2 Direct, large data pulls can be performed in service request block (SRB) mode, and MapReduce and Virtual Parallel Data features can by exploited without any prerequisite processing, such as the collection of statistics using the **DRDARange** command. Db2 Direct access provides a significant increase in performance and reduced elapsed time in processing analytical type queries.

Db2 Direct allows read-only access to the data. Db2 Direct works only if all schema changes have been materialized to all rows in the physical page set of the table space. This access method can be compared to an uncommitted read in Db2 for z/OS, because any updates that have not been flushed from the Db2 buffer pools to the underlying data set are missed. When using Db2 Direct, there is no locking involved when accessing the data, so updates may not be captured and deleted records may have been captured. Results from Db2 Direct queries may be out of sync with the current state of a Db2 table due to recent table updates not being flushed to the linear data sets.

Security is managed using Db2 table authorization.

Restrictions and considerations:

Consider the following points when using Db2 Direct:

- The Db2 subsystem hosting a Db2 table must be active when Db2 Direct-enabled tables are loaded or refreshed in the data server. The map build process requires Db2 system access to identify data set information in the Db2 system catalog.
- The Accelerator Loader server requires read access to the Db2 VSAM linear data sets. The linear data sets containing the Db2 rows must be available to the data server processing SQL requests for Db2 data. If the data sets are unavailable or archived, Db2 Direct will be disabled during map load or refresh for the virtual table.
- Virtual tables enabled for Db2 Direct must include all the columns defined in the base Db2 table. This is necessary because the columns describe the internal format of the Db2 data.
- If Db2 is not available or some other error occurs during map build or map refresh processing, Db2 Direct is automatically disabled for the table and a message is written to the trace log:

  ```
  DB2 direct processing disabled for map map-name
  ```

- If Db2 Direct processing is disabled, processing will continue with traditional Db2 APIs when possible.
- To determine if Db2 Direct is active, the following messages appear in the server trace:
  - At startup and map refresh, the following message is issued:

    ```
    DB2 direct processing enabled for map map-name
    ```

  - When Db2 Direct is used in a query, the following message is issued:

    ```
    Processing table map-name using DB2 direct
    ```

- If Db2 Direct table security is enabled, the Db2 subsystem must be available to check security at SQL query time.
- If Db2 Direct table security is disabled, unauthorized users who would normally receive a -551 SQLCODE attempting to access data through traditional APIs may gain access to Db2 data.
- Db2 Direct does not support tables with edit procedures or SQL statements containing joins, LOB columns, or key columns.
- If Db2 Direct security is disabled, the CCSIDs of table columns will be assumed based on the ENCODING_SCHEME (EBCDIC, Unicode, ASCII) of the table.

Configuring Db2 Direct
Configure Db2 Direct options or disable Db2 Direct. Db2 Direct enables the Accelerator Loader feature to load data into an accelerator reading Db2 VSAM linear data sets directly, without issuing an SQL statement against Db2 for z/OS.

Before you begin

Review the restrictions and considerations when using Db2 Direct. See “Using Db2 Direct” on page 135.

About this task

By default, Db2 Direct is enabled in the Accelerator Loader server. Use the information in this topic to perform the following optional tasks:

- Disable the Db2 Direct feature for a virtual table by using a Virtual Table (VTB) rule.
- Define the VCATNAME for the Db2 system catalog tables (in the DSNDB06 database) by modifying the DEFINE DATABASE statement. The VCATNAME for system catalog tables is a system bootstrap value and is not available using the data discovery query. This task is required only in the following situations:
  - Access to system catalog tables using Db2 Direct is intended.
  - The VCATNAME for database DSNDB06 is different from the subsystem name.
- Configure Db2 Direct options, such as the number of pages to allocate for Db2 segment information, whether to enforce Db2 SQL table security authorizations, and disabling Db2 Direct for the server, by modifying server parameters.
- Specify what Db2 Direct information to display in the server trace by modifying server parameters.

Procedure

1. To disable the Db2 Direct feature for a virtual table, in a VTB rule, set the variable **OPTBDIDD** to 1. For additional information, see the generic sample rule HLVMDTBL.
2. To define the VCATNAME for the Db2 system catalog tables, perform the following steps:
   a) In data set *hlq*.SHLVEXEC, locate member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
   b) In the DEFINE DATABASE statement, use the SYSTEMVCAT parameter to define the VCATNAME for the system catalog tables, as shown in the following example:

```
"DEFINE DATABASE TYPE(MEMBER)"                    ,
                "NAME(DBA9)"                     ,
                "LOCATION(RS28DDS9)"             ,
                "DDFSTATUS(ENABLE)"              ,
                "PORT(3725)"                     ,
                "IPADDR(127.0.0.1)"               ,
                "CCSID(37)"                      ,
                "APPLNAME(DBA9DB2)"              ,
                "SYSTEMVCAT(DDS9)"               ,
                "IDLETIME(110)"
```

3. To modify server parameters, perform the following steps:
   a) In data set *hlq*.SHLVEXEC, locate member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
   b) Use the **MODIFY PARM** command to change a parameter value. For example, the following command disables Db2 Direct for the Accelerator Loader server:

```
"MODIFY PARM NAME(DISABLEDB2DIRECT)    VALUE(YES)"
```

   The parameters in the following tables are available for use with Db2 Direct.

Table 13. SQL parameters in group PRODSQL

Parameter name	Parameter description	Default value
DB2DIRECTSEGTBLPAGES	DB2-DIRECT SEGMENT TABLE PAGES Defines the number of 4K pages to be allocated for Db2 segment information. The default value is 8, which should be enough for most Db2 Direct queries. This parameter should only be changed if a query fails because the Db2 Direct segment table was exhausted.	8
DISABLEDB2DIRECT	DISABLE DB2-DIRECT PROCESSING Disables Db2 Direct processing in the server.	NO
DISABLEDB2DIRSEC	DISABLE DB2-DIRECT TABLE SECURITY Disables SQL table security checking when Db2 Direct is selected to process Db2 data. Disabling table security checking will allow access to Db2 data when the target Db2 subsystem is not active. **Important:** Unauthorized users who would normally receive a -551 SQLCODE attempting to access data through traditional APIs like DRDA may gain access to Db2 data.	NO

Table 14. SQL parameters in group PRODTRACE

Parameter name	Parameter description	Default value
TRACEDB2DIRSTATS	TRACE DB2-DIRECT STATISTICS Enables tracing of a summary report to the system trace after each Db2 Direct query. Included in the trace are statistics about read and point operation in the Db2 linear data set(s) processed.	NO
TRACEDB2DIROPEN	TRACE DB2-DIRECT OPEN CONTROL BLOCKS Enables tracing of control blocks created at the open of each linear data set for Db2 Direct processing.	NO

Table 14. SQL parameters in group PRODTRACE (continued)		
Parameter name	**Parameter description**	**Default value**
TRACEDB2DIRSEGP	TRACE DB2-DIRECT SEGMENT PAGES Enables tracing if Db2 pages containing segmented map information.	NO
TRACEDB2DIRDICTP	TRACE DB2-DIRECT DICTIONARY PAGES Enables tracing of the compression dictionary used to compress and expand rows stored in Db2 linear data sets.	NO
TRACEDB2DIRDATAP	TRACE DB2-DIRECT DATA PAGES Enables tracing of data pages in a linear data set containing Db2 rows.	NO
TRACEDB2DIRROWS	TRACE DB2-DIRECT ROWS Enables tracing of rows extracted from data pages in a Db2 linear data set. If rows are compressed, an additional trace is created of the uncompressed row data.	NO

Configuring access to distributed databases

You can configure access to data on Big SQL, dashDB, Db2 LUW (Linux, UNIX, and Windows), Microsoft SQL Server, Oracle, and QMF DRDA.

About this task

Configure access to distributed databases by modifying the configuration member, configuring Server Event Facility (SEF) rules, and optionally setting up alternate authentication information.

Procedure

Configure access to a distributed database, as follows:

- To configure access to data in a Microsoft SQL Server database, see “Configuring access to data in Microsoft SQL Server” on page 140.
- To configure access to data in an Oracle database using DRDA, see “Configuring access to data in Oracle” on page 142.
- To configure access to data in Big SQL, dashDB, Db2 LUW, and QMF DRDA Server databases, perform the following steps:
  a. Modify the server configuration member. See “Modifying the server configuration member” on page 144.
  b. Configure the Server Event Facility rules and set up authentication for the appropriate database.

Configuring access to data in Microsoft SQL Server

Set up access to data in Microsoft SQL Server databases by configuring the Accelerator Loader server.

Before you begin

The Accelerator Loader server must already be installed.

If you are connecting to a 2016 Microsoft SQL Server database, then you must install and configure the Host Integration Server for HIS DRDA Service. For additional information, refer to the documentation on the Microsoft website.

The SYSIBM Views from Microsoft must be installed.

About this task

To access a Microsoft SQL Server database, you must configure the Accelerator Loader server parameter file with information about the SQL Server databases to which you want to connect. Customizing this member is done using Tools Customizer. No configuration changes are necessary to SQL Server.

Use these instructions to configure the Accelerator Loader server using Tools Customizer.

Procedure

1. Invoke Tools Customizer.
2. Access the Product Parameters panel.
3. Under the task 'Create the server and the server components', select the steps **Create the server** and **Create the server parameters**, and provide values for the following parameters:
   - MSSQL DRDA application server provider
   - MSSQL application server domain name
   - MSSQL listener alias name
   - MSSQL listener port number
4. Generate the customization jobs. The jobs are based on the templates HLOHLVS and HLOIN00. For more information, see "Generating customization jobs" on page 105.
5. Submit the customization jobs. For more information, see "Submitting customization jobs" on page 106.

Example

The values that are specified in Tools Customizer are used to generate the following section in the Accelerator Loader server parameter member *hlvid*IN00:

```
/*-------------------------------------------------------------*/
/* The next section defines MSSQL data sources via DRDA access.*/
/* The TYPE should be 'MSSQL'                                  */
/* The NAME is the MSSQL server                                */
/* DOMAIN is the server domain. IPADDR may be used, but not both*/
/* LOCATION is the Listener Server alias name                  */
/* PORT is the Listener Server Port                            */
/*-------------------------------------------------------------*/
   "DEFINE DATABASE TYPE(MSSQL)",
     "NAME(name)",
     "DOMAIN(domain)",
     "LOCATION(location)",
     "DDFSTATUS(ENABLE)",
     "PORT(446)",
     "SQLAM(8)",
     "CCSID(37)"
```

For more information on these parameters, see "Modifying the server configuration member" on page 144.

What to do next

To configure authentication for access to Microsoft SQL Server, "Configuring rules and authentication for Microsoft SQL Server" on page 141.

Configuring rules and authentication for Microsoft SQL Server
Configure Server Event Facility (SEF) rules and set up authentication to provide access to Microsoft SQL Server via the 2016 Host Integration Server for HIS DRDA Service.

About this task

To complete configuration for access to Microsoft SQL Server, you must activate SEF rules and optionally set up authentication.

It is common for data centers to assign different user IDs for access to z/OS and for access to SQL Server. By default, the Accelerator Loader server will attempt to log on to SQL Server with the same user ID that was presented for logon to z/OS. A facility is provided in the Accelerator Loader server to optionally change the logon credentials for a user when accessing SQL Server.

This task uses the following tools:

HLVSMSSC
An SQL rule that allows Meta discovery on SQL Server databases.

HLVDRATH
A utility that sets encrypted passwords in GLOBALU variables. You can also use this utility to list existing credential information.

HLVEMSSG
An ATH rule that switches credentials when connecting to a SQL Server database using DRDA. This rule uses AES encrypted passwords stored as GLOBALU system variables.

Procedure

1. Auto-enable the SQL rule SHLVXSQL(HLVSMSSC) to allow Accelerator Loader studio Meta discovery on SQL Server databases.
   a) On the main menu, select **Server administration**.
   b) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.
   c) Select option **2** for SEF Rule Management.
   d) Enter * to display all rules, or SQL to display only SQL rules.
   e) Enable the rule by specifying E and pressing Enter.
   f) Set the rule to Auto-Enable by specifying A and pressing Enter.
      Setting the rule to Auto-enable activates the rule automatically when the server is restarted.
2. Optional: To define alternate authentication information, use the sample job HLVDRATH to add a global default user definition or authentication information for specific mainframe users as follows:
   a) Locate the HLVDRATH member in the *hlq*.SHLVCNTL data set.
   b) Modify the JCL according to the instructions provided in the HLVDRATH member.
      When adding the SYSIN statements that define the alternate credentials for logging in to your Microsoft SQL Server database, as instructed in the JCL, make sure to specify the correct DBTYPE. For SQL Server databases, specify DBTYPE=MSSQL.
   c) Submit the job.
   d) Optional: To verify the information stored in the GLOBALU variables and list existing authentication, use the REPORT=SUMMARY statement in the HLVDRATH member and submit the job.
3. Optional: If using alternate authentication information, auto-enable the SEF ATH rule SHLVXATH(HLVEMSSG) to provide the logon credentials to each SQL Server instance. Global variables are used to define alternate authentication credential mapping for the SEF ATH rule.

a) On the main menu, select **Server administration**.

b) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.

c) Select option **2** for SEF Rule Management.

d) Enter * to display all rules, or ATH to display only authentication rules.

e) Enable the rule by specifying E and pressing Enter.

f) Set the rule to Auto-Enable by specifying A and pressing Enter.

Setting the rule to Auto-enable activates the rule automatically when the server is restarted.

Configuring access to data in Oracle

Set up access to data in Oracle databases by configuring the Accelerator Loader server.

Before you begin

The Accelerator Loader server must already be installed.

Install and configure the Oracle Database Provider for DRDA. For additional information, refer to the documentation on the Oracle website.

About this task

To access data in an Oracle database, you must configure the Accelerator Loader server parameter file with information about the Oracle databases to which you want to connect. Customizing this member is done using Tools Customizer. No configuration changes are necessary to Oracle.

Procedure

1. Invoke Tools Customizer.
2. Access the Product Parameters panel.
3. Under the task 'Create the server and the server components', select the steps **Create the server** and **Create the server parameters**, and provide values for the following parameters:
   - Oracle DRDA application server provider
   - Oracle application server domain name
   - Oracle listener alias name
   - Oracle listener port number
4. Generate the customization jobs. The jobs are based on the templates HLOHLVS and HLOIN00. For more information, see "Generating customization jobs" on page 105.
5. Submit the customization jobs. For more information, see "Submitting customization jobs" on page 106.

Example

The values that are specified in Tools Customizer are used to generate the following section in the Accelerator Loader server parameter member *hlvid*IN00:

```
/*-----------------------------------------------------------------*/
/* The next section defines Oracle data sources via DRDA access.  */
/* The TYPE should be 'ORACLE'                                     */
/* The NAME is the Oracle server                                   */
/* DOMAIN is the server domain. IPADDR may be used, but not both  */
/* LOCATION is the Listener Server alias name                      */
/* PORT is the Listener Server Port                                */
/*-----------------------------------------------------------------*/
   "DEFINE DATABASE TYPE(ORACLE)",
     "NAME(name)",
     "DOMAIN(domain)",
     "LOCATION(location)",
     "DDFSTATUS(ENABLE)",
     "PORT(1521)",
```

```
      "CCSID(37)"
      "IDLETIME(0)"
```

For more information on these parameters, see “Modifying the server configuration member” on page 144.

What to do next

To configure authentication for access to Oracle databases, see “Configuring rules and authentication for Oracle DRDA” on page 143.

Configuring rules and authentication for Oracle DRDA

Configure Server Event Facility (SEF) rules and set up authentication to provide access to Oracle databases via the Oracle Database Provider for DRDA.

About this task

To complete the configuration for access to Oracle databases via the Oracle Database Provider for DRDA, you must activate SEF rules and optionally set up authentication.

It is common for data centers to assign different user IDs for access to z/OS and for access to Oracle AS. By default, the Accelerator Loader server will attempt to log on to Oracle with the same user ID that was presented for logon to z/OS. A facility is provided in the server to optionally change the logon credentials for a user when accessing Oracle.

This task uses the following tools:

HLVSORAC
: An SQL rule that allows Meta discovery on Oracle databases.

HLVDRATH
: A utility that sets encrypted passwords in GLOBALU variables. You can also use this utility to list existing credential information.

HLVEORAG
: An ATH rule that switches credentials when connecting to an Oracle database using DRDA. This rule uses AES encrypted passwords stored as GLOBALU system variables.

Procedure

1. Auto-enable the SQL rule SHLVXSQL(HLVSORAC) to allow Accelerator Loader studio Meta discovery on Oracle databases.
   a) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.
   b) Select option **2** for SEF Rule Management.
   c) Enter * to display all rules, or SQL to display only SQL rules.
   d) Enable the rule by specifying E and pressing Enter.
   e) Set the rule to Auto-Enable by specifying A and pressing Enter.
      Setting the rule to Auto-enable activates the rule automatically when the server is restarted.
2. Optional: To define alternate authentication information, use the sample job HLVDRATH to add a global default user definition or authentication information for specific mainframe users as follows:
   a) Locate the HLVDRATH member in the *hlq*.SHLVCNTL data set.
   b) Modify the JCL according to the instructions provided in the HLVDRATH member.
      When adding the SYSIN statements that define the alternate credentials for logging in to your Oracle database, as instructed in the JCL, make sure to specify the correct DBTYPE. For Oracle, specify DBTYPE=ORACLE.
   c) Submit the job.
   d) Optional: To verify the information stored in the GLOBALU variables and list existing authentication, use the REPORT=SUMMARY statement in the HLVDRATH member and submit the job.

3. Optional: If using alternate authentication information, auto-enable the SEF ATH rule SHLVXATH(HLVEORAG) to provide the logon credentials to each Oracle instance. Global variables are used to define alternate authentication credential mapping for the SEF ATH rule.
   a) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.
   b) Select option **2** for SEF Rule Management.
   c) Enter * to display all rules, or ATH to display only authentication rules.
   d) Enable the rule by specifying E and pressing Enter.
   e) Set the rule to Auto-Enable by specifying A and pressing Enter.
      Setting the rule to Auto-enable activates the rule automatically when the server is restarted.

Modifying the server configuration member

Configure the Accelerator Loader server to access data sources using Distributed Relational Database Architecture (DRDA).

About this task

The Accelerator Loader server is enabled for DRDA access. To access data sources using DRDA, modify the Accelerator Loader server parameter member *hlvid*IN00 that was configured using Tools Customizer, and define those data sources to the configuration member.

The server configuration member *hlvid*IN00 is in data set *hlq*.SHLVEXEC, where *hlvid* represents the name of the Accelerator Loader server started task that was customized using Tools Customizer.

Procedure

1. Verify that the Unicode translation of the Coded Character Set Identifier (CCSID) used in the `DEFINE DATABASE` statement and the CCSID used by the target RDBMS are defined for your z/OS environment.
   a) Identify the CCSID of the RDBMS.

      For example, Oracle may use *ccsid1*. In your `DEFINE DATABASE` statement in the configuration member for the RDBMS you have *ccsid2*. For this example, where Oracle is using *ccsid1*, you need to verify that you have *ccsid1-ccsid2* and *ccsid2-ccsid1* defined in your Unicode translation table on z/OS using the command **`D UNI,ALL`**.
   b) If the entry is not present, add the entry to your Unicode translation table and refresh.

      Refer to the IBM z/OS documentation on how to add the entry.

      Note:

      As an alternative, you can append the Unicode table within the Accelerator Loader server by using the following statement examples in the server configuration member:

```
"DEFINE CONV SOURCE(ccsid1) TARGET(ccsid2) TECH(RE)"
"DEFINE CONV SOURCE(ccsid2) TARGET(ccsid1) TECH(RE)"
```

2. In the *hlvid*IN00 member, locate the section that contains the comment `Enable DRDA access to DB2 database subsystems`.
3. Define DRDA RDBMSs by entering a definition statement. Provide your local environment values for all the parameters.

```
"DEFINE DATABASE TYPE(type_selection)"
                 "NAME(name)"                  ,
                 "LOCATION(location)"          ,
                 "DDFSTATUS(ENABLE)"        ,
                 "DOMAIN(your.domain.name)"    ,
                 "PORT(port)"                  ,
                 "IPADDR(1.1.1.1)"             ,
                 "CCSID(37)"                   ,
                 "APPLNAME(DSN1LU)"            ,
                 "IDLETIME(110)"               ,
```

The previous example shows only a subset of the available parameters. The following table lists all available parameters for defining DDF endpoints:

Parameter	Description	Valid values
TYPE	For distributed databases: **BIGSQL** DDF endpoint is a Big SQL engine. **DASHDB** DDF endpoint is a dashDB database. **LUW** DDF endpoint is a Db2 instance or group member for Linux, UNIX, or Windows. **MSSQL** DDF endpoint is a Db2 instance or group member for Microsoft SQL Server. **ORACLE** DDF endpoint is an Oracle instance. The parameter informs DRDA AR and supportive tooling that the remote server is an Oracle Database Provider which supports DRDA AS. The Oracle DRDA AS must be in z/OS simulation mode. **QMFDRDA** DDF endpoint is a QMF DRDA AS Object Server instance.	For distributed databases: BIGSQL DASHDB LUW MSSQL ORACLE QMFDRDA
NAME	The database name as known to the server. (*Required*)	A valid value consists of 1 - 4 characters. Clients use this ID when they request access to a specific Db2 subsystem.
LOCATION	For Db2: The Db2 location name. For dashDB: This is the database name of the dashDB database or alias name for the database. For LUW: The LUW database. For Oracle: The Oracle SSID as defined to the Oracle Database Provider (Gateway). (*Required*)	A valid value is a string 1 - 16 characters.
DDFSTATUS	The DDF activation status can be altered online by using the ISPF 4-Db2 dialog panels. (*Required*)	**ENABLE** Make this DDF definition active. **DISABLE** DDF endpoint is not used.

Parameter	Description	Valid values
DOMAIN	The part of a network address that identifies it as belonging to a particular domain. Either DOMAIN or IPADDR is required, but not both.	No default value.
PORT	The TCP/IP port at which the server is listening. (*Required*)	A valid 1-5 numeric string.
IPADDR	Specify the dot-notation IPV4 address of the DDF endpoint. Either DOMAIN or IPADDR is required, but not both.	If this parameter is not specified, the value 127.0.0.1 (local host) is the default. For group director definitions, use the DVIPA IP address of the group director.
CCSID	Specify the EBCDIC single-byte application CCSID (Coded Character Set Identifier) configured for this RDBMS subsystem on the RDBMS installation panel DSNTIPF, option 7. (*Optional*)	Refer to the RDBMS vendor documentation for a list of valid CCSIDs.
APPLNAME	Application name. The APPLNAME used by the target endpoint for passticket generations. (*Optional*)	A valid value is 1 - 8 characters. If APPLNAME is not specified in the definition statement, no default value is provided and passticket access is disabled. **Note:** APPLNAME is not required when connecting from the JDBC driver.
IDLETIME	If Db2 ZPARM parameter IDTHTOIN is set to a non-zero value set IDLETIME to a value slightly lower (10 secs.) than IDTHTOIN. This will also allow product DRDA threads to become inactive. (*Db2 for z/OS only*)	0-9999 seconds.
AUTHTYPE	Authentication type. This can be either DES for Diffie Hellman Encryption Standard or AES for Advanced Encryption Standard. When AUTHTYPE is not supplied, the default is DES. To force AES, the option must be added to the DEFINE DATABASE statement. Each server can be different in what is supported as to AES/DES.	**DES** Diffie Hellman Encryption Standard (default value) **AES** Advanced Encryption Standard.

Parameter	Description	Valid values
SQLAM	SQL Application Manager (SQLAM) level. Use the supported DRDA SQLAM level for your data source. For more information, refer to the vendor documentation for your data source.	Currently supported DRDA SQLAM level for your data source. The following default values are used by the Accelerator Loader server: **8** This is the default value for all DRDA sources except SQL Server. For SQL Server (MSSQL), this is the default value when using Microsoft Host Integration Server 2016 base support or older for DRDA Service. **9** This is the default value for SQL Server when using Microsoft Host Integration Server 2016 with Cumulative Update 1 or greater applied for DRDA Service.

Configuring rules and authentication for Big SQL

Configure Server Event Facility (SEF) rules and set up authentication to provide access to Big SQL databases.

About this task

To complete configuration for access to Big SQL databases, you must activate SEF rules and optionally set up authentication.

It is common for data centers to assign different user IDs for access to z/OS and for access to Big SQL. By default, the server will attempt to log on to Big SQL with the same user ID that was presented for logon to z/OS. A facility is provided in the server to optionally change the logon credentials for a user when accessing Big SQL.

This task uses the following tools:

HLVSBIGC
An SQL rule that allows Meta discovery on Big SQL databases.

HLVDRATH
A utility that sets encrypted passwords in GLOBALU variables. You can also use this utility to list existing credential information.

HLVEBIGG
An ATH rule that switches credentials when connecting to a Big SQL database using DRDA. This rule uses AES encrypted passwords stored as GLOBALU system variables.

Procedure

1. Auto-enable the SQL rule SHLVXSQL(HLVSBIGC) to allow Accelerator Loader studio Meta discovery on Big SQL databases.
   a) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.
   b) Select option **2** for SEF Rule Management.
   c) Enter * to display all rules, or SQL to display only SQL rules.

d) Enable the rule by specifying E and pressing Enter.

e) Set the rule to Auto-Enable by specifying A and pressing Enter.

Setting the rule to Auto-enable activates the rule automatically when the server is restarted.

2. Optional: To define alternate authentication information, use the sample job HLVDRATH to add a global default user definition or authentication information for specific mainframe users as follows:

a) Locate the HLVDRATH member in the *hlq*.SHLVCNTL data set.

b) Modify the JCL according to the instructions provided in the HLVDRATH member.

When adding the SYSIN statements that define the alternate credentials for logging in to your Big SQL database, as instructed in the JCL, make sure to specify the correct DBTYPE. For Big SQL, specify `DBTYPE=BIGSQL`.

c) Submit the job.

d) Optional: To verify the information stored in the GLOBALU variables and list existing authentication, use the REPORT=SUMMARY statement in the HLVDRATH member and submit the job.

3. Optional: If using alternate authentication information, auto-enable the SEF ATH rule SHLVXATH(HLVEBIGG) to provide the logon credentials to each Big SQL instance. Global variables are used to define alternate authentication credential mapping for the SEF ATH rule.

a) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.

b) Select option **2** for SEF Rule Management.

c) Enter * to display all rules, or ATH to display only authentication rules.

d) Enable the rule by specifying E and pressing Enter.

e) Set the rule to Auto-Enable by specifying A and pressing Enter.

Setting the rule to Auto-enable activates the rule automatically when the server is restarted.

Configuring rules and authentication for dashDB

Configure Server Event Facility (SEF) rules and set up authentication to provide access to IBM dashDB databases.

About this task

To complete configuration for access to dashDB databases, you must activate SEF rules and optionally set up authentication.

It is common for data centers to assign different user IDs for access to z/OS and for access to dashDB. By default, the server will attempt to log on to dashDB with the same user ID that was presented for logon to z/OS. A facility is provided in the server to optionally change the logon credentials for a user when accessing dashDB.

This task uses the following tools:

HLVSDDBC
An SQL rule that allows Meta discovery on dashDB databases.

HLVDRATH
A utility that sets encrypted passwords in GLOBALU variables. You can also use this utility to list existing credential information.

HLVEDDBG
An ATH rule that switches credentials when connecting to a dashDB database using DRDA. This rule uses AES encrypted passwords stored as GLOBALU system variables.

Procedure

1. Auto-enable the SQL rule SHLVXSQL(HLVSDDBC) to allow Accelerator Loader studio Meta discovery on dashDB databases.

a) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.

b) Select option **2** for SEF Rule Management.

c) Enter * to display all rules, or SQL to display only SQL rules.

d) Enable the rule by specifying E and pressing Enter.

e) Set the rule to Auto-Enable by specifying A and pressing Enter.

Setting the rule to Auto-enable activates the rule automatically when the server is restarted.

2. Optional: To define alternate authentication information, use the sample job HLVDRATH to add a global default user definition or authentication information for specific mainframe users as follows:

a) Locate the HLVDRATH member in the *hlq*.SHLVCNTL data set.

b) Modify the JCL according to the instructions provided in the HLVDRATH member.

When adding the SYSIN statements that define the alternate credentials for logging in to your dashDB database, as instructed in the JCL, make sure to specify the correct DBTYPE. For dashDB, specify DBTYPE=DASHDB.

c) Submit the job.

d) Optional: To verify the information stored in the GLOBALU variables and list existing authentication, use the REPORT=SUMMARY statement in the HLVDRATH member and submit the job.

3. Optional: If using alternate authentication information, auto-enable the SEF ATH rule SHLVXATH(HLVEDDBG) to provide the logon credentials to each dashDB instance. Global variables are used to define alternate authentication credential mapping for the SEF ATH rule.

a) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.

b) Select option **2** for SEF Rule Management.

c) Enter * to display all rules, or ATH to display only authentication rules.

d) Enable the rule by specifying E and pressing Enter.

e) Set the rule to Auto-Enable by specifying A and pressing Enter.

Setting the rule to Auto-enable activates the rule automatically when the server is restarted.

Configuring rules and authentication for LUW databases

Configure Server Event Facility (SEF) rules and set up authentication to provide access to LUW (Linux, UNIX, and Windows) databases, including databases connected via IBM Federated Server.

About this task

To complete configuration for access to LUW databases, you must activate SEF rules and optionally set up authentication.

It is common for data centers to assign different user IDs for access to z/OS and for access to LUW databases. By default, the server will attempt to log on to the LUW database with the same user ID that was presented for logon to z/OS. A facility is provided in the server to optionally change the logon credentials for a user when accessing an LUW database.

This task uses the following tools:

HLVSLUWC
An SQL rule that allows Meta discovery on LUW databases.

HLVDRATH
A utility that sets encrypted passwords in GLOBALU variables. You can also use this utility to list existing credential information.

HLVELUWG
An ATH rule that switches credentials when connecting to an LUW database using DRDA. This rule uses AES encrypted passwords stored as GLOBALU system variables.

Procedure

1. Auto-enable the SQL rule SHLVXSQL(HLVSLUWC) to allow Accelerator Loader studio Meta discovery on LUW databases.
   a) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.
   b) Select option **2** for SEF Rule Management.
   c) Enter * to display all rules, or SQL to display only SQL rules.
   d) Enable the rule by specifying E and pressing Enter.
   e) Set the rule to Auto-Enable by specifying A and pressing Enter.
      Setting the rule to Auto-enable activates the rule automatically when the server is restarted.
2. Optional: To define alternate authentication information, use the sample job HLVDRATH to add a global default user definition or authentication information for specific mainframe users as follows:
   a) Locate the HLVDRATH member in the *hlq*.SHLVCNTL data set.
   b) Modify the JCL according to the instructions provided in the HLVDRATH member.
      When adding the SYSIN statements that define the alternate credentials for logging in to your LUW database, as instructed in the JCL, make sure to specify the correct DBTYPE. For LUW databases, specify `DBTYPE=LUW`.
   c) Submit the job.
   d) Optional: To verify the information stored in the GLOBALU variables and list existing authentication, use the REPORT=SUMMARY statement in the HLVDRATH member and submit the job.
3. Optional: If using alternate authentication information, auto-enable the SEF ATH rule SHLVXATH(HLVELUWG) to provide the logon credentials to each LUW instance. Global variables are used to define alternate authentication credential mapping for the SEF ATH rule.
   a) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.
   b) Select option **2** for SEF Rule Management.
   c) Enter * to display all rules, or ATH to display only authentication rules.
   d) Enable the rule by specifying E and pressing Enter.
   e) Set the rule to Auto-Enable by specifying A and pressing Enter.
      Setting the rule to Auto-enable activates the rule automatically when the server is restarted.

Configuring rules and authentication for QMF DRDA Server

Configure Server Event Facility (SEF) rules and set up authentication to provide access to QMF DRDA Server databases.

About this task

To complete the configuration for access to QMF DRDA Server databases, you must activate SEF rules and optionally set up authentication.

It is common for data centers to assign different user IDs for access to z/OS and for access to QMF DRDA Server. By default, the Accelerator Loader server will attempt to log on to QMF DRDA Server with the same user ID that was presented for logon to z/OS. A facility is provided in the server to optionally change the logon credentials for a user when accessing QMF DRDA Server.

This task uses the following tools:

HLVSQMFC
An SQL rule that allows Meta discovery on Oracle databases.

HLVDRATH
A utility that sets encrypted passwords in GLOBALU variables. You can also use this utility to list existing credential information.

HLVEQMFG
An ATH rule that switches credentials when connecting to a QMF DRDA Server database using DRDA. This rule uses AES encrypted passwords stored as GLOBALU system variables.

Procedure

1. Auto-enable the SQL rule SHLVXSQL(HLVSQMFC) to allow Accelerator Loader studio Meta discovery on QMF DRDA Server databases.
   a) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.
   b) Select option **2** for SEF Rule Management.
   c) Enter * to display all rules, or SQL to display only SQL rules.
   d) Enable the rule by specifying E and pressing Enter.
   e) Set the rule to Auto-Enable by specifying A and pressing Enter.
      Setting the rule to Auto-enable activates the rule automatically when the server is restarted.
2. Optional: To define alternate authentication information, use the sample job HLVDRATH to add a global default user definition or authentication information for specific mainframe users as follows:
   a) Locate the HLVDRATH member in the *hlq*.SHLVCNTL data set.
   b) Modify the JCL according to the instructions provided in the HLVDRATH member.
      When adding the SYSIN statements that define the alternate credentials for logging in to your QMF DRDA Server database, as instructed in the JCL, make sure to specify the correct DBTYPE. For QMF DRDA Server databases, specify DBTYPE=QMFDRDA.
   c) Submit the job.
   d) Optional: To verify the information stored in the GLOBALU variables and list existing authentication, use the REPORT=SUMMARY statement in the HLVDRATH member and submit the job.
3. Optional: If using alternate authentication information, auto-enable the SEF ATH rule SHLVXATH(HLVEQMFG) to provide the logon credentials to each QMF DRDA Server database. Global variables are used to define alternate authentication credential mapping for the SEF ATH Rule.
   a) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.
   b) Select option **2** for SEF Rule Management.
   c) Enter * to display all rules, or ATH to display only authentication rules.
   d) Enable the rule by specifying E and pressing Enter.
   e) Set the rule to Auto-Enable by specifying A and pressing Enter.
      Setting the rule to Auto-enable activates the rule automatically when the server is restarted.

Controlling display and access for native Db2 subsystems

You can control whether native Db2 database subsystems appear in ISPF and the Accelerator Loader studio and if attempts to connect to native Db2 subsystems are allowed.

About this task

The server parameter **DISABLEATTACH** controls whether native Db2 database subsystems appear in the ISPF and Accelerator Loader studio applications and if attempts to connect to native Db2 subsystems are allowed.

The following table describes the settings for this parameter:

Parameter	Description	Valid values

DISABLEATTACH	Controls whether native Db2 database subsystems appear in the ISPF and Accelerator Loader studio applications and if attempts to connect to native Db2 subsystems are allowed.
	YES
	Only data sources defined as DRDA endpoints appear in the **ISPF DB2 Interface Facility (Database Control)** and the Accelerator Loader studio interface.
	An attempt to connect to a subsystem that does not have a DRDA configuration will be rejected. Trace Browse will show the following message:
	`DB SUBSYSTEM xxxx IS NOT DEFINED`
	For an attempt to connect to a DRDA data source that is disabled, Trace Browse will show the following message:
	`DB SUBSYSTEM xxxx IS NOT OPERATIONAL`
	NO
	(Default) All Db2 subsystems appear in the ISPF and Accelerator Loader studio interfaces.
		YES
		NO

The default setting for server parameter **DISABLEATTACH** is NO; however, the following statement is included in the server configuration file, which changes the setting to YES:

```
“MODIFY PARM NAME(DISABLEATTACH) VALUE(YES)”
```

If this override is omitted from the server configuration file, the setting will default to NO.

To review or update the **DISABLEATTACH** parameter setting, use the following procedure:

Procedure

1. In data set *hlq*.SHLVEXEC, locate member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
2. Review the following statement in your *hlvid*IN00 member, and update the setting if necessary:

   ```
   “MODIFY PARM NAME(DISABLEATTACH) VALUE(YES)”
   ```

Configuring access to data in IBM IMS databases

Set up access to data in IBM IMS databases by configuring the Accelerator Loader server and verifying access to the data.

Before you begin

The Accelerator Loader server must already be installed. Use these instructions to configure the Accelerator Loader server.

About this task

To access an IMS database, the Accelerator Loader server started task and parameter file must be configured with information about the IMS databases to which you want to connect. Customizing these members is done using Tools Customizer. No configuration changes are necessary to IMS.

Procedure

1. Invoke Tools Customizer for z/OS.
2. Access the Product Parameters panel.
3. Under the task 'Create the server and the server components', select the steps **Create the server** and **Create the server parameters**, and provide values for the following fields:

Step or parameter	Required?	Discovered?	Default	Your value
IMS subsystem ID Specifies the IMS subsystem ID that the server uses as a data source. The IMS subsystem must be on the LPAR for which the product is being configured.	No	No	No default	
IMS SDFSRESL library Specifies the IMS load library that the server uses to connect to the IMS systems on the LPAR that you are configuring. If this value is defined, the server uses IMS as a data source. If this value is not defined, the server does not use IMS as a data source.	No	No	No default	
IMS MODBLKS library Defines the IMS MODBLKS staging library that contains the control blocks to support online change of databases, programs, transactions, and MFS formats for the specified IMS subsystem. This data set enables the server to access IMS data directly.	If an IMS subsystem is defined, you must specify a value.	No	No default	
IMS ACBLIB library Defines the IMS ACBLIB library that contains database and program descriptors for the specified IMS subsystem. This data set enables the server to access IMS data directly.	If an IMS subsystem is defined, you must specify a value.	No	No default	
IMSDALIB library Defines the IMSDALIB library that contains the DFSMDA members that are used for dynamic allocation for the specified IMS subsystem. This data set enables the server to access IMS data directly.	If an IMS subsystem is defined, you must specify a value.	No	No default	
RECON library **RECON2 library** **RECON3 library** Define the RECON libraries that contain system information for the specified IMS subsystem. These data sets enable the server to access IMS data directly.	If an IMS subsystem is defined, you must specify a value.	No	No default	

4. Generate the customization jobs. The jobs are based on the templates HLOHLVS and HLOIN00. For more information, see "Generating customization jobs" on page 105.

5. Submit the customization jobs. For more information, see “Submitting customization jobs” on page 106.

IMS data access methods

IMS data can be accessed by the Accelerator Loader server using different data access methods.

By default Accelerator Loader server will access IMS data directly using the underlying VSAM data sets. This access method, called "IMS Direct", provides both map reduce and parallelism support for accessing native IMS files. This support bypasses the requirement of having to use native IMS API calls by reading the IMS database files directly - similar to how an unload utility works - instead of through DLI calls. This method provides a significant increase in performance and reduced elapsed time in processing analytical type queries.

When an IMS SQL query is run, the SQL engine for the server will determine if the request is best executed using IMS Direct (native file support) or if IMS APIs are required. The determination is based on database and file types supported as well as the size of the database. Virtual tables of the IMS segments are required.

The following types of IMS databases are currently supported by IMS Direct:

- Hierarchical direct access method (HDAM) - VSAM and OSAM
- Hierarchical indexed direct access method (HIDAM) - VSAM and OSAM
- Partitioned HDAM (PHDAM) - VSAM and OSAM
- Partitioned HIDAM (PHIDAM) - VSAM and OSAM
- Fast Path data entry database (DEDB)

When using IMS Direct, there is no locking involved when accessing the data, so updates may not be captured and deleted records may have been captured. Security is managed on the IMS native data set itself when IMS Direct is used. The user ID of the client connection must have the necessary security permissions for reading the IMS database data set(s).

When IMS Direct access is not available, the Accelerator Loader server will use DBCTL access using map reduce and parallelism support. Map reduce is an algorithm that enables the Accelerator Loader server to streamline how it accesses IMS data, thereby reducing the processing time required to virtualize IMS data. Statistics about the IMS database are collected and stored within a metadata repository from which the SQL engine optimizes the map reduce process.

In order to exploit the map reduce architecture for IMS using DBCTL as the access method, the Accelerator Loader server must collect information about the IMS database so that it can be used by the SQL engine optimizer. This information is stored within the Accelerator Loader server metadata repository for optimization and can be refreshed at regular intervals.

Metadata repository

The metadata repository for MapReduce stores statistics about virtual tables defined on IMS data sources that are used to enhance performance in conjunction with MapReduce. This support applies to IMS and all DRDA backend data sources, including those accessed via the IBM Federated Server (such as Terradata and Sybase), as well as data sources accessed via the Accelerator Loader server's direct DRDA support (Db2 LUW and Oracle).

This information can be collected by the following command query:

```
SELECT IMSRange('IMS DBD name')
```

The following sample batch job can be executed at regular intervals to populate the IMS metadata repository with fresh statistics. This sample job is provided in *hlq*.SHLVCNTL(HLVRANGE). Instructions for required edits to the job are provided in the member.

```
//RANGE EXEC PGM=HLVXMAPD,PARM='SSID=hlvid',MXR=30000000'
//STEPLIB  DD DISP=SHR,DSN=hlq.SHLVLOAD
//RPT      DD SYSOUT=*
```

```
//FMT      DD SYSOUT=*,DCB=LRECL=4096
//IN       DD *
 SELECT IMSRANGE('<IMS DBD NAME>');
/*
```

where:

- *hlvid* is the name of the Accelerator Loader server started task that was customized using Tools Customizer
- *hlq*.SHLVLOAD is the Accelerator Loader server load library
- *IMS DBD Name* is the four-character IMS subsystem name.

No additional configuration or customization is required to take advantage of either of these access methods.

Modifying the server configuration member for IMS Direct

To optionally configure IMS Direct, configure IMS Direct parameters in your Accelerator Loader server configuration file.

About this task

Use this procedure to configure optional IMS Direct parameters in your Accelerator Loader server configuration file.

IMS Direct supports access to multiple IMS subsystems and calls to compression exits and Guardium encryption and decryption exits, each of which requires additional configuration.

Using exits

If you use compression exits or Guardium encryption and decryption exits, you can configure the server to call these exits, providing optimization.

For compression exits, the default mode of operation is to call them in TCB mode with a serialization latch held and a PST address of 0. This can be inefficient since most of the IMS Direct processing takes place in SRB mode on a zIIP. If you know enough about your compression exit, you can optimize performance of the exit by specifying it in either the `IMSDIRCMPTCB`*n*, or `IMSDIRCMPSRB`*n* statements, which are described in the procedure below. All exits are called for INIT and TERM in TCB mode.

- Decompression calls may be made in TCB mode, without serialization by specifying the name in an `IMSDIRCMPTCB`*n* statement. This will allow parallel threads to run without serialization, improving performance.
- Decompression calls may also be made in SRB mode, without serialization, by specifying the name in an `IMSDIRCMPSRB`*n* statement. This will avoid a task switch for each compressed segment, improving performance. Note that the supplied IMS compression DFSCMPX0 exits and DFSKMPX0 will run in SRB mode.

Guardium decryption exits require a PST and PST work area. A dummy PST with a PST work area is passed to these exits when they are specified in an `IMSDIRDECXIT`*n* statement, which is described in the procedure. Guardium decryption exits can run in SRB mode, without serialization.

Procedure

1. In data set *hlq*.SHLVEXEC, locate member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
2. In the *hlvid*IN00 member, locate the comment “Enable IMS Direct Map Reduce.”
3. (Optional) To access additional IMS subsystems with IMS Direct, add a `DEFINE IMSDBINFO` statement for each additional IMS subsystem.

```
  "DEFINE IMSDBINFO",
         "IMSID(xxxx)",
         "SUFFIX(x)",
         "MODBLKS(your.MODBLKS)",
```

```
          "ACBLIB(your.ACBLIB)",
          "DFSRESLB(your.SDFSRESL)",
          "IMSDALIB(your.dynamic.allocation.lib)",
          "RECON1(your.RECON1)",
          "RECON2(your.RECON2)",
          "RECON3(your.RECON3)"
end
```

The following table lists the parameters used to define the IMS database:

Parameter	Description	Valid values
IMSID	The IMS subsystem identification.	Up to 4-character ID.
SUFFIX	The setting of the SUF= keyword used in the IMS Control Region.	One character. Default value is I.
ACBLIB	ACBLIB data sets contain the application control blocks (ACBs), which describe IMS applications, and data management blocks (DMBs), which describe databases and the applications that can access them.	your.ACBLIB
DFSRESLB	Load library that contains the major IMS modules.	your.SDFSRESL
IMSDALIB	Dynamic Allocation Library for IMSDBs and RECONs.	your.dynamic.allocation.lib
MODBLKS	Used to support dynamic resource definition. Contains the APPLCTN, DATABASE, RTCODE, and TRANSACT macros.	your.MODBLKS
RECON1	Primary RECONciliation dataset, which holds all of the resource information and event tracking information that is used by IMS.	your.RECON1
RECON2	An active copy of RECON1.	your.RECON2
RECON3	Spare RECON to be used when RECON1 or RECON2 are not useable.	your.RECON3

4. (Optional) Add the following statements to configure additional IMS Direct parameters:

```
"MODIFY PARM NAME(IMSDIRECTCYLBUF) VALUE(3)"
"MODIFY PARM NAME(IMSDIRECTOSAMRECSRD) VALUE(2)"
```

Parameter	Description	Valid values
IMSDIRECTCYLBUF	Specifies the number of cylinders of data to buffer for each file processed in an IMS Direct task.	1-50. Default value is 3.

Parameter	Description	Valid values
IMSDIRECTOSAMRECSRD	Specifies the number of records to read in each OSAM I/O operation. For random reads, a large number may lead to unnecessary blocks read. For sequential reads, small numbers may give decreased performance.	1-50. Default value is 2.

5. To call a compression exit, perform one of the following steps as appropriate:
   - If your compression exit must be called in TCB mode but can run properly without serialization, specify your exit name in the following statement:

     ```
     "MODIFY PARM NAME(IMSDIRCMPXITTCBn) VALUE(exitname)"
     ```

     where *n* is a number from 1 to 10 and *exitname* is the name of the compression exit routine.
   - If your exit can run properly in SRB mode without serialization, specify your exit name in the following statement:

     ```
     "MODIFY PARM NAME(IMSDIRCMPXITSRBn) VALUE(exitname)"
     ```

     where *n* is a number from 1 to 10 and *exitname* is the name of the compression exit routine.

   If neither of these conditions apply, do not specify the name of your compression exit.

   Note: Review "Using exits" for more information about configuring calls to compression exits.

Parameter	Description	Valid values
IMSDIRCMPXITTCB*n*	Specifies the name of a compression exit that can be safely called without serialization. Up to 10 exit names can be specified, where *n* is a number from 1 to 10. Since the server runs multiple threads in parallel, this feature provides optimization by eliminating the possible serialization conflicts between threads.	Name of compression exit routine

Parameter	Description	Valid values
IMSDIRCMPXITSRB*n*	Specifies the name of a compression exit that can be safely called without serialization and in SRB mode. Up to 10 exit names can be specified, where *n* is a number from 1 to 10. Since multiple exit names can be called without serialization and without switching off the zIIP (SRB mode) into TCB mode (GP processor), this feature provides optimization by eliminating the need to switch tasks for each exit call. The IBM supplied compression exits DFSCMPX0 and DFSKMPX0 will run safely in SRB mode. They can be specified in IMSDIRCMPXITSRB1 and IMSDIRCMPXITSRB2.	Name of compression exit routine

6. To call Guardium encryption and decryption exits, add the following statement:

```
"MODIFY PARM NAME(IMSDIRDECXITSRBn) VALUE(exitname)"
```

where *n* is a number from 1 to 20 and *exitname* is the name of the Guardium exit routine.

Note: Review "Using exits" for more information about configuring calls to Guardium encryption and decryption exits.

Parameter	Description	Valid values
IMSDIRDECXITSRB*nn*	Specifies the name of the Guardium encryption and decryption exit routine. Up to 20 exit names can be specified, where *nn* is a value from 1 to 20.	Name of Guardium exit routine

Configuring access to VSAM

Accelerator Loader server is configured as part of the customization process (Tools Customizer task Create the IVP jobs). No modifications are required to configure the SQL interface for native VSAM. However, you should verify that the server has access to VSAM. Optionally, you can control the data buffer (BUFND) and the index buffer (BUFNI) values for VSAM files either globally or for individual requests.

Before you begin

The server must already be installed.

Verifying access to native VSAM

Verify native VSAM data access by creating a sample VSAM file and a corresponding virtual table and running a query that accesses the VSAM data.

Procedure

1. Create the sample VSAM file on the mainframe that hosts the Accelerator Loader server.

   Run the HLVGNSTF member in the *hlq*.SHLVCNTL data set to allocate and load the sample VSAM file.

   The job should complete with a condition code of 0.
2. Create the `staffvs` virtual table, and run a query that returns a result set.

   Run the HLVIVVS1 member in the *hlq*.SHLVCNTL data set to perform a batch extract of the sample VSAM file listing and create a virtual table that is used to format the result set that is returned from the VSAM file.

   The job should complete with a condition code of 0.
3. Verify that the SQL results contained in the HLVIVVS1 member are valid.

Modifying the data and index buffer values for VSAM files

You can change the data and index buffer values for VSAM files.

About this task

You can control the data buffer (BUFND) and the index buffer (BUFNI) values for VSAM files either globally or for individual requests, as follows:

- To change the values globally, you must add the required parameters to your Accelerator Loader server configuration file. The following table lists these parameters:

Parameter	Description	Valid values
SQLENGVSAMDATABUFF	Specifies the number of data buffers for VSAM files. Default: 20	Numeric value.
SQLENGVSAMINDEXBUFF	Specifies the number of index buffer for VSAM files. Default: 30	Numeric value.

- To change the values for individual requests, you can use virtual table (VTB) rules. Sample VTB rules HLVBUFND and HLVBUFNI are provided.

  To override your index buffer or data buffer values, you must enable the respective rule and use the appropriate BUF prefix for table names in your SQL statement, as follows.

  – **To override the data buffer (BUFND) value:**

    Use sample rule HLVBUFND. The HLVBUFND rule is invoked every time a table with the prefix BUFND_ is found in the SQL statement. The following format is expected:

    ```
    BUFND_nn_virtualtablename
    ```

    Where:

    - *nn* is the number of data buffers (BUFND) for the VSAM data sets
    - *virtualtablename* is the name of the virtual table

    For example:

    ```
    SELECT * from BUFND_30_STAFF_VSAM ;
    ```

    The following message is displayed in the Server Trace:

```
HLV1000I VTB.OPTBVSND set to 30
```

– **To override the index buffer (BUFNI) value:**

Use sample rule HLVBUFNI. The HLVBUFNI rule is invoked every time a table with the prefix BUFNI_ is found in the SQL statement. The following format is expected:

```
BUFNI_nn_virtualtablename
```

Where:

- *nn* is the number of index buffers (BUFNI) for the VSAM data sets
- *virtualtablename* is the name of the virtual table

For example:

```
SELECT * from BUFNI_30_STAFF_VSAM ;
```

The following message is displayed in the Server Trace:

```
HLV1000I VTB.OPTBVSNI set to 30
```

Procedure

1. To change the values globally, perform the following steps:
   a) In data set *hlq*.SHLVEXEC, locate member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
   b) Add the following statements to your *hlvid*IN00 member:

```
"MODIFY PARM NAME(SQLENGVSAMDATABUFF) VALUE(20)"
"MODIFY PARM NAME(SQLENGVSAMINDEXBUFF) VALUE(30)"
```

2. To change the values for individual requests, perform the following steps:
   a) Customize the server configuration member (hlvidIN00) to enable virtual table rule events by configuring the SEFVTBEVENTS parameter in the member, as follows:

```
"MODIFY PARM NAME(SEFVTBEVENTS) VALUE(YES)"
```

   b) Access the VTB rules, as follows:
      i) In the Accelerator Loader - Primary Option Menu, specify option E, **Rules Mgmt**.
      ii) Specify option 2, **SEF Rule Management**.
      iii) Enter VTB for **Display Only the Ruleset Named**.
   c) Enable each rule as follows:
      - Specify E next to HLVBUFND and press Enter.
      - Specify E next to HLVBUFNI and press Enter.
   d) Set each rule to Auto-enable as follows:
      - Specify A next to HLVBUFND and press Enter.
      - Specify A next to HLVBUFNI and press Enter.

      Setting a rule to Auto-enable activates the rule automatically when the server is re-started.
   e) Use the appropriate BUF prefix for table names in your SQL statement.

Configuring access to sequential files

No modifications are needed to configure the Accelerator Loader server to access sequential files. Optionally, you can specify the number of tracks to read ahead when reading sequential data sets for individual requests.

Reading ahead tracks for sequential file access

You can use a Server Event Facility (SEF) rule to specify the number of tracks to read ahead (MULTACC) when reading sequential data sets for individual requests.

About this task

Using a virtual table (VTB) rule, you can specify the number of tracks to read ahead (the MULTACC parameter value) for MapReduce sequential file access for individual requests. This support overrides the value in the server parameter **ACIMAPREDUCETRACKS (NUMBER OF MAP REDUCE TRACKS TO READ)** for individual requests. Sample VTB rule HLVMLTAC is provided.

To override the MULTACC value, you must enable the HLVMLTAC rule and use the `MACC_nn_` prefix for table names in your SQL statement.

The HLVMLTAC rule is invoked every time a table with the prefix `MACC_nn_` is found in the SQL statement. The following format is expected:

```
MACC_nn_virtualtablename
```

Where:

- *nn* is the number of tracks to read ahead (the MULTACC value) when reading sequential data sets
- *virtualtablename* is the name of the virtual table

For example:

```
SELECT * from MACC_15_STAFF_SSEQ ;
```

The following message is displayed in the Server Trace:

```
HLV1000I VTB.OPTBMACC set to 15
```

Use the following procedure to set up the rule.

Procedure

1. Customize the server configuration member (hlvidIN00) to enable virtual table rule events by configuring the SEFVTBEVENTS parameter in the member, as follows:

   ```
   "MODIFY PARM NAME(SEFVTBEVENTS) VALUE(YES)"
   ```

2. Access the VTB rules, as follows:
   a) In the Accelerator Loader - Primary Option Menu, specify option E, **Rules Mgmt**.
   b) Specify option 2, **SEF Rule Management**.
   c) Enter VTB for **Display Only the Ruleset Named**.
3. Enable the rule by specifying E next to HLVMLTAC and pressing Enter.
4. Set the rule to Auto-enable by specifying A next to HLVMLTAC and pressing Enter.

   Setting a rule to Auto-enable activates the rule automatically when the server is re-started.

Configuring access to IBM CICS

For VSAM data access via the CICS Transaction Server (TS), you need to configure the server configuration member and CICS TS.

Before you begin

The server must already be installed.

About this task

The server connects to CICS TS, via the IBM EXCI (External CICS Interface).

CICS provides logging and recovery facilities that are required if VSAM updates are being applied. When accessing VSAM files that are owned by CICS TS, recovery is provided by CICS TS.

Configuring the server started task JCL

No modifications are required.

Modifying the server configuration member

Enable the VSAM data access via CICS TM parameters in the server configuration member.

About this task

The server configuration member *hlvid*IN00 is in data set *hlq*.SHLVEXEC, where *hlvid* represents the name of the Accelerator Loader server started task that was customized using Tools Customizer.

Procedure

1. In the hlvidIN00 member, locate the comment “ENABLE CICS TRANSACTION SERVER SUPPORT.”
2. Enable the CICS TS parameters by changing `if DontDoThis` to `if DoThis`.

```
if DoThis then
  do
   "MODIFY PARM NAME(EXCI)                 VALUE(YES)"
   "MODIFY PARM NAME(EXCICONNECTIONNAME)   VALUE(CICA)"
   "MODIFY PARM NAME(TRACEEXCIDPLEVENTS)   VALUE(YES)"
   "MODIFY PARM NAME(CICSSENDABCODE)       VALUE(YES)"
   "MODIFY PARM NAME(RRSCICS)              VALUE(YES)"
```

The following table lists the parameters for configuring support for a CICS TS:

Parameter	Description	Valid values
EXCI	Initialize EXCI support.	**NO** **YES** Default value.
EXCICONNECTIONNAME	EXCI Default Connection Name. Specifies the default CICS Connection Name for EXCI support.	EXCW
TRACEEXCIDPLEVENTS	Trace EXCI DPL Events	**NO** Default value. **YES**
CICSSENDABCODE	Send ABEND Code to Clients. Controls the sending of the CICS ABEND code to the client. If set to YES, the ABEND code is returned to the client as part of the error message.	**NO** Default value. **YES**

Parameter	Description	Valid values
RRSCICS	Specifies whether RRS CICS support is active.	**NO** Default value. **YES**

3. Create a DEFINE CONNECTION statement for each CICS region. Include the following parameters in the statement:

```
"DEFINE CONNECTION  NAME(CICA)",
                    "GROUP(CICA)",
                    "ACCESSMETHOD(IRC)",
                    "NETNAME(CICADBVS)",
                    "INSERVICE(YES)",
                    "PROTOCOL(EXCI)",
                    "APPLID(XXXXXXXX)",
                    "LOADBALGROUP(LBG1)",
                    "SECURITYNAME( )",
end
```

Parameter	Description	Valid values
NAME	Specify a four-character name for the connection to the CICS region.	Four-character name
GROUP	Specify the same name as the connection name.	Eight-character name
ACCESSMETHOD	Specify IRC.	IRC
NETNAME	Specify the network name of the remote system. To identify these connections in CICS, use a name that is a combination of the connection name and the server subsystem name.	Eight-character name
INSERVICE	Specify YES to open the connection at server startup. Specify NO to open the connection manually.	**NO** Default value. **YES**
PROTOCOL	Specify EXCI.	EXCI
APPLID	Specify the VTAM APPLID of the target CICS.	No restriction on the APPLID name
LOADBALGROUP	Specify the name of the group that is used to balance the CICS workload across multiple CICS regions. Specify the same group name in each DEFINE CONNECTION statement that you create. (*Optional*)	Eight-character name
SECURITYNAME	Specify a valid security name from the remote system.	Eight-character name

4. Create a DEFINE SESSION statement for each CICS region. Include the following parameters in each statement:

```
"DEFINE SESSION   NAME(CICA)",
                   "GROUP(CICA)",
                   "CONNECTION(CICA)",
```

```
                    "PROTOCOL(EXCI)",
                    "RECEIVERFX(XD)",
                    "RECEIVERCOUNT(0)",
                    "SENDPFX(SD)",
                    "SENDCOUNT(20)",
                    "IOAREALEN(4096)",
end
```

Parameter	Description	Valid values
NAME	Specify the same name that you specified for the NAME when you defined the connection for this CICS region.	Four-character name
GROUP	Specify the same name that you specified for the NAME when you defined the connection for this CICS region.	Eight-character name
CONNECTION NAME	Specify the same name that you specified for the NAME when you defined the connection for this CICS region.	Four-character name
PROTOCOL	Specify EXCI.	EXCI
RECEIVEPFX	Not applicable.	This field should be blank its included to provide complete list of connection parameters.
RECEIVECOUNT	Not applicable.	This field should be blank its included to provide complete list of connection parameters.
SENDPFX	Specify a one- or two-character prefix for the session name. The session name, which is limited to four characters, is composed of the prefix and the session number. Therefore, if you define more than 99 sessions, specify a one-character prefix.	A one- or two-character prefix
SENDCOUNT	Specify the maximum number of concurrent transactions. This value should match the RECEIVECOUNT value minus one set in the DEFINE SESSIONS definition in the HLVCICSD job.	Any number up to 255
IOAREALEN	Specify the length, in bytes, of the terminal input/output area to use to process transmitted messages.	Any value up to 4096K

Configuring CICS

Configure CICS by modifying the CICS started tasks JCL, the System Initialization Table (SIT), and the DFHCSD file.

Procedure

1. Add the *hlq*.SHLVCLOD library to the DFHRPL concatenation in each CICS region that you want to connect to server.
2. Use the CEMT INQUIRE IRC command to verify that the CICS interregion communication (IRC) facility is open.

   To start IRC at CICS system startup, ensure that the IRCSTRT=YES parameter is in the SITPARM for the CICS region.
3. Update the DFHCSD file by performing the following steps:
   a) For each CICS region, modify and submit the HLVCICSD job that is in *hlq*.SHLVCNTL data set:
      - Update the DEFINE CONNECTION and DEFINE SESSION values to match the definitions that you specified in the server configuration member. The GROUP value is the CICS GROUPNAME and does not need to match the GROUP name that is defined for the server. By default, 21 sessions are defined. Set this value to the maximum number of concurrent transactions for a single instance of server. The maximum value is 250.
      - Change the name of the *hlq*.FILEA data set to the FILEA VSAM data set name. This VSAM file is used when you verify access to CICS data.

      The member contains additional information about modifying the job.
   b) Update LIST(*YOURLIST*) to match the startup group list for the CICS region.
   c) Review more comments in the JCL notes section for additional considerations. Define all of the definitions in the *hlq*.SHLVCNTL(HLVCICSD) member.

Configuring security

Configure security to provide user access to CICS TS.

About this task

See "CICS security" in the *Administrator's Guide*.

Configuring access to zFS files

The Accelerator Loader server is already configured to support zFS files. No modifications are needed to configure access to zFS files.

Configuring access to SMF data for IT Operational Analytics

IT Operational Analytics (ITOA) allows you to retrieve, analyze, and report data for IT operations. System information can be logged using the IBM System Management Facility (SMF) and the native Accelerator Loader server logging feature. Logging allows you to collect various system and operations-related information.

Before you begin

Verify that the following IBM APARs have been applied:

- APAR OA49263. This APAR provides real-time SMF support and is a requirement for the configuration of real-time SMF data access. (The closed date for this APAR is 2016-08-31.)
- APAR OA48933. This APAR is required to address accessing log streams. SMF log stream configuration is required for in-memory resource support. (The closed date for this APAR 2015-11-24.)

About this task

Virtual tables for SMF are provided in the *hlq*.SHLVSMAP data set.

The following options are available to access the SMF data:

- Reading data from SMF data sets - SMF information is recorded in MAN*x* data sets. When a data set gets full, the data is processed via IFASMFDP. When defining global variables for accessing SMF data in data sets, the output of IFASMFDP is used.
- Reading data from log streams - SMF information is recorded in multiple log streams and data can be read directly from the log streams. Log stream recording is determined by the data set name beginning with IFASMF that is used in the VTB rule for SMF.
- Reading SMF data from in-memory (real-time) - SMF information is read directly from the system buffer. SMF information is read in real time.

When defining the global variables for SMF, the data set can be either a log stream or a SMF dump data set from IFASMFDP. The log stream data set is recommended for access to near real-time data.

To configure access to IT Operational Analytics data, see the following topics:

- “Configuring access to System Management Facility (SMF) files” on page 166
- “Configuring access to SYSLOG files” on page 168
- “Configuring access to OPERLOG files” on page 170

Configuring access to System Management Facility (SMF) files

By default, access to System Management Facility (SMF) files is enabled in the Accelerator Loader server started task JCL and the server configuration member.

About this task

To enable reading SMF data real-time using log streams, you must have the **SMFPRMxx** member in the system PARMLIB data set configured to use both log streams and in-memory resources.

SMF data set names are dynamic in local environments and require SEF rules enablement and optionally Global Variables set to specific values to provide data set names to the virtual tables and views when using SMF data set or log stream configurations.

You can choose either GDG data set name support or dynamic data set name support, or both, to quickly access your SMF data. These two options are provided for your convenience to help you start accessing your SMF data. Custom rules may need to be developed to use your local naming convention to access your SMF files.

Procedure

1. To enable real-time access to SMF data, add the following statements to the *hlvid*IN00 member after the GLOBAL PRODUCT OPTIONS statement.

```
IF DoThis
  THEN DO
    "DEFINE SMF NAME(IFASMF.INMEM)",

    "BUFSIZE(500)",
    "TIME(0)"
END
```

Note: You must have the **SMFPRMxx** member in the system PARMLIB data set configured to use log streams and in-memory resources.

Parameter	Description	Valid values
NAME	Specifies the name of the in-memory resource. This value must match the name of a resource defined to SMF with the **INMEM** parameter. If this parameter is included, the in-memory API will be read continuously and a buffer of the most recent records will be maintained.	This parameter must contain the name of an in-memory resource defined to SMF with the INMEM statement. The format of the name is defined by SMF configuration, which is 1-26 characters and must begin with IFASMF.
BUFSIZE	Indicates how much SMF data (megabytes) will be retained in memory for queries. If the buffer fills up, the oldest data will be discarded. In parallel, SMF is recording these records to a log stream. This parameter applies to the resource named in the **NAME** parameter.	1-10,000
TIME	Indicates how long (in minutes) to keep SMF data in memory. Older data will be discarded. Specifying 0 indicates no time limit and data will be retained until the buffer fills up. This parameter applies to the resource named in the **NAME** parameter.	0-1440

2. To use SMF data in compressed log streams, add the following statement to the *hlvid*IN00 member:

```
"MODIFY PARM NAME(ZEDCCOMPRESSION)      VALUE(YES)"
```

Note: You must have the **SMFPRMxx** member in the system PARMLIB data set configured to use compressed log streams, and the zEDC Express hardware feature must be installed. For more information about enabling zEDC, see “z Systems Data Compression (zEDC)” on page 348.

3. To use SMF_1100P* maps, add the following statements to the *hlvid*IN00 member:

```
"MODIFY PARM NAME(ACIMAPREDUCEBUFF)  VALUE(16383K)"
"MODIFY PARM NAME(ACIMAPREDUCESPACE) VALUE(64)"
```

4. Enable reading SMF data from GDG data sets and access to SMF data using dynamic data set names by enabling Server Event Facility rule HLVSMFT1 in the VTB ruleset. You can select from a GDG data set, any SMF dump data set, a log stream data set, or the in-memory stream. Activate your options by customizing the rule.
   a) Use the following steps to enable rule HLVSMFT1 in the VTB ruleset:
      i) On the main menu, select **Server administration**.
      ii) In the Administer Accelerator Loader Server menu, specify option 3, **Manage Rules**.
      iii) Specify option 2, **SEF Rule Management**.
      iv) Enter VTB for **Display Only the Ruleset Named**.
      v) Enable the rule by specifying E and pressing Enter.
      vi) Set the rule to Auto-enable by specifying A and pressing Enter.

      Setting the rule to Auto-enable activates the rule automatically when the server is re-started.

b) Configure the access method using one or more of the following methods:

- Review the information in the rule for the instructions on setting Global Variables that will be used by the rule. Navigate one screen back on the ISPF panel, or start over by going to option 3, **Manage Rules**, and then option 1, **Global Variables**. In the Global Variables display, perform the following steps:

  i) Change Global Prefix to GLOBAL2.

  ii) Select SMFTBL2 by entering S next to the SMFTBL2 data set.

  iii) Configure the SMF data access option. DEFAULT should have corresponding SMF dump data set names if used. This option can be used to specify the source SMF, such as GDGBASE, INMEM, and LOGSTREAM.

  Note:

  VTB rules and global variables may be used to reference a GDG data set, any SMF dump data set, a log stream data set, or the in-memory stream. For example:

```
GLOBAL2.SMFGBL2.YESTERDAY = "YOUR.DATASET.SMFDUMP(-1)"
GLOBAL2.SMFGBL2.M2 = "YOUR.DATASET.SMFDUMP(-2)"
GLOBAL2.SMFGBL2.M3 = "YOUR.DATASET.SMFDUMP(-3)"
GLOBAL2.SMFGBL2.M4 = "YOUR.DATASET.SMFDUMP(-4)"
GLOBAL2.SMFGBL2.M5 = "YOUR.DATASET.SMFDUMP(-5)"
GLOBAL2.SMFGBL2.IM = "IFASMF.INMEM"
GLOBAL2.SMFGBL2.IM2 = "IFASMF.INMEM2"
GLOBAL2.SMFGBL2.LOG = "LOGSTREAM.dataset.name"
```

- Pass a dynamic data set name for SMF tables using the following format for the table name in the SQL statement:

```
TableMapName__DataSetName
```

  Where DataSetName is prefixed by two underscores (__) and the periods in the data set name are replaced with single underscores (_).

  For example, SELECT * FROM SMF_01400__DATA_SET_NAME would translate into an SQL query of SELECT * FROM SMF_14000 and access the data set DATA.SET.NAME.

- Pass a dynamic data set name for SMF virtual views using the following format for the virtual view name in the SQL statement:

```
ViewMapName__DataSetName
```

  Where DataSetName is prefixed by two underscores (__) and the periods in the data set name are replaced with single underscores (_).

  For example, SELECT * FROM SMFV_01400__DATA_SET_NAME would translate into an SQL query of SELECT * FROM SMFV_01400 and access the data set DATA.SET.NAME.

Configuring access to SYSLOG files

The Accelerator Loader server is enabled to support access to SYSLOG files. Use these steps to enable the rule.

About this task

Virtual table rules are provided that support the processing of SYSLOG files and vary based on the type of file name used for your SYSLOG data sets. Each of the rules for SYSLOG processing requires that the table names in the SQL begin with SYSLOG. The following rules are provided:

HLVSYSLG
This rule uses a global variable to specify the name of the data set to use for the SYSLOG data.

HLVSYSL2
This rule supports the use of generation data group (GDG) data set names. One of the following formats is expected:

- `SYSLOG_GDG_nnnn`

  Where *nnnn* is a relative GDG number (between 0 and 9999) that is appended to the GDG base name value that is obtained from the GLOBAL2.SYSLOG.GDGBASE variable. For example, if the table name as specified in the SQL statement is SYSLOG_GDG_1, then the data set name returned by this rule is HLQ.SYSLOG(-1), depending on the value in GLOBAL2.SYSLOG.GDGBASE.

- `SYSLOG_DSN_suffix`

  Where *suffix* is used as the last part of a global variable of the form GLOBAL2.SYSLOG.*suffix* in order to look up the name of the data set to be used. If this variable does not exist, the data set name specified in GLOBAL2.SYSLOG.DEFAULT is used to read the SYSLOG records.

By using global variables, you do not need to modify the code in the rule. The following are some examples of global variables that can be set up to be used in conjunction with this rule:

```
Global Prefix: GLOBAL2.SYSLOG
S Subnode Name   Nodes         Subnode Value
- -------------- ----- --------------------------
  GDGBASE            0 HLQ.SYSLOG
  DEFAULT            0 HLQ.SYSLOG(0)
  TODAY              0 HLQ.SYSLOG(0)
  YESTERDAY          0 HLQ.SYSLOG(-1)
```

HLVSYSL3

This rule lets you dynamically specify in your SQL the name of the data set to use when processing SYSLOG files. In the SQL, the table name must begin with the prefix SYSLOG; the rest of the table name is used by the rule to determine the actual data set name to use for processing the SYSLOG records.

The following format is expected:

```
SYSLOG__DataSetName
```

Where *DataSetName* is preceded by two underscores (__) and the periods in the data set name are replaced with single underscores (_). For example, `SELECT * FROM SYSLOG__DATA_SET_NAME` would translate into an SQL query of `SELECT * FROM SYSLOG` and access the data set `DATA.SET.NAME`.

To use one of the rules, you must enable the rule and use the prefix SYSLOG for table names in your SQL statement. The enabled rules are invoked every time a table with the prefix SYSLOG is found in the SQL statement.

Use the following procedure to set up the rules.

Procedure

1. Access the VTB rules, as follows:
   a) In the Accelerator Loader - Primary Option Menu, specify option E, **Rules Mgmt**.
   b) Specify option 2, **SEF Rule Management**.
   c) Enter VTB for **Display Only the Ruleset Named**.
2. For HLVSYSLG, customize the rule, as follows:
   a) Specify S next to HLVSYSLG to edit the rule.
   b) Customize the rule with the SYSLOG data set name.
   c) Save your changes and exit the editor.

   Note: For HLVSYSL2 and HLVSYSL3, no customization of the rule is needed.
3. Enable each rule by specifying E next to the member name and pressing Enter.
4. Set each rule to Auto-enable by specifying A next to the member name and pressing Enter.

Setting a rule to Auto-enable activates the rule automatically when the server is re-started.

5. If global variables are needed, set up the SYSLOG global variable.

Configuring access to OPERLOG files

No modifications are needed to configure the Accelerator Loader server to access OPERLOG data; however, OPERLOG must be active in a system logger log stream.

About this task

Use the following procedure to verify that OPERLOG is active in a system logger log stream.

Procedure

To display the active medium where messages are recorded, enter the following command:

```
D C,HC
```

The following results are expected:

```
CNZ4100I 15.19.16 CONSOLE DISPLAY 056
 CONSOLES MATCHING COMMAND: D C,HC
 MSG:CURR=0    LIM=9000 RPLY:CURR=0    LIM=9999  SYS=P02      PFK=00
 HARDCOPY  LOG=(SYSLOG,OPERLOG)  CMDLEVEL=CMDS
       ROUT=(ALL)
 LOG BUFFERS IN USE: 0       LOG BUFFER LIMIT: 9999
```

Configuring access to CA IDMS data

To access CA IDMS data, you must configure the Accelerator Loader server started task JCL. You can then optionally verify access to the data.

Accelerator Loader server started task JCL changes are required to access CA IDMS software and define default CA IDMS settings.

Restrictions

The following restrictions and considerations apply when accessing CA IDMS data:

- SELECT-only support is provided.
- CA IDMS Logical Record Facility (LRF) is not supported. Virtual views provide many of the same capabilities as LRF and can be used in place of LRF.
- Data access uses CA IDMS network DML only. The CA IDMS SQL product is not required.

Note:

Server configuration parameters control the following behaviors and can be modified if necessary:

- CA IDMS run-unit management, specifically maximum run-units and a timeout value for inactive run-units
- CA IDMS access tracing

Configuring the server started task JCL

Modify the server started task JCL to access CA IDMS and define default CA IDMS settings.

Before you begin

All LOAD library data sets allocated to the Accelerator Loader server in the server started task JCL must be APF-authorized.

About this task
Modify the server started task JCL to access CA IDMS and define default IDMS settings.

Procedure
1. Add the CA IDMS load libraries to the STEPLIB, which are required for CA IDMS central version access.
2. Add the SYSCTL DD statement identifying the CA IDMS central version to access.
3. Add the SYSIDMS statement with additional environment parameters. Minimally, this data set should include a CVRETRY=OFF statement to prevent an WTOR message when the CA IDMS central version is not active.
4. Add the CA IDMS system message data set to DCMSG.

Modifying the server configuration member for CA IDMS

To optionally configure server parameters for CA IDMS, you can update your Accelerator Loader server configuration file.

About this task
The CA IDMS server parameters can assist you in configuring CA IDMS data access. In most typical environments, the default settings for these parameters will not need modification.

Procedure
1. In data set *hlq*.SHLVEXEC, locate member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
2. Add the following statements to your *hlvid*IN00 member:

```
"MODIFY PARM NAME(MAXIDMSRUNUNITS) VALUE(4)"
"MODIFY PARM NAME(SQLENGIDMSRUTIMOUT) VALUE(60)"
```

The following table lists the parameters for configuring CA IDMS data access:

Parameter	Description	Valid values
MAXIDMSRUNUNITS	Maximum IDMS max units. This parameter limits the number of concurrent IDMS run units that a server will start to access a CA IDMS central version. Limiting concurrent IDMS run units will prevent storage related user 3134 abends when creating run units with CA IDMS.	Positive numeric value. Default value is 4.
SQLENGIDMSRUTIMOUT	CA IDMS run unit inactivity timeout. Specifies the length of time in seconds to keep a run unit active for reuse by subsequent SQL queries in a client connection.	Positive numeric value. Default value is 60 seconds.

Verifying access to CA IDMS data

To verify access to CA IDMS data, you can optionally install a set of maps to the sample database EMPDEMO and run queries using the installed maps.

Before you begin
The CA IDMS sample database EMPDEMO must be installed in the central version you plan to access.

About this task

You can customize and run the provided IVP job HLVISIV1 to install maps to the EMPDEMO database and network schema maps to the SYSTEM database.

The following maps are installed for verification testing using the sample EMPDEMO database:

Table 15. CA IDMS EMPDEMO database maps

Map	Description
EMPSS01_EMPLOYEE	Enables SQL access to EMPLOYEE record.
EMPSS01_OFFICE	Enables SQL access to the OFFICE record.
EMPSS01_DEPARTMENT	Enables SQL access to the DEPARTMENT record.
EMPSS01_OFFICE_EMPLOYEE	Enables SQL access to the OFFICE-EMPLOYEE set for joining the EMPSS01_OFFICE and EMPSS01_EMPLOYEE tables.
EMPSS01_DEPT_EMPLOYEE	Enables SQL access to the DEPT-EMPLOYEE set for joining the EMPSS01_DEPARTMENT and EMPSS01_EMPLOYEE tables.

The network schema maps can be used for verification purposes if the EMPDEMO database is not installed in your central version. These maps access records and sets in the CA IDMS network schema IDMSNTWK, providing SQL access to application metadata. The following table provides a subset of the installed network schema maps that can be used for verification purposes:

Table 16. CA IDMS network schema IDMSNTWK maps

Map	Description
IDMSNWKA_S_010	Enables SQL access to the S-010 network schema record. S-010 records describe application schemas defined to your IDMS central version.
IDMSNWKA_SS_026	Enables SQL access to the SS-026 network schema record. SS-026 records describe application subschemas defined to your IDMS central version.
IDMSNWKA_SSR_032	Enables SQL access to the SSR-032 network schema record. SSR-32 records describe application subschema records defined to your IDMS central version.
IDMSNWKA_S_SS	Enables SQL access to the S-SS set for joining the IDMSNWKA_S_010 and IDMSNWKA_SS_026 tables.
IDMSNWKA_SS_SSR	Enables SQL access to the SS-SSR set for joining the IDMSNWKA_SS_026 and IDMSNWKA_SSR_032 tables.

Procedure

1. Locate the HLVISIV1 member in the *hlq*.SHLVCNTL data set.
2. Modify the JCL according to the instructions provided in the HLVISIV1 member.
3. Submit the job.
4. If the server is active, use the following instructions to refresh maps and make the maps available for use:

a) From the Primary Option Menu, specify option D, **Data Mapping**, and press Enter.

b) From the Data Mapping Facility menu, specify option 3, **Map Refresh**, and press Enter.

Results

HLVISIV1 installs CA IDMS EMPDEMO and network schema maps into the server map data set.

Configuring access to IBM MQ

For access to IBM MQ (MQ) data, you must modify the server started task, configure the server configuration member, and set virtual table options.

Accelerator Loader provides SQL-only query access to MQ queues using virtual tables. Data in MQ queues is described using COBOL or PLI data descriptions taken from copybooks or programs.

IBM MQ for z/OS Versions 7.5 and newer are supported.

Note: Server configuration parameters control MQ tracing and can be modified if necessary.

Configuring the server started task JCL

Modify the server started task JCL to access IBM MQ data.

Before you begin

All data sets that you add to the server started task JCL STEPLIB must be APF-authorized.

About this task

Modify the server started task JCL to access IBM MQ data. You can skip this task if the IBM MQ load module is in the z/OS linklist or link pack area.

Procedure

Add the IBM MQ load library to the server started task JCL STEPLIB.

Modifying the server configuration member for IBM MQ

To enable support for MQ data, you must update your Accelerator Loader server configuration file.

About this task

To be able to access MQ data in virtual tables, enable the feature in the server configuration file, as described in the following procedure.

Procedure

1. In data set *hlq*.SHLVEXEC, locate member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
2. Add the following statement to your *hlvid*IN00 member:

```
"MODIFY PARM NAME(MQACTIVE) VALUE(YES)"
```

The following table describes this parameter:

Parameter	Description	Valid values
MQACTIVE	Initialize IBM MQ support. This parameter must be set to YES to access MQ queues.	**YES** **NO** (default value)

Configuring virtual table rules for IBM MQ

Configure Server Event Facility (SEF) rules to support IBM MQ data.

About this task

You can configure VTB rule options to control the MQ data access feature. These options control inclusion of the MQ message descriptor meta data fields in the virtual tables, how to handle truncated messages, and whether to perform destructive reads. Sample VTB rule HLVMDLMQ documents these settings.

When accessing MQ data with sample rule HLVMDLMQ (or equivalent options) enabled, tables prefixed with MDLMQ_* are filtered, and the map name is extracted by removing the MDLMQ_ prefix. For example, the following query will execute the rule and query virtual table MQ_CSQ7_TRADE:

```
SELECT * FROM MDLMQ_MQ_CSQ7_TRADE
```

Use the following procedure to configure the sample rule HLVMDLMQ.

Note: Sample rule HLVMDLMQ is intended to be used as a model and may require customization. When customizing this rule, additional logic may need to be added if different VTB variable settings are required for different MQ queues.

Procedure

1. Customize the server configuration member (*hlvid*IN00) to enable virtual table rule events by configuring the SEFVTBEVENTS parameter in the member, as follows:

   ```
   "MODIFY PARM NAME(SEFVTBEVENTS) VALUE(YES)"
   ```

2. Access the VTB rules, as follows:
   a) In the Accelerator Loader - Primary Option Menu, specify option E, **Rules Mgmt**.
   b) Specify option 2, **SEF Rule Management**.
   c) Enter VTB for **Display Only the Ruleset Named**.
3. Customize the HLVMDLMQ rule, as follows:
   a) Specify S next to HLVMDLMQ to edit the rule.
   b) Update the rule options as needed. The following table describes the VTB rule options that support MQ data access.

VTB variable	Description	Valid values
vtb.optbmqdg	Delete messages during retrieval. When set to 1, SQL queries will remove messages from the queue if ALL messages in the queue are successfully retrieved by the server. Retrieval of MQ messages will use non-browse (destructive) MQGET calls with syncpoint control. Once all messages are delivered to the server, they will be deleted from the queue. If a failure occurs before all messages are retrieved, an MQBACK call will be issued to restore messages to the queue that have been retrieved so far. Note that an MQCMIT will be issued and messages deleted if the IBM MQ syncpoint limit is reached. A failure after MQCMIT will not be able to restore messages as they have been permanently deleted.	**0** Default **1**

VTB variable	Description	Valid values
vtb.optbmqim	When set to 1 for an MQ virtual table, the MQ Series Message Descriptor (MQMD) meta data fields will be added to the virtual table as columns and returned with each result row. These columns are prefixed with the value MQMD_.	**0** Default **1**
vtb.optbmqtc	By default, a truncation error reading an IBM MQ message will result in a query failure. When set to 1, MQ Series access ignores truncated message warnings and returns data received.	**0** Default **1**

c) Save your changes and exit the editor.

4. Enable the rule by specifying E next to HLVMDLMQ and pressing Enter.
5. Set the rule to Auto-enable by specifying A next to HLVMDLMQ and pressing Enter.

   Setting a rule to Auto-enable activates the rule automatically when the server is re-started.

Configuring access to ADDI

To use IBM Application Discovery and Delivery Intelligence (ADDI) information for creating virtual maps that access VSAM and sequential data, you must configure the server for ADDI access.

System requirements

The following system requirements apply:

- IBM Application Discovery Suite Version 5.0 or newer
- Microsoft Host Integration Server (HIS) 2016 or higher. The SYSIBM views that are part of the Microsoft HIS Software Development Kit must be installed as part of the HIS installation.
- Microsoft SQL Server 2012 Enterprise or Express or higher

Restrictions

The following restrictions and considerations apply when using ADDI to access VSAM and sequential data sets:

- Virtual table creation is restricted to data sets in the ADDI project that are processed by COBOL programs using JCL. Data sets accessed using CICS as well as other databases (such as IMS, CA IDMS, or Adabas) are not supported.
- Virtual table mapping is only supported through the Accelerator Loader studio. No batch utilities or ISPF interfaces are provided to map tables.

Configuration steps

The following configuration steps are required to use ADDI to access VSAM and sequential data:

1. Install virtual tables. See “Installing virtual tables and virtual target maps for ADDI access” on page 176.
2. Define ADDI project in the server configuration member. See “Modifying the configuration member for ADDI access” on page 176.
3. Activate virtual table rules. See “Configuring virtual table rules for ADDI” on page 179.
4. Define credentials for target database(s). See “Configuring authentication for ADDI” on page 180.

Installing virtual tables and virtual target maps for ADDI access

Install virtual tables and virtual target maps for IBM Application Discovery and Delivery Intelligence (ADDI) access.

About this task

The Accelerator Loader studio reads the ADDI project using virtual tables and views installed as part of server set up. The following maps are distributed in XMIT format in the SHLVSAMP member HLVIAMPD:

ZIADTSPR
Virtual target system TSIAD_PROJECT1 for external subsystem named IAD1.

ZIADT001-ZIADT021
Virtual tables that map tables in the ADDI project. Each virtual table uses the name of the corresponding ADDI project table with the added prefix `IAD_`. For example, SQL Server table `dbo.Variables` has a virtual table name of `IAD_VARIABLES`.

ZIADV001-ZIADV002
Virtual views on the IAD_ virtual tables used by the Accelerator Loader studio to read ADDI data. These views are all prefixed with `IADV_` (for example, `IADV_DATASETS`). All data access from the studio is performed using virtual views.

These maps are not installed by default. Use the following procedure to install these maps.

Procedure

1. Locate the HLVIAMPS member in the *hlq*.SHLVCNTL data set.
2. Modify the JCL according to the instructions provided in the HLVIAMPS member.
3. Submit the job.

   The virtual tables and virtual target maps are installed.

Modifying the configuration member for ADDI access

Enable and configure the parameters for IBM Application Discovery and Delivery Intelligence (ADDI) in the server configuration member.

About this task

The server configuration member contains a sample DATABASE definition that defines the first ADDI project. The initial definition is named IAD1 and is disabled.

When enabling the database definition for the first ADDI project, the LOCATION and IPADDR parameters must be set to the correct project name and IP address of the Microsoft HIS DRDA Provider Service for SQL Server. The LOCATION provides the name of the SQL Server project, and IPADDR(...) PORT(...) provide the TCP/IP information for the HIS DRDA Service. DOMAIN(...) can be used instead of IPADDR to provide the DNS of the HIS DRDA Service. The subsystem NAME(IAD1) should not be changed because a target subsystem map is configured to use this name for the virtual tables accessing the ADDI project.

For multiple ADDI projects, see “Adding an ADDI project” on page 179.

The server configuration member *hlvid*IN00 is in data set *hlq*.SHLVEXEC, where *hlvid* represents the name of the Accelerator Loader server started task that was customized using Tools Customizer.

Procedure

1. In the hlvidIN00 member, locate the comment “Sample IBM Application Discovery configuration".
2. Enable the ADDI parameters by changing the syntax `if DontDoThis` to `if DoThis`. The following example shows the section in the configuration member to enable:

```
/*-------------------------------------------------------------*/
/* Sample IBM Application Discovery configuration using DRDA to  */
/* communicate with a Microsoft SQLServer database.              */
```

```
/*-------------------------------------------------------------------*/
if DoThis then do
"DEFINE DATABASE TYPE(MSSQL)"                  ,
                 "NAME(IAD1)"                  ,
                 "LOCATION(EZ_Project1)"       ,
                 "DDFSTATUS(ENABLE)"           ,
                 "SECMEC(USRIDPWD)"            ,
                 "IPADDR(::FFFF:0.0.0.0)"      ,
                 "PORT(446)"                   ,
                 "CCSID(37)"                   ,
                 "IDLETIME(0)"
end
```

The following table lists the parameters for configuring support for ADDI:

Parameter	Description	Valid values
TYPE	Database type. Because ADDI stores information in Microsoft SQL Server, this value must be MSSQL.	MSSQL
NAME	The database name as known to the server. The first definition must be `IAD1` because the target system map names this as the subsystem to access for ADDI. For additional ADDI projects, subsystems can have any name since you must also create a virtual target system to point to it; however, it recommended that the name start with `IAD`. (*Required*)	A valid value consists of 1 - 4 characters. For example, `IAD1`.
LOCATION	Name of the database for the ADDI project. The LOCATION parameter must be set to the correct database name of the target MSSQL server. (*Required*)	A valid value is a string 1 - 16 characters.
DDFSTATUS	The DDF activation status (*Required*)	**ENABLE** Make this DDF definition active within Accelerator Loader server. DDFSTATUS should always be ENABLE for TYPE(MSSQL). **DISABLE** DDF endpoint is not used. This value disables the MSSQL database. This value should only be used if the database is off-line or otherwise not available for access.

Parameter	Description	Valid values
SECMEC	Security mechanism. The DRDA security mechanism for authentication with the HIS DRDA Service for SQL Server. The SECMEC setting for TYPE(MSSQL) must match the HIS DRDA Service configuration.	**USRIDPWD** User ID and password **USRIDONL** User ID only **USRENCPWD** Encrypt the password only **EUSRIDPWD** Encrypt the user ID and password
IPADDR	Specify the IPV4 or IPV6 address of the target MSSQL server. Use DOMAIN instead of IPADDR to supply the DNS of the target HIS DRDA Server for SQL Server. Use DOMAIN if the IPADDR or the HIS DRDA Service Provider can change. Either DOMAIN or IPADDR is required, but not both.	A valid IPV4 or IPV6 address set to the correct remote IP address for the system running Microsoft SQL Server.
DOMAIN	The part of a network address that identifies it as belonging to a particular domain. Use DOMAIN instead of IPADDR to supply the DNS of the target HIS DRDA Server for SQL Server. Use DOMAIN if the IPADDR or the HIS DRDA Service Provider can change. Either DOMAIN or IPADDR is required, but not both.	No default value.
PORT	The TCP/IP port defined for Microsoft HIS DRDA Service Provider. For TYPE(MSSQL), the standard HIS default is 446. (*Required*)	A valid 1-5 numeric string.
CCSID	Specify the EBCDIC single-byte application CCSID (Coded Character Set Identifier). (*Required*)	Refer to the Microsoft SQL Server documentation for a list of valid CCSIDs. Refer to the ISV documentation on HIS DRDA Service to SQL Server. For USA, this value is `037`.

Adding an ADDI project

Perform required configuration steps to add an ADDI project.

About this task

For multiple ADDI projects, you must perform configuration steps to define each additional ADDI project. The following requirements apply when maintaining multiple ADDI projects:

- For the first instance of an ADDI project:
  - The database name in the must be IAD1.
  - The target system for the name IAD1 is automatically installed with the ADDI maps, as described in "Installing virtual tables and virtual target maps for ADDI access" on page 176.
- For subsequent ADDI projects:
  - It is recommended that the database name start with IAD.
  - The target system must start with TSIAD.

Perform the following procedure for each additional ADDI project.

Procedure

1. Repeat the database definition in the configuration member and make the following changes:
   a) Change the NAME value to a unique name (for example, IAD2).
   b) Change the LOCATION value to match the Microsoft SQL Server project name containing the ADDI project you need to access.

   For information about the database definition parameters, see "Modifying the configuration member for ADDI access" on page 176.
2. Define a new virtual target system using the studio. The name of the virtual target system must start with TSIAD. This can be done in the Accelerator Loader studio by selecting the **Create Virtual Target System** in the **Server** tab under the **SQL** > **Target Systems** > **DBMS** node of the tree. The connection value in each definition must match the NAME value defined in the DATABASE definition in the configuration member.
3. If required, create authentication information using the HLVDRATH batch utility.

Configuring virtual table rules for ADDI

Configure Server Event Facility (SEF) rules to support multiple projects using common virtual table and view definitions.

About this task

To support multiple projects using common virtual table and view definitions, VTB rules HLVIADTB and HLVIADVW provide support to process tables starting with IAD_ and views starting with IADV_.

HLVIADTB
This table rule looks at the base view of a query for double underscores "__" and uses the data after the underscores to update the target subsystem for the query.

HLVIADVW
This view rule looks for the double underscores and removes them from the view name to process.

With the rules activated, the Accelerator Loader studio can suffix the view names with __SSID for all calls and process multiple ADDI projects using a single set of maps.

These rules must be activated regardless of the number of ADDI projects to be enabled.

Use the following procedure to set up these rules.

Procedure

Use the following steps to enable rules HLVIADTB and HLVIADVW in the VTB ruleset:

a) In the Accelerator Loader - Primary Option Menu, specify option E, **Rules Mgmt**.

b) Specify option 2, **SEF Rule Management**.

c) Enter VTB for **Display Only the Ruleset Named**.

d) Enable the rules by specifying E and pressing Enter.

e) Set the rules to Auto-enable by specifying A and pressing Enter.

Setting a rule to Auto-enable activates the rule automatically when the server is re-started.

Configuring authentication for ADDI

Configure authentication for communicating with the IBM Application Discovery and Delivery Intelligence (ADDI) project.

About this task

It is common for data centers to assign different user IDs for access to z/OS and for access to SQL Server. By default, the server will attempt to log on to SQL Server with the same user ID that was presented for logon to z/OS. A facility is provided in the server to optionally change the logon credentials for a user when accessing SQL Server.

When communicating between the Accelerator Loader server and the ADDI project, you must define what credentials to use in MSSQL connections if z/OS users are not defined as users to SQL Server. To accomplish this, the following tools are provided:

HLVDRATH
A utility that sets encrypted passwords in GLOBALU variables. Use this utility to define alternate logon information for the Accelerator Loader server started task and z/OS users. This utility places SQL Server authentication information in GLOBALU system variables for connecting to ADDI projects. You can also use this utility to list existing credential information.

HLVEMSSG
An ATH rule that swaps z/OS user information with SQL Server authentication information defined using the HLVDRATH utility. This rule uses AES encrypted passwords stored as GLOBALU system variables.

You can use any of the following options for authentication:

- Use z/OS IDs for authentication
- Add a global default user definition using sample job HLVDRATH and enable ATH rule HLVEMSSG
- Add authentication information for specific mainframe users using sample job HLVDRATH and enable ATH rule HLVEMSSG

Network administrators may need to open ports for DRDA communication between the z/OS host and the Microsoft SQL Server machine(s) hosting ADDI projects. The default port for Microsoft SQL Server access is 446.

If z/OS user IDs are not defined to Microsoft SQL Server, use the following procedure to define alternate authentication information for the started task and z/OS users requiring access to this feature:

Procedure

1. Use the sample job HLVDRATH to add a global default user definition or authentication information for specific mainframe users as follows:
   a) Locate the HLVDRATH member in the *hlq*.SHLVCNTL data set.
   b) Modify the JCL according to the instructions provided in the HLVDRATH member.

When adding the SYSIN statements that define the alternate credentials for logging in to your ADDI project, as instructed in the JCL, make sure to specify the correct DBTYPE. For ADDI projects, specify DBTYPE=MSSQL.

c) Submit the job.

d) Optional: To verify the information stored in the GLOBALU variables and list existing authentication, use the REPORT=SUMMARY statement in the HLVDRATH member and submit the job.

2. Auto-enable the SEF ATH rule SHLVXATH(HLVEMSSG) to switch credentials when connecting to ADDI using DRDA. Global variables are used to define alternate authentication credential mapping for the SEF ATH rule.

   a) On the main menu, select **Server administration**.

   b) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.

   c) Select option **2** for SEF Rule Management.

   d) Enter * to display all rules, or ATH to display only authentication rules.

   e) Set Auto-Enable for the HLVEMSSG rule member by entering A and pressing Enter.

Configuring access to RAA

To use IBM Rational Asset Analyzer (RAA) information for creating virtual maps that access VSAM and sequential data, you must configure the server for RAA access.

System requirements

The following system requirement applies:

- IBM Rational Asset Analyzer for System z 6.1 PID5655-W57

Restrictions

The following restrictions and considerations apply when using RAA to access VSAM and sequential data sets:

- Virtual table creation is restricted to data sets in the RAA database that are processed by COBOL programs using JCL. Data sets accessed using CICS as well as other databases (such as IMS, CA IDMS, or Adabas) are not supported.
- Virtual table mapping is only supported through the Accelerator Loader studio. No batch utilities or ISPF interfaces are provided to map tables.

Configuration steps

The following configuration steps are required to use RAA to access VSAM and sequential data:

1. Install virtual tables. See “Installing virtual tables and virtual target maps for RAA access” on page 181.
2. Define RAA database in the server configuration member. “Modifying the configuration member for RAA access” on page 182.
3. Activate virtual table rules. See “Configuring virtual table rules for RAA” on page 185.
4. Define credentials for target database(s). See “Configuring authentication for RAA” on page 185.

Installing virtual tables and virtual target maps for RAA access

Install virtual tables and virtual target maps for IBM Rational Asset Analyzer (RAA) access.

About this task

The Accelerator Loader studio reads the RAA database using virtual tables and views installed as part of server set up. The following maps are distributed in XMIT format in the SHLVSAMP member HLVRAMPD.

ZRAATSPR
Virtual target system TSRAA_PROJECT1 for external subsystem named RAA1.

ZRAAT001-ZRAAT010
Virtual tables mapping tables in the RAA database. All tables use the same name as the corresponding RAA database table with a prefix of RAA_ (for example, “DMH”.”DMH_DATA_RECORD” in Db2 has a virtual table name of RAA_DATA_RECORD).

ZRAAV001-ZRAAV003
Virtual views on the RAA_ virtual tables used by the Accelerator Loader studio to read RAA data. These views are all prefixed with RAAV_ (for example, RAAV_DATASETS). All data access from the studio is performed using virtual views.

These maps are not installed by default. Use the following procedure to install these maps.

Procedure

1. Locate the HLVRAMPS member in the *hlq*.SHLVCNTL data set.
2. Modify the JCL according to the instructions provided in the HLVRAMPS member.
3. Submit the job.

   The virtual tables and virtual target maps are installed.

Modifying the configuration member for RAA access

Enable and configure the parameters for IBM Rational Asset Analyzer (RAA) in the server configuration member.

About this task

The server configuration member contains a sample DATABASE definition that defines the first RAA database.

When enabling the database definition for the first RAA instance, the LOCATION and IPADDR parameters must be set to the database information for the Db2 on z/OS subsystem hosting the RAA database. The subsystem NAME(RAA1) should not be changed because a target subsystem map is configured to use this name for the virtual tables accessing the RAA database.

For multiple RAA databases, see “Adding an RAA database” on page 184.

The server configuration member *hlvid*IN00 is in data set *hlq*.SHLVEXEC, where *hlvid* represents the name of the Accelerator Loader server started task that was customized using Tools Customizer.

Procedure

In the hlvidIN00 member, locate the comment “IBM Rational Asset Analyzer location". The following example shows the section in the configuration member to locate:

```
/*-----------------------------------------------------------------*/
/* DRDA definition for IBM Rational Asset Analyzer location. RAA */
/* database definitions must have a NAME() starting with RAA     */
/*-----------------------------------------------------------------*/
"DEFINE DATABASE TYPE(ZOSDRDA)"                    ,
                "NAME(RAA1)"                       ,
                "LOCATION(DRDAZOS)"                ,
                "DDFSTATUS(ENABLE)"                ,
                "PORT(443)"                        ,
                "IPADDR(127.0.0.1)"                ,
                "CCSID(37)"                        ,
                "APPLNAME(DSN1LU)"                 ,
                "IDLETIME(100)"

end
```

The following table lists the parameters for configuring support for RAA:

Parameter	Description	Valid values
TYPE	Database type. Because RAA stores information in Db2 for z/OS, this value must be ZOSDRDA.	ZOSDRDA
NAME	The database name as known to the server. The first definition must be RAA1 because the target system map names this as the subsystem to access for RAA. For additional RAA databases, subsystems can have any name since you must also create a virtual target system to point to it; however, it recommended that the name start with RAA. (*Required*)	A valid value consists of 1 - 4 characters, starting with RAA. For example, RAA1.
LOCATION	Name of the database. The LOCATION parameter must be set to the database information for the Db2 on z/OS subsystem hosting the RAA database. (*Required*)	A valid value is a string 1 - 16 characters.
DDFSTATUS	The DDF activation status, which can be altered online by using the ISPF 4-Db2 dialog panels. (*Required*)	**ENABLE** Make this DDF definition active within Accelerator Loader server. **DISABLE** DDF endpoint is not used.
PORT	The TCP/IP port at which the server is listening. (*Required*)	A valid 1-5 numeric string.
IPADDR	Specify the dot-notation IPV4 address of the DDF endpoint. For the first RAA instance, the IPADDR parameter must be set to the database information for the Db2 on z/OS subsystem hosting the RAA database. (*Optional*)	If this parameter is not specified, the value 127.0.0.1 (local host) is the default. For group director definitions, use the DVIPA IP address of the group director.

Parameter	Description	Valid values
CCSID	Specify the EBCDIC single-byte application CCSID (Coded Character Set Identifier) configured for this RDBMS subsystem on the RDBMS installation panel DSNTIPF, option 7. (*Optional*)	Refer to the RDBMS vendor documentation for a list of valid CCSIDs.
APPLNAME	Application name. The APPLNAME used by the target endpoint for passticket generations. (*Optional*)	A valid value is 1 - 8 characters. If APPLNAME is not specified in the definition statement, no default value is provided and passticket access is disabled. **Note:** APPLNAME is not required when connecting from the JDBC driver.

Adding an RAA database

Perform required configuration steps to add an RAA database.

About this task

For multiple RAA databases, you must perform configuration steps to define each additional RAA database. The following requirements apply when maintaining multiple RAA databases:

- For the first instance of an RAA database:
  - The database name in the must be RAA1.
  - The target system for the name RAA1 is automatically installed with the RAA maps, as described in “Installing virtual tables and virtual target maps for RAA access” on page 181.
- For subsequent RAA databases:
  - It is recommended that the database name start with RAA.
  - The target system must start with TSRAA.

Perform the following procedure for each additional RAA database.

Procedure

1. Repeat the database definition in the configuration member and make the following changes:
   a) Change the NAME value to a unique name (for example, RAA2).
   b) Change the LOCATION value to reference the Db2 subsystem hosting the RAA database.
   For information about the database definition parameters, see “Modifying the configuration member for RAA access” on page 182.
2. If the schema (table owner) used by RAA is not ‘DMH’, update the system global variable GLOBAL2.RAA.*database-name*.SCHEMA to the correct schema name for the RAA database tables.
3. Define a new virtual target system using the studio. The name of the virtual target system must start with TSRAA. This can be done in the Accelerator Loader studio by selecting the **Create Virtual Target System** in the **Server** tab under the **SQL** > **Target Systems** > **DBMS** node of the tree. The connection value in each definition must match the NAME value defined in the DATABASE definition in the configuration member.
4. If required, create authentication information using the HLVDRATH batch utility.

Configuring virtual table rules for RAA

Configure Server Event Facility (SEF) rules to support multiple instances of the IBM Rational Asset Analyzer (RAA) schema using common virtual table and view definitions.

About this task

To support multiple instances of the RAA schema using common virtual table and view definitions, VTB rules HLVRAATB and HLVRAAVW provide support to process tables starting with RAA_ and views starting with RAAV_.

HLVRAATB
: This table rule looks at the base view of a query for double underscores "__" and uses the data after the underscores to update the target subsystem for the query. This rule will also change the schema (or table owner) name of RAA tables from DMH to another value if the global system variable GLOBAL2.RAA.*database-name*.SCHEMA is set with an alternate schema name.

HLVRAAVW
: This view rule looks for the double underscores and removes them from the view name to process.

With the rules activated, the Accelerator Loader studio can suffix the view names with __SSID for all calls and process multiple instances of the RAA schema using a single set of maps.

These rules must be activated regardless of the number of RAA databases to be enabled.

Use the following procedure to set up these rules.

Procedure

Use the following steps to enable rules HLVRAATB and HLVRAAVW in the VTB ruleset:

a) In the Accelerator Loader - Primary Option Menu, specify option E, **Rules Mgmt**.

b) Specify option 2, **SEF Rule Management**.

c) Enter VTB for **Display Only the Ruleset Named**.

d) Enable the rule by specifying E and pressing Enter.

e) Set the rules to Auto-enable by specifying A and pressing Enter.

Setting a rule to Auto-enable activates the rule automatically when the server is re-started.

Configuring authentication for RAA

Configure authentication for communicating with the IBM Rational Asset Analyzer (RAA) database.

About this task

Since RAA is hosted on a z/OS Db2 database, the z/OS credentials that are used to connect to Accelerator Loader should also be usable for the z/OS system where Db2 resides. By default, the Accelerator Loader server will attempt to use the same user ID that was presented for logon to z/OS for access to the RAA database. To use these credentials, the user ID must have SELECT access on the RAA tables in Db2.

If you choose to specify alternate credentials when communicating between the Accelerator Loader server and the RAA database, you must define what credentials to use. A facility is provided in the server to optionally change the logon credentials for a user when accessing the RAA database. To accomplish this, the following tools are provided:

HLVDRATH
: A utility that sets encrypted passwords in GLOBALU variables. You can also use this utility to list existing credential information.

HLVEDB2G
: An ATH rule that switches credentials when connecting to an RAA database using DRDA. This rule uses AES encrypted passwords stored as GLOBALU system variables.

You can use any of the following options for authentication:

- Use z/OS IDs for authentication
- Add a global default user definition using sample job HLVDRATH and enable ATH rule HLVEDB2G
- Add authentication information for specific mainframe users using sample job HLVDRATH and enable ATH rule HLVEDB2G

If z/OS user IDs and passwords used to connect to the Accelerator Loader server are not authorized for the Db2 database hosting the RAA tables, you must define the credentials to use. Use the following procedure.

Procedure

1. Use the sample job HLVDRATH to add a global default user definition or authentication information for specific mainframe users as follows:
   a) Locate the HLVDRATH member in the *hlq*.SHLVCNTL data set.
   b) Modify the JCL according to the instructions provided in the HLVDRATH member.

      When adding the SYSIN statements that define the alternate credentials for logging in to your RAA database, as instructed in the JCL, make sure to specify the correct DBTYPE. For RAA databases, specify DBTYPE=Z0SDRDA.
   c) Submit the job.
   d) Optional: To verify the information stored in the GLOBALU variables and list existing authentication, use the REPORT=SUMMARY statement in the HLVDRATH member and submit the job.
2. Auto-enable the SEF ATH rule SHLVXATH(HLVEDB2G) to switch credentials when connecting to RAA using DRDA. Global variables are used to define alternate authentication credential mapping for the SEF ATH rule.
   a) On the main menu, select **Server administration**.
   b) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.
   c) Select option **2** for SEF Rule Management.
   d) Enter * to display all rules, or ATH to display only authentication rules.
   e) Set Auto-Enable for the HLVEDB2G rule member by entering A and pressing Enter.

Configuring generation data set retrieval

You can configure the server to read only a subset of generation data sets (GDSs) by activating a VTB rule.

About this task

To read only a subset of generation data sets in a generation data group (GDG), you must enable virtual rule HLVGDGS1 and use the prefix GDG__ in your SQL statement.

A VTB rule is provided that allows a subset of the GDG to be read. VTB rule HLVGDGS1 is invoked by the SEF every time a table with the prefix GDG__ is found in the SQL statement.

The table name in the SQL statement must be of the form:

```
GDG__NumGens_RelGen_MapName
```

Where:

- GDG__ is a constant indicating a generation data set request.
- *NumGens* is a required number 0 through 999 indicating the number of generations to read.
- *RelGen* is an optional number 0 through 999 indicating the relative generation at which to start reading. A value of 0 is equivalent to a suffix of (0) in a JCL allocation; a value of 1 is equivalent to (-1), and so on.
- *MapName* is the table defined in the map data set.

For example, the following request will result in generations HLQ.GDG.STAFF(-3) through HLQ.GDG.STAFF(-6) being retrieved:

```
SELECT * FROM GDG__4_3_STAFF
```

Where the STAFF table specifies a base data set name of HLQ.GDG.STAFF. In other words, with this request, four generations will be read in descending generation order beginning with relative generation 3 (that is, generations 3, 4, 5, and 6).

Use the procedure in this task to enable sample rule HLVGDGS1.

Additional details:

When a request is made to allocate a data set, it will first be determined if the data set name represents a GDG base name. If so, a CSI lookup call will be made to return the associated GDS data set names. If a VTB rule does not specify the number of generations to read and MapReduce is disabled, or if there is a single generation, the GDG will be allocated using its base data set name, and normal system concatenation of generation data sets will occur. If MapReduce is enabled and there are multiple active generation data sets, a number of I/O processing tasks will be created. The number of I/O tasks is determined as follows:

1. If VPD is in use, the number of VPD I/O threads specified.
2. If MRC is in use, the number of active Client threads defined in the MRC request.
3. If neither VPD nor MRC is in use, the number of I/O threads will be equal to the lesser of the following:
   - The number of active generation data sets in the GDG
   - The number of generations requested by a VTB rule
   - The number of MapReduce tasks specified in the ACIMAPREDUCETASKS configuration

When the number of I/O tasks is equal to or less than the number of generation data sets, each task will read one or more complete data sets. When the number of I/O tasks exceeds the number of generation data sets, some tasks will be idle.

Procedure

1. Customize the server configuration member (hlvidIN00) to enable virtual table rule events by configuring the SEFVTBEVENTS parameter in the member, as follows:

   ```
   "MODIFY PARM NAME(SEFVTBEVENTS) VALUE(YES)"
   ```

2. Access the VTB rules, as follows:
   a) In the Accelerator Loader - Primary Option Menu, specify option E, **Rules Mgmt**.
   b) Specify option 2, **SEF Rule Management**.
   c) Enter VTB for **Display Only the Ruleset Named**.
3. Enable the rule by specifying E next to HLVGDGS1 and pressing Enter.
4. Set the rule to Auto-enable by specifying A next to HLVGDGS1 and pressing Enter.
   Setting a rule to Auto-enable activates the rule automatically when the server is re-started.

Configuring delimited data support

To be able to process delimited data using virtual tables, you must configure a virtual table rule to activate delimited data processing and optionally define delimiter values.

About this task

Accelerator Loader provides the ability to process delimited data from files, MQ data, and log streams using virtual tables mapped to MQ or z/OS files. The most common form of delimited data is comma separate value files (.csv).

When delimited data processing is activated, processing occurs in column order, so the delimited data must include a value for each column in the map in the correct order to prevent errors. Data conversion errors will occur if the delimited data is not compatible with the host types of the columns. If conversion fails, diagnostic information related to the error is automatically logged for troubleshooting problems.

Delimited processing is supported through virtual table rules only. Using virtual table rule options, you can enable delimited data processing, set column and string delimiter values, and control header record processing.

A sample rule, HLVMDDLM, is provided that documents these settings. Use the following procedure to configure the sample rule.

Procedure

1. Customize the server configuration member (*hlvid*IN00) to enable virtual table rule events by configuring the SEFVTBEVENTS parameter in the member, as follows:

   ```
   "MODIFY PARM NAME(SEFVTBEVENTS) VALUE(YES)"
   ```

2. Access the VTB rules, as follows:
   a) In the Accelerator Loader - Primary Option Menu, specify option E, **Rules Mgmt**.
   b) Specify option 2, **SEF Rule Management**.
   c) Enter VTB for **Display Only the Ruleset Named**.
3. Customize the HLVMDDLM rule, as follows:
   a) Specify S next to HLVMDDLM to edit the rule.
   b) Find the **vtb.optbdlcv** variable and set to 1 to activate delimited processing for a map.
   c) Update additional rule options as needed. The following table describes the VTB rule options that support delimited data processing.

VTB variable	Description
vtb.optbdlcv	Set to 1 to activate delimited processing for a map.
vtb.optbdlco	Set the column delimiter. The default value is the comma character (,). For example, if you use the colon character (:) as the column delimiter, specify `vtb.optbdlco = ':'`.
vtb.optbdlch	Set the character field or string delimiter. The default value is the quotation mark character ("). For example, if you use the hash character (#) as the string delimiter, specify `vtb.optbdlch = '#'`.
vtb.optbdlhr	Set to 1 to identify and remove the header record containing column names. If specified without a header prefix, the system compares the first token in each line to the first column name in the table to recognize and discard the header. The default is no header checking.
vtb.optbdlhp	Define prefix data that identifies the beginning of a header line to be discarded. The specified value can contain a maximum of 32 bytes. This value is compared to the beginning of each delimited line of data before any tokenization is performed. For example, `vtb.optbdlhp = '"NAME","ADDRESS"'`. **Note:** If an `optbdlhp` value is defined, it supersedes any `optbdlhr` setting and the `optbdlhr` value is ignored.

   d) Save your changes and exit the editor.
4. Enable the rule by specifying E next to HLVMDDLM and pressing Enter.

5. Set the rule to Auto-enable by specifying A next to HLVMDDLM and pressing Enter.
   Setting a rule to Auto-enable activates the rule automatically when the server is re-started.

Setting up accelerator groups

Accelerator group support allows you to load multiple accelerators by specifying a single accelerator group name.

About this task

To use accelerator groups in Accelerator Loader, you must identify the accelerator group name to the Db2 system.

Procedure

To add an accelerator group name, insert a row into the SYSIBM.LOCATIONS table using the following settings:

Table 17. SYSIBM.LOCATIONS settings for accelerator groups

Column name	Description
LOCATION	The accelerator group name.
LINKNAME	This column must have the value “DSNACCELERATORALIAS".
DBALIAS	The list of accelerators that belong to the group. Separate each accelerator name with a blank space.

Modifying started task initialization options

Use this task to modify a started task initialization option that is not available in Tools Customizer.

About this task

Started task initialization options are defined in the options module *hloid*OPTS, which is generated using Tools Customizer. Most options in the module are defined using Tools Customizer; however, there are exceptions. Use this procedure to add or update an option that is not available in Tools Customizer.

Important: It is recommended that you modify available started task initialization options through Tools Customizer. Use this procedure only for those parameters that are not included in Tools Customizer.

The following started task initialization option is not included in Tools Customizer:

Option	Required?	Valid values	Default value
RC_WHEN_DB2_DISCARDS="*rc*" When performing Dual loads, this option controls the value of the return code (*rc*) that is issued when the Db2 LOAD utility discards rows that Accelerator Loader has already delivered to the accelerator. An example of when this type of condition occurs is when Db2 LOAD detects unique index key violations and discards rows with duplicate keys. This option applies when performing Dual loads only.	No	4-99	4

Procedure

1. Locate the *hloid*OPTS member (where *hloid* is the started task configuration ID) that was generated using Tools Customizer for your started task configuration.
2. Add or modify the started task initialization options as needed, and save your changes.
3. Recycle the Accelerator Loader started task *hloid*PROC.

Applying product maintenance

Apply product maintenance and recustomize the product, if necessary.

About this task

To use the latest Accelerator Loader features, you must install product maintenance using the IBM SMP/E for z/OS program. If any updates to the Accelerator Loader configuration are necessary, you must also recustomize the product using Tools Customizer. The HOLD action in the APAR indicates if any recustomization steps are required.

For more information about recustomization, see “Roadmap: Recustomizing Db2 Analytics Accelerator Loader ” on page 87.

Important:

- Running Tools Customizer to recustomize the product is not necessary every time maintenance is applied. It is recommended to recustomize the product only when indicated in the HOLD action in the APAR.
- Regenerating customization jobs will replace any existing jobs, including jobs that you might have manually modified after they were generated.
- When using the Accelerator Loader server, use caution when regenerating Tools Customizer jobs that update the server configuration file (*hlvid*IN00). This file might contain customized settings that will be overwritten by Tools Customizer. For more information about server-related customization in Tools Customizer, see “Task: Create the server and the server components (required)” on page 55.

Procedure

1. Download the latest PTFs to the z/OS system where you want to apply the PTFs.
2. Use SMP/E to apply the PTFs.
3. Review the HOLD action in the APAR and determine if any recustomization steps are required.
4. If necessary, use Tools Customizer to recustomize the product.

Chapter 4. Getting started

You can use the ISPF interface to create JCL and control cards to load data to Db2 and the IBM Db2 Analytics Accelerator for z/OS from an external file or an image copy. The interface panels allow you to create load jobs with specific command parameters, then save that information in profiles you can reuse. In addition, you can configure subsystem information once and make it available to other ISPF users.

Note: To load data from the Accelerator Loader server, use the Accelerator Loader studio instead of the ISPF interface.

For details about command parameters and valid values on the panels, enter HELP or press PF1 from any ISPF panel to view contextual help for that panel.

To use the ISPF interface, you'll need to complete the following tasks:

1. Start the ISPF interface.
2. Configure at least one Db2 subsystem for use with the product.
3. Select the Db2 subsystem to work with.

Starting the ISPF interface

To begin using ISPF, start the ISPF interface.

Before you begin

- Complete the customization steps.
- Ensure that the ISPF interface has the required minimum region size of 30000 KB.
- If you copied the CLISTs for running the interface to another data set or data set member, make sure that you specify the name of that data set or member in this procedure.

Procedure

From the z/OS console, issue the following operator command

```
TSO ex 'hlq.mlq.SHLOCLST(HLOV21)'
```

where *hlq.mlq* represents the high-level and mid-level qualifiers that you specified during customization; HLOV21 is the default value for the CLIST.

The Accelerator Loader main menu displays, as shown in the following figure.

```
          IBM Db2 Analytics Accelerator Loader for z/OS   2019/02/10  11:27:15
Option ===>

0  Setup                                                 User ID . . : TSUSER
1  Server administration                                 System ID . : RS25
2  Manage Loader profiles                                Appl ID . . : HLO
3  Load Accelerator(s) and Db2 from external file        Version . . : 2.1
4  Load Accelerator(s) from external file
5  Load Accelerator with consistent data                 Db2 SSID  . . QA1A
6  Load Accelerator from a specified image copy          Server ID . .
7  Load Accelerator(s) from Db2 table(s)
8  Back up Accelerator table
9  Recover Accelerator table(s) from a backup
X  Exit
```

Figure 23. IBM Db2 Analytics Accelerator Loader for z/OS main menu

Note: For more information about using the startup CLIST, including passing values to the Accelerator Loader main menu, see “Using the startup CLIST” on page 943.

Note: When you start Db2 Analytics Accelerator Loader for the first time after installing the product, verify your user settings. Select **Setup** and browse the subpanels to confirm that the values you specified are correct.

Configuring a Db2 subsystem

You must configure at least one Db2 subsystem for use with Accelerator Loader. After you've configured a Db2 subsystem, you can also use this procedure to change information about that Db2 subsystem.

Procedure

1. From the main menu, select **Setup**.
2. On the **User Settings** panel, select **Db2 subsystem**.
3. On the **Db2 Subsystems** panel, perform one of the following steps:
   - To create a new Db2 subsystem, issue the CREATE command.
   - To copy information from one subsystem to another, type C in the **Cmd** line next to the SSID.
4. On the **New Db2 Subsystem** panel, specify the new Db2 subsystem ID and press **Enter**.
5. On the **Db2 Subsystem Parameters** panel, specify plan and data set information for the Db2 subsystem, select **Accelerator Loader Options**, and press **Enter**.
6. On the **Accelerator Loader Parameters** panel, specify or edit Db2 subsystem-specific options that the product uses during processing:
   - The sort program to be used for internal sorts
   - Log read and log apply preferences
   - File allocation parameters
   - Information for the data sets that the product creates
   - Information for the product sort work data sets
7. To save and return to the previous panel, press **PF3**.

Selecting a Db2 subsystem

After you configure a Db2 subsystem for use with Accelerator Loader, select it as the Db2 subsystem to use.

Procedure

1. From the main menu, select **Setup**.
2. On the **User Settings** panel, select **Db2 subsystem**.
3. In the **Cmd** line beside the SSID, type S and press **Enter**.
4. To save and return to the previous panel, press **PF3**.

Specifying Db2 subsystem parameters

Configure Db2 subsystem information in non-data sharing or data sharing environments and select it for use. Db2 Analytics Accelerator Loader uses Db2 subsystem-specific options during batch processing.

Procedure

1. From the main menu, select **Setup**.
2. On the **User Settings** panel, select **Db2 subsystem**.
3. On the **Db2 Subsystem Parameters** panel, specify plan and data set information for the Db2 subsystem, select **Accelerator Loader Options**, and press **Enter**.

4. On the **Accelerator Loader Parameters** panel, specify or edit Db2 subsystem-specific options that the product uses during processing:
   - The sort program to be used for internal sorts
   - Log read and log apply preferences
   - File allocation parameters
   - Information for the data sets that the product creates
   - Information for the product sort work data sets
5. To save and return to the previous panel, press **PF3**.

Deleting a Db2 subsystem

If you no longer need a subsystem, you can delete it from the control file.

Procedure

1. From the main menu, select **Setup**.
2. On the **User Settings** panel, select **Db2 subsystem**.
3. In the **Cmd** line beside the SSID, type D, and press **Enter**.
4. In the **Confirm Action** panel:
   a) Optional: To turn off the display of future delete confirmation panels, type a slash character (/) in the field **Set item delete confirmation off**.
   b) To confirm that you want to delete the subsystem, press **Enter**.
5. To save and return to the previous panel, press **PF3**.

Specifying job card information

Define a job card to include in batch jobs.

Procedure

1. From the main menu, select **Setup**.
2. On the **User Settings** panel, select **Batch**.
3. On the **Set Batch Job Card Information** panel, specify how you want the batch job to be built when generating JCL with Accelerator Loader.
4. To add a line to the job card, issue the ADD command or type I in the **Cmd** field beside a line and then press **Enter**.
5. To delete a line from the job card, type D in the **Cmd** field beside the line and then press **Enter**.
6. To move a line in the job card, type M in the **Cmd** field beside the line and then press **Enter**.
7. To save and return to the previous panel, press **PF3**.

Chapter 5. Loading data from non-Db2, remote Db2, and remote system sources

Db2 Analytics Accelerator Loader enables you to load data from non-Db2 and from remote Db2 sources directly to the accelerator in a single in-memory process.

The source data is accessed, converted to the necessary format, and loaded to the accelerator in a single step without landing or loading the data into an intermediate file format. The Accelerator Loader server, a mainframe-resident data access server that accesses all data sources, enables you to load data from remote sources that are not directly accessible from the local system, and load target Unicode accelerator-only tables (AOTs) from an Accelerator Loader server data source containing EBCDIC data.

Prerequisites

Before you can load data from a non-Db2 or a remote Db2 source, you must complete the following prerequisites:

1. Install Db2 Analytics Accelerator Loader. Installation instructions are available in the Program Directory at Db2 Analytics Accelerator Loader for z/OS V2.1 documentation.
2. Customize Db2 Analytics Accelerator Loader. See the customization checklist in Chapter 2, “Preparing to customize,” on page 25).

   During customization, you'll need to install the Accelerator Loader studio, start the Accelerator Loader server, and configure access to mainframe data sources.

   See Installing the Accelerator Loader studio
3. Using the Accelerator Loader studio, prepare your system to read data from existing data sources and configure your system to transform that data to virtualized tables at run time. See Getting started with the studio

Accelerator Loader server restrictions and considerations

Review the following usage restrictions and considerations before performing a load using the Accelerator Loader server.

- You must set up the RACF PassTicket to enable cross-system Db2 access with IBM Db2 Analytics Accelerator for z/OS. A sample job is provided in *hlq*.SHLVCNTL(HLVRADB2) showing how to set up RACF PassTicket to allow users to access Db2 data through the server. For more information, see the *z/OS Security Server RACF Security Administrator's Guide*.
- After first loading the entire table on the accelerator that includes all partitions (as required by IBM Db2 Analytics Accelerator for z/OS), you can load a subset of selected table partitions by specifying the PART clause on the LOAD statement.
- The Accelerator Loader studio creates the target table DDL and JCL to load data to the accelerator. The generated JCL includes Accelerator Loader and Accelerator Loader server load libraries on the STEPLIB DD.
- When loading data from an external source, the following LOAD utility parameters are not supported:
  - Field specifications when loading from a Accelerator Loader server source.
  - INDDN and ACCEL_CURSOR options specified together
  - ACCEL_HLV_SSID and ACCEL_HLV_GRPNAME options specified together
- Ensure that you correctly set up Db2 LUW authentication to use Db2 LUW as a data source.
- You can load target Unicode accelerator tables from an Accelerator Loader server data source containing EBCDIC data. You can load EBCDIC data stored on the mainframe into target tables defined as CCSID Unicode. These features ensure compatibility between tables loaded from EBCDIC data and existing tables populated by other means. In particular, the accelerator does not support joins between

Unicode and EBCDIC tables. Accelerator Loader automatically requests Unicode data if the AOT table is defined as Unicode.

You must perform EBCDIC-to-Unicode conversion using virtual tables. Virtual tables improve parallelism and ensure that overflow conditions in EBCDIC-to-Unicode conversion do not result in data truncation. To perform the conversion, use the **CCSID** and **Enable Unicode Column Expansion** options in the **Generate JCL to Load Accelerator** wizard in the Accelerator Loader studio when generating Accelerator Loader server load jobs.

- Use compatible source and target data types. If Accelerator Loader detects incompatible source and target data types, Accelerator Loader fails and issues a message. The following table lists compatible source and target column data types. The first column lists the supported data types for the source Accelerator Loader server column. The second column lists the data type of the Db2 column that you are loading on the accelerator.

Table 18. Compatible source and target column data types

Source server column data type	**Target Db2 column data type**
CHAR, VARCHAR	CHAR
CHAR, VARCHAR	VARCHAR
DATE, CHAR, VARCHAR	DATE
TIME, CHAR, VARCHAR	TIME
TIMESTAMP, CHAR, VARCHAR	TIMESTAMP
INTEGER, SMALLINT	INTEGER
INTEGER, SMALLINT, BIGINT	BIGINT
SMALLINT	SMALLINT
DECIMAL	DECIMAL
REAL	REAL (Single precision floating point)
REAL, FLOAT	FLOAT (Double precision floating point)
GRAPHIC, VARGRAPHIC	GRAPHIC
GRAPHIC, VARGRAPHIC	VARGRAPHIC
BINARY, VARBINARY	BINARY
BINARY, VARBINARY	VARBINARY

  - Db2 DRDA data sources requires no virtual tables or virtual views. When Accelerator Loader directly uses a Db2 DRDA data source, an unsupported column type message might display in the Accelerator Loader studio. The generated DDL with the unsupported columns is written as comments in the generated JCL.
  - The IMS source data and target Db2 subsystem the accelerator is configured to must reside on the same LPAR.
  - The target accelerator and Db2 subsystem must reside on the same LPAR.
  - The order in which the columns are specified in the server query result set must match the order in which the columns are defined in the target Db2 table.
  - The number of columns that are specified in the server query result set must equal the number of columns in the target table.
  - If the source column in the result set is nullable, then the corresponding target Db2 column must also be nullable.

- The scale of a decimal target Db2 column must match the decimal scale of the corresponding result set column.
- If you are loading a DATE/TIME/TIMESTAMP column from a CHAR or VARCHAR result set column, the value must be in a date/time formats that Accelerator Loader supports. Specifying unsupported date/time values can cause invalid data to be loaded to the accelerator.
- DECFLOAT is not a supported data type in the accelerator. Using Accelerator Loader server parameters, you can automatically map all DECFLOAT columns defined in Accelerator Loader server virtual tables to DOUBLE at runtime. You can also edit the virtual tables in the Accelerator Loader studio, changing the DECFLOAT columns to another data type.

  For example, you can convert data to DECIMAL(*x*,*x*) or CHAR/VARCHAR. The server completes the conversions and the studio generates the load jobs using supported accelerator data types. DECFLOAT causes the studio to generate DDL using a datatype of DOUBLE in the accelerator; otherwise, the studio uses the specified data type. To control this behavior, use the server parameters SQLENGDECFLTTODBL and SQLENGDRDATYPECONV. For more information about these parameters, see "Modifying the server configuration member for DRDA" on page 125.

Getting started with Accelerator Loader studio

The Accelerator Loader studio provides an integrated development environment for database and instance administration, routine and Java application development, and query tuning.

You can use the Accelerator Loader studio to quickly transform and load relational and non-relational data to an accelerator that is connected to an IBM z/OS mainframe system. You are not required to first extract and write data to a separate file before transforming and loading the data. You get real-time access to your data because the data is read directly from the mapped source and transformed during the load process.

Depending on your business needs, you can choose the parallel-data loading feature to further optimize load performance and gain even faster access to your most critical data. For example, a credit card service bureau needs real-time access to transactional data to flag suspicious credit card activity.

Accelerator Loader also supports data joins from different data sources. Supported data sources include Db2, IMS DB, VSAM data sets, physical sequential data sets, and distributed relational database architecture (DRDA) data sources (including Oracle and Db2 LUW).

To get started with Accelerator Loader studio, you'll need to complete the following high-level procedures:

1. Start the Accelerator Loader studio.
2. Open the Accelerator Loader perspective.
3. Connect to the Accelerator Loader server.
4. Create a virtual source library that references data layouts on the mainframe.
5. Create a virtual table from a member within a virtual source library that represents the data that you want to access.
6. Generate and execute the SQL from a virtual table. The SQL is used to read and extract the data from the mainframe.
7. Generate and submit the JCL used to load the accelerator.

After completing these tasks, you'll be able to transform mainframe data to virtualized tables at run time and load the virtualized table data to accelerator tables.

Opening a Perspective

A perspective is an arrangement of views and editors in the Accelerator Loader studio workbench. You use perspectives to accomplish a specific task or set of tasks. The perspective you choose determines the views and editors available in the workbench.

About this task

When you open a perspective, the menu items, tool bars, views, editors, and wizards associated with that perspective become available in the workbench.

Procedure

1. Open Accelerator Loader studio.
2. From the **Window** menu, select **Open Perspective** and select a perspective.

Accelerator Loader Perspective

The Accelerator Loader perspective in Accelerator Loader studio provides the views, editors, and wizards that get and load data from one or more data sources to the accelerator.

Use the Db2 Analytics Accelerator Loader perspective to perform the following tasks:

- Explore mainframe resources and view metadata.
- Create and manage data sources.
- Generate and modify SQL queries.
- Create virtual tables from SQL.
- Create virtual views for use with complex SQL queries.
- Generate, save, and submit JCL to load the accelerator.

Views

The Accelerator Loader perspective includes the following views:

- **Active Connections**: lists the open JDBC connections between the studio and one or more servers. The current active connection is used by the **SQL Editor** to issue SQL queries over that JDBC connection. You can create new or delete existing server connections.
- **Explorer views**: list data resources, stored procedures, and metadata. You can perform tasks on selected objects in the tree. Explorer views include the following tabs:
  - **Client** tab: lists information related to data sources and application development on your local machine.
  - **Server** tab: lists the Accelerator Loader server you want to connect to, resources you can view, and tasks to perform.
  - **Network** tab: lists host and server connections within your network. You can choose to view or modify existing host and server settings.
  - **Favorites** tab: lists shortcuts to the mainframe resources you frequently access.
- **Server Trace Import**: import Server Trace (**`.isx`**) files.
- **Labels**: apply labels to Server Trace messages when searching within the **Server Trace** view.
- **Lists**: display details for each tree node or object that is selected in an Explorer view.
- **Search**: search for a text string within Server Trace results.
- **Server Trace**: set and gather server diagnostic information for support purposes.
- **SQL Results**: display the result set returned from an SQL query in the **SQL Results** tab, and resulting trace information in the **SQL Messages** tab.
- **Studio Navigator**: list shortcuts to task views and editors for this plug-in.

- **Properties**: display the properties of a selected object on the Server, Network, or Client navigation tabs.
- **Virtualization Facility**: displays virtual table mapping details.

Editors

The Accelerator Loader perspective includes the following editors:

- **Data Source Editor**: edit connection definitions used to open active connections (see **Active Connections** view).
- **SQL Editor**: compose SQL statements and invoke queries against the server.
- **JCL Editor**: edit and submit JCL.
- **Virtualization Facility Editor**: edit meta data settings that are related to virtual tables and virtual views.

Wizards

This perspective includes wizards that guide you through tasks, such as:

- Setting the server connection
- Creating virtual source libraries
- Creating virtual tables
- Generating code from SQL

Connecting to the Accelerator Loader server

To access data on the mainframe, connect Accelerator Loader studio to the Accelerator Loader server that is running on an z/OS mainframe instance.

Connecting to the Accelerator Loader server

Use the Accelerator Loader studio to connect to the Accelerator Loader server that is running on an instance of z/OS.

Before you begin

Before you can connect to the Accelerator Loader server, the server must be configured and started.

Procedure

1. Start the Accelerator Loader studio:
   a) Click **Start** > **IBM DB2 Analytics Accelerator Studio 2.1** .
   b) Right-click **IBM DB2 Analytics Studio 2.1** and select **Run as an administrator**.
2. From the Accelerator Loader studio menu, select **Window** > **Open Perspective** > **Accelerator Loader**.
3. On the **Server** tab, select **Set Server**.
4. In the **Set Server** dialog box, complete the following:
   - **Host**: Select or enter the TCP/IP host name or IP address of the mainframe system the Accelerator Loader server is deployed on.
   - **Port**: Enter the port number that the Accelerator Loader server uses. The default is 1200.
   - **Userid**: Enter your mainframe user ID.
   - **User Password**: Enter your password or password phrase for the mainframe user ID.
5. Click **OK**.

Configure DRDA access to RDBMS data sources

To complete the configuration of DRDA access to RDBMS data sources, you must bind packages on the Accelerator Loader server, and grant users the authority to use those packages.

Before you begin

You must know the host name and the port number of the Accelerator Loader server and your log on credentials. Your log on credentials must have the authority to bind packages and grant privileges.

About this task

Perform the following task for each RDBMS data source that you want to access.

Some of the options are contextual. Depending on the options you select, you'll be prompted to complete further options.

Procedure

1. From the Accelerator Loader studio, go to **Window** > **Open Perspective** > **Accelerator Loader**.
2. On the **Server** tab, click **Set Server**.
3. In the **Set Current Server** dialog box, complete the following fields:

Option	Description
Host	Enter the TCP/IP host name or IP address of the mainframe system.
Port	Enter the port number used to communicate with the Accelerator Loader server. The default is 1200.
Userid	Enter the mainframe user ID.
User Password	Enter the password for the mainframe user ID.

4. Click **OK**.
5. On the **Server** tab, expand **SQL** > **Data** > **Other Subsystems**.
6. Right-click the subsystem and select **BIND/GRANT Packages**.
7. On the **BIND/GRANT Packages** page, complete the following fields:

Field	Action
Package Prefix	Enter the two-character prefix to assign to the package. The package prefix must match the prefix that is defined on the mainframe server. If you change the default prefix (DS), you must also change it in the *hlq*`.SHLVEXEC(hlvidIN00)` file.
Number of Cursors	Enter the number of cursors to use to process results. The default is 200.
Collection	Enter the value to use to bind packages. The default is **NULLID**. This value is normally determined by the Db2 Administrator.
Table Qualifier	Enter the value to use to qualify unqualified SQL. This value is normally determined by the Db2 Administrator.
Owner UserId	Enter the user ID of the package owner. This value is normally determined by the Db2 Administrator.
Grant to	Set only when granting authority for the target Db2 server. The default is **PUBLIC**.
Bind Package	Binds the product packages. This is the default setting.
Grant Execute	Grants execute permissions on the package to the user ID specified in the **Grant to** field.

Field	Action
Replace Packages	Replaces an existing package with the specified subsystem. Select this option only if the package already exists.

8. Review the results in the **Results** text box and click **BIND/GRANT**.

Set Accelerator Loader studio local code pages

You can modify the data source connection definitions to use different local code pages to match your geographic location.

Before you begin

You have the option to change the default code page (US/English IBM 1047) that the Accelerator Loader studio uses to perform character data translations between the native Java character encoding (UTF-8) and the mainframe.

Procedure

1. To configure the data source connection definition, in the **Active Connections** view, close all open connections.
2. On the **Client** tab, expand **Accelerator Loader** > **Data Sources** > **JDBC** > **Default Config File**.
3. Right-click the data source you want to modify and click **Edit**.
4. In the **Data Source Editor**, click the **Connection String** tab.
5. Add or modify the `Charset` setting to use the EBCDIC code page for your location. For example, `Charset=IBM037`.
6. If `LGID=ENC` exists in the connection string, delete it to avoid a conflict with the `Charset` setting.
7. Close the **Data Source Editor**.
8. When prompted, click **Yes** to save the data source definition.
9. To change the default `Charset` that the Accelerator Loader studio uses when creating connection definitions, from the **Window** menu select **Preferences**, expand **Accelerator Loader** > **Driver**.
10. In **Connection Overrides**, enter the new `Charset` setting and click **OK**.
11. On the **Server** tab, expand **SQL** > **Data**.
12. Right-click the data source to which you want to connect and select **Create Connection Definition (DSN)**.
13. Accept the default name that is displayed or enter a new DSN name and click **OK**.
14. In the **Data Source Editor**, click the **Connection String** tab and confirm that the new `Charset` setting displays in the connection string.

Results

When running queries using the new data source definition, the character data, including language specific glyphs, that you chose is displayed in the **SQL Results** view.

Creating server metadata

You can use the Accelerator Loader studio to create server metadata that enables you to virtualize your data. Server metadata includes virtual source libraries, virtual views, virtual tables.

Creating virtual source libraries

Virtual source libraries point to the information that Db2 Analytics Accelerator Loader needs to access some types of mainframe data.

Before you begin

A virtual source library is a server metadata object that references an existing source library on the Accelerator Loader (host) server. The virtual source library contains information that Accelerator Loader needs to access to virtualize source data. The members of the source library contain layout information specific to a type of data, for example a COBOL or PL/I copybook (copybook), Adabas Data Definition Module (DDM) views, IMS Database Definition (DBD) files, or IMS Program Specification Block (PSB) files. Virtual source libraries provide a reusable catalog of the host's data source libraries.

Note: When creating a virtual source library, the current user must have read access to the host data source library.

About this task

Virtual source libraries are a prerequisite to creating virtual tables for the following types of data sources:

- Adabas
- IMS
- IBM MQ
- Sequential
- VSAM, VSAM CICS and IAM
- zFS and HFS

When creating the virtual source libraries, specify the following data set (PDS/PDSE) names based on the type of data you want to access:

- To access Adabas data, specify the name of the PDS/PDSE that contains the Data Definition Module (DDM) views set up for the Adabas data in your environment.
- To access IMS data, you may need to create multiple virtual source libraries that reference multiple types of source libraries. You can create a separate virtual source library that references the IMS DBD files, the IMS PSB files, and the copybooks that describe the layout of each IMS segment. In each case, specify the PDS/PDSE that is specific to the source library.
- To access IBM MQ data, specify the name of the PDS/PDSE that contains the copybook describing the data written to the queue.
- To access sequential data, specify the name of the PDS/PDSE that contains the copybook describing the structure of the sequential data records.
- To access VSAM, VSAM CICS, and IAM data, specify the name of the PDS/PDSE that contains the copybook describing the structure of the VSAM, VSAM CICS, and IAM data records.
- To access z/FS and HFS data, specify the name of the PDS/PDSE that contains the copybook describing the structure of the records in the data file.

Procedure

1. On the **Server** tab, expand **Admin** > **Source Libraries**.
2. Right-click **Create Virtual Source Library** and select **Create Virtual Source Library**.
3. Select the **Data Set** wizard and click **Next**.

4. On the **Virtual Source Library** page, complete the following fields:

Field	Action
Name	Enter a unique, meaningful name for the virtual source library you are creating.
Description	Enter an optional description for the virtual source library.
Library Name	Enter the name of the PDS/PDSE that contains the layout information for the data you want to access.

5. Click **Finish**.

Results
The new virtual source library displays in the **Source Libraries** folder.

Creating virtual views

Consider creating a virtual view if columns in your virtual table are missing or if you want to join columns from different virtual tables.

Before you begin
The virtual tables representing the data that you want to access or join must already exist.

About this task
A virtual view comprises the SELECT statement that contains the columns from the source data used to read data directly from the data source. For example, `SELECT * FROM HLS_JOIN_VSAM LIMIT 1000;`. In some cases, creating virtual views is more convenient than regenerating and editing SQL each time you want to access the same data.

Procedure
1. In the **Server View**, expand **SQL** > **Data** > **Accelerator Loader server** > **Virtual Tables**.
2. Right-click the virtual table that represents the data that you want to access, and select **Create Virtual View**.
3. In the **Name** field, enter a name for the virtual view.
4. From the **Target** drop-down list, select the target to use for this virtual view.
5. Optional: In the **Description** field, enter a description.
6. Click **Next**.
7. In the **Table Browser**, expand the **Virtual Tables** folder, and select an existing virtual table to use to compose the SQL statement.
8. Click **Next**.
9. Optional: Review the resulting SQL statement and make any modifications.
10. Click **Validate** to validate the SQL.
11. If valid, on the **SQL Validation** message that displays, click **OK**.
12. Click **Finish**.

Results
In the **Server** view, locate the new virtual view by expanding **SQL** > **Data** > **Accelerator Loader server** > **Virtual Views**.

What to do next
Use the studio to compose and execute SQL queries using your new virtual views. See “Generating and executing SQL queries” on page 227.

Creating virtual tables

To access your data, create a virtual table or virtual view that maps to your source data and matches the definition of the source data structure on the mainframe.

You must create at least one virtual table to load data to the accelerator. A virtual table is an object registered within Accelerator Loader server and visualized in Accelerator Loader studio, which represents the object data in a format you can query. You can create a virtual table from any data source.

From the virtual table or virtual view, you generate the SQL used to read and access the mapped data from the mainframe. You create virtual tables using the **New Virtual Table Wizard** specific to the type of data you want to access. Some virtual tables, including SMF virtual tables, are made available during product installation.

You must complete the following tasks before creating a virtual table:

- Start the Accelerator Loader studio.
- Open the Accelerator Loader perspective.
- Connect to the Accelerator Loader server.
- Run the **Create Source Library** wizard to create a virtual source library to map to your mainframe data. This task is not required to create virtual tables for RDBMS data.

Virtual table tasks

When a virtual table is selected on the **Server** tab, you can perform the following tasks:

- **Edit**: Edit the virtual table properties in the editor.
- **Copy** and **Paste**: Copy the virtual table and paste the copy under the **Virtual Tables** node.
- **Disable**: Disable the virtual table on this server.
- **Delete**: Delete the virtual table from the server.
- **Create Virtual View**: Create a virtual view from the virtual table.

Viewing key and index information

You can view a summary of key and index information for an existing virtual table.

About this task

You can control the identification of primary keys and indexes using settings listed in SQL preferences.

If a virtual table includes columns that have a primary key or an index, the column is notated using the following symbols:

- Key symbol – This column is associated with a primary key.
- Superscript numeral 1 – This column is associated with a unique index, but does not have an associated primary key.
- Superscript asterisk – This column is associated with a non-unique index.

Procedure

1. Select the virtual table on the **Server** tab.
2. From the **Window** menu, select **Show View** > **Properties**.
   The properties for the selected table are displayed in the **Properties** view.
3. The primary key and index information is also highlighted when you browse RDBMS tables under the **Other Subsystems** tree.

Creating virtual tables for Adabas data

Create a virtual table that maps to the Adabas data you want to access.

Before you begin

Have the Adabas database ID and password, the file number, and the subsystem name available.

Procedure

1. Expand the **SQL** > **Data** > ***SSID*** node, where *SSID* is the name of your server.
2. Right-click **Virtual Tables** and select **Create Virtual Table(s)**.
3. Under **Wizards**, select the **ADABAS** wizard and click **Next**.
4. On the **New Virtual Table Wizard** page, complete the following fields and click **Next**:

Field	Action
Name	Enter a unique name. The name can contain a maximum of 50 characters. The name must consist of an uppercase letter followed by zero or more characters, each of which is an uppercase letter, a digit, or the underscore character.
Metadata Library	From the drop-down list, select the target library where the virtual table metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.
Arrays Handling	Enable one of the following array management options: • **Flatten arrays into a single fixed table at runtime**: Use this option for multiple occurring (MU) fields and periodic (PE) groups. • **Return arrays into separate tables at runtime**: Use this option for multiple occurring (MU) fields and periodic (PE) groups when you want to generate a subtable for each array. Subtables support only read access.

5. On the **ADABAS Details** page, complete the following fields and click **Next**:

Field	Action
DB ID	Enter the Adabas database ID.
File Number	Enter the number of the file to use.
Adabas Password	If the file is password-protected, enter the password. This password is stored and encrypted in the virtual table so that future queries use the same password to access the data.
SubSystem	Enter the name of the Adabas subsystem.
Max MU Count	Enter the maximum number of times to repeat the MU field. The default is 10.
Max PE Count	Enter the maximum number of times to repeat the PE field. The default is 10.
Create Count Field	Select this check box to index every MU or PE field so that the index (count) field created precedes the repeating field. This index field tells the caller how many repeating fields are being used.
Secure	Select this check box to choose the Adabas file ID number to use for file name security.
DE Search only	Select this check box if you want the utility to generate control definitions that allow the client to use only WHERE columns that are Adabas descriptors (such as superde, subde, and hyperde).

Field	Action
Search by PE index	Select this check box to allow the client to target rows that match a particular occurrence of the PE field when searching rows using the WHERE clause. If this parameter is not specified, all rows where any occurrence of that PE field match the value specified are targeted.
Unpacked to Packed	Select this check box to convert all unpacked format fields to packed format.
Binary to Integer	Select this check box to convert all 2-byte and 4-byte binary fields to short integer and integer formats, respectively.
Binary to Packed	Select this check box to map the binary fields in the Adabas file to SQL decimal columns (numeric packed decimal format) in the generated virtual table. Note the following points: • If the precision of the Adabas binary field allows for the possibility of a numeric value that would cause data overflow when converted to SQL decimal, the column in the virtual table is mapped to SQL binary instead. This means that Adabas fields with precision greater than 12 continue to be mapped to SQL binary. • If you select the **Binary to Integer** check box and the **Binary to Packed** check box, the precision of the Adabas binary field determines if it gets mapped to an SQL integer (that is, 2-byte or 4-byte fields) or a decimal type. • The IBM Db2 Analytics Accelerator for z/OS does not support the SQL binary type.
Advanced	When you are using large volumes of data from tables, click **Advanced** to display and configure the **MapReduce** feature. The **MapReduce** feature enables you to divide the data into logical partitions and process those partitions in parallel using the **Thread Count** value. At runtime, the number of zIIP processors is verified and one thread is used for each zIIP processor, resulting in improved performance. The **Thread Count** value you specify overrides the default value (2) and the discovered value. To disable **MapReduce**, select the **Disable MapReduce** check box.

6. Optional: On the **Data Definition Module** page, if you have a Natural Data Definition Module (DDM) listing of the file, you can complete the following to get additional metadata information:

Field	Action
Available Source Libraries	From the list of **Available Source Libraries**, select the virtual source library containing the data structure definition you want the virtual table to use.
Source Library Members	Select the names of each virtual source library member that represents the data structure you want to include. The green arrow next to a DDM indicates a suggested member, not a selected member.

7. On the **Virtual Table Layout** page, complete the following fields and click **Next**:

Field	Action
Source	Expand the source file to verify that it displays the expected data layout.
Start Field	This field is not supported for Adabas because the entire data layout is used.
End Field	This field is not supported for Adabas because the entire data layout is used.

8. Click **Finish**.

What to do next

Use the studio to compose and execute SQL queries using your new virtual tables. See "Generating and executing SQL queries" on page 227.

Important: Use caution when using the BASE_KEY in WHERE predicates when joining the parent table with a child subtable, since this will result in a table scan of the entire Adabas file. For example, instead of `[PARENT TABLE].BASE_KEY = [CHILD TABLE].PARENT_KEY`), use the CHILD_KEY: `[PARENT TABLE].CHILD_KEY = [CHILD TABLE].PARENT_KEY`).

Generating an encrypted Adabas password

Generate an encrypted Adabas password that you can use when creating Adabas virtual tables in batch.

About this task

When creating Adabas virtual tables in batch using the batch Data Mapping Facility (DMF), the Adabas password for the file (ADASCR) is supported. Additionally, you can encode this password on an ISPF panel, where you can specify the plain text password and then use the returned encoded version of the password in the batch JCL.

The parameter `ADABAS  PASSWORD` is supported on the SYSIN DD statement in the DMF batch JCL.

When creating Adabas virtual tables in batch, use the following procedure to pass the encrypted Adabas password.

Procedure

1. On the IBM Db2 Analytics Accelerator Loader for z/OS panel, specify option 1, **Server administration**.
2. On the Administer Accelerator Loader Server panel, specify option 2, **Configure server**.
3. On the Server Management Menu, specify option 4, **Encrypt Adabas Password (ADASCR)**.
4. On the DMF Map Adabas Password Encryption panel, in **Adabas Password** and **Re-Enter Password**, enter the plain text password (ADASCR) for your Adabas file, and press **Enter**.

   An encrypted version of the password appears in **ADABAS PASSWORD**.
5. Copy the following line from the **DMF Map Adabas Password Encryption** panel and paste it into your batch JCL SYSIN statement:

   ```
   ADABAS PASSWORD = encrypted_password
   ```

   where *encrypted_password* is the encoded version of your password.
6. Submit your JCL.

Creating virtual tables for RDBMS data sources

Create virtual tables that map to RDBMS data sources, such as Db2 for z/OS, Db2 LUW (Linux, UNIX, and Windows), Oracle, and Microsoft SQL Server.

About this task

Create a virtual table for each RDBMS table you want to access data from. Creating a virtual table for each RDBMS table allows you to perform joins across data that may originate from different DRDA-accessible RDBMS subsystems or to perform joins between your RDBMS data and other types of virtualized data, such as IMS or VSAM data.

Using a New Virtual Tables Wizard tool, you can create multiple virtual tables at one time if the selected source tables belong to the same RDBMS subsystem. In this tool, a view is treated the same as a table; each table or view is mapped to a virtual table.

When you create virtual tables to access Db2 for z/OS data, an option in the wizard tool allows you to select the access method. *Db2 Direct* is an Accelerator Loader server access method that reads the data in the Db2 VSAM linear data sets directly instead of accessing the data through traditional Db2 APIs. For more information, see "Db2 for z/OS data access methods" on page 135.

Note: The data access method options do not display if the Accelerator Loader server does not support Db2 Direct.

Procedure

1. On the **Server** tab, explore the RDBMS metadata information by expanding nodes **SQL** > **Data** > **Other Subsystems**, and navigating down the subtree. The hierarchy begins with the subsystem, followed by the schema, and then the tables and views.
2. Select a single table or view from the tree, or use the following techniques to select multiple tables or views:
   - To select more than one individual node, hold down the **Ctrl** key and click each node to include.
   - To select a range of tables (or views), click the first table in the range, and then hold the **Shift** key and select the last table in the range. All tables within the range are included.
   - To select a group of nodes, click the parent node. All of the children under the parent node are included. For example, select the **Tables** node to include all tables belonging to that schema. Or, select the schema node to include all tables and views under that schema.

   You can use a combination of these techniques. For example, you can select two schema nodes to create virtual tables for all tables and views belonging to those two schemas.
3. Right-click the selected items and select **Create Virtual Table(s)**. The **New Virtual Tables Wizard** launches.
4. On the **New Virtual Tables for DBMS access** page, complete the following fields:

Field	Action
Metadata Library	From the drop-down list, select the target library where the virtual table metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.
Naming Pattern	Specify the format to use for the generated virtual table names. Use the following variables to create naming patterns that are derived from the RDBMS metadata: • {Subsystem}: Subsystem name • {Schema}: Source schema name • {Table}: Source table name
Virtual Target System	Select a virtual target system from the drop-down list. A virtual target system points to the RDBMS subsystem that contains the data you want to access using the current virtual table. If there are no virtual target systems in the drop-down list, click **Create Target System** to create one. By using virtual target systems, you can change the name of the RDBMS subsystem that is referenced in the virtual tables. For example, create a virtual target system called TSDSN1 and specify its access to the RDBMS subsystem DSN1. Then, you can create 50 virtual tables that access data in the RDBMS source TSDSN1 (that is, pointing to DSN1). If you need to change the name of the RDBMS source DSN1, you can change it in a single place by editing the virtual target system. You can locate these target systems under the **SQL** > **Target Systems** > **DBMS** node in the server view tree.
• **Use traditional DB2 access (read/write,**	Select the access method to use when accessing Db2 for z/OS data. Choose **Use traditional DB2 access (read/write, transactional integrity)** to use Db2 APIs such as DRDA, CAF, and RRSAF. This is the default selection.

Field	Action
transactional integrity) • **Use DB2-Direct access (read-only, high performance bulk data access)**	Choose **Use DB2-Direct access (read-only, high performance bulk data access)** to use Db2 Direct. **Note:** These options are available only when creating virtual tables for access to Db2 for z/OS data and if the Accelerator Loader server supports Db2 Direct.
Advanced	When large volumes of data are being read from tables, click **Advanced** to display and configure the **MapReduce** feature. The **MapReduce** feature enables you to divide the data into logical partitions and process those partitions in parallel using the **Thread Count** value. At runtime, the number of zIIP processors is verified and one thread is used for each zIIP processor, resulting in improved performance. The **Thread Count** value you specify overrides the default value (2) and the discovered value. To disable **MapReduce**, select the **Disable MapReduce** check box.

5. In the results table, review the list of selected entries. Modify the selections as needed.

   Tip: Use the check box in the header row of the table to select all entries.
6. Click **Finish**.

What to do next

Use the studio to compose and execute SQL queries using your new virtual tables. See "Generating and executing SQL queries" on page 227.

Creating virtual tables for IMS data

Create a virtual table that maps to the IMS data you want to access.

Before you begin

The Program Specification Block (PSB) and Database Definition (DBD) source members, and the copybooks for each segment, must exist in the virtual source libraries defined to the server. For details, see "Creating virtual source libraries" on page 202.

To use the IMS Direct feature, the `IMSDIRECTENABLED` parameter must be enabled in the *hlvid*IN00 file.

About this task

When an IMS SQL query is run, the SQL Engine for the server determines if the request is best executed using IMS Direct (native file support) or if IMS APIs are required. The determination is based on the database and file types supported as well as the size of the database.

Procedure

1. Expand the **SQL** > **Data** > ***SSID*** node, where *SSID* is the name of your server.
2. Right-click **Virtual Tables** and select **Create Virtual Table(s)**.
3. Under **Wizards**, select the **IMS** wizard and click **Next**.
4. On the **New IMS virtual Table(s)** page, create metadata for an IMS virtual table by completing the following steps:
   a) Choose a DBD by completing one of the following steps:
      - Select a **DBD** from the drop-down list.
      - If your DBD does not appear in the drop-down list, click **Extract DBD** to create the metadata. The **New IMS DBD Metadata Wizard** launches. See "Using the IMS DBD Metadata wizard" on page 210.

b) Choose a PSB by completing one of the following steps:

- Select a **PSB** from the drop-down list.
- If your PSB does not appear in the drop-down list, click **Extract PSB** to create the metadata. The **New IMS PSB Metadata Wizard** launches. See "Using the IMS PSB Metadata wizard" on page 211.

c) Click **Create Virtual Table** to create a virtual table for an IMS segment in the selected DBD and PSB. The **New Virtual Table Wizard** launches. See "Using the IMS Virtual Table wizard" on page 212.

Note: The **Create Virtual Table** option is available only after you define the DBD and PSB.

5. Click **Finish**.

What to do next

Use the studio to compose and execute SQL queries using your new virtual tables. See "Generating and executing SQL queries" on page 227.

Using the IMS DBD Metadata wizard

Use the **New IMS DBD Metadata Wizard** to create server metadata containing information extracted from the selected DBD source. This DBD metadata is a prerequisite for creating IMS virtual tables. The name of each DBD map is determined by the contents of the DBD source.

Procedure

1. On the **New DBD Metadata** page, complete the following fields and click **Next**:

Field	Action
Metadata Library	From the drop-down list, select the target library where the DBD metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.

2. On the **Source Download** page, complete the following fields and click **Next**:

Field	Action
Available Source Libraries	From the list of **Available Source Libraries**, select the virtual source library that contains the DBD source member.
Source Library Members	Select the DBD that you want to use and click **Download** to copy the member from the mainframe to your desktop. Use **Filter patterns** to filter the list.
Downloaded Source Files	Review the list of downloaded members and ensure that the check box for the DBD that you want to use has been selected.

3. On the **Data Layout** page, complete the following fields and click **Next**:

Field	Action
Source	Expand the source file to verify that it displays the expected database definition (DBD).
Start Field	Accept the default root start field, or if multiple DBD nodes are present in the source tree, you can click on one of the DBD nodes to indicate that you want to map only that one DBD.
End Field	The **End Field** selection is disabled when extracting DBD source.

4. On the **IMS Server configuration** page, complete the following fields:

Field	Action
• **Use IMS/DBCTL (read/write, transactional integrity)** • **Use IMS-Direct (read-only, high performance bulk data access)**	Select the IMS protocol to use. Choose **Use IMS/DBCTL (read/write, transactional integrity)** to use IMS API calls. Choose the default option **Use IMS-Direct (read-only, high performance bulk data access)** to enable IMS Direct for the DBD. To use this feature, IMS Direct must also be enabled in the *hlvid*IN00 file. You must select this option to allow the DBD to enable IMS Direct for a virtual table.
IMS ID Override (used with IMS-Direct only)	Specify the IMS ID of the IMS subsystem to use when multiple IMS subsystems are defined for use with IMS Direct. This value overrides the default IMS ID in the DBD map.
Advanced	When large volumes of data are being read from tables, click **Advanced** to display and configure the **MapReduce** feature. The **MapReduce** feature enables you to divide the data into logical partitions and process those partitions in parallel using the **Thread Count** value. At runtime, the number of zIIP processors is verified and one thread is used for each zIIP processor, resulting in improved performance. The **Thread Count** value you specify overrides the default value (2) and the discovered value. To disable **MapReduce**, select the **Disable MapReduce** check box.

5. Click **Finish**.

What to do next

Return to the **New IMS Virtual Table(s)** page and define the IMS PSB. See "Creating virtual tables for IMS data" on page 209.

Using the IMS PSB Metadata wizard

Use the **New IMS PSB Metadata Wizard** to create server metadata containing information extracted from the selected PSB source. This PSB metadata is a prerequisite for creating IMS virtual tables. The name of each PSB map is determined by the contents of the PSB source.

Procedure

1. On the **New PSB Metadata** page, complete the following fields and click **Next**:

Field	Action
Metadata Library	From the drop-down list, select the target library where the PSB metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.

2. On the **Source Download** page, complete the following fields and click **Next**:

Field	Action
Available Source Libraries	From the list of **Available Source Libraries**, select the virtual source library that contains the PSB source member.
Source Library Members	Select the PSB that you want to use and click **Download** to copy the member from the mainframe to your desktop. Use **Filter patterns** to filter the list.
Downloaded Source Files	Review the list of downloaded members and ensure that the check box for the PSB that you want to use is selected.

3. On the **Data Layout** page, complete the following fields and click **Next**:

Field	Action
Source	Expand the source file to verify that it displays the expected program specification block (PSB).
Start Field	Accept the default root start field, or if multiple PSB nodes are present in the source tree, you can click on one of the PSB nodes to indicate that you only want to map that one PSB.
End Field	The **End Field** selection is disabled when extracting DBD source.

4. Click **Finish**.

What to do next

Return to the **New IMS Virtual Table(s)** page and create the virtual table. See "Creating virtual tables for IMS data" on page 209.

Using the IMS Virtual Table wizard

Use the **New Virtual Table Wizard** to map an IMS segment using a copybook representation to produce a new IMS virtual table.

Procedure

1. On the **New IMS Virtual Table** page, complete the following fields and click **Next**:

Field	Action
Name	Enter a unique name. The name can contain a maximum of 50 characters. The name must consist of an uppercase letter followed by zero or more characters, each of which is an uppercase letter, a digit, or the underscore character.
Metadata Library	From the drop-down list, select the target library where the virtual table metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.
Convert VAR* fields to True VAR* fields	This is a deprecated field and cannot be selected.
Arrays Handling	Select one of the following options: • **Flatten arrays into a single fixed table at runtime (Y)**: This option supports both OCCURS and OCCURS DEPENDING ON statements. • **Return arrays into separate tables at runtime (N)**: This option supports both OCCURS and OCCURS DEPENDING ON statements. A subtable is generated for each array. Subtables support SQL read access only.

2. On the **Source Download** page, complete the following fields and click **Next**:

Field	Action
Available Source Libraries	From the list of **Available Source Libraries**, select the virtual source library containing the data structure definition you want the virtual table to use.
Source Library Members	Select the PDS members that represent the data structures to include and click **Download** to copy the members from the mainframe to your desktop.
Downloaded Source Files	Select one or more previously downloaded members.

3. On the **Virtual Table Layout** page, complete the following fields and click **Next**:

Field	Action
Source	Browse the source tree to verify that it displays the expected data layout. By default, all of the fields in the tree are included in the mapping. To include only a subset of the fields for the mapping, modify the start field value and, optionally, the end field value, as follows: • For the start field, accept the default root start field, or expand the tree and select a different start field. When selecting a different start field, **Enable End Field Selection** must not be selected. • For the end field, accept the default end field, or expand the tree and select a different end field. When selecting a different end field, **Enable End Field Selection** must be selected.
Start Field	Identifies the first field within the data layout to map. To change this value, ensure that **Enable End Field Selection** is not selected, and select a different start field in the **Source** tree.
Enable End Field Selection	Use this field to control selection of the start field and end field values in the **Source** tree. When this option is not selected (default), you can select the start field. When this option is selected, you can select the end field.
End Field	Identifies the last field within the data layout to map. To change this value, make sure **Enable End Field Selection** is selected, and select a different end field in the **Source** tree.

4. On the **IMS Information** page, complete the following fields:

Field	Action
Segment Name	From the drop-down list, select the segment name.
• **Use IMS/DBCTL (read/write, transactional integrity)** • **Use IMS-Direct (read-only, high performance bulk data access)**	Select the IMS protocol to use. Choose the default option **Use IMS/DBCTL (read/write, transactional integrity)** to use IMS API calls. Choose **Use IMS-Direct (read-only, high performance bulk data access)** to enable IMS Direct on the virtual table. To use this feature, IMS Direct must also be enabled for the selected DBD and enabled in the *hlvid*IN00 file.
Advanced	When large volumes of data are being read from tables, click **Advanced** to display and configure the **MapReduce** feature. The **MapReduce** feature enables you to divide the data into logical partitions and process those partitions in parallel using the **Thread Count** value. At runtime, the number of zIIP processors is verified and one thread is used for each zIIP processor, resulting in improved performance. The **Thread Count** value you specify overrides the default value (2) and the discovered value. To disable **MapReduce**, select the **Disable MapReduce** check box.

5. Click **Finish**.

What to do next

Return to the **New IMS Virtual Table(s)** page and create the next virtual table, if needed. See "Creating virtual tables for IMS data" on page 209.

Creating virtual tables for IBM MQ

Create a virtual table that maps to the IBM MQ data you want to access.

Before you begin

Before creating the virtual table, verify that the MQ queue exists and that the copybook exists in the source library. If you use delimited data, configure support for delimited data processing. See "Configuring delimited data support" on page 187.

About this task

Data in MQ queues is described using COBOL or PLI data descriptions taken from copybooks or programs.

Procedure

1. Expand the **SQL** > **Data** > ***SSID*** node, where *SSID* is the name of your server.
2. Right-click **Virtual Tables** and select **Create Virtual Table(s)**.
3. Under **Wizards**, select the **MQ** wizard and click **Next**.
4. On the **New Virtual Table Wizard** page, complete the following fields and click **Next**:

Field	Action
Name	Enter a unique name. The name can contain a maximum of 50 characters. The name must consist of an uppercase letter followed by zero or more characters, each of which is an uppercase letter, a digit, or the underscore character.
Metadata Library	From the drop-down list, select the target library where the virtual table metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.
Arrays Handling	Enable one of the following array management options: • **Flatten arrays into a single fixed table at runtime**: This supports both **OCCURS** and **OCCURS DEPENDING ON** statements. • **Return arrays into separate tables at runtime**: This supports both **OCCURS** and **OCCURS DEPENDING ON** statements. A subtable is generated for each array. Subtables only support SQL read access.

5. On the **Source Download** page, complete the following fields and click **Next**:

Field	Action
Available Source Libraries	Select the source library that contains the data structure to use.
Source Library Members	Select the PDS members that represent the data structures to include and click **Download** to copy the members from the mainframe to your desktop. Use **Filter patterns** to filter the list.
Downloaded Source Files	Select one or more previously downloaded members.

6. On the **Virtual Table Layout** page, complete the following fields and click **Next**:

Field	Action
Source	Browse the source tree to verify that it displays the expected data layout. By default, all of the fields in the tree are included in the mapping. To include only a subset of the fields for the mapping, modify the start field value and, optionally, the end field value, as follows:

Field	Action
	• For the start field, accept the default root start field, or expand the tree and select a different start field. When selecting a different start field, **Enable End Field Selection** must not be selected. • For the end field, accept the default end field, or expand the tree and select a different end field. When selecting a different end field, **Enable End Field Selection** must be selected.
Start Field	Identifies the first field within the data layout to map. To change this value, ensure that **Enable End Field Selection** is not selected, and select a different start field in the **Source** tree.
Enable End Field Selection	Use this field to control selection of the start field and end field values in the **Source** tree. When this option is not selected (default), you can select the start field. When this option is selected, you can select the end field.
End Field	Identifies the last field within the data layout to map. To change this value, ensure that **Enable End Field Selection** is selected, and select a different end field in the **Source** tree.

7. On the **MQ Details** page, complete the following fields:

Field	Action
Queue Manager Name	Enter the IBM MQ queue manager name. The name is a four-character subsystem name.
Queue Name	Enter the IBM MQ queue name. The name can contain a maximum of 48 characters and must comply with z/OS data set naming standards.
Post-Read Exit Name	To manipulate the data after reading it from the queue, enter the name of the post-read exit to use. This is the custom exit routine installed on the server and used to perform additional processing after a record is read from the data source.

8. Click **Finish**.

What to do next

Use the studio to compose and execute SQL queries using your new virtual tables. See "Generating and executing SQL queries" on page 227.

Creating virtual tables for VSAM, VSAM CICS, and IAM data

Create a virtual table that maps to the VSAM, VSAM CICS, and IAM data that you want to access.

Before you begin

You must have the VSAM or VSAMCICS cluster name available (*sourcelibrary.copybook.filename*).

Procedure

1. Expand the **SQL** > **Data** > ***SSID*** node, where *SSID* is the name of your server.
2. Right-click **Virtual Tables** and select **Create Virtual Table(s)**.
3. Under **Wizards**, select the **VSAM** wizard and click **Next**.
4. On the **New Virtual Table Wizard** page, complete the following fields and click **Next**:

Field	Action
Name	Enter a unique name. The name can contain a maximum of 50 characters. The name must consist of an uppercase letter followed by zero or more characters, each of which is an uppercase letter, a digit, or the underscore character.
Metadata Library	From the drop-down list, select the target library where the virtual table metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.
Convert VAR* fields to True VAR* fields	This is a deprecated field and cannot be selected.
Arrays Handling	Enable one of the following array management options: • **Flatten arrays into a single fixed table at runtime**: This supports both **OCCURS** and **OCCURS DEPENDING ON** statements. • **Return arrays into separate tables at runtime**: This supports both **OCCURS** and **OCCURS DEPENDING ON** statements. A subtable is generated for each array. Subtables only support SQL read access. • **Flatten arrays now**: If you select this option, you cannot change array-handling after you save the virtual table.

5. On the **Source Download** page, complete the following fields and click **Next**:

Field	Action
Available Source Libraries	From the list of **Available Source Libraries**, select the virtual source library containing the data structure definition you want the virtual table to use.
Source Library Members	Select the PDS members that represent the data structures to include and click **Download** to copy the members from the mainframe to your desktop.
Download Source Files	Select one or more previously downloaded members.

6. On the **Virtual Table Layout** page, complete the following fields and click **Next**:

Field	Action
Source	Browse the source tree to verify that it displays the expected data layout. By default, all of the fields in the tree are included in the mapping. To include only a subset of the fields for the mapping, modify the start field value and, optionally, the end field value, as follows: • For the start field, accept the default root start field, or expand the tree and select a different start field. When selecting a different start field, **Enable End Field Selection** must not be selected. • For the end field, accept the default end field, or expand the tree and select a different end field. When selecting a different end field, **Enable End Field Selection** must be selected.
Start Field	Identifies the first field within the data layout that will be mapped. To change this value, make sure **Enable End Field Selection** is not selected, and select a different start field in the **Source** tree.
Enable End Field Selection	Use this field to control selection of the start field and end field values in the **Source** tree. When this option is not selected (default), you can select the start field. When this option is selected, you can select the end field.

Field	Action
End Field	Identifies the last field within the data layout that will be mapped. To change this value, make sure **Enable End Field Selection** is selected, and select a different end field in the **Source** tree.

7. Optional: On the **Virtual Table Redefines** page, accept the default table redefines or expand **Redefine** to modify your selection, and click **Next**.
8. Complete the following VSAM related fields:

Field	Action
Cluster Name	Enter the cluster name for the VSAM data set, and click **Validate**. The server searches the catalog on the mainframe to confirm that the data set exists. If the data set exists, a dialog displays the data set type.
Post-Read Exit Name	To manipulate the data after it has been read from the source file, enter the name of the post-read exit to use. This is the custom exit routine installed on the server and used to perform additional processing after a record is read from the data source. If your data is compressed, use the decompression routine that IBM provided to decompress your data after it has been read.
Pre-Write Exit Name	To manipulate the data before writing it to the source file, enter the name of the pre-exit to use. This is the custom exit routine installed on the server and used to perform additional processing before a record is read from the data source.
Alternate Indexes	If the VSAM file has been defined to include alternate indexes, you can click **Get** to add index information to the virtual table, or you can click **Delete** to remove the information. Alternate indexes are used to improve query performance when the search criteria includes columns that are not part of the primary index. Alternate indexes have an indirect relationship to the cluster name, but they must be defined separately. If you are using a KSDS VSAM or ESDS cluster, you can specify alternative indexes that are associated with the cluster.
Advanced (VSAM only)	When reading large volumes of data from tables, click **Advanced** to display and configure the **MapReduce** feature. The **MapReduce** feature enables you to divide the data into logical partitions and process those partitions in parallel using the **Thread Count** value. At runtime, the number of zIIP processors is verified and one thread is used for each zIIP processor, resulting in improved performance. The **Thread Count** value you specify overrides the default value (2) and the discovered value. To disable **MapReduce**, select the **Disable MapReduce** check box.

9. Click **Finish**.

What to do next

Use the studio to compose and execute SQL queries using your new virtual tables. See "Generating and executing SQL queries" on page 227.

Creating virtual tables for sequential data

Create a virtual table that maps to the sequential data that you want to access, and from which the SQL used to access the data is generated and executed.

Before you begin

Before creating the virtual table, verify that the data set name exists and that the copybook exists in the source library.

Procedure

1. Expand the **SQL** > **Data** > ***SSID*** node, where *SSID* is the name of your server.

2. Right-click **Virtual Tables** and select **Create Virtual Table(s)**.
3. Under **Wizards**, select the **Sequential** wizard and click **Next**.
4. On the **New Virtual Table Wizard** page, complete the following fields and click **Next**:

Field	Action
Name	Enter a unique name. The name can contain a maximum of 50 characters. The name must consist of an uppercase letter followed by zero or more characters, each of which is an uppercase letter, a digit, or the underscore character.
Metadata Library	From the drop-down list, select the target library where the virtual table metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.
Convert VAR* fields to True VAR* fields	This is a deprecated field and cannot be selected.
Arrays Handling	Enable one of the following array management options: • **Flatten arrays into a single fixed table at runtime**: This supports both **OCCURS** and **OCCURS DEPENDING ON** statements. • **Return arrays into separate tables at runtime**: This supports both **OCCURS** and **OCCURS DEPENDING ON** statements. A subtable is generated for each array. Subtables only support SQL read access. • **Flatten arrays now**: If you select this option, you cannot change array-handling after you save the virtual table.

5. On the **Source Download** page, complete the following fields and click **Next**:

Field	Action
Available Source Libraries	Select the source library that contains the data structure to use.
Source Library Members	Select the PDS members that represent the data structures to include and click **Download** to copy the members from the mainframe to your desktop.
Download Source Files	Select one or more previously downloaded members.

6. On the **Virtual Table Layout** page, complete the following fields and click **Next**:

Field	Action
Source	Browse the source tree to verify that it displays the expected data layout. By default, all of the fields in the tree are included in the mapping. To include only a subset of the fields for the mapping, modify the start field value and, optionally, the end field value, as follows: • For the start field, accept the default root start field, or expand the tree and select a different start field. When selecting a different start field, **Enable End Field Selection** must not be selected. • For the end field, accept the default end field, or expand the tree and select a different end field. When selecting a different end field, **Enable End Field Selection** must be selected.
Start Field	Identifies the first field within the data layout that will be mapped. To change this value, make sure **Enable End Field Selection** is not selected, and select a different start field in the **Source** tree.

Field	Action
Enable End Field Selection	Use this field to control selection of the start field and end field values in the **Source** tree. When this option is not selected (default), you can select the start field. When this option is selected, you can select the end field.
End Field	Identifies the last field within the data layout that will be mapped. To change this value, make sure **Enable End Field Selection** is selected, and select a different end field in the **Source** tree.

7. Optional: On the **Virtual Table Redefines** page, accept the default table redefines or expand **Redefine** to modify your selection, and click **Next**.
8. On the **Data Source Details** page, complete the following data source fields and click **Next**:

Field	Action
Data Set Name	Enter the data set name you want to use. The following data set types are supported: • PDS or PDSE: Specify the partitioned data set name. You must also enter a name in **Member** prior to validating that the member name exists on the host. • Physical sequential: Specify the sequential data set name and click **Validate** to verify that the data set name exists on the host. • Generation Data Groups (GDG): Specify the GDG data set using the GDG syntax. For example: *hlq*.DATA.SEQ(-1). You can also specify a base GDG name so that all generations of the GDG are potentially accessed. Click **Validate** to verify that the data set name exists on the host.
Member	If you selected a PDS or PDSE for the **Data Set Name**, you must also enter the member name to use. Click **Validate** to verify that the member name exists on the host.
Post-Read Exit Name	To manipulate the data after it has been read from the source file, enter the name of the post-read exit to use. This is the custom exit routine installed on the server and used to perform additional processing after a record is read from the data source.
Advanced	When large volumes of data are read from tables, click **Advanced** to display and configure the **MapReduce** feature. The **MapReduce** feature enables you to divide the data into logical partitions and process those partitions in parallel using the **Thread Count** value. At runtime, the number of zIIP processors is verified and one thread is used for each zIIP processor, resulting in improved performance. The **Thread Count** value you specify overrides the default value (2) and the discovered value. To disable **MapReduce**, select the **Disable MapReduce** check box.

9. Click **Finish**.

What to do next

Use the studio to compose and execute SQL queries using your new virtual tables. See "Generating and executing SQL queries" on page 227.

Creating virtual tables for zFS and HFS file system data

Create a virtual table that maps to file data you want to access on a zFS or HFS file system.

Before you begin

Before creating the virtual table, verify that the PDS members that represent the data structures for the data you want to virtualize already exist in the source library.

Procedure

1. Expand the **SQL** > **Data** > ***SSID*** node, where *SSID* is the name of your server.

2. Right-click **Virtual Tables** and select **Create Virtual Table(s)**.
3. Under **Wizards**, select the **zFS** wizard and click **Next**.
4. On the **New Virtual Table Wizard** page, complete the following fields and click **Next**:

Field	Action
Name	Enter a unique name. The name can contain a maximum of 50 characters. The name must consist of an uppercase letter followed by zero or more characters, each of which is an uppercase letter, a digit, or the underscore character.
Metadata Library	From the drop-down list, select the target library where the virtual table metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.
Convert VAR* fields to True VAR* fields	This is a deprecated field and cannot be selected.
Arrays Handling	Enable one of the following array management options: • **Flatten arrays into a single fixed table at runtime**: This supports both **OCCURS** and **OCCURS DEPENDING ON** statements. • **Return arrays into separate tables at runtime**: This supports both **OCCURS** and **OCCURS DEPENDING ON** statements. A subtable is generated for each array. Subtables only support SQL read access.

5. On the **Source Download** page, complete the following fields and click **Next**:

Field	Action
Download Folder	Verify that the download folder displays.
Available Source Libraries	Select the source library that contains the data structure to use.
Source Library Members	Select the PDS members that represent the data structures to include and click **Download** to copy the members from the mainframe to your desktop.
Downloaded Source Files	Select one or more previously downloaded members. Selecting previously downloaded members is optional.

6. On the **Virtual Table Layout** page, complete the following fields and click **Next**:

Field	Action
Source	Browse the source tree to verify that it displays the expected data layout. By default, all of the fields in the tree are included in the mapping. To include only a subset of the fields for the mapping, modify the start field value and, optionally, the end field value, as follows: • For the start field, accept the default root start field, or expand the tree and select a different start field. When selecting a different start field, **Enable End Field Selection** must not be selected. • For the end field, accept the default end field, or expand the tree and select a different end field. When selecting a different end field, **Enable End Field Selection** must be selected.
Start Field	Identifies the first field within the data layout that will be mapped. To change this value, make sure **Enable End Field Selection** is not selected, and select a different start field in the **Source** tree.

Field	Action
Enable End Field Selection	Use this field to control selection of the start field and end field values in the **Source** tree. When this option is not selected (default), you can select the start field. When this option is selected, you can select the end field.
End Field	Identifies the last field within the data layout that will be mapped. To change this value, make sure **Enable End Field Selection** is selected, and select a different end field in the **Source** tree.

7. On the **zFS Virtual Table Details** page, complete the following fields:

Field	Action
Pathname	Enter the path name of the zFS file. If the absolute path name of the zFS file is less than 255 characters in length, you must include the root slash "/" in the path name. For example, `/u/tsado/data/stuff.txt`. If the absolute path name of the zFS file is greater than 255 characters in length, you must enter the relative path name. The relative path name starts with the name of the target system to indicate the top-level directory and does not include the leading root slash. For example, `data/stuff.txt`, where "data" is the name of the target system.
Target System	If you plan to map several zFS files under the same zFS directory location, specify a target system to use. You can click **Create** to add a new path name to use, or if a relative path name is already specified in the **Pathname** field, you must select an existing target system from the drop-down list. If you choose to create a new target system, complete the following fields and click **Finish**: **Name** – Enter the name for the new target system. **CCSID** – Enter the CCSID of the character set in which the zFS file data is encoded. The default setting is **EBCDIC 1047**. **Base Pathname** – Enter the absolute path name under which the zFS file resides. Typically, this is the path name of the zFS subdirectory that contains your zFS file. At runtime, the server will determine the location of the zFS file by concatenating the path name with the value specified in the virtual table **Pathname** field. The server does not insert additional slash (/) separators when concatenating the target system path name and the virtual table path name. If the target system path name represents a complete directory name, include the trailing slash (`/tmp/`).
Advanced	When large volumes of data are read from tables, click **Advanced** to display and configure the **MapReduce** feature. The **MapReduce** feature enables you to divide the data into logical partitions and process those partitions in parallel using the **Thread Count** value. At runtime, the number of zIIP processors is verified and one thread is used for each zIIP processor, resulting in improved performance. The **Thread Count** value you specify overrides the default value (2) and the discovered value. To disable **MapReduce**, select the **Disable MapReduce** check box.

8. Click **Finish**.

What to do next

Use the studio to compose and execute SQL queries using your new virtual tables. See “Generating and executing SQL queries” on page 227.

Creating virtual tables for CA IDMS data

Create virtual tables that map to the CA IDMS data you want to access.

Before you begin

The Accelerator Loader server must be configured for CA IDMS access, and the CA IDMS central version referenced by the data server SYSCTL DD statement must be active.

About this task

CA IDMS schema records are mapped using the CA IDMS data dictionary. Each record is mapped as a separate virtual table using the COBOL names to derive the SQL column names. In addition to records, schema sets can be mapped as well. Virtual tables created for CA IDMS sets serve as correlation tables between CA IDMS records so SQL joins can navigate the CA IDMS schema.

Procedure

1. On the **Server** tab, explore the CA IDMS metadata information by expanding the **Discovery** > **IDMS** node, and then navigating down the subtree. The hierarchy begins with the data dictionary, followed by the CA IDMS schema, the CA IDMS subschema, and then the associated records and sets.
2. Select one or more records, as follows:
   - To select individual records, hold down the **Ctrl** key and click each record to include.
   - To select a range of records, click the first record in the range, and then hold the **Shift** key and select the last record in the range. All records within the range are included.
   - To select all child records under a parent, click the parent record.
3. Right-click the selected records and select **Create Virtual Table(s)**. The **New Virtual Tables Wizard** launches.

   Note: You can map the CA IDMS sets in the wizard.
4. On the **Create IDMS virtual tables** page, complete the following **Common Virtual Table Settings**:

Field	Description
Metadata Library	From the drop-down list, select the target library where the virtual table metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.
Arrays Handling	Select one of the following options: • **Flatten arrays into a single fixed table at runtime (Y)**: This option supports both OCCURS and OCCURS DEPENDING ON statements. • **Return arrays into separate tables at runtime (N)**: This option supports both OCCURS and OCCURS DEPENDING ON statements. A subtable is generated for each array. Subtables support SQL read access only.
Virtual Table Naming Patterns	Specify the format to use for the generated virtual table names. You can specify different patterns for records and sets. Use the following variables to create naming patterns that are derived from the IDMS metadata: • {SubSchema}: Subschema name • {Record}: Record name • {Set}: Set name
Prune IDMS record field suffix from column names	Select this option to remove the IDMS record field suffix from the column names.

5. In the table that lists the IDMS records, review the list of selected entries. Modify the selections as needed.

   Tip: Use the check box in the header row of the table to select all entries.
6. To map the sets, click **Fetch Related IDMS Sets**. The Accelerator Loader studio collects additional metadata from the server and displays the items in the table that lists the IDMS sets.
7. In the table that lists the IDMS sets, review the list of selected entries. Modify the selections as needed.
8. To disable MapReduce, click **Advanced** and select **Disable MapReduce**.
9. Click **Finish**.

Results
The Accelerator Loader studio creates the virtual tables (the metadata maps) on the server.

What to do next
Use the studio to compose and execute SQL queries using your new virtual tables. See "Generating and executing SQL queries" on page 227.

Creating virtual tables for VSAM and sequential access using ADDI

Create virtual tables that map VSAM and sequential data for COBOL applications using information available through IBM Application Discovery and Delivery Intelligence (ADDI).

Before you begin
The Accelerator Loader server must be configured to access one or more ADDI projects hosted on Microsoft SQL Server. The studio recognizes ADDI when virtual views and target system maps are installed. Map recognition is based on target systems starting with the string TSIAD and virtual views starting with the name IADV_. For more information on configuring the server, see "Configuring access to ADDI" on page 175.

About this task
To create the virtual tables used to access VSAM and sequential data for COBOL applications, information is queried in the ADDI project. Information is retrieved about the z/OS data sets and the COBOL copybooks used to access the z/OS data sets.

The following restrictions and considerations apply:

- Virtual table creation is restricted to data sets in the ADDI project that are processed by COBOL programs using JCL. Data sets accessed using CICS as well as other databases (such as IMS, CA IDMS, or Adabas) are not supported.
- When retrieving data sets from the ADDI project, the studio provides a list of all data sets discovered in the ADDI project that correspond to copybook information. If the data set does not have a corresponding copybook, the data set is not presented in the studio.
- When creating virtual tables in the studio, duplicate records may appear in the generated list. (Duplicate records have the same project and copybook record names but different ID values.) Duplicates indicate multiple copies of the same copybook in the ADDI project. The studio provides a feature that compares the definitions of the records and allows you to remove duplicates.
- When mapping COBOL copybooks containing REDEFINES clauses, default mapping rules related to REDEFINES are applied, which results in disabled columns in the maps. You can edit virtual maps to enable or disable generated columns.
- ADDI project names are limited to 13 characters due to location name restrictions in the z/OS server.

Procedure

1. On the **Server** tab, explore the ADDI metadata information by expanding the **Discovery** > **IBM Application Discovery** node, and then navigating down the subtree. The hierarchy begins with the project, followed by the data sets, and then the associated records.
2. Optional: Right-click a record and select **Display Data Layout** to display the copybook for the record.
3. Select one or more data sets or records to map, as follows:
   - To select individual data sets or records, hold down the **Ctrl** key and click each data set or record to include.
   - To select a range of data sets or records, click the first data set or record in the range, and then hold the **Shift** key and select the last data set or record in the range. All data sets or records within the range will be included.
   - To select all records under a data set, click the data set.
4. Right-click the selected data sets or records and select **Create Virtual Table(s)**.

   The **New Virtual Tables Wizard** launches and displays a list of proposed virtual table names and the COBOL structure names that will be used to create columns for the virtual tables.
5. On the **Create virtual tables using IBM Application Discovery** page, complete the following fields:

Field	Description
Metadata Library	From the drop-down list, select the target library where the virtual table metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.
Naming Pattern	Specify the format to use for the generated virtual table names. You can specify different patterns for the project name and records. Use the following variables to create naming patterns that are derived from the ADDI metadata: • {Project}: ADDI project name • {Record}: Record name
Arrays Handling	Select one of the following options: • **Flatten arrays into a single fixed table at runtime (Y)**: This option supports both OCCURS and OCCURS DEPENDING ON statements. • **Return arrays into separate tables at runtime (N)**: This option supports both OCCURS and OCCURS DEPENDING ON statements. A subtable is generated for each array. Subtables support SQL read access only. • **Flatten arrays now (C)**: If you select this option, you cannot change array-handling after you save the virtual table.

6. In the table that lists the records, review the list of selected entries and perform the following steps:
   a) Optional: If duplicate target virtual table names appear, which are identified with a description in the **Errors** column, click **Remove Duplicates**.

      The studio compares the definitions of the records and removes any duplicates.
   b) Click **Validate** to validate each data set and determine the data set type.

      The studio populates the **Type** column with the correct data set type.
   c) Modify the selections to map as needed.

      Tip: Use the check box in the header row of the table to select all entries.
7. Optional: Click **Advanced** to display and complete the following fields:

Field	Description
MapReduce (Server Parallelism Overrides)	When large volumes of data are read from tables, you can use the **MapReduce** feature. The **MapReduce** feature enables you to divide the data into logical partitions and process those partitions in parallel using the **Thread Count** value. At runtime, the number of zIIP processors is verified and one thread is used for each zIIP processor, resulting in improved performance. The **Thread Count** value you specify overrides the default value (2) and the discovered value. To disable **MapReduce**, select the **Disable MapReduce** check box.

8. Click **Finish**.

Results

The virtual tables are created on the server and display under the **SQL** > **Data** > ***SSID*** > **Virtual Tables** tree node, where *SSID* is the name of your server.

What to do next

Use the studio to compose and execute SQL queries using your new virtual tables. See "Generating and executing SQL queries" on page 227.

Creating virtual tables for VSAM and sequential access using RAA

Create virtual tables that map VSAM and sequential data for COBOL applications using information available through IBM Rational Asset Analyzer (RAA).

Before you begin

The Accelerator Loader server must be configured to access one or more RAA database schemas hosted on Db2 for z/OS. The studio recognizes RAA when RAA virtual views and target system maps are installed. Map recognition is based on target systems starting with the string TSRAA and virtual views starting with the name RAAV_. For more information on configuring the server, see "Configuring access to RAA" on page 181.

The preferred method to collect COBOL information is to retrieve record layouts directly from the WebSphere Application Server that hosts RAA. You mus configure the WebSphere Application Server using the Metadata Discovery preferences. For more information, see "Metadata Discovery preferences" on page 242.

About this task

To create the virtual tables used to access VSAM and sequential data for COBOL applications, information is queried in the RAA database and from the host. Information is retrieved about the z/OS data sets and the COBOL copybooks used to access the z/OS data sets. If the WebSphere Application Server has been configured, all access to the host for record layout information is first attempted using the WebSphere Application Server hosting RAA. If access to the RAA host fails and the record layout is stored in a PDS, layout retrieval is attempted using the current Accelerator Loader server.

The following restrictions and considerations apply:

- Creation of virtual tables is restricted to data sets in the RAA database that are processed by COBOL programs using JCL. Data sets accessed using CICS as well as other databases (such as IMS, CA IDMS, or Adabas) are not supported.
- When retrieving data sets from the RAA database, the studio provides a list of all data sets discovered in the RAA database that correspond to copybook information. If the data set does not have a corresponding copybook, the data set does not display in the studio.
- When creating virtual tables in the studio, duplicate records may appear in the generated list. (Duplicate records have the same database and copybook record names but different ID values.) Duplicates indicate multiple copies of the same copybook in the ADDI project. The studio provides a feature that compares the definitions of the records and allows you to remove any duplicates.

- When mapping COBOL copybooks containing REDEFINES clauses, default mapping rules related to REDEFINES are applied, which results in disabled columns in the maps. You can edit virtual maps to enable or disable generated columns.

Procedure

1. On the **Server** tab, explore the RAA metadata information by expanding the **Discovery** > **IBM Rational Asset Analyzer** node, and then navigating down the subtree. The hierarchy begins with the database, followed by the data sets, and then the associated records.
2. Optional: Right-click a record and select **Display Data Layout** to show the copybook for the record.
3. Select one or more data sets or records to map, as follows:
   - To select individual data sets or records, hold down the **Ctrl** key and click each data set or record to include.
   - To select a range of data sets or records, click the first data set or record in the range, and then hold the **Shift** key and select the last data set or record in the range. All data sets or records within the range is included.
   - To select all records under a data set, click the data set.
4. Right-click the selected data sets or records and select **Create Virtual Table(s)**.

   The **New Virtual Tables Wizard** launches and displays a list of proposed virtual table names and the COBOL structure names that will be used to create columns for the virtual tables.
5. On the **Create virtual tables using IBM Rational Asset Analyzer** page, complete the following fields:

Field	Description
Metadata Library	From the drop-down list, select the target library where the virtual table metadata will be stored (for example, *hlq*.USER.MAP). The target libraries are specified in the server's started task JCL.
Description	Enter an optional description.
Naming Pattern	Specify the format to use for the generated virtual table names. You can specify different patterns for the database name and records. Use the following variables to create naming patterns that are derived from the RAA metadata: • {Database}: RAA database name • {Record}: Record name
Arrays Handling	Select one of the following options: • **Flatten arrays into a single fixed table at runtime (Y)**: This option supports both OCCURS and OCCURS DEPENDING ON statements. • **Return arrays into separate tables at runtime (N)**: This option supports both OCCURS and OCCURS DEPENDING ON statements. A subtable is generated for each array. Subtables support SQL read access only. • **Flatten arrays now (C)**: If you select this option, you cannot change array-handling after you save the virtual table.

6. In the table that lists the records, review the list of selected entries and perform the following steps:
   a) Optional: If duplicate target virtual table names appear, which are identified with a description in the **Errors** column, click **Remove Duplicates**.

      The studio compares the definitions of the records and removes any duplicates.
   b) Click **Validate** to validate the data set and determine the data set type.

      The studio populates the **Type** column with the correct data set type.
   c) Modify the selections to map as needed.

      Tip: Use the check box in the header row of the table to select all entries.

7. Optional: Click **Advanced** to display and complete the following fields:

Field	Description
MapReduce (Server Parallelism Overrides)	When large volumes of data are read from tables, you can use the **MapReduce** feature. The **MapReduce** feature enables you to divide the data into logical partitions and process those partitions in parallel using the **Thread Count** value. At runtime, the number of zIIP processors is verified and one thread is used for each zIIP processor, resulting in improved performance. The **Thread Count** value you specify overrides the default value (2) and the discovered value. To disable **MapReduce**, select the **Disable MapReduce** check box.

8. Click **Finish**.

Results

The virtual tables are created on the server and display under the **SQL** > **Data** > ***SSID*** > **Virtual Tables** tree node, where *SSID* is the name of your server.

What to do next

Use the studio to compose and execute SQL queries using your new virtual tables. See "Generating and executing SQL queries" on page 227.

Generating and executing SQL queries

To test SQL access to your data, generate and execute an SQL query from an existing virtual table or virtual view.

Before you begin

To avoid fetching large result sets that are memory intensive, the Accelerator Loader studio provides settings that limit the amount of data retrieved when you execute an SQL query. For more information, see "SQL preferences" on page 241.

Important: When writing SQL to access Adabas data, avoid using the BASE_KEY in WHERE predicates when joining the parent table with a child subtable as this results in a table scan of the entire Adabas file, for example, `[PARENT TABLE].BASE_KEY = [CHILD TABLE].PARENT_KEY`). Instead, use the CHILD_KEY, for example, `[PARENT TABLE].CHILD_KEY = [CHILD TABLE].PARENT_KEY`).

Procedure

1. On the **Server** tab, right-click a virtual table and select **Generate Query**.
2. Choose from the following options:
   - **Execute**: Generate the SQL query in the **Data Source Editor** and execute the query.
   - **Cancel**: Generate the SQL query in the **SQL Editor** without executing the query. The generated SQL SELECT statement has all columns from the selected table. If the table contains a large number of columns, to avoid enumerating the various column names you can choose all columns using the **Generate Query with *** option.
3. Optional: In the **SQL Editor** view, modify the SQL to select only the data that you want to access. Any ANSI compliant SQL is acceptable.
4. To view or test the data that the SQL statement returns, right-click the highlighted SELECT statement and click either **Execute SQL** to view results in the **SQL Results** view, or **Execute SQL and File results** to save the results in a `.csv` file.
5. Optional: To create a virtual view of the SQL, highlight the SELECT statement, right-click and select **Create a virtual view**.

Results

In the **SQL Results** view:

- Double-click a row to view additional details about that row.
- Select the **Export Result Set** view option to export the SQL results to a `.csv` file.
- Click **SQL Messages** to view query-related system messages.

By default, if a result set includes 25 or more columns, each set of 25 columns displays incrementally as a group. You can choose which group you want to view using the **Columns Group** field. You can set the number of columns that you want to include in each group, ranging from 25-200, in the **Columns per group** field.

To change how SQL results display in the **SQL Results** view, see "Accelerator Loader preferences" on page 238.

What to do next

After the SQL statement is generated, you can perform any of the following tasks:

- Modify the SQL
- Execute the SQL to test and view the data
- Create virtual views to join data or include missing columns

Generating JCL

Generate the JCL that loads the data to the accelerator from a virtual table, virtual view, or selected SQL statement.

Before you begin

- Have the following information available before starting this task:
  - Target server name
  - Target Db2 subsystem name
  - Db2 load library names
  - Accelerator name
  - Product data set names
  - JCL library name
  - Table creator name
  - Table name
- To enable the **Load Resume** feature, you must have IBM Db2 Analytics Accelerator for z/OS V4 PTF5 installed on the accelerator.
- If the source data is not hosted on the same LPAR as the accelerator, two accelerator servers are required:
  - The *data server* is the Accelerator Loader server that hosts the virtual table or view.
  - The *target server* is the Accelerator Loader server that has access to the target Db2 subsystem and the accelerator. The target server's *hlvid*IN00 file must contain a configuration entry for the data server. When you run the wizard to generate the JCL, the name of this configuration definition is referred to as the *Data Server Name*.

About this task

In the steps that follow, the information you enter is required only the first time that you generate the JCL.

Procedure

1. On the **Server** tab, expand **SQL** > **Data**.
2. Expand **Virtual Views** or **Virtual Tables** to navigate to the virtual view or virtual table that represents the source data you want to load.
3. Right-click the virtual view or table, and select **Generate JCL to Load Accelerator** to open the **Generate JCL to Load Accelerator** wizard.
4. On the **Source Information** page, review the source subsystem and the SQL query. If you choose to modify the SQL query, you must click **Validate** before you can proceed to the next page. If the query is not valid, an error message displays showing the source of the problem. The SQL query must be corrected before you can continue.
5. Click **Next**.
6. On the **Target Information** page, specify the following information:

Field	Action
Target Server Selection	• Choose **Use Current Server** if the server that is hosting the virtual table or virtual view resides on the same LPAR as the accelerator. This is the default setting. • Choose **Use Alternate Target Server** if the server hosting the virtual table or virtual view does not reside on the same LPAR as the accelerator. If you choose this option, use **Set Server** to select the alternate server.
Target DB2 Subsystem	Accept the default Db2 subsystem name or choose a different subsystem from the drop-down list. The name you choose must match the data server name configured in the target server *hlvid*IN00 file. The subsystem you choose displays as the default setting the next time that you run the wizard.
Table Creator	Accept the **Table Creator** name that is displayed, or select a different name from the drop-down list.
Table Name	Accept the **Table Name** that is displayed, or select a different name from the drop-down list.
Available Accelerators	From the list of **Available Accelerators**, select the accelerators to use. If an accelerator is associated with a group, the **Group** label is displayed next to the accelerator name. You can select up to eight accelerators to load data simultaneously.
CREATE TABLE DDL Options	Choose to include any of the following table DDL options: • **Database Name** – Enter the name of the database to use when loading data to the accelerator. • **Table Space Name** – Enter the name of the table space to use when loading data to the accelerator. • **CCSID** – Use this option to override the default CCSID of the target database. This option generates a CCSID clause on the CREATE TABLE DDL statement for the target table. Db2 has a default CCSID set in the ZPARM ENSCHEME that is used if the encoding scheme or CCSID is not specified in the DDL. The CCSID clause is required when the encoding scheme of the target table is different from the default value in the ZPARM. Select one of the values from the drop-down list: `ASCII`, `EBCDIC`, `UNICODE`. Or, leave the option blank to omit the CCSID clause from the generated DDL. • **Accelerator Only Table** – Select this option if this table is used to load data only to the accelerator and not to simultaneously load data to Db2 for z/OS. • **Enable Unicode Column Expansion** – When converting EBCDIC to Unicode, select this option to increase the precision of maximum length columns by a

Field	Action
	factor of 3. This option ensures that conversion of EBCDIC to Unicode cannot cause an overflow condition due to character expansion. – When this option is clear (default), the DDL for the target table on the source character columns is VARCHAR(*n*), where *n* is the maximum size of the source EBCDIC column. – When this option is selected, the DDL for the target table on the source character columns is VARCHAR(*n**3), where *n* is the maximum size of the source EBCDIC column. The SELECT statement (specified on the **Source Information** page) is adjusted accordingly in the generated JCL. A cast will be applied to each source character column in the SELECT statement, as follows: `... CAST(`*source-column-name* `AS VARCHAR(`*n*`*3)) ...` In this statement, *n* is the maximum size of the source EBCDIC column.
Enable Loader Parallelism	To use parallel processing (MapReduce), select **Enable Loader Parallelism** and either enter the number of parallel tasks to use, or click **Fetch Existing Table Attributes** if you are using an existing accelerated table name and you want to reuse the same parallelism settings. This setting is optional and is enabled by default. The default degree of parallelism is 4.
Join Virtual Parallel Data Group (VPD)	Select **Join Virtual Parallel Data Group** (VPD) to join an existing group of target servers, and specify the following: • **Group Name** – Enter the name of the group to join. • **Number of members** – Enter the number of members (Accelerator Loader jobs) that are in the group. Although this setting is optional, it is recommended that you enter the number of Accelerator Loader jobs you want to use. • **Group Timeout** – Enter the timeout duration, in seconds. This option controls the timing window starting from the point-in-time when the first VPD member query is made to the server, to the time that the VPD group is closed to further queries for this VPD group session. • **I/O Task Count** – Enter the number of tasks to use for VPD. This setting is optional and is disabled by default.
DDL Preview	Click **DDL Preview** to preview the SQL CREATE statement used to create the accelerated table. This step is optional.

7. Click **Next**.
8. On the **JCL Generation Details** page, specify the following:

Field	Action
Target Server Group	Enter the name of the **Target Server Group** to use. This setting is optional.
Utility ID	Enter the target server **Utility ID** to use. This setting is optional.
STEPLIB DD Concatenation Libraries	In the following fields, enter the data set names of the Accelerator Loader load libraries that you want to use. • **Accelerator Loader Library (1)** • **Accelerator Loader Library (2)**
DB2 Load Libraries	To add a Db2 load library, click **Add** and enter the name of the Db2 load library. You can also choose an existing load library and click **Modify** or **Delete** to modify or delete the Db2 load library. This setting is optional.

Field	Action
DB2 Dynamic SQL Program (DSNTEP2)	Enter the required details for running the DSNTEP2 sample Db2 program: • **DB2 Load Library (RUNLIB)** • **Plan Name** (the default is DSNTEP2)
JCL Settings	Click **JCL Settings** to view or modify the JCL generation preferences in the **JCL Preferences** dialog and click **OK**. This setting is optional.

9. Click **Next**.
10. On the **Job Creation** page, specify the following information:

Field	Action
JCL Library	Select or enter the name of the JCL library to use. The JCL library that you choose is displayed the next time you open this page. If you do not plan to save the job on the host or if you do not know the location, leave this field blank. This setting is optional.
Member Name	Enter the name of the member to use to store your generated JCL.
Local File Name	Depending on the JCL library that you chose, you can choose to enter the name of a local file to use.
Job Name	Accept or modify the **Job Name**.

Job Step Details	Specify the following job options:
	• **DROP TABLE** – Select this option to drop the existing target table definition. Select this option only if the accelerated table already exists.
	• **CREATE TABLE** – Select this option to create a new target table definition.
	• From the **LOAD REPLACE** drop-down list, select a load option:
	– **LOAD REPLACE** – Replaces the data in the table. This option adds the **REPLACE** control card to the generated JCL.
	– **LOAD RESUME** – Loads new data to an existing table. This option adds the **RESUME YES** control card to the generated JCL. Selecting **LOAD RESUME** disables the **DROP TABLE** and **CREATE TABLE** options.
	• **SET CURRENT SQLID** – Specify an alternate authorization ID under which the DROP TABLE and CREATE TABLE statements are executed in the generated Accelerator Loader job. This setting is optional. If you set this field, the generated JCL includes a statement that assigns a value to the DB2 CURRENT SQLID special register. This statement is included as the first line of SYSIN in both the DROP and CREATE steps of the job, as follows:
	`//SYSIN DD *`
	`SET CURRENT SQLID = 'MYSQLID';`
	`...`
	`/*`

Additional Actions	Choose from the following actions: • **Open in Editor** – Select **Open in Editor** to review the JCL in the **JCL Editor**. • **Auto-run using JCL View** – Select **Auto-run using JCL View** to automatically submit the JCL after it is generated. If the JCL library is specified in the JCL view, a copy of the JCL is saved in a PDS on the host. You can use this copy for future data loads. These settings are optional.

11. Click **Generate** to generate the JCL.

Submitting JCL

To load data to the accelerator, submit the generated JCL. You can also save a reusable copy of the JCL in a PDS on the mainframe.

Procedure

1. From the **Windows** menu, select **Show View** > **JCL View**.
2. Optional: In the **JCL** view, from the **JCL library** pull-down, select the PDS to use or enter a new PDS. To save this location, click the **+** (plus sign).
3. To enable the JCL for submission, click **Enable/Disable Submit**.
4. To save or submit the JCL, click **Play**. You can also click **F5** in the **JCL Editor** to save or submit the JCL, or right-click on the JCL and select **Run using JCL View**.
5. Optional: To view the JCL processing summary, click the **Messages** tab. To review the entire job output, click the **Job** tab.

Accessing IT Operational Analytics data

To access, analyze, and report IT Operational Analytics (ITOA) data, generate the SQL from ITOA virtual tables.

When you configure the Accelerator Loader server, you have the option to include pre-defined data maps that administrators can use to access the following types of ITOA data:

- IBM System Management Facilities files (SMF)
- Operations Log files (OPERLOG_SYSLOG)
- System Log files (SYSLOG)

After you configure the Accelerator Loader server to use ITOA pre-defined data maps, you can generate the SQL used to access ITOA data from the ITOA virtual tables.

For information about configuring access to operational analytics data with pre-defined data maps, see “Configuring access to SMF data for IT Operational Analytics” on page 165.

System Management File sample code

Use SMF virtual tables to get SQL access to data in System Management Files (SMF).

About this task

You access data in SMF files using virtual columns predefined in the SMF virtual table map.

When using SMF log streams, you can use the following virtual columns to retrieve timestamp values:

LS_TIMESTAMP
Timestamp for log stream in GMT. When used in a WHERE predicate, the timestamp is searched in GMT.

LS_TIMESTAMP_LOCAL
Timestamp for log stream in local time zone. When used in a WHERE predicate, the timestamp is searched as local time.

Procedure

1. From the Server view, expand **SQL** > **Data** > **server name** > **Virtual Tables**.
2. Right-click the SMF virtual table or view you want to access the data from.
3. Right-click **Generate Query**. You can then review or modify the generated SQL statement. The following shows a sample SQL statement:

```
-- ------------------------------------------------------------------ Name         : SMF_00000
-- This statement will return all rows and all columns from the
-- following table:
-- Name         : SMF_00000 : null
-- Catalog      : null
-- Schema       : DVSQL
-- Remarks      : DATA - SMFDATA
-- Tree Location: rs28/1200/SQL/Data/VDBS/Virtual Tables/SMF_00000
-- The sql statement:
SELECT SMF_LEN, SMF_ZERO, SMF_FLAG, SMF_RTY, SMF_TIME, SMF_SID, SMF_SSI,
  SMF_STY, SMF_SEQN, SMF0JWT, SMF0BUF, SMF0VST, SMF0OPT, SMF0RST, SMF0RSV,
  SMF0OSL, SMF0SYN, SMF0SYP, SMF0TZ, SMF0MSWT, SMF0MTWT
FROM SMF_00000 LIMIT 1000;
```

4. Optional: Execute the SQL statement to view, test, or save the data.

What to do next

Get the code you want to use in your programs and applications by creating an SQL class from the virtual table.

Accessing Db2 unload data

Using existing Db2 virtual table definitions, you can issue SQL queries against your Db2 sequential unload data sets.

Before you can access your Db2 unload data using your Db2 virtual tables, you must configure access to the Db2 sequential unload data set using a virtual table rule. For information about setting up access, see “Configuring access to Db2 unload data sets” on page 133..

After completing the configuration steps, you can generate the SQL used to access the Db2 unload data using your existing Db2 virtual tables.

You can use virtual table rule HLVMDLDU to redirect a Db2 virtual table to a Db2 unload data set. The rule enables you to access the unload data set directly. For example, consider a virtual table named DSNA_EMPLOYEES that maps the EMPLOYEES table in Db2 subsystem DSNA. With the virtual table rule that specifies the Db2 unload data set enabled, you can query an unload sequential dataset named EMPLOYEE.UNLOAD.SEQ by issuing the following query:

```
SELECT * FROM MDLDU_DSNA_EMPLOYEES__EMPLOYEE_UNLOAD_SEQ
```

The following restrictions and considerations apply when using this feature:

- SQL access to Db2 unload files is limited to SQL queries only.
- The columns in the Db2 virtual table definition must match the table unloaded in Db2.

Server Trace

Use the **Server Trace** view to record and view server operations for troubleshooting purposes.

About this task

From the **Server Trace** view, you can:

- Select a server from which to record and view Server Trace messages.
- Filter messages that display based on profile settings.
- Select the columns of information and the order in which those columns display.
- Label messages to allow you to search messages using labels.
- Import and export messages, such as `.isx` files.

If you encounter a problem and need to contact IBM Software Support, you must gather certain information about your Accelerator Loader system and the problem before contacting Support. Your Support representative will need this information to correctly diagnose and resolve the problem.

Starting Server Trace

Start tracing Accelerator Loader server records in the **Server Trace** view.

Before you begin

Before running **Server Trace**, you must be able to connect to the Accelerator Loader server from which you want to collect the trace information.

Procedure

1. From the **Studio Navigator** view, on the **Common Tools** tab, click **Server Trace**.
2. To start tracing, click **Play** (the blue arrow).

   The **Server Trace** table displays trace records.
3. Optional: To view message details, double-click the message and the details are displayed on the **Server Trace Zoom** page.

   You can also choose to search for specific details within the message.

Enabling Accelerator Loader studio calls in the Server Trace results

To include Accelerator Loader studio trace calls in your Server Trace results, enable the Accelerator Loader **Enable Server Tracing of Studio Calls** preference.

Before you begin

You must be able to connect to the Accelerator Loader server from which you want to collect trace information.

Procedure

1. From the **Window** menu, select **Open Preferences** > **Accelerator Loader**.
2. To enable tracing, select the **Enable Server Tracing of Studio Calls** check box. **Enable Server Tracing of Studio Calls** is enabled by default.
3. In the Accelerator Loader studio **HTTP Debug Option** drop-down list, select one of the following HTTP debug options:

Field	Action
Off	Do not collect HTTP messages. All trace activities are deactivated, including interactive tracing.
Normal	Commands that complete with a failure status are traced after execution, including the return codes.
All	All instructions are traced before execution.
Commands	All commands are traced before execution. Return codes are also traced for commands that complete with an error or failure status.
Error	Commands that complete with error status are traced after execution, including the return codes.
Failure	Commands that complete with a failure status are traced after execution, including the return codes.
Intermediates	All instructions are traced before execution. All terms, intermediate results, and substituted variable names are traced during expression evaluation. The final results of any expression that is evaluated also displays. Values assigned by **`arg`**, **`parse`**, or **`pull`** instructions are also traced.

Field	Action
Labels	Shows all labels when executed.
Results	All instructions are traced before execution. The final result of any expression that is evaluated also displays. Values assigned by **`arg`**, **`parse`**, or **`pull`** instructions are also traced.

Filtering Server Trace results

Use the **Profile** option to filter the records that display in the **Server Trace** view.

Before you begin

You must be able to connect to the Accelerator Loader server from which you want to filter trace information. You can set filtering criteria before or after you run a Server Trace. Your most current filtering selections are automatically saved as your default filtering profile.

Procedure

1. On the **Server Trace** view, click **Profile**.
2. On the **Server Trace Profile** page, enable the fields that you want to include in the results.
3. For each enabled field, click **Add** to further filter your results. You can either select from the values that are displayed or enter the value when prompted.
4. Click **OK** to save changes to your profile and to apply the profile to the results in the **Server Trace** table.

What to do next

Use the **Display** option to select and sort columns that display in the filtered table. You can also choose to export the trace results.

Using Server Trace Zoom

Use **Server Trace Zoom** view to view Server Trace message details.

Before you begin

Server Trace must be running before you can open the **Server Trace Zoom** view.

Procedure

1. In the **Server Trace** view, double-click the message for which you want to view details.
2. In the **Server Trace Zoom** view, view message details and choose from the following options:

Field	Action
Previous	Click **Previous** to search for the previous occurrence of the text string entered.
Next	Click **Next** to search for the next occurrence of the text string entered.
Search	Click **Search** and enter a search string. To search for the next occurrence of the text string, click **Search** again.
Close	Click **Close** to close the search dialog.

Searching Server Trace messages

You can search Server Trace message results for a particular text string or message ID.

Before you begin

You must start the Server Trace before you can begin searching within the resulting Server Trace messages.

Procedure

1. On the **Server Trace** view, click the drop-down menu, and select **Search**.
2. On the **Search** page that is displayed, in the **From** section, select one the following options to specify how to search within the results:

Field	Action
First	Search for the first occurrence of the text string.
Last	Search for the last occurrence of the text string.
ID	Search starting from the message ID you enter.

3. In the **For** field, enter the text string to use for searching within the message control blocks. Text strings cannot include spaces or special characters, and wild card searches are not supported.
4. Select **Previous** to find previous occurrences of the text string, or select **Next** to find the next occurrence of the text string.
5. Click **Search** to begin the search.

What to do next

View messages that meet the search criteria in the **Server Trace** view.

Labeling Server Trace messages

Create labels to bookmark server trace messages that you frequently access.

Before you begin

You must start the Server Trace before you can begin labeling messages.

Procedure

1. In the **Server Trace** view, right-click the message that you want to label and select **Add Label**.
2. On the **Message Label** dialog, enter text for the **Label** and click **OK**.
3. Optional: In the **Labels** view, double-click the label to locate the message in the **Server Trace** view.

Exporting Server Trace messages

Use the **Server Trace** view to export server trace messages as either ISX or CVS files.

About this task

You can limit the number of messages that you can export into a file by setting the **Server Trace export size limit** on the **Admin** preferences page.

Procedure

1. In the **Server Trace** view, from the drop-down menu, select **Export**.
2. Under **Export Type**, select one of the following message export options:

Field	Action
Summary	Exports the following minimum message information: • Message ID • Date • Time • User ID • Message text
Full	Exports all available message information and all data about that message including: • Message ID • Date • Time • User ID • Message text • Zoom
Comma Separated Format	Exports all table information to a CVS file. This file type cannot be imported for viewing in the **Server Trace** view.

3. Under **Export Content**, select one of the following message content options:

Field	Action
Message ID Range	Select a range of messages to export by entering the first message ID in **From**, and the last message ID to include in **To**.
Transaction ID	Exports only those messages with the RRS transaction ID value that you specify.
Global Transaction ID	Exports only those messages with the RRS global transaction ID that you specify.
Connection ID	Exports only those messages that are associated with a specific client that is currently connected to the server.
Message ID List	Lists message IDs. This option is only available if the **Full** export type option is selected.

4. Click **Next**.
5. On the **Export File** page, click **Browse** to specify a file name and export location.
6. Click **Finish**.

Importing Server Trace messages

To import and view Server Trace messages, use the **Import File Viewer** tab.

Before you begin

Server Trace must be running before you can import a file.

Procedure

1. In the **Server Trace** view, click the **Import File Viewer** tab and click **Import**.
2. Navigate to the ISX file that you want to import.
3. Double-click the ISX file. Messages and message details display on the **Import File Viewer** tab.

4. Optional: To view more details about a message, right-click on the message and select **Zoom**.
5. Optional: To change how the messages display, click **Display**.

Accelerator Loader preferences

Preferences allow you to customize several IBM Db2 Analytics Accelerator Loader for z/OS settings.

To view preferences, from the **Window** menu, select **Open Preferences** > **Accelerator Loader**.

Accelerator Loader preferences

Use **Accelerator Loader** preferences to set preferences such as general session and SQL results settings.

General **Accelerator Loader** preferences are identified and described in the table that follows.

Field	Description
Enable Server Tracing of Studio Calls	Includes the Accelerator Loader studio trace calls in your server trace results. This setting is disabled by default.
Studio HTTP Debug Option	The Accelerator Loader studio type of debug option to be used. The default setting is **Normal**.
Studio Fixed Width Font	Determines the font, font style, and font size that displays in Accelerator Loader studio. The default setting is **Courier New-regular-9**.
Hex Encoding	Sets the Hex encoding to use. The default setting is **UTF-8**.
File Encoding	Determines the file encoding setting to use. The default setting is **windows-1252**.
CSV File Delimiter	Determines the type of file delimiter to use for CSV files. The default setting is a comma (,).
New Connection (DSN) Naming Pattern	Determines the naming pattern to use when new connections are made. The default setting is **{SubSystem}**.
Studio Connection Timeout (secs)	The number of seconds to wait before a server connection is determined to be unsuccessful. The default setting is **10**.
Studio Operation Timeout (secs)	The number of seconds to wait before determining that the Accelerator Loader studio operation is unsuccessful. The default setting is **30**.
Studio Remote Control Port	The port number that the Accelerator Loader studio uses for remote connections. The default setting is **31416**.
Use UPPER case logon credentials for both JDBC and HTTP connections	Select this check box to require that logon credentials use uppercase characters for JDBC driver and HTTP connections. This setting is enabled by default. For systems that have mixed-case password support, you must clear this check box and add the following statement to your *hlq*`.SHLVEXEC(hlvidIN00)` file: `"MODIFY PARM NAME(PASSWORDCASE) VALUE(ASIS)"`

Admin preferences

Use **Admin** preferences to set the maximum number of Server Trace messages that you want to export and to enable the tracing of Accelerator Loader studio calls in the **Server Trace** view.

Admin preferences are identified and described in the table that follows.

Field	Description
Server Trace export size limit	Sets the maximum number of messages to export. The default value is 5000. Specifying a value greater than 5000 can cause a MAX CPU TIME EXCEEDED error to occur.
Enable Server Tracing of Studio Calls	Includes Accelerator Loader studio trace calls in your Server Trace results. This setting is disabled by default.

Console preferences

Use **Console** preferences to view or modify console display settings.

Console preferences are identified and described in the table that follows.

Field	Description
Fixed width console	Enable to specify a maximum number of characters to display in the console. This setting is disabled by default. **Maximum character width**: If **Fixed width console** is enabled, enter the maximum number of characters to display in the console. The default is 80 characters.
Limit console output	Enable to limit the console buffer and entry sizes by setting the maximum number of characters permitted: • **Console buffer size (characters)**. The default setting is 80000. • **Console entry size limit (characters)**. The default setting is 500.

Dictionary preferences

Use **Dictionary** preferences to add or delete reserved words in dictionaries, and add or delete dictionaries based on the languages being used.

Dictionary preferences are identified and described in the table that follows.

Field	Description
Dictionary	Lists the default dictionaries. You can add new dictionaries to the list or delete existing dictionaries from the list.
Reserved word	Lists reserved words for each dictionary. You can add new words to the list or delete existing words from the list.

Driver preferences

Use **Driver** preferences to enable JDBC driver tracing and to specify the default location of the driver configuration files.

Driver preferences are identified and described in the table that follows.

Field	Description
Enable Tracing	Enables tracing for the JDBC driver. If you change this option, you must restart the Accelerator Loader studio to complete the change. This setting is disabled by default. **Note:** You can also access data sources that are stored in other configuration files, by adding those configuration files from the **Client** view.
Default DSN Config File	Specifies the default location of the DSN file. This file is used to store the JDBC connection definitions that are generated for use in the **Active Connections** view.
Connection Overrides	To override the connection settings that the Accelerator Loader studio uses when it creates JDBC connection definitions, specify a single name-value pair or a semicolon-delimited list to be used. The default setting is a blank field ( ).

JCL preferences

Use **JCL** preferences to specify JCL settings, such as JOB statement details and to define the trace information to include.

JCL preferences are identified and described in the tables that follows.

JCL

Field	Description
JCL Submit/Poll Timeout (secs)	The number of seconds that can pass before the Accelerator Loader studio stops polling the host for a job to complete. If the host does not complete the job within that number of seconds, the job status is checked on the mainframe. The default setting is **300**.

Generation

Fields	Descriptions
Job Name Suffix	Used to generate a default job name. This one-character suffix is appended to the user ID. The default setting is **A**.
Job Account	Optional accounting information that you can add to the JOB statement. The default setting is blank.
Execution Class	The execution class to be used in the JOB statement. The default setting is **A**.
Message Class	The message class to be used in the JOB statement. The default setting is **X**.
Region Size	The region size to be used in the JOB statement. The default setting is **0M**.
Temporary DASD Name	Generic unit name to be used in the job step for use in allocating temporary work files. The default setting is **SYSDA**.

Trace/Debug

Fields	Descriptions
Request Status Values	Determines the type of status values to include in the trace: • **ALL** • **TERSE** • **VERBOSE** • **NONE** The default setting is **ALL**.
Level	Determines the trace level to use (1, 2, 3, or 4). The default setting is **1**.
Volume	Determines the trace volume to use (**QUIET**, **SILENT**, or **NOISY**). The default setting is **QUIET**.
Trace Function Stems	Enables the tracing of function stems. This setting disabled by default.
Dump REXX Variables	Enables the tracing of REXX dump variables. This setting is disabled by default.
Enable SSI Tracing	Enables SSI tracing. This setting is disabled by default.
Enable SSI SSOB dumps	Enables SSI SSOB dump tracing. This setting is disabled by default.

SQL preferences

Use **SQL** preferences to specify settings related to SQL query generation, the SQL Results view, and SQL metadata retrieval.

SQL preferences are identified and described in the table that follows.

Field	Description
SQL Generate Query Behavior	Determines whether you are prompted to execute SQL or if SQL executes automatically. Options include: • **Generate query and issue user prompt**. This is the default setting. • **Generate and execute query (no prompt)** • **Generate query but do not execute query (no prompt)**
SQL Results Max Rows	Maximum number of rows to return in the **SQL Results** view. The default value is `1000`.
SQL Results Max Bytes	Maximum number of data bytes to return in the **SQL Results** view. The default value is `1000000`.
SQL Results values accessed as	Specifies how data values are returned. Options include `String` or `Object`. The default setting is `String`.

Field	Description
Use prepared statement to retrieve SQL column info for DB2 or DRDA tables	The Accelerator Loader studio obtains column metadata information from the server for Db2 and DRDA tables and views when you expand a table or view node under the **Other Subsystems** tree in the **Server** view, or in other situations where column information needs to be retrieved. The Accelerator Loader studio supports two different ways of retrieving this column metadata information: • Using a prepared statement. Typically, this server call will be faster; however, this option requires that the user have SELECT privileges to the table in the remote database. This method is the default and will be used when this preference is selected. • Using the JDBC getColumns() API. This method is the more conventional approach; however, in some cases (for example, Oracle), the remote DRDA subsystem may take a long time to process the metadata query. This method will be used when this preference is cleared.
Fetch primary key and index information for virtual tables	If this preference is selected, then when you expand a virtual table or view in the **Server** view, any primary key or indexed column nodes will be identified. This identification process requires the Accelerator Loader studio to make additional metadata calls to the server. To disable these calls and the associated identifications, you can clear this preference and thus speed up the time taken to populate the column nodes. This preference is selected by default.
Fetch primary key and index information for DB2 or DRDA tables	If this preference is selected, then when you expand a table or view node under the **Other Subsystems** tree in the **Server** view, any primary key or indexed column nodes will be identified. This identification process requires the Accelerator Loader studio to make additional metadata calls to the server (and subsequently to the remote database). In some cases, these additional calls may be rather expensive (for example, Oracle). To disable these calls and the associated identifications, you can clear this preference to speed up the time taken to populate the column nodes. This preference is cleared by default.

Metadata Discovery preferences

Use **Metadata Discovery** preferences to define settings for the WebSphere Application Server that hosts IBM Rational Asset Analyzer (RAA).

When using RAA to access VSAM or sequential data sets for COBOL applications, complete COBOL layout information that is required to map data is not available in the Db2 database. The mapping wizard uses a RESTful HTTP query to collect record layouts when data is mapped. While this query can be done directly to the Accelerator Loader server for data in PDS files, the preferred method to collect COBOL information is to retrieve record layouts directly from the WebSphere Application Server that hosts RAA.

Metadata Discovery preferences are identified and described in the table that follows.

Field	Description
RAA REST Root URL	Location of the RAA WebSphere Application Server. For example: `https://<host>:<port>`

Field	Description
Alternate User ID	User ID for the RAA WebSphere Application Server. You can leave this field blank if the credentials are the same as those used to connect to the current Accelerator Loader server (using **Set Server**).
Alternate Password	Password for the RAA WebSphere Application Server user ID. Specify a value in this field only if a user ID has been specified in the **Alternate User ID** field.

SSL preferences

Use **SSL** preferences to secure JDBC and HTTP network communications between the Accelerator Loader studio and the Accelerator Loader server.

SSL preferences are identified and described in the table that follows.

Field	Description
Use SSL for Studio-Server communications (JDBC and HTTP)	Enables secure JDBC and HTTP network communications between the Accelerator Loader studio and the Accelerator Loader server. If enabled, select the **Protocol** version to use for communications between the Accelerator Loader studio and the Accelerator Loader server. The default setting is **TLS 1.2**.
Server Authentication	Select the authentication strategy to use: • **Require Server Validation**: Enable to require that all Accelerator Loader server certificates be authenticated and complete the following fields: – **Truststore**: The path name of the file on the local machine. The file must contain the Accelerator Loader server certificate authority (CA). – **Password**: The password for the truststore file. – **Type**: The truststore file type. For example, JKS, PKCS12, BKS, UBER. • **Allow Self-Signed Certificates**: Enable to allow the Accelerator Loader server to use self-signed certificates and complete the following fields: – **Truststore**: The path name of the file on the local machine. The file must contain the self-signed server CA (certificate authority) certificate. – **Password**: The password for the truststore file. – **Type**: The truststore file type. For example: JKS, PKCS12, BKS, UBER. • **Trust All**: Enable to allow all Accelerator Loader server certificates. If enabled, the Accelerator Loader studio does not validate the server certificate. The default setting is **Require Server Validation**.

Field	Description
Client Authentication	To enable client authentication by the Accelerator Loader server, select **Enable Client Authentication** and complete the following fields: • **Keystore**: The path name of the file on the local machine. The file must contain a client certificate which has been signed by the server CA. • **Password**: The password for the keystore. • **Type**: The keystore file type. For example: JKS, PKCS12, BKS, UBER. • **Alias**: To confirm that the password is valid and that the alias (label) appears, click **Refresh**. This setting is disabled by default.

Chapter 6. Loading data from a Db2 image copy

You can generate JCL that loads data from a Db2 image copy.

With a *Consistent* or *Historical* load, you can load multiple Db2 tables from a cataloged Db2 image copy without the need to take the tables offline for updates. You can specify any consistent or historical point in time to load the accelerator.

With an *Image Copy load*, you can load data for a single table into the accelerator from a Db2 image copy that you specify; Accelerator Loader uses the image copy as the content of the object you want to load.

Restrictions and considerations for loading from a Db2 image copy

Review the following usage restrictions and considerations before performing a Consistent load, a Historical load, or an Image Copy load.

All loads from a Db2 image copy

The following restrictions and considerations apply when you perform any load from a Db2 image copy (Consistent load, Historical load, or Image Copy load):

The following data types are supported:

- BIGINT
- BINARY*
- CHAR
- DATE
- DECIMAL
- DOUBLE
- FLOAT
- GRAPHIC
- INTEGER
- REAL
- SMALLINT
- TIME
- TIMESTAMP
- TIMESTAMP WITH TIMEZONE*
- VARBINARY*
- VARCHAR
- VARGRAPHIC

* This data type is loaded into only Db2.

Field procedures are not supported; however, edit procedures are supported.

The following considerations apply when you perform a parallel load:

- When you use existing image copies (that is, you do not create a new FlashCopy image copy) to perform a consistent load:
  - Image copies on tape override parallel loads because parallel loads cannot read tape data sets on the same tape volume sequence. To avoid an override, create multiple tape volume sequences of image copies.
  - Partition-level image copies are recommended when you load from DASD.

When loading multiple parallel tasks, use individual partitions to open more than one data set at a time and increase throughput. When you use individual partitions, the Accelerator Loader forces individual partition image copies on a single tape volume sequence onto a single parallel task.

- When using Analytics Accelerator V7.1.1 or earlier, to use parallelism in Accelerator Loader, you must have the WLM environment that runs DSNUTILU configured for WLM management of the DSNUTILU server address space. See “WLM requirements for Accelerator Loader” on page 34 for more information.

The product does not support loading many tables from a multiple-table table space. If the job specifies more than one table of a multiple-table table space, the product issues an error message and stops processing. The job finishes normally with return code 4 instead of 0 if you:

- Set the value of **Continue on error** to Yes on the Load Accelerator with Consistent Data panel or the Load Accelerator from Specified Image Copy panel.
- Specify the CONTINUE_ON_ERROR control card.

When the job contains the NEW_COPY keyword, the product creates a partition-level FlashCopy image copy. However, if the job does not specify the creator, table, and the PARTITION keyword, the product attempts to find and use a previous image copy, rather than using the new copy. If the table space does not have a previous DSNUM 0 image copy, the job might abend with code U0008.

Depending on the environment in which the job runs, a parallel load job might abend with system code S878, return code 10, and the product issues message HLO3601E. If this abend occurs, reduce the number of parallel log apply tasks and run the job again.

Building jobs that approach 20,000 objects requires significant resources for processing. If building with batch, use a region size of 0M, which is unlimited. If building from TSO, ensure a TSO region size of at least 30000.

The user ID that is used to run a Consistent, Historical, or Image Copy load job requires READ access to z/OS UNIX System Services.

Restrictions for loading an accelerator table or an accelerator only table (AOT) on the same or another Db2 subsystem are as follows:

- The target table must be defined with the same columns, in the same order as the table from the image copy.
- If you specify an AOT output table, then all of the objects that participate in the run must be AOT output tables.

Accelerator Loader can read tape data sets that are stored in large block interface (LBI) format. Consider using this option if the product consistently reads all log files because of overlapping SYSLOG ranges from multiple objects in a run. Bypassing the SYSLOGRANGE phase might improve overall performance if SYSLOGRANGE processing determines that all logs must be read.

Using the keyword CHECK_DATA, you can check the integrity of Db2 for z/OS data pages for Consistent and Image Copy loads. Db2 data page integrity can be checked before passing the page rows to the accelerator. You can also check data page integrity before and after each Db2 log apply operation to the image copy, as well as before passing the page rows to the accelerator.

Consistent and Historical loads only

The following restrictions apply when you perform a Consistent load or a Historical load:

- A valid full image copy of the table space must be recorded in SYSCOPY, or a valid starting point must exist in SYSCOPY for each table space.
- The product must be able to access the Db2 archive and active logs that are required to build a new image copy.
- If you use the same end point for all spaces in a batch job, place all space (..) control cards under one group (..). Do not specify one group for every space.

Accelerator only tables (AOT) do not have partitions; therefore the following requirements apply to partitioned objects:

- Within a single job, every partition is loaded to the specified AOT if you specify the target creator and name for a partitioned table and do not specify a specific partition.
- Every partition that you specify for the same source table must have a different target AOT if you specify the target creator and name for a partitioned table, and also specify the PARTITION keyword.
- When you use the ISPF interface to specify target tables, you cannot specify the same target for some partitions. You must specify one target for all partitions, or specify different targets for each partition.

Image Copy loads only

Using the ISPF interface, you can generate JCL for an Image Copy load profile when the image copy has a single table. The batch job automatically gets the translation information from the Db2 catalog. If the image copy data set has multiple tables or is not registered in the Db2 catalog, the ISPF interface cannot generate JCL. The batch job uses translation information (DBID, PSID, OBID) that is provided in the JCL, and does not perform a lookup from the Db2 catalog.

For sample JCL, see the SHLOSAMP data set.

Using the ISPF interface to create or edit a Consistent or Image Copy load profile

A load profile is a group of options for building a job to load data into an accelerator. After you create a profile, you can reuse it to perform future load jobs.

Before you begin

Review the information in "Restrictions and considerations for loading from a Db2 image copy" on page 245.

Review information about the profile types:

- **Consistent** specifies options for loading data for multiple tables into the accelerator from a cataloged Db2 image copy.
- **Image copy** specifies options for loading data for a single table into the accelerator from a user-defined Db2 image copy.

About this task

When you add a Db2 table to the profile, you can filter on tables, views from a single base table, or aliases. The product resolves the view or alias to the base table space and includes the base table space in the generated JCL. A view that was created from a join of more than one table is not supported. The product checks for the existence of the specified Db2 table before generation. However, if you specify partitions, the product cannot validate the partitions, but uses the partitions as specified when generating JCL.

You can use an asterisk (*) in the fields **Table creator like** and **Table name like**. Case sensitivity of this field is controlled by the **Case sensitive** field on the Enter Table and Creator Like to Display panel. Depending on your setting, the wildcard pattern abc* might return different results from pattern ABC*.

Procedure

1. From the main menu, select **Manage Loader Profiles** and press Enter.
2. On the Manage Loader Profiles panel, to filter existing profiles by profile name or creator name, specify a wildcard pattern using an asterisk (*) and press **Enter**.
3. On the Manage Loader Profiles panel, perform one of the following steps:
   - To create a new profile, issue the CREATE command, and then on the Create Profile panel, select the type of profile to create.

- To create a new profile by copying an existing profile, type C in the **Cmd** line next to the profile that you want to copy.
- To edit an existing profile, type E in the **Cmd** line next to the profile.

4. On the Load Accelerator with Consistent Data panel or the Load Accelerator from Specified Image Copy panel, specify a name and processing options for the profile, as follows:
   - Utility processing options for the Db2 LOAD utility.
   - If you want to create a FlashCopy image copy, specify FlashCopy options. If you do not use FlashCopy, no image copy is created, and Db2 Analytics Accelerator Loader uses a legacy image copy.
   - To define options for a FlashCopy DSN template, complete the following steps. If you do not use a FlashCopy DSN template, the product uses the default template in DSNZPARMs.
     - In the **Use FlashCopy DSN template** and **Update** fields, specify Yes.
     - On the **FlashCopy DSN Template** panel, specify qualifier codes to create the data set name mask.
     - Issue the SHOW command to see the resulting template DSN.
   - Specify log read and apply options.
5. To add a Db2 table to the profile, issue the T panel command.
6. On the Db2 Table List panel, issue one of the following commands:
   - To specify an object filter, issue panel command Add. The Enter Table and Creator Like to Display panel opens.

     You can specify a table, a view, or an alias.
   - To select one or more tables on the Referentially Dependent Table Selection panel, issue line command RIS.
   - To select all related tables, issue line command RIA.
7. On the Add Db2 Tables panel, use the **ALL** panel command or the S line command to select objects to add to the profile and press Enter.
8. Return to the previous panel by pressing F3.
9. To select the accelerators onto which you want to load data, issue the A panel command, and on the **Db2 Analytics Accelerator Selection** panel, select the accelerators or an accelerator group and press Enter.
10. To save and return to the previous panel, press **PF3**.

Using the batch interface to load from an image copy

You can use the batch interface to specify an image copy and load data from that image copy data set into the target table or tables on the accelerator.

About this task

For more information about the options in this procedure and example JCL, see “Consistent load and Image Copy load jobs” on page 290 in the "Db2 Analytics Accelerator Loader syntax" section.

Procedure

1. In the SHLOSAMP library, locate one of the following members to customize:
   - HLOSAMP1: Use this member to manually specify the source and target DBID/PSID/OBID numbers.
   - HLOSAMP2: Use this member to obtain translation information from the Db2 catalog by using the OBIDXLAT_CATALOG option.
2. Replace the following variables:
   - <SSID> with the subsystem ID of the target object

- #HLQ# with the SMP/E HLO LOADLIB
- #HLQ# with the SMP/E FEC LOADLIB
- <CONTROL FILE> with the HLO control file data set name

3. In the SYSINHLO DD, perform the following steps:
   a) Replace the values for the CREATOR, NAME, TO_IC, and ACCELNAME options with your values.
   b) Specify translation information, if necessary.
4. Save a copy of the customized member in another library.

Chapter 7. Loading data from an external file

You can generate JCL that loads data from an external file into IBM Db2 Analytics Accelerator for z/OS and optionally into Db2. External load enables you to use Accelerator Loader to update data on the accelerator with data from a source other than Db2.

You can add the Accelerator Loader extended syntax to an existing batch job that meets certain criteria. You can also use the ISPF interface or the batch interface to create a Dual load profile or an External load profile to generate JCL.

Dual load enables you to use Accelerator Loader to load Db2 data to the accelerator and Db2 simultaneously.

Accelerator Loader supports parallelism, and can process and load different partitions from the same table into Db2, the accelerator, or both in parallel.

Restrictions and considerations for loading from an external file

Review usage restrictions and considerations before loading data from an external file.

Note: In addition to the information in this section, make sure that your system meets requirements as listed in “Set up your environment prior to customization” on page 29.

Data considerations

Accelerator Loader does not verify the data in a FORMAT INTERNAL SYSREC data set. It passes the records to Db2 and the accelerator as-is.

The following data types are supported:

- BIGINT
- BINARY*
- CHAR
- DATE
- DECIMAL
- DOUBLE
- FLOAT
- GRAPHIC
- INTEGER
- REAL
- SMALLINT
- TIME
- TIMESTAMP
- TIMESTAMP WITH TIMEZONE*
- VARBINARY*
- VARCHAR
- VARGRAPHIC

* This data type is loaded into only Db2.

The following SYSIBM.SYSCOLUMNS(DEFAULT) values are supported:

- Numeric: 0
- Fixed-length character or graphic string: Blanks

- Fixed-length binary string: Hexadecimal zeros
- Varying-length string: A string length of 0
- Date: The current date
- Time: The current time
- Time stamp: TIMESTAMP(*integer*) WITHOUT TIME ZONE
- CURRENT TIMESTAMP(*p*) WITHOUT TIME ZONE (where *p* is the corresponding time stamp precision).

Db2 LOAD utility considerations

Accelerator Loader adheres to the Db2 LOAD utility restrictions. For more information, see *Db2 for z/OS Utility Guide and Reference* for your version of Db2. For example:

- For FORMAT INTERNAL data, the Db2 LOAD utility supports only one table in the LOAD utility command: LOAD DATA INTO TABLE. You cannot specify multiple INTO TABLE clauses.
- The field-specification restrictions for the Db2 LOAD utility also apply to Db2 Analytics Accelerator Loader.

General restrictions and limitations

The following restrictions and limitations apply when loading data from an external file:

- Db2 Analytics Accelerator Loader supports nonpartitioned tables that were defined with ORGANIZE BY HASH. It does not support PARTITION BY RANGE tables that were defined with ORGANIZE BY HASH.
- Only EBCDIC and Unicode code pages are supported.
- Trailing spaces in object names are not supported.
- Ensure that any table space that you attempt to load was created with DEFINE YES, or, if created with DEFINE NO, that the underlying VSAM linear data sets were created by an INSERT or a LOAD.
- Columns that are defined as GENERATED are not supported.
- Data in FLOAT columns might not be converted exactly.
- The DEFAULTIF option is not supported for partitioning key columns.
- You can specify only one SYSREC data set when you use the ISPF interface. To specify multiple SYSREC data sets, either use templates or manually add SYSREC data sets to the generated JCL.

Accelerator Loader converts data from external to Db2 internal format. Accelerator Loader does not detect Db2 restrictions, and Db2 issues error messages, if necessary. For more information about Db2 restrictions, see the syntax and options of the LOAD control statement in *Db2 10 for z/OS Utility Guide and Reference*.

The following syntax cannot be processed:

- CONTINUEIF
- DECFLOAT_ROUNDMODE (Db2 restriction)
- FORMAT SQL/DS
- FORMAT UNLOAD
- FORMAT SPANNED
- IDENTITYOVERRIDE (Db2 restriction)
- INCURSOR (Db2 restriction)
- PRESORTED (Db2 restriction)
- ROWFORMAT
- SHRLEVEL CHANGE (Db2 restriction)
- STRIP
- TRUNCATE

Considerations for constraint checking, duplicate key processing, and sorting

Accelerator Loader does not check the input file for violations or referential constraints and does not perform sorting. When you load data into only the accelerator, no constraint checking is performed. This limitation includes checking for duplicate keys.

When you load data to Db2 and the accelerator, the Db2 LOAD utility performs constraint checking and does not load violating records. That is, constraint-violating records are loaded into the accelerator but are not loaded into Db2. Accelerator Loader detects when Db2 discards records that were loaded to the accelerator and disables query acceleration, making the accelerator table unavailable for queries. To correct this situation, run ACCEL_LOAD_TABLES to synchronize the accelerator table with the Db2 table, and then enable query acceleration.

You can also configure Accelerator Loader to roll back data loaded to the accelerator in cases where Db2 discards records already loaded to the accelerator. This behavior is controlled through Tools Customizer using the option **Action when DB2 LOAD discards records loaded to the accelerator** (options module parameter ACCEL_WHEN_DB2_DISCARDS).

IBM Db2 Analytics Accelerator for z/OS considerations

Accelerator Loader adheres to the IBM Db2 Analytics Accelerator for z/OS restrictions for tables that can be accelerated. For example:

- You cannot use Accelerator Loader to load individual partitions of a table with the IBM Db2 Analytics Accelerator for z/OS status of InitialLoadPending.
- IBM Db2 Analytics Accelerator for z/OS does not support BINARY and VARBINARY data types. Therefore, Accelerator Loader processes BINARY and VARBINARY data as follows:
  - When loading data into Db2, Accelerator Loader converts BINARY and VARBINARY data to Db2 internal format and loads it into the Db2 table.
  - When loading data into the accelerator, Accelerator Loader skips BINARY and VARBINARY data.

For more information, see the IBM Db2 Analytics Accelerator for z/OS documentation.

Considerations for loading only the accelerator

Accelerator Loader provides the option of loading data from an external file into only IBM Db2 Analytics Accelerator for z/OS, without loading the data into Db2 (option IDAA_ONLY). Before using this option, consider the following points:

- Do not use this option if you need the ability to update the data in Db2.
- You must set the CURRENT QUERY ACCELERATION special register to ALL to ensure that all queries against the table are directed to IBM Db2 Analytics Accelerator for z/OS. For more information, see *Db2 for z/OS SQL Reference*.
- When you load data from an external file to the accelerator and to Db2 (option IDAA_DUAL), Accelerator Loader relies on Db2 to detect referential integrity (RI) violations and unique index violations. When you load data to only the accelerator, these checks are bypassed. Consequently, query acceleration might be enabled after loading the accelerator with records that violate Db2 RI constraints or unique index constraints.
- When you load only the accelerator, a discard data set is supported when running a load with a SYSREC data set. The discard data set cannot be a TEMPLATE. It must be specified as a DD statement in the JCL. Use the DISCARDDN keyword to communicate the DDNAME to Accelerator Loader. The DISCARDS keyword can also be specified to force Accelerator Loader to fail once a specified number of records are discarded. The DISCARDS keyword is valid only when used with a discard data set. Discard data sets are not supported when loading data from an Accelerator Loader server data source or when loading from multiple partition-level SYSREC data sets.
- When you load only to the accelerator, you can create an inline backup copy as the data is loaded to the accelerator.

Considerations for loading the accelerator and Db2

Accelerator Loader provides the option of loading data from an external file into both the accelerator and Db2 (option IDAA_DUAL). Before using this option, consider the following point:

- When loading from an external file to the accelerator and Db2, you can optionally stop the target table space before loading a table enabled for replication. The stop drains all claimers and ensures that no updates are made to the Db2 table while the accelerator is being loaded. Once the -STOP command completes, the space is restarted for UT access to allow the Db2 LOAD utility to run. At the completion of the load, the original status of the object is restored. Accelerator Loader will wait for up to three minutes for the STOP command to complete. If at the end of three minutes the space is still in STOP PENDING status due to active claimers, Accelerator Loader will fail with message HLOU4101E.

  This behavior is controlled by the Tools Customizer option **STOP the target table space before initiating the load**. When this parameter is set to YES, the space is stopped as described. This option only affects Dual type loads when loading an accelerator table enabled for replication. If the table is not enabled for replication, Accelerator Loader makes no changes to the table space status. When the option is set to NO (default), the object is started for UT access before the load begins, but is never stopped.
- When loading from an external file to the accelerator and Db2, Accelerator Loader can issue a user-supplied return code when Db2 LOAD discards rows that Accelerator Loader has already delivered to the accelerator. For more information, see “Discard data set restrictions and considerations” on page 255.
- When loading from an external file to the accelerator and Db2, if Accelerator Loader cannot determine the status of an accelerator from the ACCEL_CONTROL_ACCELERATOR stored procedure, the accelerator is considered unreachable and will be treated as offline. More specifically, when the ACCEL_CONTROL_ACCELERATOR stored procedure call fails with the following error, the unreachable accelerator is treated as offline:

  ```
  AQT10202I: The acceleratorName accelerator cannot be contacted over the network
  ```

  Treating an unreachable accelerator as offline has the following impact:

  – The Accelerator Loader Dual load job will report the state of the accelerator as `Unreachable` in message HLOU5718E.
  – If more than one accelerator is included in the load and at least one of them appears to be online, the online accelerators will be loaded.
  – If all accelerators appear to be offline or otherwise unavailable during a Dual load, the setting of the **Load DB2 if accelerator is offline** (ACCEL_WHEN_OFFLINE) option successfully controls whether Accelerator Loader fails or loads only Db2.

Restrictions and considerations for adding data to a table (LOAD RESUME)

To add data to an existing accelerator table without replacing the existing data, use the Db2 LOAD utility RESUME YES clause. When loading to only the accelerator, no data is added to the Db2 table, but any existing data in Db2 is left intact. When loading to both Db2 and the accelerator, Db2 also appends the data to the Db2 table.

- When loading a range-partitioned or index-partitioned table, you can replace data in some partitions and append data to others. However, Accelerator Loader does not support mixing of append and replace operations.
- The options RESUME YES and ACCEL_REMOVE_AND_ADD_TABLES are mutually exclusive.
- On restart of a failed load to both the accelerator and Db2, to determine whether the prior failed job successfully loaded the accelerator, Accelerator Loader uses the last load timestamp that the accelerator stored procedures returned. Therefore, you must restart the job or use the HLOMAINT utility to resolve the failure. Then you can run a load to the accelerator table.
- When BACKOUT YES is specified on the RESUME YES clause, Accelerator Loader recognizes when backout processing occurs and backs out the data sent to the accelerator, leaving the table with the

same data it had before the load started. On an accelerator-only load, Accelerator Loader backs out the data sent to the accelerator when a data conversion error occurs.

Parallel load restrictions and considerations

When you load different partitions from the same table in parallel, the following additional restrictions and considerations apply:

- Before you can perform a parallel load into the accelerator, you must load the entire table to the accelerator. Then you can load selected partitions.
- Parallel load is available only for loading range-partitioned and index-partitioned table spaces. To load a partition-by-growth table space, do not define the parallel option.
- A separate SYSREC data set is required for each partition that you load, and each SYSREC data set can contain data for only one partition. Records that do not belong to the specified partition are discarded.
- The PRESORT option is not supported for partition-level SYSREC data sets. If PRESORT is specified in the LOAD utility statement, the utility terminates with errors and you must remove PRESORT before resubmitting the job.
- When using Analytics Accelerator V7.1.1 or earlier, to use parallelism in Accelerator Loader, you must have the WLM environment that runs DSNUTILU configured for WLM management of the DSNUTILU server address space. See “WLM requirements for Accelerator Loader” on page 34 for more information.

Discard data set restrictions and considerations

The following restrictions and considerations apply:

- When performing a load from an external file to both the accelerator and Db2, you can provide one or more standard Db2 LOAD discard data sets.
- When you load only the accelerator, a discard data set is supported when running a load with a SYSREC data set. The discard data set cannot be a TEMPLATE. It must be specified as a DD statement in the JCL. Use the DISCARDDN keyword to communicate the DDNAME to Accelerator Loader. The DISCARDS keyword can also be specified to force Accelerator Loader to fail once a specified number of records are discarded. The DISCARDS keyword is valid only when used with a discard data set. Discard data sets are not supported when loading data from an Accelerator Loader server data source or when loading from multiple partition-level SYSREC data sets.
- The SYSREC data set must have a record format (RECFM) of F (Fixed) or V (Variable). The product does not support spanned record formats and formats D (variable-length ISO/ANSI tape records) and U (Undefined).
- When Accelerator Loader detects invalid data in a SYSREC record, it discards the record, issues a message, continues loading any remaining records, and the job step completes with return code 4 when records are discarded.
- All discarded SYSREC records are written to the discard data sets in their original format, not in Db2 internal row format.
- Regardless of the source of the discards (Accelerator Loader, Db2, or both), records are discarded to the appropriate discard data set, and your specified DISCARDS limits are honored.
- Accelerator Loader can optionally enable query acceleration for the table at the conclusion of a successful load. To specify this action, use the ACCEL_ON_SUCCESS_ENABLE extended syntax option or the **Enable acceleration after successful load** option in the options module.
- You can configure Accelerator Loader to load only Db2 when it detects that the accelerator is down. Specify this action by using the **Load DB2 if accelerator is offline** option in the options module.
- When the Db2 LOAD utility discards records that have already been loaded to the accelerator, you can configure Accelerator Loader to either leave the data in the accelerator or to roll back the loaded data. This type of discard situation can occur, for example, when Db2 detects unique index or referential integrity (RI) violations after the data has been loaded to both the Db2 table and the accelerator. In

these situations, Db2 deletes the offending records from the table space during the discard phase of the LOAD utility.

Use the Accelerator Loader options module parameter **Action when DB2 LOAD discards records loaded to the accelerator** to configure the action for Accelerator Loader to perform. The selected action also impacts how Accelerator Loader responds when the Db2 LOAD utility fails.

- Query acceleration is disabled for the loaded table in the following situations.

  Note: Query acceleration is only disabled when options module parameter **Action when DB2 LOAD discards records loaded to the accelerator** is set to DISABLE_ACCELERATION.

  – The Db2 LOAD utility discards records after they were sent to the accelerator, leaving the accelerator-shadow table and the Db2 table out of sync. This type of discard processing might occur if Db2 detects a unique index key violation during the INDEX BUILD phase of the Db2 LOAD utility.

  – The Db2 LOAD utility fails because it is possible that the accelerator was only partially loaded.
- Db2 LOAD utility discards can result in a situation where the Db2 table and the accelerator-shadow table have different data after rows have been added to the accelerated table or rolled back. This condition can occur when Db2 detects violations such as RI validation errors, when unique index violations are detected, even when no RI is defined on the table, and other violations. To get the tables back in sync, you can run the ACCEL_LOAD_TABLES stored procedure or the Accelerator Loader HALOAD utility. If multiple accelerators must be loaded, using HALOAD may be more efficient.
- Accelerator Loader can issue a user-supplied return code when Db2 LOAD discards rows that Accelerator Loader has already delivered to the accelerator. By default, Accelerator Loader issues return code 4 on a load when rows are discarded. This behavior mimics the Db2 LOAD utility which also issues return code 4 on discards. Using the Accelerator Loader started task option RC_WHEN_DB2_DISCARDS, Accelerator Loader can issue a user-supplied return code when Db2 LOAD discards rows that Accelerator Loader has already delivered to the accelerator. This option applies when performing Dual loads only and does not change the return code when a row is discarded from both Db2 and the accelerator. For information about setting this option, see “Modifying started task initialization options” on page 189.
- The IGNORE keyword of the Db2 LOAD utility is supported. The IGNORE keyword controls how different types of discards are handled by Accelerator Loader. Accelerator Loader can discard a record for the following reasons, each of which can be ignored via the IGNORE clause:

  – The record does not satisfy a WHEN clause. Specify IGNORE(WHEN) to ignore these discards. If a discard data set is not provided, this type of discard is ignored automatically.

  – The partition key for the record is out of the range of any loaded partition. Specify IGNORE(PART) to ignore these discards. If a discard data set is not provided, this type of discard is ignored automatically.

  – A data conversion error occurs when building the Db2 format internal row. Specify IGNORE(CONV) to ignore these discards.

  Multiple reasons can be combined in the IGNORE clause, such as in the following example:

  ```
  IGNORE(WHEN, PART, CONV)
  ```

  Ignored discards are not written to the discard data set and do not count towards the discard limit. No record-level messages are generated for ignored discards. Record-level messages are written for each non-ignored discard. These messages identify the record number and describe why it was discarded. To avoid flooding the spool with these record-level messages, only the first 1000 non-ignored discards are reported in this way.

  Note: IGNORE settings VALPROC, IDERROR, and DUPKEY are ignored by Accelerator Loader and passed to the Db2 LOAD utility.
- A data conversion error will cause Accelerator Loader to fail unless a discard data set is provided or IGNORE(CONV) is specified in the LOAD control cards.
- Accelerator Loader will end with RC=0 even when records are discarded, provided the associated discard reasons are being IGNOREd. Since loads from an Accelerator Loader server data source do not

support a discard data set, these loads will complete with RC=4 any time there are discards regardless of IGNORE settings.

Considerations for CDC

When you use IBM Change Data Capture for z/OS (CDC) replication, if a job fails, use the HLOMAINT utility to clear out the failed job and set the object back to read-write (RW) status.

If you try to load a table that was defined with **DATA CAPTURE NONE** and you place the table into continuous replication mode, the load ends with an error. To verify whether continuous replication is enabled for an object, run the stored procedure **SYSPROC.ACCEL_CONTROL_ACCELERATOR** with the command **getAcceleratorInfo** and look for the following setting in the result output document:

```
<acceleratorSetting name="CONTINUOUS_REPLICATION_ENABLED" value="true />
```

To load the table with Accelerator Loader, alter the table to **DATA CAPTURE CHANGES** and then run the load job.

Considerations and restrictions for accelerator only tables

You can perform a load to an accelerator only table (AOT) from an external file. The following considerations and restrictions apply:

- Because VSAM objects do not exist in Db2 for AOTs, loading to both Db2 and the accelerator is not supported. If you attempt to load to both Db2 and the accelerator when the target is an AOT, the product changes the load to an accelerator only load and issues message HLOU5053W.
- If you specify the ACCEL_ADD_TABLES or ACCEL_REMOVE_AND_ADD_TABLES option, the product silently ignores it. To add or remove an AOT from the IBM Db2 Analytics Accelerator for z/OS, use the Db2 CREATE/DROP TABLE SQL statements.
- The product does not enable or disable acceleration on the table at the conclusion of the load. An AOT is always enabled for acceleration; therefore, the stored procedure calls to enable or disable acceleration cannot be used.
- The IBM Db2 Analytics Accelerator for z/OS does not support LOAD REPLACE on an AOT; it supports only LOAD RESUME. However, Accelerator Loader provides LOAD REPLACE support by deleting all existing data from the accelerator before loading the new data. To use LOAD REPLACE, the user ID running the LOAD REPLACE utility must have DELETE authority on the AOT.

Character conversion with SYSREC data sets

When performing a load from an external file, Accelerator Loader can convert string data from one character set to another when data is loaded from a SYSREC data set to the accelerator, Db2, or both. For example, you can load data from an EBCDIC-encoded SYSREC data set to a Unicode Db2 table and the accelerator.

Accelerator Loader character set conversion is controlled through the standard Db2 LOAD utility control cards EBCDIC, UNICODE, ASCII, CCSID and NOSUBS. The function of these keywords is the same as for the Db2 LOAD utility. For details on these keywords, see the *Db2 Utility Guide and Reference*.

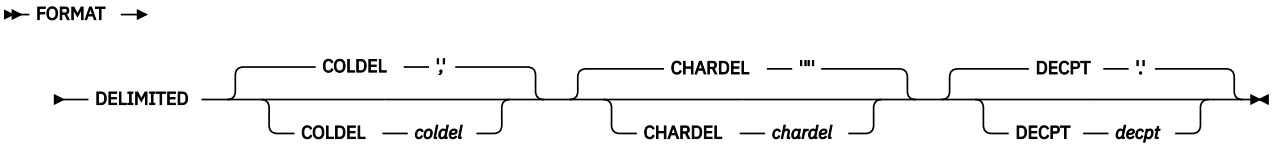
The following restrictions and considerations apply:

- The EBCDIC, UNICODE, ASCII, CCSID and NOSUBS keywords are ignored when loading from an Accelerator Loader server data source. Character set conversion applies to data loaded from a SYSREC file only.
- Accelerator Loader uses the system Unicode Character Conversion service to convert from one CCSID to another. Db2 uses its own internal conversion algorithms for some conversions. In some cases, the result generated by the system Unicode Character Conversion service may differ slightly from the result generated by the Db2 internal conversion algorithms.
- The process of converting data from one character set to another increases elapsed time. If Accelerator Loader determines that Unicode Conversion Services are required, it issues message HLOU4094I.

Delimited file format

When performing a load from an external file, Accelerator Loader supports SYSREC data sets in Db2 LOAD delimited file format. When data is in delimited format, all fields in the input data set are character strings, or external numeric values. Each column in the delimited file is separated from the next column by a column delimiter character. CHAR and VARCHAR data can optionally be enclosed in a character string delimiter. This may be necessary if, for example, the character data value includes the column delimiter character. When data is in delimited format, POSITION statements in the LOAD utility field specifications are ignored by Accelerator Loader.

To use data in delimited format in your load, include the standard Db2 LOAD FORMAT DELIMITED option in the Accelerator Loader control cards, as shown in the following diagram:



The COLDEL, CHARDEL and DECPT delimiters can be specified as either a single-byte quoted character, or as a two-digit hexadecimal value. For example, to use a comma as the column delimiter, you could specify either “COLDEL ‘,’” or “COLDEL X’6B’”.

The following considerations apply when using Accelerator Loader delimited file support options:

- When data is in delimited format, Accelerator Loader ignores POSITION statements in the LOAD utility field specifications.
- When loading a Unicode-encoded SYSREC and using Accelerator Loader control cards in EBCDIC, specify the delimiters in hexadecimal. Accelerator Loader does not perform any character conversion on the delimiters specified in the control cards.
- When using the ISPF interface to load from an external file, if you specify UNICODE as the Encoding value and a character symbol for a delimiter on the Delimiter Parameters panel, then Accelerator Loader will generate the hexadecimal value of the symbol in the Db2 LOAD control card.
- The default values for the column and decimal point delimiters are dependent on the user locale settings. For example, when a European user creates a new DUAL or ACCELERATOR ONLY profile, the decimal point will be ',' (comma) and the column delimiter will be ';' (semicolon).
- To use the space character as a delimiter, specify the hexadecimal value.
- If an apostrophe (') is specified as a delimiter, it will be generated as four apostrophes ('''') in the LOAD card.

Accelerator Loader support for delimited file format has the following restrictions:

- Delimited file format support is available when loading data from an external file (DUAL or ACCELERATOR ONLY profile) only.
- GRAPHIC and VARGRAPHIC data types are not supported.
- Non-Unicode MIXED CHAR and VARCHAR data is not supported.

For a complete description of the Db2 LOAD FORMAT DELIMITED clause, see the *IBM Db2 Utility Guide and Reference*. For more information on the delimited file format, see the appendix “Delimited file format” in the *IBM Db2 Utility Guide and Reference*.

Adding syntax to an existing load job

To quickly load data from an external file into both Db2 and an accelerator, modify an existing batch job.

Before you begin

- You must have an existing LOAD utility batch job with a SYSREC file and a SYSPUNCH file.

- To perform a parallel load, you must have a SYSREC data set for each partition. For a parallel load, the product processes and loads different partitions from the same table in parallel.
- Review the information in "Restrictions and considerations for loading from an external file" on page 251.

About this task

For more information about the extended syntax options, including examples, see "Loading from an external file" on page 313.

Procedure

1. In the existing batch job, after the LOAD DATA parameter, add the following extended syntax:
   - To load data into only the accelerator:

     ```
     IDAA_ONLY ON accelerator_name
     ```

   - To load data into the accelerator and Db2:

     ```
     IDAA_DUAL ON accelerator_name
     ```

2. Add the following DD statement to the JCL:

   ```
   //HLODUMMY DD DUMMY
   ```

3. To perform a parallel load, complete the following steps:
   a) To control the number of partitions that are processed in parallel, specify the extended syntax option ACCEL_LOAD_TASKS in the LOAD utility statement.
   b) Include one INTO TABLE PART clause for each partition to load.
   c) For each INTO TABLE PART clause, specify the following:
      - SYSREC data set for each partition on the INDDN keyword.
      - Field specifications.
      - NUMRECS option.

        If the LOAD utility statement does not provide the number of SYSREC records with a NUMRECS or a SORTKEYS clause, the product estimates the record count. Using the estimated record count, it then adds a NUMRECS clause for each INTO TABLE clause. The record count enables Db2 to size index-build sorts, and reduces the possibility of sort failures when loading to both the accelerator and Db2.
4. To enable query acceleration for the table at the conclusion of a successful load, specify the extended syntax option ACCEL_ON_SUCCESS_ENABLE YES in the LOAD utility statement.
5. Specify other extended syntax options as needed.

Using the ISPF interface to create or edit a profile to load from an external file

Dual and External load profiles are reusable groups of options for building a job to load data from an external file into Db2, an accelerator, or both. You can create a profile that saves your selections and reuse the profile to perform future loads from an external file.

Before you begin

Review the information in "Restrictions and considerations for loading from an external file" on page 251.

About this task

When you add a Db2 table to the profile, you can filter on tables, views from a single base table, or aliases. The product resolves the view or alias to the base table space and includes the base table space in the generated JCL. A view that was created from a join of more than one table is not supported. The product checks for the existence of the specified Db2 table before generation. However, if you specify partitions, the product cannot validate the partitions, but uses the partitions as specified when generating JCL.

You can use an asterisk (*) in the fields **Table creator like** and **Table name like**. Case sensitivity of this field is controlled by the **Case sensitive** field on the Enter Table and Creator Like to Display panel. Depending on your setting, the wildcard pattern `abc*` might return different results from pattern `ABC*`.

Procedure

1. From the main menu, select **Manage Loader Profiles** and press Enter.
2. On the Manage Loader Profiles panel, to filter existing profiles by profile name or creator name, specify a wildcard pattern using an asterisk (*) and press **Enter**.
3. On the Manage Loader Profiles panel, perform one of the following steps:
   - To create a new profile, issue the CREATE command, and then on the Create Profile panel, select the type of profile to create.
   - To create a new profile by copying an existing profile, type C in the **Cmd** line next to the profile that you want to copy.
   - To edit an existing profile, type E in the **Cmd** line next to the profile.
4. On the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel, specify a name and processing options for the profile.

   If you want to perform a parallel load:

   - For **Parallel load**, specify `Yes`.
   - Specify a **Load tasks** value.
   - Specify a **NUMRECS** value.

     If the LOAD utility statement does not provide the number of SYSREC records with a NUMRECS or a SORTKEYS clause, the product estimates the record count. Using the estimated record count, it then adds a NUMRECS clause for each INTO TABLE clause. The record count enables Db2 to size index-build sorts, and reduces the possibility of sort failures when loading to both the accelerator and Db2.

     When using the ISPF panels to generate LOAD JCL, you cannot specify a separate NUMRECS value for individual partitions. Specify either the average number of rows per partition or the largest number of records to be loaded into any single partition. The NUMRECS option will be generated once per INTO TABLE PART clause when the utility syntax is generated.
5. To add a Db2 table to the profile, issue the T panel command.
6. On the Enter Table and Creator Like to Display panel, specify an object creator name and object name pattern and press Enter to display matching objects. You can specify a table, a view, or an alias.
7. On the Db2 Table Selection panel, use the S line command to select the tables to add to the profile and press Enter.
8. Return to the previous panel by pressing F3.
9. To select the accelerators onto which you want to load data, issue the A panel command, and on the **Db2 Analytics Accelerator Selection** panel, select the accelerators or an accelerator group and press Enter.
10. To edit the table column definitions, issue the C command.
11. To define options for a template DD, complete the following steps:
    a) On the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel, specify `Yes` in the **Update** field for any template DD.

b) On the **Template Specification** panel, issue the TEMPLATE command, and edit the template data set name mask.

c) On the **DSN Template** panel, specify qualifier codes to create the data set name mask.

d) To see the resulting DSN mask, issue the SHOW command.

e) To save and return to the previous panel, press **PF3**.

f) Update the template options as needed.

g) To save and return to the previous panel, press **PF3**.

12. To create an inline backup copy for the target table, specify data set names for the Inline copy data sets options. Inline backup copies can be created for accelerator-only tables or accelerator-shadow tables that have been loaded to the accelerator only.

Chapter 8. Loading data from Db2 to one or more accelerators

You can generate JCL that loads Db2 table data to as many as four IBM Db2 Analytics Accelerator for z/OS (accelerators) in parallel. This process is called a *high availability load*.

Restrictions and considerations for loading Db2 data to one or more accelerators

Review usage restrictions and considerations before loading data from Db2 tables to one or more accelerators (high availability load).

Note: In addition to the information in this section, make sure that your system meets requirements as listed in "Set up your environment prior to customization" on page 29.

General restrictions and considerations

- Two or more accelerators must be configured on the same Db2 subsystem.
- The Multi load profile type and HALOAD utility support up to four accelerators.
- When using Analytics Accelerator V7.1.1 or earlier, to use parallelism in Accelerator Loader, you must have the WLM environment that runs DSNUTILU configured for WLM management of the DSNUTILU server address space. See "WLM requirements for Accelerator Loader" on page 34 and "Setting up the WLM application environment (required)" on page 114 for more information.
- For Analytics Accelerator V7.1.6 or earlier, the HALOAD utility requires the intercept in the DSNUTILU WLM address space. For more information, see "Setting up the WLM application environment (required)" on page 114.
- Multiple HALOAD jobs can run in parallel to load the same table to different accelerators. The accelerators must be version 7.1 or later.
- When using the HALOAD utility, you can control if the refresh timestamp (REFRESH_TIME in SYSACCEL.SYSACCELERATEDTABLES) is updated when no data is loaded to a table on a specific accelerator. This feature is controlled by the started task initialization option ACCEL_UPDATE_REFRESH_TIME_NOLOAD. The parameter value is set globally in Tools Customizer using the parameter **Refresh timestamp**, and it can also be overridden for a specific job by specifying parameter ACCEL_UPDATE_REFRESH_TIME_NOLOAD as part of the utility syntax for the job.

Loading only tables or partitions that have changed since the last load

Using the HALOAD utility, you can load only those tables or partitions that have been updated in Db2 for z/OS since the accelerator-shadow tables were last loaded. This feature is controlled through the keyword DETECT_DATA_CHANGES on the HALOAD command. When this control card is included, only those tables listed in the FROM TABLE clause that have been changed in Db2 since the last time they were loaded into the accelerator will be loaded. In the case of partitioned tables, any partition lists specified on the command are ignored; HALOAD will determine which partitions need to be reloaded.

HALOAD relies on the same change detection mechanism as the Analytics Accelerator ACCEL_LOAD_TABLES stored procedure. HALOAD calls the ACCEL_GET_TABLES_DETAILS stored procedure to retrieve the changeInformation category for the accelerator table. The table must have been previously loaded with any lock mode other than NONE. When using the DETECT_DATA_CHANGES keyword, tables with the changeInformation category of RELOAD_RECOMMENDED are updated. Tables and partitions with a changeInformation category of NONE are not loaded.

For the function provided by DETECT_DATA_CHANGES control card to work correctly, the table should be set up on the accelerator with any lock mode other than NONE.

When using HALOAD to load multiple accelerators, a table or partition will be reloaded on all accelerators whenever modified data is detected on any one of the accelerators.

Note: When External load is used to load both Db2 and the accelerator, the accelerator table will be left with a changeInformation category other than NONE. This means that the HALOAD utility when run with DETECT_DATA_CHANGES will load the accelerator table even though there is no changed data.

Using the ISPF interface to create or edit a high availability load (Multi) profile

High Availability load - or Multi load - enables you to use the Accelerator Loader to load data into as many as four IBM Db2 Analytics Accelerator for z/OS (accelerators) in parallel from a single LOAD utility statement. You can specify options to generate JCL to load one to four accelerators from one or more Db2 tables. After specifying the options, save them as a Multi load profile.

Before you begin

Review the information in "Restrictions and considerations for loading Db2 data to one or more accelerators" on page 263.

About this task

When you add a Db2 table to the profile, you can filter on tables, views from a single base table, or aliases. The product resolves the view or alias to the base table space and includes the base table space in the generated JCL. A view that was created from a join of more than one table is not supported. The product checks for the existence of the specified Db2 table before generation. However, if you specify partitions, the product cannot validate the partitions, but uses the partitions as specified when generating JCL.

Procedure

1. From the main menu, select **Manage Loader Profiles** and press Enter.
2. On the Manage Loader Profiles panel, to filter existing profiles by profile name or creator name, specify a wildcard pattern using an asterisk (*) and press **Enter**.
3. On the Manage Loader Profiles panel, perform one of the following steps:
   - To create a new profile, issue the CREATE command, and then on the Create Profile panel, select the type of profile to create.
   - To create a new profile by copying an existing profile, type C in the **Cmd** line next to the profile that you want to copy.
   - To edit an existing profile, type E in the **Cmd** line next to the profile.
4. On the Load Accelerator(s) from Db2 Table(s) panel, specify a name and processing options for the profile.
5. To add a Db2 table to the profile, issue the T panel command.
6. On the Enter Table and Creator Like to Display panel, specify an object creator name and object name pattern and press Enter to display matching objects. You can specify a table, a view, or an alias.
7. On the Db2 Table Selection panel, use the S line command to select the tables to add to the profile and press Enter.
8. Return to the previous panel by pressing F3.
9. To select the accelerators onto which you want to load data, issue the A panel command, and on the **Db2 Analytics Accelerator Selection** panel, select the accelerators or an accelerator group and press Enter.

Using a stored procedure to perform a high availability load

You can invoke the Accelerator Loader high availability load feature using a stored procedure call.

About this task

To invoke the HALOAD utility using a stored procedure, use the standard Db2 utility stored procedure DSNUTILU. Call the DSNUTILU stored procedure as you would for a Db2 utility, but specify the HALOAD utility command in place of a Db2 utility command. By using the DSNUTILU stored procedure to process the HALOAD utility, you do not need to create and maintain another stored procedure, and can simply use a stored procedure already implemented as part of Db2.

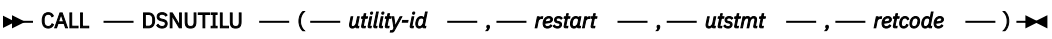
The following restrictions and considerations apply when using a stored procedure to perform a high availability load:

- If loading multiple accelerators using the HALOAD utility, all the accelerators must be configured to the same Db2. You can also use the HALOAD utility to load a single accelerator.
- The Accelerator Loader product library must be included in the STEPLIB of the procedure that runs the WLM environment for DSNUTILU. This requirement applies for all versions of the Analytics Accelerator. For more information, see “Setting up the WLM application environment (required)” on page 114.
- The HALOAD command does not use a utility ID. Because of this, an executing HALOAD command cannot be canceled by the Db2 -TERM utility command using the utility-id value passed on the stored procedure call. For more information, see “Canceling an HALOAD stored procedure call” on page 266.

The following information is specific to using the DSNUTILU stored procedure to run the HALOAD utility.

Note: For more information on using the DSNUTILU stored procedure, including a sample program and a complete description of the DSNUTILU syntax options, see the *IBM Db2 Utility Guide and Reference*, in Appendix B “Db2- supplied stored procedures for utility operations” or "DSNUTILU stored procedure".

The following syntax diagram shows the SQL CALL statement for invoking the HALOAD utility as a stored procedure:



utility-id
This input parameter is ignored for HALOAD. Because HALOAD does not invoke a Db2 utility, a utility ID is not used. Although this parameter is not used with HALOAD, a valid value must be provided for DSNUTILU.

restart
This input parameter is ignored for HALOAD. The HALOAD utility cannot be restarted. Although this parameter is not used with HALOAD, a valid value must be provided for DSNUTILU. It is recommended to specify NO for this option.

utstmt
Specifies the HALOAD utility control statement, such as shown in the following example:

```
HALOAD ACCEL (IDAA01, IDAA02) FROM TABLE SCHEMA.TBNAME
```

utstmt is a required input parameter.

For more information on the syntax for loading multiple accelerators, see Chapter 8, “Loading data from Db2 to one or more accelerators,” on page 263.

retcode
Specifies the HALOAD utility highest return code. *retcode* is a required output parameter.

Procedure

To perform a high availability load from within an application program, use the SQL CALL statement to invoke the DSNUTILU stored procedure, specifying the HALOAD command as the utility. For the HALOAD

utility output, the calling program fetches rows from the SYSIBM.SYSPRINT temporary table, which is the same process as when calling a Db2 utility.

Example

The following example shows the SQL CALL statement for invoking the HALOAD utility as a stored procedure:

```
CALL SYSPROC.DSNUTILU('HALOADID',
                      'NO',
                      'HALOAD ACCEL (IDAA01, IDAA02) FROM TABLE SCHEMA.TBNAME',
                      HALOAD_RC)
```

The following example shows the output when performing a high availability load through the DSNUTILU stored procedure. The output is the same when invoking HALOAD directly or as a stored procedure.

```
HLOU4005I 017 08:31:53.39 High Availability Load Utility execution started.
HLOU4004I 017 08:32:00.90 Task: 01, Load completed for table: DSNC810.EMP01, partition: 0
HLOU4004I 017 08:32:09.40 Task: 02, Load completed for table: DSNC810.EMP02, partition: 0
HLOU4015I 017 08:32:11.91 Messages from accelerator V81AACC1...
HLOU5720I AQT20014I The following data was transferred to the "DSNC810"."EMP01" table:
Scope: Full table, number
HLOU5720I of rows: 8, amount of data: 0 MB, time: 10 seconds.
HLOU5720I AQT20014I The following data was transferred to the "DSNC810"."EMP02" table:
Scope: Full table, number
HLOU5720I of rows: 4, amount of data: 0 MB, time: 5 seconds.
HLOU5720I AQT10000I The operation was completed successfully.
HLOU4015I 017 08:32:11.91 Messages from accelerator IDAAS03 ...
HLOU5720I AQT20014I The following data was transferred to the "DSNC810"."EMP01" table:
Scope: Full table, number
HLOU5720I of rows: 8, amount of data: 0 MB, time: 10 seconds.
HLOU5720I AQT20014I The following data was transferred to the "DSNC810"."EMP02" table:
Scope: Full table, number
HLOU5720I of rows: 4, amount of data: 0 MB, time: 5 seconds.
HLOU5720I AQT10000I The operation was completed successfully.
HLOU4015I 017 08:32:11.91 Messages from accelerator IDAAS02 ...
HLOU5720I AQT20014I The following data was transferred to the "DSNC810"."EMP01" table:
Scope: Full table, number
HLOU5720I of rows: 8, amount of data: 0 MB, time: 10 seconds.
HLOU5720I AQT20014I The following data was transferred to the "DSNC810"."EMP02" table:
Scope: Full table, number
HLOU5720I of rows: 4, amount of data: 0 MB, time: 5 seconds.
HLOU5720I AQT10000I The operation was completed successfully.
```

Canceling an HALOAD stored procedure call

To cancel an HALOAD stored procedure call, you must use a method other than the Db2 -TERM utility command.

About this task

The HALOAD command does not use a utility ID. Because of this, an executing HALOAD utility cannot be canceled by the Db2 -TERM utility command using the *utility-id* value passed on the stored procedure call. Instead, use one of the methods described in the following procedure.

Procedure

To cancel the HALOAD stored procedure call, use one of the following methods:

- If the HALOAD utility is running, you can cancel the thread through which the HALOAD utility attempts to access Db2. This will result in an S04E ABEND and the stored procedure will terminate.
- If the HALOAD utility hangs in the WLM address space, canceling the thread will not terminate the stored procedure. If this occurs, you can cancel the WLM address space that is running the DSNUTILU stored procedure call for the HALOAD utility. The WLM address space ID (ASID) can be identified from the Accelerator Loader started task message HLOS0101I. This message reports the intercept session

information, including the ASID as *session_asid*. For more information, locate the message ID in "Messages and codes" on page 467.

- In the Accelerator Loader studio, you can cancel the ACCEL_LOAD_TABLES stored procedure.

Chapter 9. Backing up and recovering accelerator data

You can backup and recover Db2 Analytics Accelerator Loader data in an accelerator-only table or an accelerator-shadow table using a batch job. You can generate the JCL through the ISPF panels or using a profile. Because the data resides in the accelerator, you cannot use the standard Db2 COPY and RECOVER utilities.

You can create backup copies using either of the following methods:

- *Backup utility*. The Accelerator Loader backup utility fetches all data from the accelerator table and writes out a full copy. To use the backup utility, generate JCL using a backup profile in the ISPF panels.
- *Inline copy*. An inline copy is a backup copy of an accelerator table that is created as the data is loaded to the accelerator. This method creates a full copy when running the Accelerator Loader with the syntax LOAD REPLACE and an incremental copy when running the Accelerator Loader with the syntax LOAD RESUME.

Backup or recovery profiles

You can create a backup or recovery profile to generate JCL. A profile is a saved group of options you can reuse to build jobs that back up or recover accelerator data. You can specify data set allocation parameters in a profile. Use the following ISPF panels to create a backup or recovery profile:

- "Back Up Accelerator Table panel" on page 948
- "Recover Accelerator Table(s) from a Backup panel" on page 985

Backup and recovery copy data sets

The backup and recovery feature supports up to four data copy sets: a primary and backup copy for the local site, and a primary and backup copy for the remote recovery site. The backup program determines and sets RECFM, LRECL, and BLKSIZE. You can create backups for the local site only or the recovery site only. When creating a backup copy for a site, you must also create a primary copy for that site. Copy datasets are registered in the backup copy registration table HLOUCOPY, and each Db2 system the Accelerator Loader is installed on has its own copy of this table.

Restrictions and considerations

Review the following restrictions and considerations before performing a backup or recovery of your accelerator data:

- Use Accelerator Loader backup and recovery features for data that resides only in the accelerator.
- Because the data resides only in the accelerator, you cannot use the standard Db2 COPY and RECOVER utilities for backup and recovery functions.
- Backup copies created by the Accelerator Loader backup feature are not in standard Db2 image copy format. You can recover accelerator tables using the Accelerator Loader recovery feature only.
- If an object to be recovered was converted from absolute page numbering (APN) to relative page numbering (RPN), create an image copy to work with this object after the conversion.
- Removing a table from the accelerator invalidates any backup copies that have been created for that table. ISPF has validation in place that disallows use of a backup copy after the table is removed from the accelerator. You can still use the backup copy on a recover table from a backup batch job. If you remove and add back a table, that table is placed in initial load pending state. For these reasons, best practice is to create a full backup copy before removing a table, and reload the table using inline copy to create a new full copy. If you don't reload the table with inline copy, run the backup utility to create a full backup.

- The Accelerator Loader backup utility reports the first five positive SQL codes encountered and continues processing. After a successful execution with only warnings and no errors, the final return code is set to 4. When a negative SQL code is encountered, the Accelerator Loader backup utility reports the error and the job terminates with return code 8.

Using the ISPF interface to back up Accelerator Loader data

You can use the Accelerator Loader ISPF interface to backup and recover data.

Back up accelerator data using the ISPF interface

You can use the ISPF interface to run the Accelerator Loader backup utility to back up accelerator data.

About this task

The Accelerator Loader backup utility fetches all data from the accelerator table and writes out a full copy. To use the backup utility, generate JCL using a backup profile in the ISPF panels.

Procedure

1. From the main menu, select **Back up Accelerator table** and press **Enter**.
2. On the **Back Up Accelerator Table** panel, issue the TABLE command.
3. On the **Enter Table** and **Creator Like to Display** panel, specify a table creator and table name pattern for the accelerator tables to list, and press **Enter**. You can use an asterisk (*) in the fields **Table creator like** and **Table name like**. Case sensitivity of these fields is controlled by the **Case sensitive** option.
4. On the **Accelerator Table Selection** panel, type S in the **Cmd** field next to the table to back up, and press **Enter**. Only one table can be selected. After you select a table, an asterisk appears in the **Cmd** field.
5. Press **PF3** to exit the panel.
6. Under **Copy data sets options**, specify up to four copy data sets to create, and specify YES in the **Update** field to specify data set parameters.
7. If you specified YES for **Update**, on the **Copy Data Set Parameters** panel for each copy data set, specify allocation parameters for the backup copy data set, and press **PF3**.
8. Optional: To save the Backup profile, specify a name and description for the profile, and issue the SAVE command.
9. To build the backup JCL, issue the BUILD command.

Back up accelerator data with an inline backup using the ISPF interface

Use the ISPF interface to back up accelerator data with an inline backup.

About this task

To create an inline copy, create an Accelerator-only profile to generate JCL you can reuse.

An inline copy is a backup copy of an accelerator table that is created as the data is loaded to the accelerator. This method creates a full copy when running the Accelerator Loader with the syntax LOAD REPLACE and an incremental copy when running the Accelerator Loader with the syntax LOAD RESUME.

Procedure

1. From the main menu, use the **Load Accelerator(s) from External File** option.
2. Use the **Inline copy data sets** options and specify YES in the **Update** field to specify data set parameters.

For more information on defining the Accelerator-only profile, see Chapter 7, “Loading data from an external file,” on page 251.

Recover accelerator data using the ISPF interface

You can recover accelerator data using the ISPF interface.

About this task

To recover accelerator data, create a recovery profile to generate JCL. A recovery profile is a saved group of options you can reuse to build jobs that recover accelerator data.

To use JCL to recover data, you must provide the accelerator table to recover and the backup copy data set to use. To determine which backup copy data set to use, you must first decide the point in time to recover from. The ISPF interface offers an option to set a point in time that controls how the copy data set is selected for each table and applies to all tables selected for recovery. You can select from the following point in time options:

- CURRENT: The backup data set for each table is chosen automatically when the JCL is generated.
- TIMESTAMP: The backup data set for each table is chosen automatically using values you specify in the **Timestamp end point** and **Time zone of timestamp** fields.
- SELECTED: You must manually specify a backup data set for each selected table.

Procedure

1. From the main menu, select **Recover Accelerator table(s) from a backup** and press **Enter**.
2. On the **Recover Accelerator Table(s) from a Backup** panel, issue the TABLES command.
3. On the **Recovery Table List** panel, issue the ADD command.
4. On the **Enter Table** and **Creator Like to Display** panels, specify a table creator and table name pattern for the accelerator tables to list, and press **Enter**. You can use an asterisk (*) in the fields **Table creator like** and **Table name like**. You can change the case sensitivity of these fields with the **Case sensitive** option.
5. On the **Recovery Table Selection** panel, type S in the **Cmd** field next to a table to recover or use the ALL command to select all tables, and press **Enter**. After you select a table, an asterisk appears in the **Cmd** field.
6. Press **PF3** to exit the panel.
7. To manually specify the backup copy data set to use for the recovery:
   a) On the **Recovery Table List** panel, type B in the **Cmd** field next to the table, and press **Enter**.
   b) On the **Backup Copy Selection** panel, type S next to a backup copy data set and press **Enter**.
   c) Press **PF3** to exit the panel.

   Note: To use a manually-selected backup copy data, use the option SELECTED point in time recovery option specified in a later step.
8. Press **PF3** to exit the **Recovery Table List** panel.
9. On **Recover Accelerator Table(s) from a Backup**, specify your target options:
   a) To add missing tables to the accelerator before starting the recover job, specify YES for **Add table to Accelerator**.
   b) To enable query acceleration for the table after a successful load, specify YES for **Enable acceleration on success**.
10. Specify your recovery point options, as follows. These settings apply to all tables that are selected.
    a) Specify CURRENT, TIMESTAMP or SELECTED for the **Point in time** to which to recover.
    b) If you specified TIMESTAMP for your point in time, specify the **Timestamp end point** and **Time zone of timestamp** values.

11. Optional: To save the recovery profile, specify a name and description for the profile, and issue the SAVE command.
12. To build the recovery JCL, issue the BUILD command.

Chapter 10. Using and managing load profiles

You can create reusable groups of load options in a profile. You also associate profiles with an accelerator and a table. You can then reuse the profile to generate JCL for future loads, rather than specifying the options again.

The following types of profiles are available:

- **Dual** specifies options for loading table data into both the accelerator and Db2 from an external data input file.
- **Accelerator only** specifies options for loading table data into only the accelerator from an external data input file.
- **Consistent** specifies options for loading data for multiple tables into the accelerator from a cataloged Db2 image copy.
- **Image copy** specifies options for loading data for a single table into the accelerator from a user-defined Db2 image copy.
- **Multi** specifies options for loading data to one to four accelerators from one or more Db2 tables (high availability load).
- **Backup** specifies options for backing up a table defined to the accelerator.
- **Recovery** specifies options for recovering a table defined to the accelerator.

From the main menu, you can choose to manage profiles or choose to create a profile for the type of load you want to perform.

Managing profiles includes the following tasks:

- Create a profile.
- Build the JCL for a profile.
- Delete a profile.
- Edit a profile.
- Rename a profile.
- View a profile.
- Copy a profile to save with a different name.

To select load profiles for display, you can specify filter criteria:

- By default, the panel displays all profiles and creators.
- To filter the profiles and creators, in the **Profile like** and **Creator like** fields, type a few letters with the asterisk wildcard (*) and press Enter. These fields are case sensitive. The wildcard patterns abc* and ABC* return different results.
- To filter by the type of load profile, leave the default (ALL) or type an asterisk (*) in the **Profile type** field and press Enter.

If no profiles meet your selection criteria, the profiles panel remains open and displays no profiles. Specify different filter criteria and try again.

If existing profiles meet your selection criteria, the profiles panel displays those matching profiles.

Using the ISPF interface to build a load job from a profile

Use the ISPF build feature to quickly generate a Db2 Analytics Accelerator Loader job by using a load profile.

Before you begin

Create a load profile as described in one of the following topics:

- "Using the ISPF interface to create or edit a Consistent or Image Copy load profile" on page 247
- "Using the ISPF interface to create or edit a profile to load from an external file" on page 259
- "Using the ISPF interface to create or edit a high availability load (Multi) profile" on page 264

Procedure

1. From the main menu, select Manage Loader Profiles and press Enter.
2. In the **Cmd** field next to a profile, type B and press Enter.
3. On the Build Load JCL panel, specify the data set name, and if necessary, the member name for the generated job.

   The product creates this data set if it does not exist.
4. Select processing options by typing a forward slash character (/) beside the options.
5. Specify a valid job card for your site.
6. Issue the `BUILD` command to build the JCL, or press PF3 to save and exit.
7. To perform the load, submit the generated JCL, or add the job to your job scheduler.

Using the batch interface to build a load job from a profile

You can use the batch interface to generate JCL to load data to the accelerator and Db2.

Before you begin

Use the ISPF interface to create a load profile that specifies the options that you want to use. It is not necessary to specify a table when you create the profile in the ISPF interface.

About this task

Db2 Analytics Accelerator Loader does not validate table names, data set names, and so on.

Specify SYSIN lines in positions 1 - 72. To split long table names into multiple SYSIN lines, start a new line in position 1.

SYSIN parameter values cannot contain the following characters:

- ' (apostrophe)
- " quotation mark)
- & (ampersand)
- < (less-than symbol)
- > (greater-than symbol)

Use the following encoding for symbols:

- < for less than (<)
- > for greater than (>)
- & for ampersand (&)
- &APOS; for apostrophe (')
- " for quotation mark (")

For example, a table named <MY TABLE1> TABLE' "NAME" requires the following encoding:

```
<TABLE NAME>='&LT;MY TABLE1&GT; TABLE&APOS; &QUOT;NAME&QUOT;'
```

When you add a Db2 table to the profile, you can filter on tables, views from a single base table, or aliases. The product resolves the view or alias to the base table space and includes the base table space in the generated JCL. A view that was created from a join of more than one table is not supported. The product checks for the existence of the specified Db2 table before generation. However, if you specify partitions, the product cannot validate the partitions, but uses the partitions as specified when generating JCL.

For a load from an external file, you can specify one SYSREC for each partition or each table if the table space is not partitioned. To specify multiple SYSREC data sets, use templates or manually add SYSREC data sets to the generated JCL. Before you can perform a parallel load to the accelerator, you must load the entire table. Then you can load selected partitions.

Procedure

1. Locate one of the following members in the SHLOSAMP library:
   - For a Dual or Accelerator only load profile: HLODGEN
   - For a Consistent or Image copy load profile: HLOCGEN
   - For a Multi load profile: HLOMGEN
2. In the SYSIN statement, replace the variables in parameter values with your values.
   Remove the hash symbols (#) from the example JCL, but leave the quotation marks.
3. Save a copy of the customized member in another library.
4. To perform the load, submit the generated JCL, or add the job to your job scheduler.

Example JCL

Consistent load profile

```
//SYSIN    DD *
   <JOBPREFIX>='#HLO#'
   <TARGET SSID>='#SSID#'
   <PROFILE SSID>='#SSID#'
   <PROFILE TYPE>='CONSISTENT'
   <PROFILE NAME>='#CONSISTENT LOAD PROFILE#'
   <PROFILE CREATOR>='#PROF-CREATOR#'
   <OUTPUT-DSN>='#OUTPUT DSN#'

   <TABLE>
     <TABLE NAME>='#TABLENAME1#'
     <TABLE CREATOR>='#TABLECREATOR1#'
     <PARTITION>='#ALL#'
   </TABLE>

   <TABLE>
     <TABLE NAME>='#&LT;MY TABLE1&GT; TABLE&APOS; &QUOT;NAME&QUOT;#'
     <TABLE CREATOR>='#TABLECREATOR2#'
     <PARTITION>='#1-2,4:5#'
   </TABLE>

   <TABLE>
     <TABLE NAME>='#VERY LONG TABLE NAME 12345678901234567890123456789012
 34567890123456789012345678901234567890123456789012345678901234567890#'
     <TABLE CREATOR>='#TABLECREATOR3#'
   </TABLE>
 /*
```

Dual load profile

```
//SYSIN    DD *
  <JOBPREFIX>='#HLO#'
  <TARGET SSID>='#SSID#'
  <PROFILE SSID>='#SSID#'
  <PROFILE TYPE>='DUAL'
  <PROFILE NAME>='#DUAL LOAD PROFILE#'
  <PROFILE CREATOR>='#PROF-CREATOR#'
  <LOAD BY PARTITION>='#YES#'
  <OUTPUT-DSN>='#OUTPUT DSN#'
  <NUMBER OF JOBS>='#2#'

  <TABLE>
    <TABLE NAME>='#TABLENAME1#'
    <TABLE CREATOR>='#TABLECREATOR1#'
    <PARTITION>='#ALL#'
    <SYSREC-TEMPLATE-NAME>='ISYSDISC'
    <SYSREC-TEMPLATE-DSN>='&AMP;US..IDSD.&AMP;DB..ABC&AMP;PA.'
    <PARALLELISM>='#20#'
  </TABLE>

  <TABLE>
    <TABLE NAME>='#&LT;MY TABLE1&GT; TABLE&APOS; &QUOT;NAME&QUOT;#'
    <TABLE CREATOR>='#TABLECREATOR2#'
    <PARTITION>='#1-2,4:5#'
    <FIELDSPEC-DSN>='HLO.NSBTEST.LOADCAR1'
    <SYSREC-TEMPLATE-NAME>='ISYSDISC'
    <SYSREC-TEMPLATE-DSN>='&AMP;US..IDSD.&AMP;DB..ABC&AMP;PA.'
  </TABLE>

  <TABLE>
    <TABLE NAME>='#VERY LONG TABLE NAME 12345678901234567890123456789012
3456789012345678901234567890123456789012345678901234567890#'
     <TABLE CREATOR>='#TABLECREATOR3#'
     <SYSREC-DSN>='#HLO.LOAD.SYSREC3#'
   </TABLE>
/*
```

High availability load (Multi) profile

```
RSQA.HLO210.IBMTAPE.SHLOSAMP(HLOMGEN)
//SYSIN    DD *
  <JOBPREFIX>='#HLO#'
  <TARGET SSID>='#SSID#'
  <PROFILE SSID>='#SSID#'
  <PROFILE TYPE>='MULTI'
  <PROFILE NAME>='#MULTI LOAD PROFILE#'
  <PROFILE CREATOR>='#PROF-CREATOR#'
  <LOAD BY PARTITION>='#YES#'
  <OUTPUT-DSN>='#OUTPUT DSN#'
  <NUMBER OF JOBS>='#3#'

  <TABLE>
    <TABLE NAME>='#TABLENAME1#'
    <TABLE CREATOR>='#TABLECREATOR1#'
    <PARTITION>='#ALL#'
  </TABLE>

  <TABLE>
    <TABLE NAME>='#&LT;MY TABLE1&GT; TABLE&APOS; &QUOT;NAME&QUOT;#'
    <TABLE CREATOR>='#TABLECREATOR2#'
    <PARTITION>='#1-2,4:5#'
  </TABLE>

  <TABLE>
    <TABLE NAME>='#VERY LONG TABLE NAME 12345678901234567890123456789012
3456789012345678901234567890123456789012345678901234567890#'
     <TABLE CREATOR>='#TABLECREATOR3#'
  </TABLE>
/*
```

Load profile parameter descriptions

The following table describes the load profile parameters and indicates the profile types to which the parameter applies.

Parameter	Profile type	Required?	Default value
<JOBPREFIX>='*job_name_prefix*' Specifies a prefix for the member name and job name in the job card. Specify a maximum of three characters. The product creates a separate six-character job name for each job. For example, if two jobs are generated and the default prefix of HLO is used, then all defined tables are generated into two jobs with the names HLOAAA and HLOAAB. Step names in the job begin with prefix S, followed by the job name and the step name in symbolic form. For example, the step names in the job HLOAAB are SAABAA and SAABAB.	Dual Consistent Image copy Accelerator only Multi	No	HLO
<TARGET SSID>='*ssid*' Specifies the Db2 subsystem to which the generated jobs are directed for loading data.	Dual Consistent Image copy Accelerator only Multi	No	None. If omitted, the SSID that is specified in <PROFILE SSID> is used.
<PROFILE SSID>='*profile_ssid*' Specifies the Db2 subsystem that contains the existing profile in the profile repository data sets. This parameter is used to qualify the profile because a profile that has the same creator, name, and type can exist on multiple subsystems, but a profile with the same creator, name, and type can only exist once per subsystem.	Dual Consistent Image copy Accelerator only Multi	Yes	None
<PROFILE TYPE>='DUAL | CONSISTENT | IMAGE COPY | ACCELERATOR ONLY | MULTI' Specifies the type of profile to build, either Dual for a load from an external file, or Consistent for a consistent or historical load.	Dual Consistent Image copy Accelerator only Multi	Yes	None

Parameter	Profile type	Required?	Default value
<PROFILE NAME>='*profile_name*' Specifies the load profile name that was previously created. The values for <PROFILE NAME>, <PROFILE CREATOR>, and <PROFILE TYPE> qualify the specific profile on which you want to build JCL in batch. This profile must exist in the profile repository data sets.	Dual Consistent Image copy Accelerator only Multi	Yes	None
<PROFILE CREATOR>='*profile_creator*' Specifies the existing load profile creator that corresponds to the profile name that is specified in <PROFILE NAME>='*profile_name*. The values for <PROFILE NAME>, <PROFILE CREATOR>, and <PROFILE TYPE> qualify the profile on which you want to build JCL in batch. This profile must exist in the profile repository data sets.	Dual Consistent Image copy Accelerator only Multi	Yes	None
<OUTPUT-DSN>='*data_set_name*' Specifies the full path to the partitioned data set (PDS) that is to be used for the JCL generation. If the data set that you specify does not exist, the product allocates it.	Dual Consistent Image copy Accelerator only Multi	No	None. If omitted, the value from the existing profile, which is defined in the **Data set name** field on the Build Load JCL panel, is used.
<LOAD BY PARTITION>='YES | NO' Specifies whether to use partition parallelism. Valid values: • `'YES'` - One SYSREC per table partition is generated into the JCL using a template. • `'NO'` - One SYSREC per table is generated into the JCL.	Dual Accelerator only Multi	No	None. If omitted, the value from the existing profile, which is defined in the **Parallel load** field on the Load Accelerator(s) from External File panel or the Load Accelerator(s) and Db2 from External File panel, is used.
<NUMBER OF JOBS>='*n*' Specifies the number of jobs to generate (from 1 - 17576). The tables are divided evenly among the jobs. If the maximum number of steps in a job is reached, the same job card and job name are used to add another batch job automatically.	Dual Image copy Accelerator only	No	1

Parameter	Profile type	Required?	Default value
<TABLE> Specifies the table definition section that follows. (*Consistent load only*): Only one JCL file is generated. (*Dual load only*): The number of tables divided by the number of jobs must be less than or equal to 172380. For information about conditions that apply to the table, see "Considerations for the table definition section" on page 281,	Dual Consistent Image copy Accelerator only Multi	Yes	None
<TABLE NAME>='*table_name*' Specifies the table, view, or alias name on which you want to generate JCL. This name does not have to be defined in the existing load profile. This object is generated into the JCL in addition to any objects that are defined in the load profile. If the name is too long for one line in the SYSIN, you can split it into several lines. You must complete the first line up to column 80 in the SYSIN and start from column 1 in the next line. No continuation character is required.	Dual Consistent Image copy Accelerator only Multi	Yes	None
<TABLE CREATOR>='*table_creator*' Specifies the table creator for the table name that you specified in the <TABLE NAME> parameter. This value qualifies the table name.	Dual Consistent Image copy Accelerator only Multi	Yes	None

Parameter	Profile type	Required?	Default value
<PARTITION>='ALL | 1,2,3' Specifies the table partition on which you want to generate JCL. Valid values: • 'ALL' specifies that the number of partitions is requested from Db2. • A range of partition numbers in the format `a[(:|-)b][,a[(:|-)b]]*`, where a,b is greater than 0. For example, `<PARTITION>='1-2,4:5,8'` and `<PARTITION>='1'` (*Dual load only*): • Use of this parameter results in multiple INTO TABLE clauses generated into the JCL. • If you specify <PARTITION>='ALL' and the table is not in the SYSTABLEPART table, then it is considered to be nonpartitioned.	Dual Consistent Image copy Accelerator only Multi	No	None. If omitted, the table is considered to be nonpartitioned.
<PARALLELISM>='*n*' Specifies the number of parallel tasks to use when loading data into the accelerator. Valid values are in the range 1 - 20. In the JCL, the **ACCEL_LOAD_TASKS** value is set to `min(PARALLELISM, partitions count, 20)`. The value of this parameter should match the value of the IBM Db2 Analytics Accelerator for z/OS environment variable **AQT_MAX_UNLOAD_IN_PARALLEL**. The value of this environment variable indicates the number of partitions that can be loaded in parallel. If the value of **AQT_MAX_UNLOAD_IN_PARALLEL** is 2, the maximum number of partitions that can be written to the accelerator at one time is 2, regardless of the <PARALLELISM> value. **Note:** When using Analytics Accelerator V7.1.1 or earlier, to use parallelism in Accelerator Loader, you must have the WLM environment that runs DSNUTILU configured for WLM management of the DSNUTILU server address space. See "WLM requirements for Accelerator Loader" on page 34 for more information.	Dual Accelerator only	No	None. If omitted, the value from the existing profile, which is defined in the **Load tasks** field on the Load Accelerator(s) from External File panel or the Load Accelerator(s) and Db2 from External File panel, is used.

Parameter	Profile type	Required?	Default value
<FIELDSPEC-DSN>='*fieldspec.dsn(mem1)*' Specifies the data set of the table's column definitions that is to be used as input to the LOAD utility control cards.	Dual Accelerator only	No, but is required if the table is not already defined in the existing profile.	None. If omitted, the value from the existing profile, which is defined in the **Column info DSN** field on the Load Accelerator(s) from External File panel or the Load Accelerator(s) and Db2 from External File panel, is used.
<SYSREC-DSN>='*sysrec.dsn(mem1)*' Specifies the data set of the table's SYSREC that is to be used as input to the LOAD utility control cards. If the table is nonpartitioned, specify the fully qualified SYSREC file name. If the table is partitioned or for parallel processing, specify a template and include the variables &PA or &PART.	Dual Accelerator only	No	None. If omitted, the value from the existing profile, which is defined in the **Input data set** field on the Load Accelerator(s) from External File panel or the Load Accelerator(s) and Db2 from External File panel, is used.
<SYSREC-TEMPLATE-DSN>='&US..IDSD.&DB..ABC&PA.' Specifies the template for SYSREC data set that contains the input data that you want to load into the specified table. The variable &PA or &PART must be included. Specify this parameter only for partitioned tables with <LOAD BY PARTITION>='YES'.	Dual Accelerator only	No	None. If omitted, the value from the existing profile, which is defined in the **Input data set** field on the Load Accelerator(s) from External File panel or the Load Accelerator(s) and Db2 from External File panel, is used.
</TABLE> Closes the table definition section.	Dual Consistent Image copy Accelerator only Multi	Yes	None

Considerations for the table definition section

If the table exists in the profile that you specified, the following considerations apply:

- If you omit <PARTITION>, then the value is obtained from the existing profile.
- If <LOAD BY PARTITION>='No', then the SYSREC data set name is obtained from the existing profile.
- If you want to use the SYSREC data set from the existing profile when the **Input data set** field on the Load Accelerator(s) from External File panel or the Load Accelerator(s) and Db2 from External File panel is disabled, then you must specify a value of No in the **Parallel load** field on the Load Accelerator(s)

from External File panel or the Load Accelerator(s) and Db2 from External File panel, and then specify the input data set.

If the table does not exist in the profile that you specified, the following considerations apply:

- Because there is no <PARTITION> value, the product assumes that the table is not partitioned. Parallel load is supported for partitioned tables only.
- To enable parallel load for the table and to use a SYSREC template, you must specify a value for <PARTITION>.
- To perform a non-parallel load, you must specify the name of the SYSREC data set for the table in the <SYSREC-DSN> parameter, or specify a value of No in the **Parallel load** field on the Load Accelerator(s) from External File panel or the Load Accelerator(s) and Db2 from External File panel.

View load profile specifications

You can view the options that are specified in your profiles and those that other users created. Viewing a profile enables you to see the settings that have been specified and determine whether you want to copy or edit that profile.

Procedure

1. On the Manage Loader Profiles panel, type V in the **Cmd** line next to the profile that you want to view.
2. Review the specified options.
3. Press PF3 to return to the previous panel.

Renaming a load profile

You can rename your own profiles or those that other users created if the profile was created with a **Share Option** of **Update**.

Procedure

1. On the Manage Loader Profiles panel, type R in the **Cmd** line next to the profile that you want to rename.

   The **Rename Profile** panel opens.
2. In the **Profile Name** field, type the new profile name over the existing profile name.
3. Press Enter.

Deleting a load profile

If a load profile is no longer of use, delete it from the profile set.

About this task

You can delete all profiles that were created under your user ID, regardless of the **Share Option**. You can delete a profile created by another user if the profile was created with a **Share Option** of **Update**.

Procedure

1. From the main menu, select Manage Loader Profiles and press **Enter**.
2. In the **Cmd** field next to the profile that you want to delete, type D, and press Enter.
3. On the confirmation panel, confirm the deletion, and press Enter.

Chapter 11. Syntax

Review information about Db2 Analytics Accelerator Loader example JCL and syntax diagrams and definitions. You can customize the example JCL according to the needs of your site. Syntax diagrams provide the information necessary for constructing valid Db2 Analytics Accelerator Loader syntax.

Loading data from non-Db2, remote Db2, and remote system sources

Before you build and run a job that loads data from a non-Db2, remote Db2, or remote system source, review all reference and conceptual information for the feature, including the correct syntax, usage considerations, and examples.

Customizing the JCL to load the accelerator and Db2

The following steps describe the changes you must make to customize the JCL generated by the Accelerator Loader studio to load the accelerator and Db2.

About this task

You can load data to both the accelerator and Db2 when loading data from a virtualized data source or remote DBMS using the Accelerator Loader server. To use this feature, you must manually edit the JCL generated by the Accelerator Loader studio. Before making the required changes to the generated JCL as described in the following procedure, review the details of the changes to be made, as follows:

- Update the LOAD control cards to use the IDAA_DUAL keyword. The Accelerator Loader studio includes the IDAA_ONLY keyword in the generated JCL. You must manually replace IDAA_ONLY with IDAA_DUAL to load to both the accelerator and Db2.
- Increase the Db2 utility work data set allocations to provide enough work space for the Db2 LOAD utility. The minimum space the Accelerator Loader studio provides for the utility work data sets (SYSUT1, SORTOUT, SYSMAP, SYSERR) is not sufficient for most loads. You can also replace the JCL DD statements for these work data sets with TEMPLATE statements.
- If there are indexes on the Db2 table, add the SORTDEVT (and optionally SORTNUM) Db2 LOAD control cards to the LOAD statement to provide enough SORT work space for the index builds.
- Consider adding the NUMRECS keyword to the INTO TABLE clause. NUMRECS specifies the number of records to be loaded. The Db2 LOAD utility uses the NUMRECS value to size various work data sets. If you omit the NUMRECS keyword, Accelerator Loader passes Db2 LOAD a default value of 100 million.
- If parallelism is used, review the CREATE TABLE DDL generated by the Accelerator Loader studio. Parallelism requires the Db2 table to be range-partitioned by the Accelerator Loader generated column "ACCEL PARTITION KEYCOL". If the Accelerator Loader studio has been used to generate the CREATE TABLE DDL, the table is created with the number of partitions equal to the degree of parallelism. For example, if the degree of parallelism is specified as 10, the table will be created with 10 partitions. All the loaded data must be able to fit in those 10 partitions. You may need to edit the CREATE TABLE DDL generated by the Accelerator Loader studio to ensure the VSAM data sets for the table are large enough to accommodate all the data. Consider adding the DSSIZE, COMPRESS or STOGROUP keywords to the CREATE TABLE statement.

Restriction

DISCARD data sets are not supported when loading both the accelerator and Db2 from an Accelerator Loader server data set. If DISCARD data sets are provided, Accelerator Loader will fail with the following message:

```
HLOP9953E Discard datasets are not supported when keyword 'ACCEL_CURSOR' is
specified.
```

Procedure

1. Generate JCL from the Accelerator Loader studio. For more information, see “Generating JCL”.
2. In the JCL generated by the Accelerator Loader studio, make the following changes:
   a) Replace the IDAA_ONLY keyword with IDAA_DUAL.
   b) Increase the allocations for the Db2 utility work data sets (SYSUT1, SORTOUT, SYSMAP, SYSERR) to provide enough work space for the Db2 LOAD utility. Optionally, you can replace the JCL DD statements for these work data sets with TEMPLATE statements.
   c) If there are indexes on the Db2 table, add the SORTDEVT (and optionally SORTNUM) Db2 LOAD control cards to the LOAD statement to provide enough SORT work space for the index builds.
   d) Optional: Add the NUMRECS keyword to the INTO TABLE clause to specify the number of records to be loaded.
   e) If parallelism is used, perform the following steps:
      i) Review and update, if necessary, the CREATE TABLE DDL generated by the Accelerator Loader studio to ensure the VSAM data sets for the table are large enough to accommodate all the data.
      ii) Optional: Add the DSSIZE, COMPRESS or STOGROUP keywords to the CREATE TABLE statement.

Example JCL

Example: Load the accelerator with data from another Db2 subsystem

The following sample syntax shows control cards to load only the accelerator with data from another Db2 subsystem. In the example, *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.

```
EXEC SQL
     DECLARE HLOCSR CURSOR FOR
     SELECT * FROM DSNC810.SOURCE_DB2_TABLE
ENDEXEC


LOAD DATA REPLACE
     IDAA_ONLY ON UB1AACC1
     LOG NO NOCOPYPEND
     ENFORCE NO
     ACCEL_CURSOR HLOCSR
     ACCEL_SOURCE_DB2 RA1B
     ACCEL_HLV_SSID hlvid
     ACCEL_REMOVE_AND_ADD_TABLES
     ACCEL_ON_SUCCESS_ENABLE YES
     ACCEL_LOAD_TASKS 1
INTO TABLE DSNC810.TARGET_DB2_TABLE
```

The sample syntax is converted to the following Db2 LOAD statement:

```
LOAD DATA
     INDDN HLOREC
     REPLACE
     FORMAT INTERNAL
     INTO TABLE DSNC810.TARGET_DB2_TABLE
```

Example: Load the accelerator with data from a remote system

The following sample syntax shows control cards to load only the accelerator with source data from a remote Accelerator Loader server.

```
 LOAD DATA
      IDAA_ONLY ON RDSBACC1
      REPLACE
      LOG NO NOCOPYPEND
      ENFORCE NO
      ACCEL_CURSOR HLVCSR
      ACCEL_HLV_SSID HLVS
      ACCEL_DATA_SERVER HSZ3
      ACCEL_REMOVE_AND_ADD_TABLES
      ACCEL_ON_SUCCESS_ENABLE YES
      ACCEL_LOAD_TASKS 1
      INTO TABLE "DSNC810"."RemoteLoad"
/*
```

Example: Load the accelerator with data using Virtual Parallel Data (VPD)

Virtual Parallel Data (VPD) allows you to group multiple simultaneous requests against the same data source and run them in parallel, while performing the input and output (I/O) only once. A separate Accelerator Loader job must be generated and submitted for each request, and these jobs must be run concurrently. When parallelism is used, each parallel thread joins the group separately and must join the group within a specified timeout value. Threads that do not appear within the timeout time are placed in a new group, resulting in an additional read of the data set.

To use Virtual Parallel Data (VPD) when loading data to the accelerator, use the following Accelerator Loader syntax options:

- ACCEL_HLV_VPD_GROUP
- ACCEL_HLV_VPD_MEMBERS
- ACCEL_HLV_VPD_TIMEOUT
- ACCEL_HLV_VPD_IOT

As an example, to process three different SMF record types in one pass through a data set, submit three Accelerator Loader jobs, one for each record type. The following sample control cards include the VPD syntax options for this example, which would need to be included in each of the jobs:

```
EXEC SQL DECLARE HLVCSR CURSOR FOR
  SELECT * FROM SMF_01400
ENDEXEC

LOAD DATA
    IDAA_ONLY ON DB9AACC1
    REPLACE
    LOG NO NOCOPYPEND
    ENFORCE NO
    ACCEL_CURSOR HLVCSR
    ACCEL_HLV_SSID HLV9
    ACCEL_HLV_VPD_GROUP TESTVPD
    ACCEL_HLV_VPD_MEMBERS 3
    ACCEL_HLV_VPD_TIMEOUT 300
    ACCEL_REMOVE_AND_ADD_TABLES
    ACCEL_ON_SUCCESS_ENABLE YES
    ACCEL_LOAD_TASKS 1
    INTO TABLE "DSNC810"."SMF_01400"
```

Note: ACCEL_HLV_VPD_IOT is an optional parameter. Because this parameter is not included in the example, the default value will be used.

Submit the jobs to run concurrently. If one of the jobs fails to join the group within the specified timeout value, the other two jobs would proceed and the third job would be placed in a new group, resulting in an additional read of the data set.

For more information about using VPD, see “Generating JCL” on page 228 and “Virtual Parallel Data” on page 443.

Example: Load the accelerator and Db2 with data from a virtualized data source

The following figure contains example JCL to load both the accelerator and Db2 with source data from a virtualized data source using the Accelerator Loader server.

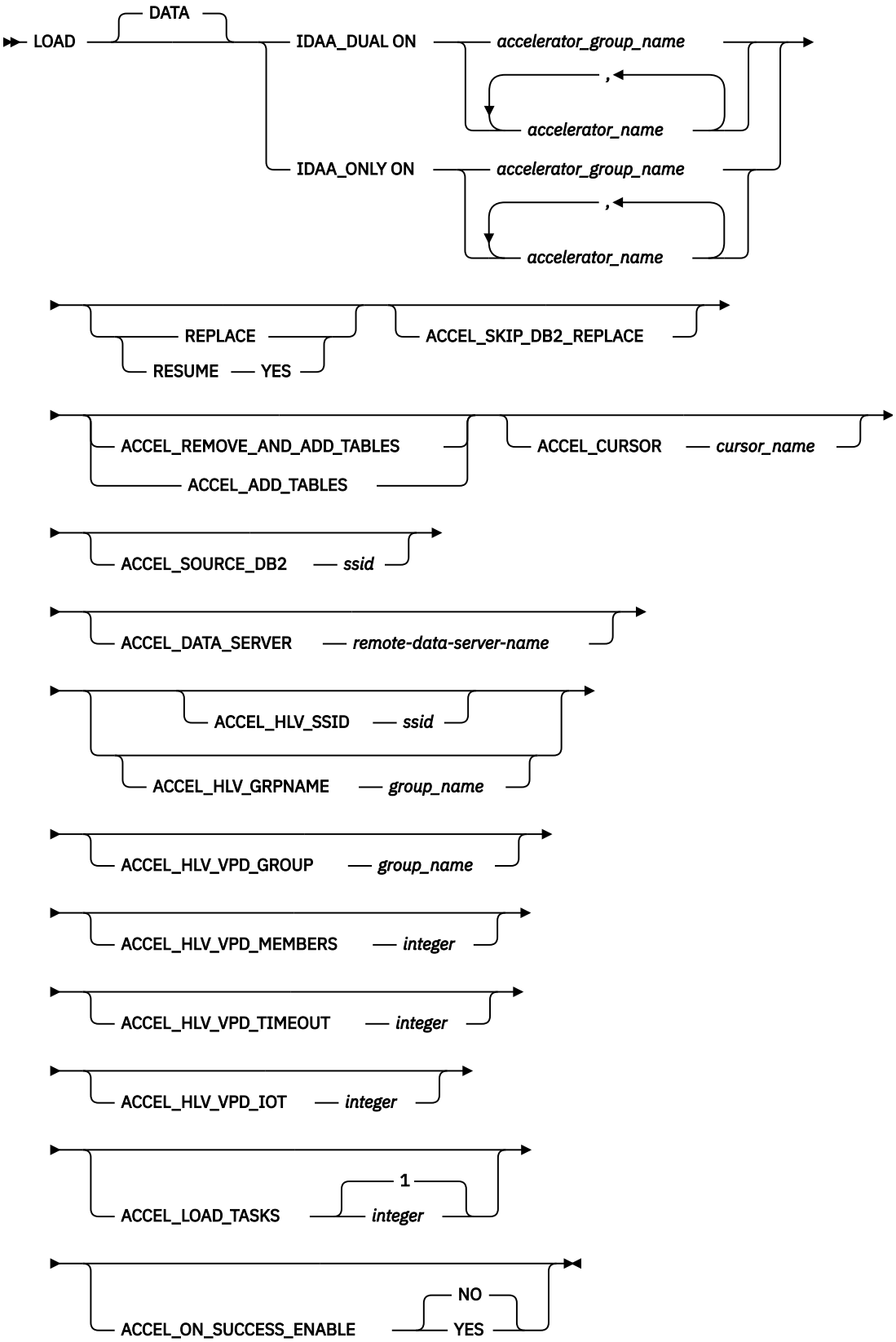
```
//HLOD0100 EXEC PGM=DSNUTILB,
//         REGION=1024M,
//         PARM=('QAA5','USER01.LOAD')
//STEPLIB  DD DISP=SHR,DSN=QDS5.SDSNEXIT
//         DD DISP=SHR,DSN=DSN.VA10.SDSNLOAD
//HLODUMMY DD DUMMY
//SYSPRINT DD SYSOUT=*
//UTPRINT  DD SYSOUT=*
//SYSIN    DD *
    TEMPLATE ISYSREC
        DSN 'DSNC810.DA1A.HLOLAB2D.HLOTS2.SYSREC'
        DISP(SHR,KEEP,KEEP)
    TEMPLATE ISYSERR
        DSN &US..IDSE.&DB..&TS..&UQ.
        DISP(MOD,CATLG,CATLG)
        SPACE (10,100) CYL
    TEMPLATE ISYSMAP
        DSN &DB..&SN..&US..&JO.
        DISP(MOD,CATLG,CATLG)
        SPACE (10,100) CYL
    TEMPLATE ISYSUT1
        DSN &US..IDSU.&DB..&TS..&UQ.
        DISP(MOD,DELETE,CATLG)
        SPACE (10,100) CYL
    TEMPLATE ISORTOUT
        DSN &US..IDSO.&DB..&TS..&UQ.
        DISP(MOD,DELETE,CATLG)
        SPACE (10,100) CYL
    EXEC SQL
        DECLARE HLVCSR CURSOR FOR
        SELECT * FROM DSNC810.SOURCE_DB2_TABLE
    ENDEXEC
    LOAD DATA
        IDAA_DUAL ON RDSBACC1
        REPLACE
        LOG NO NOCOPYPEND
        ENFORCE NO
        ACCEL_CURSOR HLVCSR
        ACCEL_HLV_SSID HLVS
        ACCEL_DATA_SERVER HSZ3
        ACCEL_REMOVE_AND_ADD_TABLES
        ACCEL_ON_SUCCESS_ENABLE YES
        ACCEL_LOAD_TASKS 1
        INTO TABLE "DSNC810"."RemoteLoad"
/*
//
```

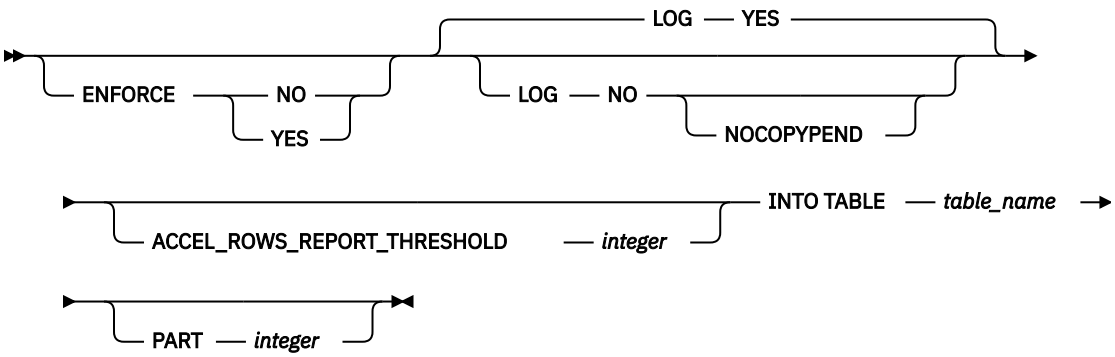
Syntax diagram: Load from a non-Db2, remote Db2, or remote system source

Review syntax for a job that loads data from a non-Db2, remote Db2, or remote system source.

This syntax is typically generated using the Accelerator Loader studio. Some of the syntax elements in this diagram apply only when loading from a virtualized data source.

Note: Additional syntax elements are supported for other types of loads. See “Syntax diagram: Load from an external file” on page 319.


LOAD
DATA
IDAA_DUAL ON
accelerator_group_name
,
accelerator_name
IDAA_ONLY ON
accelerator_group_name
,
accelerator_name
REPLACE
RESUME
YES
ACCEL_SKIP_DB2_REPLACE
ACCEL_REMOVE_AND_ADD_TABLES
ACCEL_ADD_TABLES
ACCEL_CURSOR
cursor_name
ACCEL_SOURCE_DB2
ssid
ACCEL_DATA_SERVER
remote-data-server-name
ACCEL_HLV_SSID
ssid
ACCEL_HLV_GRPNAME
group_name
ACCEL_HLV_VPD_GROUP
group_name
ACCEL_HLV_VPD_MEMBERS
integer
ACCEL_HLV_VPD_TIMEOUT
integer
ACCEL_HLV_VPD_IOT
integer
ACCEL_LOAD_TASKS
1
integer
ACCEL_ON_SUCCESS_ENABLE
NO
YES



Syntax definitions: Load from a non-Db2, remote Db2, or remote system source

Review descriptions of syntax elements that are valid for loading data from a non-Db2, remote Db2, or remote system source.

ACCEL_ADD_TABLES | ACCEL_REMOVE_AND_ADD_TABLES
Indicates whether to add missing tables to the accelerator before starting the load job. Specify one of the following options:

ACCEL_ADD_TABLES
Add missing tables to the accelerator before starting the load job.

ACCEL_REMOVE_AND_ADD_TABLES
Remove and re-add existing tables to the accelerator before starting the load job. This option does not preserve distribution and organizing keys on the accelerator; however, a table that was enabled for replication before will be enabled for replication again.

If you omit this option, missing tables are not added to the accelerator.

ACCEL_CURSOR *cursor_name*
Specifies the Accelerator Loader server cursor that retrieves the source data. Valid cursor names are a maximum of eight characters. The cursor must be declared via the EXEC SQL utility statement before the LOAD statement that references the cursor.

ACCEL_DATA_SERVER *remote-data-server-name*
Specifies the remote Accelerator Loader server that contains the source data.

You must also specify **ACCEL_CURSOR** and either **ACCEL_HLV_SSID** or **ACCEL_HLV_GRPNAME**. Do not also specify **ACCEL_SOURCE_DB2**.

ACCEL_HLV_SSID *ssid* | ACCEL_HLV_GRPNAME *group_name*
Specify one of these options to identify the server to which Db2 Analytics Accelerator Loader connects. You can identify the server by SSID or group name.

ACCEL_HLV_VPD_GROUP *group_name*
Specifies the eight character VPD group name. This keyword is required to use the VPD feature.

ACCEL_HLV_VPD_IOT *integer*
Specifies the number of I/O threads the Accelerator Loader server will create for reading the data set.

ACCEL_HLV_VPD_MEMBERS *integer*
Specifies the number of members in the VPD group. Each Accelerator Loader job must be counted as a group member. This keyword is optional. If this value is not provided, the Accelerator Loader server will wait until the timeout expires before closing the group and finishing the request.

ACCEL_HLV_VPD_TIMEOUT *integer*
Specifies the amount of time, in seconds, that members have to join the group before it closes.

ACCEL_LOAD_TASKS *integer*
Specifies the number of partitions to load into the accelerator and optionally into Db2 in parallel when loading from an external file. Valid values are in the range 1 - 20.

This value should not exceed the value of the IBM Db2 Analytics Accelerator for z/OS parameter **AQT_MAX_UNLOAD_IN_PARALLEL**, which indicates the maximum number of partitions that can be loaded in parallel. If **AQT_MAX_UNLOAD_IN_PARALLEL** is set to 2, the maximum number of partitions that can be written to the accelerator at one time is 2, regardless of the value that you specify for this parameter.

Note: When using Analytics Accelerator V7.1.1 or earlier, to use parallelism in Accelerator Loader, you must have the WLM environment that runs DSNUTILU configured for WLM management of the DSNUTILU server address space, which allows multiple DSNUTILU server address spaces to be started as needed per system. If you have configured your WLM environment that runs the DSNUTILU stored procedure to run as a single address space, you must set this value to 1, which disables parallelism.

ACCEL_ON_SUCCESS_ENABLE YES | NO
Controls whether query acceleration is enabled for the table after a successful load. If Db2 discards any rows during the load, query acceleration is not enabled. Valid values are YES and NO.

ACCEL_ROWS_REPORT_THRESHOLD *integer*

Specifies the threshold (in rows) to use when reporting the number of rows that have been loaded for the job. Message "HLOU5062I" on page 639, which includes the cumulative number of rows loaded for the job, is issued to the Accelerator Loader job SYSPRINT each time the threshold value is met. Note that the message will be issued when the threshold is exceeded but will contain the current row count in the loading process, which might be more than the value specified. Valid values are integers in the range 0 - 2147483647. A value of 0 specifies that no reporting messages will be issued.

This setting overrides the value for the global parameter **Report loaded rows threshold** that is set using Tools Customizer. If the ACCEL_ROWS_REPORT_THRESHOLD parameter is not included in the job syntax, the global value set using Tools Customizer applies.

ACCEL_SKIP_DB2_REPLACE
When loading to the accelerator only and using the REPLACE option (IDAA_ONLY REPLACE), this option specifies that existing rows are not deleted from the Db2 table and data is loaded to the accelerator-shadow table only, replacing all data in the accelerator-shadow table. This option is valid only when used with the IDAA_ONLY option; it is ignored when used with the IDAA_DUAL option.

ACCEL_SOURCE_DB2 *ssid*
Specify this option only when the data source is a Db2 subsystem. Because Db2 sources do not require server mappings, you must specify the subsystem ID to locate the source Db2 table.

ENFORCE YES | NO
Specifies whether to enforce check constraints and referential constraints.

IDAA_DUAL ON *accelerator_group_name|accelerator_name,accelerator_name*
Indicates that you want to load data to up to four accelerators, and also to Db2. Specify one accelerator group name, or up to four individual accelerator names, separating each accelerator name with a comma.

This option is not generated by the Accelerator Loader studio. To use this option, you must manually edit the JCL generated by the Accelerator Loader studio. For more information, see "Customizing the JCL to load the accelerator and Db2" on page 283.

IDAA_ONLY ON *accelerator_group_name|accelerator_name,accelerator_name*
Indicates that you want to load data to up to four accelerators, and do not want to load to Db2. Specify one accelerator group name, or up to four individual accelerator names, separating each accelerator name with a comma. If the load job specifies LOAD REPLACE, existing data in the Db2 table or partition is deleted.

This keyword is the default option that is generated by the Accelerator Loader studio.

LOG YES | NO | NO NOCOPYPEND
Indicates whether to enable logging.

REPLACE |RESUME YES
Indicates whether records are to be appended or replaced when loading data.

Note: The default behavior of the Accelerator Loader **RESUME** option is not the same as the Db2 LOAD utility **RESUME** option. Accelerator Loader does not check for rows in the accelerator table prior to the load and will successfully load the accelerator-shadow table even if the table is empty.

Specify one of the following control cards in your JCL:

REPLACE
Accelerator Loader replaces existing data rather than appending it.

- When loading to only the accelerator (IDAA_ONLY), existing rows will be deleted from the Db2 table and data is loaded to the accelerator-shadow table only.
- When loading to both Db2 and the accelerator (IDAA_DUAL), existing rows will be deleted from the Db2 table and data is loaded to both the Db2 and accelerator-shadow tables.

This option can be specified in the Accelerator Loader studio by using the **LOAD REPLACE** option in the **Generate JCL to Load Accelerator** wizard. See “Generating JCL” on page 228.

RESUME YES
Accelerator Loader appends data to the accelerator table rather than replacing it.

- When loading to only the accelerator (IDAA_ONLY), the Db2 table is left as is and data is appended to the accelerator-shadow table.
- When loading to both Db2 and the accelerator (IDAA_DUAL), data is appended to both the Db2 table and the accelerator-shadow table.

This option can be specified in the Accelerator Loader studio by using the **LOAD RESUME** option in the **Generate JCL to Load Accelerator** wizard. See “Generating JCL” on page 228.

The Accelerator Loader studio will add either **REPLACE** or **RESUME YES** to the generated statement. If you delete the **REPLACE** or **RESUME YES** operand from the JCL, then the load will default to the standard Db2 LOAD utility default of **RESUME NO**.

Consistent load and Image Copy load jobs

Review example JCL and syntax diagrams and definitions for Consistent load and Image Copy load jobs.

Before you build and run a Consistent load and Image Copy load job, review all reference and conceptual information for the features.

Use consistent load when you want to process a group of tables in one batch job and load related sets of data to the accelerator to a common checkpoint.

Customizing the Consistent load and Image Copy load example JCL

The following steps describe the changes that you must make to customize the Consistent load and Image Copy load example JCL for your site.

About this task

Use caution when adding DD names to the job step. The product dynamically allocates commonly used reserved name DD names during processing. If you must add DD names to facilitate control card separation by data set, use uncommon DD names that include "HLO" as part of the name. For example:

```
//SYSINHLO DD DSN=<dsn>
// DD DDNAME=SYSUT1HLO
// DD *
...
//SYSUT1HLO DD DSN=<dsn>
//
```

Procedure

1. Enter a valid job card for your site. If you anticipate processing a large number of log records, allocate a large REGION size to avoid out-of-memory errors.

2. In the EXEC statement, enter the subsystem ID (*ssid*) for the subsystem on which you run the job. For example:

```
//HLOC0100    EXEC PGM=HLO#MAIN,PARM='QB1A'
```

3. Change the STEPLIB DD data set file names to point to the Db2 Analytics Accelerator Loader program library.
4. Specify the appropriate INFOM DD, for example:

```
//INFOM    DD   SYSOUT=*
```

   Note:

   Both of the following INFOM DD definitions are valid:

```
//INFOM    DD   SYSOUT=*
```

```
//INFOM    DD   DUMMY
```

5. Include the SYSUDUMP DD statement to facilitate finding and correcting problems that occur when the job runs.
6. Specify a data set or * for the SYSOUT.
7. Specify a data set or * for messages for SORAMSGS -> SORBMSGS, for as many groups as are needed in the run.
8. Specify the VSAM control file for Db2 parameters.
9. The SYSINHLO data set holds the parameters that define the Db2 Analytics Accelerator Loader job options.
10. Modify the syntax as needed for your site.

Example JCL: Consistent load

Review JCL examples for Consistent load jobs.

Example 1: Nonparallel consistent load

The following JCL example loads data to the accelerator at a consistent time without parallel processing.

```
//JOBCARD JOB USER01,CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1),
// USER=&SYSUID,NOTIFY=&SYSUID,REGION=0M
//*
//*
//*
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//*                                                                     *
//*  Job Generated by Accelerator Loader                                *
//*                                                                     *
//*  DB2 SSID: QAA5                                                     *
//*  Profile:  USER01.SAMPL1                                            *
//*  Desc:     Consistent Load                                          *
//*  User:     USER01                                                   *
//*  Date:     Thursday 15/12/13                                        *
//*  Time:     09:34:14.89                                              *
//*                                                                     *
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//*                                                                     *
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//*                                                                     *
//*  Step:     HLOC0100                                                     *
//*                                                                     *
//*  Desc:     This step will invoke                                    *
//*            Accelerator Loader                                       *
//*                                                                     *
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//HLOC0100 EXEC PGM=HLO#MAIN,
//         REGION=0M,
//         PARM=(QAA5)
//STEPLIB  DD DISP=SHR,DSN=RSQA.HLO210.IBMTAPE.SHLOLOAD
```

```
//         DD DISP=SHR,DSN=RSQA.FEC130.IBMTAPE.SFECLOAD
//         DD DISP=SHR,DSN=QDS5.SDSNEXIT
//         DD DISP=SHR,DSN=DSN.VA10.SDSNLOAD
//DB2PARMS DD DISP=SHR,DSN=RSTEST.HLO210.DB2CNTL
//SORAMSGS DD SYSOUT=*
//SR0AMSGS DD SYSOUT=*
//SORAWK00 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SORAWK01 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SORAWK02 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK00 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK01 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK02 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SYSUDUMP DD SYSOUT=*
//SYSOUT   DD SYSOUT=*
//SORTMSGS DD SYSOUT=*
//INFOM    DD SYSOUT=*
//SYSINHLO DD *
    IDAA_CONSISTENT_LOAD                                          -
    (                                                             -
        GROUP                                                     -
        (                                                         -
            SPACE                                                 -
            (                                                     -
                CREATOR 'DSNC810'                                 -
                NAME    'EMP01'                                   -
            )                                                     -
            SPACE                                                 -
            (                                                     -
                CREATOR 'DSNC810'                                 -
                NAME    'EMP02'                                   -
            )                                                     -
            TO_CURRENT                                            -
        )                                                         -
        ACCELNAME QDS5ACC1                                        -
        PARALLEL '0,1'                                            -
        LOG_COPY_PREFERENCE R1R2A1A2                              -
        USER_INDICATOR HLQ                                        -
        ACCEL_ON_SUCCESS_ENABLE NO                                -
        DB2_SORT YES                          -
        CHECK_DATA WRITE                                          -
    )
/*
//
```

Example 2: Parallel consistent load

The following JCL example shows a consistent load job with parallel processing of two 16-partition tables.

```
//JOBCARD JOB USER01,CLASS=A,MSGCLASS=X,USER=&SYSUID,NOTIFY=&SYSUID,
// REGION=0M
//*
//*
//*
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//*                                                                   *
//*  Job Generated by Accelerator Loader                              *
//*                                                                   *
//*  DB2 SSID: QAA5                                                   *
//*  Profile:  USER01.PARALLEL '16,07'                                *
//*  Desc:                                                            *
//*  User:     USER01                                                 *
//*  Date:     Thursday 14/03/13                                      *
//*  Time:     17:54:28.50                                            *
//*                                                                   *
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//*                                                                   *
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//*                                                                   *
//*  Step:     HLOC0100                                                   *
//*                                                                   *
//*  Desc:     This step will invoke                                  *
//*            Accelerator Loader                                     *
//*                                                                   *
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//HLOC0100 EXEC PGM=HLO#MAIN,
//         REGION=0M,
//         PARM=(QAA5)
//STEPLIB  DD DISP=SHR,DSN=RSQA.HLO210.IBMTAPE.SHLOLOAD
//         DD DISP=SHR,DSN=RSQA.HLO210.IBMTAPE.SFECLOAD
```

```
//         DD DISP=SHR,DSN=QDS5.SDSNEXIT
//         DD DISP=SHR,DSN=DSN.VA10.SDSNLOAD
//DB2PARMS DD DISP=SHR,DSN=RSTEST.HLO210.DB2CNTL
//*
//SORAMSGS DD SYSOUT=*
//SR0AMSGS DD SYSOUT=*
//SORAWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORAWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORAWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0AWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0AWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0AWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//*
//SORBMSGS DD SYSOUT=*
//SR0BMSGS DD SYSOUT=*
//SORBWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORBWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORBWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0BWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0BWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0BWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//*
//SORCMSGS DD SYSOUT=*
//SR0CMSGS DD SYSOUT=*
//SORCWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORCWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORCWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0CWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0CWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0CWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//*
//SORDMSGS DD SYSOUT=*
//SR0DMSGS DD SYSOUT=*
//SORDWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORDWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORDWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0DWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0DWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0DWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//*
//SOREMSGS DD SYSOUT=*
//SR0EMSGS DD SYSOUT=*
//SOREWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SOREWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SOREWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0EWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0EWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0EWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//*
//SORFMSGS DD SYSOUT=*
//SR0FMSGS DD SYSOUT=*
//SORFWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORFWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORFWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0FWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0FWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0FWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//*
//SORGMSGS DD SYSOUT=*
//SR0GMSGS DD SYSOUT=*
//SORGWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORGWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORGWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0GWK01 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0GWK02 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0GWK03 DD UNIT=SYSDA,SPACE=(CYL,(00020,00001),,,ROUND)
//*
//SYSUDUMP DD SYSOUT=*
//SYSOUT   DD SYSOUT=*
//SORTMSGS DD SYSOUT=*
//INFOM    DD SYSOUT=*
//SYSINHLO DD *
    IDAA_CONSISTENT_LOAD                                              -
    (                                                                 -
        GROUP                                                         -
        (                                                             -
            SPACE                                                     -
            (                                                         -
                CREATOR 'DSNC810'                                      -
                NAME    'EMP01'                                  -
                PARTITION 1                                           -
            )                                                         -
```

```
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 2                                         -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 3                                         -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 4                                         -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 5                                         -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 6                                         -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 7                                         -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 8                                         -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 9                                         -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 10                                        -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 11                                        -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 12                                        -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 13                                        -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
                PARTITION 14                                        -
            )                                                       -
            SPACE                                                   -
            (                                                       -
                CREATOR 'DSNC810'                                    -
                NAME    'EMP01'                                 -
```

```
                PARTITION 15                                            -
            )                                                           -
            SPACE                                                       -
            (                                                           -
                CREATOR 'DSNC810'                                        -
                NAME    'EMP01'                                 -
                PARTITION 16                                            -
            )                                                           -
            TO_CURRENT                                                  -
        )                                                               -
        ACCELNAME QDS5ACC1                                              -
        PARALLEL '16,7'                                                 -
        LOG_COPY_PREFERENCE R1R2A1A2                                    -
        USER_INDICATOR HLO                                              -
        ACCEL_ON_SUCCESS_ENABLE NO                                      -
        DB2_SORT YES                            -
        CHECK_DATA WRITE                                                -
    )
/*
//
```

Example 3: Controlling whether to process all partitions individually or as a whole

In the ISPF interface, the **Load partitions individually** field controls whether to process all partitions individually or to process them as a whole. The following examples show the generated SYSIN statement for each value:

```
//SYSINHLO DD *
    IDAA_CONSISTENT_LOAD                                                 -
    (                                                                    -
        GROUP                                                            -
        (                                                                -
            SPACE                                                        -
            (                                                            -
                CREATOR 'DSNC810'                                         -
                NAME    'EMP01'                                         -
                PARTITION 1                                              -
            )                                                            -
            SPACE                                                        -
            (                                                            -
                CREATOR 'DSNC810'                                         -
                NAME    'EMP01'                                         -
                PARTITION 2                                              -
            )                                                            -
            SPACE                                                        -
            (                                                            -
                CREATOR 'DSNC810'                                         -
                NAME    'EMP01'                                         -
                PARTITION 3                                              -
            )                                                            -
            SPACE                                                        -
            (                                                            -
                CREATOR 'DSNC810'                                         -
                NAME    'EMP01'                                         -
                PARTITION 4                                              -
            )                                                            -
            SPACE                                                        -
            (                                                            -
                CREATOR 'DSNC810'                                         -
                NAME    'EMP01'                                         -
                PARTITION 5                                              -
            )                                                            -
            SPACE                                                        -
            (                                                            -
                CREATOR 'DSNC810'                                         -
                NAME    'EMP01'                                         -
                PARTITION 6                                              -
            )                                                            -
            TO_CURRENT                                                   -
        )                                                                -
        ACCELNAME QA1AACC1                                               -
        PARALLEL '0,4'                                                   -
        LOG_COPY_PREFERENCE R1R2A1A2                                     -
        USER_INDICATOR HLO-
        ACCEL_ON_SUCCESS_ENABLE NO                                       -
        DB2_SORT YES                              -
        CHECK_DATA WRITE                                                 -
    )
```

```
/*
//
```

```
//SYSINHLO DD *
    IDAA_CONSISTENT_LOAD                                                -
    (                                                                   -
        GROUP                                                           -
        (                                                               -
            SPACE                                                       -
            (                                                           -
                CREATOR 'DSNC810'                                        -
                NAME    'EMP01'                                         -
            )                                                           -
            TO_CURRENT                                                  -
        )                                                               -
        ACCELNAME QA1AACC1                                              -
        PARALLEL '0,4'                                                  -
        LOG_COPY_PREFERENCE R1R2A1A2                                    -
        USER_INDICATOR HLO-
        ACCEL_ON_SUCCESS_ENABLE NO                                      -
        DB2_SORT YES                          -
        CHECK_DATA WRITE                                                -
    )                                                                   -
/*
//
```

Example 4: Loading data into an alternate accelerator table or AOT on the same or another Db2 subsystem

This section contains two examples.

The first example specifies the target. The source is on SSID DBB5. The target has a different table name and is on SSID QA1A. This JCL is valid for AOT, partitioned, and segmented table types.

```
//JOBCARD JOB CSKUVA,CLASS=A,
// MSGCLASS=X,
// USER=&SYSUID,
// REGION=0M,
// NOTIFY=&SYSUID
//************************************************************
//HLOC0100 EXEC PGM=HLO#MAIN,
//         REGION=0000M,
//         PARM=(DBB5)
//STEPLIB  DD DISP=SHR,DSN=RSQA.HLO210.IBMTAPE.SHLOLOAD
//         DD DISP=SHR,DSN=RSQA.HLO210.IBMTAPE.SFECLOAD
//DB2PARMS DD DISP=SHR,DSN=RSTEST.HLO210.DB2CNTL
//*
//SORAMSGS DD SYSOUT=*
//SR0AMSGS DD SYSOUT=*
//SORAWK01 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORAWK02 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORAWK03 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0AWK01 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0AWK02 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0AWK03 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//*
//SYSUDUMP DD SYSOUT=*
//SYSOUT   DD SYSOUT=*
//SORTMSGS DD SYSOUT=*
//INFOM    DD SYSOUT=*
//SYSINHLO DD *
    IDAA_CONSISTENT_LOAD                                                  -
    (                                                                     -
        GROUP                                                             -
        (                                                                 -
            SPACE                                                         -
            (                                                             -
                 CREATOR 'DSNC810'                                         -
                 NAME    'EMP01_SOURCE'                                   -
                 TARGET_CREATOR 'DSNC810'                                  -
                 TARGET_NAME    'EMP01_TARGET'                            -
             )                                                            -
             TO_CURRENT                                                   -
         )                                                                -
         ACCELNAME QA1AACC1                                               -
         TARGET_SSID QA1A                                                 -
         PARALLEL '0,4'                                                   -
```

```
        LOG_COPY_PREFERENCE R1R2A1A2                                    -
        USER_INDICATOR HLO-
        ACCEL_ON_SUCCESS_ENABLE YES                                     -
        DB2_SORT YES                                -
        CHECK_DATA WRITE                                                -
        ACCEL_REMOVE_AND_ADD_TABLES                                     -
    )
 /*
 //
```

In the following example, TARGET_CREATOR and TARGET_NAME are specified. TARGET_SSID is not specified because the source and target are on the same subsystem.

```
//JOBCARD JOB CSKUMA,CLASS=A,
// MSGCLASS=X,
// USER=&SYSUID,
// REGION=0M,
// NOTIFY=&SYSUID
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//HLOC0100 EXEC PGM=HLO#MAIN,
//         REGION=0000M,
//         PARM=(DBB5)
//STEPLIB  DD DISP=SHR,DSN=RSQA.HLO210.IBMTAPE.SHLOLOAD
//         DD DISP=SHR,DSN=RSQA.HLO210.IBMTAPE.SFECLOAD
//         DD DISP=SHR,DSN=DSN.DDS5.SDSNEXIT
//         DD DISP=SHR,DSN=DSN.VB10.SDSNLOAD
//DB2PARMS DD DISP=SHR,DSN=RSTEST.HLO210.DB2CNTL
//*
//SORAMSGS DD SYSOUT=*
//SR0AMSGS DD SYSOUT=*
//SORAWK01 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORAWK02 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SORAWK03 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0AWK01 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0AWK02 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//SR0AWK03 DD UNIT=SYSALLDA,SPACE=(CYL,(00020,00001),,,ROUND)
//*
//SYSUDUMP DD SYSOUT=*
//SYSOUT   DD SYSOUT=*
//SORTMSGS DD SYSOUT=*
//INFOM    DD SYSOUT=*
//SYSINHLO DD *
    IDAA_CONSISTENT_LOAD                                                -
     (                                                                  -
         GROUP                                                          -
         (                                                              -
             SPACE                                                      -
             (                                                          -
             (                                                          -
                 CREATOR 'DSNC810'                                       -
                 NAME    'EMP01_SOURCE'                                 -
                 TARGET_CREATOR 'DSNC810'                                -
                 TARGET_NAME    'EMP01_TARGET'                          -
             )                                                          -
             TO_CURRENT                                                 -
         )                                                              -
         ACCELNAME DDS5ACC1                                             -
         PARALLEL '0,4'                                                 -
         LOG_COPY_PREFERENCE R1R2A1A2                                   -
         USER_INDICATOR HLO-
         ACCEL_ON_SUCCESS_ENABLE YES                                    -
         DB2_SORT YES                        -
         CHECK_DATA WRITE                                               -
         ACCEL_REMOVE_AND_ADD_TABLES                                    -
    )
 /*
 //
```

Example 5: Loading data to multiple accelerators using Consistent load

Note: The following examples use Consistent load functionality and not the HALOAD utility.

In the following example, multiple accelerators specified individually will be loaded:

```
IDAA_CONSISTENT_LOAD                                    -
(                                                                -
```

```
    GROUP                                                           -
    (                                                               -
        SPACE                                                       -
        (                                                           -
            CREATOR 'DSNC810'                                        -
            NAME    'EMP01'                                         -
        )                                                           -
        SPACE                                                       -
        (                                                           -
            CREATOR 'DSNC810'                                        -
            NAME    'EMP02'                                         -
        )                                                           -
        TO_CURRENT                                                  -
    )                                                               -
    ACCELNAME 'IDAAS01,IDAAS02,IDAAS03'                             -
    PARALLEL '0,4'                                                  -
    LOG_COPY_PREFERENCE R1R2A1A2                                    -
    USER_INDICATOR HLO                                              -
    ACCEL_ON_SUCCESS_ENABLE NO                                      -
    DB2_SORT YES                            -
    CHECK_DATA WRITE                                                -
)
```

In the following example, multiple accelerators will be loaded by specifying an accelerator group. The accelerator group expands to its individual members at run time.

```
IDAA_CONSISTENT_LOAD                                        -
(                                                               -
    GROUP                                                       -
    (                                                           -
        SPACE                                                   -
        (                                                       -
            CREATOR 'DSNC810'                                    -
            NAME    'EMP01'                                     -
        )                                                       -
        SPACE                                                   -
        (                                                       -
            CREATOR 'DSNC810'                                    -
            NAME    'EMP02'                                     -
        )                                                       -
        TO_CURRENT                                              -
    )                                                           -
    ACCELNAME 'ACCELGRP'                                        -
    PARALLEL '0,4'                                              -
    LOG_COPY_PREFERENCE R1R2A1A2                                -
    USER_INDICATOR HLO                                          -
    ACCEL_ON_SUCCESS_ENABLE NO                                  -
    DB2_SORT YES                            -
    CHECK_DATA WRITE                                            -
)
```

Example 6: FlashCopy template name

The following JCL example creates a Consistent Load step with FlashCopy. To ensure that a FlashCopy is performed, you must specify the template name for FCCOPYDDN at the Global level and specify the template name and DSN for TEMPLATE at the Global level.

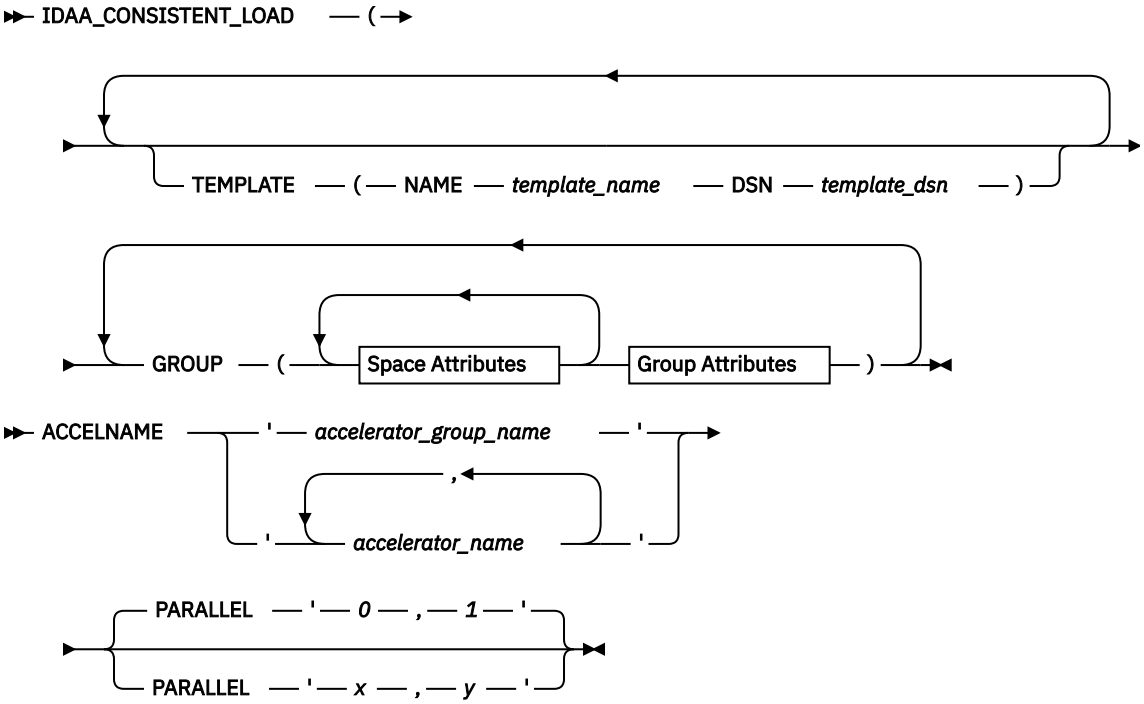
```
//HLOC0101 EXEC PGM=HLO#MAIN,
//         REGION=0M,
//         PARM=(DB2SSID)
//DB2PARMS DD DISP=SHR,DSN=RSTEST.HLO210.DB2CNTL
//SORAMSGS DD SYSOUT=*
//SR0AMSGS DD SYSOUT=*
//SORAWK00 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SORAWK01 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SORAWK02 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK00 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK01 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK02 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SYSUDUMP DD SYSOUT=*
//SYSOUT   DD SYSOUT=*
//SORAMSGS DD SYSOUT=*
//INFOM    DD SYSOUT=*
//SYSINHLO DD *
    IDAA_CONSISTENT_LOAD                                                -
    (                                                                   -
```

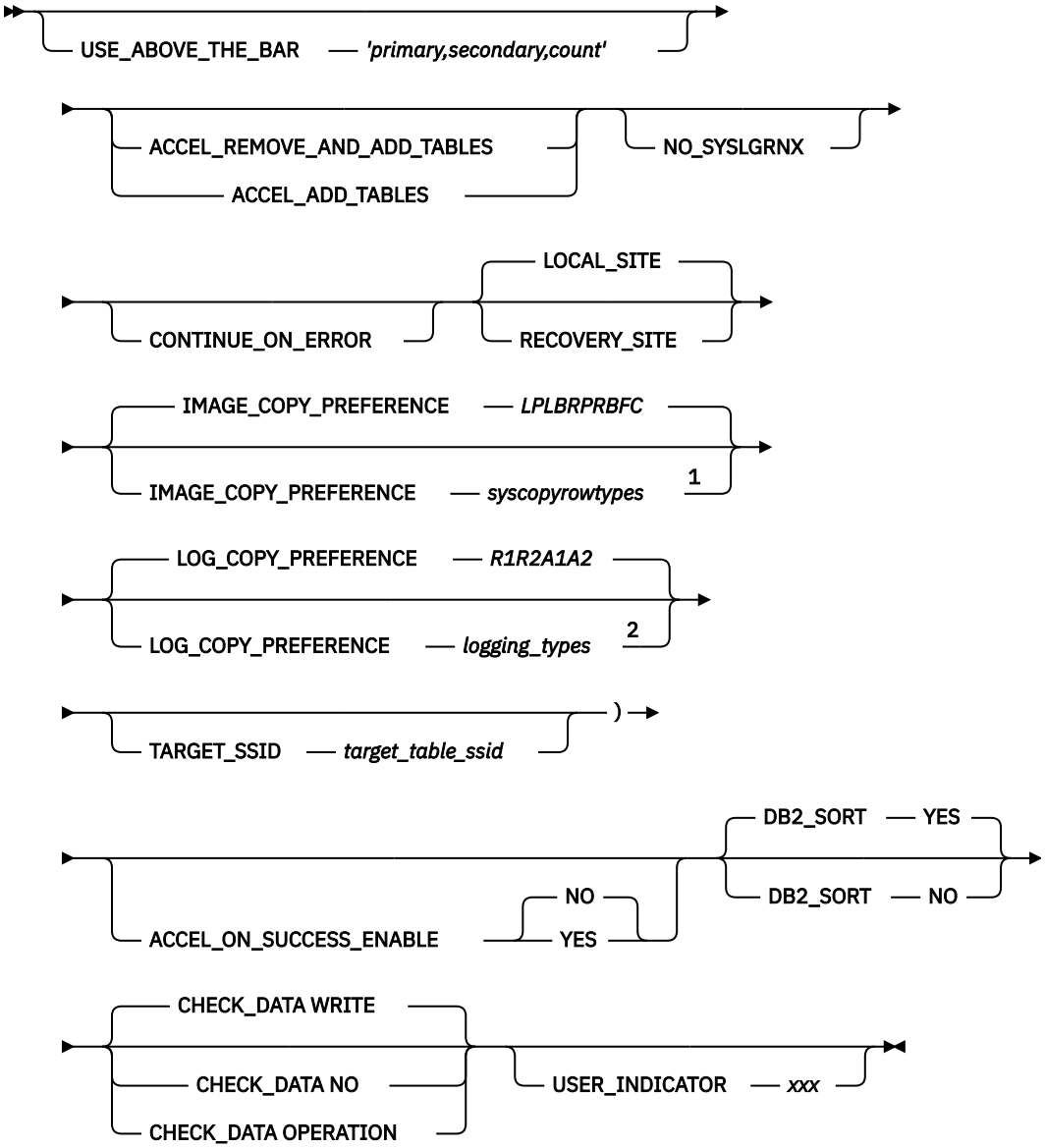
```
        TEMPLATE                                                        -
        (                                                               -
            NAME TEMPL1                                                 -
            DSN 'RSTEST.HLO210.&SSID..&DB(1,4).&DB(5,4)..&SN(1,4).&SN('-
'5,3).&SN(8,1)..PA&PA.'                                                 -
        )                                                               -
        GROUP                                                           -
        (                                                               -
            SPACE                                                       -
            (                                                           -
                CREATOR 'DSNC810'                                       -
                NAME    'EMP01'                                   -
            )                                                           -
            SPACE                                                       -
            (                                                           -
                CREATOR 'DSNC810'                                       -
                NAME    'EMP02'                                   -
            )                                                           -
            TO_CURRENT                                                  -
            NEW_COPY                                                    -
            FCCOPYDDN TEMPL1                                            -
        )                                                               -
        ACCELNAME 'ACCELNAME'                                           -
        PARALLEL '0,1'                                                  -
        LOG_COPY_PREFERENCE R1R2A1A2                                    -
        USER_INDICATOR HLO                                              -
        ACCEL_REMOVE_AND_ADD_TABLES                                     -
        ACCEL_ON_SUCCESS_ENABLE YES                                     -
    )
```

Syntax diagram: Consistent load

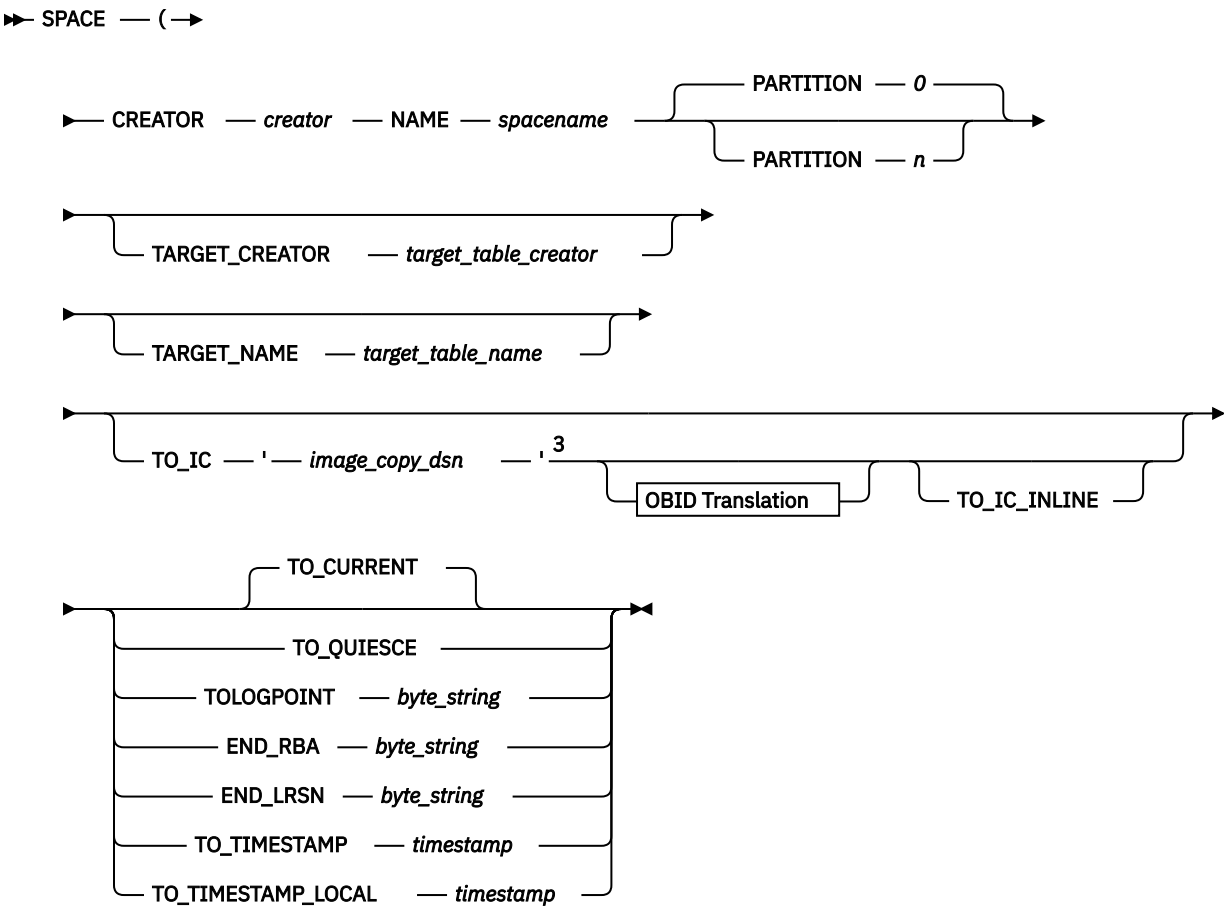
The following syntax diagram illustrates how to construct valid Db2 Analytics Accelerator Loader syntax for Consistent load jobs.

The syntax is as follows for the Db2 Analytics Accelerator Loader Consistent load control cards.

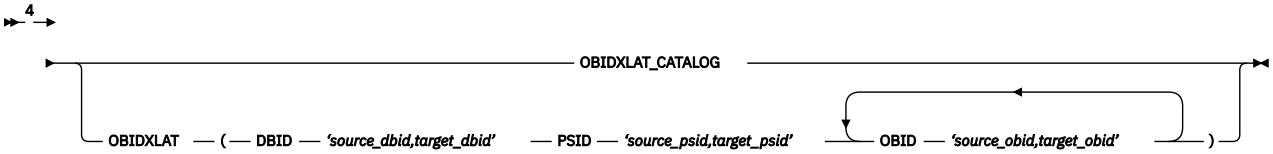




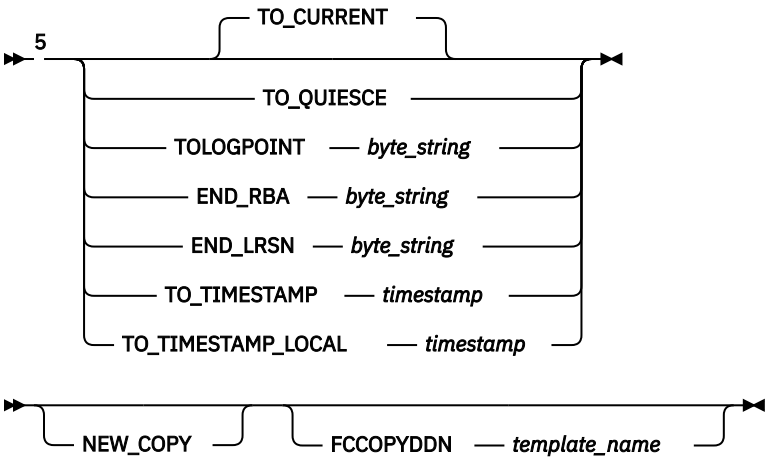
Space Attributes



OBID Translation



Group Attributes



Notes:

[1] Refer to Accelerator Loader syntax for details about the valid values accepted for the IMAGE_COPY_PREFERENCE control card.

[2] Refer to Accelerator Loader syntax for details about the valid values accepted for the LOG_COPY PREFERENCE control card.

[3] The image copy data set name must be an image copy created by the image copy utility. You cannot specify a FlashCopy or an image copy created by the Accelerator Loader BACKUP utility.

[4] In the OBID Translation diagram, *source_dbid*, *source_psid*, and *source_obid* are the source IDs; *target_dbid*, *target_psid*, and *target_obid* are the target IDs.

[5] If you specify the control card at the SPACE level, you cannot also specify it at the GROUP level or vice versa. The specification of control cards at SPACE and GROUP levels is mutually exclusive.

Example JCL: Image Copy load

Review JCL examples for Image Copy load jobs.

Example 1: Manually specifying object translation target ID number pairs

You can specify an image copy data set and load the data from that image copy to the accelerator.

In the following example, the OBIDXLAT and control card cluster options are used to manually specify the object translation target ID number pairs.

```
//HLOSAMP1 JOB <JOB PARAMETERS>,REGION=0M
//*
//*--------------------------------------------------------------------*
//*                                                                    *
//* Licensed Materials - Property of IBM                               *
//* 5639-OLE                                                           *
//* (c) Copyright Rocket Software, Inc. 2001-2015 All Rights Reserved.*
//* US Government Users Restricted Rights - Use, duplication or       *
//* disclosure restricted by GSA ADP Schedule Contract with IBM Corp. *
//*                                                                    *
//* Product  : Accelerator Loader                                      *
//* Product #: 5639-OLE                                                *
//* Release  : 2.1                                                     *
//*--------------------------------------------------------------------*
//*                                                                    *
//* PURPOSE:                                                           *
//*                                                                    *
//*     RUN A BATCH STEP TO LOAD AN IMAGE COPY DIRECTLY INTO THE      *
//*     ACCELERATOR WITH NO LOG APPLY PROCESSING.                      *
//*                                                                    *
//*--------------------------------------------------------------------*
//*
//HLORUN   EXEC PGM=HLO#MAIN,REGION=0M,PARM='<SSID>'
//STEPLIB  DD DISP=SHR,
//            DSN=#HLQ#.SHLOLOAD
//         DD DISP=SHR,
//            DSN=#HLQ#.SFECLOAD
//        DD  DSN=DSN.VA10.SDSNEXIT
//        DD  DSN=DSN.VA10.SDSNLOAD
//DB2PARMS DD DISP=SHR,DSN=<CONTROL FILE>
//SORAMSGS DD SYSOUT=*
//SR0AMSGS DD SYSOUT=*
//SORAWK00 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SORAWK01 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SORAWK02 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK00 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK01 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK02 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SYSUDUMP DD SYSOUT=*
//SYSOUT   DD SYSOUT=*
//SORTMSGS DD SYSOUT=*
//INFOM    DD SYSOUT=*
//SYSINHLO DD *
    IDAA_LOAD_IC                                                      -
    (                                                                 -
        GROUP                                                         -
        (                                                             -
            SPACE                                                     -
            (                                                         -
                CREATOR 'DSNC810'                                      -
                NAME    'EMP01'                                   -
                TO_IC   'RSTEST.QA1A.DBHLOTS1.TSHLOSTA.DB2IC1'        -
                OBIDXLAT (                                            -
                  DBID '863,868'                                      -
```

```
                  PSID '2,2'                                            -
                  OBID '3,3'                                            -
                  )                                                     -
            )                                                           -
            )                                                           -
        ACCELNAME QA1AACC1                                              -
        PARALLEL '0,1'                                                  -
        LOG_COPY_PREFERENCE R1R2A1A2                                    -
        USER_INDICATOR HLO                                              -
        DB2_SORT YES                                                    -
        CHECK_DATA WRITE                                                -
    )
/*
//
```

Example 2: Obtaining object translation target ID number pairs from the Db2 catalog

In the following example, the OBIDXLAT_CATALOG option is used to obtain the object translation target ID number pairs from the Db2 catalog of the specified object.

```
//HLOSAMP2 JOB <JOB PARAMETERS>,REGION=0M
//*
//*-------------------------------------------------------------------*
//*                                                                   *
//* Licensed Materials - Property of IBM                              *
//* 5639-OLE                                                          *
//* (c) Copyright Rocket Software, Inc. 2001-2015 All Rights Reserved.*
//* US Government Users Restricted Rights - Use, duplication or       *
//* disclosure restricted by GSA ADP Schedule Contract with IBM Corp. *
//*                                                                   *
//* Product  : IBM DB2 ANALYTICS ACCELERATOR LOADER FOR Z/OS          *
//* Product #: 5639-OLE                                               *
//* Release  : 2.1                                                    *
//*-------------------------------------------------------------------*
//*                                                                   *
//* PURPOSE:                                                          *
//*                                                                   *
//*     RUN A BATCH STEP TO LOAD AN IMAGE COPY DIRECTLY INTO THE      *
//*     ACCELERATOR WITH NO LOG APPLY PROCESSING.                     *
//*                                                                   *
//*-------------------------------------------------------------------*
//*
//HLORUN   EXEC PGM=HLO#MAIN,REGION=0M,PARM='<SSID>'
//STEPLIB  DD DISP=SHR,
//            DSN=#HLQ#.SHLOLOAD
//         DD DISP=SHR,
//            DSN=#HLQ#.SFECLOAD
//         DD DSN=DSN.VA10.SDSNEXIT
//         DD DSN=DSN.VA10.SDSNLOAD
//DB2PARMS DD DISP=SHR,DSN=<CONTROL FILE>
//SORAMSGS DD SYSOUT=*
//SR0AMSGS DD SYSOUT=*
//SORAWK00 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SORAWK01 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SORAWK02 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK00 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK01 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SR0AWK02 DD UNIT=SYSDA,SPACE=(CYL,(00010,00010),,,ROUND)
//SYSUDUMP DD SYSOUT=*
//SYSOUT   DD SYSOUT=*
//SORTMSGS DD SYSOUT=*
//INFOM    DD SYSOUT=*
//SYSINHLO DD *
    IDAA_LOAD_IC                                                        -
    (                                                                   -
        GROUP                                                           -
        (                                                               -
            SPACE                                                       -
            (                                                           -
                CREATOR 'DSNC810'                                        -
                NAME    'EMP01'                                 -
                TO_IC   'RSTEST.QA1A.DBHLOTS1.TSHLOSTA.DB2IC1'          -
                OBIDXLAT_CATALOG                                        -
            )                                                           -
            )                                                           -
        ACCELNAME QA1AACC1                                              -
        PARALLEL '0,1'                                                  -
```

```
        LOG_COPY_PREFERENCE R1R2A1A2                                    -
        USER_INDICATOR HLO                                              -
        DB2_SORT YES                                                    -
        CHECK_DATA WRITE                                                -
    )
/*
//
```

Example 3: Loading data to multiple accelerators using Image Copy load

Note: The following examples use Image Copy load functionality and not the HALOAD utility.

In the following example, multiple accelerators specified individually will be loaded:

```
IDAA_LOAD_IC                                                            -
(                                                                       -
    GROUP                                                               -
    (                                                                   -
        SPACE                                                           -
        (                                                               -
            CREATOR 'DSNC810'                                            -
            NAME    'EMP01'                                         -
            TO_IC 'RSTEST.QA1A.T21811S2.TSHLOTSA.DB2IC1'                -
            OBIDXLAT_CATALOG                                            -
        )                                                               -
    )                                                                   -
    ACCELNAME 'IDAAS01,IDAAS02,IDAAS03'                                 -
    USER_INDICATOR HLO                                                  -
    ACCEL_ON_SUCCESS_ENABLE YES                                         -
    DB2_SORT YES                                                        -
    CHECK_DATA WRITE                                                    -
    ACCEL_REMOVE_AND_ADD_TABLES                                         -
)
```

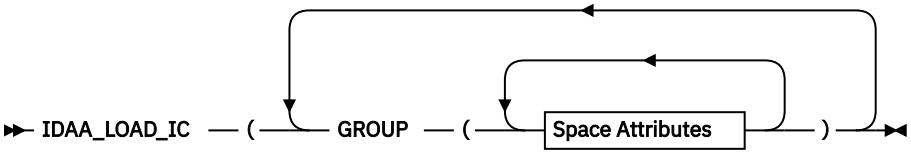
In the following example, multiple accelerators will be loaded by specifying an accelerator group. The accelerator group expands to its individual members at run time.

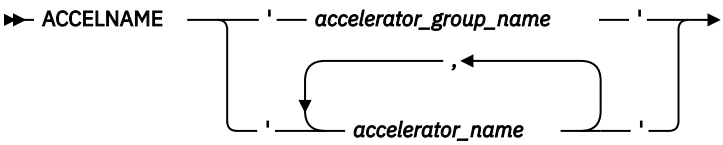
```
IDAA_LOAD_IC                                                            -
(                                                                       -
    GROUP                                                               -
    (                                                                   -
        SPACE                                                           -
        (                                                               -
            CREATOR 'DSNC810'                                            -
            NAME    'EMP01'                                         -
            TO_IC 'RSTEST.QA1A.T21811S2.TSHLOTSA.DB2IC1'                -
            OBIDXLAT_CATALOG                                            -
        )                                                               -
    )                                                                   -
    ACCELNAME 'ACCELGRP'                                                -
    USER_INDICATOR HLO                                                  -
    ACCEL_ON_SUCCESS_ENABLE YES                                         -
    DB2_SORT YES                                                        -
    CHECK_DATA WRITE                                                    -
    ACCEL_REMOVE_AND_ADD_TABLES                                         -
)
```

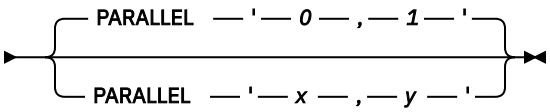
Syntax diagram: Image Copy load

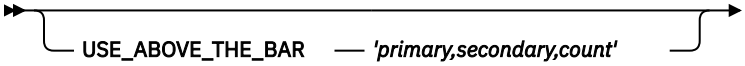
The following syntax diagram illustrates how to construct valid Db2 Analytics Accelerator Loader syntax for Image Copy load jobs.

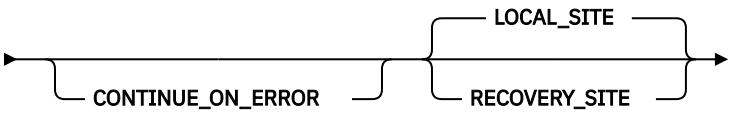
The syntax is as follows for the Db2 Analytics Accelerator Loader Image Copy load control cards.

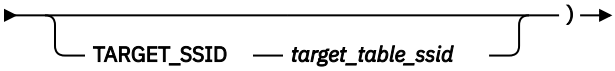


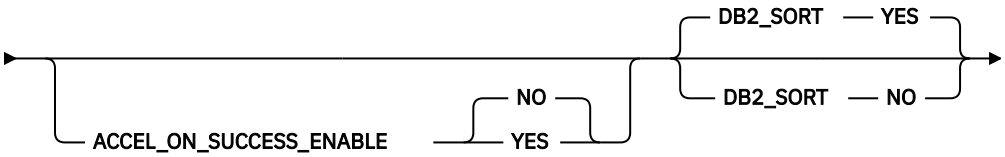


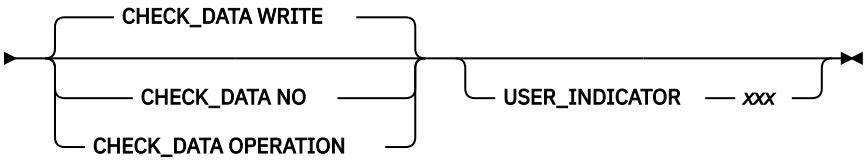




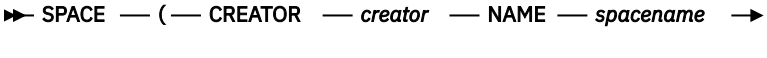


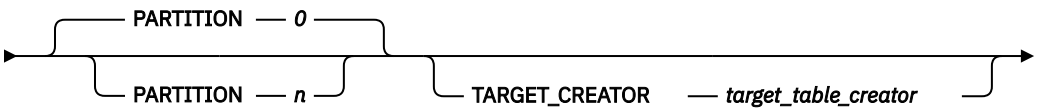


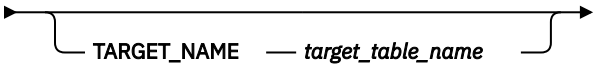


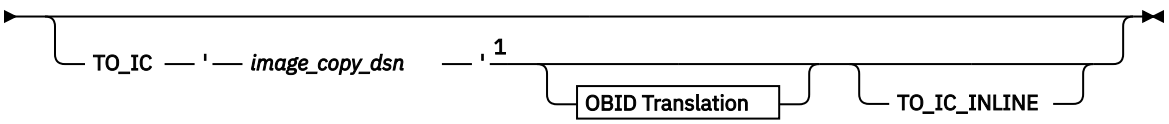


Space Attributes

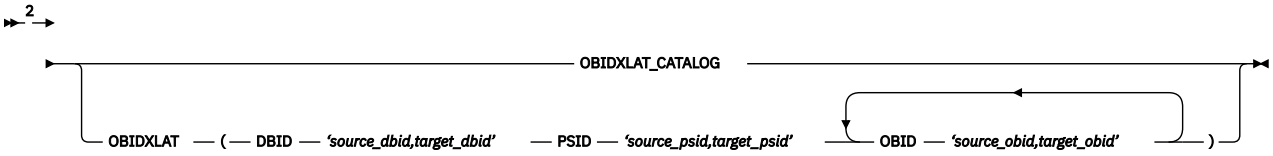








OBID Translation



Notes:

[1] The image copy data set name must be an image copy created by the image copy utility. You cannot specify a FlashCopy or an image copy created by the Accelerator Loader BACKUP utility.
[2] In the OBID Translation diagram, *source_dbid*, *source_psid*, and *source_obid* are the source IDs; *target_dbid*, *target_psid*, and *target_obid* are the target IDs.

Syntax definitions: Consistent load and Image Copy load

Db2 Analytics Accelerator Loader supports the following syntax elements (presented alphabetically) for consistent load and image copy load jobs.

ACCEL_ADD_TABLES | ACCEL_REMOVE_AND_ADD_TABLES
Indicates whether to add missing tables to the accelerator before starting the load job. Specify one of the following options:

ACCEL_ADD_TABLES
Add missing tables to the accelerator before starting the load job.

ACCEL_REMOVE_AND_ADD_TABLES
Remove and re-add existing tables to the accelerator before starting the load job. This option does not preserve distribution and organizing keys on the accelerator; however, a table that was enabled for replication before will be enabled for replication again.

If you omit this option, missing tables are not added to the accelerator.

This option can be specified in the ISPF interface by using the **Add table(s) to Accelerator** field on the Load Accelerator with Consistent Data panel or the Load Accelerator from Specified Image Copy panel.

ACCEL_ON_SUCCESS_ENABLE YES | NO
Controls whether query acceleration is enabled for the table after a successful load. If Db2 discards any rows during the load, query acceleration is not enabled. Valid values are YES and NO.

ACCELNAME '*accelerator_group_name*' | *accelerator_name* | '*accelerator_name_1,accelerator_name_2(,...)*'
Specifies the accelerators to load. Specify one accelerator group name, or one or more individual accelerator names up to ten accelerators. When specifying multiple accelerator names, you must enclose the list in single quotes and separate each accelerator name with a comma, as shown in the following example:

```
ACCELNAME 'QA1AACC1,QA1AACC2,QA1AACC3'
```

You can use the **Accelerator(s)** field on the Load Accelerator with Consistent Data panel or the Load Accelerator from Specified Image Copy panel in the ISPF interface to generate the ACCELNAME control card in the JCL.

CHECK_DATA NO | WRITE | OPERATION
Include this optional keyword to specify if and when you want Accelerator Loader to check the integrity of Db2 for z/OS data pages. Specify this keyword outside the delimiters of the GROUP keyword. This keyword accepts the following values:

NO
Do not check data page integrity.

WRITE
(Default) Check data page integrity before passing the row data in each data page to the accelerator.

OPERATION
Check data page integrity before and after each Db2 log apply operation to the image copy, as well as before passing the row data in each data page to the accelerator.

CONTINUE_ON_ERROR

Causes most setup errors on an individual object to be ignored and the object skipped while the rest of the job continues. With the value Yes, the control card CONTINUE_ON_ERROR is generated into the JCL.

If you set Continue on error to Yes or specify CONTINUE_ON_ERROR in the control card, errors with return codes 4 and higher are reported as return code 4 and job processing continues. I/O and other serious issues are not ignored and cause the job to fail.

You can specify the CONTINUE_ON_ERROR control card in the ISPF interface using the Load Accelerator with Consistent Data panel or the Load Accelerator from Specified Image Copy panel, as follows:

Continue on errors = Y
CONTINUE_ON_ERROR

Continue on errors = N
omits the CONTINUE_ON_ERROR control card

CREATOR '*creator_name*'
For an image copy load, specifies the creator of the target table that will be loaded in the accelerator.

DBID '*source_dbid,target_dbid*'
For an image copy load, used with the OBIDXLAT option to specify the database IDs of the source and target DBIDs. (The source ID is only needed if the image copy is for a table space with multiple tables.)

DB2_SORT YES | NO
Indicates whether to use the Db2 Sort product for load job sort operations.

YES
The load job will use Db2 Sort for sort operations if Db2 Sort is available. If Db2 Sort is not found, the load job will use the system sort program that is installed on the LPAR (DFSORT or Syncsort).

NO
The load job will not use Db2 Sort and will instead use the system sort program that is installed on the LPAR (DFSORT or Syncsort).

END_LRSN *byte_string*
END_LRSN *byte_string* directs Db2 Analytics Accelerator Loader to read the log and to incorporate data into the image copy up to the specified LRSN. Replace *byte_string* with the hexadecimal value.

The END_LRSN control card can be specified in the ISPF interface by using the **RBA or LRSN end point** field on the Load Accelerator with Consistent Data panel:

RBA or LRSN end point *byte_string*
If a hexadecimal end point is specified in the **RBA or LRSN end point** field and the job is built in a data sharing environment, END_LRSN '*byte_string*' will be added to the syntax.

END_RBA *byte_string*
END_RBA *byte_string* directs Db2 Analytics Accelerator Loader to read the log and to incorporate data into the image copy up to the specified RBA. Replace *byte_string* with the hexadecimal value.

Note:

- END_RBA is not valid in a data sharing environment.
- If the RBA value that is specified on END_RBA is a valid RBA, then Db2 Analytics Accelerator Loader will use this RBA as an end point for the Db2 Analytics Accelerator Loader image copy. If the RBA value specified is not a valid RBA, then Db2 Analytics Accelerator Loader will use the next higher valid RBA as an end point for the Db2 Analytics Accelerator Loader image copy.

The END_RBA control card can be specified in the ISPF interface by using the **RBA or LRSN end point** field on the Load Accelerator with Consistent Data panel:

RBA or LRSN end point *byte_string*
If a hexadecimal end point value is specified in the **RBA or LRSN end point** field and the job is to be built in a non-data sharing environment, END_RBA '*byte_string*' is added to the syntax.

FCCOPYDDN (*template_name*)
Use the FCCOPYDDN (*template_name*) control card after the NEW_COPY keyword to specify the FlashCopy data set template. The template is defined by the TEMPLATE control card. The data set for the FlashCopy is created based on the specified TEMPLATE DSN.

If Use FlashCopy DSN Template N is specified, the default template in DSNZPARMs for FlashCopy Image Copy will be used.

The FCCOPYDDN (*template_name*) control card can be specified in the ISPF interface by using the **Use FlashCopy DSN Template** field on the Load Accelerator with Consistent Data panel, as follows:

Use FlashCopy DSN Template = Y
The FCCOPYDDN (*template_name*) control card is generated into the JCL.

Use FlashCopy DSN Template = N
The default template that is specified in DSNZPARMs for the FlashCopy image copy will be used.

FLASHCOPY

The FLASHCOPY control card can be specified in the ISPF interface by using the **Use Flashcopy** field on the Load Accelerator with Consistent Data panel:

Use Flashcopy = Y
The control card FLASHCOPY is generated into the JCL with either a corresponding template name, or an image copy data set name. A NEW_COPY keyword is also included in the JCL. A FlashCopy image copy is generated for each table space involved in the load process. Only this option causes a new Db2 image copy to be created.

Use Flashcopy = N
A legacy image copy is used.

GROUP
Use the GROUP keyword to enclose one or more SPACE keywords. You can specify multiple GROUP keywords in a single job, each holding one or more SPACE keywords. An open parenthesis must follow the GROUP keyword. Each GROUP keyword must contain one or more SPACE keywords.

IDAA_CONSISTENT_LOAD
Use the IDAA_CONSISTENT_LOAD keyword to refresh the data on the IBM Db2 Analytics Accelerator for z/OS.

This keyword works with the Use FlashCopy option to

1. Create a new FlashCopy image copy for a single table or a list of tables that are transactionally consistent.
2. Load the data from the new image copies into the accelerator.
3. Load the data from the consistent image copies into the accelerator.

This keyword works with the TO_CURRENT or TO_QUIESCE control cards to begin with a valid image copy of the object on Db2 and apply log records forward through time up to a specified end point.

IDAA_LOAD_IC
Use the IDAA_LOAD_IC keyword to load data on the IBM Db2 Analytics Accelerator for z/OS from an image copy data set (image copy load).

IMAGE_COPY_PREFERENCE LPLBRPRBFC | IMAGE_COPY_PREFERENCE *syscopyrows*
This optional item works with the LOCAL_SITE and RECOVERY_SITE control cards and causes Db2 Analytics Accelerator Loader to use the user-specified scan preference. The SYSCOPY rows output by Db2 Analytics Accelerator Loader are determined by the presence of DD cards in the JCL.

- IMAGE_COPY_PREFERENCE uses the user-specified scan preference. This option accepts the following options:
  - LB: Scans for LB type image copies in SYSCOPY.
  - LP: Scans for LP type image copies in SYSCOPY.
  - LPLB: Scans first for LP type image copies, then for LB type image copies (and always uses LP type image copies on identically time-stamped SYSCOPY rows).
  - RBLPLB: Allows the SYSCOPY scan program to pick an RB if it came up first while scanning SYSCOPY backwards for a starting point.
  - LPLBRPRBFC: (Default) Scans for LP, LB, RP, RB and FC type image copies (using the earlier listed image copy type on identically time-stamped SYSCOPY rows).

One to five codes in total can be entered in a packed 10-character maximum field. Valid codes are LP (local primary), LB (local backup), RP (recovery primary), RB (recovery backup), and FC (FlashCopy).

Notes:

1. This item is not required for the Db2 Analytics Accelerator Loader to run. If LOCAL_SITE, RECOVERY_SITE, and IMAGE_COPY_PREFERENCE are missing from the control cards, Db2 Analytics Accelerator Loader detects the operating mode Db2 is running under and automatically inserts either LOCAL_SITE, RECOVERY_SITE based on what is in ZPARM.
2. This option sets the mode in which Db2 Analytics Accelerator Loader operates. If LOCAL_SITE is coded, only local site type image copies are scanned for use. If RECOVERY_SITE is coded, only recovery site type image copies are scanned for use. If IMAGE_COPY_PREFERENCE is coded, the user-specified scanning preference is used.

The LOCAL_SITE, RECOVERY_SITE and IMAGE_COPY_PREFERENCE control cards can be specified in the ISPF interface by using the **SYSCOPY Scan Operating Mode** field on the Load Accelerator with Consistent Data panel:

SYSCOPY Scan Operating Mode = L
LOCAL_SITE

SYSCOPY Scan Operating Mode = R
RECOVERY_SITE

SYSCOPY Scan Operating Mode = Z
omits the LOCAL_SITE, RECOVER_SITE, and IMAGE_COPY_PREFERENCE control cards; uses the value found in the ZPARMs on the Db2

SYSCOPY Scan Operating Mode = U
IMAGE_COPY_PREFERENCE *syscopyrowtypes*

Note: If U is specified in the **SYSCOPY Scan Operating Mode** field, you must also specify a *syscopyrows* value in the **SYSCOPY Selection Pref field**. The default *syscopyrows* value is LPLBRPRBFC.

LOCAL_SITE | RECOVERY_SITE
This optional item works with the IMAGE_COPY_PREFERENCE control card and tells Db2 Analytics Accelerator Loader which SYSCOPY rows to consider when finding a starting point for processing. LOCAL_SITE uses the LP/LB rows, RECOVERY_SITE uses the RP/RB rows. The SYSCOPY rows output by Db2 Analytics Accelerator Loader are determined by the presence of DD cards in the JCL.

- LOCAL_SITE is the default setting and it refers to the LP/LB rows to find a starting point for processing. Equal priority is given to LP and LB rows, so if Db2 retrieves the LB row first, that will be used.
- RECOVERY_SITE uses the RP/RB rows to find a starting point for processing. Equal priority is given to RP and RB rows, so if Db2 retrieves the RB row first, that will be used.

Notes:

1. This item is not required for the Db2 Analytics Accelerator Loader to run. If LOCAL_SITE, RECOVERY_SITE, and IMAGE_COPY_PREFERENCE are missing from the control cards, Db2

Analytics Accelerator Loader detects the operating mode Db2 is running under and automatically inserts either LOCAL_SITE, RECOVERY_SITE based on what is in ZPARM.

2. This option sets the mode in which Db2 Analytics Accelerator Loader operates. If LOCAL_SITE is coded, only local site type image copies are scanned for use. If RECOVERY_SITE is coded, only recovery site type image copies are scanned for use. If IMAGE_COPY_PREFERENCE is coded, the user-specified scanning preference is used.

The LOCAL_SITE, RECOVERY_SITE and IMAGE_COPY_PREFERENCE control cards can be specified in the ISPF interface by using the **SYSCOPY Scan Operating Mode** field on the Load Accelerator with Consistent Data panel:

SYSCOPY Scan Operating Mode = L
LOCAL_SITE

SYSCOPY Scan Operating Mode = R
RECOVERY_SITE

SYSCOPY Scan Operating Mode = Z
omits the LOCAL_SITE, RECOVER_SITE, and IMAGE_COPY_PREFERENCE control cards; uses the value found in the ZPARMs on the Db2

SYSCOPY Scan Operating Mode = U
IMAGE_COPY_PREFERENCE *syscopyrows*

Note: If **U** is specified in the **SYSCOPY Scan Operating Mode** field, you must also specify a *syscopyrows* value in the **SYSCOPY Selection Pref field**. The default *syscopyrows* value is LPLBRPRBFC.

LOG_COPY_PREFERENCE R1R2A1A2 | LOG_COPY_PREFERENCE *logging_types*
Specifies the order in which the archive and active log lists in the BSDS are to be scanned when Accelerator Loader searches for a log to satisfy a need for log records. The value that you specify in this field must use the syntax R1 (archive log copy #1), R2 (archive log copy #2), A1 (active log #1), and A2 (active log #2). All four unique values must be specified, even if copy #2 is not used in Db2. For example:

- A1A2R1R2 - Scans the active logs before scanning the archive logs.

  Note: Avoid using this setting because Db2 might attempt to open one of the active logs for output that Accelerator Loader is currently reading for input. Such an attempt might result in an open error within Db2.
- R1R2A1A2 - (Default) Scans the archive logs first and uses archive logs when the same range exists in an archive and active log.

The LOG_COPY_PREFERENCE control card can be specified in the ISPF interface by using the **Log Reader Copy Preference** field on the Load Accelerator with Consistent Data panel:

Log Reader Copy Preference = *log_tokens*
LOG_COPY_PREFERENCE *log_tokens*

You can change the default value in the ISPF interface by using the **Log Reader Copy Preference** field on the **Accelerator Loader Parameters** panel.

NAME '*table_name*'
For an image copy load, specifies the name of the target table that will be loaded in the accelerator.

NEW_COPY
Indicates the name of the new FlashCopy data set template to be used.

The NEW_COPY FCCOPYDDN (*template_name*) control card can be specified in the ISPF interface by using the **Use FlashCopy DSN Template** and **Update** fields on the Load Accelerator with Consistent Data panel.

NO_SYSLGRNX
Include this option if you want the product to skip reading SYSIBM.SYSLGRNX and read the Db2 log from the earliest object starting point to the latest object end point.

Note: Using this option might result in a significant increase in processing time due to the number of log data sets and log records read and reading the entire Db2 log.

OBID '*source_obid,target_obid*'
For an image copy load, used with the OBIDXLAT option to specify the object IDs of the source and target OBIDs. Define multiple OBID pairs as necessary.

OBIDXLAT
Specifies object translation information (DBID / PSID / OBID).

The source translation numbers are first in each pair of numbers. The target numbers are for the identical row structured object into which data is being copied. Define each pair on a new line.

OBIDXLAT_CATALOG
For an image copy load, instructs the product to collect translation target numbers from the Db2 system on which the operation runs, and populate the output data pages with those numbers.

The product takes the target numbers from the Db2 catalog of the specified object (*creator.name*), skips the matching process, and treats all row data in the image copy with the target number from the Db2 catalog.

Note: This option is valid for an image copy with only one table. If the option is specified for a multi-table image copy, or if the catalog indicates that the number of tables in the table space is greater than one, an error results. For a multi-table image copy, specify the OBIDXLAT option, along with DBID, PSID, and OBID.

PARALLEL '*x*,*y*'
Indicates the number of parallel log read and log apply tasks that can run where:

x
(Default 0) The number of parallel log read tasks. Valid values are integers, 0-16. Specifying a value of 0 for *x* means that a maximum of one task per data sharing group member will run at the same time. If a nonzero value is specified for *x*, then that number is the maximum number of parallel tasks that can run at the same time for the log read component. If there are more logs to read than the number of parallel tasks that were specified for *x*, a task to read each remaining log is started as soon as a running task finishes and until all necessary logs have been read.

y
(Default 1)

The number of parallel log apply tasks. Valid values are integers, 1 - 10. If a value greater than 1 is specified, and there is a single GROUP(...) control card structure present, the Db2 Analytics Accelerator Loader batch process clusters and reorders partitioned objects to distribute the objects into the specified number of tasks, and load the partitions in parallel. If there are multiple GROUP(...) control card structures present, the *y* value is ignored, and each GROUP is assigned its own parallel task.

When partition-level image copies are on tape, and the value of y is greater than 1, the following conditions apply:

- If each image copy is on a different volume sequence, the specified number of parallel tasks will be used for log apply processing.
- If all image copies are stacked on the same volume sequence, only one log apply task will be performed.

The PARALLEL control card can be specified in the ISPF interface by using the **Number of PARALLEL log read** and **Number of PARALLEL log apply** fields on the Load Accelerator with Consistent Data panel:

Number of PARALLEL log read = *x*
Number of PARALLEL log apply = *y*
PARALLEL '*x*,*y*'

The default value for the batch option is 1. However, the default value of the **Number of PARALLEL log apply** field on the Load Accelerator with Consistent Data panel is 4.

PSID '*source_psid,target_dbid*'
For an image copy load, used with the OBIDXLAT option to specify the pageset IDs of the source and target PSIDs. (The source ID is only needed if the image copy is for a table space with multiple tables.)

TARGET_CREATOR
TARGET_NAME
The creator and name of the table that is to be loaded. If one value is specified, then both values must be specified to identify the target table.

TARGET_SSID *target_table_ssid*
The four-character Db2 subsystem ID that contains the table that is to be loaded. The TARGET_SSID (if specified) must be on the same LPAR as the SSID on which the source table resides.

TEMPLATE
NAME *template_name*
DSN *template_dsn*
Used to define templates that are to be used with FCCOPYDDN to specify the FlashCopy image copy data set. You can specify one or more templates.

TOLOGPOINT *byte_string*
TOLOGPOINT *byte_string* directs Db2 Analytics Accelerator Loader to read the log and to incorporate data into the image copy up to the specified log point. Replace *byte_string* with the actual log point value.

TOLOGPOINT is valid for both non-data sharing and data sharing runs. If TOLOGPOINT is used, the value will be accepted as an RBA in non-data sharing and an LRSN in data sharing.

TO_CURRENT | TO_QUIESCE | TOLOGPOINT *byte_string* | END_RBA *byte_string* | END_LRSN *byte_string* | TO_TIMESTAMP *timestamp* | TO_TIMESTAMP_LOCAL *timestamp*
This required choice enables you to specify the point up to which you want to make the image copy.

Note: Db2 Analytics Accelerator Loader enables you to specify an end point (RBA/LRSN) from SYSCOPY (START_RBA) that is of ICTYPE “Y”, “S”, or “W”.

The TO_CURRENT and TO_QUIESCE control cards can be specified in the ISPF interface by using the **Load time** field on the Load Accelerator with Consistent Data panel:

Load time = C
TO_CURRENT

Load time = Q
TO_QUIESCE

TO_CURRENT
Reads the log and incorporates data into the image copy up to the current point in time, which is the end of the log file.

The TO_CURRENT control card can be specified in the ISPF interface by using the **Load time** field on the Load Accelerator with Consistent Data panel:

Load time = C
TO_CURRENT

TO_IC '*image_copy_dsn*'
Specifies the source image copy data set. The source data set and its associated image copy can be on the same or different Db2 subsystems. The source image copy can be a data set that you constructed, for example, from a SELECT against the SYSCOPY table on the source Db2 subsystem.

TO_IC_INLINE
Specifies that the origin type of the input image copy is inline and is not retrieved from a SYSCOPY row. This keyword is required when the input image copy is an inline image copy created by the REORG or LOAD utility or is an image copy of a compressed object. When using these types of image copies as input, the data set name is specified directly in the TO_IC parameter instead of retrieved from a SYSCOPY row. By specifying this keyword, a sort will be performed on the specified input image copy. The determination of whether a sort is needed is made automatically by SYSCOPY row

analysis; however, when the image copy data set name is specified directly, the image copy origin type must also be supplied.

The TO_IC_INLINE control card can be specified in the ISPF interface by using the Load Accelerator from Specified Image Copy panel.

TO_QUIESCE
Reads the log and incorporates data into the image copy up to the previous quiesce point.

The TO_QUIESCE control card can be specified in the ISPF interface by using the **Load time** field on the Load Accelerator with Consistent Data panel.

Load time = Q
TO_QUIESCE

TO_TIMESTAMP *timestamp* | TO_TIMESTAMP_LOCAL *timestamp*
TO_TIMESTAMP*byte_string* directs Db2 Analytics Accelerator Loader to read the log and to incorporate data into the image copy up to the specified timestamp. Replace *byte_string* with the timestamp value.

Note: Timestamps are always handled in GMT/Universal time internally. If a local timestamp is presented to the process, it must conditionally be converted to GMT/Universal. TO_TIMESTAMP is a GMT/Universal timestamp (no conversion necessary), while TO_TIMESTAMP_LOCAL is a local time zone timestamp that must be converted to GMT/Universal. The time zone in which the machine operates is given at IPL time, so no user input is required for the conversion from local to GMT/Universal.

The TO_TIMESTAMP control card can be specified in the ISPF interface by using the **Timestamp end point** and **Time zone of timestamp** fields on the Load Accelerator with Consistent Data panel:

USER_INDICATOR *xxx*
Specifies a group of control file records for operation. The startup CLIST supplies the value for the USER_INDICATOR control card.

Notes:

1. If a USER_INDICATOR value is supplied in the batch job, a control file that has been loaded with set-up information will be necessary.

The USER_INDICATOR control card cannot be specified in the ISPF interface. The startup CLIST supplies the value for the USER_INDICATOR control card.

USE_ABOVE_THE_BAR '*primary,secondary,count*'
Allows the use of above-the-bar memory and specifies the number of primary, secondary, and maximum segments to be allocated:

- primary - The number of segments (megabytes) of above-the-bar storage obtained initially.
- secondary - The number of segments (megabytes) of above-the-bar storage obtained when the primary segments are used up.
- count - The limit placed on the total number of segments that can be obtained. This limit stops runaway getmains by failing if the limit is reached.

Loading from an external file

Accelerator Loader provides options for the Db2 LOAD utility to enhance load processing for Analytics Accelerator. These options are in addition to those that the native Db2 LOAD utility provides. The options manipulate the data in the input records for the LOAD utility before the data is loaded.

Before you build and run a job that loads from an external file, review all reference and conceptual information for the feature, including the correct syntax, usage considerations, and examples. Also ensure that you have completed the following tasks:

- In the DSNUTILB intercept policy for the Accelerator Loader started task that you will use for implementing the LOAD options, verify that the correct Db2 subsystem is specified. Use the

<DB2SYSTEM> element within the <POLICY> section to specify the subsystem on which you want the enhanced LOAD processing to occur.

- In the LOAD utility statement, add the Accelerator Loader options that you want to use.
- Ensure that the DSNUTILB intercept status is enabled. To display the intercept status, issue the `DISPLAY INTERCEPT` command from the z/OS console. If the intercept is disabled, activate it by using the `ACTIVATE INTERCEPT` command.
- Ensure that the batch utility JCL contains the DD statement `HLO//DUMMY DD DUMMY`.

Customizing the example JCL to load from an external file

The following steps describe the changes that you must make to your existing LOAD JCL to match the example JCL. Steps are required unless otherwise noted.

Procedure

1. Enter a valid job card for your site.
2. Change the STEPLIB DD data set file names to point to the Db2 Analytics Accelerator Loader program library.

   If you did not copy module DSNUTILF from the product library into your Db2 load library, then this step is required.
3. Specify the SYSREC file and the SYSPUNCH file.

   Note: The SYSPUNCH file is required unless you put the LOAD utility statement into the SYSIN DD in-stream.
4. If the SYSPUNCH DD will be used instead of the control cards that are supplied in-stream, then you must edit the syntax to include the required parameter.
5. If the LOAD control cards are supplied in the JCL in-stream, then after the LOAD DATA parameter, add one of the following extended syntax options:
   - To load data into only the accelerator:

     ```
     IDAA_ONLY ON accelerator_name
     ```
   - To load data into both the accelerator and Db2:

     ```
     IDAA_DUAL ON accelerator_name
     ```
6. Add the following DD statement to the JCL:

   ```
   //HLODUMMY DD DUMMY
   ```
7. Specify a data set or * for the SYSPRINT.
8. Modify the LOAD utility syntax as needed for your site.

Example JCL: Loading from an external file

Example: Nonparallel load

The following figure contains example JCL to load data to both the accelerator and Db2 from an external file.

```
//JOBCARD JOB DSNC810,CLASS=A,MSGCLASS=X,MSGLEVEL=(1,1),
// USER=&SYSUID,NOTIFY=&SYSUID
//*
//*
//*
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//*                                                                     *
//*  Job Generated by Accelerator Loader                                *
//*                                                                     *
//*  DB2 SSID: QAA5                                                     *
//*  Profile:  DSNC810.DUAL LOAD TEST                                    *
//*  Desc:     Load from External                                       *
//*  User:     DSNC810                                                   *
//*  Date:     Friday 15/12/28                                          *
//*  Time:     09:39:40.04                                              *
//*                                                                     *
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//*                                                                     *
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//*                                                                     *
//*  Step:     HLOD0100                                                 *
//*                                                                     *
//*  Desc:     This step will invoke Accelerator Loader                 *
//*                                                                     *
//** * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * * *
//HLOD0100 EXEC PGM=DSNUTILB,
//         REGION=1024M,
//         PARM=('QAA5',DSNC810.LOAD')
//STEPLIB  DD DISP=SHR,DSN=QDS5.SDSNEXIT
//         DD DISP=SHR,DSN=DSN.VA10.SDSNLOAD
//HLODUMMY DD DUMMY
//SYSPRINT DD SYSOUT=*
//UTPRINT  DD SYSOUT=*
//SYSIN    DD *
    TEMPLATE ISYSREC
        DSN 'DSNC810.DA1A.HLOLAB2D.HLOTS2.SYSREC'
        DISP(SHR,KEEP,KEEP)
    TEMPLATE ISYSERR
        DSN &US..IDSE.&DB..&TS..&UQ.
        DISP(MOD,CATLG,CATLG)
        SPACE (10,100) CYL
    TEMPLATE ISYSMAP
        DSN &DB..&SN..&US..&JO.
        DISP(MOD,CATLG,CATLG)
        SPACE (10,100) CYL
    TEMPLATE ISYSUT1
        DSN &US..IDSU.&DB..&TS..&UQ.
        DISP(MOD,DELETE,CATLG)
        SPACE (10,100) CYL
    TEMPLATE ISORTOUT
        DSN &US..IDSO.&DB..&TS..&UQ.
        DISP(MOD,DELETE,CATLG)
        SPACE (10,100) CYL
    LOAD DATA
        IDAA_DUAL ON QDS5ACC1
        ACCEL_ON_SUCCESS_ENABLE NO
        ACCEL_LOCKMODE ROW
        DB2_SORT YES
        INDDN ISYSREC
        KEEPDICTIONARY
        SORTDEVT SYSALLDA SORTNUM 4
        ERRDDN ISYSERR
        MAPDDN ISYSMAP
        DISCARDDN ISYSDISC
        WORKDDN(ISYSUT1,ISORTOUT)
        INTO TABLE
            "DSNC810"."EMP01"
            NUMRECS 10
            (
                  "NAME"
                  POSITION(  00004:00023) CHAR(00020)
                , "CABLE"
                  POSITION(  00025:00044) CHAR(00020)
                , "STATE"
                  POSITION(  00046:00065) CHAR(00020)

            )
/*
//
```

Figure 24. Nonparallel load from external file example JCL

Example: High availability, parallel load sample utility statement

```
 LOAD DATA  REPLACE
      IDAA_DUAL ON RA1BACC1, RABAS05
     ACCEL_LOAD_TASKS 2
      LOG NO
        INTO TABLE DSNC810.EMP01
          PART 1 INDDN SYSR01
           NUMRECS 2000000
          ( INT_1 POSITION( 00001:00010 ) INTEGER EXTERNAL(10)
           ,CHAR_2 POSITION( 00020:00025 ) CHAR
           )
        INTO TABLE DSNC810.EMP01
          PART 2 INDDN SYSR02
           NUMRECS 2000000
          ( INT_1 POSITION( 00001:00010 ) INTEGER EXTERNAL(10)
          ,CHAR_2 POSITION( 00020:00025 ) CHAR
          )
```

Figure 25. Db2 LOAD utility statement to perform a parallel load to multiple accelerators

Example: Load using input file in delimited file format

Accelerator Loader supports the standard Db2 LOAD FORMAT DELIMITED option in the control cards for Dual and Accelerator-only loads. The following example loads a Unicode data file that uses a comma (,) for the column delimiter, a double quotation mark (“) for the character string delimiter, and a period (.) for the decimal point delimiter:

```
LOAD DATA
    IDAA_DUAL ON QB1AACC1
    ACCEL_ON_SUCCESS_ENABLE NO
    ACCEL_LOCKMODE TABLE
    DB2_SORT YES
    INDDN ISYSREC
    REPLACE
    KEEPDICTIONARY
    SORTDEVT SYSALLDA SORTNUM 4
    FORMAT DELIMITED
    COLDEL X'2C'
    CHARDEL X'22'
    DECPT X'2E'
    UNICODE
    DISCARDDN ISYSDISC
    ERRDDN ISYSERR
    MAPDDN ISYSMAP
    WORKDDN(ISYSUT1,ISORTOUT)
    INTO TABLE
        "DSNC810"."EMP01"
```

Example: Creating a backup using an inline copy

An *inline copy* is a backup copy of an accelerator table that is created as the data is loaded to the accelerator. This method uses an Accelerator Loader accelerator only load, as follows:

- During a LOAD REPLACE, a full copy is created.
- During a LOAD RESUME, an incremental copy is created.

To use this method, you can generate JCL using an Accelerator only profile and include values for Inline copy data sets options. The following example JCL shows an accelerator only load that includes options for an inline copy to four copy data sets.

The following example JCL shows an accelerator only load that includes options for an inline copy to four copy data sets.

```
//HLOD0100 EXEC PGM=DSNUTILB,
//         REGION=0000M,
//         PARM=('UB1A')
//STEPLIB  DD DISP=SHR,DSN=HLO.PRD0210.LOADLIB
//         DD DISP=SHR,DSN=UB1A.SDSNEXIT
//         DD DISP=SHR,DSN=DSN.VB10.SDSNLOAD
//ISYSREC  DD DISP=SHR,DSN=DSNC810.HLO.SYSREC
//HLOCPYLP DD DSN=DSNC810.HLO1533.LP,DISP=(NEW,CATLG,DELETE),
//         SPACE=(CYL,(1,1))
//HLOCPYLB DD DSN=DSNC810.HLO1533.LB,DISP=(NEW,CATLG,DELETE),
//           SPACE=(CYL,(1,1))
//HLOCPYRP DD DSN=DSNC810.HLO1533.RP,DISP=(NEW,CATLG,DELETE),
//           SPACE=(CYL,(1,1))
//HLOCPYRB DD DSN=DSNC810.HLO1533.RB,DISP=(NEW,CATLG,DELETE),
//           SPACE=(CYL,(1,1))
//HLODUMMY DD DUMMY
//SYSPRINT DD SYSOUT=*
//UTPRINT  DD SYSOUT=*
//SYSIN    DD *
    TEMPLATE ISYSUT1
        DSN '&US..IDSU.&DB..&TS..&UQ.'
        DISP(MOD,DELETE,CATLG)
        SPACE (10,100) CYL
    TEMPLATE ISORTOUT
        DSN '&US..IDSO.&DB..&TS..&UQ.'
        DISP(MOD,DELETE,CATLG)
        SPACE (10,100) CYL
    LOAD DATA
        IDAA_ONLY ON 'UB1AACC1'
        ACCEL_ON_SUCCESS_ENABLE NO
        ACCEL_LOCKMODE ROW
        DB2_SORT YES
        INDDN ISYSREC
        ACCEL_LOAD_TASKS 1
        RESUME YES
        ACCEL_COPYDDN(HLOCPYLP, HLOCPYLB)
        ACCEL_RECOVERYDDN(HLOCPYRP, HLOCPYRB)
        WORKDDN(ISYSUT1,ISORTOUT)
       INTO TABLE
           "DSNC810"."EMP01"
/*
//*
```

Figure 26. Db2 LOAD utility statement to create a backup using an inline copy

Example: Recovering accelerator table data

To recover accelerator table data, use option **Recover Accelerator table(s) from a backup** from the main menu to create a new Recovery profile, from which you can generate recovery JCL. If multiple tables are selected, the generated JCL will include multiple Load steps, one for each table.

Important: Manually generating recovery JCL is not recommended. The highly recommended procedure for generating recovery JCL is to use the ISPF interface. See “Recover accelerator data using the ISPF interface” on page 271.

Because this is a load from FORMAT INTERNAL SYSREC data sets, no field specifications are needed.

```
//HLOD0100 EXEC PGM=DSNUTILB,
//         REGION=0000M,
//         PARM=('UB1A')
//STEPLIB  DD DISP=SHR,DSN=HLO.PRD0210.LOADLIB
//         DD DISP=SHR,DSN=UB1A.SDSNEXIT
//         DD DISP=SHR,DSN=DSN.VB10.SDSNLOAD
//ISRECAAA DD DSN=DSNC810.HLO.LP,DISP=SHR
//HLODUMMY DD DUMMY
//SYSPRINT DD SYSOUT=*
//UTPRINT DD SYSOUT=*
//SYSIN DD *
  LOAD DATA INDDN ISRECAAA
    REPLACE
    IDAA_ONLY ON UB1AACC1
    LOG NO NOCOPYPEND
    ACCEL_REMOVE_AND_ADD_TABLES
    ACCEL_LOCKMODE TABLE
    ACCEL_ON_SUCCESS_ENABLE NO
    FORMAT INTERNAL
    INTO TABLE
    DSNC810.EMP01
/*
```

Figure 27. Db2 LOAD utility statement to recover accelerator table data

Example: Using a discard data set when loading only the accelerator

To use a discard data set when loading only the accelerator with a SYSREC data set, you must manually update your JCL to include the following items:

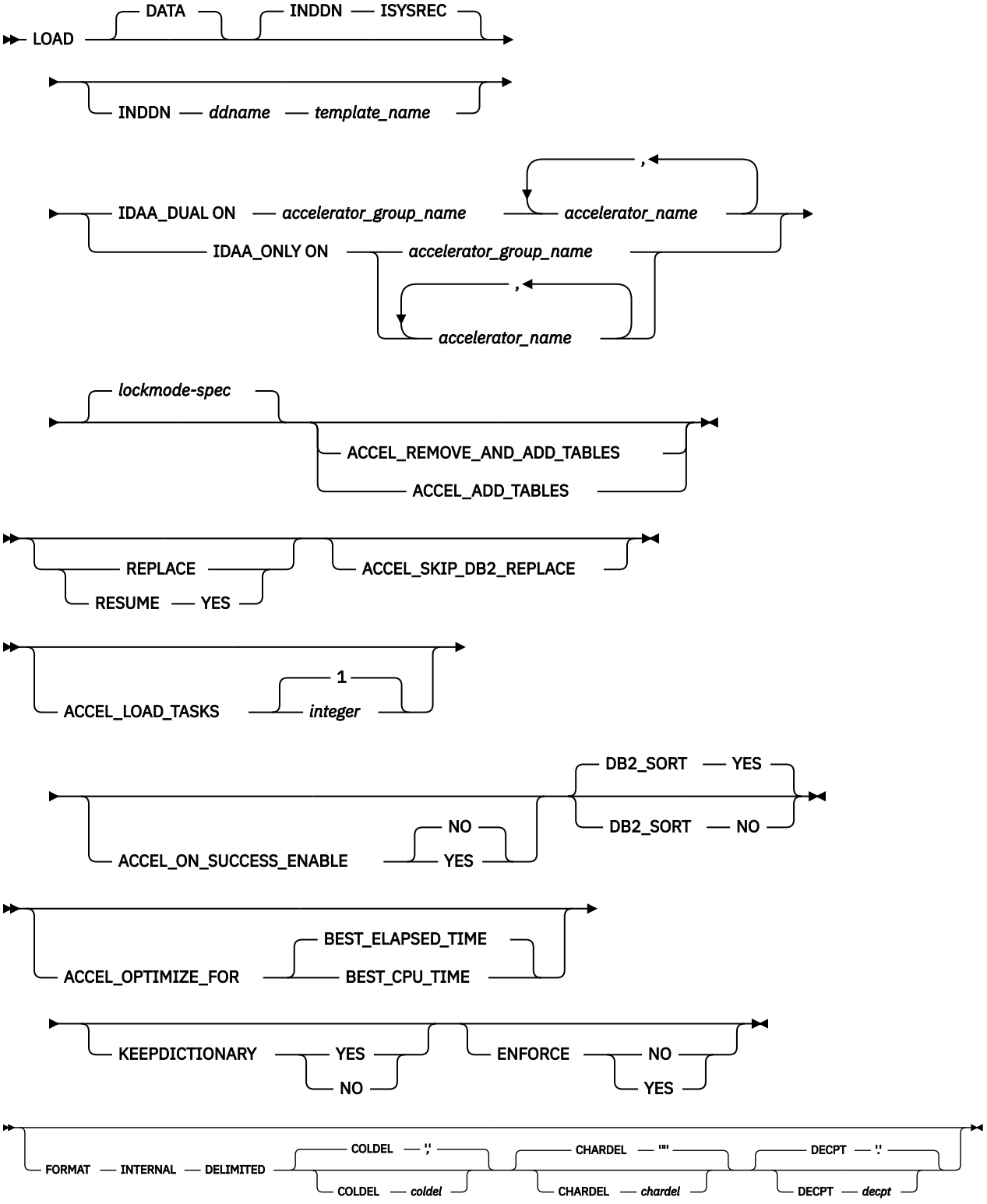
- A DD statement that specifies the discard data set, and the DISCARDDN keyword that specifies the DDNAME
- Optionally, the DISCARDS keyword

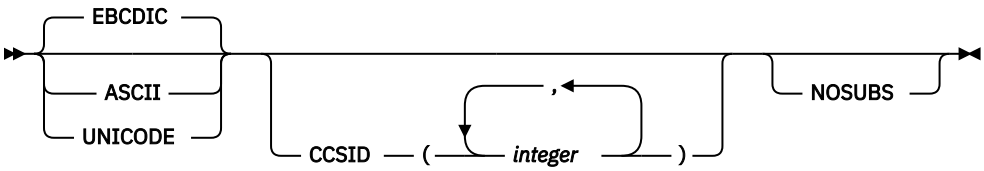
The following example shows sample JCL:

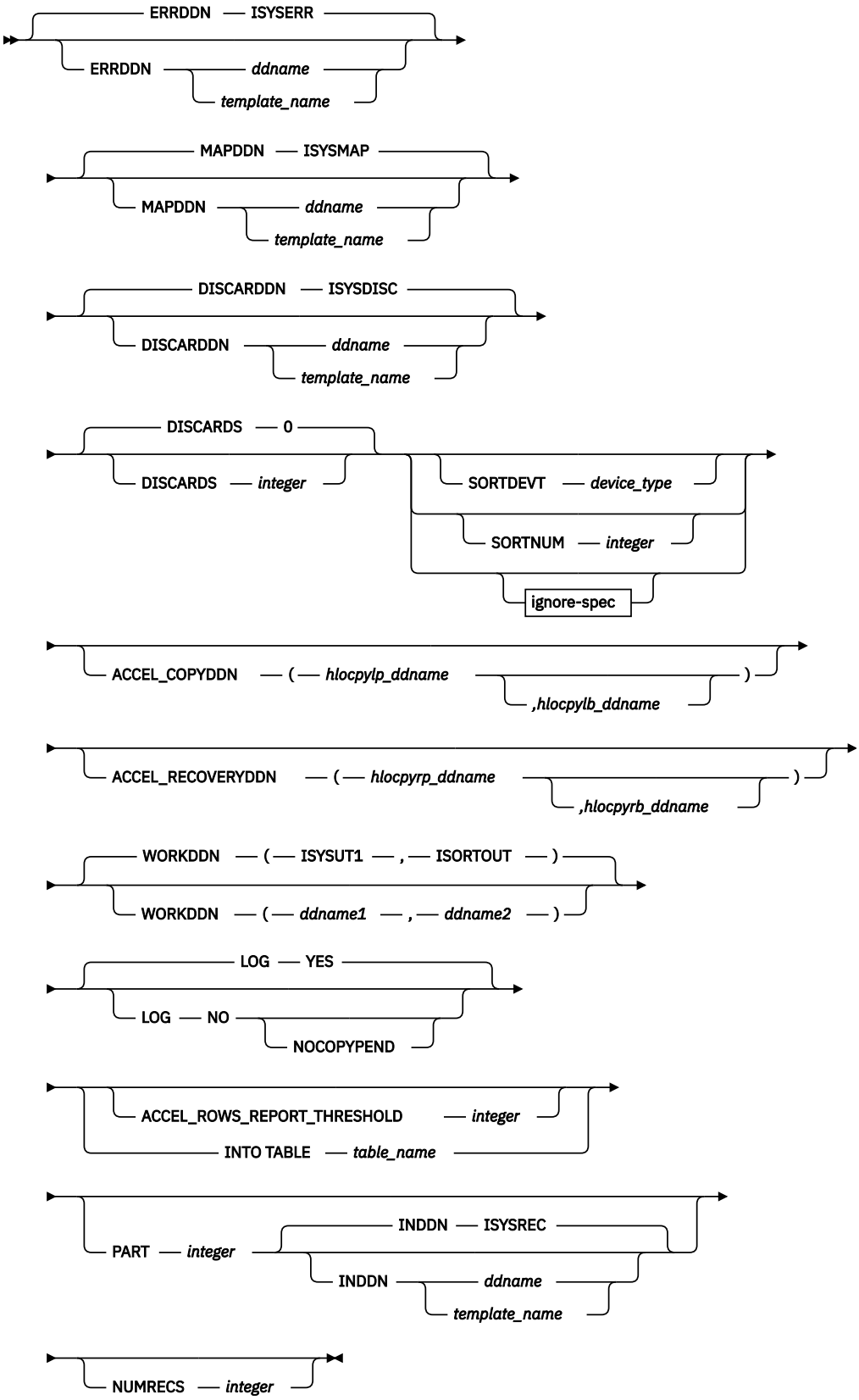
```
//HLOD0100 EXEC PGM=DSNUTILB,
//         REGION=0000M,
//         PARM=('DA1A')
//STEPLIB  DD DISP=SHR,DSN=RSQA.IBMTAPE.SHLOLOAD
//         DD DISP=SHR,DSN=DA1A.SDSNEXIT
//         DD DISP=SHR,DSN=DSN.VA10.SDSNLOAD
//ISYSREC  DD DISP=SHR,DSN=DSNC810.DA1A.SYSREC
//HLODISCD DD DISP=SHR,DSN=DSNC810.DISCARD.DATASET
//HLODUMMY DD DUMMY
//SYSPRINT DD SYSOUT=*
//UTPRINT  DD SYSOUT=*
//SYSIN    DD *
    TEMPLATE ISYSUT1
        DSN '&US..IDSU.&DB..&TS..&UQ.'
        DISP(MOD,DELETE,CATLG)
        SPACE (10,100) CYL
    TEMPLATE ISORTOUT
        DSN '&US..IDSO.&DB..&TS..&UQ.'
        DISP(MOD,DELETE,CATLG)
        SPACE (10,100) CYL
    LOAD DATA
        IDAA_ONLY ON DA1AACC1
        ACCEL_ON_SUCCESS_ENABLE NO
        ACCEL_LOCKMODE ROW
        DB2_SORT YES
        INDDN ISYSREC
        ACCEL_LOAD_TASKS 1
        REPLACE
        DISCARDS 10
        UNICODE
        DISCARDDN HLODISCD
        WORKDDN(ISYSUT1,ISORTOUT)
        INTO TABLE
            "DSNC810"."EMP01"
/*
//*
```

Syntax diagram: Load from an external file

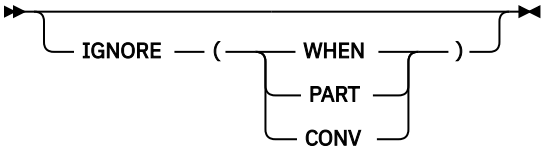
The following syntax diagram illustrates how to construct valid Db2 Analytics Accelerator Loader syntax for a load from external job.



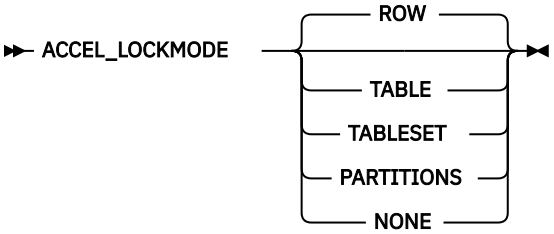

EBCDIC
ASCII
UNICODE
CCSID
(
,
integer
)
NOSUBS


ERRDDN
ISYSERR
ERRDDN
ddname
template_name
MAPDDN
ISYSMAP
MAPDDN
ddname
template_name
DISCARDDN
ISYSDISC
DISCARDDN
ddname
template_name
DISCARDS
0
DISCARDS
integer
SORTDEVT
device_type
SORTNUM
integer
ignore-spec
ACCEL_COPYDDN
(
hlocpylp_ddname
,hlocpylb_ddname
)
ACCEL_RECOVERYDDN
(
hlocpyrp_ddname
,hlocpyrb_ddname
)
WORKDDN
(
ISYSUT1
,
ISORTOUT
)
WORKDDN
(
ddname1
,
ddname2
)
LOG
YES
LOG
NO
NOCOPYPEND
ACCEL_ROWS_REPORT_THRESHOLD
integer
INTO TABLE
table_name
PART
integer
INDDN
ISYSREC
INDDN
ddname
template_name
NUMRECS
integer

ignore-spec



Lockmode spec



Syntax definitions: Load from an external file

Db2 Analytics Accelerator Loader supports the following syntax elements (presented alphabetically) when you are loading data from an external file.

ACCEL_ADD_TABLES | ACCEL_REMOVE_AND_ADD_TABLES
Indicates whether to add missing tables to the accelerator before starting the load job. Specify one of the following options:

ACCEL_ADD_TABLES
Add missing tables to the accelerator before starting the load job.

ACCEL_REMOVE_AND_ADD_TABLES
Remove and re-add existing tables to the accelerator before starting the load job. This option does not preserve distribution and organizing keys on the accelerator; however, a table that was enabled for replication before will be enabled for replication again.

If you omit this option, missing tables are not added to the accelerator.

This option can be specified in the ISPF interface by using the **Add table to Accelerator** field on the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel.

ACCEL_COPYDDN *hlocpylp_ddname,hlocpylb_ddname*

Specifies the DD names for the backup data sets for the local site. *hlocpylp_ddname* is the DD name for local site primary copy data set, and *hlocpylb_ddname* is the DD name for the local site backup copy data set. This option is needed only when local site copies are being created.

The default DD names that are generated in the JCL are HLOCPYLP and HLOCPYLB; however, you can use any value for your DD names as long as they match a DD name in the JCL.

ACCEL_LOAD_TASKS *integer*
Specifies the number of partitions to load into the accelerator and optionally into Db2 in parallel when loading from an external file. Valid values are in the range 1 - 20.

This value should not exceed the value of the IBM Db2 Analytics Accelerator for z/OS parameter **AQT_MAX_UNLOAD_IN_PARALLEL**, which indicates the maximum number of partitions that can be loaded in parallel. If **AQT_MAX_UNLOAD_IN_PARALLEL** is set to 2, the maximum number of partitions that can be written to the accelerator at one time is 2, regardless of the value that you specify for this parameter.

Specify a value for NUMRECS also. For more information, see the description of the NUMRECS option.

The default value is 4.

The corresponding Tools Customizer option is **Parallel load tasks**.

This option can be specified in the ISPF interface by using the **Load tasks** field on the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel.

Note: When using Analytics Accelerator V7.1.1 or earlier, to use parallelism in Accelerator Loader, you must have the WLM environment that runs DSNUTILU configured for WLM management of the DSNUTILU server address space, which allows multiple DSNUTILU server address spaces to be started as needed per system. If you have configured your WLM environment that runs the DSNUTILU stored procedure to run as a single address space, you must set this value to 1, which disables parallelism.

ACCEL_LOCKMODE

Specifies the protection level while tables on an accelerator are being loaded. The lock mode that you specify is passed to the ACCEL_LOAD_TABLES stored procedure call.

Valid value are:

- ROW: (Default) Protects just the row or page that is being loaded against updates. Db2 data is unloaded with isolation level CS, but in contrast to lock mode NONE, rows locked by an application are not skipped. It is the recommended choice for loads in connection with continuous incremental updates.
- NONE: No locking at all. However, only committed data is loaded into the table because the Db2 data is unloaded with isolation level CS and SKIP LOCKED DATA.
- TABLE: Protects just the table that is currently being loaded.
- TABLESET: Protects all tables to be loaded against changes during the load operation.
- PARTITIONS: Protects the table space partition containing that part of the table that is currently being loaded. With this setting, an unpartitioned table is always locked completely.

ACCEL_ON_SUCCESS_ENABLE YES | NO

Controls whether query acceleration is enabled for the table after a successful load. If Db2 discards any rows during the load, query acceleration is not enabled. Valid values are YES and NO.

This option can be specified in the ISPF interface by using the **Enable acceleration on success** field on the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel.

ACCEL_OPTIMIZE_FOR BEST_ELAPSED_TIME | BEST_CPU_TIME

Note:

This parameter applies to the following cases:

- Loads that use a Dual load profile or the IDAA_DUAL extended syntax option
- Nonparallel processing
- Loads to tables that are not partitioned or are partitioned by growth

Specifies whether to optimize the load for elapsed time or for CPU consumption. Valid values are:

- BEST_ELAPSED_TIME: Reduces elapsed time.
- BEST_CPU_TIME: Reduces CPU consumption.

ACCEL_RECOVERYDDN *hlocpyrp_ddname,hlocpyrb_ddname*

Specifies the DD names for the backup data sets for the remote recovery site. *hlocpyrp_ddname* is the DD name for the recovery site primary copy data set, and *hlocpyrb_name* is the DD name for the recovery site backup copy data set. This option is needed only when recovery site copies are being created.

The default DD names that are generated in the JCL are HLOCPYRP and HLOCPYRB; however, you can use any value for your DD names as long as they match a DD name in the JCL.

ACCEL_ROWS_REPORT_THRESHOLD *integer*

Specifies the threshold (in rows) to use when reporting the number of rows that have been loaded for the job. Message “HLOU5062I” on page 639, which includes the cumulative number of rows loaded for the job, is issued to the Accelerator Loader job SYSPRINT each time the threshold value is met. Note that the message will be issued when the threshold is exceeded but will contain the current row

count in the loading process, which might be more than the value specified. Valid values are integers in the range 0 - 2147483647. A value of 0 specifies that no reporting messages will be issued.

This setting overrides the value for the global parameter **Report loaded rows threshold** that is set using Tools Customizer. If the ACCEL_ROWS_REPORT_THRESHOLD parameter is not included in the job syntax, the global value set using Tools Customizer applies.

ACCEL_SKIP_DB2_REPLACE
When loading to the accelerator only and using the REPLACE option (IDAA_ONLY REPLACE), this option specifies that existing rows are not deleted from the Db2 table and data is loaded to the accelerator-shadow table only, replacing all data in the accelerator-shadow table. This option is valid only when used with the IDAA_ONLY option; it is ignored when used with the IDAA_DUAL option.

ASCII
Specifies that the format of the SYSREC data set is ASCII.

CCSID (*integer*,*integer*,*integer*)
Specifies up to three coded character set identifiers (CCSIDs) for the input file. The first value specifies the CCSID for single-byte character set (SBCS) SYSREC data, the second value specifies the CCSID for mixed SYSREC data, and the third value specifies the CCSID for double-byte character set (DBCS) data. If any of the three CCSIDs are omitted or specified as 0, the CCSID of the corresponding data type is assumed to be the same as the installation default. For example, if EBCDIC was specified, the omitted CCSIDs are assumed to be the EBCDIC installation default CCSIDs.

DATA
Specifies that data is to be loaded. This keyword is optional and is used for clarity only.

DB2_SORT YES | NO
Indicates whether to use the Db2 Sort product for load job sort operations.

YES
The load job will use Db2 Sort for sort operations if Db2 Sort is available. If Db2 Sort is not found, the load job will use the system sort program that is installed on the LPAR (DFSORT or Syncsort).

NO
The load job will not use Db2 Sort and will instead use the system sort program that is installed on the LPAR (DFSORT or Syncsort).

DISCARDDN *ddname*
Specifies the data set to be used for discarding data rows.

When loading the accelerator and Db2, specify the template name for the discard data set. This option can be specified in the ISPF interface by using the **DISCARDDN template DD name** field on the Load Accelerator(s) and Db2 from External File panel.

When loading the accelerator only, specify the DD name to be used for the discard data set. This option can be specified in the ISPF interface by using the **DISCARDDN name** and **DISCARDDN DSN** fields on the Load Accelerator(s) from External File panel.

Note: When loading the accelerator only, the discard data set cannot be a TEMPLATE.

DISCARDS *integer*
Specifies the maximum number of source records that are to be written on the discard data set. *integer* can range from 0 to 2147483647. This keyword is valid only when used with a discard data set. If the discard maximum is reached, the load abnormally terminates, the discard data set is empty, and you cannot see which records were discarded. You can either restart the job with a larger limit, or terminate the utility.

DISCARDS 0 specifies that you do not want to set a maximum value. The entire input data set can be discarded. The default value is 0.

This option can be specified in the ISPF interface by using the **DISCARDS** field on the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel.

EBCDIC
(default) Specifies that the format of the SYSREC data set is EBCDIC.

ENFORCE YES | NO
Specifies whether to enforce check constraints and referential constraints. Valid only with **IDAA_DUAL ON *accelerator_name***. **ENFORCE YES** requires MAPDDN.

This option can be specified in the ISPF interface by using the **ENFORCE** field on the Load Accelerator(s) and Db2 from External File panel.

ERRDDN *ddname*
Specifies the template or DD name for an error processing data set. This data set is required with the **ENFORCE** option.

This option can be specified in the ISPF interface by using **ERRDDN template DD name** field on the Load Accelerator(s) and Db2 from External File panel.

FORMAT
Identifies the format of the SYSREC input data.

INTERNAL
Specifies that the input data is in Db2 internal format

DELIMITED
Specifies that the input data is in a delimited format. The following parameters specify the delimiters that are used in the input file and can be specified as either a single-byte quoted character or as a two-digit hexadecimal value:

COLDEL *coldel*
Specifies the column delimiter. The default value is a comma (,).

CHARDEL *chardel*
Specifies the character string delimiter. The default value is a double quotation mark (").

DECPT *decpt*
Specifies the decimal point character. The default value is a period (.).

These options can be specified in the ISPF interface by using the Load Accelerator(s) and Db2 from External File panel or Load Accelerator(s) from External File panel.

IDAA_DUAL ON *accelerator_group_name*|*accelerator_name*,*accelerator_name*
Indicates that you want to load data to up to four accelerators, and also to Db2. Specify one accelerator group name, or up to four individual accelerator names, separating each accelerator name with a comma.

You can specify this option and the accelerators to load by using the Load Accelerator(s) and Db2 from External File panel in the ISPF interface.

IDAA_ONLY ON *accelerator_group_name*|*accelerator_name*,*accelerator_name*
Indicates that you want to load data to up to four accelerators, and do not want to load to Db2. Specify one accelerator group name, or up to four individual accelerator names, separating each accelerator name with a comma. If the load job specifies LOAD REPLACE, existing data in the Db2 table or partition is deleted.

You can specify this option and the accelerators to load by using the Load Accelerator(s) from External File panel in the ISPF interface.

IGNORE
Specifies that the load ignores records that it rejects for the specified reasons. If discarding is specified, no ignored rows are loaded or written to the DISCARD data set. If discarding is not specified, ignored records do not cause the load to terminate.

WHEN
Specifies that records that do not satisfy the WHEN clause are ignored.

PART
Specifies that records that do not satisfy any partition being loaded are ignored.

CONV
Specifies that records that cause a conversion error are ignored.

Multiple reasons can be combined in the IGNORE clause, such as in the following example:

```
IGNORE(WHEN, PART, CONV)
```

Ignored discards are not written to the discard data set and do not count towards the discard limit. No record-level messages are generated for ignored discards. Record-level messages are written for each non-ignored discard. These messages identify the record number and describe why it was discarded. To avoid flooding the spool with these record-level messages, only the first 1000 non-ignored discards are reported in this way.

Note: IGNORE settings VALPROC, IDERROR, and DUPKEY are ignored by Accelerator Loader and passed to the Db2 LOAD utility.

INDDN *ddname*
Include this control card in the LOAD utility command to specify the fully qualified data set name of the SYSREC data set or template that contains the data to be loaded. If the data set is a PDS, the member name is required.

The TEMPLATE ISYSREC *sysrec.file.name* statement and INDDN ISYSREC control card can be specified in the ISPF interface by using the **Data set** field under **Input File Options** on the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel.

KEEPDICTIONARY
Indicates whether the LOAD utility is to build a new compression dictionary.

This option can be specified in the ISPF interface by using **KEEPDICTIONARY=Yes** on the Load Accelerator(s) and Db2 from External File panel.

LOG YES | NO | NO NOCOPYPEND
Indicates whether logging is to occur.

This option can be specified in the ISPF interface by using the **LOG** field on the Load Accelerator(s) and Db2 from External File panel.

MAPDDN *ddname*
Specifies the template or DD name for a map data set to be used for record processing. This data set is required with the **ENFORCE** option.

This option can be specified in the ISPF interface by using the **MAPDDN template DD name** field Load Accelerator(s) and Db2 from External File panel.

NUMRECS *integer*
Specifies the number of input records for the specified table or table partition. Valid values are integers between 1 and 1099511627776, or blank.

If the LOAD utility statement does not provide the number of SYSREC records with a NUMRECS or a SORTKEYS clause, the product estimates the record count. Using the estimated record count, it then adds a NUMRECS clause for each INTO TABLE clause. The record count enables Db2 to size index-build sorts, and reduces the possibility of sort failures when loading to both the accelerator and Db2.

If the LOAD utility statement does not provide the number of SYSREC records with a NUMRECS or a SORTKEYS clause, the product estimates the record count. Using the estimated record count, it then adds a NUMRECS clause for each INTO TABLE clause. The record count enables Db2 to size index-build sorts, and reduces the possibility of sort failures when loading to both the accelerator and Db2.

This option can be specified in the ISPF interface by using the **NUMRECS** field on the Load Accelerator(s) and Db2 from External File panel.

NOSUBS
Controls whether Accelerator Loader accepts substitution characters. When converting from one character set to another, it is possible that a character in the source CCSID has no representation in the target CCSID. When this happens, a substitution character is placed in the converted string. When NOSUBS is specified, conversions that require the substitution character cause the SYREC record to be discarded.

REPLACE |RESUME YES
Indicates whether records are to be appended or replaced when loading data.

Note: The default behavior of the Accelerator Loader **RESUME** option is not the same as the Db2 LOAD utility **RESUME** option. Accelerator Loader does not check for rows in the accelerator table prior to the load and will successfully load the accelerator-shadow table even if the table is empty.

Specify one of the following control cards in your JCL:

REPLACE
Accelerator Loader replaces existing data rather than appending it.

- When loading to only the accelerator (IDAA_ONLY), existing rows will be deleted from the Db2 table and data is loaded to the accelerator-shadow table only.
- When loading to both Db2 and the accelerator (IDAA_DUAL), existing rows will be deleted from the Db2 table and data is loaded to both the Db2 and accelerator-shadow tables.

RESUME YES
Accelerator Loader appends data to the accelerator table rather than replacing it.

- When loading to only the accelerator (IDAA_ONLY), the Db2 table is left as is and data is appended to the accelerator-shadow table.
- When loading to both Db2 and the accelerator (IDAA_DUAL), data is appended to both the Db2 table and the accelerator-shadow table.

If you specify neither **RESUME** nor **REPLACE** in your JCL, Accelerator Loader will run as if **RESUME NO** would have been specified.

Note:

When using the Accelerator Loader ISPF interface to specify load options, you use the **RESUME** field on the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel to specify this option. The following are valid values for the **RESUME** field on these panels:

YES
Generates the control card **RESUME YES** into the JCL.

NO
Generates the control card **REPLACE** into the JCL. Note that **RESUME NO** is not generated by the Accelerator Loader ISPF interface into the JCL.

SORTDEVT *device_type*
Specifies the device type to be used for temporary sort data sets. Valid values are 1 - 8 alphanumeric characters. Valid only with **IDAA_DUAL ON**.

This option can be specified in the ISPF interface by using the **SORTDEVT** field on the Load Accelerator(s) and Db2 from External File panel.

SORTNUM *integer*
Specifies the number of sort data sets that are to be allocated. Valid values are 2 - 255. Valid only with **IDAA_DUAL ON**.

This option can be specified in the ISPF interface by using the **SORTNUM** field on the Load Accelerator(s) and Db2 from External File panel.

UNICODE
Specifies that the format of the SYSREC data set is UNICODE.

EBCDIC
(default) Specifies that the format of the SYSREC data set is EBCDIC.

WORKDDN (*ddname1,ddname2*)
Specifies the DD statements for the temporary work file for sort input and sort output. Temporary work files for sort input and output are required if the LOAD involves tables with indexes.

ddname1 is the DD name for the temporary work file for sort input. The default value is ISYSUT1. This option can be specified in the ISPF interface by using the **SYSUT1 template DD name** field on the

Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel.

ddname2 is the DD name for the temporary work file for sort output. The default value is ISORTOUT. This option can be specified in the ISPF interface by using the **SORTOUT template DD name** field on the Load Accelerator(s) and Db2 from External File panel..

Loading data to multiple accelerators

Before you build and run a job that loads data to up to four accelerators (high availability load), review all reference and conceptual information for the feature, including the correct syntax, usage considerations, and examples.

Load existing Db2 table data to up to four paired accelerator tables. Each accelerator table must be configured on a different accelerator. The HALOAD utility runs as a batch job and is not invoked under the control of the DSNUTILB LOAD utility.

Example JCL: Loading Db2 table data to multiple accelerators (HALOAD)

The following sample syntax shows the HALOAD command, used to perform a high availability load.

Example: Loading Db2 table data to multiple accelerators

Requirements are as follows:

- The HLOUHALO program must be specified on the EXEC card.
- The HALOAD ACCEL control card must be present in the utility syntax instead of LOAD DATA.
- The Db2 SSID must be passed on the PARM card.
- The Db2 load library and the product load library must be included on the STEPLIB or JOBLIB.
- REGION=0M must be specified on the JOB card or the EXEC card.

```
//HLOUHALO JOB ,'SAMPLE HALOAD',CLASS=A,MSGCLASS=X,
//             REGION=0M,NOTIFY=&SYSUID
//*
//HLOUHALO EXEC PGM=HLOUHALO,PARM='DSNA'
//STEPLIB  DD DISP=SHR,DSN=HLO.PRD0210.SHLOLOAD
//         DD DISP=SHR,DSN=DSN.VA10.SDSNLOAD
//*
//HLODUMMY DD   DUMMY
//SYSPRINT DD   SYSOUT=*
//*
//SYSIN    DD   *
  HALOAD ACCEL (IDAAS01, IDAAS05)
    FROM TABLE
      DSNC810.EMP01
    , DSNC810.EMP02
        PART(1,3,9,12:15)
    ACCEL_REMOVE_AND_ADD_TABLES
    ACCEL_ON_SUCCESS_ENABLE YES
    ACCEL_LOAD_TASKS 5
    ACCEL_LOCKMODE TABLE
    DB2_SORT YES
    ACCEL_UPDATE_REFRESH_TIME_NOLOAD NO
/*
```

Example: Load to the accelerator only those tables that have changed

The following sample syntax includes the DETECT_DATA_CHANGES keyword. Accelerator Loader will load to the accelerator only those tables in the FROM TABLE clause that have changed in Db2 since the last load.

```
HALOAD ACCEL (QB1AACC1)
  FROM TABLE
```

```
    DSNC810.ACT
   ,DSNC810.DEPT
   ,DSNC810.EMP
   ,DSNC810.EMPPROJACT
   ,DSNC810.PROJ
   ,DSNC810.PROJACT
ACCEL_ON_SUCCESS_ENABLE NO
ACCEL_LOAD_TASKS 1
ACCEL_LOCKMODE ROW
DB2_SORT YES
DETECT_DATA_CHANGES
ACCEL_UPDATE_REFRESH_TIME_NOLOAD NO
```

Syntax diagram: Loading multiple accelerators

Review syntax for a job that loads Db2 table data to up to four accelerators.

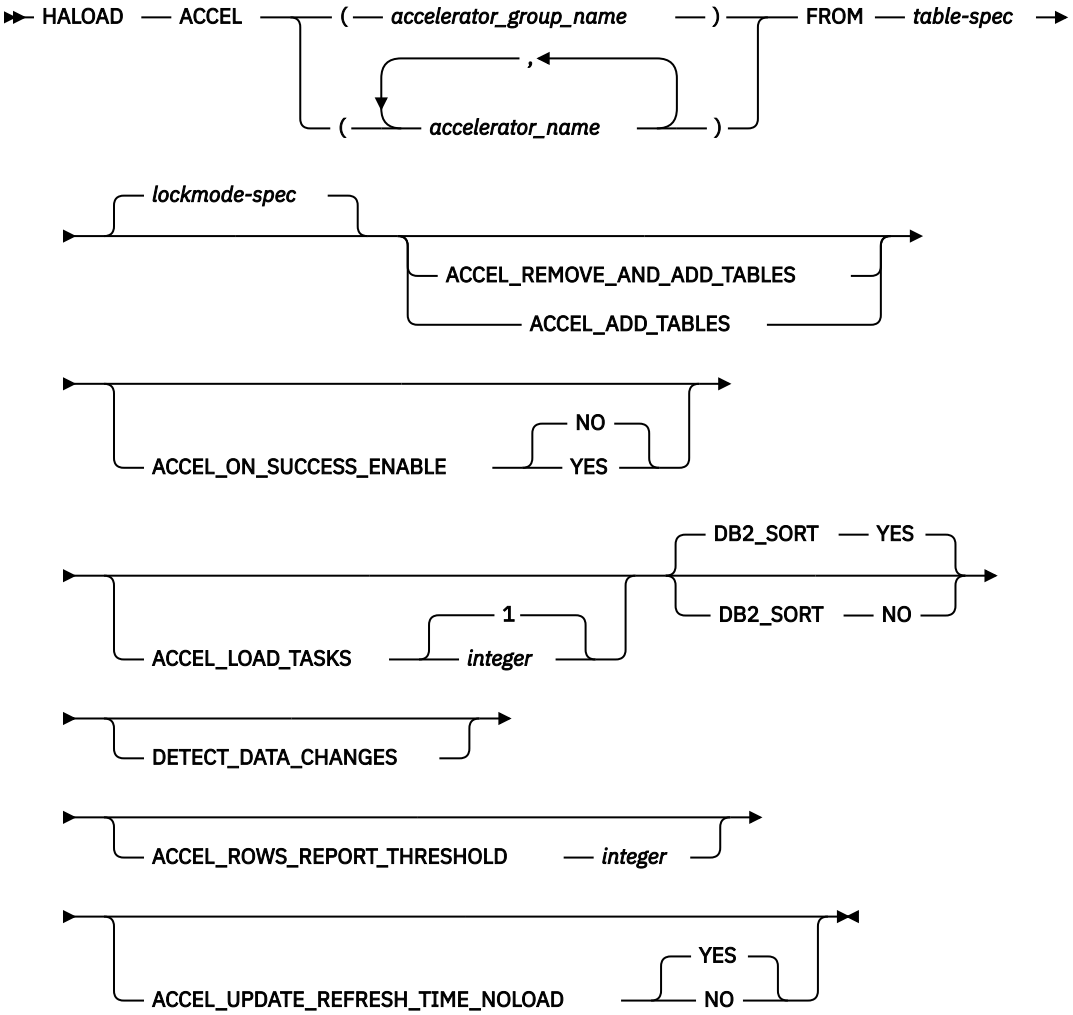
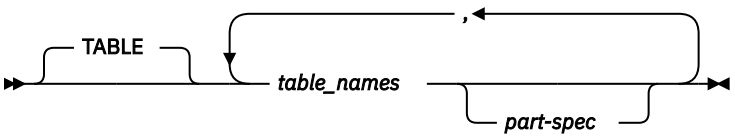
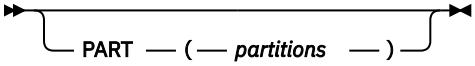


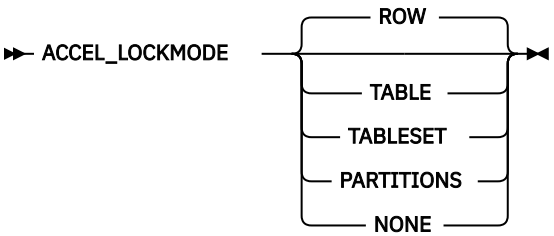
Table spec



Part spec



Lockmode spec



Syntax definitions: Loading multiple accelerators

Db2 Analytics Accelerator Loader supports the following syntax elements (presented alphabetically) when you are loading multiple accelerators.

ACCEL (*accelerator_group_name*)|(*accelerator_name*,*accelerator_name*)
Specifies the accelerators to load. Specify one accelerator group name, or up to four individual accelerator names, separating each accelerator name with a comma.

You can specify the accelerators to load by using the **Accelerator(s)** field on the Load Accelerator(s) from Db2 Table(s) panel in the ISPF interface.

ACCEL_ADD_TABLES
Add missing tables to the accelerator before starting the load job.

This option can be specified in the ISPF interface by using the **Add table to Accelerator** field on the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel.

ACCEL_LOAD_TASKS *integer*
Specifies the number of partitions to load into the accelerator and optionally into Db2 in parallel when loading from an external file. Valid values are in the range 1 - 20.

This value should not exceed the value of the IBM Db2 Analytics Accelerator for z/OS parameter **AQT_MAX_UNLOAD_IN_PARALLEL**, which indicates the maximum number of partitions that can be loaded in parallel. If **AQT_MAX_UNLOAD_IN_PARALLEL** is set to 2, the maximum number of partitions that can be written to the accelerator at one time is 2, regardless of the value that you specify for this parameter.

Specify a value for NUMRECS also. For more information, see the description of the NUMRECS option.

The default value is 1.

This option can be specified in the ISPF interface by using the **Load tasks** field on the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel.

Note: When using Analytics Accelerator V7.1.1 or earlier, to use parallelism in Accelerator Loader, you must have the WLM environment that runs DSNUTILU configured for WLM management of the DSNUTILU server address space, which allows multiple DSNUTILU server address spaces to be started as needed per system. If you have configured your WLM environment that runs the DSNUTILU stored procedure to run as a single address space, you must set this value to 1, which disables parallelism.

ACCEL_LOCKMODE
Specifies the protection level while tables on an accelerator are being loaded. The lock mode that you specify is passed to the ACCEL_LOAD_TABLES stored procedure call.

Valid value are:

- ROW: (Default) Protects just the row or page that is being loaded against updates. Db2 data is unloaded with isolation level CS, but in contrast to lock mode NONE, rows locked by an application are not skipped. It is the recommended choice for loads in connection with continuous incremental updates.
- NONE: No locking at all. However, only committed data is loaded into the table because the Db2 data is unloaded with isolation level CS and SKIP LOCKED DATA.

- TABLE: Protects just the table that is currently being loaded.
- TABLESET: Protects all tables to be loaded against changes during the load operation.
- PARTITIONS: Protects the table space partition containing that part of the table that is currently being loaded. With this setting, an unpartitioned table is always locked completely.

ACCEL_ON_SUCCESS_ENABLE YES | NO
Controls whether query acceleration is enabled for the table after a successful load. If Db2 discards any rows during the load, query acceleration is not enabled. Valid values are YES and NO.

This option can be specified in the ISPF interface by using the **Enable acceleration on success** field on the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel.

ACCEL_REMOVE_AND_ADD_TABLES
Remove and re-add existing tables to the accelerator before starting the load job. This option does not preserve distribution and organizing keys on the accelerator; however, a table that was enabled for replication before will be enabled for replication again.

This option can be specified in the ISPF interface by using the **Add table to Accelerator** field on the Load Accelerator(s) and Db2 from External File panel or the Load Accelerator(s) from External File panel.

ACCEL_ROWS_REPORT_THRESHOLD *integer*

Specifies the threshold (in rows) to use when reporting the number of rows that have been loaded for the job. Message "HLOU5062I" on page 639, which includes the cumulative number of rows loaded for the job, is issued to the Accelerator Loader job SYSPRINT each time the threshold value is met. Note that the message will be issued when the threshold is exceeded but will contain the current row count in the loading process, which might be more than the value specified. Valid values are integers in the range 0 - 2147483647. A value of 0 specifies that no reporting messages will be issued.

This setting overrides the value for the global parameter **Report loaded rows threshold** that is set using Tools Customizer. If the ACCEL_ROWS_REPORT_THRESHOLD parameter is not included in the job syntax, the global value set using Tools Customizer applies.

ACCEL_UPDATE_REFRESH_TIME_NOLOAD YES | NO

Controls if the REFRESH_TIME value in SYSACCEL.SYSACCELERATEDTABLES is updated when no data is loaded to a table or partition due to the specification of the DETECT_DATA_CHANGES syntax option.

YES
Update the REFRESH_TIME value when no rows are loaded to the table.

NO
Do not update the REFRESH_TIME value when no rows are loaded to the table.

DB2_SORT YES | NO
Indicates whether to use the Db2 Sort product for load job sort operations.

YES
The load job will use Db2 Sort for sort operations if Db2 Sort is available. If Db2 Sort is not found, the load job will use the system sort program that is installed on the LPAR (DFSORT or Syncsort).

NO
The load job will not use Db2 Sort and will instead use the system sort program that is installed on the LPAR (DFSORT or Syncsort).

DETECT_DATA_CHANGES

Controls whether to load only those tables and partitions that have changed in Db2 since the last load into the accelerator. When this option is specified, load only the tables listed in the FROM TABLE clause that have changed in Db2 since the last load. In the case of partitioned tables, any partition lists specified on the command are ignored; HALOAD determines which partitions to reload. When this option is omitted, load all specified tables and partitions.

This option updates the refresh timestamp (REFRESH_TIME in SYSACCEL.SYSACCELERATEDTABLES) of all tables specified.

Note: You can control if the refresh timestamp (REFRESH_TIME in SYSACCEL.SYSACCELERATEDTABLES) is updated when no data is loaded to a table on a specific accelerator. This feature is controlled by the started task initialization option ACCEL_UPDATE_REFRESH_TIME_NOLOAD. The parameter value is set globally in Tools Customizer using the parameter **Refresh timestamp**, and it can also be overridden for a specific job by specifying parameter ACCEL_UPDATE_REFRESH_TIME_NOLOAD.

DETECT_DATA_CHANGES can be chosen in the ISPF interface by using the **Detect data changes** field on the Load Accelerator(s) from Db2 Tables(s) panel.

For more information about using DETECT_DATA_CHANGES, see "Loading only tables or partitions that have changed since the last load" on page 263.

HALOAD
Use the HALOAD keyword to load one to four accelerators from one or more Db2 tables by using the HALOAD utility.

PART (*partition*)
When using the HALOAD command, specify partitions as follows:

- Enclose partition numbers in parentheses.
- Specify each partition number by its one- to four-character physical partition number.
- Separate individual partition numbers by commas (,).

  Example, (1, 01, 001)
- Partition ranges:
  - Specify partition ranges in the format `lesser value:larger value`.
  - Separate partition ranges by a colon (:) between the range boundaries.
  - Range boundaries are inclusive.

  Example: The following partition specification would load table partitions 1,2,3,4,7,12,15,16,17,18,19, and 20:

```
PART (1:4,7,12,15:20)
```

TABLE *table_name*
Specifies that you want to load data from one or more Db2 tables. Specify each table name, separating names with a comma.

Creating a backup using JCL

You can backup and recover Db2 Analytics Accelerator Loader data in an accelerator-only table or an accelerator-shadow table using a batch job. You can generate the JCL through the ISPF panels or using a profile. Because the data resides in the accelerator, you cannot use the standard Db2 COPY and RECOVER utilities.

Example JCL: Creating a backup using the BACKUP utility

The following example JCL shows the BACKUP_ACCELERATOR TABLE syntax used to back up data for an accelerator table.

BACKUP_ACCELERATOR TABLE has the following requirements:

- The HLOUBKUP program must be specified on the EXEC card.
- The Db2 SSID must be passed on the PARM card.
- The product load library must be included on the STEPLIB or JOBLIB.
- REGION=0M is recommended on the JOB card or the EXEC card.

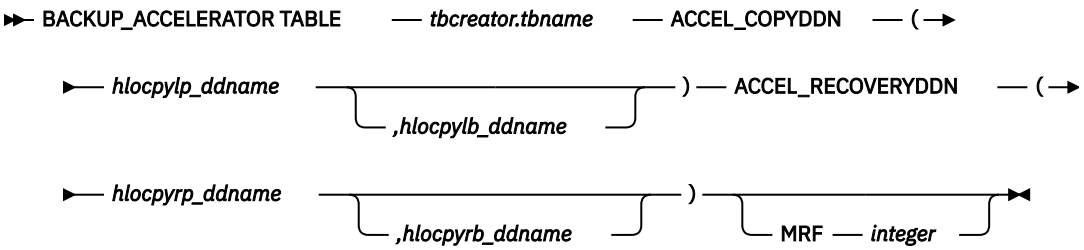
- The SYSPRINT card is required.
- DD cards must be provided for the backup copy data sets and must match the DD names in the ACCEL_COPYDDN and ACCEL_RECOVERYDDN syntax elements:
  - *hlocpylp_ddname* – Local site primary copy
  - *hlocpylb_ddname* – Local site backup copy
  - *hlocpyrp_ddname* – Recovery site primary copy
  - *hlocpyrb_ddname* – Recovery site backup copy

Note that the Multi-Row Fetch (MRF) default value is 200, shown in the following example.

```
//HLOD0100 EXEC PGM=HLOUBKUP,
//         REGION=0000M,
//         PARM=('UB1A')
//STEPLIB  DD DISP=SHR,DSN=HLO.PRD0210.LOADLIB
//         DD DISP=SHR,DSN=UB1A.SDSNEXIT
//         DD DISP=SHR,DSN=DSN.VB10.SDSNLOAD
//HLOCPYLP DD DSN=DSNC810.EMP01.LP,DISP=(NEW,CATLG,DELETE),
//           SPACE=(TRK,(2,2))
//HLOCPYLB DD DSN=DSNC810.EMP01.LB,DISP=(NEW,CATLG,DELETE),
//           SPACE=(TRK,(3,3))
//HLOCPYRP DD DSN=DSNC810.EMP01.RP,DISP=(NEW,CATLG,DELETE),
//           SPACE=(CYL,(1,1))
//HLOCPYRB DD DSN=DSNC810.EMP01.RB,DISP=(NEW,CATLG,DELETE),
//           SPACE=(CYL,(1,1))
//HLODUMMY DD DUMMY
//SYSPRINT DD SYSOUT=*
//SYSIN DD *
  BACKUP_ACCELERATOR TABLE
    DSNC810.EMP01
    ACCEL_COPYDDN(HLOCPYLP, HLOCPYLB)
    ACCEL_RECOVERYDDN(HLOCPYRP, HLOCPYRB)
    MRF 200
/*
//*
```

Syntax diagram: Creating a backup using the BACKUP utility

Review syntax for a job that creates a backup using the BACKUP utility.



Syntax definitions: Creating a backup using the BACKUP utility

Db2 Analytics Accelerator Loader supports the following syntax elements (presented alphabetically) when you are creating a backup using the BACKUP utility.

ACCEL_COPYDDN *hlocpylp_ddname,hlocpylb_ddname*

Specifies the DD names for the backup data sets for the local site. *hlocpylp_ddname* is the DD name for local site primary copy data set, and *hlocpylb_ddname* is the DD name for the local site backup copy data set. This option is needed only when local site copies are being created.

The default DD names that are generated in the JCL are HLOCPYLP and HLOCPYLB; however, you can use any value for your DD names as long as they match a DD name in the JCL.

ACCEL_RECOVERYDDN *hlocpyrp_ddname,hlocpyrb_ddname*

Specifies the DD names for the backup data sets for the remote recovery site. *hlocpyrp_ddname* is the DD name for the recovery site primary copy data set, and *hlocpyrb_name* is the DD name for the recovery site backup copy data set. This option is needed only when recovery site copies are being created.

The default DD names that are generated in the JCL are HLOCPYRP and HLOCPYRB; however, you can use any value for your DD names as long as they match a DD name in the JCL.

BACKUP_ACCELERATOR TABLE

Specifies that you want to back up data for an accelerator table.

MRF *integer*

Specifies the Multi-Row Fetch (MRF) value for the backup. The default value is 200. Adjusting this value to a lower number can resolve SQLCODE -246 if necessary.

tbcreator.tbname

Specifies the accelerator table to back up or recover.

Chapter 12. Administering the Accelerator Loader server

You can perform tasks to manage the Accelerator Loader server and work with trace and events features.

Configuring server advanced security (optional)

System programmers typically configure advanced security during Accelerator Loader server customization. Accelerator Loader server provides protection for its resources by using RACF classes, CA Top Secret classes, and CA ACF2 generalized resource rules.

The overall RACF class (or resource type for ACF2) for Accelerator Loader is specified with the server parameter RESOURCETYPE. Classes can be shared among multiple instances of servers and either share the authorization rules or keep them separate.

Important: If the RESOURCETYPE parameter is not explicitly specified, the setting defaults to NON, which disables all product authorization checking.

When a user invokes a Accelerator Loader resource, the user's ID and the class of the resource are passed to the security program for authorization. The security program uses rules that you specify to determine whether to grant access to the resource.

To expedite future authorization checks of an identical request, Accelerator Loader server keeps the results of all security checks in protected storage.

The “look-aside” security check information is saved on a Task Control Block (TCB) basis and remains in effect until the TCB terminates. If you are initially denied access, but later have your security profile that is changed to allow access, you must exit the ISPF/SDF application to terminate its TCB. Depending on the security package, you may have to take other actions. Under ACF2, for example, you must issue the **ACFRESET** command. All security authorization events are logged in the Server Trace facility, and if access is denied, a message is produced.

The type of access you request — ADD/ALTER, READ, or UPDATE — depends on which resource you are using. The ACF2 ADD is equivalent to the RACF ALTER. See “Access requirements” on page 337 for the type of access that is required to use Accelerator Loader facilities.

Enabling security parameters for resource rules

To enable the security parameters, change `if DontDoThis` to `if DoThis`.

```
if DoThis then
do
  "MODIFY PARM NAME(RESOURCETYPE) VALUE(RHLV)"
end
```

Parameter name	Parameter description	Default value
RESOURCETYPE	RESOURCE TYPE FOR RESOURCE RULES Contains the name of the security server s class (or resource type for ACF2) that is used to perform resource access authorization checks. If not explicitly specified, this parameter defaults to NON. Valid values: **NON** Disables all product authorization checking. **Important:** If you leave generalized resource checking disabled, a security exposure may exist. Anyone with a valid TSO user ID can gain access to the Accelerator Loader ISPF control application, where they are fully authorized to perform the functions that are provided by the interface. This assumes, however, that the user has sufficient information at hand to log on to TSO/E and then gain access to the ISPF/SDF application. ***classname*** RACF class name or ACF2 resource type. When using RACF, the corresponding class name within RACF must start with R, for example, RHLV.	NON

List of protected resources

The following table describes the resources that are protected by the Accelerator Loader security mechanism.

Note: You cannot modify the resource names.

Table 19. Protected resources

Resource name	Description
ACI.aci-mapname	Access to an ACI (Advanced Communication Interface) service definition.
ADA.ADABAS-file-name	Access to an Adabas file name.
ADATRACE	Authority to issue Adabas TRACE ON and TRACE OFF commands.
ADAxxxxx.FILyyyyy	Access to an Adabas file ID number.
ATHZOOM	Access to Server Trace authorization event PF4 Zoom information.
CICSCONNECTIONS	Access to monitor and control CICS connections.
CONTROLBLOCKS	Accelerator Loader internal data structures.
DATABASES	Access databases that are defined to Accelerator Loader.
DATAMAP	Access to the Data Mapping Facility.
FILE	Access to shared files that are defined to Accelerator Loader.
FILETYPE	Access to the Accelerator Loader file-suffix/MIME-type control table.
GLOBALS	Access to global variables.
HLV	Access to the ISPF/SDF interactive control facility.

Table 19. Protected resources (continued)	
Resource name	**Description**
IMSLTERM	Tables correlating user IDs or TCP/IP addresses to LTERM to legacy LTERM security can be supported using an APPC interface.
LINKS	Access to communication links that are defined to Accelerator Loader.
PARMS	Access to the ISPF/SDF parameter display.
RPC.<rpc_name>	RPC-based security.
SEF	Access to the Event Facility dialogs.
SIS	Access to the Instrumentation Server.
TOKENS	Access to the Accelerator Loader tokens display.
TRACEBROWSE	Access to the Server Trace facility.
TRACEDATA	Access to all trace data, including SQL and underlying binary file trace records.
USERS	Access to the attached/remote users applications.

Access requirements

The following table provides the type of access that is required to use each Accelerator Loader facility.

Table 20. Accelerator Loader access requirements			
Resources	**Action**	**Suggested user**	**Access required**
ADATRACE	Issuing the **ADABASTRACE ON** and **OFF** commands.	DBA, Program Products, VTAM, Operations	READ
ATHZOOM	Viewing Server Trace authorization event PF4 zoom information.	DBA, Program Products, VTAM, Operations	READ
CONTROLBLOCK	Using the Accelerator Loader command.	DBA, Program Products, VTAM, Operations	READ
CONTROLBLOCK, HLV	Viewing product control blocks using the ISPF/SDF option HLV.	DBA, Program Products	READ
CONTROLBLOCK, HLV	Modifying product control blocks using a future facility.	DBA, Program Products	UPDATE
DATABASES	Viewing databases using the **ADDRESS HLV DISPLAY DATABASE** command.	DBA, Program Products, VTAM, Operations	READ
DATABASES, HLV	Modifying databases using the **ADDRESS HLV MODIFY DATABASE** command.	DBA, Program Products	UPDATE
GLOBALS	Viewing global variables.	All (DBA, Program Products, Operations, Developers, End-Users)	READ

Table 20. Accelerator Loader access requirements (continued)

Resources	Action	Suggested user	Access required
GLOBALS	Updating global variables.	DBA, Administrator, Developers	UPDATE
HLV	Defining links using the **ADDRESS HLV DEFINE LINK** command.	DBA, Program Products, VTAM, Operations	ADD/ALTER
IMSLTERM, HLV	Correlating user IDs or TCP/IP addresses to LTERMs.	DBA, Administrator	READ, UPDATE
LINKS	Viewing links using the **ADDRESS HLV DISPLAY LINK** command.	DBA, Program Products, VTAM, Operations	READ
LINKS, HLV	Modifying links using either the **ADDRESS HLV MODIFY LINK** command.	DBA, Program Products, VTAM, Operations	UPDATE
LINKS, HLV	Defining databases using the **ADDRESS HLV DEFINE DATABASE** command.	DBA, Program Products	ADD/ALTER
PARMS, HLV	Modifying the product parameters the **ADDRESS HLV MODIFY PARM** command.	DBA, Program Products, VTAM, Operations	UPDATE
PARMS, HLV	Viewing all Server Trace data.	DBA, Program Products, VTAM, Operations	READ
SEF, DATAMAP	Refreshing Data Maps	DBA, Admin	READ access to SEF; UPDATE access to DATAMAP.
TRACEBROWSE, TRACEDATA, HLV	Issuing SQL statements via HLVSPUFI.SPUFI.	DBA, Program Products, VTAM, Operations	READ
USERS, HLV	Viewing remote users the **ADDRESS HLV DISPLAY REMOTE** command.	DBA, Program Products, VTAM, Operations	READ
USERS, HLV	Killing remote users using the ISPF/SDF option **HLV Admin / HLV Group**	DBA, Operations, Developers, End-Users	READ, UPDATE
USERS, HLV	Viewing product Accelerator Loader parameters using the **ADDRESS HLV DISPLAY PARM** command.	DBA, Program Products, VTAM, Operations	READ

Defining resources to RACF

Procedure

1. Use the following JCL as a model for defining a new RACF class to the RACF class descriptor table for RHLV.

```
//STEP1 EXEC ASMHCL
//C.SYSLIB DD DSN=SYS1.MODGEN,DISP=SHR
//C.SYSIN DD *
RHLV ICHERCDE CLASS=RHLV,
       ID=128,
       MAXLNTH=39,
       FIRST=ALPHANUM,
       OTHER=ANY,
       POSIT=25,
       OPER=NO
     ICHERCDE
/*
//L.SYSLMOD DD DSN=SYS1.LINKLIB,DISP=SHR
//L.SYSIN DD *
     INCLUDE SYSLMOD(ICHRRCDE)
       ORDER RHLV
       ORDER *** Previous user-defined classes ***
       ORDER *** Previous user-defined classes ***
       ORDER ICHRRCDE
     NAME ICHRRCDE(R)
/*
```

   Restart the Accelerator Loader server so that RACF recognizes the new class.
2. Perform an IPL to change the RACF class descriptor table. This procedure is necessary for RACF to recognize the new class.
3. Define all RACF resource types to class RHLV with the following command:

```
RDEFINE RHLV CONTROLBLOCKS UACC(NONE)
```

   Repeat the RDEFINE command for each RACF resource type.
4. Provide access to the resource according to the following example:

```
PERMIT CONTROLBLOCKS CLASS(RHLV) ID(USERID) ACCESS(READ)
```

   Where USERID is the ID of the user to whom you want to grant READ permissions access.

   If you do not want the FACILITY class to be used, the *hlq*.SHLVCNTL(HLVRADF2) member can be used as a sample for how to define the RACF class descriptor and router table.

   You can edit and submit the job in *hlq*.SHLVCNTL(HLVRARES) to define and add permissions for the resource required by your site.
5. Activate the class to RACF with the following command:

```
SETROPTS CLASSACT(RHLV)
```

What to do next

These members must be updated every time a new security resource name such as ATHZOOM or USERS is added.

Defining resources to CA Top Secret

Procedure

1. Define an entry in the RDT, as shown in the following example:

```
TSS ADDTO(RDT) RESCLASS(HLV) RESCODE(nn)-
       ATTR(LONG,PRIV,LIB,DEFPROT,GENERIC)-
       ACLST(NONE,ALL,ALTER=1COO,UPDATE,READ)DEFACC(READ)
```

Where *nn* is a hexadecimal code between 01 and 3F.

2. Add all the resources to an owner with the following commands:

   TSS ADDTO(owner) *HLV*(CONTROLBLOCKS)

   Repeat this TSS ADDTO command for all resource types.
3. Permit the resources to profiles or users as follows:

```
TSS PERMIT(userid) HLV(TRACEDATA) ACC(READ)
```

4. You can edit and submit the job in *hlq*.SHLVCNTL(HLVTSRES) to define and add permissions for the resource required by your site.

What to do next

These members must be updated every time a new security resource name such as ATHZOOM or USERS is added.

Defining resources to ACF2

Procedure

1. Define a generalized resource class named HLV.
2. Define resource rules for each of the resource class. Member *hlq*.SHLVCNTL(HLVA2RES) can be used as an example.
3. Use the following ACF2 command to allow users access to the resource rule:

```
ACFNRULE KEY(TRACEBROWSE) TYPE(HLV) ADD(UID(*********userid) ALLOW
```

4. You can edit and submit the job in *hlq*.SHLVCNTL(HLVA2RES) to define and add permissions for the resource required by your site:

Optionally restrict ISPF load modules

If you use TSO Command to restrict access to TSO commands, you must define the IBM Db2 Analytics Accelerator Loader for z/OS ISPF load modules to your security product.

Table 21. IBM Db2 Analytics Accelerator Loader for z/OS load modules

Load module	Description
HLV	TSO command to invoke S__ interactive application.
HLV2RU	Routine to invoke IBM Db2 Analytics Accelerator Loader for z/OS ISPF application.
HLVI	REXX Implicit Interpreter TSO Command processor.
HLVICOMP	REXX Implicit Interpreter TSO Command processor.
HLVIDB	REXX Implicit Interpreter TSO Command processor.
HLVIMEX	REXX Implicit Interpreter TSO Command processor.
HLVOB	Alias for HLVOCP.
HLVOCP	Trace Browse routine.
HLVORU	Trace Browse routine.

Table 21. IBM Db2 Analytics Accelerator Loader for z/OS load modules (continued)	
Load module	**Description**
HLVX	REXX Implicit Interpreter TSO Command processor (Server REXX).
HLVXCOMP	REXX Implicit Interpreter TSO Command processor.
HLVXDB	REXX Implicit Interpreter TSO Command processor.
HLVXSCAN	REXX Implicit Interpreter TSO Command processor.
SDHOCM	Host command environment for address HLV.
SDISCBRU	Display product control blocks.
SDISSTRU	Display product statistics.
SDISTBRU	General-purpose table display routine.
SDISVARU	ISPF product variables display.
SDLINK	Main product module.
SDRXBR	Browse routine for REXX S__ line variables.
SDRXDM	A REXX function to call new DMF parser.
SDRXID	A REXX function for issuing commands to IDCAMS.
SDRXIN	Initialize the REXX environment.
SDRXLELK	Bridge REXX TO LE/370 main routine.
SDRXPC	Product-related control block function.
SDRXSG	REXX function for examining storage in another address space.
SDRXST	Product-related control block function.
SDRXTE	Terminate REXX environment.
SDRXTK	REXX function for parsing strings into token.
SDRXVA	REXX function for manipulating variables in a calling REXX exec.
SDSLSVMD	SSL
SDSLUTCC	SSL
SDSLUTCK	SSL
SDSLUTDE	SSL
SDSLUTKY	SSL
SDSLUTPA	SSL
SDSLUTRQ	SSL

Information access with the TRACEDATA resource

The TRACEDATA resource controls access to information in the trace log.

About this task

The two types of information that are contained within the Accelerator Loader server trace log:

- SQL source statements (the real SQL source statements, as taken from database request modules or prepared strings, which may contain objects such as table names or column names).

- Binary data that underlies the trace log.

Users who have READ authority for the TRACEDATA resource and READ authority for HLV and TRACEBROWSE can view the entire trace log. Users who do not have READ authority have only restricted access to this information.

For SQL events, if your user ID matches the user ID associated with the event, you are permitted to look at an uncensored log of the SQL event. Otherwise, you can only see a censored representation of the SQL statement. The censored version includes the SQL verb but does not include objects, such as table names or column names.

Secure Sockets Layer (SSL)

Secure Socket Layers (SSL) is supported by the Application Transparent Transport Layer Security (AT-TLS), an IBM TCP/IP facility.

Accelerator Loader supports connections in the following ways:

- Ports that recognize an SSL connection and automatically enable an SSL session.
- Ports that are for secure connections that always send encrypted data.

Enabling SSL support

Before you begin

Your user ID must have READ permission for the `IRR.DIGTCERT.LISTRING` and `IRR.DIGTCERT.LIST` profiles in the RACF FACILITY class. If `SSLUSERID` is not specified, the Accelerator Loader server address space default user ID is used.

Procedure

1. Use the **`MODIFY PARM`** command to set the following parameters that are located in the server configuration member, `hlvidIN00`:

```
“MODIFY PARM NAME(SSL) VALUE(YES)"
“MODIFY PARM NAME(SSLAUTODETECT) VALUE(NO)"
“MODIFY PARM NAME(SSLCLIENTAUTH) VALUE(LOCAL)"
“MODIFY PARM NAME(SSLCLIENTNOCERT) VALUE(ALLOW)"
“MODIFY PARM NAME(SSLUSERID) VALUE(USERID)"
```

Parameter	Description	Valid values
SSL	Enables SSL connections.	**YES** (default) SSL connections enabled. **NO**
SSLAUTODETECT (*Optional*)	Specifies whether the server automatically detects SSL connections that are sent on the port that is normally used for cleartext connections. **Note:** A separately configured SSL port accepts only SSL connections.	**YES** When set to YES, the server automatically detects SSL connections. **NO** (default) When set to NO, only cleartext connections can be handled on the cleartext port.

Parameter	Description	Valid values
SSLCLIENTAUTH	Specifies how SSL client certificates are authenticated. Valid values are NONE, LOCAL, and PASSTHRU. Configuration of SSL support for use in Accelerator Loader server requires that you designate the location of the certificate and keystore that the IBM-supplied SSL components use. The SSL support for the server can be configured to use a pair of native IBM SSL key database and key stash files.	**LOCAL** (default) The server requests a client certificate during the SSL connection setup handshake. Certificates that are sent by the client are authenticated by using the certificate store that is designated by other SSL startup parameters. They are either a GSK SSL key database, or a RACF keyring. **NONE** The server does not make SSL client certificate processing active and does not request client certificates. **PASSTHRU** The server requests a client certificate during the SSL connection setup handshake. Certificates that are sent by the client are not authenticated upon receipt but are available for inspection by the transaction.
SSLCLIENTNOCERT (*Optional*)	Specifies the action to take if an SSL client fails to provide a valid x501 certificate during session establishment. **Note:** The failure by the client to provide a certificate might be because of the lack of mutually trusted signing authority. Lack of a certificate does not prevent the SSL session from being established and used. **Note:** The SSL handshake at session establishment completes before application of the FAILURE action.	**ALLOW** (default) Allows the server to continue processing, ignoring failure by the client or in ability to provide a certificate. **FAIL** The server terminates its session with the client at the earliest possible opportunity.

Parameter	Description	Valid values
SSLUSERID	Specifies the user ID under which the SSL resource manager subtask operates. If not specified, the SSL resource manager operates by using the subsystem's address-space-level user ID. This user ID must be authorized to open and read the SSL private key and certificate files. Using a separate user ID for this task prevents other transaction subtasks, and the server itself, from accessing this highly confidential information.	Null

2. To set up the ports, use the **MODIFY PARM** command to set the following parameters that are located in the server configuration member, `hlvidIN00`:

   Required Ports:

```
“MODIFY PARM NAME(OEPORTNUMBER) VALUE(XXXX)"
“MODIFY PARM NAME(WSOEPORT) VALUE(XXXX)"
```

   Optional Ports:

```
“MODIFY PARM NAME(OENLPORTNUMBER) VALUE(0)"
“MODIFY PARM NAME(OESSLPORTNUMBER) VALUE(0)"
“MODIFY PARM NAME(WSOEBALANCEDPORT) VALUE(0)"
“MODIFY PARM NAME(WSOESSLPORT) VALUE(0)"
```

Parameter	Description	Valid values
OEPORTNUMBER	Sets the port number that is used to LISTEN for, and ACCEPT all inbound TCP/IP sessions that should not be considered candidates for load balancing to a different Accelerator Loader server in the same load-balancing group. The port number should be reserved for exclusive use by the main product address space. This must be different from the main OEPORTNUMBER and the OESSLPORT number if it is used.	0 (default)
WSOEPORT	Specifies the port number that is used to listen for all inbound Services and Accelerator Loader studio requests.	0 (default)

Parameter	Description	Valid values
OENLPORTNUMBER (*Optional*)	Sets the port number that is used to LISTEN for, and ACCEPT all inbound TCP/IP sessions that should not be considered candidates for load balancing to a different Accelerator Loader server in the same load-balancing group. The port number should be reserved for exclusive use by the main product address space. This must be different from the main OEPORTNUMBER and the OESSLPORT number if it is used.	0 (default)
OESSLPORTNUMBER (*Optional*)	Sets the port number that is used to LISTEN for, and ACCEPT all inbound encrypted OE Sockets TCP/IP sessions. This port number should be reserved for use only by the main product address space. Each copy of the main product address space needs its own port number if SSL over OE Sockets is being used. There is no default value for the SSL port number if the value is not set in the initialization EXEC.	Null
WSOEBALANCEDPORT (*Optional*)	Specifies the port number that is used to listen for Services requests that can be balanced to group members.	0 (default)
WSOESSLPORT (*Optional*)	Specifies the port number that is used to listen for Services for encrypted sessions.	0 (default)

Accessing data on a remote system

Db2 Analytics Accelerator Loader provides Inter Data Communications to enable access to remote data sources that are not directly accessible from the local system; for example, data from an IMS database on a remote LPAR.

Inter Data Communications

Inter Data Communications (IDC) is a TCP/IP-based protocol that allows one Accelerator Loader server to communicate with another Accelerator Loader server. You can set up multiple Accelerator Loader servers on multiple LPARs in your z System infrastructure. Once IDC is configured, an LPAR can access data and other resources on one or more LPARs.

For example, consider a z System infrastructure that has multiple LPARs configured. If Adabas is running on one of the LPARs and you need to access Adabas from another LPAR, then you can use IDC to enable communication between the two LPARs. To use IDC, you need to install Accelerator Loader server on both the LPAR running Adabas (the target LPAR) the LPAR needing access (the source LPAR). To enable Inter

Data Communications, you need to configure server parameters on both the source and the target LPARs so that communication is established between the two LPARs.

After IDC is enabled on an LPAR, the Accelerator Loader server on the LPAR can also communicate with other LPARs where Accelerator Loader server is installed.

Accelerator Loader server allows some data transformations to run on a z System Integrated Information Processor (zIIP) specialty engine for significantly reduced MIPS capacity usage. In this example, the source LPAR can access the Adabas data on the target LPAR and use the zIIP processor to perform data transformations. To view which Accelerator Loader components support zIIP, see “zIIP support” on page 18.

Configuring Inter Data Communications

Configure Inter Data Communications by using parameters in the server configuration member `hlvidIN00`.

Procedure

1. Configure the server stored procedure.
2. Configure parameter file hlvidIN00 in data set *hlq*.SHLVEXEC. Use `DEFINE DATABASE TYPE(SERVER)` in the local Accelerator Loader server to indicate a remote Accelerator Loader server.
   a) Identify the target server with a four-character NAME().
   b) Provide the TCP/IP location with DOMAIN() and PORT().
   c) Provide the Passticket name with APPLNAME().
   d) Specify the application name for Passticket authentication.

      IDC uses Passtickets for authorization on the remote server, or credentials can be supplied to the DS Client.

      The DS Client ACI service task mimics the ODBC driver and connects to the target server’s `OEPORTNUMBER`.

      The configuration of the PORT and APPLNAME in the local server’s hlvidIN00 configuration member must align with the OEPORTNUMBER and PASSTICKETAPPNAME in the remote server’s hlvidIN00.

   The target server name becomes the “Db2 subsystem ID” for the DS Client request.
3. Define distributed data facility (DDF) endpoints by entering a definition statement for Inter Data Communications. Provide your local environment values for all the parameters.

```
"DEFINE DATABASE TYPE(SERVER)"          ,
                 "NAME(DSN1)"           ,
                 "LOCATION(DEV1DSN1)"   ,
                 "DDFSTATUS(ENABLE)"     ,
                 "DOMAIN(ENABLE)"         ,
                 "PORT(443)"            ,
                 "APPLNAME(DBDSGRP)"    ,
```

   The following table lists the parameters for defining DDF endpoints:

Parameter	Description	Valid values
APPLNAME	Application name. The APPLNAME used by the target endpoint for passticket generations. (*Optional*)	A valid value is 1 - 8 characters. If APPLNAME is not specified in the definition statement, no default value is provided and passticket access is disabled.

Parameter	Description	Valid values
DDFSTATUS	The DDF activation status can be altered online by using the ISPF 4-Db2 dialog panels. (*Required*)	**ENABLE** To make this DDF definition active. **DISABLE** DDF endpoint is not used.
DOMAIN	The part of a network address that identifies it as belonging to a particular domain. Either DOMAIN or IPADDR is required, but not both.	No default value.
LOCATION	The Db2 location name. (*Required*)	A valid value is a string 1 - 16 characters.
NAME	The Db2 subsystem ID. (*Required*)	A valid value consists is 1 - 4 characters. Clients use this ID when they request access to a specific Db2 subsystem.
PORT	Specify the IP port number that is defined for DRDA access in this DDF endpoint. (*Optional*)	If this keyword is not entered, the default DRDA port number 443 is used.
TYPE	If this DDF endpoint is a Db2 group director, specify GROUP. If this DDF endpoint is a Db2 instance or group member for Linux, UNIX, or Windows, specify LUW. (*Required*) If this DDF endpoint is a Db2 instance or group member for z/OS, specify MEMBER. If this DDF endpoint is a remote server, specify SERVER.	GROUP LUW MEMBER SERVER

Example

An Accelerator Loader server is set up on LPAR DEV1 to send requests to server VDBA on LPAR RS28 (whose DNS hostname is also RS28).

The local server hlvidIN00 configuration member is as follows:

```
"DEFINE DATABASE TYPE(SERVER)"         ,
                 "NAME(VDBA)"          ,
                 "LOCATION(RS28VDBA)" ,
                 "DDFSTATUS(ENABLE)"   ,
                 "DOMAIN(RS28)"        ,
                 "PORT(1260)"          ,
                 "APPLNAME(DBDSGRP)"   '
```

The remote server hlvidIN00 configuration member must be configured as follows:

```
"MODIFY PARM NAME(OEPORTNUMBER) VALUE(1260)"
"MODIFY PARM NAME(PASSTICKETAPPNAME) VALUE(DBDSGRP)"
```

The Passticket application name must be defined to RACF on both systems in the PTKTDATA class as follows:

```
CLASS      NAME
-----      ----
PTKTDATA   DBDSGRP

LEVEL OWNER   UNIVERSAL ACCESS  YOUR ACCESS  WARNING
----- -----   ---------------  -----------  -------
00    TSSAL         READ           READ        NO
```

z Systems Data Compression (zEDC)

IBM z Systems Data Compression (zEDC) is an accelerated compression solution that provides high performance, low latency compression with minimal system overhead.

zEDC uses an industry standard compression library that provides efficient performance with large sequential files. zEDC facilitates cross-platform exchange of data.

Enabling zEDC

Accelerator Loader server provides support for IBM z Systems Data Compression (zEDC).

Before you begin

To determine the hardware and software requirements, refer to the current *IBM z Systems Data Compression* documentation.

Procedure

1. Set `NETWORKBUFFERSIZE` on both Accelerator Loader servers to a value between `ZEDCMINDATASIZE` and `1048512`.
2. Set the following parameters in the `hlvidIN00` configuration member:

```
/*-------------------------------------------------------------------*/
/* Enable ZEDC support.                                              */
/*-------------------------------------------------------------------*/
if 1 = 1 then
   do
     "MODIFY PARM NAME(ZEDCCOMPRESSION) VALUE(YES)"
     "MODIFY PARM NAME(ZEDCMINDATASIZE) VALUE(8192)"
end

if 1 = 1 then
   do
     "MODIFY PARM NAME(TRACEZEDCCOMPRESSION) VALUE(NO)"
     "MODIFY PARM NAME(TRACEFULLZEDC) VALUE(NO)"
end
```

The following table lists the parameters for enabling zEDC:

Parameter	Description	Valid values
NETWORKBUFFERSIZE	Controls the size of the buffer used to receive blocks of data from the network. A failure will occur if a client application sends a buffer larger than the maximum size. This value should be raised to allow larger blocks of data to be sent to and from the client.	256K (default) or required size.

Parameter	Description	Valid values
TRACEZEDCCOMPRESSION	Enables tracing of all zEDC calls to the Server Trace facility. It should only be set to YES if the user needs to trace zEDC calls for diagnostic purposes.	**YES** Enable zEDC tracing. **NO** (default) Do not enable zEDC tracing.
TRACEFULLZEDC	Traces the entire buffer, not just the first few bytes. It should only be set to YES if a minimal trace is not enough.	**YES** Enable zEDC tracing for the entire buffer. **NO** (default) Do not enable full zEDC tracing.
ZEDCCOMPRESSION	Enables or disables the use of the zEDC compression hardware device. Set to YES if you have the zEDC compression hardware and wish to use it.	**YES** Enable zEDC compression. **NO** (default) Do not enable zEDC compression.
ZEDCMINDATASIZE	Sets the minimum amount of data the server will compress with the zEDC hardware. It is recommended that testing first be done with a minimum size of 8K.	8192 (default) or required size.

3. To verify that zEDC is in use, enable zEDC tracing (`TRACEZEDCCOMPRESSION`) and look for ZED events in the Server Trace.

Configuring rules and events

Using a rule, you can configure an automatic response to an event. For example, you can allow a critical application to download data any time, and allow a non-critical application to download data only during specific hours.

For example, to restrict the number of times that a user ID can log on to the server, create a LOGON rule to limit the user ID to three logons a day and to take a specific action if the user ID tries to log on more than three times.

Events

You can create rules for the following types of events:

- Authorization (ATH) events that occur when the server configuration performs authorization processing for a controlled resource.
- Command (CMD) events that occur when the server configuration receives a command from a z/OS console.
- Exception (EXC) events that occur when tasks exceed limits or fail. These events are generated only when the SEFGLVENTS parameter is set to allow them.
- Global variable events (GLV) that occur when the value of a global variable is changed.
- SQL events occur before a SQL statement is run.
- Time-of-day (TOD) events occur at specific times.

- Virtual tables (VTB) rules allow you to have a single virtual table that can use to represent many data sets of the same structure.

For each event, you can create one or more rules. Within each rule, you specify an action to take in response to the event. For example, you might create two rules for the LOGON event. In one rule, you specify that if an ID attempts to log on more than three times within a 24-hour period, subsequent logon requests are rejected. In another rule, you might specify that all logs on attempts from a specific ID are rejected.

Rules and rule sets

A rule can have the following parts:

- Criterion
- Header statement
- One or more process sections
- Return values
- Variables

Managing rules and events

Use the ISPF interface to view and work with rules and events.

Procedure

1. On the main menu, select **Server administration**.
2. On the Administer Accelerator Loader server panel, select **Manage Rules**.
3. On the **Event Facility (SEF) Control** panel, select **SEF Rule Management**.
4. On the **Event Facility (SEF) Ruleset Entry Profile** panel, use **Display Only the Ruleset Named** to display rulesets as follows:
   - To display all rulesets, leave the asterisk and press Enter. Proceed with "6" on page 350.
   - To display a specific type of ruleset, specify one of the following values and press Enter.
     - ATH for Authorization event rules
     - CMD for Command event rules
     - EXC for Exception event rules
     - SQL for SQL event rules
     - TOD for Time-of-day event rules
     - VTB for Virtual tables rules
5. On the **Event Facility (SEF) Event Procedure List** panel, in the **S** column beside a member, type a line command to take one of the following actions:
   - S: Select an event procedure for modification using the ISPF editor.
   - E: Enable an event procedure
   - D: Disable an event procedure.
   - A: Set the Auto-Enable (AE) flag for an event procedure member.
   - Z: Reset the Auto-Enable (AE) flag for an event procedure member.
   - B: Set the Auto-Enable (AE) flag and enable the event procedure.
   - C: Disable an event procedure and reset the Auto-Enable (AE) flag.
6. On the **Event Facility Proc. Rulesets - Using SEF V4 Configuration** panel, in the **S** column beside a ruleset, type a line command to take one of the following actions:
   - S: Display the list of members within the ruleset.

- E: Enable all members of an entire ruleset.
- D: Disable all members of an entire ruleset.
- U: Display the ISPF/PDF utility panel to rename, delete, or print members.
- A: Set the Auto-Enable (AE) flag for all members of a ruleset.
- Z: Reset the Auto-Enable (AE) flag for all members of a ruleset.

Automatic limits

A rule can include customizable limits that control many aspects of your configuration including queries, connections, and sessions.

Rules are configured in the server configuration member that is shipped in data set member *hlq*.hlvidIN00.

You can view rules by selecting **C (SDB Admin.)** > **2 (SDB Parms)** from the Primary Option Menu. To modify a rule, locate the parameter, change its value, and press **Enter**. This modifies the parameter for the existing Accelerator Loader session. To make the change permanent, modify the parameter in the hlvidIN00 configuration member.

During installation, a default value is specified for each of the following limits.

Overall per session CPU limit
When this limit is reached, the session is automatically terminated. The security product or a product parameter can provide the limit.

Per DB2 connection CPU limit
When this limit is reached, the current Db2 connection is automatically terminated, and all associated Db2 resources are released.

Per SQL query CPU limit
When this limit is reached, the current SQL query is automatically terminated, and all associated Db2 resources are released.

Inactivity time-out
This limit automatically terminates the session of any user that is inactive for the specified period. Use this limit to minimize security exposures and release resources that are held by inactive users.

Maximum timer-on limit
This limit prevents the execution of any SQL statement that exceeds a specified value. The limit prevents excessive resource utilization.

Maximum rows limit
This limit restricts the number of rows that a query returns.

Dropped connection detection
This mechanism detects clients that failed or are no longer connected to the network. When a dropped connection is detected, the host session is terminated, and all resources are released.

Lock control facility
This mechanism detects clients that are holding a Db2 lock (share, update, or exclusive) for an excessive period. When the limit is reached, the session is terminated, and the lock is released.

Dynamic SQL control facility
This mechanism allows dynamic SQL to be rejected on the host. Use this mechanism to enforce the use of static SQL.

Maximum concurrent users
This limit controls the maximum number of concurrent users and is enforced on the host.

Variables for rules

When you create a rule, you can use dynamic variables, global variables, temporary variables, and event-specific variables. These variables are used in REXX programming.

Dynamic variables

Dynamic variables are created when the process section of a rule references or sets the value of a simple or compound variable. Dynamic variables exist only while a rule runs and are freed when the REXX environment is deleted. Dynamic variables cannot be accessed by non-REXX procedures and functions. The following code fragment shows two simple variables, `I` and `COUNT`, and one compound variable, `stemvar.I`:

```
do I = 1 to COUNT
stemvar.I = "InitValue"
end
```

Global variables

Global variables have one of the following stem values:

- GLOBAL
- GLOBAL*n*, where *n* is an integer 1 - 9

Global variables can be created, modified, or managed by selecting option **3** (Manage Rules) from the Accelerator Loader - Primary Option Menu and then selecting **1** (Global Variables). To create a new global variable, enter S *variable_name* and press Enter.

Global variables are stored in the global variable checkpoint data set. When a global variable is referenced, the value of the variable is retrieved from the checkpoint data set. The value of a global variable persists across restarts of the product and is shared by all rules. If the **SEFGLVEVENTS** parameter is set to YES in the server configuration member `hlvidIN00`, you can create a rule to intercept the change and perform additional processing.

Temporary variables

Temporary variables, which begin with the stem value GLVEVENT, exist only during an event and are deleted when the event is over. Temporary variables are used by high-level language (HLL) routines that create and interrogate these types of variables. To create or access a temporary variable, use the SDBVALUE API function. A rule can reference a temporary variable by name.

Event variables

When an event occurs, event variables are created. These variables pass information about the event to the rules for the event. For example, ATH.AUPWDBSS is an event variable for the LOGON event. The value of the ATH.AUPWDBSS variable is the Db2 subsystem name that the connection string provides. You can use this variable in a rule that restricts logons to a specific Db2 subsystem.

Most event variables are read-only; however, some can be modified. Changes to modifiable event variables are cumulative. The first rule that runs uses the original value of the variable. Each rule that later runs uses the value that the previous rule modified. Even if a rule modifies the value of a variable, all rules that are eligible to run still run.

Authorization (ATH) events

This section describes the types of authorization (ATH) events.

All authorization events

This event occurs when an authorization request is made. A rule for this event can reject, accept, or modify the request.

Return values

When an ATH event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

Variables

Values for these variables are set only when an ATH rule processes an ATH event.

Criterion	Variable name	Contents	Data type
ALL (all variables)	ATH.OPAU13WA	The WAITS flag is on if the wait state is allowed and is off if wait state is not allowed. If the wait state is not allowed, actions that cause the task to enter a wait state are not allowed.	Character, read only

Criterion	Variable name	Contents	Data type
ALL	ATH.OPAUACSR	The type of access that is being requested. The following are valid values for the access type, except for LOGON requests: • ADD • CONTROL • DISPLAY • DEFINE • EXECUTE • INFO • LIST • KILL • MODIFY • READ • SHOW • SET • WRITE	Character, read only
ALL	ATH.OPAUERMG	A REXX program can specify the error message to send to the client.	Character, read-write
ALL	ATH.OPAURQRC	The request return code. The following are valid values: • 00: Request allowed • 04: Request must be modified • 08: Request failed • 12: Request abended • 16: Product address space is unavailable	Character, read-only

Criterion	Variable name	Contents	Data type
ALL	ATH.OPAURQSR	The type of request that is being processed. The following are valid values: • CICSCONNECTIONS: CICS® connections • CONTROLBLOCKS: Product control blocks • DATABASES: Product databases • DATAMAP: Data map definitions • FILE: Shared server QSAM/BPAM data sets • GLOBALS: Global variables • LINKS: Communication links • LOGON: Password and user validation • PARMS: Product parameters • RPC: Remote procedure call • SDB: SDB command • SEF: Event Facility commands • TRACEDATA: Detailed Trace Browse data • TRACEBROWSE: Trace browse • TSO: Time Share Option • USERS: Remote users	
ALL	ATH.OPAUSRID	The search ID, which is created by combining the request type with the access type, for example: • PARMS.SHOW displays a product parameter • SEF.INFO obtains SEF information.	

Criterion	Variable name	Contents	Data type
ALL	ATH.OPAUUSID	The user ID that is being validated (LOGON), the user ID being logged off (LOGOFF), or the user ID for the task that is requesting access to the controlled resource. **Note:** A rule for the LOGON event can change the value of the user ID so that the rule-generated user ID can be used for subsequent validation by the security product. Rules for other authorization events should not attempt to alter the ATH.OPAUUSID variable.	Character, read-only, except as noted
ALL	ATH.USER	The user area is passed to all rules that run in response to the same event.	Read-only

Communication link events

This event occurs when a communication link is defined, accessed, or updated. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When an communication link event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

Variables

LINKS variables are used for events that pertain to defining, accessing, or updating a communication link.

Variable name	Contents	Data type
ATH.AULIHOST	The host name for the link. This name might be truncated. To avoid the additional processing that is required to resolve the host name, the server does not usually obtain or provide the client host name.	Character, read-only
ATH.AULIIPAD	The TCP/IP address in 4-byte binary form.	Binary, read-only
ATH.AULILU	The LU 6.2 name that is set only for LU 6.2 links.	Character, read-only
ATH.AULIMODE	The LU 6.2 mode name that is set only for LU 6.2 links.	Character, read-only
ATH.AULITYPE	The link type. The following are valid values: • 6: LU 6.2 link • T: IBM TCP/IP link • I Interlink TCP/IP	Character, read-only

Control block events

This event occurs when a control block is accessed or updated. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When an ATH event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

Variables

CONTROLBLOCK variables are used for events that pertain to accessing or updating a product control block.

Variable name	Contents	Data type
ATH.AUBKCBAD	The address of the control block.	Character, read-only
ATH.AUBKCBAS	The address space (ASID) of the control block.	Numeric, read-only
ATH.AUBKCBLN	The length of the control block.	Numeric, read-only
ATH.AUBKCBNA	The name of the control block.	Character, read-only

Database events

This event occurs when a database is defined, accessed, or updated. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When a database event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Any other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

Variables

DATABASE variables are used for events that pertain to defining, accessing, or updating a product database.

Variable name	Contents	Data type
ATH.AUDBHOST	The host name of the database.	Numeric, read-only
ATH.AUDBNAME	The name of the database.	Character, read-only
ATH.AUDBTYPE	The type of the database.	Character, read-only

Global variable events

This event occurs when a global variable is defined, accessed, or updated. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When an ATH event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determination to allow or deny access to the requested resource.

Variables

The following variables are available.

Variable name	Contents	Data type
ATH.AUGLDELN	The length of the name of the global variable.	Numeric, read-only
ATH.AUGLDENA	The name of the global variable.	Character, read-only

Variable name	Contents	Data type
ATH.AUGLOPCH	The operation. The following are valid values: • A: Add a global variable. • D: Drop a global variable. • E: Check for the existence of a global variable. • F: Check for the existence of a global variable and obtain (return) the value. • I: Obtain information about a global variable. • L: List information about a global variable. • O: Obtain a global variable. • R: Remove a global variable. • S: Subtree processing. • T: Subtree information processing • U: Update a global variable. • V: Value processing.	Character, read-only
ATH.AUGLRQTY	The type of the access request. The following are valid values: • A: READ access • U: UPDATE access	Character, read-only

IMSLTERM events

This event occurs when the IMSLTERM (IMS logical terminal) authorization event occurs. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When an IMSLTERM event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.

Return value	Description
Other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

Variables

The following variable is available. The IMSLTERM variable is used for events that pertain to IMSLTERM.

Descriptive name	Variable name	Contents	Data type
Virtual table name	ATH.AULTNAME	The name of the virtual table.	Character, read-only

Log off events

This event occurs after the client session to the host is terminated. Therefore, no response data can be sent to the client.

A rule for this event can provide the following responses:

- Write messages to a console or to the Trace Browse. The error message variable (ATH.OPAUERMG) can also be set. This value of this variable displays in the Trace Browse if ATH messages are being traced.
- Write SMF records. The SDBINFO function can be used in addition to the ATH event variables passed to this routine.
- Access and update other resources. For example, a global variable can be modified to show that the current user is no longer connected.

Return values

When an log-off event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Any other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

Variables

LOGOFF variables are used for events that pertain to writing messages to a console or Trace Browse, writing SMF records, or accessing and updating other resources.

Descriptive name	Variable name	Contents	Data type
Termination code	ATH.AULGABCD	The termination code, which is a 4-byte hexadecimal string. The value is 0000 if the current thread terminated normally.	Character, read-only
Authorization scheme	ATH.AULGAUSC	The authorization scheme. The following are valid values: • SDBECURE: The user ID was created by using the SDBECURE API. • RA-PROXY: A RUNAUTH (proxy) user ID log off. • BASIC: An HTTP authorization, request header scheme.	Character
Cache	ATH.AULGCAUS	The user ID cache flag. The following are valid values: • 0 (zero): The user ID is logged off. • 1: If the user ID was previously cached and is retained in the cache.	Character, read-write
Connection token	ATH.AULGCNTK	The connection token is an 8-byte hexadecimal string. To identify the terminating task, this value can be passed to the SDBINFO function. This value is only required for test (TSO) versions of the main product address space.	Character, read-only
CPU time	ATH.AULGCPTM	The CPU time that is used by the current task, which is specified in seconds and fractions of a second.	Character, read-only
Elapsed time	ATH.AULGELTM	The elapsed time of the current task, which is specified in seconds and fractions of a second.	Character, read-only
GMT logon time	ATH.AULGLGGM	The GMT logon time, which is provided as a timestamp. The format is *YYYY/MM/DD-HH:MM:SS.NNNNNN.*.	Character, read-only
Local logon time	ATH.AULGLGTM	The local logon time, which is provided as a timestamp. The format is *YYYY/MM/DD-HH:MM:SS.NNNNNN.*.	Character, read-only

Descriptive name	Variable name	Contents	Data type
Uncompressed bytes	ATH.AULGWRTO	The total number of uncompressed bytes. It is provided by using the next field.	Character, read-only
Wait	ATH.APAU13WA	The WAITS flag. The following are valid values: • 0 (zero): WAITS are not allowed. • 1: WAITS are allowed. If WAITS are not allowed, I/O and other services that might cause the task to enter a wait state are not allowed. Some logoff operations occur during end-of-task processing when it is important to monitor the wait-allotted flag to prevent unwanted subtask terminations.	

Log on events

This event occurs when a logon occurs.

A rule for this event can provide the following responses:

- Set or reset all of the execution limits for the current client user ID. The default values are passed to the rule. If the default values are not changed, they are used.
- Set the return value to REJECT, and use the ATH.OPAUERMG variable to send an error message.
- Set the return value to ACCEPT. Using this return value bypasses the password validation that the security product does. Use ACCEPT only if you do not have a security product that is installed and rely on
- Modify the user ID before the security product processes it.

Return values

When an ATH event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.

Return value	Description
Any other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

LOGON variables are used for events that pertain to setting or resetting execution limits for the current client user ID, rejecting the current logon attempt, bypassing password validation, or modifying a user ID before it is processed by RACF/ACF2.

Descriptive name	Variable name	Contents	Data type
Security optimization	ATH.AUPWAEAC	The Security Optimization flag. The following are valid values: • 0 (zero): Security optimization is not active. • 1: Security optimization is active.	Character, read-only
Security optimization cache	ATH.AUPWAERT	The amount of time, in seconds, that the security optimization cache entry is retained for the user.	Character, read-only
Application name	ATH.AUPWAPNA	The name of the application. This value is optionally set by the ODBC application.	Character, read-write
Authentication scheme	ATH.AUPWAUSC	The authentication scheme for the logon. The following are valid values: • SDBECURE: A logon by using the SDBECURE API • RA-PROXY: A RUNAUTH (proxy) user ID logon • BASIC: An HTTP authorization, header user ID logon	Character, read-write
User ID cache	ATH.AUPWCAUS	A user ID cache flag. The following are valid values: • 0 (zero): Suppresses caching for the user ID • 1: If the client user ID/acee (access control element entry) is or could be cached for reuse.	Character, read-only
ODBC connection string	ATH.AUPWCNSR	The ODBC connection string from the client.	Character, read-write
Base CPU time interval	ATH.AUPWCPBA	The base CPU time interval for time slicing.	Character, read-write

Descriptive name	Variable name	Contents	Data type
Error CPU time limit	ATH.AUPWCPER	The error CPU time limit that is checked by the check limits task.	Character, read-write
Failure CPU time limit	ATH.AUPWCPFA	The failure CPU time limit that is checked by the check limits task.	Character, read-write
Execution time interval	ATH.AUPWCPIN	The execution time interval for time slicing.	Character, read-write
CPU time limit	ATH.AUPWCPTM	The CPU time limit that is checked by the ODBC task.	Character, read-write
Plan name	ATH.AUPWDBPN	The plan name. This value is provided in the connection string.	Character, read-write
Db2 subsystem name	ATH.AUPWDBSS	The Db2 subsystem name. This value is provided in the connection string.	Character, read-write
Database user ID	ATH.AUPWDBUS	The database user ID that is used to connect to Db2. When you use CAF, you can switch the user ID, but you cannot switch the user ID with RRSAF unless you are using Enterprise Auditing.	Character, read-write
Task priority	ATH.AUPWDPPR	The z/OS task dispatch priority of the current task, which is a value 0 - 225.	Character, read-write
Enterprise auditing	ATH.AUPWENTL	The enterprise auditing flag. If this flag is set to 1, enterprise auditing requests from the client are accepted. If the flag is set to any other value, requests are ignored.	Character, read-write
Exclusive lock	ATH.AUPWEXFA	The exclusive lock time limit, which is checked by the check limits task.	Character, read-write
Application internal name	ATH.AUPWINNA	The application internal name, if available. This value, which is available only for non-console-mode Windows 32-bit applications, is obtained from the Windows version resources.	Character, read-only

Descriptive name	Variable name	Contents	Data type
New plain-text password	ATH.AUPWLGNW	A new plain-text password, which the application provides. The PROVIDEPASSWORDS parameter controls this variable. If the PROVIDEPASSWORDS is set to YES, the variable is set to a non-blank string. Otherwise, the variable is set to blank characters. The password can only be changed if the PROVIDEPASSWORDS parameter is set to CHANGE.	Character, read-write
Plain-text password	ATH.AUPWLGPW	The plain-text password, which the application provides. The PROVIDEPASSWORDS parameter controls this variable. If the PROVIDEPASSWORDS is set to YES, the variable is set to a non-blank string. Otherwise, the variable is set to blank characters. The password can only be changed if the PROVIDEPASSWORDS parameter is set to CHANGE.	Character, read-write
Network user ID	ATH.AUPWLNID	The network user ID from the client.	Character, read-write
Application module name	ATH.AUPWMDNA	The application module name, if available. This is the name of the application that is using the .NET client.	Character, read-only
Maximum rows generated	ATH.AUPWMXCA	The maximum number of rows that a call RPC can generate before an error is reported to the RPC.	Character, read-write
Maximum rows fetched	ATH.AUPWMXRW	The maximum number of rows that can be fetched before SQL code +100 is simulated.	Character, read-write

Descriptive name	Variable name	Contents	Data type
Maximum timerons	ATH.AUPWMXTM	The maximum timerons limit, which is checked by the client task. A timeron is a unit of measurement used to give a rough relative estimate of the resources, or cost, required by the database server to execute two plans for the same query. The resources calculated in the estimate include weighted CPU and I/O costs.	Character, read-write
Single logon	ATH.AUPWNTLG	The single logon flag from the client. The following are valid values: • 0 (zero): The client did not use a single logon. • 1: The client used a single logon.	Character, read-only
RPC enqueue limit	ATH.AUPWRPEH	The RPC enqueue time limit that the check limits task checks.	Character, read-write
RPC execution limit	ATH.AUPWRPEL	The RPC execution time limit.	Character, read-write
Share lock limit	ATH.AUPWSHFA	The share lock time limit that the check limits task checks.	Character, read-write
Per SQL CPU limit	ATH.AUPWSQFA	The per SQL CPU time limit that the check limits task checks.	Character, read-write
Update lock limit	ATH.AUPWUPFA	The update lock time limit that the check limit task checks.	Character, read-write
User parameter	ATH.AUPWUSPA	The User parameter from the client.	Character, read-write
PassTicket authentication	ATH.AUPWSPT	The PassTicket flag. The following are valid: • 0 (zero): The user is not using a PassTicket for authentication. • 1: The user is using a PassTicket for authentication.	Character, read-write
Error wait time	ATH.AUPWWAER	The error wait time limit that the check limits task checks.	Character, read-write

Descriptive name	Variable name	Contents	Data type
Failure wait time	ATH.AUPWWAFA	The failure wait time limit that is checked by the check limits task.	Character, read-write
Warning wait time	ATH.AUPWWAWN	The warning wait time limit that is checked by the check limits task.	Character, read-write
WAITS flag	ATH.OPAU13WA	The WAITS flag. The following are valid values: • 0 (zero): WAITS are not allowed • 1: WAITS are allowed If WAITS are not allowed, I/O and other services that might cause the task to enter a wait state are not allowed.	Character, read-write
Accept type string	ATH.OPAUACSR	The accept type string.	Character, read-only
Error message	ATH.OPAUERMG	The error message.	Character, read-only
Request type string	ATH.OPAURQSR	The request type string.	Character, read-only
Rule-invocation match string	ATH.OPAUSRID	The rule-invocation match string.	Character, read-only
Client user ID	ATH.OPAUUSID	The client user ID being logged on to the system.	Character, read-only

MQ events

This event occurs when an IBM MQ resource is defined. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When an MQ event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Any other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

The MQSERIES variable is used for authorization of events that pertain to defining an MQ resource.

Descriptive name	Variable name	Contents	Data type
Queue manager	ATH.AUMQQMGR	The name of the queue manager. This name is set only for actions that are specific to one queue manager. This field is not set when the list of queue managers is being requested by a caller.	Character, read-only

Parameter events

This event occurs when a parameter is updated or accessed. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When a parameter event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Any other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

The PARMS variable is used for authorization of events that pertain to accessing or updating a product parameter.

Descriptive name	Variable name	Contents	Data type
Product parameter name	ATH.AUPAPANA	The product parameter name.	Character, read-only

SDB events

This event occurs when an attempt is made to run the SDB command. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When an SDB event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Any other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

SDB variables are used for authorization of events that pertain to execution of an SDB command.

Descriptive name	Variable name	Contents	Data type
Options string	ATH.AUSDOTSR	The SDB command Options string, such as 5.2.	Character, read-only
Subsystem name	ATH.AUSDSSNA	The subsystem name.	Character, read-only

SEF events

This event occurs when an attempt is made to run the SEF (event facility) command runs. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When an SEF event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Any other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

SEF variables are used for authorization of events that pertain to the running of an SEF command.

Descriptive name	Variable name	Contents	Data type
Subcommand for the SEF ARCHIVE verb	ATH.AUSEARSB	The subcommand for the SEF ARCHIVE verb.	Character, read-only
Current® operation	ATH.AUSEAUOP	A flag that shows if the current operation affects the event procedure rule set. The following are valid values: • 0 (zero): • 1:	Character, read-only
Rule set name	ATH.AUSEAURS	The ATH rule set name.	Character, read-only
Command buffer length	ATH. AUSEBULN	The SEF command buffer length.	Character, read-only
Command buffer	ATH.AUSECMBU	The SEF command buffer.	Character, read-only
z/OS dsname	ATH.AUSEDSNA	The SEF rule set z/OS data set name (dsname for file management commands).	Character, read-only
Event procedure name	ATH.AUSERLNA	The SEF command event procedure name (member name for file management commands).	Character, read-only
Command request	ATH.AUSERQTY	The SEF command request type. The following values are valid for rule set commands: • A: Set auto-enable flags • B: Set auto-enable flags and enable them • C: Reset auto-enable flags and disable them • D: Disable rules • E: Enable rules • F: Refresh rules • I: Set dsname index (dsname with STAR) • L: List rule set or rule • R: Archive comand • S: Set or resent subsystem string • T: Test timer rules or another test • U: Show rule • X: Transfer data • Y: Set or reset SYSID string • Z: Reset auto-enable flag	Character, read-only

Descriptive name	Variable name	Contents	Data type
		The following values are valid for file-management commands: • 3: Open a data set • 4: Close a data set • 5: Refresh a data set • 6: File list • 7: Quiesce a data set • 8: Allocate a data set • 9: Deallocate a ddname	
		The following values are valid for TSO server management commands: • F: TSOSRV_LIST • K: TSOSRV_QUEUES • M: TSOSRV_STOP • O: TSOSRV_RESETQ • P: TSOSRV_FREE • Q: TSOSRV_EXECSTATUS	
SEF rule set name	ATH.AUSERSNA	The SEF command rule set name (ddname for file-management commands).	Character, read-only
SEF command verb string	ATH.AUSEVBSR	The SEF command verb string.	Character, read-only

Token events

This event occurs when a token is accessed. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When a token event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.

Return value	Description
Any other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

TOKENS variables are used for authorization of events that pertain to the access of an execution token.

Descriptive name	Variable name	Contents	Data type
Host name	ATH.AUTKHONA	The host name field, which contains the host name of the client that created the current token. This field is not set for multiple token fetch requests.	Character, read-only
ID string	ATH.AUTKIDSR	The token ID string, which contains the token ID that is being accessed or deleted. This field is not set for multiple token fetch requests.	Character, read-only
User data	ATH.AUTKUSDA	The user data field, which contains the user data of the token that is being accessed or deleted. This field is not set for multiple token fetch requests.	Character, read-only
User ID	ATH.AUTKUSID	The user ID field, which contains the user ID of the client that created the current token. This field is not set for multiple token fetch requests.	Character, read-only

TSO events

This event occurs when a TSO command runs. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When a TSO event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.

Return value	Description
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Any other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

TSO variables are used for authorization of events that pertain to execution of a TSO command.

Descriptive name	Variable name	Contents	Data type
Buffer length	ATH.AUOSBULN	The TSO command buffer length.	Character, read-only
Buffer	ATH.AUOSCMBU	The TSO command buffer.	Character, read-only
Command verb string	ATH.AUOSVBSR	The TSO command verb string.	Character, read-only

User events

This event occurs when information about a remote user is accessed, when a remote user connection is terminated, and when a cancel Db2 thread operation occurs. A rule for this event can accept or reject the request or allow the security product to determine if the request is allowed.

Return values

When a user event ends, the rule sets a return value. The server evaluates the return value and invokes z/OS security routines.

Return value	Description
ACCEPT	Access to the requested resource is allowed, and additional processing by the z/OS security subsystem is not performed.
REJECT	Access to the requested resource is denied, and additional processing by the z/OS security subsystem is not performed. The rule can include the ATH.OPAUERMG variable, which for most authorization requests, returns an error message to the requestor.
Any other value	If another value or no value is returned, the z/OS security subsystem performs validation checking. The security product makes the final determine to allow or deny access to the requested resource.

USERS variables are used for authorization of events that pertain to accessing or killing connections of a remote user.

Descriptive name	Variable name	Contents	Data type
Connection ID	ATH.AUUSCNID	The connection ID, which is set only for stop or cancel operations.	Character, read-only
User name	ATH.AUUSKILL	The name of the user to stop or cancel.	Character, read-only
Connection type	ATH.AUUSTYPE	The connection type. The following are valid values: AMDETRT: If a user is requesting information about a specific APPC/MVS conversation information for each task with an active conversation. AMINTSUM: If a user is requesting information about the APPC/MVS summary. DETAIL: If a user is requesting information about user or interval detail data stored in the main product address space. IDDETRT: If a user is requesting information about specific APPC/IDMS conversation information for each task with an active conversation. REMOTE: If a user request information about all remote connections in the main product address space. REMOTEGRP: If a user is requesting information about TCP/IP host name and port information. RRRMINFO: If a user is requesting information about Resource Recovery Services. SECOPT:If a user is requesting information about security optimization cache entries. SUMMARY: If a user is requesting information about all of the summary interval data stored in the main product address space. TASKS: If a user is requesting information about all tasks that run in the main product address space.	Character, read-only

Descriptive name	Variable name	Contents	Data type
		REMOTE: If a user request information about all remote connections in the main product address space. REMOTEGRP: If a user is requesting information about TCP/IP host name and port information. RRRMINFO: If a user is requesting information about Resource Recovery Services. SECOPT: If a user is requesting information about security optimization cache entries. SUMMARY: If a user is requesting information about all of the summary interval data stored in the main product address space. TASKS: If a user is requesting information about all tasks that run in the main product address space.	

Command (CMD) events

Command events control client/server access to the mainframe.

When the Accelerator Loader server receives a command from a z/OS console, a rule is scheduled to run. The console can be a physical console or extended software, such as System Display and Search Facility (SDSF) or CA OPS/MVS Event Management and Automation. The command consists of a command verb, followed by optional operands. The command verb string is matched against enabled CMD rules to find the rule to run.

CMD rules perform the following tasks:

- Examine the command, parse the operands, and perform necessary actions, such as read and set product parameters. This allows parameters to be displayed and changed from the z/OS console.
- Access and update REXX global variables.
- Use REXX SAY statement to communicate with the console that entered the command. All output from the SAY statement is routed to the console that entered the original command. This allows ASO products to communicate with, interrogate the status, and control the Accelerator Loader server.

  Note:

  Because CMD rules can access and update any part of the product, you must control who can create, enable, and disable CMD rules.

All CMD rule processing is done by IBM Db2 Analytics Accelerator Loader for z/OS/REXX. Processing in another programming language is not supported.

Syntax

To trigger a CMD rule, use the z/OS STOP or MODIFY command, or use a z/OS command that specifies the subsystem name. The following commands are valid:

- MODIFY *x*DB*y*, *command text*
- *x*DB*y command text*
- *x*DB*y*, *command text*

where *x*DB*y* is a specific instance of the Accelerator Loader server, which is identified by the subsystem name that was assigned during installation.

When the z/OS STOP command triggers a CMD rule, the rule can control or reject product shutdown. The criterion of the rule must be STOP or a less specific criterion that matches the STOP command. The z/OS STOP (P) command can also trigger a CMD rule that has the matching criterion of STOP.

Header statement

A CMD criterion is a string of 1 - 30 characters. To schedule the rule to run for all commands, use a single * (asterisk) as the criterion. Use a trailing * (asterisk) as a wildcard character.

Use the following format for the header statement:

```
/*CMD criterion
```

Process section

A REXX process section is required.

Return values

The following table lists the return values for CMD rules:

Return value	Action
None supplied	If the rule runs a RETURN command, the Accelerator Loader server sends a return code that indicates the successful completion of the rule.
ACCEPT	The command in the rule was successfully completed.
REJECT	The command in the rule was rejected. To specify why the command was rejected, you REXX SAY statements.

The return value for a STOP CMD rule determines how the Accelerator Loader server terminates. The following return values are valid:

Return value	Action
None supplied	Termination is allowed to continue.
ACCEPT	Termination is not allowed to continue.
REJECT	Termination is not allowed to continue.

CMD event variables

Values for these variables are set only when a CMD rule processes a CMD event.

Variable	Contents	Data type
CMD.TEXT	Operands that are entered after the command name at the console.	Character, read-only

Variable	Contents	Data type
CMD.VERB	The command name that is entered at the console.	Character, read-only

Exception (EXC) events

An exception event occurs when a task exceeds a specified limit.

The EXC procedure samples that are distributed with the server contain a sample for each of the exception types. Instructions in the samples explain the following information:

- The environment in which the exception is detected.
- The operational controls that affect subsequent processing by the server.
- The valid return values.

The header statement for an EXC rule is /*EXC *criterion*, where *criterion* is one of strings in the following table. A process section is required.

Criterion	Description	Default action
CPULIMIT	A transaction task exceeded its maximum CPU time limit. This exception is detected only when multipart messages are being transmitted and only when a new message segment is being read. A rule for this event can take one or more of the following actions: • Use the return value IGNORE to ignore the exception. • Modify the limit for the current thread. This action prevents the exception from occurring again. Use the return value REJECT to terminate the ODBC connection, and use the EXC.OPERXRMG variable to send an error message to the client. The rule can use the SDBINFO API function and pass or not pass the connection token as the second parameter.	Terminate the transaction task.

Criterion	Description	Default action
CPUTIME	A transaction task exceeded its maximum CPU time limit. This exception can be detected any time while the task is running. A rule for this event can take one or more of the following actions: • Use the return value IGNORE to ignore the exception. • Modify the limit for the current thread. This action prevents the exception from occurring again. Use the return value KILL to terminate the ODBC connection. No message is sent to the client. The rule can use the SDBINFO API function and must pass the connection token as the second parameter. The connection token is required to identify the task that has the exception, rather than the current task.	Terminate the transaction task.
IMSFAIL	An IMS task detected a failing IMS operation. This exception can occur for any type of IMS processing. The rule can use the SDBINFO function without passing the connection token as the second parameter.	Terminate the IMS operation, and reflect the error to the client task.
LOCKEXCLUSIVE	A transaction task exceeded its Db2 exclusive lock limit. A rule for this event can take one of the following actions: • Use the return value IGNORE to ignore the exception. • Modify the limit for the current thread. This action prevents the exception from occurring again. Use the return value KILL to terminate the ODBC connection. No message is sent to the client. The rule can use the SDBINFO API function and must pass the connection token as the second parameter. The connection token is required to identify the task that has the exception, rather than the current task.	Terminate the transaction task.

Criterion	Description	Default action
LOCKSHARE	A transaction task exceeded its Db2 share lock limit. A rule for this event can take one of the following actions: • Use the return value IGNORE to ignore the exception. • Modify the limit for the current thread. This action prevents the exception from occurring again. Use the return value KILL to terminate the ODBC connection. No message is sent to the client. The rule can use the SDBINFO API function and must pass the connection token as the second parameter. The connection token is required to identify the task that has the exception, rather than the current task.	Terminate the transaction task.
LOCKUPDATE	A transaction task exceeded its Db2 update lock limit. A rule for this event can take one of the following actions: • Use the return value IGNORE to ignore the exception. • Modify the limit for the current thread. This action prevents the exception from occurring again. Use the return value KILL to terminate the ODBC connection. No message is sent to the client. The rule can use the SDBINFO API function and must pass the connection token as the second parameter. The connection token is required to identify the task that has the exception, rather than the current task.	

Criterion	Description	Default action
LOGFAILURE	A Db2 database exceeded a pending logging requests limit. This exception can be detected at any time. A rule for this event can take one of the following actions: • Use the return value IGNORE to ignore the exception. This action preserves the contents of the pending request queue and prevents error messages from being issued. • Use the return value CLEAR to clear the pending request queue, release all associated storage, and send an error message that contains the number of cleared requests to the system console. Modify the limit so that the exception does not occur again.	

Criterion	Description	Default action
PERSQLCPU	A transaction task exceeded its per-SQL-statement CPU time limit. This exception is detected only by SQL operations that the server runs, for example for /*EXESQL rules. It is not detected when a user-written high-level language (HLL) program invokes long-running SQL operations. A rule for this event can take one of the following actions: • Use the return value IGNORE to ignore the exception. • Modify the limit for the current thread so that the exception does not occur again. • Use the return value KILL to terminate the ODBC connection. • Use the return value IGNORE to ignore the exception. • Modify the limit for the current thread. This action prevents the exception from occurring again. Use the return value KILL to terminate the ODBC connection. No message is sent to the client. The rule can use the SDBINFO API function and must pass the connection token as the second parameter. The connection token is required to identify the task that has the exception, rather than the current task.	Terminates the transaction.
PGMDURATION	An RPC stalled or was put it into an indefinitely long wait state. A rule for this event can take one of the following actions: • Examine the problematic program name and return no value, in which case the default action is taken. • Return the value IGNORE, which allows the problematic task and the RPC task to continue. Use the EXC.EXXDTMLM variable to modify the limit.	If no rule is enabled to handle the exception or if no return value is specified, the default action is to cancel the problematic task and clear the RCP program.

Criterion	Description	Default action
RPCENQUEUE	A transaction task detected that a client task exceeded its RPC enqueue time limit. This exception can be detected at any time. A rule for this event can take one of the following actions: • Return the value IGNORE to ignore the exception. • Modify the time limit for the current thread. • Return the value KILL to terminate the ODBC connection. The rule can use the SDBINFO API function and must pass the connection token as the second parameter. The connection token is required to identify the task that has the exception, rather than the current task.	
RTMONITOR	The application exceeded the client response time. This exception is detected only for ODBC connections.	None
SESSIONFAILURE	A transaction task detected that a client task exceeded the session failure limit. This exception can be detected at any time. A rule for this event can take one of the following actions: • Return the value IGNORE to ignore the exception. • Modify the time limit for the current thread. • Return the value KILL to terminate the ODBC connection. No message is sent to the client.	Terminate the ODBC client task.
SQLFAIL	A transaction task detected that a SQL statement failed. When a failure occurs, a negative SQL code is set. Only SQL operations that the server runs, such as for /*EXECSQL rules, detect this exception. The exception is not detected when a user-written high-level language (HLL) program invokes a long-running SQL operation.	Returns the SQL error code to the transaction task.

Criterion	Description	Default action
TIMERONLIMIT	A transaction task detected that a prepare returned a timer-on value that exceeds the limit. Only SQL operations that the server runs, such as for /*EXECSQL rules, detect this exception. The exception is not detected when a user-written high-level language (HLL) program invokes a prepare. A rule for this event can take one of the following actions: • Return the value ALLOW, which allows the exception. • Modify the limit. • Return the value REJECT, which terminates the SQL statement, and use the EXC.OPERMG variable to return an error message to the client. The rule can use the SDBINFO function without passing the connection token as the second parameter.	
WAITTIME	A transaction task exceeded the wait time limit. This exception can be detected at any time. A rule for this event can take one of the following actions: • Return the value IGNORE to ignore the exception. • Modify the limit. • Return the value KILL to terminate the ODBC connection. No message is sent to the client. The rule can use the SDBINFO API function and must pass the connection token as the second parameter. The connection token is required to identify the task that has the exception, rather than the current task.	
ZSQLALLIMSSEGMENTS	SQL Solution determined that a SQL statement causes all IMS segments that are specified as tables to be read because the child segments that are being joined are not constrained. The query does not specify the CHILD_ID and PARENT_ID columns in the WHERE clause.	Allow or terminate the SQL statement, which is based on the value of the SQLENGDFLTEXCACTION parameter.

Criterion	Description	Default action
ZSQLFULLDBREAD	SQL Solution determined that a SQL statement causes all database source records to be read because the subtable query is not constrained. The query does not specify the CHILD_KEY and PARENT_KEY columns in the WHERE clause.	Allow or terminate the SQL statement, which is based on the value of the SQLENGDFLTEXCACTION parameter.
ZSQLINCKEYBEGINNING	SQL Solution determined that only the beginning of an incomplete key was specified for one of the tables in a query. This situation might occur when multiple columns comprise the key and the query that is specified only the beginning columns. This situation is acceptable for VSAM access, but it might incur additional overhead for IMS access.	Allow or terminate the SQL statement, which is based on the value of the SQLENGDFLTEXCACTION parameter.
ZSQLINCKEYPARTIAL	SQL Solution determined that only part of an incomplete key was specified for one of the tables in the query and that the beginning portion of the key was not specified.	Allow or terminate the SQL statement, which is based on the value of the SQLENGDFLTEXCACTION parameter.
ZSQLNOKEYCOLUMNS	SQL Solution determined that no key columns were specified in the WHERE clause. This situation causes the entire database to be read.	Allow or terminate the SQL statement, which is based on the value of the SQLENGDFLTEXCACTION parameter.
ZSQLNOWHERECLAUSE	SQL Solution determined that no WHERE clause was provided for a table. This situation causes the entire database to be read.	Allow or terminate the SQL statement, which is based on the value of the SQLENGDFLTEXCACTION parameter.

Variables for all EXC events

You can use the variables in the following table in any EXC rule:

Variable	Contents	Data type
EXC.OPEXACSR	The action string for the current exception. This string cannot be directly changed; however, the return value from some rules can change the action string. The following are valid values: • ACCEPT: Accept the current condition • IGNORE: Ignore the current condition • KILL: Kill the current client connection • ALLOW: Allow the current exception • NOACTION: Take no action • REJECT: Reject the current exception • TERMINATE: Terminate the current client connection	Character, read-only
EXC.OPEXCNTK	The connection token that is used to obtain information about the thread where the exception occurred. You must use this field for all exceptions that the Check Limits task detects. The connection token is passed as the second parameter of the SDBINFO function. The connection token is only needed if the EXC.OPEXINFO flag is set to 0 (zero).	Character, read-only
EXC.OPEXERMG	The error message field. This field can be modified to send messages to the application.	Character, read-write
EXC.OPEXINFO	A variable that indicates whether the SDBINFO function can be used by the EXC rule. Valid values are: • 0 (zero): SDBINFO cannot be used • 1: SDBINFO can be used	Character, read-only
EXC.OPEXSRID	The search ID field contains the criterion that triggers the current rule. The valid values are listed in the previous table.	Character, read-only

Variable	Contents	Data type
EXC.OPEXWAOK	A variable that indicates whether the EXC rule is allowed to perform operations that cause the current subtask to be placed in a waiting state. An example of such a task is issuing an I/O request. Valid values are: • 0 (zero): WAITS are not allowed • 1: WAITS are allowed	Character, read-only
EXC.USER	The user area is passed among all rules that are triggered for the same event.	Character, read-write

Variables for CPULIMIT events

Variable	Contents	Data type
EXC.EXCLSPLM	The CPU time limit. This variable can be modified to prevent the exception from occurring again. Set the variable to 0 (zero) to stop checking the CPU time.	Character, read-write
EXC.EXCLCPVL	The CPU time value shows how much CPU time the task has used.	Character, read-only

Variables for IMSFAIL events

Variable	Contents	Data type
EXC.EXIMIMCD	The IMS code. This value is obtained from IMS.	Character, read-only

Variables for LOCKEXCLUSIVE events

Variable	Contents	Data type
EXC.EXXCTMLM	The exclusive lock time limit. This variable can be modified to prevent the exception from occurring again. Set the variable to 0 (zero) to stop checking the CPU time.	Character, read-only
EXC.EXSHTMVL	The share lock time value shows long the current task has been holding a share lock.	Character, read-only

Variables for LOCKUPDATE events

Variable	Contents	Data type
EXC.EXUPTMLM	The update lock time limit. This variable can be modified to prevent the exception from occurring again. Set the variable to 0 (zero) to stop checking the CPU time.	Character, read-only
EXC.EXUPTMVL	The update lock time value shows long the current task has been holding an update lock.	Character, read-only

Variables for LOGFAILURE events

Variable	Contents	Data type
EXC.EXLGPNLM	The pending request limit. This variable can be modified to prevent the exception from occurring again. Set the variable to 0 (zero) to stop checking the limit of all pending requests. There are two request limits: the warning limit and the failure limit. If the rule is triggered for a warning limit, only the warning limit can be changed. If the rule is triggered for a failure limit, only a failure limit can be changed.	Character, read-only
EXC.EXLGPNVL	The pending requests value shows the number of pending logging requests.	Character, read-only
EXC.EXLGSSNA	The database name is the Db2 subsystem that has too many pending logging requests.	Character, read-only

Variables for PERSQLCPU events

Variable	Contents	Data type
EXC.EXPQCPLM	The per-SQL-statement CPU time limit. This variable can be modified to prevent the exception from occurring again. Set the variable to 0 (zero) to stop all per-SQL-statement time checking.	Character, read-write
EXC.EXPQCPVL	The CPU time value shows the amount of CPU time that the current SQL statement used.	Character, read-only

Variables for PGMDURATION rules

Variable	Contents	Data type
EXC.EXXDTMLM	The program duration time limit, in seconds. If the PGMDURATION rule returns IGNORE, which allows the RPC program to continue, each time that the limit is checked later, an exception occurs.To avoid raising additional exceptions, change this variable to increase the program duration limit, or set the variable to 0 (zero) to prevent additional events from being recognized. If the rule puts a new limit into effect, the new limit applies only to the in-flight RPC program execution for which the current exception was raised. The new limit is not retained in memory.	Character, read-only
EXC.EXXDTMVL	The duration time value shows how long, in seconds, the RPC program has been running.	Character, read-only
EXC.EXXDPGNA	The 8-byte name of the RPC program load module that is being run. For SQL CALL statements, the full procedure name from the SQL statement is unavailable when this exception is recognized. If no RPC rule matches the SQL CALL procedure name, the value of this variable is the first 8 characters of the procedure name. If a matching RPC rule contains a PROGRAM section, the value of the variable is the 8-byte load module name from the PROGRAM section of the RPC rule. In this case, the 8 characters might not match the leading characters of the CALL statement procedure name.	Character, read-only

Variables for RPCENQUEUE rules

Variable	Contents	Data type
EXC.EXNQTMLM	The RPC enqueue time limit. This variable can be modified to prevent the exception from occurring again. Set the variable to 0 (zero) to stop all RPC enqueue time checking.	Character, read-write

Variable	Contents	Data type
EXC.EXNQTMVL	The RPC enqueue time value, which shows how long the current task has been holding a PRC enqueue.	Character, read-only

Variables for RTMONITOR rules

Variable	Contents	Data type
EXC.EXCRTGRT	The client response time goal, which shows the acceptable response time.	Character, read-only
EXC.EXCRTMMI	The actual client response time for the transaction that produced the exception.	Character, read-only
EXC.EXCRTRTR	The total number of client response time records.	Character, read-only
EXC.EXCRSRTR	The sum of the total response time for all records.	Character, read-only
EXC.EXCRTMGR	The total number of client response time records that missed the response time goal.	Character, read-only
EXC.EXCRSMGR	The sum of the total response time for the records that missed the response time goal.	Character, read-only
EXC.EXCRIPAD	The IP address.	Character, read-only
EXC.EXCRUSID	The user ID.	Character, read-only
EXC.EXCRAPNM	The application name.	Character, read-only

Variables for SESSIONFAILURE rules

Variable	Contents	Data type
EXC.EXSETMLM	The session failure time limit. This variable can be modified to prevent the exception from occurring again. Set the variable to 0 (zero) to stop all RPC enqueue time checking.	Character, read-write
EXC.EXSETMVL	The session failure time value, which shows how long the current task has been processing on behalf of a client.	Character, read-only

Variables for SQLFAIL rules

Variable	Contents	Data type
EXC.EXSQSQCA	The SQLCA is built by prepare and is provided as a single binary data area.	Character, read-only
EXC.EXSQSQCD	The SQL code that is obtained from the SQLCA.	Character, read-only
EXC.EXSQSQSR	The SQL statement that failed.	Character, read-only

Variables for TIMERONLIMIT rules

Variable	Contents	Data type
EXC.EXTMSQCA	The SQLCA is built by prepare and is provided as a single binary data area.	Character, read-only
EXC.EXTMSQSR	The SQL string that was prepared	Character, read-only
EXC.EXTMTMLM	The timer-on limit. This variable can be modified to prevent the exception from occurring again. Set the variable to 0 (zero) to stop all timer-on checking.	Character, read-only
EXC.EXTMTMVL	The timer-on value shows the timer-on value that is returned by prepare.	Character, read-only

Variables for WAITTIME rules

Variable	Contents	Data type
EXC.EXWATMLM	The wait time limit. This variable can be modified to prevent the exception from occurring again. Set the variable to 0 (zero) to stop all wait time checking.	Character, read-write
EXC.EXWATMVL	The wait time value, which shows how long the current task has been waiting for a request from a client.	Character, read-only

SQL events

A SQL event occurs when a SQL statement is processed.

A SQL rule runs before the SQL source is prepared. If a SQL source is modified, it is prepared or passed to run immediately after the SQL rule runs. Use SQL rules for the following purposes:

Modify a SQL source
To modify a SQL source, add or modify a WHERE clause.

Reject a SQL statement
To reject a SQL statement, use the REJECT return value. You can also use the SQL.MESSAGE to send a message to the client. If the SQL statement is rejected, set the SQL.CODE variable to a negative value. Otherwise, the value -1 is used as the SQL code.

Accept a SQL statement
To accept a SQL statement, set the return value to ACCEPT. If the SQL statement is accepted, Db2 does not run it. Instead, the rule processes the statement. To send a warning or error message to the client, use the SQL.MESSAGE variable. For warnings, a positive value. For failures, use a negative value. If the return code is ACCEPT and a non-zero value is set for the SQL.CODE variable, a message is sent to the client. If a message is not provided, a default message is constructed and sent.

When a SQL event occurs, the system extracts information about the event and creates the following variables. These variables are instantiated when the SQL rule is scheduled to run. You can write a SQL rule that accesses the following variables:

Criterion	Variable	Contents	Data type
ALL	SQL.CODE	The code to return to the client	Character, read-write
ALL	SQL.MESSAGE	The message to return to the client	Character, read-write
ALL	SQL.SEARCHID	The SQL verb that is extracted from the current SQL string	Character, read-only
ALL	SQL.TEXT	The actual SQL source	Character, read-only
ALL	SQL.USER	The user area that is passed among all rules	Character, read-write

Time-of-day (TOD) events

A time-of-day event occurs when the z/OS timer that is associated with a rule expires.

To specify the header statement, use the following syntax:

```
/*TOD todspec, interval, endspec, maxexecs
```

where:

- *todspec* is the date or time. You must specify either *todspec* or *interval*. Use one of the following formats to specify *todspec*:
  - *ddMMMyyyy*, where *dd* is a 2-digit integer (01 - 31) that represents the day of the month; *MMM* is a 3-character abbreviation for the month (JAN, FEB, MAR, APR, MAY, JUN, JUL, AUG, SEP, OCT, NOV, DEC); and *yyyy* is a 4-digit year.
  - *yymmday*, where yy is a 2-digit year; mm is a 2-digit month; and *day* is the full name of a day of the week, for example, SUNDAY or MONDAY.
  - *hh*:*mm*:*ss*, where *hh*is a 2-digit integer (00 - 23) for the hour; *mm*is a 2-digit integer (00 - 59) for the minute; and *ss* is a 2-digit integer (00 - 59) for the seconds after the minute. The *ss* value is optional.
- *interval* is the amount of time to wait before running the rule again. You must specify either *todspec* or *interval*. Use the following format to specify the *interval*:
  - *n units*, where *n* is an integer that represents the number of times to run the rule, and *units* is the time to wait before running the rule again. For *units*, specify one of the following: DAY, DAYS, WEEK, WEEKS, HOUR, HOURS, MINUTE, MINUTES, SECOND, SECONDS.
- *endspec* is the time or date after which the rule stops running. This parameter is optional.
- *maxexecs* is an integer that represents the maximum number of times to run the rule. This parameter is optional.

Note: If you omit any parameter, code a comma in its place.

The value that is returned from a TOD rule has no special meaning.

When a TOD event occurs, the system extracts information about the event and creates the following variables. These variables are instantiated when the rule is scheduled for execution.

Criterion	Variable	Contents	Data type
ALL	TOD.NEXTFIRE	A value that indicates the next time that the rule runs. The following are valid values: • The date and time in *yyyy*/*mm*/*dd hh*:*mm*:*ss* format. • NONE if the rule will not run again.	Character, read-only
ALL	TOD.USER	An 8-byte field for passing information among multiple rules. This field is initialized to binary zeroes.	Character, read-write

Virtual table (VTB) events

Virtual table events are generated by the SQL Engine when a table name is found in an SQL statement. These events are only generated if the **SEFVTBEVENTS** startup parameter is set to allow them. The rules allow for creating virtual tables dynamically from a Data Mapping facility (DMF) model map and for modifying certain table values.

No keywords are defined for VTB event procedures. Only the SQL engine schedules execution of enabled VTB event procedures for each table name in an SQL statement. VTB event procedures allow you to modify information in the DMF map. VTB event procedures make it possible to access multiple data sets using one DMF map by creating alias maps using a model map. Each alias map can specify a different data set name. The model map must be a map that is created by using DMF.

Only the event procedure criterion value is allowed (and *must* be present).

To specify the header statement, use the following syntax:

```
/*VTB criterion
```

where:

- *criterion* is the criterion value for VTB event procedures. This *criterion* is one of the two event types that are shown in the following table.

Each VTB event procedure has access to server-wide global variables.

In addition, VTB-specific variables are created before the VTB event procedure is invoked. The variables that are created differ depending on the criterion.

Criterion	Variable	Contents	Data type
Any criterion	VTB.USER	The user area is passed between all event procedures that fire for the same event.	Read-write

Criterion	Variable	Contents	Data type
Any criterion	VTB.OPTBSRID	The search id field contains the criterion used to fire the current event procedure. The format of the criterion is the string 'MODIFYTABLE.' followed by the table name found in the SQL statement.	Character Read-only
Any criterion	VTB.OPTBTBNA	The 1 to 128-character table name from the SQL statement.	Character Read-only
MODIFYTABLE.*tablename*	VTB.OPTBMTNA	Set the model table name. This is the 1 to 50-character name of a DMF map that will be used to create a virtual table with the alias name *tablename*	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBMRDI	Disable MapReduce. Set this value to 1 to disable map reduce. Setting this value to 0 has no effect. VTB.OPTBMRDI and VTB.OPTBMREN are mutually exclusive.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBMREN	Enable MapReduce. Set this value to 1 to enable map reduce. Setting this value to 0 has no effect. VTB.OPTBMREN and VTB.OPTBMRDI are mutually exclusive. Enabling MapReduce requires that the MapReduce feature is enabled.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBMRTC	Set the number of MapReduce threads to use.	Character, write

Criterion	Variable	Contents	Data type
MODIFYTABLE.*tablename*	VTB.OPTBFLAT	Flatten this table. Set this value to 1 to flatten the table. All columns and occurrences are returned in a single table Setting this value to 0 has no effect. VTB.OPTBFLAT and VTB.OPTBSUBT are mutually exclusive.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBSUBT	Create subtables. Set this value to 1 to create subtables Columns that are part of an occurs or occurs-depending-on are returned as separate tables. Setting this value to 0 has no effect. VTB.OPTBFLAT and VTB.OPTBSUBT are mutually exclusive.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBCLSQ	Clear sequential data set map related fields. Set this value to 1 to clear the data set member name, pre-write exit name, and post read exit name. Setting this value to 0 has no effect. The fields are cleared before any other variables are processed.	Character, write

Criterion	Variable	Contents	Data type
MODIFYTABLE.*tablename*	VTB.OPTBCLCI	Clear VSAMCICS map related fields. Set this value to 1 to clear the pre-write exit name, post read exit name, CICS file control table entry names, CICS connection name, and CICS transaction name fields. Setting this value to 0 has no effect. The fields are cleared before any other variables are processed. Clearing those fields cause a VSAMCICS file to be processed as a native VSAM file.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBCLAD	Clear Adabas map related fields. Set this value to 1 to clear the database ID, file number, and subsystem name fields. Setting this value to 0 has no effect. The fields are cleared before any other variables are processed.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBCLD2	Clear Db2 map related fields. Set this value to 1 to clear the table name, subsystem map name, table creator name, plan name, and user ID fields. Setting this value to 0 has no effect. The fields are cleared before any other variables are processed.	Character, write

Criterion	Variable	Contents	Data type
MODIFYTABLE.*tablename*	VTB.OPTBCLIM	Clear IMS DB map related fields. Set this value to 1 to clear the segment name, DBD name, and PSB name fields. Setting this value to 0 has no effect. The fields are cleared before any other variables are processed.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBCLIV	Clear IMS view map related fields. Set this value to 1 to clear the segment name, DBD name, and PSB name fields. Setting this value to 0 has no effect. The fields are cleared before any other variables are processed.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBDSNA	Set the 1 to 44-character VSAM or sequential data set name.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBMEMA	Set the 1 to 8-character sequential data set member name.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBPRWR	Set the 1 to 8-character VSAM, VSAMCICS, or sequential data set pre-write exit name.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBPSRD	Set the 1 to 8-character VSAM, VSAMCICS, or sequential data set post read exit name.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBVSBF	Set the 1 to 8-character CICS file control table entry name for the base file.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBCONN	Set the 1 to 4-character CICS connection name.	Character, write

Criterion	Variable	Contents	Data type
MODIFYTABLE.*tablename*	VTB.OPTBCITR	Set the 1 to 4-character CICS transaction name.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBADBI	Set the Adabas database ID (DBID) number.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBAFNR	Set the Adabas file number.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBSUBS	Set the 1 to 4-character Adabas subsystem name.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBD2TN	Set the 1 to 128-character Db2 table name.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBD2SN	Set the 1 to 50-character Db2 subsystem map name.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBD2TC	Set the 1 to 8-character Db2 table creator ID.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBD2PN	Set the 1 to 8-character Db2 plan name.	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBIMSN	Set the 1 to 8-character IMS DB segment name	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBIMDN	Set the 1 to 8-character IMS DB DBD name	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBPSB	Set the 1 to 8-character IMS DB PSB name	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBIVSG	Set the 1 to 8-character IMS view segment name	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBIVDB	Set the 1 to 8-character IMS view DBD name	Character, write
MODIFYTABLE.*tablename*	VTB.OPTBIVPS	Set the 1 to 8-character IMS view PSB name	Character, write

Criterion	Variable	Contents	Data type
GETALIASES.*tablename*	VTB.OPTBLIST	Set a list of 1 to 50-character table names that are the aliases of map *tablename*. There is room for up to 637, 50-character alias names that are separated by a blank. More alias names are possible if they are shorter.	Character, write

Host commands

Use host commands to retrieve output information from a specified host environment.

DISPLAY command

Use the DISPLAY command to display information about all connected users.

Displaying basic information

Use the following syntax to display basic information about all connected users:

```
"DISPLAY REMOTE USERS(*)"
```

This command displays the following information about each connected user:

- ACTUAL BLOCK ADDRESS
- APPLICATION NAME
- CONNECTION ID
- DB2 SUBSYSTEM
- HOST NAME
- ICUV PATH ID
- IP ADDRESS
- LINK TYPE
- LOCAL IP PORT NUMBER
- REMOTE IP PORT NUMBER
- SOCKET NUMBER
- TRUSTED HOST
- USER ID
- TASK TCB ADDRESS
- TRUSTED HOST
- USER ID

Displaying additional information

Use the following syntax to display additional information about all connected users:

```
"DISPLAY REMOTE USERS(*) VERBOSE"
```

This command provides the following additional information about each connected user:

- ACEE SOURCE
- BUFFER FUNCTION CODE
- COMPRESSED SEND AMOUNT
- COMPRESSED TOTAL BYTES RECEIVED
- CPU TIME
- CUMULATIVE COMPRESSION
- CUMULATIVE RECEIVED COMPRESSION
- CURRENT COMPRESSED RECEIVED AMOUNT
- CURRENT RAW RECEIVED AMOUNT
- CURRENT STATE
- DB2 PLAN NAME
- DB2 REQUESTING SITE
- DB2 THREAD TOKEN
- DOMAIN NAME
- ELAPSED TASK TIME
- EXTENDED USER ID
- GENERIC USER ID
- HOST TIME
- INTERNAL NAME
- LAN USER ID
- LOCKS HELD
- MODULE NAME
- ODBC DRIVER DATE
- ODBC DRIVER VERSON
- PROGRAM NAME
- RAW BYTES RECEIVED
- RAW BYTES SENT
- RAW RECEIVED COMPRESSION
- RAW SEND AMOUNT
- RAW SEND COMPRESSION FACTOR
- SQL CODE
- SQL COUNT
- SQL CURSOR NUMBER
- SQL REASON CODE
- SQL RETURN CODE
- SQL STATEMENT NUMBER
- SQL STATEMENT TYPE
- STATE DURATION
- TELEPROCESSING TIME
- TELEPROCESSING TIME PERCENTAGE
- TOTAL RAW BYTES SENT
- USER PARAMETER

- WLM ENCLAVE COUNT
- WLM ENCLAVE CPU TIME

API functions for rules

HLVVALUE API function

Use the HLVVALUE function to manipulate global variables.

For example, use the HLVVALUE function to use compound symbols as a type of database. Use this function in a rule that performs special interrogation or serialization processing.

Under normal circumstances, you can use a REXX language statement to reference or set the value of a global variable. The following code shows an example of using a REXX statement to

```
SAVENAME = GLOBAL.COMPANY.NAME
GLOBAL.COMPANY.NAME = "Keroct Software"
GLVEVENT.MYDATA = "ABC"
```

Syntax

```
val = HLVVALUE(derivedname, actioncode, newval, oldvar)
```

where:

- *derivedname* is the name of the symbol that receives the action. When you use this parameter without quotation marks, simple symbols (case sensitive) following the stem are replaced by their values.
- *actioncode* is the action to take on the symbol.
- *newval* is the new value to assign to the symbol.
- *oldval* is the value of the symbol before the action is taken.

Return values

HLVVALUE returns a value from the function call, and for some action codes, places information in the external data queue.

Action codes

The following table describes the actions that are performed for each action code and the values that are returned.

Table 22. Action Codes and return values

Action code	Descriptin	Return value	Description
A (Add)	Adds a number, which is specified by increment, to the existing compound symbol given by *derivedname*. All references to the compound symbol are serialized during the add operation, so you can use this function to increment a counter that is set by concurrent tasks.	`val = HLVVALUE (derivedname'A' increment)`	Returns 1 (true) if the comparison finds the pre-action value to be equal to the old value and the compound symbol was updated. Returns 0 (false) if the comparison finds unequal values and does not update the value of the compound symbol. Does not change the external data queue.
C (Compare and update)	Verifies the value of a compound symbol and then updates its value. Safely updates global symbols that more than one rule uses or global symbols that multiple copies of the same rule might access and update. Serializes the compare and update operations for global values.	`val = HLVVALUE (derivedname,'C', newval,oldval)`	Returns 1 (true) if the comparison finds the pre-action value to be equal to the old value and the compound symbol was updated. Returns 0 (false) if the comparison finds unequal values and does not update the value of the compound symbol. Does not change the external data queue.
D (Drop)	Drops the compound symbol that is specified by *derivedname*. Resets the compound symbol to its uninitialized value or derived name. If *derivedname* specifies a stem, all compound symbols that belong to that stem are dropped and the virtual storage that is allocated to them is released. All other references see the compound symbol as it existed before the drop operation started or as it is after the drop operations finishes.	`val = HLVVALUE (derivedname,'D')`	Returns the value of *derivedname*. Does not change the external queue.

Table 22. Action Codes and return values (continued)

Action code	Descriptin	Return value	Description
E (Existence)	Determines whether a global variable exists.	`val = HLVVALUE (derivedname,'E')`	Returns one of the following values for the status of the global variable: • I: Initialized • U: Uninitialized. The variable exists in storage, but it is uninitialized so it is set to the value of its name. • N: Does not exist. The variable does not exist in storage. Does not change the external data queue.
F (Find)	Determines whether a global variable exists. The maximum length for a string pulled from the external data queue is 350 bytes. Longer strings are truncated.	`val = HLVVALUE (derivedname,'F')`	Returns one of the following values for the status of the global variable: • I: Initialized • U: Uninitialized. The variable exists in storage, but it is uninitialized so it is set to the value of its name. • N: Does not exist. The variable does not exist in storage. When the return value is I or U, the value of the node is returned in the external data queue.

Table 22. Action Codes and return values (continued)

Action code	Descriptin	Return value	Description
I (Information)	Returns information about all of the immediate subnodes of the *derivedname*.	`val = HLVVALUE (derivedname, 'I')`	For each subnode, places two lines in the external data queue. The first line contains the next segment of the *derivedname*. The second line contains the following information about the *derivedname*: • Word 1, length 8: Number of subnodes under this node. • Word 2, length 8: Create date, in the form yy/mm/dd. • Word 3, length 8: Create time, in the form hh:mm:ss. • Word 4, length 17: Create rule or program name. • Word 5, length 8: Create job name, task name, or TSO ID. • Word 6, length 8: Last modification date. • Word 7, length 8: Last modification time. • Word 8, length 17: Last modification rule or program name. Does not return partially updated symbol names.
L (List)	Lists the derived name of each subnode of the *derivedname*.	`val= HLVVALUE (derivedname, 'L')`	Returns the number of subnodes that are listed in the external data queue. Returns dropped symbols, but does not return removed symbols.

Table 22. Action Codes and return values (continued)

Action code	Descriptin	Return value	Description
O (Obtain)	Obtains the value of a global variable.	`val = HLVVALUE (derivedname, 'O')`	Returns the value of a global variable. If the global variable does not exist, returns an error. Does not change the external data queue.
R (Remove)	Removes the specified node and all of its subnodes. After a node is removed, it ceases to exist.	`val = HLVVALUE (derivedname, 'R')`	Returns the number of subnodes that were removed. Does not change the external data queue. Does not allow other accessories of compound symbols to see partially updated symbols.
S (Subtree)	Lists the entire global variable name of all subnodes of the *derivedname*.	`val = HLVVALUE (derivedname,'S')`	Returns the entire global variable name of all of the subnodes in the external data queue. Returns the number of subnodes that exist, as listed in the external data queue. Does not return partially updated symbol names.
T (Subtree and information)	Lists the entire global variable name and all subnodes of the *derivedname*.	`val = HLVVALUE (derivedname,'S')`	Returns the entire global variable name and two lines for each subnode in the external data queue. The first line contains the next segment of the *derivedname*. The second line contains the information., as described for the Information code, for each *derivedname*. Does not return partially updated symbol names.

Table 22. Action Codes and return values (continued)			
Action code	**Descriptin**	**Return value**	**Description**
U (Update)	Assigns *newval* as the value of the compound symbol that is specified by *derivedname*. If the compound does not exist, the compound is created and assigned the new value. Use Update to prevent others who access compound symbols from seeing partially updated symbols.	`val = HLVVALUE (derivedname,'U',newval)`	Returns the variable that is specified by *newval*. Does not change the external data queue.
V (Value)	Returns the value of the specified compound symbol. Use Value to prevent the issuer of SDVALUE from seeing partially updated symbols.	`val = HLVVALUE (derivedname,'V')`	Returns the current value of the node. If the node does not exist, it is created but it is not assigned a value. Instead, it is given the same value as its name. Does not change the external data queue.

HLVINFO API function

The HLVINFO function retrieves information about the Accelerator Loader server subsystem.

The syntax for the HLVINFO function is the following:

```
var=HLVINFO(arg1[,arg2])
```

where *arg1* is a parameter from the following table, and *arg2* is the connection token, which is optional.

The function always returns a return value. If the value requested is not valid for the environment, a NULL string is returned.

Parameter	**Return value**
ASID	Returns the address space identifier (ASID) as a 2-byte binary value when invoked using the program API. Returns the ASIDD as a 4-byte value when invoked from REXX.
BYTES	Returns the number of saved bytes.
CLOCK	Returns the current time-of-day (TOD) clock value as an 8-byte binary value. This is the unadjusted STCK value.
CONNECTID	Returns the unique connection ID value.
CPUDELTA	Returns the 8-byte task CPU time delta value.
CPUTIME	Returns the 8-byte task CPU time value.
DB2PLAN	Returns the name of the Db2 plan.

Parameter	Return value
DB2SUBSYS	Returns the name of the Db2 subsystem.
EVENTTYPE	Returns the type of event that is associated with the rule or program.
HOSTDOMAIN	Returns the host (server) domain that is associated with the current request.
HOSTNAME	Returns the host name (client) associated with the current request.
IPADDRESS	Returns the fully formatted IP address for the current request in the form 10.17.16.164.
JOBNAME	Returns the z/OS job name that is related to the current primary address space.
LASTCONNECTID	Returns the last connection ID used on the current link.
LASTUSERID	Returns the last user ID used on the current link.
LINKTYPE	Returns the link type for the current request.
LU	Returns the LU name for the current request.
MAINPGM	Returns the name of the main REXX program or rule.
MODE	Returns the mode name for the current request.
ODBCDATE	Returns the compile date of the .NET Client (ODBC).
ODBCVERSION	Returns the version of the .NET Client (ODBC).
PRODUCT	Returns the product identification string.
PRODUCTSTATUS	Returns the current product status.
PROGRAM	Returns the name of the REXX program or rule.
ROWS	Returns the number of source rows.
SEFFEATURE	Returns a single blank if the Server Event Facility (SEF) is not enabled.
SUBSYS	Returns the accessed subsystem ID from the current OPMS image.
SUBSYSASID	Returns the ASID of the active subsystem from the real OPMS as a 2-byte binary value when invoked by using the program API and as a 4-byte value when invoked from REXX.
SMFID	Returns the SMF ID.
TASKTYPE	Returns the task type.
TRANSTYPE	Returns the transaction program type.
USERID	Returns the user ID value.
USERPARM	Returns the user parameter string from the client.

Parameter	Return value
VERSION	Returns, as a string, the version of the product subsystem under which the rule or program is running.

Examples

The following call sets the REXX variable, IPA, to the fully formatted TCP/IP address of the client program:

```
IPA = HLVINFO(IPADDRESS)
```

The following call sets the variable *USER* to the user ID value of the connection that caused the exception. In this example, EXC.OPEXCNTK, which contains the connection token, is used to obtain the user ID because the exception rule runs under the OPCKLM (check limits) task, not the user connection task:

```
USER = HLVINFO(USERID,EXC.OPEXCNTK)
```

HLVECURE API function

The HLVECURE function performs security-authorization processing.

Verify data set access

To verify that the current user has authorization to access a data set, use the following syntax:

```
var = HLVECURE('D','dsname','accesstype','volser')
```

where:

- *dsname* is the name of the data set.
- *accesstype* is the type of data set access to verify. If you do not specify a type, READ access is the default. Valid values are:
  - A: Verify ALTER access.
  - C: Verify CONTROL access.
  - R: Verify READ access.
  - U: Verify UPDATE access.
- *volser* is the volume serial number to validate. If you do not specify a volser, the parameter is blank, by default.

The function returns a message that indicates whether access is allowed.

Retrieve logon ID field data

To retrieve security subsystem information from the current user's ACEE, use the following syntax:

```
var = HLVECURE('F','fieldname')
```

where *fieldname* is one of the fields in the following table:

Field	Description	Field format
ALTER	Alter authority flag	Bit
APPLICATION	Application name	Character
APPLICATIONDATA	Application data	Character
APPLICATIONLEVEL	Application level	Binary

Field	Description	Field format
AUDITOR	Auditor attribute	Bit
AUTOMATIC	Automatic attribute	Bit
CLASSAUTHORIZATIONS	Class authorizations	Binary
CONTROL	Control authority flag	Bit
DATE	Date	RACINT date
DEFINEUSERS	Authorized to define users	Bit
GROUP	Contents of the ACEE group field	Character
GROUPLIST	A list of groups	Character
GROUPLISTCONTAINS	Group list contents flag	Bit
INSTALLATIONDATA	Contents of the installation data field	Character
LOG	Logging on for most operations	Bit
NONE	None authority flag	Bit
OPERATIONS	Operations attribute	Bit
PORTOFENTRYDATA	Port of entry data	Character
PORTOFENTRYLEVEL	Port of entry level	Binary
PRIVILEGED	Server with privileged flag	Bit
PROTECTDASD	Authorized to protect DASD	Bit
PROTECTTAPE	Authorized to protect tape	Bit
PROTECDTTERMINALS	Authorized to protect terminals	Bit
RACF	RACF-defined user flag	Bit
READ	Read authority flag	Bit
SPECIAL	Special attribute	Bit
STCNAME	Accelerator Loader server name	Character
SURROGATEUSERID	Surrogate user ID	Character
TERMINAL	Terminal ID	Character
UPDATE	Update authority flag	Bit
USERDATA	Contents of the user data field	Character
USERID	Contents of the ACEE user ID field	Character
USERNAME	User name field	Character
VERSION	ACEE version code	Binary

The following conversions occur, based on the field format:

- Binary fields are converted to signed decimal values without leading zeroes or blanks. The number zero is returned as 0.
- Character fields are returned as is. If a character field name exceeds the maximum allowed string length, it is truncated to the server configuration/REXX-defined maximum string length.

- Date fields are converted to the format *yyyy*/*mm*/*dd*. Leading zeros are retained so that the result is always 10 non-blank characters. A date field that contains zero is returned as ****/**/**.
- Bit fields are converted to 0 (false or off) or 1 (true or on).
- The GROUPLIST field inquiry returns an integer that represents the number of entries in the group list. Each group name is returned as a separate entry in the external data queue.

Request security product information

To retrieve information about the security product, use the following syntax:

```
var = HLVECURE('i','name')
```

where *name* is one of the values in the following table:

Value	Return value
MODE (Valid only for systems that run ACF2)	Returns one of the following ACF2 operating modes: ABORT, LOG, OFF, WARN, QUIET.
PRODUCT	Returns the name of the security product or the message UNKNOWN SECURITY PRODUCT.
RELEASE	Returns the release and version number for the security product.

If the information cannot be obtained, a NULL string is returned.

Verify access to a generalized resource

To verify that the current user has access to a generalized resource, use the following syntax:

```
var = HLVECURE('R', class, resource, requestcode)
```

where:

- *class* is the generalized resource class name or for ACF2, the type name.

  Note: Rules that verify access to resources use SAF processing. If you use ACF2, you must define the ACF2 resource type as a SAF class name.
- *resource* is the 1- to 39-byte resource entity name.
- *requestcode* is the type of access to verify. If you do not specify a request code, READ access is the default. The following are valid values:
  - A: Verify ALTER access..
  - C: Verify CONTROL access.
  - R: Verify READ access.
  - U: Verify UPDATE access.

If access to the resource is allowed, the string ALLOW is returned. Otherwise, an error message is returned.

Verify a user ID and password

Use the following syntax to verify the user ID and password. If the password is valid, the user is logged on to the system. This API call is valid only for ATH events.

```
var = HLVECURE('P','userid','password','newpassword')
```

where:

- *userid* is the user ID to validate.

- *password* is the password that is associated with the user ID.
- *newpassword* is the new password to associate with the user ID.

If you omit the *newpassword* parameter, the user ID and password are validated. If you specify the *newpassword* parameter, the password is changed.

If the password is correct, the return value is the string ALLOW. If the password is incorrect, an error message is returned. For ACF2, the counter for invalid password violation for the specified user ID is incremented for each failed attempt.

Use an implied password to validate a user ID

This request causes the specified user ID to be validated. If the password is valid, the user is logged on to the system. The password is not specified on the function call. Instead, the initial inbound transaction request transmits the password. Use this function to perform custom security checks without making the clear text password available to the procedure. This API call is valid only for ATH events.

Use the following syntax to use an implied password to validate a user ID:

```
var = HLVECURE('PI', 'userid', 'newpassword')
```

where:

- *userid* is the user ID to validate.
- *newpassword* is the new password to associate with the user ID.

If you omit the *newpassword* parameter, the function uses the implied password to validate the user ID. If you specify *newpassword*, the function changes the password. If the password is correct, the return value is the string ALLOW. If the password is incorrect, an error message is returned. For ACF2, the counter for invalid password violation for the specified user ID is incremented for each failed attempt.

HLVSUBMIT API function

Use the HLVSUBMIT function to submit JCL to the internal reader and return the JES2 or JES3 job ID for each submitted job.

The HLVSUBMIT function can be invoked as a function reference, which returns its result to the point of invocation, or as a REXX CALL statement. There is no corresponding TSO/E REXX or high-level language (HLL) API interface.

- The JCL statements read from the input stream can be any size; however, each individual statement is extended or truncated to be 80 bytes when submitted through the internal reader.
- In cases where the JCL input stream is ASCII or UTF-8 encoded, for example, for POSTED input, the function converts the JCL stream to IBM-1047 EBCDIC. Only rudimentary UTF-8 support is available, so avoid including double-byte characters and ASCII characters above code point 0x7F.
- The function provides no editing and imposes no restrictions on the content and format of JOB statement names in the JCL that is submitted.
- To detect job boundaries, the function scans each JCL statement. The following situations indicate a job boundary:
  - The JCL statement begins with “//”, followed by an uppercase EBCDIC Latin letter or one of the IBM 1047 EBCDIC characters “@”, “$”, or “#”.
  - The prefix is followed by 0 - 7 Latin letters or numbers or the IBM 1047 EBCDIC characters “@”, “$”, or “#”.
  - The next blank-delimited word is JOB. After this word is found, the scan stops parsing the statement.
  - The scan does not take into account quoted string boundaries that enclose continued PARM= operands and does not detect, honor, and process JCL statement continuations.
- Jobs that are submitted while a client user ID logon are in effect are given a USER attribute that matches the logon ID of the client subtask. If the JCL USER= operand of the JOB statement is present

and differs from the client task logon ID and PASSWORD= is not present, RACF surrogate user attribute assignment and authorization restrictions might be imposed.

- The HLVSUBMT function can be used only in REXX language rules. The function cannot be used in a rule that runs in cross-memory mode or one for which waiting for system services is inhibited. Areas where HLVSUBMT cannot be used or can be used only conditionally include the following:
  - HLVSUBMT cannot be used during enabling or disabling a rule, which occurs when the PHASE variable is not set to PROC.
  - HLVSUBMT cannot be used in CMD, GLV, and TYP rules.
  - To determine when HLVSUBMT can be used, an ATH rule can check the value of the ATH.OPAU13WA variable, and an EXC rule can check the value of the EXC.OPEXWAOK variable. If HLVSUBMT can be used, the variable is preset to 1.

Use the following syntax:

```
HLVSUBMIT(arg1, arg2, arg3, arg4 )
```

or

```
CALL HLVSUBMIT(arg1, arg2, arg3, arg4 )
```

where:

- *arg1* and *arg2* specify the location of the input JCL stream.
- *arg3* specifies the 1-character JES class to which the internal reader is allocated.

  reader is allocated.
- *arg4* is a string that specifies the type of tracing.

The following table lists the valid values for *arg1* and *arg2*:

Value	**arg1: Location of the JCL input stream**	**arg2**
STEM	The JCL is in a REXX stem variable array. The 0th entry in the array contains the count of entries. Entries 1 - *n* contain individual JCL statements.	The REXX variable stem name. The name must end with a period. Length 1- 12 character.
DSN	The JCL is in a z/OS data set.	A fully qualified z/OS data set name. The name can include a PDS(E) member name. Length 1-54 bytes.
DDN	The JCL is in a z/OS data set that is preallocated to a DD name.	The DD name. Length 1- 8 bytes.
PATH	The JCL is in a USS HFS file.	The fully qualified HFS path name of the file. Length 1 - 256 bytes.
POSTED	The JCL is received as a posted file entity over HTTP.	The index number, 1 to *n*, of the posted file entity in the received HTTP request. If this argument is omitted, the default value is 1.

arg3 is the 1-character JES class to which the internal reader is allocated. The character A - Z, 0 - 9, and * (asterisk) are valid. Use * to request the default job class. If you do not specify this parameter, * is the default.

arg4 is a string that is 1 - 5 bytes. Each character of the string must be Y or N to specify whether the corresponding trace function for that byte is enabled. The following table describes the byte positions and trace functions:

Byte position	Default	Trace function
1	Y	Trace JOB IDs that JES returns.
2	Y	Trace input source JCL.
3	Y	Trace the dynamic-allocation activity of the internal reader.
4	N	Trace writes to the internal reader.
5	N	Trace the decoding of posted data (conversion to EBCDIC).

Unless a REXX ERROR or FAILURE signal is generated because of a fault condition, *arg4* returns one of the following numeric results:

- 0: Successful completion
- 4: Parameterization error
- 8: Environmental error
- 12: System service error
- 16: ABEND condition that is trapped
- +100: If one or more jobs are submitted before a failure, the value +100 is added to a result. To determine the failure code, subtract 100.

JOBID. stem variables

The function uses a REXX DROP on all JOBID. stem variables during entry-processing and presets variables to the values shown in the following table. This reset operation occurs after initial parameter validation but before JCL processing. If the reset fails, the REXX `invalid symbol` signal is generated. After setup, unless a REXX signal is thrown, the JOBID.RC, JOBID.REASON, JOBID.0, and JOBID.*n* variables are set as described. All other JOBID. stem variables are undefined.

Variable	Description
JOBID.RC	Contains the same value as the evaluated RESULT of the function call or if a problem is detected before all other JOBID. stem variables are correctly set, contains a NULL string.JOBID.RC is set to a NULL string at entry, and setting this variable to the RESULT is the last action that the function takes before exit.
JOBID.REASON	When the function call ends with a non-zero RESULT, contains error text. This variable is set to a NULL string when the RESULT is zero.

Variable	Description
JOBID.0	Contains an integer that indicates the number of jobs that were found in the input JCL stream and successfully submitted to the internal reader. If no jobs were successfully submitted or if a system failure prevented the return of any job IDs during processing, this variable contains 0 (zero). If one or more jobs are submitted before a failure, this variable contains the number of submitted jobs for which IDs were returned.
JOBID.*n*	Contains the job ID that is assigned to the first through *n*th job in the submitted JCL stream. Valid job IDs are in the format JOB*xxxxx* or J*xxxxx*, where *xxxxx* is a system-assigned sequence number. Only the variables JOBID.1 through JOBID.*n*, where *n* is the numeric value that is assigned to JOBID.0 are set.

Monitoring

Accelerator Loader server provides powerful diagnostic tools that can record critical events for individual transactions. This information can be used to diagnose, debug, and correct problems.

Accelerator Loader server provides the following trace options:

- Server Trace
- Instrumentation Server (IS)
- Server Trace Archival Facility
- SQL Tracing

Server Trace

The Server Trace adds Accelerator Loader server trace records to a trace buffer maintained in virtual storage. When the session is finished, the trace records are automatically saved in a VSAM data set.

Trace records are written for the following actions:

- SQL operations
- IMS calls
- CICS calls
- Communication events (LU 6.2, TCP/IP, and messages)
- Thread attach and detach events
- Remote Procedure Call (RPC) events
- Message events
- Errors (abends)

A Remote Procedure Call (RPC) can add its own trace messages to the trace for diagnostic purposes.

Using Trace Browse, you can perform the following actions:

- Display formatted columns of information, such as user ID and time
- Use FIND and LOCATE commands to search for data or a specific time and date
- Use the DISPLAY command to display additional columns of information
- Use the STATUS command to display the Trace Browse status area

In general, the Server Trace can accommodate the complete record of all client/server processing for several days. However, using hierarchical storage management, you can maintain an unlimited history of data. The Server Trace data collection routines support collection of all the data required for auditing, capacity planning, and trend analysis of usage patterns. You can set security for the Server Trace filter functionality to prohibit viewing of sensitive data by a non-authorized user.

Instrumentation Server

Using the Instrumentation Server (IS), you can run multiple instances of the server in a sysplex and route trace information to a single repository so that you have a global view of all activity.

Server Trace Archival Facility

Use the Server Trace Archival Facility to back up, or archive, active trace information. The archive consists of a large block of virtual storage, which can be backed up by a data-in-virtual (DIV) linear data set. This block of virtual storage is sub-divided into the following parts:

- The status area occupies the first 4 KB page of the virtual storage and contains checkpoint information about the trace area and information about the most recent trace archive.
- Event blocks begin in the second 4 KB page of the virtual storage area. Each event block occupies 896 bytes of storage. Each server event is recorded in the next available slot, beginning with the first slot, continuing to the end of the event blocks, and wrapping around to the beginning of the event block.
- Vector tables each begin on a 4 KB page boundary, and are located after the event blocks in the trace storage. Each vector table contains index information that allows views of the trace to be filtered without searching through the entire virtual storage area occupied by each individual event block.

SQL Trace

The SQL Trace program provides details about all of the SQL statements that applications issue. The information that is displayed in the SQL Trace program is derived from the main log by using connection IDs as the selection criterion.

When you select an active session, the SQL Trace displays the current information. To refresh the information, press `Enter`.

Displaying and navigating log entries

Use the Server Trace panel to view, navigate, and manage the log entries that display.

About this task

By default, the Server Trace panel displays all log entries. To view a subset of the log entries, you can filter on the results, use labels, and create a profile. If the server configuration is running on a zIIP server, entries that are related to work that runs on the zIIP server are displayed in pink.

Procedure

1. From the Primary Option panel, enter B on the Option line.

   The Server Trace panel displays the most recent entries, which are at the end of the list. By default, the time, host name, and description of the event are displayed.
2. On the Server Trace panel, you can navigate through the trace messages in the following ways:
   - Use the UP, DOWN, RIGHT, and LEFT scroll commands (or their PF key equivalents) to navigate this panel.
   - Use the MAX or M scroll operand to scroll the maximum amount in any direction.
   - If you are at the beginning or end of the trace list (and it is full), press **ENTER** to scroll the list down. Messages are removed from the beginning and added to the end.
3. Optional: Perform any of the following steps:

- To refresh the list, press Enter.
- If you reposition the display, to see the most recent entries, issue the DOWN MAX command and then press **Enter**.
- To display a different set of columns, type D on the command line, followed by the names of the columns to display.

Server Trace panel columns

Use the DISPLAY command to display specific columns on the Server Trace panel.

Table 23. Server Trace panel columns

Column	Description
ACTION	Displays one of the following: • ACC (accept) • REJ (reject) • NOA (no action)
ADDRESS	The location in memory of the actual record.
ADDRJOB	The location in memory of the current record in the JOBNAME vector.
ADDRUSR	The location in memory of the current record in the USERID vector.
APMRC	The APPC/MVS return code.
ASID	The address space ID of the user who created the current record.
CLOCK	The timestamp of when the record was created.
CNID	The identifier assigned to each thread that is created.
CODE	The lowest level return code for each event.
COLOR	The color assigned to a Server Trace message.
COUNT	The number of rules that processed the event.
CPUTIME	The CPU time used by a particular thread. The format depends on how much CPU time the user has used: • Fewer than 1000 seconds: *nnn.nnns* • Between 1000 seconds and 100 hours: *hh:mm:ss* • 100 hours or more: *hhhh: mm*
CVID	The conversation ID that LU 6.2 assigns when a conversation starts.
DATE	The date when the message was created, in *dd:mm:yy* format.
ELAPSED	The total time that the current event used, in decimal microseconds (millionths of a second). To derive the total, the STCK (clock store) value that is taken at the beginning of processing is subtracted from the STCK value that is taken at the end of processing.
EVENT	The type of event that created the entry.

Table 23. Server Trace panel columns (continued)	
Column	**Description**
GTRIDTKN	The global transaction.
HLVFLAGS	The bits that are set by the routines that created the trace.
HOSTNAME	The TCP/IP host name or LU 6.2 host name.
HOSTX	The TCP/IP host name extended or the lU6.2 host name/mode.
IPADDR	The IP address, which is the TCP/IP source or target that is associated with the entry.
IPV6ADDR	Internet Protocol Version 6 address.
JOBNAME	The name of the job or address space that created the entry.
LENGTH	The length of the text section of the message.
LUNAME	The LU 6.2 source or target that is associated with the message.
MSGNO	The message number. When data collection begins, message 1 is the first message collected; message 2 is the second message; and so on. When there is no more room in the message area, the oldest message is discarded to make room for a new message. Therefore, the first message in the list might not be message 1.
MSGORIGN	The SIS/XCF (Instrumentation Server XCF) member name where the message originated. A message origin has the following format: *SYSIDALS_SSIDSISID* where • *SYSID* is the system ID. • *ALS_SSID* is the Accelerator Loader subsystem ID. • *SISID* is the Instrumentation Server ID.
NODENAME	The name of the communications node that is associated with the message. The format of each entry depends on the communication link type.
OERC	The TCP/IP return code of the OE socket.
PATHID	IUCV path ID
PROCESS	OE Process ID, if task is dubbed
RC	The highest level return code for the message.
REASON	The second-level return code for the message.
RULESET	The name of the first RULESET.RULE that processed an event on NONE.NONE.
SECONDS	The first four byes of the binary timestamp, which indicates when the message was created.
SESSION	The communications session that is associated with the message. The format of each entry depends on the type of communication link.

Table 23. Server Trace panel columns (continued)	
Column	**Description**
SOCKET	The socket number that is associated with the message. This column applies only to TCP/IP events.
SQLRC	The SQL return code.
SSID	The subsystem ID, for example, Db2, IMS, or CICS.
TCBADDR	The TCB (task control block) address field that contains the address of the TCB that created the message.
TERMNAME	The name of the terminal that is associated with the event.
TIME	The time that the message was created, in *hh:mm:ss* format.
TIMEX	The time that the message was created, calculated to the microsecond, in *hh:mm:ss.uuuuuu* format.
TRACE1	The trace data that is specific to the message.
USERID	The security product user ID that best identifies the message.
VCID	The unique virtual connection ID.
VERSION	The version of the product that generated the message.
VTAMRC	The VTAM return code.
XIDTOKEN	The XA token ID.

Filtering log entries by creating a profile

To view a subset of the log entries, create a profile. In the profile, you specify the criteria to use to select entries to display, and you select the specific events to display. The profile that you create affects only how you view log entries. Other users can create their own profiles.

Procedure

1. From the **Primary Option** panel, enter B on the Option line.
2. On the **Server Trace** panel, type `PROFILE` (with no operands) on the command line.
3. On the **Trace Browse Profile** panel, enter criteria in one or more of the following fields. If you enter multiple criteria, the values are joined with the logical AND operator. If you enter multiple values for a criterion, the values are joined with the logical OR operator. You can enter up to four values for each criterion.

Table 24. Profile filtering criteria	
Criterion	**Description**
JOBNAME	Limits entries to those that contain the specified value in the JOBNAME column. You can use an asterisk (*) as a wildcard character.
USERID	Limits entries to those that contain the specified value in the USERID column. You can use an asterisk (*) as a wildcard character.

Table 24. Profile filtering criteria (continued)	
Criterion	**Description**
CONNECT	Limits entries to those that contain the specified value in the CONNECT column.
VCID	Limits entries to those that contain the specified value in the VCID (virtual connection ID) column.
HOST NAME	Limits entries to those that contain the specified value in the HOST NAME column. You can use an asterisk (*) as a wildcard character.
TCB	Limits entries to those that contain the specified value in the TCB column.
SSID	Limits entries to those that contain the specified value in the SSID column. You can use an asterisk (*) as a wildcard character.
XIDTOKEN	Limits entries to those that contain the specified value in the XIDTOKEN (XA token ID) column.
GTRIDTKN	Limits entries to those that contain a matching GTRIDTKN (global transaction ID).
CONVTKN	Limits entries to those that contain a matching CONVTKN (conversation token ID).
MSGORIGIN	Limits entries to those that contain a matching MSGORGIN (message origin). You can use an asterisk (*) as a wildcard character. Use the following format to enter the values: *SYSIDALS_SSIDSISID* where • *SYSID* is the system ID. • *ALS_SSID* is the server configuration subsystem ID. • *SISID* is the Instrumentation Server ID.

4. Enter Y or N to include or exclude the following specific types of events from the result set:

Table 25. Profile filtering events	
Event	**Description**
ABN	Abend entries.
ADA	ADABAS entries.
APM	APPC/MVS entries.
ATH	Authorization entries.
BKR	ACI broker entries.
CMD	Command entries.
CPG	C program entries.
DET	Detach entries.
DIS	Disable entries.

Table 25. Profile filtering events (continued)	
Event	**Description**
ECI	CICS EXCI entries.
ENA	Enable entries.
EXC	Exception entries.
FIL	File entries.
GLV	Global variable entries.
IMS	IMS entries.
MFL	MicroFlow (MFL) entries.
MQS	MQ message entries.
OTC	IBM OE sockets TCP/IP entries.
OTM	IMS/OTMA entries.
PUB	IBM Db2 Analytics Accelerator Loader for z/OS Streams entries.
RPC	RPC entries.
RRS	RRS entries.
RSF	RRSAF entries.
SIS	Instrumentation Server entries.
SQL	SQL entries.
SOM	Security Optimization Management entries.
SQM	SQM entries.
SSL	SSL entries.
STG	Storage alteration entries.
STR	System trace entries.
TOD	Time-of-day entries.
TSO	TSO entries.
TXT	Product initialization, termination, and general execution entries.
TYP	TYP entries.
WLM	Workload Manager entries.
WWW	WWW entries.
XCF	Coupling Facility entries.
XTX	Extended text entries.
ZSR	Services entries.
6.2	LLU 6.2 entries.

5. Press **Enter** to save the profile.

Labeling and locating specific log entries

To quickly locate significant entries in the server log, replace the message number of an entry with a label.

About this task

After you add labels to entries the trace log, use the LOCATE command to find the entries.

Procedure

1. From the **Primary Option** panel, enter B on the Option line.
2. On the **Server Trace** panel, use the DISPLAY command to display the relevant columns.
   For example, enter `DISPLAY msgno date`.
3. When you locate the entry to which you want to add a label, edit the MSGNO column and enter a label that consists of a period and up to seven alphabetic characters.
   For example, enter `.POINTA`.
4. Enter the LOCATE command, followed by the criteria.

   To specify criteria, use the following formats:

Criteria	Format
Time	One of the following: • *hh* • *hh:mm* • *hh:mm:ss*
Date	One of the following: • *dmmm*, single-digit date and current month • *ddmmm*, date and current month • *ddmmyy*, date, month, and 2-digit year • *ddmmyyyy*, date, month, and 4-digit year
Message number	The specific message number
Label	The previously specified label that was added to an entry

Finding character strings in the server log

Use the FIND and RFIND commands to find a specific character string in the server log. You can find a string in a specific column or in a range of columns.

Procedure

1. From the **Primary Option** panel, enter B on the Option line.
2. On the **Server Trace** panel, enter the FIND command to find the character string.

   To search for a string in the USERID, EVENT, or SSID column, use the following syntax:

```
FIND column-name string prefix direction
```

   Where

   - *column-name* is USERID, EVENT, or SSID.
   - *string* is the search string.
   - *prefix* specifies that the search string is generic and specifies only the prefix characters. Specify this argument when you search EVENT or SSID columns.

- *direction* specifies the next match to find. Specify FIRST (default), LAST, PREV, or NEXT.

To search for the string in a range of columns, use the following syntax:

```
FIND TEXT string  direction start-column end-column msgno
```

Where

- TEXT is an optional keyword that indicates that you are searching only the text of the entries.
- *string* is the search string. If the search string contains blank spaces or is identical to a FIND keyword, enclose the string in quotation marks. Enter an asterisk (*) to use the search string from the previous FIND command.
- *direction* specifies the next match to find. Specify FIRST (default), LAST, PREV, or NEXT.
- *start-column* specifies the number of the first column for the search.
- *end-column* specifies the number of the last column for the search.
- *msgno* is the maximum number of entries to search. The default is 5000.

The following FIND command searches for the string SDB1234W from the first message, beginning at column 10 and ending at column 30, for 10,000 messages:

```
F 'SDB1234W XYZ' 10 30 10000
```

3. Optional: Enter RFIND to repeat the previous FIND command.

Capturing the entries from the server trace

Use the P, PP, and SS commands to print server log entries to the ISPF list data set.

About this task

Each entry that you print contains the same columns that are displayed in the **Server Trace** panel and includes the entire contents of the text field. If the text field exceeds one line, the printed entry wraps to include three additional lines. Make sure that the ISPF list data set has enough space to hold the printed entries. The SS command requires more space than the PP command. The SS command prints 1 - 100 entries as they appear in the trace log, followed by the zoomed formatting for each entry, followed by the next 1 - 100 entries.

Procedure

On the **Server Trace** panel, to print log entries, perform one of the following steps:

- To print a single entry, enter P in the MESSAGENUM column.
- To print the summary information for a range of entries, enter PP in the MESSAGENUM column on the first and last entry in the range.
- To print the summary and detailed information, enter S in the MESSAGENUM column.
- To print the summary and detailed information for a range of entries, enter SS in the MESSAGENUM column on the first and last entry in the range.

Modifying the client time out parameter

You can change the maximum amount of time that a thread remains idle before the server closes it.

About this task

The Accelerator Loader server uses multiple threads to read data from the source system. If one thread becomes idle and times out, the server stops processing all threads. The maximum amount of time that a thread remains idle before the server stops processing is controlled by the DSCLIENTCONNTIMEOUT parameter. The default value of DSCLIENTCONNTIMEOUT is 20 minutes. Valid values are in the range 1 - 1440 minutes. To change the time out value, complete the following steps.

Procedure

1. In data set *hlq*.SHLVEXEC, locate member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
2. Use the **MODIFY PARM** command to change the DSCLIENTCONNTIMEOUT parameter value:

```
"MODIFY PARM NAME(DSCLIENTCONNTIMEOUT) VALUE(10)"
```

Modifying the client auxiliary storage cut-off parameter

You can specify at what point the Accelerator Loader server will reject new connection attempts when an auxiliary storage shortage is signaled by the system Event Notification Facility.

About this task

The Accelerator Loader server listens for ENF 55 auxiliary storage shortage signals and throttles storage utilization when an auxiliary storage shortage is signaled.

The Accelerator Loader server will perform the following actions depending on the received ENF 55 signal:

- When signal ENF55QLF_AUX_WARNING is received:
  1. Issue the following message:

     ```
     HLV4265W Data Server Client buffer expansion disabled due to auxiliary storage
     warning
     ```

  2. Disable Accelerator Loader server buffer expansion for two hours and ten minutes.
  3. Issue the following message:

     ```
     HLV4266I Data Server Client services resumed
     ```

- When signal ENF55QLF_AUX_SHORTAGE is received:
  1. Disable Accelerator Loader server buffer expansion.
  2. Issue the following message:

     ```
     HLV4265W Data Server Client buffer expansion disabled due to auxiliary storage
     shortage
     ```

- When signal ENF55QLF_AUX_CRITICAL_SHORTAGE is received:
  1. Disable Accelerator Loader server buffer expansion.
  2. Issue the following message:

     ```
     HLV4265W Data Server Client buffer expansion disabled due to auxiliary storage
     critical shortage
     ```

  3. Disable new Accelerator Loader server requests.
  4. Issue the following message:

     ```
     HLV4267W Data Server Client refusing new requests due to critical auxiliary
     storage shortage.
     ```

- When signal ENF55QLF_AUX_SHORTAGE_RELIEVED is received:
  - Re-enable all Accelerator Loader server functions.
  - Issue the following message:

    ```
    HLV4266I Data Server Client services resumed.
    ```

The point at which the Accelerator Loader server will reject new connection attempts when an auxiliary storage shortage is signaled by the system Event Notification Facility is controlled by the **DSCLIENTAUXSTGCUTOFF** parameter.

To change the value, complete the following steps.

Procedure

1. In data set *hlq*.SHLVEXEC, locate member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
2. Use the **MODIFY PARM** command to change the **DSCLIENTAUXSTGCUTOFF** parameter value:

```
"MODIFY PARM NAME(DSCLIENTAUXSTGCUTOFF) VALUE(WARNING)"
```

Parameter name	Parameter description	Default value
DSCLIENTAUXSTGCUTOFF	DSCLIENT AUX STORAGE NEW CONNECTION CUTOFF Specifies at what point the Accelerator Loader server will reject new connection attempts when an auxiliary storage shortage is signaled by the system Event Notification Facility. **WARNING** New Accelerator Loader server connections will be rejected when an auxiliary storage warning is received. This signal is issued when message IRA205I occurs. **SHORTAGE** New Accelerator Loader server connections will be rejected when an auxiliary storage shortage is signaled. This signal is issued when message IRA200E occurs. **CRITICAL** New Accelerator Loader server connections will not be rejected until an auxiliary storage critical shortage is signaled. This signal is issued when message IRA201E occurs.	WARNING

System Management Facility logging

Using the System Management Facility (SMF), you can record system resource usage information in SMF data sets.

To enable SMF support during product customization, provide a value for the **SMF record number** product parameter. SMF logging can be used together with IBM Db2 Analytics Accelerator Loader for z/OS logging, or separately.

The following sections include SMF record subtype information.

Record Subtype 02: Internal Summary

This record is used to collect session information for all users who are connected during a specific interval and the information is written at the end of each interval. All the resources that are used by all connections during that interval are recorded using this record.

About this task

The interval in which Subtype 02 records are written is determined by the RECORDINGINTERVAL parameter.

A sample SAS program is provided that can be used to print the fields in Subtype 02 records. The program is located in the SMFSDB02 member of the hlq.SHLVEXEC(hlvidIN00) data set.

Interval summary records are automatically written if the LOGINTERVALS parameter is set to YES in the hlq.SHLVEXEC(hlvidIN00) member. You must have LOGINTERVALS enabled in order to also record Interval records into SMF.

Procedure

To log interval records to the logging tables but not log interval information to SMF, in the hlq.SHLVEXEC(hlvidIN00) member, set the LOGINTERVALS parameter as follows:

```
"MODIFY PARM NAME(LOGLSESSIONINTVALSMF) VALUE(NO)"
```

Where LOGLSESSIONINTVALSMF controls whether interval type records are written to SMF. Interval records can also be written to the session log.

Results

The following table lists the parameters used to configure the Subtype 02 record:

Table 26. Subtype 02 Record Information

Offset	Field Name	Field Subtype or Value	Description
1	SMFHFG	BL1	Header flag byte: • X'10' = MVS/ESA 4 • X'08' = MVS/XA • X'04' = MVS/ESA • X'02' = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)
7	SMFHDATE	PL4	Record written date (0CYYDDDF)
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (hlvid)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	IBM Db2 Analytics Accelerator Loader for z/OS version code
37	SM02SMID	CL4	Host system (SMF ID)
41	SM02PDSS	CL4	Product subsystem name
45	SM02RCTY	C	Record type: C'I'=INTERVAL SUMMARY Record type

Table 26. Subtype 02 Record Information (continued)			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
53	SM02INST	CL8	Interval start time
61	SM02SQCN	F	SQL COUNT
69	SM02ENCP	CL8	Enclave CPU time
77	SM02CLCP	CL8	Client task CPU time
85	SM02DBCP	CL8	Db2 CPU time
93	SM02NTCP	CL8	Network CPU time
101	SM02OHCP	CL8	OTHER CPU time
109	SM02RXCP	CL8	REXX CPU time
117	SM02RPCP	CL8	RPC CPU time
125	SM02ELTM	XL8	CLIENT ELAPSED time (TOD)
133	SM02WRTO	XL8	RAW TOTAL BYTES WRITTEN
141	SM02USCN	F	USER count FOR THIS INTERVAL
145	SM02MXUS	F	MAX INTERVAL CONCURRENT USERS
149	SM02RPHW	F	RPC HIGH WATER MARK
153	SM02RPCU	F	CURRENT NUMBER EXECUTING RPCS
157	SM02CLWT	XL8	CLIENT WAIT time
165	SM02CLRC	F	CLIENT READ DATA count
173	SM02ENZQ	D	Enclave zIIP QUALIFIED CPU time
181	SM02ENZI	D	Enclave zIIP CPU time
189	SM02ENZC	D	Enclave zIIP time ON CP
197	SM02SLCP	D	SSL CPU time
205	SM02SRCP	D	SRB CPU time

SMF Subtype 02: Interval Summary Records

Table 27. Subtype 02 Record Information			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
1	SMFHFG	BL1	Header flag byte: • X’10’ = MVS/ESA 4 • X’08’ = MVS/XA • X’04’ = MVS/ESA • X’02’ = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)

Table 27. Subtype 02 Record Information (continued)

Offset	Field Name	Field Subtype or Value	Description
7	SMFHDATE	PL4	Record written date (0CYYDDDF)
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (HDBS)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	Accelerator Loader server version code
37	SM02SMID	CL4	Host system (SMF ID)
41	SM02PDSS	CL4	Product subsystem name
45	SM02RCTY	C	Record type: C'I'=INTERVAL SUMMARY Record type
53	SM02INST	CL8	Interval start time
61	SM02SQCN	F	SQL COUNT
69	SM02ENCP	CL8	Enclave CPU time
77	SM02CLCP	CL8	Client task CPU time
85	SM02DBCP	CL8	Db2 CPU time
93	SM02NTCP	CL8	Network CPU time
101	SM02OHCP	CL8	OTHER CPU time
109	SM02RXCP	CL8	REXX CPU time
117	SM02RPCP	CL8	RPC CPU time
125	SM02ELTM	XL8	CLIENT ELAPSED time (TOD)
133	SM02WRTO	XL8	RAW TOTAL BYTES WRITTEN
141	SM02USCN	F	USER count FOR THIS INTERVAL
145	SM02MXUS	F	MAX INTERVAL CONCURRENT USERS
149	SM02RPHW	F	RPC HIGH WATER MARK
153	SM02RPCU	F	CURRENT NUMBER EXECUTING RPCS
157	SM02CLWT	XL8	CLIENT WAIT time
165	SM02CLRC	F	CLIENT READ DATA count
173	SM02ENZQ	D	Enclave zIIP QUALIFIED CPU time
181	SM02ENZI	D	Enclave zIIP CPU time
189	SM02ENZC	D	Enclave zIIP time ON CP
197	SM02SLCP	D	SSL CPU time
205	SM02SRCP	D	SRB CPU time

Record Subtype 03: SEF Rule Disablement

This record is created whenever an Event Facility (SEF) rule is disabled. All the resources that are used by all connections during that interval are recorded in this record.

About this task

These records are typically written when the Accelerator Loader server is shutdown. They are also written if a rule is manually disabled.

Procedure

To enable this record, use the **MODIFY PARM** command to set the parameter in the hlq.SHLVEXEC(hlvidIN00) member as follows:

```
“MODIFY PARM NAME(SMFRULEDISABLE) VALUE(YES)”
```

Where SMFRULEDISABLE indicates whether this type of SMF record should be written.

Results

The following table lists the parameters used to configure the Subtype 03 record:

Table 28. Subtype 03 Record Information

Offset	Field Name	Field Subtype or Value	Description
1	SMFHFG	BL1	Header flag byte: • X’10’ = MVS/ESA 4 • X’08’ = MVS/XA • X’04’ = MVS/ESA • X’02’ = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)
7	SMFHDATE	PL4	Record written date (0CYYDDDF)
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (hlvid)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	IBM Db2 Analytics Accelerator Loader for z/OS version code
37	SM03RLTY	C	Rule type flag
38	SM03LACK	XL8	Last time this rule fired (TOD)
49	SM03PRCN	F	Process count
53	SM03FILI	F	Firing limit
57	SM03FIMX	F	Firing high water mark per interval
61	SM03RSNM	CL8	Ruleset name
69	SM03RLNM	CL8	Rule name
77	SM03ENTM	BL4	Rule enablement time (TIME BIN)

Table 28. Subtype 03 Record Information (continued)			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
81	SM03ENDT	PL4	Rule enablement date (0CYYDDDF)
85	SM03CR	CL128	Rule criterion
213	SM03ENTT	XL4	Total enabled time in seconds

SMF Subtype 03: SEF Rule Disablement Records

Table 29. Subtype 03 Record Information			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
1	SMFHFG	BL1	Header flag byte: • X'10' = MVS/ESA 4 • X'08' = MVS/XA • X'04' = MVS/ESA • X'02' = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)
7	SMFHDATE	PL4	Record written date (0CYYDDDF)
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (HDBS)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	Accelerator Loader server version code
37	SM03RLTY	C	Rule type flag
38	SM03LACK	XL8	Last time this rule fired (TOD)
49	SM03PRCN	F	Process count
53	SM03FILI	F	Firing limit
57	SM03FIMX	F	Firing high water mark per interval
61	SM03RSNM	CL8	Ruleset name
69	SM03RLNM	CL8	Rule name
77	SM03ENTM	BL4	Rule enablement time (TIME BIN)
81	SM03ENDT	PL4	Rule enablement date (0CYYDDDF)
85	SM03CR	CL128	Rule criterion
213	SM03ENTT	XL4	Total enabled time in seconds

Record Subtype 06: Per Transaction SMF Records

This record is used to log each inbound client request.

About this task

Each SMF transaction record contains information about all the work that is done on behalf of the client for each transaction request. The inbound client request may have caused zero, one, or more SQL operations to be run. A high number of Subtype 06 SMF records may be written in high volume environments because one SMF record is created for each transaction.

A sample SAS program is provided which can be used to print these SMF fields. The program is located in the hlq.SHLVEXEC(hlvidIN00) file data set.

Procedure

To enable this record, use the **MODIFY PARM** command to set the parameter in the hlq.SHLVEXEC(hlvidIN00) member as follows:

```
“MODIFY PARM NAME SMFTRANSACT VALUE(YES)”
```

Where SMFTRANSACT controls the creation of SMF transaction records. When set to YES, an SMF record is created for each inbound client request.

Results

The following table lists the parameters used to configure the Subtype 06 record:

Table 30. Subtype 06 Record Information

Offset	Field Name	Field Subtype or Value	Description
1	SMFHFG	BL1	Header flag byte: • X’10’ = MVS/ESA 4 • X’08’ = MVS/XA • X’04’ = MVS/ESA • X’02’ = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)
7	SMFHDATE	PL4	Record written date (0CYYDDDF)
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (hlvid)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	IBM Db2 Analytics Accelerator Loader for z/OS version code
37	SM06CLNA	CL16	Client machine's hostname
53	SM06CLTY	CL8	Client communication type
61	SM06IPAD	XL4	IP address for TCP/IP clients
65	SM06CLUS	CL8	Client user ID
73	SM06CNID	XL4	Unique client connection ID

Table 30. Subtype 06 Record Information (continued)

Offset	Field Name	Field Subtype or Value	Description
77	SM06SQOP	XL2	SQL operation code
79	SM06GNID	CL8	Generic user ID
87	SM06EXSZ	H	Extended user ID size
89	SM06EXID	CL50	Extended user ID area
89	SM06SIID	CL16	SQLESETI client user identification
105	SM06WSNA	CL18	SQLESETI client workstation name
139	SM06GNVL	CL1	Validation of generic ID
140	SM06SETI	CL1	Extended user ID IS SQLESETI Y or N
141	SM06PDSS	CL4	4-character IBM Db2 Analytics Accelerator Loader for z/OS subsystem name
145	SM06PLAN	CL8	Db2 plan name
153	SM06SSNA	CL4	Db2 subsystem name
157	SM06ADLT	XL8	Client logon time adjusted for GMT to local time
165	SM06ADCU	XL8	Current time (adjusted for GMT)
173	SM06ELTM	XL8	Elapsed time of the client connection
181	SM06SQEL	XL8	Current SQL statement elapsed time
189	SM06SQCP	XL8	Current SQL statement CPU time
197	SM06SQRC	F	Current SQL statement return code
201	SM06SQRE	F	Current SQL statement reason code
205	SM06SQSQ	F	Current SQL statement SQL CODE
209	SM06SQAB	F	Current SQL statement Abend code
217	SM06VCID	F	VCID of current user
221	SM06APPL	CL32	SQLESETI application name
221	SM06APNA	CL18	Application name
253	SM06ATKN	CL22	SQLESETI accounting token
281	SM06NASB	CL8	Natural subprogram name
289	SM06SQAC	F	Actual SQL string length
293	SM06SQLN	F	SQL source length
297	SM06SQSR	CL256	SQL source string

SMF Subtype 06: Per Transaction SMF Records

Table 31. Subtype 06 Record Information

Offset	Field Name	Field Subtype or Value	Description
1	SMFHFG	BL1	Header flag byte: • X'10' = MVS/ESA 4 • X'08' = MVS/XA • X'04' = MVS/ESA • X'02' = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)
7	SMFHDATE	PL4	Record written date (0CYYDDDF)
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (xDBy)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	Accelerator Loader server version code
37	SM06CLNA	CL16	Client machine's hostname
53	SM06CLTY	CL8	Client communcation type
61	SM06IPAD	XL4	IP address for TCP/IP clients
65	SM06CLUS	CL8	Client user ID
73	SM06CNID	XL4	Unique client connection ID
77	SM06SQOP	XL2	SQL operation code
79	SM06GNID	CL8	Generic user ID
87	SM06EXSZ	H	Extended user ID size
89	SM06EXID	CL50	Extended user ID area
89	SM06SIID	CL16	SQLESETI client user identification
105	SM06WSNA	CL18	SQLESETI client workstation name
139	SM06GNVL	CL1	Validation of generic ID
140	SM06SETI	CL1	Extended user ID IS SQLESETI Y or N
141	SM06PDSS	CL4	4-character Accelerator Loader server subsystem name
145	SM06PLAN	CL8	Db2 plan name
153	SM06SSNA	CL4	Db2 subsystem name
157	SM06ADLT	XL8	Client logon time adjusted for GMT to local time
165	SM06ADCU	XL8	Current time (adjusted for GMT)
173	SM06ELTM	XL8	Elapsed time of the client connection
181	SM06SQEL	XL8	Current SQL statement elapsed time

Table 31. Subtype 06 Record Information (continued)			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
189	SM06SQCP	XL8	Current SQL statement CPU time
197	SM06SQRC	F	Current SQL statement return code
201	SM06SQRE	F	Current SQL statement reason code
205	SM06SQSQ	F	Current SQL statement SQL CODE
209	SM06SQAB	F	Current SQL statement Abend code
217	SM06VCID	F	VCID of current user
221	SM06APPL	CL32	SQLESETI application name
221	SM06APNA	CL18	Application name
253	SM06ATKN	CL22	SQLESETI accounting token
281	SM06NASB	CL8	Natural subprogram name
289	SM06SQAC	F	Actual SQL string length
293	SM06SQLN	F	SQL source length
297	SM06SQSR	CL256	SQL source string

Record Subtype 09: Storage Interval Summary

This record is used to monitor Accelerator Loader server storage usage above and below the 16 MB threshold.

About this task

This record is written at the end of every Accelerator Loader server storage recording interval. They are set by the CHECKSTORAGEINTERVAL parameter. If the CHECKSTORAGEINTERVAL parameter is set to 0 (the default), storage usage recording in the Accelerator Loader server is disabled.

Procedure

To enable this record, use the **MODIFY PARM** command to set the parameter in the hlq.SHLVEXEC(hlvidIN00) member as follows:

```
“MODIFY PARM NAME(LOGSTORAGESMF) VALUE(YES)”
```

Where LOGSTORAGESMF controls whether storage usage information should be written to SMF. Storage usage information can also be written to a Db2 table.

Results

The following table lists the parameters used to configure the Subtype 09 record:

Table 32. Subtype 09 Record Information			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
1	SMFHFG	BL1	Header flag byte: • X'10' = MVS/ESA 4 • X'08' = MVS/XA • X'04' = MVS/ESA • X'02' = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)
7	SMFHDATE	PL4	Record written date (0CYYDDDF)
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (hlvid)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	IBM Db2 Analytics Accelerator Loader for z/OS version code
37	SM09SMID	CL4	Host system SMFID
41	SM09PDSS	CL4	Product subsystem name
45	SM09RCTY	C	Record type
53	SM09INST	CL8	Interval start time
77	SM09MXUS	F	Max interval concurrent user
81	SM09TSSP	F	Transient subpool
85	SM09TSBE	F	Transient HI ALLOC BTL
89	SM09TSAB	F	Transient HI ALLOC ATL
93	SM09HWBA	246D	HI ALLOC BTL HI ALLOC ATL

SMF Subtype 09: Storage Interval Summary Records

Table 33. Subtype 09 Record Information			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
1	SMFHFG	BL1	Header flag byte: • X'10' = MVS/ESA 4 • X'08' = MVS/XA • X'04' = MVS/ESA • X'02' = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)
7	SMFHDATE	PL4	Record written date (0CYYDDDF)

Table 33. Subtype 09 Record Information (continued)			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (xDBy)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	Accelerator Loader server version code
37	SM09SMID	CL4	Host system SMFID
41	SM09PDSS	CL4	Product subsystem name
45	SM09RCTY	C	Record type
53	SM09INST	CL8	Interval start time
77	SM09MXUS	F	Max interval concurrent user
81	SM09TSSP	F	Transient subpool
85	SM09TSBE	F	Transient HI ALLOC BTL
89	SM09TSAB	F	Transient HI ALLOC ATL
93	SM09HWBA	246D	HI ALLOC BTL HI ALLOC ATL

Record Subtype 13: Db2 SQL Errors

This record is used to record Db2 SQL errors.

About this task

This record is used for logging Db2 SQL errors. The LOGERRORSSMF parameter is used in addition to the LOGERRORS parameter, which logs Db2 SQL errors to a Db2 table.

Procedure

To enable this record, use the **MODIFY PARM** command to set the parameter in the hlq.SHLVEXEC(hlvidIN00) member as follows:

```
“MODIFY PARM NAME(LOGERRORSSMF) VALUE(YES)”
```

Where LOGERRORSSMF controls whether Db2 SQL error information should be written to SMF. Set the value to YES to generate SMF Subtype 13 records.

Results

The following table lists the parameters used to configure the Subtype 13 record:

Table 34. Subtype 13 Record Information

Offset	Field Name	Field Subtype or Value	Description
1	SMFHFG • SMFHESA4 • SMFHXA • SMFHESA • SMFHVS2	BL1	Header flag byte: • X'10' = MVS/ESA 4 • X'08' = MVS/XA • X'04' = MVS/ESA • X'02' = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)
7	SMFHDATE	PL4	Record written date (0CYYDDDF)
9	SM13GNVL	CL1	VALIDATION OF GENERIC ID
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (hlvid)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	IBM Db2 Analytics Accelerator Loader for z/OS VERSION CODE
37	SM13SMID	CL4	Host system SMFID
41	SM13PDSS	CL4	PRODUCT subsystem name
45	SM13RCTY	C	Record type
49	SM13SSAC	CL4	GROUP ATTACHMENT MEMBER name
69	SM13USID	CL8	CLIENT USER ID
77	SM13GNID	CL8	GENERIC USER ID
85	SM13EXID	CL(2+254)	EXTENDED USER ID
341	SM13HONA	CL(2+100)	CLIENT HOST name
441	SM13PRTY	CL(2+8)	PROTOCOL TYPE
453	SM13IPAD	XL4	IP ADDRESS FOR IP CLIENTS
457	SM13LUNA	CL(2+17)	LU name FOR LU 6.2 CLIENTS
477	SM13CNID	F	Session ID
481	SM13TMSP	CL8	CURRENT TIMESTAMP
489	SM13LGTM	CL8	LOGON TIMESTAMP
497	SM13APNA	CL(2+18)	APPLICATION name
517	SM13PLAN	CL8	Db2 plan name string
525	SM13SSNA	CL4	Db2 subsystem NAME STRING
529	SM13CUNM	F	Cursor number
533	SM13RC	F	Return code
537	SM13RECD	F	Reason code CODE

Table 34. Subtype 13 Record Information (continued)			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
541	SM13SQCD	F	SQL CODE
545	SM13ABCD	F	ABEND CODE
549	SM13STNM	F	STATEMENT NUMBER
553	SM13STTY	F	STATEMENT TYPE

SMF Subtype 13: Db2 SQL Errors

Table 35. Subtype 13 Record Information			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
1	SMFHFG • SMFHESA4 • SMFHXA • SMFHESA • SMFHVS2	BL1	Header flag byte: • X'10' = MVS/ESA 4 • X'08' = MVS/XA • X'04' = MVS/ESA • X'02' = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)
7	SMFHDATE	PL4	Record written date (0CYYDDDF)
9	SM13GNVL	CL1	VALIDATION OF GENERIC ID
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (xDBy)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	Accelerator Loader server VERSION CODE
37	SM13SMID	CL4	Host system SMFID
41	SM13PDSS	CL4	PRODUCT subsystem name
45	SM13RCTY	C	Record type
49	SM13SSAC	CL4	GROUP ATTACHMENT MEMBER name
69	SM13USID	CL8	CLIENT USER ID
77	SM13GNID	CL8	GENERIC USER ID
85	SM13EXID	CL(2+254)	EXTENDED USER ID
341	SM13HONA	CL(2+100)	CLIENT HOST name
441	SM13PRTY	CL(2+8)	PROTOCOL TYPE
453	SM13IPAD	XL4	IP ADDRESS FOR IP CLIENTS
457	SM13LUNA	CL(2+17)	LU name FOR LU 6.2 CLIENTS
477	SM13CNID	F	Session ID

Table 35. Subtype 13 Record Information (continued)			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
481	SM13TMSP	CL8	CURRENT TIMESTAMP
489	SM13LGTM	CL8	LOGON TIMESTAMP
497	SM13APNA	CL(2+18)	APPLICATION name
517	SM13PLAN	CL8	Db2 plan name string
525	SM13SSNA	CL4	Db2 subsystem NAME STRING
529	SM13CUNM	F	Cursor number
533	SM13RC	F	Return code
537	SM13RECD	F	Reason code CODE
541	SM13SQCD	F	SQL CODE
545	SM13ABCD	F	ABEND CODE
549	SM13STNM	F	STATEMENT NUMBER
553	SM13STTY	F	STATEMENT TYPE

Record Subtype 17: ADABAS Command by DBID Records

This record is used to capture the number of times a ADABAS database is accessed and the number of commands that were issued against the database before each session ended.

About this task

A Subtype 17 record is written for each Database ID (DBID) referenced and each record contains the number of times that commands were issued against the database before the session ended.

Procedure

To enable this record, use the **MODIFY PARM** command to set the parameter in the hlq.SHLVEXEC(hlvidIN00) member as follows:

```
“MODIFY PARM NAME(ADABASDBIDSMF) VALUE(YES)”
```

Where ADABASDBIDSMF causes one SMF record to be written per DBID accessed at the end of each session. The records contain command usage statistics.

Results

The following table lists the parameters used to configure the Subtype 17 record:

Table 36. Subtype 17 Record Information

Offset	Field Name	Field Subtype or Value	Description
1	SMFHFG	BL1	Header flag byte: • X'10' = MVS/ESA 4 • X'08' = MVS/XA • X'04' = MVS/ESA • X'02' = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)
7	SMFHDATE	PL4	Record written date (0CYYDDDF)
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (hlvid)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	IBM Db2 Analytics Accelerator Loader for z/OS version code
37	SM17SMID	CL4	Host system SMF identification
41	SM17PDSS	CL4	Product subsystem NAME
45	SM17ID	CL8	Connection ID
53	SM17LID	CL8	Logon user ID
61	SM17DBID	H	ADABAS identifier (DBID)
65	SM17A1	F	A1 COUNT
69	SM17BT	F	BT COUNT
73	SM17C1	F	C1 COUNT
77	SM17C3	F	C3 COUNT
81	SM17C5	F	C5 COUNT
85	SM17E1	F	E1 COUNT
89	SM17ET	F	ET COUNT
93	SM17HI	F	HI COUNT
97	SM17L1	F	L1 COUNT
101	SM17L4	F	L4 COUNT
105	SM17L2	F	L2 COUNT
109	SM17L5	F	L5 COUNT
113	SM17L3	F	L3 COUNT
117	SM17L6	F	L6 COUNT
121	SM17L9	F	L9 COUNT
125	SM17LF	F	LF COUNT

Table 36. Subtype 17 Record Information (continued)			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
129	SM17N1	F	N1 COUNT
133	SM17N2	F	N2 COUNT
137	SM17RC	F	RC COUNT
141	SM17RE	F	RE COUNT
145	SM17RI	F	RI COUNT

SMF Subtype 17: ADABAS Command by DBID Records

Table 37. Subtype 17 Record Information			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
1	SMFHFG	BL1	Header flag byte: • X'10' = MVS/ESA 4 • X'08' = MVS/XA • X'04' = MVS/ESA • X'02' = VS2
2	SMFHRCTY	BL1	Record Type
3	SMFHTIME	BL4	Record written time (TIME BIN)
7	SMFHDATE	PL4	Record written date (0CYYDDDF)
11	SMFHSYID	CL4	System identification (SMFID)
15	SMFHSSID	CL4	Subsystem ID (xDBy)
19	SMFHSUTY	BL2	Record subtype
21	SMFHVRCD	CL8	Accelerator Loader server version code
37	SM17SMID	CL4	Host system SMF identification
41	SM17PDSS	CL4	Product subsystem NAME
45	SM17ID	CL8	Connection ID
53	SM17LID	CL8	Logon user ID
61	SM17DBID	H	ADABAS identifier (DBID)
65	SM17A1	F	A1 COUNT
69	SM17BT	F	BT COUNT
73	SM17C1	F	C1 COUNT
77	SM17C3	F	C3 COUNT
81	SM17C5	F	C5 COUNT
85	SM17E1	F	E1 COUNT
89	SM17ET	F	ET COUNT

Table 37. Subtype 17 Record Information (continued)			
Offset	**Field Name**	**Field Subtype or Value**	**Description**
93	SM17HI	F	HI COUNT
97	SM17L1	F	L1 COUNT
101	SM17L4	F	L4 COUNT
105	SM17L2	F	L2 COUNT
109	SM17L5	F	L5 COUNT
113	SM17L3	F	L3 COUNT
117	SM17L6	F	L6 COUNT
121	SM17L9	F	L9 COUNT
125	SM17LF	F	LF COUNT
129	SM17N1	F	N1 COUNT
133	SM17N2	F	N2 COUNT
137	SM17RC	F	RC COUNT
141	SM17RE	F	RE COUNT
145	SM17RI	F	RI COUNT

Virtual table SAF security

A single Accelerator Loader server environment can provide data virtualization to multiple independent tenants or application groups. The virtual table SAF (system authorization facility) security feature provides a SAF mechanism to secure virtual tables so that each tenant can only access tables authorized for members of the tenant group.

Activating this security feature will prevent using virtual table names in metadata queries (such as, **SQLENG.TABLES**, **SQLENG.COLUMNS**), as well as querying or updating application data mapped using unauthorized table names.

Server interface parameter

The SQLVTRESOURCETYPE parameter in the PRODSECURITY parameter group defines a security class name for virtual table resource checking. By default, this system parameter defaults to the value `'NON'` indicating that security checking is disabled.

When activated with a class name, the SQLVTRESOURCETYPE parameter will enable SAF resource checking on metadata queries (such as, **SQLENG.TABLES**, **SQLENG.COLUMNS**) as well as virtual table queries using the resource name *resource_class.table_owner.table_name* where:

- *resource_class* is the class name define for the RESOURCETYPE parameter in the PRODSECURITY parameter group (for example, RHLV)
- *table_owner* is the SQL TABLE OWNER NAME (SQLENGTABLEOWNER) as defined in the PRODSQL parameter group (for example: 'DVSQL')
- *table_name* is the map (or virtual table) name as defined in the map data set

For improved performance in SAF calls, RACROUTE REQUEST=FASTAUTH provides general resource checking. A separate INTRNLONLY parameter named 'DISABLE FASTAUTH SECURITY CHECKS' disables use of FASTAUTH if security problems are encountered. Disabling FASTAUTH will switch to

RACROUTE REQUEST=AUTH checking on all resource rules which can degrade query performance on metadata tables.

When securing metadata tables, READ access is required to query rows in the following tables.

- SQLENG.COLUMNS
- SQLENG.COLUMNPRIVS
- SQLENG.ERRORMSGS
- SQLENG.FOREIGNKEYS
- SQLENG.PRIMARYKEYS
- SQLENG.ROUTINES
- SQLENG.SPECIALCOLS
- SQLENG.STATISTICS
- SQLENG.TABLES
- SQLENG.TABLEPRIVS

Securing tables using the generic profile SQLENG.* is also an option if preferred.

Securing specific virtual tables is also required when activating this feature. Securing virtual tables by specific or generic rules activates two security checks:

1. When querying metadata tables (SQLENG.*), users must minimally have READ access to the virtual tables in order for rows related to a table to be returned. In this case, there are no errors returned. Instead, the information about a specific table is omitted from the result set and the user has no indication that the table exists.
2. When querying virtual tables, the user must have READ access to each table in the SQL SELECT statement and UPDATE access to any table that is the target of an SQL INSERT, UPDATE, or DELETE statement.

Restrictions and Considerations

Virtual table authorization checking is built on general resource checking and is impacted by the following product parameter in the PRODSECURITY group:

- ALLOWUNPROT – The ALLOWUNPROT parameter allows access to unprotected resources. When set to YES, this parameter allows access to resource names that have no matching resource definition in the SAF database. ALLOWUNPROT should be set to NO to insure resource rules are correctly processed.

  Note: ALLOWUNPROT=NO will automatically activate numerous resource checks unrelated to this feature.

The *table_owner.map_name* resource name is internally restricted to 44 bytes. While internal map names larger than 44 bytes are still allowed, resource checking will only pass the first 44 bytes of the *table_owner.map_name* string in the SAF call for validation. Generic resource rules will be necessary if map names exceed this limitation.

Because all maps are limited to a single table owner as defined in the SQLENGTABLEOWNER system parameter, users should consider a standard prefix for all map names they want to secure for application groups. This simple generic resource rules can be defined to protect these names. For example, if the SQLENGTABLEOWNER is configured as 'DVSQL' and an application group uses AG01 as a prefix on all table names, a generic resource 'DVSQL.AG01*' will control access to all tables starting with AG01 as a map name.

All SQL queries are automatically secured when this feature is activated. This means that resource rules must exist to allow READ access to the metadata tables SQLENG.*.

This feature is limited to SQL access to virtual tables. Users authorized to create tables can create tables which may not be accessible due to SQL access rules implemented using this feature.

MapReduce

This section provides information on MapReduce features for performance enhancement.

You should also refer to Chapter 5, “Loading data from non-Db2, remote Db2, and remote system sources,” on page 195 for additional information on using MapReduce features.

Virtual Parallel Data

Virtual Parallel Data (VPD) allows you to group multiple simultaneous requests against the same data source and run them in parallel, while doing the input and output (I/O) only once. VPD also allows single or multiple requests to run with asymmetrical parallelism, separately tuning the number of I/O threads and the number of client or SQL engine threads.

To use this feature you must provide a VPD group name when submitting request(s). All requests submitted to the same Accelerator Loader server with the same group name within a time period will be placed into a VPD group. One or more I/O threads will be started to read the data source and write it to a wrapping buffer. Group members will share the data in the buffer(s), without having to read the data source directly.

A group is created when the first member request arrives. The group is closed either when all members (and all their parallel MRC threads) have joined, or when a timeout has expired. The I/O threads are started as soon as the group is created, and data begins to flow to the buffer. If the buffer fills before the group is closed, the I/O thread(s) will wait. Once the group is closed and active members begin consuming data, the buffer space is reclaimed and I/O continues.

VPD supports MapReduce Client (MRC), and group members can use different levels of MRC parallelism. For example, a single VPD group might have six members, three members using 5 MRC threads, and the other three using 9 MRC threads. The group will consist of six members and 42 client threads. The number of I/O threads is determined separately. VPD supports a group of a single member, thus supporting asymmetrical parallelism for single requests when using MRC.

VPD is currently supported for the following data sources:

- Adabas files
- Physical sequential data sets on disk, tape, or virtual tape
- Log streams
- IBM MQ
- VSAM KSDS, RRDS, and ESDS files
- IAM files
- zFS/HFS files

Configuring Virtual Parallel Data

To configure Virtual Parallel Data, optionally configure VPD parameters in your Accelerator Loader server configuration file. To use VPD when loading data, specify a group name and appropriate parameters when generating your load JCL.

Procedure

1. Configure the following parameters in the *hlvid*IN00 member:

```
/*-------------------------------------------------------------*/
/* Enable Virtual Parallel Data for asymmetrical parallelism   */
/*-------------------------------------------------------------*/
if DoThis then
  do
  "MODIFY PARM NAME(VPDGROUPTIMEOUT) VALUE(60)"
  "MODIFY PARM NAME(VPDBUFFERSIZE) VALUE(40)"
  "MODIFY PARM NAME(VPDTRACEDB) VALUE(NO)"
```

The following table lists the VPD parameters:

Parameter	Description	Valid values
VPDBUFFERSIZE	Specifies the default buffer size, in megabytes above the bar, for a Virtual Parallel Data buffer.	Numeric value in megabytes. Default is 40.
VPDGROUPTIMEOUT	Specifies the maximum time, in seconds, from the time a group is formed until it is closed. Default: 60 seconds	Numeric value in seconds. Default is 60.
VPDTRACEDB	Controls whether Virtual Parallel Data processing will trace debugging messages.	**NO** Do not trace debugging messages (default). **YES** Trace debugging messages.
VPDTRACEREC	Causes Virtual Parallel Data to trace at the record level. (*Optional*) **Note:** Setting this to YES will produce a large amount of trace output.	**NO** Do not trace record level messages (default). **YES** Trace record level messages.

2. Supply the group name in the **Generate JCL to Load Accelerator** wizard in the Accelerator Loader studio.
3. Optional: Specify the number of members in the group. Although optional, this parameter is recommended.

   When this parameter is provided, the group is closed as soon as all members have joined. If the number is not provided, the group is not closed until the timeout expires. There is no default.
4. Optional: Specify a timeout value for the group formation.

   When the first group member request arrives at the Accelerator Loader server, the timer is started. If the group remains open when the request expires, it is closed. Any members/threads arriving after the timeout will be placed in a new group. The default is 60 seconds, and can be overridden in the hlvidIN00 file.
5. Optional: Specify the number of I/O threads to use when reading the data source. If this value is not provided, the number of threads is determined as follows:
   a) If the data source is a tape data set and the number of volumes can be determined, the same number of I/O threads will be started.
   b) Otherwise, if a Map Reduce thread count is provided in the data map, that number is used.
   c) Otherwise, if a value is configured for `ACIMAPREDUCETASKS` in the hlvidIN00 configuration member, that number is used.
   d) Otherwise, a single I/O thread will be started.

Innovation Access Method (IAM)

Innovation Access Method (IAM) is a VSAM optimization product distributed by Innovation Data Processing. Enable MapReduce for IAM by setting the `MAPREDUCEIAMKEYMOD` parameter to YES.

MapReduce is implemented by analyzing the file to be retrieved and dividing it up into parts for simultaneous parallel retrieval. For VSAM, this is done by referencing information kept by VSAM about a file. This is supported for key-sequenced data sets (KSDS), entry-sequenced data sets (ESDS), and relative record data set (RRDS) VSAM files. For sequential files, this is done by analyzing information

about the extents and volumes of the file. However, for IAM a different approach must be taken because there is no information about the internal structure of an IAM file.

To implement MapReduce for IAM, contact Innovation Data Processing and request module IAMRKTEX. This module will perform the analysis of the internal structure of the IAM file and allow implementation of MapReduce technology. This module will be provided free of charge on request to Innovation Data Processing.

Configuring MapReduce for IAM

Enable MapReduce for IAM by configuring the Accelerator Loader server.

Before you begin

The Accelerator Loader server must already be installed.

About this task

To enable MapReduce for IAM, you must configure the Accelerator Loader server configuration file. Customizing this member is done using Tools Customizer.

Procedure

1. Invoke Tools Customizer for z/OS.
2. Access the Product Parameters panel.
3. Under the task **Create the server and the server components**, select the steps **Create the server** and **Create the server parameters**, and provide a value for the following field:

Step or parameter	Required?	Discovered?	Default	Your value
Call the interface module for IAM Specifies whether to call the interface module for IAM to analyze keys and set ranges for MapReduce. Valid values are YES and NO.	No	No	No	

4. Generate the customization jobs. The jobs are based on the HLOHLVS and HLOIN00 templates. For more information, see “Generating customization jobs” on page 105.
5. Submit the customization jobs. For more information, see “Submitting customization jobs” on page 106.

Metadata repository

The metadata repository for MapReduce stores statistics about virtual tables that are used to enhance performance in conjunction with MapReduce and parallelism. This support applies to DRDA and IMS data sources, including those accessed via the IBM Federated Server (such as Terradata and Sybase), as well as data sources accessed via direct DRDA support (Db2 LUW and Oracle) provided by the Accelerator Loader server. The gathered metadata persists across server restarts.

Populating the metadata repository

You can periodically run the **DRDARange** or **IMSRange** command to gather metadata repository information about the backend virtual tables.

About this task

You can run the metadata repository command for DRDA or IMS either using the ISPF panels or a batch job.

Note: When using MapReduce support, **DRDARange** is required for a relational database management system (RDBMS).

The following restrictions and considerations apply when using this feature:

- Current support does not contain any optimizer enhancements for processing complex queries or joins other than what may be used to enhance MapReduce.
- If a table does not contain enough rows to properly calculate a DRDA Range, then the following error is also returned for this condition:

```
Table <schema>.<table_ name> not eligible for range processing
```

An additional error message can be found in the tracebrowse for this error. For example:

```
22:10:53 Row count 14 too small for range processing
22:10:53 SELECT DRDARANGE('virtual_table.DBLIDX') FOR FETCH ONLY - SQLCODE 0
22:10:53 SQL ENGINE HPO OPEN-CURSOR - SQLCODE 0
22:10:53 SQL ENGINE HPO FETCH - SQLCODE 100
```

Procedure

Run the appropriate command as follows:

- Using the ISPF panels:
  - For DRDA data sources, use the SELECT statement at the virtual table level.

    ```
    SELECT DRDARANGE('<TABLE NAME>',MAX_SCAN,'OPTION1','OPTION2',...);
    ```

    Note: It is recommended to use option PARTONLY for partitioned tables. Using this option will force the use of partition boundaries when determining parallelism.
  - For the IMS data source, use the SELECT statement at the database level.

    ```
    SELECT IMSRANGE('IMS database name')
    ```
- Using a batch job, which you can use to schedule the commands to refresh the statistics on a specified schedule. A sample job is provided in *hlq*.SHLVCNTL(HLVRANGE). Instructions for required edits to the job are provided in the member.

```
//RANGE  EXEC  PGM=HLVXMAPD,PARM='SSID=hlvid,MXR=30000000'
//STEPLIB  DD DISP=SHR,DSN=loadlibrary
//RPT      DD SYSOUT=*
//FMT      DD SYSOUT=*,DCB=LRECL=4096
//OUT      DD SYSOUT=*
//IN       DD *
SELECT DRDARANGE('<TABLE NAME>',MAX_SCAN,'OPTION1','OPTION2',...);
SELECT IMSRANGE('<IMS DBD Name>');
```

Migrating maps

Use the Map Migration utility to move your virtual table maps from a development environment to a test or production environment or from one release to another.

Before you begin

Before using the Map Migration utility, make sure that the following prerequisites have been met:

- **Accelerator Loader studio requirements**

  If migrating Db2 virtual tables, target systems used by each table must be defined in the target server using one of the following definitions:

  - If you want to use the same target system name, define the target system name on the target server.

  - If you want to use a different target system name, then define the new target system name, and use the TSYS=OLD_TSYS,NEW_TSYS parameter in the HLVGNMPM batch migration utility.
- **Accelerator Loader server requirements**

  Make sure that both the origin and destination servers have been started.
- **Accelerator Loader server security requirements**

  The following table summarizes the security permissions required to use the migration utility:

Table 38. Security permissions required to use the migration utility

	JCL library	**Map export PDS**	**Server map data set**
	The location where the JCL resides.	The PDS library to which the exported metadata objects are unloaded.	The HLVMAPP DD data set, which must be the first data set in the concatenation if the parameter NEW MAP DSN is not set.
Batch user ID	UPDATE	CREATE READ	N/A
Server user ID	N/A	UPDATE	UPDATE READ

About this task

The Map Migration utility facilitates change control of the virtual table maps. Change control is the process of moving the virtual table maps defined in a development environment to a test or production environment or from one release to another.

You can use the HLVGNMPM member located in your *hlq*.SHLVCNTL data set for migrating virtual table maps. See the HLVGNMPM member for a list of parameters available for use when migrating virtual table maps.

You can use the HLVGNMPM member to perform the following tasks:

- Migrate one or multiple virtual table maps from one server to another.
- Change the virtual table map definition using the optional parameters. See the comments in the sample job for more details.

Procedure

1. Customize the migration utility job, HLVGNMPM, for the requirements at your site.
2. Submit the HLVGNMPM batch job. Utility job HLVGNMPM extracts the contents of the maps, stores the metadata objects in the map export PDS library, and creates the batch job that is used to rebuild the maps on the target server.
3. Submit the batch JCL that was created in the previous step to rebuild the maps on the target server.

Results

The utility extracts the content of the map export PDS and rebuilds the map on the target server.

Chapter 13. JDBC Gateway

Use the JDBC Gateway to virtualize any JDBC 4.0 compliant database.

Topics:

- "Installing the JDBC Gateway" on page 449. This topic provides information about installing the JDBC Gateway component, including system requirements.
- "Using the JDBC Gateway" on page 453. This topic provides information about supported data sources and configuring access to those data sources.

Installing the JDBC Gateway

The *JDBC Gateway* is an Accelerator Loader distributed application server that allows direct connectivity to JDBC data sources. Install the JDBC Gateway to connect directly to JDBC data sources.

Before you begin

Before installing the JDBC Gateway, review the following points:

- For an overview of the JDBC Gateway solution, see "Using the JDBC Gateway" on page 453.
- The following terminology is used in the installation procedure:
  - *JDBC Gateway server*. The server is the backend component that allows communication with the Accelerator Loader server.
  - *JDBC Gateway administrative console*. The administrative console is the front-end web component that you use to configure your data sources. Only a single user (web client) can access the JDBC Gateway administrative console at a time. When installing the JDBC Gateway, you must specify a specific user ID for this purpose. This user ID is an internal application ID that allows access to the web user interface.
  - *Port for the Web UI*. This port will be used to access the Web-based administrative console and is specified during the installation procedure.

    Note: The JDBC Gateway also uses another port to listen for incoming DRDA requests. This DRDA listener port is set later when configuring the JDBC Gateway.
- Before installing the JDBC Gateway, verify that all installation requirements are met, as follows:

System component	Requirement
Permissions	You have appropriate user logon credentials and user privileges on your client system to install the JDBC Gateway. For example, to install and deploy the JDBC Gateway on Windows, you may need to run with administrator privileges depending on the target location.
Supported platforms	The JDBC Gateway is a pure Java application and therefore can be deployed on any platform that supports Java 8 or higher.
System memory	Minimum of 1 GB
Hard disk space	Minimum of 500 MB
Software	– Java 8 is required to install and deploy JDBC Gateway. – One of the following web browsers (with JavaScript support enabled) must be used to access the JDBC Gateway administrative console: - Google Chrome browser V50.0.2661.102 or later - Mozilla Firefox V47.0.1 or later

System component	Requirement
	- Microsoft Edge V25.10586.0.0 or later - Microsoft Internet Explorer V10 or later - Apple Safari browser V9.0.3 or later – Database connectivity requires an appropriate JDBC driver for each type of data source that is accessed.

About this task

Use the following procedure to install the JDBC Gateway. This installation installs the JDBC Gateway server and administrative console.

During the installation, you must specify a user ID to be used for the JDBC Gateway administrative console. When using the JDBC Gateway administrative console, only a single user can access the administrative console at a time.

As part of the installation, the following actions occur:

- The `jgate.properties` file is created, which contains the site-specific settings.
- Start and stop scripts appropriate to the platform are created. The installer creates `cmd` scripts if you are running on Windows and `sh` scripts if you are running on Unix or Linux.

Considerations for USS installation:

For installation in USS, it is recommended that you define the following environment variables:

```
export IBM_JAVA_OPTIONS="-Dfile.encoding=ISO8859-1"
export _BPXK_AUTOCVT=ON
```

When the installer generates start and stop scripts, the following actions occur depending on these variables:

- If you have not set the recommended environment variables, the scripts will be generated in EBCDIC. You can run the gateway as normal for Unix using the following command: `sh startServer.sh`
- If you set the `IBM_JAVA_OPTIONS` variable, the scripts will be generated in ASCII, and you will need to use the following command: `chtag -tc ISO8859-1 <file>`. (Tagging in USS basically means `_BPXK_AUTOCVT` must be `ON` if you want to edit or execute the script in the shell.)

Files generated by the JDBC Gateway, such as log files and the `jgate.properties` file, will be generated in ASCII regardless of the aforementioned environment variable settings (except for `jetty.out`, which is in EBCDIC). In order to browse these files natively in USS, you must use the `chtag` command and set `_BPXK_AUTOCVT=ON`.

Procedure

1. From the z/OS mainframe, transfer the installation member *hlq*.SHLVBIN(HLVBINJ) to your workstation using the File Transfer Protocol (FTP) in binary mode.
2. Rename the file to `jdbc-gateway.zip`.
3. On your host machine, create a directory to host the JDBC Gateway, and then extract the contents of the installation file into that directory.

   The extracted contents will include the `JDBCGatewaySetup11.jar` file.

   Note: If your host machine does not have an unzip utility, extract the contents of the installation file on a Windows workstation and copy the `JDBCGatewaySetup11.jar` file to the host machine.
4. At a command prompt in the directory, run the following command:

   ```
   java -jar JDBCGatewaySetup11.jar
   ```

   The installer launches.

5. Enter the following information at the prompts:

Prompt	Description
`You are about to install JDBC Gateway. Do you want to proceed? (Y/n)`	Enter Y to continue with the installation, or enter n to cancel the installation.
`Specify the installation directory (`*`local directory`*`\JDBCGateway):`	Enter the path of the directory where to install the application, or press Enter to use the default value as indicated.
`Set login for JDBC Gateway admin Web page (admin):`	Enter the user ID to be used for the JDBC Gateway administrative console, or press Enter to use the default value `admin`.
`Set password for JDBC Gateway admin Web page:`	Enter the password for the administrative console user ID. The password must be at least five characters in length.
`Confirm your password:`	Re-enter the password for the administrative console user ID.
`Set port for the Web UI (8080):`	Enter the number of an available TCP/IP port for the application, or press Enter to use the default value `8080`. This port number will be used when launching the JDBC Gateway administrative console.
`Installation completed. Do you want to start the JDBC Gateway now? (Y/n)`	Enter Y to start the server, or enter n to exit the installation. **Note:** If you enter Y, the server starts within the same shell.

Results

The JDBC Gateway has been installed and is ready for use. Information about the activity of the JDBC Gateway is available in the Java Console and in the log files.

If you specified to start the server, information about the startup process is displayed.

What to do next

- To start to the server, see “Starting the JDBC Gateway server” on page 451.
- To launch the administrative console, see “Launching the JDBC Gateway administrative console” on page 452.

Starting the JDBC Gateway server

Start the JDBC Gateway server so that you can connect directly to JDBC data sources.

Before you begin

The JDBC Gateway must be installed. See “Installing the JDBC Gateway” on page 449.

About this task

Use the following procedure to start the JDBC Gateway server.

Information about the startup and additional activity of the JDBC Gateway is available in the Java Console and in the following log file:

```
home_dir_for_user_profile\Application Data\IBM\JDBC Gateway\log\jetty.out
```

Procedure

1. At a command prompt in the JDBC Gateway installation directory, run one of the following commands:
   - For Windows: `startServer`
   - For Linux or Unix: `sh startServer.sh`

   Information about the startup process is displayed using the following format:

   ```
   Using settings file: home_dir_for_user_profile\Application Data\IBM\JDBC Gateway\Settings\jgate.properties
   Server is starting. It will be available on: http://localhost:port
   Server process ID: processID
   See home_dir_for_user_profile\Application Data\IBM\JDBC Gateway\log\jetty.out for server status
   information.
   ```
2. Wait for the JDBC Gateway server startup process to complete, which is indicated by the following message in the `jetty.out` log file:

   ```
   date time : JGATE Server started and ready to accept connections on port port_number
   ```
3. Optional: To stop the JDBC Gateway server, run the following command in the JDBC Gateway installation directory:
   - For Windows: `stopServer`
   - For Linux or Unix: `sh stopServer.sh`

Results

The JDBC Gateway server has been started and is ready for use. Information about the activity of the JDBC Gateway is available in the Java Console and in the log files.

What to do next

Start the JDBC Gateway administrative console. See “Launching the JDBC Gateway administrative console” on page 452.

Launching the JDBC Gateway administrative console

Launch the JDBC Gateway administrative console so that you can configure connections to JDBC data sources.

Before you begin

The JDBC Gateway server must be installed and active. See “Installing the JDBC Gateway” on page 449 and “Starting the JDBC Gateway server” on page 451.

About this task

Use the following procedure to start the JDBC Gateway administrative console.

Only a single user (web client) can access the JDBC Gateway administrative console at a time.

Note: The JDBC Gateway does not require an external web application server. It contains its own Jetty web application server.

Procedure

1. In a web browser, launch the JDBC Gateway administrative console using the following URL:

   ```
   http://server:port
   ```

where:

- *server* is the machine name or address where the JDBC Gateway server is running
- *port* is the port specified during the installation

2. Enter the **Username** and **Password** specified during installation.

   The JDBC Gateway administrative console launches.

Results

The JDBC Gateway administrative console is running and ready for use. Information about the activity of the JDBC Gateway is available in the Java Console and in the log files.

What to do next

Configure access to data sources in the JDBC Gateway and the Accelerator Loader server. See "Configuring access to data sources using the JDBC Gateway" on page 455.

Using the JDBC Gateway

The *JDBC Gateway* is an Accelerator Loader distributed application server that allows direct connectivity to JDBC 4.0 data sources. The use of another federation server is not required.

Data sources

The JDBC Gateway solution is designed to work with any JDBC 4.0 compliant database. The following combinations of JDBC databases and drivers have been tested and verified to be supported by the JDBC Gateway:

- Hadoop 2.9.2 with the Hive 2.0 standalone JDBC driver
- Oracle 12 using the Oracle Thin Driver, version 6
- PostgreSQL version 11.1 using the JDBC driver version 42.2.5

Note: The degree of JDBC compliance can vary across different driver vendor implementations and versions. In some cases, there may be interoperability problems when trying to use a particular JDBC driver to access a particular DBMS.

Getting started

Use the following procedure to access your first data source using the JDBC Gateway:

1. Install the JDBC Gateway.
2. Start the JDBC Gateway server.
3. Launch the JDBC Gateway administrative console in a supported browser using the following URL:

   ```
   http://host:port
   ```

4. In the JDBC Gateway administrative console, perform the following steps:
   a. Determine the port that the JDBC Gateway will use for listening for incoming DRDA requests. You can review or change the port using the **Server Status** area of the JDBC Gateway administrative console. See "Using the JDBC Gateway administrative console" on page 454.
   b. Set up access to the data source by performing the following tasks:
      i) Locate and add JDBC driver information for the data source. See "Adding JDBC driver information for a data source" on page 455.
      ii) Create a data source definition entry, specifying the location name, driver, URL and user information. See "Creating a data source definition entry" on page 457.
5. In the Accelerator Loader server, set up access to the data source by performing the following tasks:

a. Register the connection to the JDBC Gateway by entering the location, host and the port for the data source.
b. Enable the SEF rules and set global variables for the data source.

For information about these tasks, see "Configuring the Accelerator Loader server for JDBC Gateway sources" on page 458.

6. Use the Accelerator Loader studio to create virtual tables and views from the JDBC data source, just as you do for other supported sources, such as VSAM or IMS.

Using the JDBC Gateway administrative console

Use the JDBC Gateway administrative console to create and manage your data source definitions.

Before you begin

The JDBC Gateway must be installed, the JDBC Gateway server must be active, and the JDBC Gateway administrative console must be launched. See "Installing the JDBC Gateway" on page 449.

Procedure

Use the JDBC Gateway administrative console to create and manage your data source definitions. The following table describes the areas of the default JDBC Gateway view:

Field/Element	Action
Add New Data Source	Click this button add a new data source. For details, see "Creating a data source definition entry" on page 457.
Location **JDBC URL**	Displays a list of defined data sources. Select an entry to display properties and location information. • **Location**: Location name of the data source. **Note:** This value corresponds to the LOCATION parameter defined for the data source in the Accelerator Loader server. • **JDBC URL**: The URL that points to the data source.
Server Status	Displays and controls the JDBC Gateway server status and the DRDA listener port. • **Status**: JDBC Gateway server status. Click **Start** or **Stop** to control the server. • **Port**: The port on which the JDBC Gateway is listening for incoming DRDA requests. Click **Edit** to change the port number. This setting also allows you to control whether the server is started automatically when the JDBC Gateway `startServer` script is run. **Note:** This port value will be used when adding a JGATE database definition statement to the Accelerator Loader server configuration file (*hlvid*IN00).
Location Information	Displays the following details for selected data source entry: • **Domain**: Domain name of the JDBC Gateway. • **Location**: Name of the target data source. • **Port**: Port on which the JDBC Gateway is listening for incoming DRDA requests. **Note:** These values will be used when adding a JGATE database definition statement to the Accelerator Loader server configuration file (*hlvid*IN00). Click **Test Connection** to test the connection to the data source. If you have specified any information incorrectly you will not be able to connect.

Configuring access to data sources using the JDBC Gateway

Configure access to JDBC data sources that will be accessed using the JDBC Gateway.

To configure access for a data source, you must complete the following steps:

1. Add the compliant JDBC driver for the data source to the JDBC Gateway. See "Adding JDBC driver information for a data source" on page 455.
2. Create the data source definition entry in the JDBC Gateway, specifying the location name, driver, URL, and user information. See "Creating a data source definition entry" on page 457.
3. Configure the Accelerator Loader server for the data source. See "Configuring the Accelerator Loader server for JDBC Gateway sources" on page 458.

Adding JDBC driver information for a data source

Add JDBC driver information to the JDBC Gateway.

Before you begin

The JDBC Gateway must be installed, the JDBC Gateway server must be active, and the JDBC Gateway administrative console must be launched. See "Installing the JDBC Gateway" on page 449.

About this task

The JDBC Gateway requires a compliant JDBC driver for each data source to be accessed. You must locate and add JDBC driver information for each data source. The driver files must be accessible to the JDBC Gateway. The JDBC Gateway retains the defined JDBC driver information, and you would only repeat this specification process to add new drivers or make changes to the properties of an existing driver.

In preparation for this task, obtain the following driver information for the data source from the data source vendor or from the driver documentation:

- Driver class name. For example: `org.postgresql.Driver`
- Driver JAR files
- URL format. Each data source type has a unique URL format that is used to access the data and is specific by vendor. For example, for Postgres: `jdbc:postgresql://{host}:{port}/{database}`

To add JDBC driver information to the JDBC Gateway, using the JDBC Gateway administrative console, you will define the driver library for the data source, and then add the driver files to the library. Use the following procedure to add JDBC driver information for a data source.

Procedure

1. In the JDBC Gateway administrative console, select **Preferences** > **JDBC Libraries**.

   The following table describes the areas of the page:

Area	Description
JDBC driver libraries	JDBC driver libraries that are already set up. Use the search bar to quickly locate information in the table.
Driver files	JAR files associated with selected driver library.
Details	Additional information about the selected driver library

2. Add a driver library by performing the following steps:

   a) Click the **Add Driver** button.

   b) In the **Add New Driver Library** window, provide the following information:

Field	Action
Enter new library name	Enter a name for the library. The JDBC driver information for each type of database is organized by libraries. It is recommended that the name that you specify describes the JDBC information that will be included in the library. For example, if you are adding JDBC driver information for accessing Postgres databases, you might call the library `Postgres`. However, this is a descriptive field and can include any text.
Driver class name	Specify the actual name of the driver class that will be used. This information can be found in your JDBC driver documentation. For example: `org.postgresql.Driver`
URL templates	Optional: Specify a generic example of a correctly formatted URL that could be used to connect to the database. For example, if you are adding JDBC driver information for accessing Postgres databases, you might specify the following JDBC URL template: `jdbc:postgresql://{host}:{port}/{database}`. The generic information as specified in the template is presented when you are adding data sources, where you will replace the generic information with the specific database information.

Note: The **Validate** and **JDBC Driver Properties** options are not applicable until the driver files have been added.

c) Click **OK**.

3. Add JDBC driver files to the library by performing the following steps:
   a) Click the **Add Driver Files** button.
   b) In the **Add Files** dialog, click **Add** and specify the path to the JDBC driver files to add.
   c) Click **OK**.
4. Optional: Update JDBC driver information as follows:
   - To edit the JDBC driver library information, validate the drivers, or add connection keywords, select an existing JDBC driver library from the list and click **Edit Driver**. The **Edit Driver Library** window opens where you can make changes to the library name, class name, and URL templates. You can also use the **Validate** option to validate the driver files, and the **JDBC Driver Properties** option to enter driver-specific connection keywords.
   - To remove a JDBC driver library, select an existing JDBC driver library from the list and click **Remove Driver**. The library, including all the JAR files that it contains, is removed.
   - To remove a JAR file from a JDBC driver library, select an existing file from the list and click **Remove Driver File**. The file is removed.
5. Click **OK**.

Results

The JDBC driver information is saved.

Note: You must repeat this process for each JDBC driver that will be used to access a data source type.

What to do next

Create the data source definition entry, specifying the location name, driver, URL, and user information. “Creating a data source definition entry” on page 457.

Creating a data source definition entry

Configure the JDBC Gateway for access to data sources.

Before you begin

The JDBC Gateway must be installed, the JDBC Gateway server must be active, and the JDBC Gateway administrative console must be launched. See “Installing the JDBC Gateway” on page 449.

Also, the compliant JDBC driver should be added to the JDBC Gateway. See “Adding JDBC driver information for a data source” on page 455.

About this task

Use the following procedure to create a data source definition entry. This data source definition entry is made in the JDBC Gateway administrative console and is used for access to the data source by the JDBC Gateway.

Procedure

1. In the JDBC Gateway administrative console, click the **Add New Data Source** button.
2. In the **JDBC Gateway** dialog, complete the following fields.

Field	Action
Location	Enter the location name. A valid value is a string 1 - 16 characters. For example: ORCL. **Note:** This value must match the LOCATION value that will be specified for the corresponding data source definition in the Accelerator Loader server configuration file.
Connection Parameters	Enter the JDBC connection information, as follows: • **JDBC Driver**: Specify the library for the JDBC driver that will be used to access the data source. Select a library from the drop-down list, or click the ellipsis (...) option to the right of the field to open the **Select JDBC Driver** dialog where you can create additional JDBC driver libraries. (For more information, see “Adding JDBC driver information for a data source” on page 455.) • **JDBC URL**: Specify the URL that points to the data source to which you want to connect. The format for the URL can be displayed in the drop-down list if a JDBC URL template was supplied when the driver was configured. **Note:** You can also use the **Build URL by URL-Template** dialog box to form the correct string. Click **Build URL** to open the **Build URL by URL-Template** dialog box. From the JDBC URL drop-down list, select the template. In the table, specify the server, port, and database information and click OK. The result URL string is added to the JDBC URL list. This feature is available if a JDBC URL template was provided when the driver was configured. • **Advanced**: Click **Advanced** to specify any driver-specific connection string keywords and their values that will be used for the data source. The list of available advanced properties will change depending on both the type of driver being used, and the version of the driver. For information on any keywords that are required by a selected database driver, see the documentation for the driver.

Field	Action
Set User Information	Click **Set User Information** to provide authorization information used when accessing the data source. Provide the following information on the **User Information** dialog: • **User ID and password are required**: Select this option to require the use of a user ID and password when accessing the data source. If the data source allows access without a user ID and password, selecting this option will override that allowance. • **Allow users to save password**: Select this option to allow users to save passwords. • **Allow users to change password**: Select this option to allow users to change passwords. (**Note:** This option is for Db2 only.) • **User name** and **Password**: Specify the user ID and password that will be used to access the data source. The user ID and password that you specify when connecting to the data source are used to authorize the user.
Test Connection	Click **Test Connection** to test the connection to the data source. If you have specified any information incorrectly, you will not be able to connect.

3. Click **Finish**.

Results
The connection to the data source is validated. If successful, the data source location is added to the list of available data sources.

What to do next
Configure the Accelerator Loader server for the JDBC Gateway source.

Configuring the Accelerator Loader server for JDBC Gateway sources
Configure the Accelerator Loader server for use with the JDBC Gateway.

Before you begin
Configure access to the data source using the JDBC Gateway. See “Creating a data source definition entry” on page 457.

About this task
To use the JDBC Gateway to connect to your data source, the following changes must be made to the Accelerator Loader server:

- The DEFINE DATABASE TYPE value must be set, as follows:

```
"DEFINE DATABASE TYPE(JGATE)"
```

JGATE
DDF endpoint is the JDBC Gateway.

- Optionally, the following utility and SEF procedure can be configured in support of TYPE(JGATE):

HLVDRATH
A utility that sets encrypted passwords in GLOBALU variables. You can also use this utility to list existing credential information.

HLVEJGAG
An ATH rule that switches credentials when connecting to a JGATE data source using DRDA. This rule uses AES encrypted passwords stored as GLOBALU system variables.

Procedure

1. In the Accelerator Loader server configuration file, register the connection to the JDBC Gateway using a definition statement, such as the following example:

```
"DEFINE DATABASE TYPE(JGATE)"         ,
                 "NAME(name)"                 ,
                 "LOCATION(location)"         ,
                 "DDFSTATUS(ENABLE)"          ,
                 "DOMAIN(your.domain.name)"   ,
                 "PORT(port)"                 ,
                 "IPADDR(1.1.1.1)"            ,
                 "CCSID(37)"
```

The following table lists the parameters:

Parameter	Description	Valid values
AUTHTYPE	Authentication type. This can be either DES for Diffie Hellman Encryption Standard or AES for Advanced Encryption Standard. When AUTHTYPE is not supplied, the default is DES. To force AES, the option must be added to the DEFINE DATABASE statement. Each server can be different in what is supported as to AES/DES. For this setting to have effect, you must specify a security mechanism (SECMEC) that requests encryption.	**DES** Diffie Hellman Encryption Standard (default value) **AES** Advanced Encryption Standard.
CCSID	Specify the EBCDIC single-byte application CCSID (Coded Character Set Identifier) configured for this RDBMS subsystem on the RDBMS installation panel DSNTIPF, option 7. (*Optional*)	Refer to the RDBMS vendor documentation for a list of valid CCSIDs.
DDFSTATUS	The DDF activation status can be altered online by using the ISPF 4-Db2 dialog panels. (*Required*)	**ENABLE** Make this DDF definition active. **DISABLE** DDF endpoint is not used.
DOMAIN	The domain name or hostname on which the JDBC Gateway server is running. Either DOMAIN or IPADDR is required, but not both.	No default value.

Parameter	Description	Valid values
IPADDR	The dot-notation IPV4 address of the host on which the JDBC Gateway server is running. Either DOMAIN or IPADDR is required, but not both.	If this parameter is not specified, the value 127.0.0.1 (local host) is the default. For group director definitions, use the DVIPA IP address of the group director.
LOCATION	For JGATE: The location name specified in the JDBC Gateway data source definition entry. See “Creating a data source definition entry” on page 457. (*Required*)	A valid value is a string 1 - 16 characters.
NAME	The database name as known to the server. (*Required*)	A valid value consists of 1 - 4 characters. Clients use this ID when they request access to a specific downstream database server.
PORT	The TCP/IP port on which the JDBC Gateway server is listening. (*Required*)	A valid 1-5 numeric string. If this keyword is not entered, the default DRDA port number 443 is used.
SECMEC	The DRDA security mechanism in force.	**EUSRIDPWD** Encrypt the user ID and password. **USERIDPWD** User ID and password are sent as is. No encryption is used. **USRIDONL** User ID is sent as is. No encryption is used for the user ID only (client security). **USRENCPWD** Encrypt password only.
TYPE	Defines the DDF endpoint type. **JGATE** DDF endpoint is the JDBC Gateway.	When using the JDBC Gateway, JGATE is the valid value.

2. Optional: To define alternate authentication information, use the sample job HLVDRATH to add a global default user definition or authentication information for specific mainframe users as follows:
   a) Locate the HLVDRATH member in the *hlq*.SHLVCNTL data set.
   b) Modify the JCL according to the instructions provided in the HLVDRATH member.

      When adding the SYSIN statements that define the alternate credentials for logging in to your JDBC Gateway source, as instructed in the JCL, make sure to specify the correct DBTYPE. For JDBC Gateway sources, specify DBTYPE=JGATE.

c) Submit the job.

d) Optional: To verify the information stored in the GLOBALU variables and list existing authentication, use the REPORT=SUMMARY statement in the HLVDRATH member and submit the job.

3. Optional: If using alternate authentication information, auto-enable the SEF ATH rule SHLVXATH(HLVEJGAG) to provide the logon credentials to each JDBC Gateway data source instance. Global variables are used to define alternate authentication credential mapping for the SEF ATH rule.
   a) On the Administer Accelerator Loader Server menu, select option **3** for Manage Rules.
   b) Select option **2** for SEF Rule Management.
   c) Enter * to display all rules, or ATH to display only authentication rules.
   d) Enable the rule by specifying E and pressing Enter.
   e) Set the rule to Auto-Enable by specifying A and pressing Enter.
      Setting the rule to Auto-enable activates the rule automatically when the server is restarted.
4. Restart the Accelerator Loader server.

Results
The connection between the JDBC Gateway and the Accelerator Loader server for the JDBC data source has been defined.

What to do next
Use the Accelerator Loader studio to create virtual tables and views from the JDBC data source.

Example: Configuring access to Oracle data

Configure the JDBC Gateway for access to Oracle data.

Before you begin
The JDBC Gateway must be installed, the JDBC Gateway server must be active, and the JDBC Gateway administrative console must be launched. See "Installing the JDBC Gateway" on page 449.

About this task
Use the following procedure to configure access to Oracle data.

Procedure
1. Download the Oracle Thin Driver from the Oracle website. For example, `ojdbc8.jar`.
2. In the JDBC Gateway administrative console, select **Preferences** > **JDBC Libraries**, and then complete the following steps:
   a) Select the row for the **Driver Library Name** `Oracle Thin Driver` in the table, and click **Add Driver Files**.
   b) Use the **Add Files** dialog to add the Oracle Thin Driver file.
   c) Click **OK** to close the **JDBC Libraries** preference page.
3. Create a JDBC Gateway data source for Oracle as follows:
   a) Select **File** > **New** > **Other**, and then in the **New** wizard dialog, select **Data Source** and click **Next**.
   b) Complete the following fields:

Field	Action
Location	Enter the location name. For example, `Oracle`.

Field	Action
Connection Parameters	Enter the connection parameters: • **JDBC Driver**: From the drop-down list, select `Oracle Thin Driver`. • **JDBC URL**: Enter the JDBC URL as follows: `jdbc:oracle:thin:@//oracle-host:1521/ORCL`
Set User Information	Click **Set User Information**, and enter the credentials for accessing the Oracle database, as follows: • **User name**: *`OracleUser`* • **Password**: *`OraclePwd`*

c) Click **Test Connection**.

d) Click **Finish**.

4. In the Accelerator Loader server configuration file, register the connection to the JDBC Gateway data source using a definition statement, such as the following example:

```
"DEFINE DATABASE TYPE(JGATE)"                    ,
               "NAME(ORCL)"                      ,
               "LOCATION(Oracle)"                  ,
               "DDFSTATUS(ENABLE)"               ,
               "SECMEC(USRIDPWD)"                ,
               "PORT(1527)"                      ,
               "IPADDR(10.26.4.125)"             ,
               "CCSID(37)"
               "IDLETIME(110)"
```

For details about this statement, see“Configuring the Accelerator Loader server for JDBC Gateway sources” on page 458.

5. In the Accelerator Loader server, enable rule HLVEJGAG. For more information, see “Configuring the Accelerator Loader server for JDBC Gateway sources” on page 458..

Results

The following connections have been established:

- The connection from the JDBC Gateway to the Oracle data source
- The connection between the JDBC Gateway and the Accelerator Loader server for the Oracle data source

What to do next

Use the Accelerator Loader studio to create virtual tables and views to access the Oracle data.

Example: Configuring access to Hadoop data

Configure the JDBC Gateway for access to Hadoop data.

Before you begin

The JDBC Gateway must be installed, the JDBC Gateway server must be active, and the JDBC Gateway administrative console must be launched. See “Installing the JDBC Gateway” on page 449.

About this task

Configuring access to Hadoop data requires both the standalone Hive 2.0 JDBC jar and the Hadoop Common jar driver files.

Use the following procedure to configure access to Hadoop data.

Procedure

1. Download the Apache Hive and Apache Hadoop driver files.
2. In the JDBC Gateway administrative console, select **Preferences** > **JDBC Libraries**, and then complete the following steps:
   a) Click **Add Driver**, complete the following fields, and click **OK**:

Field	Action
Enter new library name	Enter HADOOP
Driver class name	Enter `org.apache.hive.jdbc.HiveDriver`

   b) Select the row for the **Driver Library Name** HADOOP in the table, and click **Add Driver Files**.
   c) Use the **Add Files** dialog to add the driver files. You need to include both the standalone Hive 2.0 JDBC jar and the Hadoop Common jar.
   d) Click **OK** to close the **JDBC Libraries** preference page.
3. Create a JDBC Gateway data source for Hadoop as follows:
   a) Select **File** > **New** > **Other**, and then in the **New** wizard dialog, select **Data Source** and click **Next**.
   b) Complete the following fields:

Field	Action
Location	Enter the location name. For example, Hadoop.
Connection Parameters	Enter the connection parameters: • **JDBC Driver**: From the drop-down list, select HADOOP. • **JDBC URL**: Enter the JDBC URL as follows: `jdbc:hive2://hadoop-host:10000/default`
Set User Information	Click **Set User Information**, and enter the credentials for accessing the Hadoop database, as follows: • **User name**: *HadoopUser* • **Password**: *HadoopPwd*

   c) Click **Test Connection**.
   d) Click **Finish**.
4. In the Accelerator Loader server configuration file, register the connection to the JDBC Gateway data source using a definition statement, such as the following example:

```
/*-------------------------------------------------------*/
/*      HADOOP                                           */
/*-------------------------------------------------------*/
"DEFINE DATABASE TYPE(JGATE)"                    ,
               "NAME(HIVE)"                      ,
               "LOCATION(Hadoop)"                  ,
               "DDFSTATUS(ENABLE)"               ,
               "SECMEC(USRIDPWD)"                ,
               "PORT(1527)"                      ,
               "IPADDR(10.26.4.125)"             ,
               "CCSID(37)"
               "IDLETIME(110)"
```

   For details about this statement, see"Configuring the Accelerator Loader server for JDBC Gateway sources" on page 458.

5. In the Accelerator Loader server, enable rule HLVEJGAG. For more information, see “Configuring the Accelerator Loader server for JDBC Gateway sources” on page 458..

Results

The following connections have been established:

- The connection from the JDBC Gateway to the Hadoop data source
- The connection between the JDBC Gateway and the Accelerator Loader server for the Hadoop data source

What to do next

Use the Accelerator Loader studio to create virtual tables and views to access the Hadoop data.

Setting preferences

The **Preferences** dialog is used to set user preferences and add necessary drivers.

The **Preferences** window consists of two panes. The left pane displays the list of preferences groups and the right pane displays the page for the selected group. The following groups of preferences are displayed in the **Preferences** window:

- JDBC Libraries
- Log
- Output

Setting JDBC driver preferences

Use the **JDBC Libraries** preferences to set up and manage JDBC driver information for your data sources.

About this task

You can use the **JDBC Libraries** preferences page to review, define or update JDBC driver information for each type of database (such as Db2, Informix®, Oracle) that will be accessed.

Use the following procedure to access the **JDBC Libraries** preferences page. For details about adding new driver definitions, see “Adding JDBC driver information for a data source” on page 455.

Procedure

1. To access the **JDBC Libraries** page, select **Preferences** > **JDBC Libraries**.

   All of the JDBC driver libraries that you have already set up are listed in the **JDBC driver libraries** area. The JAR files associated with selected driver library are listed in the **Driver files** area. Additional information about the selected driver library is displayed on the **Details** panel.
2. For information about adding or editing driver definitions, see “Adding JDBC driver information for a data source” on page 455.

Setting log preferences

Use the **Log** page of the **Preferences** window to activate a log file that will track JDBC Gateway processing information.

About this task

The log file information can be useful in debugging.

It is recommended to leave the log level at the default setting of `error`. Only increase the level at the direction of IBM Software Support.

Use the following procedure to specify the log file preferences.

Procedure

1. Click **Preferences** > **Log**.
2. Check **Enable log** to activate the log file for debugging purposes. If this check box is selected, the log file option fields are enabled.
3. Check one or more of the log file options to indicate what information should be gathered. It is recommended that all options remain checked. The available log file options are as follows:
   - Print stack trace for log exceptions
   - Print log class and method
   - Print log user token
4. Click **Edit Log Categories** to modify the category level.

   The following levels are available: `none`, `emergency`, `alert`, `critical`, `error`, `warning`, `notice`, `info`, `debug`, `all`.
5. Click **Apply** to save your preferences choices.
6. Click **Restore Defaults** to restore the default preference values.
7. Click **OK** to close the **Preferences** window.

Setting output preferences

You can use the **Output** page of the **Preferences** window to activate the **Output** view that tracks the information about errors and connections in the JDBC Gateway.

About this task

The information from the **Output** view can be useful for debugging. It can be delivered as a report in the **Output** view and automatically added to the log file.

Use the following procedure to specify the output file preferences:

Procedure

1. Click **Preferences** > **Output**.
2. On the **Output** page, you can specify the following options:

   Show errors
   This option displays all error texts in the **Output** view.

   Show connection status
   This option displays the statuses of connections to data sources in the **Output** view.

   Automatically activate Output view
   When an error occurs or a message appears, this option automatically opens the **Output** view.
3. Click **Apply** to save your preferences choices.
4. Click **Restore Defaults** to restore the default preference values.
5. Click **OK** to close the **Preferences** window.

Troubleshooting

Collect troubleshooting data to provide to technical support.

About this task

Use the following procedure to collect troubleshooting data.

Procedure

1. Set the log level to `debug`. See “Setting log preferences” on page 464.
2. Reproduce the issue.

3. Set the log level to the previous value.
4. Select **Help** > **Collect Support Data**.
5. Complete the fields and click **Save Report**.

Chapter 14. Troubleshooting

Use these topics to diagnose and correct problems that you experience with Db2 Analytics Accelerator Loader.

Messages and codes

These topics contain information about the messages and codes that Tools Customizer and Accelerator Loader issue.

Tools Customizer messages

Use the information in these messages to help you diagnose and solve Tools Customizer problems.

CCQB000I **The product parameter data was saved in the data store.**

Explanation:
Changes that were made to the product parameters were saved in the data store.

System action:
None.

User response:
No action is required.

CCQB001I **The DB2 parameter data was saved in the data store.**

Explanation:
Changes that were made to the Db2 parameters were saved in the data store.

System action:
None.

User response:
No action is required.

CCQB002I **The LPAR parameter data was saved in the data store.**

Explanation:
Changes that were made to the LPAR parameters were saved in the data store.

System action:
None.

User response:
No action is required.

CCQB003E **At least one step must be selected in a selected task. The selected task is *task_description*.**

Explanation:
When a task is selected, at least one step must be selected. A selected step is missing from the specified task.

System action:
Processing stops.

User response:
Select a step in the specified task or deselect the task.

CCQB004I **The required information to run the Discover EXEC was saved in the data store.**

Explanation:
The data store contains all the information that is required to run the Discover EXEC.

System action:
None.

User response:
No action is required.

CCQB005E **The conflicting values for the *parameter_name* parameter must be resolved before the information can be saved.**

Explanation:
Two values for one parameter conflict with each other, and they must be resolved to save the information.

System action:
Processing stops.

User response:
Resolve the conflicting values for the parameter.

CCQB006E **One row must be selected.**

Explanation:
One row in the table must be selected.

System action:
Processing stops.

User response:
Select one row.

CCQB007E **Only one row can be selected.**

Explanation:
Multiple rows in the table are selected, but only one row is allowed to be selected.

System action:
Processing stops.

User response:
Select only one row.

CCQC000I **The jobs have been customized on the selected DB2 entries.**

Explanation:
The jobs were customized on the Db2 entries that were selected.

System action:
None.

User response:
Press Enter to clear the message.

CCQC001W **The jobs were not generated on one or more of the selected DB2 entries. Press PF3 to check the Db2 entries that were not customized.**

Explanation:
The product was not customized on one or more of the Db2 entries that were selected.

System action:
None.

User response:
Press PF3 to see the Db2 entries on which the product was not customized. The status of these Db2 entries is Errors in Customization.

CCQC002I **The edit session was started automatically because values for required parameters are missing or must be verified.**

Explanation:
If product, LPAR parameters, or Db2 parameters are not defined or if parameter definitions must be verified, an editing session for the undefined or unverified parameters starts automatically.

System action:
None.

User response:
Define values for all required product, LPAR parameters, or Db2 parameters.

CCQC003W **The *template_name* template in the *library_name* metadata library does not contain any parameters.**

Explanation:
The specified template does not have parameters.

System action:
None.

User response:
No action is required.

CCQC004S **The value of the "type" attribute for the *template_name* template in the *library_name* metadata library does not match the value that was previously specified. The value is *value_name*, and the previously specified value is *value_name*.**

Explanation:
The value of the "type" attribute must match the value that was previously specified.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQC005S **The *template_name* template exceeds the number of allowed templates for a customization sequence. The template is in the *library_name* metadata library.**

Explanation:
The customization sequence can process only *number* templates. The specified template cannot be processed because the customization sequence already contains the maximum number of templates.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQC006E **The jobs could not be generated for the *group_attach_name* Db2 group attach name.**

Explanation:
The customization jobs could not be generated for the specified Db2 group attach name.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQC007E **The jobs could not be generated for the *subsystem_ID* Db2 subsystem.**

Explanation:
The customization jobs could not be generated for the specified Db2 subsystem.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQC008E **The jobs could not be generated for the *member_name* Db2 member.**

Explanation:
The customization jobs could not be generated for the specified Db2 member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQC009S **The jobs were not generated for the DB2 entries.**

Explanation:
One or more errors occurred while customization jobs were being generated for the selected Db2 entries.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQC010S **The *template_name* template could not be accessed in the *library_name* metadata library.**

Explanation:
The specified template could not be accessed because the user does not have RACF access to the data set, the data set has incorrect data characteristics, or the data set is not cataloged.

System action:
Processing stops.

User response:
Ensure that you have RACF access to the data set, that the characteristics are correct according to the specifications of the product that you are customizing, and that the data set is cataloged. If the problem persists, contact IBM Software Support.

CCQC011S **The *template_name* template could not be written to the *library_name* customization library.**

Explanation:
The specified template could not be accessed because the user does not have RACF access to the data set, the data set has incorrect data characteristics, or the data set is not cataloged.

System action:
Processing stops.

User response:
Ensure that you have RACF access to the data set, that the characteristics are correct according to the specifications of the product that you are customizing, and that the data set is cataloged. If the problem persists, contact IBM Software Support.

CCQC012W **The job card was generated with default values because the JOB keyword was missing.**

Explanation:
Default values were used to generate the job card because the JOB keyword was not specified in the first line of the job card.

System action:
The job card was generated with default values.

User response:
No action is required. To generate the job card with your own values, add the JOB keyword in the first line of the job card.

CCQC013W **The job card was generated with the default value for the programmer name because the specified programmer name exceeded 20 characters.**

Explanation:
Default values were used to generate the job card because the specified programmer name contained too many characters.

System action:
The job card was generated with default values.

User response:
No action is required. To generate the job card with your own values, add a valid programmer name in the job card. A valid programmer name is 1 - 20 characters.

CCQC014W **The job card was generated with default values because the JOB keyword was not followed by a space.**

Explanation:
Default values were used to generate the job card because a space did not follow the JOB keyword.

System action:
The job card was generated with default values.

User response:
No action is required. To generate the job card with your own values, add a space after the JOB keyword in the job card.

CCQC015S **The *template_name* template in the *library_name* metadata library**

contains the following file-tailoring control statement: *statement_name*. This control statement is not valid in a *template_type* template.

Explanation:
The *template_type* template cannot contain the specified type of file-tailoring control statement.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQC016S **The)DOT file-tailoring control statement exceeded the number of allowed occurrences for the *template_name* template in the *library_name* metadata library.**

Explanation:
The)DOT file-tailoring control statement can occur only a limited number of times in the specified template.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQC017S **The nested)DOT file-tailoring control statements exceeded the number of allowed occurrences in the *template_name* template in the *library_name* metadata library.**

Explanation:
Nested)DOT file-tailoring control statements can occur only *number* times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQC018S **The *template_name* template in the *library_name* metadata library is not valid because it does not contain any data.**

Explanation:
The specified template is missing required data.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQC019S **The *template_name* template in the *library_name* metadata library is not valid because an)ENDDOT file-tailoring control statement is missing.**

Explanation:
A)ENDDOT file-tailoring control statement is required in the specified template.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQC021S **The *template_name* template in the *library_name* metadata library is not valid because the template must start with the *parameter_name* job card parameter.**

Explanation:
The specified template must start with the specified job card parameter.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQC022S **The parameters used in a)DOT file-tailoring control statement exceeded the number of allowed parameters in the *template_name* template. The template is in the *library_name* metadata library. The error occurs in)DOT section *section_number*.**

Explanation:
A)DOT file-tailoring control statement can contain only a limited number of parameters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQC023S **The)DOT file-tailoring control statement must include the *table-name* table name in the *template_name* template. The template is in the *library_name***

metadata library. The error occurs in)DOT section *section_number*.

Explanation:
The)DOT file-tailoring control statement is missing a required table name.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQC024S **ISPF file tailoring failed for the *template_name* template in the *library_name* metadata library.**

Explanation:
An error occurred during ISPF file tailoring for the specified template.

System action:
Processing stops.

User response

Review the Tools Customizer-generated trace data set and the ISPF file tailoring trace data set. To create an ISPF file tailoring trace data set, complete the following steps:

1. Run Tools Customizer until the error is about to occur.
2. Specify the ISPFTTRC command, and press Enter.
3. Issue the Tools Customizer command that issues the error.
4. Specify the ISPFTTRC command, and press Enter. The ISPF file tailoring trace data set is created. It adheres the following naming convention: *TSO_ID*.ISPFT.TRACE, where *TSO_ID* is the TSO user ID that is being used.

If the problem persists, gather the following information and contact IBM Software Support.

- A screen capture of the Tools Customizer error. Ensure that the complete error message is displayed by pressing PF1.
- The Tools Customizer trace data set. It adheres to the following naming convention: *TSO_ID*.CCQ.TRACE, where *TSO_ID* is the TSO user ID that is running Tools Customizer.
- The ISPF file tailoring trace data set.

CCQC025I **Customized jobs do not exist because they have not been generated.**

Explanation:
The list of customized jobs cannot be displayed because the product has not been customized for any Db2 entries.

System action:
None.

User response:
Complete the steps to customize a product. Customized jobs are generated when all required product, LPAR parameters, and Db2 parameters are defined and at least one Db2 entry on which to customize the product has been selected.

CCQC026S **The value of the "customized" attribute for the *parameter_name* parameter in the *library_name* metadata library template does not match the value that was previously specified. The value is *value_name*, and the previously specified value is *value_name*.**

Explanation:
The value for the "customized" attribute for a parameter must match the value that was previously specified.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQC027S **The *job_name* customization job was not found in the *library_name* customization library.**

Explanation:
The selected customization job does not exist in the customization library.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQC028S **The *library_name* customization library was not found.**

Explanation:
The customization library does not exist.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQC029I **The customization jobs were generated for *Product_name*.**

Explanation:
The customization jobs were generated for the specific product.

System action:
None.

User response:
No action is required.

CCQC030S **The customization jobs cannot be generated because at least one DB2 entry must be associated with this product.**

Explanation:
The product that you are customizing requires at least one Db2 entry to be associated with it before customization jobs can be generated.

System action:
None.

User response:
Associate a Db2 entry with the product that you are customizing, and regenerate the jobs.

CCQC031I **The jobs were generated for the associated DB2 entries.**

Explanation:
The customization jobs were generated for the Db2 entries that are associated with the product.

System action:
None.

User response:
No action is required.

CCQC032S **The customization jobs were not generated for *Product_name*.**

Explanation:
A severe error occurred while the jobs were being generated for the specified product.

System action:
None.

User response:
See “Gathering diagnostic information” on page 918. Contact IBM Software Support.

CCQC033S **The *customization_library_name* has no customized jobs.**

Explanation:
The specified customization library cannot be browsed or edited because it is empty.

System action:
None.

User response:
Generate customization jobs for the specified library, and browse or edit the library again.

CCQC034S **The specified operation is not allowed.**

Explanation:
Issuing commands against customization jobs from the customization library from an ISPF browse or edit session that was started on the **Finish Product Customization** panel is restricted.

System action:
None.

User response:
To make changes to customization jobs, follow the steps for recustomization.

CCQC035E **Before you generate customization jobs, edit the product parameters to select one or more tasks or steps, and then issue the G line command or the GENERATEALL command again.**

Explanation:
One or more tasks or steps must be selected before customization jobs can be generated.

System action:
None.

User response:
Edit the product parameters to select one or more tasks or steps. Then, issue the G line command or the GENERATEALL command again.

CCQC036E **Before you exit the Product Parameters panel, you must select one or more tasks or steps to generate customization jobs or issue the CANCEL command.**

Explanation:
One or more tasks or steps must be selected to generate customization jobs or the CANCEL command must be issued before you can exit the **Product Parameters** panel.

System action:
None.

User response:
Select one or more tasks or steps, or issue the CANCEL command.

CCQC037W **The customization information was not found.**

Explanation:
To use the JOBLIST command, the customization jobs must be regenerated by using the GENERATEALL command or the G line command.

System action:
None.

User response:
Issue the GENERATEALL command or the G line command to generate the customization jobs.

CCQC038W **The customization information cannot be accessed because the *customization_member* customization member is being used.**

Explanation:
The customization member that was specified on NNN is currently being used.

System action:
None.

User response:
Determine why the customization member is in use, release it, and redo the work.

CCQC039I **The VERIFY/VERIFYOFF command is not active in Generate mode.**

Explanation:
The VERIFY/VERIFYOFF command is not active in Generate mode because all values saved in Generate mode must already have been verified.

System action:
None.

User response:
No action is required.

CCQD000W **The *member_name* environment index member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the specified environment index member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the warning.

CCQD001S **The *member_name* environment index member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the specified environment index member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the error.

CCQD002S **The XML structure of the *member_name* environment index member is not valid. The *element_name* element is unknown.**

Explanation:
The specified environment index member contains an unknown element.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD003S **The XML structure of the *member_name* environment index member is not valid. Content is not allowed for the *element_name* element, but content was found.**

Explanation:
Content was found in an element that cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD004S **The XML structure of the *member_name* environment index member is not valid. Content is required for the *element_name* element, but content was not found.**

Explanation:
The specified element does not contain required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD005S **The XML structure of the *member_name* environment index member is not valid. The content length for the *element_name* element exceeds *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD006S **The XML structure of the *member_name* environment index member is not valid. The *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified element occurs too many times in the environment index member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD007S **The XML structure of the *member_name* environment index member is not valid. The *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified element does not occur enough times in the environment index member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD008S **The XML structure of the *member_name* environment index member is not valid. The *attribute_name* attribute in the *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified attribute occurs too many times in the environment index member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD009S **The XML structure of the *member_name* environment index member is not valid. The *attribute_name* attribute in the *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified attribute does not occur enough times in the environment index member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD010S **The XML structure of the *member_name* environment index member is not valid. Content is not allowed for the *attribute_name* attribute in the *element_name* element, but content was found.**

Explanation:
Content was found in an attribute that cannot contain content. The name of the attribute and the name of the element that contains it are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD011S **The XML structure of the *member_name* environment index member is not valid. Content is required for the *attribute_name* attribute in the *element_name* element, but content was not found.**

Explanation:
An attribute does not contain required content. The name of the attribute and the name of the element that contains it are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD012S **The XML structure of the *member_name* environment index member is not valid. The content length for the *element_name***

element exceeds *maximum_number* characters.

Explanation:
An element contains too many characters. The name of the element and the maximum number of allowed characters are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD013S **The XML structure of the *member_name* environment index member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:
The environment index member contains an unknown attribute. The name of the unknown attribute and the name of the element that contains it are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD050S **The following LPAR serial number is duplicated in the environment index member: *serial_number*.**

Explanation:
The environment index member contains duplicate LPAR serial numbers. The duplicate serial number is indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD051S **The following DB2 serial number is duplicated in the environment index member: *serial_number*.**

Explanation:
The environment index member contains duplicate Db2 serial numbers. The duplicate serial number is indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD052S **The following Db2 group attach name is duplicated in the environment index member: *group_attach_name*.**

Explanation:
The environment index member contains duplicate group attach names.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD053S **The reference to the following DB2 subsystem for a Db2 group attach name is duplicated in the environment index member: *subsystem_ID*.**

Explanation:
The environment index member contains duplicate references to a Db2 subsystem for a Db2 group attach name.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD054S **The reference to the following DB2 subsystem for the *LPAR_name* LPAR is duplicated in the environment index member: *subsystem_ID*.**

Explanation:
The environment index member contains duplicate references to a Db2 subsystem for an LPAR. The duplicate subsystem ID is indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD055S **The following Db2 group attach name was not found in the environment index member: *group_attach_name*.**

Explanation:
A group attach name that is referenced by a Db2 member does not exist in the environment index member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD056S **The following LPAR was not found in the environment index member: *LPAR_name*.**

Explanation:
The LPAR does not exist in the environment index member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD057S **The following LPAR is duplicated in the environment index member: *LPAR_name*.**

Explanation:
The environment index member contains duplicate LPARs. The name of the duplicate LPAR name is indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD100W **The *member_name* product index member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the product index member is valid, the PL/I XML parser issued the specified exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the specified exception warning code.

CCQD101S **The *member_name* product index member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the product index member is valid, the PL/I XML parser issued the specified exception error code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the specified exception error code. Ensure that the Tools Customizer data store data set DCB is the same as the sample SCCQSAMP(CCQCDATS) data set DCB.

CCQD102S **The XML structure of the *member_name* product index member is not valid. The *element_name* element is unknown.**

Explanation:
The specified product index member contains an unknown element.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD103S **The XML structure of the *member_name* product index member is not valid. Content is not allowed for the *element_name* element, but content was found.**

Explanation:
Content was found for an element that cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD104S **The XML structure of the *member_name* product index member is not valid. Content is required for the *element_name* element, but content was not found.**

Explanation:
The specified element does not contain required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD105S **The XML structure of the *member_name* product index member is not valid. The content length for the *element_name* element exceeds *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD106S **The XML structure of the *member_name* product index member is not valid. The *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified element occurs too many times in the product index member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD107S **The XML structure of the *member_name* product index member is not valid. The *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified element does not occur enough times in the product index member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD108S **The XML structure of the *member_name* product index member is not valid. The *attribute_name* attribute in the *element name* element cannot occur more than *maximum_number* times.**

Explanation:
An attribute occurs too many times. The name of the attribute and the element that contains it are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD109S **The XML structure of the *member_name* product index member is not valid. The *attribute_name* attribute in the *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified attribute does not occur enough times in the product index member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD110S **The XML structure of the *member_name* product index member is not valid. Content is not allowed for the *attribute_name* attribute in the *element_name* element, but content was found.**

Explanation:
An attribute cannot contain content. The name of the attribute and the element that contains it are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD111S **The XML structure of the *member_name* product index member is not valid. Content is required for the *attribute_name* attribute in the *element_name* element, but content was not found.**

Explanation:
An attribute requires content. The name of the attribute and the name of the element that contains it are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD112S **The XML structure of the *member_name* product index member is not valid. The content length for the *element_name* element exceeds *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD113S **The XML structure of the *member_name* product index member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:
The specified attribute in the product index member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD118S **The content of the *member_name* product index member is not valid. The *configuration_ID* configuration ID for the *configuration-name* configuration name is not unique.**

Explanation:

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD120S **The content of the *member_name* product index member is not valid. The pack ID *pack_ID* that is referenced by product prefix *product_prefix* in the metadata library *library_name* could not be found.**

Explanation:
The specified pack ID could not be found in the metadata library.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD121I **The specified pack contains the *component_name*, which was previously specified as a stand-alone product.**

Explanation:
The specified component of the pack was previously specified as a stand-alone product.

System action:
None.

User response:
No action is required.

CCQD122I **The specified component metadata library was previously specified as part of the *pack_name*.**

Explanation:
The specified metadata library for the component was previously specified as part of a pack.

System action:
None.

User response:
No action is required.

CCQD123E **The customization library name *library_name* is being used by another product or component. Specify another customization library qualifier on the Tools Customizer Settings panel.**

Explanation:
A different product or component is using the specified customization library.

System action:
None.

User response:
Specify another customization library qualifier on the **Tools Customizer Settings** panel.

CCQD124E **The customization library *library_name* is in use by another metadata library.**

Explanation:
A different product or component is using the specified customization library. Specify another metadata library in the **Workplace** panel.

System action:
None.

User response:

Specify another customization library qualifier in the **Tools Customizer Settings** panel.

CCQD300W **The *member_name* product environment member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the product environment member is valid, the PL/I XML parser issued the specified exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the specified exception warning code.

CCQD301S **The *member_name* product environment member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the product environment member is valid, the PL/I XML parser issued the specified exception error code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the specified exception error code.

CCQD302S **The XML structure of the *member_name* product environment member is not valid. The *element_name* element is unknown.**

Explanation:
The specified product environment member contains an unknown element.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD303S **The XML structure of the *member_name* product environment member is not valid. Content is not allowed for the *element_name* element, but content was found.**

Explanation:
Content was found for an element that cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD304S **The XML structure of the *member_name* product environment member is not valid. Content is required for the *element_name* element, but content was not found.**

Explanation:
The specified element does not contain required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD305S **The XML structure of the *member_name* product environment member is not valid. The content length for the *element_name* element exceeds *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD306S **The XML structure of the *member_name* product environment member is not valid. The *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified element occurs too many times in the product environment member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD307S **The XML structure of the *member_name* product environment member is not valid. The *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified element does not occur enough times in the product environment member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD308S **The XML structure of the *member_name* product environment member is not valid. The *attribute_name* attribute in the *element name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified attribute occurs too many times. The name of the attribute and the element that contains it are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD309S **The XML structure of the *member_name* product environment member is not valid. The *attribute_name* attribute in the *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified attribute does not occur enough times in the product environment member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD310S **The XML structure of the *member_name* product environment member is not valid. Content is not allowed for the *attribute_name* attribute in the *element_name* element, but content was found.**

Explanation:
The specified attribute cannot contain content. The name of the attribute and the element that contains it are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD311S **The XML structure of the *member_name* product environment member is not valid. Content is required for the *attribute_name* attribute in the *element_name* element, but content was not found.**

Explanation:
The specified attribute requires content. The name of the attribute and the name of the element that contains it are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD312S **The XML structure of the *member_name* product environment member is not valid. The content length for the *element_name* element exceeds *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD313S **The XML structure of the *member_name* product environment member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:
The specified attribute in the product environment member is unknown.

System action:
Processing stops.

User response:

See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQD350I **The *subsystem_ID* Db2 subsystem is associated with this product.**

Explanation:
The specified Db2 subsystem was added and saved in the Tools Customizer data store for the product to be customized.

System action:
Processing continues.

User response:
No action is required.

CCQD351I **The *member_name* Db2 member for the *group_attach_name* Db2 group attach name is associated with this product.**

Explanation:
The specified Db2 member for the group attach name was added and saved in the Tools Customizer data store for the product to be customized.

System action:
Processing continues.

User response:
No action is required.

CCQD352I **The *group_attach_name* Db2 group attach name is associated with this product.**

Explanation:
The specified Db2 group attach name was added and saved in the Tools Customizer data store for the product to be customized.

System action:
Processing continues.

User response:
No action is required.

CCQD353E **The *subsystem_ID* Db2 subsystem is already associated with this product.**

Explanation:
The specified Db2 subsystem cannot be added for the product to be customized because it already exists in the product environment in the data store.

System action:
None.

User response:
Ensure that the Db2 subsystem is specified correctly. If the problem persists, contact IBM Software Support.

CCQD354E **The *member_name* Db2 member for the *group_attach_name* Db2 group attach name is already associated with this product.**

Explanation:
The specified Db2 member for the group attach name cannot be added for the product to be customized because it already exists in the product environment in the data store.

System action:
None.

User response:
Ensure that the Db2 group attach name is specified correctly. If the problem persists, contact IBM Software Support.

CCQD355E **The *group_attach_name* Db2 group attach name is already associated with this product.**

Explanation:
The specified Db2 group attach name cannot be added for the product to be customized because it already exists in the product environment in the data store.

System action:
Processing stops.

User response:
Ensure that the Db2 group attach name is specified correctly. If the problem persists, contact IBM Software Support.

CCQD356S **The *library_name* metadata library is already associated with the maximum number of allowed Db2 entries for this product.**

Explanation:
The specified metadata library cannot be associated with more Db2 entries because it is already associated with the number of Db2 entries that are allowed.

System action:
Processing stops.

User response:
Delete an associated Db2 entry, and associate the specified library with another Db2 entry again.

CCQD357I **The *subsystem_ID* Db2 subsystem is unassociated with this product.**

Explanation:
The specified Db2 SSID was unassociated with the product that you are customizing.

System action:
Processing continues.

User response:
No action is required.

CCQD358I **The *member_name* Db2 member for the *group_attach_name* Db2**

group attach name is unassociated with this product.

Explanation:
The specified Db2 member for the Db2 group attach name was unassociated with the product that you are customizing.

System action:
Processing continues.

User response:
No action is required.

CCQD359I **The *group_attach_name* Db2 group attach name is unassociated with this product.**

Explanation:
The specified Db2 group attach name was unassociated with the product that you are customizing.

System action:
Processing continues.

User response:
No action is required.

CCQD360S **The *library_name* metadata library is not associated with the specified Db2 subsystem *subsystem_ID*.**

Explanation:
The specified Db2 subsystem and metadata library are not associated with each other.

System action:
None.

User response:
Ensure that the Db2 subsystem and the metadata library are associated. If the problem persists, contact IBM Software Support.

CCQD361S **The *library_name* metadata library is not associated with the specified DB2 data sharing group member *member_name* for the *group_attach_name* Db2 group attach name.**

Explanation:
The specified Db2 data sharing group member for the group attach name and metadata library are not associated with each other.

System action:
None.

User response:
Ensure that the Db2 data sharing group member for the group attach name and the metadata library are associated. If the problem persists, contact IBM Software Support.

CCQD362S **The *library_name* metadata library is not associated with the specified *group_attach_name* Db2 group attach name.**

Explanation:
The specified Db2 group attach name and metadata library are not associated with each other.

System action:
None.

User response:
Ensure that the Db2 group attach name and the metadata library are associated. If the problem persists, contact IBM Software Support.

CCQD400W **The customization parser issued the *code_number* warning code while it parsed the product customization member *member_name*. See the PL/I programming guide for more information about this XML parser continuable exception code.**

Explanation:
While determining if the specified member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the warning.

CCQD401S **The customization parser issued the *code_number* error code while it parsed the product customization member *member_name*. See the PL/I programming guide for more information about this XML parser terminating exception code.**

Explanation:
While determining if the specified member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the error.

CCQD500W **The *data_set_name* data store data set was not found.**

Explanation:

Tools Customizer could not find the specified data store data set.

System action:
None.

User response:
No action is required.

CCQD501W **The *data_set_name* data store data set was not found, so it was created.**

Explanation:
Tools Customizer created the specified data set because it could not be found.

System action:
None.

User response:
No action is required.

CCQD502E **The *data_set_name* data store data set is not writable.**

Explanation:
Tools Customizer cannot write to the specified data set.

System action:
None.

User response:
Ensure that the data set is writable.

CCQD503E **The *data_set_name* data store data set could not be opened with the *disposition_type* disposition.**

Explanation:
Tools Customizer could not open the data set with the specified disposition.

System action:
Processing stops.

User response:
Ensure that you have WRITE authority access to this data set.

CCQD504E **The *data_set_name* data store data set could not be opened with the *option_name* option.**

Explanation:
Tools Customizer could not open the data set with the specified option.

System action:
Processing stops.

User response:
Ensure that you have WRITE authority access to this data set.

CCQD505E **The data store data set *data_set_name* already exists in a different volume.**

Explanation:
Tools Customizer could not create the specified data set because the specified data set already exists in a different volume. Data store data set names must be unique.

System action:
Processing stops.

User response:
Specify a different data store data set name.

CCQD510I **The DB2 SSID and Db2 group attach name were created.**

Explanation:
The Db2 SSID and Db2 group attach name were created and saved in the data store.

System action:
None.

User response:
No action is required.

CCQD511E **The DB2 entry already exists in the list of Db2 entries to be associated.**

Explanation:
The Db2 entry cannot be added because it already exists in the list of Db2 entries to be associated.

System action:
None.

User response:
Specify a different Db2 entry.

CCQD512S **An error occurred while a DB2 entry was being created.**

Explanation:
A severe error occurred while a Db2 entry was being created.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQD513E **The specified DB2 entry already exists and is associated with the current product on the Customizer Workplace panel.**

Explanation:
The Db2 entry cannot be added because it already exists, and it is already associated with the product to be customized.

System action:
None.

User response:
Press F3 to go to the **Customizer Workplace** panel to see the Db2 entry, or specify a different Db2 entry.

CCQD514E **A value is required for a DB2 subsystem, a Db2 group attach name, or both before they can be created.**

Explanation:
Required information is missing. A Db2 subsystem, a Db2 group attach name, or both must be specified.

System action:
None.

User response:
Specify a Db2 subsystem, a Db2 group attach name, or both.

CCQD515E **The specified DB2 entry already exists in the list of Db2 entries and is already associated with the current product.**

Explanation:
The Db2 entry has already been created and associated with the product that you want to customize.

System action:
None.

User response:
Specify a different Db2 entry.

CCQD516E **The specified DB2 entry already exists in the list of Db2 entries on the Associate DB2 Entry with Product panel but is not associated with the current product.**

Explanation:
The Db2 entry exists, but it must be associated with the product to be customized.

System action:
None.

User response:
On the **Customizer Workplace** panel, issue the ASSOCIATE command to associate the Db2 entry with the product.

CCQD517S **An error occurred while a DB2 entry was being copied.**

Explanation:
A severe error occurred while a Db2 entry was being copied

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD518E **A value is required for a DB2 subsystem, a Db2 group attach name, or both before they can be copied.**

Explanation:
Required information is missing. A Db2 subsystem, a Db2 group attach name, or both must be specified.

System action:
None.

User response:
Specify a Db2 subsystem, a Db2 group attach name, or both.

CCQD519I **The DB2 entry was copied.**

Explanation:
The Db2 entry was copied and saved in the Tools Customizer data store.

System action:
None.

User response:
No action is required.

CCQD520S **The DB2 entry was copied to the list of Db2 entries but was not associated because the product is already associated with the allowed number of Db2 entries.**

Explanation:
The Db2 entry was not completely copied because a product can be associated with only 1200 Db2 entries.

System action:
Processing stops.

User response:
Remove a Db2 entry from the list, and copy the specified Db2 entry again.

CCQD521E ***Line_command*** **is not a valid line command.**

Explanation:
The specified line command is not valid. Valid line commands are on the panel.

System action:
Processing stops.

User response:
Specify a valid line command.

CCQD522E **The *subsystem_ID* Db2 subsystem ID occurs more than once in the list. Each row must be unique.**

Explanation:
The specified Db2 subsystem ID can be used only once.

System action:
Processing stops.

User response:
Specify a different Db2 subsystem ID.

CCQD523E **The *group_attach_name* Db2 group attach name occurs more than once in the list. Each row must be unique.**

Explanation:
The specified Db2 group attach name can be used only once.

System action:
Processing stops.

User response:
Specify a different Db2 group attach name.

CCQD524E **The *member_name* Db2 member for the Db2 group attach name occurs more than once in the list. Each row must be unique.**

Explanation:
The specified Db2 member for the Db2 group attach name can be used only once.

System action:
Processing stops.

User response:
Specify a different Db2 member for the Db2 group attach name.

CCQD525I **The DB2 entries were created.**

User response:
No action is required.

CCQD526E **The *subsystem_ID* Db2 subsystem ID occurs more than once in the list. Each Db2 subsystem ID must be unique.**

Explanation:
The specified Db2 subsystem ID can be used only once.

System action:
Processing stops.

User response:
Specify a different Db2 subsystem ID.

CCQD527I **DB2 group attach names cannot be created during the copy process.**

Explanation:
The ability to create Db2 group attach names is not available during the copy process.

System action:
None.

User response:
Create Db2 group attach names by issuing the CREATE command on the **Customizer Workplace** panel.

CCQD528E **The *metadata_library* metadata library is already associated with *number* Db2 entries. The maximum number of associated Db2 entries for this metadata library is 256.**

Explanation:
A metadata library can be associated with a maximum of 256 Db2 entries. The specified metadata library is already associated with 256.

System action:
Processing stops.

User response:
Remove an existing association between the specified metadata library and a Db2 entry, and associate the specified the metadata library with another entry.

CCQD529I **At least one row is required.**

CCQD560E **The *subsystem_ID* Db2 subsystem already exists and is associated with the current product on the Customizer Workplace panel.**

Explanation:
The specified Db2 subsystem exists and is associated with the product that you are customizing.

System action:
None.

User response:
Specify another Db2 subsystem.

CCQD561E **The *member_name* Db2 member for the *group_attach_name* Db2 group attach name already exists and is associated with the current product on the Customizer Workplace panel.**

Explanation:
The specified Db2 data sharing group for the Db2 group attach namer exists and is associated with the product that you are customizing.

System action:
None.

User response:
Specify another Db2 subsystem.

CCQD562E **The *group_attach_name* Db2 group attach name already exists and is associated with the current**

product on the Customizer Workplace panel.

Explanation:
The specified Db2 group attach name exists and is associated with the product that you are customizing. The subsystem is in the table on the **Customizer Workplace** panel.

System action:
None.

User response:
Specify another Db2 group attach name.

CCQD563E **A value is required for a DB2 subsystem, a Db2 group attach name, or both before they can be created.**

Explanation:
A Db2 subsystem, a Db2 group attach name, or both are not specified so one or both of them cannot be created.

System action:
None.

User response:
Specify a value for the Db2 subsystem, the Db2 group attach name, or both.

CCQD565E **The *subsystem_ID* Db2 subsystem already exists in the list of Db2 entries and is already associated with the current product.**

Explanation:
The specified subsystem is already associated.

System action:
None.

User response:
Specify a different Db2 subsystem.

CCQD566E **The *member_name* Db2 member for the *group_attach_name* Db2 group attach name already exists in the list of Db2 entries and is already associated with the current product.**

Explanation:
The specified Db2member is already associated.

System action:
None.

User response:
Specify a different Db2 member.

CCQD567E **The *group_attach_name* Db2 group attach name already exists in the list of Db2 entries and is already associated with the current product.**

Explanation:
The specified Db2 group attach name is already associated.

System action:
None.

User response:
Specify another Db2 group attach name.

CCQD568I ***product_name* is not associated with a DB2 entry.**

Explanation:
The product that you are trying to customize is not associated with a Db2 entry. Before a product can be customized, it must be associated with at least one Db2 entry.

System action:
None.

User response:
Associate one or more Db2 entries with the product.

CCQD569I **The *product_name* product configuration is not associated with a DB2 entry.**

Explanation:
The configuration for the specified product is not associated with a Db2 entry.

System action:
None.

User response:
Associate one or more Db2 entries with the configuration.

CCQD577W **The *mode_name* Db2 mode of the *subsystem_ID* Db2 subsystem is not supported by the product.**

Explanation:
The product does not support the specified Db2 mode.

System action:
None.

User response:
Specify a supported Db2 mode.

CCQD578W **The *mode_name* Db2 mode of the *member_name* Db2 member for the Db2 group is not supported by the product.**

Explanation:
The product does not support the specified Db2 mode.

System action:
None.

User response:
Specify a supported Db2 mode.

CCQD579W **The *mode_name* Db2 mode of the *group_name* Db2 group attach name is not supported by the product.**

Explanation:
The product does not support the specified Db2 mode.

System action:
None.

User response:
Specify a supported Db2 mode.

CCQD580S **The *subsystem_ID* Db2 subsystem was copied to the list of Db2 entries but was not associated because the product is already associated with the allowed number of Db2 entries.**

Explanation:
The copied Db2 subsystem was not associated with the product because the product is associated with the maximum number of Db2 entries.

System action:
None.

User response:
Remove an associated Db2 entry and associate the product with the copied Db2 subsystem.

CCQD581S **The *member_name* Db2 member for the *group_attach_name* Db2 group attach name was copied to the list of Db2 entries but was not associated because the product is already associated with the allowed number of Db2 entries.**

Explanation:
The copied Db2 member for the Db2 group attach name was not associated with the product because the product is associated with the maximum number of Db2 entries.

System action:
None.

User response:
Remove an associated Db2 entry and associate the product with the copied Db2 member.

CCQD582S **The *group_attach_name* Db2 group attach name was copied to the list of Db2 entries but was not associated because the product is already associated with the allowed number of Db2 entries.**

Explanation:
The copied Db2 group attach name was not associated with the product because the product is associated with the maximum number of Db2 entries.

System action:
None.

User response:
Remove an associated Db2 entry and associate the product with the copied Db2 group attach name.

CCQD583I **The *from_DB2* Db2 subsystem was copied to the *to_DB2* subsystem.**

System action:
None.

User response:
No action is required.

CCQD584I **The *member_name* DB2 member for the *group_attach_name* DB2 group attach name is copied to the *subsystem_ID* DB2 subsystem.**

Explanation:
The specified Db2 member was copied.

System action:
None.

User response:
No action is required.

CCQD585I **The *group_attach_name* Db2 group attach name cannot be copied because a Db2 member is required.**

Explanation:
The specified Db2 group attach name was not copied because a Db2 member was missing.

System action:
None.

User response:
No action is required.

CCQD586S **The current LPAR is *LPAR_name*, but the data store contains information about the *LPAR_name* LPAR. You must use the *LPAR_name* LPAR to customize the product.**

Explanation:
The LPAR that is stored in the data store data set must be used to customize the product.

System action:
Processing stops.

User response:
Use the LPAR that is stored in the data store data set.

CCQD587W **The *level_number* Db2 level of the *subsystem_name* Db2 subsystem is not supported by the product.**

Explanation:
The product does not support the specified Db2 level.

System action:
Processing continues.

User response:
Specify a supported level of Db2.

CCQD588W **The *level_number* Db2 level of the *member_name* Db2 member of the *group_name* Db2 group is not supported by the product.**

Explanation:
The product does not support the specified Db2 level.

System action:
Processing continues.

User response:
Specify a supported level of Db2.

CCQD589W **The *level_number* Db2 level of the *group_name* Db2 group attach name is not supported by the product.**

Explanation:
The product does not support the specified Db2 level.

System action:
Processing continues.

User response:
Specify a supported level of Db2.

CCQD593I **The *subsystem_ID* Db2 subsystem was deleted.**

User response:
No action is required.

CCQD594I **The *member_name* Db2 for the *group_attach_name* Db2 group attach name was deleted.**

User response:
No action is required.

CCQD595I **The *group_attach_name* Db2 group attach name was deleted.**

User response:
No action is required.

CCQD596E **The *subsystem_ID* Db2 subsystem was not deleted.**

Explanation:
An internal error occurred while the specified Db2 subsystem was being deleted.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD597E **The *member_name* Db2 member for the *group_attach_name* Db2 group attach name was not deleted.**

Explanation:
An internal error occurred while the specified Db2 member was being deleted.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD598E **The *group_attach_name* Db2 group attach name was not deleted.**

Explanation:
An internal error occurred while the specified Db2 group attach name was being deleted.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD600W **The *member_name* product customization member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the XML structure of the product customization member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQD601S **The *member_name* product customization member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the XML structure of the product customization member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception error code.

CCQD602S **The XML structure of the *member_name* product customization member is not valid. The *element_name* element is unknown.**

Explanation:
The data store member contains an unknown element.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD603S **The XML structure of the *member_name* product customization member is not valid. Content is not allowed for the *element_name* element, but content was found.**

Explanation:
The specified element cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD604S **The XML structure of the *member_name* product customization member is not valid. Content is required for the *element_name* element, but content was not found.**

Explanation:
The specified element is missing required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD605S **The XML structure of the *member_name* product customization member is not valid. The content length for the *element_name* element exceeds *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD606S **The XML structure of the *member_name* product customization member is not valid. The *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified element occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD607S **The XML structure of the *member_name* product customization member is not valid. The *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified element does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD608S **The XML structure of the *member_name* product customization member is not valid. The *attribute_name* attribute in the *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified attribute occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQD609S **The XML structure of the *member_name* product customization member is not valid. The *attribute_name* attribute**

in the *element_name* element must occur at least *minimum_number* times.

Explanation:
The specified attribute does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD610S **The XML structure of the *member_name* product customization member is not valid. Content is not allowed for the *attribute_name* attribute in the *element_name* element, but content was found.**

Explanation:
The specified attribute cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD611S **The XML structure of the *member_name* product customization member is not valid. Content is required for the *attribute_name* attribute in the *element_name* element, but content was not found.**

Explanation:
The specified attribute does not contain required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD612S **The XML structure of the *member_name* product customization member is not valid. The content length for the *element_name* element exceeds *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD613S **The XML structure of the *member_name* product customization member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:
The specified attribute in the data store member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD614S **The content of the *member_name* product customization member is not valid. The value of the *element_name* element is not valid. The value is *value_name*.**

Explanation:
The specified value is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQD700W **The *member_name* Db2 data member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the XML structure of the Db2 data member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQD701S **The *member_name* Db2 data member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the XML structure of the Db2 data member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception error code.

CCQD750W **The *value_number* value in the Db2 parameter *parameter_name* was skipped because only *maximum_number* values are allowed.**

Explanation:
The specified value was skipped because it exceeds the number of allowed values in the Db2 parameter.

System action:
Processing continues.

User response:
No action is required. To stop this message from being issued, remove the extra values from the Db2 parameter.

CCQD800W **The *member_name* LPAR data member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the XML structure of the LPAR data member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQD801S **The *member_name* LPAR data member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the XML structure of the LPAR data member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception error code.

CCQD850W **The *value_number* value in the LPAR parameter *parameter_name* was skipped because only *maximum_number* values are allowed.**

Explanation:
The specified value was skipped because it exceeds the number of allowed values in the LPAR parameter.

System action:
Processing continues.

User response:
No action is required. To stop this message from being issued, remove the extra values from the LPAR parameter.

CCQD851I **The *subsystem_ID* Db2 subsystem is copied to the *member_name* Db2 member for the *group_attach_name* Db2 group attach name.**

User response:
No action is required.

CCQD852I **The *member_name* Db2 member for the *group_attach_name* Db2 group attach name is copied to the *member_name* Db2 member for the *group_attach_name* Db2 group attach name.**

User response:
No action is required.

CCQD854I **The *member_name* Db2 member for the *group_attach_name* Db2 group 'attach name is copied to multiple Db2 entries.**

User response:
No action is required.

CCQD900W **The *member_name* product data member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the XML structure of the product data member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQD901S **The *member_name* product data member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the XML structure of the product data member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQD950W **The *value_number* value in the product parameter *parameter_name* was skipped because only *maximum_number* values are allowed.**

Explanation:
The specified value was skipped because it exceeds the number of allowed values in the product parameter.

System action:
Processing continues.

User response:
No action is required. To stop this message from being issued, remove the extra values from the product parameter.

CCQD960I **The *subsystem_ID* Db2 subsystem was changed to the *member_name* Db2 member for the *group_attach_name* Db2 group attach name.**

User response:
No action is required.

CCQD961I **The *member_name* Db2 member for the *group_attach_name* Db2 group attach name was changed to the *subsystem_ID* Db2 subsystem.**

User response:
No action is required.

CCQD962I **The *member_name* Db2 member for the *group_attach_name* Db2 group attach name was changed to the *member_name* Db2 member for the *group_attach_name* Db2 group attach name.**

User response:
No action is required.

CCQD963E **The DB2 group attach name cannot be blank when the Db2 subsystem ID is blank.**

Explanation:
A Db2 group attach name, Db2 subsystem ID, or both must be specified.

System action:
Processing stops.

User response:
Specify a Db2 group attach name, Db2 subsystem ID, or both.

CCQE000S **The specified message field name or message *message_ID* was not found.**

Explanation:
An error occurred while displaying a message field name or the specified message.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQE001E **An incorrect trace level was specified. Valid trace levels are 0 - 4.**

Explanation:
A wrong trace level was specified. Valid trace levels are 0 - 4.

System action:
Processing stops.

User response:
Specify a valid trace level 0 - 4.

CCQF028E **An asterisk was improperly specified in a filter argument.**

Explanation:
An asterisk, which is treated as data, is embedded in the filter arguments. A generic filter argument is specified by placing the asterisk in the last nonblank position of the argument. No rows match the filter arguments, so all rows will be shown.

System action:
Processing stops.

User response:
Specify a valid filter argument.

CCQF029I **More Db2 entries are associated with the specified product. All Db2 entries are listed.**

System action:
None.

User response:
No action is required.

CCQF080I **The customized jobs for the product that you are customizing are stored in this data set.**

System action:

None.

User response:
No action is required.

CCQF081I **The JCL must be browsed or edited.**

Explanation:
You can either browse or edit the JCL.

System action:
None.

User response:
No action is required.

CCQF082E **The *sort-command* command has an invalid sort field or order. The valid fields are *list-of-column-names*. The valid sort orders are A (for ascending) or D (for descending).**

Explanation:
An invalid sort field or order was specified.

System action:
Processing stops.

User response:
Specify a valid sort field or order.

CCQF083E **The *sort-command* command is missing a sort field.**

Explanation:
A sort field must be specified.

System action:
Processing stops.

User response:
Specify a valid sort field.

CCQF084E **The *sort-command* command has more than two sort fields specified.**

Explanation:
The specified sort command included more than two sort fields. The sort command can have up to two fields specified.

System action:
Processing stops.

User response:
Specify only one or two sort fields.

CCQF085E **A sort order was specified incorrectly in the *sort-command* command. A sort order can be specified only after a field name.**

Explanation:
Valid orders are A (for ascending) or D (for descending).

System action:
Processing stops.

User response:
Specify a valid sort order after a field name.

CCQF086E **The *sort-command* command has an invalid sort field. The valid fields are *list-of-the-table-column-names*.**

Explanation:
An invalid sort field was specified.

System action:
Processing stops.

User response:
Specify a valid sort field.

CCQF087E **The *sort-command* command has an invalid sort order. The valid orders are A (for ascending) or D (for descending).**

Explanation:
An invalid sort order was specified.

System action:
Processing stops.

User response:
Specify a valid sort order.

CCQF088E **No row match the specified filter argument. All rows are shown.**

Explanation:
No rows match the selected values.

System action:
Processing stops.

User response:
Specify a matched value for filtering.

CCQF089I **Type the search arguments to filter objects. A generic filter argument is a search argument of the form AA*.**

Explanation:
In a generic filter argument, only the characters up to the asterisk (*) are compared. The * must be placed in the last nonblank position of the argument. Asterisks embedded in the argument are treated as data.

System action:
None.

User response:
No action is required.

CCQF110I **To show the panel instructions section, specify a slash (/). To hide the panel instructions section, remove the slash.**

System action:
None.

User response:
No is action required.

CCQF111I **To show the Products to Customize section, specify a slash (/). To hide the Products to Customize section, remove the slash. The Product to Customize section can be shown or hidden only on the Customizer Workplace panel.**

System action:
None.

User response:
No is action required.

CCQF112I **To show the Usage Notes section, specify a slash (/). To hide the Usage Notes section, remove the slash. The Usage Notes section can be shown only on the Product Parameters, LPAR Parameters, and DB2 Parameters panels.**

System action:
None.

User response:
No action is required.

CCQF113I **The specified values have been saved.**

System action:
None.

User response:
No action is required.

CCQF114I **Displays the Panel Display Options panel. Use this panel to select which information to display on panels .**

System action:
None.

User response:
No action is required.

CCQF116I **The fully qualified name of the data set into which you want to copy the current user profile. If the data set name exceeds 42 characters, enclose the name in quotation marks. ALTER or UPDATE authorization to this data set is required.**

System action:
None.

User response:
No action is required.

CCQF117I **The volume name in which the data set will reside. If left blank, the volume name will be decided by the system.**

System action:
None.

User response:
No action is required.

CCQH001W **The specified option *option_name* is not valid.**

Explanation:
The option that was specified is not a valid option on the panel.

System action:
Tools Customizer stops.

User response:
Specify a valid option on the panel.

CCQH006W **Before you customize a product, verify your user settings.**

Explanation:
The user settings must be verified before a product can be customized.

System action:
Tools Customizer stops.

User response:
Verify the user settings.

CCQH007E **Check the user settings. One or more current values are not valid.**

Explanation:
One or more of the values in the user settings is not valid.

System action:
Tools Customizer stops.

User response:
Ensure that the specified values for the user settings are valid.

CCQH008W **Before you use Tools Customizer, you must select option 0 to verify your user settings.**

Explanation:
The user settings must be changed before a product can be customized.

System action:
Tools Customizer stops.

User response:
Change the user settings.

CCQH009E **You must select option 0 to change your user settings.**

Explanation:
User settings must be changed before a product can be customized.

System action:
Tools Customizer stops.

User response:
Change the user settings.

CCQI000W **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the Db2 parameter metadata member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQI001S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the Db2 parameter metadata member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQI002S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The *element name* element is unknown.**

Explanation:
The specified element in the Db2 parameter metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI003S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. Content is not allowed for the *element_name* element, but content was found.**

Explanation:
The specified element cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI004S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. Content is required for the *element_name* element, but content was not found.**

Explanation:
The specified element requires content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI005S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The content length for the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI006S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The**

content length for the *element_name* element must be at least *minimum_number* characters.

Explanation:
The specified element does not contain enough characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI007S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified element does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI008S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified attribute occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI009S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified attribute did not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI010S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. Content is not allowed for the *attribute_name* attribute in the *element_name* element, but content was found.**

Explanation:
The specified attribute cannot have content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI011S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. Content is required for the *attribute_name* attribute in the *element_name* element, but content was not found.**

Explanation:
The specified attribute is missing required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI012S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The content length for the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI013S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:

The specified attribute in the Db2 parameter metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI014S **The content of the *member_name* Db2 parameter metadata member is not valid because the value of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified value of the element is not a valid value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI015S **The content of the DB2 parameter metadata member is not valid because the value of the *attribute_name* attribute in the *element_name* element is incorrect. The value of the attribute is *value_name*.**

Explanation:
The specified value of the attribute is not a valid value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI016S **The content of the DB2 parameter metadata member is not valid because the data type of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified data type is not a valid data type.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI017S **The content of the DB2 parameter metadata member is not valid because the data type of the *attribute_name* attribute in the *element_name* element is incorrect. The value of the attribute is *value_name*.**

Explanation:
The specified data type is not a valid data type.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI050S **The *member_name* Db2 parameter metadata member was not found in the *data_set_name* data set.**

Explanation:
Tools Customizer could not find the specified Db2 parameter metadata member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI051S **The *parameter_name* LPAR parameter in the *template_name* template does not have associated metadata in the *member_name* LPAR parameter metadata member.**

Explanation:
The specified template does not contain metadata for an LPAR parameter. The name of the LPAR parameter metadata member, the name of the LPAR parameter, and the name of the template are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI052S **The *parameter_name* product parameter in the *template_name* template does not have associated metadata in the *member_name* product parameter metadata member.**

Explanation:
The specified template does not contain metadata for a product parameter. The name of the product parameter metadata member, the name of the product parameter, and the name of the template are indicated in the message text.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI053E **The following metadata data set was not found: *data_set_name*.**

Explanation:
Tools Customizer could not find the specified metadata data set.

System action:
Processing stops.

User response:
Ensure that the metadata data set is specified correctly. If the problem persists, contact IBM Software Support.

CCQI054E **The following metadata data set could not be opened: *data_set_name*.**

Explanation:
Tools Customizer could not open the specified LPAR metadata data set.

System action:
Processing stops.

User response:
Ensure the metadata data set was specified correctly.

CCQI055S **The CCQ$$DB2 Db2 parameter metadata member was not found in the *data_set_name* Tools Customizer metadata data set.**

Explanation:
Tools Customizer could not find the Db2 parameter metadata member in the specified Tools Customizer metadata data set.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI056S **The CCQ$$LPR LPAR parameter metadata member was not found in the *data_set_name* data set.**

Explanation:
Tools Customizer could not find the specified LPAR parameter metadata member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI057S **The *member_name* product parameter metadata member was not found in the *data_set_name* data set.**

Explanation:
The product parameter metadata member was not found in the specified data set.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI058I ***Product_name* does not have any Db2 parameters.**

Explanation:
Db2 parameters are not required to customize the specified product.

System action:
Processing continues.

User response:
No action is required.

CCQI059I ***Product_name* does not have any LPAR parameters.**

Explanation:
LPAR parameters are not required to customize the specified product.

System action:
Processing continues.

User response:
No action is required.

CCQI060S **The *parameter_name* Db2 parameter in the *task_description* task condition does not have associated metadata in the *member_name* Db2 parameter metadata member.**

Explanation:
Associated metadata is missing for the specified Db2 parameter in a task.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI061S **The *parameter_name* LPAR parameter in the *task_description* task condition does not have**

associated metadata in the *member_name* LPAR parameter metadata member.

Explanation:
Associated metadata is missing for the specified LPAR parameter in a task.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI062S **The *parameter_name* product parameter in the *task_description* task condition does not have associated metadata in the *member_name* product parameter metadata member.**

Explanation:
Associated metadata is missing for the specified product parameter in a task.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI063S **The *parameter_name* Db2 parameter in the *task_description* task and the *step_description* step does not have associated metadata in the *member_name* Db2 parameter metadata member.**

Explanation:
Associated metadata is missing for the specified Db2 parameter in a task and step.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI064S **The *parameter_name* LPAR parameter in the *task_description* task and the *step_description* step does not have associated metadata in the *member_name* LPAR parameter metadata member.**

Explanation:
Associated metadata is missing for the specified LPAR parameter in a task and step.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI065S **The *parameter_name* product parameter in the *task_description* task and the *step_description* step does not have associated metadata in the *member_name* parameter metadata member.**

Explanation:
Associated metadata is missing for the specified parameter in a task and step.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI066S **The *parameter_name* Db2 parameter in the *task_description* task, *step_description* step, and *template_name* template condition does not have associated metadata in the *member_name* Db2 parameter metadata member.**

Explanation:
Associated metadata is missing for the specified Db2 parameter in a task, step, and template.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI067S **The *parameter_name* LPAR parameter in the *task_description* task, *step_description* step, and *template_name* template condition does not have associated metadata in the *member_name* LPAR parameter metadata member.**

Explanation:
Associated metadata is missing for the specified LPAR parameter in a task, step, and template.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI068S **The *parameter_name* product parameter in the *task_description* task, *step_description* step, and**

_template_name_ template condition does not have associated metadata in the _member_name_ product parameter metadata member.

Explanation:
Associated metadata is missing for the specified product parameter in a task, step, and template.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI069S **Product metadata does not support multiple configurations, but the _template_name_ product template contains the _parameter_name_ parameter. Enable multiple configurations support for this product, and try again.**

Explanation:
The specified template contains a parameter for multiple configurations, but the product is not enabled to support multiple configurations.

System action:
Processing stops.

User response:
Enable multiple configurations support, and try again.

CCQI070E **The _parameter_name_ Db2 parameter metadata member is not valid. The default length for the _parameter-element_name_ parameter element exceeds the length of the parameter. The default length is _default_length_, and the specified length is _specified_length_. The default length will be truncated accordingly.**

Explanation:
The specified length cannot be shorter than the default length.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI071E **The _parameter_name_ LPAR parameter metadata member is not valid. The default length for the _parameter-element_name_ parameter element exceeds the length of the parameter. The default length is _default_length_, and the specified length is _specified_length_. The default length will be truncated accordingly.**

Explanation:
The specified length cannot be shorter than the default length.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI072E **The _parameter_name_ product parameter metadata member is not valid. The default length for the _parameter-element_name_ parameter element exceeds the length of the parameter. The default length is _default_length_, and the specified length is _specified_length_. The default length will be truncated accordingly.**

Explanation:
The specified length cannot be shorter than the default length.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI073S **The XML structure of the _member_name_ Db2 parameter metadata member is not valid. The following value of the _attribute_name_ attribute in the _element_name_ element already exists: _value_name_.**

Explanation:
The specified value already exists for an attribute.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI074S **The XML structure of the _member_name_ LPAR parameter metadata member is not valid. The following value of the**

***attribute_name* attribute in the *element_name* element already exists: *value_name*.**

Explanation:
The specified value already exists for an attribute.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI075S **The XML structure of the *member_name* product parameter metadata member is not valid. The following value of the *attribute_name* attribute in the *element_name* element already exists: *value_name*.**

Explanation:
The specified value already exists for an attribute.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI076S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The *parameter_name* parameter refers to the *section-name* section. This section was not found in the Db2 parameter metadata member.**

Explanation:
The specified value already exists for an attribute.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI077S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The *parameter_name* parameter refers to the *section-name* section. This section was not found in the LPAR parameter metadata member.**

Explanation:
The specified parameter refers to a section that is not in the LPAR parameter metadata member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI078S **The XML structure of the *member_name* product parameter metadata member is not valid. The *parameter_name* parameter refers to the *section-name* section. This section was not found in the product parameter metadata member.**

Explanation:
The specified parameter refers to a section that is not in the product parameter metadata member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI080S **The content of the *member_name* Db2 parameter metadata member is not valid because the value of the *attribute_name* attribute in the *element_name* element is incorrect. The value of the attribute is *value_name*.**

Explanation:
The specified value for an attribute in the Db2 parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI081S **The content of the *member_name* LPAR parameter metadata member is not valid because the value of the *attribute_name* attribute in the *element_name* element is incorrect. The value of the attribute is *value_name*.**

Explanation:
The specified value for an attribute in the LPAR parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI082S **The content of the *member_name* product parameter metadata**

member is not valid because the value of the *attribute_name* attribute in the *element_name* element is incorrect. The value of the attribute is *value_name*.

Explanation:
The specified value for an attribute in the product parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI088I **The *command* command is not active in BROWSE mode.**

Explanation:
The specified command can be entered only in Edit mode.

System action:
Processing continues.

User response:
Put the panel in Edit mode and reissue the command.

CCQI089I **The *command* command is already active.**

System action:
Processing continues.

User response:
No action required.

CCQI090S **The product-defined Db2 parameter *parameter_name* in the *member_name* parameter metadata member references the *section_ID* section ID, but this ID does not exist in either the parameter metadata member or the Db2 parameter metadata member.**

Explanation:
A section that does not exist in the parameter metadata member or the Db2 parameter metadata member is referenced by the specified Db2 parameter.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI091S **The product-defined LPAR parameter in the *member_name* parameter metadata member references the *section_ID* section ID, but this ID does not exist in either the parameter metadata member or the LPAR parameter metadata member.**

Explanation:
A section that does not exist in the parameter metadata member or the LPAR parameter metadata member is being referenced by the specified LPAR parameter.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI092S **The overridden DB2 parameter *parameter_name* in the *member_name* parameter metadata member does not exist in the Db2 parameter metadata member.**

Explanation:
The specified parameter does not exist.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI093S **The overridden LPAR parameter *parameter_name* in the *member_name* parameter metadata member does not exist in the LPAR parameter metadata member.**

Explanation:
The specified parameter does not exist.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI094S **The CCQ$$PRD product customization parameter metadata member was not found in the *data_set_name* data set.**

Explanation:
The specified data set must contain the CCQ$$PRD product customization parameter metadata member

System action:
Processing stops.

User response:

See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI100W **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the LPAR parameter metadata member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQI101S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the LPAR parameter metadata member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQI102S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The *element_name* element is unknown.**

Explanation:
The specified element in the LPAR parameter metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI103S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. Content is not allowed for the *element_name* element, but content was found.**

Explanation:
The specified element cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI104S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. Content is required for the *element_name* element, but content was not found.**

Explanation:
The specified element requires content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI105S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The content length for the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI106S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The content length for the *element_name* element must be at least *minimum_number* characters.**

Explanation:
The specified element does not contain enough characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI107S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified element does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI108S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified attribute occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI109S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified attribute did not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI110S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. Content is not allowed for the *attribute_name* attribute in the *element_name* element, but content was found.**

Explanation:
The specified attribute cannot have content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI111S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. Content is required for the *attribute_name* attribute in the *element_name* element, but content was not found.**

Explanation:
The specified attribute is missing required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI112S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The content length for the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI113S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:
The specified attribute in the LPAR parameter metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI114S **The content of the *member_name* LPAR parameter metadata member is not valid because the value of the *element_name***

element is incorrect. The value is *value_name*.

Explanation:
The specified value for an element in the LPAR parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI115S **The content of the *member_name* LPAR parameter metadata member is not valid because the value of the *attribute_name* attribute in the *element_name* element is incorrect. The value of the attribute is *value_name*.**

Explanation:
The specified value for an attribute in the LPAR parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI116S **The content of the *member_name* LPAR parameter metadata member is not valid because the data type of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified data type value for an element in the LPAR parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI117S **The content of the *member_name* LPAR parameter metadata member is not valid because the data type of the *attribute_name* attribute in the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified data type value for an attribute in the LPAR parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI120S **The XML structure of the *member_name* Db2 parameter metadata member is not valid. The *element_name* element in the *parameter_name* parameter contains duplicate values for the *element_name* element. The duplicate value is *value_name*.**

Explanation:
An element contains the specified duplicate value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI121S **The XML structure of the *member_name* LPAR parameter metadata member is not valid. The *element_name* element in the *parameter_name* parameter contains duplicate values for the *element_name* element. The duplicate value is *value_name*.**

Explanation:
An element contains the specified duplicate value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI122S **The XML structure of the *member_name* parameter metadata member is not valid. The *element_name* element in the *parameter_name* parameter contains duplicate values for the *element_name* element. The duplicate value is *value_name*.**

Explanation:
An element contains the specified duplicate value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI123S **The XML structure of the *member_name* discover metadata member is not valid. The**

***element_name* element in the *parameter_name* parameter contains duplicate values for the *element_name* element. The duplicate value is *value_name*.**

Explanation:
An element contains the specified duplicate value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI124S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The *element_name* element in the *parameter_name* parameter contains duplicate values for the *element_name* element. The duplicate value is *value_name*.**

Explanation:
An element contains the specified duplicate value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI200W **The XML structure of the *member_name* information metadata member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the information metadata member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQI201S **The XML structure of the *member_name* information metadata member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the information metadata member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQI202S **The XML structure of the *member_name* information metadata member is not valid. The *element name* element is unknown.**

Explanation:
The specified element in the information metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI203S **The XML structure of the *member_name* information metadata member is not valid. Content is not allowed for the *element_name* element, but content was found.**

Explanation:
The specified element cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI204S **The XML structure of the *member_name* information metadata member is not valid. Content is required for the *element_name* element, but content was not found.**

Explanation:
The specified element requires content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI205S **The XML structure of the *member_name* information metadata member is not valid. The**

content length for the *element_name* element cannot exceed *maximum_number* characters.

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI206S **The XML structure of the *member_name* information metadata member is not valid. The content length for the *element_name* element must be at least *minimum_number* characters.**

Explanation:
The specified element does not contain enough characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI207S **The XML structure of the *member_name* information metadata member is not valid. The *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified element does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI208S **The XML structure of the *member_name* information metadata member is not valid. The *attribute_name* attribute in the *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified attribute occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI209S **The XML structure of the *member_name* information metadata member is not valid. The *attribute_name* attribute in the *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified attribute did not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI210S **The XML structure of the *member_name* information metadata member is not valid. Content is not allowed for the *attribute_name* attribute in the *element_name* element, but content was found.**

Explanation:
The specified attribute cannot have content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI211S **The XML structure of the *member_name* information metadata member is not valid. Content is required for the *attribute_name* attribute in the *element_name* element, but content was not found.**

Explanation:
The specified attribute is missing required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI212S **The XML structure of the *member_name* information metadata member is not valid. The content length for the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI213S **The XML structure of the *member_name* information metadata member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:
The specified attribute in the information metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI214S **The content of the *member_name* information metadata member is not valid because the value of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified value for an element in the information metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI215S **The content of the *member_name* information metadata member is not valid because the value of the *attribute_name* attribute in the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified value for an attribute in the information metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI216S **The content of the *member_name* information metadata member is not valid because the data type of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified data type value for an element in the information metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI217S **The content of the *member_name* information metadata member is not valid because the data type of the *attribute_name* attribute in the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified data type value for an attribute in the information metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI218S **The content of the *member_name* information metadata member is not valid. The length of the *value_name* value that of the *attribute_name* attribute is longer than the *value_name* value of the *attribute_name* attribute.**

Explanation:
The first specified value cannot be longer than the second specified value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI219S **The content of the *member_name* information metadata member is not valid. The *value_name* value of the *attribute_name* attribute contains the *value_name* value.**

Explanation:

The first specified value cannot be longer than the second specified value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI220S **The XML structure of the *member_name* information metadata member is not valid. Content for the *attribute_name* attribute in the*element_name* element exceed *maximum_number* characters.**

Explanation:
The specified attribute contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI223S **The XML structure of the *member_name* information metadata member is not valid. The value that is specified for the Db2 Level already exists. The value is *value_name*.**

Explanation:
The specified value already exists.

System action:
Processing stops.

User response:
Specify a different Db2 level. If the problem persists, contact IBM Software Support.

CCQI224S **The XML structure of the *member_name* information metadata member is not valid. The value that is specified for the Db2 Mode already exists. The value is *value_name*.**

Explanation:
The specified value already exists.

System action:
Processing stops.

User response:
Specify a different Db2 mode. If the problem persists, contact IBM Software Support.

CCQI250S **The information metadata member was not found in the *data_set_name* data set.**

Explanation:
Tools Customizer could not find the information metadata member in the specified data set.

System action:
Processing stops.

User response:
If this message was issued on the **Specify the Metadata Library** (CCQPHLQ) panel, specify the product metadata library. The name of this library is *hlq*.SHLODENU.

Do not specify the Tools Customizer metadata library, which is *hlq*.SCCQDENU.

If the problem persists, identify the name of the Tools Customizer trace data set and contact IBM Software Support.

CCQI251E **The *member_name* member was not accessible in the *data_set_name* data set.**

Explanation:
The specified member could not be accessed in the data set.

System action:
Processing stops.

User response:
Specify the correct metadata library.

CCQI252S **The information metadata member was not found in the *library_name* component metadata library that is part of the *library_name* pack metadata library. The name of the pack is *pack_name*.**

Explanation:
The specified component metadata library does not contain the information metadata member.

System action:
Processing stops.

User response:
Specify the correct metadata library.

CCQI253E **The *library_name* Tools Customizer metadata library is not current. Update the metadata library on the Tools Customizer Settings panel.**

Explanation:
The specified metadata library is not current.

System action:
Processing stops.

User response:
Specify a current metadata library on the **Tools Customizer Settings** panel.

CCQI300W **The XML structure of the *member_name* sequence metadata member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the sequence metadata member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQI301S **The XML structure of the *member_name* sequence metadata member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the sequence metadata member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception error code, and contact IBM Software Support.

CCQI302S **The XML structure of the *member_name* sequence metadata member is not valid. The *element_name* element is unknown.**

Explanation:
The specified element in the sequence metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI303S **The XML structure of the *member_name* sequence metadata member is not valid. Content is not allowed for the *element_name* element, but content was found.**

Explanation:
The specified element cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI304S **The XML structure of the *member_name* sequence metadata member is not valid. Content is required for the *element_name* element, but content was not found.**

Explanation:
The specified element is missing required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI305S **The XML structure of the *member_name* sequence metadata member is not valid. Content length for the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI306S **The XML structure of the *member_name* sequence metadata member is not valid. The *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified element occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI307S **The XML structure of the *member_name* sequence metadata**

member is not valid. The *element_name* element must occur at least *minimum_number* times.

Explanation:
The specified element does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI308S **The XML structure of the *member_name* sequence metadata member is not valid. The *attribute_name* attribute in the *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified attribute occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI309S **The XML structure of the *member_name* sequence metadata member is not valid. The *attribute_name* attribute in the *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified attribute does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI310S **The XML structure of the *member_name* sequence metadata member is not valid. Content is not allowed for the *attribute_name* attribute in the *element_name* element, but content was found.**

Explanation:
The specified attribute cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI311S **The XML structure of the *member_name* sequence metadata member is not valid. Content is required for the *attribute_name* attribute in the *element_name* element, but content was not found.**

Explanation:
The specified attribute is missing required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI312S **The XML structure of the *member_name* sequence metadata member is not valid. The content length for the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI313S **The XML structure of the *member_name* sequence metadata member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:
The specified attribute in the sequence metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI314S **The content of the *member_name* sequence metadata member is not valid because the value of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified value for an element in the sequence metadata member is not valid.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI315S **The content of the *member_name* sequence metadata member is not valid because the value of the *attribute_name* attribute in the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified value for an attribute in the sequence metadata member is not valid.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI316S **The content of the *member_name* sequence metadata member is not valid because the data type of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified data type value for an element in the sequence metadata member is not valid.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI317S **The content of the *member_name* sequence metadata member is not valid because the data type of the *attribute_name* attribute in the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified data type value for an attribute in the sequence metadata member is not valid.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI350S **The XML structure of the *member_name* sequence metadata member is not valid because the value of the *attribute_name* attribute in the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
A specified value for an attribute in the sequence metadata member is not valid.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI351S **The *member_name* sequence metadata member was not found in the *data_set_name* metadata data set.**

Explanation:
Tools Customizer could not find the specified sequence metadata member in the metadata data set.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI352S **The *template_name* product template was not found in the *data_set_name* metadata data set.**

Explanation:
Tools Customizer could not find the specified product template in the data set.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI353S **The sequence metadata member was not found in the *data_set_name* component data set that is part of the *data_set_name* pack.**

Explanation:
Tools Customizer could not find the sequence metadata member.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI360S **The XML structure of the *member_name* sequence metadata member is not valid. The value of the *attribute_name* attribute in the *element_name* element already exists.**

Explanation:
The specified attribute contains a value that already exists.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI361S **The XML structure of the *member_name* sequence metadata member is not valid. The condition element on the *level_type* level already contains a relational operator.**

Explanation:
A relational operator already exists for the condition element on the specified level.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI362S **The XML structure of the *member_name* sequence metadata member is not valid. The condition element on the *level_type* level must contain only one content string or content number element.**

Explanation:
Only one content string element or content number element can be contained in the condition element on the specified level.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI363S **The XML structure of the *member_name* sequence metadata member is not valid. The condition element in the *element_name* element with the *attribute_name* attribute must contain either the content string element or the content number element.**

Explanation:
Either the content string element or the content number element must be in the condition element.

System action:
Processing stops.

User response:
Contact IBM Software Support.

CCQI400W **The XML structure of the *member_name* parameter metadata member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining the parameter metadata member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQI401S **The XML structure of the *member_name* parameter metadata member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the parameter metadata member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQI402S **The XML structure of the *member_name* parameter metadata member is not valid. The *element name* element is unknown.**

Explanation:
The specified element in the parameter metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI403S **The XML structure of the *member_name* parameter metadata member is not valid. Content is not allowed for the *element_name* element, but content was found.**

Explanation:
The specified element cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI404S **The XML structure of the *member_name* parameter metadata member is not valid. Content is required for the *element_name* element, but content was not found.**

Explanation:
The specified element requires content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI405S **The XML structure of the *member_name* parameter metadata member is not valid. The content length for the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI406S **The XML structure of the *member_name* parameter metadata member is not valid. The content length for the *element_name* element must be at least *minimum_number* characters.**

Explanation:
The specified element does not contain enough characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI407S **The XML structure of the *member_name* parameter metadata member is not valid. The *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified element does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI408S **The XML structure of the *member_name* parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified attribute occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI409S **The XML structure of the *member_name* parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified attribute does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI410S **The XML structure of the *member_name* parameter metadata member is not valid. Content is not allowed for the *attribute_name* attribute in the**

***element_name* element, but content was found.**

Explanation:
The specified attribute cannot have content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI411S **The XML structure of the *member_name* parameter metadata member is not valid. Content is required for the *attribute_name* attribute in the *element_name* element, but content was not found.**

Explanation:
The specified attribute is missing required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI412S **The XML structure of the *member_name* parameter metadata member is not valid. The content length for the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI413S **The XML structure of the *member_name* parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:
The specified attribute in the parameter metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI414S **The content of the *member_name* parameter metadata member is not valid because the value of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified value for an element in the parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI415S **The content of the *member_name* parameter metadata member is not valid because the value of the *attribute_name* attribute in the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified value for an attribute in the parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI416S **The content of the *member_name* parameter metadata member is not valid because the data type of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified data type value for an element in the parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI417S **The content of the *member_name* parameter metadata member is not valid because the data type of the *attribute_name* attribute in the *element_name* element is**

incorrect. The value is *value_name*.

Explanation:
The specified data type value for an attribute in the parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI420S **The XML structure of the *member_name* parameter metadata member is not valid. The *element_name* element is unknown for the overridden Db2 parameter.**

Explanation:

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI421S **The XML structure of the *member_name* parameter metadata member is not valid. The *element_name* element is unknown for the overridden LPAR parameter.**

Explanation:

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI422S **The XML structure of the *member_name* parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element is unknown for the overridden Db2 parameter.**

Explanation:

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI423S **The XML structure of the *member_name* parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element is unknown for the overridden LPAR parameter.**

Explanation:

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI450S **The *member_name* product parameter metadata member was not found in the *data_set_name* data set.**

Explanation:
Tools Customizer could not find the specified product parameter metadata member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI510W **The *data_set_name* data store data set does not exist.**

Explanation:
The specified data store data set does not exist.

System action:
Processing continues.

User response:
Ensure that the data store data set exists.

CCQI511S **The *data_set_name* data store data set cannot be opened by using the *disposition_type* disposition.**

Explanation:
The specified data store data set could not be opened with the specified disposition.

System action:
Processing continues.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI512S **The *data_set_name* data store data set cannot be opened by using the *option-type* option.**

Explanation:
The specified data store data set was unable to be opened with the specified option.

System action:

Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI600W **The XML structure of the *member_name* product customization parameter metadata member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the product customization parameter metadata member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the warning.

CCQI601S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the product customization parameter metadata member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the warning.

CCQI602S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The *element_name* element is unknown.**

Explanation:
The specified product customization parameter metadata member contains an unknown element.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI603S **The XML structure of the *member_name* product customization parameter metadata member is not valid. Content is not allowed for the *element_name* element, but content was found.**

Explanation:
Content was found in an element that cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI604S **The XML structure of the *member_name* product customization parameter metadata member is not valid. Content is required for the *element_name* element, but content was not found.**

Explanation:
The specified element does not contain required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI605S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The content length for the *element_name* element 'cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI606S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The *element_name* element cannot**

occur more than *maximum_number* times.

Explanation:
The specified element occurs too many times in the product customization parameter metadata member.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918. Contact IBM Software Support.

CCQI607S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified element does not occur enough times in the product customization parameter metadata member.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918. Contact IBM Software Support.

CCQI608S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified attribute occurs too many times in the product customization parameter metadata member.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918. Contact IBM Software Support.

CCQI609S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified attribute does not occur enough times in the product customization parameter metadata member.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918. Contact IBM Software Support.

CCQI610S **The XML structure of the *member_name* product customization parameter metadata member is not valid. Content is not allowed for the *attribute_name* attribute in the *element_name* element, but content was found.**

Explanation:
Content was found in an element that cannot contain content.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918. Contact IBM Software Support.

CCQI611S **The XML structure of the *member_name* product customization parameter metadata member is not valid. Content is required for the *attribute_name* attribute 'in the *element_name* element, but content was not found.**

Explanation:
The specified attribute does not contain required content.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918. Contact IBM Software Support.

CCQI612S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The content length for the *attribute_name* attribute in the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified attribute contains too many characters.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI613S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:
The specified product customization parameter metadata member contains an unknown attribute.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI614S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The value of the *element_name* element is not valid. The value *value_name*.**

Explanation:
The specified value of the element is not a valid value.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI615S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The value of the *attribute_name* attribute for the *element_name* element is not valid. The value is *value_name*.**

Explanation:
The specified value of the attribute is not a valid value.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI616S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The data type of the *element_name* element is 'not valid. The value of the element is *value_name*.**

Explanation:
The specified data type is not a valid data type.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI617S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The data type of the *attribute_name* attribute for the *element_name* element is not valid. The value of the attribute is *value_name*..**

Explanation:
The specified data type is not a valid data type.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI650S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The following value of the *attribute_name* attribute in the *element_name* element already exists: *value_name*.**

Explanation:
The specified value for an attribute already exists.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQI651S **The XML structure of the *member_name* product customization parameter metadata member is not valid. The *parameter_name* parameter refers to the following section, which was not found in the *member_name* product customization parameter metadata member: *section-name*.**

Explanation:
The specified section is not in the product customization parameter metadata member.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI652S **The *member_name* product customization metadata member not valid. The default length for the *element_name* parameter element exceeds the length of the parameter. The default length is *default_length*, and the specified length is *specified_length*. The default length will be truncated accordingly.**

Explanation:
The specified length cannot be shorter than the default length.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI653S **The content of the *member_name* product customization parameter metadata member is not valid. The value of the *attribute_name* attribute in the *element_name* element is not valid. The value of the attribute is *value_name*.**

Explanation:
The specified value of the attribute is not a valid value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI700W **The XML structure of the *member_name* solution pack metadata member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the specified solution pack metadata member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the warning.

CCQI701S **The XML structure of the *member_name* solution pack metadata member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the specified solution pack metadata member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the error.

CCQI702S **The XML structure of the *member_name* solution pack metadata member is not valid. The *element_name* element is unknown.**

Explanation:
The specified solution pack metadata member contains an unknown element.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI703S **The XML structure of the *member_name* solution pack metadata member is not valid. Content is not allowed for the *element_name* element, but content was found**

Explanation:
Content was found in an element that cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQI704S **The XML structure of the *member_name* solution pack metadata member is not valid. Content is required for the**

***element_name* element, but content was not found.**

Explanation:
The specified element does not contain required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI705S **The XML structure of the *member_name* solution pack metadata member is not valid. The content length for the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI706S **The XML structure of the *member_name* solution pack metadata member is not valid. The *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified element occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI707S **The XML structure of the *member_name* solution pack metadata member is not valid. The *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified element does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI708S **The XML structure of the *member_name* solution pack metadata member is not valid. The *attribute_name* attribute in the *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified attribute occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI709S **The XML structure of the *member_name* solution pack metadata member is not valid. The *attribute_name* attribute in the *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified attribute does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI710S **The XML structure of the *member_name* solution pack metadata member is not valid. Content is not allowed for the *attribute_name* attribute in the *element_name* element, but content was found.**

Explanation:
The specified attribute cannot have content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI711S **The XML structure of the *member_name* solution pack metadata member is not valid. Content is required for the *attribute_name* attribute in the *element_name* element, but content was not found.**

Explanation:
The specified attribute is missing content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI712S **The XML structure of the *member_name* solution pack metadata member is not valid. The content length for the *attribute_name* attribute in the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified attribute contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI713S **The XML structure of the *member_name* solution pack metadata member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:
The specified attribute in the solution pack metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI714S **The XML structure of the *member_name* solution pack metadata member is not valid because the value of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified value of the element is not a valid value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI715S **The XML structure of the *member_name* solution pack metadata member is not valid because the value of the *attribute_name* attribute in the *element_name* element is incorrect. The value of the attribute is *value_name*.**

Explanation:
The specified value of the attribute is not a valid value.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI716S **The XML structure of the *member_name* solution pack metadata member is not valid because the data type of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified data type is not a valid data type.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI717S **The XML structure of the *member_name* solution pack metadata member is not valid because the data type of the *attribute_name* attribute in the *element_name* element is incorrect. The value of the attribute is *value_name*.**

Explanation:
The specified data type is not a valid data type.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI720S **The XML structure of the *member_name* solution pack metadata member is not valid. The msg element is required for the *component_name* component that is not customizable.**

Explanation:
The msg element is required for the specified component, which cannot be customized by using Tools Customizer.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI750S **The solution pack metadata member was not found in the *library_name* metadata library.**

Explanation:
Tools Customizer could not find the solution pack metadata member in the specified library.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI751S **The version in the *library_name* solution pack metadata library is different than the version in the *library_name* component metadata library. The name of the pack is *pack_name*, and the name of the component is *component_name*.**

Explanation:
The version in the solution pack metadata library does not match the version in the component metadata library.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI752S **The release in the *library_name* solution pack metadata library is different than the release in the *library_name* component metadata library. The name of the pack is *pack_name*, and the name of the component is *component_name*.**

Explanation:
The release in the solution pack metadata library does not match the release in the component metadata library.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI753S **The modification level in the *library_name* solution pack metadata library is different than the modification level in the *library_name* component metadata library. The name of the pack is *pack_name*, and the name of the component is *component_name*.**

Explanation:
The modification level in the solution pack metadata library does not match the modification level in the component metadata library.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQI755S **The XML structure of the *member_name* parameter metadata member is not valid. When a default value is not specified in the metadata member, the "required" attribute with a value of "true" cannot be specified.**

System action:
Processing stops.

User response:
Contact IBM Software Support.

CCQM002E **The *command_name* line command is not valid: .**

Explanation:
The specified line command is not valid.

System action:
Processing continues.

User response:
Specify a valid line command on the panel.

CCQO000W **The XML structure of the *member_name* discover parameter metadata member is not valid. The PL/I XML parser issued the following exception warning code: *code_number*.**

Explanation:
While determining if the discover parameter metadata member is valid, the PL/I XML parser issued an exception warning code.

System action:
Processing continues.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code.

CCQO0001S **The XML structure of the *member_name* discover parameter metadata member is not valid. The PL/I XML parser issued the following exception error code: *code_number*.**

Explanation:
While determining if the Discover metadata member is valid, the PL/I XML parser issued an exception error code.

System action:
Processing stops.

User response:
See the *Enterprise PL/I for z/OS Programming Guide* for more information about the exception warning code. Contact IBM Software Support.

CCQO0002S **The XML structure of the *member_name* discover parameter metadata member is not valid. The *element_name* element is unknown.**

Explanation:
The specified element in the discover parameter metadata member is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO0003S **The XML structure of the *member_name* discover parameter metadata member is not valid. Content is not allowed for the *element_name* element, but content was found.**

Explanation:
The specified element cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO0004S **The XML structure of the *member_name* discover parameter metadata member is not valid. Content is required for the *element name* element, but content was not found.**

Explanation:
The specified element is missing required content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO0005S **The XML structure of the *member_name* discover parameter metadata member is not valid. The content length for the *element_name* element cannot exceed *maximum_number* characters.**

Explanation:
The specified element contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO0006S **The XML structure of the *member_name* discover parameter metadata member is not valid. The *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified element occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO0007S **The XML structure of the *member_name* discover parameter metadata member is not valid. The *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified element does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO0008S **The XML structure of the *member_name* discover parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element cannot occur more than *maximum_number* times.**

Explanation:
The specified attribute occurs too many times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQO0009S **The XML structure of the *member_name* discover parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element must occur at least *minimum_number* times.**

Explanation:
The specified attribute does not occur enough times.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQO0010S **The XML structure of the *member_name* discover parameter metadata member is not valid. Content is not allowed for the *attribute_name* attribute in the *element_name* element, but content was found.**

Explanation:
The specified attribute cannot contain content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQO0011S **The XML structure of the *member_name* discover parameter metadata member is not valid. Content is required for the *attribute_name* attribute in the *element_name* element, but content was not found.**

Explanation:
The specified attribute requires content.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQO0012S **The XML structure of the *member_name* discover parameter metadata member is not valid. The content length for the *attribute_name* attribute in the *element_name* element in the cannot exceed *maximum_number* characters.**

Explanation:
The specified attribute contains too many characters.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQO0013S **The XML structure of the *member_name* discover parameter metadata member is not valid. The *attribute_name* attribute in the *element_name* element is unknown.**

Explanation:
The specified attribute is unknown.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQO0014S **The content of the *member_name* discover parameter metadata member is not valid because the value of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
A The specified value for an element in the discover parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQO0015S **The content of the *member_name* discover parameter metadata member is not valid because the value of the *attribute_name* attribute in the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified value for an attribute in the discover parameter metadata member is not valid.

System action:

Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO016S **The content of the *member_name* discover parameter metadata member is not valid because the data type of the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified data type value for an element in the discover parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO017S **The content of the *member_name* product parameter metadata member is not valid because the data type of the *attribute_name* attribute in the *element_name* element is incorrect. The value is *value_name*.**

Explanation:
The specified data type value for an attribute in the product parameter metadata member is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO050S **The *data_set_name* Discover REXX EXEC data set could not be initialized or was not found.**

Explanation:
Tools Customizer could not find or could not initialize the specified Discover REXX EXEC data set.

System action:
Processing stops.

User response:
Ensure that the Discover REXX EXEC is specified correctly.

CCQO051W **The *data_sharing_group_ID* data sharing group ID cannot contain more than four characters.**

Explanation:
The specified data sharing group ID contains too many characters.

System action:
Processing continues.

User response:
Ensure that the specified data sharing group ID does not exceed four characters.

CCQO052S **The *REXX_EXEC_name* Discover REXX EXEC was not found in the *data_set_name* Discover data set.**

Explanation:
Tools Customizer could not find the Discover REXX EXEC in the specified data set.

System action:
Processing stops.

User response:
Ensure that the Discover data set was specified correctly.

CCQO053W **The *LPAR_name* LPAR name cannot contain more than eight characters.**

Explanation:
The specified LPAR name contains too many characters.

System action:
Processing continues.

User response:
Ensure that the specified LPAR name does not exceed eight characters.

CCQO054W **The *subsystem_ID* Db2 SSID cannot contain more than four characters. The record was not processed.**

Explanation:
The specified Db2 SSID contains too many characters.

System action:
Processing continues.

User response:
Ensure that the specified Db2 SSID does not exceed four characters.

CCQO055W **The *parameter_name* Db2 group attach name parameter is in the *record_name* Discover record, but a Db2 group attach name was not specified. The record was not processed.**

Explanation:
The Discover record contains a data sharing group parameter, but a Db2 group attach name was not specified.

System action:
Processing continues.

User response:
Ensure that information is specified correctly on the **Discover Customized Product Information** panel.

CCQO056W **The *parameter_name* Db2 parameter in the *record_name* Discover record did not have a Db2 group attach name or a Db2 SSID. The record was not processed.**

Explanation:
The Discover record did not have a Db2 group attach name or a Db2 subsystem ID in the Db2 parameter.

System action:
Processing continues.

User response:
Ensure that information is specified correctly on the **Discover Customized Product Information** panel.

CCQO057W **The Discover EXEC could not find the *parameter_name* parameter in the metadata for the product to be customized. The record was not processed.**

Explanation:
The specified parameter could not be found in the metadata for the product to be customized.

System action:
Processing continues.

User response:
Ensure that information is specified correctly on the **Discover Customized Product Information** panel.

CCQO058W **The *parameter_name* product parameter name in the *record_type* Discover record does not start with CCQ_LPR_, CCQ_DB2_, or CCQ_PRD_. The record was not processed.**

Explanation:
The parameter in the record does not start with CCQ_DB2_, CCQ_LPAR_, or CCQ_PRD_.

System action:
Processing continues.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO059W **The *parameter_name* product parameter cannot contain more than 72 characters. The record was not processed.**

Explanation:
The specified product parameter contains too many characters.

System action:
Processing continues.

User response:
Ensure that the specified product parameter does not exceed 72 characters.

CCQO060W **The *record_name* Discover record from the REXX EXEC output must start with the following record type: *record_type*. The record was not processed.**

Explanation:
A Discover record from the REXX EXEC output must start with the specified Db2 record type.

System action:
Processing continues.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO061I **If you do not have a previously customized version of the product, do not run the Discover EXEC. Press END to go to the Customizer Workplace panel.**

Explanation:
This message is issued when you customize a product for a the first time. It prompts you to use the Discover EXEC to discover data from a previous customization of the specified product.

System action:
Processing continues.

User response

Tip: Using the Discover EXEC saves time and reduces errors that can error when parameters are specified manually. If you want to use the Discover EXEC, specify the required information on the **Discover Customized Product Information** panel. Otherwise, press End to continue without discovering data from a previous customization of the product.

CCQO062W **The Discover EXEC could not find the following *parameter_name* parameter in the Db2 metadata. The record was not processed.**

Explanation:
The specified parameter is missing in the Db2 metadata.

System action:
Processing continues.

User response:

If this parameter is required, contact IBM Software Support.

CCQO064W **The *Discover-record* Discover record did not have a parameter name. The record was not processed.**

Explanation:
A parameter name was missing in the Discover record.

System action:
Processing continues.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO065W **The value for the *parameter_name* parameter is ignored because it has more than *maximum_number* characters, which is the maximum length that is defined in the metadata. The value is *parameter_value*.**

Explanation:
The specified value exceeded the maximum allowed length, which was defined in the metadata. Tools Customizer truncated the extra characters.

System action:
Processing continues.

User response:
See "Gathering diagnostic information" on page 918. Contact IBM Software Support.

CCQO066W **The *record_name* Discover record from the Discover REXX EXEC output does not have a parameter value. The record was not processed.**

Explanation:
The Discover record was missing a parameter value from the Discover EXEC output.

System action:
Processing continues.

User response:
Ensure that information was specified correctly on the **Discover Customized Product Information** panel.

CCQO067W **The *parameter_name* parameter is defined in the metadata to support one value, but more than one value was found. The last value was used.**

Explanation:
The definition of the parameter in the metadata supports one value, but more than one value was specified. Only the last value was used.

System action:
Processing continues.

User response:
Ensure that information was specified correctly on the **Discover Customized Product Information** panel.

CCQO068W **The value of the *parameter_name* parameter is ignored because the parameter is defined as internal=true. The value is *value_name*.**

Explanation:
The specified value of the parameter is ignored because it is defined as internal=true.

System action:
Processing continues.

User response:
Ensure that information was specified correctly on the **Discover Customized Product Information** panel.

CCQO069W **The Discover EXEC did not find the *parameter_name* parameter in the LPAR metadata. The record was not processed.**

Explanation:
The specified parameter is missing from the LPAR metadata.

System action:
Processing continues.

User response:
Ensure that information was specified correctly on the **Discover Customized Product Information** panel.

CCQO070W **The *record_type* Discover record contains an incorrect delimiter between the Environment section and the Data section. The record was not processed.**

Explanation:
Tools Customizer found an incorrect delimiter between the Environment section and the Data section.

System action:
None.

User response:
No action is required.

CCQO071W **The *member_name* member could not be found in the *data_set_name* Discover data set.**

Explanation:
Tools Customizer could not find the specified Discover data set.

System action:
None.

User response:
No action is required.

CCQO072S **The *member_name* discover metadata member was not found in the *data_set_name* metadata data set.**

Explanation:
Tools Customizer could not find the specified metadata member in the data set.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQO073E **The *member_name* discover metadata member is not valid because the default length for the *element_name* parameter element exceeds the length of the parameter. The default length is *default_length*, and the specified length is *specified_length*. The default length will be truncated accordingly.**

Explanation:
The default length for the specified parameter element is longer than the parameter.

System action:
Processing continues.

User response:
No action is required.

CCQO074S **The content of the *member_name* discover metadata member is not valid. The value of the *attribute_name* attribute in the *element_name* element is not valid. The value of the attribute is *value_name*.**

Explanation:
The specified value is not valid.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQO075W **The *configuration_ID* configuration ID in the *record_name* Discover record is incorrect. The record was not processed.**

Explanation:
The specified configuration ID is not correct.

System action:
Processing continues.

User response:
No action is required.

CCQO076W **The *configuration_ID* configuration ID cannot contain more than *maximum_number* characters. The record was not processed.**

Explanation:
The specified configuration ID contains too many characters.

System action:
Processing continues.

User response:
No action is required.

CCQO077S **The discover metadata member was not found in the *data_set_name* component data set that is part of the *data_set_name* pack.**

Explanation:
The discover metadata member was not found in the specified component data set.

System action:
Processing stops.

User response:
See "Gathering diagnostic information" on page 918.
Contact IBM Software Support.

CCQO078I **Additional configurations were discovered and saved in the data store. All Db2 entries associated with this configuration are listed.**

System action:
None.

User response:
No action is required.

CCQO080I ***Product_name* does not support the Discover process.**

Explanation:
The specified product does not support the Discover process.

System action:
None.

User response:
No action is required.

CCQP000E **The value of the *mode_name* Db2 mode is not valid for the *level_name* Db2 level.**

Explanation:

The specified Db2 mode is not valid for the Db2 level.

System action:
Processing stops.

User response:
Specify a valid Db2 mode for the Db2 level.

CCQP001E **The value of the *mode_name* Db2 mode is missing.**

Explanation:
The specified Db2 mode is not defined.

System action:
Processing stops.

User response:
Specify a value for the Db2 mode.

CCQP002E **The value of the *mode_name* Db2 level is missing.**

Explanation:
The specified Db2 level is not defined.

System action:
Processing stops.

User response:
Specify a value for the Db2 level.

CCQP003E **The value of the *level_name* Db2 level is not valid.**

Explanation:
The specified Db2 level does not have a valid name.

System action:
Processing stops.

User response:
Specify a valid value for the Db2 level.

CCQP004S **The *parameter_name* parameter does not exist in the CCQ$$DB2 Db2 parameter metadata member.**

Explanation:
The CCQ$$DB2 Db2 parameter metadata member does not contain the specified parameter.

System action:
Processing stops.

User response:
See “Gathering diagnostic information” on page 918.
Contact IBM Software Support.

CCQP005E **The value of the *subsystem_ID* Db2 SSID is missing.**

Explanation:
The specified Db2 SSID is not defined.

System action:
Processing stops.

User response:
Specify a valid value for the Db2 SSID.

CCQP006E **The value of the *group_attach_name* Db2 group attach name is missing.**

Explanation:
The specified Db2 group attach name is not defined.

System action:
Processing stops.

User response:
Specify a valid Db2 group attach name.

CCQQ000E **Specify a valid metadata library. Each qualifier of the library must start with an alphabetic character and must be 1-8 alphanumeric characters. The library name must be 1-44 characters.**

Explanation:
The metadata library was not specified in the correct format. The high-level qualifier must contain alphanumeric characters, and the first character cannot be numeric. The name cannot contain wildcard characters, such as asterisks (*) and percent signs (%).

System action:
Tools Customizer prompts for the correct library name.

User response

Specify a library in the correct format. If the message was issued on the **Specify the Metadata Library** (CCQPHLQ) panel, specify the product metadata library. The name of this library is *hlq*.SHLODENU.

Do not specify the Tools Customizer metadata library, which is *hlq*.SCCQDENU.

CCQQ001E **The *data_set_name* data set name that was specified for the metadata library was not found.**

Explanation:
The data set does not exist, or the data set name was written in the incorrect format. The high-level qualifier must contain alphanumeric characters, and the first character cannot be numeric. The name cannot contain wildcard characters, such as asterisks (*) and percent signs (%).

System action:
Tools Customizer prompts for the correct data set name.

User response:
Specify a data set name in the correct format.

CCQQ002E **The data set name that was specified for the *library_name***

metadata library cannot be opened.

Explanation:
Tools Customizer could not open the data set.

System action:
Tools Customizer prompts for an available data set.

User response:
Ensure that the specified data set is available for Tools Customizer to open it.

CCQQ003E **The *data_set_name* data set name that was specified for the metadata sample library is not valid. The data set must be in the following format: HLQ.S*xxx*SAMP.**

Explanation:
The specified data set name was not specified in the correct format.

System action:
None.

User response:
Specify the data set name in the following format: HLQ.S*xxx*SAMP, where *xxx* is the three-character prefix for the product.

CCQQ004E **The *data_set_name* data set is being used by another user. Try again when the data set is not being used.**

Explanation:
Another user is using the specified data set.

System action:
None.

User response:
Ensure that the specified data set is not being used.

CCQQ009E **The *data_set_name* data set name that was specified for the metadata library is not valid because the data set is empty.**

Explanation:
The specified data set is empty.

System action:
Tools Customizer prompts for an available data set.

User response:
Ensure that the specified data set is available for Tools Customizer to open it.

CCQQ011E **The *library_name* metadata library for the component that is part of the *library_name* pack was not found in the catalog. The name of the pack is *pack_name*, and the name of the component is *component_name*.**

Explanation:
The specified metadata library is not in the catalog.

System action:
None.

User response:
Specify another metadata library.

CCQQ012E **The *library_name* metadata library for the component that is part of the *library_name* pack cannot be opened.**

Explanation:
The specified metadata library cannot be opened.

System action:
None.

User response:
Ensure that the name of the library is specified correctly.

CCQS000I **Tools Customizer is being invoked for the first time or the previous ISPF session ended before Tools Customizer was exited. In both cases, the fields on this panel are populated with default values. Review these default values or specify new values to be used to customize products or packs.**

Explanation:
When you customize a stand-alone product or a solution pack for the first time, or when an ISPF session unexpectedly ends before the ISPF profile is saved, you must specify or review your Tools Customizer user settings.

System action:
Processing stops.

User response:
Review and accept the default settings, or specify new settings.

CCQS001E **The following command is not valid: *command_name.***

Explanation:
The specified command is not a valid command on the panel.

System action:
Processing stops.

User response:
Specify a valid command.

CCQS002W **The *data_set_name* Discover data set could not be found.**

Explanation:
Tools Customizer could not find the specified data set.

System action:
The data set will be allocated, and processing continues.

User response:
Ensure that the data set name is specified correctly because the data set will be allocated with this name after the values are saved.

CCQS003W **The *data_set_name* Discover data set was not found so it was created.**

Explanation:
Tools Customizer could not find the specified data set.

System action:
Processing continues.

User response:
Ensure that the data set name is specified correctly.

CCQS004I **The settings were saved.**

Explanation:
The settings that you changed were saved.

System action:
Processing continues.

User response:
No action is required.

CCQS006W **The length of a qualifier for the *data_set_name* customization library data set exceeds 26 characters.**

Explanation:
The qualifier for the customization library data set is too long. The qualifier cannot exceed 26 characters.

System action:
Processing continues.

User response:
Specify a qualifier that is 26 characters or less.

CCQS007E **The discover data set *data_set_name* could not be opened with the *option-type* option.**

Explanation:
The specified option could not open the Discover data set.

System action:
None.

User response:
Specify a data set to which you have WRITE access.

CCQS008E **The Discover data set *data_set_name* exists on a different volume.**

Explanation:
The specified Discover data set must exist on the same volume as where it was created.

System action:
Processing continues.

User response:
Specify a different Discover data set name.

CCQS010E **The customization library qualifier is not valid.**

Explanation:
The customization library qualifier that was specified is not valid.

System action:
None.

User response:
Specify a valid qualifier for the customization library.

CCQS011E **The group attach option is not valid.**

Explanation:
The group attach option that was specified is not valid.

System action:
None.

User response:
Specify a valid option for the group attach option.

CCQS012E **The Tools Customizer metadata library is not valid.**

Explanation:
The metadata library that was specified is not a valid data set.

System action:
None.

User response:
Specify a valid data set for the metadata library.

CCQS013E **The Discover data set is not valid.**

Explanation:
The Discover data set that was specified is not a valid data set.

System action:
None.

User response:
Specify a valid Discover data set.

CCQS014E **The data store data set is not valid.**

Explanation:

The data set that was specified is not a valid data set.

System action:
None.

User response:
Specify a valid data store data set.

CCQS015E **Tools Customizer is already running.**

Explanation:
A session of Tools Customizer is already running in your environment. Only one Tools Customizer session is allowed.

System action:
None.

User response:
The trace data set is being used. Free the trace data set, and start Tools Customizer again.

CCQS018E **Information on the first line of the job card exceeds 57 characters.**

Explanation:
The first line of the job card can contain only 57 characters. This character limit includes a continuation character.

System action:
Tools Customizer clears the first line of the job card.

User response:
Specify information that does not exceed 57 characters on the first line of the job card.

CCQS019E **The required trace data set, *data_set_name*, is currently not accessible.**

Explanation:
The trace data set must be accessible.

System action:
Processing stops.

User response:
Ensure that the trace data set is accessible.

CCQS020E **An error occurred while the customization library data set was being created. ALTER authority on the high-level qualifier for the customization library data set is required.**

Explanation:
To create the customization library data set, ALTER authority on the specified high-level qualifier must be granted.

System action:
None.

User response:
Ensure that ALTER authority for the specified customization library data set is granted.

CCQS021E **The value *value_name* in the field that contains the cursor position is not valid.**

Explanation:
The specified value is not valid.

System action:
None.

User response:
Specify a valid value.

CCQS022E **An error occurred while the customization library data set was being opened. UPDATE authority on the high-level qualifier for the customization library data set is required.**

Explanation:
To open the customization library data set, UPDATE authority on the specified high-level qualifier must be granted.

System action:
None.

User response:
Ensure that UPDATE authority for the specified customization library data set is granted.

CCQS023E **An error occurred while the customization library data set was being opened. UPDATE authority on the high-level qualifier for the customization library data set is required.**

Explanation:
To open the customization library data set, UPDATE authority on the specified high-level qualifier must be granted.

System action:
None.

User response:
Ensure that UPDATE authority for the specified customization library data set is granted, or specify a different high-level qualifier for the customization library data set on the **Tools Customizer Settings** panel.

CCQS024E **An error occurred while the customization library data set was being created. ALTER authority on the high-level qualifier for the customization library data set is required.**

Explanation:

To create the customization library data set, ALTER authority on the specified high-level qualifier must be granted.

System action:
None.

User response:
Ensure that ALTER authority for the specified customization library data set is granted, or specify a different high-level qualifier for the customization library data set on the **Tools Customizer Settings** panel.

CCQS025I **The display options were saved.**

System action:
None.

User response:
No action is required.

CCQS026E **The customization library data set *data_set_name* could not be opened because the requester does not have UPDATE authority on this data set.**

Explanation:
Users must have UPDATE authority to open the customization library data set.Users must have UPDATE authority to open the customization library data set.

System action:
None.

User response:
Ensure that UPDATE authority for the specified customization library data set is granted or specify a different high-level qualifier for the customization library data set on the **Tools Customizer Settings** panel.

CCQS027E **The customization library data set *data_set_name* could not be created because the requester does not have ALTER authority on this data set.**

Explanation:
To create the customization library data set, ALTER authority on the data set must be granted.

System action:
Processing stops.

User response:
Ensure that ALTER authority for the specific customization library data set is granted, or specify a different high-level qualifier for the customization library data set on the **Tools Customizer Settings** panel.

CCQS029E **The customization library data set is not valid. Enter a valid data set name or use the Tools Customizer default: *data_set_name*.**

Explanation:
The specified data set is invalid.

System action:
Processing stops.

User response:
Specify a valid data set name.

CCQS030E **The following command is not a valid CREATE statement: *command_statement*.**

Explanation:
The specified CREATE command statement is invalid because it contains blanks or alphabetic characters.

System action:
Processing stops.

User response:
Specify a valid CREATE command statement. The correct syntax is CREATE *nn*, where *nn* is 1 - 99.

CCQS031E **The following command is not a valid CREATE statement: *command_statement*. The number that can be specified with the CREATE command is 1 - 99.**

Explanation:
The specified CREATE command statement is invalid because it contains either 0 or a number greater than 99.

System action:
Processing stops.

User response:
Specify a valid CREATE command statement. The correct syntax is CREATE *nn*, where *nn* is 1 - 99.

CCQS033E **A user profile cannot be copied into the same user profile**

Explanation:
The specified data set cannot be copied into user's own user profile.

System action:
Processing stops.

User response:
Enter a different data set name.

CCQS034E **The shared user profile data set *data_set_name* could not be created because the requester does not have UPDATE authority on this data set or because the**

data set already exists in another volume serial.

Explanation:
To create a shared user profile data set, the requester must have update authority on the data set, and the specified data set name must be unique.

System action:
Processing stops.

User response:
Ensure that the requester has UPDATE authority on the data set and ensure that the data set name is unique.

CCQS035E **The specified data set already has a user profile. Specify a different data set, or press Enter again to replace the existing user profile.**

Explanation:
Pressing Enter overwrites the previous user profile for the specified data set with user's own user profile.

System action:
Processing stops.

User response:
Specify a different data set name.

CCQS036E **The customization library *data_set_name* already exists in *volume* and cannot be created in a different volume. Enter a different customization library name.**

Explanation:
The same data set name cannot exist in a different volume.

System action:
Processing stops.

User response:
Specify a different data set name.

CCQS037E **The data set name was either not specified or invalid.**

Explanation:
The data set name specified does not follow the IBM data set name convention.

System action:
Processing stops.

User response:
Specify a valid data set name.

CCQS038E **The specified data set cannot be used.**

Explanation:
The specified data sets contain information that supports Tools Customizer, but this data set cannot be used.

System action:
Processing stops.

User response:
Specify a different data set.

CCQS039E **The specified data set has an invalid record format.**

Explanation:
The specified data set should be saved as a different record format. For example, the record format should be FB (Formated Block) but it is set to VB (Variable Block).

System action:
Processing stops.

User response:
Specify a valid record format.

CCQT000I **The product configuration ID *copied_configuration_ID* was successfully copied from *configuration_ID*.**

Explanation:
The specified configuration ID was copied.

System action:
None.

User response:
No action is required.

CCQT001E **The *command_name* line command was specified more than once, which is not allowed.**

Explanation:
The specified line command cannot be specified more than one time.

System action:
Processing stops.

User response:
Specify the line command only once.

CCQT002E **The *configuration_ID* configuration ID already exists. Specify a different configuration ID.**

Explanation:
The specified configuration ID exists.

System action:
Processing stops.

User response:
Ensure that the specified configuration ID is unique.

CCQT003I **The product configuration ID *configuration_ID* was created.**

Explanation:
The specified configuration ID was created.

System action:
None.

User response:
No action is required.

CCQT004I **The product configuration ID *configuration_ID* was removed.**

Explanation:
The specified configuration ID was removed.

System action:
None.

User response:
No action is required.

CCQT005E **The product configuration ID *configuration_ID* is not valid. The product configuration ID cannot contain a colon (:).**

Explanation:
The specified configuration ID contains a colon (:), but a colon is not valid.

System action:
Processing stops.

User response:
Specify a configuration ID that does not contain a colon.

CCQT006E **The *configuration_ID* configuration ID exists. Specify a different configuration ID.**

Explanation:
The specified configuration ID exists.

System action:
Processing stops.

User response:
Specify another configuration ID.

CCQT007E **The *configuration_ID* configuration ID exists but was removed from the list of configurations. To use this configuration ID, you must restore it.**

Explanation:
The specified configuration ID exists but was removed from the list of available configuration.

System action:
Processing stops.

User response:
Specify another configuration ID. To restore the specified configuration ID, issue the CREATE command, and specify the same configuration ID again.

CCQT008E **The *configuration_ID* configuration ID exceeds *maximum_number* characters.**

Explanation:
The specified configuration ID contains too many characters.

System action:
Processing stops.

User response:
Specify another configuration ID that does not exceed the maximum number of characters that was set by Db2 Analytics Accelerator Loader .

CCQT010I **Create request for *configuration_ID* configuration was cancelled by user.**

Explanation:
The request to create the specified configuration was canceled.

System action:
Processing stops.

User response:
No action is required.

CCQT011I **The *configuration_ID* configuration was not copied.**

Explanation:
The specified configuration was not copied.

System action:
Processing stops.

User response:
No action is required.

CCQT012I **The *configuration_ID* configuration was not removed.**

Explanation:
The specified configuration was not removed.

System action:
Processing stops.

User response:
No action is required.

CCQT013I **None of the configurations were copied or removed. All of the previously selected configurations are deselected.**

Explanation:
The selected configurations were not copied or removed, and they are deselected.

System action:
Processing stops.

User response:

No action is required.

CCQT014E **Specify Y or N and press Enter to continue, or press End to cancel.**

Explanation:
A function requires input.

System action:
Processing stops.

User response:
To continue, specify Y or N and press Enter. Otherwise, press End to cancel.

CCQT015E **The *command_name* command is not allowed during the process of "Select" configuration line command.**

Explanation:
The specified command is not allowed while the line command for selecting configurations is processing.

System action:
Processing stops.

User response:
Remove the specified line command.

CCQT016I **The *configuration_ID* configuration was not created**

Explanation:
The specified configuration was not created.

System action:
Processing stops.

User response:
No action is required.

CCQT017I **The *configuration_ID* configuration was not copied.**

Explanation:
The specified configuration was not copied.

System action:
Processing stops.

User response:
No action is required.

CCQT018E **Specify Y or N, and press Enter.**

Explanation:
A function requires input.

System action:
Processing stops.

User response:
To continue, specify Y or N, and press Enter.

CCQT019I **The select *configuration_ID* configuration process ended.**

Explanation:
The select process for the specified configuration is finished.

System action:
Processing stops.

User response:
No action is required.

CCQT020E **The *configuration_ID* configuration was not created because the data store was not accessible.**

Explanation:
The specified configuration was not created because the data store could not be accessed.

System action:
Processing stops.

User response:
Ensure that the data store is accessible and create the configuration again.

CCQT021E **The *configuration_ID* configuration was not copied because the data store was not accessible.**

Explanation:
The specified configuration was not copied because the data store could not be accessed.

System action:
Processing stops.

User response:
Ensure that the data store is accessible and copy the configuration again.

CCQT025I **The *configuration_ID* configuration was not updated.**

Explanation:
The specified configuration was not updated because the edit process was canceled.

System action:
Processing stops.

User response:
No action is required.

CCQT027I **The product configuration ID has been updated from *edit_from_id* to *edit_to_id*.**

System action:
Processing continues.

User response:
No action is required.

CCQT028I **The product configuration ID has been updated from *edit_from_id* to *edit_to_id*, and the description has been updated from *edit_from_des* to *edit_to_des*.**

System action:
Processing continues.

User response:
No action is required.

CCQT029I **The product configuration description has been updated from *edit_from_des* to *edit_to_des*.**

System action:
Processing continues.

User response:
No action is required.

CCQX001S ***Product_name* has already been customized by using values from *data_set_name* data store data set. Switch to the specified data store data set to continue customizing this product.**

Explanation:
The specified product was customized by using values from the specified data store data set.

System action:
Processing stops.

User response:
Use the specified data store data set to continue customizing the product.

CCQX002S ***component_name* has already been customized by using values from *data_set_name* data store data set. Switch to the specified data store data set to continue customizing this component.**

Explanation:
The specified component was customized by using values from the specified data store data set.

System action:
Processing stops.

User response:
Use the specified data store data set to continue customizing the component.

CCQX011I ***Product_name* was not found.**

Explanation:
The specified product was not found.

System action:
Processing stops.

User response:
Specify another product.

Accelerator Loader messages

Look up Accelerator Loader messages to obtain information about them, including message explanations and suggested responses.

Each message has a unique message ID. The first three to four letters of an ID indicate the component for which the message was issued.

- HLO indicates the following components:
  - Messages 000 - 999 indicate the ISPF interface.
  - Messages 1000 - 9999 indicate the Consistent load batch component.
- HLO*G* indicates a global message that pertains to multiple components.
- HLO*M* indicates the maintenance utility (HLOMAINT).
- HLO*P* indicates a parser component. (These messages are primarily for use by Software Support.)
- HLO*S* indicates the Accelerator Loader started task.
- HLO*U* indicates the DSNUTILB intercept.
- HLV indicates the Accelerator Loader server.

All message IDs have a severity code as the last character, as follows:

- A: Action is required immediately. The associated task does not continue until the requested action is taken.
- D: Decision or action is required immediately. The associated task does not continue until the requested decision is made or action is taken.
- E: Error message. Some errors might be user-correctable. Read the User Response to determine the appropriate course of action.
- I: Information only. No user action is required.

- S: Severe error message. A severe internal or environmental error occurred. Usually, you must contact Software Support for assistance in resolving these errors.
- W: Warning message. Results might not be as expected.

In the messages output, a time stamp is often displayed after the message identifier and before the message text to indicate when the message was issued. The time stamp is composed of a Julian date followed by a time in the format HH:MM:SS:tt. The variables are defined as follows: *HH* is hours, *MM* is minutes, *SS* is seconds, and *tt* is hundredths of a second. This time stamp does not occur in messages that are issued from the ISPF interface or batch interface (HLO or HLO*B* messages) or in any messages that are issued as WTO messages. (The WTO messages include a system time stamp instead.)

HLO002E **Insufficient region size. Available region size of at least 30000 is required.**

Explanation

The available region size is not large enough to work with the product.

User response

Contact your system administrator to increase the region size to 30000.

HLO003E **Not enough memory. Close other applications and try again or contact your system administrator to increase the region size.**

Explanation:
The product requires an available region size of at least 30000 is required.

User response:
Close other applications and try again or contact your system administrator to increase the region size.

HLO004E **Insufficient region size. Available region size of at least 50000 is required for Accelerator Loader server administration.**

Explanation:
The available region size is not large enough to run Accelerator Loader server administration. An available region size of at least 50000 is required.

User response:
Contact your system administrator to increase the region size to 50000.

HLO010E **No objects match the filter.**

Explanation

No objects match the specified filter criteria.

User response

Change the filter values or add new objects to the list.

HLO011I **Operation completed successfully.**

Explanation

This is an informational message.

User response

No action is required.

HLO101E **ISPF error: <*error_message*>.**

Explanation

An ISPF error occurred and caused the displayed message to be generated.

User response

Correct the error and retry the operation. If necessary, review the ISPF documentation to determine the cause of the error.

HLO102E **An invalid command was entered in the command or option line.**

Explanation

Valid commands are listed on the panel.

User response

Enter a valid command.

HLO103E **Enter a valid line command as listed at the top of the panel.**

Explanation

Valid line commands are listed at the top of the panel.

User response

Enter a valid line command.

HLO104E **An invalid option was entered. Enter a valid option.**

Explanation

The specified option is not valid in the field.

User response

Enter another option.

HLO105E An invalid value was entered.

Explanation

The specified value is not valid in the field.

User response

Enter a valid value in the field.

HLO106I Move is pending.

Explanation

The M(Move) line command was entered but an A(After) or B(Before) command was not specified.

User response

Enter the A(After) or B(Before) line command to move the object after or before the position at which the line command is issued.

HLO107E Element was not found.

Explanation

The specified element was not found.

User response

Verify the element name and reenter it.

HLO108I No element was selected from the list.

Explanation

At least one element must be selected from the list.

User response

Select one or more elements.

HLO120E File was not opened. <*error_message_text*>.

Explanation

An error occurred while opening file.

User response

See the user's guide for the routine for an explanation of error codes. If you are unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support.

HLO121E File <*file_name*> is not a valid KSDS file.

Explanation

The file must be a valid KSDS file.

User response

Specify a valid KSDS file.

HLO122E I/O operation cannot be performed on closed file (<*file_name*>).

Explanation

File <*file_name*> is closed. I/O operations are denied for closed file.

User response

Check the file availability and retry. If you are unable to determine the reason for the failure, contact IBM Software Support.

HLO123E Input operation cannot be performed on file (<*file_name*>) because the file was opened in read only mode.

Explanation

File <*file_name*> was opened in read only mode. Writing operations are denied for the file.

User response

Check the file availability and retry. If you are unable to determine the reason for the failure, contact IBM Software Support.

HLO124E Record to be added to file <*file_name*> already exists.

Explanation

Records in the file must have different keys. The record to be added has the same key as an existing record.

User response

Check the file consistency and retry. If you are unable to determine the reason for the failure, contact IBM Software Support.

HLO125E **Cannot add record to file. <*error_message_text*>.**

Explanation

An error occurred while adding the record to the file.

User response

For an explanation of the error codes, see the documentation for the routine. If you are unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support.

HLO126E **Record for update in file <*file_name*> does not exist.**

Explanation

An updatable record with the specified key must exist in the file.

User response

Check the file consistency and retry. If you are unable to determine the reason for the failure, contact IBM Software Support.

HLO127E **Cannot update record in file. <*error_message_text*>.**

Explanation

An error occurred while updating a record in the file.

User response

For an explanation of the error codes, see the documentation for the routine. If you are unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support.

HLO128E **Record for replace in file <*file_name*> does not exist.**

Explanation

A record with the specified key must exist in the file.

User response

Check the file consistency and retry. If you are unable to determine the reason for the failure, contact IBM Software Support.

HLO129E **Cannot replace record in file. <*error_message_text*>.**

Explanation

An error occurred while replacing a record in the file.

User response

For an explanation of the error codes, see the documentation for the routine. If you are unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support.

HLO130E **Record for delete from file <*file_name*> does not exist.**

Explanation

A record with the specified key must exist in the file.

User response

Check the file consistency and retry. If you are unable to determine the reason for the failure, contact IBM Software Support.

HLO131E **Cannot delete record from file. <*error_message_text*>.**

Explanation

An error occurred while removing a record from the file.

User response

For an explanation of the error codes, see the documentation for the routine. If you are unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support.

HLO132E **Cannot locate record in file. <*error_message_text*>.**

Explanation

An error occurred while locating a record in the file.

User response

For an explanation of the error codes, see the documentation for the routine. If you are unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support.

HLO133E **Cannot read record from file. <*error_message_text*>.**

Explanation

An error occurred while reading a record from the file.

User response

For an explanation of the error codes, see the documentation for the routine. If you are unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support.

HLO200E **<*message_text*>.**

Explanation

An internal error occurred in the DB2® control file routine or VSAM data repository routine.

User response

See the user's guide for the routine for an explanation of its error codes. If you are unable to determine the reason for the failure from the associated z/OS messages, contact IBM Software Support.

HLO201E **Accelerator Loader repository does not exist.**

Explanation

The base PDS is not a repository high-level qualifier (HLQ).

User response

Ensure that the high-level qualifier variable that is specified for the VSAM data repository in "CLIST" is correct. If you are unable to resolve the problem, contact IBM Software Support.

HLO202E **Accelerator Loader control file does not exist.**

Explanation

The base PDS is not a Db2 control file HLQ.

User response

Ensure that the high-level qualifier variable specified for the Db2 control file in "CLIST" is correct. If you are unable to resolve the problem, contact IBM Software Support.

HLO203E **Db2 version <*version_number*> is not supported by this version of the product.**

Explanation

The product requires Db2 10 or later.

User response

Select a Db2 subsystem with a supported Db2 version.

HLO204E **Data changes cannot be saved because the profile was opened in View mode or Share option prevents saving.**

Explanation

You can save changes to a profile when the share option is Update, or you are the owner of the profile and you opened it in Edit or Build mode.

User response

Close the profile and open it again in a mode that supports saving.

HLO206E **Access method for specified data set is not supported.**

Explanation

The product supports sequential and partitioned data sets.

User response

Specify either a sequential or partitioned data set.

HLO207I **No Db2 subsystem was defined in the Db2 control file.**

Explanation

A Db2 subsystem must be defined in the Db2 control file.

User response

Specify a Db2 subsystem in the control file.

HLO208E **An error occurred while saving JCL file: <*file_name*>. Error codes: <*error_codes*>.**

Explanation

The specified error occurred.

User response

Correct the error and retry the operation.

HLO209E **Profile repository error: <*error_text*>.**

Explanation

The specified repository error occurred.

User response

Correct the error and run the job again.

HLO210E **<profile creator> element value is too long: *element_value*. It cannot exceed 8 characters.**

Explanation

The specified profile creator value is not valid because it exceeds the eight-character limit.

User response

Specify a valid value up to eight characters and run the job again.

HLO211E **<profile ssid> element must be set in the SYSIN DD.**

Explanation

The specified element is required.

User response

Specify a value and run the job again.

HLO212E **<profile name> element must be set in the SYSIN DD.**

Explanation

The specified element is required.

User response

Specify a value and run the job again.

HLO213E **<profile creator> element must be set in the SYSIN DD.**

Explanation

The specified element is required.

User response

Specify a value and run the job again.

HLO214E **The output data set for Accelerator Loader load JCL generation must be a partitioned data set (PDS). The specified data set <*data_set_name*> does not exist and the member is empty in profile <*profile_name*>.**

Explanation

The <output dsn> element specifies the full path to the PDS that is to be used for the load JCL generation. If you do not specify this element, then the product uses the value from the profile. The value is defined in the **Data set name** field on the Build Load JCL panel.

User response

Specify the name of an existing data set or specify a value in the **Data set name** field on the Build Load JCL panel. After you change the data set name, run the job again.

HLO215E **The output data set for Accelerator Loader *profile_type* load generation must be a partitioned data set (PDS). The specified data set *data_set_name* is not a PDS.**

Explanation

You must specify a PDS for the output JCL.

User response

Specify a PDS and run the job again.

HLO216E **<table name> subelement must be set in the <table> element in the SYSIN DD.**

Explanation

The specified subelement is required.

User response

Specify a value and run the job again.

HLO217E **<table creator> subelement must be set in the <table> element in the SYSIN DD.**

Explanation

The specified subelement is required.

User response

Specify a value and run the job again.

HLO218E **Output data set *data_set_name* does not exist. An error occurred while the product was attempting to allocate the data set.**

Explanation

The product was unable to allocate the specified data set.

User response

Verify that the <output data set> element contains a valid value. Make corrections, if necessary, and then run the job again.

HLO219W **An error occurred while the product was setting ISPF statistics for member *member_name* of data set *data_set_name*.**

Explanation

The product was unable to set ISPF statistics for the specified member.

User response

No action is required.

HLO220I **JCL file *file_name* for *profile_name*, *profile_type*, and *ssid* was successfully generated to *data_set_name* data set.**

Explanation

JCL generation was successful for the specified load profile name, type, and SSID.

User response

No action is required.

HLO221E **The value that was specified for the <number of jobs> element is too small. Cannot create jobs *job_names* for specified tables *table_names*.**

Explanation

The number of tables divided by the number of jobs is greater than 172380.

User response

Increase the value for <number of jobs> and run the job again.

HLO222E **The value that was specified for <number of jobs> element is too large: *specified_value*. Valid values are 1 - 17576.**

Explanation

The <number of jobs> element specifies the number of jobs to generate. Valid values are 1 - 17576.

User response

Specify a valid value and run the job again.

HLO223E **Unknown subelement *element_name* found in the <table> element for profile type *profile_type*.**

Explanation

The specified subelement name is not valid in the SYSIN DD. JCL generation was stopped.

User response

See the product documentation for valid subelements. Correct the subelement and run the job again.

HLO224E **Unknown element *element_name* found for profile *profile_type*.**

Explanation

An unknown element was specified in the SYSIN DD. JCL generation was stopped.

User response

See the product documentation for valid elements. Correct the element and run the job again.

HLO225E **Unknown profile type found: <*profile_type*>. Valid values are: DUAL, CONSISTENT, ACCELERATOR ONLY, IMAGE COPY.**

Explanation

The value for the <*profile_type*> element is not valid. For descriptions of the profile types, see the Db2 Analytics Accelerator Loader terminology topic in the product documentation.

User response

Specify a valid value, as shown in the message text.

HLO226E **No tables are defined for profile *profile_name*.**

Explanation

No <table> elements were found in the SYSIN DD for the batch JCL generator.

User response

Specify at least one table by using the <table name> element.

HLO227E **The <profile type> element was not found.**

Explanation

The <profile type> element is required.

User response

Specify the <profile type> element in the SYSIN DD.

HLO228E **The profile version <*version_number*> is not supported by this version of the product.**

Explanation

The specified profile has an unsupported version. The profile was saved with a later version of the product.

User response

Specify another profile or run the latest version of the product.

HLO229E **The profile was created by an earlier version of the product. Use the ISPF interface to convert the profile to the latest version.**

Explanation

The chosen profile was created with an earlier version of the product. To use the profile, it must be updated for use with the current version.

User response

To upgrade profile, use the ISPF interface to edit the profile. When the **Confirm Action** panel is displayed, choose to update the profile.

HLO240E **The <*template_name*> template name must be defined for table <*table_name*>.**

Explanation

The specified template name is required.

User response

Specify a valid value and run the job again.

HLO241E **The <*data_set_name*> template data set must be defined for table <*table_name*>.**

Explanation

The specified data set is required.

User response

Specify a valid value and run the job again.

HLO242E **The <*template_name*> template disposition must be defined for table <*table_creator*.*table_name*>.**

Explanation

For the specified template name, you must specify a valid z/OS data set disposition as documented in the *Db2 for z/OS Utility Guide and Reference*.

User response

Enter a valid DD disposition in the **Data set disposition** field on the DD Template Specification panel and run the job again.

HLO243E **The SYSREC data set must be defined for table <*table_name*>.**

Explanation

The SYSREC data set is required.

User response

Specify a valid value and run the job again.

HLO244E **The accelerator name must be defined for profile <*profile_name*>.**

Explanation

The accelerator name is required.

User response

Specify a valid value and run the job again.

HLO249E **SYSIN parsing error - invalid escape sequence: <*escape_sequence*>.**

Explanation

An invalid escape sequence was found. The valid values are:

< for less than symbol (<)
> for greater than symbol (>)
& for ampersand (&)
' for apostrophe (')
" for double quotation marks (")

User response

Correct the sequence.

HLO250E **SYSIN parsing error - unexpected close tag symbol.**

Explanation

The product encountered an incorrectly placed element close tag.

User response

Correct the tag and run the job again.

HLO251E **SYSIN parsing error - value for tag is incorrectly placed.**

Explanation

The product encountered an incorrectly placed value for an element.

User response

Correct the value and run the job again.

HLO252E **SYSIN parsing error - unexpected end of SYSIN.**

Explanation

The SYSIN contains an unclosed tag or invalid value.

User response

Correct the SYSIN and run the job again.

HLO253E **<PARTITION> element must have a numeric value or numeric range with symbols '-,:'. The specified value is *partition_value*.**

Explanation

You can specify a single partition by partition number, or a range of partition numbers in the format a[(:|-)b] [,a[(:|-)b]]*, where a,b are greater than 0. For example, <PARTITION>='1-2,4:5,8' and <PARTITION>='1'.

User response

Correct the value and run the job again.

HLO254I **SYSREC data set supplied by profile *profile_creator*.*profile_name* for table *table_creator*.*table_name*. To override this value, use element <SYSREC-DSN>.**

Explanation

The input data set was obtained from the profile that is specified in the message.

User response

To change the SYSREC data set, specify a value for the <SYSREC-DSN> element.

HLO255I **SYSREC template DSN supplied by profile *profile_creator*.*profile_name* for table *table_creator*.*table_name*. To override this value, use element <SYSREC-TEMPLATE-DSN>.**

Explanation

The SYSREC template data set name was obtained from the profile that is specified in the message.

User response

To change the SYSREC template DSN, specify a value for the <SYSREC-TEMPLATE-DSN> element.

HLO256I **SYSREC template name supplied by profile *profile_creator*.*profile_name* for table *table_creator*.*table_name*. To override this value, use element <SYSREC-TEMPLATE-NAME>.**

Explanation

The SYSREC template name was obtained from the profile that is specified in the message.

User response

To change the SYSREC template name, specify a value for the <SYSREC-TEMPLATE-NAME> element.

HLO257I **Column info data set supplied by profile <*creator*>.<*name*> for table <*table_creator*>.<*table_name*>. To override this value, use element <FIELDSPEC-DSN>.**

Explanation

The column info data set was obtained from the profile that is specified in the message.

User response

To change the column info data set, specify a value for the <FIELDSPEC-DSN> element.

HLO258E **Profile <*creator*>.<*name*> created by <*user-id*> has NO ACCESS share option and cannot be built by <*user-id*>.**

Explanation

For the specified profile, the value of **Share option** is **No access**, which means that other users cannot view or update the profile.

User response

Choose another profile or change the **Share option** value to **Update** or **View only**.

HLO260E **Db2 table <*table_creator.table_name*> was not found in catalog.**

Explanation

The specified Db2 table, view, or alias does not exist.

User response

Specify a valid Db2 table, view, or alias.

HLO261E **Db2 object <*object_creator.object_name*> of type <*object_type*> is not supported.**

Explanation

The specified Db2 object is of an unsupported type.

User response

Specify a valid Db2 object. Valid Db2 object types are T (table), R (archive table), V (view), A (alias), and D (accelerator-only table).

HLO262E **Db2 object <*object_creator.object_name*> of type <*object_type*> has more than one base table.**

Explanation

The specified Db2 object is related to more than one base table.

User response

Specify a valid Db2 table, view, or alias. The object can have only one base table, which must be of type T.

HLO263E **Db2 object <*object_creator.object_name*> of type <*object_type*> has base table not of type T.**

Explanation

The specified Db2 object is related to a base table that is not of type T.

User response

Specify a valid Db2 table, view, or alias. The object can have only one base table, which must be of type T.

HLO300E **Db2 subsystem ID is required. Enter a valid Db2 SSID.**

Explanation

You must specify a Db2 subsystem ID. You can enter a question mark (?) in the field to open a list of existing subsystems from which to choose.

User response

Choose or enter a valid Db2 SSID value.

HLO301E **Db2 subsystem ID is invalid. Enter a valid Db2 SSID.**

Explanation

You must specify a Db2 subsystem ID. You can enter a question mark (?) in the field to open a list of existing subsystems from which to choose.

User response

Choose or enter a valid Db2 SSID value.

HLO302E **Db2 subsystem ID already exists. Enter another Db2 SSID to create.**

Explanation

The specified Db2 subsystem is already defined in the program.

User response

Enter another valid value for the Db2 SSID.

HLO303E **Db2 subsystem profile has empty required fields. Select option 1 to enter Accelerator Loader parameters.**

Explanation

You cannot save the profile without specifying values for the required fields.

User response

Select option 1 to enter the product parameters.

HLO304E **Member with specified name was not found.**

Explanation

The specified member could not be found.

User response

Verify that you specified the correct member name.

HLO305E **Subsystem with specified SSID is not defined in the control file.**

Explanation

The specified Db2 subsystem could not be found in the Db2 control data set that is specified in the CLIST.

User response

Enter another existing SSID value or define a new Db2 subsystem.

HLO306E **Connection program load modules DSNALI, DSNHLI2, DSNWLI2, DSNTIAR, DSNHDECP were not found in specified load libraries for Db2 subsystem.**

Explanation

The listed load modules were not found in the specified load libraries. The load library usually consists of a subsystem-specific DSNEXIT library, and the base DSNEXIT library and base DSNLOAD library for the current Db2 version.

User response

Specify the data set that comprises the current load library concatenation for Db2 and is used during batch job processing. To do this, use the Db2 Subsystems panel and line command E (Edit).

HLO307I **Db2 subsystem <*ssid*> was successfully selected.**

Explanation

The specified Db2 subsystem was successfully selected.

User response

No action is required.

HLO308E **Db2 subsystem ID is required. Enter a valid Db2 SSID.**

Explanation

You must specify a Db2 subsystem ID.

User response

Enter a valid Db2 SSID value.

HLO309E **Db2 subsystem ID is invalid. Enter a valid Db2 SSID.**

Explanation

You must specify a Db2 subsystem ID.

User response

Enter a valid Db2 SSID value.

HLO310E **Space units field is invalid. Specify BLKS, TRKS, CYLS, KB, MB, or BYTES.**

Explanation

The specified space units value is not valid. Valid values are BLKS, TRKS, CYLS, KB, MB, and BYTES.

User response

Specify a valid value.

HLO311E **Primary quantity field is invalid. Specify a numeric value.**

Explanation

The field requires a numeric value.

User response

Specify a numeric value.

HLO312E **Secondary quantity field is invalid. Specify a numeric value.**

Explanation

The field requires a numeric value.

User response

Specify a numeric value.

HLO313E **Block size field is invalid. Specify a numeric value.**

Explanation

The field requires a numeric value.

User response

Specify a numeric value.

HLO314E **Specified device type could not be found in MVS™.**

Explanation

The device type that was specified could not be found in MVS.

User response

Specify another device type.

HLO330E **File tailoring OPEN failed: file tailoring already in progress condition.**

Explanation

An attempt to perform file tailoring for utility customization failed because a file tailoring session was already in progress. File tailoring sessions cannot be performed concurrently.

User response

Contact IBM Software Support. Have available the listing that contains this message.

HLO331E **File tailoring OPEN failed: the output file is already in use condition -- ENQ failed.**

Explanation

An attempt to access a file tailoring skeleton failed with an ENQ error (member-in-use).

User response

Verify that all required tailoring files are allocated, and that no other tailoring sessions are running concurrently.

HLO332E **File tailoring OPEN returned the skeleton file or output file not allocated condition.**

Explanation

An attempt to perform file tailoring failed because either the tailoring skeleton file or output file is not allocated.

User response

Ensure that the tailoring skeleton file and output file are allocated.

HLO333E **File tailoring OPEN returned a severe error condition.**

Explanation

An attempt to perform file tailoring failed because a severe error condition was encountered when the file was being opened.

User response

Verify that all required files are allocated and accessible before performing file tailoring.

HLO334E **File tailoring OPEN returned an unknown code -- severe error.**

Explanation

An attempt to perform file tailoring failed because a severe error condition was encountered on open.

User response

Verify that all required files are allocated and accessible before performing file tailoring.

HLO335E **File tailoring CLOSE returned a file not open condition -- severe error.**

Explanation

An attempt to perform file tailoring failed because a File-Not-Open condition was encountered on close.

User response

Verify that all required files are allocated and accessible and that no other tailoring sessions are running concurrently with your session.

HLO336E **File tailoring CLOSE returned an output file in use condition.**

Explanation

An attempt to perform file tailoring failed because an Output-File-Inuse condition was encountered on close.

User response

Verify that all required files are allocated and accessible and that no other tailoring sessions are running concurrently with your session.

HLO337E **File tailoring CLOSE returned a skeleton file or output file not allocated condition.**

Explanation

An attempt to close file tailoring failed because either a tailoring skeleton file or output file was not allocated.

User response

Verify that all required files are allocated and accessible and that no other tailoring sessions are running concurrently with your session.

HLO338E **File tailoring CLOSE returned a severe error.**

Explanation

An attempt to perform file tailoring failed because a severe error condition was encountered on close.

User response

Verify that all required files are allocated and accessible before performing file tailoring.

HLO339E **File tailoring CLOSE returned an unknown code -- severe error.**

Explanation

An attempt to perform file tailoring failed because a severe error condition was encountered on close.

User response

Verify that all required files are allocated and accessible before performing file tailoring.

HLO340E **File tailoring CLOSE failed: an output member exists in the output library and NOREPL was specified.**

Explanation

An attempt to perform file tailoring failed because the close process could not replace the preexisting tailored member in the output file.

User response

Change the output member name to a new name or ensure that the output library allows for member replacement.

HLO341E **File tailoring INCLUDE returned a skeleton does not exist condition.**

Explanation

An attempt to perform file tailoring failed because the tailoring process could not locate a required tailoring skeleton.

User response

Verify that all required files are allocated to perform file tailoring.

HLO342E **File tailoring INCLUDE returned a skeleton in use -- ENQ failed condition.**

Explanation

An attempt to access a tailoring skeleton failed with an ENQ error (member-in-use).

User response

Verify that all required tailoring files are allocated and that no other tailoring sessions are running concurrently.

HLO343E **File tailoring INCLUDE returned a data truncation, skeleton library, or output file not allocated condition.**

Explanation

An attempt to perform file tailoring failed because data is truncated, or because the tailoring skeleton file or output file is not allocated.

User response

Verify that data is intact and that all required files are allocated before performing file tailoring.

HLO344E **File tailoring INCLUDE returned a severe error condition.**

Explanation

An attempt to perform file tailoring failed because a severe error condition was encountered on an include operation.

User response

Verify that all required files are allocated and accessible before performing file tailoring.

HLO345E **File tailoring INCLUDE returned an unknown condition -- severe error.**

Explanation

An attempt to perform file tailoring failed because a severe error condition was encountered on an include operation.

User response

Verify that all required files are allocated and accessible before performing file tailoring.

HLO346E **An error was encountered while allocating the ISPFILE DD - Process did not complete.**

Explanation

An allocation error occurred while allocating the ISPFILE DD.

User response

If you cannot determine the reason for the failure from the associated z/OS messages, contact IBM Software Support. Have available the listing that contains these messages.

HLO347E **Allocation Error - An error was encountered while reading the ISPFILE DD. Process did not complete.**

Explanation

An allocation error was encountered while reading the ISPFILE DD.

User response

If you cannot determine the reason for the failure from the associated z/OS messages, contact IBM Software Support. Have available the listing that contains these messages.

HLO440E **Device type for work files could not be found in MVS. Enter a valid device type for work files.**

Explanation

The device type that was specified for work files could not be found in MVS.

User response

Enter a valid DASD or tape device.

HLO441E **Device type for work files is required. Enter an existing MVS device type.**

Explanation

You must specify a device type for work files.

User response

Enter an existing DASD or tape device.

HLO442E **Data set type for work files is invalid. Valid data set types are BASIC and LARGE.**

Explanation

The product supports data set types BASIC and LARGE for work data sets.

User response

Enter a valid value.

HLO443E **Data set type for work files is required. Valid data set types are BASIC and LARGE.**

Explanation

You must specify either BASIC or LARGE for the data set type for work files.

User response

Enter a valid value.

HLO444E **Track or cylinders for work files is invalid. Valid values are TRK for tracks and CYL for cylinders.**

Explanation

You must specify a valid allocation unit for work data sets.

User response

Specify TRK (tracks) or CYL (cylinders).

HLO445E **Track or cylinders for work files is required. Valid values are TRK for tracks and CYL for cylinders.**

Explanation

You must specify a valid allocation unit for work data sets.

User response

Specify TRK (tracks) or CYL (cylinders).

HLO446E **Primary quantity for work files is invalid. Enter a value of 1 - 16777215.**

Explanation

You must specify a primary space quantity for work data sets.

User response

Enter a value of 1 - 16777215.

HLO447E **Primary quantity for work files is required. Enter a value of 1 - 16777215.**

Explanation

You must specify a primary space quantity for work data sets.

User response

Enter a value of 1 - 16777215.

HLO448E **Secondary quantity for work files is invalid. Enter a value of 1 - 16777215.**

Explanation

You must specify a secondary space quantity for work data sets.

User response

Enter a value of 1 - 16777215.

HLO449E **Secondary quantity for work files is required. Enter a value of 1 - 16777215.**

Explanation

You must specify a secondary space quantity for work data sets.

User response

Enter a value of 1 - 16777215.

HLO450E **Maximum volumes for work files is invalid. Enter a value of 1 - 255.**

Explanation

You must specify the maximum number of volumes for work data sets.

User response

Enter a value of 1 - 255.

HLO451E **Maximum volumes for work files is invalid required. Enter a value of 1 - 255.**

Explanation

You must specify the maximum number of volumes for work data sets.

User response

Enter a value of 1 - 255.

HLO452E **Device type for SYSPRINT could not be found in MVS. Enter another device type.**

Explanation

The device type that was specified for SYSPRINT files could not be found in MVS.

User response

Enter a valid DASD or tape device.

HLO453E **Device type for SYSPRINT is required. Enter an existing MVS device type.**

Explanation

You must specify a device type SYSPRINT files.

User response

Enter a valid DASD or tape device.

HLO454E **Data set type for SYSPRINT is invalid. Valid data set types are BASIC and LARGE.**

Explanation

The product supports data set types BASIC and LARGE for SYSPRINT files.

User response

Enter a valid value.

HLO455E **Data set type for SYSPRINT is required. Valid data set types are BASIC and LARGE.**

Explanation

The product supports data set types BASIC and LARGE for SYSPRINT files.

User response

Enter a valid value.

HLO456E **Track or cylinders for SYSPRINT is invalid. Valid values are TRK for tracks and CYL for cylinders.**

Explanation

You must specify a valid allocation unit for SYSPRINT files.

User response

Specify TRK (tracks) or CYL (cylinders).

HLO457E **Track or cylinders for SYSPRINT is required. Valid values are TRK for tracks and CYL for cylinders.**

Explanation

You must specify a valid allocation unit for SYSPRINT files.

User response

Specify TRK (tracks) or CYL (cylinders).

HLO458E **Primary quantity for SYSPRINT is invalid. Enter a value of 1 - 16777215.**

Explanation

You must specify a primary space quantity for SYSPRINT files.

User response

Enter a value of 1 - 16777215.

HLO459E **Primary quantity for SYSPRINT is required. Enter a value of 1 - 16777215.**

Explanation

You must specify a primary space quantity for SYSPRINT files.

User response

Enter a value of 1 - 16777215.

HLO460E **Secondary quantity for SYSPRINT is invalid. Enter a value of 1 - 16777215.**

Explanation

You must specify a secondary space quantity for SYSPRINT files.

User response

Enter a value of 1 - 16777215.

HLO461E **Secondary quantity for SYSPRINT is required. Enter a value of 1 - 16777215.**

Explanation

You must specify a secondary space quantity for SYSPRINT files.

User response

Enter a value of 1 - 16777215.

HLO462E **Maximum volumes for SYSPRINT is invalid. Enter a value of 1 - 255.**

Explanation

You must specify the maximum number of volumes for SYSPRINT files.

User response

Enter a value of 1 - 255.

HLO463E **Maximum volumes for SYSPRINT is required. Enter a value of 1 - 255.**

Explanation

You must specify the maximum number of volumes for SYSPRINT files.

User response

Enter a value of 1 - 255.

HLO464E **Number of DDs is invalid. Enter a value of 1 - 99 for disk or 3 - 99 for tape device.**

Explanation

You must specify the number of DD statements to be used.

User response

Enter a value of 1 - 99 for disk or 3 - 99 for a tape device.

HLO465E **Number of DDs is required. Enter a value of 1 - 99 for disk or 3 - 99 for tape device.**

Explanation

You must specify the number of DD statements to be used.

User response

Enter a value of 1 - 99 for disk or 3 - 99 for a tape device.

HLO466E **Primary space in sort work parameters is invalid. Enter a value of 1 - 99999.**

Explanation

You must specify the primary space quantity in the sort work files parameters.

User response

Enter a value of 1 - 99999.

HLO467E **Primary space in sort work parameters is required. Enter a value of 1 - 99999.**

Explanation

You must specify the primary space quantity in the sort work files parameters.

User response

Enter a value of 1 - 99999.

HLO468E **Secondary space in sort work parameters is invalid. Enter a value of 1 - 99999.**

Explanation

You must specify the secondary space quantity in the sort work files parameters.

User response

Enter a value of 1 - 99999.

HLO469E **Secondary space in sort work parameters is required. Enter a value of 1 - 99999.**

Explanation

You must specify the secondary space quantity in the sort work files parameters.

User response

Enter a value of 1 - 99999.

HLO470E **Sort work unit device type is not recognized by OS/390® as a valid device type.**

Explanation

You must specify the sort work file unit device to be used when Accelerator Loader generates utility JCL. Valid values are SYSALLDA, DISK, and so on.

User response

Enter a valid device type.

HLO471E **Sort work unit device is required. Enter the unit device (SYSDA, DISK, etc.) that you want Accelerator Loader to generate when generating sort work file DDs.**

Explanation

You must specify the sort work file unit device to be used when the product generates sort work file DDs. Valid values are SYSALLDA, DISK, and so on.

User response

Enter a valid device type.

HLO472E **Utility REGION size is invalid. Enter the REGION size in megabytes that you want Accelerator Loader to use when generating utility JCL. Enter a value of 0 - 2047.**

Explanation

You must specify the REGION size in megabytes that is to be used when the product generates utility JCL.

User response

Enter a value of 0 - 2047.

HLO473E **Utility REGION size is required. Enter the REGION size in megabytes that you want Accelerator Loader to generate when generating utility JCL. Enter a value of 0 - 2047.**

Explanation

You must specify the REGION size in megabytes that is to be used when the product generates utility JCL.

User response

Enter a value of 0 - 2047.

HLO474E **When a tape device is used, data set type, tracks/cylinders, and primary/secondary space cannot be specified.**

Explanation

Data set type, tracks/cylinders, and primary/secondary space values are valid for DASD devices only.

User response

Change the device type to a DASD device, or remove the incompatible values for the tape device.

HLO475E **Accelerator Loader Plan is required. Enter a value.**

Explanation

You must specify the product plan to be used when connecting to the Db2 catalog. The value can contain up to 8 alphanumeric characters.

User response

Enter a valid plan.

HLO476E **Accelerator Loader Plan is invalid. Enter a valid value.**

Explanation

You must specify a valid product plan to be used when connecting to the Db2 catalog. The value can contain up to 8 alphanumeric characters.

User response

Enter a valid plan.

HLO477E **Db2 ZPARMs member is required. Enter a value.**

Explanation

You must specify the ZPARM load module member name that is generated for this Db2 subsystem. The value can contain up to 8 alphanumeric characters.

User response

Enter a valid value.

HLO478E **Db2 ZPARMs member is invalid. Enter a valid value.**

Explanation

You must specify the ZPARM load module member name that is generated for this Db2 subsystem. The value can contain up to 8 alphanumeric characters.

User response

Enter a valid value.

HLO479E **Bootstrap 01 data set could not be found in the MVS catalog.**

Explanation

You must specify the full data set name of the bootstrap data set that is being used by this Db2 subsystem.

User response

Enter a valid data set name.

HLO480E **Db2 Bootstrap DSN 01 is a required field. Enter the full DSN of the bootstrap data set.**

Explanation

You must specify the full data set name of the bootstrap data set that is being used by this Db2 subsystem.

User response

Enter the bootstrap data set name.

HLO481E **Bootstrap 02 data set could not be found in the MVS catalog.**

Explanation

You must specify the full data set name of bootstrap data set 02 that is being used by this Db2 subsystem.

User response

Enter the bootstrap data set name.

HLO483E **Db2 Loadlib1 data set could not be found in the MVS catalog.**

Explanation

Specify the full name of the data set comprising the current load library concatenation for Db2 batch job processing. You cannot use an alias library name. No default value. Maximum of 47 alphanumeric characters.

User response

Enter the load library data set name.

HLO484E **Db2 Loadlib1 is a required field. Enter the DSN of the Db2 load library concatenation used during batch job processing.**

Explanation

Specify the full name of the data set comprising the current load library concatenation for Db2 batch job processing. You cannot use an alias library name. No default value. Maximum of 47 alphanumeric characters.

User response

Enter the load library data set name.

HLO485E **Db2 Loadlib2 data set could not be found in the MVS catalog.**

Explanation

Specify the full name of the data set comprising the current load library concatenation for Db2 batch job processing. You cannot use an alias library name. No default value. Maximum of 47 alphanumeric characters.

User response

Enter the load library data set name.

HLO486E **Db2 Loadlib3 data set could not be found in the MVS catalog.**

Explanation

Specify the full name of the data set comprising the current load library concatenation for Db2 batch job processing. You cannot use an alias library name. No default value. Maximum of 47 alphanumeric characters.

User response

Enter the load library data set name.

HLO487E **Db2 Loadlib4 data set could not be found in the MVS catalog.**

Explanation

Specify the full name of the data set comprising the current load library concatenation for Db2 batch job processing. You cannot use an alias library name. No

default value. Maximum of 47 alphanumeric characters.

User response

Enter the load library data set name.

HLO488E **Db2 Loadlib5 data set could not be found in the MVS catalog.**

Explanation

Specify the full name of the data set comprising the current load library concatenation for Db2 batch job processing. You cannot use an alias library name. No default value. Maximum of 47 alphanumeric characters.

User response

Enter the load library data set name.

HLO489E **Specified data set for generated JCL could not be found in the MVS catalog.**

Explanation

You must specify a fully qualified data set name (without quotation marks).

User response

Enter the data set name.

HLO490E **Data set name for the generated JCL is required. Enter a valid data set name.**

Explanation

You must specify the fully qualified data set name (without quotation marks) in which to save the generated job. If the data set does not exist, the product creates it.

User response

Enter the data set name.

HLO491E **Member name for generated JCL is invalid.**

Explanation

If the data set that is to hold the generated job is a PDS, you must specify a valid member name for the job output. If the member does not exist, the product creates.

User response

Enter the PDS member name.

HLO492E **Member name for generated JCL is required.**

Explanation

If the data set that is to hold the generated job is a PDS, you must specify a valid member name for the job output. If the member does not exist, the product creates.

User response

Enter a valid PDS member name.

HLO494E **Number of buffers value must be 1 - 99.**

Explanation

The value in the Number of buffers field is invalid.

User response

Enter a valid value.

HLO495E **Channel programs value must be numeric.**

Explanation

You must specify the number of channel programs to be used by the product. Specify 0 to use a predetermined channel program setting to attempt to gain optimal performance, or specify a value of 1 - 99.

User response

Enter a valid value.

HLO497E **An error occurred while checking <*data_set_name*> bootstrap data set: <*message_text*>.**

Explanation

The specified bootstrap data set (BSDS) is invalid for the reason that is indicated in the message text.

User response

Specify a valid BSDS.

HLO500E **Substring specification is invalid. Follow qualifier (start, length) notation with 1-based start and length.**

Explanation

If you specify the substring qualifier code, then you must specify the starting position and length of the substring.

User response

Enter valid values.

HLO501E **Substring start position exceeds the qualifier length.**

Explanation

The substring start position exceeds the qualifier length.

User response

Enter a valid value.

HLO502E **Substring end position exceeds qualifier length.**

Explanation

The substring end position exceeds the qualifier length.

User response

Enter a valid value.

HLO503E **Unknown qualifier that starts with & was specified.**

Explanation

An unknown qualifier that starts with an ampersand was specified.

User response

Enter a valid value.

HLO505E **First character of every node must be alphabetic or national.**

Explanation

The specified value is invalid.

User response

Enter a valid value.

HLO506E **All characters in DSN must be alphanumeric or national.**

Explanation

The specified data set name is invalid.

User response

Enter a valid value.

HLO507E **Consecutive periods are not allowed in data set names.**

Explanation

The specified value is invalid.

User response

Enter a valid value.

HLO508E **Data set names cannot be terminated by a period.**

Explanation

The specified value is invalid.

User response

Enter a valid value.

HLO509E **Data set name node must be less than 8 characters.**

Explanation

The specified value is invalid.

User response

Enter a valid value.

HLO510E **Data set name cannot exceed 44 characters.**

Explanation

The specified value is invalid.

User response

Enter a valid value.

HLO511E **GDG specification is invalid.**

Explanation

The generation data group (GDG) specification is invalid.

User response

Enter a valid value.

HLO512E **GDG specification must be the last qualifier.**

Explanation

The generation data group (GDG) specification must be the last qualifier.

User response

Enter a valid value.

HLO513E **Specified qualifier is valid only for TEMPLATE specification.**

Explanation

The specified qualifier is not valid in the field.

User response

Enter a valid value.

HLO514E **Invalid DISCARDDN name.**

Explanation

The specified DISCARDDN name is invalid. The following restrictions apply:

- The valid value is 1 to 8 alphanumeric or national #, @, $ characters. The first character must be alphabetic or national.
- The DISCARDDN name should not begin with "SYS" or "SORTWK".
- Do not use SORTLIB or UTPRINT as the DISCARDDN name.

User response

Enter a valid value.

HLO520E **Template name is required.**

Explanation

A required value is missing.

User response

Enter a template name.

HLO521E **Member name is required for a partitioned data set.**

Explanation

A required value is missing.

User response

Enter a valid value.

HLO522E **Data set name is required.**

Explanation

A required value is missing.

User response

Enter a valid value.

HLO523E **SORTNUM is valid only when SORTDEVT is specified.**

Explanation

You cannot specify a value for SORTNUM unless you also specify a value for SORTDEVT.

User response

Enter a valid value for SORTDEVT or remove the SORTNUM value.

HLO524E **Primary and secondary space are valid only when Space unit is specified.**

Explanation

You must specify a value in the Space units field when you specify primary and secondary space values.

User response

Enter a valid value.

HLO525E **FlashCopy DSN template and template name are required.**

Explanation

You must specify the FlashCopy template data set name.

User response

Enter valid values.

HLO526E **Template DSN is required.**

Explanation

You must specify the template data set name.

User response

Enter a valid value.

HLO527E **Accelerator name is required.**

Explanation

You must specify the name of the accelerator on which to load data.

User response

Enter a valid value.

HLO528I **Table has no referentially dependent tables**

Explanation

The specified line command is not valid because the table has no referentially dependent tables.

User response

Enter a valid line command or select another table.

HLO532E **Member name is allowed only for partitioned data sets.**

Explanation

If the data set to hold the generated job is a PDS, specify a member name. If the member does not exist, the product creates it.

User response

Remove the member name or specify a partitioned data set.

HLO533E **Load time is CURRENT, but an end point was specified. Change load time to SPECIFIED or delete the end point.**

Explanation

The value CURRENT directs the product to read the log and load data up to the current point in time, which is the end of the log file. An end point value is not valid.

User response

Change the load time to SPECIFIED or remove the end point.

HLO534E **Load time is SPECIFIED. RBA end point or timestamp end point are required.**

Explanation

The Load time value SPECIFIED directs the product to read the log and load data up to the end point that is specified in either the **RBA/LRSN** or the **Timestamp End Point** field.

User response

Change the load time to CURRENT or enter an RBA or time stamp end point.

HLO535E **RBA end point and timestamp end point cannot be specified at the same time.**

Explanation

You cannot specify both an RBA end point and a time stamp end point.

User response

Remove either the RBA end point or the time stamp end point.

HLO536E **Both primary and secondary space must be specified at the same time.**

Explanation

You must specify values for primary space and secondary space.

User response

Enter values in the primary and secondary space fields.

HLO537E **All objects must be partitions of only one table.**

Explanation

Partitions of multiple tables were selected.

User response

Select partitions of only one table.

HLO538W **Some partitions of this table are already selected.**

Explanation

Partitions of this table have been selected more than once.

User response

Select partitions only once.

HLO539W **All partitions of this table are already selected.**

Explanation

Selecting additional partitions is not necessary.

User response

You do not have to select any other partitions of this table.

HLO540E **Quiesce end point is valid only for load time = QUIESCE.**

Explanation

A quiesce end point is valid only for the Load time value QUIESCE.

User response

Either remove the quiesce end point value or change the load time value.

HLO541E **Only quiesce end point is valid for load time = QUIESCE.**

Explanation

With the load time value QUIESCE, only a quiesce end point is valid.

User response

Enter only a quiesce end point value for a Load time value of QUIESCE, or change the Load time value.

HLO542E **Resume and Replace are mutually exclusive options.**

Explanation

The LOAD job cannot contain both the RESUME and the REPLACE options.

User response

Remove one of the options from the job.

HLO548E **Invalid timestamp. Use YYYY-MM-DD-hh.mm.ss.nnnnnn format.**

Explanation

The format of the time stamp value is invalid.

User response

Enter the time stamp in the format YYYY-MM-DD-hh.mm.ss.nnnnnn.

HLO549E **Invalid time zone. Valid values are LOCAL and GMT.**

Explanation

The valid values for time zone are LOCAL and GMT.

User response

Enter a valid time zone.

HLO550E ***field_value*** **value is invalid. Valid values are YES and NO.**

Explanation

Valid values for this field are YES and NO.

User response

Enter either YES or NO.

HLO551E **Invalid qualifier code. Enter a numeric value of 1 - 27.**

Explanation

Valid qualifier codes are 1 - 27.

User response

Enter a valid qualifier code.

HLO552E **Specified qualifier code requires a free form literal.**

Explanation

The Free Form Literal qualifier code was selected with no value entered for free form literal.

User response

Enter a value for Freeform Literal or remove the Freeform Literal qualifier code.

HLO553E **Invalid accelerator name is specified.**

Explanation

The name that was specified for the accelerator is not valid.

User response

Enter a valid accelerator name.

HLO554E **FlashCopy = YES is valid only for load time = CURRENT.**

Explanation

The value YES for FlashCopy can be specified only when the value in the Load time field is CURRENT.

User response

Change the FlashCopy value to NO or change the Load time value.

HLO558E **Substring starting position must be 1 - 8.**

Explanation

The starting position value must be 1 - 8.

User response

Enter a valid value.

HLO559E **Substring length must be 1 - 8.**

Explanation

The substring length value must be 1 - 8.

User response

Enter a valid value.

HLO560E **Sum of starting position and length cannot exceed 9.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO561E **Invalid load time value. Valid values are CURRENT, SPECIFIED, and QUIESCE.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO562E **RBA or LRSN end point contains invalid hexadecimal character. Valid characters are 0 - 9 and A - F.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO563E **Timestamp end point has invalid year value. Valid values are 0000 through 9999.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO564E **Timestamp end point has invalid month value. Valid values are 1 through 12.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO565E **Timestamp end point has invalid day value. Valid values are 1 through last day of specified month.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO566E **Timestamp end point has invalid hour value. Valid values are 0 through 23.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO567E **Timestamp end point has invalid minutes value. Valid values are 0 through 59.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO568E **Timestamp end point has invalid seconds value. Valid values are 0 through 59.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO569E **Timestamp end point has invalid microseconds value. Valid values are 000000 through 999999.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO570E **SYSCOPY scan operating mode is invalid. Valid values are LOCAL, RECOVER, ZPARM, and USER.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO571E **SYSCOPY selection preference is invalid. Valid value must consist of tokens LP, LB, RP, RB, and FC in any order.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO572E **Log reader copy preference value is invalid. Valid value must consist of tokens R1, R2, A1, and A2 in any order.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO573E **Number of PARALLEL log reads must be 0 - 16.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO574E **Invalid secondary space. Valid values are 1 through 1677215 or blank.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO575E **Enter a profile creator.**

Explanation

You must specify the user ID of the user who created the profile.

User response

Enter a valid value.

HLO576E **Enter a valid data set name.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO577E **Enter a valid member name.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO578E **Enter a valid profile name.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO579E **Invalid share option. Valid options are UPDATE, VIEW ONLY, and NO ACCESS.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO580E **Invalid value. Valid values are / or empty.**

Explanation

The valid value is a forward slash (/), or you can leave the field blank.

User response

Enter a valid value.

HLO581E **Invalid DISCARDS value. Valid values are 0 through 2147483647.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO582E **Invalid LOG value. Valid values are YES, NO, and NOCOPYPEND.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO583E **Invalid NUMRECS value. Valid values are 1 through 1099511627776 and blank.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO584E **Invalid SORTNUM value. Valid values are 2 through 255 and blank.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO585E **Invalid SORTDEVT value. Valid values are disk or tape devices and blank.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO586E **Invalid disposition. See documentation for valid syntax.**

Explanation

You must specify a valid z/OS data set disposition as documented in the *Db2 for z/OS Utility Guide and Reference*.

User response

Enter a valid DD disposition. For more information, see the product documentation.

HLO587E **Invalid unit type. Unit type must be a valid DASD type.**

Explanation

The specified unit type is not a valid DASD type.

User response

Enter a valid unit type.

HLO588E **Invalid space unit. Valid values are CYL, TRK, MB, and blank.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO589E **Invalid primary space. Valid values are 1 through 1677215 and blank.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO590E **Invalid PCTPRIME. Valid values are 0 through 100 and blank.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO591E **Invalid MAXPRIME. Valid values are 0 through 99999999 and blank.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO592E **Invalid NBRSECOND. Valid values are 1 through 10 and blank.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO593E **Invalid profile type. Valid profile types are CONSISTENT and DUAL.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO594E **Invalid profile type. Enter one of the listed values (ALL,1-7).**

Explanation

The specified value is not valid. Valid values are 1 for **Dual**, 2 for **Accelerator only**, 3 for **Consistent**, 4 for **Image Copy**, 5 for **Multi**, 6 for **Backup**, 7 for **Recovery**, and ALL.

User response

Enter a valid value.

HLO595E **Invalid *templateName* template DD name.**

Explanation

The specified template DD name is not valid for the TEMPLATE utility.

User response

Enter a valid value.

HLO596E **Invalid quiesce end point. Valid values are 1 through 999.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO597E **Invalid template name.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO598E **Invalid substring qualifier code. Valid values are 1 through 25.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO599W **Incomplete profile was saved successfully.**

Explanation

This is an informational message.

User response

Complete the profile before building the job.

HLO600I **Edited profile was saved successfully.**

Explanation

This is an informational message.

User response

No action is required.

HLO601I **Created profile was saved successfully.**

Explanation

This is an informational message.

User response

No action is required.

HLO602I **Renamed profile was saved successfully.**

Explanation

This is an informational message.

User response

No action is required.

HLO603E **Cannot load profile description from repository.**

Explanation

The product could not load the profile description from the repository.

User response

If unable to determine the reason for the failure, contact IBM Software Support. Have available the listing that contains this message.

HLO604E **Incomplete profile. Edit profile to specify required options.**

Explanation

Required profile options are missing.

User response

Specify values for the required profile options.

HLO605E **Profile is inaccessible for specified action.**

Explanation

The profile is not compatible with the specified action.

User response

Specify a valid action.

HLO606E **Profile with the same creator, name, and type already exists.**

Explanation

Profile information must be unique.

User response

Specify unique profile information.

HLO607E **Cannot open table column info data set.**

Explanation

The product cannot open the table column info data set.

User response

Make sure that the column info data set exists, and that you have the proper authority to read it.

HLO608E **Cannot open data set for JCL generation.**

Explanation

The product cannot open the data set for JCL generation.

User response

Make sure that the data set for JCL generation exists, and that you have the proper authority to write to it.

HLO609E **Cannot create data set for JCL generation.**

Explanation

The product cannot create the data set for JCL generation.

User response

Make sure that you have the proper authority to create the data set, and that enough space is available to allocate the data set. Check the data set allocation parameters on the Data set allocation parameters panel.

HLO610I **Job was built successfully.**

Explanation

This is an informational message.

User response

No action is required.

HLO611E **Accelerators are not associated with this Db2 subsystem.**

Explanation

The product received an empty list of accelerators from Db2.

User response

Select a Db2 subsystem on which Analytics Accelerator is installed, or contact your administrator to install Analytics Accelerator on the selected Db2 subsystem.

HLO612I **Profile was deleted successfully.**

Explanation

This is an informational message.

User response

No action is required.

HLO613E **This table is not supported.**

Explanation

The specified table is not supported. For more information about supported tables, see “Restrictions and considerations for loading from a Db2 image copy” on page 245 and “Restrictions and considerations for loading from an external file” on page 251.

User response

Select another table.

HLO614W **Profile without tables was saved successfully.**

Explanation

A profile can be saved without an associated table. To use the profile to build JCL to perform the load, you must edit the profile to add a table.

User response

Specify a table before building the JCL.

HLO615E **No tables were specified in the profile.**

Explanation

A profile can be saved without an associated table; however, to use the profile to build JCL to perform the load, you must add a table.

User response

Edit the profile to add a table.

HLO616E **Invalid utility ID. Valid values are blank and strings of letters, numerals, and symbols (@, $, #, !, ¬).**

Explanation

The specified utility ID contains invalid symbols. For the utility ID value, you can leave the field blank or specify a string. Valid string values are letters (A - Z), numerals (0 - 9), national characters (@, $, #), exclamation point (!), and not symbol (¬).

User response

Enter a valid value.

HLO617E **Invalid parallel task value. Valid values are blank or 1 - 20.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO618E **Invalid <*template_name*> DSN template. A valid template must contain the &&PART or &&PA variable.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO619E **Input DSN template and template name are required for parallel load.**

Explanation

You must specify the input DSN template and template name when parallel load is enabled.

User response

Enter valid values.

HLO620E **Number of PARALLEL log apply must be 1 - 10.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO621E **Invalid value. Enter a number from 1 to 7.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO623I **The profile has been converted to the current product version.**

Explanation

The profile was created with an earlier version of the product. Using the Copy line command converts it to the current version. The original profile remains unchanged. You can use the following line commands with the original profile: Build, Delete, Rename, View, Copy.

User response

No action is required.

HLO624E **Invalid value. Enter a valid value (No, Add, or Refresh).**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO625E **Data server ID is required. Enter a valid data server ID.**

Explanation:
You must specify a data server ID.

User response:
Enter a valid data server ID value.

HLO626E **Data server ID is invalid. Enter a valid data server ID.**

Explanation

You must specify a data server ID.

User response

Enter a valid data server ID value.

HLO627E **Invalid value. Adding table to accelerator with refresh is denied when RESUME is enabled.**

Explanation

You cannot specify both **Refresh** for **Add table to Accelerator** and **Yes** for **Resume**.

User response

Change the option values in one of the following ways:

- **Resume** = **No**
- **Add table to Accelerator** = **No**
- **Add table to Accelerator** = **Add**

HLO628E **Invalid Encoding value. Enter a valid value: UNICODE or EBCDIC.**

Explanation

The specified value is not valid in the field.

User response

Enter a valid value in the field.

HLO629E **Encoding value does not match encoding scheme of selected table.**

Explanation:
The Encoding value must match the encoding scheme of the table that is selected for the load.

User response:
Enter another Encoding scheme or choose another table.

HLO630E **Column info DSN value must be empty when Format is set to Internal value.**

Explanation:
The field **Column info DSN** and the value `Internal` for the field **Format** are mutually exclusive.

User response

Remove the value in **Column info DSN** or specify `Delimited` or blank value for **Format**.

HLO631E **Target tables must be specified for each table being loaded if Target SSID differs from current SSID.**

Explanation

Because the intended operation is being directed to an alternate SSID, the target creator and name fields must be specified for all objects that are being processed.

User response

Specify values for the target fields for all objects.

HLO632E **Target tables must be the same for all partitions or different for each partition.**

Explanation

To maintain object consistency, you must follow target table naming rules for all partitions in the table. For an ordinary Db2 partitioned table to a partitioned accelerator structure, a consistent target table must be specified for all partitions. For an accelerator only table (AOT), a different target table must be specified for each partition of the Db2 source table.

User response

Specify one target table for all partitions, or specify different target tables for each partition.

HLO633E **Too many accelerators selected. Maximum number of accelerators allowed: <*max_accelerators*>.**

Explanation

The Accelerator Loader profile supports up to <*max_accelerators*> accelerators.

User response

Specify a valid number of accelerators.

HLO634E **Invalid table lockmode value. Valid values are NONE, TABLE, TABLESET, PARTITIONS, ROW.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO635E **Invalid load tasks value. Valid values are blank or number between 1 and 30.**

Explanation

The specified value is not valid.

User response

Enter a valid value.

HLO636E **Multiple accelerators for AOT table <*creator*>.<*name*> are not supported.**

Explanation

The table type is accelerator only able (AOT). An AOT cannot be loaded to more than one accelerator.

User response

Specify another table or choose only one accelerator.

HLO637E **Invalid selection. Specify either exactly one group name or a list of accelerator names.**

Explanation:
Selecting multiple group names or a mix of group names and accelerator names is not supported.

User response:
Specify either exactly one group name or a list of accelerator names.

HLO638E **Disposition is required. Enter a valid data set disposition.**

Explanation:
You must specify a data set disposition.

User response:
Enter a valid data set disposition value.

HLO639E **Invalid disposition. See the documentation for valid syntax.**

Explanation:
You must specify a valid z/OS data set disposition as documented in the *z/OS MVS JCL Reference* for DD statement DISP parameter.

User response:
Enter a valid DD disposition.

HLO640E **Space units field is invalid. Specify TRK or CYL.**

Explanation:
The specified space units value is not valid.

User response:
Specify a valid value.

HLO641E **Expiration date is invalid. Specify a valid value.**

Explanation:
The expiration date value must be exactly in YYYYDDD format. The year in expiration date must be in range of 1999 and higher. The day in the expiration date must be in the range of 1 to 366.

User response:
Specify a valid value.

HLO642E **Retention period date is invalid. Specify a numeric value.**

Explanation:
The field requires a numeric value.

User response:
Specify a numeric value.

HLO643E **Data set type is invalid. Specify EXTREQ, EXTPREF, LARGE, BASIC, or blank.**

Explanation:
The specified data set type value is not valid.

User response:
Specify a valid value.

HLO644E **At least one of local site primary, local site backup, recovery site primary, or recovery site backup copy data sets must be specified.**

Explanation:
All copy data set names are empty.

User response:
Specify a valid value for a copy data set name.

HLO645E **A backup copy for either site may only be created when a primary copy is also being created for that site. Specify a valid primary copy data set value.**

Explanation:
A backup copy data set name is specified without specifying a primary copy data set name.

User response:
Specify a valid primary copy data set value.

HLO646E **The retention period and expiration date fields cannot be entered at the same time.**

Explanation:
You entered a value in both the **Expiration date** and **Retention period** fields. This combination is not allowed.

User response:
Clear the value from either the **Expiration date** or **Retention period** field.

HLO647E **The *member name* Db2 ZPARMs member does not exist.**

Explanation:
A valid Db2 ZPARMs member value is required.

User response:
Specify a valid Db2 ZPARMs member on the **Db2 Subsystem Parameters** panel for the Db2 subsystem.

HLO648E **Load *entry name* entry point from *DD name* DD has failed. RC = *code*, reason = *code*.**

Explanation:
LOAD macro failed with the specified codes.

User response:
Entry_name has been found, but cannot be opened. Verify it has been generated correctly.

HLO649E **The *data set name* copy data set specified for *creator.name* Db2 table does not exist.**

Explanation:
The specified data set was not found in HLOUCOPY table.

User response:
Specify a valid copy data set for the table on the **Select Copy Data Set** panel.

HLO650E **A full copy does not exist for the specified point in time for *creator.name* table and *site type* site type.**

Explanation:
There is no suitable full copy in HLOUCOPY table for the specified Db2 table, point in time and site type.

User response:
Specify a valid point in time for the Db2 table.

HLO651E **A usable full copy does not exist for *creator.name* table and *site type* site type.**

Explanation:
Adding columns to the table or altering the definition of any column renders unusable all copies prior to the table change.

User response:
Specify another Db2 table for recovery.

HLO652E **The most recent full copy for the specified Point in time for *creator.name* table is not usable.**

Explanation:
Adding columns to the table or altering the definition of any column renders unusable all copies prior to the table change.

User response:
Specify a valid point in time or another Db2 table for recovery.

HLO653E **A backup copy data set is not specified for *creator.name* recovery table with Point in time value set to SELECTED.**

Explanation:
You have specified SELECTED for the **Point in time** field on the **Recover Accelerator Table(s) from a Backup** panel. It means the recovery process will use the selected backup data set for each specified table.

User response:
Specify a valid backup copy data set for the table using the B line command on the **Recovery Table List** panel.

HLO654E **Point in time is TIMESTAMP. The Timestamp end point value is required.**

Explanation:
The **Point in time** value TIMESTAMP directs the product to recover up to the end point that is specified in the **Timestamp end point** field.

User response:
Change the **Point in time** to CURRENT or enter a **Timestamp end point**.

HLO655E **Invalid Point in time value. Valid values are CURRENT, TIMESTAMP, and SELECTED.**

Explanation:
The specified value is not valid.

User response:
Enter a valid value.

HLO656E **Point in time is not TIMESTAMP, but a Timestamp end point was specified. Change Point in time to TIMESTAMP or delete the Timestamp end point value.**

Explanation:
The **Timestamp end point** value must be empty if **Point in time** is CURRENT or SELECTED.

User response:
Change the **Point in time** to TIMESTAMP or remove the **Timestamp end point** value.

HLO657E **No usable backup copy data sets found for *creator.name* recovery table.**

Explanation:
You can choose backup copies based on full copies that were created after the table was altered only.

User response:
Make a new backup copy for the table or choose another table for recovery.

HLO658E **The *data set name* backup copy data set for *creator.name* table does not exist on MVS.**

Explanation:
The product detected the backup copy as available for use for the table based on options specified on the **Recover Accelerator Table(s) from a Backup** panel.

User response:
Specify another point in time to make the table recovery.

HLO659E **Invalid Check data operating mode value. Valid values are No, Write, or Operation.**

Explanation:
The specified value is not valid.

User response:
Enter a valid value.

HLO660E **Invalid input file format value. Valid values are Internal, Delimited, and blank.**

Explanation:
The specified value is not valid.

User response:
Enter a valid value.

HLO661I **Input file format options are available for Delimited Format value only.**

Explanation:
This is an informational message.

User response:
No action is required.

HLO662E **Invalid delimiter character. The delimiter character can be specified as either a character or hexadecimal constant.**

Explanation:
The specified value is not valid. If you want to use a space character as a delimiter specify its hex-code.

User response:
Enter a valid value.

HLO663E **The same character cannot be specified for more than one type of delimiter.**

Explanation:
The same character or hex-value was specified for more than one type of delimiter.

User response:
Enter different characters for the type of delimiters.

HLO664E **Accelerator defined in group does not exist.**

Explanation:
The accelerator is specified in the group but not installed on the Db2 subsystem.

User response:
Select another accelerator group to load.

HLO665E **Accelerator <*accelerator_name*> with NOT FOUND status cannot be selected for load.**

Explanation:
The <*accelerator_name*> accelerator with NOT FOUND status is selected. NOT FOUND status means that the accelerator is not installed on the Db2 subsystem at this time.

User response:
Select another accelerator to load.

HLO666E **More then one accelerator with same name <*accelerator_name*> is selected.**

Explanation:
Accelerators with same name cannot be selected.

User response:
Select another accelerator to load.

HLO700E **An error occurred while opening the Db2 load libraries: RC = *return_code*.**

Explanation

The product encountered the error with the specified return code while opening the Db2 load library data sets.

User response

Make sure that the load library data sets that are specified on the Db2 Subsystem Parameters panel exist, and that you have the proper authority to read them.

HLO701E **An error occurred while attaching the Db2 attachment facility subtask: RC = *return_code*.**

Explanation

The product encountered the error with the specified return code while attaching the Db2 attachment facility subtask.

User response

See *Db2 for z/OS Codes* for information about the return code.

HLO702E **The task is not running APF-authorized.**

Explanation

The task requires load module HLOXDBT to be APF authorized.

User response

Set up APF authorization for load module HLOXDBT.

HLO703S **The Db2 attachment facility subtask ended unexpectedly: RC = *return_code*.**

Explanation

The product encountered the error with the specified return code.

User response

Make sure that the Db2 subsystem is active.

HLO704E **The specified user ID and password are invalid.**

Explanation:
A valid user ID and password are required to establish a connection to the Db2 subsystem.

User response

Specify a valid user ID and password.

HLO705E **The specified password for user ID has expired.**

Explanation

A valid user ID and password are required to establish a connection to the Db2 subsystem.

User response

Contact your system administrator for a valid password.

HLO706E **Access for the specified user ID *userID* has been revoked.**

Explanation

A valid user ID and password with proper authority are required to establish a connection to the Db2 subsystem.

User response

Make sure that you have the proper authority to connect to the Db2 subsystem.

HLO707E **An error occurred while performing authentication: SAF RC = *return_code*, RC = *return_code*, RSN = *return_code*.**

Explanation

You must have the proper authority to access the Db2 subsystem.

User response

Make sure that you have the proper authority. See *z/OS Security Server RACF Callable Services* guide for information about the codes.

HLO708E **An invalid dynamic allocation parameter was specified: code = *code*.**

Explanation

The DD allocation for the Db2 load library data set failed.

User response

If unable to determine the reason for the failure, contact IBM Software Support. Have available the listing that contains this message.

HLO709E **A dynamic allocation error occurred: info code = *infoCode*, error code = *errorCode*.**

Explanation

The product encountered an error with the specified codes.

User response

See *z/OS MVS Programming Authorized Assembler Services Guide* for information about the codes. If unable to determine the cause of the error, contact IBM Software Support. Have available the listing that contains this message.

HLO710E **Dynamic allocation query error occurred: info code = *infoCode*, error code = *errorCode*.**

Explanation

The product encountered an error with the specified codes.

User response

See *z/OS MVS Programming Authorized Assembler Services Guide* for information about the codes. If unable to determine the cause of the error, contact IBM Software Support. Have available the listing that contains this message.

HLO711E **Dynamic free error occurred: info code = *infoCode*, error code = *errorCode*.**

Explanation

The product encountered an error with the specified codes.

User response

See *z/OS MVS Programming Authorized Assembler Services Guide* for information about the codes. If unable to determine the cause of the error, contact IBM Software Support. Have available the listing that contains this message.

HLO712E **Dynamic concatenation error occurred: info code = *infoCode*, error code = *errorCode*.**

Explanation

The product encountered an error with the specified codes.

User response

See *z/OS MVS Programming Authorized Assembler Services Guide* for information about the codes. If unable to determine the cause of the error, contact IBM Software Support. Have available the listing that contains this message.

HLO713E **SQL error occurred: SQL code = *sqlCode*, SQL state = *sqlState*.**

Explanation

The product encountered an error with the specified codes.

User response

See *Db2 for z/OS Codes* for information about the codes. If unable to determine the cause of the error, contact IBM Software Support. Have available the listing that contains this message.

HLO714E **SQL *error text* (SQL code: *code*. Program: *program name*. Statement: *line number*. Type: *type*).**

Explanation

The product encountered an error with the specified code.

User response

See *Db2 for z/OS Messages* for information about the code. If unable to determine the cause of the error, contact IBM Software Support. Have available the listing that contains this message.

HLO715S **Db2 attachment facility error occurred: function = *functionCode*, RC = *return_code*, reason = *reasonCode*.**

Explanation

The product encountered an error with the specified codes.

User response

See *Db2 for z/OS Application Programming and SQL Guide* for information about the codes. If unable to determine the cause of the error, contact IBM Software Support. Have available the listing that contains this message.

HLO716E **Input Db2 command is too long.**

Explanation

The Db2 command failed because the command is not valid.

User response

If unable to determine the reason for the failure, contact IBM Software Support. Have available the listing that contains this message.

HLO717E **Error occurred while making an IFI call.**

Explanation

The product encountered an error while making the Db2 request that is described in the message.

User response

See *Db2 for z/OS Codes* for information about the codes. If unable to determine the cause of the error, contact IBM Software Support. Have available the listing that contains this message.

HLO722E **An error occurred while writing converted record (profile id=<*id*>, type=<*type*>, number=<*number*>.**

Explanation

An I/O error occurred while the product was writing to the <*HLQ*>.PROFILE.RPT data set. This message follows a VSAM library message in the range HLO120-HLO133).

User response

Make sure that the VSAM file exists, that you have WRITE permission, and that writing to the file is possible.

HLO723I **Profile <*profile creator*>.<*profile name*> for <*ssid*> was converted successfully.**

Explanation

The product has converted the specified profile to the new version.

User response

No action is required.

HLO724W **Profile <*profile creator*>.<*profile name*> for <*ssid*> was partially converted.**

Explanation

An I/O error occurred while the product was writing to the <*HLQ*>.PROFILE.RPT data set; part of the profile was successfully written to the profile data set. This message follows HLO722E and a VSAM library message in the range HLO120-HLO133).

User response

Make sure that the VSAM file exists, that you have WRITE permission, and that writing to the file is possible.

HLO725E **An error occurred while writing converted profile <*profile creator*>.<*profile name*> for <*ssid*>.**

Explanation

An I/O error occurred while the product was writing to the <*HLQ*>.PROFILE.RPT data set. This message follows a VSAM library message in the range HLO120-HLO133).

User response

Make sure that the VSAM file exists, that you have WRITE permission, and that writing to the file is possible.

HLO726I **Total read profile count: <*number_of_profiles*>.**

Explanation

The product read the specified number of profiles.

User response

No action is required.

HLO727I **Total converted profiles count: <*number_of_profiles*>.**

Explanation

The product converted the specified number of profiles.

User response

No action is required.

HLO728I **Total converted profiles count: <*number_of_profiles*>.**

Explanation

The product converted the specified number of profiles.

User response

No action is required.

HLO810E **Invalid CNUM parameter. Valid parameters are ON, OFF, or blank.**

Explanation

CNUM was issued with an invalid parameter. Issuing CNUM with no parameter acts as an ON/OFF toggle. ON and OFF are the only parameters that are accepted. ON turns the CNUM display on. OFF turns the CNUM display off.

User response

Use a valid CNUM parameter (ON, OFF, or blank).

HLO811E **Invalid COLS parameter. Valid parameters are ON, OFF, or blank.**

Explanation

COLS was issued with an invalid parameter. Issuing COLS with no parameters acts as an ON/OFF toggle. ON and OFF are the only parameters that are accepted.

User response

Specify a valid value for the COLS parameter. COLS ON turns the COLS display on, and CCOLS OFF turns the COLS display off.

HLO812I **The FIND command requires a match string**

Explanation

No parameters were specified with the FIND command. A match string must be specified.

User response

Enter FIND parameters.

HLO813E **The RFIND key can only be used after a FIND character string is entered.**

Explanation

A repeat FIND (RFIND) command was issued before the FIND command was issued. You must issue FIND before RFIND.

User response

Issue FIND before attempting to issue RFIND.

HLO814E **An unknown column *column* was specified.**

Explanation

The product does not recognize the column that was specified with the SORT command.

User response

Verify that you correctly typed the name of the column or select another column.

HLO815E **SORT is not supported for the specified column.**

Explanation

The column that you attempted to SORT is not supported as a column on which to sort.

User response

See the **Define Sort Columns** panel for a list of valid columns on which the sort can be based, and redefine the sort.

HLO816E **Max Sort Columns exceeded. Sorting first 9 columns.**

Explanation

More columns were selected for sorting than are supported. Nine columns can be sorted at a time. Under certain circumstances, the limit is less than nine, due to internal constraints.

User response

Specify an allowable maximum number of sort columns.

HLO817E **Invalid column selection. Set cursor to valid column.**

Explanation

An invalid column was selected.

User response

Move the cursor to a valid column.

HLO818E **Invalid command parameters.**

Explanation

Invalid command parameters were entered.

User response

Correct the command input and resubmit.

HLO819E **Invalid location for the moved column. The source column cannot be moved to the new position.**

Explanation

The source column cannot be moved to the new position.

User response

Correct the command input and resubmit.

HLO820E **Not enough space for scrolling unfixed columns.**

Explanation

The screen has insufficient space for some unfixed columns.

User response

Leave enough space for unfixed columns on the right side of the panel.

HLO821E **Operation not valid for specified column.**

Explanation

An invalid operation was entered.

User response

Enter a valid operation.

HLO822E Fixed columns cannot be hidden.

Explanation

An attempt was made to hide a fixed column, but fixed columns cannot be hidden.

User response

Either make a selected column unfixed, or select another column to hide.

HLO823E Invalid value entered for column size: non-numeric data.

Explanation

An invalid Cmd value was entered. The column size value must be a number between the values in the MIN and MAX fields.

User response

Either remove the invalid number or enter a valid value.

HLO824E Invalid value entered for column size: out of range.

Explanation

An invalid Cmd value was entered. The column size value must be a number between the values in the MIN and MAX fields. MIN is the smallest acceptable value, and MAX is the largest acceptable value.

User response

Either remove the invalid number or enter a valid one.

HLO825E SIZE is not supported for the specified column.

Explanation

An attempt was made to change the size of a column, but SIZE is not supported for that column.

User response

You can change the size of another column in which the minimum and maximum sizes are not equal.

HLO870E TBCREATE failed. RC= *return_code*.

Explanation

The **TBCREATE** command was issued to create a VIEW, but it failed with a hexadecimal return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the *ISPF Services Guide* under **TBCREATE**.

HLO871E TBOPEN failed. RC= *return_code*.

Explanation

The **TBOPEN** command was issued to open an existing VIEW, but the command failed with a hexadecimal return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the *ISPF Services Guide* under **TBOPEN**.

HLO872E TBCLOSE failed. RC=*return_code*.

Explanation

The **TBCLOSE** command failed with a hexadecimal return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the *ISPF Services Guide* under **TBCLOSE**.

HLO873E TBDELETE failed. RC=*return_code*.

Explanation

The **TBDELETE** command failed with a hexadecimal return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the *ISPF Services Guide* under **TBDELETE**.

HLO874E TBMOD failed. RC= *return_code*.

Explanation

The **TBMOD** command failed with a hexadecimal return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the *ISPF Services Guide* **TBMOD**.

HLO875E TBGET failed. RC= *return_code*.

Explanation

The **TBGET** command failed with a hexadecimal return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the *ISPF Services Guide* under **TBGET**.

HLO876E View table is in use.

Explanation

The ISPTLIB and ISPTABL DDs are in use; however, the "in use" state should not prevent the batch JCL generator from reading the DDs.

User response

Review the ISPTLIB and ISPTABLE allocations. For information about ISPTLIB and ISPTABL, see the ISPF user guides for your version of ISPF. If you cannot determine the reason for this message, contact IBM Software Support. Have available the listing that contains this message.

HLO877E View library not allocated.

Explanation

The ISPTLIB and ISPTABL DDs have not been allocated. Batch JCL generation continues but the job card rows might not be read from the skeleton file.

User response

Review the ISPTLIB and ISPTABLE allocations. For information about ISPTLIB and ISPTABL, see the ISPF user guides for your version of ISPF. If you cannot determine the reason for this message, contact IBM Software Support. Have available the listing that contains this message.

HLO878E TBTOP failed. RC=*return_code*.

Explanation

The **TBTOP** command failed with a hexadecimal return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the *ISPF Services Guide* under **TBTOP**.

HLO879E TBSKIP failed. RC= *return_code*.

Explanation

The **TBSKIP** command failed with a (hex) return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the *ISPF Services Guide* under **TBSKIP**.

HLO940E Invalid selection character. Valid values are "F" and "U".

Explanation

An invalid Cmd character was entered. Valid characters are F (FIX) and U (UNFIX).

User response

Either remove the invalid character or enter a valid one.

HLO941E Column move failed: invalid location.

Explanation

An attempt to move a column was made, but the attempt failed because the new location was invalid. The new column number cannot be greater than the number of columns.

User response

Specify a column number that is less than the number of columns.

HLO942E Invalid column size. Column size must be numeric.

Explanation

An invalid Cmd value was entered. Column size must be a number between the values in the MIN and MAX fields.

User response

Either remove the invalid number or enter a valid one.

HLO943E **Invalid column size. The specified value is out of range.**

Explanation

An invalid Cmd value was entered. Column size must be a number between the values in the MIN and MAX fields. MIN is the smallest acceptable value. MAX is the largest acceptable value.

User response

Either remove the invalid number or enter a valid one.

HLO944E **Total fixed column sizes cannot exceed screen size.**

Explanation

The Cmd values entered would have caused the sum of the FIXed column sizes to exceed the screen size. Because FIXed columns are always displayed, they must fit on the screen. The FIXed columns contain an F or P in the Fix column.

User response

Either change the FIXed column sizes so that the total is less than the screen size, or CANCEL to return to the previous panel.

HLO945E **Configuration request failed: at least one unfixed column would not be displayed**

Explanation

The requested column sizes would cause at least one unfixed column to become undisplayable. The cursor is positioned on the value where the problem was detected. The unfixed area on the screen would be too small to show the column where the cursor is placed.

User response

To correct the problem:

1. Decrease the size of the column at which the cursor is pointing so that it can fit in the available unfixed area.
2. Set the unfixed area to its maximum size (width).
3. Decrease the size of the fixed area.
4. CANCEL to return to the previous panel.

HLO946E **Configuration request failed: the unfixed area would be too small to display this column.**

Explanation

The requested column sizes would make the UNFIXed column at which the cursor is positioned undisplayable. The UNFIXed area on the screen would be too small to show this column.

User response

You can shrink the FIXed area by either unfixing columns or making FIXed columns smaller.

HLO947E **Configuration request failed: not all columns can be displayed.**

Explanation

Fixing the requested columns would shrink the available area for unfixed columns so that some might not display. The cursor is placed on a row that represents one of the columns that would cause the error.

User response

To change column sizes, cancel out of the CFIX function and invoke the CSIZE function. Either cancel to exit CFIX with no change, or blank out one or more FIX selections until an allowable fixed size is reached.

HLO948E **Invalid FIXed selections. Operation would not leave enough space for this column.**

Explanation

Fixing the columns as requested would make at least one unfixed column undisplayable. The cursor is positioned on the row that represents one of the unfixed columns that would cause an error where the minimum displayable size would not fit in the available screen area.

User response

To shrink the requested fixed area: -

- Request fewer fixed columns.
- Unfix one or more fixed columns.

- Exit CFIX and invoke CSIZE to shrink one or more fixed columns so that all unfixed columns have the space that they require.

HLO949E Duplicate Cmd values entered.

Explanation

Duplicate Cmd numbers were entered. The cursor points to the second instance of a Cmd value.

User response

Either change this value, clear it, or exit the CORDER function.

HLO950E Invalid sort number. Enter a valid numeric digit.

Explanation

An invalid character was entered in the Srt column.

User response

Enter a valid character. Valid characters include the digits 1 through 9, or the number of sortable columns, whichever is less.

HLO951E Duplicate sort sequence number.

Explanation

The same sort sequence number was entered for more than one column. The screen is positioned to the second instance.

User response

Enter a unique sort sequence number.

HLO952E Sort sequence skips a number.

Explanation

The selected sorting sequence skips a number. The screen is positioned to a selection after the missing number in the sequence.

User response

Specify a valid sort sequence that does not skip a number.

HLO953E Invalid Dir entered. Direction must be A (ascending) or D (descending).

Explanation

The selected sorting direction is invalid.

User response

Enter a valid value. Valid values include "A" for ascending, "D" for descending, or leave the field blank to use the default direction (ascending).

HLO954E Dir not valid without Ord.

Explanation

A sorting direction (Dir) was selected for a column that was not selected to be sorted (Ord). Sorting direction is only a valid choice for selected columns.

User response

Specify a column to be sorted (Ord) before specifying a sort order direction.

HLO955E Fixed columns cannot exceed screen size.

Explanation

More columns were selected to be FIXed than will fit on the screen.

User response

Remove the FIXed (F) selection character from one or more columns.

HLO956E Invalid entry. Cmd values must be numeric.

Explanation

An invalid Cmd value was entered. Cmd values must be numeric.

User response

Either remove the invalid number or enter a valid one.

HLO957E Invalid entry for permanent column.

Explanation

An invalid entry was made for a permanent column.

User response

Enter a valid value.

HLO958E Invalid entry for fixed column.

Explanation

An invalid Cmd value was entered for a FIXed column. Valid selections for a FIXed column are numeric values from 1 through n, where n is the total number of fixed columns.

User response

Either remove the invalid number or enter a valid number.

HLO959E **Invalid entry for unfixed column.**

Explanation

An invalid Cmd value was entered for an UNFIXed column. The number must be less than the total number of columns, and greater than the number of FIXed columns.

User response

Either remove the invalid number or enter a valid number.

HLO960E **Invalid Column Function value. Valid values: 1, 2, 3, and 4.**

Explanation

An invalid character was entered in the Column Function field. Valid characters are 1, 2, 3, and 4.

User response

Correct the field or issue the CANCEL command.

HLO961E **Invalid Permanent View value. Valid values: Y, N.**

Explanation

An invalid character was entered in the Permanent View field. Valid characters are Y (Yes), and N (No).

User response

Correct the field or issue the CANCEL command.

HLO962E **Invalid Reset View value. Valid values are Y, N.**

Explanation

An invalid character was entered in the Reset View field. Valid characters are Y (Yes), or N (No).

User response

Correct the field or issue the CANCEL command.

HLO963E **Invalid Stop Sorting value. Valid values: Y, N.**

Explanation

An invalid character was entered in the Stop Sorting field. Valid characters are Y (Yes), or N (No).

User response

Correct the field or issue the CANCEL command.

HLO964E **Invalid data set name.**

Explanation

The data set name entered is syntactically incorrect. A data set name can be one name segment, or a series of joined name segments. Segments are limited to eight characters, the first of which must be alphabetic (A to Z) or special (# @ $). The remaining seven characters are either alphabetic, numeric (0 - 9), special, a hyphen (-). Name segments are separated by a period (.). Including all name segments and periods, the length of the data set name must not exceed 44 characters. Thus, a maximum of 22 name segments can make up a data set name.

User response

Enter a valid data set name.

HLO965E **Invalid member name.**

Explanation

A member name can be up to eight characters long, and it can consist of the characters A-Z, 0-9, $, #, and @.

User response

Enter a valid member name.

HLO966E **Unable to allocate the report file.**

Explanation

Unable to allocate the report file.

User response

No action is required.

HLO967E **Unable to open the report file.**

Explanation

Unable to open the report file.

User response

No action is required.

HLO968E **Invalid selection character. Valid values: "H" and "U".**

Explanation

An invalid Cmd character was entered. Valid characters are H (HIDE) and U (UNHIDE).

User response

Either remove the invalid character or enter a valid one.

HLO970E **TBCREATE failed. RC = *return_code*.**

Explanation

The TBCREATE command was issued to create a VIEW, but it failed with a (hex) return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the ISPF Services Guide under TBCREATE.

HLO971E **TBOPEN failed. RC = *return_code*.**

Explanation

The TBOPEN command was issued to open an existing VIEW, but the command failed with a (hex) return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the ISPF Services Guide under TBOPEN.

HLO972E **TBCLOSE failed. RC = *return_code*.**

Explanation

The TBCLOSE command failed with a (hex) return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the ISPF Services Guide under TBCLOSE.

HLO973E **TBDELETE failed. R C= *return_code*.**

Explanation

The **TBDELETE** command failed with a hexadecimal return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the *ISPF Services Guide* under **TBDELETE**.

HLO974E **TBMOD failed. RC = *return_code*.**

Explanation

The TBMOD command failed with a (hex) return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the ISPF Services Guide under TBMOD.

HLO975E **TBGET failed. RC = *return_code*.**

Explanation

The TBGET command failed with a (hex) return code as indicated in the message.

User response

Review ISPTLIB allocation and data set characteristics. Review security controlled access to ISPTLIB data sets. For information about return codes, see the ISPF Services Guide under TBGET.

HLO976E **View table is in use.**

Explanation

The ISPTLIB and ISPTABL DDs are in use. Only temporary views will be available.

User response

Review the ISPTLIB and ISPTABLE allocations. For information about ISPTLIB and ISPTABL, see the ISPF user guides for your version of ISPF. If you cannot determine the reason for this message, contact IBM Software Support. Have available the listing that contains this message.

HLO977E **View library not allocated.**

Explanation

The ISPTLIB and ISPTABL DDs have not been allocated. Only temporary views will be available.

User response

Review the ISPTLIB and ISPTABLE allocations. For information about ISPTLIB and ISPTABL, see the ISPF user guides for your version of ISPF. If you cannot determine the reason for this message, contact IBM Software Support. Have available the listing that contains this message.

HLO980I **Discovery process completed successfully.**

Explanation

This is an informational message.

User response

No action is required.

HLO981E **Control file <*control_file_name*> not found.**

Explanation

The discovery process could not locate the specified product control file.

User response

Enter a valid control file name.

HLO982E **Configuration <*configuration_ID*> was not found in the control file.**

Explanation

The discovery process could not locate the specified configuration.

User response

Enter a valid configuration ID.

HLO983E **Previous installation library <*installation library_name*> not found.**

Explanation

The discovery process could not locate the specified installation library.

User response

Enter a valid installation library.

HLO984E **Options module <*options_module*> was not found. Enter a valid previous installation location and options module name.**

Explanation

The discovery process could not locate the specified options module.

User response

Enter a valid previous installation location and options module name.

HLOA001E **Error occurred during attempt to offload to zIIP.**

Explanation:
The product encountered an error while trying to send work to the zIIP, and processing halted.

User response:
Check the log for additional error messages.

HLOA002E **LOB header page encountered.**

Explanation:
The product encountered a LOB image copy while processing rows, and processing halted. The product does not support LOBs.

User response:
Ensure that the filter set does not include a LOB.

HLOA003E **Edit procedure found during zIIP processing for table *tableName*.**

Explanation:
An edit procedure is defined for the specified table, and processing edit procedures cannot occur on a zIIP processor.

User response:
Contact IBM Software Support.

HLOA004E **Table versioning found for table *tableName*.**

Explanation:

The specified table contains rows that use a previous version of the table. These rows cannot be processed, and processing halted.

User response:
Specify only tables in which every row is in the format of the newest version.

HLOA005E **A CELL64 free request failed.**

Explanation:
An attempt to free storage failed, and processing halted.

User response:
Check the log for additional error messages.

HLOA006E **Process halted, memory exhausted for *storageArea*.**

Explanation:
An internal storage area was filled beyond its capacity, and processing halted.

User response:
Contact IBM Software Support.

HLOA007E **Edit proc error; name: *procedureName*; retcde: *return_code*; rescde: *reasonCode***

Explanation:
While attempting to decode the row, the specified edit procedure returned an error with the specified return and reason codes, and processing halted.

User response:
Determine the meaning of the return and reason codes based on your EDITPROC. If the error is caused by the product, contact IBM Software Support.

HLOA008E **Name/token pair could not be found.**

Explanation:
The common storage name/token pair is missing.

User response:
Contact IBM Software Support.

HLOA009E **An error occurred while looking up a name/token pair: *IEANTRTreturnCode***

Explanation:
Accessing the name/token pair resulted in an error. The IEANTRT return code is specified.

User response:
See the IBM documentation for the IEANTRT error code to determine the problem.

HLOA010E **Table not found in common storage table list: *tableName***

Explanation:
The specified table was not found in the common storage table list.

User response:
Contact IBM Software Support.

HLOA011E **The LOAD job ended before all tables were written.**

Explanation:
The load to IBM Db2 Analytics Accelerator for z/OS ended before all data was written.

User response:
Check the job log for other error messages that indicate why the load ended prematurely.

HLOA012E **Blocking named pipe failed. Return code: *return_code*; reason code: *reasonCode*; path name: *pathName*.**

Explanation:
The attempt to block on the named pipe failed.

User response:
Contact IBM Software Support.

HLOA013E **An error occurred while posting across address spaces. The ASID is *asidName*.**

Explanation:
An attempt to POST failed.

User response:
Contact IBM Software Support.

HLOA014E **Opening named pipe failed. Return code: *return_code*; reason code: *reasonCode*; path name: *pathName*.**

Explanation:
The specified path name could not be opened.

User response:
Contact IBM Software Support.

HLOA015E **Writing to pipe failed. Return code: *return_code*; reason code: *reasonCode*.**

Explanation:
Attempting to write data to the pipe failed with the specified return and reason codes.

User response:
Contact IBM Software Support.

HLOA015E **Writing to pipe failed. Return code: *return_code*; reason code: *reasonCode*.**

Explanation:
Attempting to write data to the pipe failed with the specified return and reason codes.

User response:
Contact IBM Software Support.

HLOA100I **Start HLOPRPG (*buildLevel buildDate buildTime*).**

Explanation:
The module HLOPRPG has been started. The modification level, the date, and the time of the module's build are indicated.

User response:
No action is required.

HLOA101I **Cleanup HLOPRPG.**

Explanation:
The module HLOPRPG is ending.

User response:
No action is required.

HLOA102I **Processing page *pageName***

Explanation:
The specified type of page is being processed.

User response:
No action is required.

HLOA103I **Expanding using dictionary for table: *DBID PSID partitionNumber***

Explanation:
Row data is being expanded using the dictionary from the specified DBID, PSID, and partition.

User response:
No action is required.

HLOA104I **Processing dictionary for table: *DBID PSID partitionNumber***

Explanation:
A dictionary is being created for the specified DBID, PSID, and partition.

User response:
No action is required.

HLOA105I **Start HLOEDIT.**

Explanation:
Starting module HLOEDIT.

User response:
No action is required.

HLOA106I **HLOEDIT-RC4 attempting alt state.**

Explanation:
Module HLOEDIT is attempting a new path for the edit procedure.

User response:
No action is required.

HLOA107I **Start HLORERD (*buildLevel buildDate buildTime*).**

Explanation:
The module HLORERD has been started. The modification level, the date, and the time of the module's build are indicated.

User response:
No action is required.

HLOA108I **HLORERD zIIP cleanup error.**

Explanation:
An error occurred while cleaning up the zIIP.

User response:
See related error messages.

HLOA109I **Pages processed=*pageCount*.**

Explanation:
The specified number of image copy pages were processed for the run.

User response:
No action is required.

HLOA110I **Stack pops=*popsCount*.**

Explanation:
The specified number of image copy pops were included in the run.

User response:
No action is required.

HLOA111I **Pages per pop=*pageCount*.**

Explanation:
The specified number of image copy pages were processed per pop for the run.

User response:
No action is required.

HLOA112I **Rows processed=*rowCount*.**

Explanation:
The specified number of rows were processed for IBM Db2 Analytics Accelerator for z/OS for the run.

User response:
No action is required.

HLOA113I **HLOPRPG page processing error.**

Explanation:
HLOPRPR returned an error.

User response:
See related error messages.

HLOA115E **Error occurred during error processing *errorMessage*.**

Explanation:
An error occurred while processing the specified error message.

User response:

Look up the indicated error code to determine the original error condition.

HLOA116I **Exiting HLOZSCHD with RC=<*error_code*>.**

Explanation:
Module HLOZSCHD returned the specified error code.

User response:
See related error messages.

HLOA117I **Opening a new pipe for *tableName partitionNumber*.**

Explanation:
A connection to the IBM Db2 Analytics Accelerator for z/OS for the specified table and partition was opened.

User response:
No action is required.

HLOA118I **Closing a pipe for *tableName partitionNumber*.**

Explanation:
A connection to the IBM Db2 Analytics Accelerator for z/OS for the specified table and partition was closed.

User response:
No action is required.

HLOA119I **Edit procedure found. Turning off zIIP.**

Explanation:
A table was found that has an edit procedure defined for it. The zIIP processor will not be used so that processing can continue.

User response:
No action is required.

HLOA121I **No zIIP available.**

Explanation:
No zIIP processor is available for zIIP-eligible work.

User response:
No action is required.

HLOA123E ***log_apply_subtask_ID* Bad Writes=*errorCount***

Explanation

A problem has occurred with pipe processing. The *errorCount* is the total number of times that the pipe write mechanism returned an error during the course of the run. A dump has been generated.

User response:
Review the dump data to diagnose and resolve the problem. If you need assistance, contact IBM Software Support.

HLOA200E **Could not obtain SSID from input parameters.**

Explanation

The subsystem ID (SSID) was not specified in the PARM.

User response

Check the job and specify the SSID.

HLOA201E **Could not open the TABLE DD.**

Explanation

The product could not open the TABLE DD.

User response

Correct the JCL and submit the job again.

HLOA202E **Table not found in TABLE DD.**

Explanation

The TABLE DD was used but no table was specified.

User response

Correct the JCL and submit the job again.

HLOA203E **Table owner not specified.**

Explanation

The TABLE DD was used but no table owner was specified.

User response

Correct the JCL and submit the job again.

HLOA204E **Table name not specified.**

Explanation

The TABLE DD was used but no table name was specified.

User response

Correct the JCL and submit the job again.

HLOA205E **Table owner too long.**

Explanation

The specified table owner is too long. The maximum number of characters for the table owner name is 128.

The table owner name cannot exceed column 72; continue on the next line in column 1. No special character is needed.

User response

Correct the JCL and submit the job again.

HLOA206E **The name/token does not exist for the subsystem.**

Explanation

The job is trying to clean common storage that does not exist on this subsystem.

User response

Make sure that the specified subsystem value is correct.

HLOA207E **Forcing cleanup failed. IEANTDL rc=<*return_code*>.**

Explanation

An unexpected error occurred during cleanup.

User response

Contact IBM Software Support.

HLOA208E **Could not open the JOB DD.**

Explanation

The product could not open the JOB DD.

User response

Correct the JCL and submit the job again.

HLOA209E **Job ID not found in JOB DD.**

Explanation

The JOB DD was used but the job ID was not specified.

User response

Correct the JCL and submit the job again.

HLOA210E **Job name not found in JOB DD.**

Explanation

The JOB DD was used but the job name was not specified.

User response

Correct the JCL and submit the job again.

HLOA211I **Common storage successfully cleaned.**

Explanation

All common storage for the subsystem was cleared.

User response

No action is required.

HLOA212I **Specified table has been cleaned from storage.**

Explanation

The specified table has been cleared from the common storage.

User response

No action is required.

HLOA213I **Specified job has been cleaned from storage.**

Explanation

All common storage related to the specified job was cleared.

User response

No action is required.

HLOG8000S **Internal error in API <*api_context*>, RC=<*api_return_code*>, RSN=<*api_reason_code*>.**

Explanation:
An error occurred in the Db2 Analytics Accelerator Loader internal application programming interface (API).

User response:
Contact IBM Software Support. Provide Support with the complete text of this message.

HLOG8001S **Storage release failed. Module=<*module_name*>, storage area=<*storage_area_name*>, RC=<*return_code*>.**

Explanation:
The specified module failed while attempting to free to the specified storage area. The message HLOG8002S,

which accompanies this message, contains additional information about the storage area.

User response:
Contact IBM Software Support. Provide the support representative with the complete text of this message and message HLOG8002S.

HLOG8002S **Address=*storage_area_address*, Length=*storage_area_length*, SP=*storage_subpool*, KEY=*storage_key***

Explanation:
This message accompanies message HLOG8001S, which indicates a failure to release storage. This message provides additional details about the storage that could not be released.

User response:
Contact IBM Software Support. Provide Support with the complete text of this message and message HLOG8001S.

HLOG8003E **Storage obtain failed. Module=<*module_name*>, storage area=<*storage_area_name*>, RC=<*return_code*>.**

Explanation:
The specified module failed while attempting to obtain the specified storage area. The message HLOG8004E usually accompanies this message and contains additional information about the storage area.

User response:
Increase the region size available to the Db2 Analytics Accelerator Loader program and run the product again. If the problem persists, contact IBM Software Support. Provide Support with the complete text of this message and message HLOG8004E.

HLOG8004E **Length=*storage_area_length*, SP=*storage_subpool*, KEY=*storage_key***

Explanation:
This message accompanies the message HLOG8003E, which indicates a failure to obtain storage. This message provides additional details about the storage that could not be obtained.

User response:
Increase the region size available to the Db2 Analytics Accelerator Loader program and run the product again. If the problem persists, contact IBM Software Support. Provide Support with the complete text of this message and message HLOG8003E.

HLOG8005E **Unable to open file. DD name=*dd_name***

Explanation:
The file that was allocated by the specified data definition (DD) could not be opened.

User response:
Check the JCL to ensure that the correct DD name was provided and that the data set was allocated using the correct file type.

HLOG8006E **Unable to dynamically allocate data set. DD name=*dd_name***

Explanation:
The specified data definition (DD) was not able to dynamically allocate a data set that was needed.

User response:
Contact IBM Software Support.

HLOG8007E **Unable to close file. DD name=*dd_name***

Explanation:
The file that was allocated by the specified data definition (DD) could not be closed.

User response:
If this problem persists, contact IBM Software Support.

HLOG8008I **System=*system_name*, Job=*job_name*, Job Id=*job_id*, Step=*step_name*, Program=*program_name*, User=*user_id***

Explanation:
This message displays information about the current job step.

User response:
No action is required.

HLOG8009E **The operating system or hardware do not meet minimum requirements.**

Explanation:
See the Product Program Directory for the minimum operating system level and hardware requirements.

User response:
No action is required.

HLOG8010I **CPU=<*cpu_type*>>, <*cpu_model*>>, <*cpu_manufacturer*>>. OS=<*os_name*>, <*os_release*>, <*os_version*>.**

Explanation:
This message displays information about the CPU and the operating system.

User response:
No action is required.

HLOM9600E **An invalid function was supplied to utility.**

Explanation:
An invalid function was specified in the HLOMAINT job for the Db2 Analytics Accelerator Loader maintenance utility.

User response:
In the PARM statement of the HLOMAINT job, specify a valid function (for example, TERM_UTILITY). See the user's guide for the functions that are valid for the HLOMAINT utility.

HLOM9601E API Initialization failed

Explanation:
The HLOMAINT interface program failed to complete initialization. This failure occurred during the initialization of the internal API.

User response:
Contact IBM Software Support.

HLOM9602E Unable to establish session with HLOID: *identifier*

Explanation:
The Db2 Analytics Accelerator Loader maintenance utility could not establish a session with the specified started task configuration.

User response:
Check that the configuration ID parameter value that is specified in the maintenance utility job (HLOMAINT) is a valid configuration ID.

HLOM9603E Unable to connect to DB2 system: *db2_ssid*

Explanation:
The Db2 Analytics Accelerator Loader maintenance utility could not connect to the specified Db2 subsystem.

User response:
Ensure that the Db2 SSID parameter value that is specified in the maintenance utility job (HLOMAINT) specifies a valid Db2 subsystem ID.

HLOM9604I Worklist maintenance successful for utility id: *db2_utility_id*, function: *maint_utility_function*

Explanation:
The Db2 Analytics Accelerator Loader maintenance utility successfully performed the specified function for the specified Db2 utility ID in the worklist tables.

User response:
No action is required.

HLOM9605W No worklist data found for UTILID: *db2_utility_id*, function: *maint_utility_function*

Explanation:
The Db2 Analytics Accelerator Loader maintenance utility found no worklist data for the specified Db2 utility ID. The specified function could not be performed.

User response:
No action is required.

HLOM9606E Error while accessing worklist data for utility ID: *db2_utility_id*, function: *MAINT_function*

Explanation:
The Db2 Analytics Accelerator Loader maintenance utility (HLOMAINT) encountered an error while attempting to access the worklist data that is associated with the specified Db2 utility ID. The specified maintenance utility function could not be performed.

User response:
In the HLOMAINT job, check that the PARM statement specifies valid values for the Db2 SSID and utility ID parameters. Also check the messages in the started task SYSPRINT log for related SQL errors.

HLOM9607E Session creation failed RC=<*return_code*>, RSN=<*reason_code*>, reason=<*description*>.

Explanation:
The Db2 Analytics Accelerator Loader maintenance utility (HLOMAINT) failed to complete initialization. The failure occurred during the creation of a session for HLOMAINT.

User response:
To determine the cause of the failure, review the reason description in this message. Correct the problem and run the job again. If you need assistance, contact IBM Software Support.

HLOM9608E Session has been terminated by the server.

Explanation:
The utility did not complete because the session was terminated by the server.

User response:
Check with the system administrator to determine the reason for the termination of the maintenance utility program.

HLOP9800E <!ATTLIST *attribute_name*> attribute '*attribute_value*' has an invalid enumeration value list

Explanation:
While the Db2 Analytics Accelerator Loader XML parser was parsing an !ATTLIST declaration, it found an error in the enumeration value list that defines the valid values for an attribute.

User response:
Correct the enumeration list and rerun.

HLOP9801E **<!ATTLIST *attribute_name*> attribute '*attribute_value*' missing enumeration value**

Explanation:
While the Db2 Analytics Accelerator Loader XML parser was parsing an !ATTLIST declaration, it encountered an invalid enumeration token. Enumeration tokens must be valid XML names.

User response:
Correct the enumeration list and rerun.

HLOP9802E **<!ATTLIST *attribute_name*> attribute '*attribute_value*' no closing quote for default value**

Explanation:
While the Db2 Analytics Accelerator Loader XML parser was parsing an !ATTLIST declaration, it found a default value of type *string*, but it did not have a closing quotation mark.

User response:
Correct the string definition and rerun.

HLOP9803E **<!ATTLIST *attribute_name*> attribute '*attribute_value*' enumerated type list missing '('**

Explanation:
While the Db2 Analytics Accelerator Loader XML parser was parsing an !ATTLIST declaration, it encountered an enumeration or NOTATION list, as expected, but that list did not have an opening left parenthesis.

User response:
Correct the enumeration list and rerun.

HLOP9804E **<!ATTLIST *attribute_name*> attribute '*attribute_value*' expected quoted default value**

Explanation:
While the Db2 Analytics Accelerator Loader XML parser was parsing an !ATTLIST declaration, it did not find the default value specification, as expected.

User response:
Supply a default value for the !ATTLIST declaration and rerun.

HLOP9805E **getAttribute(*missing_attribute_name*) error: attribute not defined**

Explanation:
A request was made to retrieve the value of an attribute for a given XML element, but the attribute was not defined.

User response:
Verify that the attribute exists before requesting its value, or add the attribute to the XML document.

HLOP9806E **'<![IGNORE[' not terminated by matching ']]>'**

Explanation:
When the Db2 Analytics Accelerator Loader XML parser was parsing an <![IGNORE[...]]> conditional section, it did not find the required closing character sequence.

User response:
Correct the conditional sequence and rerun.

HLOP9807E **'<![INCLUDE[' not terminated by matching ']]>'**

Explanation:
When the Db2 Analytics Accelerator Loader XML parser was parsing an <![INCLUDE[...]]> conditional section, it did not find the required closing character sequence.

User response:
Correct the conditional sequence and rerun.

HLOP9808E **Unable to open default input file**

Explanation:
The XML parser was not able to open the top-level default input file.

User response:
Make sure that the file exists and the correct name is being passed to the XML parser.

HLOP9809E **Unable to open DOCTYPE file '*DOCTYPE_file_name*'**

Explanation:
A !DOCTYPE declaration was specified, but the DOCTYPE file name could not be read.

User response:
Make sure that the DOCTYPE file exists and that the correct file name is specified in the !DOCTYPE declaration.

HLOP9810E **Unable to open external ENTITY file '*ENTITY_file_name*'**

Explanation:
An external entity file was defined, but it could not be read to resolve the entity reference.

User response:
Make sure that the external entity file exists and that the correct file name is specified in the !ENTITY declaration.

HLOP9811E **element <*element_name*> ended by </*element_name_1*>**

Explanation:

An incorrectly nested element definition was found. The tag defining the beginning of an element did not match the closing tag.

User response:
Correct the nesting structure of the element definition and rerun.

HLOP9812E **Closing tag </*element_name* missing '>' character**

Explanation:
When the XML parser was parsing the end tag for an element, it did not find the required closing '>' character.

User response:
Correct the end tag and rerun.

HLOP9813E **<!ELEMENT *element_name*> is already declared**

Explanation:
Only one !ELEMENT declaration can be supplied for a given element tag.

User response:
Remove the duplicate !ELEMENT declaration and rerun.

HLOP9814E **<!ELEMENT *element_name*> expecting subelement name.**

Explanation:
When the XML parser was parsing a mixed-content specification of an !ATTLIST declaration, it found an error in the list of allowable subelements.

User response:
Correct the subelement list and rerun.

HLOP9815E **ENTITY &*entity_name*; not defined**

Explanation:
An entity reference was found for which no declaration exists.

User response:
Check the spelling of the entity reference name, or add the entity definition for the name and rerun.

HLOP9816E **End-of-data encountered while parsing attribute value string**

Explanation:
When the XML parser was parsing an attribute value string, it found no closing quotation mark before the end of the file, as required.

User response:
Correct the attribute value string and rerun.

HLOP9817E **End-of-data encountered in a CDATA section**

Explanation:
When the XML parser was parsing a <![CDATA[...]]> section, it found no ']]>' characters. These characters are required to close the section before the end of the file.

User response:
Correct the CDATA section and rerun.

HLOP9818E **End-of-data encountered in a comment**

Explanation:
When the XML parser was parsing an XML comment, it found no '-->' characters. These characters are required to close the comment before the end of the file.

User response:
Correct the comment and rerun.

HLOP9819E **End-of-data encountered inside a declaration**

Explanation:
When the XML parser was parsing an XML declaration, it found no '>' character. This character is required to close the declaration before the end of the file.

User response:
Correct the declaration and rerun.

HLOP9820E **End-of-data encountered in DOCTYPE declaration**

Explanation:
When the Db2 Analytics Accelerator Loader XML parser was parsing a !DOCTYPE declaration, it reached the end of the file before the declaration was complete.

User response:
Correct the !DOCTYPE declaration and rerun.

HLOP9821E **End-of-data encountered while parsing element attributes**

Explanation:
When the Db2 Analytics Accelerator Loader XML parser was parsing the attribute list for an element, it reached the end of the file before the attribute list was complete.

User response:
Correct the element attribute list and rerun.

HLOP9822E **End-of-data encountered inside an <!ELEMENT ...> declaration**

Explanation:
When the XML parser was parsing an !ELEMENT declaration, it reached the end of the file before the declaration was complete.

User response:
Correct the !ELEMENT declaration and rerun.

HLOP9823E End-of-data encountered in ENTITY definition

Explanation:
When the XML parser was parsing an !ENTITY declaration, it reached the end of the file before the declaration was complete.

User response:
Correct the !ENTITY declaration and rerun.

HLOP9824E End-of-data encountered in processing instruction

Explanation:
When the XML parser was parsing an XML processing instruction, it reached the end of the file before the processing instruction was complete.

User response:
Correct the processing instruction and rerun.

HLOP9825E Invalid <!ATTLIST *attribute_name*> attribute name

Explanation:
A syntax error was detected while the Db2 Analytics Accelerator Loader XML parser was parsing an XML ! ATTLIST declaration.

User response:
Correct the !ATTLIST declaration and rerun.

HLOP9826E Invalid DOCTYPE name

Explanation:
When the XML parser was parsing an XML !DOCTYPE declaration, it found no valid element name.

User response:
Correct the !DOCTYPE declaration and rerun.

HLOP9827E Invalid !ELEMENT name

Explanation:
When theDb2 Analytics Accelerator Loader XML parser was parsing an XML !ELEMENT declaration, it found no valid element name.

User response:
Correct the !ELEMENT declaration and rerun.

HLOP9828E Invalid element tag

Explanation:
When the Db2 Analytics Accelerator Loader XML parser was parsing an XML statement, it did not find an expected element tag.

User response:
Correct the error and rerun.

HLOP9829E Invalid name in ENTITY definition

Explanation:
When the Db2 Analytics Accelerator Loader XML parser was parsing an ENTITY definition, it found no valid entity name.

User response:
Correct the ENTITY declaration and rerun.

HLOP9830E Invalid ENTITY reference

Explanation:
When the Db2 Analytics Accelerator Loader XML parser was parsing an entity reference, it found no semicolon to terminate the entity reference. Check if an ampersand is incorrectly specified in a string as '&'. An ampersand should be specified as &.

User response:
Correct the entity reference and rerun.

HLOP9831E Invalid value in ENTITY definition: *value*

Explanation:
A syntax error was encountered while the Db2 Analytics Accelerator Loader XML parser was parsing an XML ENTITY definition.

User response:
Correct the ENTITY definition and rerun.

HLOP9832E typespec for <!ELEMENT *element_name*> not correctly ended

Explanation:
A syntax error was detected while Db2 Analytics Accelerator Loader was processing the typespec parameter of an !ELEMENT declaration.

User response:
Correct the !ELEMENT declaration and rerun.

HLOP9833E '<' character not legal in attribute value string

Explanation:
The replacement text of any entity referred to directly or indirectly in an attribute value must not contain a '<' character.

User response:
Correct the attribute value and rerun.

HLOP9834E No attributes defined for non-element node types

Explanation:
An attempt was made to request an attribute for an XML element type that does not have attributes.

User response:
Make sure that you have an XML element object before you request an attribute value.

HLOP9835E Attribute name not found

Explanation:

The XML parser was expecting an attribute name, but no valid attribute name was found.

User response:
Correct the XML statement and rerun.

HLOP9836E No closing ']' for DOCTYPE internal subset definition

Explanation:
When the Db2 Analytics Accelerator Loader XML parser was parsing an entity definition list in an XML ! DOCTYPE declaration, it found no closing ']' character. The closing character is required.

User response:
Correct the !DOCTYPE declaration and rerun.

HLOP9837E No closing '>' for ENTITY definition: *entity_name*

Explanation:
No closing '>' character was found to indicate the end of an ENTITY definition.

User response:
Correct the ENTITY definition and rerun.

HLOP9838E No closing tag for <*element_name*>

Explanation:
The XML parser was expecting to find a closing tag for the element but did not find it.

User response:
Correct the XML element declaration and rerun.

HLOP9839E No '=' following attribute name '*attribute_name*'

Explanation:
While the Db2 Analytics Accelerator Loader XML parser was parsing an attribute definition, it expected an '=' sign but found something else. The XML language does not allow spaces before or after the '=' sign in an attribute definition. If these spaces exist, remove them.

User response:
Correct the attribute definition and rerun.

HLOP9840E Tag does not follow '<'

Explanation:
An XML element tag must immediately follow the opening '<' character of an element definition. The XML parser found a white space character following the '<' instead.

User response:
Fix the element definition and rerun.

HLOP9841E Tag does not follow '</'

Explanation:
An XML element tag must immediately follow the closing '</' character of an element definition. The XML parser found a white space character following the '</' instead.

User response:
Fix the element definition and rerun.

HLOP9842E No value found for attribute '*attribute_name*'

Explanation:
While the Db2 Analytics Accelerator Loader XML parser was parsing an attribute definition, it expected a value to follow the '=' character but found no valid value at that location. The XML language does not allow blanks before or after the '=' character in an attribute definition. If these blanks exist, remove them.

User response:
Correct the attribute definition and rerun.

HLOP9843E parameter %*parameter_name*; is not defined

Explanation:
An undefined parameter reference was found.

User response:
Check the spelling of the parameter name, or add a definition for the parameter and rerun.

HLOP9844E Unexpected character following DOCTYPE SYSTEM name

Explanation:
The XML parser expected a '>' character to close a ! DOCTYPE declaration but found something else.

User response:
Correct the !DOCTYPE declaration and rerun.

HLOP9845E Unexpected character in <! ELEMENT *element_name*> children

Explanation:
A syntax error was detected while the XML parser was parsing the list of child elements allowed for an ! ELEMENT declaration.

User response:
Correct the !ELEMENT declaration and rerun.

HLOP9846E Unexpected characters following <!ELEMENT *element_name* (#PCDATA

Explanation:
The XML parser expected to find a closing ')' character for the #PCDATA token but found something else.

User response:
Correct the !ELEMENT declaration and rerun.

HLOP9847E Unexpected characters in <! ELEMENT *element_name*> contentspec

Explanation:
The XML parser detected an unexpected character following the #PCDATA portion of an !ELEMENT declaration.

User response:
Correct the !ELEMENT declaration and rerun.

HLOP9848E **Unexpected contentspec <! ELEMENT *element_name*> declaration**

Explanation:
A syntax error was detected in the contentspec portion of an !ELEMENT declaration.

User response:
Correct the !ELEMENT declaration and rerun.

HLOP9849E **Unexpected !DOCTYPE option: *option***

Explanation:
The XML parser detected an invalid option in a ! DOCTYPE declaration.

User response:
Correct the !DOCTYPE declaration and rerun.

HLOP9850E **Unexpected !DOCTYPE SYSTEM value**

Explanation:
The XML parser detected an invalid value in the SYSTEM portion of a !DOCTYPE declaration.

User response:
Correct the !DOCTYPE declaration and rerun.

HLOP9851E **Unexpected !ENTITY SYSTEM value**

Explanation:
The XML parser detected an invalid value in the SYSTEM portion of a !ENTITY declaration.

User response:
Correct the !ENTITY declaration and rerun.

HLOP9852E **Unexpected text in <!ELEMENT *element_name*>**

Explanation:
While the XML parser was parsing an !ELEMENT declaration, it expected to find a closing '>' character but found something else.

User response:
Correct the !ELEMENT declaration and rerun.

HLOP9853E **Quotation delimiters do not match for attribute value *attribute_value***

Explanation:
The delimiter characters around the specified attribute value in the DSNUTILB intercept policy do not match. The delimiter characters must both be either double quotation marks or single quotation marks.

User response:
Correct the delimiters that enclose the specified attribute value so that they match. Use either double quotation marks or single quotation marks. Then rerun the utility.

HLOP9854W **USE_RULESET element in POLICY references an undefined ruleset. Name: *ruleset_name*.**

Explanation:
In the DSNUTILB intercept policy, a <USE_RULESET> element in the <POLICY> section references a ruleset name that has not been defined by a <RULESET> element.

User response:
Ensure that the ruleset name that is specified by the <USE_RULESET> element matches a ruleset name that is defined by a <RULESET> element in the same policy. You can either correct the ruleset name that is specified by the <USE_RULESET> element or change the ruleset name that is defined by the <RULESET> element (if that ruleset is not referenced by other <USE_RULESET> elements in the policy).

HLOP9855W **VRUPDATE element omitted after ACTION=VRUPDATE for DB2SYSTEM *db2_ssid*.**

Explanation:
In the DSNUTILB policy, an ACTION=VRUPDATE attribute on the DB2SYSTEM element requires a VRUPDATE child element to be included under the DB2SYSTEM element.

User response:
Ensure that the VRUPDATE element is included and that the VRUPDATE element has a DSN attribute that specifies the VR UPDATE job JCL.

HLOP9856W **Usage of RULE SYNONYM has been deprecated.**

Explanation:
In the DSNUTILB policy, a RULE SYNONYM= was encountered. The usage of RULE element SYNONYM has been deprecated.

User response:
No action is required.

HLOP9857E **Invalid characters encountered in PART specification.**

Explanation:
The XML parser detected an invalid character in the PART specification.

User response:
Correct the PART specification and rerun.

HLOP9858E **USE_PRACTICE in POLICY references an undefined practice. PRACTICE =*practice_name*.**

Explanation:
In the DSNUTILB policy, a USE_PRACTICE element in the POLICY section references a PRACTICE name that has not been defined by a PRACTICE element.

User response:
Ensure that the practice name that is specified by the USE_PRACTICE element matches a practice name that is defined by a practice element in the same policy. You can either correct the practice name that is specified by the USE_practice element or change the practice name that is defined by the practice element (if that practice is not referenced by other USE_PRACTICE elements in the policy.

HLOP9859E **A duplicate practice name was specified in the policy. PRACTICE=<*practice_name*>.**

Explanation:
The DSNUTILB policy defined two PRACTICE elements with the same value specified for the NAME attribute. When PRACTICE elements with duplicate names are found in the policy, the PRACTICE that is coded first in the policy is used by the utility monitor.

User response:
Ensure that all practice names are unique.

HLOP9860E **A duplicate utility name was specified in a practice. UTILNAME =*utility_name***

Explanation:
The DSNUTILB policy defined two UTILITY elements with the same NAME under a practice.

User response:
Ensure that all utility names are unique within a PRACTICE specification.

HLOP9861E **The length of attribute is greater than 1024 characters: ATTRIBUTE=*attribute_name*.**

Explanation:
Attributes VALUE and SUBSTITUTE of the SYNTAX policy element are each restricted to 1024 characters.

User response:
Correct the specified attribute.

HLOP9862E **Attribute *attribute_name_1* is incompatible with attribute *attribute_name_2*.**

Explanation:
The two specified attributes are mutually exclusive and can not be used together.

User response:
Correct the attribute specifications.

HLOP9863E **Multiple <USE_PRACTICE> elements were specified within one <DB2SYSTEM> element, DB2 SSID: <*db2_ssid*>.**

Explanation:
In the DSNUTILB policy, multiple <USE_PRACTICE> elements were specified within one <DB2SYSTEM> element. Each <DB2SYSTEM> element can contain only one <USE_PRACTICE> element.

User response:
Make sure that all <DB2SYSTEM> elements contain only one <USE_PRACTICE> element.

HLOP9864E **<SUBSTITUTE> or <FAIL> attributes must be specified for <VALUE> attribute in <SYNTAX> element.**

Explanation:
In the DSNUTILB intercept policy, the <VALUE> attribute in the <SYNTAX> element was specified without the required <SUBSTITUTE> or <FAIL> attribute.

User response:
Make sure that the <VALUE> attribute in the <SYNTAX> element was specified with the <SUBSTITUTE> or <FAIL> attribute.

HLOP9865E **Attributes are not specified in <SYNTAX> element.**

Explanation:
In the DSNUTILB intercept policy, the <SYNTAX> element was specified with no attributes; however, at least one attribute is required.

User response:
Make sure that the <SYNTAX> element contains at least one attribute. For information about the available attributes, see the section about the DSNUTILB intercept policy in the product documentation.

HLOP9866E **<VALUE> attribute must be specified for <SUBSTITUTE> or <FAIL> attributes in <SYNTAX> element.**

Explanation:
In the DSNUTILB policy, the <SUBSTITUTE> or <FAIL> attributes in the <SYNTAX> element were specified without specifying the <VALUE> attribute.

User response:
Make sure that the <SUBSTITUTE> or <FAIL> attributes are specified in the <SYNTAX> element when you specify the <VALUE attribute>.

HLOP9867E **ACCEL_CURSOR, ACCEL_HLV_SSID, and ACCEL_HLV_GRPNAME are not valid on IDAA_DUAL type loads.**

Explanation:
When you are loading data from the server, you can load only the accelerator (keyword IDAA_ONLY). For server data sources, the product does not support loading to both Db2 and the accelerator (keyword IDAA_DUAL).

User response:
Specify keyword IDAA_ONLY to load only the accelerator and resubmit the job.

HLOP9868E **ACCEL_CURSOR requires an ACCEL_HLV_SSID or ACCEL_HLV_GRPNAME.**

Explanation:
The group name or SSID of the server is required when ACCEL_CURSOR is specified.

User response:
Add the ACCEL_HLV_SSID or ACCEL_HLV_GRPNAME keyword to the load control cards and resubmit the job.

HLOP9869E **An ACCEL_CURSOR name must be provided with ACCEL_HLV_SSID or ACCEL_HLV_GRPNAME.**

Explanation:
When loading data from the server, you must provide an ACCEL_CURSOR name. The cursor name must identify a cursor that was previously declared in an EXEC SQL statement.

User response:
Add the ACCEL_CURSOR clause to the load statement and resubmit the job.

HLOP9870 E **ACCEL_HLV_SSID and ACCEL_HLV_GRPNAME are mutually exclusive. Specify only one or the other.**

Explanation:
When loading data from the server, you must identify the server by either subsystem ID (SSID) or group name. You cannot specify both.

User response:
Remove one of the options and resubmit the job.

HLOP9871E **The WHEN clause is not compatible with the ACCEL_CURSOR clause.**

Explanation:
The WHEN clause is not supported when loading data from the Db2 Analytics Accelerator Loader Server.

User response:
Remove the WHEN clause from the load control cards and rerun the job.

HLOP9872E **The INDDN and INCURSOR clauses are not compatible with the ACCEL_CURSOR clause.**

Explanation:
When loading data from the server, you cannot also specify an INDDN or INCURSOR clause.

User response:
Correct the load control cards and resubmit the job.

HLOP9873E **Field specifications cannot be provided when ACCEL_CURSOR is specified.**

Explanation:
When loading data from the server, you cannot provide field specifications.

User response:
Correct the load control cards and resubmit the job.

HLOP9874E **ACCEL_SOURCE_DB2 requires ACCEL_CURSOR and either ACCEL_HLV_SSID or ACCEL_HLV_GRPNAME.**

Explanation:
The ACCEL_SOURCE_DB2 keyword can only be specified when you are loading data from the server. Specify ACCEL_SOURCE_DB2 only when you are loading data from another Db2 subsystem via the server.

User response:
Correct the load control cards and resubmit the job.

HLOP9875E ***Identifier_type* value length error. The value must be 1 to *maximum_name_length* characters long.**

Explanation:
An identifier or name of the specified type has an invalid length. The identifier must be 1 to MAX_LENGTH characters long.

User response:
Correct the control cards and submit the job again.

HLOP9876E **KEYWORD1 <*keyword*> and KEYWORD2 <*keyword*> are mutually exclusive keywords.**

Explanation:
The specified keywords are mutually exclusive. You can specify one or the other, but not both.

User response:
Remove one of the keywords and resubmit the job.

HLOP9878E **The keyword <*keyword*> is not valid as used.**

Explanation:
The specified keyword is not valid in the context in which it is used.

User response:
Correct the load statement and resubmit the job.

HLOP9879E **Validation error: ID '*enum_value*' not found for IDREF reference**

Explanation:
An attribute was declared to be an IDREF, but the attribute value was not used as an ID within the XML document.

User response:
Check the spelling of the IDREF value, or add a corresponding ID attribute that uses the IDREF value.

HLOP9880E **Validation error: default '*enum_value*' for attribute '*attribute_name*' not a member of enumerated type**

Explanation:
The default value that is specified for an attribute in an !ATTLIST declaration of the Document Type Definition is not a valid value for the attribute.

User response:
Correct the !ATTLIST declaration so that the default value is one of the values in the enumerated list of valid attribute values, and then rerun.

HLOP9881E **Validation error: <! ELEMENT ...*element_name*> attribute value *attribute_name*='*enum_value*' is not a member of the enumerated type.**

Explanation:
The value that is specified for an attribute is not one of the valid values that is defined for the attribute in the Document Type Definition. When the specified value is NULL or blanks, the default value is used.

User response:
Correct the attribute value and rerun the job.

HLOP9882E **Validation error: attributes declared ID must be #REQUIRED or #IMPLIED**

Explanation:
An ID attribute must have a declared default of #IMPLIED or #REQUIRED.

User response:
Correct the default value for the ID attribute and rerun.

HLOP9883E **Validation error: duplicate ID *ID_name*='*value*'**

Explanation:
A name must not appear more than once in an XML document as an ID value. That is, ID values must uniquely identify elements.

User response:
Eliminate the duplicate ID and rerun.

HLOP9884E **Validation error: <!ELEMENT *element_name* EMPTY> cannot have subelement *subelement_name*.**

Explanation:
The Document Type Definition (DTD) does not list the specified subelement as one that is valid for the element.

User response:
Correct the element definition to eliminate the invalid subelement and rerun.

HLOP9885E **Validation error: <!ELEMENT *element_name* EMPTY> cannot contain text**

Explanation:
An element that is declared to be EMPTY in the Document Type Definition cannot contain any content.

User response:
Correct the element definition to remove the content and rerun.

HLOP9886E **Validation error: <!ELEMENT *element_name*> invalid attribute *attribute_name*='*value*'**

Explanation:
The attribute is not valid for the element according to the Document Type Definition.

User response:
Correct the element definition to remove the invalid attribute and rerun.

HLOP9887E **Validation error: <!ELEMENT *element_name*> attribute *attribute_name*='*attribute_value*' not #FIXED default value '*default_value*'**

Explanation:
The Document Type Definition specifies that the attribute must have a specific #FIXED value, but the attribute definition specifies a different value.

User response:
Correct the attribute to use the #FIXED value and rerun.

HLOP9888E **Validation error: <!ELEMENT *element_name*> unexpected subelement *subelement_name*.**

Explanation:
The specified subelement is not valid in the element according to the Document Type Definition (DTD). This error can occur if the subelement is out-of-order with respect to other subelements, or if it is repeated an incorrect number of times.

User response:
Correct the element definition so that it is consistent with the DTD.

HLOP9889E **Validation error: <!ELEMENT *element_name*> missing required attribute '*required_attribute*'**

Explanation:
An attribute of the element was declared as #REQUIRED in the Document Type Definition, but the attribute is not defined in the element definition.

User response:
Correct the element definition to include the required attribute and rerun.

HLOP9890E **Validation error: <!ELEMENT *element_name*> missing required choice '*required_choice*'**

Explanation:
The Document Type Definition specifies that one of the valid choices defined for the specified element must appear at a specific position within the element. However, the value that was found at that position is not one of the valid choices.

User response:
Correct the element definition to conform to the Document Type Definition and rerun.

HLOP9891E **Validation error: <!ELEMENT *element_name*> missing required subelement *subelement_name*.**

Explanation:
The Document Type Definition (DTD) indicates that the specified subelement is required for the element. However, the subelement was not found in the element definition.

User response:
Correct the element definition to supply the required subelement and rerun.

HLOP9892E **Validation error: An element can have only one attribute of type ID**

Explanation:
An element type must not have more than one ID attribute specified.

User response:
Correct the !ELEMENT definition so that it has only one ID attribute and rerun.

HLOP9893E **Validation error: Element <*element_name*> has not been declared**

Explanation:
The element that is being defined is not declared in the Document Type Definition. Therefore, it is not permitted in the document.

User response:
Eliminate the invalid element definition and rerun.

HLOP9894E **XML Parser Exception: *file_name* line=*line_number***

Explanation:
The XML parser error that was previously reported caused the parser to stop. The error occurred while the parser was processing data from the specified file at the specified line number.

User response:
Correct the error and rerun.

HLOP9895E **XML Parser Exception occurred while processing line=*line_number***

Explanation:
The XML parser error that was previously reported caused the parser to stop. The error occurred while the parser was processing data from the top-level input file at the specified line number.

User response:
Correct the error and rerun.

HLOP9896E **XML Parser Exception**

Explanation:
The XML parser error that was previously reported caused the parser to stop. The error could not be attributed to a specific line in an input file.

User response:
Correct the previously noted error and rerun.

HLOP9897E **Allocation error for policy control block : *enum_value***

Explanation:
An allocation error occurred for one of the policy control blocks.

User response:
Contact IBM Software Support. Provide Support with the message number and text.

HLOP9898E **Value exceeds maximum length for RULE: *rule_name*='*rule_value*'**

Explanation:

In the DSNUTILB policy, the length of the specified rule value exceeds the maximum allowable length for the rule. This message provides the first 32 bytes of the rule value that is in error.

User response:
Correct the specified rule value in the DSNUTILB policy so that it does not exceed the maximum allowable length for the rule. See the *Db2 Analytics Accelerator Loader for z/OS User's Guide* for information about maximum allowable rule lengths. After you make the correction, resubmit the job.

HLOP9899E **Policy parser error.**

Explanation:
The DSNUTILB policy parser encountered an error that caused it to stop.

User response:
Look for the messages that follow this one for a more detailed description of the error. If the error is related to a policy syntax error, correct the policy and then resubmit the job.

HLOP9900E **Abnormal termination: *file_name* line=*line_number***

Explanation:
The XML parser terminated because of an internal error.

User response:
Report the problem to IBM Software Support.

HLOP9901E **Error: Input buffer size (*size* bytes) is too small.**

Explanation:
The input buffer for the XML parser overflowed.

User response:
The parser must be rebuilt with a larger input buffer size. Contact IBM Software Support.

HLOP9902E **Invalid value specified for IGNOREFIELDS. Valid values and YES and NO.**

Explanation:
An invalid value was specified for the IGNOREFIELDS option of the LOAD utility INTO TABLE statement.

User response:
Correct the LOAD syntax and resubmit the job.

HLOP9903E **RESUME YES cannot be specified for some parts and RESUME NO for others.**

Explanation:
You must replace the data in all partitions or append data to all partitions. Db2 Analytics Accelerator Loader does not support mixing RESUME YES with RESUME NO.

User response:
Correct the syntax and resubmit the job.

HLOP9904E **Keyword <RESUME YES> is incompatible with keyword <ACCEL_REMOVE_AND_ADD_TABLES>.**

Explanation:
The named keywords may not be used together in the same LOAD command.

User response:
Correct the syntax and resubmit the job.

HLOP9905E **Invalid ACCEL_LOCKMODE value. Valid values are TABLE, TABLESET, PARTITIONS, NONE, ROW.**

Explanation:
The value of keyword ACCEL_LOCKMODE is not valid. Valid values for ACCEL_LOCKMODE are TABLE, TABLESET, PARTITIONS, NONE, and ROW.

User response:
Correct the syntax and resubmit the job.

HLOP9910I ***parsed_batch_syntax***

Explanation:
The Db2 Analytics Accelerator Loader batch interface writes this message to the SPRT0000 output for the thread-cancelation job. This message indicates the parameters or cancel commands that were parsed from the HLOPARMS DD in the job.

User response:
No action is required.

HLOP9911W **'*parsed_batch_syntax*' can only occur once. Only the last occurrence is used to process the request.**

Explanation:
The specified parameter occurs more than once in the HLOPARMS DD of the batch thread-cancelation job. Db2 Analytics Accelerator Loader will process the last occurrence of the parameter and ignore all previous occurrences.

User response:
No action is required.

HLOP9912E **'*batch_parameter_value*' is not a recognized value**

Explanation:
An invalid value was specified for a parameter in the batch thread-cancelation job. The parameter name and value have been written to the SPRT0000 output for the job.

User response:

Look up the valid values for this parameter in the product documentation. Correct the parameter value in the HLOPARMS DD of the job and run the job again.

HLOP9913E **Value '*user_specified_value*' must be from *minimum_valid_value* through *maximum_valid_value***

Explanation:
The specified value is not within the range of valid values for this batch parameter. The parameter name and value have been written to the SPRT0000 output for the thread-cancelation job.

User response:
Look up the valid values for this parameter in the product documentation. Correct the parameter value in the HLOPARMS DD of the job and run the job again.

HLOP9914E ***parameter_value* value can be at most *maximum_length* bytes**

Explanation:
The specified batch job parameter value is longer than the maximum length that is allowed for this parameter.

User response:
Correct the parameter value in the HLOPARMS DD of the batch thread-cancelation job. Ensure that it does not exceed the maximum length that is specified in this message text. Then run the job again.

HLOP9915E **Expected value '*expected_value*' not found**

Explanation:
Db2 Analytics Accelerator Loader expected the specified value to be in the HLOPARMS DD of the batch thread-cancelation job but did not find it there.

User response:
Add the specified value to the HLOPARMS DD where appropriate. Then run the job again.

HLOP9916E **CANCEL_THREADS request is invalid because no selection criteria is specified.**

Explanation:
No thread-selection criteria were specified for the CANCEL_THREADS request. One of the following must be specified: the ALL_THREADS parameter, the THREAD_TOKEN parameter, or one or more of the other thread-filtering parameters.

User response:
Specify a thread-selection parameter in the HLOPARMS DD of the thread-cancelation job. Then run the job again.

HLOP9917E **Initialization parameter value is unknown: *parameter_name* = *parameter_value***

Explanation:
An initialization parameter for the Db2 Analytics Accelerator Loader started task has an invalid value.

User response:
See the Db2 Analytics Accelerator Loader documentation to determine the valid values for the specified initialization parameter. Then correct the value in your HLOOPTS file.

HLOP9918E **Initialization parameter value beyond range: *parameter_name* = *parameter_value***

Explanation:
An initialization parameter for the Db2 Analytics Accelerator Loader started task has a value that is not within the allowable range for this parameter.

User response:
See the Db2 Analytics Accelerator Loader documentation to determine the set of valid values for the specified initialization parameter. Then correct the parameter value in the HLOOPTS file.

HLOP9919E **Initialization parameter value is too long: *parameter_name* can be at most *parameter_max_length* characters**

Explanation:
An initialization parameter for the Db2 Analytics Accelerator Loader started task is longer than the maximum length that is allowed for this parameter.

User response:
Correct the parameter value in your initialization options member. Ensure that the value is not longer than the maximum length that is specified in this message text. Then run the job again.

HLOP9920E **Internal parser error: parser expected the address of the *control_block_name***

Explanation:
An internal error occurred in the Db2 Analytics Accelerator Loader batch syntax parser or in the started task initialization options parser.

User response:
Contact IBM Software Support.

HLOP9921W **Keyword *syntax_keyword* is unexpected. It will be ignored.**

Explanation:
A keyword was found in an unexpected location in the command syntax. The keyword will be ignored.

User response:
Correct the syntax and run the job again.

HLOP9922E **Initialization parameter contains nonnumeric characters:**

***parameter_name* = *parameter_value*.**

Explanation:
An initialization parameter for the Db2 Analytics Accelerator Loader started task contains nonnumeric characters. Only numeric characters are allowed.

User response:
Correct the value and start the Db2 Analytics Accelerator Loader started task.

HLOP9925E **Storage obtain failed. Module=<*module_name*>, storage area=<*storage_area_name*>, RC=<*return_code*>.**

Explanation:
The specified module failed while attempting to obtain the specified storage area.

User response:
Increase the region size that is available to the Db2 Analytics Accelerator Loader program and run the product again. If the problem persists, contact IBM Software Support. Provide the support representative with the complete text of this message.

HLOP9927E **An error was detected while attempting to open the input data set**

Explanation:
Db2 Analytics Accelerator Loader encountered an error while attempting to open the input data set for the Db2 utility job step.

User response:
Check for other messages that are related to this error in the system log. Then correct the error and resubmit the job.

HLOP9928E **I/O error when reading the input data set.**

Explanation:
Db2 Analytics Accelerator Loader encountered an I/O error when reading the input data set for the Db2 utility job step.

User response:
Contact IBM Software Support.

HLOP9929E **Buffer overflow error.**

Explanation:
While Db2 Analytics Accelerator Loader was parsing the Db2 utility job step, it detected a buffer overflow condition.

User response:
Contact IBM Software Support.

HLOP9930E **A syntax error was detected in the field specification for the field <*field_name*>.**

Explanation:
The field specification for the specified field in the Db2 LOAD utility job step contains a syntax error.

User response:
Correct the field specification that is in error in the utility job step. Then run the utility again.

HLOP9931E **Unbalanced parentheses detected in an INTO-TABLE specification.**

Explanation:
Db2 Analytics Accelerator Loader detected an unbalanced parenthesis (without a matching opening or closing parenthesis) in an INTO-TABLE specification of the LOAD utility job step.

User response:
Correct this syntax error in the INTO-TABLE specification of the LOAD utility job step. Then run the utility again.

HLOP9932E **The DELIMITED option is incompatible with the VALUEIF field selection criterion (START:END).**

Explanation:
While parsing the Db2 LOAD utility syntax, Db2 Analytics Accelerator Loader detected that the utility job step includes the DELIMITED option and a field selection criterion for the VALUEIF option that specifies a start:end byte position. This syntax is invalid. You cannot specify both the DELIMITED option and a VALUEIF field selection criterion that includes a start:end position in the same job step.

User response:
Edit the LOAD utility job step to either remove the DELIMITED option or specify a field name instead of a start:end position in the field selection criterion for the VALUEIF option. Then run the utility again.

HLOP9933W **DATABASE keyword is ignored if database name is specified with tablespace or indexspace.**

Explanation:
A database name is specified by the DATABASE parameter and also as part of the TABLESPACE or INDEXSPACE parameter value. The DATABASE parameter value is ignored.

User response:
No action is required.

HLOP9934E **An error was detected in the VALUEIF clause for field specification <*field_name*>.**

Explanation:
The field name in the field selection criterion of the VALUEIF clause does not match the field name of any field specification that is defined for the table to be loaded.

User response:
In the INTO-TABLE portion of the LOAD utility job step, correct the field selection criterion of the VALUEIF clause or any field specification that is in error so that the field name in the field selection criterion of the VALUEIF clause matches the field name in a field specification. Then, run the utility job again.

HLOP9935E **An operand of the DISCARDTO keyword is missing and must be specified.**

Explanation:
The DISCARDTO keyword was specified in the CHECK DATA utility syntax but one of the operands was not provided. Both operands are required for this keyword.

User response:
Provide both operands for the DISCARDTO keyword and resubmit the job.

HLOP9936E **An operand of the DISCARDSPACE keyword is missing and must be specified.**

Explanation:
The DISCARDSPACE keyword was specified in the CHECK DATA utility syntax but one of the operands was not provided. Both operands are required for this keyword.

User response:
Provide both operands for the DISCARDSPACE keyword and resubmit the job.

HLOP9937E **A zero value for an operand of the DISCARDSPACE keyword was specified.**

Explanation:
The DISCARDSPACE keyword was specified in the CHECK DATA utility syntax and one of the operands specified is a value of zero. A zero value for either the primary or secondary quantity is not allowed.

User response:
Provide a valid value for both operands of the DISCARDSPACE keyword and resubmit the job. Valid values are -1 or 1 through 4,194,304.

HLOP9938E **A value greater than the allowed maximum was specified in the DISCARDSPACE keyword.**

Explanation:
The DISCARDSPACE keyword was specified in the CHECK DATA utility syntax and one of the operands specified exceeded the maximum allowed.

User response:
Provide a valid value for both operands of the DISCARDSPACE keyword and resubmit the job. Valid values are -1 or 1 through 4,194,304.

HLOP9939E **Keyword PRESORT is incompatible with *&VARIABLE* (where *&VARIABLE* can be one of the following values: FORMAT UNLOAD, FORMAT SQLDS, FORMAT INTERNAL, or NO FIELD SPECS).**

Explanation:
PRESORT is not supported with the specified criteria.

User response:
Correct the syntax and resubmit the job.

HLOP9940E **Value exceeds maximum length for PRACTICE NAME <*practice_name*>.**

Explanation:
In the DSNUTILB policy, the length of the specified practice name exceeds the maximum allowable length of 32 characters. This message provides the first 32 characters of the practice name that is in error.

User response:
Correct the specified practice name in the DSNUTILB policy so that it does not exceed the maximum allowable length. After making the correction, resubmit the job. For more information about the PRACTICE element, see the product documentation.

HLOP9941E **Attribute <*attribute_name*> is duplicated within a single element RULE.**

Explanation:
In the DSNUTILB policy, the attribute displayed in the message text is duplicated within a single element RULE.

User response:
In the DSNUTILB policy, delete the duplicated attribute in the single element RULE, and then resubmit the job.

HLOP9942E **Invalid specification for keyword <*keyword*>.**

Explanation:
The specified partition numbers are not valid. The partition numbers must be 1 - 4096. The first value must be lower than the second value.

User response:
Correct the specified partition numbers. For information about specifying partition numbers, see the product documentation. After you make the correction in the POLICY, restart the started task.

HLOP9943E **Keyword *keyword1* is incompatible with keyword *keyword2*.**

Explanation:
Both of the specified keywords cannot be present in the load utility job input stream.

User response:
Correct the syntax and resubmit the job.

HLOP9944E **Value length of attribute <*attribute_name*> is more than <*attribute_length*> characters.**

Explanation:
In the DSNUTILB policy, the length of the specified attribute value exceeds the maximum allowable length.

User response:
Correct the attribute value. For more information about the attribute, see the product documentation.

HLOP9945W **Invalid operand <*operand*>.**

Explanation:
The specified operand is only valid for load processing when you are running Db2 Version 9.1 and later.

User response:
Remove the specified operand and then restart the job. For more information, see the section about load processing enhancements in the product user's guide.

HLOP9946E **Only one table can be specified for load processing when you use the option <*keyword_name*>.**

Explanation:
The specified option is not supported for multiple tables in a LOAD statement.

User response:
Specify only one table and then restart the job. For more information, see the product documentation.

HLOP9947I **PRESORT was forced due to KEYWORD <*keyword_name*>.**

Explanation:
With the specified option, if PRESORT is not specified, LOAD processing continues as though it were.

User response:
No action is required.

HLOP9948E **Keyword <*keyword_name*> is incompatible with keyword <*keyword_name*>.**

Explanation:
The specified keywords cannot be used together in the syntax.

User response:
Correct the syntax and resubmit the job.

HLOP9949E **Keyword IDAA_DUAL ON <*accelerator_name*> is incompatible with keyword IDAA_ONLY ON <*accelerator_name*>.**

Explanation:
The specified keywords cannot be used together. You can specify only one of the keywords in a job.

User response:
Correct the syntax and resubmit the job.

HLOP9950E **Invalid length of accelerator name.**

Explanation:
The accelerator name for keywords IDAA_DUAL ON <*accelerator_name*> and IDAA_ONLY ON <*accelerator_name*> is required and its length cannot exceed eight characters.

User response:
Correct the syntax and resubmit the job.

HLOP9951E **Keyword <*keyword_name*> is not supported when loading partition level SYSRECs.**

Explanation:
When PART *n* INDDN is specified in a LOAD utility statement, the specified keyword is are not supported.

User response:
Remove the unsupported keyword and rerun the load utility job.

HLOP9952I **The ACCEL_LOAD_TASKS value is outside the supported range of 1 - <*max_value*>.**

Explanation:
The value that is specified for the ACCEL_LOAD_TASKS option in the LOAD utility statement is outside the range of supported values.

User response:
No action is required.

HLOP9953E **Discard datasets are not supported when keyword <*keyword_name*> is specified.**

Explanation:
Discard data sets cannot be specified with the named Db2 Analytics Accelerator Loader keyword. The IDAA_ONLY and ACCEL_CURSOR keywords cannot be used when discard data sets are provided.

User response:
Remove the SYSDISC ddname from the JCL or remove the DISCARDDN keyword from the LOAD statement and resubmit the job.

HLOP9954E **Field specifications are required for IDAA_DUAL and IDAA_ONLY LOADs.**

Explanation:
When you are loading the accelerator (option IDAA_ONLY) or the accelerator and Db2 (option IDAA_DUAL), the LOAD utility INTO TABLE clause must include field specifications.

User response:
Correct the syntax and resubmit the job.

HLOP9955E **The value specified for ACCEL_LOAD_TASKS is invalid.**

Explanation:
Valid values for the ACCEL_LOAD_TASKS option are 1 - <*max_tasks_value*>. For best results, match the value to the setting of the IBM Db2 Analytics Accelerator environment variable AQT_MAX_UNLOAD_IN_PARALLEL.

User response:
Correct the ACCEL_LOAD_TASKS value and resubmit the job.

HLOP9956E ***Keyword_name* is only valid with IDAA_DUAL and IDAA_ONLY type LOADs.**

Explanation:
The indicated keyword can only be specified with the IDAA_DUAL or IDAA_ONLY keywords.

User response:
Correct the LOAD utility syntax and resubmit the job.

HLOP9957E **The value specified for ACCEL_ON_SUCCESS_ENABLE is invalid. Valid values are: YES | NO.**

Explanation:
The value that was specified for the LOAD utility option ACCEL_ON_SUCCESS_ENABLE is invalid.

User response:
Correct the ACCEL_ON_SUCCESS_ENABLE value and resubmit the job.

HLOP9958E **ACCEL_ON_SUCCESS_ENABLE is only valid with IDAA_DUAL and IDAA_ONLY type LOAD jobs.**

Explanation:
The ACCEL_ON_SUCCESS_ENABLE option can only be specified when the IDAA_DUAL option or the IDAA_ONLY option is also specified.

User response:
Correct the LOAD utility syntax and resubmit the job.

HLOP9959E **EBCDIC and UNICODE are mutually exclusive keywords.**

Explanation:
To indicate the format of the SYSREC data specify either EBCDIC or UNICODE.

User response:
Correct the LOAD utility syntax and resubmit the job.

HLOP9960E **The WHEN clause and field specs cannot be specified with FORMAT INTERNAL.**

Explanation:
The FORMAT INTERNAL option cannot be specified in the LOAD statement with the WHEN option or field specifications.

User response:
Correct the LOAD utility syntax and resubmit the job.

HLOP9961E **The HALOAD utility cannot be specified with other DB2 utilities.**

Explanation:
A job can contain syntax for the high availability load utility (HALOAD) or other Db2 utilities, but not both.

User response:
Correct the utility syntax and resubmit the job.

HLOP9962E **The HALOAD utility must specify the HALOAD utility command.**

Explanation:
A job that specifies the high availability load utility (HALOAD) must include the HALOAD utility command with appropriate syntax.

User response:
Correct the utility syntax and resubmit the job.

HLOP9963E **The HALOAD utility must specify the <*keyword*> clause or keyword.**

Explanation:
The high availability load utility (HALOAD) control syntax must include the indicated keyword or clause.

User response:
Correct the utility syntax and resubmit the job.

HLOP9964E **Invalid value specified for keyword <*keyword_name*>**

Explanation:
An invalid delimiter value was specified on the FORMAT DELIMITED clause of the LOAD statement. The value specified for COLDEL, CHARDEL or DECPT must be a single-byte character or a two-character hexadecimal value. For example: COLDEL ',' or COLDEL X'6B' are both valid delimiter values. If the SYSREC encoding scheme is Unicode, the highest acceptable value for any delimiter is x'7F'.

User response:
Enter a valid value.

HLOP9967E **Invalid delimiter value specified for FORMAT DELIMITED**

Explanation:
An invalid delimiter value was specified on the FORMAT DELIMITED clause of the LOAD statement. The value specified for COLDEL, CHARDEL or DECPT must be unique. That is, the same value may not be specified for multiple delimiters.

User response:
Enter a valid value.

HLOP9970E **Discard datasets are not supported with IDAA_ONLY and partition level SYSREC datasets.**

Explanation:
Discard data sets cannot be specified with the IDAA_ONLY keyword when loading from multiple partition level SYSREC data sets.

User response:
Remove the discard data sets from the JCL and LOAD statement and resubmit the job. Alternatively, if each SYSREC data set has the same field specifications, eliminate the INDDN keyword from the INTO TABLE clauses and concatenate all the SYSREC data sets under a single SYSREC DDNAME in the JCL.

HLOS0000I **Db2 Analytics Accelerator Loader <*product_version*>, FMID=<*product_fmid*>, COMPONENT ID=<*product_compid*>.**

Explanation:
This message provides the following information for your Db2 Analytics Accelerator Loader configuration: the version and release, FMID (an identifier for the release), and component ID. It is the first message issued to the SYSPRINT data set for the started task after the started task starts.

User response:
No action is required.

HLOS0001I **Started task initialization is in progress**

Explanation:
The initialization of the Db2 Analytics Accelerator Loader started task has begun.

User response:
No action is required.

HLOS0002I **Started task initialization is complete**

Explanation:
The initialization processing for the Db2 Analytics Accelerator Loader started task has successfully completed.

User response:
No action is required.

HLOS0003I **Started task termination is in progress**

Explanation:
Termination processing for the Db2 Analytics Accelerator Loader started task has begun.

User response:
No action is required.

HLOS0004I **Started task termination is complete**

Explanation:
The Db2 Analytics Accelerator Loader started task successfully completed termination processing.

User response:
No action is required.

HLOS0007I **TCB: <*tcb_address*> <*component_name*> - Component initialization is complete**

Explanation:
The initialization of the specified component completed successfully.

User response:
No action is required.

HLOS0009I **TCB: <*tcb_address*> <*component_name*> - Component termination is complete**

Explanation:
The termination of the specified component completed successfully.

User response:
No action is required.

HLOS0010E **TCB: <*tcb_address*> <*component_name*> - Component initialization failed.**

Explanation:
The initialization of the specified component was not successful.

User response:
To determine the cause of the initialization failure, see the other messages that were issued for this component.

HLOS0012S **TCB: <*tcb_address*> <*component_name*> received an unexpected post code. Post code=<*post_code*>.**

Explanation:
An internal error occurred.

User response:

Contact IBM Software Support. Provide Support with the complete text of this message.

HLOS0013S **TCB: <*tcb_address*> <*component_name*> received an unexpected request code. Request code=<*request_code*>.**

Explanation:
An internal error occurred.

User response:
Contact IBM Software Support. Provide Support with the complete text of this message.

HLOS0014I **SVC installation is complete. SVC number = <*svc_number*>.**

Explanation:
The installation of the Db2 Analytics Accelerator Loader supervisor call (SVC) was successful.

User response:
No action is required.

HLOS0015I **Removing SVC. SVC number = <*svc_number*>.**

Explanation:
The Db2 Analytics Accelerator Loader supervisor call (SVC) is in the process of being removed.

User response:
No action is required.

HLOS0016E **SVC installation failed. SVC number = <*svc_number*>.**

Explanation:
The installation of the Db2 Analytics Accelerator Loader supervisor call (SVC) was not successful.

User response:
For more specific information about the SVC installation failure, see the messages that accompany this one.

HLOS0017S **SVC removal failed. SVC number = <*svc_number*>, RC = <*return_code*>, Reason = <*reason_text*>.**

Explanation:
The removal of the Db2 Analytics Accelerator Loader supervisor call (SVC) was not successful. This message provides the return code and reason for this failure.

User response:
Contact IBM Software Support. Provide Support with the complete text of this message, including the return code and reason text.

HLOS0018E **SVC installation failed. SVC number=<*svc_number*>, RC=<*return_code*>, reason=<*reason_text*>.**

Explanation:
The installation of the Db2 Analytics Accelerator Loader supervisor call (SVC) was not successful. This message provides the return code and reason for the failure.

User response:
Contact IBM Software Support. Provide Support with the complete text of this message, including the return code and reason text.

HLOS0019I **COMX: *comx_address*, COMI: *comi_address*, SVC EPA: *svc_entry_point_address*, MNTLEVEL: *maintenance_level***

Explanation:
This message is issued along with another message to provide diagnostic information to Support for resolving a problem.

User response:
Provide this information to IBM Software Support when a Support representative requests it.

HLOS0020I **Logging has been started.**

Explanation:
The Db2 Analytics Accelerator Loader started task has started writing log information to the HLOLOG table.

User response:
No action is required.

HLOS0021I **Logging has been terminated.**

Explanation:
The Db2 Analytics Accelerator Loader started task has stopped writing log information to the HLOLOG table.

User response:
No action is required.

HLOS0022I **Auditing has been started.**

Explanation:
The Db2 Analytics Accelerator Loader started task has started writing audit information to the HLOAUDIT table.

User response:
No action is required.

HLOS0023I **Auditing has been terminated.**

Explanation:
The Db2 Analytics Accelerator Loader started task has stopped writing audit information to the HLOAUDIT table.

User response:
No action is required.

HLOS0024I **Tracing has been started.**

Explanation:

The Db2 Analytics Accelerator Loader started task has started writing trace information to the internal trace table.

User response:
No action is required.

HLOS0025I Tracing has been terminated.

Explanation:
The Db2 Analytics Accelerator Loader started task has stopped writing trace information to the internal trace table.

User response:
No action is required.

HLOS0080I Product initialization parameters:

Explanation:
This message introduces a list of the initialization parameters that are defined for the Db2 Analytics Accelerator Loader started task. The list is printed when the started task starts.

User response:
No action is required.

HLOS0081I *parm_name* = *parm_value_dec*

Explanation:
This message provides the current decimal value for the specified started task initialization option. The message is issued only for options for which a decimal value is a valid value.

User response:
No action is required.

HLOS0082I *parm_name* = *parm_value_char*

Explanation:
This message provides the current integer value for the specified started task initialization parameter. This message is issued only for parameters for which an integer value is a valid value.

User response:
No action is required.

HLOS0083S A value for the initialization parameter '*parm_name*' must be specified

Explanation:
The specified started task initialization parameter is not included in the initialization parameters file, or it has a value that is composed of only blanks. This parameter is required and must have a non-blank value.

User response:
Ensure that this initialization parameter is in the initialization parameters file and is set to a non-blank value.

HLOS0085W '*parm_name*' must have a value from *parm_min* through *parm_max*. Parameter defaulted to: *parm_def*.

Explanation:
The value that is set for the specified Db2 Analytics Accelerator Loader started task initialization parameter is not within the allowable range of values for this parameter. As a result, the value will be changed to the default value for the parameter.

User response:
Accept the default value, or specify a value that is within the allowable range of values for this parameter in the initialization options member.

HLOS0101I TCB: <*tcb_address*> Session created. SESS: *session_token-session_number-session_type-session_job_name-session_job_ID-session_asid-session_user*

Explanation

The Db2 Analytics Accelerator Loader session was created. The session is identified by the information that is listed in this message after "SESS":

- *Session_token* is an internal session identifier.
- *Session_number* is a unique session identifier that is generated incrementally for each new session that is created.
- *Session_type* indicates whether the session is for a batch job (B), an ISPF user (I), the DSNUTILB intercept (U), or the HLOMAINT utility (M).
- *Session_job_name* is the name of the job that is associated with the session.
- *Session_job_ID* is the identifier for the job that is associated with the session
- *Session_asid* is the hexadecimal address space identifier for the user type (session type).
- *Session_user* is the user ID.

User response:
No action is required.

HLOS0103I TCB: <*tcb_address*> Session terminated. SESS:*session_token-session_number-session_type-session_job_name-session_job_ID-session_asid-session_user*

Explanation

The Db2 Analytics Accelerator Loader session that was using the specified task control block (TCB) address space terminated. The attributes of this session are listed in this message after "SESS":

- *Session_token* is an internal session identifier.
- *Session_number* is a unique session identifier that is generated incrementally for each new session that is created.
- *Session_type* indicates whether the session is for a batch job (B), an ISPF user (I), the DSNUTILB intercept (U), or the HLOMAINT utility (M).
- *Session_job_name* is the name of the job that is associated with the session.
- *Session_job_ID* is the identifier for the job that is associated with the session.
- *Session_asid* is the hexadecimal address space identifier for the user type (session type).
- *Session_user* is the user ID.

User response:
No action is required.

HLOS0104E **TCB: <*tcb_address*> Session: <*session_token*> Unicode Conversion Error. RC: <*return_code*> RSN: <*reason_code*>**

Explanation:
An attempt by the Db2 Analytics Accelerator Loader started task to convert a default column value from UTF-8 to the table CCSID has failed. The system Unicode Character Conversion service is used for these conversions. A call to the conversion service failed with the indicated return and reason codes. This conversion was attempted on behalf of a batch load client. Refer to the failed batch job for additional information. This message is followed by messages HLOS0105E – HLOS0107 to identify the failing column, table name, and table creator respectively.

User response:
Refer to the failed batch job for additional information.

HLOS0200E **TCB: <*tcb_address*> DB2 Call Attach Facility request <*caf_request*> failed, RC=<*return_code*>, RSN=<*reason_code*>.**

Explanation:
The Db2 Call Attach Facility (CAF) returned the return code and reason code that is included in this message for the specified CAF request.

User response:
Contact IBM Software Support. Provide Support with the return code and reason code that is included in this message.

HLOS0201S **TCB: <*tcb_address*> A Connect-to-DB2 request was received for *db2_ssid*, but a connection already exists.**

Explanation:
A request to connect to the specified Db2 subsystem was received. However, a connection to that subsystem is already established.

User response:
Contact IBM Software Support.

HLOS0202E **TCB: <*tcb_address*> *db2_error_msg***

Explanation:
An error was encountered during an SQL or Db2 instrumentation facility interface (IFI) operation. This message contains the text of the message that the Db2 DSNTIAR message formatting routine issued when the error occurred. A possible cause is that the started task does not have the proper authorization to perform the operation. The started task requires system administration authority (SYSADM) on all active subsystems in the data sharing group.

User response:
For more information about the error, see the IBM Db2 messages documentation.

HLOS0203I **TCB: <*tcb_address*> Connection to DB2 was successful. SSID=*db2_ssid***

Explanation:
Db2 Analytics Accelerator Loader successfully connected to the specified Db2 subsystem.

User response:
No action is required.

HLOS0204I **TCB: <*tcb_address*> Disconnection from DB2 was successful. SSID=*db2_ssid***

Explanation:
Db2 Analytics Accelerator Loader successfully disconnected from the specified Db2 subsystem.

User response:
No action is required.

HLOS0205S **TCB: <*tcb_address*> STIMER SET failed. RC=<*return_code*>. Processing continues.**

Explanation:
Db2 Analytics Accelerator Loader could not set a timing interval by using the STIMERM macro. Processing continues.

User response:
Contact IBM Software Support.

HLOS0206S **TCB: <*tcb_address*> STIMER CANCEL failed. RC=<*return_code*>. Processing continues.**

Explanation:

Db2 Analytics Accelerator Loader could not cancel a timing interval by using the STIMERM macro. Processing continues.

User response:
Contact IBM Software Support.

HLOS0207E **TCB: <*tcb_address*> DB2 Instrumentation Facility request <*ifi_request*> failed, RC=<*return_code*>, RSN=<*reason_code*>, SSID=<*db2_ssid*>.**

Explanation:
The specified request for the Db2 instrumentation facility interface (IFI) failed with the specified return code and reason code on the specified SSID.

User response:
Contact IBM Software Support. Provide Support with the return code and reason code that is included in this message.

HLOS0208I **TCB: <*tcb_address*> Session: <*session_token*> - CANCEL THREAD issued for thread token *thread_token***

Explanation:
Db2 Analytics Accelerator Loader issued the CANCEL THREAD command for the thread that has the specified thread token value.

User response:
No action is required.

HLOS0209E **TCB: <*tcb_address*> Connection to DB2 failed. SSID=*db2_ssid***

Explanation:
Db2 Analytics Accelerator Loader could not connect to the Db2 subsystem that has the specified SSID.

User response:
To determine the cause of the connection failure, see the message HLOS0202E in the message log. If you need assistance, contact IBM Software Support.

HLOS0210E **TCB: <*tcb_address*> Fatal error while processing the DB2 trace record: *place_marker***

Explanation:
A unrecoverable error occurred while Db2 Analytics Accelerator Loader was processing the Db2 trace record.

User response:
Contact IBM Software Support.

HLOS0211I ***db2_error_msg***

Explanation:
The Db2 message formatting service DSNTIAR formatted the messages that follow this one in response to an action that was performed by an SQL or IFI operation.

User response:
No action is required.

HLOS0212I **TCB: <*tcb_address*>. Lock data returned for ace token <*ace_token*>.**

Explanation:
The Db2 instrumentation facility (IFI) returned lock data for the specified ace token.

User response:
No action is required.

HLOS0213I **TCB: <*tcb_address*> Session: <*session_token*> - CANCEL THREAD NOBACKOUT was issued for thread token *thread_token***

Explanation:
Db2 Analytics Accelerator Loader issued the CANCEL THREAD command with the NOBACKOUT option for the thread that has the specified thread token value.

User response:
No action is required.

HLOS0214E **Escalated Cancel is not supported for threads executing on a remote DB2 system.**

Explanation:
The escalated cancel command is supported only for threads that are active on the Db2 system to which you connected. Use the normal Db2 cancel command to terminate threads that are active on other Db2 subsystems that are members of the same data-sharing group.

User response:
No action is required.

HLOS0215I **TCB: <*tcb_address*> Session: <*session_token*> - ESCALATED THREAD CANCEL was issued for thread token *thread_token***

Explanation:
Db2 Analytics Accelerator Loader performed an escalated cancelation of the thread that has the specified thread token value. An escalated cancelation issues a command through the operator console to terminate the process that holds the thread.

User response:
No action is required.

HLOS0216E **Escalated Cancel is not supported for connection type *connection_type***

Explanation:
The Escalated Cancel command is not supported for the specified connection type.

User response:
No action is required.

HLOS0217I **ESCALATED THREAD CANCEL was issued for thread token *thread_token***

Explanation:
Db2 Analytics Accelerator Loader performed an escalated cancelation of the thread that has the specified thread token value. An escalated cancelation issues a command through the operator console to terminate the process that holds the thread.

User response:
No action is required.

HLOS0218I **CANCEL THREAD was not issued because a unit of recovery exists for token *thread_token***

Explanation:
Db2 Analytics Accelerator Loader did not issue a CANCEL THREAD command for the thread that has the specified thread token value because the NO BACKOUT option was specified as the cancel type. This option prevents the cancelation from occurring when an outstanding unit-of-recovery exists for a thread.

User response:
No action is required.

HLOS0219I **CANCEL THREAD was not issued because unit of recovery status is unknown for token *thread_token***

Explanation:
Db2 Analytics Accelerator Loader did not issue a CANCEL THREAD command for the thread that has the specified thread token value because the NO BACKOUT option was specified as the cancel type. This option prevents a cancelation from occurring when no unit-of-recovery information is available.

User response:
No action is required.

HLOS0220I **TCB: <*tcb_address*> Session: <*session_token*> - CANCEL THREAD requested for thread token *thread_token***

Explanation:
Db2 Analytics Accelerator Loader received a CANCEL THREAD request for the thread that has the specified thread token value.

User response:
No action is required.

HLOS0221E **TCB: <*tcb_address*> Session: <*session_token*> - CANCEL THREAD request failed security check for thread token *thread_token***

Explanation:
Db2 Analytics Accelerator Loader received a CANCEL THREAD request for the thread that has the specified thread token value. However, the request failed because it did not pass security-exit checking.

User response:
No action is required.

HLOS0222E **TCB: <*tcb_address*> Session: <*session_token*> - pre-cancel exit denied cancel request.**

Explanation:
Db2 Analytics Accelerator Loader received a CANCEL THREAD request for the thread that has the specified thread token value. However, the request failed because it did not pass pre-cancel exit checking.

User response:
No action is required.

HLOS0223E **TCB: <*tcb_address*> Session: <*session_token*> - ESCALATED CANCEL not allowed by startup parm**

Explanation:
An escalated cancelation cannot be performed because a started task initialization option is specified that does not allow this type of cancelation.

User response:
No action is required.

HLOS0224E **TCB: <*tcb_address*> Session: <*session_token*> - CANCEL THREAD suppressed for HLO token *thread_token***

Explanation:
The Db2 CANCEL THREAD command and the escalated cancel command (z/OS operator Cancel command) is not supported for the current Db2 Analytics Accelerator Loader started task.

User response:
No action is required.

HLOS0225E **CANCEL THREAD request failed security check for thread token *thread_token***

Explanation:
Db2 Analytics Accelerator Loader received a CANCEL THREAD request for the thread that has the specified thread token value. However, the request failed because it did not pass security-exit checking.

User response:
No action is required.

HLOS0226E **CANCEL THREAD request was denied by the pre-cancel exit for token *thread_token***

Explanation:
Db2 Analytics Accelerator Loader received a CANCEL THREAD request for the thread that has the specified thread token value. However, the request failed because it did not pass pre-cancel exit checking.

User response:
No action is required.

HLOS0227E **TCB: <*tcb_address*> Session: <*session_token*> Start TRACE(<*trace type*>) failed on SSID: <*ssid*>. RC: <*ifca_rc_code*> RSN: <*ifca_rsn_code*>**

Explanation:
Db2 Analytics Accelerator Loader attempted to start the Db2 monitor trace facility prior to a call to the instrumentation facility interface. However, this attempt failed.

User response:
Contact IBM Software Support.

HLOS0228E **TCB: <*tcb_address*> Session: <*session_token*> Start trace failed for get_threads request**

Explanation:
Db2 Analytics Accelerator Loader attempted to start the Db2 monitor trace facility for a get_threads request. However, this attempt failed.

User response:
Contact IBM Software Support.

HLOS0229E **TCB: <*tcb_address*> Session: <*session_token*> Start trace failed for get_thread_detail request**

Explanation:
Db2 Analytics Accelerator Loader attempted to start the Db2 monitor trace facility for a get_thread_detail request, but the attempt failed.

User response:
Contact IBM Software Support.

HLOS0230E **DB2 CAF request <*db2_ssid*>, <*return_code*>, <*reason_code*>.**

Explanation:
The Db2 Call Attach Facility (CAF) returned the return code and reason code that is included in this message for the specified CAF request.

User response:
Contact IBM Software Support. Provide Support with the return code and reason code that is included in this message.

HLOS0231E **TCB: <*tcb_address*> Session: <*session_token*> Start trace failed for get_objects_referenced request**

Explanation:
Db2 Analytics Accelerator Loader attempted to start the Db2 monitor trace facility for a get_objects_referenced request. However, this attempt failed.

User response:
Contact IBM Software Support.

HLOS0232E **TCB: <*tcb_address*> Session: <*session_token*> -IP Address conversion error. RC=<*return_code*>, RSN=<*reason_code*>, *<*message_continuation_number*>*.**

Explanation:
An internal error occurred during the conversion of a formatted IP address to a binary representation.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOS0233E **TCB: <*tcb_address*> Session: <*session_token*> -IP Address conversion error. RC=<*return_code*>, RSN=<*reason_code*>, *<*message_continuation_number*>*.**

Explanation:
An internal error occurred during the conversion of a formatted IP address to a binary representation.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOS0234E ***<*message_continuation_number*>* <*ip_address*>.**

Explanation:
Db2 Analytics Accelerator Loader failed to convert an IP address from an external text format to an internal binary format. The message HLOS0232E or HLOS0233E, which precedes this message, provides the return code and reason code for this error.

User response:
Contact IBM Software Support.

HLOS0235W **TCB: tcb_address. Authorization check for DB2 system *db2_ssid* failed.**

Explanation:
The started task authorization id has not been granted the minimum necessary authorization on the specified Db2 system.

User response:
Grant the required authorization to the started task authorization id. See the user's guide for information about authorization requirements.

HLOS0236E **TCB: tcb_address. Authorization for primary DB2 system *db2_ssid* is insufficient.**

Explanation:
The started task authorization id has not been granted the minimum necessary authorization on the primary Db2 system.

User response:
Grant the required authorization to the started task authorization id. See the user's guide for information about authorization requirements.

HLOS0237I **TCB: <*tcb_address*>. Messages from stored procedure <*stored_procedure_name*>.**

Explanation:
A call to the named stored procedure returned one or more messages. See message HLOS0238I for the returned message text.

User response:
For more information about the returned messages, see the *Db2 Analytics Accelerator for z/OS Stored Procedures* documentation.

HLOS0238I **TCB: <*tcb_address*> MSGTEXT: <*message_text*>.**

Explanation:
A stored procedure returned the message text after successful or unsuccessful completion.

User response:
For more information about the returned messages, see the *Db2 Analytics Accelerator for z/OS Stored Procedures* documentation.

HLOS0300E **TCB: <*tcb_address*> IEAVRLS Pause Release failed, RC=<*return_code*>.**

Explanation:
The IEAVRLS Pause Release Service failed with the specified return code.

User response:
Contact IBM Software Support. Provide Support with the return code from this message.

HLOS0301E **TCB:<*tcb_address*>. Session=<*session_token*>. Unable to return result.**

Explanation:
The specified Db2 Analytics Accelerator Loader session could not return the results of an operation to the user.

User response:
For more information about this error, see the other messages that were issued for the specified task control block (TCB) and session. If you need assistance, contact IBM Software Support.

HLOS0302E **TCB: <*tcb_address*> HLOSRSLT bad parms, Session: <*session_token*>, FBUF=*fbuf_address*, UBUF=*ubuf_address***

Explanation:
An internal error occurred. Db2 Analytics Accelerator Loader invoked the HLOSRSLT results processor by using an invalid FBUF or UBUF address pointer.

User response:
Contact IBM Software Support.

HLOS0303I **TCB: <*tcb_address*> Failure to obtain ALET, Session:*session_token***

Explanation:
An internal error occurred. Db2 Analytics Accelerator Loader could not obtain the ALET token to facilitate cross-memory addressing.

User response:
Contact IBM Software Support.

HLOS0304I **TCB: <*tcb_address*> STOKEN release failure**

Explanation:
An internal error occurred. Db2 Analytics Accelerator Loader could not release the STOKEN token, which is involved in cross-memory addressing.

User response:
Contact IBM Software Support.

HLOS0305S **TCB: <*tcb_address*> Session failed. SESS:*session_token csect_name/offset_value/variable_value/variable_name***

Explanation:
An internal error occurred. Db2 Analytics Accelerator Loader failed to validate a cross-memory address. This failure probably occurred because a client address space terminated abnormally.

User response:
Contact IBM Software Support.

HLOS0306E **TCB: <*tcb_address*> SQL Error occurred. Module: *module_name offset_value*.**

Explanation:
An SQL error occurred.

User response:
Review the information in the HLOS0202E messages that follow this one for detailed information about the error. Also see the Db2 messages documentation to determine the reason for the error. If you need assistance, contact IBM Software Support. Provide Support with the TCB address and module name that is included in this message.

HLOS0307E **TCB: <*tcb_address*> SRB Processing returned, RC=<*return_code*>, RSN=<*reason_code*>, RSN1=<*extended_reason_code*>.**

Explanation:
SRB processing returned the specified error codes.

User response:
Contact IBM Software Support. Provide the support representative with the return code from this message.

HLOS0308W **TCB: <*tcb_address*> Unable to determine the index space name for DBID: *database_id* OBID: *object_id***

Explanation:
Db2 Analytics Accelerator Loader could not determine the index space name for the DBID and OBID that are identified in this message.

User response:
Contact IBM Software Support.

HLOS0309W **TCB: <*tcb_address*> Unable to determine the table space name for DBID: *database_id* OBID: *object_id***

Explanation:
Db2 Analytics Accelerator Loader could not determine the table space name for the DBID and OBID that are identified in this message.

User response:
Contact IBM Software Support.

HLOS0310W **TCB: <*tcb_address*> Unable to access HLOLOG table**

Explanation:
The HLOLOG table was not found. Therefore, Db2 Analytics Accelerator Loader cannot write messages to this table. The table should have been created on the primary subsystem during customization.

User response:
Review the Db2 Analytics Accelerator Loader customization procedures. Make sure that you created the HLOLOG table by using the DDL member that Tools Customizer created for your primary subsystem. Also make sure that the DB2_SSID option in the your *product_id*OPTS member specifies the Db2 subsystem where the HLOLOG table is located.

HLOS0311W **TCB: <*tcb_address*> Unable to access HLOAUDIT table**

Explanation:
The HLOAUDIT table was not found. Therefore, the product cannot write audit information to this table. The table should have been created on the primary subsystem during customization.

User response:
Review the product customization procedures. Make sure that you created the HLOAUDIT table by using the member that Tools Customizer created for your primary subsystem. Also make sure that the DB2_SSID option in the HLOOPTS member specifies the Db2 subsystem where the HLOAUDIT table is located.

HLOS0400S **Task Manager initialization failed**

Explanation:
The Db2 Analytics Accelerator Loader task management component failed during started task initialization. Processing will terminate.

User response:
For more information about this error, see the other messages that were issued just prior to this message. If you need assistance with resolving this problem, contact IBM Software Support.

HLOS0401S **Component ID=*component_id* Component not found in the MEPL table**

Explanation:
An internal error occurred.

User response:
Contact IBM Software Support.

HLOS0402S **Attach failed. Program=<*program_name*>, RC=<*return_code*>, RSN=<*reason_code*>.**

Explanation:
An internal error occurred.

User response:
Contact IBM Software Support. Provide Support with the complete text of this message.

HLOS0403W **TCB: <*tcb_address*>, Detach failed. RC=<*return_code*>, RSN=<*reason_code*>.**

Explanation:
An internal error occurred.

User response:
Contact IBM Software Support. Provide Support with the complete text of this message.

HLOS0404S **TCB: <*tcb_address*> Subtask failed. Termination ECB: *event_control_block*.**

Explanation:
An internal error occurred.

User response:
Contact IBM Software Support. Provide Support with the complete text of this message.

HLOS0405S **TCB: <*tcb_address*> Subtask unexpectedly posted init ECB. Initialization ECB: *event_control_block*.**

Explanation:
An internal error occurred that is related to the specified event control block (ECB).

User response:
Contact IBM Software Support. Provide Support with the complete text of this message.

HLOS0406S **TCB: <*tcb_address*> Subtask failed during initialization. Termination ECB: *event_control_block*.**

Explanation:
An internal error occurred that is related to the specified event control block (ECB).

User response:
Contact IBM Software Support. Provide Support with the complete text of this message.

HLOS0407W **Task manager received an unexpected command code. Command code=<*command_code*>.**

Explanation:
An internal error occurred.

User response:
Contact IBM Software Support. Provide Support with the complete text of this message.

HLOS0408S **No DB2 task started. Processing will be terminated.**

Explanation:
An internal error occurred.

User response:
Contact IBM Software Support.

HLOS0409W **Cannot connect to the primary Db2 subsystem <*db2_subsystem*> as required.**

Explanation:
Db2 Analytics Accelerator Loader could not connect to the Db2 subsystem that is necessary for logging and auditing functions because that subsystem is not active. Processing continues; however, logging and auditing cannot be performed.

User response:
Ensure that the Db2 subsystem that is specified in the initialization options member is started and available for use by Db2 Analytics Accelerator Loader.

HLOS0410E **Primary DB2 subsystem <*db2_subsystem*> does not exist. Processing will be terminated.**

Explanation:
Db2 Analytics Accelerator Loader could not connect to the Db2 subsystem that is necessary for logging and auditing functions because that subsystem does not exist.

User response:
Ensure that the Db2 subsystem that is specified in the initialization options member exists and is available for use by Db2 Analytics Accelerator Loader.

HLOS0500I **TCB: <*tcb_address*> Session: <*session_token*> SSID: *db2_ssid* BLOCKER ID: *thread_blocker_id* **message_continuation_number**

Explanation:
A thread-blocking operation that has the specified blocker ID has been initiated. The messages that follow this one identify the operations and Db2 object status changes.

User response:
No action is required.

HLOS0501I ****message_continuation_number**** **(*cancel_specification_number*) DB: *database_name* SP: *space_name* PART: *partition_number* OLD: *old_status* NEW: *new_status***

Explanation:
Db2 Analytics Accelerator Loader changed the status of the specified Db2 object while performing a thread-blocking operation. This message provides the old status and the new status for the object. The message HLOS0500I provides the blocker ID for the thread-blocking operation.

User response:
No action is required.

HLOS0502I ***message_continuation_number*** **(*cancel_specification_number*) DB: *database_name* SP: *space_name* PART: *partition_number***

Explanation:
Db2 Analytics Accelerator Loader failed to perform a thread-blocking operation on the specified Db2 object because threads were already being blocked on that object. The message HLOS0503I provides the blocker ID for the thread-blocking operation.

User response:
No action is required.

HLOS0503W ***message_continuation_number*** **Object already blocked by blocker ID *blocker_id***

Explanation:
Db2 Analytics Accelerator Loader failed to perform the thread- blocking operation that has the blocker ID specified in the message HLOS0500I and that was attempting to block threads on the Db2 object identified in the message HLOS0502I. Threads on that object were already being blocked by a previous thread-blocking operation that has the blocker ID specified in this message. The processing of the current thread-blocking operation continues because the ON_FAILURE (CONTINUE) parameter is specified for the job step.

User response:
No action is required.

HLOS0504E ***message_continuation_number*** **The blocker ID specified was not found for delete.**

Explanation:
An attempt was made to delete information for the specified thread-blocker ID from the Db2 Analytics Accelerator Loader object status table (HLOOBJSTAT). This attempt failed because the table contained no information for that blocker ID.

User response:
Make sure that the blocker ID that is specified in the PARM in the EXEC statement of the thread-blocker job step is spelled correctly.

HLOS0505E ***message_continuation_number*** **Thread blocker ID is already in use.**

Explanation:
Db2 Analytics Accelerator Loader failed to perform a thread-blocking operation on a Db2 object because the blocker ID is already in use. The blocker ID is specified in the message HLOS0500I.

User response:
Specify a unique blocker ID.

HLOS0506W ***message_continuation_number*** **(*cancel_specification_number*) No objects could be resolved for cancel specification.**

Explanation:
An attempt to resolve the database and space objects for a thread-blocking action under this cancel specification failed. The objects were not found in the Db2 catalog.

User response:
Make sure that the object names that are specified in the cancel specification are spelled correctly. If any wildcard patterns are specified, make sure that they will resolve to the correct Db2 objects.

HLOS0507I ***message_continuation_number*** **Blocker ID deleted.**

Explanation:
The specified blocker ID was deleted from the object status table.

User response:
No action is required.

HLOS0508I ***message_continuation_number*** **No objects to reset for this blocker ID.**

Explanation:
Db2 Analytics Accelerator Loader failed to find any rows in the object status table (ABOBJSTAT) that matched the blocker ID.

User response:
No action is required.

HLOS0509I ***message_continuation_number*** **Reset status processing initiated.**

Explanation:
Db2 Analytics Accelerator Loader initiated processing to reset the object status in response to a previous error condition.

User response:
No action is required.

HLOS0510I ***message_continuation_number*** **Thread blocker operation is *thread_blocker_operation***

Explanation:
This message identifies the current thread-blocking operation.

User response:
No action is required.

HLOS0511E ***message_continuation_number*** **(*cancel_specification_number*) No objects could be resolved for cancel specification.**

Explanation:
An attempt to resolve the database and space objects for a thread-blocking action under this cancel specification failed. The objects were not found in the Db2 catalog. Processing is terminated because the ON_FAILURE (TERMINATE) parameter was specified for the job step.

User response:
Make sure that the object names that are specified in the cancel specification are spelled correctly. If any wildcard patterns are specified, make sure that they will resolve to the correct Db2 objects.

HLOS0512E ***message_continuation_number*** **Object already blocked by blocker ID *blocker_id***

Explanation:
Db2 Analytics Accelerator Loader failed to perform the thread-blocking operation that has the blocker ID specified in the HLOS0500I message and that was attempting to block threads on the Db2 object identified in the HLOS0502I message. Threads on that object were already being blocked by a previous thread-blocking operation. This message presents the blocker ID of the previous thread-blocking operation. The processing of the current thread-blocking operation was terminated because the ON_FAILURE (TERMINATE) parameter is specified for the job step.

User response:
Determine if the current thread-blocking operation is in conflict with the previous thread-blocking operation. If a conflict exists, wait until an ALLOW_THREADS or DELETE_BLOCKERID job step ends the previous thread-blocking operation. If a conflict does not exist, change the ON_FAILURE parameter value to CONTINUE for the current thread-blocking operation and then resubmit the job.

HLOS0513I ***message_continuation_number*** **(*cancel_specification_number*) DB: *database_name* SP: *space_name* PART: *partition_number* Object not found**

Explanation:
Db2 Analytics Accelerator Loader could not change the status of the specified Db2 object because the object no longer exists. The message HLOS0500I provides the blocker ID for the thread-blocking operation.

User response:
No action is required.

HLOS0514I ***message_continuation_number*** **(*cancel_specification_number*) DB: *database_name* SP: *space_name* PART: *partition_number* OLD: *old_status***

Explanation:
Db2 Analytics Accelerator Loader did not change the status of the specified Db2 object while performing a thread-blocking operation because the object was already in the desired state. The message HLOS0500I provides the blocker ID for the thread-blocking operation.

User response:
No action is required.

HLOS0515I ***message_continuation_number*** **Thread blocker is suppressed for DB2 system object database_name.**

Explanation:
The thread blocker operation is suppressed for the following Db2 system databases: DSNDB01, DSNDB06, and DSNDB07.

User response:
No action is required.

HLOS0516W ***message_continuation_number*** **(*cancel_specification_number*) DB: *database_name* SP: *space_name* PART: *partition_number* Partition number is invalid.**

Explanation:
The thread blocker operation detected an invalid partition number specification.

User response:
No action is required.

HLOS0517E ***message_continuation_number*** **(*cancel_specification_number*) DB: *database_name* SP: *space_name* PART: *partition_number* Partition number is invalid.**

Explanation:
The thread blocker operation detected an invalid partition number specification on a Db2 Version 7 system. The thread blocker operation cannot continue.

User response:
Correct the partition specification and rerun the job.

HLOS0518E ***message_continuation_number*** **(*cancel_specification_number*) DB: *database_name* SP: *space_name* PART: *partition_number* Partition number is invalid.**

Explanation:
The thread blocker operation detected a partition number specified for a non-partitioned space. The thread blocker operation cannot continue.

User response:
Correct the partition specification and rerun the job.

HLOS0519I **Thread blocker is suppressed for Db2 Analytics Accelerator Loader configuration object *DB: database_name SP: space_name*.**

Explanation:
The thread blocker operation is suppressed for the Db2 Analytics Accelerator Loader configuration database.

User response:
No action is required.

HLOS0520E ***message_continuation_number*** **Userid *user_id* denied access to blocker operation by security exit.**

Explanation:
The security exit for the Db2 Analytics Accelerator Loader configuration prevented the specified user from performing a thread-blocker operation.

User response:
To perform a thread-blocker operation, the user must be provided with the proper authority under the security exit.

HLOS0521I **Thread blocker is suppressed for the DB2 object with type TEMP or WORKFILE: *database_name***

Explanation:
Because a database that is defined as WORKFILE or TEMP cannot be started in RO or UT status, thread-blocker operations must not be attempted for such an object. Therefore, the thread-blocker operation is suppressed for objects that are in a database with a value of "W" or "T" in the SYSIBM.SYSDATABASE TYPE column.

User response:
No action is required.

HLOS0600I **DSNUTILB interception for DB2 SSID=*DB2_ssid* is enabled.**

Explanation:
DSNUTILB interception services have been enabled for the specified Db2 subsystem.

User response:
No action is required.

HLOS0601I **DSNUTILB interception for DB2 SSID=*DB2_ssid* is disabled.**

Explanation:
DSNUTILB interception services have been disabled for the specified Db2 subsystem.

User response:
No action is required.

HLOS0602W **DSNUTILB interception for DB2 SSID=*DB2_ssid* not enabled. Interception being performed by HLOID=*product_id*.**

Explanation:
DSNUTILB interception services were not enabled for the Db2 subsystem that is specified in this message because another Db2 Analytics Accelerator Loader system was already providing interception services for it.

User response:
Verify that the list of Db2 subsystems in the DSNUTILB interception policy is correct. Only one Db2 Analytics Accelerator Loader system can provide interception services for a specific Db2 subsystem at a time.

HLOS0603W **DSNUTILB interception for DB2 SSID=*DB2_ssid* not enabled, product cannot connect to the subsystem**

Explanation:
DSNUTILB interception services were not enabled for the Db2 subsystem that is indicated in this message because Db2 Analytics Accelerator Loader cannot connect to that Db2 subsystem.

User response:
Verify that the list of Db2 subsystems that is specified in the DSNUTILB intercept policy is correct. Only one Db2 Analytics Accelerator Loader system can provide interception services for a specific Db2 subsystem at one time. Db2 Analytics Accelerator Loader must have a properly bound plan on the Db2 subsystem for which it will provide interception services.

HLOS0604W **DSNUTILB interception for DB2 SSID=*DB2_ssid* not enabled, DB2 subsystem is not active.**

Explanation:
DSNUTILB interception services were not enabled for the Db2 subsystem that is indicated in this message because the subsystem is inactive.

User response:
Verify that the list of Db2 subsystems specified in the DSNUTILB interception policy is correct. Only one Db2 Analytics Accelerator Loader system can provide interception services for a specific Db2 subsystem at a time.

HLOS0605W **DSNUTILB interception for *db2_ssid* not enabled, insufficient authority.**

Explanation:
DSNUTILB interception services were not enabled for the Db2 subsystem that is indicated in this message because Db2 Analytics Accelerator Loader has insufficient authority on that Db2 subsystem.

User response:

Grant the required authorization to the started task authorization id. See the user's guide for information about authorization requirements.

HLOS0606I **DB2 SSID=*db2_ssid* has DB2 Sort enabled.**

Explanation:
Db2 Sort is either enabled (YES) or not enabled (NO) for the specified Db2 subsystem.

User response:
No action is required.

HLOS0607I **TCB: <*tcb_address*> DB2 subsystem <*db2_ssid*> startup detected.**

Explanation:
The Db2 Analytics Accelerator Loader started task detected that a Db2 system that is referenced in the policy has started.

User response:
No action is required.

HLOS0608W **TCB: <*tcb_address*>: Count of DB2 systems exceeds 256. Startup detection disabled for SSID <*db2_ssid*>.**

Explanation:
The Db2 Analytics Accelerator Loader started task detected that the number of Db2 subsystems referenced by the policy exceeds the maximum of 256.

User response:
Refine the policy to reduce the number of referenced Db2 subsystems.

HLOS0609I **TCB: <*tcb_address*> DB2 system <*db2_ssid*> is the primary subsystem for this instance**

Explanation:
The Db2 Analytics Accelerator Loader started task is using the Db2 system as its primary subsystem. All log and audit records are inserted using the connection established for this Db2. If this Db2 system is stopped while the Db2 Analytics Accelerator Loader started task is running, logging and auditing will terminate.

User response:
No action is required.

HLOS0610I **TCB: <*tcb_address*> DB2 subsystem <*db2_ssid*> shutdown detected.**

Explanation:
The Db2 Analytics Accelerator Loader started task detected that a Db2 system that is referenced in the policy has shut down.

User response:
No action is required.

HLOS0611I **TCB: <*tcb_address*> DB2 subsystem <*db2_ssid*> is now running in ACCESS(MAINT) mode**

Explanation:
The Db2 Analytics Accelerator Loader started task detected that a Db2 system referenced in the policy has started in ACCESS(MAINT).

User response:
No action is required.

HLOS0612I **TCB: <*tcb_address*> ACCESS(MAINT) cleared for DB2 subsystem <*db2_ssid*>**

Explanation:
The Db2 Analytics Accelerator Loader started task detected that a Db2 system referenced in the policy has started in normal operational mode after having been up in ACCESS(MAINT) mode.

User response:
No action is required.

HLOS0700I **TCB *tcb_address* SESSION REPORT *message_continuation_number***

Explanation:
A session report has been initiated. The messages that follow represent details about currently active sessions.

User response:
No action is required.

HLOS0701I ***message_continuation_number* SESS: *Session_token* Session_number *Session_type* *Session_job_name* *Session_job_ID* *Session_asid* *Session_user***

Explanation

Details of a product session. The session is identified by the information that is displayed in this message after SESS:

- *Session_token* is an internal session identifier.
- *Session_number* is a unique session identifier that is generated incrementally for each new session that is created.
- *Session_type* indicates whether the session is for a batch job (B), an ISPF user (I), the DSNUTILB intercept (U), or the HLOMAINT utility (M).
- *Session_job_name* is the name of the job that is associated with the session.
- **Session_job_ID** is the identifier for the job that is associated with the session.

- *Session_asid* is the hexadecimal address space identifier for the user type (session type).
- *Session_user* is the user ID.

User response:
No action is required.

HLOS0702I ***message_continuation_number*** **STATUS:** ***session_status***

Explanation:
Session status.

User response:
No action is required.

HLOS0703I ***message_continuation_number*** **STARTED:** ***session_start_time***

Explanation:
Date and time when session was started.

User response:
No action is required.

HLOS0704I ***message_continuation_number*** **No active sessions found**

Explanation:
No active sessions were found.

User response:
No action is required.

HLOS0705I **ROWS LOADED:** ***number_of_rows_loaded***

Explanation:
The *number_of_rows_loaded* value is the number of rows that have been loaded to the table by the job at the time the message is issued. The *number_of_rows_loaded* value is 0 if the parameter ACCEL_ROWS_REPORT_THRESHOLD is set to 0.

User response:
No action is required.

HLOS0804W **The trace table is too small. Tracing will be disabled. Required minimum size=** ***trace_table_minimum_size*****, Requested size=** ***trace_table_requested_size***

Explanation:
The size of the trace table is too small to perform internal tracing. Tracing will be disabled, but product operations will continue.

User response:
Increase the size of the trace table to at least the minimum size that is indicated in this message.

HLOS0805W **The trace table entry is larger than the trace table. Trace table size=** ***trace_table_size*****, Trace entry size=** ***trace_table_entry_size***

Explanation:
The size of the trace information entry is larger than the size of the trace table. The entry cannot be recorded in the trace table.

User response:
Increase the size of the trace table. If the problem persists, contact IBM Software Support.

HLOS0806I **The** ***user_exit_type*** **User Exit** ***user_exit_name*** **is now in use.**

Explanation:
The specified user exit is in use.

User response:
No action is required.

HLOS0807S **A severe error occurred while attempting to load the** ***exit_type*** **user exit** ***exit_name***

Explanation:
Db2 Analytics Accelerator Loader started task encountered a severe error when attempting to load the specified user exit.

User response:
Ensure that the following requirements are met: 1) the exit is properly assembled and linked, 2) the exit resides in a STEPLIB-concatenated load library that is accessible to the Db2 Analytics Accelerator Loader started task, and 3) the exit name is correctly specified in the started task initialization options member.

HLOS0808S **A severe error occurred within** ***exit_type*** **user exit** ***exit_name*****, FUNC=*****exit_function***

Explanation:
The Db2 Analytics Accelerator Loader started task encountered a severe error within the specified user exit.

User response:
An MVS SVC dump has been produced to help you diagnose the problem with the user exit. After you correct the problem, assemble and link the exit. Then restart Db2 Analytics Accelerator Loader.

HLOS0809S **A severe internal error occurred preparing to drive the** ***exit_type*** **user exit** ***exit_name*****, FUNC=*****exit_function***

Explanation:
The Db2 Analytics Accelerator Loader started task encountered a severe internal error while preparing to run the specified user exit.

User response:
Contact IBM Software Support.

HLOS0810I **The *user_exit_type* User Exit *user_exit_name* is now inactive.**

Explanation:
The specified user exit is no longer active.

User response:
No action is required.

HLOS0811S **The <*user_exit_type*> user exit <*user_exit_name*> FUNC=<*user_exit_func*> RC=12. The started task is terminating.**

Explanation:
The Db2 Analytics Accelerator Loader started task received the return code RC=12 from the specified user exit. As a result, the started task is terminating.

User response:
Identify and correct the problem that caused the user exit to issue RC=12. Then restart the Db2 Analytics Accelerator Loader started task.

HLOS0812I **MODULE LEVEL DATE TIME EPA RREPA CC F1 F2 F3 SEQ**

Explanation:
This message displays the fields in the Module Entry Point List (MEPL) control block.

User response:
No action is required.

HLOS0813I ***<module_name>, <maintenance_level>, <assembly_date>, <assembly_time>, <entry_point_address>, <rr_entry_point_address>, <component_code>, <flag_byte_1>, <flag_byte_2>, <flag_byte_3>, <sequence_number>.***

Explanation:
This message displays the data in the fields of the Module Entry Point List (MEPL) control block.

User response:
No action is required.

HLOS0814I **Command issued: *command_text***

Explanation:
This message identifies the Db2 Analytics Accelerator Loader operator command that was issued from the z/OS console.

User response:
No action is required.

HLOS0815E **Unrecognized command**

Explanation:
An unknown operator command was issued to the Db2 Analytics Accelerator Loader started task.

User response:
Specify a valid Db2 Analytics Accelerator Loader command.

HLOS0816E **Invalid keyword provided for command: *command_name***

Explanation:
An invalid keyword was provided for the Db2 Analytics Accelerator Loader command that is specified in this message.

User response:
Specify a valid keyword for the command. For the correct syntax, see the Db2 Analytics Accelerator Loader documentation.

HLOS0817I ***command_scope* DSNUTILB intercept status is: *dsnutilb_intercept_status***

Explanation:
This message indicates either the local DSNUTILB intercept status for the started task or the global DSNUTILB intercept status for the entire z/OS image.

User response:
No action is required.

HLOS0818I ***help_text***

Explanation:
This message presents the output from the HELP console command that was issued for the Db2 Analytics Accelerator Loader started task. This command lists all console commands that are supported for the started task.

User response:
No action is required.

HLOS0819E **Trace table size is zero. Trace table display is not possible.**

Explanation:
A SNAP of the Db2 Analytics Accelerator Loader trace table was requested, but no trace table exists. The trace table does not exist because the trace table size option is set to zero. Therefore, the trace data cannot be displayed.

User response:
If you want to be able to record Db2 Analytics Accelerator Loader internal trace data, set the trace table size to a non-zero value in the started task initialization options member.

HLOS0820W **A display of the trace table is already in progress.**

Explanation:

A SNAP of the Db2 Analytics Accelerator Loader trace table is already in progress. Consequently, this additional request is ignored.

User response:
If you want to display the Db2 Analytics Accelerator Loader internal trace table again, wait for the current display request to complete.

HLOS0821I Trace table display is complete.

Explanation:
The requested display of the Db2 Analytics Accelerator Loader internal trace table has completed.

User response:
No action is required.

HLOS0822I DB2SSID=*db2_ssid* DB2VER=*db2_version* HLOID=*configuration_id* DSNUTILB interception is *DSNUTILB_interception_status*

Explanation:
This message presents the DSNUTILB intercept status for the specified Db2 subsystem.

User response:
No action is required.

HLOS0823E Address contains invalid hex digits

Explanation:
An invalid address was specified in the console command. The address contained invalid characters. An address must be an 8-digit hexadecimal number that is composed of only the characters 0 through 9 and A through F.

User response:
Specify a valid hexadecimal address for the command.

HLOS0824E Address is not for an active session

Explanation:
The address that was specified in the TERMINATE SESSION console command does not reference an active session. The session might have already terminated, or the address might have been entered incorrectly.

User response:
Verify that the session address was entered correctly. If the session address was incorrect, reissue the TERMINATE SESSION command with a valid session address. If the address was correct, the session already terminated and you do not need to take further action.

HLOS0830I DSNUTILB Intercept Policy:

Explanation:
This message introduces the DSNUTILB intercept policy. The policy details are presented in the messages that follow this one.

User response:
No action is required.

HLOS0831I DB2 SSID: *db2_ssid* ACTION: *action* | ACTION: *VRUPDATE - SUBMIT_FROM_SERVER*

Explanation
This message identifies the section of the DSNUTILB intercept policy that is for the specified Db2 subsystem and defined ACTION to perform.

If SUBMIT_FROM_SERVER=”NO” or is omitted from the policy, the message HLOS0831I states "HLOS0831I DB2 SSID: *db2_ssid* ACTION: *action*."

If SUBMIT_FROM_SERVER=”YES” is specified in the policy, the message HLOS0831I states "HLOS0831I DB2 SSID: *db2_ssid* ACTION: *VRUPDATE - SUBMIT_FROM_SERVER*."

User response:
No action is required.

HLOS0832I Rule type: *rule_type*

Explanation:
This message identifies an INCLUDE or EXCLUDE rule in the DSNUTILB intercept policy.

User response:
No action is required.

HLOS0833I *rule_number delimiter rule_element_type delimiter rule_element_data*

Explanation:
This message presents a RULE element that is specified in the DSNUTILB intercept policy.

User response:
No action is required.

HLOS0834I DSNUTILB intercept is inactive.

Explanation:
The command was not processed because the DSNUTILB intercept was turned off in the initialization options.

User response:
No action is required.

HLOS0835I Active PRACTICE: *practice_name*

Explanation:
This message indicates the name of the active PRACTICE of the DSNUTILB intercept policy.

User response:
No action is required.

HLOS0836I **Db2 Analytics Accelerator Loader started task practice report**

Explanation:
This message presents the output from the LIST PRACTICE or DISPLAY PRACTICE console command that was issued for the Db2 Analytics Accelerator Loader started task.

User response:
No action is required.

HLOS0840E **TCB: <*tcb_address*>. Error on INSERT to table SYSAUTO.UTILITYRUNS_HISTORY.**

Explanation:
ACTION=AUTO_DIRECTOR was specified in the Db2 Analytics Accelerator Loader policy, but the product encountered an error while attempting to insert a row into the utility execution history table.

User response:
See additional formatted SQL error messages in the Db2 Analytics Accelerator Loader SYSPRINT.

HLOS0841W **TCB: <*tcb_address*>. DB2 Autonomics Director collection disabled. BBY$NMIC bad offset to data.**

Explanation:
The module BBY$NMIC that was found in the Db2 Analytics Accelerator Loader started task contains an offset to the data structure that does not point to a valid version. Db2 Autonomics Director utility history collection is disabled.

User response:
Contact IBM Software Support.

HLOS0898D **DEBUG: Field: *field_name* Value: *field_value***

Explanation:
Db2 Analytics Accelerator Loader could not connect to the Db2 subsystem that is specified in the initialization options member because that subsystem is not active.

User response:
Ensure that the Db2 subsystem that is specified in the initialization options member is started and available for use by Db2 Analytics Accelerator Loader.

HLOS0899D **DEBUG: P Len: *plan_length* P Name: *plan_name* Q Len: *qual_length* N Len: *name_length* IN1: *type_1* IN2: *type_2* Flag: *flag***

Explanation:
Db2 Analytics Accelerator Loader could not connect to the Db2 subsystem that is specified in the initialization options member because that subsystem is not active.

User response:
Ensure that the Db2 subsystem that is specified in the initialization options member is started and available for use by Db2 Analytics Accelerator Loader.

HLOS0900E **The product is not APF-authorized and is terminating.**

Explanation:
The load library for the product started task is not APF-authorized, as required. Consequently, the product is terminating.

User response:
APF-authorize the load library for the started task, and then start the product again.

HLOS0901S **RVT locate or allocate operation failed.**

Explanation:
The product could not locate or allocate its RVT control block.

User response:
Contact IBM Software Support.

HLOS0902S **Db2 Analytics Accelerator Loader started task ESTAE entered, S<*system_completion_code*>, U<*user_completion_code*>.**

Explanation:
The main task of the Db2 Analytics Accelerator Loader started task encountered an error. A dump has been generated.

User response:
Review the dump data to diagnose and resolve the problem. If you need assistance, contact IBM Software Support.

HLOS0903S **ESTAE processing completed**

Explanation:
Db2 Analytics Accelerator Loader finished generating a dump for the error that was encountered by the main task of the started task.

User response:
Review the dump data to diagnose the problem. If you need assistance, contact IBM Software Support.

HLOS0904S **Started task subtask ESTAE entered, S<*system_completion_code*>, U<*user_completion_code*>.**

Explanation:
A subtask of the Db2 Analytics Accelerator Loader started task encountered an error. A dump has been generated.

User response:

Review the dump data to diagnose and resolve the problem. If you need assistance, contact IBM Software Support.

HLOS0905S **User exit for the started task encountered an error. A dump was created. System RC=<*system_completion_code*>, user RC=<*user_completion_code*>.**

Explanation:
A security exit, pre-cancel exit, or post-cancel exit that you specified for the Db2 Analytics Accelerator Loader started task encountered an error when it ran. A dump has been generated for diagnostic use.

User response:
Review the dump data to resolve the problem with the user exit. The names of all user exits are specified in the started task initialization options member. If you need assistance, contact IBM Software Support.

HLOS0906S **SVC removal failed**

Explanation:
Db2 Analytics Accelerator Loader could not remove its supervisor call (SVC) when the started task stopped.

User response:
Contact IBM Software Support.

HLOS0907S **HLOGMODL Load Failed for MEPL=*mepl_name*.**

Explanation:
An internal error occurred during the initialization of the product started task.

User response:
Make sure that the JCL for the started task points to the proper STEPLIB. If the problem persists, contact IBM Software Support.

HLOS0908S **HLOGMODL Load Failed for MEPL entry=*mepe_name*.**

Explanation:
An internal error occurred during the initialization of the product started task.

User response:
Make sure that the JCL for the started task points to the proper STEPLIB. If the problem persists, contact IBM Software Support.

HLOS0909S **Started task subtask ESTAE entered, system RC=<*system_completion_code*>, user RC=<*user_completion_code*>.**

Explanation:
A subtask of the Db2 Analytics Accelerator Loader started task encountered an error. A dump will be created to help you diagnose the problem.

User response:
Review the dump data to diagnose the problem. If you need assistance, contact IBM Software Support.

HLOS0910E **A job name conflict with a started task has been identified. The product is terminating.**

Explanation:
The job name for the Db2 Analytics Accelerator Loader started task conflicts with the job name for another started task on the z/OS system. Consequently, the product is terminating.

User response:
Either change the name of the Db2 Analytics Accelerator Loader started task or the name of the started task that is in conflict, and then start Db2 Analytics Accelerator Loader again.

HLOS0911E **A job name conflict with a batch job has been identified. The product is terminating.**

Explanation:
The job name for the Db2 Analytics Accelerator Loader started task conflicts with the name of a batch job on this z/OS system. Consequently, the product is terminating.

User response:
Either change the name of the Db2 Analytics Accelerator Loader started task or the name of the batch job that is in conflict, and then start Db2 Analytics Accelerator Loader again.

HLOS912E **HLOID already in use. Terminating.**

Explanation:
Another Db2 Analytics Accelerator Loader started task that is running on the z/OS system has the same identifier. Each product started task must have a unique identifier. Therefore, the started task for which this message was issued is terminating.

User response:
Make sure that each product started task that runs concurrently on your system has a unique identifier. If this check does not resolve this error, contact IBM Software Support.

HLOS0913I **ESTAE SDUMPX call RC=<*short_system_return_code*>, RS=<*short_system_reason_code*>.**

Explanation:
During ESTAE processing, a call to the z/OS SDUMPX facility returned the displayed return code and reason code.

User response:
If RC=08, review the reason code in the appropriate SDUMPX documentation. Then make any changes to Dump Services that are needed to obtain proper

diagnostic dumps. If you need assistance, contact IBM Software Support.

HLOS5100I **TCB: <*tcb_address*> Session: <*session_token*> SSID: *db2_ssid* DSNUTILB utility id : *utility_id* **message_continuation**

Explanation:
A DSNUTILB intercept operation was initiated for the specified DSNUTILB utility ID. The messages that follow this one identify the intercept operation and present data associated with it.

User response:
No action is required.

HLOS5101I ***message_continuation_number*** **DSNUTILB intercept operation is *DSNUTILB_intercept_operation***

Explanation:
This message identifies the current DSNUTILB intercept worklist-management operation that is being performed by the started task.

User response:
No action is required.

HLOS5102I ***message_continuation_number*** **(*DSNUTILB_statement_sequence_no.*) Event: *DSNUTILB_event* Status: *DSNUTILB_event_status***

Explanation:
The DSNUTILB worklist has been updated with the information that is presented in this message.

User response:
No action is required.

HLOS5103I ***<*message_continuation_number*> * (<*DSNUTILB_statement_sequence_no.*>) event=<*DSNUTILB_event*>, status=<*DSNUTILB_event_status*>, return code=<*DSNUTILB_event_rc*>.**

Explanation:
The DSNUTILB worklist has been updated with the information that is presented in this message.

User response:
No action is required.

HLOS5104E ***message_continuation_number*** **Unable to save worklist due to duplicate utility ID.**

Explanation:
The DSNUTILB worklist could not be saved because a worklist that has the same DSNUTILB utility ID has already been saved. Worklists cannot have duplicate utility IDs.

User response:
No action is required.

HLOS5110I **DSNUTILB intercept operation was successful.**

Explanation:
The current DSNUTILB intercept operation completed successfully.

User response:
No action is required.

HLOS5111E ***message_continuation_number*** **DSNUTILB intercept operation failed**

Explanation:
The current DSNUTILB intercept operation failed.

User response:
To determine the cause of this failure, check any SQL errors that were reported in the log prior to this error.

HLOS5112W **TCB: <*tcb_address*> No worklist data found to delete for UTILID: *db2_utility_id***

Explanation:
The Db2 Analytics Accelerator Loader maintenance utility found no worklist data for the specified Db2 utility ID.

User response:
No action is required.

HLOS5113I ***message_continuation_number*** **Worklist is in use by another utility. Owning Session: <*session_token*>**

Explanation:
The worklist is in use by another utility at this time. Db2 Analytics Accelerator Loader will not intercept the Db2 utility execution because a worklist for that utility ID already exists and is currently in use by another utility job. This message provides the session token value of the owning utility session. See the preceding HLOS0101I message that contains a matching session token value to determine the job name and job ID of the utility job that is currently using the worklist.

User response:
You can perform any of the following actions, as appropriate: change the utility ID in the DSNUTILB utility job that you want to intercept, wait until the job that is currently using the worklist completes, or (if the other utility terminated abnormally without ending its owning session) use the TERMINATE SESSION console command to terminate the owning session.

HLOS5550E **LE preinitialization service failed. Operation=<*operation_name*>, RC=<*return_code*>.**

Explanation:
The specified Language Environment® (LE) preinitialization service operation failed with the specified return code.

User response:
Contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOS9999S **Message formatter failed. Message=<*message_id*>, RC=<*return_code*>, Reason=<*reason_text*>.**

Explanation:
An error occurred while formatting the specified message. If this error is related to obtaining or releasing storage, the message HLOS0802E or HLOS0803E is also issued to provide storage details.

User response:
To determine the cause of the error, review the return code and reason text in this message. If you need assistance, contact IBM Software Support.

HLOU4000E **Storage obtain failed. Module=<*module_name*>, storage area=<*storage area*>.**

Explanation:
The specified module failed while attempting to obtain the storage area.

User response:
Increase the region size that is available to the job and run the job again.

HLOU4001E **Unable to load module HLOUSTUB.**

Explanation:
The specified module could not be loaded by the high availability load utility (HALOAD).

User response:
Ensure that the specified module is in the JOBLIB or STEPLIB concatenation of HALOAD.

HLOU4002E **Error parsing partition specification for table <*table_creator.table_name*>.**

Explanation
An error in a partition specification was detected. Each partition number must be specified by its one- to four-character logical partition number; (for example, 1, 01, 001 or 0001). Partition ranges must be specified in the format *lesser value:larger value*. For example:

```
PART (1:4,7,12,15:20)
```

User response:
Check the partition specification for the table and ensure that it conforms to the required format.

HLOU4003E **<*table_name*>**

Explanation
An error in a partition specification was detected. Each partition number must be specified by its one- to four-character logical partition number; (for example, 1, 01, 001 or 0001). Partition ranges must be specified in the format *lesser value:larger value*. For example:

```
PART (1:4,7,12,15:20)
```

User response:
Check the partition specification for the table and ensure that it conforms to the required format.

HLOU4004I **TCB: <*tcb_address*>. Load completed for table <*table_creator.table_name*>, partition <*partition*>.**

Explanation:
The table was successfully loaded on both accelerators.

User response:
No action is required.

HLOU4005I **High availability load utility execution started.**

Explanation:
The high availability load utility (HALOAD) has started execution.

User response:
No action is required.

HLOU4006E **TCB: <*tcb_address*>. Error loading table <*table_creator.table_name*>, partition <*partition*>.**

Explanation:
Due to errors, the product was unable to load the named table.

User response:
See the job log for additional error messages. If you are unable to diagnose the cause of the failure, contact IBM Software Support.

HLOU4007E **TCB: <*tcb_address*>. Error loading table <*table_creator.table_name*>, partition <*partition*>.**

Explanation:
Due to errors, the product was unable to load the named table.

User response:
To determine the cause of the failure, see the job log for additional error messages. If you are unable to

diagnose the cause of the failure, contact IBM Software Support.

HLOU4008E **TCB: <*tcb_address*>. Unable to load <*error_count*> of the accelerators. Table <*table_creator.table_name*>, partition <*partition*>.**

Explanation:
Due to errors, the named table could not be loaded onto one or more accelerators.

User response:
See the job log for additional error messages. If you are unable to diagnose the cause of the failure, contact IBM Software Support.

HLOU4009E **TCB: <*tcb_address*>. Invalid FILE_D_LIST_COUNT from HLPPIPE. Expected <*expected_fd_count*>, got PIPECNT <*fd_count*>.**

Explanation:
An internal error caused the product to fail.

User response:
Contact IBM Software Support.

HLOU4010E **TCB: <*tcb_address*>. Invalid file descriptor from HLPPIPE. FD <*file_descriptor*>.**

Explanation:
An HLPPIPE API call returned an invalid file descriptor.

User response:
Contact IBM Software Support.

HLOU4011I **TCB: <*tcb_address*>. Load started for table <*table_creator.table_name*>, partition <*partition*>.**

Explanation:
Load processing has begun for the named table.

User response:
No action is required.

HLOU4012E **TCB: <*tcb_address*>. HLPPIPE API error. Entry= <*entry_number*>. Function=<*function_code*>. RC=<*return_code*>.**

Explanation:
An HLPPIPE API call returned a non-zero return code.

User response:
Contact IBM Software Support.

HLOU4013E **TCB: <*tcb_address*>. HLPPIPE error parms: <*error_parm1*>, <*error_parm2*>, <*error_parm3*>, <*error_parm4*>.**

Explanation:
This message might be issued in conjunction with HLOU4012E to provide additional diagnostic information after an error in the HLPPIPE API.

User response:
Contact IBM Software Support. Have available the full text of this message.

HLOU4014E **An error occurred on accelerator <*accelerator_name*>.**

Explanation:
An error occurred while the product was communicating with the named accelerator.

User response:
See the SYSPRINT for more information. If you are unable to diagnose the problem, contact IBM Software Support.

HLOU4015I **Messages from accelerator <*accelerator_name*>.**

Explanation:
This message is issued in conjunction with HLOU5720I. The messages identify the accelerator that generated the messages that were reported in HLOU5720I.

User response:
No action is required.

HLOU4016E **Error processing table <*table_creator.table_name*>.**

Explanation:
An error occurred while the product was processing the named table.

User response:
See the SYSPRINT for more information. If you are unable to diagnose the cause of the failure, contact IBM Software Support.

HLOU4017I **The tables have been removed from accelerator <*accelerator_name*>.**

Explanation:
The tables have been successfully removed from the named accelerator. If the operation completed with warnings, the warning messages that the accelerator returned are reported immediately following in message HLOU5725I.

User response:
No action is required.

HLOU4018E **Unable to remove tables from accelerator <*accelerator_name*>. Accelerator error messages follow.**

Explanation:

An attempt failed to remove tables from the accelerator. The error messages that the accelerator returned are reported immediately following in message HLOU5725I.

User response:
See the *IBM Db2 Analytics Accelerator Stored Procedures* reference for a description of the AQT messages reported in HLOU5725I. If you need additional assistance, contact IBM Software Support.

HLOU4019I **Missing tables have been added to accelerator <*accelerator_name*>.**

Explanation:
The tables were successfully added to the accelerator. If the add operation completed with warnings, the messages that the accelerator returned are reported immediately following in message HLOU5725I.

User response:
No action is required.

HLOU4020E **Unable to add tables to accelerator <*accelerator_name*>. Accelerator error messages follow.**

Explanation:
An attempt failed to add tables to the accelerator. The error messages that the accelerator returned are reported immediately following in message HLOU5725I.

User response:
See the *IBM Db2 Analytics Accelerator Stored Procedures* reference for a description of the AQT messages reported in HLOU5725I. If you need further assistance, contact IBM Software Support.

HLOU4021E **Invalid use of PART keyword. The table is not partitioned.**

Explanation:
The PART clause was specified on a nonpartitioned table. The PART clause is only allowed on partitioned tables.

User response:
Remove the PART clause and resubmit the job.

HLOU4022E **The table has been specified multiple times in the FROM TABLE clause.**

Explanation:
A table can be specified only once in the FROM TABLE clause.

User response:
Remove the duplicate table names and resubmit the job.

HLOU4023I **Enabling query acceleration for tables loaded on accelerator <*accelerator_name*>.**

Explanation:
After a successful load job, query acceleration was enabled as specified by the option ACCEL_ON_SUCCESS_ENABLE.

User response:
No action is required.

HLOU4024W **Disabling query acceleration for tables loaded on accelerator <*accelerator_name*>.**

Explanation:
Query acceleration was disabled because of a failure during the load.

User response:
Review the job log to diagnose the cause of the error, correct the problem and re-run the job.

HLOU4025E **Accelerator only tables (AOTs) cannot be loaded with the HALOAD command.**

Explanation:
AOTs exist only in the accelerator; therefore they cannot be loaded from the underlying Db2 table.

User response:
Remove the AOT from the HALOAD command and re-run the job.

HLOU4026I **Multi-table specification is incompatible with replication.**

Explanation:
Only one table can be specified for high availability load (HALOAD) if any table in the table set is enabled for replication.

User response:
Correct the syntax and resubmit the job.

HLOU4027E **Load already in progress for table <*table_creator.table_name*>.**

Explanation:
Another job is loading the named table. A table can only be loaded by one job at a time.

User response:
Wait for the current table load operation to complete, then resubmit the job.

HLOU4028I **Accelerator <*accelerator_name*> will not be loaded.**

Explanation:
The named accelerator is not available to be loaded and will be excluded from the load.

User response:
If you are unable to diagnose the problem, contact IBM Software Support.

HLOU4029I **None of the selected accelerators is available for loading.**

Explanation:
The specified accelerators are currently online or not available to be loaded. The job terminates.

User response:
When the accelerators are back online, resubmit the job.

HLOU4031E **HLPPIPE OPEN did not return any valid file descriptors for table partition: <*partition_number*>**

Explanation:
Errors prevented the product from loading the named partition on the accelerators that were specified in the load job.

User response:
See the job log for additional error messages. If you are unable to diagnose the cause of the error, contact IBM Software Support.

HLOU4032I **None of the accelerators is accepting data.**

Explanation:
Due to errors, no more data can be loaded to the accelerators that were specified in the load job.

User response:
See the job log for additional error messages. If you are unable to diagnose the cause of the error, contact IBM Software Support.

HLOU4033E **The discard data set DDNAME <*ddname*> is missing from the JCL.**

Explanation:
The DDNAME specified on the DISCARDDN keyword was not specified in the JCL. When running an IDAA_ONLY load, a template cannot be used for the discard data set.

User response:
Specify a valid discard data set in a DD statement in the JCL.

HLOU4034E **Discard record LRECL incompatible with discard DS LRECL. Record=<*record_number*>.**

Explanation:
A discarded SYSREC record could not be written to the discard data set because the record length exceeds the discard data set LRECL. This error can occur when the SYSREC is a concatenation of multiple data sets. The product sets the LRECL of the discard data set to the LRECL of the first SYSREC data set in the concatenation. An attempt to discard a record from a subsequent SYSREC data set with a larger LRECL will fail with this error.

User response:
Make sure the SYSREC data set with the largest LRECL is first in the concatenation.

HLOU4035E **The discard limit has been reached.**

Explanation:
The limit specified on the DISCARDS keyword has been reached. Db2 Analytics Accelerator Loader terminates with errors before the input data set is fully processed.

User response:
Eliminate the DISCARDS keyword or increase the limit value, and resubmit the job.

HLOU4036I **Number of records written to discard dataset=<*record_count*>.**

Explanation:
This informational message indicates the number of SYSREC records that have been written to the discard data set.

User response:
No action is required.

HLOU4050E **Accelerator copy DDNAME *copy_ddname* is missing from the JCL.**

Explanation:
A copy DDNAME required to create a backup of an accelerator table was not specified in the JCL.

User response:
Add the missing DDNAME to the Db2 Analytics Accelerator Loader JCL, or remove it from the ACCEL_COPYDDN or ACCEL_RECOVERYDDN keywords, and then resubmit the Db2 Analytics Accelerator Loader job.

HLOU4051E **Accelerator copy DDNAME *copy_ddname* specified for more multiple copy types.**

Explanation:
An ACCEL_COPYDDN or ACCEL_RECOVERYDDN DD value was specified for multiple types of copies. The DD must be specified only once.

User response:
Ensure each DDNAME specified on the ACCEL_COPYDDN or ACCEL_RECOVERYDDN keywords is specified only once. Correct the Db2 Analytics Accelerator Loader syntax and resubmit the job.

HLOU4053E **DEVTYPE failed. DDNAME: *copy_ddname* RC: *devtype_rc***

Explanation:
The DEVTYPE service returned an error. The DDNAME and error RC are included in the message.

User response:
Contact IBM Software Support. Provide support with the full output from the failed Db2 Analytics Accelerator Loader job.

HLOU4054E **Accelerator copy datasets must reside on tape or DASD. DDNAME: *copy_ddname***

Explanation:
An attempt was made to create an accelerator backup on a medium other than tape or DASD.

User response:
Change the Db2 Analytics Accelerator Loader job to create the accelerator backup on tape or DASD and resubmit the job.

HLOU4055E **Multiple datasets are concatenated to Accelerator backup DDNAME: *copy_ddname***

Explanation:
An accelerator backup DDNAME must not refer to a concatenation of data sets.

User response:
Correct the Db2 Analytics Accelerator Loader JCL and resubmit the job.

HLOU4056E **COPY FUNC= *copy_function* failed. The copy task has terminated.**

Explanation:
An attempt to create an accelerator backup copy has failed.

User response:
Review the job log messages to determine why the copy subtask failed. If you need additional help, contact IBM Software Support.

HLOU4057E ***System_call* failed. RC: *return_code* Module: *calling_module* DDNAME: *ddname***

Explanation:
The named system service failed. As a result the Db2 Analytics Accelerator Loader was unable to create or register the copy data sets.

User response:
Review the job log messages for additional error messages. If you need additional help, contact IBM Software Support.

HLOU4058E **Copy registration failed. RC: *return_code* RSN: *reason_code***

Explanation:
The server was unable to register the copy data sets. A negative reason code indicates that the server encountered an SQL error. The reason code in this case is the SQLCODE.

User response:
Review the server log messages for more information regarding the cause of the error. If you need additional assistance, contact IBM Software Support.

HLOU4059I **The following copy dataset(s) have been successfully registered:**

Explanation:
The requested backup copies have been created and registered in the product's copy data set registration table.

User response:
No action is required.

HLOU4060E **Copy must be a physical sequential dataset. DDNAME: *ddname* DSORG: *dataset_organization***

Explanation:
The named copy data set has an unsupported DSORG. Copy data sets must be physical sequential data sets. They cannot be partitioned or indexed sequential data sets.

User response:
Correct the Db2 Analytics Accelerator Loader JCL and resubmit the job.

HLOU4061E **Copy registration check failed. RC: *return_code* RSN: *reason_code***

Explanation:
The server was unable to verify that the requested copy data sets are not already registered in SYSIBM.SYSCOPY or HLOUCOPY. This registration check is performed before the copies are created to protect the recoverability of this and other Db2 objects.

User response:
Review the server log messages for more information regarding the cause of the error. If you need additional assistance, contact IBM Software Support.

HLOU4062E **Dataset used for previous *copy_type* copy. DDNAME: ddname TIME: *registration_time***

Explanation:
A utility has been invoked to back up an accelerator table to a data set which is a duplicate of one already recorded in SYSIBM.SYSCOPY or HLOUCOPY. If the specified data set is cataloged, a matching DSNAME exists. If the specified dataset is not cataloged, a matching DSNAME, DSVOLSER and FILESEQNO exists.

User response:
Change the name of the copy data set and rerun the job.

HLOU4063E **No Accelerator copy datasets have been provided in the JCL.**

Explanation:
An accelerator backup or inline copy has been requested, but no copy data sets were provided in the JCL.

User response:
Add one or more copy data sets to the JCL. Copy data sets can be specified either with an HLOCOPY DD statement in the JCL, or by specifying the ACCEL_RECOVERYDDN or ACCEL_COPYDDN keywords in the LOAD or BACKUP_ACCELERATOR command syntax. Correct the JCL and resubmit the job.

HLOU4064E **$HLOCOPY FUNC=PUTREC failed. RC: *return_code***

Explanation:
Db2 Analytics Accelerator Loader encountered an error while writing to an accelerator copy data set.

User response:
Check the job log for additional messages that may provide more details on the type of I/O error that occurred. If you need assistance, contact IBM Software Support.

HLOU4065E **Keyword <IDAA_ONLY> is required for inline copies.**

Explanation:
Inline copies were requested either by specifying the ACCEL_COPYDDN or ACCEL_RECOVERYDDN keywords, or by including the HLOCOPY DDNAME in the JCL. The inline copy feature is available only when IDAA_ONLY is also specified in the LOAD control cards.

User response:
Correct the JCL or control cards and resubmit the job.

HLOU4066E **Inline copies are not supported on partial loads.**

Explanation:
Inline copies were requested either by specifying the ACCEL_COPYDDN or ACCEL_RECOVERYDDN keywords, or by including the HLOCOPY DDNAME in the JCL. The table being loaded is index-partitioned or partitioned by range but only a subset of the table partitions are being loaded. Inline copies are only available when all partitions participate in the load.

User response:
Correct the JCL or control cards and resubmit the job.

HLOU4067E **Function GET_ACCEL_GROUP failed. RC=*return_code*, RSN=*reason_code*.**

Explanation:
An error was encountered when the product tried to determine if the specified accelerator name was a group name. This failure could be caused by an SQL error. Check the started task log for additional error messages.

User response:
If you are unable to resolve the problem, contact IBM Software Support.

HLOU4068I **<*group_name*> is an accelerator group. The following members will be loaded:**

Explanation:
The specified accelerator group has been resolved to its member accelerators. All members in the group will be loaded. This message is followed by one or more HLOU4069I messages, each of which lists one member of the group.

User response:
No action is required.

HLOU4069I ***...accelerator_name***

Explanation:
This informational message lists a member of an accelerator group. This message is issued repeatedly in conjunction with HLOU4068I to display all of the members of an accelerator group.

User response:
No action is required.

HLOU4070E **SORT ended abnormally. DSNUTILB execution bypassed due to BACKOUT YES processing.**

Explanation:
An error was detected during a data SORT performed by the product. The Db2 LOAD utility will not be executed because BACKOUT YES was specified in the LOAD control cards.

User response:
Review the messages in the job log to determine the cause of the failure. Then correct the problem and re-run the job.

HLOU4071E **No data was loaded to the accelerator due to backout processing.**

Explanation:
The BACKOUT YES option was specified in the LOAD control cards. An error condition was detected that triggered backout processing. Any data loaded to the accelerator has been discarded.

User response:
Review the messages in the job log to determine the cause of the failure. Then correct the problem and re-run the job.

HLOU4072I **Fetch: *fetch_time* Waits: *wait_count* Wait Time: *milliseconds***

Recs: *record_count* Buffs: *backup_buffers* MRF: *multi_row_fetch_factor*

Explanation:
This is an informational message issued when tracing has been activated.

User response:
No action is required.

HLOU4073I **Accelerator Backup Utility execution started.**

Explanation:
The accelerator backup utility has started execution.

User response:
No action is required.

HLOU4074I **Number of rows copied=*row_count***

Explanation:
This informational message indicates the number of rows that have been written to the accelerator copy data sets.

User response:
No action is required.

HLOU4075I ***copy_type*: *copy_dsname***

Explanation:
This informational message is issued for each copy data set that is created and registered in the product's copy registration table. The message text includes the name of the copy data set, the site that the copy is for (local or recovery) and whether the copy is the site's primary or backup copy.

User response:
No action is required.

HLOU4076E **Error converting data row to DB2 internal format. Copy task terminating due to errors**

Explanation:
A data conversion error has prevented the backup utility from building a Db2 formatted row for the copy data set. The backup utility will terminate.

User response:
Contact IBM Software Support. Provide the support representative with the full output of the failed accelerator backup job.

HLOU4077E **Unsupported data type. Accelerator backup not allowed. Column=*column_name*, Type=*column_type***

Explanation:
Accelerator backups are only available when the column data types of the target table are limited to: CHAR, VARCHAR, INTEGER, SMALLINT, BIGINT, FLOAT, REAL, DECIMAL, DATE, TIME, TIMESTAMP, GRAPHIC, VARGRAPHIC.

User response:
Consider dropping and recreating the table to eliminate the unsupported data types, or select a different table to back up.

HLOU4080E ***db2_error_msg***

Explanation:
An error was encountered during an SQL or Db2 instrumentation facility interface (IFI) operation. This message contains the text of the message that the Db2 DSNTIAR message formatting routine issued when the error occurred.

User response:
For more information about the error, refer to the IBM Db2 messages documentation.

HLOU4088E **The Unicode Services Information Service failed. RC=<*return_code*> RSN=<*reason_code*>**

Explanation:
An attempt to call the Unicode Services Information Service has failed.

User response:
No action is required.

HLOU4089E **Unsupported CCSID. Column: <*column_name*> CCSID: <*ccsid*>**

Explanation:
z/OS Unicode Services do not support the named CCSID. As a result, the product will not be able to convert data from or to this CCSID. Support for this CCSID is required for the product to load data to the named column. This CCSID was most likely specified as the coded character set identifier for the input data for the named column.

User response:
No action is required.

HLOU4090E **Conversion from CCSID: <*source_ccsid*> to CCSID: <*target_ccsid*> is not supported. Column: <*column_name*>**

Explanation:
The z/OS Unicode Services conversion service does not support converting data between the two named CCSIDs. As a result, the product is unable to load data to the named column. CCSID conversion is required anytime string input data is encoded in a different CCSID than a target table column.

User response:
No action is required.

HLOU4091W **Field <*field_name*> not convertible to column CCSID. Record=<*record_number*>**

Explanation:
Input data for the specified column is encoded in a CCSSID that differs from the column CCSID. In the process of converting the data to the target CCSID, a character was found which has no representation in the target CCSID. NOSUBS was specified in the control cards, so this record will be discarded.

User response:
No action is required.

HLOU4092W **Field <*field_name*> contains an invalid character. Record=<*record_number*>**

Explanation:
Input data for the specified column is encoded in a CCSSID that differs from the column CCSID. In the process of converting the data to the target CCSID, an invalid character was encountered. NOSUBS was specified in the control cards, so this record will be discarded.

User response:
No action is required.

HLOU4093E **Unicode character conversion service failed. RC=<*return_code*> RSN=<*reason_code*>**

Explanation:
An attempt to convert input data to the target table CCSID has failed. The system Unicode Character Conversion service is used for these conversions. A call to the conversion service failed with the indicated return and reason codes.

User response:
No action is required.

HLOU4094I **Unicode Character Conversion services will be used for this load**

Explanation:
The CCSID of input character data differs from the CCSID of the target table. The system Unicode Character Conversion service will be used to convert input data to the target table CCSID. This may lengthen the elapsed time of the load.

User response:
No action is required.

HLOU4095W **No data was loaded to the Accelerator due to rollback processing**

Explanation:
This message indicates that no data has been loaded to the accelerator. This is because the ACCEL_WHEN_DB2_DISCARDS option is set to ROLLBACK. With this option setting, data loaded to the accelerator is rolled back anytime Db2 discards records already loaded to the accelerator, or if the Db2 LOAD fails. The discard condition can occur when Db2 detects unique index or RI violations. These conditions are detected by Db2 LOAD only after all data has been loaded to the accelerator.

User response:
No action is required.

HLOU4096E **Unsupported data type for FORMAT DELIMITED. Field=<*field_name*>, Type=<*data_type*>**

Explanation:
The FORMAT DELIMITED option does not currently support SYSREC data sets that contain GRAPHIC, VARGRAPHIC or non-Unicode MIXED data.

User response:
No action is required.

HLOU4098I **Only tables or partitions changed since the last load will be loaded.**

Explanation:
DETECT_DATA_CHANGES is specified in the HALOAD command. HALOAD will automatically detect modified data and then load only those tables or partitions that have been changed in Db2 since the last load was performed. Explicit partition lists are ignored when DETECT_DATA_CHANGES is specified. The HALOAD program will determine which partitions need to be loaded.

User response:
No action is required.

HLOU4099I **No data was transferred to the accelerator. No changed tables or partitions detected.**

Explanation:
DETECT_DATA_CHANGES was specified, and no tables or partitions with modified data were found. As a result, no data was transferred to the accelerator.

User response:
No action is required.

HLOU4100I **Partition lists will be ignored because DETECT_DATA_CHANGES was specified.**

Explanation:
DETECT_DATA_CHANGES was specified; as a result, any partition lists specified will be ignored. HALOAD will determine which partitions need to be loaded. Only those partitions that have changed since the last load will be loaded.

User response:
No action is required.

HLOU4110I **HLORESET performed for utility id *utilid_id***

Explanation:
The HLORESET parameter was specified on the DSNUTILB EXEC statement for the job step. Any stopped utility was terminated and the Db2 Analytics Accelerator Loader status table entries were deleted for the utility ID.

User response:
No action is required.

HLOU4112E **SYSIN CONVERSION ERROR. RC= *conversion_service_rc* , RSN= *conversion_service_rsn*, TARG=*target_ccsid***

Explanation:
Unicode conversion service failed SYSIN conversion.

User response:
Contact IBM Software Support. Be prepared to provide support with the started task SYSPRINT output as well as the batch Db2 Analytics Accelerator Loader job log.

HLOU4114W **Table: *table_creator.table_name* cannot be loaded because all partitions are archived.**

Explanation:
Load processing determined that all partitions have been archived by the SYSPROC.ACCEL_ARCHIVE_TABLE stored procedure.

User response:
No action is required.

HLOU4115W **Userid <username> failed SELECT authorization check for table <table name>.**

Explanation:
SELECT authorization was validated because the Db2 system parameter AUTH_COMPATIBILITY=SELECT_FOR_UNLOAD was set. The USERID failed the authorization check and the table will not be loaded.

User response:
Correct authorization issues and rerun the utility.

HLOU4116I **Accelerator *<accelerator>* version: *<version>* sp_ver: *<sp version>* status: *<status>***

Explanation:
Accelerator name, version, stored procedure version, and status.

User response:
None.

HLOU4117E **Utility execution failed due to SELECT authorization check.**

Explanation:
SELECT authorization was validated because the Db2 system parameter AUTH_COMPATIBILITY=SELECT_FOR_UNLOAD was set. The USERID failed the authorization check for all tables and no tables were loaded.

User response

Correct authorization issues and rerun the utility.

HLOU4118I **No data was loaded to the accelerator because no table changes were detected or SELECT authorization errors were encountered.**

Explanation:
DETECT_DATA_CHANGES was specified. No tables or partitions with modified data were found or SELECT authorization error were detected. As a result, no data was transferred to the accelerator. Select authorization was validated because the Db2 system parameter AUTH_COMPATIBILITY=SELECT_FOR_UNLOAD was set. The USERID failed the authorization check and the table will not be loaded.

User response:
Correct authorization issues and rerun the utility.

HLOU5001I **Db2 Analytics Accelerator Loader <*product_version*>, FMID=<*product_fmid*>, COMP_ID=<*product_compid*>.**

Explanation:
This message provides the following information for your configuration: product name, version and release, FMID, and component ID.

User response:
No action is required.

HLOU5002I **Initialization is complete.**

Explanation:
The initialization processing for the DSNUTILB intercept component of the Db2 Analytics Accelerator Loader completed successfully.

User response:
No action is required.

HLOU5003I **Intercept completed.**

Explanation:
The Db2 Analytics Accelerator Loader DSNUTILB intercept has completed intercept processing for this Db2 utility execution.

User response:

No action is required.

HLOU5004I Analysis started. Step=*step_number*

Explanation:
The Db2 Analytics Accelerator Loader DSNUTILB intercept has started the analysis phase for this Db2 utility command.

User response:
No action is required.

HLOU5005I Analysis completed. RC=<*return_code*>.

Explanation:
The Db2 Analytics Accelerator Loader DSNUTILB intercept has completed the analysis phase for this Db2 utility command.

User response:
No action is required.

HLOU5006I Thread cancel started. Step=*step_number*

Explanation:
The Db2 Analytics Accelerator Loader DSNUTILB intercept has started the thread-cancel processing phase for this Db2 utility command.

User response:
No action is required.

HLOU5007I Thread cancel completed. RC=<*return_code*>.

Explanation:
The Db2 Analytics Accelerator Loader DSNUTILB intercept has completed the thread-cancel processing phase for this Db2 utility command.

User response:
No action is required.

HLOU5008I Utility execution started. Step=*step_number*

Explanation:
The Db2 Analytics Accelerator Loader DSNUTILB intercept has started the Db2 utility execution phase for this utility command.

User response:
No action is required.

HLOU5009I Utility execution completed. SYS=<*system_abend_code*>, USR=<*dsnutilb_return_code*>.

Explanation:
The Db2 Analytics Accelerator Loader DSNUTILB intercept has completed the utility execution phase for the Db2 utility command. This message provides the return code from the DSNUTILB program (the USR value). If the DSNUTILB program terminated abnormally with a system abend, the message also provides the system abend code (the SYS value).

User response:
No action is required.

HLOU5010I Allow threads started. Step=*step_number*

Explanation:
The Db2 Analytics Accelerator Loader DSNUTILB intercept has started the allow-threads processing phase for this Db2 utility command.

User response:
No action is required.

HLOU5011I Allow threads completed. RC=*return_code*

Explanation:
The Db2 Analytics Accelerator Loader DSNUTILB intercept has completed the allow-threads processing phase for this Db2 utility command.

User response:
No action is required.

HLOU5012I Connected to started task ID=*id*, JOBNAME=*job_name*, ASID=*address_space_id*, MNTLEVEL=*maintenance_level*

Explanation:
The Db2 DSNUTILB job has connected to the specified Db2 Analytics Accelerator Loader started task. Additional information about the job and environment is provided.

User response:
No action is required.

HLOU5013E Unable to connect to DB2 subsystem=*db2_ssid*

Explanation:
The Db2 DSNUTILB job could not connect to the specified Db2 subsystem through the Db2 Analytics Accelerator Loader started task.

User response:
Make sure that the required Db2 subsystem is operational.

HLOU5014I Delete blocker ID processing started. Step=*step_number*

Explanation:
The DSNUTILB intercept component of the Db2 Analytics Accelerator Loader has started the delete-blocker-ID phase of thread blocker processing for the Db2 utility command. This message provides the step number of the DELETE_BLOCKER_ID step.

User response:

No action is required.

HLOU5015I **Delete blocker ID processing completed. RC=*return_code***

Explanation:
The DSNUTILB intercept component of the Db2 Analytics Accelerator Loader has completed the DELETE_BLOCKER_ID step of thread blocker processing for the Db2 utility command. This step completed with the specified return code.

User response:
No action is required.

HLOU5016E **Utility abended. SYS=*system_abend_code*, USR=*dsnutilb_return_code***

Explanation:
The Db2 Analytics Accelerator Loader DSNUTILB intercept was not able to complete the execution phase for the Db2 utility command because the DSNUTILB program terminated abnormally with a system abend. This message provides the system abend code (the SYS value) and the DSNUTILB return code (the USR value). The message is issued as a WTO message.

User response:
To determine the cause of the error, look up the system abend code and the DSNUTILB return code in the appropriate IBM documentation.

HLOU5017E **SORT EXIT ERROR: *error_reason***

Explanation:
The Db2 Analytics Accelerator Loader detected an error in a sort exit that it uses for implementing the additional options for the Db2 LOAD utility. See the error reason that is specified in this message for an explanation of the error.

User response:
If the error is related to a data conversion failure, correct the data and run the LOAD utility again. If the error is related to a product internal error, contact IBM Software Support.

HLOU5018I **SORT execution completed. SYS=*system_abend_code*, USR=*dsnutilb_return_code***

Explanation:
SORT has completed. This message provides the return code from the SORT program (the USR value). If the SORT program terminated abnormally with a system abend, the message also provides the system abend code (the SYS value).

User response:
No action is required.

HLOU5019E **SORT ended abnormally. DSNUTILB will be canceled with an S222 abend.**

Explanation:
SORT processing during DSNUTILB interception ended abnormally. The DSNUTILB program will be canceled with an S222 abend.

User response:
Review the messages that were produced by the SORT program to determine the cause of the SORT failure. Then correct this problem and rerun the job. You can safely ignore the S222 abend in the DSNUTILB program.

HLOU5020E **Cancel syntax member *cancel_syntax_member* was not found.**

Explanation:
The HLOBMAIN cancel syntax member specified in the HLOBMAIN_CANCEL_MEMBER of the OPTIONS was not found in the parameters library.

User response:
Make sure that the required member exists in the parameters library and is correctly specified in the options member.

HLOU5021E **Global syntax member *global_syntax_member* was not found.**

Explanation:
HLOBMAIN global syntax member specified in the HLOBMAIN_GLOBAL_MEMBER of the OPTIONS was not found in the parameters library.

User response:
Make sure that the required member exists in the parameters library and is correctly specified in the options member.

HLOU5022E **Subtask *module_name* terminated unexpectedly. SYS=*system_abend_code*, USR=*return_code*.**

Explanation:
A task that is attached by DSNUTILB interception services ended unexpectedly. If the program terminated abnormally with a system abend, the message provides the system abend code (the SYS value). The message provides the return code from the program (the USR value).

User response:
Run the job again. If the problem persists, contact IBM Software Support.

HLOU5023E **Unsupported SYSREC data set type RECFM=*record_format*, DS**

SEQNO=*data_set_sequence_number*.

Explanation:
The product encountered a SYSREC data set with an unsupported record format. The SYSREC data set must have a RECFM of F or V. Spanned record formats and RECFM=U and D are not supported.

User response:
Run the job again with an appropriate SYSREC data set.

HLOU5024W **Unable to load the accelerator due to IDENTITY column *column_name*. Loading only DB2.**

Explanation:
The table contains an IDENTITY column for which no values were provided. The product cannot generate IDENTITY column values, and therefore cannot perform a dual load (load data to both the accelerator and Db2). The ACCEL_ON_UNSUPPORTED_LOAD option is set to LOAD_DB2; therefore, the dual load will be converted to a Db2-only load.

User response:
After the Db2-only load completes, run the ACCEL_LOAD_TABLES stored procedure to load the data from Db2 to the accelerator and sync the accelerator table with the Db2 table.

HLOU5025E **Generation of identity column values is not supported. Col: *column_name*.**

Explanation:
The table contains an identity column that is defined as GENERATE ALWAYS, or for which no field specification was provided. The product cannot generate values for identity columns.

User response:
If the identity column is defined as GENERATE BY DEFAULT, consider providing a field specification for the column. If the identity column is defined as GENERATE ALWAYS, the product cannot be used to load the table.

HLOU5026E **Unable to load the client API module <*module_name*>.**

Explanation:
The specified client API module could not be loaded into memory. Possible causes are the product is not installed correctly, or the load library is not concatenated to the batch job STEPLIB.

User response:
Make sure that the product load library is included in the batch job's STEPLIB or JOBLIB.

HLOU5027E **No EXEC SQL DECLARE CURSOR statement was found for ACCEL_CURSOR <*cursor_name*>.**

Explanation:
A DECLARE CURSOR statement must be provided for the cursor that is specified on the ACCEL_CURSOR clause.

User response:
Add the EXEC SQL DECLARE CURSOR statement to the Db2 Analytics Accelerator Loader control cards and rerun the job.

HLOU5028 E **Invalid partitioning key definition for a table with data loader managed partitioning.**

Explanation:
The table's partitioning key includes the ACCEL_PARTITION_KEYCOL column, which indicates that product should manage partitioning in order to enable load parallelism. Data loader managed partitioning requires a partitioning key that consists of a single INTEGER type column named ACCEL_PARTITION_KEYCOL. The table's partitioning key does not satisfy this requirement.

User response:
Correct the definition of the target table and rerun the job.

HLOU5029E **CALLTYPE <*call_type*> API call failed with RC <*return_code*> Server <*server_name*>.**

Explanation:
A client API called failed. The job will terminate.

User response:
Verify that the server is running. If you need assistance, contact IBM Software Support.

HLOU5030E **RECV call failed. RC <*return_code*> SQLCODE <*sql_code*>.**

Explanation:
An error occurred while the product attempted to fetch data from the Db2 Analytics Accelerator Loader Server.

User response:
Check the job log for additional error messages that might provide more information. Check the SQL statement to verify that it is coded correctly. If you need assistance, contact IBM Software Support.

HLOU5031 E **The client did not return an SQLDA.**

Explanation:
Db2 Analytics Accelerator Loader requires an SQLDA to load data from the Db2 Analytics Accelerator Loader Server. The client failed to return an SQLDA.

User response:
Contact IBM Software Support.

HLOU5032E **The source and target tables must have the same number of columns.**

Explanation:
When loading data from the Db2 Analytics Accelerator Loader Server, the source table must have the same number of columns as the target table on the accelerator, with the following exception: If the target table is range partitioned, then the source table cannot include the special ACCEL_PARTITION_KEYCOL column that must be part of the target Db2 and accelerator table.

User response:
Correct the definition of the target table or modify the Db2 Analytics Accelerator Loader Server SQL statement, and then rerun the job.

HLOU5033 E **Column <*column_name*> is not nullable, but Db2 Analytics Accelerator Loader Server column <*column_number*> is.**

Explanation:
When a Db2 Analytics Accelerator Loader Server table column is defined as NULL, the target Db2 column must also be nullable.

User response:
Correct the definition of the target Db2 table and rerun the job.

HLOU5034E **DATA TYPE <*data_type*> COLUMN <*column_name*> not compatible with SQLTYPE <*sql_type*>, COLNO <*column_number*>.**

Explanation:
The data type of the specified target column is not compatible with the data type of the source table column.

User response:
Correct the definition of the target Db2 table and rerun the job.

HLOU5035E **The scale of COLUMN <*column_name*> does not match that of Db2 Analytics Accelerator Loader Server column <*column_number*>.**

Explanation:
The decimal scale of the target Db2 column must match the scale of the Db2 Analytics Accelerator Loader Server table column.

User response:
Correct the definition of the target Db2 table and rerun the job.

HLOU5036E **COLUMN <*column_name*> data type <*column_type*> is not supported with ACCEL_CURSOR.**

Explanation:
The data type of the specified target Db2 column is not supported when you are loading data from the Db2 Analytics Accelerator Loader Server.

User response:
Correct the definition of the target Db2 table and rerun the job.

HLOU5037E **MSGTEXT <*message_text*>.**

Explanation:
The client returned the error messages after a failed RECV call.

User response:
See the product job log for additional information about the error.

HLOU5046E **The version of the IBM DB2 Analytics Accelerator does not support LOAD RESUME.**

Explanation:
Using LOAD RESUME requires IBM Db2 Analytics Accelerator version 4.1.5 or later.

User response:
Either upgrade IBM Db2 Analytics Accelerator to a supported version or change the syntax of the job to replace the data in the table.

HLOU5047I **No data was loaded to the accelerator.**

Explanation:
No data was loaded to the accelerator. Errors were encountered during utility execution.

User response:
Correct any problems described in the SYSPRINT error messages and rerun the job.

HLOU5048E **HLOPIPE error: Function=x'10' LOOKUP_RC=<*return_code*>.**

Explanation:
The product intercepted an UNLOAD that was running in the Workload Manager (WLM). The batch job that triggered the UNLOAD requested that the UNLOAD terminate with errors. This event indicates that the batch job encountered errors during the load process. This message is only issued in the DSNUTILU WLM address space.

User response:
See the batch job output for more information.

HLOU5049E **DB2 was successfully loaded but not the accelerator. Rerun this job with the option IDAA_ONLY.**

Explanation:
A load job that specified IDAA_DUAL and LOAD RESUME successfully loaded the Db2 table, but was unable to load the accelerator.

User response:
Correct the conditions that caused the accelerator load to fail and then rerun the job with the IDAA_ONLY keyword.

HLOU5050W **Accelerator loaded during prior failed utility execution. Only DB2 will be loaded.**

Explanation:
This is a restart of a failed IDAA_DUAL LOAD RESUME job. The failed utility run successfully loaded all data to the accelerator. As a result, only Db2 will be loaded during this restart.

User response:
No action is required.

HLOU5051E **The target table is not defined in DB2.**

Explanation:
The table that is the target of the load is not defined to Db2.

User response:
Correct the table name or create the table in Db2 and then rerun the job.

HLOU5052E **The target table is an accelerator only table (AOT).**

Explanation:
The table that is the target of the load is an accelerator only table. This means the table only exists in the accelerator.

User response:
No action is required.

HLOU5053W **Accelerator only tables do not support loading to both DB2 and the accelerator (option IDAA_DUAL). Changing to accelerator only load (option IDAA_ONLY).**

Explanation:
The table that is the target of the load is an accelerator only table. The table only exists in the accelerator, and therefore, only the accelerator can be loaded.

User response:
The load job completes with RC=4. To eliminate this warning on future loads, change the job to load only the accelerator by using the extended syntax option IDAA_ONLY.

HLOU5054E **Unable to delete existing data from target table. Module: <*module_name*> offset <*offset_to_SQL_call*.>.**

Explanation:
When performing a LOAD REPLACE on an accelerator only table, the product deletes the existing data in the table before loading the new data. This delete operation failed. For more information about the SQL error, see message HLOU5725E.

User response:
Correct the cause of the SQL error and rerun the load job.

HLOU5055I **Existing data deleted from target table.**

Explanation:
When performing a LOAD REPLACE on an accelerator only table, the product deletes all existing data from the table before loading the new data. The delete operation has completed successfully.

User response:
No action is required.

HLOU5056E **Accelerator only table support requires a later version of the accelerator software.**

Explanation:
The table that is the target of the load is an accelerator only table (AOT). The minimum version of IBM Db2 Analytics Accelerator that supports AOT is V4 with PTF 6 applied.

User response:
Upgrade the IBM Db2 Analytics Accelerator software to meet the minimum required version.

HLOU5057W **Accelerator *accelerator_name* loaded during prior failed utility execution. It will not be loaded.**

Explanation:
This is a restart of a failed LOAD RESUME utility run. The failed utility run successfully loaded all data to the named accelerator. As a result, the named accelerator will not be loaded during this restart.

User response:
No action is required.

HLOU5058W **All available accelerators were successfully loaded during the prior failed load.**

Explanation:
This is a restart of a failed LOAD RESUME utility run. The failed utility run successfully loaded all data to the accelerators. As a result, the accelerators will not be loaded again.

User response:
No action is required.

HLOU5060I **TCB: *tcb_address* E35 Xfers: *transfer_count* Pipe Writes: *write_count* Waits: *wait_count* CPU Time: *milliseconds***

Explanation:
This is an informational message issued when tracing has been activated.

User response:
No action is required.

HLOU5061I **Task: *task_name* CPU Time: *milliseconds***

Explanation:
This is an informational message issued when tracing has been activated.

User response:
No action is required.

HLOU5062I **Rows loaded: *number_of_rows_loaded***

Explanation:
The threshold of loaded rows, as defined by the ACCEL_ROWS_REPORT_THRESHOLD setting, has been met. The *number_of_rows_loaded* value is the cumulative number of rows that have been loaded by the job.

User response:
No action is required.

HLOU5063E **HLOSYTMP Open failed with code: 00000913**

Explanation:
The product encountered an error when attempting to allocate and open temporary SYSOUT data sets for output in the WLM environment.

User response:
Verify that the user ID that runs the batch Accelerator Loader utility job has the proper RACF authority to create and open temporary data sets for output.

HLOU5200E **API Initialization failed.**

Explanation:
The DSNUTILB interface program failed to complete initialization. This failure occurred during initialization of the internal API.

User response:
To determine the cause of the failure, review the messages in the job output that precede this message. Then correct the problem and run the job again. If you need assistance, contact IBM Software Support.

HLOU5300I **Processing will not be performed.**

Explanation:
No DSNUTILB intercept processing will occur for this Db2 utility execution.

User response:
See the messages that precede this one to determine the reason for the interception failure. If you still want to perform DSNUTILB interception, correct any problems that the prior messages identify and then rerun the job.

HLOU5301I **Thread cancel prevented by policy.**

Explanation:
Threads will not be blocked and canceled prior to running this DSNUTILB utility based on the intercept policy that is in effect.

User response:
If you want to block and cancel threads for the utility, edit the intercept policy to provide this function and then restart the Db2 Analytics Accelerator Loader started task.

HLOU5302E **Unable to rename DSNUTILB DD statements.**

Explanation:
This DSNUTILB utility execution will not be intercepted because Db2 Analytics Accelerator Loader could not rename the DSNUTILB DD statements. Existing DDNAMEs in the TIOT conflicted with all available DDNAME renaming patterns.

User response:
If possible, remove any DD allocations from the DSNUTILB job step that conflict with any of the following patterns: HLO$____, HLO#____, HLO@____, $HLO____, #HLO____, and @HLO____. If the conflicting DDNAME allocations cannot be removed, contact IBM Software Support for assistance.

HLOU5303E **DDNAME rename operation failed for DDNAME=*original DD name*, new DDNAME=*new DD name*.**

Explanation:
This DSNUTILB utility execution will not be intercepted because Db2 Analytics Accelerator Loader could not rename the DSNUTILB DD statements.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5304E **SWAREQ failed for DDNAME=*dd_name*, RC=*return_code*.**

Explanation:
The SWAREQ service returned a non-zero return code when it was called to provide the JFCB address for the specified DD name.

User response:

Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5305E DSNUTILB returned an error parsing the SYSIN data set.

Explanation:
This DSNUTILB utility execution will not be intercepted because the DSNUTILB parser returned an error while parsing the SYSIN data set.

User response:
See the error messages that were returned by DSNUTILB. Then correct the errors in the SYSIN data set and rerun the job.

HLOU5306E DSNUTILB syntax parser returned an error while parsing the SYSIN data set.

Explanation:
This DSNUTILB utility execution will not be intercepted because the parser for the Db2 Analytics Accelerator Loader DSNUTILB statement returned an error while parsing the SYSIN data set.

User response:
See the error messages that DSNUTILB returned. Then correct the errors in the SYSIN data set and rerun the job.

HLOU5307E Unable to determine restart status.

Explanation:
This DSNUTILB utility execution will not be intercepted because Db2 Analytics Accelerator Loader could not determine the restart status for the utility ID.

User response:
See the error messages that are related to this error in the log for the Db2 Analytics Accelerator Loader started task.

HLOU5308I UTILID in use by stopped utility but no worklist exists.

Explanation:
This DSNUTILB utility execution will not be intercepted because the utility ID is in use by a stopped utility and no worklist exists in the Db2 Analytics Accelerator Loader restart tables.

User response:
No action is required.

HLOU5309I Move worklist failed for utility ID=*utility_ID*.

Explanation:
This DSNUTILB utility execution will not be intercepted for the following reasons: a worklist for the specified utility ID already exists; no restartable utility was found; and the worklist move operation failed.

User response:
Manually delete the worklist, as described in the user's guide, then rerun the job.

HLOU5310I Restart was specified but no stopped utility was found for utility ID=*utility_ID*.

Explanation:
This DSNUTILB utility execution will not be intercepted because a restart was requested and no stopped utility was found for this utility ID.

User response:
Remove the restart parameter from the utility job, and then rerun the job.

HLOU5311E Save worklist failed for utility ID=*utility_ID*.

Explanation:
This DSNUTILB utility execution will not be intercepted because the worklist that is required for interception processing could not be saved.

User response:
See the error messages that are related to this error in the log for the Db2 Analytics Accelerator Loader started task.

HLOU5312E A running utility was found with utility ID=*utility_ID*.

Explanation:
This DSNUTILB utility job will not be intercepted because another utility is already running with the same utility ID.

User response:
Wait for the utility that is running to terminate, or specify a different utility ID for this utility job and rerun this job.

HLOU5313E Get next worklist step failed for utility ID=*utility_ID*.

Explanation:
This DSNUTILB utility execution will not be intercepted because the next step in the worklist that is required for interception processing cannot be retrieved.

User response:
See the error messages that are related to this error in the log for the Db2 Analytics Accelerator Loader started task.

HLOU5314E Update worklist status failed for utility ID=*utility_ID*.

Explanation:
This DSNUTILB utility execution will not be intercepted because the worklist status cannot be updated.

User response:

See the error messages that are related to this error in the log for the Db2 Analytics Accelerator Loader started task.

HLOU5315E Phase 2 policy processing failed.

Explanation:
This DSNUTILB utility execution will not be intercepted because phase two of intercept policy processing failed.

User response:
See the error messages that are related to this error in the log for the Db2 Analytics Accelerator Loader started task.

HLOU5316E SET worklist step failed for utility ID=*utility_ID*.

Explanation:
This DSNUTILB utility execution will not be intercepted because the SET worklist step operation failed.

User response:
See the error messages that are related to this error in the log for the Db2 Analytics Accelerator Loader started task.

HLOU5317S Unable to locate USTI for current step UTILID=*utility_ID*, STEP=*utility_step*.

Explanation:
This DSNUTILB utility execution will not be intercepted because an internal error occurred.

User response:
Contact IBM Software Support.

HLOU5318E LISTDEF expansion failed for utility ID=*utility_ID*.

Explanation:
This DSNUTILB utility execution will not be intercepted because the LISTDEF that is specified for the utility ID cannot be expanded to determine the Db2 objects to process.

User response:
Contact IBM Software Support.

HLOU5319E Save object list failed for utility ID=*utility_ID*.

Explanation:
This DSNUTILB utility execution will not be intercepted because the object list cannot be saved.

User response:
See the error messages that are related to this error in the log for the Db2 Analytics Accelerator Loader started task.

HLOU5320E SAPI processing failed, RC=*return_code*, RSN=*reason_code*.

Explanation:
The SAPI processing service returned a non-zero return code while attempting to perform a SAPI function.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5321E SAPI processing failed, RC=*return_code*, RSN=*reason_code*.

Explanation:
The SAPI processing component returned a non-zero return code while setting up a SAPI function.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5322E Listdef processing failed, RC=*return_code*, RSN=*reason_code*.

Explanation:
The processing of the LISTDEF for the intercepted Db2 utility failed with the specified non-zero return code.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5323S A usable temporary LISTDEF name could not be generated.

Explanation:
A usable, temporary LISTDEF name could not be generated because all of the temporary LISTDEF names known to Db2 Analytics Accelerator Loader occurred in the SYSIN data set for the utility job.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5324E Merge worklist failed for utility ID=*utility_ID*.

Explanation:
This DSNUTILB utility execution cannot continue because the worklist that Db2 Analytics Accelerator Loader generated for utility restart purposes cannot be merged with the original worklist.

User response:
See the error messages that are related to this error in the log for the Db2 Analytics Accelerator Loader started task.

HLOU5325I Restart in progress for utility ID=*utility_ID*

Explanation:

The specified Db2 utility execution has been restarted at the request of the user.

User response:
No action is required.

HLOU5326E **Open failed for DSN=*data_set_name***

Explanation:
A failure occurred while Db2 Analytics Accelerator Loader was trying to open the specified data set. Additional messages provide diagnostic information about this problem.

User response:
See the related messages to diagnose the problem. After you resolve the problem, rerun the utility.

HLOU5327E **Open failed. Abend code = *systemCompletionCode*, reason = *reasonCode***

Explanation:
A failure occurred while Db2 Analytics Accelerator Loader was trying to open a data set. This message provides the completion code and reason code for this failure.

User response:
Resolve the problem that is causing the error and then rerun the job.

HLOU5328E **Open failed. RC=*return_code***

Explanation:
A failure occurred while Db2 Analytics Accelerator Loader was trying to open a data set. This message provides the return code from the OPEN macro.

User response:
Resolve the problem that is causing the error and then rerun the job.

HLOU5329W **Member not found in data set DSN=*data_set_name***

Explanation:
A failure occurred while Db2 Analytics Accelerator Loader was trying to open a member of the specified data set. The member was not found in the data set.

User response:
Resolve the problem that is causing the error and then rerun the job.

HLOU5330I **Original DSNUTILB syntax follows:**

Explanation:
This message introduces the original, unmodified DSNUTILB syntax that was submitted for the utility. This syntax is presented in the message HLOU5331I, which follows this one. Db2 Analytics Accelerator Loader modifies this syntax before passing it to the DSNUTILB program.

User response:
No action is required.

HLOU5331I ***dsnutilb_syntax***

Explanation:
This message contains all or part of the original, unmodified DSNUTILB syntax that was submitted for the utility.

User response:
No action is required.

HLOU5332I **End of original DSNUTILB syntax listing.**

Explanation:
This message indicates the end of the original, unmodified DSNUTILB syntax that was submitted for this utility and that is presented in the preceding message HLOU5331I.

User response:
No action is required.

HLOU5333E **TEMPLATE data set name processing failed, RC=*return_code*, RSN=*reason_code*.**

Explanation:
The processing of the TEMPLATE data set name failed with the specified non-zero return code because an error occurred.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5334E **TEMPLATE expansion failed for utility ID=*utility_ID*.**

Explanation:
This DSNUTILB utility execution will not be intercepted because the TEMPLATE referenced in the LOAD utility statement could not be expanded to determine the data set name for the LOAD utility input.

User response:
Contact IBM Software Support.

HLOU5335E **UFSP processing failed, RC=*return_code*, RSN=*reason_code*.**

Explanation:
The UFSP processing component issued a return code greater than 4 while setting up a UFSP function. The failure might occur because the table does not exist in Db2, or because the module could not obtain necessary storage space.

User response:
Contact IBM Software Support. Provide the Support representative with the full text of this message.

HLOU5336E **An error was detected during DB2 catalog lookup of column column_name.**

Explanation:
The Db2 Analytics Accelerator Loader UFSP processing component returned a non-zero return code while looking up information in the Db2 catalog.

User response:
Contact IBM Software Support. Provide the Support representative with the full text of this message and the SYSPRINT log of the Db2 Analytics Accelerator Loader started task.

HLOU5337E **The UFSP component detected an index column with an unsupported data type.**

Explanation:
The Db2 Analytics Accelerator Loader UFSP processing component detected an index key column with a data type that is not supported by the PRESORT option for the Db2 LOAD utility. These unsupported data types are: REAL, DOUBLE, FLOAT, DECFLOAT, DISTINCT, BLOB, CLOB, and DBCLOB. The PRESORT option does not sort the data in input records by index key if the index key contains a column with an unsupported data type.

User response:
If you want to sort the data in the input records for the LOAD utility by index key, you must do so manually.

HLOU5338E **Session has been terminated by the server.**

Explanation:
The DSNUTILB interception did not complete because the session was terminated by the server.

User response:
Check with the system administrator to determine the reason for the termination of the DSNUTILB interception program.

HLOU5339E **Session creation failed RC=*return_code*, RSN=*reason_code*, Reason=*description***

Explanation:
DSNUTILB interception failed to complete initialization. The failure occurred during the creation of an interception session for the Db2 utility.

User response:
To determine the cause of the failure, review the reason description in this message. Correct the problem and run the job again. If you need assistance, contact IBM Software Support.

HLOU5340E **Worklist in use by another utility ID=*utility_ID***

Explanation:
Db2 Analytics Accelerator Loader will not intercept a Db2 utility execution that is associated with the specified utility ID because a worklist for that utility ID already exists and is currently in use by another utility job. See the corresponding message HLOS5113I in the SYSPRINT data set for the started task to determine the session token of the owning utility session.

User response:
Either change the utility ID in the utility job that you want to intercept, or wait until the utility job that is currently using the worklist completes. Then rerun the utility job that failed to be intercepted.

HLOU5341E **Unable to determine restart status for utility ID=*utility_ID***

Explanation:
Db2 Analytics Accelerator Loader cannot determine whether the Db2 utility should be restarted because the status of the last utility operation within the current worklist step was not recorded in the intercept worklist tables. This situation might be caused by an unexpected system outage.

User response:
Use the HLOMAINT utility to set the restart status for the utility. Specify one of these options for the utility: MARK_COMPLETE if the last utility operation completed successfully and the utility needs to be restarted from the next operation in the current worklist step, or FORCE_RESTART if the last utility operation needs to be restarted to complete its processing.

HLOU5342I **-TERM UTILITY issued by user, cleaning up utility ID=*utility_ID***

Explanation:
The -TERM UTILITY command was issued for the specified utility ID after the utility ended in a restartable state. The utility will complete its current worklist step and then terminate. Also, Db2 Analytics Accelerator Loader will automatically delete the data that is associated with this utility ID from the intercept worklist tables. The utility will no longer be restartable.

User response:
No action is required.

HLOU5343I **-TERM UTILITY issued during utility execution for utility ID=*utility_ID*.**

Explanation:
The -TERM UTILITY command was issued for the specified utility ID while the utility was running. The utility will complete its current worklist step and then

terminate. Also, Db2 Analytics Accelerator Loader will automatically delete the data that is associated with this utility ID from the intercept worklist tables.

User response:
No action is required.

HLOU5344E **Get discard table ROWID failed for utility ID=*utility_ID***

Explanation:
This DSNUTILB utility execution will not be intercepted because the discard table ROWID cannot be retrieved.

User response:
See the error messages that are related to this error in the log for the product started task.

HLOU5345E **Unable to dynamically allocate data set. DD name=*ddname*, RC=*return_code*, RSN=*reason_code*.**

Explanation:
The specified DD was not able to dynamically allocate a data set that was needed.

User response:
Review messages in the JES job log to determine the cause of the dynamic allocation failure. Resolve the problem that is causing the error and then rerun the job.

HLOU5346E **RDJFCB failed for DDNAME=*ddname*, RC=*return_code*.**

Explanation:
The RDJFCB service returned a non-zero return code when it was called for the specified DD name.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5347E **Open failed in ROUTINE=*routine* for DD name=*ddname*, RC=*return_code*.**

Explanation:
A failure occurred while the product was trying to open the specified DD name. This message provides the return code from the OPEN macro.

User response:
Resolve the problem that is causing the error and then rerun the job.

HLOU5348E **ATTACH failed for PROGRAM=*program_name*, RC=*return_code*.**

Explanation:
The ATTACH service returned a non-zero return code.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5349E **IDENTIFY failed, RC=*return_code*.**

Explanation:
The IDENTIFY service returned a non-zero return code.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5350E **The GET_SYSTEM_INFO call failed, RC=*return_code*.**

Explanation:
This DSNUTILB utility execution will not be intercepted because the system information could not be retrieved from the started task.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5351S **I/O Hook installation failed because no matching DB2I was found.**

Explanation:
A severe internal error prevents DSNUTILB interception from continuing because the I/O hook cannot be successfully installed.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5352S **I/O Hook installation failed, RC=*return_code*.**

Explanation:
A severe internal error prevents DSNUTILB interception from continuing because the I/O hook cannot be successfully installed.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5353S **I/O Hook removal failed, RC=*return_code*.**

Explanation:
A severe internal error prevents DSNUTILB interception from continuing because the I/O hook cannot be successfully removed.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5354S **Unknown UOBJ type encountered, UOBJ_OBJECT_TYPE=*uobj_object_type*.**

Explanation:
A severe internal error prevents DSNUTILB interception from continuing because the UOBJ object type is unknown.

User response:
Contact IBM Software Support. Provide Support with the full text of this message.

HLOU5356W **DSNUTILB syntax parser detected an empty SYSIN data set.**

Explanation:
This DSNUTILB utility execution will not be intercepted because the parser for the product detected an empty SYSIN data set.

User response:
Correct the errors in the SYSIN data set and rerun the utility job.

HLOU5357E **Tape data set detected for DDNAME=*ddname***

Explanation:
DSNUTILB utility execution will not be intercepted because Db2 Analytics Accelerator Loader detected that the DDNAME represents a tape data set.

User response:
No action is required.

HLOU5359E **Unable to dynamically allocate SYSREC data set. RC= *return_code* RSN= *reason_code*.**

Explanation

A SYSREC data set could not be dynamically allocated. See message HLOU5360E for the data set name.

User response

Review messages in the JES job log to determine the cause of the dynamic allocation failure. Resolve the problem that is causing the error and then rerun the job.

HLOU5360E **DSN=*data_set_name*.**

Explanation

The named data set could not be dynamically allocated. See message HLOU5359E for the dynamic allocation return and reason codes.

User response

Review messages in the JES job log to determine the cause of the dynamic allocation failure. Resolve the problem and then rerun the job.

HLOU5361E **DEFAULTIF is not supported for partitioning key column *column_name*.**

Explanation

This DSNUTILB utility execution will not be intercepted because the product detected that the DEFAULTIF keyword is used with a column that participates in the partitioning key of the table. The DEFAULTIF keyword cannot be used with partitioning key columns.

User response

Correct the syntax and resubmit the job.

HLOU5362E **Loading a DEFINE NO table space whose data sets have not been created is not supported.**

Explanation:
An attempt to load the accelerator (option IDAA_ONLY) or the accelerator and Db2 (option IDAA_DUAL) has failed because the Db2 table space was created with the DEFINE NO clause and its data sets have not yet been created.

User response:
Either re-create the table space with DEFINE YES, or perform an action that will cause Db2 to create the table space's VSAM data sets. Running the Db2 LOAD utility or performing an INSERT will cause Db2 to create the VSAM data sets.

HLOU5363E **Field *column_name* not found.**

Explanation:
During processing of the LOAD specifications, the product detected the specified column, which does not exist in the catalog and is not used for NULLIF or DEFAULTIF conditions. Because IGNOREFIELDS NO was specified, processing of the LOAD statement was terminated.

User response:
Correct the LOAD utility syntax and run the job again.

HLOU5364I **Record <*record_nbr*> discarded due to WHEN clause specification.**

Explanation:
The record was discarded because it did not satisfy any of the WHEN clause conditions that are specified in the LOAD control cards.

User response:
No action is required.

HLOU5366I **Record=<*record_number*> discarded due to partition key value.**

Explanation:

The record was discarded because its partitioning key did not belong to any partition included in the load.

User response:
No action is required.

HLOU5400E **Utility processing failed by policy practice *practice_name*.**

Explanation:
The utility job step was terminated because the Db2 Analytics Accelerator Loader policy specified a fail return code.

User response:
Correct the utility statement and rerun the job.

HLOU5401E **Syntax denied: id=*string*.**

Explanation:
The specified utility syntax is denied by the policy.

User response:
Correct the utility statement and rerun the job.

HLOU5402E **Syntax required: id=*string*.**

Explanation:
The specified utility syntax is required by the policy.

User response:
Correct the utility statement and rerun the job.

HLOU5403I **Utility statement altered by policy practice *practice_name*.**

Explanation:
The utility statement syntax was dynamically changed before utility execution in accordance with the specifications in the Db2 Analytics Accelerator Loader intercept policy.

User response:
No action is required.

HLOU5404E **Utility monitor encountered an error RC= *return_code* RSN= *reason_code*.**

Explanation:
The utility monitor encountered an error while checking for syntax modifications.

User response:
Contact IBM Software Support.

HLOU5405I **Utility return code altered by policy practice *practice_name*.**

Explanation:
The utility return code was changed by policy practice *practice_name*.

User response:
No action is required.

HLOU5406E **SQL function *sql_function* failed with SQLCODE= *sql_code***

Explanation:
The started task encountered an error while executing a SQL function on behalf of the client.

User response:
IBM Software Support

HLOU5407I **SQL CREATE successful for mapping table *mapping_table_name***

Explanation:
The product successfully created a mapping table and mapping table index for use by the REORG TABLESPACE utility.

User response:
No action is required.

HLOU5408I **SQL DROP successful for mapping table *mapping_table_name***

Explanation:
The product successfully dropped a mapping table and mapping table index for use by the REORG TABLESPACE utility.

User response:
No action is required.

HLOU5409I **SQL CREATE successful for discard table *discard_table_name***

Explanation:
The product successfully created a discard table space and a discard table for use by the CHECK DATA utility.

User response:
No action is required.

HLOU5410I **SQL DROP successful for discard table space <*discard_table_space_name*>.**

Explanation:
The product successfully dropped a discard table space and, as a result, the associated discard table used by the CHECK DATA utility. Any authorizations granted to the <*authid*> running the utility are also automatically revoked by the table space drop.

User response:
No action is required.

HLOU5411I **GRANT INSERT successful to discard table for authid *db2_authid***

Explanation:
The product successfully granted insert authority to the discard table used by the CHECK DATA utility.

User response:
No action is required.

HLOU5412W **SYSREC records discarded during CONVERT_INTERNAL processing. Utility return code altered.**

Explanation:
The utility return code was dynamically changed after utility execution because CONVERT_INTERNAL processing discarded one or more SYSREC records. SYSREC records may be discarded due to data validation or conversion errors or because records were found that did not belong to any partition that was included in the LOAD job.

User response:
Correct the problem records in the SYSREC data set and rerun the job.

HLOU5413W **The DB2 LOAD utility discarded one or more rows already loaded to the accelerator.**

Explanation:
The Db2 LOAD utility has discarded rows that were successfully loaded to the Db2 Analytics Accelerator. As a result, the accelerator and the Db2 table are now out of sync. That is, the accelerator contains rows that are not present in the Db2 table. This situation can occur when Db2 detects unique index key violations during the index build phase.

User response:
Eliminate or fix the SYSREC records that are responsible for the discarded rows. Rerun the job or run ACCEL_LOAD_TABLES to reload the accelerator with the Db2 data if the discards are valid.

HLOU5414W **Query acceleration has been disabled for table on accelerator <*accelerator_name*>.**

Explanation:
Query acceleration was disabled because of a failure during the load process or because Db2 discarded rows after all SYSREC records were loaded into the accelerator.

User response:
Review the job log to diagnose the cause of the error, correct the problem, and then rerun the job.

HLOU5415I **Query acceleration was enabled for the table on accelerator <*accelerator_name*>.**

Explanation:
After a successful load job, query acceleration was enabled as specified by the option **ACCEL_ON_SUCCESS_ENABLE**.

User response:
No action is required.

HLOU5416W **ACCEL_SET_TABLES_ACCELERATION stored procedure failed. Reason: *accelerator_reason_code*.**

Explanation:
An attempt to enable or disable query acceleration at the conclusion of the load job failed. The reason is the Db2 Analytics Accelerator message that the stored procedure returned. See the server log for a more information about the failure. Failure of ACCEL_SET_TABLES_ACCELERATION results in return code 4.

User response:
Contact IBM Software Support.

HLOU5500I **Load pre-processing started.**

Explanation:
Syntax IFDISCARDS or SHRLEVEL REFERENCE was found in the load job input stream. Shadow objects will be created and loaded.

User response:
No action is required.

HLOU5501I **Load pre-processing finished with RC=*return_code*.**

Explanation:
Preliminary actions for IFDISCARDS or SHRLEVEL REFERENCE finished with the specified return code.

User response:
No action is required.

HLOU5502I **Load post-processing started.**

Explanation:
The main load processing phase is complete, and additional actions will be performed for IFDISCARDS or SHRLEVEL REFERENCE processing.

User response:
No action is required.

HLOU5503I **Load post-processing finished with RC=*return_code*.**

Explanation:
Additional actions for IFDISCARDS or SHRLEVEL REFERENCE were performed.

User response:
No action is required.

HLOU5504E **Storage release failed. Module=*module_name*, storage area=*storage_area_name*, RC=*return_code*.**

Explanation:
The specified module failed while attempting to free the specified storage area.

User response:

No action is required.

HLOU5505E **Attempt to obtain storage failed. Module=*module_name*, storage area=*storage_area_name*, RC=*return_code*.**

Explanation:
The specified module failed while attempting to obtain the specified storage area.

User response:
Increase the region size that is available to the Db2 Analytics Accelerator Loader and run the job again. If the problem persists, contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5506E **SQL error.**

Explanation:
An SQL error occurred in the started task during load processing for the IFDISCARDS option or the SHRLEVEL REFERENCE option. Message HLOU5507I contains the error text.

User response:
See *Db2 for Z/OS Messages* documentation for information about the Db2 messages that are displayed in HLOU5507I. If you are unable to resolve the error, contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5507I **ERRORTXT=*error_text*.**

Explanation:
SQL error diagnostic information.

User response:
No action is required.

HLOU5508E **Insufficient authority to load data into table space *table_space_name*.**

Explanation:
The user ID that submitted the job is not authorized to perform a load into the specified table space.

User response:
Select another table space to load.

HLOU5509E **Insufficient authority for load with STATS into table space *table_space_name.***

Explanation:
When the STATISTICS keyword is specified in a load utility job, you must use a privilege set that includes the STATS privilege.

User response:
Select another table space or remove the STATISTICS keyword.

HLOU5510E **Operation *operation_name* on data set *data_set_name* failed, error number =*error_number_value*.**

Explanation:
The specified operation on the data set failed.

User response:
See *z/OS UNIX System Services Messages and Codes* documentation for information about the displayed error. If you are unable to resolve the error, contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5511E **Data set operation failed. RC=*return_code.***

Explanation:
The data set operation failed with the specified return code. Message HLOU5512I contains the error text.

User response:
See *MVS System Messages* documentation for information about the messages that are displayed in HLOU5512I. If you are unable to resolve the error, contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5512I ***error_text.***

Explanation:
Data set operation error text.

User response:
No action is required.

HLOU5513E **Compilation of regular expression failed. Expression=*expression_name*.**

Explanation:
The attempt to compile the specified regular expression failed. Message HLOU5515I contains the error text.

User response:
Contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5514E **Matching of regular expression failed. Expression: *expression_name*.**

Explanation:
The attempt to match the specified regular expression failed. Messages HLOU5515I and HLOU5516I contain the error text.

User response:

Contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5515I ERRORTXT=*error_text*.

Explanation:
An attempt to compile or match a regular expression pattern failed.

User response:
No action is required.

HLOU5516I ERRORTXT=*error_text*.

Explanation:
An attempt to match the regular expression input failed.

User response:
No action is required.

HLOU5517E Dynamic allocation error. DDNAME=*dd_name*, operation=*operation_name*, RC=*return_code*.

Explanation:
Dynamic allocation of the specified temporary DD for a Db2 utility failed with the specified return code.

User response:
See *MVS Programming Authorized Assembler Services Guide for z/OS* documentation for information about the reported code. If you are unable to resolve the error, contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5518E Invalid partition specified for table space *table_space_name*.

Explanation:
The specified table space partition does not exist.

User response:
Select another partition for the load job.

HLOU5519E Service function error. Service name=*service_name*, RC=*return_code*.

Explanation:
The specified service function ended with a nonzero return code. If they are present, messages HLOU5520I and HLOU5521I contain the error text.

User response:
See *Db2 for Z/OS Messages* documentation for information about the messages that are displayed in HLOU5520I and HLOU5521I. If you are unable to resolve the error, contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5520I ERRORTXT=*error_text*.

Explanation:
Failed service function input statements.

User response:
No action is required.

HLOU5521I ERRORTXT=*error_text*.

Explanation:
Failed service function output statements.

User response:
No action is required.

HLOU5522E IFI error.

Explanation:
An IFI error occurred in the started task during load processing for the IFDISCARDS option or the SHRLEVEL REFERENCE option. Message HLOU5523I contains the error text.

User response:
See *Db2 for Z/OS: Codes* documentation for information about the messages that are displayed in HLOU5523I. If you are unable to resolve the error, contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5523I ERRORTXT=*error_text*.

Explanation:
An IFI error occurred in the started task during load processing for the IFDISCARDS option or the SHRLEVEL REFERENCE option.

User response:
No action is required.

HLOU5524I Some input records were discarded and IFDISCARDS PAUSE was specified.

Explanation:
The load utility job paused with return code 4. The production table space was placed in read-only access mode (RO) and was not changed.

User response:
Review the discarded records, and then restart or terminate the paused load job.

HLOU5525I Some input records were discarded, and IFDISCARDS FAIL was specified.

Explanation:
The load utility job terminated with return code 8. The production table space was not changed.

User response:
Review discarded records and correct the data for the load job.

HLOU5526I **Utility was restarted after IFDISCARDS PAUSE. All valid records will be committed.**

Explanation:
The load utility job was restarted after IFDISCARDS PAUSE. All valid records will be committed.

User response:
No action is required.

HLOU5527E **Exception with RC=*return_code*.**

Explanation:
Load processing for the IFDISCARDS option or the SHRLEVEL REFERENCE option failed with the specified return code.

User response:
Contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5528E **Unexpected exception.**

Explanation:
A severe error occurred during load processing for the IFDISCARDS option or the SHRLEVEL REFERENCE option.

User response:
Contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5529E **Table space *table_space_name* has NPSI and was not loaded.**

Explanation:
The specified table space has a nonpartitioned secondary index (NPSI), which is not compatible with a partial load when the IFDISCARDS option or the SHRLEVEL REFERENCE option is specified.

User response:
Load the entire table space (rather than partitions), or specify the INDEXDEFER option to instruct the product to ignore the NPSI.

HLOU5530E **Table space *table_space_name* contains versioned rows and was not loaded.**

Explanation:
For the specified table space, the value of the OLDEST_VERSION column is less than the value of the CURRENT_VERSION column. Versioned objects are not supported when you specify the IFDISCARDS option or the SHRLEVEL REFERENCE option with RESUME YES.

User response:
Reorganize the table space to ensure that the value of the OLDEST_VERSION column equals the value of the CURRENT_VERSION column, or specify RESUME NO.

HLOU5531E **Table space *table_space_name* has status *space_status* and cannot be loaded.**

Explanation:
The specified table space is not in a supported access mode. The table space access mode must be read-write (RW), read-only (RO), or utility (UT).

User response:
Start the object in RW, RO, or UT mode, and then submit the LOAD utility job again.

HLOU5532E **Table space *table_space_name* is VCAT-defined. VCAT-defined objects are not supported.**

Explanation:
When the IFDISCARDS option or the SHRLEVEL REFERENCE option is specified, VCAT-defined table spaces are not supported.

User response:
Select another table space to load.

HLOU5533E **Table space *table_space_name* contains an XML column. XML objects are not supported.**

Explanation:
When the IFDISCARDS option or the SHRLEVEL REFERENCE option is specified, XML objects are not supported.

User response:
Select another table space to load.

HLOU5534E **Table space *table_space_name* contains a LOB column. LOB objects are not supported.**

Explanation:
When the IFDISCARDS option or the SHRLEVEL REFERENCE option is specified, LOB objects are not supported.

User response:
Select another table space to load.

HLOU5535I **DSCOPY_LIMIT value is *limit_value*.**

Explanation:
The DSCOPY_LIMIT parameter specifies the maximum number of concurrent data set operations for load processing when the IFDISCARDS or SHRLEVEL REFERENCE option is specified. The default value is 0, which indicates that the product is to automatically determine the limit and display it in this message.

User response

In most cases, no action is required. However, if the load utility job abnormally ends due to insufficient

memory, you can modify the DSCOPY_LIMIT value. Valid values are 0 - 250.

In member HLODTDOP in data set *hlq*.*mlq*.SHLOSAMP, specify a smaller value for DSCOPY_LIMIT than that displayed in this message, and then resubmit the load job.

HLOU5536I **Load prevalidation restart handler started.**

Explanation:
A load utility job that specified the SHRLEVEL REFERENCE option or the IFDISCARDS option was restarted. Additional processing for shadow objects is required.

User response:
No action is required.

HLOU5537I **Load prevalidation restart handler finished with RC *return_code*.**

Explanation:
A load utility job that specified the SHRLEVEL REFERENCE option or the IFDISCARDS option was restarted. Additional processing for shadow objects completed with the specified return code.

User response:
No action is required.

HLOU5538I **Table space *table_space_name* is in check pending status.**

Explanation:
The specified table space is involved in a referential relationship, and the load utility job contains the SHRLEVEL REFERENCE option or the IFDISCARDS option.

User response:
No action is required.

HLOU5539I **Table space *table_space_name* is in check pending status.**

Explanation:
The specified table space is involved in a referential relationship, and the parent table was loaded with the REPLACE option.

User response:
No action is required.

HLOU5540I **Index space *index_space_name* is in rebuild pending status.**

Explanation:
The specified index space contains a nonpartitioned secondary index (NPSI), and it is deferred with option INDEXDEFER.

User response:
No action is required.

HLOU5541E **Table space *table_space_name* was altered with option ROTATE PARTITION.**

Explanation:
When the IFDISCARDS option or the SHRLEVEL REFERENCE option is specified, table spaces with rotated partitions are not supported.

User response:
Select another table space to load.

HLOU5542E **Feature is not accessible in this version of DB2.**

Explanation:
The IFDISCARDS option and SHRLEVEL REFERENCE option require Db2 version 10 or later.

User response:
Remove the unsupported option from the LOAD utility syntax.

HLOU5543E **Index space *index_space_name* has status *space_status* and its base table space cannot be loaded.**

Explanation:
The specified index space is not in a supported access mode. The index space access mode must be read-write (RW), read-only (RO), or utility (UT).

User response:
Start the object in RW, RO, or UT mode, and then submit the LOAD utility job again.

HLOU5544E ***error_text*.**

Explanation:
Keyword RESUME NO cannot be specified with the IFDISCARDS and SHRLEVEL REFERENCE options.

User response:
Specify RESUME YES or REPLACE instead.

HLOU5545I **Template data set was renamed.**

Explanation:
The product renamed the template data set.

User response:
No action is required.

HLOU5546I **Template name: *template_name*.**

Explanation:
The product renamed the template data set as specified in the message text.

User response:
No action is required.

HLOU5547I **Old DSN: *old_data_set_name*.**

Explanation:

The product renamed the template data set as specified in the message text.

User response:
No action is required.

HLOU5548I **New DSN: *new_data_set_name*.**

Explanation:
The product renamed the template data set as specified in the message text.

User response:
No action is required.

HLOU5549E **Requested module *module_name* not found.**

Explanation:
The requested module was not found.

User response:
Ensure that module *module_name* exists in the STEPLIB concatenation or the linklist.

HLOU5551I **ERRORTXT *error_text*.**

Explanation:
Service function failure explanation.

User response:
No action is required.

HLOU5700E **Error from call to HLOPIPE from MODNAME = *module_name* Function = *function_code* RC = *return_code*.**

Explanation

HLOPIPE returned a nonzero return code. Reasons for this error include the following:

- The product library is not in the WLM STEPLIB.
- The pipe requires clean up.
- An HLOPIPE API call (INIT, LOOKUP, OPEN, CLOSE) failed.
- The ACCEL_LOAD_TABLES stored procedure failed.

User response

- Function=02 RC=0A:
  - Ensure that the product library is included in the DSNUTILU/DSNUTILS WLM STEPLIB. If necessary, add it to the STEPLIB, refresh the WLM environment, and then resubmit the job. (For more information, see the section in the product documentation about setting up the WLM-managed address space.)
  - Check the job log for message HLOU5720I to see any error messages that were returned by the failed stored procedure.
- Function=01 RC=03: Another batch job might be loading the target table. If this is not the case, you might need to run job HLO#PIPE to clear common storage, and then refresh the WLM environment. (For more information, see the section in the documentation about clearing common storage after a job fails.) If necessary, correct the data in the input data set and resubmit the job.

If you are unable to resolve the issue, contact IBM Software Support.

HLOU5701I **Number of records not loaded=<*record_count*>.**

Explanation:
SYSREC records were not loaded for any of the following reasons: the record did not satisfy a WHEN clause condition; the partitioning key for the record did not belong to any partition included in the load; a data conversion error occurred. The reported count of records not loaded includes ignored discards.

User response:
No action is required.

HLOU5710E **Accelerator name <*accelerator_name*> is not valid for DB2 SSID=<*ssid*>**

Explanation:
The IBM Db2 Analytics Accelerator name passed in the utility syntax is not a valid accelerator name for the specified Db2 subsystem.

User response:
Correct the accelerator name and resubmit the job.

HLOU5711E **Target table for LOAD utility not defined on accelerator <*accelerator_name*>.**

Explanation:
The target TABLE that is specified in the LOAD utility syntax is not defined on the IBM Db2 Analytics Accelerator.

User response:
Correct the TABLE name and resubmit the job.

HLOU5712E **LOAD utility partition specification includes archived partitions.**

Explanation:
The LOAD utility specifies loading partitions that have been archived on the IBM Db2 Analytics Accelerator.

User response:
Correct the utility statement and resubmit the job.

HLOU5713E **IBM DB2 Analytics Accelerator stored procedure ACCEL_GET_TABLES_DETAILS returned an error.**

Explanation:
The IBM Db2 Analytics Accelerator stored procedure ACCEL_GET_TABLES_DETAILS returned an error during partition validation.

User response:
See the Db2 Analytics Accelerator Loader started task SYSPRINT log for more information about the error.

HLOU5714E **Target table status conflict with detected LOAD status <*load_status*>**

Explanation:
The target TABLE specified in the LOAD utility syntax cannot be loaded on the accelerator because the accelerator table is set to a status that is incompatible with the load process.

User response:
Check the status of the table on the accelerator for more information about the error.

HLOU5715E **Unknown error during IBM DB2 Analytics Accelerator validation.**

Explanation:
The target table that is specified in the LOAD utility syntax cannot be loaded on the accelerator because an unknown error occurred during validation. This can be the result of an SQL error in the Db2 Analytics Accelerator Loader started task during the validation process.

User response:
See the Db2 Analytics Accelerator Loader started task SYSPRINT log for more information about the error.

HLOU5716E **Partial load conflict with IBM DB2 Analytics Accelerator table status of InitialLoadPending.**

Explanation:
The target table that is specified in the LOAD utility syntax cannot be loaded on the accelerator. The accelerator status of the table is InitialLoadPending and not all partitions were specified.

User response:
Correct the LOAD syntax and resubmit the job.

HLOU5717W **The selected accelerators are unavailable. Only DB2 will be loaded.**

Explanation:
The accelerators are in a state that makes them unavailable for loading. As a result, only the Db2 table will be loaded, as specified by the option **ACCEL_WHEN_OFFLINE** in the product options file.

User response:
When the accelerator is back online, rerun the job or run the **ACCEL_LOAD_TABLES** stored procedure to refresh the accelerator table.

HLOU5718E **The accelerator is unavailable. Accelerator state: <*accelerator_state*>.**

Explanation:
The accelerator is in the specified state, which makes it unavailable for loading. As a result, the accelerator-only load cannot be performed.

User response:
After the accelerator is back online, rerun the job.

HLOU5720E **MSGTEXT =<*message_text*>.**

Explanation:
The IBM Db2 Analytics Accelerator stored procedure ACCEL_LOAD_TABLES returned the message text after successful or unsuccessful completion.

User response:
See the Db2 Analytics Accelerator Loader started task SYSPRINT log for more information about the error.

HLOU5724E **The ACCEL_LOAD_TABLES stored procedure failed.**

Explanation:
The ACCEL_LOAD_TABLES stored procedure returned one or more error messages. See message HLOU5720I for messages returned by the stored procedure.

User response:
If you cannot resolve the issue, contact IBM Software Support. Provide Support with the started task SYSPRINT output and the Db2 Analytics Accelerator Loader batch job log.

HLOU5725I **MSGTEXT=<*accelerator_message_text*>.**

Explanation:
An Accelerator stored procedure has returned the message text after successful or unsuccessful completion. The message that was issued just before this message identifies the Accelerator operation that generated these messages.

User response:
If any of the messages describe an error condition, see the IBM Db2 Analytics Accelerator stored procedure reference documentation for information about the AQT error message. If you need further assistance, contact IBM Software Support.

HLOU5726I **The table was successfully added to accelerator <*accelerator_name*>.**

Explanation:
The table was successfully added to the accelerator. If the add operation completed with warnings, the

messages returned by the accelerator are reported immediately following in message HLOU5725I.

User response:
No action is required.

HLOU5727E **Unable to add table to accelerator <*accelerator_name*>. Accelerator error messages follow.**

Explanation:
An attempt to add the table to the accelerator failed. Error messages that the accelerator returned are reported immediately following in message HLOU5725I.

User response:
See the *IBM Db2 Analytics Accelerator Stored Procedures* reference for a description of the AQT messages reported in HLOU5725I. If you need further assistance, contact IBM Software Support.

HLOU5728I **The table was successfully removed from accelerator <*accelerator_name*>.**

Explanation:
The table was successfully removed from the accelerator. If the operation completed with warnings, the warning messages that the accelerator returned are reported immediately following in message HLOU5725I.

User response:
No action is required.

HLOU5729E **Unable to remove the table from accelerator <*accelerator_name*>. Accelerator error messages follow.**

Explanation:
An attempt to remove the table from the accelerator failed. Error messages that the accelerator returned are reported immediately following in message HLOU5725I.

User response:
See the IBM Db2 Analytics Accelerator Stored Procedures reference for a description of the AQT messages reported in HLOU5725I. If you need further assistance, contact IBM Software Support.

HLOU5730E **DB2 call attachment facility error. RC=<*hex_return_code*> RSN=<*hex_reason_code*>.**

Explanation:
An attempt to connect to Db2 via the call attachment facility has failed. This error message can also indicate that the product was unable to load the call attachment facility into memory.

User response:
Contact IBM Software Support.

HLOU5731E **Error parsing XML document returned by <*stored_procedure_name*> on accelerator <*accelerator_name*>.**

Explanation:
The product could not parse the XML message document returned by an accelerator stored procedure call. Therefore, the product cannot determine whether the stored procedure call succeeded. For more information, see message HLOU5725I and message HLOU5733I.

User response:
Contact IBM Software Support.

HLOU5732E **Unable to LOAD MODULE <*module_name*>. RC=<*hex_return_code*> RSN=<*hex_reason_code.*>**

Explanation:
An attempt to LOAD the named Db2 interface module failed. The system return code and reason code are also reported in the message.

User response:
Verify that the Db2 load library is allocated in the STEPLIB or JOBLIB, and then resubmit the job. If you need further assistance, contact IBM Software Support.

HLOU5733I **DOCTEXT <*xml_document_text*>.**

Explanation:
An attempt to parse the XML document reported in this message failed. Refer to messages HLOU5731E and HLOU5725I for more information on the stored procedure that returned the malformed document, and the parsing error.

User response:
Contact IBM Software Support.

HLOU5734E **HLOADDTB has failed with RC=<*return_code*> on accelerator <*accelerator_name*>.**

Explanation:
An attempt to add the table to the accelerator failed.

User response:
Contact IBM Software Support.

HLOU5735E **Process to add tables failed due to size limit exception.**

Explanation:
An attempt to add many tables to the accelerator failed because the list of tables in the SYSIN exceeded the maximum variable size supported by the called Analytics Accelerator stored procedure. Multiple factors contribute to the size, including the number of tables specified and the length of the table names.

User response:
Split the original job into multiple, smaller jobs, reducing the number of tables per job, and then run the new jobs.

HLOU5800W **Partition discovery failed in USE15. Record = *record_number*.**

Explanation:
Process USE15 could not determine the partition to which the record belongs. This is probably because the record is outside the range of the LIMITKEYS.

User response:
Correct the partitioning key value in the identified SYSREC record and rerun the job. If you believe the record was erroneously discarded, contact IBM Software Support.

HLOU5801E **Column <*column_name*> DEFAULT indicator value <*column_default_indicator*> is not supported.**

Explanation:
The product does not support the default indicator for SYSIBM.SYSCOLUMNS(DEFAULT) for this column.

User response:
Supply data for this column or use a supported default type for the conversion to Db2 internal format, and then resubmit the job.

HLOU5802E **Default value for column <*column_name*> is missing.**

Explanation:
When a column is defined as NOT NULL, you must provide a value or use the default value.

User response:
Provide a valid value for the specified column and then resubmit the job.

HLOU5803E **A failure has occurred in a data conversion routine.**

Explanation:
While trying to convert data, routine HLOUSE15 encountered an unrecoverable error.

User response:
IBM Software Support Provide Support with all output from this job, including the dump.

HLOU5804E **Unsupported column type. COLUMN <*column_name*> TYPE <*column_type*>.**

Explanation:
The data type for the specified column is not supported for the conversion to Db2 internal format.

User response:
For information about the supported data types, see the section about load processing enhancements in the product user's guide. Correct the error and then resubmit the job.

HLOU5805E **Unsupported row format. FORMAT <*format_type*>.**

Explanation:
The table space row format is not supported when you are converting data to Db2 internal format, or the format is an unknown type. The supported row formats are basic and reordered.
SYSIBM.SYSTABLEPART(FORMAT) shows the format type.

User response:
Specify a supported format for the row and then resubmit the job.

HLOU5806E **Column <*column_Name*> input data is too long.**

Explanation:
The input data that is specified for the column is longer than the length of the target column.

User response:
Correct the LOAD or the table column definition, and then resubmit the job.

HLOU5806W **Column *column_name* data is too long. Record = *record_number*.**

Explanation:
The input data is longer than the length of the target column.

User response:
Correct the LOAD or the table column definition and resubmit the job.

HLOU5807W **Column *column_name* has invalid data in record *record_number*.**

Explanation:
The data for the specified column is invalid.

User response:
Correct the data in SYSREC and resubmit the job.

HLOU5809W **DB2 size limit exceeded for column *column_name* record *record_number*.**

Explanation:
The value exceeds the Db2 size limits for the data type for the column.

User response:
Correct the data in SYSREC and resubmit the job.

HLOU5810W **Input numeric invalid column *column_name* record *record_number*.**

Explanation:
The input field contains an invalid numeric data type for the column.

User response:
Correct the data in SYSREC and resubmit the job.

HLOU5811E **Unable to schedule SRB routine <*srb_name*>. RC=<*return_code*>.**

Explanation:
IEAMSCHD returned a nonzero return code.

User response:
Contact IBM Software Support. Have available all output from this job.

HLOU5812E **IEAVPSE pause service failed. RC=*return_code*.**

Explanation:
The IEAVPSE pause release service failed with the specified return code.

User response:
IBM Software Support Provide Support with the return code from this message.

HLOU5813E **SRB routine <*srb_name*> initialization failed. Reason=<*reason_text*>.**

Explanation:
A scheduled SRB routine encountered an error during initialization processing.

User response:
Contact IBM Software Support. Have available all output from this job.

HLOU5814E **IEAVXFR transfer pause service failed, RC=*return_code*.**

Explanation:
The IEAVXFR transfer pause service failed with the specified return code.

User response:
IBM Software Support Provide Support with the return code from this message.

HLOU5815E **The SYSREC encoding scheme <*encoding_scheme*> does not match the table encoding scheme <*encoding_scheme*>.**

Explanation:
The table encoding scheme must match the encoding scheme of the SYSREC data.

User response:
Either load the data to a table that has the same encoding scheme as the SYSREC data, or convert the SYSREC data to the encoding scheme that is used by the target table and run the load job again.

HLOU5817W **Input packed decimal invalid for COLNAME <*column_name*>. RECORD <*record_nbr*>.**

Explanation:
The input field contains invalid packed decimal data for the column with type DECIMAL. Because no field specifications were provided, packed decimal data is expected.

User response:
Correct the data in the SYSREC file and submit the job again.

HLOU5900E **Db2 Analytics Accelerator Loader DSNUTILB exit module is not APF-authorized and is terminating.**

Explanation:
The load library for the Db2 Analytics Accelerator Loader DSNUTILB module is not APF-authorized, as required. Consequently, the Db2 Analytics Accelerator Loader DSNUTILB intercept processing for the Db2 utility is terminating.

User response:
APF-authorize the load library for the DSNUTILB module, and then run Db2 utility job again.

HLOU5901E **RVT locate operation failed**

Explanation:
Db2 Analytics Accelerator Loader could not locate its RVT control block.

User response:
Make sure that at least one Db2 Analytics Accelerator Loader system is operational and then resubmit the job.

HLOU5901S **RVT locate operation failed.**

Explanation:
Db2 Analytics Accelerator Loader could not locate its RVT control block.

User response:
Make sure that at least one Db2 Analytics Accelerator Loader system is operational and then resubmit the job.

HLOU5902S **COM locate operation failed.**

Explanation:
Db2 Analytics Accelerator Loader could not locate its COM control block.

User response:
Make sure that at least one Db2 Analytics Accelerator Loader system is operational and then resubmit the job.

HLOU5903W **DSNUTILF exit is inoperative for SSID: *db2_ssid*.**

Explanation:
DSNUTILB intercept processing cannot be performed for the Db2 utility because the Db2 Analytics Accelerator Loader started task is not running or is not intercepting DSNUTILB for the specified Db2 subsystem ID (SSID). The Db2 utility job continues running.

User response

Make sure that at least one Db2 Analytics Accelerator Loader system is operational and enabled for interception. Also check for any additional messages that are related to the interception failure. After you correct any related errors and confirm that the system is ready for interception, resubmit the utility job.

If you receive reason code 0005, verify that the policy that is defined for the started task lists the correct subsystems.

HLOU5904W Db2 Analytics Accelerator Loader is not active.

Explanation:
DSNUTILB interception cannot be performed for the Db2 utility because the Db2 Analytics Accelerator Loader started task is not running. The utility continues running.

User response:
Make sure that at least one Db2 Analytics Accelerator Loader system is operational and enabled for interception. Also, start the started task if necessary. Then resubmit the Db2 utility job.

HLOU5905W Load library open failed.

Explanation:
DSNUTILB interception is currently unavailable. The utility continues running, but DSNUTILB interception will not occur.

User response:
Make sure that a Db2 Analytics Accelerator Loader started task is operational. Also, make sure that an intercept policy is defined that allows interception for the Db2 subsystem on which you are running the utility job. If the problem persists, contact IBM Software Support.

HLOU5906W Load failed for HLOUMAIN.

Explanation:
DSNUTILB interception is currently unavailable. The utility continues running, but DSNUTILB interception will not occur.

User response:
Make sure that a Db2 Analytics Accelerator Loader started task is operational. Also, make sure that an intercept policy is defined that allows interception for the Db2 subsystem on which you are running the utility job. If the problem persists, contact IBM Software Support.

HLOU5907E SYSPRINT DD is missing or unusable.

Explanation:
SYSPRINT DD is missing, or is allocated to DUMMY or NULLFILE.

User response:
Supply a valid SYSPRINT DD statement in the JCL.

HLOU5908I IBM DB2 SORT found and will be used.

Explanation:
IBM Db2 SORT was found and will be used for PRESORT on LOAD.

User response:
No action is required.

HLOU5909W IBM DB2 SORT cannot be utilized. Not all modules found.

Explanation:
Not all modules for IBM Db2 SORT were found.

User response:
Ensure that IBM Db2 SORT has been installed correctly.

HLOU5910I DB2 Sort Program=*progname* returned non-zero return code, RC=*rc*

Explanation:
An internal error has occurred.

User response:
Contact IBM Software Support. Provide the Support representative with the complete text of this message. Sorts will be performed by the default sort.

HLOU5911I DB2 sort program *program_name* abended. Default sort program will be used.

Explanation:
The sort program abended. The default sort program will be used for sort processing.

User response:
Contact IBM Software Support. Have available the listing that contains this message and any applicable related messages.

HLOU5912I ESTAE SDUMPX call RC=*return code*, RS=*reason code*.

Explanation:
During **ESTAE** processing, a call to the z/OS **SDUMPX** facility returned the displayed return code and reason code.

User response:

If RC=08, review the reason code in the appropriate SDUMPX documentation. Then make any changes to Dump Services that are needed to obtain proper diagnostic dumps. If you need assistance, contact IBM Software Support.

HLOU5913E **LOAD PRESORT of hash table unable to proceed due to error.**

Explanation:
An error has occurred during **LOAD PRESORT** hash table analysis.

User response:
Examine the job output and the Db2 Analytics Accelerator Loader Started Task to determine the cause of the error.

HLOU5914E **Field length not supported for LOAD PRESORT: Column = *column_name*.**

Explanation:
The length of the data item specified for LOAD is not supported for PRESORT.

User response:
Correct the length in the LOAD specification for the field in error.

HLOU5915E **FORMAT DELIMITED is not supported for PRESORT with an ORGANIZE BY HASH table.**

Explanation:
PRESORT does not support SYSREC data that is in delimited file format where the target table is defined as ORGANIZE BY HASH.

User response:
Provide a SYSREC that is not in delimited file format.

HLOU5916E **Started task encountered an SQL error=*sql_code***

Explanation:
An SQL error occurred.

User response:
To determine the reason for the error, review the HLOS0202E messages that were issued in the started task address space, and see the Db2 messages documentation. If you need assistance, contact IBM Software Support.

HLOU5917E **OPEN failed for SYSPRINT**

Explanation:
An OPEN macro failed for SYSPRINT.

User response:
Review other messages issued to determine the cause.

HLOU5918E **Field specification missing for a PRESORT key.**

Explanation:
A field specification is required for a field that is part of a PRESORT key.

User response:
Provide a field specification for each field that is part of the PRESORT key.

HLOU5920E ***conversion_service* FAILED. TARGET CCSID: *target_ccsid* REASON: *system_errno*, *system_err_msg***

Explanation:
An attempt to convert a string from one CCSID to another has failed. The message identifies the failing system service, the target CCSID and the system returned errno and message.

User response:
Contact IBM Software Support. Be prepared to provide support with the full batch job output as well as the started task log.

HLOU5921E **UNABLE TO LOCATE DECP FOR DB2 SSID *db2_ssid***

Explanation:
An attempt to locate the DSNDECP module for the named Db2 subsystem has failed.

User response:
Contact IBM Software Support. Be prepared to provide support with the full batch job output as well as the started task log.

HLOU5922E **HLPPIPE LOOKUP FAILED. TABLE: *table_creator*.*table_name*, PART: *partition_number*, RC: *return_code*, RSN: *reason_code***

Explanation:
An attempt to pass a pipe name from the ACCEL_LOAD_TABLES stored procedure WLM address space to the batch Accelerator Loader job has failed.

User response:
Contact IBM Software Support. Be prepared to provide support with the full batch job output as well as the started task log.

HLOU5928E **Mix of specified accelerator versions not supported.**

Explanation:
This message is issued when a Db2 Analytics Accelerator Loader job is run with both an IBM Db2 Analytics Accelerator for z/OS version 7.x and a version 5.1.7 or earlier on the same job.

User response:
Update the ACCEL_LOAD_TABLES stored proc libs for Analytics Accelerator 5.1.x to at least version 5.1.8.

HLOU9700I **The output saved in the Autonomics Director history table exceeds 8M and is truncated.**

Explanation:
The 8-megabyte limit was reached for output in CLOB table in SYSAUTO.UTILITYRUNS_HISTORY. The product stops processing output.

User response:
No action is required.

HLOU9701I **Module BBY$NMIC not found in started task STEPLIB.**

Explanation:
Module BBY$NMIC was not found in the STEPLIB concatenation of the Db2 Analytics Accelerator Loader started task. Db2 Autonomics Director utility history collection is disabled.

User response:
No action is required.

HLOU9702W **Module BBY$NMIC does not conform to version 2, release 1 or later.**

Explanation:
Module BBY$NMIC found in the Db2 Analytics Accelerator Loader started task is not marked version 2 release 1 or later. Db2 Autonomics Director utility history collection is disabled.

User response:
Ensure that you are using Db2 Utilities Solution pack version 2.1 or later.

HLOU9703W **Module BBY$NMIC contains invalid offset to data.**

Explanation:
The module BBY$NMIC that was found in the Db2 Analytics Accelerator Loader started task contains an offset to the data structure that does not point to a valid version. Db2 Autonomics Director utility history collection is disabled.

User response:
Contact IBM Software Support.

HLOU9704W **BLDL error encountered searching for module BBY$NMIC. RSN=*reason_code*.**

Explanation:
The product encountered an error while searching for module BBY$NMIC. Db2 Autonomics Director utility history collection is disabled.

User response:
Contact IBM Software Support.

HLOU9705W **Error encountered attempting to load module BBY$NMIC.**

Explanation:
The product encountered an error while attempting to load module BBY$NMIC. Db2 Autonomics Director utility history collection is disabled.

User response:
Contact IBM Software Support.

HLV0001U ***desc* GETMAIN failed - increase memory size**

Explanation

Insufficient storage. The product was unable to obtain enough storage to allocate the initial program stack.

User response

Check the abend code to determine if the region size should be increased. Increase the region size if necessary, and restart the product.

HLV0002S ***parmname* IS *errdesc* - *correction***

Explanation

This message indicates a problem with the parameter string that was passed to the main started task entry point. Execution is terminated.

User response

Correct the error that is indicated in the error message, and restart the product.

HLV0003S **CODES BEGINNING WITH *var1*, NOT *var2* SHOULD NOT BE USED TO SET THE *%2* PARAMETER**

Explanation

This message contains variables that are resolved at run-time and emitted by the server as it processes.

User response

Review the messages just before and after this message to understand the context.

HLV0004S ***parmname* IS *errdesc***

Explanation

This message indicates a problem with the parameter string that was passed to the main started task entry point. Execution is terminated.

User response

Ensure that a parameter string is being passed (using PARM=) in the started task JCL. The parameter string should contain at least "INIT,ssnx" where ssnx is the 4 character subsystem name. Correct the error and restart the product.

HLV0005S ***parmname val* IS *errdesc***

Explanation

This message indicates a problem with the parameter string that was passed to the main started task entry point. Execution is terminated.

User response

Ensure that the execution option (the first parameter in PARM=) is INIT. This is the only valid value. Correct the error, and restart the product.

HLV0006S **Product not APF authorized, execution terminating**

Explanation

This message is issued if the product detects that it is not APF authorized. The main product address space will terminate immediately.

User response

Ensure that all of the STEPLIB data sets are APF authorized. Note that all of the data sets must be APF authorized, not just the data set containing the product load modules. Fix the STEPLIB data sets, and restart the product.

HLV0007S ***subsys field* IS *errdesc***

Explanation

The product tried to initialize or re-initialize a system control block (the SSCT). The system control contained a field with an invalid value. This error will cause product initialization to terminate.

User response

Check for other error messages were generated along with the error message. If the combined error messages are sufficient to explain the error, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV0008S **Product cannot execute in batch, execution terminating**

Explanation

This message is issued if the product detects that it is running in batch. The main product address space will terminate immediately.

User response

The product cannot run as a batch job. The product must execute as a started task. Install the product as a started task, and restart the product.

HLV0009S **Execution DEQ failed - contact systems programming**

Explanation

Some type of error occurred while the product was releasing the execution enqueue. The execution enqueue is used to prevent more than one copy of the product from using a single subsystem ID. Multiple copies of the product can execute concurrently so long as each copy uses a different subsystem ID.

User response

Check the error messages associated with this problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0010H ***modname*/*funcode* execution *msgtext***

Explanation

This message is used to trace product initialization. A message is issued before and after the execution of each initialization routine.

User response

There is no action for this message. This message is only used for trace and debugging purposes.

HLV0011W **STSI instruction failed with *%1* - feedback = *%2***

Explanation

This message contains variables that are resolved at run-time and emitted by the server as it processes.

User response

Review the messages just before and after this message to understand the context.

HLV0012W **CSRSI service returned RC=*rcode* for CPU H/W identification request - product validation may be affected.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0013S **SSCT locate error - contact systems programming**

Explanation

The product tried to find the current subsystem ID in the subsystem control block chain. A loop was found in the subsystem control block chain.

User response

This is a serious error that may cause other components of the system to fail. If the system is having other problems (such as loop errors), try to resolve the other problems before restarting the product. If the product is the only component experiencing any difficulty, contact Software Support.

HLV0014S ***var1*: *var2 var3 var4 var5 var6 var7***

Explanation

This message contains variables that are resolved at run-time and emitted by the server as it processes.

User response

Review the messages just before and after this message to understand the context.

HLV0015S ***%PX-js* subsystem *subsys* waiting for execution ENQ**

Explanation

Each active copy of the product must use a different subsystem ID. This restriction is enforced using the product execution enqueue. The product execution enqueue contains the current subsystem ID, so that multiple copies of the product can execute if each copy uses a different subsystem ID. A new copy of the subsystem (*subsys*) has been started and is attempting to get the execution enqueue. The execution enqueue for subsystem is already held by a copy of the product.

User response

Either cancel the newly started subsystem that is waiting on the execution enqueue or stop the currently active copy of the subsystem. Stopping the currently active copy of the subsystem will allow the new copy of the subsystem to complete initialization and start execution. The new copy of the subsystem may have to be stopped using the ASID keyword of the CANCEL command.

HLV0016S **Execution ENQ error - contact systems programming**

Explanation

Each active copy of the product must use a different subsystem ID. This restriction is enforced using the product execution enqueue. The product execution enqueue contains the current subsystem ID, so that multiple copies of the product can execute if each copy uses a different subsystem ID. The product tried to obtain the execution enqueue. The ENQ macro failed.

User response

Check the error messages associated with this problem. There may be one or more ENQ/DEQ error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0017S ***var1* PARAMETER INVALID: *var2 var3 var4 var5 var6 var7 var8*.**

Explanation

This message contains variables that are resolved at run-time and emitted by the server as it processes.

User response

Review the messages just before and after this message to understand the context.

HLV0018H ***var1 var2***

Explanation

This message contains variables that are resolved at run-time and emitted by the server as it processes.

User response

Review the messages just before and after this message to understand the context.

HLV0019I ***var1 var2***

Explanation

This message contains variables that are resolved at run-time and emitted by the server as it processes.

User response

Review the messages just before and after this message to understand the context.

HLV0020S **First character of subsystem name must be an alphabetic character (A-Z).**

Explanation

Each copy of the product must use a unique subsystem ID string. The default subsystem ID is specified in the started task procedure or in the START command used to start the product. In either case, the subsystem ID string must always be exactly four characters long, and the first characters must be one of the alphabetic characters A-Z.

User response

Fix the subsystem ID string used to start the product by modifying the product started task procedure or by changing the product start command. Restart the product using a valid subsystem ID string.

HLV0021S **ABEND ERROR *abcode* REASON *rsncode* AT *modname+offset***

Explanation

A serious abend occurred during product initialization, execution, or termination. The abend was not recoverable, and the product was forced to terminate.

User response

Check the abend code and any related abend messages. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support. Note the exact contents of the above error message and any other error messages associated with the product failure.

HLV0022S **Second 2 characters of subsystem name must be *prodID*.**

Explanation

Each copy of the product must use a unique subsystem ID string. The default subsystem ID is specified in the started task procedure or in the START command used to start the product. In either case, the subsystem ID string must always be exactly four characters long, and the second two characters must be a valid product ID pair (*prodID*). For example: "DB" is for HLV and "WS" is for HTTP-API.

User response

Fix the subsystem ID string used to start the product by modifying the product started task procedure or by changing the product start command. Restart the product using a valid subsystem ID string.

HLV0023S **Subsystem name must be four (4) characters long**

Explanation

Each copy of the product must use a unique subsystem ID string. The default subsystem ID is specified in the started task procedure or in the START command used to start the product. In either case, the subsystem ID string must always be exactly four characters long.

User response

Fix the subsystem ID string used to start the product by modifying the product started task procedure or by changing the product start command. Restart the product using a valid subsystem ID string.

HLV0024S **Last character of subsystem name must be alphanumeric**

Explanation

Each copy of the product must use a unique subsystem ID string. The default subsystem ID is specified in the started task procedure or in the START command used to start the product. In either case, the subsystem ID string must always be exactly four characters long. The last character can be one of the alphanumeric characters A-Z or 0-9.

User response

Fix the subsystem ID string used to start the product by modifying the product started task procedure or by changing the product start command. Restart the product using a valid subsystem ID string.

HLV0025S ***%PM* not prepared for execution by feature code**

Explanation

This message contains variables that are resolved at run-time and emitted by the server as it processes.

User response

Review the messages just before and after this message to understand the context.

HLV0026S **ss not configured for this CPU var1, execution terminating.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0027S **MVS/370 not supported**

Explanation

The product checked the host system and found that the host system is some version of MVS/370. The product does not support MVS/370.

User response

The product only supports z/OS. z/OS must be installed before the product can be used.

HLV0028S **Product code *pcode* is invalid.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0029S **Configuration issue detected; ss not configured for CPU var1, execution continues**

Explanation

None.

User response

Contact IBM Software Support.

HLV0030S **%PM will require configuration update in <*x*> days**

Explanation

None.

User response

Contact IBM Software Support.

HLV0031E **%PM will require configuration update in <*x*> days.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0032S **%PM configuration problem, execution terminating.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0033S **CONFIGURATION FROM 'var2' PARAM. DOES NOT SUPPORT EXECUTION OF THIS PRODUCT - TERMINATING.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0034S **PM feature code *feature* not configured.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0035S ***subsys* requires configuration update, execution continues.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0036S ***service* OF *desc* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe a wide variety of product initialization, execution, and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do, such as GETMAIN, FREEMAIN, ATTACH, and so on.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0037E ***rout errdesc* FAILED, RC=*rcode*, DETECTED AT *addr*, %SK**

Explanation

Some type of service routine (*rout*) (operating system or product specific) failed. The error message identifies the service routine and the type of error.

User response

Check the full text of the error message, and fix the program that calls the application program interface, if necessary.

HLV0038S ***service* OF *desc* FAILED, RC=*rcode*, REASON=*rsncode*, DETECTED AT *addr*, %SK**

Explanation

This is a generic error message used to describe a wide variety of product initialization, execution, and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do, such as GETMAIN, FREEMAIN, ATTACH, and so on.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0039S ***rout errdesc* FAILED, ABEND=*abcode*, REASON CODE=*rsncode***

Explanation

This is a generic error message used to describe a wide variety of product initialization, execution, and termination errors. The message text provides the current operation and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0040S ***cblk* CONTROL BLOCK AT *addr* *msgtext***

Explanation

This message is used to describe control block errors. The error may be an invalid tag, invalid length, or some other error. The control block (*cb*) could not be used because of the error.

User response

Check the error messages associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0042I ***%PX ver/lvl* initializing on processor *cpuID.model.modelno.manuf PCCAcount flag*.**

Explanation

This message is issued during early start-up and displays information about the hardware on which the product is executed. This message provides information helpful to support personnel should some configuration difficulty arise.

User response

No action is required. If later messages indicate a configuration problem has been encountered, this message may aid in the swift resolution of the

problem. If the problem cannot be resolved, contact IBM Software Support.

HLV0043H ***msgtext***

Explanation

This message is used to print out various internal control blocks, the contents of processor registers, and other hexadecimal information.

User response

If there are other messages indicating an error, use this message in conjunction with them to determine the cause of the problem. If there is a problem and you are unable to resolve it, contact Software Support.

HLV0044S ***errdesc*** **FREEMAIN FAILED**

Explanation

Storage release error. The product was unable to free a section of storage.

User response

Check the abend code to determine the cause of the error. Make any needed changes to resolve the problem, and restart the product.

HLV0045S **Task or exit *modname* can not be executed**

Explanation

A product macro cannot be used because the product control blocks are inconsistent. This macro is used to initialize a task or an exit. The task or exit will not be able to execute.

User response

This error should only occur during product termination or if the main product address space is not executing. If this error occurs at any other time, contact Software Support. The main product address space will have to be restarted if this error is reported.

HLV0046W **Initialization procedure *procedure* or IRXJCL ended with condition code *rcode* - processing continues**

Explanation

IRXJCL was attached to execute the initialization procedure. The reported non-zero condition code was set after execution.

rcode (the return code) may in this case also be a condition code.

User response

Check the initialization exec for REXX-language errors which might cause the return code to be set. It may be impossible to distinguish between IRXJCL's return code and the return code set by the procedure.

HLV0047I **DATASPACE *procedure* CREATED TIME = *t2* BY *%PM***

Explanation

DSPSERV system service routine was invoked at initialization. A dataspace has been created.

User response

None required. This is an informational message.

HLV0048E **DSPSERV ERROR. RETURN CODE = *rcode. t2 %PM***

Explanation

DSPSERV system service routine was invoked at initialization to create a dataspace. However, it received a non-zero return. The dataspace was not created.

User response

Check the return code displayed in the message in the Auth Assembler Services Reference, and take appropriate action, if possible. If the problem cannot be resolved, contact Software Support.

HLV0049I **Dataspace added to PASN list. *t2 %PM***

Explanation

ALESERV system service routine was invoked at initialization to add this address space to a previously created dataspace.

User response

None required. This is an informational message.

HLV0050W ***var1*** **configuration requires an update, certain features will need modification, execution continuing.**

Explanation

None.

User response

Review the messages just before and after this message to understand the context.

HLV0053S **Configuration issue: processor model number (*modelno*) does not match configured model; execution continues.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0054H ***var1* Configuration installed until *var2* (*var3* parameter).**

Explanation

None.

User response

Contact IBM Software Support.

HLV0055E ***csect* not found within %PM primary load module**

Explanation

During subsystem initialization, the indicated control section (CSECT) was missing from the product's primary execution load module.

User response

Initialization of the subsystem is terminated immediately with an S0C3 abend. Contact the Software Support group.

HLV0056E **Invalid data found in *csect* loaded at *addr ivdata***

Explanation

During subsystem initialization, invalid data was detected within a control section (*csec*) or table loaded as part of the product's primary execution load module.

ivdata represents a hex dump of the invalid data area.

User response

Initialization of the subsystem is terminated immediately with an S0C3 abend. Contact the Software Support group.

HLV0057W ***var1* rejected for use - *var2 var3*.**

Explanation

None.

User response

Review the messages just before and after this message to understand the context.

HLV0058W ***var1* refresh required in *var2* days.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0059S **Configuration issue: H/W processor ID *var1* mismatched configuration for *var2* of past *var3* hours.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0060T **LATCH SET CREATED: LS-NAME=*lsname* LATCHES=*lcount* LS-TOKEN=*lstoken additinfo***

Explanation

Information written to trace when a new latch set is created within the address space

User response

None.

HLV0061E **LATCH ERROR: *reqtype errdesc additinfo***

Explanation

An error or unexpected condition was detected in a latch manager internal support routine

User response

Look for related messages indicating the cause of the error and correct the underlying problem. If the problem cannot resolved, contact Software Support.

HLV0062T **LATCH *operation*: LSTOKEN=*lstoken* LATCHNO=*latchno* LTOKEN=*lstoken* RQSTR=*reqID* *additinfo***

Explanation

Information written to trace when a latch is obtained, released, or purged

User response

None.

HLV0063S **z/OS Version must be at 1.13 or higher. Execution terminating.**

Explanation

The product checked the host system and found that the host system is not running at z/OS 1.13 or higher. The product does not support z/OS levels below 1.13.

User response

The product only supports z/OS 1.13 and higher. z/OS 1.13 or higher will have to be installed before the product can be fully supported.

HLV0064T **Interval summary *operation*. SMLH at *addr1* SMLG at *addr2*. Tag: *additinfo***

Explanation

Interval recording encountered an internal control block error while creating an interval summary record.

User response

The interval record in error is discarded and summarization continues. If the problem cannot be resolved, contact Software Support.

HLV0065T **Interval summary *%1*: *%2***

Explanation

This messages contains the number of interval summary record errors found.

User response

Contact Software Support.

HLV0066S **Logon of the address space user ID *userID* failed. Detected at *addr*.**

Explanation

The product failed to create a security environment for a task using the user ID of the address space.

User response

There may be one or more additional error messages or abends referring to the problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact IBM Software Support.

HLV0067S **LOGON of the SSLUSERID, *userID*, failed. Detected at *addr*.**

Explanation

The product failed to create a security environment for a task using the userid specified in SSLUSERID.

User response

There may be one or more additional error messages or abends referring to the problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0068T **Logon of user ID *userID* failed.**

Explanation

Logon failed for user ID specified in Services request.

User response

Check whether user ID is valid or if the password was correct.

HLV0069W **The severity level of message cannot be changed.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0080E **Control block *cblk* could not be located**

Explanation

The product tried to find one of several control blocks during product initialization. One of the control blocks could not be found.

User response

Ensure that the version of the host (MVS) operating system is supported by the product. If the host operating system version is supported by the product, check for any other error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, or if the host operating system version is not supported by the product, contact Software Support.

HLV0081E **Unknown host operating system - *prodname***

Explanation

The product was not able to identify the host operating system by its product name.

User response

Ensure that the version of the host (z/OS) operating system is supported by the product. If the operating system is supported by the product, check for any other error messages that refer to the current problem. If possible, fix the problem identified by the error messages, and restart the server. If the problem cannot be resolved or if the operating system is not supported, contact Software Support.

HLV0082I ***count1* online CPs and *count2* online zIIPs detected**

Explanation

This informational message identifies the number of online general purpose processors (CPs) and zIIPs detected during product initialization.

User response

None. This message is for informational purposes only.

HLV0083I **LPAR *lpar*. CEC MSUs: *cap1*. LPAR MSUs: *cap2*. Current *avg*. *var***

Explanation

This informational message identifies the LPAR and the capacity of the processors.

var is only relevant if z/OS is a VM guest.

User response

None. This message is for informational purposes only.

HLV0084I **Decimal float support *ind* available on this processor**

Explanation

This informational message identifies whether decimal float support is available or not (*ind*).

User response

None. This message is for informational purposes only.

HLV0090I **TSOSRVACTIVE(YES) INVALID IN PROB STATE - SIMULATED USING TMP IN CURRENT A/S**

Explanation

This message is issued when TSOSRVACTIVE(YES) has been specified as a start-up parameter, but the product is running in test mode under TSO. The outboard facility cannot be enabled/managed without being authorized to operate in supervisor state and operating as an MVS started task.

User response

The outboard TSO server facility is not activated. Outboard TSO server facilities will be simulated using TSO/E (if available) within the current address space. You should re-test applications developed under TSO/E when moving them to an authorized copy of the subsystem, because some operations (such as time limit processing, CPU time monitoring) cannot be simulated properly within a test copy of the product running in problem state.

HLV0091E ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of TSO/SRV initialization, execution, and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more additional error messages or abends referring to the current TSO/SRV problem. If possible, fix the problem identified by the error messages, and restart the product.

HLV0092E **CANCEL of server *jobname* (ASID=*asid*) failed**

Explanation

Server address spaces which will not shutdown in a normal way (e.g. a long running server task that is still executing) are canceled. If the cancel is not accepted for any reason, this message is issued.

User response

If the server address space survives product termination you may attempt to cancel it manually or possibly even force it. The fact that a server address space (*asid*) remains in the system when the product is restarted will have no harmful effect on product execution and can be ignored.

HLV0093I **Waiting for TSO server termination to complete**

Explanation

Inactive servers have been posted to shutdown. The termination process will wait for a short time to allow the servers to shutdown normally. If, at the end of this period, any servers are still active, they will be canceled.

User response

None required. This is an informational message.

HLV0094S ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of TSO/SRV execute queue initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product.

HLV0095S **MAIN TASK TIMED OUT WHILE WAITING TO BE POSTED BY THE TSO/SRV SUBTASK**

Explanation

The product main task timed out while waiting to be posted by the TSO/SRV subtask. The TSO/SRV subtask has either terminated abnormally or is hung. The product may or may not be able to continue processing.

User response

Check for other abends or product messages related to this one. If the problem cannot be resolved, contact Software Support.

HLV0096S **TSO/SRV ABEND *abcode* OCCURRED AT *modname+offset* DURING *desc***

Explanation

This error message describes an abend that occurred during TSO/SRV execute queue processing termination processing (*desc*).

User response

There may be one or more error messages related to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0097I ***service* OF *desc* FAILED, RC=*rcode***

Explanation

During server termination, product ow found that a busy TSO server did not respond to an internal shutdown request. An attempt to issue an MVS CANCEL command to terminate the server failed.

User response

None. The transaction running in the server will eventually complete. The subsequent attempt to read from an additional TSO/SRV command will fail, and the server will then terminate following a 614 abend.

HLV0101S ***%PM* PRODUCT USAGE EXCEEDS SPECIAL CONFIGURATION LIMITS: *var1***

Explanation

None.

User response

Contact IBM Software Support.

HLV0102S **EXCESS USAGE - LOCATIONS: *var1*, DRIVER TYPES: *var2*, HOST BUSINESS SYSTEMS: *var3***

Explanation

None.

User response

Contact IBM Software Support.

HLV0103H **Access restricted to TCP/IP - LU 6.2 support not activated**

Explanation

None.

User response

Contact IBM Software Support.

HLV0104H **No usage parameter specified. Usage specific to basic administrative functions and SIS.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0105I **TEST DATE *var1* (*var2*) FOR CONFIGURATION, D-O-C(*var3 var4*), *var5***

Explanation

None.

User response

None. This is an informational message only.

HLV0106S **Version 7 Configuration required, contact Software Support.**

Explanation

None.

User response:
Contact IBM Software Support.

HLV0107S **Server parameter required, contact Software Support.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0110H **INITIALIZATON OF QUICKREF INTERFACE FAILED, VERIFY QUICKREF DSN AND INSTALL STATUS**

Explanation

This message shows that the product was unable to initialize the QUICKREF interface.

User response

If QUICKREF is installed on this system, verify that the QUICKREF load library is either in the linklist or is allocated via the QWREFLIB DD statement in the started task JCL. If QUICKREF is not installed on the system, remove all references to QUICKREF from the started task JCL.

HLV0111S **Invalid DB2 subsystem ID *subsys* set by LOGDB2SUBSYS parameter**

Explanation

An invalid Db2 subsystem was specified for logging using the LOGDB2SUBSYS parameter. The specified Db2 subsystem does not exist, or has not been installed and activated on the system since the previous IPL.

User response

Specify a valid Db2 subsystem for logging using the LOGDB2SUBSYS parameter. If logging is not desired specify 'NONE' for LOGDB2SUBSYS. You may also leave LOGDB2SUBSYS unset in which case the default Db2 subsystem set for the server automatically or by the DEFAULTDB2SUBSYS parameter will be used, if valid. Product initialization is terminated.

HLV0112S **Invalid default DB2 subsystem *subsys* set by DEFAULTDB2SUBSYS parameter**

Explanation

A default Db2 subsystem ID was explicitly specified via the DEFAULTDB2SUBSYS parameter, but does not designate a valid Db2 subsystem ID. When the DEFAULTDB2SUBSYS parameter is explicitly set (to any value except 'NONE'), the target Db2 subsystem ID

is verified. The ID will fail validation if the target Db2 subsystem does not exist or has never been successfully activated in the system since the last IPL.

User response

The product terminates if an explicitly specified ID is invalid, but will allow startup to continue if it selected the default subsystem ID automatically. (The server uses the default Db2 ID from the DSNHDECP load module or the standard string, 'DSN ', if no explicit setting is provided for the DEFAULTDB2SUBSYS parameter). Product initialization is discontinued and the server terminates. Specify a valid default Db2 subsystem for DEFAULTDB2SUBSYS or leave the parameter unset to allow an automatically assigned default value to be used.

HLV0113W **DEFAULT DB2 SUBSYSTEM ID (*subsys*) FROM DSNHDECP IS INVALID, CONTINUING**

Explanation

The default Db2 subsystem ID selected automatically by the server is not a valid Db2 subsystem ID. The server has selected the Db2 subsystem ID automatically because no value was set for the DEFAULTDB2SUBSYS parameter. The server uses the default Db2 ID from the DSNHDECP load module, or, if DSNHDECP cannot be loaded, uses the standard value 'DSN ' as the default ID. Db2 operations which do not explicitly send a Db2 subsystem ID will fail because the default subsystem ID is invalid. In addition, MSG0114W may be issued following this message if Db2 logging is inhibited because of it's dependency upon the default Db2 subsystem ID validity.

User response

Specify a valid default Db2 subsystem ID via the startup DEFAULTDB2SUBSYS parameter, or specify 'NONE' for this parameter if Db2 should not be used. Product initialization continues. Note that the Db2 subsystem need not be active (up) when the Server is started, however, it must have been successfully installed and started on the system at least once prior to server startup.

HLV0114W **DB2 logging will not be activated - requires valid default DB2 subsystem ID**

Explanation

The default Db2 subsystem ID set automatically by the server (from the DSNHDECP load module) is not valid and no explicit value was set for the LOGDB2SUBSYS parameter. Since Db2 logging requires a valid default Db2 ID, the value 'NONE' is forced for LOGDB2SUBSYS and Db2 logging is not activated.

User response

Specify a valid Db2 subsystem ID as the default Db2 using the DEFAULTDB2SUBSYS parameter. If you do not wish to set a global default Db2 subsystem ID for all operations, but desire Db2 logging to be activated, specify a valid ID for LOGDB2SUBSYS instead. Db2 logging will not be activated during the current server startup.

HLV0115E **LE/370 INTERFACE MODULE CEEPIPI CANNOT BE LOADED - IT IS REQUIRED FOR SSL SUPPORT**

Explanation

During initialization, it was determined that the MVS Language Environment interfaces are needed for execution of the subsystem. SSL support requires the use of LE/370 interfaces. The interface module, CEEPIPI, was not found in STEPLIB or the link list.

User response

Product initialization is abandoned. To restart the subsystem, ensure that either the LE/370 runtime libraries are available in STEPLIB or the link list, or turn off the SSL support option.

HLV0116W **DB2 logging cannot be activated when DB2 SUBSYS default is 'NONE', logging deactivated**

Explanation

The Db2 logging feature of the product cannot be used with a default Db2 subsystem setting of 'NONE'. The DEFAULTDB2SUBSYS parameter must be set to an actual Db2 subsystem ID, or left un-specified. Since 'NONE' was set ALL DB2 PROCESSING IS INHIBITED. This message is only issued when the LOGDB2SUBSYS parameter has explicitly been set to a Db2 subsystem ID value other than 'NONE'. The LOGDB2SUBSYS parameter is ignored and reset to 'NONE' so that it matches the DEFAULTDB2SUBSYS parameter. This prevents Db2 logging activation. Product initialization continues without activating Db2 logging.

User response

Specify a valid default Db2 subsystem ID for DEFAULTDB2SUBSYS or leave that parameter unset (if unset, the default value is fetched from the DSNHDECP load module). Product initialization continues with NONE set for both DEFAULTDB2SUBSYS and LOGDB2SUBSYS.

HLV0117S ***type*** **TCP/IP port number is invalid - *type* TCP/IP processing terminated**

Explanation

The TCP/IP port number specified for one of the types of TCP/IP (*type*) supported by the product is invalid. The main product address space cannot complete initialization if an invalid TCP/IP port number has been specified for any type of TCP/IP.

User response

Specify a valid port number for the type of TCP/IP that detected the invalid port number. If the type of TCP/IP is not needed, you can also just not set the TCP/IP port number at all for the failing type of TCP/IP.

HLV0118S **Load balancing not available - VCF feature code is required.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0119W **Logging not available - DB2 feature code is required.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0120I **SEF *msgtext***

Explanation

The product tried to initialize SEF during product initialization. SEF initialization failed.

User response

Check the error messages and the return code associated with this problem. There may be one or more additional error messages or abends referring to the current SEF initialization problem. Check for open errors, such as security product related abends. Also, check for storage allocation errors or abends. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0121W **SEF - *service* OF *desc* FAILED, RC=*rcode***

Explanation

The product tried to initialize or terminate SEF during product initialization or termination. An internal service routine called during SEF initialization or termination exited with a non-zero return code.

User response

Check the error messages and the return code associated with this problem. There may be one or more additional error messages or abends referring to the current SEF initialization or termination problem. Check for open errors, such as security product related abends. Also, check for storage allocation errors or abends. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0122S **ABEND *abcode* REASON *rsn* OCCURRED AT *modname+offset* DURING SEF *desc***

Explanation

The product tried to initialize or terminate SEF during product initialization or termination. The SEF initialization/termination routine abended.

User response

Check the error messages and the abend code associated with this problem. There may be one or more additional error messages or abends referring to the current SEF initialization or termination problem. Check for open errors, such as security product related abends. Also, check for storage allocation errors or abends. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0123T **SEF initialization complete**

Explanation

The product has completed SEF initialization. All triggers and events will now be passed to the SEF for processing.

User response

No action is required in response to this message. However, this message can be used to activate one or more event handling procedures.

HLV0126S ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of SEF execute queue initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0127S **MAIN TASK TIMED OUT WHILE WAITING TO BE POSTED BY THE *subtask* SUBTASK**

Explanation

The product main task timed out while waiting to be posted by an SEF subtask. The SEF subtask has either terminated abnormally or is hung. The product may or may not be able to continue processing.

User response

Check for other abends or product messages related to this one. If the problem cannot be resolved, contact Software Support.

HLV0128S **Dynamic definition of *ddname* library failed**

Explanation

The mapping data set could not be defined properly to allow for caching of map data members.

User response

Check for other abends or product messages related to this one, and contact Software Support.

HLV0130H **Initializing *secur* release *rel* security environment**

Explanation

This message shows that the product was able to successfully initialize the security environment for the interface between the product and ACF2 or RACF. The message shows the security product (*secur*) and release level (*rel*) to which the interface was established.

User response

No action is required unless the customer is not running any security package and one was identified or the release level is incorrect. Contact Software Support if such an error is detected.

HLV0131S ***subsysID* SSCT chain scanning error**

Explanation

The SSCT chain was scanned by the security interface routines looking for ACF2 or RACF. Some error exists in the SSCT chain and the search could not be continued.

User response

Examine the SSCT chain for an invalid chain or SSCT control blocks. If the problem cannot be resolved, contact Software Support.

HLV0132W **No security package found**

Explanation

The SSCT chain was scanned by the security interface routine looking for one of the known security packages: RACF, CA ACF2 or CA Top Secret. No known security product was found and the security package field was set to NONE.

User response

If no security package exists on your system, this is not an error, and no further action is needed. If RACF, CA ACF2 or CA Top Secret is active and this message was received, contact Software Support.

HLV0133E ***relno* release unknown, release code is *relno***

Explanation

The product attempted to recognize the release level (*relno*) of ACF2 and did not find a release level that it recognized or that is supported. As of this date, all CA-supported releases of ACF2 are supported by the product.

User response

If your release of ACF2 is supported by CA, contact Software Support to request that support be added for that release of ACF2. If the release number appears to be in error, contact Software Support for assistance.

HLV0134W **RUNAUTH USERID cache initialization failed - sharing of RUNAUTH USERIDs now disabled**

Explanation

During start-up, the SHARERUNAUTHACEES option was set to ON, but an error occurred while initializing the cached RUNAUTH userid table. This is likely due to a GETMAIN failure.

User response

Product initialization continues with the SHARERUNAUTHACEES option set to OFF. Examine the wraparound trace and console messages for an explanation of the error. If you are unable to locate the reason for the failure, contact Software Support.

HLV0135W **Security routine failed attempting to validate the LOGUSERID *userID*. RC=*rcode*.**

Explanation

The internal security service routine failed while attempting to verify a new USERID for the logging task.

User response

Check the error messages and the return code associated with this problem. There may be additional error messages in the system log. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0136W **LOGUSERID (*userid*) LOGON FAILED *rcode1 rcode2 rsncode* - *msgtext***

Explanation

An error occurred while attempting to verify a new USERID for the logging task. This is a security environment error.

This message contains two return codes; *rcode1* represents the security module return code, and *rcode2* represents the RACF (SAF) return code.

User response

Product logging continues with the previous USERID used for logging. Correct the value in the LOGUSERID parameter.

HLV0137S **ABEND *abcode* REASON *rsn* OCCURRED AT *modname+offset* DURING SOM *desc*.**

Explanation

An ABEND occurred during initialization or termination of the Security Optimization Management feature.

User response

Check the error messages and the abend code associated with this problem. There may be one or more additional error messages or abends referring to the current initialization or termination problem. Check for security product related abends and storage allocation errors or abends. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0138W **SOM facility is not available for *pkg*. Processing continues.**

Explanation

Security Optimization Management (SOM) was requested, but the security package (*pkg*) is not RACF. SOM can only be enabled for RACF.

User response

None. This message is for informational purposes only.

HLV0139W **Dynamic *service* services are not available**

Explanation

An MVS dynamic LPA service is not available.

User response

None. This message is for informational purposes only.

HLV0140I **The following catch-up rules require a final catch-up disposition**

Explanation

This message is issued when there are catch-up manual rules which did not fire during the previous execution of the product. It is followed by message 0141I, which documents the unfired rules.

User response

No action is required in response to this message. However, this message can be used to activate one or more event handling procedures.

HLV0141I ***rule.rsname1, rule.rsname2 ... rule.rsname7***

Explanation

This message is issued when there are catch-up manual rules which did not fire during the previous execution of the product. It lists up to seven rules that did not fire, using the format ruleset.rule. Multiple messages may be issued so that all catch-up manual rules may be listed.

User response

No action is required in response to this message. However, this message can be used to activate one or more event handling procedures.

HLV0142R **Reply 'YES' to catch-up all rules, 'NO' to bypasscatch-up, or 'MANUAL' for rule by rule prompting**

Explanation

This message is issued when there are catch-up manual rules which did not fire during the previous execution of the product. It allows you to fire all catch-up manual rules, prevent all catch-up manual rules from firing, or specify the type of catch-up processing for each individual rule. It follows messages 0140I and 0141I. If more than two minutes expire while waiting for your reply or three invalid replies are made, the default action of NO will be taken.

User response

Reply YES to cause all catch-up manual rules to fire. Reply NO to prevent all catch-up manual rules from firing. Reply MANUAL and you will be prompted to specify the type of catch-up processing for each individual rule.

HLV0143R **Reply 'YES' to catch-up *rsname.rulename* rule or 'NO' to bypasscatch-up**

Explanation

This message is issued when there are catch-up manual rules which did not fire during the previous execution of the product and you selected MANUAL in your reply to message 0142R. The name of the rule you are being prompted for is in the format ruleset.rule name. If more than two minutes expire while waiting for your reply or three invalid replies are made, the default action of NO will be taken.

User response

Reply YES to cause the rule to fire. Reply NO to prevent catch-up firing for the rule.

HLV0144E **Invalid catch-up manual reply: *reply***

Explanation

An invalid reply was specified to one of the catch-up manual console messages. The message causing the error will be reissued so that you can correctly reply. After three invalid replies for the same message, default action will be taken. For a description of the default action, see the explanation of the original message.

User response

Determine the proper reply from the text of the message, and reply correctly.

HLV0145E **Catch-up reply wait exceeded 2 minutes. Default used**

Explanation

The product waited over two minutes for a reply to one of the catch-up manual messages. Since no response was made during that time, default action was taken.

User response

None. If a reply was desired, you will need to speed your response to the message.

HLV0146E **3 Invalid catch-up replies. Default taken**

Explanation

Three invalid replies were made to a catchup manual message. Since no correct response was received, default action was taken.

User response

None. Reply as required next time.

HLV0147E **Catch-up service *service* for variable *varname* failed, RC=*rcode*.**

Explanation

An internal error was encountered during catch-up processing performing an HLVVALUE or SWSVALUE function.

User response

Contact IBM Software Support.

HLV0148W **Catch-up rule *rsname.rulename* has changed. Catch-up bypassed.**

Explanation

This message is issued when a catch-up rule has been modified since the last time the rule was enabled. The rule would otherwise have fired for catch-up because either the product or z/OS was down during the last time the rule should have fired. Because the rule has changed, it will not fire for catch-up.

User response

None.

HLV0149E **Catch-up rule *rule* global variable write failed, RC=*rcode***

Explanation

This message is issued when a catch-up rule attempts but fails to write a global variable describing the next time to fire. As a result, catch-up processing for the rule will fail the next time the product is restarted. This normally occurs when the GLOBALMAX startup parameter has been exceeded and it is no longer possible to create new global variables. Return code 93 indicates that GLOBALMAX has been exceeded. Additionally, every time the TOD rule fires, the internal global variable is updated, and return code 4 will be displayed in this message.

User response

Shut down the product, and allocate a larger SYSCHK1 data set. This may not be necessary if you already have a large data set but are only using a part of it due to a small GLOBALMAX value. Use the IDCAMS REPRO command to copy the existing database to the new larger one, if necessary. Increase the value assigned to the GLOBALMAX parameter in your initial parameter settings, and restart the product.

HLV0150S ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of trace initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0151S ***service* OF *dsname* FAILED, RC=*rcode*, REASON CODE=*rsncode***

Explanation

This error message describes errors that occurred during trace initialization, execution, or termination while using the DIV (Data In Virtual) system service. For a list of the return codes and reason codes from the DIV macro see the appropriate IBM documentation.

User response

Check the DIV return and reason codes associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0152S ***service* OF *dsname* FAILED, ABEND=*abcode*, REASON CODE=*rsncode***

Explanation

This error message describes an abend that occurred during trace initialization, execution, or termination while using the DIV (Data In Virtual) system service. The abend codes and reason codes from the DIV macro are documented in the IBM manual z/OS Programming: Assembler Services Reference.

User response

Check the DIV abend and reason codes associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0153H ***ddname*** **data set not allocated**

Explanation

Product has detected that a TRACE DD card is not present in the JCL used to start the main product address space.

User response

Modify the JCL and specify the TRACE DD card after validating that the necessary DIV data set is allocated.

HLV0154S **Any existing Trace Browse data discarded**

Explanation

Product detected this error.

User response

Contact Software Support.

HLV0155S **Please standby - upgrading Trace Browse - all data retained**

Explanation

The product is upgrading the Trace Browse data area. The Trace Browse data area must be upgraded whenever messages from an earlier version of the product are detected in the Trace Browse data area. The upgraded Trace Browse data area is compatible with earlier releases of the product, as required.

User response

There is no action required in response to this message. This message should only be displayed once when you install the first release of the product that supports the upgraded data area format. You may also see this message again if a prior version of the product is used after the Trace Browse data area has been upgraded. The message will be deleted as soon as the Trace Browse data area upgrade is completed. The upgrade requires about 3 minutes for every 100,000 messages. If this message recurs, contact Software Support for additional assistance.

HLV0156S ***service*** **PASSED** ***desc*** **-** ***code***

Explanation

This is a generic error message used to describe a wide variety of trace initialization and termination errors. The message text provides the current operation (*service*) and what data (valid or invalid) was passed to the current operation.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0160S **Possible shortage of storage,** ***bytes*** **bytes required for Trace Browse**

Explanation

This is a follow-up message to message 0150S when a GETMAIN has failed. This message indicates the size, in bytes, of the area requested by the GETMAIN.

User response

If the GETMAIN return code indicates insufficient storage to complete the GETMAIN request, please increase your available storage (above the 16MB line) by the indicated amount.

HLV0161S **Main task timed out while waiting to be posted by the TRACE subtask**

Explanation

The product main task timed out while waiting to be posted by the trace subtask. The trace subtask has either terminated abnormally or is hung. The product may or may not be able to continue processing.

User response

Check for other abends or messages related to the product prior to this one, and contact Software Support for additional assistance.

HLV0162S ***service*** **OF** ***dsname*** **FAILED, ABEND=***abcode* **AT** ***modname*** **+***offset***, REASON CODE=***rsncode***

Explanation

This error message describes an abend that occurred during trace initialization, execution, or termination while using the DIV (Data In Virtual) system service. The abend codes and reason codes from the DIV macro are documented in the IBM manual z/OS Programming: Assembler Services Reference.

User response

Check the DIV abend and reason codes associated with this problem. There may be one or more error messages referring to the current problem. If possible,

fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0165I SEF *msgtext*

Explanation

SEF subtask mapping information messages.

User response

None at this time.

HLV0166E Unable to build process block for SEF interface, RC=*rcode*

Explanation

Services startup was unable to build the environment to interface to the SEF task. The return code is given.

User response

Check the return code and look for other error messages which may explain the error.

HLV0167E Ruleset rule specifies DSN *dsname*, should be *dsname* for VirtualDirectory *dir*.

Explanation

Services startup found a Virtual Directory with a Ruleset whose dataset name did not match the existing Ruleset dataset name. This Virtual Directory (*dir*) is not initialized.

User response

Correct the inconsistency between rulesets and dataset names in all related virtual directories.

HLV0171S *service* OF *dsname* FAILED, RC=*rcode*, REASON CODE=*rsncode*

Explanation

This error message describes errors that occurred during global variable initialization, execution, or termination while using the DIV (Data In Virtual) system service. For a list of the return codes and reason codes from the DIV macro see the appropriate IBM documentation.

User response

Check the DIV return and reason codes associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0172S *service* OF *dsname* FAILED, ABEND=*abcode*, REASON CODE=*rsncode*

Explanation

This error message describes an abend that occurred during global variable initialization, execution, or termination while using the DIV (Data In Virtual) system service. For a list of the return codes and reason codes from the DIV macro see the appropriate IBM documentation.

User response

Check the DIV abend and reason codes associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0173W *ddname* data set not allocated

Explanation

The product has detected that either a SYSCHK1 or a SYSCHK2 DD card is not present in the JCL used to start the main product address space.

User response

Modify the JCL, and specify an appropriate DD card after validating that the necessary DIV data set is allocated.

HLV0174S Any existing global variables data discarded

Explanation

The product detected this error.

User response

Contact Software Support.

HLV0175I Global variable upgrade *vartext*

Explanation

Prior to version 02.01.01 of the product, global variables were maintained in a linked list. As of version 02.01.01, they are kept in an AVL tree structure for improved performance. This message indicates that the global variable pool is being upgraded to the new

format. This message may also be issued as a result of setting the GLOBALREBUILD parameter to YES or when the global variable database has been corrupted.

User response

None. This message is for informational purposes only.

HLV0176S **Duplicate global variable found, name=*varname***

Explanation

While building/rebuilding the global variable AVL tree, an attempt was made to add a node to the tree, and the node already existed in the tree. The second value is ignored, and the tree build/rebuild continues.

User response

Report this message to Software Support. This situation has occurred due to a prior logic error.

HLV0177S **Main task timed out while waiting to be posted by the global variable checkpoint subtask**

Explanation

The product main task timed out while waiting to be posted by the global variable checkpoint subtask. The global variable checkpoint subtask has either terminated abnormally or is hung. The product may or may not be able to to continue processing.

User response

Check for other abends or messages related to the product prior to this one, and contact Software Support.

HLV0178S ***errdesc* DETECTED IN GLOBAL VARIABLE LIST**

Explanation

While building/rebuilding the global variable AVL tree, one of the following (*errdesc*) occurred: (1) an infinite loop was detected in the sequential list, (2) an invalid entry was detected in the sequential list, or (3) an invalid offset was detected in the sequential list. The tree rebuild is terminated at this point. The product will attempt to reconstruct the entire global variable data set. Some global variables may be discarded.

User response

Report this message to Software Support. This situation has occurred due to a prior logic error or storage overlay. The product should continue to function normally after the global variable data set has been successfully reconstructed.

HLV0179I **Global variable conversion from version *vartext version***

Explanation

Prior to version 02.02.00 of the product, global variables were limited to 256 bytes in size. As of version 02.02.00, this restriction is removed. Prior to version 03.02.00 of the product, the key size was limited to 50 bytes. As of version 03.02.00, the key size limit is increased to 84 bytes. This message indicates that the global variables are being converted to a new format.

User response

None. This message is for informational purposes only.

HLV0180I **GLOBAL VARIABLE CHAIN REBUILD *vartext*, *count* GLOBALS**

Explanation

While doing a global variable tree rebuild, it was found that the chained list was incomplete and needed to be rebuilt. This message indicates the status of the chain rebuild process.

User response

None. This message is for informational purposes only.

HLV0181I ***varname* BEING ADDED TO CHAIN**

Explanation

While doing a global variable tree rebuild, it was found that the chained list was incomplete and needed to be rebuilt. This message indicates which variables were reinserted back into the global variable chain.

User response

None. This message is for informational purposes only.

HLV0182I **GLOBAL VARIABLE DATABASE BEING CONVERTED**

Explanation

This is the first time version 02.02.00 of the product has processed this global variable DIV data set. The product is converting the global variable database to the new format. The converted global variable database will not be usable with older versions of the

product unless the backward conversion utility is subsequently executed.

User response

Information only. No action required.

HLV0183S **ABEND *abcode* OCCURRED AT *modname+offset* DURING *desc***

Explanation

This error message describes an abend that occurred during global variable subtask termination processing. This may also occur during an AVL tree rebuild during startup or when the GLOBALREBUILD parameter is set to YES.

User response

There may be one or more error messages related to the current problem. In the case of the AVL tree rebuild routine, the product will attempt to recover the global variable checkpoint data set by automatically rebuilding it. In all other cases, attempt to fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0184S ***desc storaddr1 storaddr2 storaddr3***

Explanation

A logical error was encountered while validating data prior to a global variable checkpoint. The checkpoint will be aborted, and the product will be terminated to prevent incorrect data being saved. Changes to the global variable database since the previous checkpoint will be discarded.

User response

Attempt to restart the product. If the same error occurs, contact Software Support, giving them the information in this message. It may be possible to reconstruct the database by setting the GLOBALREBUILD parameter to YES prior to restarting the product. If not, the global variable data set can be recovered from a prior backup.

HLV0185W **GLOBALMAX VALUE OF *val1* IS TOO LOW. RESET TO *val2*.**

Explanation

The GLOBALMAX parameter value is too low and would cause the global variable database to be destroyed. The value has been ignored and reset to its prior value. This scenario may have been caused by a failure in the product initialization REXX program or CLIST, which resulted in an attempt to use the default GLOBALMAX value.

User response

If this error was caused by a failure in the initialization REXX program or CLIST, attempt to determine the cause of failure as soon as possible. You may wish to shut down the product to prevent other problems from occurring. The GLOBALMAX value may have been defaulted due to such a failure. If you are really attempting to reduce the size of the global variable data set, you must stop the product, delete and reallocate a new DIV data set, and then restart the product.

HLV0186S **CONVERSION FAILED. INCREASE GLOBALMAX BY AT LEAST *minval*.**

Explanation

The conversion of the SYSCHK1 database to the version 03.02.00 format failed because the GLOBALMAX value is not large enough to contain the converted data. The new database requires more space than the old one due to the increased key size. The database may require up to twice as much space in the worst possible case.

User response

Shut down the product, and allocate a larger SYSCHK1 data set. This may not be necessary if you already have a large data set but are only using a part of it due to a small GLOBALMAX value. Use the IDCAMS REPRO command to copy the existing database to the new larger one, if necessary. Increase the value assigned to the GLOBALMAX parameter in your initial parameter settings, and restart the product. Adding this value will not leave any free space in the SYSCHK1 data set. You should leave enough free space to account for growth in your system.

HLV0187I **OLD IN-USE BLOCK COUNT - *minval*. NEW IN-USE BLOCK COUNT - *val*.**

Explanation

This informational message indicates how many blocks of storage were being used in the SYSCHK1 database prior to the conversion to the 03.02.00 format and how many blocks of storage will now be used following the conversion.

User response

Compare the new in-use block count to your GLOBALMAX value. If this value is close to the GLOBALMAX value, you may not have sufficient free space for normal operation, and you should increase the size of your SYSCHK1 database as soon as possible.

HLV0188S **INCOMPATIBLE SYSCHK1 DATABASE LEVEL *lvl*, CANNOT BE USED.**

Explanation

The SYSCHK1 database is in a format that is incompatible with the current version of the product. This database has probably been converted to a format supported by a newer version of the product.

User response

Use a version of the database that is compatible with the current version of the product.

HLV0190E **SEF STARTUP ERROR: *var1*, *var2 ... var9***

Explanation

A configuration parameter or environmental error was found during SEF service task initialization. The problem is related in some way to the enhanced implementation of the System Web Interface (SWI) facility. Either parameters used to configure the SWI facility conflict, or new restrictions that this version of the Server imposes have not been met.

User response

SEF service task initialization ends with an error causing the server to begin shutdown processing. Determine the cause of the error and correct the problem or conflict. If the problem cannot be understood and resolved from the messages produced, contact Software Support.

HLV0191W **SWI FACILITY WARNING: *var1*, *var2 ... var9***

Explanation

A configuration parameter or environmental error was detected during activation, termination, or processing by the System Web Interface (SWI) facility. The SWI facility continues operation adjusting to the reported condition.

User response

Determine if the warning is anticipated or unexpected. If the warning reports an unexpected condition, correct the configuration or other problem before restarting the server.

HLV0192I **SWI FACILITY: *var1*, *var2 ... var9***

Explanation

The System Web Interface (SWI) Facility has detected a condition that might be of interest and reports it using this message number. The message MIGHT indicate a configuration problem, or runtime problem, depending upon the nature of the reported information.

User response

If a recoverable condition is reported, check the SWI configuration that may contribute to the condition and correct prior to the next server restart.

HLV0193W **SEFACTIVE = "NO" set - SEF rules will not be enabled during start-up .**

Explanation

The SEFACTIVE parameter is set to "NO", so rule enablement will not be performed during server startup. You can enable rules later by manually issuing ENABLE SEF commands against defined rulesets.

User response

Determine if the warning is anticipated. If not, correct the SEFACTIVE start-up parameter and restart the server.

HLV0194W **SEF start-up procedure ended with special RC (8) - auto-enable of SEF rules bypassed - no SEF rules are enabled.**

Explanation

The SxxxxINEF start-up procedure ended with RC=8, indicating rule enablement should be bypassed. The server will bypass rule enablement. You can enable rules later, manually, but until you do so, no event related processing is performed by the SEF facility.

User response

Determine if the warning is anticipated. If not, correct the SxxxxINEF start-up procedure and restart the server.

HLV0195E **XO DATASET ERROR: *var1*, *var2* ... *var9***

Explanation

A configuration or runtime error was found while SEF was processing an executable object (XO) dataset. XO dataset libraries contains pre-compiled SEF rules and HTX generation skeleton text files. They are used primarily to support the System Web Interface (SWI) facility distributed with the server.

User response

SEF terminates processing of the current operation, sometimes by generating an S0C3 ABEND if the condition is severe. If error is severe SEF may being termination of the server. Check for related messages which may aid in problem determination. For SWI, be sure the SWICNTLDSN start-up parameter is set correctly. Contact Software Support, if the problem cannot be determined or corrected.

HLV0196W **SEF CONFIGURATION UPDATE *var1*, *var2* ... *var9***

Explanation

SEF is processing a configuration update, such as validating a ruleset definitions and placing the ruleset online. A problem or warning is reported in this message if the configuration update is not completed normally.

User response

SEF continues processing of the next configuration update unless the error is severe. Correct the original resource definition (e.g. "DEFINE RULESET" or "DEFINE FILE" in the SxxxxIN00 procedure) and resubmit the request.

HLV0197S **Critical SEF resource definition error found - server startup aborting**

Explanation

An error was detected in a critical SEF configuration resource definition. The server will begin termination processing to avoid later problems when the SEF task begins execution.

User response

Check the console log for DEFINE RULESET definitions entered via the SxxxxIN00 startup procedure. Those definitions which are flagged with the keyword "INITERROR(ABORT)" and the definitions for ATH, WWW-Main, and TYP rulesets are considered critical. The server will not be allowed to start if these definitions are in error. Correct the definitions and restart the server.

HLV0200S **MODE SWITCH ROUTINE *service* FAILED RC=*rcode***

Explanation

The product attempted to either acquire storage for a below the line AMODE switch routine or free the storage used by a below the line AMODE switch routine. The storage management operation (*service*) failed.

User response

Check if the return code or any other messages provide additional information about the storage management error. Also, check if the operating system is short on storage in CSA. Start or restart the product if the storage management problem can be resolved. Contact Software Support if the problem cannot be resolved.

HLV0201S **SSVT *service* FAILED RC=*rcode***

Explanation

The product tried to either acquire storage for a SSVT control block or free the storage used by the SSVT control block. The storage management operation (*service*) failed.

User response

Check if the return code or any other messages provide additional information about the storage management error. Also, check if the operating system is short on storage in CSA or ECSA. Start or restart the product if the storage management problem can be resolved. Contact Software Support if the problem cannot be resolved.

HLV0202S **SAST UDPATE FAILED RC=*rcode***

Explanation

The product tried to update one of the subsystem interface control blocks used by the system. The update operation failed.

User response

Check the error messages associated with this problem. There may be one or more subsystem interface error messages referring to the current problem. If possible, fix the problem identified by the

error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0203S **SAST PLIST STORAGE *service* FAILED RC=*rcode***

Explanation

The product tried to either acquire storage for the SAST update PLIST or free the storage used by the SAST update PLIST. The storage management operation (*service*) failed.

User response

Check if the return code or any other messages provide additional information about the storage management error. Also, check if the product region should be increased. Start or restart the product if the storage management problem can be resolved. Contact Software Support if the problem cannot be resolved.

HLV0204W **Total subsystem count was *count1*, reset to *count2***

Explanation

Many products (such as IMS) create new subsystem control blocks and add them to the subsystem control block chain. Unfortunately, these same products do not update the subsystem control block count field. The product found that the actual count of subsystem control blocks did not match the count value in the main operating system control block. The product updated the overall count value.

User response

This is not an error message, and no action is required.

HLV0206E ***servrout errdesc* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

Some type of service routine (operating system or product specific) failed. The error message identifies the service routine and the type of error.

User response

Check the full text of the error message, and fix the program that calls the application program interface, if necessary.

HLV0207I **JSAST TABLE ENTRY FOR *subsys* WAS *indicator* FOUND - FORCEJSASTUPDATE OPTION ACTIVE**

Explanation

The FORCEJSASTUPDATE option is on. The subsystem's ID was or was not found in the JSAST table. Updates to JESNRSS and the JSAST table will be unconditional due to the setting of FORCEJSASTUPDATE.

The indicator variable (*indicator*) may be either null or "NOT".

User response

Initialization routines force execution of the JESNRSS Update and IEFJSBLD calls.

HLV0220I **CONNECT TO REAL-TIME SMF INTERFACE SUCCESSFUL FOR *stream_name***

Explanation:
The Real-Time interface to SMF data has been successfully connected. The specified stream name is now active.

User response:
No action is required. Queries for Real-Time SMF data may now be issued.

HLV0221E **CONNECT OF SMF REAL-TIME INTERFACE FAILED FOR STREAM *stream_name*, RC=*return_code*, REASON=*reason_code*, DETECTED AT *csect_name***

Explanation:
An SMF Real-Time interface function failed with the specified return code and reason code.

User response:
Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Technical Support to obtain additional assistance.

HLV0230W **SERVER'S DFHSM PENDING HRECALL TABLE IS FULL - DFHSMDRAIN(YES) FORCED**

Explanation

More than 125 outstanding asynchronous HRECALL requests remain to be posted as complete by DFHSM. The server is suspending DFHSM request processing. It automatically set the DFHSMDRAIN product option to YES, so that no new HRECALL requests are

scheduled until either (1) the number of pending HRECALL requests drops below 100 or (2) the DFHSMDRAIN or DFHSMSTATUS options are changed manually.

User response

Check for reasons why DFHSM HRECALL processing may be delayed or disabled. Correct the DFHSM problem, and then either wait for the server to automatically set the DFHSMDRAIN(NO) option (once 25 requests have been completed and cleared from the pending table) or manually change the DFHSMDRAIN parameter to NO. Before manually changing DFHSMDRAIN to NO, ensure that fewer than 125 HRECALL requests remain outstanding.

HLV0231E **DFHSM INIT/TERM ROUTINE, OPINHS, ENTERED WITH INVALID FUNCTION CODE: *code***

Explanation

During start-up or shutdown, the DFHSM service routine was entered with an invalid request code.

User response

This is a logic error. Contact Software Support for problem resolution.

HLV0233E **IBM-SUPPLIED DFHSM LOAD MODULE, ARCGIVER, NOT INSTALLED/LOCATED - DFHSM SUPPORT DISABLED**

Explanation

During start-up, DFHSM(YES) was selected to initialize DFHSM support. However, the server cannot locate a copy of the IBM-supplied DFHSM interface module, ARCGIVER. This module must be available within the link list, LPA, or the server's STEPLIB load library.

User response

Server start-up continues, but the server resets the DFHSM option to NO, which prevents further interactions with DFSMShsm from being undertaken. Determine why the ARCGIVER module cannot be located, and make it available during server start-up. If DFSMShsm is not installed, do not attempt to set the DFHSM(YES) start-up option.

HLV0234E **DFHSM INTERFACE DISABLED DUE TO STORAGE ALLOCATION ERROR**

Explanation

During start-up, DFHSM(YES) was selected to initialize DFHSM support. However, a storage acquisition error has occurred which will prevent the DFHSM interface from operating.

User response

Server start-up continues, but the DFHSM option is reset to NO, which prevents further DFHSM operations from occurring. See preceding messages to determine the actual cause of the problem.

HLV0235I **DFHSM support interface successfully initialized**

Explanation

During start-up, the DFHSM(YES) was selected to enable DFHSM support. The server has pre-initialized its DFHSM support interface successfully.

User response

Server start-up continues. If DFHSM is not operational, the server may generate HRECALL requests throughout its operation which will immediately fail. If DFHSM is not actually installed, change the DFHSM start-up parameter to NO to prevent enablement of DFHSM Support within the server. You may set DFHSMSTATUS(OFFLINE) at any time to prevent the server from invoking DFHSM services until reset to DFHSMSTATUS(ONLINE).

HLV0236E **ABEND DURING DFHSM *service* PROCESSING - CMP=*ccode*,RS=*rsncode*, AT=*modname+offset***

Explanation

An abend was trapped during DFHSM processing. Information about the abend is written to the console log.

User response

The DFHSM interface retries, if possible, to prevent subsystem termination or failure. Check for other messages which might indicate the cause of the problem. If the problem cannot be resolved, contact Software Support.

HLV0237W **HRECALL PENDING FOR *dsname* - MWE ECB AT *addr* UNPOSTED - ORPHANED**

Explanation

During shutdown, an incomplete asynchronous DFHSM HRECALL request was detected. The outstanding request will cause 352 bytes of below-the-line CSA storage to be orphaned. This occurs because an outstanding HRECALL request causes an MWE ECB to be allocated by DFHSM. The server is allowed to free the ECB only after DFHSM has posted this ECB, which it has not yet done; DFHSM does not automatically free this storage when the requesting address space terminates. Note that the orphaned CSA storage area actually begins some number of bytes prior to the ECB address given in this message (consult IBM to determine the exact offset).

User response

Processing continues and the DFHSM MWE ECB is orphaned. The server does not attempt to remember these ECB addresses across a restart of the product. To prevent this condition, consider setting the server's DFHSMSHUTDOWNWAIT parameter to allow a longer wait time limit for DFHSM hrecall completions during shutdown. Also, ensure that the DFHSMSTATUS parameter has not been manually set to OFFLINE, which inhibits waiting and cleanup of pending HRECALL requests.

HLV0238I **SERVER'S PENDING RECALL TABLE NO LONGER FULL - DFHSMDRAIN(NO) RESET TO NO**

Explanation

Earlier, the server had put DFHSMDRAIN(YES) into effect because its pending HRECALL table was full. The table now has 25 free entries, and the server is restoring normal HRECALL processing.

User response

None. Normal HRECALL processing resumes.

HLV0239I **SHUTDOWN SUSPENDING FOR UP TO *sec* SECONDS TO AWAIT *count1* PENDING HRECALL COMPLETIONS - *count2***

Explanation

During shutdown processing, one or more pending HRECALL requests is still pending. The server will pause to wait upon DFHSM to post these pending requests complete. Shutdown processing will re-commence after pausing for DFHSM completion.

User response

None. The server waits the length of time specified by the DFHSMSHUTDOWNWAIT parameter for pending completions.

HLV0240E ***count* PENDING DFHSM REQUESTS (AND MWE's) ORPHANED BECAUSE *rsn***

Explanation

During shutdown processing, one or more pending HRECALL requests MAY remain pending. However, the server is bypassing product termination-time final recovery, checking for these requests.

User response

None. The server continues termination processing without attempting recovery/cleanup for pending HRECALL requests. Bypassing DFHSM final recovery is normally due to the parameter DFHSMSTATUS(OFFLINE) having been explicitly set and left in effect during product termination. Be sure to restore DFHSMSTATUS(ONLINE) before product shutdown if DFHSM is actually online.

HLV0250S ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of IMS initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0251S ***service* PASSED *desc* - *code***

Explanation

This is a generic error message used to describe a wide variety of IMS initialization and termination errors. The message text provides the current operation (*service*) and what data (valid or invalid) was passed to the current operation.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0253S ***service* TO *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of IMS initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0254S **IMS *rsrc* name missing**

Explanation

A resource (*rsrc*) name needed by the IMS product feature is missing. The current operation will be terminated. The message text contains the name of the missing resource.

User response

Check the resource name in the error message. Set the resource name using a product parameter.

HLV0255H **Build in-storage profile failed for class *class rcode1 rcode2 rsncode - errmsg***

Explanation

The product received a non-zero return code from a build in-storage profiles request for a specific class.

The message contains two return codes; *rcode1* represents the security module return code, and *rcode2* represents the RACF (SAF) reason code.

User response

Check the security error for the class. Correct the problem, or contact your security administrator for further assistance.

HLV0261I **Server will use default filetype definitions for MIME CONTENT-TYPE mapping**

Explanation

FILETYPE table definitions were not provided explicitly by the initialization procedure. In the absence of ANY explicitly defined entries, the server generates a default set of definitions.

User response

Normally, no action in required, and you may prefer to use the built-in defaults provided by the server.

HLV0265E **IDMS support cannot be enabled - module *IDMS-module-name* not found**

Explanation:
The CA IDMS load module was not found in the server started task JCL.

User response:
Add the CA IDMS load libraries into the STEPLIB of the server started task JCL.

HLV0270T **Access to ACI feature is not configured.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0271W **ACI internal service had to GETMAIN buffers**

Explanation

ACI internal services are supposed to use above the bar buffer pools for storage. Some ACI services were unable to obtain storage from the buffer pool configured. As a result, it had to resort to GETMAIN services for buffers.

User response

Examine the buffer pool statistics to determine which buffer pools need to be made larger. Also, be sure the internal services are configured to appropriate buffer pools.

HLV0272I ***service errdesc*, RC=*rcode*, RSN=*rsncode*, DETECTED AT *addr***

Explanation

ACI internal services initialization was unable to get large page storage for the ACI buffer pools as requested.

User response

Allocate more storage for large pages to satisfy the buffer pool requests. Standard page storage is obtained instead.

HLV0273T ***additinfo1*, *additinfo2* ... *additinfo9***

Explanation

ACI tracing message. These messages will be produced when ACITRACE is set to YES.

User response

None.

HLV0280S **SSL *msgtext***

Explanation

The product tried to initialize SSL during product initialization. SSL initialization failed.

User response

Check the error messages and the return code associated with this problem. There may be one or more additional error messages or abends referring to the current SSL initialization problem. Check for open errors, such as security product related abends. Also, check for storage allocation errors or abends. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0281S **SSL KEY/CERTIFICATE FILE *func* ERROR, DD=*ddname*, RC=*rcode***

Explanation

The product tried to initialize SSL during product initialization. SSL initialization failed because an error occurred while accessing the server's private key or certificate file.

User response

Check the error messages and the return code associated with this problem. There may be one or more additional error messages or abends referring to the current SSL initialization problem. Check for open errors, such as security product related abends. Also, check for storage allocation errors or abends. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support to obtain additional assistance.

HLV0282S **ABEND *abcode* OCCURRED AT *modname+offset* DURING SSL *desc***

Explanation

The product tried to initialize or terminate SSL during product initialization or termination. The SSL initialization/termination routine abended.

User response

Check the error messages and the abend code associated with this problem. There may be one or more additional error messages or abends referring to the current SSL initialization or termination problem. Check for open errors, such as security product related abends. Also, check for storage allocation errors or abends. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0283T **SSL initialization complete**

Explanation

The product has completed SSL initialization. All triggers and events will now be passed to the SSL for processing.

User response

No action is required in response to this message. However, this message can be used to activate one or more event handling procedures.

HLV0284S **SSL user ID *userID* logon failed.**

Explanation

The SSL manager userid specified by the SSLUSERID system parameter, or the default server address space userid failed logon processing during start-up.

User response

The HTTP-API initialization process is aborted. Ensure that the userid specified by the SSLUSERID start-up parameter is correct. Refer to message HLV2107 for more information about the failure.

HLV0285I **SSL manager user ID *userID* logged on to server.**

Explanation

The SSL manager userid specified by SSLUSERID system parameter has been logged on to the system.

User response

HTTP-API initialization processing continues.

HLV0286S ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of SEF execute queue initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0287S **MAIN TASK TIMED OUT WHILE WAITING TO BE POSTED BY THE *subtask* SUBTASK**

Explanation

The product main task timed out while waiting to be posted by an SSL subtask. The SSL subtask has either terminated abnormally or is hung. The product may or may not be able to continue processing.

User response

Check for other abends or product messages related to this one. If the problem cannot be resolved, contact Software Support.

HLV0288S **SSL SERVER PRIVATE KEY/ CERTIFICATE FORMAT INVALID FOR *ddname***

Explanation

The SSL resource manager could not initialize because the server's private key or certificate file contains an invalid key or certificate.

User response

Check for other abends or product messages related to this one. If the problem cannot be resolved, contact Software Support.

HLV0289S **SSL SUPPORT CANNOT BE ENABLED - DDNAME *ddname* IS NOT ALLOCATED**

Explanation

The SSL resource manager could not initialize because the server's certificate or private key file ddname is not allocated.

User response

The server will terminate. Check the start-up JCL to ensure that the certificate file and/or private key files are allocated to the correct ddnames.

HLV0290S **SSL ERROR: *msgtext***

Explanation

The SSL routines logged a severe error message.

User response

The SSL routines logged a severe error to trace. The message is duplicated to the operator console.

HLV0291S **SSL LDAP *indicator* NOT SPECIFIED**

Explanation

SSL client authentication by an LDAP server was requested, but the name of the server or port (*indicator*) number were not specified.

User response

The server initialization process is aborted. Ensure that the correct server name and port number are specified with the SSLLDAPSERVER and SSLLDAPPORT parameters.

HLV0292I **GSK SSL SUPPORT CANNOT BE ENABLED - SSLKEYPATH PARAMETER NOT SPECIFIED, CHANGING TO SSLEAY SUPPORT**

Explanation

The SSL resource manager could not initialize GSK SSL because the SSLKEYPATH parameter was not specified. GSK SSL requires this parameter. The product will attempt to use SSLEAY SSL support.

User response

The GSK SSL support will not be enabled. If possible, SSLEAY SSL support will be used. If GSK SSL is desired, code the SSLKEYPATH parameter and restart the product.

HLV0293I **A CALL TO THE SET_DUB_DEFAULT UNIX SYSTEM SERVICE FAILED. RC=*rcode* RS=*rsncode***

Explanation

Product initialization received an error return code from a call to the set_dbu_default service.

User response

Product initialization is terminated. Refer to the IBM UNIX System Services Messages and Codes manual for an explanation of the return and reason codes. It is possible that an OMVS segment was not created for the product USERID. Refer to the the product Server Installation Guide for more information on creating the product USERID and the security that the USERID requires. If the problem cannot be resolved, then contact Software Support to obtain additional assistance.

HLV0320S **Subroutine *subrout* was found in *modname1* but belongs in *modname2* at offset *offset***

Explanation

The subroutine definition is in the wrong module.

User response

Contact Software Support to obtain assistance.

HLV0321S **Subroutine *subrout* at offset *offset1* in module *modname* is out of sequence and should be offset *offset2***

Explanation

The subroutine is not defined in the correct position.

User response

Contact Software Support to obtain assistance.

HLV0322S **Vector and list table offsets for subroutine *subrout* in module *modname* do not match**

Explanation

The offset into the vector table for the subroutine does not match the offset defined in the list table.

User response

Contact Software Support to obtain assistance.

HLV0323S **Vector at offset *offset* in module *modname* points to *subrout1* but should point to *subrout2***

Explanation

The subroutine pointed to by the list table is not the one that was defined. The OPCOS% module vector table entries do not agree with OPSBCL.

User response

Contact Software Support to obtain assistance.

HLV0324I ***service* OF *desc* FAILED, RC=*rcode*, REASON=*rsncode*, DETECTED AT *addr***

Explanation

An attempt was made to use zEDC services for compression. If no zEDC engine was available or zEDC is not configured, this message may appear.

User response

If zEDC compression is not required, this message may be ignored. Otherwise, the return code and reason code will indicate the problem using zEDC.

HLV0325I ***service* OF *desc* SUCCEEDED, DETECTED AT *addr***

Explanation

A succeeded for zEDC services for compression. zEDC services are now available for use.

User response

None.

HLV0326T ***additinfo1*, *additinfo2* ... *additinfo3*, PGM=%SK**

Explanation

A zEDC function call was made. The results are traced.

User response

None.

HLV0334I STOP command detected during initialization

Explanation

A STOP command has been detected by the product during early product initialization. The initialization exec (SxxxxIN00) may or may not have completed successfully. STOP commands issued after the completion of the initialization exec will not be honored until initialization has completed.

User response

None. This message is for informational purposes only.

HLV0335S ESTAE *service* ERROR RC=*rcode*

Explanation

The product tried to create an ESTAE recovery environment. The ESTAE macro (*service*) failed.

User response

Check the error messages and the return code associated with this problem. There may be one or more ESTAE error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0336S *service* of *desc* failed, RC=*rcode*. Detected at *addr*. stack: *stkinfo*.

Explanation

This is a generic error message used to describe a wide variety of product initialization, execution, and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact IBM Software Support.

HLV0337E *desc service* ERROR RC=*rcode*

Explanation

Some type of process block pool error occurred during product initialization or product termination. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0338S INVALID *desc* LOCATED AT *addr* TAG IS *tag*

Explanation

The product found an invalid control block during product termination. The control block tag (*tag*) contained an invalid character string.

User response

Check the error messages associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support to obtain additional assistance.

HLV0339E *count* process block(s) still in use

Explanation

The product uses a pool of stack control blocks to process messages and other events. The stack blocks are obtained and released as required by a variety of product routines. In some cases, a product routine may fail to release a process block.

User response

No action is required to resolve this problem. The product will release all of the space used by the stack control blocks even if they appear to still be in use. If the problem cannot be resolved, contact Software Support.

HLV0340I *msgtext*

Explanation

This message is not an error message. The current message is used to display the output from the

product initialization exec (SxxxxIN00) on the system consoles.

User response

Although the current message is not an error message, the output from the product initialization exec is only sent to the product consoles if the initialization exec terminates with a non-zero return code. The exec messages should be carefully checked for any error messages. Restart the product, if necessary. Contact Software Support if the problem (non-zero exec termination code) recurs.

HLV0341T ***%PM*** **feature codes are not set - contact Software Support for assistance**

Explanation

Review the messages just before and after this message to understand the context.

User response

Contact IBM Software Support.

HLV0342T ***%PM*** **is running on an unconfigured CPU.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0343T ***%PM*** **configuration will need refresh in *x* days.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0344T ***%PM*** **configuration needs refresh on this system.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0345S DD allocation required in start-up JCL for proper execution of TSO/E REXX procedures.

Explanation

The server is attempting to intercept output from a TSO/E REXX procedure but could not open the output data set to which TSO/E REXX routes SAY statement and other output messages are directed. The most likely cause is that a site modification has been made to IRXPARMS that specifies that TSO/E REXX should use a non-standard ddname for output. SYSTSPRT, the IBM default, is assumed if the server is unable to load and check the IBM-supplied load module, IRXPARMS.

User response

Ensure that the ddname indicated in the message is pre-allocated by the server's start-up JCL. (The product-supplied sample JCL contains a SYSTSPRT DD statement which can be used as a model for pre-allocating this data set.) If a DD statement is already present in the start-up JCL, ensure that this ddname has not been released through the use of an MVS DYNALLOC dynamic allocation request. This condition, if encountered while processing the SWSxIN00 parameterization procedure, will not result in server termination. However, any errors encountered while executing this procedure cannot be successfully reported.

HLV0346I NETWORKBUFFERSIZE value inadequate for SQLMAXCOLUMNS value, raised to *val*

Explanation

The NETWORKBUFFERSIZE must be adequate to hold an SQLDA with the maximum number of columns allowed, as specified by SQLMaxColumns. The exact formula is: NETWORKBUFFERSIZE >= SQLMaxColumns * 44 + 16

User response

The NETWORKBUFFERSIZE is raised to the size computed by the above formula and then rounded to a 1K (1024) byte boundary.

HLV0347I DSNREXX DB2 REXX INTERFACE NOT FOUND, ADDRESS DSNREXX SUPPORT NOT ACTIVATED

Explanation

The load module DSNREXX for REXX interface to Db2 was not found. Support for this API is not activated. Initialization continues normally.

User response

Support for ADDRESS DSNREXX is not enabled. This is not necessarily an error, unless DSNREXX support is needed.

HLV0348S **Invalid registry block *ivdata* found in logstream *logstream***

Explanation

The Registry Logstream contained a block which did not pass validation (*ivdata*). The record is dropped, and will be deleted at the next update.

User response

Make a copy of the next Offload dataset for this logstream and send it to Software Support.

HLV0349I ***regtype* REGISTRY LOGSTREAM *logstream action***

Explanation

The Registry Logstream was created, deleted, or connected (*action*) to as part of initialization.

User response

None, this is normal processing.

HLV0350S ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of CICS initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0351S ***service* PASSED *desc* - *code***

Explanation

This is a generic error message used to describe a wide variety of CICS initialization and termination errors. The message text provides the current operation (*service*) and what data (valid or invalid) was passed to the current operation.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0352W ***modname* is not REENTRANT**

Explanation

The product found that the EXCI options module DFHXCOPT or its alias DFHXCOPE is not REENTRANT. This will cause some EXCI related product parameters to be ignored - for example the TIMEOUT parameter.

User response

Relink the module with the RENT option.

HLV0353S ***service* TO *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of CICS initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0354S **CICS *rsrc* NAME MISSING**

Explanation

A resource (*rsrc*) name needed by the CICS product feature is missing. The current operation will be terminated. The message text contains the name of the missing resource.

User response

Check the resource name in the error message. Set the resource name using a product parameter.

HLV0355I **CICS support terminating**

Explanation

This is an informational message that is issued when the product terminates its CICS support. If the CICS support is being terminated due to a fatal error condition, this message will have been preceded by error messages which depict the exact error condition encountered.

User response

Follow the course of action recommended for the error messages which preceded this error message, and if the product CICS support continues to terminate due to a fatal error condition, contact Software Support for further assistance.

HLV0356I CICS support activated

Explanation

This message is issued when the product CICS server has received a notification that the connection(s) to the CICS region(s) have been established successfully.

User response

No action required. This is an informational message only.

HLV0357I EXCI support terminating

Explanation

This is an informational message that is issued when the product terminates its EXCI support. If the EXCI support is being terminated due to a fatal error condition, this message will have been preceded by error messages which depict the exact error condition encountered.

User response

Follow the course of action recommended for the error messages which preceded this error message, and if the product EXCI support continues to terminate due to a fatal error condition, contact Software Support for further assistance.

HLV0358I EXCI support activated

Explanation

This message is issued when the product EXCI server has received a notification that the connection(s) to the EXCI region(s) have been established successfully.

User response

No action required. This is an informational message only.

HLV0359T *msgtext*

Explanation

This is a general purpose message that may or may not indicate some type of EXCI error.

User response

Read the message text carefully. Some messages produced under this message ID are actually error messages. If the message indicates an error, check for any associated EXCI-produced error messages. If the problem cannot be resolved, contact Software Support.

HLV0360S No matching CONNECTION name *rsrc* for DEFINE SESSION

Explanation

A DEFINE SESSION statement in the initialization exec specified a CONNECTION name for which there is no corresponding DEFINE CONNECTION statement. The message text contains the name of the erroneous DEFINE SESSION name.

User response

Check the session name in the error message. Correct the DEFINE SESSION statement.

HLV0361I *%1* of *%2* sessions connected to *%3*

Explanation

This message specifies the number of active sessions to the specified CICS.

User response

None. This message is for informational purposes only.

HLV0362I No active session to *%1*

Explanation

This message specifies that there is currently no active session to the specified CICS.

User response

None. This message is for informational purposes only.

HLV0363T **Acquisition of session to *%1* failed**

Explanation

Acquisition of a session failed. This may not be an error.

User response

Review the messages just before and after this message to understand the context.

HLV0364I **SDCITRU IS STARTED AND ENABLED**

Explanation

The CICS Task Related User Exit For Broker is started and enabled in the CICS region.

User response

None. This message is for informational purposes only.

HLV0371E ***func* ROUTINE ERROR - *error additinfo1*, *additinfo2 ... additinfo7***

Explanation

An error or unexpected condition was detected in an Actional support facility routine (*func*).

User response

For initialization error, the server will terminate. For termination time errors, server shutdown continues. Look for related messages indicating the cause of the error and correct the underlying problem. Contact Software Support if the problem cannot be found or corrected.

HLV0372E **CSQCAPX *%1***

Explanation

An error occurred in the CSQCAPX CICS MQSERIES API Crossing Exit for Actional Agent connector.

User response

The exit should have disabled itself. Contact IBM Software Support.

HLV0373E **SDAITRUE *%1***

Explanation

An error occurred in module SDAITRUE, the CICS TRUE for Actional Agent connector.

User response

The exit should have disabled itself. Contact IBM Software Support.

HLV0380T **ABEND IN REXXTOOLS DYNALLOC INTERCEPT CMP=*ccode*, RS=*rsncode*, SVC-99-PLIST=*addr***

Explanation

An unexpected abend has occurred within the REXXtools dynamic allocation interception/screening routine.

User response

The abend is percolated for handling by REXXtools.

HLV0381T **ADD REXX VARIABLE NAME FAILED WITH RETURN CODE *rcode*, REASON CODE *rsncode* FOR NAME *varname***

Explanation

An error occurred when attempting to create a variable name for a REXX procedure. This will be followed by an S0C3 abend.

User response

Check the variable name to be sure it is valid, or increase the workspace for this REXX procedure.

HLV0388I **It contains additional diagnostic information about the failure.**

Explanation

This message provides information to help you diagnose the problem.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

The variable fields of the message text are: request request type func function that failed rc function return code rscd function reason code

HLV0388E **DYNAMIC LPA *reqtype* SERVICE FAILED FOR *modname*. RETURN CODE=*rcode*. REASON CODE=*rsncode*.**

Explanation

An error occurred when attempting to use MVS dynamic LPA services, CSVDYLPA. The request type, return code and reason code associated with this failure are listed in this message.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0389E **DYNAMIC LPA *reqtype* FUNCTION=*func* RC=*rcode* RS=*rsncode***

Explanation

This message is a continuation of message

User response:
No action is required.

HLV0390E **NAMED-TOKEN *service* SERVICE ERROR: RC=*rcode* FOR LVL=*tlvl*, NAME=*tname*, DATA=*tdata*, POPT=*topt***

Explanation

An unexpected return code was set after a system-managed named token service request. The service type, return code, token level, token name, token data, and token persistence option are displayed in the message.

User response

The named-token return code is sent to the routine which requested the service, and processing continues as dictated by the routine which requested the server.

HLV0391E ***func* ROUTINE ERROR: *error additinfo1*, *additinfo2* ... *additinfo7***

Explanation

An error or unexpected condition was detected in a Services support facility routine.

User response

For initialization error, the server will terminate. For termination time errors, server shutdown continues. Look for related messages indicating the cause of the error and correct the underlying problem. Contact Software Support if the problem cannot be found or corrected.

HLV0392W ***func* ROUTINE WARNING: *error additinfo1*, *additinfo2* ... *additinfo7***

Explanation

An unexpected condition was detected in a Services support facility routine.

User response

For initialization error, the server attempts to correct the condition and continue. Errors detected during termination are bypassed.

HLV0393S **Services PARM *parmname additinfo1*, *additnfo2* ... *additinfo7***

Explanation

A Services configuration startup parameter is missing or incorrectly set. Services will substitute a corrected value, if possible, and activate with the updated value. If no default value can be substituted, Services activation will terminate server start after issuing MSG0391E.

User response

Check to ensure the z/Server-related parameter identified in the message is being set to a valid value during SxxxxIN00 processing. Restart the server.

HLV0394S **SERVICES MAILBOX CONTROL *rout* FAILED: HASN=*asid1*, PASN=*asid2*, SASN=*asid3*, MODE=*mode*, RC=*rcode*, CALLER=*csect*, LT=*ltype***

Explanation

During an attempt to execute a Services mailbox request, a failure in the lock or unlock (*rout*) serialization routine was encountered. The current mailbox execution request will be abandoned and failed. In the message, the return code field will contain a non-zero value in byte 3 if the SETLOCK or ENQ service failed. It will contain a non-zero value in bytes 1 or 2 for environmental errors.

The message contains three asid values: home asid (*asid1*), primary asid (*asid2*), and secondary asid (*asid3*).

mode may be "PROB" or "SUP"

User response

The current Services mailbox request is failed. Check for other messages which might indicate the cause of the error, and contact Software Support for further assistance.

HLV0395E **SERVICES MAILBOX REQUEST *reqtype* ABEND *ccode* (*rsncode*) AT *modname+offset additinfo1 additinfo2 additinfo3 additinfo4***

Explanation

During an attempt to execute a Services mailbox request, an ABEND failure was detected. The request is rejected with a return code indicating that an abend occurred.

reqtype may be "SYSTEM" or "USER"

User response

The failure is reflected to the requesting task, which then takes whatever action is appropriate to the situation. Check for other messages which might indicate the cause of the error, and contact Software Support for further assistance.

HLV0396T **SERVICES MAILBOX INVALID POINTER (*addr*/*ALET*/*storlgth*) DURING PKM AUTH CHECK - ABEND *ccode* (*rsncode*)**

Explanation

While validating a mailbox request, Services routines detected an invalid address passed as part of the request. The ABEND was detected while attempting to examine the protect key of the storage area.

User response

The pointer is rejected as invalid, and the mailbox request will either fail the overall request, or complete its operation without using the rejected pointer. Check for other messages which might indicate the cause of the error, and contact Software Support for further assistance.

HLV0397T ***func* ROUTINE ERROR: *error additinfo1*, *additinfo2 ... additinfo7***

Explanation

An error or unexpected condition was detected in a Services support facility routine. This message is written to Trace Browse to record the same condition also written to the console by MSG0391E.

User response

For initialization error, the server will terminate. For termination time errors, server shutdown continues. Look for related messages indicating the cause of the error and correct the underlying problem. Contact Software Support if the problem cannot be found or corrected.

HLV0398T ***func* ROUTINE WARNING: *error additinfo1 additinfo2 ... additinfo7***

Explanation

An unexpected condition was detected in a Services support facility routine. This message is written to Trace Browse to record the same condition also written to the console by MSG0392W.

User response

For initialization error, the server attempts to correct the condition and continue. Errors detected during termination are bypassed.

HLV0399T **Services E-O-T cleanup for TCB *addr* RC=*rcode* RS/CC=*rsncode*/*ccode* FDBK=*feeback1*, *feedback2 ... feedback5***

Explanation

Services End of Task cleanup has been processed for the ending task. The message is traced if a non-zero return code is set by the cleanup function, or when the ZSRMBOXTRACECMTC option is on.

User response

If the message reports a non-zero return code, look for other conditions which may be inhibiting E-O-T cleanup and correct. Or contact Software Support.

HLV0400S ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of RRS initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error

messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0401S ***service* PASSED *desc* - *code***

Explanation

This is a generic error message used to describe a wide variety of RRS initialization and termination errors. The message text provides the current operation (*service*) and what data (valid or invalid) was passed to the current operation.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0402S ***service* TO *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of RRS initialization and termination errors. The message text provides the current operation and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0403S **RRS *rsrc* NAME MISSING**

Explanation

A resource (*rsrc*) name needed by the RRS product feature is missing. The current operation will be terminated. The message text contains the name of the missing resource.

User response

Check the resource name in the error message. Set the resource name using a product parameter.

HLV0404I **RRS support terminating**

Explanation

This is an informational message that is issued when the product terminates its RRS support. If the RRS support is being terminated due to a fatal error condition, this message will have been preceded by error messages which depict the exact error condition encountered.

User response

Follow the course of action recommended for the error messages which preceded this error message, and if the product RRS support continues to terminate due to a fatal error condition, contact Software Support for further assistance.

HLV0405I **RRS support activated**

Explanation

This message is issued when the product RRS server has received a notification that the connection(s) to the RRS region(s) have been established successfully.

User response

None. This message is for informational purposes only.

HLV0406H ***msgtext***

Explanation

This is a general purpose message that may or may not indicate some type of RRS error.

User response

Read the message text carefully. Some messages produced under this message ID are actually error messages. If the message indicates an error, check for any associated RRS produced error messages. If the problem cannot be resolved, contact Software Support.

HLV0407E **Failure trying to register with RRS**

Explanation

This message is issued when the RRS Register Resource Manager call is unsuccessful. The product is unable to use RRS services, and two-phase commit support is disabled.

User response

Ensure that RRS is functioning correctly.

HLV0408E **ERROR SETTING RRS EXITS, CHECK RRS STATUS**

Explanation

This message is issued when the RRS Set Exit Information call is unsuccessful. This usually indicates that the RRS subsystem is not up and running. The product will attempt to establish its RRS exits when it hears from RRS that it is up and running. RRS support and two-phase commit support will not be available until the product can successfully connect to RRS.

User response

Ensure that the RRS subsystem is up and running. If the RRS subsystem is not up and running, start it.

HLV0409E **RRS *%1* EXIT MANAGER UNAVAILABLE**

Explanation

This message is issued when RRS alerts the product that an IBM exit manager for RRS has become unavailable. This causes the product to lose its connection to RRS immediately. The product will try to reconnect again when it hears RRS is up and running. RRS support and two-phase commit support will not be available until the product can successfully reconnect to RRS.

User response

Ensure that the RRS subsystem is up and running. If the RRS subsystem is not up and running, start it.

HLV0410E **Product RRS exits have been unset**

Explanation

This message is issued when RRS alerts the product that the product RRS exits have become unset due to some error condition. This causes the product to lose its connection to RRS. RRS support and two-phase commit support will not be available.

User response

This indicates an error that should not occur. Contact Software Support.

HLV0411E **TRANS: *token* FROM *host* - REQUESTED *ind1* BUT WAS HEURISTICALLY *ind2***

Explanation

The portion of a distributed transaction that ran under the product on z/OS was committed or rolled back heuristically manually or by a program - but not by the client-side transaction manager. The transaction manager has just informed the product that it wanted the transaction rolled back or committed. The data involved in the transaction may now be in an inconsistent state (partially committed and/or partially rolled back).

ind1 indicates "COMMIT" or "BACKOUT", and *ind2* indicates "COMMITTED" or "BACKED OUT"

User response

This situation may need to be corrected manually. The data that was committed on MVS may need to be backed out, and the data sources may need to be restored to their state before the transaction. Note that the committed data may have already been accessed by later programs and transactions.

HLV0413E **THE DB2ATTACHFACILITY PARAMETER IS NOT SET TO RRSAF, RRS SUPPORT TERMINATED'**

Explanation

The product DB2ATTACHFACILITY must be set to use the Recoverable Resources Attach Facility (RRSAF) for RRS support to work properly.

User response

Modify the product parameter data set member.

HLV0414E **RRS RECOVERY TABLE SIZE EXCEEDED - TRANSACTION ABORTED'**

Explanation

The RRS Recovery Table size was exceeded. A transaction was aborted, which will be indicated in another message.

User response

Increase the number of entries in the RRS Recovery Table, specified by the product parameter RECTABLEENTRIES. If this parameter is not specified, the value defaults to 400 entries.

HLV0415E **Incompatible supplied driver on client system - transaction aborted**

Explanation

An incompatible product-supplied driver was encountered on the client system.

User response

Contact Software Support.

HLV0416E ZERO COLUMNS RETURNED FROM PREPARE - ERROR IN SYSTEM

Explanation

Zero columns were returned from PREPARE. This is most likely due to an error in z/OS, RRS, and/or Db2.

User response

Contact Software Support for the latest information regarding how to bypass this problem.

HLV0417E RRS IS NOT ACTIVATED FOR THIS SERVER - XA TRANSACTION ABORTED.'

Explanation

When this server was initialized, either it was not instructed to activate an RRS connection or the initialization for connection failed.

User response

If the initialization parameters specify that RRS is to be activated, review the messages created when this server was initialized and correct any associated problems.

HLV0420E TWO-PHASE COMMIT SUPPORT WAS REQUESTED, BUT RRS IS NOT ACTIVE

Explanation

The RRS parameter was set to NO, or RRS initialization failed. Two-phase commit cannot be supported unless RRS is active.

User response

Check the joblog for RRS initialization error messages and correct any problems. Then, restart this server with the RRS parameter set to YES.

HLV0421E ERROR IN TWO-PHASE *indicator* PROCESS. RRS RETURN CODE = *rcode*

Explanation

Two-phase commit was requested for all transactions from this task. RRS returned an error code indicating that the commit was not successful.

indicator indicates "COMMIT" or "BACKOUT"

User response

Check the return code from the RRS ATRCMIT function in the IBM manual titled z/OS Programming: Resource Recovery.

HLV0422E RRS RECOVERY TABLE COUNT NEGATIVE, RESET TO ZERO

Explanation

The RRS Recovery Table entry count was found to be negative during XA-RECOVER processing. The entry count was reset to zero.

User response

There may be some XA transactions that were left in an incomplete state, leftover from a communication line disconnect or host system crash.

HLV0423T Access to data sources through Enterprise Transactions is not configured.

Explanation

None.

User response

Contact IBM Software Support.

HLV0424E TWO-PHASE COMMIT SUPPORT WAS REQUESTED, BUT THE RRS MANAGER WAS NOT ACTIVE

Explanation

RRS was requested, but RRS was not active.

User response

Check the joblog for messages related to RRS initialization. Correct the initialization errors and restart this server.

HLV0425E IBM/MQSERIES/RRS SUPPORT ENTRY *entry* IN MODULE *modname* MISSING

Explanation

An IBM/MQSeries support entry was missing from the module specified. There is an incompatibility between the MQSeries® library provided and product MQSeries/RRS support.

User response

Ensure that the library provided is the standard IBM library. If the problem cannot be resolved, contact Software Support.

HLV0426S **IBM/MQSERIES/RRS SUPPORT MODULE *modname* MISSING - NO TWO-PHASE COMMIT SUPPORT PROVIDED**

Explanation

The specified IBM/MQSeries support module is necessary for two-phase commit support for MQSeries. Processing will continue without MQSeries two-phase commit support.

User response

Check the IBM/MQSeries library, defined in the product JCL procedure. It may be an old version.

HLV0428T **CREATION OF RRS PRIVATE CONTEXT FAILED - CONNECTION TERMINATED. CALL: *calltype* - R15: *rcode* - R0: *rsncode***

Explanation

With the product RRS support active and Private Contexts selected, the product creates an RRS Private Context immediately when the session connects. The RRS calls to do this failed.

User response

Check to be sure that the IBM RRS facility is active and not generating errors.

HLV0480S **MQSERIES support deactivated - access routines cannot be loaded.**

Explanation

During initialization MQSERIES access modules could not be loaded from either HLVMQSLB or STEPLIB.

User response

The server deactivates MQSERIES support and continues start- up processing. Check to ensure you have an HLVMQSLB DD JCL statement in the server start-up JCL.

HLV0500E **IBM-assigned CSR table entry setup error, contains *val*, not product OPVN pointer**

Explanation

During initialization, the product Vendor Vector Table entry contained an invalid value (*val*). The assigned fullword contains a value which does not address the product OPVN control block. The IBM-assigned, entry in the table is located at decimal offset 184, hexadecimal offset B8 of the vector table addressed by ECVTCTBL. The fullword value at that location contained a non-zero value that did NOT point to an already established product OPVN control block. The product cannot initialize without establishing the OPVN block pointer. The existing value in the vector table fullword is saved and overlaid with the product OPVN block address.

User response

Determine who/what is responsible for creating the invalid entry in the table, clear the word to x'00's, and restart the product. Caution should be used when deciding to clear the entry. Most likely, another ISV has inadvertently used this entry; clearing it to 0's could cause problems for some other product.

HLV0501E ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a variety of Server initialization and termination errors. The message text provides the information about the current operation.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0502E ***subsys* directory table entry exists.**

Explanation

During initialization, the server directory table was found to contain an entry with the same subsystem ID as the one being started. Most likely, a server address space is active on this MVS image with this subsystem name.

User response

Determine if a server address space is currently active with this subsystem name. If so, change the subsystem name and restart (if it is necessary to start

another server address space). If the problem cannot be resolved, contact IBM Software Support..

HLV0503E No ERLY exists for DB2 *%1*

Explanation

None.

User response

Contact IBM Software Support.

HLV0504E *%1* DB2 owned by another server.

Explanation

None.

User response

Contact IBM Software Support.

HLV0505E *%1* DB2 search error.

Explanation

None.

User response

Contact IBM Software Support.

HLV0506E *%1* server software PC reset failed.

Explanation

None.

User response

Contact IBM Software Support.

HLV0507E *%1* product PC reset failed.

Explanation

None.

User response

Contact IBM Software Support.

HLV0508E *%1* server software PC entry unknown.

Explanation

None.

User response

Contact IBM Software Support.

HLV0509E *%1* DB2 server init error.

Explanation

None.

User response

Contact IBM Software Support.

HLV0510E *%1* DB2 server *%2* error.

Explanation

The server main task for the named Db2 system encountered an error from the common subroutine. Either ECB WAIT or STIMER.

User response

Contact IBM Software Support.

HLV0511E *%1* DB2 SSCTSUSE ERROR,

Explanation

None.

User response

Contact IBM Software Support.

HLV0512I *%1* DB2 main task PC reset error.

Explanation

None.

User response

Contact IBM Software Support.

HLV0513I *%1* product main task TERM PC error

Explanation

None.

User response

Contact IBM Software Support.

HLV0515E MAXIMUM NUMBER OF DB2 SUBSYSTEMS PREVIOUSLY DEFINED. MAX = *%1*. DEFINE FOR DB2 SSID *%2* IGNORED.

Explanation

During initialization, the input parameter data set contains more Db2 subsystem statements than the maximum allowable set by default or by QSMAXDB2.

User response

All parameter statements pertaining to this Db2 subsystem are ignored.

HLV0516E **DUPLICATE DB2 SUBSYSTEM DEFINITION FOR DB2 SSID *%1***

Explanation

During initialization, the input parameter data set contains more than one DEFINE for the same Db2 subsystem ID.

User response

All parameter statements within the subsequent DEFINE for this Db2 are ignored.

HLV0517E **RETURN CODE *%1* FROM ALESERV ADD OF DB2 DBM1 FOR *%2***

Explanation

None.

User response

Contact IBM Software Support.

HLV0518E **TERMINATION WAITING ON DB2 STATUS TASK FOR *%1***

Explanation

None.

User response

Contact IBM Software Support.

HLV0519E **maximum number of server address spaces are already active. max possible *%1*. currently active *%2*.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0520E **Maximum number of DB2 systems are all ready active. max possible *%1*. DB2 *%3*.**

Explanation

The maximum number of subsystems allowed by the server are already active.

User response

Edit the server configuration file, and reduce the number of database definitions in the file.

HLV0521S **DB2 *subsysid* STATUS TASK ABEND *abcode* AT *modname+offset* DURING *desc*.**

Explanation

None.

User response

Contact IBM Software Support.

HLV0522W **Proprietary R&&D utilities are activated for this start-up**

Explanation

This warning indicates that private R-and-D utility functions are activated within the system. Customer copies of the product should never produce this message during start-up processing.

User response

If this message appears during start-up, terminate the server and contact Software Support. The execution of internal developer utilities off-site may produce damaging side effects.

HLV0523W **E/SQA ROUTINE AT *addr* WILL BE REBUILT DUE TO INVALID PTR OR DATA**

Explanation

This warning indicates that the special E/SQA-resident SRASTC routine will be rebuilt. The existing pointer to the routine, or the routine itself, appears to have been damaged.

User response

Start-up processing clears the existing pointer and builds a new copy of the needed routine into E/SQA storage. The storage, if any, previously anchored by the

OPVN vendor CSR table control block is orphaned. Contact Software Support.

HLV0600S **IMS/OTMA XCF *reqtype* FAILED, RC=*rcode* RS=*rsncode* IMS=*imsID***

Explanation

This is a generic error message used to describe a wide variety of IMS/OTMA initialization and termination errors. The message text provides the current operation and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0601S ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of IMS/OTMA initialization and termination errors. The message text provides the current operation and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0602I **IMS/OTMA server waiting OTMA INIT for IMS SSID=*subsys***

Explanation

This message indicates that the IMS/OTMA Transaction Server is waiting for initialization of the selected IMS subsystem. This message is informational and issued periodically when OTMA support is waiting for IMS subsystem startup to occur.

User response

Determine why the IMS subsystem is unavailable. Start the IMS subsystem to allow OTMA support to be enabled. If this message is issued in error, contact Software Support.

HLV0603I **IMS/OTMA server INIT in progress for IMS SSID=*subsysID***

Explanation

This message indicates that the IMS/OTMA Transaction Server initialization is in progress for the selected IMS subsystem.

User response

None. This message is for informational purposes only.

HLV0604I **IMS/OTMA server INIT complete for IMS SSID=*imsID* using XCF member *xcfID***

Explanation

This message indicates that the IMS/OTMA Transaction Server initialization has been successfully completed for the selected IMS subsystem.

User response

None. This message is for informational purposes only.

HLV0605I **IMS/OTMA server has detected OTMA TERM for IMS SSID=*subsysID***

Explanation

This message indicates that the IMS/OTMA Transaction Server has detected IMS terminating OTMA support. This message is issued when it has been determined that IMS is leaving the XCF OTMA group. This may be due to IMS termination, a /STOP OTMA command, or OTMA abnormal termination. The product IMS/OTMA server will wait for IMS to restart OTMA support and continue processing OTMA request activity.

User response

None. This message is for informational purposes only.

HLV0606I **IMS/OTMA server TERM in progress for IMS SSID=*subsysID***

Explanation

This message indicates that the IMS/OTMA Transaction Server is terminating for the selected IMS subsystem. This message is issued during product termination.

User response

None. This message is for informational purposes only.

HLV0607I **IMS/OTMA server TERM complete for IMS SSID=*subsysID***

Explanation

This message indicates that the IMS/OTMA Transaction Server has completed termination for the selected IMS subsystem. This message is issued during product termination.

User response

None. This message is for informational purposes only.

HLV0608S **IMS/OTMA TPIPE TASK *task* FOR CONNECTION *conn* ABENDED CODE *abcode***

Explanation

This message indicates that the IMS/OTMA Transaction Pipe has ABENDED.

User response

Examine the Trace Browse and JES JOBLOG to determine why the ABEND occurred. If the problem cannot be resolved, contact Software Support.

HLV0620S **SIS/XCF XCF *reqtype* FAILED, RC=*rcode* RS=*rsncode* SIS=*ID***

Explanation

This is a generic error message used to describe a wide variety of SIS/XCF initialization and termination errors. The message text provides the current operation and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0621S ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of SIS/XCF initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV0622T **SIS/XCF member waiting SIS/XCF *%1* INIT for mbr=*%2***

Explanation

This message indicates that the SIS/XCF Server is waiting for initialization of the selected SIS subsystem. This message is informational and issued periodically when an SIS/XCF standard member is waiting for the SIS/XCF manager to initialize.

User response

Determine why the SIS/XCF manager is unavailable. Start the SIS/XCF manager to allow SIS/XCF support to be enabled. If this message is issued in error, contact Software Support.

HLV0623I **SIS/XCF *%1* INIT in progress for member=*%2***

Explanation

This message indicates that the SIS/XCF Server initialization is in progress for the selected SIS subsystem.

User response

None. This message is for informational purposes only.

HLV0624I **SIS/XCF server INIT complete for SIS SSID=*sisID* using XCF member *xcfID***

Explanation

This message indicates that the SIS/XCF Server initialization has been successfully completed for the selected SIS subsystem.

User response

None. This message is for informational purposes only.

HLV0625I **SIS/XCF *%1* instance has detected termination of *%2* instance member *%3***

Explanation

This message indicates that the SIS/XCF Transaction Server has detected SIS terminating SIS/XCF support. This message is issued when it has been determined that SIS is leaving the XCF OTMA group. This may be due to SIS termination, or OTMA abnormal termination. The SIS/XCF server will wait for SIS to restart SIS/XCF support and continue processing SIS request activity.

User response

None. This message is for informational purposes only.

HLV0626I **SIS/XCF *%1* TERM in progress for member=*%2***

Explanation

This message indicates that the SIS/XCF Server is terminating for the selected SIS subsystem. This message is issued during product termination.

User response

None. This message is for informational purposes only.

HLV0627I **SIS/XCF *%1* TERM complete for member=*%2***

Explanation

This message indicates that the SIS/XCF Transaction Server has completed termination for the selected SIS subsystem. This message is issued during product termination.

User response

None. This message is for informational purposes only.

HLV0701W **ZIIPCLASS=*class* HAS TOO MANY PERIODS SPECIFIED**

Explanation

This message indicates that WLM initialization found too many matching report classes. Only six periods are allowed, and more than that matched the naming convention.

User response

Delete the extra report classes.

HLV0702W **CLASS *class1* SPECIFIES A ZIPCLASS NAME THAT DOES NOT EXIST, *class2***

Explanation

This message indicates that WLM initialization found a class that referenced a ZIIPCLASS that could not be found.

User response

Correct the indicated WLM Class to reference an existing WLM pseudo-class.

HLV0703W **ZIIPCLASS=*class* CONTAINS INVALID PARMS**

Explanation

This message indicates that WLM initialization found a ZIIPCLASS report class definition with invalid parms. The description must contain a Pnnn percent definition and all but the last one must contain a Dnnnnnnn duration.

User response

Correct the definition field of the ZIIPCLASS report class definition.

HLV0704H **WLM refresh command completed**

Explanation

The WLM command has successfully completed, refreshing WLM data within the product.

User response

None.

HLV0706I ***product subsys* requires the following elements missing from WLM Service *type name***

Explanation

Product initialization detected that the current WLM service policy does not have the all of the required definitions for Version 7.1 of the product. Messages listing the required service definition elements will follow this message.

type may be "policy" or "definition"

Consequently, *name* will be either a policy name or a definition name

User response

Respond to the WTOR prompts that follow these messages.

HLV0707I **Type: *PEtype*, Server Parameter: *PEname*, Value: *parmname***

Explanation

Generic message used by product WLM initialization to list elements missing from the WLM service definition.

The *PE* in this message's variables stands for Policy Element

parmname represents the IN00 parameter name

User response

Respond to the WTOR prompts that follow this message.

HLV0708R **Reply 'GO' to update the WLM Service Definition, or 'CANCEL' to terminate server initialization**

Explanation

This message is issued when product WLM initialization is about to update the current WLM service definition with the policy elements required for product server execution.

User response

Reply GO to allow the server to update the WLM service definition. Reply CANCEL to terminate server initialization

HLV0709I **WLM Service Definition *def* has been updated with required product elements**

Explanation

This message is issued when product WLM initialization has updated the WLM service definition (*def*) with the required product elements.

User response

Respond to the WTOR prompts that follow this message.

HLV0710E **Invalid reply: *reply*. Reply 'GO' or 'CANCEL'**

Explanation

An invalid reply was specified to the server WLM initialization console message.

User response

Reply GO to cause the message to be reissued. Reply CANCEL to terminate server initialization.

HLV0711E **REPLY WAIT EXCEEDED 2 MINUTES. CANCEL ASSUMED**

Explanation

The product waited over two minutes for a reply to the WLM initialization message. Since no response was received during that time, CANCEL was assumed and server initialization terminated.

User response

None. If a reply was desired, you will need to speed your response to the message.

HLV0712E **3 INVALID REPLIES. CANCEL ASSUMED**

Explanation

Three invalid replies were made to the product WLM initialization message. Since no correct response was received, CANCEL was assumed and server initialization terminated.

User response

None. Reply as required next time.

HLV0713S **WLM administration user ID *userID* logon failed.**

Explanation

The WLM admin user ID specified by the WLMUSERID system parameter failed logon processing during start-up.

User response

The server initialization process is aborted. Ensure that the user ID specified by the WLMUSERID start-up parameter is correct. If possible, fix the problem identified by the error messages and restart the product. If the problem cannot be resolved, contact IBM Software Support.

HLV0714I **WLM administration userid *userID* logged on to system**

Explanation

The WLM admin userid specified by the WLMUSERID system parameter has been logged on to the system.

User response

Server initialization processing continues.

HLV0715I **WLM Service Definition *definition* does not contain current Service Policy *policy***

Explanation

This message is issued when product WLM initialization is has updated the WLM service definition and has determined that it does not contain the currently active service Policy.

User response

Respond to the WTOR prompts that follow this message.

HLV0716R **Enter name of Service Policy to activate, 'LIST', or 'CANCEL' to terminate server initialization**

Explanation

This message is issued when product WLM initialization has updated the Service Definition and needs to know which Service Policy should be activated.

User response

Enter a name to activate Service Policy with that name. Reply LIST to get a list of available Policies. Reply CANCEL to terminate server initialization

HLV0717I **The following Service Policies are available for activation**

Explanation

This message is issued when product WLM initialization is about to list the Service Policies defined in the current Service Definition.

User response

Respond to the WTOR prompts that follow this message.

HLV0718I **Policy: *policyname* - *policydesc***

Explanation

Generic message used by product WLM initialization to list Service Policies available for activation.

User response

Respond to the WTOR prompts that follow this message.

HLV0719R **Reply 'GO' to activate Policy *%1*, or 'CANCEL' to terminate server initialization**

Explanation

This message is issued when product WLM initialization has updated the WLM service definition with the named service policy.

User response

Reply GO to allow the server to activate the service policy. Reply CANCEL to terminate server initialization 1 = policy name of WLM policy to be created

HLV0720S **WLM reset to service class *class* failed for job *jobname* subsystem *subsys* ASID *asid***

Explanation

The server WLM initialization failed to reset the service class for the server.

User response

Look for preceding error messages in the system log.

HLV0721I **WLM classify successful for *transaction* - Service Class *class***

Explanation

The server WLM enclave classification was successful.

User response

None.

HLV0722I **Unable to classify transaction *trans* for subsystem *subsys***

Explanation

The server was unable to classify the named transaction.

User response

Look for preceding error messages in the system log.

HLV0723I **WLM enclave create successful for Service Class *class***

Explanation

The server WLM enclave classification was successful.

User response

None.

HLV0724I ***subsys*** **WLM health changed from subsystem%% to oper1%% oper2**

Explanation

The WLM health value for the specified product subsystem was changed from the first value to the second.

User response

If the health value decreases, look for abends or timeouts in the Server. Currently only ACI abends and timeouts are measured. If the health value increases, this is an indication that no further failures have been detected, and the product is returning to full health.

The variable fields of the message text are: subsystem the WLM subsystem type oper1 the old health value oper2 the new health value reason reason description

HLV0725I **RACF administration USERID** ***userID*** **logged on to system**

Explanation

The RACF admin USERID specified by the SERVERID system parameter has been logged on to the system.

User response

Server initialization processing continues.

HLV0726S **RACF administration USERID (*userID*) logon failed**

Explanation

The RACF admin USERID specified by the SERVERID system parameter failed logon processing during start-up.

User response

The server initialization process is aborted. Ensure that the USERID specified by the SERVERID start-up parameter is correct. If possible, fix the problem identified by the error messages and restart the product.If the problem cannot be resolved, contact IBM Software Support.

HLV0800I **IDMS SERVER INIT IN PROGRESS FOR CONNECTION=*%1***

Explanation

This message indicates that the IDMS initialization is in progress for the selected IDMS connection name.

User response

None. This message is for informational purposes only.

HLV0801I **IDMS SERVER INIT COMPLETE FOR CONNECTION=*target* USING MAILBOX=*connID***

Explanation

This message indicates that the IDMS initialization has been successfully completed for the selected IDMS target using the defined connection (*connID*).

User response

None. This message is for informational purposes only.

HLV0802I **CONNECTION BROKEN WITH IDMS CONNECTION=*connID* USING MAILBOX=*jobname***

Explanation

This message indicates that the IDMS connection has been broken for the selected IDMS connection (*connID*)

User response

None. This message is for informational purposes only.

HLV0900E ***service*** **of *ddname/cblk* failed, RC=*rcode*.**

Explanation

During compilation or execution of a REXX program, an MVS service returned a non-zero error code. One of the following occurred: (1) a file failed to open or close, (2) a failure in writing a record (WRITE or ENDREQ), (3) storage for a control block could not be obtained or freed, or (4) parsing of the command failed.

User response

Depending on which of the above cases pertains, take one of the following actions: (1) check for a message indicating why the file failed to open or close (most likely, the SYSEXEC file name was not allocated properly - e.g. allocated to a sequential file instead of a

partitioned data set); (2) if a WRITE or ENDREQ failed message was issued, check the status of the PDS allocated in the HLVCOMP or SWSCOMP DD (it may not be allocated properly - e.g. ran out of space); (3) if the error reported a GETMAIN, allocate or allocation failure, you may have to increase the TSO region size for your TSO session; or (4) check the command you issued for incorrect syntax.

HLV0901E **CANNOT OPEN *member* (ABEND *abcode* AT *modname+offset*)**

Explanation

During the open processing of the REXX program to be run, an abend occurred. The PDS member containing the REXX source program could not be opened because of the abend.

User response

Ensure that the given library is a PDS similar by definition to the other REXX libraries. Check the IBM message and codes manuals for the abend code. Most likely, either the member does not exist or the data set attributes are in error (sequential DSORG or the LRECL and BLKSIZE are not compatible). If a system 913 abend code is reported, data set access has been disallowed by your security subsystem.

HLV0902E **Cannot find program *program ddname*.**

Explanation

The REXX interpreter (HLVI, HLVX, SWSI, or SWSX TSO command processor) could not locate the specified REXX program in the data set allocated to the SYSEXEC ddname (for SDBI or SWSI) or in the data set specified on the HLVX or SWSX commands.

User response

Ensure the program name being executed exists in one of the SYSEXEC concatenated data sets (for HLVI or SWSI) or in the data set specified on the HLVX or SWSX command. Check the spelling of the program name.

HLV0903E **ERROR 43 *reqtype caller*, LINE *lineno*: ROUTINE *routine* NOT FOUND**

Explanation

While compiling a REXX program, the REXX interpreter could not locate a routine called by the main program or called by one of its subroutines.

User response

Check the calling program (described in this message) to make sure that the subroutine name is spelled correctly. If spelling is correct, the missing routine must be added to a library allocated to the SYSEXEC ddname or to the same library in which the calling program resides.

=

HLV0906I **No syntax errors found during scan.**

Explanation

The compiler found no syntax errors during a HLVX scan. This is an informational message.

User response

No action is required.

HLV0907S **ABEND *abcode* OCCURRED AT *csect+offset* OF PROGRAM *program***

Explanation

An abend occurred during the execution of a REXX program by the REXX interpreter (HLVI or HLVX TSO command). The name of the REXX program being executed at the time of the abend is shown in this message.

User response

Check the line being executed at the time of the abend. Check the abend code in the IBM messages and codes manual, and follow action stipulated there.

HLV0908E **PROGRAM *program* IS TOO LARGE - INPUT BUFFER OVERFLOW**

Explanation

The REXX interpreter (HLVI or HLVX TSO command) could not successfully compile a REXX program because it is too large.

User response

Split the program into smaller subroutines. This error is directly related to the number and length of source input lines in a single REXX program.

HLV0909E **PROGRAM *program* - ARG LENGTH (*lgth*) EXCEEDS MAXIMUM LENGTH (*maxlgth*)**

Explanation

The length of the argument string for the REXX program exceeds the implementation limit.

User response

Check if there are an excessive number of blanks in the argument string. If so, remove the blanks from the argument string. If you need to pass long values to a REXX program, use global variables to pass the values.

HLV0911E **Missing REXX program name**

Explanation

The HLVI command was invoked using the TSO CALL command without a parameter field (containing the REXX program name to execute), or the @#$I command was invoked from within ISPF edit and the ISPF environment could not be established.

User response

If the HLVI command was invoked via the TSO CALL command, you must add the parameter field with a REXX program name (and optional arguments). Otherwise, contact Software Support for assistance.

HLV0912E **Missing REXX program name detected at - *addr***

Explanation

The HLVI or HLVX TSO command was invoked without a program name.

User response

You must specify a program name on the HLVI or HLVX TSO command. Contact Software Support.

HLV0913E **Invalid REXX program name detected - *program***

Explanation

The REXX program name specified is invalid. It must be a valid PDS member name and cannot exceed eight (8) characters in length.

User response

Specify a valid REXX program name. If the problem cannot be resolved, contact Software Support.

HLV0914E **UNKNOWN RETURN CODE FROM PARSE ROUTINE, RC=*rcode***

Explanation

An unexpected return code was received from the internal parse routine.

User response

Contact Software Support for assistance.

HLV0915E **BATCH OR TSO CALL PARAMETER STRING TOO LONG**

Explanation

The parameter field passed to a batch program, or a program invoked by TSO CALL cannot exceed 100 characters.

User response

Reduce the length of the parameter string. Contact Software Support to obtain additional assistance.

HLV0916E ***routine* built-in function not found - called by *caller*.**

Explanation

A compatibility problem exists between the product subsystem in use and the pre-compiled REXX program being re-loaded. A product built-in function that was to be used by the pre-compiled REXX program no longer exists.

User response

Check the subsystem release levels used when the REXX program was compiled. It may be necessary to recompile the REXX program again under the current product subsystem (HLVICOMP).

HLV0917E **ERROR SAVING THE COMPILED OUTPUT IN *%1***

Explanation

An error occurred while attempting to save a pre-compiled program. This message is accompanied by an earlier message detailing the cause of the error.

User response

Check the previous error message for possible actions.

HLV0918E **CANNOT WRITE EXECUTABLE OBJECT *obj.obj2* TO DS(*dsname*) *additinfo***

Explanation

SEF is unable to save an executable object binary image or data area because of a runtime problem. The source rule or data file are named, along with the target dataset.

obj1 may indicate a ruleset or a datafile

Based on the value of *obj1*, *obj2* may indicate a rule or data member

User response

Check for other messages indicating the source of the problem and retry the request.

HLV0919I **Successful compile and save of *program* in *ddname*.**

Explanation

THE REXX interpreter (HLVICOMP, HLVXCOMP, SWSICOMP or SWSXCOMP commands) was successful in compiling and saving the REXX program.

User response

No action is required.

HLV0920E **REBUILD FAILED FOR COMPILED REXX PROGRAM - *program***

Explanation

The REXX interpreter command processor was attempting to rebuild a REXX program from a previously compiled PDS member when the failure occurred.

User response

Check for other accompanying error messages. You may have to delete the compiled version of the program and recompile it again, or execute the REXX source program.

HLV0921W **ALLOCATION OF COMPILED LIBRARY (*dsname*) FAILED**

Explanation

The product attempted to allocate the library with the compiled versions of REXX programs. The dynamic allocation failed.

User response

Make sure that the data set name specified in the first panel of this application is valid. Contact the person at your installation who is responsible for the product to get the proper data set name.

HLV0922W **ITRACE KEYWORD NOT ALLOWED DURING COMPILE ONLY REQUEST**

Explanation

Setting the initial trace value for a COMPILE ONLY request is not allowed.

User response

Do not specify the ITRACE keyword in a COMPILE ONLY request. The ITRACE value only has meaning during the execution phase of REXX.

HLV0923S **COMPILE ALL FAILED - ERROR READING THE DIRECTORY OF *dsname***

Explanation

A COMPILE ONLY request was received for an entire PDS, but an error was detected while reading the directory.

User response

Try to browse the data set using ISPF and see if the member list directory is accessible for the PDS. If not, contact your local DASD administrator for possible data set recovery. If you are able to browse the data set and list its members properly, contact Software Support.

HLV0990E **RUNNING *program*: INCOMPATIBLE CONTROL BLOCKS**

Explanation

The REXX program was compiled with an older version of the Product REXX interface module. The REXX control blocks in the compiled module are incompatible with the current version.

User response

This error should only occur when executing a pre-compiled, saved version of a program or rule. In that case, the program or rule should be recompiled and then re-executed. If the error occurred in any other case, contact Software Support for assistance.

HLV0991E **RUNNING *program*: INTERNAL ERROR DETECTED AT *addr***

Explanation

The REXX interface module detected an internal error.

User response

There may be other error messages related to this condition. This error may be caused by a REXX workspace overflow condition. If this is the case, refer to message 0998E for additional information. If the problem cannot be resolved, contact Software Support.

HLV0997T ***lineno*** **TRACE MESSAG**

Explanation

Informational message only. This message gives the output from the REXX TRACE command when used in a rule.

User response

None. This message is for informational purposes only.

HLV0998E **RUNNING *program* LINE *lineno*: COMPILER WORK SPACE OVERFLOW (*value1 value2*)**

Explanation

The rule or program used up all of the available REXX variable work space.

User response

In either case, check if the program is incorrectly creating too many variables. If so, correct the program, and retry the operation. If the program is operating correctly, the work space size may be too small. In the rule environment, the SEFSIZE parameter needs to be increased, and the product must be restarted. In the case of a Product REXX program (SWSI command), use the WORKSPACE keyword parameter to override the default size. For WWW rules, override the default workspace specification by coding the WORKSPACE() operand on the /*WWW header statement for the rule.

HLV0999E **STAX *calltype* MACRO FAILED - RC=*rcode***

Explanation

The STAX macro failed with the indicated return code while the Product REXX compiler was trying to initialize or terminate execution of a REXX program.

calltype can be "ON" or "OFF"

User response

Record the error message and return code. Contact Software Support.

The STAX macro failed with the indicated return code while the Product REXX compiler was trying to initialize or terminate execution of a REXX program.

HLV1000I ***msgtext***

Explanation

The product message used for REXX SAY statements.

User response

None. This message is for informational purposes only.

HLV1004I **ERROR 4 *process program*, LINE *lineno*: PROGRAM INTERRUPTED**

Explanation

The system halted the execution of a REXX program because of some error or by user request. Unless trapped by SIGNAL ON HALT, this message will force the language processor to immediately cease execution.

process may be "compiling" or "running"

User response

None. This message is for informational purposes only.

HLV1005I **ERROR 5 *process program*, LINE *lineno*: MACHINE RESOURCES EXHAUSTED**

Explanation

While attempting to execute a REXX program, the language processor was unable to obtain the resources it needed to continue execution. The following items may be the cause of this message: (1) the external data queue is full or (2) all available storage has been used.

process may be "compiling" or "running"

User response

Try increasing the size of the external data queue or the amount of storage available to the program.

HLV1006I **ERROR 6 *var1 var2*, LINE *lineno*: UNMATCHED "/*" OR QUOTE**

Explanation

A comment string or a literal string was started but never finished. For comments, this may be detected at the end of the program or at the end of an INTERPRET instruction. For literal strings, this may be detected at the end of a line.

User response

Examine the rule or REXX program, and correct the string.

HLV1007I **ERROR 7 *process program*, LINE *lineno*: WHEN OR OTHERWISE EXPECTED**

Explanation

Within a SELECT construct, at least one WHEN construct (and possibly an OTHERWISE clause) is expected. If any other instruction is found (or no WHEN construct is found before OTHERWISE), then this message results. This is commonly caused by forgetting the DO and END around the list of instructions following a WHEN.

process may be "compiling" or "running"

User response

Examine the REXX program, and correct the error.

HLV1008I **ERROR 8 *process program*, LINE *lineno*: UNEXPECTED THEN OR ELSE**

Explanation

A THEN or an ELSE has been found that does not match a corresponding IF or WHEN clause. This error often occurs because of a missing END or DO...END in part of a complex IF...THEN...ELSE construct.

process may be "compiling" or "running"

User response

Examine the program, and correct the error.

HLV1009I **ERROR 9 *process program*, LINE *lineno*: UNEXPECTED WHEN OR OTHERWISE**

Explanation

A WHEN or OTHERWISE has been found outside of a SELECT construct. It may have been enclosed unintentionally in a DO...END construct by leaving off an END instruction, or an attempt may have been made to branch to it with a SIGNAL instruction (which cannot work because a SELECT is terminated by a SIGNAL).

process may be "compiling" or "running"

User response

Examine your program, and fix the part in error.

HLV1010I **ERROR 10 *process program*, LINE *lineno*: UNEXPECTED OR UNMATCHED END**

Explanation

Either there are more ENDs in the program than DOs and SELECTS or the ENDs are wrongly placed so they do not match the DOs and SELECTs. It may be useful to use trace scan to show the structure of the program; hence, making it more obvious where the error is. A common mistake that causes this error is attempting to jump into the middle loop using the SIGNAL instruction. This error will also be generated if an END immediately follows a THEN or an ELSE.

process may be "compiling" or "running"

User response

Examine the line in error, and correct the REXX program.

HLV1011I **ERROR 11 *process program*, LINE *lineno*: CONTROL STACK FULL**

Explanation

An implementation limit of levels of nesting of control structures (DO...END, IF...THEN...ELSE, etc.) has been exceeded. The message should state the actual restriction. This error could be due to a looping INTERPRET instruction or due to infinite recursive calls.

User response

Examine the line in error, and fix the program.

HLV1012I **ERROR 12 *process program*, LINE *lineno*: CLAUSE TOO LONG**

Explanation

There may be an implementation restriction that limits the length of the internal representation of a clause. This message is generated if this limit is exceeded.

process may be "compiling" or "running"

User response

Reduce the length of the literal and hexadecimal strings that exceed the documented limits. If the problem cannot be resolved, contact Software Support.

HLV1013I **ERROR 13 *process program*, LINE *lineno*: INVALID CHARACTER IN PROGRAM**

Explanation

The program includes a character outside the literal quoted string that neither alphanumeric nor one of the acceptable special characters.

process may be "compiling" or "running"

User response

Examine the line in error, and correct the invalid character.

HLV1014I **ERROR 14 *process program*, LINE *lineno*: INCOMPLETE DO/ SELECT/IF**

Explanation

On reaching the end of the program (or the end of the string in an INTERPRET instruction), it has been detected that there is a DO or SELECT without a matching END or an IF that is not followed by a THEN clause to execute.

process may be "compiling" or "running"

User response

Find the unbalanced DO or SELECT, and correct it.

HLV1015I **ERROR 15 *process program*, LINE *lineno*: INVALID HEXADECIMAL OR BINARY CONSTANT**

Explanation

Hexadecimal constants may not have leading or trailing blanks and may only have embedded blanks at byte boundaries. Only the digits 0 - 9 and the letters a-f are allowed. Binary strings may only have blanks added at the boundaries of groups of four binary digits. Only the digits 0 and 1 are allowed. The error may also be caused by following a literal string either by the one character symbol "x" when the string is not intended to be taken as a hexadecimal specification or by the symbol "b" when the string is not intended to be taken as a binary specification. Use the explicit concatenation operator, "| |", in this situation to concatenate the string to the value of the symbol.

process may be "compiling" or "running"

User response

Locate the error on the line, and correct it.

HLV1016I **ERROR 16 *process program*, LINE *lineno*: LABEL NOT FOUND**

Explanation

A SIGNAL instruction has been executed, or an event occurred for which a trap was set, and the label specified cannot be found in the program.

process may be "compiling" or "running"

User response

Correct the error, and rerun the program.

HLV1017I **ERROR 17 *process program*, LINE *lineno*: UNEXPECTED PROCEDURE**

Explanation

A PROCEDURE instruction was encountered which was not the first instruction executed after a call or function invocation. A possible cause of this is dropping through into an internal routine rather than invoking it properly.

process may be "compiling" or "running"

User response

Examine the line, correct the problem, and rerun the program.

HLV1018I **ERROR 18 *process program*, LINE *lineno*: THEN EXPECTED**

Explanation

All IF and WHEN clauses in REXX must be followed by a THEN clause. Some other clause was found when a THEN was expected.

process may be "compiling" or "running"

User response

Examine the line, and correct the error.

HLV1019I **ERROR 19 *process program*, LINE *lineno*: STRING OR SYMBOL EXPECTED**

Explanation

Following either the keyword call or the sequence SIGNAL ON or SIGNAL OFF, a literal string or a symbol was expected but neither was found.

process may be "compiling" or "running"

User response

Add the literal string or symbol that is needed.

HLV1020I **ERROR 20 *process program*, LINE *lineno*: SYMBOL EXPECTED**

Explanation

In the clauses END, ITERATE, LEAVE, NUMERIC, PARSE, and PROCEDURE, a symbol can be expected. Either it was not present when required or some other token was found. Alternately, DROP and the EXPOSE option of PROCEDURE expect a list of symbols. Some other token was found.

process may be "compiling" or "running"

User response

Correct the REXX program, and rerun.

HLV1021I **ERROR 21 *process program*, LINE *lineno*: INVALID DATA ON END OF CLAUSE**

Explanation

A clause such as SELECT or NOP is followed by some token other than a comment.

process may be "compiling" or "running"

User response

Correct the line, and rerun the REXX program.

HLV1022I **ERROR 22 *process program*, LINE *lineno*: INVALID CHARACTER STRING**

Explanation

This error results if a literal string contains character codes that are not valid in a particular implementation. This might be because some characters are impossible or because the character set is extended in some way and certain character combinations are not allowed.

process may be "compiling" or "running"

User response

Examine the line, and correct the error.

HLV1024I **ERROR 24 *process program*, LINE *lineno*: INVALID TRACE REQUEST**

Explanation

The setting specified on a trace instruction or as the argument to the trace built-in function starts with a character that does not match one of the valid trace settings. This error is also raised if an attempt is made to request trace scan when inside any kind of control construct.

process may be "compiling" or "running"

User response

Contact Software Support to obtain additional assistance.

HLV1025I **ERROR 25 *process program*, LINE *lineno*: INVALID SUB-KEYWORD FOUND**

Explanation

An unexpected token has been found in the position in an expression where a particular sub-keyword was expected.

process may be "compiling" or "running"

User response

Correct the line, and resubmit.

HLV1026I **ERROR 26 *process program*, LINE *lineno*: INVALID WHOLE NUMBER**

Explanation

One of the following either did not evaluate to a whole number or is greater than the implementation limit for these uses: (1) the expression for digits or fuzz in the numeric instruction, (2) a parsing positional parameter, (3) a repetition phrase of a DO clause, or (4) the right-hand of the POWER("*") operator. This error is also raised if a negative repetition count is found in a DO clause.

process may be "compiling" or "running"

User response

Correct the problem on the line, and then rerun the program.

HLV1027I **ERROR 27 *process program*, LINE *lineno*: INVALID DO SYNTAX**

Explanation

Some syntax error has been found in the DO instruction. This might be using the TO, BY, or FOR sub-keywords twice or when there is no control variable specified.

process may be "compiling" or "running"

User response

Fix the error, and rerun the job.

HLV1028I **ERROR 28 *process program*, LINE *lineno*: INVALID LEAVE OR ITERATE**

Explanation

A LEAVE or ITERATE instruction was encountered in an invalid position. Either no loop is active or the name specified on the instruction does not match the control variable of an active loop. Note that since internal routine calls and the INTERPRET instruction protect DO loops, they become inactive. A common cause of this error is attempting to use the SIGNAL instruction to transfer control within or into the loop.

process may be "compiling" or "running"

User response

Fix the problem on the line, and rerun the job.

HLV1029I **ERROR 29 *process program*, LINE *lineno*: ENVIRONMENT NAME IS TOO LONG**

Explanation

The environment name specified by the ADDRESS instruction is longer than permitted for the system under which REXX is running. This message should state the maximum length permitted.

process may be "compiling" or "running"

User response

Correct the problem, and rerun the REXX program.

HLV1030I **ERROR 30 *process program*, LINE *lineno*: NAME OR STRING TOO LONG**

Explanation

This error results if there is an implementation limit that is exceeded for the length of a variable name, a label name, or a literal string.

process may be "compiling" or "running"

User response

Fix the error, and rerun the REXX program.

HLV1031I **ERROR 31 *process program*, LINE *lineno*: NAME STARTS WITH NUMBER OR "."**

Explanation

A value may not be assigned to a variable whose name starts with a numeric digit or a period (if it were allowed, one could redefine numeric constants).

process may be "compiling" or "running"

User response

Correct the error, and rerun the REXX program.

HLV1033I **ERROR 33 *process program*, LINE *lineno*: INVALID EXPRESSION RESULT**

Explanation

The result of an expression in an instruction was found to be invalid in the particular context it was used. This may be due to an illegal fuzz or digits value in a numeric instruction (fuzz may not become larger than digits).

process may be "compiling" or "running"

User response

Contact Software Support.

HLV1034I **ERROR 34 *process program*, LINE *lineno*: LOGICAL VALUE NOT 0 OR 1**

Explanation

The expression in an IF, WHEN, DO WHILE, or DO UNTIL phrase must result in a 0 or a 1, as must any term operated on by a logical operator.

process may be "compiling" or "running"

User response

Fix the bug, and rerun the program.

HLV1035I **ERROR 35 *process program*, LINE *lineno*: INVALID EXPRESSION**

Explanation

This is due to a grammatical error in an expression, such as ending it with an operator or having two operators adjacent with nothing in between. It may also be due to an expression that is missing when one is required. A common error is to include special characters in an intended character expression without enclosing them in quotes.

process may be "compiling" or "running"

User response

Examine the line, fix the problem, and then rerun.

HLV1036I **ERROR 36 *process program*, LINE *lineno*: UNMATCHED "(" IN EXPRESSION**

Explanation

This is due to not pairing parentheses correctly within an expression. There are more left parentheses than right parentheses.

process may be "compiling" or "running"

User response

Examine the line, fix the problem, and then rerun.

HLV1037I **ERROR 37 *process program*, LINE *lineno*: UNEXPECTED "," OR ")"**

Explanation

Either a comma has been found outside a function invocation or there are too many right parentheses in an expression.

process may be "compiling" or "running"

User response

Examine the line, fix the problem, and then rerun.

HLV1038I **ERROR 38 *process program*, LINE *lineno*: INVALID TEMPLATE OR PATTERN**

Explanation

Within a parsing template, either a special character that is not allowed has been found or the syntax of a variable pattern is incorrect. This error may also be raised if the WITH sub-keyword is omitted in a parse value instruction.

process may be "compiling" or "running"

User response

Examine the program, fix the problem, and then rerun.

HLV1039I **ERROR 39 *process program*, LINE *lineno*: EVALUATION STACK OVERFLOW**

Explanation

The expression is too complex to be evaluated by the language processor. There are too many nested parentheses, functions, etc. The message should state the actual restriction.

process may be "compiling" or "running"

User response

Examine the program, simplify the expression, and then rerun.

HLV1040I **ERROR 40 *process program*, LINE *lineno*: INCORRECT CALL TO ROUTINE**

Explanation

The specified built-in or external routine does exist but has been used incorrectly. Either invalid arguments were passed to the routine, the program invoked was not compatible with the REXX language processor, or more than an implementation-limited number of arguments were passed to the routine.

process may be "compiling" or "running"

User response

Examine the statement calling the routine, and correct it.

HLV1041I **ERROR 41 *process program*, LINE *lineno*: BAD ARITHMETIC CONVERSION**

Explanation

Either one of the terms involved in an arithmetic operation is not a valid number or its exponent exceeds the implementation limit.

process may be "compiling" or "running"

User response

Examine the program, and correct the problem.

HLV1042I **ERROR 42 *process program*, LINE *lineno*: ARITHMETIC OVERFLOW/ UNDERFLOW**

Explanation

The result of an arithmetic operation requires an exponent that is outside the range supported by the implementation. This can happen during evaluation of an expression (commonly an attempt to divide a number by 0) or possibly during the stepping of a DO loop control variable.

process may be "compiling" or "running"

User response

Examine the program, and correct the error.

HLV1043I **ERROR 43 *process program*, LINE *lineno*: ROUTINE NOT FOUND**

Explanation

A function that has been invoked within an expression cannot be found, or a subroutine that has been invoked by call cannot be found. No label with the specified name exists in the program. It is not the name of a built-in function, and the language processor has been unable to locate it externally. The name has probably been typed incorrectly, or a symbol or literal string is adjacent to a "(" when it was meant to be separated by a blank or some other operator. Functions referenced in an INTERPRET statement that are not product built-in functions and have not been previously referenced will also result in this error.

process may be "compiling" or "running"

User response

Examine the program, and correct the error.

HLV1044I **ERROR 44 *process program*, LINE *lineno*: FUNCTION DID NOT RETURN DATA**

Explanation

An external function has been invoked within an expression, but even though it appeared to end without error, it did not return data for use within the expression.

process may be "compiling" or "running"

User response

Examine the program, and correct the error.

HLV1045I **ERROR 45 *process program*, LINE *lineno*: NO DATA SPECIFIED IN FUNCTION RETURN**

Explanation

The program has been called as a function, but an attempt is being made (by RETURN) to return without passing back any data.

process may be "compiling" or "running"

User response

Examine the program, and correct the error.

HLV1046I **ERROR 46 *process program*, LINE *lineno*: INVALID VARIABLE REFERENCE**

Explanation

An attempt to indirectly reference a variable is invalid. This would most likely occur on an EXPOSE or INTERPRET instruction. For example: EXPOSE (Y) where Y is a number.

process may be "compiling" or "running"

User response

Examine the program, and correct the error.

HLV1048I **ERROR 48 *process program*, LINE *lineno*: FAILURE IN SYSTEM SERVICE**

Explanation

Some system service used by the REXX language processor (such as stream input or output) has failed to work correctly; hence, normal execution cannot continue.

process may be "compiling" or "running"

User response

Examine the program, and correct the error.

HLV1049I **ERROR 49 *process program*, LINE *lineno*: INTERPRETATION ERROR**

Explanation

Implementations of the REXX language will normally carry out internal self-consistency checks during execution. This message indicates that some kind of severe error has been detected within the language processor or execution process.

process may be "compiling" or "running"

User response

Contact Software Support for further assistance.

HLV1064I **ERROR 64 *process program*, LINE *lineno*: UNIMPLEMENTED FEATURE**

Explanation

The program has used a REXX language feature which is not supported by this version of the REXX interpreter. Code 64 is an extended error code used only by REXX.

process may be "compiling" or "running"

User response

Check documentation for support of the feature. Change the REXX program to bypass use of the feature.

HLV1066I **ERROR 66 *process program*, LINE *lineno*: AMPERSAND VARIABLES UNSUPPORTED**

Explanation

The program has used the ampersand as a prefix to a symbol. The REXX interpreter does not allow this.

process may be "compiling" or "running"

User response

Contact Software Support.

HLV1067I **ERROR 67 *process program*, LINE *lineno*: DUPLICATE LABEL**

Explanation

The program has defined the same label name twice.

process may be "compiling" or "running"

User response

Change the label on one of the two statements.

HLV1068I **ERROR 68 *process program*, LINE *lineno*: FUNCTION NAME > 32 CHARACTERS**

Explanation

The program has defined or referenced a function whose name exceeds the maximum function name length of 32 characters.

process may be "compiling" or "running"

User response

Change the function name to a shorter name.

HLV1069I **ERROR 69 *process program*, LINE *lineno*: FUNCTION HAS TOO FEW ARGUMENTS**

Explanation

The program has called a function that requires more arguments than specified on the function call.

process may be "compiling" or "running"

User response

Add the necessary arguments to the function call. Check the documentation for the specified function.

HLV1070I **ERROR 70 *process program*, LINE *lineno*: FUNCTION HAS TOO MANY ARGUMENTS**

Explanation

The REXX program has called a function that requires fewer arguments than specified on the function call.

process may be "compiling" or "running"

User response

Remove the superfluous arguments to the function call. Check the documentation for the specified function.

HLV1071I **ERROR 71 *process program*, LINE *lineno*: CODE VERSION IS DOWN LEVEL**

Explanation

The REXX program was compiled with a version of the REXX interpreter which is lower than the version used to execute the program.

process may be "compiling" or "running"

User response

This error should only occur when executing a pre-compiled, saved version of a program or rule. In this case, the program or rule should be recompiled and then re-executed. In all other cases, contact Software Support for further assistance.

HLV1072I **ERROR 72 *process program*, LINE *lineno*: FUNCTION RETURNED UNASSIGNED STEM DATA**

Explanation

A REXX function written in assembler has returned incorrect data.

process may be "compiling" or "running"

User response

Contact Software Support for further assistance.

HLV1073I **ERROR 73 *process program*, LINE *lineno*: RECORD REFERENCE EXCEEDS VARIABLE VALUE**

Explanation

This error should not occur.

process may be "compiling" or "running"

User response

Contact Software Support for further assistance.

HLV1074I **ERROR 74 *process program*, LINE *lineno*: MAX STATEMENT COUNT**

Explanation

This error should not occur.

process may be "compiling" or "running"

User response

Contact Software Support for further assistance.

HLV1075I **ERROR 75 *process program*, LINE *lineno*: ELSE NEEDS SEMICOLON**

Explanation

This error should not occur.

process may be "compiling" or "running"

User response

Contact Software Support for further assistance.

HLV1076I **ERROR 76 *process program*, LINE *lineno*: VARIABLE VALUE TOO LONG**

Explanation

The REXX program attempted to assign a value to a variable. The string value exceeded the maximum allowed length.

process may be "compiling" or "running"

User response

Shorten the string value.

HLV1077I **ERROR 77 *process program*, LINE *lineno*: CODE AREA FULL**

Explanation

The REXX program could not be compiled. The target code area is not large enough to hold the result of the compiled program.

process may be "compiling" or "running"

User response

Shorten the REXX program by dividing it into subroutines, and store these subroutines as separate members.

HLV1080I **ERROR 80 *process program*, LINE *lineno*: PULL FOUND EMPTY QUEUE**

Explanation

This error should not occur. A null string is returned instead for compatibility with older releases of Product REXX. Contact Software Support for further assistance.

process may be "compiling" or "running"

User response

No action is required.

HLV1081I **ERROR 80 *process program*, LINE *lineno*: NOT SUPPORTED WITHIN INTERPRET**

Explanation

The REXX program executed an INTERPRET instruction that contained a REXX structure not supported in INTERPRET.

process may be "compiling" or "running"

User response

Modify the interpreted code. If the problem cannot be resolved, contact Software Support.

HLV1082I **ERROR 82 *process program*, LINE *lineno*: ARRAY BOUNDARY EXCEEDED**

Explanation

The REXX program was attempting to store an element of an array. The element number was larger than the declared dimension of the array.

process may be "compiling" or "running"

User response

Contact Software Support.

HLV1083I **ERROR 83 *process program*, LINE *lineno*: CODE BLOCK TOO LARGE, EVAL STACK FULL**

Explanation

If this occurs during the compile phase, the program is using a structure too complex for the compiler to handle. This could occur if a SELECT statement has too many WHEN clauses or if there are too many nested control structures.

process may be "compiling" or "running"

User response

Reduce the complexity of the structure flagged, and retry the compile. If the problem cannot be resolved, contact Software Support.

HLV1084I **ERROR 84 *process program*, LINE *lineno*: TOO MANY SYMBOLS, SYMBOL TABLE FULL**

Explanation

If this occurs during the compile phase, the program is using too many symbols and the symbol table has overflowed.

process may be "compiling" or "running"

User response

Reduce the number of symbols used by the program, and retry the compile. If this does not solve the problem, contact Software Support.

HLV1085I **ERROR 85 *process program*, LINE *lineno*: INVALID USE OF EXTENDED VARIABLE TYPE**

Explanation

The REXX program has attempted to use a variable in a manner that is not supported. This could occur if a product global variable is used as the control variable in a controlled repetitive loop (e.g. DO GLOBAL.I = 1 TO 10).

process may be "compiling" or "running"

User response

Modify the REXX program so that it does not use a global variable as the loop control variable.

HLV1086I **ERROR 86 *process program*, LINE *lineno*: INVALID GLOBAL SYMBOL**

Explanation

A Product REXX global symbol whose derived name exceeds the Product REXX global variable symbol length limit of 50 characters has been used.

process may be "compiling" or "running"

User response

Check the statement in error, and determine which symbol substitution caused the derived name of a global variable to exceed the specified limit. Modify the program to use a shorter derived name.

HLV1087I **ERROR 87 *process program*, LINE *lineno*: INVALID INTERNAL OBJECT**

Explanation

This is an internal Product REXX error.

process may be "compiling" or "running"

User response

Please contact Software Support to obtain additional assistance.

HLV1088I **ERROR 88 *process program*, LINE *lineno*: INTERPRETER STACK ERROR**

Explanation

This is an internal Product REXX error.

process may be "compiling" or "running"

User response

Please contact Software Support to obtain additional assistance.

HLV1090I ***var1 var2 var3 var4 var5 var6 var7 var8 var9 var1 0var11***

Explanation

Message : SWS1090I REXX abend in OPRXCMRU +x'offset'. This message is normally accompanied by a 1049I message which relates to an error 49 in a given rule type.

User response

Check the given rule. In the case of a variable passed to the given error line, make sure the variable is valid. Display fields such as RULE and others in Trace Browse. For a test situation of the given rule or REXX program, include a SAY statement to print the value of the given variable at the of the error. If the error is not related to variables, validate the given line, and take appropriate action. Parameters like BROWSEGLV could

be used if this is a global variable rule error. See other browse parameters and use as applicable.

HLV1091I **ERROR 91 *process program*, LINE *lineno*: INVALID OR MISPLACED OPTIONS STATEMENT**

Explanation

The OPTIONS statement contains options which are not valid. Note that unknown OPTIONS keywords are ignored and are not flagged as errors. Only partially incorrect OPTIONS keywords are flagged.

process may be "compiling" or "running"

User response

Correct the OPTIONS statement, and retry the operation.

HLV1092I **ERROR 92 *process program*, LINE *lineno*: OVER *maxno* CLAUSES EXECUTED IN RECOVERY EXIT**

Explanation

A REXX program or a rule exceeded the maximum number of clauses allowed for a SIGNAL ON syntax or SIGNAL ON HALT recovery routine following a product limit exceeded condition. The maximum number of clauses allowed when recovering from a product limit type error is indicated in the error text.

process may be "compiling" or "running"

User response

Reduce the number of clauses that are executed in the limit failure recovery routine.

HLV1093E **ERROR 93 *process program*, LINE *lineno*: GLOBAL VARIABLE WORKSPACE OVERFLOW (*parmval - wrkspc*)**

Explanation

A shared/permanent global variable or temporary global variable value cannot be stored successfully. This message may be issued under a number of circumstances if a global or global-temporary variable update/addition fails. The conditions causing this message to be issued are: 1) The number of global variables now allocated and in-use (GLOBALUSED or RXWSGVCN for temporary workspace) exceeds the maximum count limit configured by the GLOBALMAX (shared/permanent variables) or GLOBALTEMPMAX (temporary variables) parameters. You must use the ISPF C.3 display Note that you must use the ISPF C.3 panel display, selecting "RXWS GLVEVENT. WORK SPACE", in order to view RXWSGVCN and obtain the temporary workspace variable count. 2) There is insufficient free space anywhere within the global workspace to update or add a variable's value. The value requires multiple workspace segments (RXGV's) for storage and enough free RXGV's could not be found on the free element chain (RXWSFCCN / GLOBALFREEAREAS), or there was insufficient un-allocated space at the end of the workspace (RXWSLN / GLOBALSIZE minus RXWSNXFR / GLOBALNEXT). Contiguous RXGV freespace blocks are required for allocation of the value storage area. Note that the parameters GLOBALFREEAREAS, GLOBALSIZE, and GLOBALNEXT apply ONLY to the shared/permanent workspace. For the temporary workspace, you must examine the RXWS field value using the ISPF C.3 "RXWS GLVEVENT. WORK SPACE" block display. No product parameters map these values for the temporary workspace. The word "TEMP" is inserted into the message as the last word (within final parentheses) if the TEMPORARY global workspace has overflowed. GLVEVENT. stem and internal-use global stem variables are allocated within the temporary global workspace. Otherwise, the word "TEMP" is not present in the message and it is the shared/permanent global workspace that has overflowed. GLOBAL., and GLOBAL0. through GLOBAL9. stem variables are in the shared/permanent workspace area.

process may be "compiling" or "running"

User response

You may need to analyze the contents of the global variable database using the global variables application, product parameters, or the ISPF C.3 RXWS displays. Use the ISPF E.1 panel to remove unneeded permanent GLOBAL. stem variables. Otherwise, increase the GLOBALMAX or GLOBALTEMPMAX start-up parameters. If the workspace is too small, you may also need to (re) allocate a larger global variable checkpoint DIV dataset and copy the original DIV into the new one using Access Method Services REPRO. To prevent future out-of-space hard failures, set the warning threshold percent (GLOBALWARNTHRESH or GLOBALTEMPWARNTH) and interval (GLOBALWARNINTERVAL or GLOBALTEMPWARNIV) so that a threshold is established and reported periodically via MSG 4290. Automate this message so that sufficient notification is given to prevent the out-of-space hard failure limit from being reached before the workspaces can be expanded.

HLV1094E **ERROR 94 *process program*, LINE *lineno*: OVER *sec* SECONDS USED FOR EXECUTION**

Explanation

A rule or REXX program exceeded its wall clock time limits as set by SEFMAXSECONDS (rule) or REXXMAXSECONDS (REXX program) product parameters. These limits may be overridden using NOMAXSECONDS or MAXSECONDS=nnnn on the REXX OPTIONS statement.

process may be "compiling" or "running"

User response

Determine whether this problem was caused by a looping program or whether the limits are too low. The limits that affect all rules/programs can be modified by changing the xxxPARM limits (SEFMAXSECONDS and/or REXXMAXSECONDS). The limits for the individual program can be overridden by using the REXX OPTIONS statement as described in the product Reference Manual.

HLV1095E **ERROR 95 *process program*, LINE *lineno*: OVER *maxno* HOST COMMANDS ISSUED**

Explanation

A rule or REXX program exceeded its host command limits as set by SEFMAXCOMMANDS (rule) or REXXMAXCOMMANDS (REXX program) product parameters. These limits may be overridden using NOMAXCOMMANDS or MAXCOMMANDS=nnnn on the REXX OPTIONS statement.

process may be "compiling" or "running"

User response

Determine whether this problem was caused by a looping program or whether the limits are too low. The limits that affect all rules/programs can be modified by changing the xxxPARM limits (SEFMAXCOMMANDS and/or REXXMAXCOMMANDS). The limits for the individual program can be overridden by using the REXX OPTIONS statement as described in the product Reference Manual.

HLV1096E **ERROR 96 *process program*, LINE *lineno*: OVER *maxno* "SAY" CLAUSES EXECUTED**

Explanation

A rule or REXX program exceeded its SAY/TRACE limits as set by SEFMAXSAYS (rule) or REXXMAXSAYS (REXX program) product parameters. These limits may be overridden using NOMAXSAYS or MAXSAYS=nnnn on the REXX OPTIONS statement.

process may be "compiling" or "running"

User response

Determine whether this problem was caused by a looping program or whether the limits are too low. The limits that affect all rules/programs can be modified by changing the xxxPARM limits (SEFMAXSAYS and/or REXXMAXSAYS). The limits for the individual program can be overridden by using the REXX OPTIONS statement as described in the product Reference Manual.

HLV1097E **ERROR 97 *process program*, LINE *lineno*: OVER *maxno* CLAUSES EXECUTED**

Explanation

A rule or REXX program exceeded its clause limits as set by SEFMAXCLAUSES (rule) or REXXMAXCLAUSES (REXX program) product parameters. These limits may be overridden using NOMAXCLAUSES or MAXCLAUSES=nnnn on the REXX OPTIONS statement.

process may be "compiling" or "running"

User response

Determine whether this problem was caused by a looping program or whether the limits are too low. The limits that affect all rules/programs can be modified by changing the xxxPARM limits (SEFMAXCLAUSES and/or REXXMAXCLAUSES). The limits for the individual program can be overridden by using the REXX OPTIONS statement as described in the product Reference Manual.

HLV1098I ***lineno* TRACE MESSAG**

Explanation

Informational message only. This message gives the output from the REXX TRACE command.

User response

None. This message is for informational purposes only.

HLV1099I ***statement***

Explanation

This message is issued when the REXX compiler detects a an error during compilation. The first line of the message lists the statement in error and the

second line indicates where in the first line the error was detected.

User response

Review the REXX statement, and correct the error.

HLV1100S RETRY LIMIT CONVERSION ERROR - VALUE SPECIFIED = *val*

Explanation

An error was detected while trying to convert the character representation of the specified retry limit (*val*) to its integer counterpart.

User response

Review the retry limit specification contained in the error message. If the specified retry limit contains an invalid value, correct the error, and re-invoke the DSN command. If all attempts at correcting the specified retry limit fail, contact Software Support for further assistance.

HLV1101S TEST LEVEL CONVERSION ERROR - VALUE SPECIFIED = *val*

Explanation

An error was detected while trying to convert the character representation of the specified test level (*val*), to its integer counterpart.

User response

Review the test level specification contained in the error message. If the specified test level contains an invalid value, correct the error, and re-invoke the DSN command. If all attempts at correcting the specified test level fail, contact Software Support for further assistance.

HLV1102S *subsys* NOT VALID SUBSYSTEM ID, COMMAND TERMINATED

Explanation

A subsystem control table that corresponded to the subsystem name contained in the error message could not be located by the SSCT chain scan logic.

User response

If the subsystem name was specified on the SYSTEM() command argument, review the name, and revise the SYSTEM() specification, if necessary. If a SYSTEM() command line argument was not specified, the product-provided default value may not be appropriate for your installation. This value was obtained from the local copy of the DSNHDECP Db2 parameters module, if one could be found. If a local copy of the DSNHDECP parameters module contains an invalid value, run the JCL jobstream contained in the HLV CNTL data set member ZAPDECP after updating the REP control card. If a local copy of the DSNHDECP parameters module was not found, the product will attempt to use the standard IBM default subsystem, DSN. For further assistance in providing the product with the correct subsystem name value, contact Software Support.

HLV1104S Subsystem *subsys* is not a valid DB2 subsystem

Explanation

The SSCT located for the subsystem name that was extracted is neither a valid product SSCT nor a valid Db2 SSCT.

User response

If the subsystem name was specified on the SYSTEM() command argument, review the name, and revise the SYSTEM() specification, if necessary. If a SYSTEM() command line argument was not specified, the product provided default value may not be appropriate for your installation. This value was obtained from the local copy of the DSNHDECP Db2 parameters module, if one could be found. If a local copy of the DSNHDECP parameters module contains an invalid value, run the JCL jobstream contained in the S__ CNTL data set member ZAPDECP after updating the REP control card. If a local copy of the DSNHDECP parameters module was not found, the product will attempt to use the standard IBM default subsystem, DSN. If the problem cannot be resolved, contact Software Support.

HLV1105S LOAD FOR DSNECP00 FAILURE

Explanation

The attempt to load the renamed version of DSNECP00 has failed.

User response

Ensure that the product installation process was completed successfully. Ensure that the load library containing the renamed version of DSNECP00 is accessible by the product. If all attempts to correct the problem situation fail, contact Software Support for further assistance.

HLV1106S *subsys* NOT OPERATIONAL, RETRY COUNT ZERO

Explanation

The SSCT for the product indicated that the product is not currently active.

User response

Determine if the product may have started and terminated abnormally. If so, review the accompanying messages in the SYSLOG. If the product did not terminate abnormally, issue the appropriate start command. If necessary, contact Software Support for further assistance.

HLV1110S **CONNECTION FAILURE RC = *rcode* REASON = *rsncode***

Explanation

The attempt to connect to the remote Db2 subsystem failed.

User response

Review the return code and the reason code values contained in the error message. Compare the return code and reason code with those listed in the IBM SQL Application Programming Manual, and take the appropriate action. If all attempts to correct the problem fail, contact Software Support for further assistance.

HLV1112S **DISCONNECT FAILURE RC = *rcode* REASON = *rsncode***

Explanation

The attempt to disconnect from the remote Db2 subsystem has failed.

User response

Review the return code and the reason code values contained in the error message. Compare the return code and reason code with those listed in the IBM SQL Application Programming Manual, and take the appropriate action. If all attempts to correct the problem fail, contact Software Support for further assistance.

HLV1113S **COMMAND REJECTED - *cmd* CMD NOT SUPPORTED UNDER DSN**

Explanation

The subcommand specified (*cmd*) is not supported under the DSN command.

User response

Review the command string entered. Revise the command string, if appropriate. Re-enter the revised command string. If the problem cannot be resolved, contact Software Support.

HLV1114R ***msgtext***

Explanation

Module OPDSN10 issued the current message (*msgtext*) as a prompt for valid subcommand input.

User response

Respond with an appropriate subcommand name, or enter the END subcommand if processing is complete.

HLV1115S **ERROR ISSUING SUBCOMMAND PROMPT - RC = *rcode***

Explanation

An error occurred either issuing the subcommand prompt or while waiting for valid subcommand input.

User response

Contact Software Support for further assistance.

HLV1117S **COMMAND BUFFER SCAN ERROR - RC = *rcode***

Explanation

An attempt to scan the command buffer utilizing the services of IKJSCAN failed.

User response

Review the command string entered. Revise the command string, if appropriate. Re-enter the revised command string. If the problem cannot be resolved, contact Software Support.

HLV1118S **RUN SUBCOMMANDS CAN NOT HAVE A PROGRAM PARAMETER AND A CP PARAMETER**

Explanation

The PROGRAM and CP parameters of the RUN subcommand are mutually exclusive.

User response

Revise the subcommand string entered. If the program to be executed is not a TSO command processor, specify only the PROGRAM() parameter. If the program

to be executed is a TSO command processor, specify only the CP parameter.

HLV1119S **RUN SUBCOMMAND REQUIRES (1)PROGRAM PARAMETER OR (2)PLAN AND CP PARAMETER**

Explanation

The RUN subcommand requires that either the PROGRAM parameter be specified or the PLAN and CP parameters be specified.

User response

Revise the subcommand string entered. If the program to be executed is not a TSO command processor, specify only the PROGRAM() parameter. If the program to be executed is a TSO command processor, specify the PLAN and CP parameters.

HLV1120S **DSNRLI *func* FUNCTION FAILED. RC = *rcode* REASON = *rsncode***

Explanation

The RRSAF function (*func*) failed.

User response

Review the return code and the reason code values contained in the error message. Compare the return code and reason code with those listed in the IBM SQL Application Programming Manual, and take the appropriate action. If all attempts to correct the problem fail, contact Software Support for further assistance

HLV1121I **PLEASE WAIT...CONNECTION RETRY IN PROGRESS**

Explanation

The remote Db2 subsystem is currently not active and a RETRY() value greater than one (1) was specified. The connection request will be retried.

User response

No action required.

HLV1122I **COMMAND SPUFI IGNORED, VALID ISPF ENVIRONMENT MUST EXIST**

Explanation

The SPUFI subcommand requires that a valid ISPF environment exist.

User response

Re-invoke the DSN command from within ISPF. If the error persists, contact Software Support to obtain additional assistance.

HLV1123S **COMMAND REJECTED, CMD NOT SUPPORTED UNDER DSN**

Explanation

The subcommand specified is not supported under the DSN command.

User response

Review the command string entered. Revise the command string, if appropriate. Re-enter the revised command string. If the error condition persists despite correcting errors in the command string that was entered, contact Software Support.

HLV1126S **PLAN OPEN FAILURE RC = *rcode* REASON = *rsncode***

Explanation

The attempt to open the application plan failed.

User response

Review the return code and the reason code values contained in the error message. Compare the return code and reason code with those listed in the IBM SQL Application Programming Manual, and take the appropriate action. If all attempts to correct the problem fail, contact Software Support for further assistance.

HLV1127S **PLAN CLOSE FAILURE RC = *rcode* REASON = *rsncode***

Explanation

The attempt to close the application plan failed.

User response

Review the return code and the reason code values contained in the error message. Compare the return code and reason code with those listed in the IBM SQL Application Programming Manual, and take the appropriate action. If all attempts to correct the problem fail, contact Software Support for further assistance.

HLV1129R **ENTER TSO COMMAND**

Explanation

Module OPDSN10 issued the current message as a prompt for a valid TSO command.

User response

Respond with a valid TSO command name.

HLV1130S ERROR ISSUING TSO COMMAND PROMPT - RC = *rcode*

Explanation

An error occurred either while issuing the TSO command prompt or while waiting for valid TSO command input.

User response

Contact Software Support for further assistance.

HLV1131S *cmd* NOT VALID COMMAND

Explanation

The TSO command (*cmd*) entered is not a valid command.

User response

Correct the value specified and re-enter the RUN subcommand. If the error persists, contact Software Support for further assistance.

HLV1132S *cmd* ENDED DUE TO ERROR

Explanation

The DSN command (*cmd*) has ended due to an abend detected in a user task.

User response

Correct the error condition in the program or TSO command that was specified, and re-enter the DSN command. If the error condition persists, contact Software Support for further assistance.

HLV1133S MODULE *program* NOT FOUND

Explanation

The module name specified on the PROGRAM() parameter of the RUN subcommand could not be found.

User response

Correct the value specified, and re-enter the RUN subcommand. If the error persists, contact Software Support for further assistance.

HLV1134S UNABLE TO ESTABLISH THE STAX EXIT

Explanation

OPDSN01 - the STAX manager was unable to establish the STAX exit.

User response

Attempt to invoke the DSN command again. If the error persists, contact Software Support for further assistance.

HLV1135S UNABLE TO TERMINATE THE STAX EXIT

Explanation

OPDSN01 - the STAX manager was unable to terminate the STAX exit.

User response

Attempt to invoke the DSN command again. If the error persists, contact Software Support for further assistance.

HLV1136S STAX EXIT INTERNAL LOGIC ERROR

Explanation

OPDSN01 - the STAX manager determined that an attempt was made either to remove the STAX exit environment when one did not exist or to establish the STAX exit environment when one already existed.

User response

Contact Software Support for further assistance.

HLV1137S ERROR EXECUTING TSO COMMAND RC = *rcode* REASON = *rsncode*

Explanation

OPDSN10 detected that the command entered was a TSO command; however, an error was detected while attempting to invoke the TSO command. The above message depicts the return code and reason code values received from the product TSOEXEC service routine.

User response

Examine the TSO command entered, and correct the command string if an error was detected. If the error condition persists despite correcting any command string errors, contact Software Support for further assistance.

HLV1138I **SET_CLIENT_ID CALL FAILED - DB2 NOT AT PROPER MAINTENANCE LEVEL OR RELEASE. SUBSYSTEM: *subsys***

Explanation

A client requested a SET_CLIENT_ID command be issued to Db2. This is usually invoked via the SQLESETI client function. However, Db2 rejected the request. This probably is due to APAR PQ67691 (or its equivalent) being applied.

User response

This is not a serious problem. The Db2 DISPLAY THREAD display just will not contain additional information that was supplied by the client.

HLV1154S **COMMAND BUFFER INTERNAL FORMAT ERROR**

Explanation

During an attempt by the DSN command processor to analyze the contents of the command buffer, it was determined that the command buffer had the wrong length, invalid operands, or the wrong format.

User response

Review the command string entered. Revise the command string, if appropriate. Re-enter the revised command string. If the error condition persists despite correcting errors in the command string that was entered, contact Software Support for further assistance.

HLV1163S **COMMAND BUFFER PARSE ERROR - RC = *rcode***

Explanation

The IBM TSO parse routine, IKJPARS, returned a non-zero return code after attempting to parse the DSN command string.

User response

Review the accompanying TSO error messages in the SYSLOG. Review the command string entered. Revise the command string, if appropriate. Take action recommended in the TSO messages manual. If all attempts at revised command string entry fail, contact Software Support for further assistance.

HLV1250I ***var1 var2***

Explanation

The message ID used to display parameter value requested with an xxxPARM command.

User response

None. This message is for informational purposes only.

HLV1251T **THE VALUE OF THE *parmname* PARAMETER WAS ROUNDED UP TO *parmval* BYTES**

Explanation

The parameter was rounded to a 1K (1024) byte boundary.

User response

None. This message is for informational purposes only.

HLV1252T **THE VALUE SPECIFIED FOR THE *parmname* PARAMETER WAS CHANGED FROM *parmval1* TO *parmval2***

Explanation

The value of the parameter was changed.

User response

None. This message is for informational purposes only.

HLV1253T **THE VALUE OF ROLLBACKPOSITIVERC WAS CHANGED TO 'NO' BECAUSE IGNOREPOSITIVESC WAS SET TO 'YES'**

Explanation

The value of the ROLLBACKPOSITIVERC parameter was changed to 'NO' because the IGNOREPOSITIVESC parameter was set to YES. ROLLBACKS for positive SQL codes cannot be performed if they are being ignored.

User response

None. This message is informational only. If ROLLBACKS are required for positive SQL codes, then

set IGNOREPOSITIVESC to 'YES', then set ROLLBACKPOSITIVERC to 'YES'.

HLV1254T **THE VALUE OF ROLLBACKPOSITIVERC CANNOT BE CHANGED TO 'YES' BECAUSE IGNOREPOSTIVESC IS 'YES'**

Explanation

The value of the ROLLBACKPOSITIVERC parameter cannot be set to 'YES' because IGNOREPOSITIVESC parameter is set to YES. ROLLBACKS for positive SQL codes cannot be performed if they are being ignored.

User response

None. This message is informational only. If ROLLBACKS are required for positive SQL codes, then set IGNOREPOSITIVESC to 'YES', then set ROLLBACKPOSITIVERC to 'YES'.

HLV1255E ***parmname* - cannot be changed after initialization**

Explanation

Many of product parameters may be changed at any time, but some of them can only be set once during initialization. The parameter you attempted to change must be set during product initialization.

User response

Update the initialization REXX exec xxxxIN00. These changes will take effect the next time the product is started.

HLV1256E ***parmname* - cannot be changed**

Explanation

Many of the S__ parameters may be changed at any time; some of them can only be reset during initialization, while others are used merely for display purposes and cannot be reset at all. The parameter you entered may not be changed.

User response

Update the initialization REXX exec xxxxIN00. These changes will take effect the next time the product is started.

The variable fields of the message text are: parm parameter name

HLV1257E ***parmname* - cannot be displayed**

Explanation

The parameter you selected cannot be displayed.

User response

Check the manual to see if the parameter you requested is spelled correctly.

HLV1258E ***desc - errmsg suffix***

Explanation

The ADDRESS HLV processing routine found an error in the parameter text string passed with the MODIFY PARM command. The parameter text string is invalid. MODIFY PARM command processing is aborted.

User response

Validate the VALUE keyword value, correct it for errors, and re-initiate the command. For more details on the MODIFY PARM command, refer to your Product User's Guide.

HLV1259E **PARAMETER *parmname* POINTS TO UNINITIALIZED ENUMERATED VALUE IN *cblk* AT *addr***

Explanation

During a parameter display operation, a product parameter table entry pointed to an un-initialized field within a product control block. The field should be initialized with one of the valid values enumerated for the parameter.

User response

The product parameter's value is displayed as "*INTERNAL-ERROR*", and processing continues.

HLV1262I ***grpdesc grpname***

Explanation

The parameter group (*grp*) being listed by this xxxPARM command could not be found. The command is terminated.

User response

Review the xxxPARM command being executed, checking the group operand and whether or not there is a group listing for it. Refer to the product Server Started Task Parameters Guide for the details on using the xxxPARM command and its group operand.

HLV1263E ***prefix-parmval-suffix***

Explanation

This message is never meant to be seen. It is used by OPPAFU to convert product parameters to printable character strings.

User response

If you see this message, an internal error has occurred. Contact Software Support.

HLV1264W **No parameter value information is available.**

Explanation

The xxxPARM parameter you are using is not available. The SHLVPARM command is terminated.

User response

The parameter you are trying to set using SHLVPARM is not supported or not valid in this release of the product. Check the parameter in the product documentation.

HLV1265W **WARNING: *parmname* PARAMETER (*val*) CONTAINS TOO FEW QUALIFIERS TO ENSURE PROPER HTTP COOKIE OPERATION**

Explanation

The host domain name parameter contains too few qualifiers (name segments separated by periods) to ensure that Web browsers will properly store and transmit HTTP cookies. At least three levels of qualification (two levels if the name ends with .com, .edu, .net, .org, .gov, .mil, or .int) are usually required to ensure that HTTP cookies are stored and later retransmitted properly.

User response

The parameter is accepted but is always folded to a lowercase string. The server's built-in browser-based administration utilities require HTTP cookies for proper operation. These administration utilities may not function correctly using the host domain name string now set.

HLV1266W **WARNING: *parmname* PARAMETER (*val*) MAY CAUSE INCONSISTENT OPERATION USING HTTP COOKIES**

Explanation

The host domain name parameter contains a dot-notation format IP address. Browser anomalies may arise that cause HTTP cookies to be stored improperly or retransmitted incorrectly when using a dot-notation host domain name value.

User response

The parameter is accepted. The server's built-in browser-based administration utilities require HTTP cookies for proper operation. These administration utilities may not function correctly using the host domain name string now set.

HLV1275S **ABEND *abcode* IN AUTHORIZATION ROUTINE *modname+offset***

Explanation

An abend occurred in the authorization checking routine.

User response

Contact Software Support for assistance.

The variable fields of the message text are: abcd abend code mod module name off module offset

HLV1277S ***cblk* Control block not found**

Explanation

The MODIFY PARM functional routine has been passed an invalid product control block name.

User response

First, check the MODIFY PARM command, correct any errors, and rerun. If the problem persists, verify that all of the product modules are at the same release level. Also, check that the last product installation was successful. If all of the above are checked and the problem remains, gather all related problem data (error data, SVFX level, install information), and contact Software Support for further assistance.

HLV1281E ***service desc* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe a wide variety of errors. The message text gives a description of the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. If the problem cannot be resolved, contact Software Support for further assistance.

HLV1290H **jb *parmname parmval***

Explanation

This message logs a change to the product parameters via the ADDRESS HLV MODIFY command. The message contains the name of the product parameter and its new value.

User response

No action is required. This message is written to the log for informational and tracking purposes only.

The variable fields of the message text are: parm parameter field name parmval parameter field value

HLV1291W **Warning: *parmname* is an obsolete parameter**

Explanation

This message is issued when an obsolete parameter value is modified.

User response

Refer to the product Server documentation for information on this parameter. Modifying an obsolete parameter may not have the desired effect. In many cases, obsolete parameters have no effect on the server and are ignored. Obsolete parameters are normally removed from the product in the next release. You should check the product initialization exec (xxxxIN00) and remove all references to this obsolete parameter from it.

HLV1292E **Exit code *ecode* is invalid for *parmname***

Explanation

An invalid exit code has been defined in an internal product control block that defines a product parameter table entry.

User response

This is an internal error. Please report this problem to Software Support.

HLV1293E ***errdesc***

Explanation

An attempt to set a product parameter has failed. The error message describes the reason for the failure.

User response

Review the error message, and attempt to correct the problem.

HLV1294E ***desc* OF *process* FOR PARAMETER CHANGE EVENT NOTIFICATION FAILED WITH RC=*rcode***

Explanation

A product parameter update attempt was made, but the system was unable to properly notify an asynchronous process of the change. The update to the parameter may or may not have been made, but in either case, the asynchronous process is now in an unknown state.

User response

Review the error message and any others related to the problem, and notify Software Support. Timing errors during shutdown normally do not represent a serious condition unless they occur consistently.

HLV1295W **PARM *parmname* AND ANY DEFINE ISPFCONCAT ARE MUTUALLY EXCLUSIVE. *parmname* WILL BE IGNORED.**

Explanation

The xxxxIN00 EXEC specifies at least one DEFINE ISPFCONCAT statement and the mutually exclusive ISPF PARM statement. All ISPF PARM statements are ignored when at least one DEFINE ISPFCONCAT statement is specified. The following is a complete list of the ISPF parameters that will be ignored: EXECDSNAME, COMPEXECDSNAME, ISPLLIBDSNAME, ISPMLIBDSNAME, ISPSLIBDSNAME and ISPTLIBDSNAME.

User response

Change the xxxxIN00 EXEC to specify the DEFINE ISPFCONCAT statements for all of the required libraries and remove the obsolete PARM NAME(ISP %LIBDSNAME) parameters.

HLV1296T **Security optimization processing terminated**

Explanation

The TERMINATESECOPT parameter was set to 'YES' causing all security optimization processing to halt. The product continues to operate normally.

User response

If you want to execute with security optimization active, you must stop and restart the product.

HLV1297T Logging processing terminated

Explanation

The TERMINATELOGGING parameter was set to 'YES' causing all logging functions to halt. The product continues to operate normally.

User response

If you want to execute with logging active, you must stop and restart the product.

HLV1298T Interval recording *%1*

Explanation

Interval recording was enabled or disabled. The product continues to operate normally.

User response

You can reenable interval recording if the TERMINATEINTERVAL parameter is set to 'NO'.

HLV1299T Interval recording terminated

Explanation

The TERMINATEINTERVAL parameter was set to 'YES' causing all interval recording to halt. The product continues to operate normally.

User response

If you want to execute with interval recording active, you must stop and restart the product.

HLV1340I *echotext*

Explanation

This message is simply an echo of a reply to a WTOR issued.

User response

None.

HLV1346E MESSAGE ID AND TEXT ARE TOO LONG

Explanation

While building a WTO or WTOR parameter list, the product detected that the combined message ID and message text exceeds the system limits. The limit for a WTO is 125 characters, and the limit for a WTOR is 122 characters.

User response

This could indicate an internal logic error within the product. Contact Software Support for further assistance.

HLV1348E NO WTOR REPLY RECEIVED - TIMER EXPIRED

Explanation

A timeout has occurred prior to receiving the response to a WTO/WTOR.

User response

This could indicate an internal logic error within the product. Contact Software Support for further assistance.

HLV1349I THE MESSAGE IDENTIFICATION NUMBER IS *wtoID*

Explanation

This message is simply an echo of the message identification number returned by the WTO/WTOR to identify the message.

User response

None. The WTO ID can be used to DOM a highlighted message.

HLV1364S *sysserv* RETURN CODE = *rcode*

Explanation

Some type of error occurred either in the system management routines of the product or by invoking a system service (*sysserv*) directly. See the actual text of the message for an explanation. The error was probably caused by a failure in an operating system service.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV1370H ***jobname rcode desccode mcscno time msgID msgtext***

Explanation

This message is used to document an internally generated WTO. It is written to the hardcopy log to identify the source of the message issued.

msc represents the MCS flags

cno represents the console number

time represents a wait time if the REPLY keyword is coded

User response

None.

HLV1400S **TSO/E is not installed**

Explanation

TSO/E (IBM's program product number 5665-293) is required to support the use of ISPF/HLV.

User response

Verify that this product is available at your installation.

HLV1401S ***service*** **CMD(*modname*) FAILED, RC=*rcode***

Explanation

HLV called TSO to execute ISPSTART and received a non-zero return code. The ISPF initiation attempt is aborted.

User response

Review the message text, and check why the request did not complete successfully. Review your ISPF/HLV environment, and take corrective action. If the problem cannot be resolved, contact Software Support.

HLV1402S **Dialog Manager service *service* error, RC=*rcode***

Explanation

A product internal routine called TSO to execute ISPSTART and got a dialog manager service error.

User response

Review the ISPF error, checking the service name string for what service was invoked, and take corrective action. For additional assistance, contact your local S__ systems programming support group

HLV1404S **ABEND OCCURRED PROCESSING SUBROUTINE *subrout* IN MODULE *modname***

Explanation

The product ISPF application ABENDed while extracting information from constants in the subroutine's prolog.

User response

Contact Software Support for further assistance.

HLV1405T **ABEND OCCURRED PROCESSING SUBROUTINE *subrout* IN MODULE *modname***

Explanation

The product ISPF application ABENDed while extracting information from constants in the subroutine's prolog.

User response

Contact Software Support for further assistance.

HLV1406S **THE ENTRY FOR SUBROUTINE *subrout* IN MODULE *modname* POINTS TO SUBROUTINE *subrout***

Explanation

The ISPF application detected an error in a subroutine vector table.

User response

Contact Software Support for further assistance.

HLV1407T **THE ENTRY FOR SUBROUTINE *subrout* IN MODULE *modname* POINTS TO SUBROUTINE *subrout***

Explanation

The ISPF application detected an error in a subroutine vector table.

User response

Contact Software Support for further assistance.

HLV1420S ***service*** **OF DIRECTED LOAD LIBRARY (*ddname*) FAILED RC=*rcode***

Explanation

The S__ ISPF application attempted to do a directed load based upon a parameter setting in the OPMS(ISPLLIBDSNAME).

service may be "allocation" or "deallocation"

User response

Check the data set name specified in the aforementioned parameter. After correcting the name, restart the Server address space.

HLV1421E ***infotext*** **COMMAND** ***infotext***

Explanation

The next message is not actually used by any code in the product. The message is used to reserve a return code. No action required.

User response

None.

HLV1423E ***errmsg***

Explanation

Product security has denied the current user access to Trace Browse.

User response

If this an undesirable situation, contact the product systems support group to grant you the required access.

HLV1424E **CURRENT** ***cmd*** **COMMAND NOT AUTHORIZED -** ***errdesc***

Explanation

Authorization check failed. The use of HLV/SWS is restricted by your installation security product.

User response

Contact the person at your installation who installs and maintains the product to obtain access authority.

HLV1440W **ISPF LOADLIB at level *lvl*, but Server LOADLIB at level *lvl*. Processing continues.**

Explanation

The version of the load library allocated to ISPF is at a different release than that of the server.

User response

The product ISPF application continues. The inconsistency between the Server and the ISPF load libraries should be resolved.

HLV1441S **ABEND *abcode* IN AUTHORIZATION ROUTINE *modname+offset***

Explanation

An abend occurred in the authorization checking routine.

User response

Contact the person at your installation who installs and maintains your installation security product.

HLV1442S **COMMAND BUFFER PARSE RC=*rcode***

Explanation

The IBM TSO parse routine, IKJPARS, returned a non-zero return code after attempting to parse a command string. The parse process for the command is terminated.

User response

Gather the relevant problem data, and contact your local product systems programming group for assistance.

HLV1443S **COMMAND BUFFER INTERNAL FORMAT ERROR**

Explanation

During an attempt to analyze the contents of the command buffer, it was determined that the command buffer had the wrong length, invalid operands, or the wrong format.

User response

Review the command string entered. Revise the command string, if appropriate. Re-enter the revised command string. If the error condition persists despite correcting errors in the command string that was entered, contact Software Support for further assistance.

HLV1444S ***parmname*** **PARAMETER** ***reqval*** **SPECIFIED WITH ARCHTYPE(*parmval*)**

Explanation

The Trace Browse/view program was invoked with invalid parameters.

User response

Review the command string entered. Revise the command string, if appropriate. Re-enter the revised command string. If the error condition persists despite correcting errors in the command string that was entered, contact Software Support for further assistance.

HLV1445S **SYSTEM MANAGER SERVICE** ***service*** **ERROR, RC=*rcode***

Explanation

The product browse subroutine requested authorization in order to validate your request and did not find the necessary control blocks for this validation. The request is aborted.

User response

This message indicates a possible product ISPF interface error. Gather the data, and contact your local systems programming support group.

HLV1446S **ISPF service *service* error, return code = *rcode***

Explanation

HLV invoked an ISPF service routine to accomplish the ISPF-related task indicated in the error message and received a non-zero return code.

User response

Review the message text, and check why the request did not complete successfully. Review your ISPF/HLV environment, and take corrective action. If the error persists, contact Software Support.

HLV1447E **Member *member* not found**

Explanation

A BLDL failed to find the specified member.

User response

Examine the data set concatenation to ensure that the proper libraries are allocated. If the error persists, contact Software Support for further assistance.

HLV1448E ***func*** **failed for member=*member* RC=*rcode***

Explanation

An I/O operation (*func*) failed while attempting to do a BLDL.

User response

Use this message in conjunction with any other messages that may accompany it to resolve the problem. You may also want to examine the data set for problems. Once the problem is corrected, restart the product.

HLV1449E **ISPF LOADLIB at version *version1*, Server LOADLIB at *version2*, please correct inconsistency**

Explanation

The version of the load library allocated to ISPF is at a different release than that of the server.

User response

The Diagnostic facility will terminate. The library inconsistency should be resolved prior to invoking the ISPF application.

HLV1450H ***jobname subsysID***

Explanation

This message is used to provide an audit trail in Trace Browse when using the Trace Browse option of the product.

User response

No action is required. This message is for audit trail purposes only.

HLV1451H ***jobname subsysID*** **ARCHIVE REVIEW *dsname***

Explanation

This message is used to provide an audit trail in Trace Browse when using the Trace Archive View function.

User response

None. This message is for audit trail purposes only.

HLV1452S **ABEND *abcode* REASON *rsn* OCCURRED IN *modname+offset***

Explanation

An abend occurred in the browse program.

User response

Check for other errors, and correct the problem. If unable to correct the problem, contact Software Support for further assistance.

HLV1453S ***service* OF *desc* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe a wide variety of product ISPF initialization, execution, and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV1454S ***servrout errdesc* FAILED, ABEND=*abcode*, REASON CODE=*rsncode***

Explanation

This is a generic error message used to describe a wide variety of product ISPF initialization, execution, and termination errors. The message text provides the current operation and what the current operation (*servrout*) was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV1455S **Subsystem *subsys* not active**

Explanation

The specified subsystem is not active

User response

Start the specified subsystem and then restart the ISPF application or choose another subsystem ID to start the ISPF application with

HLV1456S **ISPF service *service* error, return code = *rcode*. Unable to start ISPF dialog.**

Explanation

HLV invoked an ISPF service routine to start the ISPF dialog and received a terminating return code.

User response

Review the message text, and check why the request did not complete successfully. Review your ISPF/HLV environment, specifically the DEFINE ISPFCONCAT statements in the xxxxIN00 EXEC, and take corrective action. If the error persists, contact Software Support.

HLV1457W **Subsystem *subsys* not active**

Explanation

The specified subsystem is not active

User response

The ISPF dialog could not find the specified subsystem.

HLV1600E **Module DSNACAF not properly linked**

Explanation

The product-related Db2 interface module tried to load the address of a module needed to connect to the actual Db2 system. The address field was zero. The module could not be invoked, and the connection to the actual Db2 system failed.

User response

Ensure that the product is properly installed. The load module referred to in the error message must be properly linked with the product module having the

same name. Relink the DSNACAF module, and rerun the Db2 application program.

HLV1601E **Product is not active at this time**

Explanation

The product-related Db2 interface module tried to communicate with the main product (not Db2) address space. The main product address space was not active. This error normally occurs at the start of SQL application program execution.

User response

Ensure that the main product address space is active. Start or restart the main product address space, if necessary. Rerun the SQL application program from the beginning.

HLV1602E **Product failed while SQL application program executing**

Explanation

The product-related Db2 interface module tried to communicate with the main product (not Db2) address space. The main product address space was not active. This error normally occurs at the start of SQL application program execution.

User response

Ensure that the main product address space is active. Start or restart the main product address space, if necessary. Rerun the SQL application program from the beginning.

HLV1603E **Module DSNTIAR not properly linked**

Explanation

The product-related Db2 interface module tried to load the address of a module needed to connect to the actual Db2 system. The address field was zero. The module could not be invoked, and the connection to the actual Db2 system failed.

User response

Ensure that the product is properly installed. The load module referred to in the error message must be properly linked with the product module having the same name. Relink the DSNITAR module, and rerun the Db2 application program.

HLV1700E ***service desc* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe a wide variety of errors. The message text gives a description of the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. If the problem cannot be resolved, contact Software Support.

HLV1701E **ERROR CODE *queue* SENDING MESSAGE TO *%2* QUEUE**

Explanation

An error has occurred while attempting to send a record to a product queue. The most likely cause for this message is that the queue is full - which is indicated by an error code of 4. In the case of either product load balancing queue, a queue full condition results in no further sessions being sent to this server by the Group Director until the pending work on the queue has been significantly reduced. For any other error code, no additional work will be sent to this server and the server must be terminated and restarted.

User response

Contact your local product systems programming group for assistance.

HLV1720E ***desc func* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe errors that occurred while attempting to allocate or free (*func*) a product control block. Allocation failures are typically an indication of insufficient virtual storage.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. If the problem cannot be resolved, contact Software Support.

HLV1740T **Invoking IEFSSREQ for SSI function *funcode* - *codedesc***

Explanation

The ADDRESS SPOOL S/REXX Host Command Environment or another routine using Sysout Application Programming Interface (SAPI) common routines is invoking a SubSystem (SSI) service. This message is traced, prior to each invocation of the IEFSSREQ SSI gateway macro.

User response

None. The indicated SSI function is invoked immediately after this message is traced.

HLV1741T **IEFSSREQ SSI return code is *rcode***

Explanation

An invocation of the SubSystem Interface (SSI) macro IEFSSREQ has completed, and the resulting return code is displayed in the message. This message is traced, following each SSI service request invocation when the SSITRACE command option is in effect.

User response

None. The SSI gateway interface has returned with the IEFSSREQ return code shown in the message in R15.

HLV1742T **SSOBRETN FUNCTION-SPECIFIC RETURN CODE IS *rcode***

Explanation

An invocation of the SubSystem Interface (SSI) macro IEFSSREQ has completed with return code zero. The function- specific return code is traced by this message following each SSI service request invocation made while the SSITRACE command option is in effect.

User response

None. The indicated SSI function has completed with the SSOBRETN return code shown in the message

HLV1743T **WAITING FOR NEW SYSOUT FILES FOR *sec* SECONDS**

Explanation

The Sysout Application Programming Interface SSI service has been invoked with a PUTGET request that has returned an END-OF-DATA signal. The system will await new SYSOUT output to become available for the indicated time period. This message is traced prior to entered a WAIT for more SYSOUT output data to become available.

User response

None. A WAIT is entered for more SYSOUT output which will expire after the indicated number of seconds

HLV1744T **WAIT TIMELIMIT EXPIRED - END-OF-DATA FOR SYSOUT**

Explanation

A Sysout Application Programming Interface SSI service request routine had entered a WAIT until additional SYSOUT output became available, following receipt of an END-OF-DATA signal. The timelimit for waiting on additional SYSOUT output to become available has expired and the request routine will now process the END-OF-DATA signal. This message is traced when the SSITRACE command option is in effect.

User response

None. The WAIT for new SYSOUT output is terminated and the procedure continues by recognizing the END-OF-DATA signal.

HLV1745T **NEW SYSOUT FILE NOW AVAILABLE**

Explanation

A Sysout Application Programming Interface SSI service request routine had entered a WAIT until additional SYSOUT output became available. The primary subsystem has posted the requestor ready and indicated the additional SYSOUT output is now available. This message is traced when the SSITRACE command option is in effect. Because another process or writer may select the same SYSOUT file for processing, there is no guarantee that the file will be available when selection is requested.

User response

None. The WAIT for new SYSOUT output has completed and the procedure continues by attempting to select the new SYSOUT file for processing.

HLV1746T **IRXEXCOM *action* REQUEST FOR *varname* FAILED WITH RC/SHVRET=*rcode/SHVRETval***

Explanation

The ADDRESS SPOOL Host Command Interface encountered an error while attempting to set, change, or drop (*action*) a variable in the S/REXX variable pool.

The Host Command being processed will be failed with a severe error signal.

User response

Make additional workspace available for execution of the product REXX procedure. If the problem persists and cannot be resolved by increasing the allocated workspace, contact Software Support for assistance.

HLV1747T **ADDRESS SPOOL ENCOUNTERED ABEND CC=*ccode*, RS=*rsncode* AT *modname+offset*, PSW=*psw*, RETRY BY *addr***

Explanation

The ADDRESS SPOOL Host Command Interface encountered an ABEND while processing the current request. The ADDRESS SPOOL host command will be terminated with a failure signal.

User response

Check for other messages which may provide insight into the cause of the ABEND. Correct the Host Command, or other conditional as applicable. If unresolved, contact Software Support for assistance.

HLV1748T **ABEND CC=*ccode*, RS=*rsncode* AT *modname+offset*, PSW=*psw*, ACCESSING dsect STRCT AT *addr*, RETRY BY *addr***

Explanation

The ADDRESS SPOOL JOBSTATUS command encountered an ABEND while processing the indicated extended status information DSECT. The command abandons further processing of the extended status information returned by the SSI service.

User response

Check for other messages which may provide insight into the cause of the ABEND. Correct the Host Command, or other condition as applicable. If unresolved, contact Software Support.

HLV1749T **SSI ABEND CC=*ccode*, RS=*rsncode* AT *modname+offset*, PSW=*psw*, RETRY BY *addr***

Explanation

An SSI service request call to the IEFSSREQ interface ABENDed. The ABEND completion code and reason are displayed in this message. The ABEND may be due to some error in parameters passed on the service request, or due to some permanent or transient operating system failure.

User response

Check for other messages which may provide insight into the cause of the ABEND. Correct the Host Command, or other condition as applicable. If unresolved, contact Software Support.

HLV1750T **DDNAME *ddname* ALLOCATED TO SYSOUT FILE *dsname***

Explanation

A SYSOUT dataset has been allocated to the indicated DDNAME. The caller may now process the SYSOUT file using the DDNAME allocation. This message is traced when the SSITRACE command option is in effect. If the DDNAME is "<SKIPPED>", no allocation has been made for the indicate SYSOUT dataset, and processing continues without an outstanding DDNAME allocation.

User response

None. The SYSOUT allocation remains until the next SAPI request is processed, or until the environment is ended.

HLV1751T **DDNAME *ddname* DEALLOCATED**

Explanation

A SYSOUT dataset has been deallocated from the DDNAME provided in the trace message. This message traced when the SSITRACE command option is in effect.

User response

None. The SYSOUT file has been deallocated and processing continues.

HLV1752T **SPOOL HCE ERROR(*rcode/rsncode*): *rsndesc***

Explanation

An error has been encountered while processing a SPOOL Host Command Environment request. This message may be traced after an error, depending on tracing options in effect while processing the command. The request is being rejected with the return code and reason code (in parentheses), having the description given.

User response

Check for other messages which may provide insight into the cause of the problem. Correct the Host Command, or other condition as applicable. If unresolved, contact Software Support for assistance.

HLV1753T **SPOOL HCE SECONDARY ERROR*rcode/rsncode*: *rsndesc***

Explanation

An error has been encountered while processing a SPOOL Host Command Environment request. A previous error has already been logged and this error occurred during Host Command Environment cleanup. This message may be traced after an error, depending on tracing options in effect while processing the command. The request is being rejected with the original return and reason codes. This message describes the secondary error.

User response

Check for other messages which may provide insight into the cause of the problem. Correct the Host Command, or other condition as applicable. If unresolved, contact Software Support for assistance.

HLV1754T **SPOOL CLEANUP ABEND CC=*ccode*, RS=*rsncode* AT *modname*+*offset*, PSW=*psw*, *action*, RETRY RTNE AT *addr***

Explanation

An ADDRESS SPOOL environment cleanup routine encountered an ABEND during resource recovery processing. Processing to recovery resources continues. One or more resources may not be recovered correctly.

User response

Check for other messages which may provide insight into the cause of the ABEND. Correct the Host Command, or other condition as applicable. If unresolved, contact Software Support.

HLV1755T **SPOOL HCE MSG*rcode/rsncode*: *rsndesc***

Explanation

An informational message traced while processing a SPOOL Host Command Environment request. This message may be traced after an error, depending on tracing options in effect while processing the command.

User response

None. Processing continues.

HLV1840E ***errdesc***

Explanation

A syntax error (*errdesc*) has been detected while analyzing the EXECIO command.

User response

Correct the EXECIO command syntax errors, and attempt to execute the REXX program again.

HLV1841E ***errdesc*, RC=*rcode***

Explanation

Some type of service routine (operating system or product specific) failed. The error message identifies the type of error .

User response

Check the full text of the error message, and attempt to correct the error.

HLV1842E ***errdesc1 ddname errdesc2***

Explanation

The ddname specified on the EXECIO command is not allocated to the current job.

The error description has two parts, *errdesc1* and *errdesc2*.

User response

Allocate the appropriate data set to the ddname, or change the ddname. Then, rerun the REXX program.

HLV1843E ***ddname io* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

Some type of error occurred during invocation of a product I/O routine (*io*) associated with the EXECIO command.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the

problem cannot be resolved, contact Software Support.

HLV2020S ***dsname* FAILURE RC=*rcode***

Explanation

An attempt to obtain or release storage on behalf of a product subsystem data set (*dsname*) failed.

User response

Ensure that the address space requesting product subsystem data set services has a large enough region.

HLV2021S ***desc* CANNOT USE SUBSYS FILE ALLOCATIONS**

Explanation

The product has detected that a system address space (e.g. *main*) or a TSO user has requested that a product subsystem data set be opened. This is not allowed.

desc describes, for example, system tasks

User response

The subsystem data set interface may only be used by normal (non-system) started tasks and batch jobs.

HLV2022S **UNKNOWN SUBSYS OPEN ENVIRONMENT ASID *asid***

Explanation

The product received an OPEN request for a subsystem data set and is unable to determine what environment the requesting address space (*asid*) is running in.

User response

The subsystem data set interface may only be used by TSO server started tasks.

HLV2023S **No server block found for USERID=*jobname***

Explanation

The product received an OPEN request for a subsystem data set and found that the request was not from a TSO server address space initiated as an outboard server by the product.

User response

This is most likely an internal problem. Contact Software Support for further assistance.

HLV2026S **Invalid subsystem file count *count* found for server *jobname***

Explanation

The product has detected an internal error during close processing for a subsystem data set. The count of open subsystem data sets for this address space has gone negative.

User response

Gather the available problem data, and contact your local product systems programming group for support in this area.

HLV2027S **SUBSYS *req cblk* VALIDATION ERROR - ADDRESS *addr***

Explanation

The product has detected an error validating system control blocks while processing an OPEN request (*req*) for a product subsystem data set control block.

User response

Gather the available problem data, and contact your local product systems programming group for assistance.

HLV2030S **ABEND *abcode* IN USER EXIT *modname+offset***

Explanation

An abend occurred in the authorization checking routine.

User response

Contact the person at your installation who installs and maintains the product security exit routine.

HLV2031W **TSO SERVER (*procedure*) - SYSTSIN BLKSIZE = *blksize*, USE *maxblksize***

Explanation

The BLKSIZE specified on the SYSTSIN DD card in the TSO server started task JCL is one of the factors that limits the length of commands that can be sent to servers.

User response

It is recommended that you modify the BLKSIZE on the SYSTSIN DD card in the specified *procedure* to the BLKSIZE specified.

HLV2032T **SUBSYSTEM DATA *req* (*reqcode*) PROCESSED FOR DDNAME *ddname* - RC=*rcode***

Explanation

The product's subsystem data set SSI intercept routine has processed a request. This message traces the interception request.

User response

None. This is a diagnostic message.

HLV2040T **SRP RABND: SRVR NOT RESPONDING - ASID=*asid* ASCB=*ascb* TCB=*tcb***

Explanation

A request for service has been made to server subtask either inside or outside the main product address space. The requesting task has attempted to revoke the request due to timeout or shutdown, but the server has not acknowledged. The request for service has been forcibly revoked.

User response

Depending on the nature of the request, either the requesting task or the server task TCB will be cancelled.

HLV2041T **SRP SFREE: RQSTR CANNOT BE POSTED - CODE=*pcode* - ASID=*asid* TCB=*tcb* CNID=*cnid* TOKEN=*token* SMAF=*addr***

Explanation

A request for service has been made to a server subtask either inside or outside the main product address space. The server task is unable to post the requestor task because the task has ended.

User response

The server task continues without posting the requestor.

HLV2042T **SRP RBIND: RC=*rcode* CMTC=*addr* BEFORE=*word1* AFTER=*word2* TB=*tb***

Explanation

This is a diagnostic message issued by the service requestor/provider interface.

word1 and *word2* represent control words before and after image, respectively

tb represents a trace back point

User response

None. This message is for diagnostic use only.

HLV2043T **SRP RWAIT *process*: CMTC=*addr* BEFORE=*word***

Explanation

This is a diagnostic message issued by the service requestor/provider interface.

word represents a control word before image

User response

None. This message is for diagnostic use only.

HLV2044T **SRP RWAIT: RC=*rcode* CMTC=*addr* BEFORE=*word1* AFTER=*word2* TB=*tb***

Explanation

This is a diagnostic message issued by the service requestor/provider interface.

word1 and *word2* represent control words before and after image, respectively

tb represents a trace back point

User response

None. This message is for diagnostic use only.

HLV2045T **SRP RVOKE *process*: CMTC=*addr* BEFORE=*word***

Explanation

This is a diagnostic message issued by the service requestor/provider interface.

word represents a control word before image

User response

None. This message is for diagnostic use only.

HLV2046T **SRP RVOKE: RC=*rcode* CMTC=*addr* BEFORE=*word1* AFTER=*word2* TB=*tb***

Explanation

This is a diagnostic message issued by the service requestor/provider interface.

word1 and *word2* represent control words before and after image, respectively

tb represents a traceback point

User response

None. This message is for diagnostic use only.

HLV2047T **SRP RABND: RC=*rcode* CMTC=*addr* BEFORE=*word1* AFTER=*word2* TB=*tb***

Explanation

This is a diagnostic message issued by the service requestor/provider interface.

word1 and *word2* represent control words before and after image, respectively

tb represents a traceback point

User response

None. This message is for diagnostic use only.

HLV2048T **SRP SBIND: RC=*rcode* SERVER=*svraddr* RQSTR=*reaaddr* TB=*tb***

Explanation

This is a diagnostic message issued by the service requestor/provider interface.

tb represents a traceback point

User response

None. This message is for diagnostic use only.

HLV2049T **SRP SFREE: RC=*rcode* SERVER=*svraddr* RQSTR=*reqaddr* TB=*tb***

Explanation

This is a diagnostic message issued by the service requestor/provider interface.

tb represents a traceback point

User response

None. This message is for diagnostic use only.

HLV2050T **SRP SPOST: RC=*rcode* CODE=*pcode* SERVER=*svraddr* RQSTR=*reqaddr* TB=*tb***

Explanation

This is a diagnostic message issued by the service requestor/provider interface.

tb represents a trace back point

User response

None. This message is for diagnostic use only.

HLV2082S ***ss* PRODUCT FAILURE DETECTED**

Explanation

While processing this request, product main command processing function detected an abnormal shutdown of the product.

User response

Check the abend, what caused it, and how to best restart the product. Resolve the current problem and continue.

HLV2083W ***ss* OUTBOARD TSO SERVER *jobname*,ASID=*asid* FAILED**

Explanation

The product End-Of-Memory (EOM) processing detected the unexpected termination of an outboard TSO server address space. The server should be restarted automatically by the product, providing that the server control limits have not been modified.

User response

You may want to determine why the server failed.

HLV2084E ***service operand* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

A CALLRTM invocation within the product End-Of-Memory (EOM) failed. The EOM routine was attempting to cancel an outboard TSO server.

User response

Check the service and return codes, and attempt to resolve the problem. If the problem cannot be resolved, contact Software Support.

HLV2101S ***userID init* FAILED - *macro* RC=*rcode***

Explanation

The product security function processing routine GETMAIN for some private storage failed. This storage is required for the processing of security control blocks.

init represents the initialization type

User response

Review the above storage GETMAIN error. Determine why storage is unavailable. Check for any exit that limits usage of below-the-line private storage. Resolve the above problems, and restart.

HLV2102E ***reqtype* REQUEST FOR *userID* FAILED - *failrsn***

Explanation

The product security function routine (*reqtype*) received a non-zero return code for the listed user ID.

User response

Check the security error for the user ID. Correct the access problem, or contact your security administrator for further assistance.

HLV2103S ***userID rcode* FAILED - RACF CODES *rsncode text***

Explanation

The product received an unknown return code from RACF.

User response

Check the related RACF errors, and validate the return code in the RACF Messages and Codes Manual. Contact your local systems programming group for assistance.

HLV2104E ***userID init* FAILED - *failrsn***

Explanation

During LOGON command security checking, the product security function routine received a non-zero return code from the security package for the current userid.

init represents the initialization type

User response

Check the security error for the userid. Correct the access problem, or contact your security administrator for further assistance.

HLV2106H ***userID init* FOR *conID* AT *t2* ON *d2***

Explanation

Product security function routine issued this informational message for the TSO address spaces.

init represents the initialization type

User response

None. This message is for informational purposes only.

HLV2107H **LOGON FAILED FOR *userID*. *rcode1 rcode2 rsncode - errtext*.**

Explanation

Product received a non-zero return code from a LOGON request for an internal task.

The message has two return codes; *rcode1* represents the security module return code, and *rcode2* represents the RACF (SAF) return code

User response

Check the security error for the userid. Correct the access problem, or contact your security administrator for further assistance.

HLV2108E ***errmsg1 errmsg2* FAILED - RC=*rcode***

Explanation

The product failed to extract the security product user ID.

User response

Validate the current system situation. Ensure that the security package initialization is complete before the product is started.

HLV2120I **MEMBER *member - additinfo***

Explanation

The product copy utility has started copying members between PDSs.

User response

None. This message is for informational purposes only.

HLV2121S ***io*** **FAILED, RC=*rcode*, MEMBER=*member*, DDNAME=*ddname*, DSNAME=*dsname***

Explanation

The product copy utility was copying members from one PDS to another, and the copy failed.

io represents the current I/O operation

User response

Check the return codes and related MVS error messages. Ensure that the data sets have enough space. Take action as recommended for the return codes.

HLV2122I **MEMBER *member* RECORD *recno* LENGTH *lgth* IS INVALID**

Explanation

The product VB to FB conversion program found a record with an invalid length.

User response

Fix the invalid record, and rerun the VB to FB conversion program.

HLV2200E ***service desc*** **FAILED RC=*rcode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe a wide variety of errors. The message text gives a description of the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. If the problem cannot be resolved, contact Software Support.

HLV2300E **NLS SERVICE ROUTINE (OPTRTB) ABEND *abcode*, RS=*rsncode* AT *modname+offset***

Explanation

The NLS service routine detected an abend while processing a request.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support for assistance.

HLV2301I **NLS INVOKED WITH INVALID FUNCTION CODE *funcode***

Explanation

The NLS service routine was invoked with an invalid function code (in hex).

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support for assistance.

HLV2302I **NO VALID MAPPING FOR *src* CODEPOINT *srccp* TO *output* - SUBSTITUTING *subcp***

Explanation

The NLS service routine was invoked for conversion of a DBCS character stream to/from ASCII/EBCDIC. No valid DBCS codepoint is defined for the input DBCS code point.

src represents the source encoding, however *srccp* represents the source codepoint (in hex)

subcp represents the substitution codepoint

User response

The DBCS codepoint is converted to a standard substitution character and the operation continues. Ensure that the character stream passed to the conversion routine contains only DBCS characters that have defined translation codepoint assignments. You may need to define an ASCII/EBCDIC codepoint entry during start-up for GAIJI codepoints or for codepoints not built in to the system.

HLV2303I **UNEVEN BYTES IN PURE DBCS STRING - *byte* FOUND IN TRAILING POSITION - DISCARDED**

Explanation

The NLS service routine was invoked for conversion of EBCDIC pure DBCS data. An uneven number of bytes were present in the input stream.

User response

Handling of the current DBCS conversion is completed by skipping the trailing, unmatched single byte.

HLV2304I NO TRAILING SHIFT-IN DELIMITER BEFORE END OF DBCS STRING - ASSUME SHIFT-IN WAS PRESENT

Explanation

The NLS service routine was invoked for conversion of EBCDIC mixed SBCS/DBCS string. While processing DBCS characters, the input stream was exhausted before a shift-in character was found. DBCS sequences should always be terminated by a trailing shift-in byte.

User response

Handling of the current DBCS conversion is completed by assuming that a shift-in character was present.

HLV2305I INVALID ENCODING PARAMETER (*parmname*) DETECTED IN NLS E-TO-A ENCODING ROUTINE

Explanation

The NLS service routine was invoked for conversion of EBCDIC to ASCII. The encoding parameter is invalid.

User response

The server assumes ISO-8859-1 SBCS EBCDIC to ASCII conversion.

HLV2306I DESTRUCTIVE OVERLAP DETECTED IN SBCS E-TO-A OR A-TO-EENCODING ROUTINE

Explanation

The NLS service routine was invoked for EBCDIC to ASCII or ASCII to EBCDIC encoding of SBCS data. Overlap of the input and output areas was detected. The encoding request is aborted by deliberate generation of an S0C3 abend.

User response

This is probably a logic error. Contact Software Support.

HLV2307I NO NLS TABLE FOUND FOR ASCII/EBCDIC MAPPING CODE *tblname*

Explanation

The NLS service routine was invoked to look up an NLS EBCDIC to ASCII or ASCII TO EBCDIC translation table (*tblname*). The requested table was not found.

User response

Ensure that valid values are set for the server ASCIIEBCDICMAPPING and CHARACTERENCODING parameters. Check for other messages which indicate whether a non-default setting was selected during processing of the current transaction. Also, check the ISPF 5.19 display for a list of coded character sets that are defined to the system. The server will continue the operation using the built-in ENU ASCIIEBCDICMAPPING table for SBCS operations and will set the CHARACTERENCODING to ISO-8859-1.

HLV2308I NO BUILT-IN NLS TABLE FOUND FOR *scheme* (*tblname*)

Explanation

The NLS service routine was invoked to encode or decode data which contains a multi-byte character set algorithm. A built-in NLS character set conversion table was not present.

scheme represents the character encoding scheme

User response

The encode/decode operation is aborted by deliberate generation of an S0C3 abend. Check for reasons why the built-in table described in the message is undefined to the system.

HLV2309I UNPAIRED *scheme* DBCS LEAD-BYTE *byte* SKIPPED BY DECODER

Explanation

The NLS service routine was invoked to decode data which contains a multi-byte character set algorithm. A single byte was found which should be the first byte of a two-byte DBCS character sequence; however, no more input bytes were present.

scheme represents the character encoding scheme

User response

The decode routine skips the invalid DBCS lead-byte and omits it from the EBCDIC result.

HLV2310I **UNSUPPORTED ESCAPE SEQUENCE *seq* FOR *meth***

Explanation

The NLS service routine was invoked to decode data which contains multi-byte character sets including escape sequences. The escape sequence (*seq*) reported in the message is not supported by the server.

meth represents the character encoding method

User response

The decode routine copies the escape sequence and converts it to SBCS EBCDIC.

HLV2311I **UTF-8 *ind* NOT SUPPORTED FOR NLS *page* - ASSUMING HOST CODE PAGE IS "ENU"**

Explanation

The NLS service routine was invoked to decode or encode a UTF-8 data stream. The server does not support UTF-8 data streams for the selected EBCDIC host code page (*page*).

ind indicates either "decoding" or "encoding"

User response

The routine assumes the EBCDIC host code page is set to ENU (IBM-1047). This may lead to incorrect results when the input or output stream has been processed.

HLV2312I **BYTE *byte* IS AN INVALID UTF-8 BYTE - SKIPPING TO NEXT BYTE OF STREAM**

Explanation

The NLS service routine was invoked to decode a UTF-8 data stream. An invalid lead-byte value has been found in the UTF-8 stream (x80-xBF, or xF8-xFF). The decoder will skip over the offending byte and ATTEMPT to re-orient at the next input byte position.

User response

The decode operation continues at the next input stream position. This may lead to additional errors or incorrect decoding of the stream.

HLV2320T **DBCS conversion bypassed for parameter *parmno*: *rsn***

Explanation

The DBCS Dynamic Conversion Service bypassed conversion of the specified parameter to graphic for the reason listed. The operation will be passed on to Db2 which will most likely issue an SQLCODE = -301 error.

User response

This is a programming error in the client application.

HLV2401E ***db2ID conntype func* ERROR, RC=*rcode* REASON=*rsncode***

Explanation

Db2 Streams Collector received an unexpected failure return code from a CAF or RRSAF function

User response

Refer to the Db2 Messages and Codes for further details on the error. Message 2402 may be issued as well.

HLV2402E ***db2ID* : *msgtext***

Explanation

Db2 Streams Collector received an unexpected failure return code from a CAF or RRSAF function

User response

Refer to the Db2 Messages and codes for further details on the messages.

HLV2403E ***conntype* module mismatch for DB2 subsystem *db2ID***

Explanation

Db2 Streams Collector received a return code 4 and reason code 00C10823 attempting to create a CAF or RRSAF connection to the specified Db2.

User response

Change the STEPLIB used by the product to point to the highest level version of Db2

HLV2404E **User ID *userID* does not have authority to access DB2 *db2ID***

Explanation

Db2 Streams Collector received a return code 8 and reason code 00F30013 attempting to create a CAF or RRSAF connection to the specified Db2.

User response

Correct the DEFINE PUBLISH statement to specify a userid authorized to access the particular Db2.

HLV2405E **DB2 system *db2ID* not defined**

Explanation

Db2 Streams Collector received a return code 8 and reason code 00F30006 attempting to create a CAF or RRSAF connection to the specified Db2.

User response

Correct the DEFINE PUBLISH statement

HLV2406T ***db2ID conntype* ISSUED, RC=*rcode* REASON=*rsncode***

Explanation

Trace Streams Db2 CAF and RRSAF return codes

User response

None

HLV2407T **PUBLISH SOURCE *db2ID* USERID *userID* LOGON FAILED *rcode1 rcode2 rsncode***

Explanation

The PUBLISH USERID specified could not be logged on. This message should be followed by another message with the SAF error message.

The message has two return codes; *rcode1* represents the security module return code, and *rcode2* represents the RACF (SAF) return code.

User response

The Streams routine is aborted. Ensure that the userid specified is correct.

HLV2408E **Streams plan *plan* not defined TO *db2ID***

Explanation

Return code 8 Reason code 00F30040 received attempting to open the specified plan.

User response

The Streams source task is aborted. Ensure that the specified plan is bound.

HLV2409I ***srctype %2* Streams source task now starting**

Explanation

The DEFINE PUBLISH TYPE(DB2) task is starting.

User response

This message is for informational purposes only.

HLV2410I **Streams destination task for *destination* starting**

Explanation

DEFINE PUBLISH DESTINATION task starting

User response

None

HLV2411W **PUBLISH - *service* OF *desc* FAILED, RC=*rcode***

Explanation

The product tried to initialize or a Publish task during product initialization or termination. An internal service routine called during Publish task initialization or termination exited with a non-zero return code.

User response

Check the error messages and the return code associated with this problem. There may be one or more additional error messages or abends referring to the current Publish task initialization or termination problem. Also, check for storage allocation errors or abends. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support to obtain additional assistance.

HLV2412I **Streams *tasktype* task for *destination* terminating**

Explanation

DEFINE PUBLISH task terminating

User response

None

HLV2413T ***data1 data2 data3 data4 data5 data6 data7 data8 data9 %SK***

Explanation

This message emits information related to the Trace Streams Db2 routines.

User response

None

HLV2414W **UNABLE TO FIND DATASET NAME FOR DDNAME *ddname***

Explanation

Streams destination is unable to access the Dataset name for the listed DD name, which contains XML formatting information.

User response

None

HLV2415E **CANNOT SERIALIZE ON *db2ID* QUALIFIER *qualifier***

Explanation

It appears that another copy of the product is using the same Event Publisher Db2 tables that this copy of the product is attempting to use.

User response

No action is required.

HLV2416S **Streams support not configured - it cannot be initialized**

Explanation

None.

User response

Contact IBM Software Support.

HLV2417E **Invalid return from Streams rule *rulename rval***

Explanation

An SEF rule (*rulename*) for a Streams event provided a syntactically invalid return value (*rval*). The event was not Published.

User response

Correct the SEF rule and retry.

HLV2418T **PUBLISH ITEM *keyfield* FOR SOURCE *srcID* - *errtext* - STATUS=*scode* RC=*rcode* REASON=*rsncode* DIAG=*diaginfo*- FAILED**

Explanation

Error attempting to Publish an update for the particular item.

User response

Attempt to correct the error

HLV2419T **PUBLISH DESTINATION *dest* FAILURE *errtext* - STATUS=*scode* RC=*rcode* REASON=*rsncode* DIAG=*diaginfo* - WILL RETRY**

Explanation

Error attempting to Publish an update for the particular item.

User response

Attempt to correct the error

HLV2420E **DB2 *db2ID* CONTENTION ON *table* CODE -*sqlcode* - WILL RETRY LATER**

Explanation

Timeout detected trying to access one of the Streams tables.

User response

None - the Streams will retry the request

HLV2421E **DUPLICATE PUBLISH OF *pkgdest* (HTX) TO *destination* IGNORED**

Explanation

An Streams rule tried to ship the same update more than once to a particular destination (*pkgdest*). Only the first instance was published.

User response

Correct the SEF rule.

HLV2422E **MACHINE *machID* (*index*) IS USING UNKNOWN PROTOCOL *protocol***

Explanation

A saved ODBC generated destination is requesting an unsupported protocol. The destination is ignored.

User response

Contact Software Support.

HLV2423E **MACHINE *machID* (*index*) DOES NOT HAVE A SAVED URL**

Explanation

A saved ODBC generated TCPIP destination does not have a saved URL.

User response

Have the client process reissue the ENABLETRANSMISSIONS ODBC call. If the problem cannot be resolved, contact Software Support.

HLV2424E **MACHINE *machID* (*index*) INVALID URL *errcode* - detailed**

Explanation

A saved ODBC generated TCPIP destination have an invalid saved URL.

User response

Have the client process reissue the ENABLETRANSMISSIONS ODBC call. If problem persists contact Software Support.

HLV2425E **WORKTABLE UPDATE FOR *keyfield destination* FAILED - ROW NO LONGER EXISTS**

Explanation

A deferred status for the publication of a particular item could not be reflected into the worktable because the row describing the item no longer exists.

User response

Ignore if the row was deleted while the status was outstanding. If problem persists contact Software Support to obtain additional assistance.

HLV2426E **MACHINE *machID* (*index*) DOES NOT HAVE A SAVED MQ NAME**

Explanation

A saved ODBC generated MQSeries destination does not have a saved target MQ name.

User response

Have the client process reissue the ENABLETRANSMISSIONS ODBC call. If problem persists contact Software Support to obtain additional assistance.

HLV2427E **Task *task* not started - not licensed for feature.**

Explanation

None.

User response

Contact IBM Software Support.

HLV2428E ***task* SOURCE TASK PARAMETER MQREPLYQNAME *mqreplyqname* IGNORED - NOT LICENSED FOR USE**

Explanation

None.

User response

Contact IBM Software Support.

HLV2429E **NON-REPORT MQ MESSAGE RECEIVED ON *mqreplyqname* (*start*) - IGNORED**

Explanation

An MQSeries message other than a status report was received on the MQREPLYQNAME.

start represents the start of the text

User response

Ensure that the MQREPLYQNAME MQSeries Q is not used for anything other than Streams as an MQREPLYQNAME.

HLV2430E ***source* MQSERIES MQ FAILURE ON *mqreplyqname* RC=*rcode* REASON=*rsncode* - *errdesc***

Explanation

An unexpected MQSeries failure occurred when attempting to record report messages to the WorkFile.

User response

Ensure that the MQREPLYQNAME was properly defined in the MQSeries catalog.

HLV2431I ***jobname*** **Streams** ***exit*** **exit enabled**

Explanation

The Streams CICS Global User Exit has been enabled during CICS PLTPI phase three initialization.

User response

None. This message is for informational purposes only.

HLV2432E **UNRECOGNIZED MQ REPORT MESSAGE RECEIVED ON** ***mqreplyqname*** **(*corrID*)**

Explanation

An MQSeries report message had an unrecognized correlation ID value (*corrID*).

User response

Ensure that the MQREPLYQNAME MQSeries Q is not used for anything other than Streams as an MQREPLYQNAME.

HLV2433E **EVENT DEFINITION BUILD FAILED FOR** ***source event datamap***

Explanation

Streams source task initialization failed while attempting to build an event definition from the a data map.

User response

Ensure that the data map used in the event definition is correct and matches the layout of the data to be captured. in the case of an IMS/DB map, make sure that a COBOL map that defines the data fields has been successfully merged.

HLV2434W ***tskname tsktype*** **DB2 EVENT TABLE ROWNUM** ***percent*** **FULL**

Explanation

The specified publish task EVENT table, DTRIGGERTABLE, column name ROWNUM has a value that is nearing the end of its available range. It must be reset before it runs out of available numbers in its range. The range is 1 to 2147483647. The percent specified in the message shows how much of that range has been used.

User response

Quiesce the source task or stop the product and DROP and CREATE the proper TRIGGERTABLE.

HLV2436S ***jobname*** **error inquiring CICS system information for Streams - EIBRESP:** ***respcode***

Explanation

The Streams PLTPI program encountered an error inquiring CICS system information.

User response

Probable CICS error. Check the system log for errors.

HLV2437S ***jobname*** **error enabling Streams exit program** ***program*** **for exit** ***exit*** **- EIBRESP:** ***respcode***

Explanation

The Streams PLTPI program encountered an error enabling a Streams exit program.

User response

Check that the exit program has been correctly defined to CICS.

HLV2438S ***jobname*** **error extracting GWA address for Streams program** ***program*** **- EIBRESP:** ***respcode***

Explanation

The Streams PLTPI program encountered an error extracting the Global Work Area address for the exit program.

User response

Probable CICS error. Check the system log for errors.

HLV2439I **VSAM capture not enabled, already being processed by subsystem** ***subsys***

Explanation

VSAM capture is already being processed by another product subsystem. Only one product subsystem is allowed to capture VSAM events.

User response

Informational.

HLV2440I **VSAM event capture enabled**

Explanation

VSAM event capture has been enabled by this product subsystem.

User response

Informational.

HLV2441E **Error in enabling VSAM event capture, RC=*rcode***

Explanation

An error was encountered while enabling VSAM event capture.

User response

Contact Software Support.

HLV2443T **VSAM caller is in key callers and only key 8 callers are supported, VSAM capture terminated.**

Explanation

Only key 8 programs are supported for VSAM capture.

User response

Contact Software Support.

HLV2444E **VSAM capture prefix not set, VSAM capture not enabled**

Explanation

A capture prefix (PUBLISHVSAMPREFIX) must be specified to capture VSAM events.

User response

Contact Software Support.

HLV2445S ***jobname* error *operation* Streams exit program *program* - EIBRESP: *respcode***

Explanation

The Streams PLT program encountered an error starting or stopping the user exit program.

operation indicates "STARTING" or "STOPPING"

User response

Check that the exit program has been correctly defined to CICS.

HLV2446I ***jobname* enabling Streams exit program *program* for exit *exit***

Explanation

The Streams PLTPI program is about to enable the exit program.

User response

None. This message is for informational purposes only.

HLV2447I ***jobname operation* Streams exit program *program***

Explanation

The Streams PLT program is about to start or stop the exit program.

operation indicates "STARTING" or "STOPPING"

User response

None. This message is for informational purposes only.

HLV2448I ***jobname* Streams exit program *program operation***

Explanation

The Streams global user exit program has been started or stopped.

operation indicates "STARTED" or "STOPPED"

User response

None. This message is for informational purposes only.

HLV2449I **Unable to create capture file *file*, RC = *rcode1*, REC = *rsncode*, SSIRC = *rcode2***

Explanation

An error occurred trying to create the VSAM capture file.

The message contains two return codes; *rcode1* represents the catalog management return code, and *rcode2* represents the SMS SSI call return code.

User response

Return and reason codes can be found in msg IDC3009I

HLV2450I **Unable to allocate capture file *file*, RC = *rcode*, REC = *rsncode***

Explanation

An error occurred trying to allocate the VSAM capture file.

User response

return and reason codes can found in "Authorized Assembler Services Guide"

HLV2451I **Unable to open capture file *file*, RC = *rcode***

Explanation

An error occurred trying to open the VSAM capture file.

User response

return code documented in "Macro Instr for Data Sets"

HLV2452I **Capture file *file* is not SMS managed, but SMS is required for the capture file**

Explanation

The capture file is non-sms, but SMS management is required for the capture file.

User response

Alter SMS ACS rules as required to SMS manage the data set.

HLV2453S **Streams work file not allocated - Streams source task terminated**

Explanation

The Streams global user exit is about to write an event record to the event file.

User response

Check that the file has been correctly allocated and defined to CICS.

The variable fields of the message text are: Streams CICS Source name

HLV2454E ***tskname tsktype* TASK NOT STARTED - MQSERIES NOT ACTIVE**

Explanation

The specified publish task could not be started because MQSeries is not active.

User response

Ensure that MQSeries is active on the system and that the Streams initialization exec sets the MQACTIVE parameter to YES.

HLV2455E ***tskname tsktype filetype* FILE, NAME *filename* VERSION MISMATCH, EXPECTED *verno1*, FOUND *verno2***

Explanation

The specified publish task could not be started because the file contained data with a version number that is not supported by this release.

The message contains two version numbers, *verno1* and *verno2*, which represent the expected version number and found version number respectively

User response

Ensure that the proper EVENT or WORK or Db2 file is used with Streams. Most likely, a different version was used to create the indicated file.

HLV2456W ***tskname tsktype* WORK FILE, DDNAME *ddname percent* FULL**

Explanation

The specified publish task WORK file has records that use the specified percent of available space. It is possible that remaining space is lower than indicated by this message.

User response

Ensure that the WORK file has sufficient free space to continue normal operation.

HLV2457E ***tskname tsktype* WORK FILE, DSNAME *dsname* COMPLETELY FULL**

Explanation

The specified publish task WORK file has been completely filled up with records, and VSAM has refused to write additional records. The Publish Source task has stopped.

User response

Make more space available to the WORK file. If additional extents may be allocated to the WORK file, make more space available on the volume(s) the WORK file is on.

HLV2458E **SOURCE NAME *tskname* NOT ACTIVE OR NOT FOUND**

Explanation

No active publish source task with the specified name has been found. The requested action was not completed.

User response

Enter an active source task name in the request.

HLV2459E **UNICODE CONVERSION for *tblname* FROM *source* TO *target* NOT SUPPORTED**

Explanation

Unicode conversion services on this system are not configured to support the data conversion required by a Streams definition.

User response

Reconfigure z/OS Unicode conversions services to support codepage conversions between the listed CCSIDs (*source* and *target*).

HLV2460E **THE ZEVRAW SPECIFICATION ON EVENT DEFINITION *src def* REQUIRES THE RAW DATA OPTION**

Explanation

The event definition requested ZEVRAW formatting. This require that either the raw data option be selected, or a rule is specified on the source (*src*) or event definition (*def*).

User response

Edit the source or the event definition to specify a rule for event routing, or select the raw data option on the event definition.

HLV2461S **Error loading Streams program - program**

Explanation

The Streams PLT program encountered an error trying to load the named program.

User response

Check that the program has been correctly defined to CICS. Sample CICS definitions are distributed in the CNTL library CICSCSD member.

The variable fields of the message text are: program name

HLV2462E **EVENT DATA TOO LONG FOR *source event datamap***

Explanation

Streams source task initialization failed while attempting to build an event definition (*event*) from the a data map.

User response

Ensure that the data map used in the event definition is correct and matches the layout of the data to be captured. in the case of an IMS/DB map, make sure that a COBOL map that defines the data fields has been successfully merged.

HLV2463E **DATA CAPTURE CHANGES NOT DEFINED FOR *event tblqual tblname***

Explanation

Streams source task initialization failed while attempting to build an event definition (*event*) for a Db2 table.

User response

Ensure that the table referred by the event definition has the DATACAPTURE attribute on.

HLV2464E **MONITOR2 and TRACE Authority are required for user ID *userID*.**

Explanation

Streams Db2 IFI source task user ID requires Db2 SYSOPR authority to issue a START MONITOR TRACE command.

User response

Ensure that the user ID specified in the Db2 IFI source definition has been granted SYSOPR authority.

HLV2465I **Streams native VSAM capture not enabled**

Explanation

VSAM event capture has not been enabled by this product subsystem.

User response

Informational.

HLV2466W ***tskname tsktype* WORK FILE, DDNAME *ddname* EXTENDED, NOW *percent* FULL**

Explanation

The specified publish task WORK file has records that use the specified percent of available space. The percent used has decreased, indicating that the dataset has been extended.

User response

Ensure that the volume containing the WORK file has sufficient free space to allow any additional extension of the WORK file needed to continue normal operation.

HLV2467E **MORE THAN ONE EVENT TABLE CANNOT BE ACTIVE FOR SOURCE *tskname*. ALL ACTIVE EVENT TABLES FOLLOW.**

Explanation

A Streams source task has more than one Event Table marked active. Only one Event Table may be marked active at any time. A list of active Event Tables follows.

User response

Ensure that only one Event Table is marked active.

HLV2468E **Streams source *tskname*, event table *table* in map *map* marked active.**

Explanation

The specified publish source task has this Event Table marked active. Only one Event Table may be marked active at any one time.

User response

Ensure that only one Event Table is marked active.

HLV2469E **Streams source *tskname*, event table *table* in map *map*, cannot find map *map*.**

Explanation

The specified Event Table for this source references a map that cannot be found, or is not active, or not enabled for event publishing.

User response

Ensure that the Event Table references active maps, and that each is enabled for event publishing.

HLV2470S **Streams IMS source task *srcname* not activated - RRS not enabled**

Explanation

The Streams global IMS source task (*srcname*) could not be activated because RRS was not enabled for this Streams server.

User response

Change the server initialization parameters to specify RRS(YES) and restart the server.

HLV2471S **Streams IMS source task *srcname* not activated - EVENTQ not defined**

Explanation

The Streams IMS source task (*srcname*) could not be activated because the required MQSeries event repository was not correctly defined.

User response

Correct the DEFINE SEM_ENDPOINT specification for ZEV.EVENTQ in the server initialization parameters and restart the server.

HLV2472I ***routine* Capture *successful/failed rcode rsncode***

Explanation

Generic debugging message issued by Streams capture processes (*routine*). The presence of the SDPHDBUG load module in the capture process load library will cause these debug messages to be issued. To create SDPHDBUG, edit member ZEVDBUG from the product sample library to set desired debug trace options and assemble and link as SDPHDBUG.

User response

Remove member SDPHDBUG to prevent these messages.

HLV2473I ***routine text1 text2 text3 text4***

Explanation

This message tracks the generic debugging message issued by Streams capture process (*routine*) initialization. The presence of the SDPHDBUG load module in the capture process load library will cause these debug messages to be issued. To create SDPHDBUG, edit member ZEVDBUG from the product sample library to set desired debug trace options and assemble and link as SDPHDBUG.

User response

Remove member SDPHDBUG to prevent these messages.

HLV2474I ***routine text1 text2 text3 text4***

Explanation

This message tracks the generic debugging message issued by Streams event capture (*routine*). The presence of the SDPHDBUG load module in the capture process load library will cause these debug messages to be issued. To create SDPHDBUG, edit member ZEVDBUG from the product sample library to set desired debug trace options and assemble and link as SDPHDBUG.

User response

Remove member SDPHDBUG to prevent these messages.

HLV2475I ***routine*** **Blocksize:*maxsize*** **Blocklen:*length*** **Blockid:*blkID***

Explanation

Logstream debugging message issued by Streams event capture (*routine*). The presence of the SDPHDBUG load module in the capture process load library will cause these debug messages to be issued. To create SDPHDBUG, edit member ZEVDBUG from the product sample library to set desired debug trace options and assemble and link as SDPHDBUG.

User response

Remove member SDPHDBUG to prevent these messages.

HLV2476I ***routine*** **Streamtoken:** ***token***

Explanation

Logstream debugging message issued by Streams event capture (*routine*). The presence of the SDPHDBUG load module in the capture process load library will cause these debug messages to be issued. To create SDPHDBUG, edit member ZEVDBUG from the product sample library to set desired debug trace options and assemble and link as SDPHDBUG.

User response

Remove member SDPHDBUG to prevent these messages.

HLV2477I ***routine text1 text2 text3 text4***

Explanation

This message tracks the generic debugging message issued by Streams event capture (*routine*). The presence of the SDPHDBUG load module in the capture process load library will cause these debug messages to be issued. To create SDPHDBUG, edit member ZEVDBUG from the product sample library to set desired debug trace options and assemble and link as SDPHDBUG.

User response

Remove member SDPHDBUG to prevent these messages.

HLV2478E ***tskname tsktype*** **TASK NOT STARTED - STRNO** ***val*** **TOO SMALL**

Explanation

The specified publish task could not be started because there were not enough VSAM strings allocated at startup.

User response

Ensure that the PUBLISHSTRNO value is one larger than the number of Streams SOURCE tasks.

HLV2479S ***jobname*** **ERROR OBTAINING CONTAINER DATA FOR** ***container*** **- EIBRESP:** ***respcode***

Explanation

The Streams CICS event processing adapter encountered an error getting data from a channel container.

User response

Probable CICS error. Check the system log for errors.

HLV2480I **Streams server version *ver1* does not match DB2 function version *ver2***

Explanation

The Streams server that has been configured to publish Db2 events does not match the version of the Streams Db2 wake_publish function.

User response

Check that the correct version of the wake publish function load module (SDD2PCRU) is in the Db2 RUNLIB, and check that the Streams server is at the same level.

HLV2481I ***jobname* Streams version *ver SFVXno date time***

Explanation

Streams CICS load library maintenance level information.

User response

None.

HLV2482T **RENDEZVOUS CALL FAILED - RC=*rcode1* REAS=*rsncode* - ENCLAVE RC=*rcode2* FEEDBACK=(*fbcodes*)**

Explanation

An attempt to send a message to a Tibco Rendezvous destination failed.

The message contains two return codes; *rcode1* represents the rendezvous interface return code, and *rcode2* represents the LE/370 enclave manager return code

User response

Check for other messages indicating the cause of the failure, and resolve the problem, if possible.

HLV2483T **Streams *parmname* parameter not specified**

Explanation

The file dataset name prefix was not specified. The file cannot be allocated.

User response

Check that the parameter is correctly specified in the server initialization exec (xxxxIN00)

HLV2484T ***jobname* Streams Name/Token *operation result* for *token***

Explanation

The Streams capture process has attempted a name/token operation.

operation may indicate "CREATE", "RETRIEVE", or "DELETE"

token may indicate "SUCCEEDED" or "FAILED"

User response

None

HLV2485I **Streams DB2 FUNCTION VERSION *ver date time***

Explanation

Streams Db2 exit maintenance level information

date and *time* indicate time and date of assemble

User response

None.

HLV2486I **Streams *source* improper version *ver* found *ver***

Explanation

Streams found a record with an improper version in it.

User response

The improper record will be deleted.

HLV2487T **PUBLISH LOGON FAILED - *errmsg***

Explanation

The PUBLISH LOGON failed for the following reason.

User response

The Streams routine is aborted. Ensure that the userid specified is correct.

HLV2488R **REPLY 'GO' TO CONTINUE, OR 'CANCEL' TO TERMINATE Streams Initialization**

Explanation

This message is issued when there was a failed attempt to load the IMS data capture user exit specified with the PUBLISHIMSUEX1 parameter. Check that the correct exit program name has been specified and that the program has been copied to the Streams server load library. if more than two minutes expire while waiting for your reply or three invalid replies are made, the default action of CANCEL will be taken.

User response

Reply GO to continue Streams server initialization
Reply CANCEL to terminate Streams server initialization

HLV2489E **Invalid Streams initialization reply: *reply***

Explanation

An invalid reply was specified to the Streams initialization console message. The message causing the error will be reissued so that you can correctly reply. After three invalid replies for the same message, default action will be taken. For a description of the default action, see the explanation of the original message.

User response

Determine the proper reply from the text of the message, and reply correctly.

HLV2490E **Streams reply wait exceeded 2 minutes. Default used**

Explanation

The product waited over two minutes for a reply to the Streams initialization message. Since no response was during that time, default action was taken.

User response

None. If a reply was desired, you will need to speed your response to the message.

HLV2491E **3 Invalid Streams replies. Default taken**

Explanation

Three invalid replies were made to a Streams initialization message. Since no correct response was received, default action was taken.

User response

None. Reply as required next time.

HLV2492I **Streams not active on this server**

Explanation

An attempt was made to access the Streams control task and it was not active.

User response

If the server is intended as a Streams server, check the IN00 initialization parameters for the server.

HLV2493E **Streams TASK *task* UNABLE TO *operation* LOGSTREAM *logstream*, RC=*rcode*, RSN=*rsncode***

Explanation

A Streams task attempted an operation on an MVS logstream and it was not successful.

User response

Determine the problem from the logstream function return code and reason code, and correct the error. These codes are documented in SYS1.MACLIB(IXGCON) and in z/OS MVS Assembler Services Reference in IXGxxxx macros return codes.

HLV2494W **INVALID RECORD FOUND IN *task* LOGSTREAM *logstream*, FOUND STATUS *scode*, TO *dest*. KEY *timestamp***

Explanation

A Streams task found a record in its MVS logstream with an invalid status (*scode*) and destination (*dest*) name. The record is discarded.

User response

Check other Logstream activity to be sure data has not been corrupted with data from some other program.

HLV2495W **TASK *task* LOG *logstream* MISSING REPLY, STATUS *scode*, DEST. *dest*., KEY *timestamp***

Explanation

A Streams task received an MQSeries confirmation that did not match the next record in the task Logstream. The record is discarded.

User response

Check other MQSeries activity to be sure messages or responses have not been inadvertently discarded.

HLV2496W **TASK *task* LOG *logstream* RECORD WITH STATUS *statcode*, DEST. *dest*., KEY *timestamp*, CONFIRMATION ARRIVED, RECORD MISSING**

Explanation

A Streams task received an MQSeries confirmation that did not match the next record in the task Logstream. The confirmation is discarded.

User response

Check other Logstream activity to be sure messages have not been inadvertently discarded.

HLV2497W **Logstream operation *exp***

Explanation

A Logstream operation received a return code. This message tries to explain (*exp*) the return code and reason codes.

User response

Check other Logstream messages to determine the problem.

HLV2498T **Streams does not support Tibco Rendezvous destinations**

Explanation

Tibco Rendezvous destinations are not supported.

User response

Delete Tibco Rendezvous destinations.

HLV2499T **Streams does not support Oracle destinations**

Explanation

Oracle destinations are not supported.

User response

Delete Oracle destinations.

HLV2500T ***source* COPYWORK *time1 time2***

Explanation

Streams trace record. An Event has been copied from the trigger table to the Work file.

The message contains two time variables; *time1* represents the time of the update, *time2* represents the time the record was copied

User response

None

HLV2501T ***source* RUNRULES**

Explanation

Streams trace record. The Event processor is running SEF rules for records in the Work file.

User response

None

HLV2502T ***source* DYNDEST *keyfield machID index***

Explanation

Streams trace record. An Event is being processed for a dynamic JCA 1.5 destination. The identifiers for the JCS 1.5 Adapter requestor are traced.

User response

None

HLV2503T ***dest* SENDPLUP-RESTART**

Explanation

Streams trace record. Processing for an Event source is being restarted to a destination (*dest*).

User response

None

HLV2504T ***source* MQMARK**

Explanation

Streams trace record. MQSeries processing for an Event source is marking the current status of update records.

User response

None

HLV2505T ***source* SENDITEM *dest keyfield***

Explanation

Streams trace record. An Event is being queued for sending to a destination (*dest*).

User response

None

HLV2506T ***source* DOPRUNE *time count***

Explanation

Streams trace record. Old Publish records (counted by *count*) are being pruned from the Workfile.

User response

None

HLV2507T ***source* WAITABIT *caller sec* SECONDS**

Explanation

Streams trace record. The Streams task is waiting for more work.

caller represents the calling subroutine

User response

None

HLV2508T ***source* PREPROC *dest keyfield urID***

Explanation

Streams trace record. The Streams task is preprocessing an update for transmission to a destination.

User response

None

HLV2509T ***source* PREPROC **SKIP** *keyfield***

Explanation

This message documents the streams trace record. The Streams task preprocessor has determined that an update should NOT be sent to any destination.

User response

None. This is an informational message only.

HLV2510T ***source* POSTPROC *dest keyfield rcode urID***

Explanation

Streams trace record. The Streams task is doing postprocessing for an update.

User response

None

HLV2520T **ENABLETRANSMISSIONS *dest machine***

Explanation

Streams trace record. The Streams is enabling transmissions to a dynamic destination for the JCA 1.5 interface.

User response

None

HLV2521T **DISABLETRANSMISSIONS *dest machine***

Explanation

Streams trace record. The Streams is disabling transmissions to a dynamic destination for the JCA 1.5 interface.

User response

None

HLV2530T **ADDCOLUMN *colname colval***

Explanation

Streams trace record. The Streams JCA 1.5 Adapter interface is adding a column of Publish data.

User response

None

HLV2531T **ADDTOPIC *topic***

Explanation

Streams trace record. The Streams JCA 1.5 Adapter interface is adding a topic for MQ Broker processing.

User response

None

HLV2540T ***srctsk capture* EVENT CAPTURE *datatype operation mapname***

Explanation

Streams trace record. The Streams capture process (*capture*) has captured an event. Data associated with the event has been saved in a dataspace owned by the Streams server.

operation represents the change type

User response

None

HLV2541T ***srctsk capture* EVENT BUILD *datatype operation mapname***

Explanation

Streams trace record. The Streams capture process (*capture*) has built an event record in a dataspace owned by the Streams server.

operation represents the change type

User response

None

HLV2542T ***srctsk capture* EVENT POST *datatype operation mapname***

Explanation

Streams trace record. The Streams capture process (*capture*) has posted the source task in the Streams server.

operation represents the change type

User response

None

HLV2543T ***srctsk capture* EVENT BACKOUT *datatype operation mapname***

Explanation

Streams trace record. The Streams capture process (*capture*) has backed out the data saved for an event. The event is discarded.

operation represents the change type

User response

None

HLV2544W ***source* CATALOG SEARCH ERROR, RC=*rcode* REASON=*rsncode* ID=*modID* TYPE=*type*, ENTRY=*entry***

Explanation

Streams is searching the catalog for Archive data sets using the CSI Catalog Search Interface, and encountered an error. The entry is skipped.

source represents the source task name

User response

Examine the VSAM catalog for errors using the diagnostic information provided.

HLV2545E **Invalid Streams service request received**

Explanation

Streams main task received an invalid service request.

User response

Contact Software Support.

HLV2600T **ABEND *ccode* RS=*rsncode* OCCURRED AT *modname+offset*. FUNCTION CODE=*funcode*.**

Explanation

An ABEND occurred while processing a Security Optimization Manager request.

User response

The routine signals an error to the caller and processing continues, when possible.

HLV2606E **Security optimization processing is terminated**

Explanation

Security Optimization processing was terminated due to an internal processing error. The product continues to operate without the Security Optimizer.

User response

If you want to execute with the Security Optimizer, you must stop and restart the product.

HLV2607I **Security server ENF signal 71 not available**

Explanation

A request by Security Optimization to listen for event notification facility signal 71 (RACF user profile

changes) failed. The product continues to operate without notifications.

User response

Examine any other messages accompanying this one. If the security server you are using does not support ENF signal 71, check with the security server product vendor for more information. Otherwise, contact Software Support for assistance with this problem.

HLV2608W **SOM RACF new password exit is not installed**

Explanation

Security Optimization Management (SOM) initialization was unable to verify that the product's RACF new password exit, S_ICHPWX, is installed as part of the ICHPWX01 load module.

User response

The product continues to run. This exit detects password changes that are made during logon to applications other than the product. Users will still be able to use the old password in the product until the SOM cache entry expires. Password changes made during the product logon are recognized without this exit, and SOM signals all other product servers that this user's password has changed.

HLV2620I **Security optimizer entry for user ID *userID* was expired.**

Explanation

The request to expire the entry for a user ID in the security optimization cache was successful.

User response

None. This message is for informational purposes only.

HLV2621I **Security optimization is not active**

Explanation

A request to expire a Security Optimization entry could not be processed because Security Optimization is not active.

User response

None. This message is for informational purposes only.

HLV2622I **User ID *userID* was not located by the security optimizer.**

Explanation

A request to expire a security optimizer entry could not be processed because the user ID was not located.

User response

No action is required.

HLV2623I **Security optimizer processing abended**

Explanation

The Security Optimizer Manager ABENDed while processing the expire request.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV2700E **Error *bb-ccc ddd* Processing request. Extra Information: *eee***

Explanation

An error has occurred with the z/OS Connect interface. The following information is provided:

- *bb* is a major error number, as follows:
  - `01`: Storage error
  - `02`: Input data error
  - `03`: Input vectors error
  - `04`: Input JSON parsing error
  - `05`: Input JSON understanding error
  - `06`: Processing error
  - `09`: Miscellaneous error
- *ccc* is a minor error number
- *ddd* is an error description
- `Extra Information:` *eee* provides extra information, if available.

User response

Contact IBM Software Support.

HLV3000T ***recovery* LEVEL *lvl errdesc=abcode* REASON CODE=*rsncode* TIME=*time* SEQ=*seqno* CPU=*cpuID* ASID=*asid***

Explanation

The product detected an abend error. The current message provides some information about the abend. This message, along with other messages, should provide a detailed description of the current abend error.

recovery may indicate "ESTAE", "FRR", or "ARR"

rsn may also be the text "UNKNOWN"

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support for assistance with this problem.

HLV3001S ***func errdesc*, ABEND *abcode* AT *modname+offset***

Explanation

The product ESTAE routine detected an abend in a routine called by it. The message describes the abend error. The product ESTAE routine will continue to attempt recovery from the original error.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3002T **Data at PSW *PSWdata***

Explanation

The product detected an abend error. The current message provides some information about the abend. This message, along with other messages, should provide a detailed description of the current abend error.

PSWdata contains the PSW address and PSW data

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3005S **ESTAE level *lvl* ESTAE *func* error RC=*rcode***

Explanation

The product ESTAE routine tried to protect itself by issuing an ESTAE macro. The ESTAE failed with a non-zero return code.

HLV3006T **PSW at time of error *fPSW* ILC *ilc* INTC *intc***

Explanation

The product ESTAE routine detected an abend error. There is no product specific recovery for this error. The ESTAE routine tries to document the abend error by displaying the failing PSW. This message is part of the mini-dump used to describe the current abend error.

ilc represents an instruction length code

intc represents an interrupt code

User response

Check if any other error messages (other than the mini-dump) were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3007T **Current routine name=*modname* address=*addr* offset=*offset***

Explanation

The product ESTAE routine detected an abend error. There is no product specific recovery for this error. The ESTAE routine tries to document the abend error by displaying the failing PSW and registers. This message is part of the mini-dump used to describe the current abend error.

User response

Check if any other error messages (other than the mini-dump) were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support for assistance with this problem.

HLV3008T ***ind register***

Explanation

The product ESTAE routine detected an abend error. There is no product specific recovery for this error. The

ESTAE routine tries to document the abend error by displaying the failing PSW and register content (*register*). This message is part of the mini-dump used to describe the current abend error.

ind indicates "AR/GR" or ""GR

User response

Check if any other error messages (other than the mini-dump) were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3009T ***modname calltype modname +offset***

Explanation

The product ESTAE routine detected an abend error. There is no product specific recovery for this error. The ESTAE routine tries to document the abend error by displaying the calling module sequence of the current routine. This message is part of the mini-dump used to describe the current abend error.

User response

Check if any other error messages (other than the mini-dump) were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support for assistance with this problem.

HLV3010T **Too many entries**

Explanation

The product ESTAE routine detected an abend error. While producing the module call trace (message 3009T), the loop limit was reached. The product ceases to issue calling module trace messages and proceeds to other processing.

User response

Check if any other error messages (other than the mini-dump) were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3020S **INVALID STRING ADDRESS *addr1*, DETECTED *addr2***

Explanation

A request to the tokenization routine passed an invalid string address. The address in the parameter list was less than or equal to zero.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact your local Software Support group for assistance with this problem.

HLV3021S **INVALID STRING LENGTH *maxlgth*, DETECTED *addr***

Explanation

A request to the tokenization routine passed a string length that exceeds the maximum string length allowed.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact your local product systems programming group for help with this problem.

HLV3022S **TOKENIZATION LOGIC ERROR, DETECTED *addr***

Explanation

The tokenization routine detected a logic error during processing of the current request.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact your local product systems programming group for help with this problem.

HLV3030E ***servrout errdesc* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

Some type of error occurred in one of the product common subroutines. See the actual text of the message for an explanation. The error was probably

caused by a failure in an operating system service requested by the subroutine.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3031E **ABEND *abcode* IN *servrout*, REASON CODE=*rsncode*, CALLED BY *cs***

Explanation

An abend was detected in one of the product common subroutines. The abend code and service routine are described in the message text. The error was probably caused by a failure in an operating system service requested by the subroutine.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3032T **INVALID INPUT COMMUNICATION BUFFER PREFIX READ - *blksize***

Explanation

An invalid buffer prefix was read in from a client application. The buffer prefix was either negative or exceeded the maximum input buffer size.

User response

The connection to the client system is terminated. The client application will probably report an error. Check for any client system error messages. If the failure continues, contact Software Support.

HLV3033T **DATASPACE CREATED, NAME=*dspname*, CALLED BY cs**

Explanation

An MVS dataspace was created for temporary storage of data. The space name (*dspname*) is displayed.

User response

None. This message is for informational purposes only.

HLV3034T **DATASPACE DELETED, NAME=*dspname*, CALLED BY cs**

Explanation

An MVS dataspace was deleted. The space token is displayed.

User response

None. This message is for informational purposes only.

HLV3035T **DATASPACE EXTENDED, NAME=*dspname*, CALLED BY cs**

Explanation

An MVS dataspace was extended. The storage in the dataspace was used up and more was allocated to it. The space token is displayed.

User response

None. This message is for informational purposes only.

HLV3036T **DATASPACE RELEASED, NAME=*dspname*, CALLED BY cs**

Explanation

Storage in an MVS dataspace was released. The storage is no longer required. The space token is displayed.

User response

None. This message is for informational purposes only.

HLV3037T **DATASPACE *func* FAILED, NAME=*dspname*, RETURN CODE=*rcode*, REASON CODE = *rsncode*,CALLED BY cs**

Explanation

A dataspace function failed. The return code and reason code are displayed. The space token is displayed.

User response

Installation limits may have caused the failure. Examine the limits set by the installation's IEFUSI exit to determine if they caused the failure. If the problem cannot be resolved, contact Software Support.

HLV3038T **ALET CREATED, NAME=*dspname*, ALET=*alet*, CALLED BY cs**

Explanation

An ALET was created for accessing a dataspace. The space token is displayed. The resulting ALET is displayed.

User response

None. This message is for informational purposes only.

HLV3039T **ALET DELETED, NAME=*dspname*, ALET=*alet*, CALLED BY cs**

Explanation

An ALET for accessing a dataspace was deleted. The space token is displayed. The deleted ALET is displayed.

User response

None. This message is for informational purposes only.

HLV3040T **ALESERV *func* FAILED, NAME=*dspname*, RETURN CODE=*rcode*, REASON CODE = *rsncode*,CALLED BY cs**

Explanation

An ALESERV function failed. The return code and reason code are displayed. The space token is displayed.

User response

Installation limits may have caused the failure. Examine the limits set by the installation's IEFUSI exit to determine if they caused the failure. If the problem cannot be resolved, contact Software Support.

HLV3041T **ABEND *abcode* IN *servrout*, REASON CODE=*rsncode*, NAME=*dspname*, ALET=*alet*, CALLED BY cs**

Explanation

An abend was detected while manipulating a dataspace. The abend code and service routine are described in the message text. The error was probably caused by a failure in an operating system service requested by the subroutine. The space token is displayed. The ALET, if any, is displayed.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support. In certain recovery situations, this message may be ignored.

HLV3042S **Module *modname* is not AMODE(31)**

Explanation

A module that had to load in AMODE(31) loaded with AMODE(24) or AMODE(64) instead. This is a serious error. Many modules, including RPCs and user record exits, are only allowed to be AMODE(31).

User response

Relink the module (other changes may be needed) using AMODE(31). Run the application again.

HLV3043S **MODULE *modname* LOAD FAILED, ABEND=*abcode*, REASON CODE=*rsncode***

Explanation

A module could not be loaded. The load failed with an abend error.

User response

Check the error messages and the reason code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV3044S **MODULE *modname* DELETE FAILED, RETURN CODE=*rcode***

Explanation

A module could not be deleted. The delete failed with a non-zero return code.

User response

Check the error messages and the reason code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV3060S **INVALID PC FUNCTION CODE *funcode*, DETECTED AT *addr***

Explanation

The product space switch PC routine has been invoked with an invalid function code (*funcode*). This may be caused by specifying an incorrect product subsystem ID on a request when there are multiple copies of the product in the system at different release levels.

User response

Verify that the request that resulted in the product space switch PC routine being invoked is being issued to the correct product subsystem. If the problem cannot be resolved, contact Software Support.

HLV3061E ***service* ABEND *abcode* AT *modname+offset***

Explanation

An abend failure occurred in the product space switch PC routine. The error message provides the abend code and abend location. This failure was probably caused by a programming error in the calling routine or in the space switch PC routine. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support to obtain additional assistance.

HLV3062E ***service desc* FAILED RC=*rcode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe a wide variety of errors. The message text gives a description of the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. If the problem cannot be resolved, contact Software Support.

HLV3063E ***plist action* FAILED, DETECTED AT *addr***

Explanation

The space switch PC routine is attempting to copy (*action*) a parameter list (*plist*) passed by its caller into storage that can be accessed in space switch mode and has found that the target storage area is not large enough.

User response

This is an internal product error condition. Contact Software Support. Software Support.

HLV3070S ***func* (*funcode*) SERVICE *errdesc ccode rsncode errloc modname +offset creg15***

Explanation

The product stacking PC function (*func*) has been invoked in an invalid manner, has been invoked in an invalid environmental state, or has abended during execution.

creg15 represents control register 15, if avail, or zeroes

User response

Verify that the request that resulted in the stacking space switch PC routine being invoked is being issued to the correct product subsystem. If the problem cannot be resolved, contact Software Support.

HLV3071T ***func* (*funcode*) SERVICE *errdesc ccode rsncode errloc modname +offset creg15***

Explanation

The product stacking PC function (*func*) has been invoked in an invalid manner, has been invoked in an invalid environmental state, or has abended during execution. This is a duplicate of message 3070S but is written to the trace.

creg15 represents control register 15, if avail, or zeroes

User response

Verify that the request that resulted in the stacking space switch PC routine being invoked is being issued to the correct product subsystem. If the problem cannot be resolved, contact Software Support.

HLV3080E ***operation* FAILED FOR *userID* RC=*rcode* AT *addr***

Explanation

A logoff to the current server address space was attempted by a user other than the one currently logged on. The current server address space is terminated, and a new one will be started.

User response

If problems are encountered with servers, the product cancels them and restarts them. This is normal product operation. Check if the current ABEND was an independent one or if it was caused by the product, and resolve the problem accordingly.

HLV3081T **TSO SERVER IN ASID *asid traceinfo1 traceinfo2 traceinfo3 traceinfo4***

Explanation

This is a trace message issued by the subsystem data set read/write routine.

User response

None. This message is for informational purposes only.

HLV3082W **OUTPUT LIMIT EXCEEDED (*limit* LINES) - CANCEL SELF WITH S722**

Explanation

A TSO command running in a product TSO server address space has exceeded the output line limit for server commands as specified in the TSOSRVMAXLINES parameter.

User response

Modify the command to reduce the number of lines output, or increase the TSOSRVMAXOUTPUTLINES value. The TSO server will cancel itself with an S722 completion code to abort processing of the current command.

HLV3083S **Command requested more input - command aborted**

Explanation

The product Servers do not support commands that request additional input in subcommand mode.

User response

Modify the command processor so that subcommand input is not required.

HLV3084W ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of errors detected by the product TSOSRV subsystem interface read/write interface routine. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product.

HLV3085H ***jobname* A=*asid1* (*asid2*) TSO server terminated by request**

Explanation

A product Server address space has received a request to terminate. This may occur at shutdown or when one of the parameters governing the TSO servers (MIN or MAX values) has been modified.

The message contains two address space identifiers (*asid1* and *asid2*), which are in decimal and hexadecimal respectively

User response

None. This message is for informational purposes only.

HLV3086H **LOGON of *userID* to TSO server failed - RC=*rcode1* (*rcode2*) Reason=*rsncode***

Explanation

A product TSO server address space was not able to LOGON the indicated client userid. The current command is bypassed.

The message contains two return codes; *rcode1* represents the SAF interface return code, and *rcode2* represents the RACF return code

User response

Determine why the client userid logon failed, and resubmit the command.

HLV3087H **Requestor has revoked command request - cancel self with S622**

Explanation

A product TSO server address space was not able to bind to the requesting task while attempting to return the results of a TSO command. The server abandons the request and terminates additional processing of the request by cancelling itself with a 622 completion code.

User response

Determine why the requesting task abandoned the request, and resubmit. The requesting task may have timed out while waiting for a response to the request.

HLV3100S **Invalid text insertion address - *msgno addr modname+offset***

Explanation

The product message formatting routine detected an error in a data address passed to it. Because of the invalid data address, a product message cannot be sent. This means that some other error may have occurred, but the error message was not sent because of the current error. The invalid address is actually an scon. The offset is the location of the calling routine that passed the invalid data.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support for assistance with this problem.

HLV3101S **Message number *msgno* not found - *modname+offset***

Explanation

The product message formatting routine could not find a message number passed to it in the product message table. Because the message number could not be found, a product message cannot be sent. This means that some other error may have occurred, but the error message was not sent because of the current error. The error is caused by either a calling routine passing an invalid message number or an error in the message table. The offset is the location of the calling routine that passed the message number that could not be found.

User response

Ensure that the product is properly installed. Check the message table assembly time, date, and version number. Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3102S **Invalid message text variable - *msgno varname modname+offset***

Explanation

The product message formatting routine could not process a substitution variable found in a message skeleton. Because the substitution variable could not be processed, a product message cannot be sent. This means that some other error may have occurred, but the error message was not sent because of the current error. The error is caused by a programming error in the message table. The offset is the location of the calling routine that invoked the message formatting routine.

User response

Ensure that the product is properly installed. Check the message table assembly time, date, and version number. Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3103S **Invalid text insertion data length - *msgno modname+offset***

Explanation

The product message formatting routine could not process the length part of a substitution variable ("% ()") found in a message skeleton. Because the substitution variable could not be processed, a product message cannot be sent. This means that some other error may have occurred, but the error message was not sent because of the current error. The error is caused by a programming error in the message table. The offset is the location of the calling routine that invoked the message formatting routine.

User response

Ensure that the product is properly installed. Check the message table assembly time, date, and version number. Check if any other error messages were

generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support for assistance with this problem.

HLV3104S **Invalid text insertion data type - *msgno modname+offset***

Explanation

The product message formatting routine detected an invalid data type value passed to it by a calling routine. Because of the invalid data type value, a product message cannot be sent. This means that some other error may have occurred, but the error message was not sent because of the current error. The error is caused by a programming error in the calling routine. The offset is the location of the calling routine that passed the invalid data type value.

User response

Ensure that the product is properly installed. Check the message table assembly time, date, and version number. Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3105S **Output message buffer overflow - *msgno modname+offset***

Explanation

The product message formatting routine found that the current message will not fit in the output buffer. Because of the buffer overflow condition, a product message cannot be sent. This means that some other error may have occurred, but the error message was not sent because of the current error. The error is caused by either a programming error in the calling routine or a message table error. The offset is the location of the calling routine that invoked the message formatting routine.

User response

Ensure that the product is properly installed. Check the calling module assembly time, date, and version number. Also check the message table assembly time, date, and version number. Check if any other error messages were generated with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3106S **Invalid packed decimal for text insertion - *val modname+offset***

Explanation

The product message formatting routine detected that an invalid decimal data value (*val*) had been passed to it by a calling routine. Because of the invalid decimal data value, a product message cannot be sent. This means that some other error may have occurred, but the error message was not sent because of the current error. The error is caused by a programming error in the calling routine. The offset is the location of the calling routine that invoked the message formatting routine.

User response

Ensure that the product is properly installed. Check the calling module assembly time, date, and version number. Check if any other error messages were generated with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3107S **INVALID REPLY PARAMETER - *modname+offset***

Explanation

The product message formatting routine detected that a reply area had been passed to it for a message that is not marked as a WTOR in the message table. Because of this logical inconsistency, a product message cannot be sent. This means that some other error may have occurred, but the error message was not sent because of the current error. The error is caused by either a programming error in the calling routine or a message table error. The offset is the location of the calling routine that invoked the message formatting routine.

User response

Ensure that the product is properly installed. Check the calling module assembly time, date, and version number. Also check the message table assembly time, date, and version number. Check if any other error messages were generated with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3108S **INVALID REPLY AREA LENGTH - *length modname+offset***

Explanation

The data value entered by a user was too long for the reply area passed by the calling routine. This error was detected by the message formatting routine. The error is caused by a programming error in the calling routine. The offset is the location of the calling routine that invoked the message formatting routine.

User response

Ensure that the product is properly installed. Check the calling module assembly time, date, and version number. Check if any other error messages were generated with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3109E **INTERNAL ERROR DETECTED AT OPSNMG +*offset*, RC = *rcode***

Explanation

The message formatting routine detected a serious internal error. For example, a system service may have failed with a non-zero return code, or an abend may have occurred. This means that some other error may have occurred, but the error message was not sent because of the current error. The error is caused by either a programming error in the calling routine or a message table error.

User response

Ensure that the product is properly installed. Check the calling module assembly time, date, and version number. Also check the message table assembly time, date, and version number. Check if any other error messages were generated with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3110I ***data1 data2 data3 data4 data5 data6 data7 data8 data9 data10***

Explanation

This message lists List Enable/Close/Force results.

User response

None. This message is for informational purposes only.

HLV3111I ***errdesc* for *dsname* not found for *cmd* command.**

Explanation

An error was encountered in processing a VSAM file command.

User response

Correct the command and reenter it.

HLV3119T ***data1 data2 data3 data4 data5 data6 data7 data8 data9 %SK***

Explanation

This message lists Trace Open/Close functions

User response

None. This message is for informational purposes only.

HLV3120S ***method service* FAILED FOR DDNAME=*ddname*, DSNAME=*dsname***

Explanation

An attempt to open (*service*) the specified data set failed.

method may be QSAM, BSAM, or BPAM

User response

Try to determine why the attempt failed. If you are unable to determine the reason for the failure, contact Software Support.

HLV3121S **RECORD SIZE *size* INVALID, LRECL=*lrecl*, BLKSIZE=*blksize*, DDNAME=*ddname*, DSNAME=*dsname***

Explanation

During a WRITE/PUT operation, the product I/O routines have been passed a record with an invalid record size. The record size is either 0 or greater than the maximum logical record size (LRECL) allowed for the indicated data set.

User response

Attempt to determine the reason for the failure. If you are unable to determine the reason for the failure, contact Software Support for assistance.

HLV3122S **VSAM *service* FAILED, RC=*rcode*, *fldname* FIELD=*fldval*, DDNAME=*ddname*, DSNAME=*dsname***

Explanation

A product generalized input/output processing routine tried to open a VSAM data set. The VSAM OPEN (*service*) failed.

fldname and *fldval* represent the ACB/RPL field name and value respectively

User response

Review the error message text. Determine what caused the OPEN to fail, based on the return code. Review the current data set for any obvious errors. Correct the above problems, and restart.

HLV3123S **UNSUPPORTED *obj* TYPE, DDNAME=*ddname*, DSNAME=*dsname***

Explanation

The product generalized I/O routine has been passed a DSORG or RECFM (*obj*) that is not supported.

User response

Validate that the data set specified has a supported data set organization (DSORG) or record format (RECFM). If you are unable to determine the reason for the failure, contact Software Support.

HLV3124S **SHOWCAT FAILED, RC=*rcode*, DDNAME=*ddname*, DSNAME=*dsname***

Explanation

A product generalized input/output processing routine tried to list the required message data from a data set, but the SHOWCAT operation failed with the above return code.

User response

Review the error message text. Determine what caused the SHOWCAT operation to fail, based on the return code. Correct the above problems, and restart. For further assistance, contact your local product systems programming group.

HLV3125S **INVALID VSAM OBJECT (*obj*), DDNAME=*ddname*, DSNAME=*dsname***

Explanation

While processing a VSAM data set , a product generalized input/output processing routine found the object (*obj*) to be invalid.

User response

Review the error message text. Validate the VSAM object and analyze it for integrity. Review errors in the definition of the current data set. Ensure that the data set was properly defined and that no other errors exist with it.

HLV3126E **DYNAMIC ALLOCATION FAILED, RC=*rcode*, ERROR CODE=*errcode*, INFO CODE=*rsncode*, DDNAME=*ddname*, DSNAME=*dsname***

Explanation

An attempt to dynamically allocate a data set failed. The error message contains the information associated with the failed request.

User response

Review the information contained in the message, and attempt to correct the problem. Information on the codes may be obtained from the IBM documentation. If, after reviewing this information, you are still unable to correct the problem, contact Software Support.

HLV3127S **VSAM *service* FAILED, RC=*rcode*, DDNAME=*ddname*, DSNAME=*dsname***

Explanation

A product generalized input/output processing routine could not display the check error message for the current VSAM data set. The operation (*service*) failed.

User response

Review the error message text. Validate the VSAM data set, and analyze it for integrity. Review errors with the definition of the current data set. Ensure that it was properly defined and that no other errors exist with it.

HLV3128E ***service desc* FAILED RC=*rcode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe a wide variety of I/O related errors. The message text gives a description of the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or

more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV3129E ***service desc***

Explanation

This is a generic error message used to describe a wide variety of I/O related errors. The message text gives a description of the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV3130E **DYNAMIC ALLOCATION COMMAND ERROR.** ***errmsg cmd***

Explanation

The format of a dynamic allocation/de-allocation command (*cmd*) is invalid. The message contains information associated with the parameter(s) in error.

User response

Review the information contained in the message, and correct the command format.

HLV3131E **DESERV GET_ALL FAILED: RC=*rcode* RSN=*rsncode* - *ddname*-*index*:*dsname***

Explanation

While issuing the DESERV macro to obtain directory entry information, the system returned an unexpected return code and reason code.

index represents the concatenation index where the error occurred

User response

Contact Software Support.

HLV3132E **HFS *service* FAILED FOR *path* - RC=*rcode* (*name1*), RSN=*rsncode* (*name2*) - *desc1* / *desc2***

Explanation

While invoking an Open Edition HFS Service for the entity identified by path, the system returned an unexpected return code and reason code.

name1 and *desc1* refer to ERRNO names and descriptions

name2 and *desc2* refer to JERRNO names and descriptions

User response

Review the appropriate Open Edition manual for the meaning of the return and reason codes. If the cause of the error cannot be readily determined, contact Software Support.

HLV3133E **HFS *service* FAILED FOR *path* - *errdesc additinfo***

Explanation

While invoking an Open Edition HFS Service for the entity identified by path, the server interface detected an error.

User response

If the cause of the error cannot be readily determined from this and other messages, contact Software Support.

HLV3134I ***dsname* Library directory empty (DDN=*ddname*)**

Explanation

While attempting to read a PDS(E) dataset directory, the I/O services routines discovered that the PDS(E) directory is empty.

User response

An empty PDS(E) directory may be normal or may represent a problem, depending on the library being accessed. If a problem results because the empty directory is an abnormality, this informational message may aid in resolution.

HLV3135E **DYNAMIC DEALLOCATION FAILED, RC=*rcode*, ERROR CODE=*errcode*, INFO CODE=*rsncode*, DDNAME=*ddname*, DSNAME=*dsname***

Explanation

An attempt to dynamically free a data set failed. The error message contains the information associated with the failed request.

User response

Review the information contained in the message, and attempt to correct the problem. Information on the codes may be obtained from the IBM documentation. If, after reviewing this information, you are still unable to correct the problem, contact Software Support.

HLV3136T **User record exits cannot be loaded because DDNAME *ddname* is not allocated. Exits: *program1* and *program2***

Explanation

An attempt to load a user record post-read (*program1*) and/or pre-write (*program2*) exit routine failed because the HLVRPCLB DD statement is not allocated. User record exit routines must reside in the in the S__RPCLB library.

User response

Modify the product server started task JCL to include the HLVRPCLB DD statement.

HLV3137S **Load for user record exit program *program* failed**

Explanation

An attempt to load a user record post-read and/or pre-write exit program failed.

User response

The user record post-read and pre-write programs must reside in a library allocated to the product HLVRPCLB DD statement. Check the JOBLOG for related error messages. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3138T **User record exits cannot be used because the SQL feature is not configured**

Explanation

None.

User response

Contact IBM Software Support.

HLV3139T **Non-zero return code from user exit *program*. RC=*rcode***

Explanation

A user record exit program returned a non-zero return code.

User response

The task is terminated.

HLV3140W **INVALID *desc* CODE *func* FOR *service*, DETECTED AT *addr***

Explanation

A product routine called the system management module with an invalid function code. This failure was probably caused by a programming error in the calling routine. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3141E ***rsrc sysserv* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

Some type of error occurred in the system management routines of the product. See the actual text of the message for an explanation. The error was probably caused by a failure in an operating system service (*sysserv*) requested by a product system management routine.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support for assistance with this problem.

HLV3142W **Invalid *data* FOR *func*, Detected at *addr*. Stack: *%SK***

Explanation

Some type of error occurred in the system management routines of the product. See the actual text of the message for an explanation. This failure was probably caused by a programming error in the calling routine or in the system management module. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3143U DISPATCHER FAILURE DETECTED AT *addr*

Explanation

The internal product dispatcher detected a serious error. This failure was probably caused by a programming error in the system management module. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3144E *rsrc sysserv* FAILED, RC=*rcode*, DETECTED AT *routine+offset*

Explanation

Some type of error occurred in the system management routines of the product. See the actual text of the message for an explanation. The error was probably caused by a failure in an operating system service requested by a product system management routine.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3145S *cblk* ERROR SUBSYS =*subsys*

Explanation

The product detected a serious operating system control block (*cblk*) error. The operating system control block error prevented the system management routine from performing some request on behalf of a caller. This control block error may cause other system errors and may cause the operating system to fail.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. You may need to IPL the system to resolve this problem. If the problem cannot be resolved, contact Software Support.

HLV3146S EMERGENCY PRODUCT SHUTDOWN STARTED - *errdesc*

Explanation

The product is shutting down because of a serious error. The message text describes the error. The error may be caused by an abend failure inside the product or by a product rate limit that has been exceeded. Also, the error may have been caused by a product programming error or by a system failure of some kind. The product will turn itself off and disconnect itself from the operating system.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3147T *rsrc sysserv* FAILED, RC=*rcode*, DETECTED AT *routine+offset*

Explanation

Some type of error occurred in the system management routines of the product. See the actual text of the message for an explanation. The error was probably caused by a failure in an operating system service (*sysserv*) requested by a product system management routine.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3148E **Main product address space not active**

Explanation

Some routine tried to use a product facility that requires the main product address space to be active. The product facility could not be used because the main product address space is not active.

User response

This may or may not be an error condition. Start or restart the main product address space, if necessary. Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3149E **ENFREQ *reqtype* CODE *ecode* FAILED, RC=*rcode*. STACK: *%SK***

Explanation

A z/OS event notification facility request, ENFREQ, failed. The meaning of the return code can be found in the IBM Authorized Assembler Services manual.

User response

If the security server you are using does not support ENF signal 71, check with the security server product vendor for more information. Otherwise, contact Software Support. for assistance with this problem.

HLV3150E **INVALID *desc*, VALUE *data*, DETECTED AT *addr***

Explanation

A system management routine detected invalid data. The error message describes the invalid data (*data*). This failure was probably caused by a programming error in the calling routine or in the system management module. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3151H **ABEND *abcode* IN *func modname* +*offset***

Explanation

A system management routine detected an abend while processing a message queue. The message text provides the abend code, current operation, and abend location. This failure may have been caused by a programming error in the calling routine or in the system management module. This failure can also be caused by product installation and maintenance errors. This failure will also occur when an address space containing a message queue terminates unexpectedly.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3152W ***errdesc1 errdesc2 errdesc3*, DETECTED AT *addr***

Explanation

A system management routine detected an error while processing a request on behalf of a caller. The message text describes the failure. This failure may have been caused by a programming error in the calling routine or in the system management module. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3153E **ABEND *abcode* IN *func modname* +*offset***

Explanation

A system management routine detected an abend while performing a service on behalf of a caller. The message text provides the abend code, current operation, and abend location. This failure may have been caused by a programming error in the calling routine or in the system management module. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3156E ***rsrc* MISSING AND REQUIRED FOR *sysserv*, DETECTED AT *addr***

Explanation

A system management routine detected that a resource (*rsrc*) needed to perform a service on behalf of a user is not available. The service (*sysserv*) cannot be provided because of the error. The message text identifies the service requested by the user and the missing resource.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3157E ***func* ABEND *abcode* AT *addr***

Explanation

An abend failure occurred when a system management routine called an MVS service routine. The abend occurred in the MVS service routine. The error message provides the abend code and abend location. This failure was probably caused by a programming error in the calling routine, in the system management module, or possibly in the IBM service routine. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3200W **INVALID SUBPOOL NUMBER=*spno* REQUESTED BY *modname+offset***

Explanation

The storage management routine detected an invalid subpool number (*spno*) in a parameter list passed by a caller. The subpool number is not supported by the storage management routine. The storage management module cannot perform the service requested by the caller. The error message gives the invalid subpool number and the location of the calling routine. This failure may have been caused by a programming error in the calling routine or in the storage management routine. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3202W ***func* ERROR RC=*rcode* REQUESTED BY *modname+offset*, SP=*subp*, LEN=*lgth*, A=*addr***

Explanation

A GETMAIN or FREEMAIN request failed with a non-zero return code. The error message gives the storage request type (GET or FREE), the return code, and the location of the calling routine. This failure may have been caused by a programming error in the calling routine or in the storage management routine. This failure can also be caused by product installation and maintenance errors.

subp represents the requested subpool

User response

Check if some type of operating system problem (such as storage shortage) may have caused the problem. Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3204T ***modname+offset func stortype spno stg1 stg2 token***

Explanation

This is a storage trace message generated by the product storage management routine. Storage traces are used to analyze product storage utilization and to find storage management bugs. This is not an error message. The message gives the calling module name, calling module offset, current function (GET or FREE), storage type, subpool number (*spno*), storage area size (*stg1*), old storage total (*stg2*), and new storage total.

User response

Check if storage trace was activated for some reason. If storage trace is active, ignore this message. Otherwise, storage trace has been inadvertently activated by a memory overlay. Contact Software Support with this problem.

The variable fields of the message text are: mod module name off module offset func current function stype storage type (E/CSA or E/Private) subp storage subpool number stg1 storage area size or amount stg2 storage area size or amount token storage token if any

HLV3205E **STORAGE ROUTINE ABEND CODE *abcode* AT *modname+offset***

Explanation

The storage management routine detected an abend while performing a service on behalf of a caller. The message text provides the abend code and abend location. This failure may have been caused by a programming error in the calling routine or in the storage management module. This failure can also be caused by product installation and maintenance errors.

User response

Check if some type of operating system problem (such as storage shortage) may have caused the problem. Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support for assistance with this problem.

HLV3206S **SUBPOOL *subp* REQUIRES GLOBAL MASTER AT *modname+offset***

Explanation

The storage management routine detected a request for a subpool that can only be executed using the control blocks of the main product address space. However, the caller did not provide the main product address space control blocks. The current storage request will be rejected. This message indicates an internal error in the product. This failure may have been caused by a programming error in the calling routine or in the storage management module. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3207S **CROSS MEMORY REQUIRES GLOBAL MASTER AT *modname +offset***

Explanation

The storage management routine detected a request for a cross memory GETMAIN or FREEMAIN that can only be executed using the control blocks of the main product address space. However, the caller did not provide the main product address space control blocks. The current storage request will be rejected. This message indicates an internal error in the product. This failure may have been caused by a programming error in the calling routine or in the storage management module. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3208S ***stortype* RETURNED FOR *stortype* REQUESTED BY *modname+offset*, SP=*subp*, LEN=*length***

Explanation

The storage management routine detected that a request for extended storage (above the 16MB line)

was satisfied with non-extended storage (below the 16MB line). This will only happen when the extended storage area has been depleted and MVS is returning non-extended storage to satisfy storage requests. For example, the product is requesting ECSA storage but MVS is returning CSA storage because ECSA has been completely allocated. This problem can also occur for private area storage as well.

stortype may be E/CSA or E/Private

subp represents the subpool requested

User response

This is a very serious error and requires immediate action. If the message shows that CSA is being returned for ECSA requests, then ECSA has been depleted. One or more products may have to be terminated to release ECSA. At some point, the amount of ECSA allocated may have to be increased. Note that the product can continue to execute in this case. However, CSA is likely to be depleted, leading to complete MVS system failure. If the message indicates that the problem is occurring for private area storage, contact Software Support with this problem.

HLV3209S **NO ASCB SPECIFIED FOR TCB-LEVEL STORAGE REQUEST AT *modname+offset***

Explanation

The storage management routine detected that a cross memory GETMAIN or FREEMAIN with an explicitly specified TCB association did not specify the address space designation along with the request.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3210S ***reqtype* XFORM SP=*subp* LEN=*lgth* A=*addr* FROM *modname+offset*,*failrsn***

Explanation

The storage management routine determined that an SRB-mode memory GETMAIN or FREEMAIN request could not be internally converted to an appropriate branch-entry request. Without transformation, the request cannot execute in SRB-mode.

subp represents the subpool of original request

User response

The request to get or free storage is rejected. Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support for assistance with this problem.

HLV3211S **STG OBTAINED AT *addr* NOT 2***reqal* BOUNDARY ALIGNED REQUESTED BY *modname+offset***

Explanation

The storage management routine determined that obtained storage was not aligned on the requested boundary (*reqal*).

User response

The storage management routine generates an S0C3 to abnormally end the calling procedure. This is done to prevent errors which are likely to occur subsequently if the incorrectly aligned storage is used. Contact Software Support with this problem.

HLV3212S **INVALID REQUEST TO FREE ALL SUBPOOL *subp* STORAGE REQUESTED BY *modname+offset***

Explanation

The storage management routine determined that a product storage FREEMAIN request has been made with a zero address. Such a request results in freeing all storage within the specified subpool (*subp*). The requestor has either inadvertently specified the FREEMAIN storage address as zero, or a legitimate FREEPOOL request was coded incorrectly.

User response

The storage management routine generates an S0C3 to abnormally end the calling procedure. This is done to prevent errors which are likely to occur subsequently after an entire subpool is freed inadvertently. If the problem cannot be resolved, contact Software Support.

HLV3250S ***service* ERROR RC=*rcode***

Explanation

This message describes a variety of errors encountered while using the QEDIT supervisor service.

User response

This problem may be caused by a failure either in the product or in the operating system. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV3251I ***cmd msgtext***

Explanation

This message is only issued when the product is in debugging mode. It echoes commands sent to the product.

User response

None. This message is for informational purposes only.

HLV3252S ***component*** **initialization timeout detected**

Explanation

This message is issued when the product attempted to initialize full SEF (*component*) support, but SEF initialization did not complete in the allowed time period. This is a serious error, and product initialization is terminated.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV3253I ***prodname*** **version** ***prodver*** **build** ***buildno*** **subsystem** ***subsys*** **initialization complete**

Explanation

This is the standard message indicating that product initialization is complete.

User response

No action required.

HLV3254I ***component*** **map build beginning** ***d2*** **at** ***t2*** **for** ***ss***

Explanation

This message is issued when a SQL map build is complete.

Response

None. This message is for informational purposes only.

HLV3255I ***component*** **map build complete on** ***d2*** **at** ***t2*** **for** ***ss***

Explanation

This message is issued when a SQL map build is complete.

Response

None. This message is for informational purposes only.

HLV3256S **SQL map build failed due to** ***component***

Explanation

This message is issued when the SQL engine map build process does not complete in the allowed time period (five minutes). This is a serious error, and major parts of the product may not function correctly.

Response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact IBM Software Support.

HLV3259E **(*cmd*) invalid command**

Explanation

The product tried to match an operator command to an existing command rule (*cmd*) and was unsuccessful.

User response

Verify that the specified command is spelled correctly. Also, verify that it exists and is enabled in the current command rule data set.

HLV3260I **Server subsystem** ***subsys*** **is an ERLY subsystem**

Explanation

The product has been started as an ERLY subsystem for use by other (non-product) subsystems that normally start before ordinary product subsystems. An ERLY product subsystem can be started SUB=MSTR if desired. It does not perform normal product work and uses very few system resources.

User response

None. This message is for informational purposes only.

HLV3300W **INVALID *desc* CODE *func* FOR *service*, DETECTED AT *addr***

Explanation

A product routine called the SQL management module with an invalid function code. This failure was probably caused by a programming error in the calling routine. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV3301E **PLAN *plan* DBRM *dbrm* TIMESTAMPS MISMATCH *time1* *time2***

Explanation

The timestamp associated with the SQL statement plist does not match the timestamp in the DBRM. The exact SQL statement cannot be displayed.

This message contains two timestamps; *time1* represents the plist timestamp, and *time2* represents the DBRM timestamp

User response

Verify that the DBRM library specified in the JCL of the main product library is synchronized with the application program load library (i.e. both the load and the DBRM were produced from the same version of the source). Correct any mismatch, and restart the product.

HLV3302E ***ddname* DDNAME not allocated - SQL source not available**

Explanation

The DBRM DD statement is not present in the JCL used to start the main product address space.

User response

Add the DBRM DD statement to the JCL of the main product address space

HLV3303E **DBRM OPEN failed for DDNAME=*ddname* DSNAME=*dsname* RC=*rcode***

Explanation

HLV tried to open the DBRM library for input and the open operation failed. Actual SQL statement texts must have the DBRM(s).

User response

Examine the data set and any other messages that may accompany this one. If you are able to resolve the problem, restart the product.

HLV3304E **Member *dbrm* not found in DBRM library**

Explanation

A BLDL for the DBRM member failed.

User response

Determine why the DBRM is missing from the DBRM library. If necessary, change the library specified in the JCL for the main address space, and restart the product.

HLV3305E ***func* failed for MEMBER=*dbrm* DDNAME=*ddname* DSNAME=*dsname* RC=*rcode***

Explanation

An I/O operation (*func*) failed while attempting to access the DBRM library.

User response

Use this message in conjunction with any other messages that may accompany it to resolve the problem. You may also want to examine the data set for problems. Once the problem is corrected, restart the product.

HLV3306E **DBRM MEMBER *dbrm* TOO LARGE, MAXIMUM SIZE IS *count* RECORDS**

Explanation

The current DBRM is too large for HLV to handle.

User response

Ensure that the DBRM actually does contain more than the maximum number of records. If it does, contact Software Support.

HLV3307E **DBRM member *dbrm* is empty**

Explanation

The DBRM member specified by the message does not contain any records.

User response

Verify that the data set does not contain any records. If it does not contain records, replace it with a corrected DBRM member. If the member does contain records, contact Software Support for assistance with this problem.

HLV3308E **DBRM MEMBER NAME *dbrm* DOES NOT MATCH PROGRAM NAME *program***

Explanation

The DBRM member name does not match the program name that is contained within the DBRM.

User response

It is possible that the DBRM member has been renamed. Verify that this is the problem, and correct it. The DBRM member name and the program name contained within the DBRM must be identical.

HLV3309E **SQL statement *stno* missing from DBRM *dbrm***

Explanation

The SQL statement identified by the application program's plist could not be found in the corresponding DBRM member.

User response

The plist's statement number (*stno*) should match one of statements in the DBRM. Verify that the application program load module and the DBRM are synchronized (i.e. they were produced at same time from the same version of the source). Correct any mismatches, and restart the product.

HLV3310E **DBRM close FAILED FOR DDNAME=*ddname* DSNAME=*dsname* RC=*rcode***

Explanation

HLV tried to close the DBRM library and the close operation failed. Resources may not have been completely released.

User response

Examine the data set and any other messages that may accompany this one. If you are able to resolve the problem, restart the product.

HLV3311T **ASSIGN AND CONCATENATE LOB REQUESTS ARE SUSPENDED**

Explanation

The ability to use the assign and concatenate functions for sending lob data from the client to the server is suspended. This message is issued when the CLIENTMAXLOBSIZE parameter value is set to zero (0).

User response

None. This message is for informational purposes only.

HLV3312T **NETWORKBUFFERSIZE or MXBU value(s) are inadequate for the number of columns in the SQL statement.**

Explanation

There is insufficient space in the communications buffer to hold the SQLDA (metadata) for the SQL statement. The NETWORKBUFFERSIZE and MXBU parameter values must be large enough to hold the metadata for the SQL statement that references the most columns.

User response

Change NETWORKBUFFERSIZE and/or MXBU to an appropriate value.

HLV3313T **DB2 subsystem with ASID *subsys* was not found**

Explanation

The ERLY control block for the Db2 subsystem was not found.

User response

The product was not able to find the ERLY control block for the Db2 subsystem using the ASID. The routine cannot proceed because of this error. This can occur when the Db2 subsystem ends with a system 04F ABEND.

HLV3314S **DB2 subsystem with ASID *subsys* was not found**

Explanation

The ERLY control block for the Db2 subsystem was not found.

User response

The product was not able to find the ERLY control block for the Db2 subsystem using the ASID. The routine cannot proceed because of this error. This can occur when the Db2 subsystem ends with a system 04F ABEND.

HLV3315W **Operational mode for DB2 subsystem *subsys* could not be determined**

Explanation

The product is not aware of the version of Db2 executing in the Db2 subsystem and cannot determine the operational mode.

User response

Processing continues. Contact Software Support to report this message.

HLV3316T **Operational mode for DB2 subsystem *subsys* could not be determined**

Explanation

The product is not aware of the version of Db2 executing in the Db2 subsystem and cannot determine the operational mode.

User response

Processing continues. Contact Software Support to report this message.

HLV3700H **TSO/SRV now using *count* servers - MIN=*parmval1* MAX=*parmval2***

Explanation

The product has allocated a new server descriptor control block and will start a new TSO/SRV server address space.

parmval1 represents the value of CGIMIN, and *parmval2* represents the value of CGIMAX

User response

None. This message is for informational purposes only.

HLV3701I ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of errors detected by the product Server routine manager. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product.

HLV3702H **TSO/SRV started server *jobname*,ASID=*asid***

Explanation

The product has issued a START command to create a new TSO/SRV server address space, and the address space has been created.

User response

None. This message is for informational purposes only.

HLV3703W **TSO/SRV SUBTASK UNABLE TO SCHEDULE EXTERNAL TSO SERVER - ABEND/POST CODES=(*abcode*/*pcode*)**

Explanation

The product TSO/SRV execute queue processing function detected an abend or error while attempting to schedule a command into an external TSO server address space. This message is returned to the original requestor.

User response

Gather all abend error data, and contact your local product systems programming group for support.

HLV3704H **TSO/SRV cancelled server *jobname*,ASID=*asid***

Explanation

The product has issued a CANCEL command to eliminate a TSO/SRV server address space (*asid*). This may occur either because of a change (reduction) in the value of the TSOMINSERVERS parameter or because of a server command exceeding its execution limits.

User response

When a server command exceeds the server execution limits, this message is accompanied by a message describing which limit is exceeded. Either modify the limit or correct the server command/program.

HLV3705I **Idle TSO server terminated due to TSOMAXSERVERS**

Explanation

The product detected that there were currently more servers active than specified in the TSOMAXSERVERS parameter and terminated the server in question because it was currently idle.

User response

None. This message is for informational purposes only.

HLV3706W **Transaction aborted**

Explanation

This message is sent to the issuer of a TSO/SRV server command when the server has terminated while executing the transaction.

User response

Check for other messages associated with this condition, and attempt to resolve the problem.

HLV3707S **TSO/SRV server failed during initialization**

Explanation

The product attempted to start a TSO/SRV server address space. However, the address space failed during initialization.

User response

Verify that the TSO/SRV server started task JCL is correct. JCL errors of one kind or another (e.g. data set does not exist) are frequently the cause of this condition. If you are unable to resolve the problem, contact Software Support.

HLV3708E **Unable to find ASVT entry for TSO/SRV server ASID=*asid***

Explanation

After issuing an internal START command for a TSO/SRV address space, the product attempted to validate the returned ASID and found it to be invalid. This error indicates one of the following conditions: (1) the ASID is negative, (2) the ASID is greater than the system MAXUSER value, or (3) the associated ASVT entry is currently not in use.

User response

This condition is extremely unlikely to occur.

HLV3709W **TSO server canceled - max transaction time exceeded**

Explanation

The transaction currently being processed by the server in question has exceeded the maximum amount of time allowed by TSOMAXCMDRUNTIME and has caused the cancellation of the server.

User response

Please examine the SYSLOG for the _3710I companion message, which will detail the command in error and its approximate start time. Either correct the command in error or increase the TSOMAXCMDRUNTIME value.

HLV3710I **CMD TEXT = *cmd* ,START TIME = *time***

Explanation

This is the companion message to _3709W. It details the command which was being processed by the canceled server and its approximate start time.

User response

Either correct the command in error or increase the TSOMAXCMDRUNTIME specification.

HLV3711I **Idle server terminated due to TSOMINSERVERS or TSOSRVDORMANT timeout**

Explanation

The product detected that the current number of servers is greater than the user specified TSOMINSERVERS parameter but not greater than the user specified TSOMAXSERVERS value and that the server has been idle longer than the user specified TSODORMANTTIMEOUT value. The product terminated the server in question because it was currently idle.

User response

None. This message is for informational purposes only.

HLV3712W **TSOMAXSERVERS value (*parmval1*) invalid. Set to TSOMINSERVERS (*parmval2*).**

Explanation

The product Server processing has detected that the TSOMAXSERVERS value has been set to a value that is lower than the TSOMINSERVERS value. This is invalid - the maximum number of servers can never be lower than the minimum number of servers. The maximum value is changed to the minimum value.

parmval1 represents the value of TSOMAXSERVERS, and *parmval2* represents the value of TSOMINSERVERS

User response

If the incorrect values are set via the startup exec or any other program, correct the program(s). You may also adjust the TSOMINSERVERS and TSOMAXSERVERS values using the ISPF parameter display.

HLV3713I **TSO/SRV server added due to excessive queue depth (*qdep*)**

Explanation

The number of requests on the TSO/SRV server execute queue currently exceeds the threshold set by the user specified TSOSRVQUEUEADDDEPTH. The number of servers is being increased by one since the number of servers is still below the maximum number of servers limit as specified by the TSOMAXSERVERS value.

User response

None. This message is for informational purposes only.

HLV3714H **TSO/SRV terminated server *jobname*,ASID=*asid***

Explanation

The product has terminated a TSO server address space. The server has been terminated because either the current number of servers exceeds the TSOMAXSERVERS limit, or the current number of servers exceeds the TSOMINSERVERS value and the current server has been idle more than TSOSRVDORMANTTIMEOUT seconds. This message may also occur when a control command requested server termination. The server address space may not terminate immediately if it is currently running a transaction. If the server does not terminate voluntarily within a limited time period, the server will be cancelled by the product.

User response

None. This message is for informational purposes only.

HLV3715H **TSO/SRV SUBTASK ABEND *abcode* IN *func modname+offset***

Explanation

The product TSO/SRV execute queue processing function detected an abend. The message text contains the abend code, current operation, and abend location.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate.

HLV3716O **Cancelled TSO server *jobname stepname* (ASID=*asid*), has not terminated**

Explanation

The product has issued a CANCEL command to terminate a TSO server. More than one (1) minute has elapsed since the CANCEL command was issued, but the server address space has not terminated.

User response

First, attempt another CANCEL command using the STEP NAME from the message. If this does not cause the server to terminate, use the MVS FORCE command or attempt to kill the server address space using any other means at your disposal.

HLV3717H **TSO server execute queue reset**

Explanation

A control command has caused the TSO/SRV execute queue to be cleared. All pending TSO transactions have been discarded.

User response

None. This message is for informational purposes only.

HLV3718E **TSO ADDRESS SPACE CREATION FAILED, RC = *rcode*, REASON CODE = *rsncode***

Explanation

A failure occurred in the service routine that schedules an address space CREATE. The TSO address space will not be created. The return and reason codes in the message are from the MVS ASCRE service routine.

User response

Check the return code in the message. If the return code is 52 or higher, this error is most likely a system related problem, and you should report this to your system programming staff. If necessary, set the TSOSRVUSEASCRE to NO so that START commands (rather than ASCRE) will be used to create TSO outboard server address spaces.

HLV3720T **TSO EXECUTE QUEUE ADD; QD=*qdep*, CMD=*cmd***

Explanation

This message is actually issued by the ADDRESS TSO | CGI processor when the DEBUG FLAG is set ON. This message indicates that a command (*cmd*) is being sent to the product Server queue. Note that queue depth (*qdep*) is displayed prior to the addition of the current command.

User response

None. This message is used for debugging and analysis purposes only.

HLV3721T **TSO COMMAND DISPATCH; QD=*qdep*, ASID=*asid*, QTIME=*qtime*, CMD=*cmd***

Explanation

This message indicates that a command has been removed from the TSO execute queue and has been sent to a product TSO server address space. This message is only issued when DEBUG is set ON.

qdep represents queue depth

qtime represents time spent on TSO execute queue in 100ths of a second

User response

None. This message is used for debugging and analysis purposes only.

HLV3722T **TSO COMMAND RECEIVED; ASID=*asid*, ETIME=*etime*, CMD=*cmd***

Explanation

This message indicates that a server has received a command. The delay between the time (*etime*) the TSO command dispatch message is issued and the time this message is issued is due to operating system scheduling factors. This message is only issued when DEBUG is set ON.

User response

None. This message is used for debugging and analysis purposes only.

HLV3723T **TSO COMMAND COMPLETE; ASID=*asid*, ETIME=*time1*, CPU=*time2*, I/O=*count*, CMD=*cmd***

Explanation

This message indicates that a server has completed execution of a command. This message is only issued when DEBUG is set ON.

The message has two time values; *time1* represents time since command was sent to server in seconds, and *time2* represents command CPU time in hex (microseconds)

User response

None. This message is used for debugging and analysis purposes only.

=

HLV3724H ***name* (*userID*) SENT TSO CMD *cmd***

Explanation

This message indicates that a server has received a command (*cmd*). The program or ruleset.rulename (*name*) indicates where the command originated.

User response

No action is required.

HLV3725T **TSO execute processor posted by *component***

Explanation

This message indicates that the TSO execute processor has received a signal from another component.

User response

None. This message is used for debugging and analysis purposes only.

HLV3729T ***msgtext var2 var3***

Explanation

This message is for TSO debugging and trace purposes only.

User response

None. This message is for informational purposes only.

HLV3750H **SEF *var1 var2***

Explanation

This message indicates that the product execute processor has terminated.

User response

This message is for informational purposes only unless it indicates that the SEF command queue has not been allocated. In that case, you should check for any other messages that appeared on the console during product initialization that may assist you in resolving this problem. If you are unable to resolve the problem, contact Software Support for further assistance.

HLV3751I **SEF *service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of global variable initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV3752W **SEF API INITIALIZATION FAILED DUE TO *initstep additinfo1 additinfo2***

Explanation

During SEF initialization, an error was detected while creating API interface linkages. The message describes the error encountered.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV3753W **ABEND *var1* AT *var2*+*var3*, SEF COMMAND *var4* ABORTED**

Explanation

There was an error within the SEF rule processor.

User response

Review the messages just before and after this message to understand the context.

HLV3754I **SEF command syntax error: *cmd***

Explanation

The SEF execution processor detected a command with invalid syntax for the ADDRESS SEF environment. Normally, the syntax error should have been detected at rule enabled or program compile time.

User response

Modify the rule or program that issued the command to use a valid ADDRESS SEF command.

HLV3755E ***service* OF PRECOMPILED DATA SET (*dsname*) FAILED RC=*rcode***

Explanation

The SEF execution processor detected a request to allocate/deallocate (*service*) a compiled rules library, and the request failed. Check error messages preceding this failure for more allocation error data.

User response

Check any allocation error messages that preceded this message for more diagnostic information. After fixing the problem, reset the parameters SEFPRECOMPILED and SEFPRECOMPILEDDSN.

HLV3756I **SEF precompiled rules active**

Explanation

SEF has activated the Compiled Rules Facility. This facility is activated by the setting of the parameter SEFPRECOMPILED to ON and the parameter SEFPRECOMPILEDDSN to a valid compiled rule library.

User response

None. This message is for informational purposes only.

HLV3757I **SEF *var1 var2***

Explanation

This message indicates that a command has executed and is returning status information. It indicates the success or failure of the command.

User response

This message is for informational purposes only. If it indicates failure of the command, check that the parameters you have given are correct.

HLV3780I ***func* OF *desc* FAILED, RC=*rcode***

Explanation

A failure occurred in the service routine that sets (*func*) the wait timer interval (*desc*) for the next trace checkpoint. This message should be preceded by a message containing the return code from the MVS STIMERM service.

User response

Contact Software Support.

HLV3781S **ABEND *abcode* OCCURRED AT *modname+offset* - *desc***

Explanation

An abend occurred during trace checkpoint processing. The location of the abend is shown in the abend error message. All trace checkpoint processing will be suspended until the main product address space is restarted. Note that the main product address space will start to accumulate non-VIO ASM slots as if no DIV data set had ever been allocated. The gradual accumulation of ASM slots by the main product address space could eventually cause an ASM slot shortage.

User response

Check the error messages and the abend code associated with this problem. There may be one or more additional error messages or abends referring to the current trace checkpoint processing problem. Check for OPEN errors, such as security product related abends. Also, check for storage allocation errors or abends. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV3782S ***file ddname error* FAILED RC=*rcode errdesc***

Explanation

A problem was encountered while opening or refreshing a product data set. The message indicates the cause of the failure.

User response

Check the error messages associated with this problem. There may be one or more additional error messages or abends referring to the current processing problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV3783S ***file ddname* processing ABENDED code=*abcode* reason=*rsncode* at *modname+offset***

Explanation

A problem was encountered while opening or refreshing a product data set. The message indicates the abend code associated with the processing function.

User response

Check the error messages associated with this problem. There may be one or more additional error messages or abends referring to the current processing problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV3784T ***src* DUPLICATES THE *type ID* IN *src* - SKIPPED**

Explanation

A problem was encountered while opening or refreshing a product data set. The message indicates that a duplicate entity was detected. The DUPLICATING entity will be ignored.

Variables in this message (*src*, *type*, and *ID*) refer to the duplicating entity

User response

Check the error messages associated with this problem. There may be one or more additional error messages or abends referring to the current processing problem. If possible, fix the problem identified by the error messages, and refresh or restart the product. If the problem cannot be resolved, contact Software Support.

HLV3785H ***src* DUPLICATES THE *type ID* IN *src* - SKIPPED**

Explanation

A problem was encountered while opening or refreshing a product data set. The message indicates that a duplicate entity was detected. The DUPLICATING entity will be ignored.

Variables in this message (*src*, *type*, and *ID*) refer to the duplicating entity

User response

Check the error messages associated with this problem. There may be one or more additional error messages or abends referring to the current processing problem. If possible, fix the problem identified by the error messages, and refresh or restart the product. Normally, this is done by manually removing one or the other source file identified in the message. If the problem cannot be resolved, contact Software Support.

HLV3790I ***func* OF *desc* FAILED, RC=*rcode***

Explanation

A failure occurred in the service routine that sets (*func*) the wait timer interval (*desc*) for the next global variable checkpoint. This message should be preceded by a message containing the return code from the MVS STIMERM service.

User response

Contact Software Support for assistance.

HLV3791E ***func* for creating global variable backup, RC = *rcode*, Reason code = *rsncode***

Explanation

A failure occurred in the service routine (*func*) that schedules an address space create. The global variable backup will not execute. The return and reason codes in the message are from the MVS ASCRE service routine.

User response

Check the return code in the message. If the return code is 52 or higher, the error is most likely a system related problem, and you should report this to your system programming staff. If the problem cannot be resolved, contact Software Support for assistance.

HLV3792I **Global Variable Backup address space *procedure* has been created**

Explanation

This message is informational only. The message indicates that the product created the global variable backup address space.

User response

None. This message is for informational purposes only.

HLV3800T **An unknown value was found in field *field* by routine.**

Explanation

A value was found in a control block field that cannot be validated by the SERVER API.

User response

Contact IBM Software Support.

HLV3847W **Error compiling SEF rule *rule*, closing */ not found where expected.**

Explanation

SEF rule manager attempted to compile a REXX rule with a /*%include statement that contained invalid syntax. After the member name, only */ is allowed. Imbedded comments inside the /*%include phrase are not supported.

User response

Correct the /*%include statement and try again.

HLV3848W **Error compiling SEF rule *rule*, INCLUDE name *memname* too long.**

Explanation

SEF rule manager attempted to compile a REXX rule with a /*%include statement that specified a member name (*memname*) longer than 8 bytes.

User response

Correct the /*%include statement and try again.

HLV3849T **SEF *version* operational mode does not support the *func* function**

Explanation

SEF rule manager received a command which it does not support when operating in the indicated operational mode.

User response

Correct the command, and re-issue.

HLV3850E **INTERNAL *routine1* ERROR DETECTED BY *routine2*: CALLER(*csect*) RTADDR(*addr*) - *additinfo***

Explanation

An error occurred while an internal API routine was executing. This message reports some inconsistency or a possible logic error.

User response

The API rejects the current request and continues. Check for other messages which may indicate the precipitating cause.

HLV3851I **NO EXECUTABLE OBJECT (XO) DATASETS ARE CURRENTLY DEFINED OR IN-USE**

Explanation

This response is returned for 'LIST =XOFILES' SEF command if no executable object image (XO) datasets are defined or in use. XO datasets may contain pre-compiled executable object images such as SEF rules or HTX skeletons.

User response

None.

HLV3852I ***%1***

Explanation

This response is returned for 'LIST =XOFILES' SEF command for each individual XO dataset allocated in the system. A list of zero or more associations may follow this message.

User response

None. This is an informational message only.

HLV3853I ***%1***

Explanation

This response is returned for 'LIST =XOFILES' SEF command for each association with an XO dataset. This message follows the XO dataset status message MSG3852I.

User response

None. This is an informational message only.

HLV3854I **%%INCLUDE processing ignored when ISPF EDIT source being compiled, line *lineno***

Explanation

A %INCLUDE statement was detected in the source of the Product REXX program being compiled. The procedure source is being fetched from the current ISPF Edit session and %INCLUDE is not supported in this environment.

User response

The %INCLUDE statement, with its including comment delimiters is not processed. The original text is preserved in the procedure source being fetched from the current edit session.

HLV3855I **%%INCLUDE statement syntax invalid, line *lineno***

Explanation

A %INCLUDE statement was detected in the source of the Product REXX program being compiled, but the statement was incomplete. /*%INCLUDE, the named member, and */ must all be present on a single source line. The member name must be less than or equal to 8 bytes in length.

User response

The %INCLUDE statement is rejected

HLV3856I **%%INCLUDE member (*member*) not found, line *lineno***

Explanation

A %INCLUDE statement was detected in the source of the Product REXX program being compiled, but the member named in the statement cannot be found in either the library dataset where the source member resides or in the SYSEXEC library concatenation.

User response

The %INCLUDE statement is rejected

HLV3886E **RULESET *rsname additinfo1, additinfo2 ... additinfo8***

Explanation

The SEF request is rejected because the ruleset status prevents execution of the request.

User response

Examine previously reported conditions to determine the cause of the problem.

HLV3887I **RULESET *rsname additinfo1, additinfo2 ... additinfo8***

Explanation

An error occurred while processing an SEF request and the status of a ruleset is effected. This message follows the original error message to warn of additional/on-going ramifications from the error.

User response

The server takes the action reported in this message in order to recover from the previously reported error cause.

HLV3888E **Required main WWW ruleset not defined - HTTP processing impossible**

Explanation

SEF Rule manager did not find a Main WWW ruleset definition. The rule manager will not enable ANY WWW rulesets.

User response

Check your initialization procedure, SWSxIN00, to be sure it defines ONE main WWW ruleset using the "WWWCLASS(MASTER)" keyword.

HLV3889I **SEF *version* OPERATIONAL MODE DOES NOT SUPPORT THE *func* FUNCTION**

Explanation

SEF rule manager received a command which it does not support when operating in the indicated operational mode.

User response

Correct the command, and re-issue.

HLV3890I ***msgs***

Explanation

SEF rule manager uses this message to list formatted control block output messages (*msgs*).

User response

These messages contain the formatted control block image.

HLV3891I ***output***

Explanation

SEF rule manager issued the current message to list ruleset information to the output area.

User response

The current message is statistical and lists the rulesets in the output area. No response is required to this message. Check the rule output listing, and make choices accordingly.

HLV3892I **INDEX COMMAND OPERAND (*operand*) IS NOT VALID - NO ACTION TAKEN**

Explanation

This message is generated if an invalid INDEX command is passed to the ADDRESS SEF host command environment.

User response

No action is taken, and the command is not processed further.

HLV3893E **SEF RULESET *rsname* HAVE INVALID RULETYPE(*ruletype*) - RULESET STOPPED/OFFLINE**

Explanation

While opening a ruleset SEF, SEF detected that the ruleset's definition contains an invalid RULETYPE() specification.

User response

The ruleset is considered to be offline and is not opened. Check for causes that might explain the invalid RULETYPE() designation for the ruleset named in the message.

HLV3895I ***data***

Explanation

This message is issued in response to an SEF INDEX URL command. It is the first message returned for each active rule. The data items returned, blank delimited, in this message are the ruleset name, the rule member name, main/subord, gateway/target, count of rule process sections, and the URL match criterion.

User response

None. This message is for informational purposes only.

HLV3896E **RULESET OFFLINE** ***rsname dsname ruletype errdesc***

Explanation

An SEF request was made that required that a ruleset be opened for processing, but the ruleset is currently stopped or offline.

User response

Take action to place the ruleset online, and re-issue the request. One common problem is that the ruleset dsname no longer exists.

HLV3897E **RULESET** ***rsname*** **is not defined**

Explanation

An SEF request was made that required that a ruleset be opened for processing. The ruleset is not defined to the system.

User response

Check the list of defined rulesets to determine if the ruleset was not properly defined or specify the correct ruleset name.

HLV3898W **RULESET** ***rsname1*** **AND** ***rsname2*** **ARE BOTH DEFINED AS MASTER WWW RULESETS - RULESET** ***rsname2*** **FLAGGED WITH STATUS(OFFLINE)**

Explanation

When the SEF rule manager attempted to process the list of rulesets defined to the system, it found that more than one main WWW ruleset had been defined. Only one ruleset can be defined with RULETYPE(WWW) WWWCLASS(MASTER) attributes.

User response

The second ruleset defined as a main WWW ruleset will not be processed. It is flagged with STATUS(OFFLINE) and stopped so that no processing of the data set will occur until the RULESET definition has been changed.

HLV3899W **No SEF rulesets have been defined**

Explanation

When the SEF rule manager attempted to process the list of rulesets defined to the system, it found that no valid rulesets had been defined.

User response

The current message is a rule status report message and may not require any response. If rulesets should be defined, check your start-up procedure for errors which might have occurred while processing DEFINE RULESET statements.

HLV3900T **RULE** ***rsname.rulename*** **FOR** ***ruletype pc status***

Explanation

SEF rule manager issued the current informational message to report the status of the current rule. The ruleset rulename is now enabled.

pc represents primary criterion

User response

The current message is a rule status report message and does not require any response.

HLV3901E ***service*** **OF** ***operand*** **FAILED, RC=***rcode*

Explanation

A configuration, authorization, runtime, or I/O error has been encountered while executing an SEF rule manager request. The request cannot be completed,

but may be possible at a later time. The SEF ruleset involved with the request may be placed into STOPPED or OFFLINE state.

User response

Examine surrounding messages to determine if the SEF request failed because of insufficient authorization on the part of the requestor to execute the request. If the request is due to a configuration error, you may find it necessary to correct server startup parameters and restart the server.

HLV3902E ***var1 var2* SECTION IN RULE *var3***

Explanation

The SEF rule manager did not find a matching section header table entry. The processing of the current rule is terminated.

User response

Ensure that the rule sections are properly coded and valid. Review the rule for obvious coding errors. Refer to the product Server Administration Guide for more details on rule coding. Correct the above problem, and restart.

HLV3903E **INVALID CRITERION *crit* IN *ruletype* rule *rulename***

Explanation

SEF rule manager detected an invalid criterion (*crit*) when processing the current rule. Only a single wildcard is allowed in the rule criterion. Rule processing is terminated.

User response

Check the error message text for the criterion field, and ensure that the criterion is limited to one match criteria or one wildcard. Refer to the product Server Administration Guide for more details on the firing of rules and the valid criteria.

HLV3906I ***output***

Explanation

SEF rule manager issued the current message to list the rule data set index (prefix/suffix) to the output area.

User response

The current message is statistical and lists the rulesets in the output area. No response is required to this message. Check the rule output listing, and make choices accordingly.

HLV3907I **SEF is not active**

Explanation

SEF rule manager has detected that SEF is not active.

User response

Ensure that the product is started and SEF is active. Contact your local product systems programming group for assistance.

HLV3908I **INVALID SEF REQUEST TYPE *reqtype rsname rulename***

Explanation

SEF rule manager detected an invalid SEF rule request type during rule request processing. The current request is terminated.

User response

Check the current request for any errors. Check the request type in the error message text against the rule sections in the product Server Administration Guide for any inconsistencies. Review the problem, and take corrective action.

HLV3909I **RULE *rsname.rulename* IS NOT ENABLED**

Explanation

An attempt to disable a rule failed because the rule is not currently enabled.

User response

No action required.

HLV3910I **No rules enabled in Rule Set *rsname***

Explanation

This is an informational or status report message issued by SEF rule manager. Either no rules exist or no rules are enabled in ruleset.

User response

No action required.

HLV3911I **RULE *rsname.rulename* not found**

Explanation

SEF rule manager did not find the member name that contains the current rule. The rule request is aborted.

User response

Ensure that the rule listed in the rule name field of the error message exists, or create one before invoking the request.

HLV3912E **No ISPF statistics for rule *rulename* in *rsname*.**

Explanation

SEF rule manager found no ISPF statistics for the rule member in the indicated ruleset.

User response

Ensure that statistics exist for the rule in the PDS directory and that ISPF statistics is turned on.

HLV3913E ***ind* Criterion syntax error *lineno* in rule *rulename***

Explanation

A syntax error was detected in a rule while attempting to enable it. The time criteria are syntactically incorrect.

ind may indicate "Time" or "Screen"

User response

Check the product Server Administration Guide for the correct syntax. Correct the rule, and re-enable it.

HLV3914E **INCONSISTENT *ind* CRITERION *lineno* IN RULE *rulename***

Explanation

A time or screen (*ind*) criterion was syntactically correct but inconsistent. A starting time greater than an ending time or a row range whose first row value is larger than the second may cause this error message.

User response

Correct the inconsistent criterion, and re-enable the rule.

HLV3915E **MAXIMUM OF *maxno ind* CRITERIA EXCEEDED IN RULE *rulename***

Explanation

Too many screen or time (*ind*) criteria were specified in the header section of a rule.

User response

Reduce the number of time or screen criteria in the rule, and re-enable the rule.

HLV3916I **TOD RULE *rsname.rulename* HAS BEEN DISABLED - ALL TIME CRITERIA HAVE EXPIRED**

Explanation

SEF rule manager disabled the current rule (TOD) after all time criteria expired. This may or may not be an error.

User response

The current TOD rule time criterion is not valid beyond the last fire time. If rule was intended to go beyond the last fire time, ensure that the next TOD rule is created with the required start/stop/interval or time criteria desired.

HLV3918E **Error 43 *reqtype program*, line *lineno*: routine *routine* not found**

Explanation

SEF rule manager did not find the current routine.

User response

Review the current rule code for the correct invocation and coding of a routine name. Refer to the product Server Administration Guide for calls to routines. Correct the problem, and restart.

HLV3919E **NO VALID RULE HEADER FOUND IN RULE *rulename* - *errdesc***

Explanation

SEF rule manager did not find a valid rule header in the current rule.

User response

Review the current rule code for a valid rule header. Refer to the product Server Administration Guide for rule header coding. Correct the problem, and restart.

HLV3920W **Following line(s) ignored in rule *rulename*:**

Explanation

SEF rule manager found a line that was skipped and will ignore the following lines.

User response

Review the current rule code, and eliminate any blank lines. Correct the rule, and restart.

HLV3921W **Rule *rulename* contains no executable sections**

Explanation

SEF rule manager found no executable sections in the current rule.

User response

Review the current rule code to make sure it is executable code (e.g. RETURN SUPPRESS in PROC section if this is a message rule). Without any executable sections, the current rule cannot be processed by the SEF manager.

HLV3922I **MATCH TABLE LIST - *d1 t2***

Explanation

The SEF rule manager issued this message to list the match table (message parameter list).

User response

None. This message is for informational purposes only.

HLV3923I **MATCH TABLE AT *addr* PFX=*prefix* SFX=*suffix* LEN=*length* PRI=*pcode* ROOT AT *root***

Explanation

SEF rule manager issued this message to list the match table at the address shown in the message text.

User response

None. This message is for informational purposes only.

HLV3924I **Match table list empty**

Explanation

SEF rule manager issued this message to list a match table entry that is empty.

User response

None. This message is for informational purposes only.

HLV3925I **seqno *rsname.rulename critlvl* NODE LVL=*lvl* ADR=addr1 LO=addr2 HI=addr3 AORL=addr4 LEN=length**

Explanation

This message is for debugging purposes only.

User response

None.

The variable fields of the message text are: sqno sequential order rule ruleset.rule crit criterion level node nesting level addr1 address current OPTI addr2 low subtree address addr3 high subtree address addr4 address current AORL length AORL length

HLV3926I **SECTION *section* INVALID *errdesc* ON LINE *lineno***

Explanation

The SEF facility found an invalid section header within the rule, so the rule could not be enabled.

User response

Correct the event procedure, and re-enable.

HLV3927I **No match for *rulename***

Explanation

The product rule manager did not find a match for this rule.

User response

None. This message is for informational purposes only.

HLV3928E **RULESET *rsname rsprefix* IS *errmsg***

Explanation

SEF rule manager checked the ruleset prefix string and found it to be blank.

User response

Ensure that the ruleset prefix string is not blank. Refer to the product Server Administration Guide for information on specifying rules data sets and related prefixes. Correct the above problem, and restart.

HLV3929E **Maximum ruleset count (*count*) exceeded**

Explanation

SEF rule manager's internal list of SEF rulesets has overflowed. Too many SEF rulesets are defined.

User response

If the defined ruleset count exceeds the maximum supported number of rulesets when the server is started, SEF initialization processing will abort. After startup, the excess rulesets are immediately placed into stopped/offline status.

HLV3930E **RULESET *rsname rsprefix errmsg1 errmsg2***

Explanation

SEF rule manager detected that the current ruleset high-level qualifier is a duplicate of another high-level qualifier.

User response

The current ruleset naming convention is incorrect. Ensure that the ruleset definition complies with the standard code for product rulesets. Refer to the product Server Administration Guide for more details.

HLV3931E ***program dsname* is too large - input buffer overflow**

Explanation

SEF rule manager detected an input buffer overflow. The program is too large to be loaded in the current buffer.

User response

Check the current program for input size, and correct that, if possible. Contact your local product systems programming group for help.

HLV3932E ***service* OF *table* FAILED, RC=*rcode***

Explanation

SEF rule manager could not setup the Product REXX external routine table. The GETMAIN failed.

User response

Determine why the GETMAIN of the required storage to create the above table failed. Check any MVS messages for their return codes. Ensure that no exits limit the acquiring of the given storage by any ASID. Review the current error text, and correct the problem.

HLV3933E **ABEND IN CELL POOL PROCESSING DURING *func***

Explanation

An abend occurred during cell pool processing initiated by the SEF rule manager.

User response

If the error occurred during a GET, check the product region size. If the error did not occur during a GET, contact Software Support.

HLV3934E ***errdesc* BE STORED IN RULESET *rsname* - ERROR FOUND FOR *rsname.rulename***

Explanation

SEF rule manager found the current rule header not applicable for storage in the current ruleset.

User response

Security rules can only be stored in the security ruleset (if security rules are found). Also, non-security rules cannot be stored in the security ruleset. Ensure that the current rule is stored in the appropriate ruleset environment.

HLV3935E **CANNOT OPEN *ddname* (ABEND *abcode* AT *modname+offset*)**

Explanation

During the open processing of the compiled rule library, an abend occurred.

User response

Ensure that the given library is a PDS, similar by definition to the other product supplied pre-compiled libraries. Check IBM message and codes manuals for the abend code. Most likely, the member does not exist or the data set attributes are in error (sequential DSORG or incompatibility in LRECL and BLKSIZE). If a system 913 abend code is reported, data set access has been disallowed by your security subsystem.

HLV3936E ***cmdtype* FAILED FOR *rsname.rulename* - *service* OF *ddname* FAILED**

Explanation

The COMPILE or LISTCOMP SEF (*cmdtype*) command failed.

User response

Ensure that the given library is properly allocated. Also, ensure that the given library is a PDS, similar by definition to the other product supplied pre-compiled libraries. Check IBM message and codes manuals for the abend code. Most likely, the member does not exist or the data set attributes are in error (sequential DSORG or incompatibility in LRECL and BLKSIZE). If a system 913 abend code is reported, data set access has been disallowed by your security subsystem.

HLV3937E **LISTCOMP FOR RULESET *rsname* FAILED - NO RULES FOUND**

Explanation

The LISTCOMP command for an individual ruleset failed. No saved compile rule was found in the compiled rule library.

User response

Ensure that the given ruleset for the LISTCOMP command is the valid one, and re-issue the command.

HLV3938E **RULESET- *rsname* UNABLE TO ACCESS COMPILED RULES**

Explanation

The COMPILE, LISTCOMP, or DELCOMP SEF command failed.

User response

Ensure that a proper PDS was allocated to the XODSN keyword of the ruleset specified. Special restrictions apply to the SWIRULE ruleset, which cannot be compiled by a customer.

HLV3939E **SEF COMPILE PROCESSING OF *name* FAILED**

Explanation

The COMPILE, LISTCOMP, or DELCOMP SEF command failed.

name will be a rule name or a ruleset name

User response

This message should have been accompanied by other messages.

HLV3940E **AUTOENABLED FAILED - *name* IS A REXX EXTERNAL ROUTINE**

Explanation

An AUTOENABLE command was issued for a member of a ruleset that is actually a Product REXX external routine.

name will be a rule name or a ruleset name

User response

Verify your command. Re-issue the command, if possible.

HLV3941W **SOURCE OF *rulename* MODIFIED SINCE LAST COMPILE - SEF WILL USE SOURCE**

Explanation

SEF had detected that a compiled version of the current rule exists. But, it detected that the source version of the rule has been modified since the last time the rule was compiled. SEF will use the source version of the rule for this enablement.

User response

You may want to re-compile the rule or auto-enable it, which also automatically saves the compiled version of a rule.

HLV3942I **NO *ruletype* RULES ENABLED IN RULESET *rsname***

Explanation

This is a product SEF command LISTINST RULETYPE() informational or status report message. No rules of the type specified are enabled in the ruleset.

User response

No action required.

HLV3943I **There are no rules currently enabled**

Explanation

SEF command LISTINST was unable to return rule or ruleset statistics because there are no enabled rules.

User response

None. This message is for informational purposes only.

HLV3944I ***ruleinfo***

Explanation

SEF command LISTINST ruleset.rulename produces one line for each enabled rule in the ruleset.

User response

The current message is for information purposes only and lists information about the enabled rule in the output area. No response is required to this message.

HLV3945I ***rsinfo***

Explanation

SEF command LISTINST ruleset (with no rule names) produces one line for each enabled ruleset.

User response

The current message is for information purposes only and lists information about the enabled ruleset in the output area. No response is required to this message.

HLV3946I **TYP PROCEDURE (*set member*) SET INVALID *parmname* VALUE OF *parmval***

Explanation

During initialization processing of a TYP event procedure, the REXX routine set an invalid parameter value.

User response

The current message is for information purposes only and lists information about the enable attempt. The TYP rule will not be enabled.

HLV3947I **TYP EXECUTION MODULE *modname* NOT FOUND FOR *varname* IN (*set member*)**

Explanation

During initialization processing of a TYP event procedure, an invalid load module name was specified.

User response

The current message is for information purposes only and lists information about the enable attempt. The TYP rule will not be enabled.

HLV3948W **Too many sections found in rule *procedure***

Explanation

More than one process section was found in the rule. This restriction may be removed in future releases.

User response

At the present time, only a single process section may be coded within a WWW or RPC rule.

HLV3949I ***ruletype* WWW RULE *rsname.rulename* ALREADY DEFINES THE URL *val***

Explanation

A duplicate URL criterion value (*val*) is specified on more than one WWW rule at the same administrative level. Duplicate URL processing rules may only be activated when one of the pair resides within the main WWW ruleset and one resides in a subordinate ruleset. In such a case, the main rule is always processed before the subordinate rule, and the subordinate rule is only processed when the main rule is a header-only, generic rule. If the main rule contains a procedural specification, such as a REXX, FILE, or PROGRAM section, the subordinate rule will never be processed.

ruletype may be MASTER or SUBORDINATE

User response

Disable the duplicate rule before activating the current rule, or change the URL criterion value in the current rule to a unique value.

HLV3950I ***output***

Explanation

SEF rule manager issued the current message to list the data set statistics and status.

User response

The current message is statistical and lists the data set information. No response is required to this message. Check the PDS output listing, and make choices accordingly.

HLV3951E **DDNAME *ddname* NOT ALLOCATED**

Explanation

SEF rule manager attempted to open a data set for the processing of /*FILE sections. The data set could not be opened because the ddname is unassigned.

User response

Ensure that the ddname specified in the message is allocated to a data set in the subsystem started task JCL, or ensure that the correct ddname value has been specified within the /*FILE section header.

HLV3952E **DDNAME *ddname* COULD NOT BE OPENED (*rcode*) *additinfo***

Explanation

SEF rule manager attempted to open a data set for the processing of /*FILE sections. The data set could not be opened.

User response

Ensure that the ddname specified in the message is allocated to a data set in the subsystem started task JCL, or ensure that the correct ddname value has been specified within the /*FILE section header.

HLV3953T ***msgtext***

Explanation

The Web transaction invoked an ADDRESS SEF command for intermediate processing. The ADDRESS SEF command failed. Messages issued by the ADDRESS SEF command are logged to the trace using this message ID.

User response

Examine the messages to see why the original /*FILE request was rejected.

HLV3954E **MEMBER *member* NOT FOUND IN DATA SET *ddname***

Explanation

The indicated member was not found within the referenced PDS data set. The file-related process is terminated with a member not found error.

User response

Examine the messages to see why the original /*FILE request was rejected.

HLV3955E **MEMBER *member* NOT FOUND IN DATA SET *ddname***

Explanation

The indicated member was not found within referenced PDS data set. The file-related process is terminated with a member not found error.

User response

Examine the messages to see why the original /*FILE request was rejected.

HLV3956I **FILE *ddname* NOW *status***

Explanation

The indicated file has been placed online or offline, as the message indicates.

status may indicate ONLINE or OFFLINE

User response

None. The message is traced to indicate /*FILE related activation or deactivation of a shared PDS file.

HLV3957I ***output***

Explanation

SEF rule manager issued the current message to list the PDS member statistics.

User response

The current message is statistical and lists the PDS data set member information. No response is required to this message.

HLV3958E **ABEND *abcode* (*rsn*) IN *modname* +*offset* DURING *service* PROCESSING, SOME FILES MAY NOT BE *status***

Explanation

An abend occurred during file open or close processing at initialization or termination time. Some files may not have been processed.

User response

The initialization or termination process continues.

HLV3959I ***count* of *total* shared data files now *status***

Explanation

During initialization or termination, this message is issued to indicate the results of file processing.

User response

No action is required, unless some files remain unopened at open time.

HLV3960E **DSNAME *dsname* could not be allocated (*rcode*)**

Explanation

SEF rule manager attempted to allocate a data set for processing of /*FILE sections. The data set could not be opened.

User response

Ensure that the dsname specified in the message exists, or ensure that the correct dsname value has been specified within the /*FILE section header.

HLV3961I **DSNAME *dsname* DDNAME *ddname* ALLOCATED**

Explanation

The indicated dsname has been allocated to the indicated ddname.

User response

None. The message is traced to indicate /*FILE related allocation.

HLV3962I **DDNAME *ddname* DEALLOCATED**

Explanation

The indicated ddname has been deallocated.

User response

None. The message is traced to indicate ddname deallocation.

HLV3963I **Generated DDNAME counter field rollover occurred**

Explanation

The 8 byte counter field used to generate ddnames rolled over.

User response

None. The message is traced to indicate a rollover of the 8 byte counter field used to generate ddnames occurred.

HLV3964E **Member list not valid for sequential data sets DDNAME *ddname*, DSNAME *dsname***

Explanation

The member list function was issued for a sequential data set. The member list function is available only for partitioned data sets (PDS or PDSE).

User response

Issue the member list function only for PDS or PDSE data sets.

HLV3965T **WARNING: OUTBOUND RESP DATA PRECEDES THIS FILE REQUEST - HTTP RESP PROTOCOL ELEMENTS WILL BE UNUSABLE BY CLIENT**

Explanation

When SWSFILE(SEND) or /*FILE was invoked to transmit a file to the HTTP client, the server found that output data had previously been flushed for transmission to the client. The server proceeds with the file request after issuing this warning message. Because the server's file routines generate HTTP response protocol headers (such as Content-Type, Content-Length, Expires, etc.), any data preceding these headers will LIKELY cause some unpredictable result at the client. For example, the data sent by the file routines may not be visible or interpreted incorrectly (i.e. the client may attempt to process HTML text as a GIF image), or the client may close the communications session.

User response

If the output which precedes the file request was generated by a customer-written transaction procedure, you can correct this condition by eliminating the preceding output, foregoing the use of /*FILE or SWSFILE(SEND) within the same transaction, or ensuring that no SWSSEND(FLUSH) operation occurs.

HLV3966T **External data queue full**

Explanation

When an SWSFILE operation outputs its results to the external data queue (QUEUE and MBRLIST functions) and the external data queue fills before all of the information can be written, this message is traced.

User response

The current SWSFILE operation ends with return code 28. Increase the size of the external data queue by specifying the QUEUESIZE() override on the /*WWW header statement.

HLV3967I ***dsname concat***

Explanation

SEF rule manager issued the current message to list the next concatenated dataset for a single shared-file DD name or next concatenated dataset for an SEF ruleset.

concat represents the concatenation index, relative to 1

User response

The current message is statistical and lists the data set information. No response is required to this message. Check the PDS output listing, and make choices accordingly.

HLV3968I ***service* FAILED. RETURN CODE: *rcode***

Explanation

SEF rule manager issued the message due to a failure in a system service.

User response

This problem is generated due to a file processing error. Correct the file, and re-process your request.

HLV3969I **FORMAT OF SHARED FILE BLOCK FAILED - INVALID IDENTIFIER *val***

Explanation

An invalid or unmatched identifier value (*val*) was specified for an internal FMTSFILE command. Either the identifier was invalid or the corresponding shared file block no longer exists.

User response

The shared file block is not formatted and processing continues.

HLV3970E **MATCH CRITERION MUST BEGIN WITH /set - %2.%3**

Explanation

During event procedure enablement, a WWW rule was found to be invalid because its match criterion does not begin with the specified string. All WWW event procedure match criteria must begin with the event procedure set name unless they are defined in the main procedure set.

User response

Correct the error, and re-enable the event procedure.

The variable fields of the message text are: set name of event procedure set

HLV3971E **/*WWW STMT - *errtext* - %2.%3**

Explanation

During event procedure enablement, a WWW procedure header statement was found to be coded incorrectly. The procedure is not enabled.

User response

Correct the error, and re-enable the event procedure.

HLV3972E **/*WWW STMT - key MAY ONLY BE CODED WITHIN THE rule RULESET - %3.%4**

Explanation

During event procedure enablement, a WWW procedure header statement was found to be coded incorrectly. The indicated keyword may only be coded on header statements in the main WWW ruleset. The main WWW ruleset must be designated as such by coding WWWCLASS(MASTER) on the DEFINE RULESET statement that defines the ruleset.

User response

Correct the error, and re-enable the event procedure.

The variable fields of the message text are: key keyword that is not valid rule name or description of main WWW ruleset

HLV3973E **/*REXX STMT - *errtext* - %2**

Explanation

During event procedure enablement, a REXX section header statement was coded incorrectly. The procedure is not enabled.

User response

Correct the error, and re-enable the event procedure.

HLV3974T **RUNAUTH USERID *userID* - SETUP SUCCEEDED**

Explanation

The RUNAUTH userid has been logged on to the system.

User response

No action is required. Processing continues.

HLV3975T **RUNAUTH USERID *userID* - USERID INVALID**

Explanation

The RUNAUTH userid could not be logged on to the system because the userid was invalid.

User response

The session is not permitted to proceed. The Web transaction is rejected by rescanning to the SYSTERM/ERROR/500 URL, indicating a server error (with reason code 27). Correct the WWW rule that specified the invalid RUNAUTH USERID.

HLV3976E **DPRTY OPERAND *operand* - *rsn***

Explanation

The DPRTY operand value was invalid for the reason specified in the message.

User response

The WWW rule is not enabled. Correct the WWW rule which specified the invalid DPRTY operand, and re-enable it.

HLV3977T **WWW task dispatch priority changed from *val1* by *val2***

Explanation

The dispatching priority of the WWW transaction subtask has been changed because a match to a /*WWW rule that specified the DPRTY() keyword has been made.

User response

The WWW subtask continues using the new priority value.

HLV3978T ***override* OVERRIDE FAILED IN *loc* - RC=*rcode* AT *addr***

Explanation

A failure occurred while trying to override the REXX work space or external data queue size. The WORKSPACE or QUEUESIZE operand may be too large.

User response

The WWW subtask is re-routed to the system error recovery procedure, and the transaction aborted.

HLV3979E **ATH LOGON rule must exit with 'ACCEPT' if ACEE is created for subtask**

Explanation

An ATH logon procedure has caused the TCBSENV pointer for the current subtask to be set to a non-zero value. If an ATH logon rule creates an ACEE block, it must also return with a code indicating that logon processing is complete. This prevents ACEE blocks from being inadvertently orphaned or destroyed by intrinsic server security processing.

User response

The entire logon request is rejected, and the logon request process is aborted with an S0C3 abend.

HLV3980E **RUNAUTH USERID (*userID*) LOGON FAILED**

Explanation

The RUNAUTH userID specified by the WWWDEFAULTRUNAUTH system parameter failed logon processing during start-up.

User response

The HTTP-API initialization process is aborted. Check to ensure that the userid specified by the WWWDEFAULTRUNAUTH start-up parameter is correct. Check the JOBLOG for related messages about the userID.

HLV3981I **Default RUNAUTH USERID *userID* logged onto system**

Explanation

The RUNAUTH userID specified by the WWWDEFAULTRUNAUTH system parameter has been logged on to the system.

User response

HTTP-API initialization processing continues.

HLV3982E **INDEXED DELETE OF *rsname.rulename* (*crit*) FAILED (TRACE=*tb*) - RULE NOT DELETED**

Explanation

The indicated rule could not be deleted from the indexes of the internal rule search tree. The rule is not deleted, but it will be disabled.

crit represents the rule criterion

tb represents a trace back value

User response

If the error recurs, contact Software Support.

HLV3983E **RULESET *rsname* action REJECTED BY SEF - *additinfo***

Explanation

The indicated ruleset definition or modification (*action*) could not be processed into the SEF configuration.

User response

Correct the original request and resubmit.

HLV3984H **SEF ruleset *rsname* SEF configuration *action* accepted**

Explanation

The indicated ruleset definition or modification (*action*) was processed by SEF and placed into the active configuration.

User response

None

HLV3985E **XO DATASET *dsname* ERROR - *additinfo***

Explanation

An error was encountered while processing the indicated executable object (XO) dataset

User response

None

HLV3986E **FILE *ddname action* REJECTED BY SEF - *additinfo***

Explanation

The indicated shared file definition or modification (*action*) could not be processed into the SEF configuration.

User response

Correct the original request and resubmit.

HLV3987H **Shared file *ddname* SEF configuration *action* accepted**

Explanation

The indicated shared file definition or modification (*action*) was completed successfully

User response

None

HLV3988E **SEF task is terminating due to severe configuration or environmental error with critical resource**

Explanation

The SEF subtask will self-terminate, causing the server to shut down. A critical resource is not configured properly or an environmental error prevents access to the critical resource. Generally, this means that a definition, OPEN error, or rule auto-enablement error has occurred for a critical shared file or an ATH, TYP, or WWW ruleset with WWWCLASS(MASTER).

User response

Examine preceding message to determine the resource or definition which is missing, was undefined, or which cannot be accessed. Correct the start-up definitions pertaining to the resource and restart the server.

HLV3989W **SEF RULE MGR ABEND *abcode* REASON *rsncode* AT *modname* +*offset* WHILE PROCESSING REQUEST *plist***

Explanation

The SEF rule manager trapped and recovered from an ABEND at the location shown. The rule manager returns the ABEND completion code to the service requestor, which must determine whether the error is of critical importance. The invoker may ignore, compensate for, or escalate the error, as appropriate to the request.

User response

Examine preceding and following messages to determine the resource or definition which is missing, incorrectly configured or which cannot be accessed.

Correct the SEF start-up definitions pertaining to the resource and restart the server.

HLV3990E /*FILE STMT - *errtext*

Explanation

During event procedure enablement, a /*FILE section was not enabled due to the error given.

User response

Correct the error, and re-enable the event procedure.

HLV3991H SEF RULESET *rsname* DATASET *dsname* IS *status*

Explanation

The indicated ruleset dataset status has changed.

User response

None. This message is for informational purposes only.

HLV3992T SEF RULESET *rsname* DATASET *dsname* IS *status*

Explanation

The indicated ruleset dataset status has changed.

User response

None. This message is for informational purposes only.

HLV3993H SEF RULESET *rsname* DATASET *dsname* WAS STOPPED. RSN: *rsn*

Explanation

The indicated ruleset was stopped.

User response

This is an informational message. If the ruleset should not be stopped, then review the Trace Browse and SYSLOG to determine what caused the ruleset to stop.

HLV3994T SEF RULESET *rsname* DATASET *dsname* WAS STOPPED. RSN: *rsn*

Explanation

The indicated ruleset was stopped.

User response

This is an informational message. If the ruleset should not be stopped, then review the Trace Browse and SYSLOG to determine what caused the ruleset to stop.

HLV3998I *data*

Explanation

SEF rule manager uses this message to list formatted control block output messages for shared files, represented here by *data*.

User response

These messages contain the formatted control block image.

HLV4000H *errtext*

Explanation

This is a general purpose message for certain VTAM errors.

User response

Not every condition reported by this message is really an error. Read the text of the message carefully to determine whether an error has occurred or not. If an error has occurred and you cannot resolve it, contact Software Support for assistance.

HLV4001H UNKNOWN *service* CODES - R0=*R0* R15=*R15*

Explanation

This message reports VTAM return and reason codes (*R0* and *R15*) that are unknown to SHLV.

User response

This may indicate some type of internal error. It is also possible that you are running a version of VTAM that is not yet supported by SHLV. If the version of VTAM that you are running DOES appear to be supported, contact Software Support.

HLV4002H UNKNOWN *service* CODES - RCPR=*code1* RCSC=*code2*

Explanation

This message appears in conjunction with the 4001H message.

code1 and *code2* represent primary and secondary rpl extension codes, respectively

User response

This may indicate some type of internal error. It is also possible that you are running a version of VTAM that is not yet supported by the product. If the version of VTAM that you are running DOES appear to be supported, contact Software Support..

HLV4003H ***service***

Explanation

This message is used for tracing certain VTAM-related events within the product.

User response

No action is required unless the trace messages are appearing without your requesting tracing.

HLV4004H ***service - luname***

Explanation

This message is used for tracing certain VTAM-related events within the product.

User response

No action is required unless the trace messages are appearing without your requesting tracing.

HLV4005H ***service - lu/mode***

Explanation

This message is used for tracing certain VTAM-related events within the product.

User response

No action is required, unless the trace messages are appearing without your requesting tracing.

HLV4006H **VTAM APPLID NOT SET - LU 6.2 SUPPORT NOT ACTIVATED**

Explanation

The local VTAM applid has not been set. VTAM processing on this copy of HLV is impossible.

User response

The VTAM task of the main address space shuts down. This is not an error unless you actually did specify the VTAM applid in the xxxxxIN00 EXEC. Note that other communication protocols may be activated even though VTAM LU6.2 is not being used.

HLV4007H **INVALID FMH-5 CONTROL BLOCK RECEIVED FROM *luname***

Explanation

An invalid FMH-5 control block was received from a peer LU (*luname*). The invalid FMH-5 block will be ignored, and the conversation will be terminated immediately.

User response

This error will only occur if another product tries to establish a conversation with the main product address. This error should be reported to whoever is responsible for the other product.

HLV4010T **TCB MODE SWITCH ERROR: *errdesc additinfo***

Explanation

An error was detected while switching from SRB to TCB dispatchable unit execution mode.

User response

The request to switch from SRB to TCB fails. The SRB mode routine generates an S0C3 ABEND if it cannot continue or continues processing in SRB mode, as indicated in the message.

HLV4012T **SRB MODE SWITCH ERROR: *errdesc additinfo***

Explanation

An error was detected while switching from TCB to SRB dispatchable unit execution mode.

User response

The request to switch from TCB mode fails. The TCB mode routine generates an S0C3 ABEND if it cannot continue, or continues processing in TCB mode, as indicated in the message.

HLV4014T **Shunting to *mode* execution mode prior to ABEND retry, retry GPR14 in ABEND traces contains retry target address**

Explanation

A retry is being attempted following an intercepted ABEND. The dispatchable unit of work is currently executing in a different mode (SRB or TCB) than the retry routine expects. The server is transferring

execution into the correct dispatch mode, before retrying.

User response

This message is traced for ABEND retries only when a shunt to a different execution mode is required, and only when tracing pause element dispatch activity. The preceding ABEND event trace records GPR14 retry register contains the true target retry address, given control after shunting.

HLV4015I ***count*** **new SRBs scheduled with PRIORITY=CURRENT because no WLM enclave is joined**

Explanation

This message is issued when a change is noted in the number of SRBs that have been scheduled with PRIORITY=CURRENT instead of the preferred PRIORITY=ENCLAVE option. This occurs when a task is not joined to a WLM enclave at the time it schedules an SRB. The SRB is scheduled with the same priority as the scheduling task. This precludes execution of the SRB on the zIIP co-processor.

User response

No action is normally required. Some sites may receive these notifications with regular frequency; other sites may rarely or never receive these notifications. If you note an increase in the number of these message, contact Software Support for further analysis.

HLV4016S **FRR PARAMETER UNSTACK ERROR -** ***rsn***

Explanation

This message is issued when a PC routine attempts to unstack and restore nested FRR parameters during SRB-mode execution. The unstack operation has failed because the state of the current FRR stack has changed unexpectedly.

User response

The PC routine generates an S0C3 ABEND following issuance of this message. Existing FRRs may receive control and attempt to recover. The PC-call stack areas will not be recovered until check limits processing re-activates them during periodic processing. Contact Software Support.

HLV4017T **TYPE-1 LDU TERMINATION CALL ERROR -** ***failrsn additinfo***

Explanation

An error was detected while terminating a Type-1 Logical Dispatchable Unit construct used for TCB/SRB mode switches. The request for LDU termination is bypassed.

User response

The termination routine returns to the calling routine. This message serves as notification of a potential logic error in End-of-Task cleanup processing since the routine was entered to process LDU termination for a subtask that cannot support this kind of Logical Dispatchable Unit processing.

HLV4018I ***count*** **New SRB schedule (IEAMSCHD) failures encountered**

Explanation

This message is issued when a change is noted in the number of SRBs that were not scheduled, due to failures returned by the IEAMSCHD service. The cause of these failures MAY be that the WLM enclave, into which the SRB is being scheduled, is no longer valid.

User response

Contact Software Support for further analysis.

HLV4019T **Session lost (hung) due to type-4 LDU schedule failure**

Explanation

This message is traced if a TYPE-4 LDU cannot be constructed or scheduled to close the communication session. The session is orphaned and remains hung until the server is recycled.

User response

Contact Software Support for further analysis.

HLV4020T **DRDA processing bypassed for connection to** ***subsys*****,** ***failrsn***

Explanation

This message is traced if DRDA processing is being skipped for the connection.

User response

The connection will be processing using standard RRSAF interfaces to the target Db2 subsystem. Contact Software Support for further analysis.

HLV4021T **Generic (TLS) USERID *userID* ignored for DRDA connection**

Explanation

This message is traced if a generic (TLS) userID has been sent with the current SQL request message.

User response

Generic Userid (TLS) support is disabled when a DRDA backend connection is in use. The generic userID sent by the client is ignored for Db2 processing. It will still be used when creating SMF log records, etc..

HLV4022T **CONNECT TO DDF HOST=*dom/ip*, PORT=*portno*, CMIDADR=*addr* CMID=*image***

Explanation

This message is traced when a DRDA connection has been successfully opened.

User response

None

HLV4023T ***calltype* CALL TRACE: *crlist***

Explanation

This message produces a calling routine (*crlist*) trace

User response

None

HLV4024T **Passticket generation failed for USERID=*userID*, APPL=*appl*, with RC = *rcode***

Explanation

A passticket could not be generated for the indicated userID and APPL name combination.

User response

Ensure RACF PTKTDATA class is activated and that a resource matching the APPL name is defined in the class. The possible return codes are as follows: RC = x'04' - Invalid passticket parameter list RC = x'08' - No PTKTDATA profile found for the APPL name RC = x'0C' - No task or address space ACEE found RC = x'10' - Caller is not authorized RC = x'14' - The PTKTDATA class is not active

HLV4025S **Metal-C function *func* in module *modname* not found, *failrsn***

Explanation

During initialization a Metal-c function requiring external visibility was not found.

User response

Initialization is aborted. DRDA processing in the server may ABEND unexpectedly when the missing function is invoked. Contact Software Support for assistance.

HLV4026I **DRDA modules not loaded, Machine below architecture-9 level, Found(*lvl*)**

Explanation

During initialization the installed machine instruction set is examined to determine the corresponding XL C/C ++ compiler architecture level. DRDA modules are only provided to support machines at ARCH(9) level and above.

User response

The DRDA processing modules are not loaded and DRDA support is disabled. MSG4020T with explanation "Z196 (2817-xxx) INSTRUCTION SET REQUIRED" is traced if an attempt to open a DRDA connection is made.

HLV4027T ***ind* being issued to avoid DRDA idle thread time limit**

Explanation

ind indicates that 1) A ROLLBACK is being issued automatically because the client ODBC/JDBC session has been idle for an extended period. A ROLLBACK is issued to release PREPAREd statements so that the DRDA connection can be put into INACTIVE state before DRDA terminates the idle connection at the end of the IDTHOIN time limit. OR 2) , a SNDPKT (ping) request is being issued automatically because transmission of the current response to the client is taking longer than the DDF idle time limit. Exchanging a SNDPKT (ping) request/response reset the idle connection time limit DRDA imposes on active but idle connections.

User response

A ROLLBACK is issued once before awaiting additional client input. A SNDPKT request is issued periodically while transmission of a large response to the client is underway.

HLV4030T ***errdesc TCP/IP***

Explanation

Setup of a new session failed for the reason reported in the message. Normally, the failure is due to a lost connection or timeout while attempting to receive the first part of the initial transmission. The initial setup determines if the session is being opened for HTTP or ODBC/JDBC connections. The leading portion of the message will indicate if the session was for HTTP or ODBC/JDBC if this is known at the time of failure. It will also indicate if SSL encryption is in use for the session when this can be determined. The client IP address is always included in the message which also contains an explanation of the failure that caused session setup to fail.

User response

The connection to the client system is terminated. The client application will probably report an error. Check for any client system error messages and related trace messages reporting communications or SSL problems. Often for a timeout, only a SELECT trace message will precede this message. The SELECT completed with no sockets ready to receive, which is recognized as a timeout failure.

HLV4040E ***errdesc***

Explanation

An error occurred processing a partner ACI session for this connection.

User response

The session will be terminated.

HLV4041T ***service* buffer size *lgth1*, address *addr*, length *lgth2***

Explanation

An error occurred processing a partner ACI session for this connection.

service may indicate GET or FREE

The message contains two length values; *lgth1* represents requested buffer length, and *lgth2* represents returned buffer length

User response

The session will be terminated.

HLV4042E **Parallel I/O ACI processing disabled**

Explanation

An error occurred during initialization of ACI support for Parallel I/O processing.

User response

Parallel I/O processing is disabled.

HLV4043T ***errdesc additinfo***

Explanation

MAP REDUCE was unable to process this VSAM data set. If the VSAM KSDS is too small, it cannot be subdivided for parallel processing by ACI tasks. At a minimum, the VSAM KSDS must have two sequence set records. The size of such a file will depend upon the CI size of the index, and upon how keys get compressed in the sequence set records.

User response

We recommend disabling MapReduce for the data map for this data set to eliminate the overhead of starting and stopping unneeded ACI processing tasks. The VSAM file will be processed by a single task, and MAP REDUCE will not be used for this file.

HLV4044E **Map Reduce processing disabled**

Explanation

An error occurred during initialization of ACI support for MAP REDUCE processing.

User response

MAP REDUCE processing is disabled.

HLV4045E **ACI FUNCTION *func* FAILED, RC=*rcode errdesc***

Explanation

An error occurred processing a MAP REDUCE ACI session.

User response

The session will be terminated.

HLV4046T ***errdesc additinfo***

Explanation

An error occurred during processing of a MAP REDUCE request.

User response

MAP REDUCE processing of this request is terminated.

HLV4047T ***tracedesc additinfo***

Explanation

MapReduce is tracing information about the session.

User response

MAP REDUCE processing of this request continues.

HLV4048S **BRFRSV unable to decrement OPDM active count. Service *name,class,service***

Explanation

Service map for ACI service not found by free server routine Monitor ACI service to ensure that it does not reach Maximum Active servers.

User response

Schedule a restart of the Server at your earliest convenience.

HLV4050E **Invalid HTTP headers - *errdesc* - received from *TCP/IP***

Explanation

Invalid HTTP headers were received from a remote system. The invalid HTTP headers could not be processed.

User response

The connection to the client system is terminated. The client application will probably report an error. Check for any client system error messages. If the failure continues, contact Software Support.

HLV4051E **SSL CONNECTION FAILED - *errdesc* - RECEIVED FROM *TCP/IP***

Explanation

A client application attempted to establish a connection to the host using SSL. The connection could not be created for some reason related to SSL processing.

User response

The connection to the client system is terminated. The client application will probably report an error. Check for any client system error messages. If the failure continues, contact Software Support.

HLV4052T ***name1* (*name2*,*additinfo*) - RV=*rval* RC=*rcode* RE=*rsncode***

Explanation

An Unix System Services callable service request was issued and the results were unexpected.

The message contains two name values; *name1* represents the callable service entry point name, and *name2* represents the callable service formal name

User response

This message is traced to indicate an expected return value or return code from a USS callable service. Subsequent processing depends on the call issued. If the problem continues, contact Software Support.

HLV4053E **OPTPIN timed out waiting for a session to be passed**

Explanation

OPTPIN was placed in posted state in anticipation of being passed a new connection, but the new session ECB was never posted. The connection attempt is abandoned.

User response

This message is trace to indicate an expected connection was not successfully passed from the listening task to the service task (OPTPIN). If the problem continues, contact Software Support.

HLV4054T **No data read from socket - *errdesc* - received from *TCP/IP***

Explanation

After 10 attempts to receive data(TCP/IP read) we returned with zero bytes read and no indication of any kind of network error

User response

The connection to the client system is terminated. The client application will probably report an error. Check for any client system error messages. If the failure continues, contact Software Support.

HLV4080T **Invalid logon attempt by an unknown client detected, connection rejected.**

Explanation

An attempt was made to logon by an unknown client driver. A connection to the server can only be made by a valid client driver. The connection is rejected.

User response

Contact IBM Software Support.

HLV4081T **Insufficient storage reserve for *type* (*storamt*) detected, connection rejected**

Explanation

The storage reserve for the specified area type (LSQA, Private or EPrivate) has been exceeded. The current attempt to connect to the host has been rejected. The host session will be terminated. The storage reserve values are either calculated or set via product parameters.

User response

Contact Software Support for advice on this matter.

HLV4082T **Maximum connected session limit is set to zero, server not accepting new connections**

Explanation

The maximum connected session limit (CONCURRENTMX parameter) is currently set to ZERO. The server will not accept any new client connections. A limit of zero is normally set during a quiesce period, prior to shutdown, allowing existing client connections to complete their operations normally. Depending on the setting of QUIESCESYSTEMTYPE, existing client sessions will be cancelled (IMMEDIATE) or allowed to terminate normally (ATTRITION).

User response

Change the CONCURRENTMX parameter to a non-zero value if new client connections should be allowed.

HLV4083T **SQL is not activated on the server.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4084T **ODBC driver connections are not activated on the server. Session rejected.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4085T **Transaction Level Security is not activated on the server. Session rejected.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4086T **Network authentication is not enabled on this server. Session rejected**

Explanation

A client application has attempted to connect to the host using network authentication (SECU=YES), but the server is not configured to allow network authentication.

User response

The server rejects the connection request.

HLV4087T **Access to IDMS is not activated.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4088T **Access to IDMS is not enabled, set the desired APPC/IDMS initialization parameters**

Explanation

The product is not enabled for use with IDMS from client applications. The current request to use client to connect to IDMS on the host has been rejected. The current host session will be terminated.

User response

If access to IDMS from client applications is needed, enable IDMS by setting the appropriate IDMS connectivity parameters. You may use APPC/IDMS as the transport for communication to IDMS from the product server address space.

HLV4089T **STORED PROCEDURE CALLS ARE NOT SUPPORTED WHEN USING EXTENDED CURSOR POOLS (EXCU=YES).**

Explanation

The product does not support stored procedure calls when the client is connected to the server with extended cursor pool support enabled (EXCU=YES).

User response

Reconfigure the client to disable the extended cursor pool support (EXCU=NO).

HLV4090T **Access to IMS/TM is not activated.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4091T **Access to IMS/TM is not enabled, set the desired IMS/OTMA and/or IMS/APPC initialization parameters**

Explanation

The product is not enabled for use with IMS/TM from client applications. The current request to use client to connect to IMS/TM on the host has been rejected. The current host session will be terminated.

User response

If access to IMS/TM from client applications is needed, enable IMS by setting the appropriate IMS connectivity parameters. You may use either IMS/OTMA or IMS/APPC as the transport for communication to IMS from the product Server address space.

HLV4092T **Access to CICS is not activated.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4093T **Maximum number of type (*count*) already connected, connection rejected.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4094T **Access to Adabas is not activated.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4095T **Access to Adabas is not enabled, enable access by setting the ADABAS parameter value to YES**

Explanation

The product is not enabled for use with Adabas from client applications. The current request to use client to connect to Adabas on the host has been rejected. The current host session will be terminated.

User response

If access to Adabas from client applications is needed, enable Adabas by setting the ADABAS product parameter to YES.

HLV4096T **Access to VSAM is not activated.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4097T **Access to IMS/DB is not enabled, enable access by setting the DBCTL parameter value to YES**

Explanation

The product is not enabled for use with IMS/DB from client applications. The current request to use client to connect to IMS on the host has been rejected. The current host session will be terminated.

User response

If access to IMS/DB from client applications is needed, enable IMS/DB by setting the DBTCL product parameter to YES.

HLV4098T **No active started task copy of the product located**

Explanation

The userid and password provided by the client application can not be validated because there is no active started task copy of the product. A started task copy of the product is required for userid and password validation if the client application is connecting to a test copy of the product running under TSO. This error can only occur while attempting to connect to a test copy of the host code running under TSO.

User response

The session is not permitted to proceed. The installation must activate a started task copy of the product before connections to TSO copies of the product will be allowed to proceed.

HLV4099T **CLIENT USERID *userID1* UNEQUAL TO TSO USERID *userID2***

Explanation

The userid provided by the client application is not the same as the TSO userid running the test copy of the product. The connection attempt is rejected, and the connection is severed. This error can only occur while attempting to connect to a test copy of the host code running under TSO.

User response

The session is not permitted to proceed. The client must supply a valid userid/password combination (for the host) in order for the session to proceed. Change the client's userid to be the same as the TSO userid.

HLV4100E **BIND WITH *rtype rhost* FAILED - NO MATCHING *errdesc***

Explanation

The bind with the remote system failed because the local and remote systems could not agree on certain HLV-to-HLV communication parameters.

User response

The bind process has failed. No communication with the remote system is possible. Note that it is NOT a VTAM bind that has failed. The bind referred to by this message is a n HLV-to-HLV bind. Retry the process. If the failure continues, contact Software Support.

HLV4101T **Password validated for USERID *userID* from *rtype rhost***

Explanation

The userID/password combination from a remote (and untrusted) client was successfully validated.

User response

No action is required. Processing continues.

HLV4102T **LOGON attempt failed for USERID *userID* from *rtype rhost***

Explanation

A remote client was unable to connect for one of the reasons: (1) the userid/password combination may not have been valid or (2) the System Event Facility (SEF) may have rejected the logon attempt.

User response

The session is not permitted to proceed. The client must supply a valid userid/password combination (for the host) in order for a session to proceed. Ensure that the client's classification as untrusted is valid. If it is not, use the ADDRESS HLV MODIFY LINK command to change its status. If the client was rejected by the System Event Facility (SEF), the SEF ATH event logon rule may need to be modified.

HLV4103T ***msgtext***

Explanation

This message is used to display any ACF2/RACF message that may have been created as a result of a userid/password validation. This form is used for successful userid/password validations.

User response

None. This message is for informational purposes only.

HLV4104T ***msgtext***

Explanation

This message is used to display any ACF2/RACF message that may have been created as a result of a userid/password validation. This form is used for unsuccessful userid/password validations.

User response

The session is not permitted to proceed. The client must supply a valid userid/password combination (for the host) in order for a session to proceed. Ensure that the client's classification as untrusted is valid. If it is not, use the ADDRESS HLV MODIFY LINK command to change its status.

HLV4105E **Bind failed - no matching compression type**

Explanation

The bind with the remote system failed because the local and remote systems could not agree on a compression type.

User response

The bind process has failed. No communication with the remote system is possible. Note that it is NOT a VTAM bind that has failed. The bind referred to by this message is an HLV-to-HLV bind. Retry the process. If the failure continues, contact Software Support.

HLV4106E **BIND FAILED - NO MATCHING POINTER ENCODING TYPE**

Explanation

The bind with the remote system failed because the local and remote systems could not agree on a pointer encoding type.

User response

The bind process has failed. No communication with the remote system is possible. Note that it is NOT a VTAM bind that has failed. The bind referred to by this message is an HLV-to-HLV bind. Retry the process. If the failure continues, contact Software Support.

HLV4107E **BIND FAILED - NO MATCHING DATA ENCODING TYPE**

Explanation

The bind with the remote system failed because the local and remote systems could not agree on a data encoding type.

User response

The bind process has failed. No communication with the remote system is possible. Note that it is NOT a VTAM bind that has failed. The bind referred to by this message is an HLV-to-HLV bind. Retry the process. If the failure continues, contact Software Support.

HLV4108E **BIND FAILED - NO MATCHING APPLICATION TYPE**

Explanation

The bind with the remote system failed because the local and remote systems could not agree on an application.

User response

The bind process has failed. No communication with the remote system is possible. Note that it is NOT a VTAM bind that has failed. The bind referred to by this message is an S__-to-S__ bind. Retry the process. If the failure continues, contact Software Support.

HLV4109E **BIND FAILED - NO MATCHING PROCESSING FUNCTIONS**

Explanation

The bind with the remote system failed because the local and remote systems could not agree on processing functions.

User response

The bind process has failed. No communication with the remote system is possible. Note that it is NOT a VTAM bind that has failed. The bind referred to by this message is an S__-to-S__ bind. Retry the process. If the failure continues, contact Software Support.

HLV4110S **INVALID MODE DETECTED - LU *luname* ROUTINE *routine***

Explanation

The LU 6.2 processing routine detected an invalid mode string. The mode string cannot be used for further processing.

User response

Report the error to Software Support. The complete message will be needed to diagnose the problem. One or more connection attempts may fail and have to be retried.

HLV4111S **INVALID LU NAME DETECTED - ROUTINE *routine***

Explanation

The LU 6.2 processing routine detected an invalid LU name string. The LU name string cannot be used for further processing.

User response

Report the error to Software Support. The complete message will be needed to diagnose the problem. One or more connection attempts may fail and have to be retried.

HLV4112T **Usage restricted to oem.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4113T ***%1***

Explanation

A connection is rejected for one of the following reasons:

- The maximum number of concurrent users has been reached.
- Some sort of virtual storage resource shortage has been detected. The current request to connect to the host has been rejected.
- A compressed buffer has been received on the port designated as the PIO port. PIO does not support compressed buffers. The connection has been closed.

User response

Depending on the message, either contact the person responsible for administering the product server to explore the possibility of raising the current maximum user count or the product has detected that the current virtual storage utilization is too high to allow additional connections. Change to use the standard ODBC port, or change the connection to send uncompressed buffers.

HLV4114T **Dynamic SQL is not allowed by this instance of the server**

Explanation

This instance of the product server is to be used for static-only Db2 applications. The dynamic SQL request has been rejected.

User response

Contact the person responsible for administering the product Server for the product Server(s) available that support dynamic SQL.

HLV4115S **SECONDARY USERID COUNT (*count*) EXCEEDS MAXIMUM (*max*)**

Explanation

The actual number of secondary userids for the current task exceeds the maximum number of supported secondary userids. Because of this problem, the secondary userid list can not be utilized and the current session will be terminated.

User response:

HLV4116T **Access to DB2 is not activated.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4117T **Connection mode is not activated.**

Explanation

None.

User response

No action is required.

HLV4118T **Insufficient virtual storage is available to handle this session. Session rejected**

Explanation

A client application has attempted to connect to the host. Not enough virtual storage was available to handle the session. The session was rejected and terminated by the host.

User response

The server address space does not have enough virtual storage to handle the number of connections that are being directed to it. You can reduce the minimum storage requirements using product parameters. However, this is not recommended. One of the following solutions is recommended: (1) the amount of virtual storage per connection must be reduced, (2) the number of connections must be reduced, or (3) the load must be spread across multiple copies of the product.

HLV4119T **REXX VARIABLE ERROR *rcode1-fbcode rcode2* DURING FETCH OF *varname* FOR SEF rule *procedure***

Explanation

The product REXX processor encountered a failure during termination processing for a product REXX exec. A REXX variable value could not be fetched and returned to the product's internal SEF routines during the termination process. Because a truncated or missing value may cause critical errors within the rule processing facility, the product generates an S0C3 abend. The SOC3 abend forces termination of the product REXX interpreter. It also stops the processing of the current SEF rule in which the procedure was defined. NOTE: For SHVRET code X'01-(New/Dropped Variable), the most likely cause of this error is an EXIT from a subroutine of the main Product REXX procedure. If the subroutine contains a PROCEDURE {EXPOSE} statement, some or all of the server's built-in variables are hidden during EXIT processing and are not available for post-REXX-execution interrogation by the rule facility. Ensure that the product REXX routine does not deliberately specify an EXIT from an internal PROCEDURE. For other SHVRET error codes, the most likely cause of the error is an internal server error.

The message contains two return code values; *rcode1* represents the SHVRET return code value as defined in IRXSHVB control block for IRXEXCOM, and *rcode2* represents the R15 return code from IRXEXCOM.

fbcode represents a feedback code

User response

Check the REXX exec procedure and trace log for other messages which may indicate the precipitating cause of the failure, and correct the problem(s). Contact Software Support if this procedure fails to resolve the problem.

HLV4120T **REXX VARIABLE *varname* TRUNCATED FOR SEF RULE *rule* - SIZE (*size*) LONGER THAN MAX SIZE (*maxsize*)**

Explanation

The SEF rule processor encountered a failure during termination processing for a REXX procedure. The termination time value assigned by REXX to a built-in server variable is larger than the defined maximum size allowed by the SEF facility. The variable is truncated to the maximum allowable size. Truncation, however, may cause additional, spin-off error conditions to arise.

User response

Check the REXX exec procedure to see if a value was assigned which exceeds the implementation maximums for specific built-in variable.

HLV4121W ***service* OF *desc* FAILED, RC=*rcode***

Explanation

SEF message processing encountered a failure in a product service routine. A particular instance of this generic message may relate to a GETMAIN failure that occurs while attempting to allocate a REXX work space. In this case, the return code indicates the return code from the storage management routine.

User response

Check the message related to the failure, and attempt to resolve the problem. In the case of a storage allocation failure, check for related MVS and product messages. Also, ensure that your installation has an exit (e.g IEFUSI) that limits virtual storage allocation. If possible, correct the problem, and retry the operation.

HLV4122W **ABEND *abcode* AT *modname+offset* IN LINE *lineno* OF *rule***

Explanation

SEF event processing detected an abend. The current rule processing request is terminated.

User response

Determine what caused the abend. External interrupts (like a job CANCEL) may cause an abend. Determine if any product parameters limited the processing of the current rule. Refer to the product Server Administration Guide and the product Server Started Task Parameters book. Contact your local product administrator for assistance.

HLV4123W **SEF PROCESSING OF *ruletype searchID* FOR *jobname* ABORTED**

Explanation

SEF event processing routine detected an abend. The current rule processing request is aborted.

User response

Determine what caused the abend. External interrupts (like a job CANCEL) may cause the current rule to be aborted. If an ABEND occurred in the product, contact your local product systems programming group for assistance. If an abend happened within a job, treat this error as an environmental error. Correct or ignore the current error, as applicable to your environment.

HLV4124W **CANNOT *language* PROCEDURE *procname* - *%3* SECTIONS NOT ENABLED**

Explanation

The SEF event processing routine detected that a TYP rule that is referenced by another even procedure has been disabled. The event procedure cannot be run because the TYP rule is currently disabled. Processing of the procedure is bypassed.

User response

Determine why the TYP rule is disabled, and re-enable it.

HLV4127E ***errtext* FOR MESSAGE ID=*msgID***

Explanation

SEF event processing found too many compound symbols. The pattern match error is reported. Processing for the current rule is terminated.

User response

Check the exceeded compound symbol value, and adjust your rule code to it. Correct the above problem, and restart.

HLV4128E **RULE *rule* SET *varname* TO AN INVALID *cblk* VALUE**

Explanation

SEF event processing encountered an error in conversion of a character to an integer. Further processing is terminated.

cblk represents a control block field name

User response

Check the error text for the invalid input character data causing this error. Remove or modify the invalid data, and restart.

HLV4129E ***errtext* FOR *ruletype* RULE *rule***

Explanation

SEF event processing encountered too many internally generated compound symbols (security related), or the length of one of the internally generated compound symbol names exceeds an internal product limit. Further processing of this rule is terminated.

User response

This is an internal product error condition. Report this error condition to Software Support immediately.

HLV4130E **Rule *rule* disabled for exceeding firing limit of *lim***

Explanation

SEF event processing detected excessive firing of the rule named in the message. As a result, the rule has been disabled.

User response

If appropriate, increase the firing limit, and enable the rule.

HLV4131E **Rule *rule* has exceeded the SEF firing limit of *lim***

Explanation

SEF event processing detected excessive firing of the rule named in the message. The associated parameter, SEFLIMITDISABLE, indicates that the rule is not to be disabled.

User response

This message is informational. No response is required. You may wish to code a message rule that conditionally disables the rule.

HLV4132I **User program *modname* not found in library**

Explanation

While enabling a rule specifying execution of a user load module, the system was unable to preload the indicated module. Enablement of the rule is suppressed.

User response

Verify that the module named in the rule actually exists within the user program load library or within STEPLIB.

HLV4134E ***rsrc sysserv* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

Some type of error occurred in a product service routine. See the actual text of the message for an explanation. The error was probably caused by a failure in an operating system service requested by a product service routine.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV4135E **SEF rule processor entered by *csect* for invalid event type - *typecode***

Explanation

The SEF rule processing facility was invoked with an invalid event type. This is probably an internal error.

User response

Check for other error messages that were generated along with this error message. Capture a copy of the trace records, showing the TCB address, surrounding the time of this error, and contact Software Support.

HLV4136E **ABEND DURING *cblk* CONTROL BLOCK LOCATE - SEF RULE EXECUTION BYPASSED**

Explanation

An internal control block could not be located prior to SEF event execution scheduling.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV4137T **ENTERPRISE AUDITING GENERIC USERID *userID* NOT DEFINED TO HOST SECURITY SYSTEM OR REJECTED.**

Explanation

Enterprise Auditing was activated on the connection and the client attempted to send the specified generic user ID for authorization checking. However, the user ID was not defined to the Host security system (ACF2, RACF or Top Secret) or was invalid for some other reason.

User response

The session is not permitted to proceed. The client must supply a valid host user ID. Contact the Installation Security Administrator to define or repair the user ID.

HLV4138T **ENCRYPTION METHOD CANNOT BE NEGOTIATED, HOST STORAGE UNAVAILABLE, BIND REJECTED**

Explanation

This message is sent to client's when the requested key exchange and encryption method cannot be successfully negotiated at the host due to lack of host storage.

User response

The host rejects the encryption method requested by the client. The client may continue without encryption or may terminate the session.

HLV4139T **BIND ENCRYPTION METHOD REJECTED - *method additinfo***

Explanation

This message is traced when a client's requested key exchange and encryption method cannot be successfully negotiated at the host during bind processing.

User response

The host rejects the encryption method requested by the client. The client may continue without encryption or may terminate the session. MSG4138T, MSG4142T, MSG4143T, or MSG4144T are sent to the client.

HLV4140T **LOGON credentials cannot be decrypted**

Explanation

This message is sent to the client when logon credentials cannot be decrypted. The client logon is rejected because the userid, password, and new password fields cannot be converted to clear text for processing. The client is operating using Diffie-Hellman key exchange and DES to encrypt the logon authentication information.

User response

The host rejects the logon request by the client. The host traces MSG4146T with additional information about the decryption failure.

HLV4141T	**LOGON credentials rejected for VCF reconnect, new key exchange required**

Explanation

This message is transmitted to the client when Diffie-Hellman logon credential encryption is in use for a re-connecting VCF session, and the VCF security artifact for the VCF session has expired or been invalidated.

User response

The host rejects the logon request by the client. The VCF client is obliged to repeat the full Diffie-hellman key exchange, and re-transmit encrypted logon credentials. MSG4145T is traced to provide additional information about the problem encountered.

HLV4142T	**ENCRYPTION METHOD CANNOT BE NEGOTIATED, DIFFIE-HELLMAN MODULE NOT LOADED, BIND REJECTED**

Explanation

This message is sent to client's when the requested key exchange and encryption method cannot be successfully negotiated at the host due to absence of the Diffie-Hellman key exchange and decryption routines.

User response

The host rejects the encryption method requested by the client. The client may continue without encryption or may terminate the session.

HLV4143T	**ENCRYPTION METHOD CANNOT BE NEGOTIATED, DIFFIE-HELLMAN KEY EXCHANGE FAILED, BIND REJECTED**

Explanation

This message is sent to client's when the requested key exchange and encryption method cannot be successfully negotiated at the host due to failure of the Diffie-Hellman key exchange routine to calculate a valid shared secret.

User response

The host rejects the encryption method requested by the client. The client may continue without encryption or may terminate the session.

HLV4144T	**ENCRYPTION METHOD CANNOT BE NEGOTIATED, UNKNOWN ENCRYPTION METHOD REQUESTED, BIND REJECTED**

Explanation

This message is sent to client's when the requested key exchange and encryption method cannot be successfully negotiated at the host. The requested encryption method is unknown to the host.

User response

The host rejects the encryption method requested by the client. The client may continue without encryption or may terminate the session.

HLV4145T	**LOGON CREDENTIALS REJECTED FOR VCID *VCID*, NEW KEY EXCHANGE REQUIRED, *failrsn***

Explanation

This message is traced when when client Diffie-Hellman logon credential encryption is in use for a re-connecting VCF session, and the VCF security artifact for the session. has expired or been invalidated.

User response

The host rejects the logon request by the client. The VCF client is obliged to re-inaugurate Diffie-hellman key exchange and re-transmit encrypted logon credentials. MSG4141T is sent to the client.

HLV4146T	**LOGON CREDENTIALS CANNOT BE DECRYPTED - *failrsn***

Explanation

This message is traced when a client's logon credentials cannot be decrypted. The client logon is reject because the userid, password, and new password fields cannot be rendered in clear text form.

User response

The host rejects the logon request by the client. MSG4140T is sent to the client.

HLV4148T **MISSING OR INVALID PARAMETERS IN SQL CALL RULE *rsname.rulename ,failrsn***

Explanation

This message is traced when an SQL CALL RULE cannot be processed due because not all the parameters were supplied or the parameters were too long to fit in the new buffer.

User response

The updates to the SQL CALL statement are discarded. Correct the SQL CALL rule based on the reason given.

HLV4149T **Connection from ipaddr *TCP/IP*, host name *host*, is using unsupported driver version *version***

Explanation

A remote client connection is using a version of the product driver that is not supported by the server. This is an informational message. Transaction processing continues.

User response

You should upgrade the application driver to a level that is supported by the server.

HLV4150T **desc addr size PLAN pln %SK**

Explanation

This is a trace message that is produced whenever the TRACECURSOR parameter has been set to YES. This message provides information related to the product's SQL plist and status area.

User response

No action required.

The variable fields of the message text are: desc control block description addr address of the control block size size of the control block in hex pln the plan name stack stack trace information

HLV4151T **desc addr1 size DBRM dbrm CURSOR num1 DATA addr2 cnt QUERY length num2 TYPE stmt FLAGS tf %SK**

Explanation

This is a trace message that is produced whenever the TRACECURSOR parameter has been set to YES. This message is used to trace the product's cursor control blocks. There may be multiple cursor control blocks for each product SQL plist.

User response

No action required.

The variable fields of the message text are: desc control block description addr1 address of the control block size size of the control block in hex dbrm the DBRM name num1 SQL section number addr2 first data block address cnt number of chained data blocks length total data row length num2 number of query columns stmt last prepared statement type tf trace flags stack stack trace information

HLV4152T **desc addr size value1 value2 %SK**

Explanation

This is a trace message that is produced whenever the TRACECURSOR parameter has been set to YES. This message is used to trace the product's data blocks. There may be multiple data blocks for each product cursor block.

User response

No action required.

The variable fields of the message text are: desc control block description addr address of the control block size size of the control block in hex value1 next offset value (hex) value2 last offset value (hex) stack stack trace information

HLV4153T **desc data length1 length2 col %SK**

Explanation

This is a trace message that is produced whenever the TRACECURSOR parameter has been set to YES. This message is used to trace the columns of the SQLDA. There may be multiple columns described by the SQLDA.

User response

No action required.

The variable fields of the message text are: desc control block description data type of data for the column (integer) length1 length of the data in the column (hex) length2 length of the column name

(integer) col column name (up to 30 characters) stack stack trace information

HLV4154T **desc addr1 size DBRM dbrm CURSOR num1 DATA addr2 cnt QUERY length num2 TYPE stmt FLAGS tf %SK**

Explanation

This is a trace message that is produced whenever the TRACECURSOR parameter has been set to YES. This message is used to trace the release of a product cursor control blok.

User response

No action required.

The variable fields of the message text are: desc control block description addr1 address of the control block size size of the control block in hex dbrm the DBRM name num1 SQL section number addr2 first data block address cnt number of chained data blocks length total data row length num2 number of query columns stmt last prepared statement type tf trace flags stack stack trace information

HLV4177T **SQL tracing for RPC transactions is not available**

Explanation

SQL tracing for RPC transactions can not be performed because the Db2 DSNACAB module could not be validated.

User response

The product sets the TRACERPCSQL and TRACESQLERRORS parameters to 'NO'. Contact Software Support.

HLV4178W **SQL tracing for RPC transactions is not available**

Explanation

SQL tracing for RPC transactions can not be performed because the Db2 DSNACAB module could not be validated.

User response

The product sets the TRACERPCSQL and TRACESQLERRORS parameters to 'NO'. Contact Software Support.

HLV4179W ***count*** **New RPC tasks timed out before redispatch by RPC concurrent execution facilty**

Explanation

This message is issued when a change is noted in the number (*count*) of suspended RPC tasks that timed out before they were re-dispatched by the RPC concurrent execution facility. Tasks suspended while awaiting their turn to execute an RPC program will re-awake if not re-dispatched within the time period set by the RPCSLEEPINTERVAL parameter. Tasks which re-awake due to a timeout may execute the RPC program, regardless the RPCMAX limit, or may bypass execution by generating a -438 error return code. The action taken is governed by the RPCSTALLACTION parameter.

User response

No action is normally required and some sites may receive these notifications with regular frequency; other sites may rarely or never receive these notifications. If you note an increase in the number of time out failures, check the active tasks display to verify that RPC programs are completing. This message could indicate that one or more in-flight RPC programs are stalled preventing new RPC program executions from being dispatched. Adjust the RPCMAX and/or RPCSLEEPINTERVAL parameter, as necessary, to prevent timeouts.

HLV4180S **Invalid buffer received from a client system**

Explanation

This message is issued if an invalid communication buffer is received from a client system. The buffer should have contained a request for additional RPC data. However, it did not contain such a request.

User response

The session fails. Retry the session. If the problem persists, check to see if there are other messages that may indicate another problem. If there are no other messages, contact Software Support.

HLV4181S **RPC DATA WILL NOT FIT INTO BUFFER**

Explanation

This message is issued if an RPC data item of some kind will not fit into the communication buffer. This error should never occur.

User response

The session fails. Retry the session. If the problem persists, check to see if there are other messages that may indicate another problem. If there are no other messages, contact Software Support.

HLV4182I ***percent*** **percent of max concurrent RPC threshold achieved, value, value**

Explanation

This message is produced once every 60 seconds when the currently executing number of rpc's is equal to or greater than 80 percent of the max allowable specified by RPCMAX parameter. The first value is the max number observed during the life of the server. The second value is the observed value at the time of the message.

User response

None. This message is for informational purposes only.

The variable fields of the message text are: value current percentage of max setting / value current max setting / value number concurrently executing

HLV4183I **Max concurrent RPC execution less than value percent of max setting value, value**

Explanation

This message is produced when the number of concurrently executing RPC's drops below the percent threshold and message 4182 was previously issued reporting that RPC executions exceeded this threshold. The percentage of RPCMAX at which reporting occurs is set by RPCMAXMSGPCENT.

User response

None. This message is for informational purposes only.

The variable fields of the message text are: value current max setting value number concurrently executing value percent of RPCMAX to report (RPCMAXMSGPCENT)

HLV4184T **ABEND CC=*ccode* RS=*rsncode* DETECTED AT *modname+offset* BY RPC CONCURRENCY ROUTINE *routine recovery additinfo***

Explanation

An ABEND was intercepted while one of the Concurrent RPC execution routines was in control. Information about the ABEND is logged in this message.

User response

The RPC concurrency routines may produce additional trace messages and/or produce an SDUMP in response to the ABEND. They will recover and continue, if possible. The message may give an indication of the recovery action (*recovery*) to be taken or other information identifying the cause of the ABEND.

HLV4185H **RPC CONCURRENCY FACILITY SDUMP REQUEST RC=*rcode*, ASSOC TRACE MSGNO=*msgno*, STATUS AREA=*addr***

Explanation

This message is produced after an SDUMP request is issued by the concurrent RPC suspend/resume facility. A critical event was traced which has the SDUMP-requested attribute set causing the SDUMP request to be made.

User response

None. The message reports the return code received from the SDUMP routine. A zero return code indicates the SDUMP was processed or scheduled. A return code of decimal 300 (hex X'0000012c') indicates routines were not authorized to request the SDUMP. A return codes of decimal 304 (hex x'00000130') indicates that the MAXSDUMPRATE flow rate limit in the server suppressed the SDUMP because the frequency of SDUMP requests exceeded the maximum of 5 per second. Non-zero return codes from SDUMP contain the SDUMP return code in the low-order 2-bytes of the fullword and for return code 8, a reason code in the high-order 2-bytes of the fullword.

HLV4186I **Max concurrent RPC allowed (RPCMAX) value exceeded. Suspending execution of RPC.**

Explanation

This message is produced when the number of RPCs started exceeds the max concurrent RPCs allowed value specified by the RPCMAX parameter. The RPC is added to the RPC execution suspend table and placed into a wait state. When the number of concurrently executing RPCs drops below the max allowed, the oldest RPC in the suspend table is resumed.

User response

None. This message is for informational purposes only.

HLV4187I **Max concurrent RPC allowed (RPCMAX) value within parameter setting. Execution resumes.**

Explanation

This message is produced when a suspended RPC is resumed.

User response

None. This message is for informational purposes only.

HLV4188T **RPCMAX TRACE SMTE CONTAINS INVALID TYPE *code* - ASSUMING ERROR/FFDC FOR CAPTURE**

Explanation

The RPCMAX trace routine has been called with a trace SMTE element containing an invalid code.

code is a hex value

User response

The code is assumed to be for a recoverable or imminent error so that the SMTE is recorded as first-failure-data capture. This is probably due to a logic error. Contact Software Support.

HLV4189H **WARNING: *count* ADDITIONAL *type* EVENTS DETECTED BY RPC CONCURRENCY ROUTINES**

Explanation

The RPCMAX routines have traced one or more (*count*) detected ERROR or ABEND events which have left some resource only partially recovered, indicate an imminent failure of the RPC concurrency controls, or where not detected prior to an ABEND occurrence. The RPC Concurrent execution limit facility may become impaired, or now is, inoperable. The system issues this console message when an ABEND is intercepted in the RPC routines, when heuristic checks indicate that an IMMINENT-FAILURE of the facility is likely occurring, or when an anomaly is detected for which only a PARTIAL-RECOVERY of resources can be predicted. Events of this type are always traced unless RPCMAXTRACE has been set to NONE. This console message is issued, no more frequently than once per minute, as an alert that the facility may be slowly degrading, rapidly failing, or has already become inoperable. ABEND-INTERCEPT messages, unless very infrequent, likely are due to logic errors within the facility; although these may occur infrequently if client transaction threads are killed manually or terminate abnormally for reasons unrelated to RPC program processing. FAILURE-IMMINENT messages, normally are issued just before the facility becomes inoperable in order to log information which may be useful is diagnosing problems. PARTIAL-RECOVERY events MAY indicate future facility failure if too many resources cannot be eventually recovered. However, the system is unable to predictively determine, nor later confirm, whether resources being bypassed NOW will eventually be recovered, or will remain inoperable permanently. A few, intermittent PARTIAL-RECOVERY messages with low event counts CAN represent a more or less normal operating condition for some system work loads. RPC termination, End-Of-Task, or cancelled-task cleanup may be lagging a bit behind mainline RPCMAX limit processing, rendering certain predictive health checks unable to confirm that in-flight recovery actions will be able to complete successfully. However, a large count of PARTIAL-RECOVERY events, issued frequently, probably indicates that resources are not being recovered in all cases. These event traces can be used to determine the originating cause of a downward spiral in many cases.

type may be ABEND, FAILURE, or PARTIAL-RECOVERY

User response

If these messages appear frequently, or for any message reporting FAILURE-IMMINENT events, check the state of the concurrent RPC execution facility, along with Trace Browse activity. The trace may indicate the cause of a building problem early enough that it can be corrected prior to facility failure. If the facility has become or is rapidly becoming inoperable, set the RPCMAX parameter to zero, which will turn off most processing within the facility for new RPC execution requests. If the cause of degradation or failure cannot be corrected contact Software Support. For certain types of events, the system will generate an SDUMP of the product address space. SDUMPs are generated no more frequently than once per minute. Retain and forward the dumps to Software Support if the immediate cause of a problem cannot be resolved directly.

HLV4190E **BIND WITH *rtype rhost* FAILED - NO MATCHING *errdesc***

Explanation

This message is produced when the local system is unable to negotiate a bind with the remote system. Note that this is not a VTAM bind. It is an HLVspecific bind.

User response

The session fails. Retry the session. If the problem persists, check to see if there are other messages that may indicate another problem. If there are no other messages, contact Software Support.

HLV4191E ***msgtext***

Explanation

This message indicates a logon failure. The text of the message is produced by the security package (RACF, ACF2).

User response

Check the text of the message to determine the cause of the logon failure. You may need additional authorization.

HLV4192T **service - *error* - *errdesc***

Explanation

An error occurred while processing an ODBC request.

User response

This error message is a generalized message to identify user interface errors.

The variable fields of the message text are: service1 ODBC service being called (IMSTM, CICSEXCI) service2 element/operation in error desc error description

HLV4193T **Access to DB2 LUW is not activated.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4200I ***host*: *cmd***

Explanation

This message is issued as a result of a host command being sent to the product REXX MESSAGE environment.

User response

This message is informational. No response required.

The variable fields of the message text are: host host environment name string (message) cmd host command insert

HLV4201E **BIND WITH *msgtext %2* FAILED - NO MATCHING *%3***

Explanation

This message indicates a logon failure. The text of the message is produced by the security package (RACF, ACF2).

User response

Check the text of the message to determine the cause of the logon failure. You may need additional authorization.

HLV4233I **Error sending message to external data queue**

Explanation

An error has occurred while attempting to send an informational record to the external data queue. This may be caused by a full external data queue.

User response

Contact your local product systems programming group for help.

HLV4240I **Load balancing resumed for *%1***

Explanation

This message is issued when it is detected that the load balancing queue is no longer full and is once again eligible to receive sessions from a Group Director.

User response

None. This is an informational message only.

HLV4250E ***msgtext***

Explanation

This message is used to write out error messages received from remote systems.

User response

Check the text of the message to determine the cause of the problem.

HLV4251E **INVALID ADDRESS *addr* PASSED BY PROGRAM *progname***

Explanation

This message is issued if an invalid address is detected in the routine that copies data from a user program into the buffer that is sent to the remote system. The data at the specified address could not be accessed.

User response

The program passing the invalid address to the product may fail or give incorrect results. Check the Db2 application program, and fix it if possible.

HLV4260E **Client processing disabled**

Explanation

An error occurred during initialization of ACI support for client program processing. Client program processing is disabled.

User response

Contact Software Support.

HLV4261E **ACI FUNCTION *func* FAILED, RC=*rcode errdesc***

Explanation

An error occurred processing a client ACI session.

User response

The session will be terminated.

HLV4262E **Server client is not activated on server *sysserv*.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4263I **Client processing is enabled.**

Explanation

Client processing is enabled. Client initialization completed successfully and the client is ready to accept new connections.

User response

No action is required.

HLV4265W **Data Server Client buffer expansion disabled due to auxiliary storage event**

Explanation:
An auxiliary storage event has been signaled, where event is one of: warning, shortage, or critical shortage. DS Client immediately stops expanding shared memory object buffers.

User response:
Investigate the reason for the auxiliary storage shortage. Use the PAGEADD command to add auxiliary storage.

HLV4266I **Data Server Client services resumed.**

Explanation:
An auxiliary storage event has expired or has been relieved. DS Client will resume full services.

User response:
No action is required.

HLV4267W **Data Server Client refusing new requests due to auxiliary storage event**

Explanation:
An auxiliary storage event has been signaled, where event is one of: warning, shortage, or critical shortage. DS Client immediately stops accepting new requests.

User response:
Investigate the reason for the auxiliary storage shortage. Use the PAGEADD command to add auxiliary storage.

HLV4270H ***%1* SUBSYSTEM NAME NOT SET - *%1* TCP/IP SUPPORT NOT ACTIVATED**

Explanation

The name of the OEM vendor TCP/IP subsystem has not been set. TCP/IP processing using this copy of the product is not possible using the OEM vendor's TCP/IP stack.

User response

The TCP/IP task of the main address space shuts down. This is not an error unless you actually did specify the TCP/IP subsystem name in the xxxxIN00 exec. Note that other communication protocols (such as OE SOCKETS TCP/IP) may be used even when the OEM Vendor TCP/IP interface is not in use.

HLV4271S **SSL and non-SSL ports match - TCP/IP terminated**

Explanation

SSL processing has been requested. However, the SSL port number is the same as the non-SSL port number. Interlink TCP/IP was terminated.

User response

Change either the SSL port number or the NON-SSL port number, and restart the product. The product parameter for setting the SSL port number is ITCSSLPORTNUMBER. The product parameter for setting the non-SSL port number is ITCPORTNUMBER.

HLV4272H ***vendor* TCP/IP *component* FOR SUBSYSTEM *subsys status***

Explanation

This message is used to indicate incomplete INTERLINK TCP/IP initialization.

User response

No action is required. When TCP/IP completes initialization, HLV will complete its own TCP/IP-related initialization.

HLV4273H ***protvend protcomp* support is being activated**

Explanation

This message is issued by each of the four available communication protocol tasks when the corresponding protocol support is being activated. Other messages are issued if support for a particular protocol is not being made active during start-up.

User response

No action is required.

HLV4274S **Non-load balancing TCP/IP port matches normal port or SSL port, server terminating.**

Explanation

A non-load balanced TCP/IP port has been specified. However the port number is the same as the standard TCP/IP Port or the SSL Port.

User response

Change the port numbers so they do not match and restart the product. The product parameter for setting the SSL port is OESSLPORTNUMBER. The product parameter for the non- load balanced port is OENLPORTNUMBER. The product parameter for setting the non-SSL port number is OEPORTNUMBER.

HLV4275I ***parmname* reached -- at least one process waiting**

Explanation

This message is issued when a target thread limit was reached in the prior checking interval. This means that some number of requests will have their processing delayed until a subtask is freed by the completion of another request. This is not a serious error if it happens infrequently. If response time complaints occur accompanied by these messages, the limit should be raised.

User response

Raise the value of the indicated parameter.

HLV4276S ***no* new process block dynamic allocation failures due to unknown reasons.**

Explanation

This message is issued when a change is noted in the number (*no*) of process block dynamic allocation failures. These failures will be noted when process block dynamic allocation fails for reasons other than storage constraints. This is a serious error.

User response

The bypass is to pre-allocate a sufficient number of process blocks during product initialization via the PROCESS parameter. This number can be determined via the product ISPF panel (HLV Stats) C.4 and the "High water count" value in the "PC routines process blocks" section. Add 2 or 3 to this number, and use it as the initial PROCESS parameter value. For a permanent solution, contact IBM Software Support.

HLV4277S ***no* new process block dynamic allocation failures due to storage restraints.**

Explanation

This message is issued when a change is noted in the number (*no*) of process block dynamic allocation failures. These failures will be noted when process block dynamic allocation is unable to obtain either private storage within the product address space or common storage within the extended common storage area (ECSA). This is a serious error.

User response

The bypass is to pre-allocate a sufficient number of process blocks during product initialization via the PROCESS parameter. This number can be determined via the product ISPF panel (HLV Stats) C.4 and the "High water count" value in the "PC routines process blocks" section. Add 2 or 3 to this number, and use it as the initial PROCESS parameter value. For a permanent solution, contact IBM Software Support.

HLV4278I ***no*** **new process blocks allocated. Total process block count:** ***total***

Explanation

This message is issued when a change is noted in the number (*no*) of new process blocks that have been dynamically allocated. The message also displays the total number (*total*) of cross memory process blocks in the pool.

User response

If the process block pool initialization count is set too low, there may be a few of these messages during the early portion of execution or during the first peak period of operation. This should be considered normal operation. If these messages persist and the size of the process block pool continually rises, it is possible that process blocks are not being freed and placed back into the pool as they should. In this case, contact Software Support for further analysis.

HLV4279I ***no*** **new RESMGR E-O-T cleanup failures or stalls detected and corrected**

Explanation

This message is issued when a change is noted in the number (*no*) of MVS Resource Manager end-of-task failures or stalls that have been detected and automatically corrected by the subsystem end-of-task SSI intercept. Missing RESMGR EOT notifications normally occur only for connected TSO userids that (1) are cancelled with S622 abends (because the RESMGR EOT intercept is not scheduled by MVS) or (2) do not exit/reenter a dialog (such as the trace display) between restarts of the main product address space. Undetected EOT events may indicate a more serious problem when they occur for subtasks executing within the main product address space.

User response

No action is normally required. Some sites may receive these notifications with regular frequency; other sites may rarely or never receive these notifications. If you note an increase in the number of RESMGR EOT failures, check the trace to locate DET events (TRACEDETACHEVENTS must be YES). Those entries which contain the text EOT or EOM are of interest. Display the jobname and userid columns. If the failing DET events are not being recorded for TSO user address spaces, contact Software Support for further analysis.

HLV4280T ***limtype*** **TIME LIMIT EXCEEDED FOR** ***userid*** **FROM** ***nodetype*** **NODE** ***node*** **PLAN** ***plan*** **CNID** ***connid*** **TP** ***progname***

Explanation

This message is issued when a task has exceeded a warning limit of some kind. The limit (*limtype)* may have been either a CPU time limit or a wait time limit.

User response

No action is required. However, an automated response to this message may be needed.

HLV4281T ***limtype*** **TIME LIMIT EXCEEDED FOR** ***userid*** **FROM** ***nodetype*** **NODE** ***node*** **PLAN** ***plan*** **CNID** ***connid*** **TP** ***progname***

Explanation

This message is issued when a task has exceeded an error limit of some kind. The limit (*limtype*) may have been either a CPU time limit or a wait time limit.

User response

No action is required. However, an automated response to this message may be needed.

HLV4282T ***limtype*** **TIME LIMIT EXCEEDED FOR** ***userid*** **FROM** ***nodetype*** **NODE** ***node*** **PLAN** ***plan*** **CNID** ***connid*** **TP** ***progname***

Explanation

This message is issued when a task has exceeded a failure limit of some kind. The limit (*limtype*) may have been either a CPU time limit or a wait time limit. The task is terminated with an abend.

User response

No action is required. However, an automated response to this message may be needed.

HLV4283T **SMAF update failed for TCB *addr1* CMTC entry *addr2* SMAF *addr3***

Explanation

This message is issued when an attempt to update product limits in a SMAF block has failed for some reason. The update will not be performed. This error will normally only occur if the target task terminated while an attempt to update the SMAF was underway.

User response

No action is required.

HLV4284S **Process block pool is empty, size is *poolsize***

Explanation

This message is issued when the process block pool is found to be empty. This can happen if all of the process blocks are in use or if process blocks are being lost (allocated and not freed).

User response

This is a very serious error. Terminate the main product address space as soon as possible, and raise the number of process blocks using the PROCESS product parameter in the product initialization exec. The number of process blocks must be at least as large as the number of IMS/DRA threads plus 5. If the error persists, contact Software Support for further assistance.

HLV4285S ***no* process block allocation failures have been detected**

Explanation

This message is issued when a number (*no*) of process block allocation failures are detected. This can happen if all of the process blocks are in use or if process blocks are being lost (allocated and not freed).

User response

This is a very serious error. Terminate the main product address space as soon as possible, and raise the number of process blocks using the PROCESS product parameter in the product initialization exec. The MINIMUM number of process blocks needed is the number of IMS/DRA threads, plus 5. Note that this is the minimum number required, and it does NOT take into account various volume-based request handling. If the error persists after increasing the PROCESS parameter value, or if process block release errors are also being reported by the subsystem, contact Software Support for further assistance.

HLV4286S **OPMS UPDATE FAILED FOR A LOGGING EXCEPTION LIMIT**

Explanation

This message is issued when an attempt to update product limits in the OPMS block failed for some reason. The update will not be performed. This error will normally occur only if a serious internal error has occurred. This error could occur if the product was attempting to update a limit value at the same time the ISPF interface was also being used to update a limit value.

User response

This is a very serious error. If the error persists, contact Software Support for further assistance.

HLV4287S ***no* PENDING LOGGING REQUESTS FOUND FOR DATABASE *subsys***

Explanation

The number (*no*) of pending logging requests has exceeded the product limit value. This message is issued to notify the operators of the system or an automated operations product that the limit has been exceeded.

User response

This is a serious error. The reason for the accumulation of pending requests must be determined and fixed. Some of the possible reasons include the Db2 subsystem being down or errors accessing the Db2 logging tables.

HLV4288S ***no* pending logging requests cleared for database *subsys***

Explanation

All (*no*) of the pending logging requests for a database subsystem have been cleared and the associated storage has been released. This message is issued to notify the operators of the system or an automated operations product that the pending logging requests have been released.

User response

This is a serious error. The reason for the accumulation of pending requests must be determined and fixed. Some of the possible reasons include the Db2

subsystem being down or errors accessing the Db2 logging tables.

HLV4289S ***no*** **SS-PC ENTRY FAILURES DETECTED, LAST:** ***rsn*** **AT** ***time***

Explanation

One or more (*no*) new failures were encountered during entry processing for the product's space-switch or stacking PC routine. Each new failure represents a transaction task or user interface request which could not be processed. Usually, these failures are due to the inability of the product to obtain stack storage from its pool of pre-allocated cross-memory process blocks, and this message will be immediately preceded by message 4285S.

User response

If this message was preceded by message 4285S, terminate the main product as soon as possible, and raise the number of process blocks using the PROCESS product parameter, as described for message 4285S. If message 4285S does not precede this message or the problem persists, contact Software Support for further assistance.

HLV4290E ***wstype*** **GLOBAL VARIABLE WORKSPACE IS** ***percent*** **FULL (*count* OF *total* BLOCKS USED). PROGRAM=*progname*.**

Explanation

The global (or temporary global) variable workspace, which contains global variables, has met or exceeded the warning threshold of blocks in use as defined by the GLOBALWARNTHRESH (or GLOBALTEMPWARNTH) product parameter. This message will also be issued every time a new high-water mark that is at least 5% higher than the previous high-water mark is met or exceeded. The frequency at which this message is issued is controlled by the GLOBALWARNINTVAL (or GLOBALTEMPWARNIV) product parameter. Note that the check that results in this message is only made when a new global variable is allocated or an existing global variable is expanded. The condition is recorded, and the message will be issued on the next reference to a global variable. If no global variable references occur, you may not be warned of this condition until the database is full.

User response

You may need to analyze the contents of the global (or temporary global) variable database using the Global Variables application, and delete unused symbols. If the global variable data set is too small, allocate a larger global variable DIV data set, and copy the old one over to it using the access method services REPRO command. Modify the product GLOBALMAX (or GLOBALTEMPMAX) parameter to indicate the larger maximum number of global variable blocks. The program or rule.ruleset name in the message simply represents the program running at the time the condition was detected or at the time a deferred message was issued. This program may or may not have caused a significant portion of the global workspace to be used.

HLV4291T ***additinfo***

Explanation

This trace message is used for debugging purposes only.

User response

None.

HLV4292E **POSSIBLE** ***wstype*** **GLOBAL VARIABLE WORKSPACE INTEGRITY PROBLEM DETECTED (*errtype* - *flag*). REBUILD SCHEDULED.**

Explanation

An abend occurred while updating critical control blocks in either the global or temporary global variable workspace. The global variable workspace will be rebuilt at the next checkpoint interval. Until the rebuild is complete, attempts to access or update global variables may possibly fail.

The error (*errtype*) may be SYNC or DELAYED.

flag represents the integrity flag byte, in hexadecimal.

User response

In most cases, no problem has actually occurred. The rebuild will simply validate and recover all of the data. If the 0180I messages associated with the rebuild indicate any loss of data, perform the following: (1) print any LOGREC software records created by the product, (2) print the relevant sections of the Trace Browse leading up to the issuance of this message, (3) record the exact text of this message, and (4) contact Software Support for further assistance.

HLV4296S **GLV subtask has terminated. Zeroing workspace pointers.**

Explanation

During an attempt to access a global variable, it was detected that the global variable subtask had already terminated. The workspace pointers will be zeroed to prevent any future attempts to access this data. All future HLVVALUE or SWSVALUE requests will result in REXX error 48 (failure in system service).

User response

If the product does not shut itself down automatically, attempt to shut it down manually using the MVS STOP command. If the product still does not terminate, attempt to CANCEL it.

HLV4297S ***lock/unlock*** **OF GLOBAL VARIABLE POOL FAILED: HASN=*asid1*, PASN=*asid2*, SASN=*asid3*, MODE=*mode*, RC=*rcode*, CALLER=*callername***

Explanation

During an attempt to access global variable pool storage, a failure in the lock or unlock serialization routine was encountered. The current global variable operation will be abandoned with a failure return code. The return code field will contain a non-zero value in byte 3 if the SETLOCK or ENQ service failed. It will contain a non-zero value in bytes 1 or 2 for environmental errors.

mode can be PROB or SUP.

User response

The current global variable pool operation is failed. Check for other messages which might indicate the cause of the error, and contact Software Support for further assistance.

HLV4298S **GLOBAL VARIABLE *lock/unlock* RECURSION ERROR DETECTED AT *addr***

Explanation

During an attempt to access global variable pool storage, a failure in the lock or unlock serialization routine was encountered.

User response

The current global variable pool operation is failed. Check for other messages which might indicate the cause of the error, and contact Software Support.

HLV4300I **SEF command rejected - subsystem *subsys* is not active**

Explanation

The current program or routine requires the services of the main product address space. However, the main product address space is not active.

User response

Start or restart the main product address space

HLV4301S ***service*** **-** ***desc*** **FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of internal errors that occur as a result of calling a product system management service.

User response

Record of all the information in the message text, and contact Software Support.

HLV4302S **ABEND *abcode*, RS=*rsncode* IN 'ADDRESS *hostenv*' AT *modname* +*offset*, PSW=*psw***

Explanation

An abend occurred while the current program or routine was using the services of the main product address space. The message provides a detailed explanation of what type of abend occurred and at what location it occurred.

User response

Check the full text of the error message, and take whatever corrective action is appropriate. For further assistance with this problem, contact Software Support.

HLV4303E **SEF command timed out before all responses received.**

Explanation

The SEF command timed out after waiting for a significant period of time without receiving the complete response from the SEF.

User response

Ensure that the product is still active. If the product is still active, check the status of the SEF execute queue using HLV/SWS. If there is a backlog of SEF requests, try to determine what caused the backlog, and attempt to resolve the problem. If the problem cannot be resolved, contact IBM Software Support.

HLV4304E **SEF COMMAND *errdesc*: *cmdname***

Explanation

An invalid SEF verb or an invalid SEF command has been detected by the ADDRESS SEF environment syntax checker.

User response

Correct the syntax of the SEF command.

HLV4305E **HLV/SWS version *ver1* is incompatible with version *ver2* of subsystem *subsys*.**

Explanation

The version of the product that you are using in your TSO environment is incompatible with the version of the product running in the main Server address space related to the subsystem to which the SEF command has been addressed.

User response

Ensure that the correct product load library is allocated to your TSO environment, or address the SEF request to a copy of the product that is running the a compatible version.

HLV4307E **SUBSYS SEF command cannot be issued in a rule**

Explanation

The SUBSYS SEF command cannot be issued from within an SEF rule environment

User response

Force this section of code to run in a server using OPSREQ.

HLV4308E ***errdesc*, RC=*rcode***

Explanation

Some type of service routine (operating system or product specific) failed. The error message identifies the type of error.

User response

Check the full text of the error message, and attempt to correct the error.

HLV4319T **ABEND IN 'ADDRESS SWSSEND' CODE=*ccode*, REASON=*rsncode* AT *addr***

Explanation

An abend occurred within the ADDRESS SWSSEND host environment.

User response

Check for other errors that might explain the condition.

HLV4320H ***subsysid* SEF CMD FROM(*jobname*,*userid*): *cmd***

Explanation

This message logs the use of SEF host commands to the hardcopy console. The FROM keyword contains the job name and user ID used for authorization purposes.

User response

No action required. This message is for information tracking only.

HLV4321E **CURRENT *verb* COMMAND NOT AUTHORIZED - *errmsg***

Explanation

Product REXX SEF command authorization check routine found that the current user is not authorized to execute the SEF command. Access to the EXECUTE command is denied.

User response

Check the verb string of the error message text for the command whose access is denied. Ensure that the current user has the required access. Contact your security systems administrator for further help, if necessary.

HLV4322S **ABEND *abcode* IN AUTHORIZATION ROUTINE *modname+offset***

Explanation

An abend occurred in the authorization checking routine

User response

Contact the person at your installation who installs and maintains your installation security product.

HLV4336E ***msgtext***

Explanation

An SEF command was invalid or has failed for the reason indicated in the message.

User response

Correct and re-submit the SEF command.

HLV4337T **THE TSO COMMAND IS INVALID DUE TO *errdesc***

Explanation

A command passed to the ADDRESS TSO or ADDRESS TSOSRV environment is invalid for the reason given. The system rejects the command, with RC=-3 indicating an invalid host command environment command.

User response

Determine why the command was rejected, and resubmit the command.

HLV4338I **TSO REMOTE EXECUTION TIMEOUT VALUE SET TO *time***

Explanation

A GETTIMEOUT command was passed to the ADDRESS TSO interface. This message is returned on the external data queue as a response.

User response

None. The timeout value is given in 100ths of seconds.

HLV4339T ***environment* COMMAND TIMED OUT**

Explanation

An ADDRESS TSO or ADDRESS CGI host command did not complete within the allowed time. The requesting routine is redispatched.

User response

Determine why the host command did not complete within the required time frame. The delay could be due to looping within the TSO/CGI command procedure or heavy usage of the external TSO servers.

HLV4340S **Subsystem *subsysid* inactive, must be (re)started**

Explanation

An ADDRESS TSO or ADDRESS TSOSRV host command has been directed to a product subsystem that is not currently active.

User response

Start or restart the product subsystem whose subsystem ID appears in the message, or correct the program to specify the ID of an active product subsystem.

HLV4341S **TSO/E is not installed**

Explanation

TSO/E (IBM's program product number 5665-293) is required to support the use of the product.

User response

Verify that this product is available at your installation.

HLV4342E **TSO command length (*length*) exceeds maximum length (*maxlength*)**

Explanation

The length of the TSO command exceeds the implementation limits. Note that the length of TSO host commands sent from SEF rules to the OSF execute queue have a lower limit (256 bytes or the BLKSIZE on the server SYSTSIN DD statement, whichever is smaller).

User response

Check if there are an excessive number of blanks in the TSO command string. If so, remove the blanks from the command string. If you need to pass long values from a rule to a server REXX program, use global variables to pass the values.

HLV4343S **TSO service error - *errdesc***

Explanation

An error occurred in the product service routine that executes TSO commands via the TSO command service routine.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the

problem cannot be resolved, contact Software Support.

HLV4344S **TSO service error - *abcode1 abcode2* - reason code *rsncode***

Explanation

An abend occurred in the product service routine that executes TSO commands via the TSO command service routine.

User response

Check for other error messages that were generated with is error message. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV4345S **TSO service error - *errdesc* - reason code *rsncode***

Explanation

An error was detected in the parameter list passed to the product service that calls the TSO command service routine.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV4346E **Current *verbaddr* command not authorized - *errmsg***

Explanation

The authorization check failed. The use of ADDRESS OSF is restricted by your installation security product.

User response

Contact the person at your installation who installs and maintains your installation security product.

HLV4347S **ABEND *abcode* IN AUTHORIZATION ROUTINE *modname+offset***

Explanation

An abend occurred in the authorization checking routine.

User response

Contact the person at your installation who installs and maintains your installation security product.

HLV4348S ***rsrcname sysserv* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

Some type of error occurred during invocation of a product service routine associated with the ADDRESS TSO or ADDRESS OSF environment. The error occurred while attempting to set up the environment for executing a TSO command via the TSO/E command service routine.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV4349S **MESSAGE SEND TO TSO EXECUTE QUEUE FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

The product has attempted to send a command to the TSO server execute queue in a product Server address space, and the attempt has failed. If the return code in the message is 4, then the TSO execute queue is full. Any one or some combination of the following conditions may be true: (1) there is a rule or some combination of rules that is looping, (2) there is a loop in an application that is causing TSO commands to be issued very frequently, (3) there are too few servers or the servers may be tied up running relatively long processes, or (4) the TSO execute queue may be too small for your server workload.

User response

Review the contents of the message and any associated messages, and attempt to resolve the problem. If the problem cannot be resolved, contact Software Support to obtain additional assistance.

HLV4350I **Load for module *modname* failed, CCTL initialization error**

Explanation

This message is issued if a module needed to initialize the CCTL interface to IMS could not be loaded. The

message contains the module name. The module is either missing or some other error has occurred.

User response

Check if any other messages were issued. Check if the named module is in the search sequence. Note that this problem can be resolved without restarting the main product address space.

HLV4351I DRA control exit invalid PAPL subfunction = *sfcd*

Explanation

This message is issued when the product DRA control exit receives notification of a DRA failure but is passed an unrecognized subfunction code.

User response

No action required. The product will attempt to restore a connection with the IMS control region. Note that this error message may be followed by other, more descriptive error messages as the product attempts to reconnect to the IMS DBCTL.

HLV4352I DRA control exit invalid PAPL function = *funcd*

Explanation

This message is issued when the product DRA control exit receives an unrecognized function code.

User response

No action required. The product will attempt to restore a connection with the IMS control region. Note that this error message may be followed by other, more descriptive error messages as the product attempts to reconnect to the IMS DBCTL.

HLV4353I IMS CCTL support activated

Explanation

This message is issued when the product DRA control exit receives a notification that the connection to the IMS control region has been established successfully.

User response

No action required. This is an informational message only.

HLV4354I IMS CCTL support terminating

Explanation

This is an informational message that is issued when the product terminates its IMS CCTL support. If the IMS CCTL support is being terminated due to a fatal error condition, this message will have been preceded by error messages which depict the exact error condition encountered.

User response

Follow the course of action recommended for the error messages that preceded this error message. If the product CCTL support continues to terminate due to a fatal error condition, contact Software Support for further assistance.

HLV4355I IMS CCTL control exit resync failure

Explanation

The IMS CCTL control exit has been unable to successfully process a resync request during product initialization.

User response

Check the MVS system log for any IMS messages occurring around the time of this failure. Correct any IMS problems that may have occurred. Then ABORT the in-doubt UORs for this server. If the problem continues to persist, contact Software Support for further assistance.

HLV4356I IMS DRA terminating due to unknown error condition

Explanation

The IMS Data Resource Adaptor running inside of the main product address space has terminated due to some unknown error condition. Product IMS support will be terminated.

User response

Check the MVS system log for any IMS messages occurring around the time of this failure. Correct any IMS problems that may have occurred, and restart the HLV address space. If the problem continues to persist, contact Software Support for further assistance.

HLV4357I Invalid request, IMS CCTL feature not enabled

Explanation

None.

User response

Contact IBM Software Support.

HLV4358I Request failed product not identified to IMS

Explanation

The product has made one or more attempts identify itself to the IMS DBCTL region, but the attempts have failed. There is currently no active connection between the product address space and the IMS DBCTL region.

User response

Check Trace Browse for any related product messages. Check the MVS system log for any related IMS messages. Correct any IMS problems discovered. The product will continue to attempt to connect to the IMS region until a successful connection has been established.

HLV4359I PSB *psb* schedule request unsuccessful

Explanation

The product was unable to successfully schedule the PSB specified by the client application.

User response

Check the PSB name to ensure that it is correct. If the problem continues to persist, contact Software Support for further assistance.

HLV4360I Request failed - PSB not in scheduled state

Explanation

The current request requires that a prior PSB schedule attempt had completed successfully, and no active thread was found for this task.

User response

Check the program logic in the client-side application to ensure that the "CC" message was sent prior to issuing DL/I requests or the "TERM" message. If the problem continues to persist, contact Software Support for further assistance.

HLV4362I Invalid buffer function code *funcd*

Explanation

The buffer function code passed to this routine was invalid. The host transaction program could not handle the buffer function code passed by the client.

User response

Verify that the host application requested by the client matches the current call to the host. Contact Software Support for further assistance, if necessary.

HLV4363I Previous CCTL termination failed, initialization will use previous session PAPLCTOK value

Explanation

This is an informational message that is issued during product initialization when the CCTL initialization routine determines that the previous CCTL termination did not complete successfully.

User response

No action is required. This message is for informational purposes only.

HLV4370T Access to Services is not activated.

Explanation

None.

User response

Contact IBM Software Support.

HLV4371T Services is not active on the server

Explanation

Services is not started on the server and cannot be used by client applications. The current request to use client to execute a web service is rejected. The current host session will be terminated.

User response

If access to Services is needed, enable Services by setting the correct parameters on the server.

HLV4372H WEB SERVICE *%1* UNDER VIRTUAL DIRECTORY *%2* HAS BEEN *%3*

Explanation

A web service has been enabled or disabled.

User response

No action is required. This message is for informational purposes only.

HLV4375W **OE sockets WSOEPORT conflict with PIO port - zervices HTTP listener terminating**

Explanation

The port number for OE Sockets Services (WSOEPORT) has been set to the same non-zero value as the parallel I/O port.

User response

This OE Sockets task of the main address space shuts down. Startup continues without Services support.

HLV4376W **MongoDB support services TCP/IP port(s) conflict with other port number assignments - Mongo terminating**

Explanation

The port number(s) assigned for MongoDB server support conflicts with other non-zero port number assignments for other product support services.

User response

The MongoDB listener task will terminate and Mongo support will be deactivated.

HLV4377W **MongoDB listener ports not set - MongoDB support willnot be activated**

Explanation

The port numbers for MongoDB client connections have not been set. MongoDB support, requested by the MongoDB start-up parameter cannot be activated.

User response

The MongoDB listener task shuts down, and start-up continues without MongoDB support.

HLV4378W **OE sockets HTTP port (WSOEPORT) conflicts with main OE port (OEPORTNUMBER) - HTTP listener terminating**

Explanation

The port number for OE Sockets HTTP and Services access is set to the same non-zero value as the normal (ODBC) port. Services HTTP listener task will terminate and HTTP access to this server will be unavailable.

User response

This OE Sockets task of the main address space shuts down. Startup continues without HTTP and Services support.

HLV4379W **OE sockets HTTP port (WSOEPORT) unset - HTTP && Services support unavailable**

Explanation

The port number for OE Sockets HTTP and Services access is un-set. Services Support, requested by WSACTIVE option, has been reset and will not be available. HTTP access to the server by the Studio will also be unavailable.

User response

This OE Sockets task of the main address space shuts down. Startup continues without HTTP and Services support.

HLV4380E **MongoDB feature is not configured - Mongo listener on port *portno* will not be activated.**

Explanation

None.

User response

Contact IBM Software Support.

HLV4381H **Parallel I/O port OPEN failure**

Explanation

An error occurred when trying to open a socket for the Parallel I/O port.

User response

Verify that the port number is correct.

HLV4382H **Non load-balanced port OPEN failure**

Explanation

An error occurred when trying to open a socket for a non load-balanced port.

User response

Verify that the port number is correct.

HLV4383H **OE sockets TCP/IP DubProcess failed. RC=*rcode*. Reason code=*rsncode*.**

Explanation

An error occurred when trying to set the DUBPROCESS option for OE Sockets processing.

User response

Verify that the userid used to start the server has an OMVS segment defined. If this does not resolve the problem, contact Software Support for additional assistance.

HLV4384S **Services load balancing port not unique, server terminating**

Explanation

A load balancing Services port has been specified. However the port number is already used by another listener such as the main TCP/IP listener, SSL, or regular Services.

User response

Change the port numbers so they do not match and restart the product. The product parameter for setting the SSL port is OESSLPORTNUMBER. The product parameter for the non- load balanced port is OENLPORTNUMBER. The product parameter for setting the non-SSL port number is OEPORTNUMBER. The product parameter for setting the Services port number is WSOEPORT. The product parameter for setting the Services SSL port number is WSOESSLPORT The product parameter for setting the Services balanced port number is WSOEBALANCEDPORT

HLV4385H **WS load-balanced port OPEN failure**

Explanation

An error occurred when trying to open a socket for a ws load-balanced port.

User response

Verify that the port number is correct.

HLV4386S **SSL port number required - OE sockets TCP/IP processing terminated**

Explanation

SSL processing has been requested. However, the SSL port number has not been set or has been set to zero. OE Sockets was terminated.

User response

Set the SSL port number in the initialization exec, and restart the product. If this does not resolve the problem, contact Software Support for additional assistance.

HLV4387S **PIO and ODBC ports match - OE sockets PIO port is reset to zero**

Explanation

PIO processing has been requested. However, the PIO port number is the same as the ODBC port number. The OEPIOPORTNUMBER is set to zero. Parallel I/O support will be disabled.

User response

Change the OEPIOPORTNUMBER to be different from the OEPORTNUMBER value.

HLV4388S **SSL and non-SSL ports match - OE sockets SSL port is reset to zero**

Explanation

SSL processing has been requested. However, the SSL port number is the same as the non-SSL port number. The OESSLPORTNUMBER is set to zero. The non-SSL port number will accept both SSL and non-SSL inbound requests.

User response

None required. To eliminate the message, remove the OESSLPORTNUMBER parameter from the initialization exec.

HLV4389S **OE stack *oestack* can not be used - OE sockets TCP/IP processing terminated**

Explanation

The name of a specific OE stack was specified using the TCPNAME product parameter. However, this OE stack cannot be used for some reason. OE Sockets was terminated.

User response

Correct the name of the OE stack by modifying the TCPNAME product parameter. Restart the main product address space.

HLV4390E **Invalid dynamic VIPA IP address *%1* specified**

Explanation

Dynamic VIPA support has been configured, however the IP address specified for Dynamic VIPA support to use is not valid. Dynamic VIPA support will be disabled.

User response

Either delete the Dynamic VIPA IP address or properly specify an IP address using dotted-decimal notation.

HLV4391I **OE stack binding port *portno* to IP address *ipaddr***

Explanation

The Open Edition support is binding the product to the indicated port and the indicated IP address.

User response

None. This is an informational message only.

HLV4392I **OE stack returning invalid results when sockets are ready**

Explanation

This message is issued when the OE main task detects that select() returned a zero return value even though there were sockets ready in the returned socket mask. This could lead to a loop occuring in OPMAOT trying to process a listening socket.

User response

Cyour sales representative for instructions on gathering documentation for this problem in IBM Open Edition code.

HLV4393I **OE stack returning too soon from select when no sockets are ready**

Explanation

This message is issued when the OE main task detects that select() returned sooner than expected when a timeout value was specified and there were no sockets ready for processing. This could lead to wasted time in OPMAOT when there is not work to do.

User response

Contact Software Support for instructions on gathering documentation for this problem.

HLV4400T ***msgtext***

Explanation

This is a general purpose message that may or may not indicate some type of TCP/IP error.

User response

Read the message text carefully. Some messages produced under this message ID are actually error messages. If the message indicates an error, check for any associated TCP/IP produced error messages. If you are unable to diagnose the problem, contact Software Support.

HLV4401W **No TCP/IP port number specified.**

Explanation

This message indicates that no port number was specified for the product to LISTEN for, and ACCEPT inbound OE Sockets TCP/IP sessions.

User response

Change the xxxxIN00 EXEC to specify a port number for the OEPORTNUMBER parameter which is used to LISTEN for, and ACCEPT all inbound OE Sockets TCP/IP sessions.

HLV4410E ***service* OF *desc* FAILED RC=*rcode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe a wide variety of message processing errors. The message text gives a description of the current operation (*service*) and what the current operation was trying to do.

User response

Keep all the related error details, and contact your local product systems programming group for assistance with this problem.

HLV4411E **GLOBAL VARIABLE RULE CHAINING DEPTH EXCEEDS MAXIMUM VALUE**

Explanation

Global variable rule chaining has exceeded the maximum value. All pending global variable rules will not be fired. The current operation continues.

User response

If this situation has been caused by a recursive infinite global variable rule loop, modify the global variable rule to avoid this situation. If this situation is not due to a REXX programming error, increase the global variable rule chaining limit (GLVCHAINMAX).

HLV4413I ***no*** **MESSAGES SINCE THE LAST ARCHIVE. CURRENT MESSAGE NUMBER IS** ***seqno***

Explanation

The number (*no*) of messages added to Trace Browse since the last Trace Browse message archived has exceeded a user-defined threshold.

User response

This message may be used as a trigger for starting the Trace Browse archive program based on the number of messages since the last archive rather than on a time basis using the TODARCH rule.

HLV4420H ***msgtext***

Explanation

This is a general purpose message that may or may not indicate some type of ITC/IP error.

User response

Read the message text carefully. Some messages produced under this message ID are actually error messages. If the message indicates an error, check for any associated ITC/IP produced error messages. If you are unable to diagnose the problem, contact Software Support.

HLV4421H **UNKNOWN** ***service*** **CODES - R0=***r0* **R15=***r15*

Explanation

This message reports ITC/IP return and reason codes (R0 and R15) that are unknown to HLV.

User response

This may indicate some type of internal error. It is also possible that you are running a version of ITC/IP not yet supported by HLV. If the version of ITC/IP that you are running DOES appear to be supported, contact Software Support.

HLV4422H **UNKNOWN** ***service*** **CODES - ERCD=***errcd* **DGCD=***diagcd*

Explanation

This message appears in conjunction with the 4421H message.

User response

This may indicate some type of internal error. It is also possible that you are running a version of ITC/IP not yet supported by HLV. If the version of ITC/IP that you are running DOES appear to be supported, contact Software Support.

HLV4423H **UNKNOWN** ***service*** **CODES - ERCD=***errcd* **DGCD=***diagcd*

Explanation

This message appears in conjunction with the 4421H message.

User response

This may indicate some type of internal error. It is also possible that you are running a version of ITC/IP not yet supported by HLV. If the version of ITC/IP that you are running DOES appear to be supported, contact Software Support.

HLV4450S ***jobname*** **error inquiring CICS system information for client - EIBRESP:** ***respcd***

Explanation

The client PLTPI program encountered an error inquiring CICS system information.

User response

Probable CICS error. Check the system log for errors.

HLV4451S ***jobname*** **error enabling client exit program** ***progname*** **- EIBRESP:** ***respcd***

Explanation

The client PLTPI program encountered an error enabling a client exit program.

User response

Check that the exit program has been correctly defined to CICS.

HLV4452S ***jobname*** **error extracting GWA address for client program** ***progname*** **- EIBRESP:** ***respcd***

Explanation

The client PLTPI program encountered an error extracting the Global Work Area address for the exit program.

User response

Probable CICS error. Check the system log for errors.

HLV4453S ***jobname*** **error starting client exit program** ***progname*** **- EIBRESP:** ***respcd***

Explanation

The client PLT program encountered an error starting the user exit program.

User response

Check that the exit program has been correctly defined to CICS.

HLV4454I ***jobname*** **client exit program** ***progname*** **started**

Explanation

The client task-related user exit program has been started.

User response

None. This message is for informational purposes only.

HLV4455S ***jobname*** **GWA length not as expected for client exit program** ***progname*** **-** ***explength*****:** ***explength*****, returned: GWA**

Explanation

The GWA length returned by CICS for the client TRUE is not the expected length.

User response

Check that the exit program has been correctly defined to CICS.

HLV4456I ***jobname*** **program creation date:** ***date***

Explanation

This message provides the creation date of the client TRUE exit program.

User response

No action is required.

HLV4457S ***jobname*** **Program load failed - EIBRESP:** ***respcd***

Explanation

The client API interface routine could not be loaded.

User response

Ensure that the load module is available to the CICS region.

HLV4458W ***jobname*** **client exit program** ***progname*** **is already enabled**

Explanation

The client PLTPI program encountered an error enabling the client exit program. The program is already enabled.

User response

Check that the PLTPI program has been correctly defined to CICS.

HLV4459I ***jobname*** **client exit program** ***program*** **is enabled**

Explanation

The client PLTPI program is enabled.

User response

This is an informational message. No action required.

HLV4460I ***jobname*** **Program GWA address:** ***addr***

Explanation

This message provides the address of the client TRUE exit's Global Work Area (GWA).

User response

No action is required.

HLV4470S **IMS CCTL FEATURE MUST BE ENABLED TO ISSUE DL/I CALLS**

Explanation

None.

User response

Contact IBM Software Support.

HLV4471S **INVALID PSB SCHEDULE ATTEMPT - PSB ALREADY SCHEDULED**

Explanation

A user-written RPC program attempted to issue an IMS PCB call in order to schedule the program's PSB. However, the program's PSB is already scheduled.

User response

Correct the internal logic error in the user-written RPC program, and invoke the RPC program again.

HLV4472S **PSB SCHEDULE FAILURE - PSB NAME = *psbname***

Explanation

A user-written RPC program attempted to schedule the program's PSB. The PSB schedule attempt has failed.

User response

The PSB schedule may have failed for a variety of reasons. Ensure that the PSB load module is available to IMS. Ensure that the databases referenced by the PSB are available. Ensure that the PSB has not been stopped by IMS due to an earlier error. If none of the above conditions caused the error, check the IMS MTO log and the MVS MCS console for any related error messages. If all attempts to schedule the PSB fail, contact Software Support for further assistance.

HLV4473S **INVALID DL/I CALL ATTEMPT - PSB NOT SCHEDULED**

Explanation

A user-written RPC program attempted to issue an IMS term call in order to terminate the program's PSB. However, the program's PSB was not previously scheduled.

User response

Correct the internal logic error in the user-written RPC program, and invoke the RPC program again.

HLV4500U ***desc*** **INITIAL GETMAIN FAILED - INCREASE STORAGE SIZE**

Explanation

Insufficient storage. The product was unable to obtain enough storage to allocate the initial program stack.

User response

Check the abend code to determine if the region size should be increased. If necessary, increase the region size, and restart the product.

HLV4501U ***desc*** **UNABLE TO LOCATE THE MASTER BLOCK**

Explanation

A subtask was unable to locate the product control blocks and was forced to terminate. The services provided by the subtask will not be available.

User response

Check the error messages and the return code associated with this problem. There may be one or more abend error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support with this problem.

HLV4502H ***process*** **subtask is active**

Explanation

This is the standard subtask initialization message.

User response

This is not an error message, and no action is required.

HLV4503S **ESTAE *service* ERROR RC=*rcode***

Explanation

The subtask driver attempted to create an ESTAE recovery environment. The ESTAE macro failed.

service may be create or delete.

User response

Check the error messages and the return code associated with this problem. There may be one or more ESTAE error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support with this problem.

HLV4504E ***rsrc sysserv* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

Some type of error occurred in the system management routines of the product. See the actual text of the message for an explanation. The error was probably caused by a failure in an operating system service requested by a product system management routine.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support for assistance with this problem.

HLV4505H **ABEND *abcode* IN *service* *modname+offset***

Explanation

The subtask driver routine detected an abend in the routine called by the driver. The message text provides the abend code, current operation (*service*), and abend location. This failure may have been caused by a programming error in the routine that caused the subtask exit to get control or in the subtask exit routine itself. This failure can also be caused by product installation and maintenance errors.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. If the problem cannot be resolved, contact Software Support.

HLV4506H ***process* subtask terminating**

Explanation

This is the standard message indicating that subtask execution is complete.

User response

This is not an error message and no action is required.

HLV4507E **SUBTASK ERROR TERMINATION: RC=*rcode***

Explanation

This message is issued when the subtask driver module terminates due to an error.

User response

Check if any other error messages were generated along with the error message above. If the combined error messages are sufficient to explain the problem, take whatever corrective action is appropriate. Otherwise, contact Software Support with this problem.

HLV4508H ***subtask* SUBTASK: *objname objval***

Explanation

This message is only issued when the product service task debugging is requested using the DEBUGATMD option.

User response

No action required. This message is informational only.

HLV4520W **LOAD FOR MODULE *modname* FAILED, ODBA INITIALIZATION ERROR**

Explanation

This message is issued if a module needed to initialize the ODBA interface to IMS could not be loaded. The message contains the module name. The module is either missing or some other error has occurred.

User response

Check if any other messages were issued. Check if the named module is in the search sequence. Resolve the problem and restart the server.

HLV4521S **Unable to implant ODBA interface, return code: *rcode***

Explanation

This message is issued if the product was unable to implant its ODBA interface routine. The return code is provided.

User response

Check if any other messages were issued. Call Software Support.

HLV4522W **UNABLE TO CONNECT TO IMS/ODBA FOR STARTUP TABLE ID: *tblid*, RETURN CODE: *rcode*, REASON CODE: *rsncode*, ERROR CODE: *errcd***

Explanation

This message is issued if the product was unable to connect to IMS/ODBA for the Startup Table Identifier in the message.

Codes comes from AIBRETRN, AIBREASN, and AIBERRXT respectively.

User response

Check if any other messages were issued and IMS/DB is active. If the Startup Table does not exist, generate it. The next ODBA request for this startup table identifier will retry this operation.

HLV4523W **ERROR IN DISCONNECTING FROM IMS/ODBA CONNECTIONS. RETURN CODE: *rcode*, REASON CODE: *rsncode***

Explanation

This message is issued if the product was unable to disconnect from IMS/ODBA.

Code comes from AIBRETRN, and AIBREASN.

User response

Check if any other messages were issued and IMS/DB is active. If the Startup Table does not exist, generate it. The next ODBA request for this startup table identifier will retry this operation.

HLV4524W **ERROR IN DISCONNECTING FROM IMS/ODBA CONNECTION *tblid*. RETURN CODE: *rcode*, REASON CODE: *rsncode*, ERROR CODE: *errcd***

Explanation

This message is issued if the product was unable to connect to IMS/ODBA for the Startup Table Identifier in the message.

Codes come from AIBRETRN, AIBREASN, AIBERRXT.

User response

Check if any other messages were issued and IMS/DB is active. If the Startup Table does not exist, generate it. The next ODBA request for this startup table identifier will retry this operation.

HLV4525I **MAXIMUM NUMBER OF SIMULTANEOUS ODBA CONNECTIONS (*max*) REACHED - *no* TIMES - CONNECTION DENIED**

Explanation

This message is issued if the product was unable to connect to IMS/ODBA because the maximum number of simultaneous connections was reached a number (*no*) of times.

User response

Raise the MAXODBACONNECT parameter. Default is 8 if it was not specified.

HLV4526I ***no* ODBA CONNECTION ENTRIES FREED**

Explanation

This message is issued if the product ODBA Connection Entry table cleanup routine was able to free some previously allocated entries. This message is a warning of a table full condition that will begin denying connections.

User response

Raise the MAXODBACONNECT parameter. Default is 8 if it was not specified.

HLV4527T **ODBA interface not *type***

Explanation

This message is issued if the product ODBA Interface is not either initialized or enabled.

type can be initialized or enabled.

User response

If it has not been initialized, contact Software Support. If it is not enabled, check initialization parameters.

HLV4528I **Load for module *modname* failed, ODBA interface disabled**

Explanation

This message is issued if a module needed to initialize the ODBA interface to IMS could not be loaded. The message contains the module name. The module is either missing or some other error has occurred.

User response

If IMS/ODBA support is not desired, then no action is needed. Otherwise check if other messages were issued. Check if the named module is in the search sequence. Resolve the problem and restart the server.

HLV4529W **ERROR IN DEALLOCATING PSB: *psb* FOR STARTUP TABLE *tblid* DURING ODBA/RPC CLEANUP. RC: *rcode*, RE: *rsncode***

Explanation

This message is issued if an RPC that was using the IMS/DB ODBA Interface terminated, left some PSBs allocated, and product cleanup encountered an error deallocating them.

Codes come from ALERTDLI calls.

User response

Fix the error in the RPC that caused it to terminate without deallocating these PSBs.

HLV4530I **IMS/DB ODBA INTERFACE TERMINATED**

Explanation

This message is issued when the product has terminated the IMS/DB ODBA Interface.

User response

None.

HLV4531W **ERROR TERMINATING IMS/DB ODBA INTERFACE. RC: *rcode*, RE: *rsncode***

Explanation

This message is issued when the product has terminated the IMS/DB ODBA Interface.

User response

None.

HLV4532S **ODBA STARTUP TABLE MODULE - *modname* - IS NOT RE-ENTRANT. UNABLE TO MODIFY**

Explanation

This message is issued when an IMS/ODBA Connection is requested, but the startup table module is not marked re-entrant. the product cannot modify the module with server userid if required nor merge DEFINE IMSODBA parameters.

User response

Re-generate the DFSxxxx0 module indicated and link it as re-entrant.

HLV4533S **ODBA MODIFY ACTION BYPASSED FOR TABLE *modname***

Explanation

This message is issued when an IMS/ODBA Modify Action is requested, but there does not seem to be any active ODBA connection under the name requested.

User response

Re-enter the Modify command with the proper Startup Table name.

HLV4534I ***req* OF IMS/ODBA CONNECTION FOR STARTUP TABLE *modname* *resolution***

Explanation

This message is issued when an action on an IMS/ODBA connection is requested. The status of the request is displayed. If the status is "failed" look for other messages that will indicate the return and reason codes.

resolution can be succeeded or failed.

User response

Re-enter the Modify command after dealing with the errors indicated by the other messages.

HLV4550T **OPRXSQ - USER *userid* CONNECTED WITH UNOPTIMIZED PLAN *plan***

Explanation

This message is issued when a user connected with an old unoptimized OPRXSQ Db2 Plan.

User response

Rebind the specified plan so it includes the optimized packages OPRXSQA-R.

HLV4551T ***dbrm* - UNRECOGNIZED *type* PROVIDED - SECTION *stmtno* - STATEMENT *sectno***

Explanation

This message is issued when an unrecognized statement or section number is provided to the OPRXSQ plan translation routine.

type can be either SECTION or STATEMENT.

User response

Contact Software Support for assistance.

HLV4552T **COLLECTION ID *collname* FOR PLAN *plan* WILL USE PACKAGE PROCESSING**

Explanation

This informational message is issued when the Db2 collection name for the current connection has been determined.

User response

None

HLV4553T **PACKAGE OPRXSQ *dbrm* SECTION *sectno1* USED FOR SECTION *sectno1* STATEMENT *stmtno***

Explanation

This informational message is issued when SQL section number translation is done for the product Db2 PLAN, OPRXSQ. This message will only be issued under the direction of Software Support.

Note that *sectno1* represents the new OPRXSQ section number, and *sectno2* represents the original OPRXSQ section number.

User response

None

HLV4554T **PLAN *plan* DOES NOT USE PACKAGE PROCESSING**

Explanation

This informational message is issued when the Db2 plan does not have a collection name that matches the package list.

User response

None

HLV4555T **PACKAGE OPRXSQ *pkge* IN COLLECTION *collname* SELECTED**

Explanation

This informational message is issued when SQL section number translation is done for the product Db2 PLAN, OPRXSQ.

User response

None

HLV4556T **PLAN *plan* WILL USE PACKAGE PROCESSING**

Explanation

This informational message is issued to indicate that the optimized packages will be used to process Db2 requests.

User response

None

HLV4557T **PACKAGE OPRXSQ *pkge* SELECTED**

Explanation

This informational message is issued when SQL section number translation is done for the product Db2 PLAN, OPRXSQ.

User response

None

The variable fields of the message text are: pack Package name that will be used.

HLV4558T **PLAN *plan* WILL USE DRDA SUBSTITUTE PACKAGES**

Explanation

This informational message is issued when the Db2 plan will be internally converted to the use of substitute packages for DRDA connections.

User response

None

HLV4601I ***status***

Explanation

This message contains the first of each two-line response to the TSOSRV_LIST command. Each two-line response group shows the status of the TSO server and the command being executed.

User response

None.

HLV4602I ***cmdname***

Explanation

This message contains the second of each two-line response to the TSOSRV_LIST command. Each two-line response group shows the status of the TSO server and the command being executed.

User response

None.

HLV4603I **SERVER *asid* POSTED FOR TERMINATION**

Explanation

The TSOSRV_STOP command has posted the server for termination.

User response

None.

HLV4604I **SERVER POSTED TO FREE TSSD AT *addr***

Explanation

The TSOSRV_FREE command has posted the server for release of the TSSD.

User response

None.

HLV4605I ***status***

Explanation

The TSOSRV_QUEUE command returns information using this message.

User response

None.

HLV4606E **ADDRESS SEF TSOSRV_STOP *asid*: ASID NOT SERVER ADDRESS SPACE**

Explanation

An invalid hex ASID was specified on a TSOSRV_STOP command.

User response

Correct the ASID, and re-issue the TSOSRV_STOP command.

HLV4607S ***funcd* OF *queue* FAILED, RC=*rcode***

Explanation

The specified function failed within the ADDRESS SEF host command environment.

User response

Determine from the message text what function failed, and review the return codes for the failed function. Contact your local product systems programming group assistance.

HLV4608E **ADDRESS SEF TSOSRV_FREE *addr*: ADDRESS NOT THAT OF A TSSD**

Explanation

An invalid address was specified on the TSOSRV_FREE command.

User response

Correct the address, and re-issue the TSOSRV_FREE command.

HLV4609I ***stats***

Explanation

The TSOSRV_EXECSTATS command returns information using this message.

User response

None.

HLV4612H ***jobname*** **HAS RESET THE TSO SERVER COMMAND EXECUTION QUEUE**

Explanation

A TSOSRV_RESETQ command was issued from the specified job.

User response:

HLV4650E **UNABLE TO OBTAIN** ***storsize*** **BYTES BELOW THE LINE**

Explanation

ADDRESS LINKMVS is required to obtain storage below the 16MB line to hold both parameters and a register save area to be passed to the requested program. If this storage cannot be obtained, host command processing is terminated.

User response

Batch jobs must be rerun with a larger below the line region size. TSO users must log on with a larger region size, and re-issue the command.

HLV4680T **ENCLAVE SET RC=*rcode* FOR CALL CODE *callcd* (*calltype*) - *failmsg***

Explanation

While attempting to invoke a High-Level Language (HLL) subroutine via the MVS Language Environment CEEPIPI interface module, an error occurred. This message logs the error. This message may be followed by message 4681 for subroutine invocations.

failmsg is specific to a given call type.

User response

The HLL subroutine is not called, and the product's LE/370 enclave may be terminated as indicated by other messages. If possible, determine the cause of the error using other messages logged, and correct the problem, or contact Software Support group.

HLV4681T **ROUTINE INVOKED WAS *indexcd* - *subrout***

Explanation

This message follows the 4680T message when a subroutine invocation was underway. The subroutine CEEPIPI table index value and its external name are reported.

User response

See message 4680T.

HLV4682T **ROUTINE RC=*rcode* REASON=*rsncode* ENCLAVE FEEDBACK(*feedback*)**

Explanation

This message follows the 4681T message and reports the subroutines return code, reason code, and the LE/370 enclave feedback codes (*feedback*).

User response

See message 4680T.

HLV4683T **ENCLAVE MGR CANNOT REENTER SUPERVISOR STATE**

Explanation

Following a call to the LE/370 CEEPIPI routine, normal supervisor state operation of the enclave manager could not be restored.

User response

Contact Software Support.

HLV4684T **ENCLAVE ABENDED CONDITION CODE=*ccode*, REASON=*rsncode* FOR CALL CODE *callcd* (*calltype*) - *failmsg***

Explanation

While attempting to invoke a High-Level Language (HLL) subroutine via the MVS Language Environment CEEPIPI interface module, an abend was intercepted. This message logs the error. This message may be followed by message 4681T for subroutine invocations.

User response

The HLL subroutine is not called, and the product's LE/370 enclave may be terminated as indicated by other messages. If possible, determine the cause of the error using other messages logged, and correct the problem, or contact Software Support group.

HLV4685T ***api*** **PLIST ERROR *errdesc* - *plistval* (*data*)**

Explanation

While attempting to invoke a High-Level Language (HLL) callback routine, the callback routine detected a parameter list validation error. This message logs the reason for the plist validation error.

User response:
An invalid plist return code is set by the API function, and return is made to the HLL program. Contact Software Support with this error.

HLV4686S ***msgtext***

Explanation

A severe error message was logged to the trace by a High-Level Language (HLL) component of the main product. The message is also logged to the operator console using this message ID.

User response

See the contents of the message and the trace surrounding this condition, and correct the problem. Contact Software Support with this error.

HLV4687T **ENCLAVE TERMINATED BY COBOL STOP RUN - CLIENT CONNECTION TERMINATED**

Explanation

A COBOL RPC program ended with a STOP RUN statement which caused the LE enclave to terminate.

User response

Replace the STOP RUN statement with a GOBACK statement and recompile and link the program.

HLV4700T ***%1*** **MODEL QUEUE NAME NOT SET - *%2* USED AS MODEL QUEUE**

Explanation

The name of the model queue for this qmanager instance has not been set. The default model queue will be used, if possible.

User response

The MQ task will attempt to open the queue using the default model queue.

HLV4702T **'%1' INPUT QUEUE NAME NOT SET - '%1' PROCESSING TERMINATED**

Explanation

The name of the input queue for this qmanager instance has not been set. The default input queue will be used, if possible.

User response

The MQ task will attempt to open the queue using the default input queue.

HLV4704H **UNKNOWN *service* CODES - RE=*rsncode* RC=*rcode***

Explanation

This message reports IBM/MQ return and reason codes that are unknown to HLV.

User response

This may indicate some type of internal error. It is also possible that you are running a version of IBM/MQ not yet supported by HLV. If the version of IBM/MQ that you are running DOES appear to be supported, contact Software Support.

HLV4706T ***msgtext***

Explanation

This is a general purpose message that may or may not indicate some type of IBM/MQ error.

User response

Read the message text carefully. Some messages produced under this message ID are actually error messages. If the message indicates an error, check for any associated IBM/MQ produced error messages. If you are unable to diagnose the problem, contact Software Support.

HLV4750T **IDCAMS SYSPRINT:** ***msgtext***

Explanation

The IDCAMS utility has generated SYSPRINT output. The output line is given in the message text. IDCAMS has been invoked using the product's S_HLVRXID interface.

User response

None. The message gives the text of a SYSPRINT line generated by the IDCAMS utility.

HLV4751T **IDCAMS WARNING:** ***msgtext***

Explanation

The IDCAMS utility has generated SYSPRINT output. The output line is given in the message text. IDCAMS has been invoked using the product's HLVRXID interface. The message is issued in response to an IDCxxxx message condition detected by IDCAMS.

User response

None. The message gives the text of a SYSPRINT line generated by the IDCAMS utility.

HLV4752T **IDCAMS SYSIN: *msgtext***

Explanation

The IDCAMS utility is about to be invoked by the HLVRXID REXX interface program. This message traces the command text that will be passed to the IDCAMS utility.

User response

None. The message gives the command text that will be presented to IDCAMS.

HLV4753T **IDCAMS RESULTS: LASTCC=*lstcc* COMPCODE=*ccode* REASCODE=*rsncode***

Explanation

The IDCAMS utility has completed. This message reports the LASTCC, completion codes, and reason codes.

User response

None. The message reports the completion codes at the end of the IDCAMS request.

HLV4800E **DYNALLOC *reqtype ddname* - ABEND - COND=*condcd* REASON=*rcode***

Explanation

A DYNALLOC request failed due to an abend.

User response

The request fails. Check for other messages that might indicate the cause of the failure.

HLV4801H ***cmdname* command (issued internally) rejected - another request *request* is already running**

Explanation

An internally generated SEF command cannot be scheduled at the present time, because the system allows only one request of this type to be processed at once.

User response

The system rejects the request and continues to process the in-flight request. Normally, this message would be issued infrequently (only in certain "race" conditions). If this message is issued frequently, contact Software Support for advice on setting server start-up parameters.

HLV4802H **ABEND CC(*condcd*) REASON(*rsncode*) IN *modname* +*offset* WHILE PROCESSING *cmdname* COMMAND ISSUED BY *userid***

Explanation

An SEF command service processing subtask abended while processing the indicated command.

User response

Check for other messages which might indicate the cause of this failure.

HLV4803E ***cmdname* COMMAND FROM *userid* FAILED - RC = *rcode desc ccode***

Explanation

The SEF command service processing routine has ended with an error. The message reports the command being processed, the requesting MVS userid, the service return code, and any abend condition code encountered.

User response

Check for other messages which might indicate the cause of this failure.

HLV4804E **Trace Browse archiving disabled because BROWSEMAX(*val*) value is less than the minimum(*minval*) allowed**

Explanation

Trace Browse archive support has been turned off, because the trace must contain at least the minimum given number of messages.

User response

When too few messages are supported in the trace, it can wrap around before archives of the trace can be created. This message indicates that the current trace contains so few messages that this is likely to occur. Increase the BROWSEMAX start-up parameter value to at least the minimum amount. Note that the minimum given is only a rough estimate and may be entirely insufficient to guarantee that wraparound will not occur.

HLV4805H **BROWSEARCHIVECOUNT parameter has been set to *val* - was below minimum (*minval*) allowed**

Explanation

Trace Browse archive support has been turned on, but the BROWSEARCHIVECOUNT parameter was not set or was set too low.

User response

The system recalculates the BROWSEARCHIVECOUNT value as one-third of the BROWSEMAX value.

HLV4806H **BROWSEARCHIVECOUNT parameter has been set to *val* - was above maximum (*maxval*) allowed**

Explanation

Trace Browse archive support has been turned on, but the BROWSEARCHIVECOUNT parameter was set too high.

User response

The system recalculates the BROWSEARCHIVECOUNT value as one-third of the BROWSEMAX value.

HLV4807H **BROWSEARCHIVECUSHION parameter has been set to *val***

Explanation

Trace Browse archive support has been turned on, but the BROWSEARCHIVECUSHION parameter was set too high or too low.

User response

The system resets the BROWSEARCHIVECUSHION value as indicated which is the minimum allowed value.

The variable fields of the message text are: value current BROWSEARCHIVECUSHION value

HLV4808S **Archive backup is under stress - *val* messages can be logged before overlay**

Explanation

An archive backup of the trace currently cannot be scheduled because one is already underway. Wraparound trace recording has entered the final range of messages, and a wraparound will occur unless the previous archive completes in time for a new one to be scheduled.

User response

The system continues to monitor the status, either deleting this message when the condition is corrected or escalating the severity if a wraparound actually occurs. If some process is inhibiting the completion of archive backup processing in a timely manner, correct the problem. Consider that the trace size (BROWSEMAX) and/or the archive control parameters (BROWSEARCHIVECOUNT and BROWSEARCHIVECUSHION) may need to be enlarged.

HLV4809S **Trace Browse in overlay mode - unarchived records are being overwritten**

Explanation

The trace log has wrapped around, and un-archived messages are now being overwritten. This message replaces the 4808S message if a stress condition is not relieved.

User response

The system continues operating and monitoring conditions. This message is deleted if a new archive backup that relieves the overall stress condition can be completed; however, the overlaid records cannot be recovered.

HLV4810H **Trace 'BACKUP ARCHIVE' command should be externally scheduled**

Explanation

The BROWSEARCHIVE option is set to MESSAGE, and the system has detected that a backup archive of the trace should now be created.

User response

The system issues this message and takes no other action. You should immediately schedule an archive backup operation.

HLV4811H **Trace 'ARCHIVE BACKUP' is being automatically requested**

Explanation

The BROWSEARCHIVE option is set to AUTO, and the trace subtask is requesting a backup-type archive of the selected messages.

User response

The BACKUP ARCHIVE request is scheduled by the SEF subtask for asynchronous execution.

HLV4812E **SEF INTERFACE SET RC=*rcode* FOR *cmdname* COMMAND REQUEST ISSUED BY *userid***

Explanation

An internally generated SEF command was not scheduled due to an unexpected error in the command processing interface routines.

User response

The SEF command is not scheduled. The command requestor continues.

HLV4813I ***cmdname* command cannot be scheduled at this time - a similar request is already running**

Explanation

An archive request has been made, but processing of the request cannot be scheduled at this time, because a previous request of the same type has not yet completed. The system allows, at most, only one archive backup/cleanup task to run, and, at most, only one user requested archive extract.

User response

None. Resubmit the request once the previous request has completed.

HLV4814I ***cmdname* command cannot be scheduled at this time - all SEF service subtasks are busy**

Explanation

An archive request has been made, but processing of the request cannot be scheduled at this time, because a subtask is not available to service the request.

User response

None. Resubmit the request once a subtask is free.

HLV4815I **SEF service task, *tskname*, attached for *cmdname* - requested by *userid-reqorigin***

Explanation

An asynchronous SEF service subtask has been attached for processing of a long-running command.

User response

None.

HLV4816I **Running: EFTK *cbaddr* Routine:*routine* TCB *addr* USERID *userid* UTYPE *reqtype* ECB *ecb* CMD *cmdname***

Explanation

An ARCHIVE STATUS request has been issued. This message is part of the response.

User response

None.

HLV4817I **TRACE: CURRENTMSG *msgno* LASTARCHIVED *msgno* LASTTRIGGERED *msgno* DSNAME *word1* CTLS *word2* %6**

Explanation

An ARCHIVE STATUS request has been issued. This message is part of the response.

word1 and *word2* represent internal control words.

User response

None.

HLV4818E **Processing of *cmdname* command by *subtask* subtask terminated by E-O-T - RC=*rcode***

Explanation

An asynchronous command procedure subtask has terminated unexpectedly while processing an SEF command. This message is sent to the requestor as notification of the failure.

User response

Check for other messages which indicate the cause of the unexpected termination.

HLV4819T **Service subtask *subtask* completed processing of *cmdname* command sent by *userid* - RC=*rcode***

Explanation

An asynchronous command procedure subtask has terminated.

User response

None.

HLV4820E **Processing of *cmdname* command by *subtask* subtask terminated by product shutdown - RC=*rcode***

Explanation

An asynchronous command procedure subtask was terminated forcibly by product shutdown. This message is sent to the requestor as notification of the shutdown.

User response

None.

HLV4821T **Service subtask *subtask* forcibly detached at shutdown - *cmdname* command sent by *userid* - RC=*rcode***

Explanation

An asynchronous command procedure subtask has forcibly detached during shutdown because it did not voluntarily terminate operation quickly enough.

User response

None.

HLV4822H **'ARCHIVE BACKUP' processor has been attached as an SEF service subtask**

Explanation

A backup-type archive of the Trace Browse data has been requested. The processor service routine has now been attached. Additional status and completion messages will be logged to report the results of the backup operation.

User response

None.

HLV4823H **Archive file: DSN=*dsname*, FirstMsg=*msgno*, LastMsg=*msgno*, Count=*count***

Explanation

A new archive data set has been successfully created. This message logs the dsname, the first and last message recorded in the archive, and the count of messages.

User response

None.

HLV4824H ***count* messages beginning at number *msgno* cannot be backed up due to Trace wraparound**

Explanation

A backup-type archive of the Trace Browse data has been scheduled. The indicated range of messages (*count*) cannot be backed up because it has been, or shortly will be, overlaid by wraparound within the trace.

User response

Processing continues. Check and adjust the BROWSEMAX, BROWSEARCHIVECOUNT, and BROWSEARCHIVECUSHION parameters to ensure that the trace does not wrap around without allowing backup operations to complete. This message is normal if you activate automatic archives against an existing trace file that has been in use for some time.

HLV4825H **NO WORK TO DO - ARCHIVE STARTING MESSAGE = *msgno* - ENDING MESSAGE = *msgno***

Explanation

A backup-type archive of the Trace Browse data has been scheduled. There are no messages that can currently be backed up within the range allowed by the BROWSEARCHIVECUSHION value.

User response

Processing ends. Check and adjust the BROWSEMAX, BROWSEARCHIVECOUNT, and BROWSEARCHIVECUSHION parameters to ensure that the trace does not wrap around without allowing backup operations to complete, or explicitly request an ARCHIVE BACKUP, TOEND operation to bypass processing of the storage cushion value.

HLV4826W **ARCHIVE PROCESSING ABORTED DUE TO SUBSYSTEM OR SEF TERMINATION REQUEST**

Explanation

An archive process is being aborted either because a subsystem shutdown is underway or because SEF has requested early termination of the procedure.

User response

Processing ends as quickly as possible. Some resource cleanup may be deferred until subsystem restart.

HLV4827I ***msgdata***

Explanation

The S_ARCHIV REXX procedure was executed while performing an archive allocation or cleanup service. The REXX routine produced trace or SAY messages.

The *data* in the message comes from SYSTSPRT.

User response

The messages produced by S_ARCHIV are logged by this message.

HLV4828E ***procedure*** **REXX PROCEDURE RETURNED INVALID/INCORRECT RESULT FOR ARCHIVE DATA SET** ***calltype*** **REQUEST**

Explanation

The S_ARCHIV REXX procedure was executed but it either did not return a result or it returned a result that was formatted improperly. The REXX procedure is assumed to have failed.

User response

The current archive-related operation is terminated.

HLV4829E ***procedure*** **REXX PROCEDURE FAILED FOR** ***calltype*** **REQUEST - ROUTINE SET RETURN CODE TO** ***rcode***

Explanation

The S_ARCHIV REXX procedure was executed but returned with a failure return code value set.

User response

The current archive-related operation is terminated.

HLV4830E ***procedure*** **REXX PROCEDURE FAILED TO RETURN DATA SET NAME FOR** ***calltype*** **REQUEST**

Explanation

The S_ARCHIV REXX procedure was executed but returned without passing back an MVS data set name, as required for the sub-function request.

User response

The current archive-related operation is terminated.

HLV4831E **DYNALLOC FAILURE - RC=***rcode* **ERROR=***errcd* **REASON=***rsncode* ***desc***

Explanation

Dynamic allocation failure occurred while building an archive of the Trace Browse. The archival process terminates.

desc describes the DYNALLOC operation.

User response

Check other messages indicating the cause of the failure.

HLV4832H **Allocated: DDN=***ddname***, DSN=***dsname* **- for archive output**

Explanation

A ddname allocation was made for an archive output linear data set. Archive processing continues.

User response

None.

HLV4833H **LDS** ***dsname*** **created for** ***cmdname*** **command issues by** ***userid***

Explanation

An archive backup or extract procedure created a new VSAM linear data set for output. The actual IDCAMS definition was performed by the S_ARCHIV REXX

routine in SYSEXEC. This message logs the new cluster name.

User response

None.

HLV4834S ***service* OF *desc* FAILED, RC=*rcode***

Explanation

This is a generic error message used to describe a wide variety of archive data set initialization and termination errors. The message text provides the current operation (*service*) and what the current operation was trying to do, such as GETMAIN, FREEMAIN, ATTACH, and so on.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV4835S ***service* OF *dsname* FAILED, RC=*rcode*, REASON CODE=*rsncode***

Explanation

This error message describes errors that occurred while using the DIV (Data In Virtual) system service (*service*) during archive initialization, execution, or termination. For a list of the return codes and reason codes from the DIV macro see the appropriate IBM documentation.

User response

Check the DIV return and reason codes associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV4836S ***service* OF *dsname* FAILED, ABEND=*abcode*, REASON CODE=*rsncode***

Explanation

This error message describes an abend that occurred while using the DIV (Data In Virtual) system service (*service*) during archive initialization, execution, or termination. The abend codes and reason codes from the DIV macro are documented in the IBM manual z/OS Programming: Assembler Services Reference.

User response

Check the DIV abend and reason codes associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support.

HLV4837S **Possible shortage of storage, *storsize* bytes required to build archive output data set**

Explanation

This is a follow-up message to message 4834S when a GETMAIN has failed. This message indicates the size, in bytes, of the area requested by the GETMAIN.

User response

If the GETMAIN return code indicates insufficient storage to complete the GETMAIN request, please increase your available storage (above the 16MB line) by the indicated amount.

HLV4838H **Deallocated: DDN=*ddname*, DSN=*dsname* - for archive output**

Explanation

A ddname deallocation was processed for an archive data set.

User response

None.

HLV4839W **Archive file: *count* invalid/overlaid messages detected during execution**

Explanation

While the archive data set was being created, messages were detected that had been overlaid or were otherwise invalid.

User response

None.

HLV4840H **CLEARARCHIVERECOVERY PARAMETER SET TO YES - IN-FLIGHT ARCHIVE *archtyp* INFORMATION BEING CLEARED**

Explanation

During subsystem startup, the CLEARARCHIVERECOVERY parameter was set. In-flight recovery information will be deleted for the indicated archive type.

User response

None. Recovery information is cleared unconditionally.

HLV4841H **CLEARED BACKUP RECOVERY INFO - OUTDSN=*dsname* MSGSTART=*msgno* MSGCOUNT=*count* LASTARCH=*msgno***

Explanation

This message follows message 4840H and logs the recovery information that is being cleared.

User response

None.

HLV4842H **CLEARED EXTRACT RECOVERY INFO - OUTDSN=*dsname* MSGSTART=*msgno* MSGCOUNT=*count* FORUSER=*user***

Explanation

This message follows message 4840H and logs the recovery information that is being cleared.

User response

None.

HLV4843I ***cmdname* command from *userid* completed successfully**

Explanation

The SEF command service processing routine has ended successfully.

User response

None.

HLV4844H **Archive backup of trace has successfully completed**

Explanation

A checkpointing-type backup of the Trace Browse has been completed successfully.

User response

None.

HLV4845H **Trace: current message is *msgno* - *count* messages since last archive**

Explanation

Trace Browse archiving is enabled. This message is produced just before an archive request is generated.

User response

None.

HLV4846H **Trace: last message archived was *msgno* - last requested for message *msgno***

Explanation

Trace Browse archiving in enabled. This message is produced just before an archive request is generated.

User response

None.

HLV4847I ***cmdname* CMD NOT SCHEDULED - DUPLICATE *%2* CMD RECOVERY NOT COMPLETED**

Explanation

An SEF service request cannot be processed because internal controls indicate another operation is already in-flight. However, no subtask is currently processing the request. This error can occur when certain commands fail and require separate recovery procedures to be scheduled. For brief moments, a "race" condition may occur, where the recovery command has priority.

User response

Wait until the previous process is recovered. If the condition persists, manually request recovery.

HLV4848H ***cmdname* CMD NOT SCHEDULED - DUPLICATE *%2* CMD RECOVERY NOT COMPLETED**

Explanation

See message 4847I. This message is hard-copied for internally issued requests.

User response

See message 4847I.

HLV4849I **PARAMETERS: OPTION *parval1* COUNT *parmal2* CUSHION *parval3***

Explanation

An ARCHIVE STATUS request has been issued. This message is part of the response.

The *parmval* values represents BROWSEARCHIVE, BROWSEARCHIVECOUNT, and BROWSEARCHIVECUSHION values, respectively.

User response

None.

HLV4850I ***desc* TYPE *archtyp* USER *userid* STARTMSG *msgno* MSGCOUNT *count* DSNAME *dsname***

Explanation

An archive status request has been issued. This message is part of the response.

User response

None.

HLV4854E **THE DIV OBJECT, *dsname*, CANNOT BE MAPPED - THE VERSION CODE (*%1*) IS BACKLEVEL AND INCOMPATIBLE**

Explanation

The archive data set review request cannot be serviced because DIV reports one size for the object but LISTCAT reports another.

User response

Contact Software Support.

HLV4855E **THE DIV OBJECT, *dsname*, CANNOT BE MAPPED - THE HI-USED-RBA *code* IS LESS THAN THE DIV-ACCESS PAGE COUNT *size* RETURN VALUE**

Explanation

The archive data set review request cannot be serviced because DIV reports one size for the object but LISTCAT reports another.

User response

Contact Software Support for assistance.

HLV4856E **THE DIV OBJECT, *dsname*, CANNOT BE MAPPED - THE DATA SET CONTROL AREA (BOST) IS INVALID**

Explanation

The archive data set review request cannot be serviced because the first page of the linear data set object does not contain required control information.

User response

The probable cause of this error is that you are attempting to review an archive data set that is still being created or that was not closed properly.

HLV4857E **THE DIV OBJECT, *dsname*, CANNOT BE MAPPED - THE DATA SET CONTROL AREA SIZE INFORMATION (*size1*/*size2*) DOES NOT MATCH THE DIV OPEN STATS (*size3*/*size4*)**

Explanation

The archive data set review request cannot be serviced because the first page of the linear data set object does not contain control information that matches the size information returned by DIV.

Note that *size1* and *size3* are in bytes, which *size2* and *size4* are in pages.

User response

The probable cause of this error is that you are attempting to review an archive data set that is still being created or that was not closed properly.

HLV4858E **THE DIV OBJECT, *dsname*, CANNOT BE MAPPED - THE DATA SET CONTROL AREA *pointer* POINTER (*ptrval*) IS renALID *baseptr*/*count***

Explanation

The archive data set review request cannot be serviced because the first page of the linear data set object does not contain control information that is structurally correct.

User response

The probable cause of this error is that you are attempting to review an archive data set that is still being created or that was not closed properly.

HLV4859I **Archive reset command issued by *userid* has changed last-archived message from *msgno* to *msgno***

Explanation

An ARCHIVE RESET command has been processed.

User response

None.

HLV4860T **ARCHIVE FILE: DSN=*dsname*, FIRSTMSG=*msgno*, LASTMSG=*msgno*, COUNT=*count***

Explanation

A new archive data set has been successfully created. This messages logs the dsname, the first and last message recorded in the archive, and the count of messages. This message is a duplicate of 4823 (used for tracing).

User response

None.

HLV4861I ***statement***

Explanation

An ARCHIVE STATUS request has been issued. This message is part of the response. This message is repeated up to eight (8) times. The server constructs a model IDCAMS DEFINE CLUSTER statement using configured parameters. You can review this statement to ensure that the configuration parameters are set correctly. The statement reported in this message is used to define archive backup files.

User response

None.

HLV4862I ***statement***

Explanation

An ARCHIVE STATUS request has been issued. This message is part of the response. This message is repeated up to eight (8) times. The server constructs a model IDCAMS DEFINE CLUSTER statement using configured parameters. You can review this statement to ensure that the configuration parameters are set correctly. The statement reported in this message is used to define archive extract files.

User response

None.

HLV4863I ***parmval1*, *parmval2*, ... *parmval5***

Explanation

An ARCHIVE STATUS request has been issued. This message is part of the response. This message reports the output data set allocation related parameter values set for building archive backup data sets.

parmval's 1-5 represent the values of ARCHIVEDSNPREFIX. ARCHIVEDATACLASS, ARCHIVEMGMTCLASS, ARCHIVESTORCLASS, and ARCHIVEDEFCLPARMS respectively.

User response

None.

HLV4864I ***parmval1*, *parmval2*, ... *parmval5***

Explanation

An ARCHIVE STATUS request has been issued. This message is part of the response. This message reports the output data set allocation related parameter values set for building archive EXTRACT data sets.

*parmval*s 1-5 represent the values of EXTRACTDSNPREFIX, EXTRACTDATACLASS, EXTRACTMGMTCLASS, EXTRACTSTORCLASS, and EXTRACTDEFCLPARMS respectively.

User response

None.

HLV4865E **Trace Browse archiving disabled because 'ARCHIVEDSNPREFIX' parameter is not set**

Explanation

Trace Browse archive support has been turned off because the output data set name prefix parameter ARCHIVEDSNPREFIX is not set. A data set name prefix is required.

User response

Note that you can review and possibly set values for the following archive data set allocation related parameters: ARCHIVEDSNPREFIX,

ARCHIVEDATACLASS, ARCHIVEMGMTCLASS, ARCHIVESTORCLASS, and ARCHIVEDEFCLPARMS.

HLV4866E ***service*** **of archive output data set failed due to** ***failrsn***

Explanation

One of the following errors occurred: (1) allocation of a new archive backup or extract file failed, or (2) deletion during cleanup for a failed archive failed. For allocation failures, the reason may be that runtime parameters used to generate IDCAMS DEFINE CLUSTER statements are not set properly.

User response

The current archive-related operation is terminated.

HLV4867E **IDCAMS UTILITY LASTCC=*lastcc* --- ABEND CONDITION *ccode*, REASON *rcode* - SYSPRINT FOLLOWS**

Explanation

This message follows message 4866E when an IDCAMS DEFINE CLUSTER or DELETE CLUSTER statement failed to be processed through the IDCAMS utility. The SYSPRINT output of the IDCAMS utility, if any, follows this message.

User response

The current archive-related operation is terminated.

HLV4868E **IDCAMS SYSPRINT:** ***msgdata***

Explanation

This message follows message 4867E when an IDCAMS DEFINE CLUSTER or DELETE CLUSTER statement failed to be processed through the IDCAMS utility. The SYSPRINT output of the IDCAMS utility (*msgdata*) follows this message.

User response

The current archive-related operation is terminated.

HLV4869E **TRACE BROWSE EXTRACTS DISABLED BECAUSE 'EXTRACTDSNPREFIX' PARAMETER IS NOT SET**

Explanation

Trace Browse extract support has been turned off because the output data set name prefix parameter EXTRACTDSNPREFIX is not set. A data set name prefix is required.

User response

Note that you can review and possibly set values for the following extract data set allocation related parameters: EXTRACTDSNPREFIX, EXTRACTDATACLASS, EXTRACTMGMTCLASS, EXTRACTSTORCLASS, and EXTRACTDEFCLPARMS.

HLV4870E ***reqtype reqfunc*** **- ABEND - CODE=*abcode* REASON=*rsncode***

Explanation

An application programming interface request abended.

User response

The request fails. Check for other messages that might indicate the cause of the failure.

HLV4871S **Automatic archival of Trace suspended due to previous error - correct problem and issue "ARCHIVE CLEANUP"**

Explanation

An archive backup operation has failed with an error requiring intervention. Such a condition exists if, for example, the IDCAMS allocation parameters are not configured properly. Any new attempt to automatically schedule an archive will likely fail until action is taken to correct the problem.

User response

Examine the console hardcopy log and the Trace Browse to determine why the previous automatic backup operation has failed. Correct the situation. Once the cause of the failure has been corrected, issue an ARCHIVE CLEANUP command via the SEF interface to reset the in-flight failure indicators. You can issue this command using the ISPF E.3 application.

HLV5000S **MESSAGE NUMBER *msgno* IS NOT DEFINED**

Explanation

This message is issued whenever an undefined message number is encountered.

User response

This probably indicates an internal product error. Contact Software Support.

HLV5001S ***object*** **IS AN INVALID %PX OBJECT**

Explanation

You have tried to DEFINE/MODIFY an unknown HLV object.

User response

Correct the DEFINE/MODIFY command, and rerun.

HLV5002S ***cmdname*** **is an invalid %PX command.**

Explanation

The command you have coded is unknown to ADDRESS HLV.

User response

Enter the correct HLV command, and rerun.

HLV5003S ***keyword*** **is an invalid keyword.**

Explanation

This keyword is not part of any HLV command.

User response

Recode the HLV command, and rerun.

HLV5004S **The *keyword* keyword is missing.**

Explanation

The indicated keyword is required but was not coded.

User response

Recode the HLV command using the keyword, and rerun.

HLV5005S ***value*** **is not a valid value for the keyword *keyword*.**

Explanation

The value you have coded is not valid value for the keyword.

User response

Recode the value, and rerun the HLV command.

HLV5006S ***keyword*** **IS ONLY VALID FOR TYPE = *ktype***

Explanation

The keyword indicated is not valid for the given value of the type of keyword.

User response

Remove the erroneous keyword (or change the type), and rerun the command.

HLV5007S **LINK *host* already exists.**

Explanation

The indicated link has already been defined.

Note that *host* is the host keyword.

User response

Determine which definition is correct, and rerun.

HLV5008U **OPRXPC TERMINATED WITH SEVERE ERROR RC = *rcode***

Explanation

An internal component of ADDRESS HLV has failed.

User response

Contact Software Support.

HLV5009S **MODIFY CONTAINS FIELDS NOT SUPPORTED BY LINK TYPE**

Explanation

You cannot modify fields that are undefined for this type of link.

User response

Remove the keywords in error, and rerun the command.

HLV5010E **HOST = *host* DOES NOT EXIST**

Explanation

The link defined by the host is not yet defined; therefore, it cannot be modified.

User response

Either define the link, or remove the MODIFY.

HLV5011S ***object*** **DISPLAY FAILED WITH RC =** ***rcode***

Explanation

The display of the object failed severely.

User response

There is probably some sort of internal error. Contact Software Support.

HLV5012S ***keyword*** **CONTAINS A QUOTE AND QUOTES ARE NOT PERMITTED**

Explanation

HLV keywords do not require or permit quotes.

User response

Remove the quote marks, and rerun.

HLV5013S **%PX SUBSYSTEM** ***subsys*** **IS NOT ACTIVE**

Explanation

The indicated subsystem is not running. The ADDRESS HLV host environment command cannot be processed.

User response

Start the subsystem (or use the SUBSYS command to identify another subsystem), and rerun the command.

HLV5014S ***subsystem*** **IS AN INVALID SUBSYSTEM NAME**

Explanation:
The subsystem name coded is not valid.

User response:
Subsystem names must begin with an alpha (a-z) character, and all other characters can be alphanumeric. Also, the name can only be four (4) characters long.

HLV5015E **DATABASE** ***subsys*** **IS ALREADY DEFINED**

Explanation

The indicated database subsystem has already been defined.

User response

Determine which definition is correct, and rerun.

HLV5016E **DATABASE =** ***subsys*** **DOES NOT EXIST**

Explanation

The database defined by name (*subsys*) is not yet defined; therefore, it cannot be modified.

User response

Either define the database, or remove the MODIFY.

HLV5017S ***parmname*** **IS NOT A VALID PRODUCT PARAMETER NAME**

Explanation

The parameter name is not a valid, recognized product parameter.

User response

Correct the parameter name, and rerun.

HLV5018S ***parmval*** **IS NOT A VALID VALUE FOR** ***parmname***

Explanation

The parameter value is not valid for this parameter.

User response

Correct the value, and rerun.

HLV5019E ***subsys*** **IS A DB2 DATABASE SUBSYSTEM**

Explanation

The database subsystem can not be defined because the subsystem is an actual Db2 subsystem.

User response

Change the database subsystem name, and rerun.

HLV5020E **ANOTHER COPY OF THE PRODUCT USES DATABASE SUBSYSTEM NAME** ***subsys***

Explanation

The database subsystem cannot be defined because another copy of the product is using the database subsystem.

User response

Change the database subsystem name, and rerun.

HLV5021E **DATABASE SUBSYSTEM *subsys* COULD NOT BE CREATED**

Explanation

The database subsystem control blocks could not be created.

User response

Fix any related errors, and rerun.

HLV5022E **ANOTHER PRODUCT USES DATABASE SUBSYSTEM NAME *subsys***

Explanation

The database subsystem cannot be defined because another product is using the database subsystem.

User response

Change the database subsystem name, and rerun.

HLV5023E **CONNECTION *conn* IS ALREADY DEFINED**

Explanation

The indicated connection has already been defined.

User response

Determine which definition is correct, and rerun.

HLV5024E **SESSION *session* IS ALREADY DEFINED**

Explanation

The indicated session has already been defined.

User response

Determine which definition is correct, and rerun.

HLV5025I **DDNAME *ddname* IS NOT ALLOCATED TO PRODUCT ADDRESS SPACE**

Explanation

The indicated ddname is not allocated to the product address space.

User response

The attempt to define the file fails. Add a DD statement to the product start-up JCL for the indicated file, and restart the product.

HLV5026T **MEASURED USAGE *reqtype* COMPLETED SUCCESSFULLY**

Explanation

This message indicates that Measured Usage Request completed successfully.

User response

No action required.

HLV5027T **MEASURED USAGE *reqtype* REQUEST MAY HAVE FAILED, RC=*rcode***

Explanation

This message indicates that Measured Usage Request may have failed. Please check return code and request type.

User response

No action required.

HLV6000T **ENTER MODULE *csect***

Explanation

This diagnostic trace message is issued to indicate that control has entered a particular product module.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please call for further instructions.

HLV6003T **MATCHING SSCT LOCATED FOR SUBSYSTEM *subsys***

Explanation

This diagnostic trace message is issued in response to being able to locate an SSCT that matches the subsystem name that was extracted.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been

turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6004T TRANSFERRING CONTROL TO MODULE DSNECP00

Explanation

This diagnostic trace message is issued just prior to transferring control to the IBM-supplied DSN command. It has been determined that the current DSN command session is bound for a copy of Db2 whose connection is not being managed by the product.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6007T PRIOR TO LINKING TO OPDSN10 SUBCOMMAND HANDLER

Explanation

This diagnostic trace message is issued just prior to linking to OPDSN10, the subcommand handler.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6008T RETURN FROM LINKING TO OPDSN10 SUBCOMMAND HANDLER

Explanation

This diagnostic trace message is issued on return from linking to OPDSN10, the subcommand handler.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6009T PRIOR TO ATTACHING OPDSN10 SUBCOMMAND HANDLER

Explanation

This diagnostic trace message is issued just prior to attaching OPDSN10, the subcommand handler.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6010T RETURN FROM ATTACHING OPDSN10 SUBCOMMAND HANDLER

Explanation

This diagnostic trace message is issued on return from attaching OPDSN10, the subcommand handler.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6011T OPDSN10 SUBCOMMAND HANDLER DETACHED SUCCESSFULLY

Explanation

This diagnostic trace message is issued after successfully detaching OPDSN10, the subcommand handler.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6013T EXITING MODULE *csect*

Explanation

This diagnostic trace message is issued just prior to exiting the module named in the diagnostic trace message.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6014T OPDSN10 STAX EXIT SUCCESSFULLY ESTABLISHED

Explanation

This diagnostic trace message is issued after successfully establishing the STAX exit for module OPDSN10.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6015T **OPDSN10 STAX EXIT SUCCESSFULLY REMOVED**

Explanation

This diagnostic trace message is issued after successfully removing the STAX exit for module OPDSN10.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6016T **VALID SUBCOMMAND *subcmd* ACCEPTED**

Explanation

This diagnostic trace message is issued after determining that the subcommand entered by the user is one of the set of valid subcommands supported by module OPDSN10.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6017T **UNRECOGNIZED SUBCOMMAND ASSUME TSO COMMAND *subcmd***

Explanation

This diagnostic trace message is issued after determining that the subcommand entered by the user is neither one of the set of valid subcommands supported by OPDSN10 nor one of the set of TSO commands not supported by OPDSN10.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6018T **PRIOR TO LINKING TO TSO COMMAND *subcmd***

Explanation

This diagnostic trace message is issued just prior to linking to the TSO command specified as a DSN subcommand.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6019T **RETURN FROM LINKING TO TSO COMMAND *subcmd***

Explanation

This diagnostic trace message is issued on return from linking to the TSO command specified as a DSN subcommand.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6020T **PRIOR TO ATTACHING TSO COMMAND *subcmd***

Explanation

This diagnostic trace message is issued just prior to attaching the TSO command specified as a DSN subcommand.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6021T **RETURN FROM ATTACHING TSO COMMAND *subcmd***

Explanation

This diagnostic trace message is issued on return from attaching the TSO command specified as a DSN subcommand.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6022T SUCCESSFUL DETACH TSO COMMAND *cmdname*

Explanation

This diagnostic trace message is issued after successfully detaching the TSO command specified as a DSN subcommand.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6023T SUCCESSFULLY ALLOCATED DATA SET *dsname*

Explanation

This diagnostic trace message is issued after successfully allocating the data set specified on the LIBRARY() parameter of the RUN subcommand.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6024T SUCCESSFULLY DEALLOCATED DATA SET *dsname*

Explanation

This diagnostic trace message is issued upon successfully deallocating the data set specified on the LIBRARY() parameter of the RUN subcommand.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6025T RUN SUBCOMMAND BUFFER PARSED SUCCESSFULLY

Explanation

This diagnostic trace message is issued after successfully parsing the RUN subcommand buffer.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6026T LIBRARY : *dsname*

Explanation

This diagnostic trace message is issued in order to present the interpreted library specification.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6027T PLANID : *planname*

Explanation

This diagnostic trace message is issued in order to present the interpreted plan specification.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6028T PROGRAM : *progname*

Explanation

This diagnostic trace message is issued in order to present the interpreted program specification.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6029T **CP : *indicator***

Explanation

This diagnostic trace message is issued in order to present a YES/NO value (indicated by *indicator*) depicting whether the CP parameter was or was not specified.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6030T **PARMS : *indicator***

Explanation

This diagnostic trace message is issued in order to present a YES/NO value (indicated by *indicator*) depicting whether the PARMS() parameter was or was not specified.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6031T **BEFORE IDENTIFY DB2 CALL ==========**

Explanation

This diagnostic trace message is issued prior to processing the Db2 identify request.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6032T **AFTER IDENTIFY DB2 CALL ==========**

Explanation

This diagnostic trace message is issued after processing the Db2 identify request.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6033T **BEFORE CREATE THREAD DB2 CALL ==========**

Explanation

This diagnostic trace message is issued prior to processing the Db2 create thread request.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6034T **AFTER CREATE THREAD DB2 CALL ==========**

Explanation

This diagnostic trace message is issued after processing the Db2 create thread request.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6037T **BEFORE TERMINATE DB2 CALL ==========**

Explanation

This diagnostic trace message is issued prior to processing the terminate Db2 request.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6038T **AFTER TERMINATE DB2 CALL ==========**

Explanation

This diagnostic trace message is issued after processing the terminate Db2 request.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6039T **PRIOR TO LINKING TO PROGRAM *progname***

Explanation

This diagnostic trace message is issued just prior to linking to the program specified on the PROGRAM() parameter of the RUN subcommand.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6040T **RETURN FROM LINKING TO PROGRAM *progname***

Explanation

This diagnostic trace message is issued on return from linking to the program specified on the PROGRAM() parameter of the RUN subcommand.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6041T **APPLICATION PROGRAM FAILED WITH ABEND CODE *abcode***

Explanation

This diagnostic trace message is issued if the application program fails with any type of abend code. This message is generated both when the application program is attached and when it is linked to.

User response

This is an informational message. No action is required. However, if diagnostic tracing has been turned on at the request of Software Support, please contact Software Support for further instructions.

HLV6042T **RRSAF *func* function RC *rcode* Reason *rsncode* was converted to RC 0 Reason 0.**

Explanation

This message is issued when the product has ignored certain error reason codes from RRSAF function calls.

User response

This is an informational message. No action is required. However, if this action contributes to thread errors later in the process, please contact Software Support for further instructions.

HLV6500S **ABEND *abcode* RS=*rsncode* OCCURRED AT *modname+offset* DURING DMF *func entityid***

Explanation

An ABEND occurred while processing a Data Mapping Facility (DMF) request.

User response

The routine signals an error to the caller and processing continues, when possible.

HLV6501W **DMF *operation* WARNING: *rsn item***

Explanation

A correctable condition was encountered while processing a Data Mapping Facility (DMF) request.

item represents the item being processed at the time of warning detection.

User response

The routine issues this warning message and processes the requested function. The warning MAY indicate a condition which requires attention.

HLV6502S **DMF *operation* ERROR: *rsn item***

Explanation

An un-correctable condition was encountered while processing a Data Mapping Facility (DMF) request.

item represents the item being processed at the time or error detection.

User response

The routine issues this error message and concludes processing of the requested function. Correct the condition and re-run the request. For STOW error's check the dataset space allocation for sufficient space and sufficient directory block allocations. If the dataset is a Services Metadata or Microflow dataset

you can use the parameter WSALLOC in PRODZSERV to override the default allocation values.

HLV6503I **DMF IMPORT *var* MAP *member* FROM *source additinfo***

Explanation

A DMF IMPORT request has successfully imported an XML data map definition and has saved the new or changed datamap into the mapping library.

var is an indicator that can be "SAVED" or "REPLACED".

User response

This message is issued for each new or changed datamap successfully imported from an XML map definition document.

HLV6504I **DMF import has refreshed in-storage data maps**

Explanation

A DMF IMPORT request has refreshed the in-storage data map images following import of new or changed data maps.

User response

This message is issued after all new or changed datamaps have seem saved during XML import processing.

HLV6505I **DMF import parsed map *map* from *source***

Explanation

A DMF IMPORT request has successfully processed an XML data map definition, but is not requested to save it. The data map will be discarded.

User response

This message is issued for each datamap parsed from an XML document, if the new/changed data map is not to be saved or replaced in the map library. This messages indicates that the XML document is valid.

HLV6506T **Required map *map* for conversion of EXCI to ACI missing**

Explanation

The specified map is missing from DMF. This map is required to dynamically create the ACI server definition for the EXCI to ACI conversion

User response

Use the product ISPF option "D.I" to initialize the maps required by the product.

HLV6507T **Unable to create server *serverconnection* for CICS connection *connection***

Explanation

Unable to create an ACI server for EXCI to ACI conversion for the specified CICS connection (*connection*).

User response

This message is issued for each CICS connection that is to be converted to use ACI. Probable cause is a GETMAIN error. Check Trace Browse and the Joblog for further messages and contact Software Support.

HLV6509I **DMF PROCESSING COMPLETE**

Explanation

A DMF request has completed processing. This will be the last message related to the current DMF command.

User response

This message is issued when a DMF command has completed processing. It is used to identify the last of a series of related DMF messages.

HLV6520H **DMF Data-In-Virtual cache is being initialized for revision level *lvl* support**

Explanation

During initialization the Data Mapping Facility (DMF) determined that it's data-in-virtual cache is empty, contains errors, or is formatted for operation at a different revision level. The DIV object is being initialized or re-initialized for use at the current software support revision level.

User response

This DMF DIV data-in-virtual cache will be initialized for use and placed online.

HLV6521H **Existing DMF DIV cache at revision level *lvl* must be re-initialized at current level**

Explanation

During initialization the Data Mapping Facility (DMF) found the DIV linear dataset cache dataset (@# $MAPL) contained information formatted for an older/ different revision level than the server software now supports. The cache must be discarded and re-loaded in order to switch to the current software support revision level.

User response

DMF cached data maps will be discarded and the DIV dataset re-initialized at the new support level. DMF will reload data maps into the cache, as these are read into storage from the @#$MAPP PDS library.

HLV6522H **Existing DMF DIV cache being discarded due to incomplete update at last LDS expansion**

Explanation

During initialization the Data Mapping Facility (DMF) found the DIV linear dataset cache dataset (@# $MAPL) could not be placed online because a DIV expansion operation failed to complete properly during the prior start-up. The cache must be discarded and re-loaded in order to remove any incompletely allocated logical window areas.

User response

DMF cached data maps will be discarded and the DIV dataset re-initialized. DMF will reload data maps into the cache as these are read into storage from the @# $MAPP PDS library.

HLV6523H **Existing DMF DIV cache being discarded due to window relocation problem**

Explanation

During initialization the Data Mapping Facility (DMF) found the DIV linear dataset cache dataset (@# $MAPL) could not be placed online because a problem occurred while attempting to relocate maps and map pointers within the DIV windows. The cache must be discarded and re-loaded in order to remove the erroneous/problematic information.

User response

DMF cached data maps will be discarded and the DIV dataset re-initialized. DMF will reload data maps into the cache as these are read into storage from the @# $MAPP PDS library.

HLV6524H **Existing DMF DIV cache being discarded due to unknown object type (*%1*)**

Explanation

During initialization the Data Mapping Facility (DMF) found the DIV linear dataset cache dataset (@# $MAPL) contains a DMF block area in which garbage or an unknown element block resides. The cache must be discarded and re-loaded in order to remove the corrupted data block.

User response

DMF cached data maps will be discarded and the DIV dataset re-initialized. DMF will reload data maps into the cache as these are read into storage from the @# $MAPP PDS library.

HLV6525S **DMF DIV cache routine *%1* invoked within invalid x-mem environment**

Explanation

While processing, a DMF service routine was invoked within a cross-memory environment which it does not support. The DMF service request cannot be completed.

User response

For some service requests, the routine aborts by generating an S0C3 ABEND. Other service routines return an error to the caller, which will likely cause the originating procedure to fail or ABEND. Contact Software Support.

HLV6526S **Free of DMF block in DIV cache failed - address of block (*%1*) is not *%2***

Explanation

While processing, a request to remove a dmf data area from DIV cache, a validation error was detected. the data area is not considered valid for the reason indicated.

User response

The removal routine returns an error to the caller, which may result in failure within the procedure being executed. Contact Software Support.

HLV6527H **Existing dmf div cache being discarded. an invalid *%1* OBJect chain was found by *%2*.**

Explanation

During initialization the data mapping facility (dmf) found the DIV linear dataset cache dataset (@# $MAPL) contains an invalid control block chain. the cache must be discarded and re-loaded in order to remove the corrupted data block.

User response

DMF cached data maps will be discarded and the div dataset re-initialized. dmf will reload data maps into the cache as these are read into storage from the @# $MAPP pds library.

HLV6528H **Too many virtual directories - dataset *%1* not processed for path *%2***

Explanation

During a refresh of in-storage maps by the data mapping Facility (dmf), more than 200 individual virtual directory datasets were defined. the system can process no more than 200 individual datasets allocated as virtual directories.

User response

The virtual directory definition entry is skipped and the indicated virtual directory dataset is not placed online

HLV7000I **Syntax error: unmatched parenthesis**

Explanation

The command used to invoke the system function was coded incorrectly. unbalanced parentheses were found in the input command, which consequently could not be understood and processed.

User response

Reenter the corrected command.

HLV7001I **Syntax error: unmatched quotation mark or apostroph**

Explanation

The command used to invoke the system function was coded incorrectly. a literal string was not enclosed within matching quotation marks or apostrophes.

User response

Reenter the corrected command.

HLV7002I **Syntax error: insufficient storage for parsing the command (*rsncode*)**

Explanation

The command used to invoke the system function could not be parsed because insufficient storage exists for the command parser.

User response

If the reason code is "1", increase the storage size of the region, and re-submit the command request. If reason code is "2", ensure that the command was correctly entered. If the problem cannot be resolved, contact Software Support.

HLV7003I **Syntax error: invalid hex literal**

Explanation

The command used to invoke the system function could not be parsed because it contains an incorrectly formatted hexadecimal literal. the hex literal contains more than eight (8) hex digits or contains an invalid digit.

User response

Reenter the corrected command.

HLV7004I **Syntax error: extraneous or undefined input at *token***

Explanation

The command used to invoke the system function could not be parsed because it contains extraneous, undefined operands or duplicate keyword operands.

User response

Reenter the corrected command.

HLV7005I **Syntax error: positional param. *parmno* of *parmname* - *errdesc***

Explanation

The command used to invoke the system function could not be parsed because it contains an error in a positional parameter. the full text of the message explains which parameter number and what portion of the command contains the error. the message also contains an explanation as to why the parameter is invalid.

User response

Reenter the corrected command.

HLV7006I **Syntax error: required keyword *keyword* - missing**

Explanation

The required keyword was not entered on the command line.

User response

Reenter the corrected command.

HLV7007I **Syntax error: required keyword missing - must be on**

Explanation

A required keyword was not entered on the command line.

User response

Reenter the corrected command.

HLV7008I ***keyword***

Explanation

This message lists the keywords from which a choice must be made.

User response

Reenter the corrected command.

HLV7009I **Syntax error: operand of *keyword* is invalid or missing**

Explanation

The operand coded for the indicated keyword is not valid or was omitted.

User response

Reenter the corrected command.

HLV7010I **Syntax error: *errdesc***

Explanation

The input was invalid for the reason (*errdesc*) indicated in the message.

User response

Reenter the corrected command.

HLV7050T **Variable *varname* (*val*) set to "%3"**

Explanation

This message is used to trace the variable values that have been parsed from an inbound http transaction header.

User response

None.

HLV7101T **Error 01 @(*lineno*/*offset*) - too many nexted html extension delimiter pairs on this source line.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the html extension statement syntax error.

The variable fields of the message text are: lineno line number in source file where error found loff offset in source line where error detected

HLV7102T **Error 02 @(*lineno*/*offset*) - unmatched <%% delimiter in source line.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the html extension statement syntax error.

HLV7103T **Error 03 @(*lineno*/*offset*) - too many tokens, or tokens invalid IN statement.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source

file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the html extension statement syntax error.

HLV7104T **Error 04 @(*lineno*/*offset*) - un-identified or invalid html extension statement.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the html extension statement syntax error.

HLV7105T **Error 05 @(*lineno*/*offset*) - this statement type must be on a LINE with no other non-blank text.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the html extension statement syntax error.

HLV7106T **Error 06 @(*lineno*/*offset*) - invalid token or label precedes statement operation keyword.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the html extension statement syntax error.

HLV7107T **Error 07 @(*lineno*/*offset*) - invalid statement label syntax.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the html extension statement syntax error.

HLV7108T **Error 08 @(*lineno*/*offset*) - too many operands for statement type.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the html extension statement syntax error.

HLV7109T **Error 09 @(*lineno*/*offset*) - too few operands for statement type.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the html extension statement syntax error.

HLV7110T **Error 10 @(*lineno*/*offset*) - invalid exit statement operand value.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7111T **Error 11 @(*lineno*/*offset*) - invalid keyword specified - not advance or no advance.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7112T **Error 12 @(*lineno*/*offset*) - invalid condition name for if statement operand two.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7113T **Error 13 @(*lineno*/*offset*) - variable name symbol too long - maximum name size is 50 characters.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7114T **Error 14 @(*lineno*/*offset*) - number of nested if/endif statement pairs exceeds compiler maximum.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7115T **Error 15 @(*lineno*/*offset*) - else without preceding if statement.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7116T **Error 16 @(*lineno*/*offset*) - duplicate else statements for current if/endif pair.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7117T **Error 17 @(*lineno*/*offset*) - endif not preceded by if statement.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7118T **Error 18 @(*lineno*/*offset*) - nested do/enddo groups exceeds compiler maximum nesting levels.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source

file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7119T **Error 19 @(*lineno*/*offset*) - statement should only appear within do/enddo statement group.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7120T **Error 20 @(*lineno*/*offset*) - label name not defined by any preceding do statement.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7121T **Error 21 @(*lineno*/*offset*) - number of leave statements exceeds compiler maximums.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7122T **Error 22 @(*lineno*/*offset*) - duplicate do statement label name defined.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7123T **Error 23 @(*lineno*/*offset*) - label not defined in source file**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7124T **Error 24 @(*lineno*/*offset*) - compiler maximum for label names within a source file exceeded.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7125T **Error 25 @(*lineno*/*offset*) - one or more referenced statement labels are undefined in source file.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7126T **Error 26 @(*lineno*/*offset*) - compiler area overflow - source fIle too complex.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7127T **Error 27 @(*lineno*/*offset*) - one or more if statements has no matching endif.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7128T **Error 28 @(*lineno*/*offset*) - one or more do statements has no matching enddo.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. the source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7129T **ERROR 29 @(*lineno*/*offset*) - ADDITIONAL ERRORS WERE DETECTED IN SOURCE FILE - FIRST 5 REPORTED.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7130T **ERROR 30 @(*lineno*/*offset*) - INVALID SWSINFO() PSEUDO=FUNCTION OPERAND VALUE.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7131T **ERROR 31 @(*lineno*/*offset*) - HTXINDEX. STEM SYNTAX INVALID.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7132T **ERROR 32 @(*lineno*/*offset*) - FOR 'HTXINDEX.LABEL' - THE 'LABEL' NAME IS NOT DEFINED.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7133T **ERROR 33 @(*lineno*/*offset*) - INVALID SWSPARM() PSEUDO-FUNCTIONOPERAND VALUE.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7134T **ERROR 34 @(*lineno*/*offset*) - INVALID TOUPPER() PSEDUO-FUNCTIONOPERAND VALUE.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7135T **ERROR 35 @(*lineno*/*offset*) - NESTED RULE STATEMENTS ARE NOT ALLOWED.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7136T **ERROR 36 @(*lineno*/*offset*) - AN UNMATCHED /RULE STATEMENT WAS ENCOUNTERED.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7137T **ERROR 37 @(*lineno*/*offset*) - STORAGE ALLOCATION FAILURE DURING RULE PROCESSING.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7138T **ERROR 38 @(*lineno*/*offset*) - ONE OR MORE RULE STATEMENTS HAS NO MATCHING /RULE.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7139T **ERROR 39 @(*lineno*/*offset*) - ENABLEMENT FAILED FOR EMBEDDED RULE.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7140T **ERROR 40 @(*lineno*/*offset*) - /*FILE SECTIONS ARE NOT ALLOWED WITHIN EMBEDDED RULES.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7141T **ERROR 41 @(*lineno*/*offset*) - DATE(?) OPERAND INVALID OR NOT SPECIFIED.**

Explanation

A syntax error was detected in the DATE(?) HTML extension function. Refer to the documentation for the correct options.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7142T **ERROR 42 @(*lineno*/*offset*) - TIME(?) OPERAND INVALID OR NOT SPECIFIED.**

Explanation

A syntax error was detected in the TIME(?) HTML extension function. Refer to the documentation for the correct options.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7143T **ERROR 43 @(*lineno*/*offset*) - EMBEDDED RULES CANNOT BE EMPTY.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7144T **ERROR 44 @(*lineno*/*offset*) - TARGET OF ASSIGNMENT MUST BE L-VALUE.**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message. The target of an assignment statement must be a valid L-Value (either a variable name or a complex expression that can evaluate at runtime to the name of a variable).

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7145T **ERROR 45 @(*lineno*/*offset*) - IMS AUTO-HTML VARIABLE REFERENCE IS BADLY FORMED**

Explanation

A syntax error was detected while a text file was scanned for HTML extension statements. The source file line number and offset within the line where the error was found is noted in the message. A reference to an IMS Auto-HTML facility runtime variable (SWSSETFO, SWSFOCUS, SWSINMAP, or SWSCNVID) contains additional/extraneous characters.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7146T **ERROR 46 @(*lineno*/*offset*) - ! OPTIONS STATEMENT INVALID**

Explanation

A syntax error was detected while processing an ! OPTIONS statement within the HTX source file. The line number and offset within the line where the error was found is noted in the message. A more complex message indicating the exact error found in the ! OPTIONS statement may be present in the trace.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7147T **ERROR 47 @(*lineno*/*offset*) - ! OPTIONS STATEMENT OUT OF ORDER**

Explanation

A syntax error was detected while processing an ! OPTIONS statement within the HTX source file. Runtime !OPTIONS must appear before any other HTX executable or insert statement within the source file.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7148T **ERROR 48 @(*lineno*/*offset*) - INVALID ENVIRONMENT FOR STATEMENT**

Explanation

A syntax error was detected while processing a statement. Some statements are only valid in either the HTTP Web Server or Accelerator Loader server. This statement was encountered in an incorrect environment.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7149T **ERROR 49 @(*lineno*/*offset*) - IMSATTR STATEMENTS NO LONGER SUPPORTED**

Explanation

A syntax error was detected while processing a statement. The deprecated IMSATTR statement is no longer supported by this version of the server.

User response

Examine the source file, and correct the HTML extension statement syntax error. If the HTML extension file was generated by the IMS Auto-HTML facility, re-extract the MFS source map and re-generate the HTML file.

HLV7150T **/*UTILITY STMT - *errtext* (*funcode*)**

Explanation

During event procedure enablement, a /*UTILITY section was not enabled due to the error given.

User response

Correct the error, and re-enable the event procedure.

The variable fields of the message text are: text error text funcc function code

HLV7151T **/*UTILITY STMT - *errmsg* - *statement***

Explanation

During execution of a /*UTILITY statement, the statement was determined to be invalid or non-executable.

User response

If the statement text is invalid, correct the statement text. Otherwise, contact Software Support.

HLV7152T **UTILITY FUNCTION *funcode* NOT ENABLED. ASSOCIATED MODULE (*modname*) NOT FOUND IN THE %3 LIBRARY.**

Explanation

While attempting to enable a utility function, the module associated with the function was not found in the S__RPCLB library.

User response

The associated vendor library must be concatenated with the S__RPCLB library.

HLV7153T **ACCESS TO UTILITY ROUTINES IS NOT AUTHORIZED.**

Explanation

Your license code does not authorize you to execute utility routines.

User response

Contact IBM Software Support.

HLV7160T **LINE *lineno* - HTML EVALUATION ERROR (*errdesc*) - *additinfo***

Explanation

While processing file information that contains HTML extensions, evaluation of a statement failed.

User response

Examine the source file to determine why the error occurred.

HLV7161E **ABEND *abcode*, REASON *rsncode* DURING HTX PROCESSING**

Explanation

While processing HTML extension processing, an abend occurred.

User response

Examine the source file to determine why the error occurred. Check for other messages that may indicate the cause of the error.

HLV7162E ***var***

Explanation

This message is used internally by OPHTXPR to build abend error reporting pages (HTML or text form).

User response

None. This message is for internal use only.

HLV7163E **ABEND *abcode*, REASON *rsncode* DURING OPHTXPR ABEND RECOVERY**

Explanation

While attempting to recover from a previous abend, the second-level abend intercept was entered in OPHTXPR.

User response

Examine the source file to determine why the abend occurred. Check for other messages that may indicate the cause of the error.

HLV7164T **RUNTIME ERROR (LINE *lineno*) - EMBEDDED RULES AND RESCAN STMT NOT ALLOWED IN THIS FILE.**

Explanation

A runtime error was detected while a text file was being processed by the HTML extension processor. The source file line number where the error was detected is noted in the message. Note that an HTX executable RESCAN statement may also generate this error because RESCAN is only allowed where embedded rules are authorized.

User response

The server aborts processing of the current file and generates an error message output page (HTML or text form). The HTML expansion request fails, with RC=16. Remove the rule or RESCAN statement that caused this condition to be raised, or authorize execution of embedded rules within this file. You authorize embedded rule execution by (1) requesting the file via the /*FILE process section or via /*WWW PATH() (from the HFS) and (2) specifying the RULE(YES) keyword for /*FILE.

HLV7165T **RUNTIME ERROR (LINE *lineno*) - ASSIGNMENT STMT FAILED - *errdesc* - *lval***

Explanation

A runtime error was detected while a text file was being processed by the HTML extension processor. The source file line number where the error was detected is noted in the message. A variable assignment statement failed for the reason indicated in the message.

User response

If the message indicates that the LValue (*lval*) must be a global variable, ensure that the original assignment statement refers only to a global variable. These include GLOBAL., GLVEVENT., or .GLVSTATE. variables. Otherwise, check for other messages that might indicate the cause of failure.

HLV7166T **<%RULE%> EXECUTION MUST NOT DRIVE RECURSIVE <%RULE %> EXECUTION**

Explanation

A runtime error was detected while a text file was being processed by the HTML extension processor. The HTML extension processor is about to execute an embedded rule, but an embedded <%RULE%> execution is already underway. This type of recursion is not allowed.

User response

The current (nested) <%RULE%> section is bypassed, and HTML extension processing of the file is aborted.

HLV7167E **ABEND *abcode*, REASON *rsncode* DURING HTX PROCESSING OF EMBEDDED *ruletype* RULE**

Explanation

While processing HTML extensions, an abend occurred while executing an embedded rule.

User response

Examine the source file to determine why the error occurred. Check for other messages that may indicate the cause of the error.

HLV7168T **LINE *lineno* - EXIT-FLUSH STATEMENT EXECUTED - RESCAN AND NEW RULE MATCHES DISABLED**

Explanation

While processing file information that contains HTML extensions, an <%EXIT FLUSH%> statement was executed. This causes immediate exit from HTML extension file tailoring and also sets controls so that additional RESCAN or rule matches are inhibited.

User response

The server will flush (complete) the transaction without delay.

HLV7169T **LINE *lineno* - RESCAN STATEMENT OPERAND INVALID - *reason* - VALUE=*value***

Explanation

While processing file information that contains HTML extensions, a <%RESCAN x%> statement was executed. The RESCAN URL operand is invalid for the reason reported. If the RESCAN URL value was partially validated, it appears in the message (*value*); if it was not partially validated, the value string will be null.

User response

The server uses the value SYSTEM/ERROR/500 as a replacement for the invalid RESCAN URL. It also sets the HTTP response code to 500 (server error) and the error code to 61.

HLV7170T **LINE *lineno* - EXIT OPTION, *option*, IGNORED BECAUSE <%RULE%> PROCESSING NOT ENABLED**

Explanation

While processing file information that contains HTML extensions, an <%EXIT%> statement with the indicated option was executed. The option is being ignored because HTML extension processing was requested via an interface that does not support the execution of embedded rules.

User response

The EXIT option is ignored.

HLV7171T **LINE *lineno* - !OPTIONS *statement* - *errdesc***

Explanation

While parsing an !OPTIONS statement a syntax error was found. This message is traced to provide a detailed reason for the failure. HTX processing of the file fails with error code 46.

User response

Correct the !OPTIONS statement and retry

HLV7172T **ERROR 72 @(*lineno*/*offset*) - RESULTSET OPERAND INVALID OR NOT SPECIFIED.**

Explanation

A syntax error was detected in the RESULTSET HTML extension function. Only values of 1 or 2 are supported at this time.

User response

Examine the source file, and correct the HTML extension statement syntax error.

HLV7178T ***diagtext***

Explanation

This message is used to dump out various internal work areas into the trace. It is triggered by setting a diagnostic parameter or control.

User response

If there are other messages indicating an error, use this message in conjunction with them to determine the cause of the problem.

HLV7179E **DATA MAPPING - *map* FIELD *field* IS TOO LONG**

Explanation

During processing of a data map, a field was defined that was too long for processing. Fields of 3074 bytes are currently the longest fields allowed.

User response

Recreate the map with shorter fields, or disable this field.

HLV7180E **/*EXECSQL STMT - *errtext***

Explanation

During event procedure enablement, a /*SQL section was not enabled due to the error given.

User response

Correct the error, and re-enable the event procedure.

HLV7181T **/*EXECSQL STMT - *errmsg* - *statement***

Explanation

During execution of an /*EXECSQL statement, the SQL statement was determined to be invalid or non-executable.

User response

If the SQL statement text is invalid, correct the SQL statement text. If the problem cannot be resolved, contact Software Support.

HLV7182T **HTML MEMBER NAME MISSING OR INVALID. DATA MAP: *map*, HTML MEMBER: *memname***

Explanation

During execution of an output file SEND, the HTML member name was not specified in the data map or the HTML member name was invalid.

User response

The error is reported as a system error aux on the Web browser. This problem may be correctable by refreshing the data map after the HTML generation is complete.

HLV7183E **/*EXECIMS STMT - *errtext***

Explanation

During event procedure enablement, a /*EXECIMS section was not enabled due to the error given.

User response

Correct the error, and re-enable the event procedure.

HLV7184T **/*EXECIMS STMT - *errmsg* - *statement***

Explanation

During execution of an /*EXECIMS statement, the statement was determined to be invalid or non-executable.

User response

If the IMS statement text is invalid, correct the IMS statement text. Otherwise, contact Software Support with this problem.

HLV7185E **UNABLE TO OBTAIN INPUT STORAGE WORK AREA. LENGTH %1**

Explanation

While processing an input request, there was insufficient storage to build the input message based upon the the product Mapping Facility definition of the input map.

User response

This may be caused by an error in the map definition. The input map may contain a field with an erroneous offset or length. The total length of the input message cannot exceed 32,702 bytes.

HLV7186E **REQUIRED HTML VARIABLE MISSING. NAME=*varname***

Explanation

While processing an input URL, the /*EXECIMS expects certain query variables: SWSINMAP, SWSCNVID and PFKIN. One or more of these variables was missing.

User response

This may be caused by an error in the coding of the HTML. The SWSINMAP variable contains the input map name required to process this URL. The SWSCNVID variable contains the conversation id required to process conversational IMS transactions. The PFKIN variable contains the interrupt key (ENTER, PF01...PF24).

HLV7187E **/*EXECCICS STMT - *errtext***

Explanation

During event procedure enablement, an /*EXECCICS section was not enabled due to the error given.

User response

Correct the error, and re-enable the event procedure.

HLV7188T **/*EXECCICS STMT - *errmsg* - *statement***

Explanation

During execution of an /*EXECCICS statement, the statement was determined to be invalid or non-executable.

User response

If the CICS statement text is invalid, correct the CICS statement text. Otherwise, contact Software Support with this problem.

HLV7189T TEMPORARY MAP *map* USED FOR HTML FILE SELECTION

Explanation

During execution of an output file SEND, the output file name was selected from the temporary map name. Permanent maps will arbitrarily use the file associated with the SWSAHTML ddname.

User response

For the /*EXECIMS and /*EXECCICS rule sections, an HTML file output from the HTML data set name stored within the specified map name will be selected. This information is provided for auditing and control purposes. No action may be required.

HLV7190E /*TSOSRV STMT - *errtext*

Explanation

During event procedure enablement, a /*TSOSRV section was not enabled due to the error given.

User response

Correct the error, and re-enable the event procedure.

HLV7191T /*TSOSRV STMT - *errmsg* - *cmdtext*

Explanation

During execution of an /*TSOSRV statement, the TSO command statement was determined to be invalid or non-executable.

User response

If the TSO command text is invalid, correct the command statement text. If the problem cannot be resolved, contact Software Support.

HLV7192T /*TSOSRV STMT - *errmsg* - *cmdtext*

Explanation

During execution of an /*TSOSRV statement, the TSO command statement was determined to be invalid or non-executable.

User response

If the TSO command text is invalid, correct the command statement text. If the problem cannot be resolved, contact Software Support.

HLV7195E *rsname.rulename*, /*PROGRAM STMT - *errtext*

Explanation

During event procedure enablement, a /*PROGRAM section was not enabled due to the error given.

User response

Correct the error, and re-enable the event procedure.

HLV7200T HTTP-RECV: *operdesc*

Explanation

Issued if TRACEURLREAD option is on, this message indicates that the reception of an inbound HTTP request is being processed and indicates the progress, so far.

User response

None. This message indicates processing performed during HTTP request receive operations.

HLV7201T HTTP-RECV: RECEIVED *reclength*, TOTAL *totlength*

Explanation

Issued if TRACEURLREAD option is on, this message indicates that the reception of an inbound HTTP request is being processed and indicates the progress.

User response

None. This message indicates processing performed during HTTP request receive operations.

HLV7202T HTTP-RECV: HTTP REQUEST HEADERS - LENGTH *length*, DELIMITER *dlmtr*

Explanation

Issued if TRACEURLREAD option is on, this message indicates that the reception of an inbound HTTP

request is being processed and indicates the progress, so far.

User response

None. This message indicates processing performed during HTTP request receive operations.

HLV7203T **HTTP-RECV: HTTP CONTENT-LENGTH: *clval***

Explanation

Issued if TRACEURLREAD option is on, this message indicates that the reception of an inbound HTTP request is being traced.

User response

None. This message indicates processing performed during HTTP request receive operations.

HLV7204T **VARIABLE WWW.*varname* NOT BUILT - *reason***

Explanation

A WWW. event variable was not built during URL parsing for the reason indicated.

User response

Correct the HTML input form used to transmit the inbound data, and re-submit.

HLV7205T **SSL ACCEPT FAILED - RC=*rcd1* REAS=*rsncode* - ENCLAVE RC=*rcd2* FEEDBACK=*feedback*)**

Explanation

A pending SSL connection could not be accepted by the server due to a validation failure or a failure within the SSL connection handling engine. This error reports the failure.

Note that there are two return codes in the message. *rcd1* represents the SSL acceptance return code, and *rcd2* represents the LE/370 enclave manager return code.

feedback contains the LE/370 enclave termination feedback codes.

User response

Check for other messages indicating the cause of the termination, and resolve the problem, if possible.

HLV7206T **SSL READ FAILED RC=*rcd1* REAS=*rsncode* - ENCLAVE RC=*rcd3* FEEDBACK=(*feedback*)**

Explanation

A RECEIVE request on an SSL connection failed due to a validation failure or a failure within the SSL connection engine. This error reports the failure.

Note that the message contains two return codes, *rcd1* represents the SSL read return code, and *rcd2* represents the LE/370 enclave manager return code.

feedback contains the LE/370 enclave termination feedback codes.

User response

Check for other messages indicating the cause of the termination, and resolve the problem, if possible.

HLV7207T **SSL WRITE FAILED RC=*rcd1* REAS=*rsncode* - ENCLAVE RC=*rcd2* FEEDBACK=(*feedback*)**

Explanation

A SEND request on an SSL connection failed due to a validation failure or a failure within the SSL connection engine. This error reports the failure.

Note that the message contains two return codes; *rcd1* represents the SSL read return code, and *rcd2* represents the LE/370 enclave manager return code.

feedback contains the LE/370 enclave termination feedback codes.

User response

Check for other messages indicating the cause of the termination, and resolve the problem, if possible.

HLV7208T **SSL CLOSE FAILED RC=*rcd1* REAS=*rsncode* - ENCLAVE RC=*rcd2* FEEDBACK=(*feedback*)**

Explanation

A CLOSE request on an SSL connection failed due to a validation failure or a failure within the SSL connection engine. This error reports the failure.

Note that the message contains two return codes; *rcd1* represents the SSL close return code, and *rcd2* represents the LE/370 enclave manager return code.

feeback contains the LE/370 enclave termination feedback codes.

User response

Check for other messages indicating the cause of the termination, and resolve the problem, if possible.

HLV7209T ***var1*, *var2* ... *var5***

Explanation

The message is used to issue various warning messages when unusual conditions are detected during the parse of an inbound HTTP request.

User response

None.

HLV7210T **SERVER VARIABLE *varname* SKIPPED BY GLVSTATE. PROCESSING**

Explanation

The indicated inbound HTML query variable or HTTP cookie variable was not processed as expected to re-create a GLVSTATE. information set.

User response

Processing of the inbound HTTP request continues; however, subsequent processing of the transaction may encounter problems in the absence of the GLVSTATE. set.

HLV7211T **SSL CONNECT FAILED - RC=*rcd1* REAS=*rsncode* - ENCLAVE RC=*rcd2* FEEDBACK=(*feedback*)**

Explanation

A attempt to establish an SSL connection failed due to a validation failure or a failure within the SSL connection handling engine. This error reports the failure.

Note that the message contains two return codes; *rcd1* represents the SSL acceptance return code, and *rcd2* represents the LE/370 enclave manager return code.

feedback represents the LE/370 enclave termination feedback codes.

User response

Check for other messages indicating the cause of the termination, and resolve the problem, if possible.

HLV7212T **RELEASE OF SPECIALLY SIZED *watype* AT *addr1* FOR OPPR AT *addr2* FAILED WITH RC=*rcode***

Explanation

During end-of-transaction cleanup, an oversized SEF work area could not be freed and has been orphaned. The oversized work area had been allocated during execution of the previous transaction through the use of the WORKSIZE() of QUEUESIZE() keywords of a WWW rule. Oversized areas are only freed when thread reuse is in effect, since they are otherwise released by end of task processing.

The message contains two addresses; *addr1* represents the SEF work area address, and *addr2* represents the owning process block address.

User response

Check for other messages indicating the cause of the termination, and resolve the problem, if possible. Contact Software Support if this error cannot be resolved locally.

HLV7213T **SSL READ: *desc***

Explanation

Issued if TRACEURLREAD option is on, this message indicates that the reception of an inbound HTTP request is being traced. This message is generated by the SSL receive routines.

User response

None. This message indicates processing performed during HTTP request receive operations.

HLV7214T **MAXIMUM NUMBER OF QUERY VARIABLES(*maxno*) EXCEEDED - INBOUND REQUEST CANNOT BE PARSED**

Explanation

This message indicates that the inbound HTTP request contains more query variable name/value pairs than the server is able to parse. The maximum number of variables that can effectively be handled is given in the message.

User response

The server aborts parsing of the current HTTP request and responds with an HTTP 400 status message, indicating that the inbound request message is invalid. In order to correct the problem, you will need to redesign your application so that it transmits fewer query variables with any single inbound request.

HLV7215T **CANNOT DECODE DBCS QUERY DATA *data***

Explanation

This message indicates that the inbound HTTP request contains an ASCII encoded string (*data*) that could not be decoded by the server and converted to EBCDIC.

User response

The query data is set to include only the portion of the string that could be converted to EBCDIC. Set the DECODETRACE parameter to YES, and rerun the transaction. Contact Software Support if you cannot determine the reason (invalid ISO-2022-JP or Shift-JIS encoding) for the failure.

HLV7216T **SSL ACCEPT LEFT *count* UNCONSUMED LOOK-AHEAD BYTES - REJECTING SESSION**

Explanation

This message indicates that the SSL accept processing completed normally, except that some (*count*) received bytes were unconsumed from the look-ahead receive buffer during acceptance processing. Since SSL Accept processing involves real-time certificate and key negotiation, no look-ahead bytes should have remained.

User response

This is probably due to a logic error in the server. Contact Software Support.

HLV7217T **HTTP-RECV: HTTP TRANSFER-ENCODING: *val***

Explanation

Issued if TRACEURLREAD option is on, this message indicates that the reception of an inbound HTTP request is being traced.

User response

None. This message indicates processing performed during HTTP request receive operations.

HLV7218T **HTTP-RECV: HTTP CONTENT CHUNK LENGTH: *val***

Explanation

Issued if TRACEURLREAD option is on, this message indicates that the reception of an inbound HTTP request is being traced.

User response

None. This message indicates processing performed during HTTP request receive operations.

HLV7230T **WEB BUFFER FLUSH ATTEMPTED IN X-MEM MODE BY *modname* +*offset***

Explanation

A Web transaction program has issued a flush request to transmit outbound response buffers. The caller is operating in cross-memory mode, and the request cannot be serviced. The buffer flush request is ignored.

User response

Check for other messages that might indicate the cause of the error.

HLV7231T **SWSSEND REQUESTS EXCEPT PURGE OR FLUSH ARE INVALID FOLLOWING SWSFILE(SEND) REQUEST**

Explanation

A Web transaction program has issued a request to buffer additional outbound response data, but this request follows completion of an SWSFILE(SEND) operation. Because SWSFILE(SEND) has generated HTTP response headers specifying total response size, no additional data can be output unless the file-send request is first purged from the output buffers or flushed to the client.

User response

Check for other messages that might indicate the cause of the error, and correct the problem.

HLV7232T **HTTP RESPONSE BUFFER LIMIT (*limit*) EXCEEDED - SWSSEND WILL ISSUE USER ABEND X'722'**

Explanation

The total number of concurrently held output buffers for a single HTTP response has exceeded the MAXHTTPRESPBUFFERS limit. This may be due to a runaway transaction procedure or simply to unexpectedly large output.

User response

The SWSSEND API routine issues a user abend X'722' to begin cancellation of the Web transaction subtask.

If your program is expected to generate excessive output, raise the MAXHTTPRESPBUFFERS limit.

HLV7233T **HTTP RESPONSE BYTE LIMIT (*limit*) EXCEEDED - SWSSEND WILL ISSUE USER ABEND X'722'(1826)**

Explanation

The total number of bytes output as part of a single HTTP response has exceeded the MAXHTTPRESPBYTES limit. This may be due to a runaway transaction procedure or simply to unexpectedly large output.

User response

The SWSSEND API routine issues an user abend X'722' to begin cancellation of the Web transaction subtask. If your program is expected to generate excessive output, raise the MAXHTTPRESPBYTES limit.

HLV7240T **USER-SPECIFIED CONTENT-LENGTH DIFFERENT THAN CALCULATED LENGTH. USER LENGTH = *length*, CALCULATED LENGTH = *length***

Explanation

A Web transaction program has created a Content-Length HTTP header with a length that is different than the calculated length of the data being transmitted. The product Server will use the content length specified by the user. If persistent session support (KEEPALIVE) is enabled, the server will generate a Connection: Close header to guard against problems that might be associated with sending the incorrect message body length value.

User response

Ensure that the user-generated Content-Length HTTP header does not include the length of the user-generated HTTP headers and correctly represents the length of the data being transmitted.

HLV7250E **OPISTBRU FUNCTION TERMINATED: *rsn***

Explanation

A product display function was invoked improperly

User response

Correct the invocation parameter list, and re-run.

HLV7251T **UNKNOWN OR INVALID COOKIE FOUND. *errdesc* : *cookie***

Explanation

During execution of OPISTBRU, an unrecognizable or unknown cookie was received.

User response

None. This is a warning message. The unknown cookie is ignored, and the product defaults are used.

HLV7252T **ONE OR MORE INVALID COOKIE VALUE FOUND. *cfield* : *val***

Explanation

During execution of OPISTBRU, one or more cookie fields were defaulted because the value of the cookie field was invalid.

User response

None. This is a warning message. The invalid cookie field is ignored, and the product default for the field is used.

HLV7253T **INVALID COOKIE FORMAT *count* INVALID VARIABLES FOUND: *value***

Explanation

During execution of OPISTBRU, the stated number of cookie fields were defaulted because the cookie field was of invalid format. A 7252T message is issued for each invalid cookie field prior to the issuing of this message.

User response

None. This is a warning message. The invalid cookie field(s) are ignored, and the product default(s) for the field(s) are used.

HLV7254T **TIMESTAMP UNRECOGNIZABLE IN RFC1123, RFC850 OR ANSI C ASCTIME() FORMAT *time***

Explanation

While parsing an HTTP request or response header, the timestamp value could not be parsed to yield a valid timestamp. This may be a browser dependency beyond the server's control.

User response

None. The server assumes no value is specified for the corresponding request or response header.

HLV7255T **VALUE OF *varname* IS IMPROPERLY ENCODED: *reason***

Explanation

While parsing an HTTP request, an SWSECRET_ query value was detected. The server cannot decrypt the information for the reason indicated. Note that query variables sent out to a browser before a product restart become stale and cannot be decrypted following a restart.

User response

None. The server rejects the badly formed or invalid query variable and subsequently rejects the transaction with a 400 (bad request) HTTP status message.

HLV7300I **Invalid command syntax: *syntaxerr***

Explanation

A host command statement was invalid or could not be parsed for the reason indicated. The error was detected during initial command syntax scanning.

User response

Correct the command statement and re-submit.

HLV7301S ***subsys* is an invalid subsystem name**

Explanation

The subsystem name coded is not valid.

User response

Subsystem names must be four characters long and must begin with the correct product ID. The fourth character can be any character in the range A-Z.

HLV7302I **Parser routine (OPSXPR) failed with RC=*rcode***

Explanation

A host command statement was invalid because the general text parsing routines failed without returning a reason for the failure.

User response

Contact Software Support.

HLV7303S ***object* IS AN INVALID OBJECT FOR *verb***

Explanation

You have entered an invalid command / object combination for the verb from the SHLV statement.

User response

Correct the command, and rerun.

HLV7304I ***operand* KEYWORD MUST BE SPECIFIED FOR *verb entity* STATEMENT**

Explanation

A host command statement was invalid because an operand that is required for this type of command statement was omitted.

User response

Correct the command statement, and re-submit.

HLV7305I ***operand* KEYWORD MUST *reason* - SHOULD BE *opertype***

Explanation

A host command statement was invalid because an operand value was invalid.

User response

Correct the command statement, and re-submit.

HLV7306I **EITHER *operand* OR *operand* KEYWORD MUST BE SPECIFIED FOR *verb entity* STATEMENT**

Explanation

A host command statement was invalid because neither of the indicated operands was coded. At least one is required.

User response

Correct the command statement, and re-submit.

HLV7307I ***operand* KEYWORD INVALID FOR *verb entity* STATEMENT**

Explanation

A host command statement was invalid because an operand was coded that is not valid for the command statement type.

User response

Correct the command statement, and re-submit.

HLV7308I **ONLY *operand* KEYWORD ALLOWED FOR *verb entity* STATEMENT**

Explanation

A host command statement was invalid because an operand was coded that cannot be used for this type of command. Code only the single keyword operand indicated.

User response

Correct the command statement, and re-submit.

HLV7309I ***operand* KEYWORD MUST BE *value additinfo***

Explanation

A host command statement was invalid because an operand was not valid. The allowed format for the keyword operand is given.

User response

Correct the command statement, and re-submit.

HLV7310S ***cmdname* IS AN INVALID *cmdtype* COMMAND**

Explanation

The command you have coded is unknown.

User response

Enter a correct command, and rerun.

HLV7311S ***cmdname* subsystem *subsys* is not active**

Explanation

The indicated subsystem is not running. The address SHLV function cannot continue.

User response

Start the subsystem (or use the SUBSYS command to identify another subsystem), and rerun the command.

HLV7312S ***verb entity* STATEMENT FAILED WITH RC = *rcode***

Explanation

The requested operation failed severely.

User response

There is probably some sort of internal error. Contact Software Support.

HLV7313S **Authorization check failed for *verb entity* statement**

Explanation

A host command statement authorization check routine found that the current user is not authorized to execute the command statement. Access to execute the statement is denied.

User response

Check the variables of the error message text for the command statement whose access is denied. Ensure that the current user has the required access. Contact your security systems administrator for further help, if necessary.

HLV7314S ***parmname* is not a valid product parameter name**

Explanation

The parameter name is not a valid, recognized product parameter.

User response

Correct the parameter name, and rerun.

HLV7315S ***parmval* is not a valid value for *parmname***

Explanation

The parameter value is not valid for this parameter.

User response

Correct the value, and rerun.

HLV7316E ***entity value* does not exist**

Explanation

The entity defined by name is not yet defined; therefore, it cannot be modified.

User response

Either define the entity or remove the MODIFY.

HLV7317E ***entity value*** **is already defined**

Explanation

The indicated entry has already been defined.

User response

Determine which definition is correct, and rerun.

HLV7318S **INVALID UPDATE ATTEMPT FOR** ***entity***

Explanation

An invalid update attempt has been detected.

User response

Remove the keywords in error, and rerun the command.

HLV7319I **DDNAME** ***ddname*** **is not allocated to product address space**

Explanation

The indicated ddname is not allocated to the product address space.

User response

The attempt to define the file fails. Add a DD statement to the product start-up JCL for the indicated file, and restart the product.

HLV7320I **DSNAME(***dsname***) MUST BE A PDS(E) DATA SET**

Explanation

The indicated data set is not a PDS or PDSE data set.

User response

The attempt to define the file or ruleset fails. Change the DSNAME() keyword to correct the error.

HLV7321I **RULESET** ***indicator*** **NOT** ***rsname***

Explanation

The indicated ruleset definition was processed.

indicator indicates whether a ruleset was DEFINED or MODIFIED.

User response

This message logs definitions of or changes to SEF ruleset definitions.

HLV7322H ***jobname*** **HAS QUEUED RULESET(***rsname***)** ***indicator*** **FOR PROCESSING BY SEF**

Explanation

The job or user indicated issued a critical configuration change command that was successfully scheduled for processing by the SEF task. The SEF task will indicate the outcome of the request.

indicator indicates definition or modification.

User response

Information only. This message is sent to the hardcopy console log.

HLV7323H **SUPERVISOR STATE REQUIRED FOR** ***verb entity*** **COMMAND**

Explanation

The indicated command can only be processed by a real started-task copy of the product because supervisor state is required to perform the indicated action.

User response

Information only. This message is sent to the hardcopy console log.

HLV7324I ***operand*** **KEYWORD CONTAINS INVALID CHARACTER(S) AT OFFSET** ***offset*** **OF THE STRING**

Explanation

A host command statement was invalid because an operand was not valid. An invalid character or combination of characters was found at the indicated offset within the operand string.

User response

Correct the command statement, and re-submit.

HLV7325E ***operand*** **IS INVALID IN COMBINATION WITH** ***operand*** **FOR** ***verb entity*** **STATEMENT**

Explanation

A host command statement was invalid because the specified parameters conflict.

User response

Correct the command statement, and re-submit.

HLV7326E ***operand*** **MUST BE SPECIFIED IN COMBINATION WITH** ***operand*** **FOR** ***verb entity*** **STATEMENT**

Explanation

A host command statement was invalid because a required parameter was not specified

User response

Correct the command statement, and re-submit.

HLV7327E ***operand*** **VALUE MUST BE** ***errdesc*** **THAN** ***operand*** **FOR** ***verb entity*** **STATEMENT**

Explanation

A host command statement was invalid because the specified parameters conflict.

User response

Correct the command statement, and re-submit.

HLV7328E ***operand*** **VALUE** ***val*** **INVALID -** ***errdesc*** **FOR** ***verb entity*** **STATEMENT**

Explanation

A host command statement was invalid because the specified parameters is invalid

User response

Correct the command statement, and re-submit.

HLV7329S **Not configured for** ***verb entity*** **statement.**

Explanation

None.

User response

Contact IBM Software Support.

HLV7330S ***rsname*** **RULESET DEFINITION REJECTED -** ***additinfo***

Explanation

The ruleset definition is invalid because of the indicated condition. The definition is discarded.

User response

Correct the ruleset definition and restart the server

HLV7331S ***rsname*** **SHARED FILE DEFINITION REJECTED -** ***additinfo***

Explanation

The file definition is invalid because of the indicated condition. The definition is discarded.

User response

Correct the shared file definition and restart the server

HLV7333T **Authorization check failed for** ***verb entity*** **statement**

Explanation

A host command statement authorization check routine found that the current user is not authorized to execute the command statement. Access to execute the statement is denied.

User response

Check the variables of the error message text for the command statement whose access is denied. Ensure that the current user has the required access. Contact your security systems administrator for further help, if necessary.

HLV7400T ***varname*** **INVALID GLVSTATE. VARIABLE -** ***rsn additinfo***

Explanation

The indicated variable is not a valid GLVSTATE. prefix variable. See information on the automated state management facility for information on proper variable name formats.

User response

Correct the variable name, and rerun the exec or program.

HLV7401T ***setname*** **DOES NOT EXIST AND CANNOT BE** ***service***

Explanation

An attempt to perform a control operation on a named state information set failed because the set is not known to the system.

User response

The current request is ignored.

HLV7402T ***val*** **IS NOT A VALID VALUE FOR THE** ***varname*** **VARIABLE**

Explanation

The value indicated is not a valid value type for the variable identified.

User response

Correct the variable value, and rerun the exec or program.

HLV7403T ***setname*** **IS A READ-ONLY VARIABLE AND CANNOT BE UPDATED**

Explanation

The update attempt for the named state information set failed because the indicated variable is read-only.

User response

Remove the update attempt for the variable.

HLV7404T **GLVSTATE.*setname* MUST BE ACTIVE BEFORE UPDATE TO** ***varname***

Explanation

The indicated variable does not belong to an active named state information set. The GLVSTATE. group has expired or has never been created.

User response

Create the set before attempting to set the variable.

HLV7405T ***varname*** **REQUIRES A NUMERIC VALUE - FOUND** ***val***

Explanation

The indicated variable requires a numeric value in order to update its value.

User response

Correct the variable specification, and rerun the exec or program.

HLV7406T ***varname*** **ADJUSTED FROM** ***val*** **TO MINIMUM VALUE OF** ***minval*** **for** ***%4***

Explanation

The indicated variable was adjusted because the value being set was lower than the minimum. The minimum value is used, instead.

User response

Correct the variable specification, and rerun the exec or program.

HLV7407T ***varname1*** **IN** ***varname2*** **MUST BE ALPHAMERIC, BEGIN ALPHA OR AN INTEGER 0-N**

Explanation

The indicated variable is not valid for use as a GLVSTATE. user-assigned name. In GLVSTATE.name, name must be less than eight (8) bytes in length, begin alphabetic, and consist of only letters and numbers. The read-only variables, GLVEVENT.0 through GLVEVENT.n, are also valid but do not designate a named state variable set.

User response

Correct the variable specification, and rerun the exec or program.

HLV7408T ***qualifier*** **ALREADY EXISTS**

Explanation

The indicated GLVSTATE.name group already exists. An attempt was made to assign NEW to the control variable. Such an attempt is taken as an unconditional create-set request for a set that must not previously exist.

User response

The NEW create-set request is rejected with an error. Interrogate GLVSTATE.name before issuing a request if a previously created set might exist.

HLV7409T ***++++++ reqtype varname*** **Diagnostic WWST Trace ++++++**

Explanation

An internal-use diagnostic trace is being produced. Various internal state-related control blocks will be formatted and written to Trace Browse.

User response

None. For use by Software Support.

HLV7410T **SERVER TOKEN CREATE/DELETE SERVICE FAILED RC=*rcode* - GLVSTATE.*setname* UPDATE WILL FAIL**

Explanation

An internal service failed to create/delete a server token needed to manage a GLVSTATE. variable set. The current GLVSTATE. update request will be failed in one of two ways: (1) as though the update were to an invalid variable field name or (2) as a HALT error. The failure method depends on the type of update.

User response

Check for other messages related to this failure, and contact Software Support.

HLV7411T **REQUEST VARIABLE *varname* INVALID AUTOMATED STATE TRANSPORT - *rsn***

Explanation

During Web transaction initialization, an HTML query variable or HTTP request header cookie was found with a name beginning with SWSSTATE_xxxxxxxx or SWSTOKEN_xxxxxxxx. All query variables and cookies with names in this form are reserved for automated processing of state information.

User response

The server bypasses built-in handling for this variable, which may result in improper sessions state management activities. A variable in this form is also rejected if the xxxxxxxx portion is invalid. To be valid, the customer-assigned name must be 1 to 8 bytes in length; begin with an alphabetic character; and contain only alphabetic characters, the digits 0 through 9, and the underbar character.

HLV7412T ***varname* BYPASSED BY ASMF - DUPLICATE GLVSTATE.*setname* SET ALREADY EXISTS**

Explanation

During Web transaction initialization, an HTML query variable and/or HTTP request header cookie that contains built-in management information for a GLVSTATE. information set was found. Information for this GLVSTATE. set has already been received from another query variable or cookie within this inbound request.

User response

The server bypasses built-in handling for this variable and uses only the first GLVSTATE. restoration information. Note that this can occur if you include the same GLVSTATE.xxxxxxxx information in both an HTML form field and an HTTP cookie or if the browser transmits two HTTP cookies with the same name.

HLV7413T **VARIABLE *varname* DOES NOT CONTAIN A VALID SERVER TOKEN ID - *rsn***

Explanation

During Web transaction initialization, an HTML query variable or HTTP request header cookie was found with a name beginning with SWSTOKEN_xxxxxxxx. All query variables and cookies with names of this form are reserved for built-in GLVSTATE. processing. However, the contents of this element did not contain the expected displayable, hexadecimal, 24-byte token id value that was expected.

User response

The erroneous information is not used, the inbound query or cookie information is ignored, and no GLVSTATE. information set is created.

HLV7414T ***varname* VARIABLE DOES NOT CONTAIN VALID INFORMATION TO RECONSTRUCT GLVSTATE.*setname* - *rsn***

Explanation

During Web transaction initialization, an HTML cookie variable was found with a name beginning with SWSSTATE_. The value data, however, does not appear to be formatted as expected for restoration of a GLVSTATE. set. Note that this can occur for incorrect length information, bad encoding of the data, or some other input anomaly.

User response

The erroneous information is not used, the inbound cookie information is ignored, and no GLVSTATE. information set is created for this variable.

HLV7415T **SERVER TOKEN ID (*tknid*) REUSED IMPROPERLY FOR GLVSTATE.*setname1*/ GLVSTATE.*setname2* SETS**

Explanation

During Web transaction initialization, an HTML query variable or HTTP request header cookie was found with a name beginning with SWSSTATE_xxxxxxxx. All query variables and cookies with names of this form are reserved for built-in GLVSTATE. processing. However, the contents of this element contained an indication that a token id had been improperly re-used.

User response

This is a logic error. The server generates an S0C3 abend. Contact Software Support for assistance.

HLV7416T **GLVSTATE.*setname* NOT RECONSTRUCTED FOR TOKENID=*tknid* DUE TO ERROR *errdesc***

Explanation

During Web transaction initialization, an HTML query variable or HTTP request header cookie was found with a name beginning with SWSTOKEN_xxxxxxxx. All query variables and cookies with names of this form are reserved for built-in GLVSTATE. processing. However, a server-side token could not be retrieved due to an internal error, and this GLVSTATE. set is being bypassed.

User response

This could be due to a storage shortage or other problem. The state information is handled as though the token has expired.

HLV7417T **AUTOMATED STATE MGMT MODULE (OPASMF) - INVALID PLIST *plist***

Explanation

The automated state management routine, OPASMF, was invoked with an invalid parameter list (*plist*).

User response

The module generates an S0C3 abend to terminate the request. Contact Software Support.

HLV7418T **'GLVSTATE.*setname*' MUST EXIST BEFORE UPDATE TO *varname***

Explanation

The indicated GLVSTATE. collection does not exist. It must be created before the update to any collection member can be performed.

The GLVSTATE associated *setname* may also be an index number.

User response

Create the set before attempting to set the variable.

HLV7419T **UPDATE TO *csym* NOT ALLOWED FOR GLVSTATE.*collection* COLLECTION WITH STATUS=*status***

Explanation

The indicated GLVSTATE. collection is currently flagged as being in a status that does not allow updates. Change the collection to ACTIVE status either by resetting it or by deleting and re-creating it.

User response

The current request is rejected.

HLV7420T **UPDATE TO 'csym' NOT ALLOWED BECAUSE *val* EXCEEDS CURRENT SUBKEY COUNT OF *count***

Explanation

The number of keyed values within the set is lower than the key-index value specified by the symbolic reference. Key-index references may not be used to create new keyed value pairs.

User response

The current request is rejected.

The variable fields of the message text are: csym collection symbol being updated value key index value in symbolic reference num current number of keys defined

HLV7421T **UPDATE TO 'csym' IGNORED BECAUSE GLVSTATE.*collection* IS A *typeset* TYPE SET WHICH DOES NOT USE HTTP COOKIES**

Explanation

The indicated GLVSTATE. collection does not use HTTP cookies as a transport mechanism. The current update is ignored because it does not apply to non-cookie-based information sets.

User response

The current request is ignored.

The variable fields of the message text are: csym collection symbol being updated collect collection name value current set type value

HLV7422T **UPDATE TO 'csym' IGNORED BECAUSE GLVSTATE.*collection* IS A value TYPE SET WHICH DOES NOT USE SERVER-SIDE TOKENS**

Explanation

The indicated GLVSTATE. collection does not use tokens as an indirect storage mechanism. The current update is ignored because it does not apply to non-token-based information sets.

User response

The current request is ignored.

The variable fields of the message text are: csym collection symbol being updated collect collection name value current set type value

HLV7423T **VALUE ASSIGNED TO 'csym' TRUNCATED BECAUSE field MAXIMUM LENGTH IS size**

Explanation

The indicated GLVSTATE. variable value that was being assigned was truncated because only lengths up the size given are supported.

User response

The current request is ignored.

The variable fields of the message text are: csym collection symbol being updated field field usage size maximum size for this field

HLV7425T **UPDATE OF 'csym' IGNORED - TOKEN WITH ID=*tknid* HAS ALREADY EXPIRED**

Explanation

The indicated GLVSTATE. variable value update failed because the indicated token has already expired.

User response

The current request is rejected with an error.

The variable fields of the message text are: csym collection symbol being updated token token id for which update required

HLV7426T ***setname* HAS BEEN RESET**

Explanation

The indicated GLVSTATE. information set has been reset.

User response

None. The request completes normally.

HLV7427T **NO "SET-COOKIE:" SENT FOR GLVSTATE.*setname* - COOKIE WOULD EXCEED 4K MAX. SIZE**

Explanation

The indicated GLVSTATE. information set has not been used to generate an outbound HTTP Set-cookie: response because the total length of the value data, once encoded, exceeds the maximum 4k allowed by the Netscape cookie specification for the size of the name/value pair.

User response

The indicated state set is bypassed.

HLV7428T **ERROR WHILE BUILDING SET-COOKIE: RESPONSE FOR GLVSTATE.*setname* - RC=*rcode***

Explanation

An error was encountered while building an outbound Set-cookie: response header for the indicated state information set.

User response

Buffer flush processing continues.

HLV7429T **VARIABLE *varname* CONTAINS INVALID SERVER TOKENID ID WHICH MAY BE SPOOF ATTEMPT (ID=*tknid*)**

Explanation

An error was encountered while attempting to restore saved state information using a server-side token id. The characteristics of the error encountered MAY

indicate an attempt to spoof a server token id value, although this is by no means certain. If the error occurs frequently, you may wish to investigate this possibility further.

User response

The server token id is handled as though it designates an expired token from which no application data values can be restored.

HLV7500I ***msgtext***

Explanation

This is a generic message used for informational level messages from RPC programs using the SWSWTO function.

User response

None.

HLV7501W ***msgtext***

Explanation

This is a generic message used for warning level messages from RPC programs using the SWSWTO function.

User response

None.

HLV7502S ***msgtext***

Explanation

This is a generic message used for severe level messages from RPC programs using the SWSWTO function.

User response

None.

HLV7503H ***msgtext***

Explanation

This is a generic message used for hardcopy level messages from RPC programs using the SWSWTO function.

User response

none.

HLV8000E **Java JVM feature is not configured.**

Explanation

None.

User response

Contact IBM Software Support.

HLV8002E **Unable to get the JVM Profile List from the Local Registry.**

Explanation

Unable to get the JVM Profile List from the Local Registry.

User response

Make sure the Registry is defined to the product.

HLV8003E **Unable to build JVM Profile List.**

Explanation

Unable to build JVM Profile List.

User response

Contact Software Support.

HLV8004E **Unable to allocate latch for JVM profile.**

Explanation

Unable to build JVM Profile List.

User response

Contact Software Support.

HLV8900E ***errdesc additinfo***

Explanation

An error was encountered while attempting to initialize a task runtime environment for C-language main product routines.

User response

The runtime environment is not initialized. Check for other messages that might indicate the cause of the failure, and contact Software Support.

HLV8901T ***tracedesc additinfo***

Explanation

While initializing the C-language runtime environment, statistical tracing is enabled. This message is used to trace out information about the environment.

User response

Initialization processing continues.

HLV8902W ***errdesc additinfo***

Explanation

A correctable error was detected while initializing a task runtime environment for C-language main product routines.

User response

The runtime environment is initialized after the error is corrected.

HLV8903T ***tracedesc additinfo***

Explanation

While terminating the C-language runtime environment, statistical tracing is enabled. This message is used to trace out information about the environment.

User response

Termination processing continues.

HLV8904W ***errdesc additinfo***

Explanation

A correctable error was detected while terminating a task runtime environment for C-language main product routines.

User response

The runtime environment is terminated if the error is correctable. Otherwise, the termination request will fail with a more severe error.

HLV8905E ***errdesc additinfo***

Explanation

While terminating the C-language runtime environment, an error was encountered. Termination processing continues but may leave allocated resources orphaned.

User response

Termination processing continues.

HLV9000H ***modname/funcode*** **execution** ***msgtext***

Explanation

This message is used to trace product termination. A message is issued before and after the execution of each termination routine.

User response

There is no action for this message. This message is only used for trace and debugging purposes.

HLV9001I **Subsystem** ***subsys*** **termination complete**

Explanation

This is the standard product termination complete message.

User response

No action is required.

HLV9002E **Subsystem** ***subsys*** **termination incomplete**

Explanation

Product execution has terminated. However, one or more errors were detected during product termination. As a consequence, normal product termination was not possible.

User response

Check for any error messages issued during termination. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support. Please note the exact contents of the above error message and any other error messages associated with the product termination error.

HLV9008S **ABEND ERROR** ***abcode-rsncode*** **AT** ***modname+offset***

Explanation

A serious abend occurred during product initialization, execution, or termination. The abend was not recoverable, and the product was forced to terminate.

User response

Check the abend code and any related abend messages. If possible, fix the problem identified by the error messages, and restart the product. If the problem cannot be resolved, contact Software Support. Note the exact contents of the above error message and any other error messages associated with the product failure.

HLV9100T **INVALID COMBINATION OF ./ or ../ in *pathname***

Explanation

An HFS pathname string was rejected because it contains an invalid combination of ./, ../, or other characters that are not resolvable at runtime.

User response

If the PATH() operand of the matched-to WWW rule contains a wildcard(*), this may indicate an attempt by a client to refer to an HFS sub-directory to which access should not be granted. This message can also result from an incorrect combination of specifications for the server DOCUMENTROOT start-up parameter, the HFSROOT() parameter on a DEFINE RULESET statement, and/or the PATH() parameter on the WWW rule definition. The transaction is rejected with a 404 (file not found) error status.

HLV9504E ***service* OF *desc* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe a wide variety of internal errors. The message text provides a description of the current operation (*service*) and what the current operation was attempting to do, such as GETMAIN, FREEMAIN, and so on.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. If the problem cannot be resolved, contact Software Support.

HLV9505I ***errdesc***

Explanation

This is a generic informational message used to clarify a wide variety of internal errors. The message text provides further info for the current operation and what the current operation was attempting to do.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. If the problem cannot be resolved, contact Software Support.

HLV9506S ***service* OF *desc* FAILED, RC=*rcode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe a wide variety of internal errors. The message text provides a description of the current operation (*service*) and what the current operation was attempting to do, such as GETMAIN, FREEMAIN, and so on.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. If the problem cannot be resolved, contact Software Support.

HLV9507E **DATA SET *dsname* DOES NOT EXIST - LOCATE OF *dsname* FAILED, RC=*rcode*, REASON=*rsncode***

Explanation

A failure occurred during a LOCATE of a data set. The return and reason codes in the message are from the LOCATE routine.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. If the problem cannot be resolved, contact Software Support.

HLV9508E **OBTAIN OF FORMAT1 DSCB FOR DSNAME *dsname* VOLUME *Vid* FAILED, RC = *rcode*, REASON CODE = *rsncode***

Explanation

A failure occurred during an OBTAIN of a data set. The return and reason codes in the message are from the OBTAIN FORMAT1 DSCB routine.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. If the problem cannot be resolved, contact Software Support to obtain additional assistance.

HLV9509E **OBTAIN OF FORMAT1 DSCB FOR DSNAME *dsname* VOLUME *Vid* FAILED BECAUSE DATA SET IS MIGRATED**

Explanation

A failure occurred during an OBTAIN of a data set. The data set volser is set to MIGRAT, indicating the data set has been migrated offline.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. For some server functions, you may need to manually recall the data set before retrying the operation. If the problem cannot be resolved, contact Software Support to obtain additional assistance.

HLV9511E ***service* OF *desc* FAILED, RC=*rcode*, RS=*rsncode*, DETECTED AT *addr***

Explanation

This is a generic error message used to describe a wide variety of internal errors. The message text provides a description of the current operation (*service*) and what the current operation was attempting to do, such as GETMAIN, FREEMAIN, and so on.

User response

Check the error messages and the return code associated with this problem. There may be one or more error messages referring to the current problem. If possible, fix the problem identified by the error messages, and retry the operation. If the problem cannot be resolved, contact Software Support.

HLV9513E **Unknown I/O *reqcd*, *diaginfo***

Explanation

An unknown service request code has been detected by the server I/O routines. The request cannot be processed and an internal ABEND will be generated to log a symptom record in LOGREC. A general error return code will be reflected to the caller.

User response

Check for other error messages associated with the problem. There may be one or more error messages referring to the current problem or to the component or feature issuing the request. If the problem cannot be resolved, contact Software Support to obtain additional assistance.

HLV9990I ***msgtext***

Explanation

This is a generic message used to format information relating to abends detected by the product. The abend module, abend offset, abend code, and registers at the time of abend are all formatted for debugging purposes. In the case of internal errors, the reason for the internal abend is also indicated.

User response

Record all of the information, and report the problem to Software Support.

HLV9998S **TEXTMERGE (MSGID=M998) PROCESSING FAILURE REASON=*rsncode***

Explanation

Invalid parameters were passed to the message send routine for a special textmerge function call. This is likely due to a logic error on the part of the calling routine.

User response

Contact Software Support with this problem

HLV9999S ***msgtext***

Explanation

This message is for internal product testing.

User response

No action is required.

Accelerator Loader server reason codes

The Accelerator Loader server produces reason codes that are used for troubleshooting TCP/IP and DRDA related issues.

Reason codes appear in system messages and driver messages. For example, the following message includes a reason code, which, in this case, indicates that the password is missing:

```
Unable to connect to DB subsystem DBAA; Return code 8, Reason code 00BAD044
```

The following table lists the available reason codes.

Reason codes	Short description	Detailed description
0X00BAD002	No query to continue	Indicates an internal error has occurred where an internal continue query command has been executed and there is not any query currently open. **Processing:** Fails and request is terminated **Action:** See Server Trace for additional details of error.
0X00BAD003	Network buffer underflow	Indicates that a DRDA protocol error occurred during the request processing. **Processing:** Fails and request is terminated **Action:** See Server Trace for additional details of error.
0X00BAD004	String conversion truncation	During Code Page Conversion from a source CCSID to a target CCSID, a string conversion error has occurred which caused a truncation of data. **Processing:** Current request may or may not continue **Action:** See Server Trace for additional details of error.
0X00BAD005	String conversion character substitution	During Code Page Conversion from a source CCSID to a target CCSID, a string conversion error has occurred where a character substitution occurs. **Processing:** Current request may or may not continue **Action:** See Server Trace for additional details of error.
0X00BAD006	String conversion error	During Code Page Conversion from a source CCSID to a target CCSID, a string conversion error has occurred where a character substitution occurs. **Processing:** Current request may or may not continue **Action:** See Server Trace for additional details of error. Server *x*LV*y*IN00 may require DEFINE CONV entries to provide Source CCSID to Target CCSID conversions
0X00BAD007	String conversion table corrupt	During Code Page Conversion from a source CCSID to a target CCSID, the conversion table is not usable. **Processing:** Current request is terminated **Action:** See Server Trace for additional details of error.

Reason codes	Short description	Detailed description
0X00BAD008	String conversion unknown code page	During Code Page Conversion from a source CCSID to a target CCSID, either the source or target CCSID is not valid. **Processing:** Current request is terminated **Action:** See Server Trace for additional details of error.
0X00BAD009	Connection dead	During TCP/IP processing, the TCP/IP connection has failed. **Processing:** Current request is terminated **Action:** See Server Trace for additional details of error.
0X00BAD00A	Unknown Datatype	During processing of a SQL request, the DRDA protocol has returned a column or result set data type that is not known to the DRDA VRF code base. **Processing:** Current request is terminated **Action:** See Server Trace for additional details of error.
0X00BAD00B	Abnormal end unit of work condition occurred	DRDA AS has returned a DRDA code point ABNUOWRM indicating an abnormal unit of work was encountered by the DB Server. For example, the reply message ABNUOWRM may be chained to an SQLCARD data object that carries the name of a resource involved in a deadlock that generated a relational database rollback operation. **Processing:** Current request is terminated **Action:** See Server Trace for additional details of error.
0X00BAD00C	Permanent Agent Error	DRDA AS has returned a DRDA code point which indicates the Server is failing the request. The Server Trace will normally report DRDA Server info in the form of Server Diagnostic messages as the DB Server provides. One example would be calling a Stored Procedure and the data passed to the SPC generated an ABEND via Data Execption. Threads may also generate a Permanent Agent Error when the DRDA VRF has a connection open in an in-doubt state and z/OS Db2 has terminated the thread. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. For Terminated Threads, a new connection should be established and commit / rollback processing should be used to insure the connection does not enter an in-doubt state for Idle Time set in Db2. For SPC Data Execptions ensure the data passed to Stored Procedures is valid for the data type.
0X00BAD00D	Not Authorized To Use Command	DRDA AS has returned a DRDA code point CMDATHRM indicating the currently authenticated USERID is not authorized to issue the current command. The error may occur on Open Query or other commands. **Processing:** Current request is terminated **Action:** See Server Trace for additional details of error.

Reason codes	Short description	Detailed description
0X00BAD00E	Command Check Error	DRDA AS has returned a DRDA code point CMDCHKRM. Reply Message indicates that the requested command encountered an unarchitected condition for which there is no architected message. **Processing:** Current request is terminated **Action:** See Server Trace for additional details of error.
0X00BAD00F	Command Not Supported	DRDA AS has returned a DRDA code point CMDNSPRM. Reply Message indicates that the specified command is not recognized or not supported for the specified target object. This reply message can be returned only in accordance with the architected rules for DDM sub-setting. **Processing:** Current request is terminated **Action:** See Server Trace for additional details of error.
0X00BAD010	Manager Level Conflict	DRDA AS has returned a DRDA code point SQLAM or MGRLVLRM that is not supported by the DRDA VRF code base. By default the DRDA VRF requests SQLAM level 8 and the target DRDA AR should indicate if the DRDA AS supports the requested SQLAM or drops down to a supported SQLAM value. This should not occur unless there is a mismatch in the DRDA AS and the DRDA AR (VRF). **Processing:** Current request is terminated and normally will only occur during the initial DRDA connection. **Action:** See Server Trace for additional details of error. If the SQLAM is used on the DEFINE DATABASE be sure to use a value supported by the DRDA AS.
0X00BAD011	Manager Dependency Error	DRDA AS has returned a DRDA code point MGRDEPRM. Reply Message indicates that a request has been made to use a manager, but the requested manager requires specific support from some other manager that is not present. **Processing:** Current request is terminated and normally will only occur during the initial DRDA connection. **Action:** See Server Trace for additional details of error.
0X00BAD012	Unexpected Server Reply (%s (PRCCNVCD))	DRDA AS has returned a DRDA code point PRCCNVRM. Reply Message indicates that a conversational protocol error occurred. The response displayed is the DRDA AS Server reply code that is not expected. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error.
0X00BAD013	Parameter Not Supported (%s)	DRDA AS has returned a DRDA code point PRMNSPRM. Reply Message indicates that the specified parameter is not recognized or not supported for the specified command. The response displayed is the DRDA AS Server parameter code that is not expected/supported. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error.

Reason codes	Short description	Detailed description
0X00BAD014	Resource Limits Reached(%s). Diagnostic Info: %s	DRDA AS has returned a DRDA code point RSCLMTRM. Reply Message indicates that the requested command could not be completed due to insufficient target server resources. Examples of resource limitations are as follows: • The target agent has insufficient memory to keep track of DCLFIL collections. • The lock manager cannot obtain another lock. • The communications manager send or receive buffer overflowed. • The target server lacks the memory or storage resource to create the instance of the manager requested. For example, an ACCRDB command could not create a target SQLAM manager because of the target server resource limitations. The message provide details on the limit reached followed by some Diagnostic information. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error.
0X00BAD015	Data Stream Syntax Error (%8.8x)	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The DRDA AR (VDF) code base will report the syntax error in the message. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD017	Incorrect object length	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates a length error for an object. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.

Reason codes	Short description	Detailed description
0X00BAD018	Incorrect large object length	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates a length error for an large object. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD019	Object index not supported	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates an index value for an object is invalid. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD01A	Required object not found	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates a required object was not provided in the request. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD01B	Too many command objects	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that more objects were provided in the request than expected. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.

Reason codes	Short description	Detailed description
0X00BAD01C	Mutually exclusive objects present	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that objects were provided in the request that mutually exclusive. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD01D	Too few command objects	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that the objects were provided in the request are less than the expected number. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD01E	Duplicate objects present	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that the duplicate objects were provided in the request. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD01F	Invalid request correlator	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that the request correlator provided is not valid. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.

Reason codes	Short description	Detailed description
0X00BAD020	Required value not found	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that a required value was not provided in the request. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD021	Reserved value not allowed to be set	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that setting of a reserved value is not valid. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD022	DSS continuation less than two	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that the DRDA DSS continuation is not valid. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD023	Objects not in required order	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that the request objects are not provided in the required order. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.

Reason codes	Short description	Detailed description
0X00BAD024	DSS chaining and DSSFMT not correct	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that the DRDA DSS chaining is not valid. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD025	Different request correlators	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that the request correlator is not the expected correlator. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD026	Error continuation not allowed for this command	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that the request has setup for continuation which is not valid for the active command. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD027	Mutually exclusive parameter values specified	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that the request has sent Mutually exclusive parameters. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.

Reason codes	Short description	Detailed description
0X00BAD028	Server cannot handle this command	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error indicates that the DRDA AS does not support the requested command. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD029	No detailed information available	DRDA AS has returned a DRDA code point SYNTAXRM. Reply Message indicates that the data sent to the target agent does not structurally conform to the requirements of the DDM architecture. The target agent terminated parsing of the DSS when the condition SYNERRCD specified was detected. The error that the DRDA AR (VRF) code base does not have code to display the SYNERRCD returned. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD02A	Target Not Supported	DRDA AS has returned a DRDA code point TRGNSPRM. Reply Message indicates that the object specified as a command target parameter is not an object of a class that the target server supports. This condition can arise when a target server can address objects of classes that DDM or product extensions to DDM cannot support. It can also arise for valid DDM classes that the target server does not support. For example, the TRGNSPRM is returned if the name of the object a FILNAM (command target) parameter specifies is either not a file (for instance, a program library) or is not of a DDM file class (for instance, a file class the target system does not support). **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD02B	Remote Database Not Found: %s	DRDA AS has returned a DRDA code point RDBNFNRM. Reply Message indicates that the target server cannot find the specified relational database. The message provides the name of the remote DB that could not be located on the Target DRDA AS. **Processing:** Current request is terminated. **Action:** Verify that the expected database exists on the DB Server or that host IPADDR/DOMAIN and/or port used in the DEFINE DATABASE is correct.

Reason codes	Short description	Detailed description
0X00BAD02D	Failed to access database %s	DRDA AS has returned a DRDA code point RDBNACRM. Reply Message indicates that the access relational database command (ACCRDB) was not issued prior to a command requesting RDB services. The message provides the name of the remote DB that failed to be accessed on the Target DRDA AS. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD02E	Connection to application server %s would exceed limit	DRDA AS has returned a DRDA code point RDBAFLRM. Reply Message specifies that the relational database (RDB) failed the attempted connection. The DRDA VRF code base returns this error via the SQLCARD object that follows the RDBAFLRM code point. The message will explain why the RDB failed the connection. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error and the SQLCODE following the error. Normally indicates the target DB Server cannot accept any new connections.
0X00BAD02F	Object not supported	DRDA AS has returned a DRDA code point OBJNSPRM. Reply Message indicates that the target server does not recognize or support the object specified as data in an OBJDSS for the command associated with the object. The OBJNSPRM is also returned if an object is found in a valid collection in an OBJDSS (such as the RECAL collection) that is not valid for that collection. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD030	Descriptor received does not match associated data	DRDA AS has returned a DRDA code point DTAMCHRM. Reply Message which indicates that: • The descriptor received did not violate any Formatted Data Object Content Architecture (FD:OCA) or (DRDA) rules and was successfully assembled. • The data received did not match the received descriptor. That is, the amount of data received did not match the amount of data expected. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.

Reason codes	Short description	Detailed description
0X00BAD031	Invalid data descriptor	DRDA AS has returned a DRDA code point DSCINVRM. Reply Message specifies that a target server manager was unable to assemble a valid Formatted Data Object Content Architecture (FD:OCA) descriptor for the data being sent. The DSCERRCD DRDA code point specifies the reason for the error. This reply message indicates that the FD:OCA descriptor is invalid either because it violates FD:OCA rules or (DRDA) rules for the construction of an FD:OCA descriptor. The DRDA code point offsets for the parameters FDODSCOFF, FDOTRPOFF, and FDOPRMOFF specify the descriptor components that are in error. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD032	Unhandled CodePoint: %s	DRDA AS has returned a DRDA code point that is not know to the DRDA VRF or is not expected at the DRDA protocol code point currently active. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD033	Codepoint too big	DRDA AS has returned a DRDA code point that is larger than the expected for the DRDA protocol code point currently being processed. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD037	SECMEC value not supported, check for missing user/password	The authentication DRDA code point SECMEC that was returned or requested via the DEFINE DATABASE SECMEC(...) setting is not supported by either the DRDA AS or the DRDA AR code base. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Select a valid SECMEC setting for the DB Server or modify the DB Server to accept the requested SECMEC value. Refer to IBM documentation on the DB Server authentication methods.

Reason codes	Short description	Detailed description
0X00BAD038	DCE Informational Status issued	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. If the additional information does not resolve the reason for the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD039	DCE retryable error	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. If the additional information does not resolve the reason for the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD03A	DCE non-retryable error	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. If the additional information does not resolve the reason for the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.

Reason codes	Short description	Detailed description
0X00BAD03B	GSSAPI Informational Status issued	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. If the additional information does not resolve the reason for the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD03C	GSSAPI retryable error	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. If the additional information does not resolve the reason for the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD03D	GSSAPI non-retryable error	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. If the additional information does not resolve the reason for the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.

Reason codes	Short description	Detailed description
0X00BAD03E	Local Security Service Informational Status issued	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. If the additional information does not resolve the reason for the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD03F	Local Security Service retryable error	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. If the additional information does not resolve the reason for the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.
0X00BAD041	SECTKN missing on ACCSEC when required, or it is invalid	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. This message normally indicates that the encrypted token was not found when expected or is invalid. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. If the additional information does not resolve the reason for the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/ WRITE tracing will provide best diagnostic information.

Reason codes	Short description	Detailed description
0X00BAD042	Password expired	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. This message indicates that the supplied password has expired. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. Correct the password expired problem and retry the request. If correcting the password does not resolve the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD043	User / Password invalid	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. This message indicates that the supplied USERID or password is invalid. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. Correct the USERID and or password and retry the request. If correcting the request does not resolve the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD044	Password missing	See Reason code: 0X00BAD043
0X00BAD045	Userid missing	See Reason code: 0X00BAD043
0X00BAD046	User / Password invalid	See Reason code: 0X00BAD043
0X00BAD047	Userid was revoked or is invalid	See Reason code: 0X00BAD043
0X00BAD048	New Password invalid	
0X00BAD049	Access to Remote Database %s failed. Reason: %s	
0X00BAD04A	Commit or Rollback failed	

Reason codes	Short description	Detailed description
0X00BAD04B	Command cannot be completed. Bind process is active	DRDA AS has returned a DRDA code point PKGBPARM. Reply Message indicates that the command cannot be issued when the relational database package binding process is active. The active package binding process must complete before package can be used for execution. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Make sure package BIND process is complete before accessing the DB Server.
0X00BAD04C	Failed to begin the bind process	
0X00BAD04D	Bind process is not active	DRDA AS has returned a DRDA code point PKGBNARM. Reply Message indicates that a BNDSQLSTT or ENDBND command was issued when the package binding process was not active for the specified package name. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD053	No more available statements; need more sections in package	The error indicates an internal error occurred during the BIND of a package. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD055	Unknown FDOCA descriptor: %s	The descriptor received did not match the expected. Formatted Data Object Content Architecture (FD:OCA) or (DRDA) rules for the expected descriptor. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD059	Data length exceeds maximum CLOB length for database (%s)	
0X00BAD05A	Data length exceeds maximum BLOB length for database (%s)	

Reason codes	Short description	Detailed description
0X00BAD05C	Cursor identified in Fetch statement is not open	Any attempt was made to close a cursor, but the cursor specified is not currently being processed. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD05F	An invalid database Name was specified	
0X00BAD060	An invalid package Name was specified	DRDA AS has returned a DRDA code point VALNSPRM. Reply Message indicates that the parameter value specified is either not recognized or not supported for the specified parameter. The codepoint of the command parameter in error is returned as a parameter in this message. Normally indicates an invalid package name. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD063	DRDA SQL Diagnostic Record not NULL	
0X00BAD064	Cancel Failed	DRDA AS has returned a DRDA code point INTTKNRM. Reply Message indicates the target SQLAM has determined that the specified DRDA RDBINTTKN value is invalid because of one of the following: • The token value does not match the interrupt token value returned to the requester on the DRDA ACCRDBRM. • The requester is not authorized to interrupt the execution of a DDM command. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD067	Server does not support client's code page (IBM cp-%d)	DRDA AS has returned a DRDA code point VALNSPRM. Reply Message which indicates the target CCSID provided to the DB Server is not supported. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Select a valid CCSID for the DEFINE DATABASE. If the CCSID is valid or must be supported: Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.

Reason codes	Short description	Detailed description
0X00BAD068	Specified security mechanism (%s) unsupported by server	DRDA AS has returned a DRDA code point SECMEC and associated SRVCOD to indicate the selected DEFINE DATABASE SECMEC(...) is not supported by the DB Server. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Select a supported SECMEC or modify the DB Server to support the required SECMEC(...) if a valid SECMEC cannot be selected. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD069	The SNA protocol is not supported. Cancel functionality not supported	
0X00BAD06A	Operation failed due to asynchronous network contention. Network socket closed	
0X00BAD06B	CALL statement found in explicit batch	
0X00BAD06C	AUTHORIZATION FAILURE: %s. REASON: %s	An attempt was made to generate or decode a Kerberos token that failed. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Use the Failure and Reason code to determine the Kerberos error. Verify the Server USERID and the USERID in effect for the connection has the RACF Kerberos segment active. Otherwise, contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD06D	zEDC Requested and zEDC is: (%s) (%s)	An attempt has been made to connect a DRDA DEFINE DATABASE setup with a zEDC proxy and zEDC is not active for the Server. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Ensure zEDC is activated at Server Start-up and does not have any errors. Otherwise, contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD06E	%s - Access to Distributed is not authorized (%s)	This error is returned when Server is not authorized to access Distributed data sources. This message is deprecated for current code base.

Reason codes	Short description	Detailed description
0X00BAD06F	Authentication for request is not authorized to access the specified relational database	DRDA AS has returned a DRDA code point RDBATHRM. Reply Message specifies that the requester is not authorized to access the specified relational database. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Ensure USERID is authorized to access the Database. Otherwise, contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00BAD070	Package Isolation level is invalid	During package BIND the cursor isolation level was found to be invalid. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X00C10205	RLI TRANSLATE function unsupported for DRDA	The requested function is not valid for DRDA connections. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X00C12201	IDENTIFY invalid in already-connected state	The requested function is not valid for DRDA connections which are in a connected state. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X00C12202	CREATE THREAD invalid with thread already open	Cannot create a thread when thread is already active for the DRDA connection. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X00C12203	TERMINATE THREAD invalid, no active thread	Cannot terminate a thread when thread is not active for the DRDA connection. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.

Reason codes	Short description	Detailed description
0X00C12204	Only an IDENTIFY request is valid without a prior connection	Only IDENTIFY may be issued when a connection does not exist. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X00C12205	SWITCH TO request for unidentified subsystem	Cannot issue SWITCH to a DRDA SUBSYSTEM that is not already defined. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X00C12206	Wrong arg count for DRDA RLI request	Internal call to DRDA RLI entry has incorrect parameter count. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X00C12217	CREATE THREAD invalid before SIGNON completed	Internal error occurred during CREATE THREAD processing. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X00C12221	SET_CLIENT_ID invalid before CREATE THREAD	Internal error occurred during CREATE THREAD processing. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X00C19998	SET_CLIENT_ID WLM setup processing failed	Internal setup processing for Work Load Management failed during SET_CLIENT_ID process. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X00C19999	DEFERRED WLM setup processing for DRDA link failed	Internal setup processing for Work Load Management failed during DEFERRED WLM process. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.

Reason codes	Short description	Detailed description
0X0FF30011	DRDA RLI request failed, target subsystem inactive	DRDA RLI processing failed due to the target Db2 being inactive. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X0FF30013	No authorization for CL(DSNR) subsys.DIST resource	The message indicates an error occurred while the DRDA AR (VRF) and the DB Server were processing the authentication request. DRDA AS has returned a DRDA code point SECCHKCD which String codifies the security information and condition for the SECCHKRM. The DRDA protocol documentation provides details about the relationship between the SECCHKCD parameter and the DRDA SVRCOD parameter in the SECCHKRM. This message normally indicated the authentication is valid, but the USERID is not allowed access. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error as the DRDA VRF code will display additional Server trace messages during authentication errors. If the additional information does not resolve the reason for the authentication error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed. Full DRDA READ/WRITE tracing will provide best diagnostic information.
0X0FF30049	DRDA RLI request failed, LDU is already connected	DRDA RLI processing failed due to the connection already being active. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X0FF30093	TERMINATE THREAD/ IDENTIFY invalid with open unit-of-work	Termination of Thread with open unit of work is not valid. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.
0X0FF3EEEE	Connection setup for DRDA link failed	The connection processing for the DRDA LINK failed. **Processing:** Current request is terminated. **Action:** See Server Trace for additional details of error. Contact software supplier with full trace of the error along with version of the Db2 and any SQL that is processed.

Tools Customizer troubleshooting

Use this information to diagnose and correct problems that you experience with Tools Customizer.

Gathering diagnostic information

Before you report a problem with Tools Customizer to IBM Software Support, you need to gather the appropriate diagnostic information.

Procedure

Provide the following information for all Tools Customizer problems:

- A clear description of the problem and the steps that are required to re-create the problem
- Relevant screen captures
- All messages that were issued as a result of the problem
- Product release number and the number of the last program temporary fix (PTF) that was installed
- The version of Db2 that you are using and the type and version of the operating system that you are using
- The Tools Customizer trace data set
- The Tools Customizer data store data set and the *high_level_qualifier*.SCCQTENU data set

Determining the trace data set name

You will need to identify the name of the trace data set if you cannot allocate the trace data set, the trace data set runs out of space, or IBM Software Support asks for it.

The name of the trace data set depends on the prefix setting in the TSO profile. To identify the name of the trace data set, you must know the prefix setting.

- If PREFIX is set, the name of the trace data set is *prefix*.CCQ.TRACE, where *prefix* is the TSO prefix that you specified in the profile.
- If NOPREFIX is set, the name of the trace data set is *user_ID*.CCQ.TRACE, where *user_ID* is your TSO user ID.

Accelerator Loader troubleshooting

Use this information to diagnose and correct problems that you experience with Accelerator Loader.

Monitoring load job progress

Monitor the progress of active Accelerator Loader load jobs.

About this task

Accelerator Loader provides a way to monitor load processing by periodically issuing a product message that reports the number of rows that have been loaded. The interval (in rows loaded) at which the message is issued is controlled by the parameter ACCEL_ROWS_REPORT_THRESHOLD. This parameter value is set globally in Tools Customizer using the parameter **Report loaded rows threshold**, and it can also be overridden for a specific job by specifying the keyword `ACCEL_ROWS_REPORT_THRESHOLD` as part of the utility syntax for the job.

This setting is described as follows:

Report loaded rows threshold (ACCEL_ROWS_REPORT_THRESHOLD)
The threshold (in rows) to use when reporting the number of rows that have been loaded for a job. Message "HLOU5062I" on page 639, which includes the cumulative number of rows loaded for the job, is issued to the Accelerator Loader job SYSPRINT each time the threshold value is met. Note that

the message will be issued when the threshold is exceeded but will contain the current row count in the loading process, which might be more than the value specified. Valid values are integers in the range 0 - 2147483647. A value of 0 specifies that no reporting messages will be issued.

Note: You can also report the number of rows that have been loaded for a job to the Accelerator Loader started task by using the **DISPLAY SESSIONS** console command. For more information, see "Console commands for the Accelerator Loader started task" on page 993.

Procedure

Perform either of the following steps to specify the threshold (in rows) to use when reporting the number of rows that have been loaded for a job. If you specify a value of 0, no reporting messages will be issued.

- To set the threshold amount globally, use Tools Customizer to set the **Report loaded rows threshold** parameter. See "Task: Create the started task and its components (required)" on page 46.
- To set the threshold amount for a specific IDAA_ONLY, IDAA_DUAL or HALOAD utility batch job, overriding the global setting, include the ACCEL_ROWS_REPORT_THRESHOLD parameter in the job syntax. The following example shows the parameter with an override threshold value of a million rows:

```
LOAD DATA REPLACE
  IDAA_DUAL ON IDAAS07
  ACCEL_ROWS_REPORT_THRESHOLD 1000000
  INTO TABLE "DSNC810"."EMP"
```

  For more information, see Chapter 11, "Syntax," on page 283.

Results

Each time the threshold value is met, the following message is issued to the Accelerator Loader job SYSPRINT:

```
HLOU5062I Rows loaded: number_of_rows_loaded
```

where *number_of_rows_loaded* is the cumulative number of rows that have been loaded for the job.

Gathering diagnostic information

If you encounter a problem and need to contact IBM Software Support, you must gather certain information about your Accelerator Loader system and the problem before contacting Support. Your Support representative will need this information to correctly diagnose and resolve the problem.

Provide Support with the following types of diagnostic information:

- The Accelerator Loader version.
- The identifier for the latest Accelerator Loader APAR or PTF that has been applied on your system.
- The operating system type, version, and maintenance level.
- Your Db2 version and whether you are using Db2 data sharing.
- All output from the Accelerator Loader started task.
- (*DSNUTILB intercept users only*) All output for the Db2 utility execution for which the problem occurred
- *(Batch interface users only)* All output from your Accelerator Loader batch job.
- *(ISPF interface users only)* A description of the activity that you were performing in the interface when the problem occurred, including a screen capture of the relevant ISPF panel, if possible. Also, provide the contents of the log for the TSO user who was using the interface.
- All output from stored procedures address spaces.
- The complete contents of any dumps that Support requested. See "Capturing a console dump - started task address space" on page 920 or "Capturing a console dump - multiple address spaces" on page 920.

- All output from the Accelerator Loader server.
- Server trace data for the problem.
- Any messages in the z/OS System Log that might pertain to the problem.

Your Support representative will provide instructions for transmitting this information.

Capturing a console dump - started task address space

You might need to capture a console dump of an Accelerator Loader started task address space to help Support diagnose a problem that you report.

About this task

You should capture only one dump at a time on your z/OS system. For detailed information about the DUMP command, including descriptions of the SDATA options, see the IBM publication z/OS MVS System Commands.

Procedure

1. Issue the following MODIFY operator command from the z/OS console:

   ```
   F started_task_name,DUMP
   ```

   where *started_task_name* is the name of the Accelerator Loader started task configuration.
2. Send the console dump along with the Accelerator Loader job output and started task output to Support. Your Support representative will provide transmittal instructions.

Capturing a console dump - multiple address spaces

You might need to capture an Accelerator Loader console dump that includes multiple address spaces to help Support diagnose a problem that you report.

About this task

You should capture only one dump at a time on your z/OS system. For detailed information about the DUMP command, including descriptions of the SDATA options, see the IBM publication z/OS MVS System Commands.

To help diagnose an Accelerator Loader problem, capture a console dump of the following Accelerator Loader address spaces by default: ALLNUC, CSA, LPA, LSQA, PSA, RGN, SQA, SUM, SWA, TRT.

Procedure

1. In SDSF, enter:

   ```
   /DUMP COMM='<dump_title>'
   ```

   - *dump_title* is the name you assign to the dump.

   A reply identification number *nnnn* is assigned, specified in system message IEE094D.
2. Enter the following:

   ```
   /R nnnn,JOBNAME=(<jobname_1>,<jobname_2>,<jobname_3>)
   ```

   - *<jobname_1>*, *<jobname_2>* specify values that identify the address spaces to dump. An address space value can be:
     - A batch job name

– A started task name. Depending on the Analytics Accelerator version(s) you are using, include the started task names of the WLM address spaces that run DSNUTILU and/or ACCEL_LOAD_TABLES stored procedure.

Table 39. Stored procedure(s)

Analytics Accelerator version	Stored procedure(s)
V7.1.7, or later, including V7.5.x	ACCEL_LOAD_TABLES
V7.1.0 - V7.1.6	ACCEL_LOAD_TABLES DSNUTILU
V5.x	ACCEL_LOAD_TABLES DSNUTILU
Co-existing V7.x and V.5x	ACCEL_LOAD_TABLES DSNUTILU

If your default SVC dump options don't include common storage, add the following SDATA parameter to the dump command and specify the options that indicate the storage areas to dump:

```
SDATA=(ALLNUC,CSA,LPA,LSQA,PSA,RGN,SQA,SUM,SWA,TRT),END
```

For example:

```
DUMP COMM='<dump_title>'
/R
nnnn,JOBNAME=(<jobname_1>,<WLM_started_task_for_ACCEL_LOAD_TABLES>,<WLM_started_task_for_DSNU
TILU>),SDATA=(ALLNUC,CSA,LPA,LSQA,PSA,RGN,SQA,SUM,SWA,TRT),END
```

3. Send the console dump along with the Accelerator Loader job output and started task output to Support. Your Support representative will provide transmittal instructions.

   If you are opening an Accelerator Loader ticket, include the IBM Analytics Accelerator for z/OS started task names of the WLM address spaces that run DSNUTILU and/or ACCEL_LOAD_TABLES stored procedure you dumped in step 2.

Canceling a hung job

You can cancel a hung or looping Accelerator Loader job.

About this task

Attention: Never try to cancel a running Accelerator Loader job by canceling the WLM address space running DSNUTILU. For information, see *DSNUTILU stored procedure* in Db2 for z/OS documentation.

Procedure

1. Capture a console dump for multiple address spaces. For information, see “Capturing a console dump - multiple address spaces” on page 920.
2. If you have IBM Data Studio, find the hung task for the object you are trying to load on the Accelerator Loader and cancel the task. If you are not using IBM Data Studio or if IBM Data Studio does not successfully cancel the task, go to step 3.

   Note: The task can take a long time to fully and successfully cancel.

   For help using IBM Data Studio, see the IBM Data Studio documentation.

3. In SDSF, issue the following command to find the ASID for the WLM address space you want to cancel: `-DISPLAY THREAD(*) TYPE(PROC)`.

   The command results in the following output.

```
DSNV401I  ÜPB1A DISPLAY THREAD REPORT FOLLOWS -
DSNV402I  ÜPB1A ACTIVE THREADS -
NAME     ST A   REQ ID           AUTHID   PLAN     ASID TOKEN
DB2CALL  SP      28 TS5817L      TS5817   HLOV21PL 0037 13201
V437-WORKSTATION=DB2CALL
      USERID=TS5817
      APPLICATION NAME=TS5817L
 V429 CALLING PROCEDURE=SYSPROC.ACCEL_LOAD_TABLES,
      PROC=PB1AACC1, ASID=0130, WLM_ENV=PB1AACC1
 V442-CRTKN=TS5817L
DISPLAY ACTIVE REPORT COMPLETE
DSN9022I  ÜPB1A DSNVDT '-DIS THREAD' NORMAL COMPLETION
```

   In this output, ASID 0130 is the address space you want to cancel.

4. In SDSF, find the job name associated with the ASID you want to cancel and issue command **c** on the job name to cancel.

   The ACCEL_LOAD_TABLES stored procedure address space is refreshed.

   Note: The job can take a short time to successfully cancel.

5. Only if there are pending utilities and the job is successfully canceled, run the maintenance utility HLOMAINT with the terminate parameter TERM_UTILITY to ensure the Accelerator Loader status tables and utilities are successfully cleaned up. For more information, see Terminating a Db2 utility using the HLOMAINT utility.
6. If the job does not cancel, you can try a FORCE command. After issuing a FORCE command, you must complete the following tasks:
   - Perform a pipe cleanup. For information, see Cleaning up common storage after a job fails.
   - Only if there are pending utilities, run the maintenance utility HLOMAINT with the terminate parameter TERM_UTILITY. For more information, see Terminating a Db2 utility using the HLOMAINT utility.
   - Refresh the WLM address space running DSNUTILU.

Cleaning up common storage after a job fails

The Tools Customizer generates several jobs into the SAMPLIB when you select the step **Create repository maintenance members** on the Product Parameters panel during customization. One of these jobs, HLO#PIPE, runs the pipe cleanup utility program HLOCOMCL.

Generally, running the pipe cleanup utility is not necessary. Accelerator Loader determines whether a table is actually being simultaneously loaded by another Accelerator Loader job. If it is not, Accelerator Loader cleans up the common storage without ending the job and issuing an error.

However, you might occasionally need to run the pipe cleanup utility to clean up the common storage to avoid errors with the data pipe when a Accelerator Loader job fails and the common storage is not cleaned up.

The following messages might indicate conditions that require you to run the pipe cleanup utility:

- `Function=01 RC=03` in message `HLOU5700E: Error from call to HLOPIPE from HLOUSE35 Function=01 RC=03`
- `HLO3623E: A table was specified that was already being loaded.`
- `HLOU4027E: Load already in progress for table.`

Note: It is possible that another job is running against the same table. In this case, do not run the pipe cleanup utility. Doing so will corrupt the other job. Because of risks associated with HLO#PIPE, run it only under the guidance of IBM Software Support.

Cleaning up the common storage for a table

You can use the pipe cleanup utility to clean up the common storage for an individual table within the SSID (that is, remove just the specified table from storage and retain all other common storage). Using the pipe cleanup utility to perform this task might be useful when Accelerator Loader jobs repeatedly result in the error `HL03623E: A table was specified that was already being loaded.` Unless it references the same specified table, no other Accelerator Loader job will be corrupted.

To clean up the common storage for a table, edit HLO#PIPE to specify a table creator and name as shown in the following example. The maximum number of characters for *creator.tablename* is 128 and it cannot exceed column 72; continue on the next line in column 1. No special character is needed.

```
//TABLE DD *
creator.tablename
/*
```

Cleaning up the common storage for a job

You can use the pipe cleanup utility to clean up the common storage for a specific unsuccessful Accelerator Loader job run. Using the pipe cleanup utility to perform this task might be useful when a job ended abnormally and you know that the ABEND led to the error `HL03623E: A table was specified that was already being loaded.`. Unless the job that you specify is currently running, no other Accelerator Loader job will be corrupted.

To clean up the common storage for a job, edit HLO#PIPE to specify a job ID and job name in the order that is shown in the following example. In the example, *#jobid#* is the SDSF output job number.

```
//JOB DD *
#jobid#
#jobname#
/*
```

Accelerator Loader studio and Accelerator Loader server troubleshooting

Use this information to diagnose and correct problems that you experience when using the Accelerator Loader studio and the Accelerator Loader server.

Troubleshooting studio issues

To make sure that studio messages are included in the server trace output, verify that you have enabled server trace for the studio. For more information, see “Server Trace” on page 233.

Troubleshooting server issues

Accelerator Loader server provides diagnostic tools and information that can be used to diagnose, debug, and correct problems. For more information, see “Monitoring” on page 414.

Changing network connections

If an attempt to create a virtual table or a source library fails with error message `HTTP 401/403`, changing network connections might resolve the issue.

About this task

Active Providers controls the profile that is used when opening connections. Values are as follows:

- **Native** (default): Settings that are discovered in the operating system (OS) are used. If the OS has proxy settings, the URL request might fail to find the server.
- **Direct**: Connections are opened without the use of a proxy server.
- **Manual**: Settings that are defined in Eclipse are used.

Procedure

1. From the **Window** menu, select **Preferences**>**General**>**Network Connections**>**Active Providers**.
2. Choose **Direct**.

Verifying that Unicode is installed

The Accelerator Loader server requires Unicode for translation.

Procedure

1. To show the status of available conversions and whether the conversion services are initialized, issue the following MVS system command:

```
/D UNI, All
```

   You should receive the following output:

```
CUN3000I 11.36.02 UNI DISPLAY 277
ENVIRONMENT:       CREATED       01/13/2006 AT 14.52.07
                   MODIFIED      01/13/2006 AT 14.52.09
                   IMAGE CREATED 02/16/2005 AT 10.13.49
    SERVICE: CHARACTER   CASE   NORMALIZATION COLLATION
    STORAGE: ACTIVE       427 PAGES
             LIMIT       1564 PAGES
   CASECONV: NORMAL
  NORMALIZE: DISABLED
    COLLATE: DISABLED
 CONVERSION: 00037-00437-E        00037-00437-R
             00037-00819-R        00037-01041-E
             00037-01041-R        00037-00367-E
             00037-00930-RE       00037-01200(13488)-R
             00037-01208-R        00300-00301-E
             00939-00942-RE       00939-01208-R
             01027-00367-E        01027-01200(13488)-R
             01027-01208-R        01027-01041-E
             01027-01041-R        01027-00930-RE
             01047-00367-E        01047-01200(13488)-R
            01047-01208-R        01047-00437-E
             01047-00437-R        01047-00819-R
             01047-00930-RE        00301-00300-E
             00301-01200(13488)-R 00942-00939-RE
             01047-01208-R        00437-00037-E
             00437-00037-R        00437-01047-E
             00437-01047-R        01041-00037-E
             01041-00037-R        01041-01027-E
             01041-01027-R        00437-00367-E
             00437-00930-RE       00437-01200(13488)-R
             00437-01208-R        00819-00037-R
             00819-01047-R        00819-00367-E
             00819-00930-RE       00819-01200(13488)-R
             00819-01208-R        00930-00037-RE
             00930-01047-RE       00930-00437-RE
             00930-00819-RE       00930-00367-R
             00930-01200-R        00930-01208-R
             00367-00037-E        01200(13488)-00037-E
             01208-00037-E        00367-00930-RE
             01200-00930-E        01208-00930-E
             00367-01027-E        01200(13488)-01027-E
             01208-01027-ER       00367-01047-E
             01200(13488)-01047-E 01200(13488)-00300-E
             01200(13488)-00301-E 01208-01047-E
             01208-00939-E        01208-00942-E
             00367-00437-E        01200(13488)-00437-E
             01208-00437-E        00367-00819-E
             01200(13488)-00819-E 01208-00819-E
             01208-00367-ER       00367-01208-R
             01200-01208-ER       01208-01200-ER
```

2. In the output, locate the following code conversion pages for Unicode, which are the defaults that Accelerator Loader server uses:

   - 1208 to 1047

- 1047 to 1208

Conversion CCSID table

The Accelerator Loader server provides multicultural support.

Identify the Coded Character Set Identifiers (CCSID) that is used at your site. The following table lists CCSIDs that the server provides by default and the conversion technique.

Table 40. Conversion CCSID

SOURCE CCSID	TARGET CCSID	TECHNIQUE
00037	00367	E
00037	00367	E
00037	00367	ER
00037	00437	E
00037	00437	ER
00037	00437	R
00037	00819	ER
00037	00819	R
00037	00930	RE
00037	01041	E
00037	01041	R
00037	01200	ER
00037	01200	R
00037	01208	ER
00037	01208	R
00300	00301	E
00301	00300	E
00301	01200	R
00367	00037	E
00367	00037	ER
00367	00437	E
00367	00437	ER
00367	00819	E
00367	00819	ER
00367	00930	RE
00367	01027	E
00367	01047	E
00367	01047	ER
00367	01208	ER

Table 40. Conversion CCSID (continued)		
SOURCE CCSID	**TARGET CCSID**	**TECHNIQUE**
00367	01208	R
00437	00037	E
00437	00037	ER
00437	00037	R
00437	00367	E
00437	00367	ER
00437	00930	RE
00437	01047	E
00437	01047	ER
00437	01047	R
00437	01200	ER
00437	01200	R
00437	01208	ER
00437	01208	R
00819	00037	ER
00819	00037	R
00819	00367	E
00819	00367	ER
00819	00930	RE
00819	01047	ER
00819	01047	R
00819	01200	ER
00819	01200	R
00819	01208	ER
00819	01208	R
00930	00037	RE
00930	00367	R
00930	00437	RE
00930	00819	RE
00930	01047	RE
00930	01200	R
00930	01200	E
00930	01200	RE
00930	01208	R

Table 40. Conversion CCSID (continued)		
SOURCE CCSID	**TARGET CCSID**	**TECHNIQUE**
00930	01208	E
00930	01208	RE
00939	00942	RE
00939	01208	R
00942	00939	RE
00942	01208	R
01027	00367	E
01027	00930	RE
01027	01041	E
01027	01041	R
01027	01200	R
01027	01208	R
01041	00037	E
01041	00037	R
01041	01027	E
01041	01027	R
01047	00367	E
01047	00367	ER
01047	00437	E
01047	00437	ER
01047	00437	R
01047	00819	ER
01047	00819	R
01047	00930	RE
01047	01200	ER
01047	01200	R
01047	01208	ER
01047	01208	R
01200	00037	E
01200	00037	ER
01200	00300	E
01200	00301	E
01200	00437	E
01200	00437	ER

Table 40. Conversion CCSID (continued)		
SOURCE CCSID	**TARGET CCSID**	**TECHNIQUE**
01200	00819	E
01200	00819	ER
01200	00930	R
01200	00930	E
01200	00930	RE
01200	01027	E
01200	01047	E
01200	01047	ER
01200	01208	ER
01208	00037	E
01208	00037	ER
01208	00367	ER
01208	00367	ER
01208	00437	E
01208	00437	ER
01208	00819	E
01208	00819	ER
01208	00930	R
01208	00930	E
01208	00930	RE
01208	00939	E
01208	00942	E
01208	01027	ER
01208	01047	E
01208	01047	ER
01208	01200	ER

Correcting character display problems (DRDA only)

Depending on the CCSID that you use, you might encounter incorrectly displayed characters in the studio for DRDA sources. To resolve the issue, instruct the server to load the required character translation tables.

Before you begin

- Verify that Unicode is installed (see “Verifying that Unicode is installed” on page 924).
- Verify that your code page is installed (see “Conversion CCSID table” on page 925). If your code page is not listed in the table, add it as described in this task.
- Determine whether you have the character display problem:

1. In the Accelerator Loader studio **Server** view, browse the SQL metadata for DRDA. Choose **SQL** > **Data** > **Other Subsystems**.
2. When navigating the tree, if you encounter garbled names, it is possible that the server was unable to perform the required character translation when accessing the catalog data. To confirm this problem and establish the CCSID values that are involved, review the server trace and search for messages similar to the following:

```
Assert Warning(UCSconvertCCSIDs): No matching UCS conversion -
source CCSID ccsid, target CCSID ccsid
```

Procedure

1. Locate data set *hlq*.SHLVEXEC member *hlvid*IN00, where *hlvid* represents the name of the Accelerator Loader server started task that was customized by using Tools Customizer.
2. Locate the section for DRDA data sources and add the following statements:

```
"DEFINE CONV SOURCE(ccsid1) TARGET(ccsid2) TECH(RE)"
"DEFINE CONV SOURCE(ccsid2) TARGET(ccsid1) TECH(RE)"
```

   where

   - Source and target *ccsid1* and *ccsid2* are the CCSID values that are shown in the server trace messages.
   - TECH specifies the technique to be used in the conversion (Roundtrip then Enforced Subset). For more information about character conversion, see the IBM *z/OS Unicode Services User's Guide and Reference*.

Managing DSNUTILB interception

You can manage DSNUTILB interception by performing some routine and occasional tasks.

On a routine basis, check the messages from utility processing to determine whether DSNUTILB interception occurred and whether the Accelerator Loader batch job was correctly processed. Occasionally, you might do other tasks, for example, check the activation status of the intercept, diagnose interception problems, terminate a utility for which interception has occurred and clean up the associated worklist data, or restart a utility from the appropriate point when a normal Db2 restart fails.

Determining whether DSNUTILB intercept processing occurred

You can check whether DSNUTILB intercept processing occurred as you expected for the Db2 LOAD utility by checking the Accelerator Loader messages that are incorporated into the SYSPRINT data set for the utility job and the SYSPRINT data set for the Accelerator Loader started task. Use SDSF or an equivalent tool to view this information.

Messages in the SYSPRINT data set for a Db2 utility

The following table explains the key Accelerator Loader messages on DSNUTILB interception that can occur in the SYSPRINT data for a Db2 utility. Look for these messages to determine whether interception processing completed as intended. The messages are described in the order in which they appear in the SYSPRINT data set.

Messages that are issued for a worklist step (a utility command) are often paired; the first message provides the step number of the worklist step, and the second message provides the return code for that worklist step. A return code of less than 8 is ignored; DSNUTILB intercept processing continues. A return code of 8 or higher indicates that an error occurred and DSNUTILB intercept processing terminated abnormally. The return codes in messages that pertain to thread-cancellation processing can be from either the DSNUTILB intercept or the batch interface. The intercept calls the batch interface during intercept processing.

Table 41. Intercept messages in the utility SYSPRINT data set	
Messages	**Explanation**
HLOU5001I *date time*Accelerator Loader *product_version*, FMID=*product_fmid*, COMP_ID=*product_compid*	The specified version of the product is installed and the DSNUTILF module, which is required for intercept processing, is available.
HLOU5012I *date time* Connected to started task HLOID=*configuration_id* HLOU5002I *date time* Initialization is complete.	The DSNUTILB intercept connected to the specified Accelerator Loader started task configuration and completed initialization.
HLOU5340E *date time* Worklist in use by another utility ID=*utility_ID*	DSNUTILB interception cannot occur because a worklist for the specified utility ID already exists and is currently in use by another utility job. In this case, refer to the HLOS5113I message in the SYSPRINT data set for the started task for more information.
HLOU5004I *date time* Analysis started. Step=*step_number* HLOU5005I *date time* Analysis completed. RC=*return_code*	Accelerator Loader began the analysis phase for the specified worklist step and then completed the analysis phase with the specified return code. This return code is issued from the DSNUTILB intercept.
HLOU5008I *date time* Utility execution started. Step=*step_number* HLOU5009I *date time* Utility execution completed. RC=*return_code*	The Db2 utility command that is associated with the specified worklist step began execution. The utility command then completed execution with the specified return code. These messages are issued for each utility command that is in the original DSNUTILB SYSIN stream. The return code in HLOU5009I is from either the Db2 utility or the DSNUTILB intercept. The intercept return code is used if: 1) it is 8 or greater and 2) it is equal to or greater than the utility return code. The highest return code that is provided in any HLOU5009I message for a worklist step will be the return code for the entire utility job.
HLOU5003I *date time* Accelerator Loader intercept completed.	The DSNUTILB intercept completed intercept processing for the utility.

For utility enhancements that modify the original DSNUTILB SYSIN stream (the additional options for the LOAD utility), messages HLOU5330, HLOU5331, and HLOU5332 are also written to the SYSPRINT data set to present the enhanced DSNUTILB SYSIN stream. To determine whether the SYSIN was correctly processed, compare this SYSIN stream for the utility with the subsequent DSNUTILB messages.

Messages in the SYSPRINT data set for the started task

The following table explains the key messages on DSNUTILB intercept processing that can occur in the SYSPRINT data set for the started task.

Table 42. Intercept messages in the started task SYSPRINT data set	
Messages	**Explanation**
HLOS0101I *date time* TCB: *tcb_address* Session created. SESS:*session_token-session_number-session_type-session_job_name-session_job_ID-session_asid-session_user*	The Accelerator Loader session was created for DSNUTILB intercept processing. Sessions for the DSNUTILB intercept have a session type of "U."
HLOS5100I *date time* TCB: *tcb_address* Session: *session_token* SSID: *ssid* DSNUTILB utility id : *utility_id* **message_continuation_number** HLOS5101I *date time* **message_continuation_number** DSNUTILB intercept operation is *operation_name* HLOS5113I *date time* **message_continuation_number** Worklist is in use by another utility. Owning Session: *session_token* HLOS5111E *date time* **message_continuation_number** DSNUTILB intercept operation failed	If an error occurred during DSNUTILB processing for a utility ID, the message HLOS5111E is issued along with the messages HLOS5100I and HLOS5101I, which provide more information about the intercept operation. If the failure occurred because the worklist is already in use under the same utility ID, the HLOS5113I message is also issued. In this case, refer to the preceding HLOS0101I message that contains a matching session token value to determine the job name and job ID of the utility job that is currently using the worklist.

Displaying the DSNUTILB intercept status

You can write the DSNUTILB intercept status (Enabled or Disabled) to the SYSPRINT data set that is allocated to the started task by specifying a z/OS console command. This feature is useful when you need to quickly check the current intercept status.

Procedure

To display the current intercept status, specify the following Modify operator command from the z/OS console:

```
F hlostc,DISPLAY INTERCEPT[,GLOBAL|ALL]
```

Where *hlostc* is the member name of the Accelerator Loader PROC in the system PROCLIB.

If you use SDSF, include a forward slash (/) in front of the Modify command, as follows:

```
/F hlostc,DISPLAY INTERCEPT[,GLOBAL|ALL]
```

If you issue the command without the optional GLOBAL or ALL parameter, the command displays the local status that is set for the specified started task only. If you specify the GLOBAL parameter, the command displays the global interception status that is set for the entire z/OS image. If you specify the ALL parameter, the command writes all of the following information to the SYSPRINT data set: the local interception status; the global interception status; and a list of the Db2 SSIDs for which DSNUTILB interception is occurring, including the HLOID (configuration ID) of the started task that is involved in intercept processing.

Results

After issuing the command, navigate to the SYSPRINT data set for the started task to view the command output.

Example

The following example displays the messages that resulted from the **DISPLAY INTERCEPT,ALL** command. These messages indicate the local intercept status, the global intercept status, and the SSID of the single subsystem for which DSNUTILB interception is occurring.

```
HLOS0814I date_timestamp Command issued: DISPLAY INTERCEPT,ALL
HLOS0817I date_timestamp LOCAL  DSNUTILB intercept status is: ENABLED
HLOS0817I date_timestamp GLOBAL DSNUTILB intercept status is: ENABLED
HLOS0822I date_timestamp DB2 SSID=DBP1 810 HLOID=HLO01 DSNUTILB interception is
installed
```

Terminating a Db2 utility using the HLOMAINT utility

If you need to terminate a Db2 utility for which DSNUTILB intercept processing is occurring or has occurred, you should use the HLOMAINT utility that Accelerator Loader provides to do so.

About this task

The HLOMAINT utility issues both the Db2 `-TERM UTILITY` command for a specific utility ID and removes the worklist rows that contain that utility ID from all intercept worklist tables in the Accelerator Loader repository.

Note: Because the HALOAD utility does not call the Db2 LOAD utility or update the status tables running HLOMAINT, it's not necessary to run HLOMAINT after canceling an HALOAD job.

If you manually issue the Db2 `-TERM UTILITY` command instead, you should still run the *hloid*MAINT utility to remove the data for the terminated utility (utility ID) from the worklist tables. If the data for the terminated utility remains in the worklist tables and you restart the utility, the DSNUTILB intercept will attempt to resume utility processing from the beginning of the current worklist step, as identified in the worklist tables.

Procedure

1. Ensure that the Accelerator Loader started task is running and that the Db2 plan for Accelerator Loader is bound on the subsystem against which the Db2 utility is running.
2. Customize the JCL for the HLOMAINT utility, which is located in the *hloid*MNT member (where *hloid* is the Accelerator Loader configuration ID) in the *hlq*.*mlq*.SHLOSAMP library, as follows:

   Remember: Tools Customizer creates a separate *hloid*MNT member for each started task configuration that you define.

   a) Add a job card, if necessary.

   If you specified a job card template when you ran Tools Customizer, that job card information should already be present.

   b) In the EXEC statement, set the following options on the PARM:

   ```
   PARM='hloid,#FUNCTION#,#DB2SSID#,#UTILITY_ID#'
   ```

   where:

   - *hloid* is the configuration ID of the Accelerator Loader started task that you are using to perform DSNUTILB interception. You specified this value in Tools Customizer during customization, and Tools Customizer inserts this value for you.
   - #FUNCTION# must be the value TERM_UTILITY (the name of the function for terminating a Db2 utility and cleaning up the worklist tables).
   - #DB2SSID# represents the subsystem identifier (SSID) of the Db2 subsystem against which the Db2 utility is running.
   - #UTILITY_ID# represents the Db2 identifier (UTILID) for the Db2 utility.

c) In the STEPLIB DD statement, specify the high-level qualifier (?HLQ?) and the mid-level qualifier (?MLQ?) for the HLOLOAD library, if necessary.

   Tools Customizer inserted these values for you.

3. Submit the HLOMAINT job for execution.

Results

The HLOMAINT utility terminates the Db2 utility and removes all data that is associated with the utility ID from the worklist tables.

Terminating a Db2 utility using HLORESET

You can terminate a Db2 utility for which DSNUTILB intercept processing is occurring or has occurred and perform the associated maintenance tasks related to DSNUTILB interception by specifying the Accelerator Loader value HLORESET on the EXEC statement for the DSNUTILB program.

About this task

Using this method, you can terminate a stopped utility (if one exists), perform the associated maintenance tasks, and issue the new DSNUTILB request, all in one job.

Note: If you use the HLOMAINT utility directly, you must submit a job to use the HLOMAINT utility to terminate a stopped utility and perform the associated maintenance tasks, and then you must submit another job to run DSNUTILB.

To be used with an existing parameter for the DSNUTILB program, Accelerator Loader provides the value, HLORESET, which disallows any restart of external LOAD utility execution. This parameter value is only tolerated when DSNUTILB execution is intercepted through the DSNUTILF exit under the control of Accelerator Loader.

The DSNUTILB program accepts three standard parameters, as shown in the following EXEC statement:

```
//stepname EXEC PGM=DSNUTILB,PARM='system,[uid],[utproc]'
```

The *utproc* parameter is optional and specifies a restart option. In addition to the standard values allowed by DSNUTILB, *utproc* can be coded with the Accelerator Loader value HLORESET. The HLORESET specification directs the Accelerator Loader intercept to perform the following tasks prior to running DSNUTILB:

1. Terminate any stopped utility with utility ID uid with the Db2 -TERM UTILITY command.
2. Delete all rows in the following Accelerator Loader status tables associated with utility ID uid:
   - HLOOBJSTAT
   - HLOUSTAT
   - HLOUSTMTINFO
   - HLOUSTMTTEXT
   - HLOUSTMTVOL
   - HLOUOBJECT
   - HLOUFIELDSPEC
   - HLOUDISCARDTBL
3. Restore the object space status if changed by Accelerator Loader due to a prior LOAD of a table in CDC replication state.

These actions are identical to running the HLOMAINT utility with the following parameters:

```
PARM='hloid,TERM_UTILITY,ssid,uid'
```

Procedure

To terminate any stopped, intercepted utility and perform the associated maintenance tasks related to DSNUTILB interception prior to running DSNUTILB, include the HLORESET specification on the EXEC statement for the DSNUTILB program. The following example shows the syntax for an EXEC statement for the DSNUTILB program:

```
//stepname EXEC PGM=DSNUTILB,PARM='system,[uid],[utproc]'
```

utproc
Specifies the restart processing behavior, as provided by the standard values allowed by DSNUTILB. To terminate a Db2 utility for which DSNUTILB intercept processing is occurring or has occurred and perform the associated maintenance tasks related to DSNUTILB interception, specify the following Accelerator Loader value:

HLORESET
Before running DSNUTILB, terminate any stopped, intercepted utility with utility ID uid and perform the associated maintenance tasks related to DSNUTILB interception. Also, restore the object space status if it was changed by Accelerator Loader due to a prior LOAD of a table in CDC replication state.

The following statement provides an example of using the new HLORESET specification:

```
//HLOLOAD EXEC PGM=DSNUTILB,PARM='RA1B,HLOIVP,HLORESET'
```

After the stopped utility is terminated and the associated maintenance tasks are performed, or if no stopped utility exists, the DSNUTILB request is processed. No additional modifications to existing JCL are required. For more information on the standard DSNUTILB parameters, see the *IBM Db2 Utility Guide and Reference*.

Restarting a Db2 utility in exceptional circumstances

In certain circumstances, you can use the Accelerator Loader HLOMAINT utility to resume utility processing properly.

About this task

When a Db2 utility for which DSNUTILB interception is occurring terminates abnormally, Db2 can usually resume utility processing from the appropriate point, without any special user intervention, when you restart the utility. However, when Accelerator Loader is intercepting the LOAD utility for loading data onto the accelerator, and the LOAD utility fails for any reason, the utility ID in the worklist tables must also be restarted.

Consider using the HLOMAINT utility for restart purposes when an event such as an abend of the Accelerator Loader started task or of Db2 occurs and causes the Db2 utility to end before Accelerator Loader has recorded the status of the last utility-command operation within a worklist step in the intercept worklist tables. In this situation, you can use the HLOMAINT utility to resume utility processing from the last utility-command operation in the current worklist step, from the next operation within the current worklist step, or from the next worklist step.

Procedure

1. Ensure that the Accelerator Loader started task is running and that the Db2 plan for Accelerator Loader is bound on the subsystem against which the Db2 utility is running.
2. Customize the JCL for the HLOMAINT utility, which is located in the *hloid*MNT member (where *hloid* is the Accelerator Loader configuration ID) in the *hlq*.*mlq*.SHLOSAMP library, as follows:

   Remember: Tools Customizer creates a separate *hloid*MNT member for each started task configuration that you define.

   a) Add a job card, if necessary.

If you specified a job card template when you ran Tools Customizer, that job card information should already be present.

b) In the EXEC statement, set the following options on the PARM:

```
PARM='hloid,#FUNCTION#,#DB2SSID#,#UTILITY_ID#'
```

where:

- *hloid* is the configuration ID of the Accelerator Loader started task that you are using to perform DSNUTILB interception. You specified this value during customization.
- #FUNCTION# must be one of the following literal values, which identifies the restart function you want to use:
  - FORCE_RESTART - Sets the status of the last utility-command operation within the current worklist step (the operation for which the status was not recorded when the utility ended) such that the utility will be forced to restart from that operation.
  - MARK_COMPLETE - Sets the status of the last utility-command operation within the current worklist step (the operation that completed but was not recorded as complete when the utility ended) to complete. Accelerator Loader assumes that the utility-command operation completed successfully. When you restart the Db2 utility, it will resume intercept processing from the beginning of the next operation in the current worklist step.
  - STEP_ADVANCE - Sets the status of the current worklist step to complete. When you restart the Db2 utility, it will resume intercept processing from the beginning of the next worklist step. You should specify this function only if you are prepared to manually perform any required operations that the intercept did not finish for the current worklist step before the status of that worklist step was set to complete. For example, you might need to manually drop the mapping tables and mapping-table indexes that were created for the REORG TABLESPACE utility or to reset the access statuses of Db2 objects for which threads were blocked.
  - TERM_UTILITY - Terminates the utility instead of restarting it. For more information, see "Terminating a Db2 utility using the HLOMAINT utility" on page 932.
- #DB2SSID# represents the subsystem identifier (SSID) of the Db2 subsystem against which the Db2 utility is running.
- #UTILITY_ID# represents the Db2 identifier (UTILID) for the Db2 utility.

c) In the STEPLIB DD statement, specify the high-level qualifier (?HLQ?) and the mid-level qualifier (?MLQ?) for the HLOLOAD library, if necessary.

Tools Customizer inserted these values for you.

3. Submit the HLOMAINT job for execution.
4. When the HLOMAINT job completes, restart the Db2 utility.

The utility will resume processing based on the function that you specified.

Chapter 15. Reference

These reference topics provide you with quick access to information about Accelerator Loader customization and functionality.

Tools Customizer reference

Before you use Tools Customizer, you should understand the Tools Customizer terminology and the data sets that Tools Customizer uses during customization.

Tools Customizer terminology and data sets

Before you use Tools Customizer, you should understand the Tools Customizer terminology and the data sets that Tools Customizer uses during customization.

Tools Customizer terminology

Tools Customizer uses several unique terms that you should be familiar with before you begin to use Tools Customizer.

Products and components
How an IBM Tool is packaged determines whether it is referred to as a product or as a component in the Tools Customizer documentation and interface. An IBM Tool that is ordered as a stand-alone entity (that is, not as part of a solution pack) is referred to as a product. An IBM Tool that is part of a solution pack is referred to as a component. Some IBM Tools are available in both formats; therefore, the same IBM Tool can be referred to as a product or as a component depending on how it is packaged.

Db2 entry

You can customize Db2 Analytics Accelerator Loader on one or more Db2 entries. A Db2 entry can be any of the following items:

Db2 subsystem
A distinct instance of a relational database management system (RDBMS) that is not part of a data sharing group. An example of a Db2 subsystem name is DB01.

Db2 group attach name
The name that is used by the TSO/batch attachment, the call attachment facility (CAF), DL/I batch, utilities, and the Resource Recovery Services attachment facility (RRSAF) as a generic attachment name. An example of a group attach name is DSG1.

Db2 data sharing member
A Db2 subsystem that is assigned by the cross-system coupling facility (XCF) to a data sharing group. An example of a Db2 data sharing member name is DB02.

Tools Customizer maintains the following lists of Db2 entries:

Associated list

The list of Db2 entries that are associated with Db2 Analytics Accelerator Loader . If the product to be customized requires Db2 entries, you can customize Db2 Analytics Accelerator Loader only on Db2 entries that are in the associated list. When you customize Db2 Analytics Accelerator Loader , this list is displayed in the DB2 Entries, Associations, and Parameter Status section of the **Customizer Workplace** panel.

You can add and copy Db2 entries to the associated list. When you add or copy Db2 entries to the associated list, the entries are associated with Db2 Analytics Accelerator Loader .

Main list

The list of all Db2 entries that are defined but are not associated with Db2 Analytics Accelerator Loader . Tools Customizer obtains information about these Db2 entries either from entries that were created manually or from the customizations of other products that were discovered. If you remove a Db2 entry from the associated list, the Db2 entry is added to the main list. When you create a new Db2 entry, it is added to the main list, and when you associate the new entry with Db2 Analytics Accelerator Loader , it is removed from the main list and added to the associated list. The main list is displayed on the **Associate a DB2 Entry for Product** panel.

If the associated list does not have the Db2 entries on which you want to customize Db2 Analytics Accelerator Loader , you can associate existing entries from the main list to the associated list.

You can create new Db2 entries and copy existing entries to the main list.

High-level qualifier
The high-level qualifier is considered to be all of the qualifiers except the lowest level qualifier. A high-level qualifier includes a mid-level qualifier.

Product parameters
Parameters that are specific to Db2 Analytics Accelerator Loader . These parameters are defined by Db2 Analytics Accelerator Loader and are stored in a data member that is defined by Db2 Analytics Accelerator Loader .

LPAR parameters
Parameters on the local LPAR that are required to customize Db2 Analytics Accelerator Loader . These parameters are defined by Tools Customizer and are stored in an LPAR parameter data member.

Db2 parameters
Parameters for a Db2 entry. These parameters are defined by Tools Customizer and are stored in a Db2 parameter data member.

Configuration
A set of parameter values and selected tasks and steps that you use to generate the jobs that customize Db2 Analytics Accelerator Loader .

For example, you might want to have a test configuration and a production configuration on the same Db2 entry.

Status type

Product, LPAR, and Db2 entry status type

After you specify the product that you want to customize, the product, the LPAR, and the Db2 entries have a status. The status is partly based on whether required parameters are defined. For some products, LPAR parameters or Db2 parameters might not be required. In these cases, the status is Not Required.

To customize Db2 Analytics Accelerator Loader , all of the required parameters must be defined.

If required parameters for the the product parameters, LPAR parameters, or Db2 parameters are not defined, the status of the parameters is Incomplete. Define values for parameters by manually editing them or by generating the customization jobs and specifying values for all of the required parameters that are displayed on the panels.

When values for all of the required parameters are defined, the status is Ready to Customize. Customization jobs can be generated only when all of the required parameters are defined and the status is Ready to Customize or Customized for the product parameters, LPAR parameters, and Db2 parameters for the Db2 entries on which Db2 Analytics Accelerator Loader will be customized.

The following table shows the meaning of the status types. Each status is defined differently for each type of parameter.

Table 43. Status types for the product, the LPAR, and the Db2 entries

Status	Product	LPAR	Db2 entries
Incomplete	The required product parameters are not defined.	The required parameters are not defined.	The required parameters are not defined.
Discovered	The product parameter definitions were discovered by using the product Discover EXEC.	N/A	N/A
Ready to Customize	The required product, is Ready to Customize or Customized for the LPAR and at least one associated Db2 entry. You can generate the customization jobs.	The required LPAR parameters are defined or LPAR parameters are not required.	The required Db2 parameters are defined or Db2 parameters are not required.
Verify Values	The required product or component parameter values are defined but they either have not been verified or verification is not enabled on the Product or Component Parameters panel.	The required LPAR parameter values are defined, but they either have not been verified or verification is not enabled on the LPAR Parameters panel.	The required Db2 parameter values are defined, but they either have not been verified or verification is not enabled on the Db2 Parameters panel.
Customized	The jobs are customized on the local LPAR.	The jobs are customized for the product or for all of the associated Db2 entries on the local LPAR.	The jobs are customized for the Db2 entry.
Errors in Customization	N/A	N/A	Errors occurred while the customization jobs were being generated.
Not Required	N/A	LPAR parameters are not required.	Db2 parameters are not required.

Related tasks

Creating and associating Db2 entries
You can create new Db2 entries and associate them with Db2 Analytics Accelerator Loader .

Copying Db2 entries
You can copy associated and not associated Db2 entries to other Db2 entries or to new Db2 entries.

Removing Db2 entries

You can remove Db2 entries from the associated list.

Data sets that Tools Customizer uses during customization

Tools Customizer uses several unique data sets during the customization process. Familiarize yourself with these data sets before you begin to use Tools Customizer.

Several different data sets are required to customize Db2 Analytics Accelerator Loader with Tools Customizer. These data sets are supplied by Db2 Analytics Accelerator Loader , supplied by Tools Customizer, or allocated by Tools Customizer.

Db2 Analytics Accelerator Loader provides the following data sets:

Metadata library
Contains the metadata for the product to be customized. Tools Customizer uses the metadata to determine which tasks, steps, and parameters to display on the **Product Parameters** panel, the **LPAR Parameters** panel, and the **DB2 Parameters** panel. This data set also contains the templates that Tools Customizer uses to generate the customization jobs.

The metadata library naming convention is *high_level_qualifier*.SHLODENU, where *high_level_qualifier* is all of the segments of the data set name except the lowest-level qualifier.

You specify the metadata library on the **Specify the Metadata Library** panel. READ access to this data set is required.

Discover EXEC library
Contains the Db2 Analytics Accelerator Loader Discover EXEC. When you customize Db2 Analytics Accelerator Loader , you can use the Discover EXEC to automatically retrieve and store product information, such as parameter values from an already customized product. Tools Customizer saves the discovered information in the data store.

The default name of the data set is the high-level qualifier for the metadata library plus a lowest-level qualifier. For Db2 Analytics Accelerator Loader , the lowest-level qualifier is SHLODENUDENU. You can change the default value on the **Discover Customized Product Information** panel. EXECUTE access to this data set is required.

Tools Customizer provides the following data sets:

Tools Customizer metadata library
Contains the metadata for the Db2 and LPAR parameters that are required to customize Db2 Analytics Accelerator Loader . Tools Customizer uses the metadata to determine which parameters to display on the **DB2 Parameters** panel and the **LPAR Parameters** panel. In addition, Tools Customizer uses information in the metadata library to determine whether additional Db2 and LPAR parameters need to be displayed on these panels. As you customize different products, different Db2 and LPAR parameters might need to be defined.

The default name of the data set is DB2TOOL.CCQ110.SCCQDENU. You can change the default value on the **Tools Customizer Settings** panel. READ access to this data set is required.

Tools Customizer table library
Stores information about jobs that are customized. Job information that is stored includes a description of the job, its member name and template name, the SSID, group attach name, and when the job was generated.

The default name of the data set is DB2TOOL.CCQ110.SCCQTENU. WRITE access to this data set is required.

Tools Customizer requires that the following data sets exist during the customization process. If the data sets do not exist, Tools Customizer automatically allocates them.

Discover output data set
Contains the output that is generated when you run the Db2 Analytics Accelerator Loader Discover EXEC. The Db2 Analytics Accelerator Loader Discover EXEC retrieves the metadata and values for the parameters from a previous customization of Db2 Analytics Accelerator Loader .

The default name of the data set is DB2TOOL.CCQ110.DISCOVER. You can change the default value on the **Tools Customizer Settings** panel or the **Discover Customized Product Information** panel. WRITE access to this data set is required.

Data store data set
Contains product, LPAR, and Db2 parameter values, and Db2 entry associations. Tools Customizer uses this data set to permanently store all information that is acquired about the product, Db2 subsystems or data sharing groups, and LPAR when you customize products on the local LPAR.

The default name of the data set is DB2TOOL.CCQ110.DATASTOR. You can change the default value on the **Tools Customizer Settings** panel. WRITE access to this data set is required.

Customization library
Contains the customization jobs that Tools Customizer generates for Db2 Analytics Accelerator Loader .

Tools Customizer checks whether a customization library name was specified for more than one instance of the same version of the same product. If the same customization library name is specified for more than one product of the same version, the CCQD123E message is issued to prevent you from overwriting previously generated customization jobs. Ensure that you specify unique qualifier for the customization library for each instance of the product.

To customize Db2 Analytics Accelerator Loader , submit the members of the data set in the order in which they are displayed on the **Finish Product Customization** panel.

The data set naming convention is *hlq*.$*LPAR_name*$.*xyzvrm*, where:

- *hlq* is the value of the **Customization library qualifier** field on the **Tools Customizer Settings** panel (CCQPSET)
- *LPAR_name* is the four-character LPAR name
- *xyzvrm* is the three-letter product identifier with the version, release, and modification level

For example, the data set name might be DB2TOOL.PRODUCT.CUST.$MVS1$.*XYZ*410.

WRITE access to this data set is required.

Tools Customizer allocates the data sets for the discover output, the data store, and the customization library with the attributes that are shown in the following table:

Table 44. Data set attributes for allocating the Discover output, data store, and customization library data sets

Data set	Organization	Record format	Record length	Block size	Data set name type
Discover output data set	PO	Variable block	16383	32760	LIBRARY
Data store data set	PO	Variable block	16383	32760	LIBRARY
Product customization library	PO	Fixed block	80	32720	LIBRARY

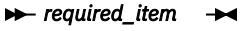
Restrictions:

- Multiple users cannot simultaneously share the discover output data set, data store data set, Tools Customizer metadata library, and metadata library.

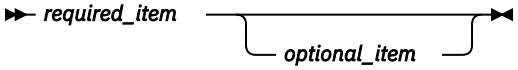
How to read syntax diagrams

The following rules apply to the syntax diagrams that are used in this information:

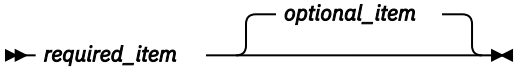
- Read the syntax diagrams from left to right, from top to bottom, following the path of the line. The following conventions are used:
  - The >>--- symbol indicates the beginning of a syntax diagram.
  - The ---> symbol indicates that the syntax diagram is continued on the next line.
  - The >--- symbol indicates that a syntax diagram is continued from the previous line.
  - The --->< symbol indicates the end of a syntax diagram.
- Required items appear on the horizontal line (the main path).



- Optional items appear below the main path.

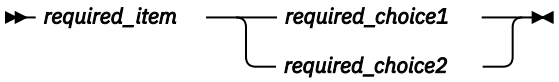


If an optional item appears above the main path, that item has no effect on the execution of the syntax element and is used only for readability.

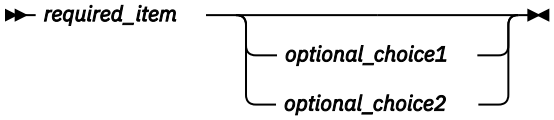


- If you can choose from two or more items, they appear vertically, in a stack.

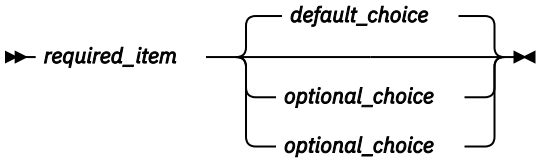
  If you *must* choose one of the items, one item of the stack appears on the main path.



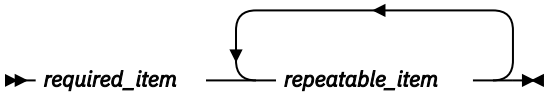
If choosing one of the items is optional, the entire stack appears below the main path.



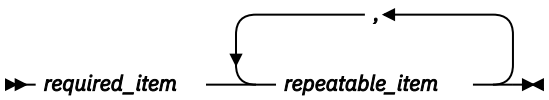
If one of the items is the default, it appears above the main path, and the remaining choices are shown below.



- An arrow returning to the left, above the main line, indicates an item that can be repeated.



If the repeat arrow contains a comma, you must separate repeated items with a comma.



A repeat arrow above a stack indicates that you can repeat the items in the stack.

- Keywords, and their minimum abbreviations if applicable, appear in uppercase. They must be spelled exactly as shown. Variables appear in all lowercase italic letters (for example, *column-name*). They represent user-supplied names or values.
- Separate keywords and parameters by at least one space if no intervening punctuation is shown in the diagram.
- Enter punctuation marks, parentheses, arithmetic operators, and other symbols exactly as shown in the diagram.
- Footnotes are shown by a number in parentheses; for example, (1).

Using the startup CLIST

Use a startup CLIST to start the Accelerator Loader ISPF interface, optionally passing startup values.

Before you begin

The CLISTs that start the Accelerator Loader ISPF interface must already exist. The following CLISTs are created when customizing Accelerator Loader using Tools Customizer:

Startup CLIST 1
The name of the first startup CLIST that starts the product ISPF interface. The default value is HLOV21.

Startup CLIST 2
The name of the second startup CLIST. The default value is HLOV21C.

When starting the product ISPF interface for the first time, see "Starting the ISPF interface" on page 191.

About this task

You use a startup CLIST to start the Accelerator Loader ISPF interface. You can also optionally specify the **Db2 SSID** and **Server ID** values to set on the Accelerator Loader main menu.

Use the following syntax when using a startup CLIST:

```
TSO ex 'hlq.mlq.SHLOCLST(hlo_clist)' 'SSID(db2_ssid) SRVRID(hlvid)'
```

Where:

- *hlq.mlq* represents the high-level and mid-level qualifiers that you specified during product customization
- *hlo_clist* is the CLIST that you use to start the Accelerator Loader ISPF interface

Use the following optional parameters to pass the **Db2 SSID** and **Server ID** values to the Accelerator Loader main menu:

SSID(*db2_ssid*)
Specifies the Db2 SSID value to use when starting the ISPF interface. The Db2 SSID value can be a Db2 subsystem, a Db2 group attach name for a Db2 data sharing group, or a Db2 data sharing member. A valid value is 1-4 characters.

SRVRID(*hlvid*)
Specifies the Server ID value to use when starting the ISPF interface. The Server ID is the name of the z/OS system on which the Accelerator Loader server is running. A valid value is 1-4 characters.

When the **Db2 SSID** and **Server ID** values are not specified when using the CLIST, the fields on the main menu default to the values that were last used in the ISPF interface.

Use the following procedure to start the Accelerator Loader ISPF interface with a startup CLIST.

Procedure

From the z/OS console, issue one of the following operator commands:

- To start the Accelerator Loader ISPF interface without passing startup values for the Db2 SSID and Server ID fields:

```
TSO ex 'hlq.mlq.SHLOCLST(hlo_clist)'
```

- To start the Accelerator Loader ISPF interface, passing startup values for the Db2 SSID and Server ID fields:

```
TSO ex 'hlq.mlq.SHLOCLST(hlo_clist)' 'SSID(db2_ssid) SRVRID(hlvid)'
```

Where:

- *hlq.mlq* represents the high-level and mid-level qualifiers that you specified during product customization
- *hlo_clist* is the CLIST that you use to start the product ISPF interface
- *db2_ssid* is the value to use in the **Db2 SSID** field
- *hlvid* is the value to use in the **Server ID** field

Navigating product panels

When data exceeds the size of the panel, indicators alert you that additional data exists outside the visible panel.

The text **Row x of y** or **More: +** in the upper right corner of the panels are used to indicate a scrollable page. Pages may be scrollable horizontally, vertically, or both.

A plus sign (+) or minus sign (-) indicates that additional data is available vertically.

- The plus sign (+) indicates more data below; use PF8 to scroll down.
- The minus sign (-) indicates more data above; use the PF7 key to scroll up.

The less than symbol (<) or the greater than symbol (>) indicates that additional data is available horizontally.

- The less than symbol (<) indicates more data to the left; use PF10 to scroll to the left.
- The greater than symbol (>) indicates more data to the right; use PF11 to scroll to the right.

Primary commands

You use Db2 Analytics Accelerator Loader primary commands to find information, navigate panels, modify the display of data, and print information.

FIND *abc*

Finds a unique string within a panel of data where *abc* is the string for which you are searching. If the specified string is found, the cursor moves to the first position of the found string. If the specified string is not found, a message is displayed. You should be as specific as possible when using the **FIND** command to ensure the correct return.

The syntax is:

```
FIND <string>
```

where *<string>* is the text that you want to find.

For example, to find the word "apple," use the following command:

```
FIND apple
```

To find the next and subsequent occurrences of the string, press PF5.

SORT *column_number direction*

Sorts data (on panels of scrollable or tabular data) by column where *column_number* is the number of the column by which you want to sort and *direction* can be either **A** (to sort data in ascending order) or **D** (to sort data in descending order).

You can refer to columns only by the column number (not the column name). Column numbers are not displayed on the panel. The CMD column is column 1 and columns to the right are incremented sequentially.

To specify sort order, append the A or D to the end of the SORT command. The default is ascending (A). For example, to sort column 2 in descending order, type:

```
SORT 2 D
```

in the command line and press Enter.

Panel commands and fields reference

This topic provides a reference to Accelerator Loader ISPF panel commands and fields.

The panels are presented in alphabetical order. For more information about a panel from within the product, press PF1.

Accelerator Loader Parameters panel

Specify product options such as sort program, log read and apply preferences, and file allocation parameters.

The following fields are available:

Log Read and Log Apply Preferences:

Log reader copy preference
Sets the default value for log reader copy preference. Unless you change it, the default value is R1R2A1A2 (where *R* indicates archive log and *A* indicates active log). You can specify different values for each SSID. The current SSID log reader value is used for JCL generation. For more information, see LOG_COPY_PREFERENCE in “Syntax definitions: Consistent load and Image Copy load” on page 306.

File Allocation Parameters:

Number of buffers
The number of buffers that the product is to use. Valid values are 1 - 99. (Synonymous with the JCL BUFNO= parameter.)

Channel programs
The number of channel programs that the product is to use. (Synonymous with the JCL NCP= parameter.) If a value of 0 is set, the product will use a predetermined channel program setting to attempt to gain optimal performance. Otherwise, a value of 1 - 99 can be specified to determine a best fit value for the site.

Note: The number of channel programs that you specify controls how many outstanding QSAM channel programs can run at the same time before the earliest one is checked for completion.

Data Set Parameters:

Device type
The device type for data sets created by Db2 Analytics Accelerator Loader. DASD devices and tape devices are valid for work files and SYSPRINT files.

Data set type
The type of data set that will be used for data sets created by Db2 Analytics Accelerator Loader.

Track or cylinder
The allocation unit for work data sets created by Db2 Analytics Accelerator Loader. Valid values are **TRK** (tracks) and **CYL** (cylinders).

Primary quantity
The primary quantity for data sets created by Db2 Analytics Accelerator Loader (in the units specified in the **Track or Cylinder** field).

Note: The maximum value that can be specified in the primary or secondary quantity field is 16777215. If you need to specify more space than the maximum, convert to a different space unit (for example, convert bytes to kilobytes by dividing by 1024) and specify the new value.

Secondary quantity
The secondary quantity for data sets created by Db2 Analytics Accelerator Loader (in the units specified in the **Track or Cylinder** field).

Note: The maximum value that can be specified in the primary or secondary quantity field is 16777215. If you need to specify more space than the maximum, convert to a different space unit (for example, convert bytes to kilobytes by dividing by 1024) and specify the new value.

Maximum volumes
The maximum number of volumes that can be used for work data sets.

Note: The **Maximum Volumes** field is valid when the device type is set to a DASD or tape device.

SMS data class
The SMS data class for data sets created by Db2 Analytics Accelerator Loader.

SMS storage class
The SMS storage class for data sets created by Db2 Analytics Accelerator Loader.

SMS management class
The SMS management class for data sets created by Db2 Analytics Accelerator Loader.

Sort Work Parameters:

Unit device
Indicates the sort work file unit device to be used when generating utility JCL. Valid values are SYSALLDA, DISK, and so on. Depending on the unit device that you specify, set the number of DDs as follows:

- For a tape device, specify a **Number of DDs** value from 3 through 99.
- For a DASD device, specify a **Number of DDs** value from 1 through 99.

Number of DDs
The number of SORTWKnn DD statements used for product sort work data sets. Set the value as follows, depending on the unit device value that you specify:

- For a tape device, specify a value from 3 through 99.
- For a DASD device, specify a value from 1 through 99.

Primary space
The primary space used (cylinders) for product sort work data sets.

Secondary space
The secondary space used (cylinders) for product sort work data sets.

Utility REGION Size
Indicates the REGION size in megabytes that the product is to use when generating utility JCL. Valid values are 0 - 2047.

Accelerator Table Selection panel

Use this panel to choose which table from the generated list you want to create a backup for.

After you select the table to back up, an asterisk appears in the **Cmd** field. Only one table can be selected. The following commands are available.

- DEFAULT: Type this command on the command line to sort the panel contents in default order.
- S: Type this command in the **Cmd** field next to the table that you want to select.

The following fields are available:

Table creator like
The table creator search criteria. Wildcard values are allowed. The wildcard character is an asterisk (*).

Note: Case sensitivity of this field is controlled by the **Case sensitive** field on the **Enter Table and Creator Like to Display** panel.

Table name like
The table name search criteria. Wildcard values are allowed. The wildcard character is an asterisk (*).

Note: Case sensitivity of this field is controlled by the **Case sensitive** field on the **Enter Table and Creator Like to Display** panel.

Table Name
The table name.

Creator
The user ID of the table space creator.

Accelerator Name
A unique name for the accelerator server. This is the name by which the accelerator server is known to the local Db2 accelerated query tables.

Created Timestamp
The time when the CREATE statement was executed for the table.

Altered Timestamp
The time when the table was last altered.

Refresh Time
The timestamp when the data was last refreshed. If the data was not refreshed, this column contains the default timestamp ('0001-01-01.00.00.00.000000').

Add Db2 Tables/Db2 Table Selection panel

Use this panel to select the table to include in a load profile. The following commands are available.

- DEFAULT: Type this command on the command line to sort the panel contents in default order.
- S: Type this command in the **Cmd** field next to the table that you want to select.

The following fields are available:

Table creator like
The table creator search criteria. Wildcard values are allowed. The wildcard character is an asterisk (*).

Note: Case sensitivity of this field is controlled by the **Case sensitive** field on the **Enter Table and Creator Like to Display** panel.

Table name like
The table name search criteria. Wildcard values are allowed. The wildcard character is an asterisk (*).

Note: Case sensitivity of this field is controlled by the **Case sensitive** field on the **Enter Table and Creator Like to Display** panel.

Db2 SSID
The Db2 subsystem name, data sharing member name, or group attachment name of the data sharing group against which Db2 Analytics Accelerator Loader is running.

Table Name
The table name.

Part
The partition number (if the table space is partitioned). Note the following values in this column:

ALL
All partitions will be included.

N/A
The table space is not partitioned.

Creator
The user ID of the table space creator.

Database
The database name.

Tablespace
The table space name.

Type
The object type:

- Table
- Alias
- View
- AOT (accelerator only table)

Administer Accelerator Loader server panel

Use this panel to manage the Accelerator Loader server and work with trace and events features.

Display server trace
Opens the Server Trace panel, which displays the last full page of the trace data. The trace data is maintained by the Accelerator Loader server and is a record of all communication, SQL, and internal events in message format.

Configure server
Opens the Server Management Menu panel, on which you can view and modify server data that is extracted from the main product address space for the subsystem that you have named.

Manage rules
Opens the Event Facility (SEF) Control panel, on which you can view and modify server event procedures and sets of rules that apply to procedures (rulesets).

Back Up Accelerator Table panel

This panel specifies options that generate the JCL the BACKUP utility uses to back up a table defined to an accelerator.

These options can be saved to a Backup profile. All of the following commands are available on the editable version of the panel. On the view-only version of the panel, the BUILD command is available.

- TABLE: Type this command on the command line to open the Enter Table and Creator Like to Display panel and subsequently the Accelerator Table Selection panel from which you can select the table to back up.
- SAVE: Type this command on the command line to save your specifications to a Backup profile.
- BUILD: Type this command on the command line to build JCL for the profile to the specified data set.

The following fields are available on this panel.

Creator/Profile creator
The profile creator.

Name/Profile Name
The name of the profile, up to 30 characters. (Using meaningful names for profiles makes them easier to locate and reuse; for example, “Objects for Employee App.”)

Share option
Controls how other users can use a profile:

U (Update)
Other users can update the profile.

V (View only)
Other users can view the profile.

N (No access)
Other users cannot view nor update the profile.

Description
A description of the profile.

Schema
Table name
Accelerator
These fields display values for the currently selected table. To change the table, issue the TABLE command.

Copy Data Sets Options:

Local primary
Specifies the primary copy data set for the local site. To update the data set parameters, specify Yes in the **Update** field.

Local backup
Specifies the secondary (backup) copy data set for the local site. You can create a backup copy for the local site only when a primary copy for the local site is also being created. To update the data set parameters, specify Yes in the **Update** field.

Recovery primary
Specifies the primary copy data set for the remote recovery site. To update the data set parameters, specify Yes in the **Update** field.

Recovery backup
Specifies the secondary (backup) copy data set for the remote recovery site. You can create a backup copy for the remote recovery site only when a primary copy for the remote recovery site is also being created. To update the data set parameters, specify Yes in the **Update** field.

Backup Copy Selection panel

Use this panel to choose the backup copy for recovery of a table defined to the accelerator.

After you select a backup copy, an asterisk appears in the **Cmd** field.

The following command is available:

- S: Type this command in the **Cmd** field next to the backup copy that you want to select.

The following fields are available on this panel.

Schema
Table Name
These fields display values for the currently selected table.

Copy Data Set Name
The name of the backup copy data set.

Created Timestamp (Local Time)
The backup copy data set creation timestamp in local time.

Created Timestamp (UTC)
The backup copy data set creation timestamp in UTC.

Copy Type
The type of copy written to the backup copy data set.

INC
Incremental

FULL
Full

Copy Site Type
The type of backup copy data set.

LP
Local Primary

LB
Local Backup

RP
Recovery Primary

RB
Recovery Backup

Share Level
The share level of the backup copy data set.

Change
Reference

Unit Type
The type of device unit.

DASD
Disk device

Tape
Tape device

Unit
The name of device unit.

Build Load JCL panel

Use this panel to specify how you want to build your jobs using an existing load profile. The following commands are available.

- `BUILD`: Type this command on the command line to build JCL for the profile to the specified data set.
- `ADD`: Type this command on the command line to add another line to the job card.
- Type a command in the **Cmd** field next to a line to complete a task:
  - `D` to delete the line.
  - `I` to insert a new line.
  - `M` to move a line to a new position.

The following fields are available:

Generated JCL Data Set Name:

Data set name
The fully qualified data set name (without quotation marks) in which to save the generated job. If the data set does not exist, Db2 Analytics Accelerator Loader will create it. If you do not specify a member name, Db2 Analytics Accelerator Loader creates a sequential file. If you specify a member name, Db2 Analytics Accelerator Loader creates a PDS. To specify allocation parameters for this data set, select **Specify new data set allocation parameters**.

Member name
If the data set to hold the generated job is a PDS, indicates a member name for the job output. If the member does not exist, Db2 Analytics Accelerator Loader will create it.

Processing Options (Type a forward slash next to the options that you want to select.)

Specify new data set allocation parameters
Indicates whether you want to specify allocation parameters for this data set. If selected, when you enter the BUILD command, the **Data set allocation parameters** panel opens.

Review generated JCL
Indicates whether you want to review and edit the job after it has been generated. If selected, when you enter the BUILD command, the job appears in an edit session. If not selected, when you enter the BUILD command, the current panel is displayed.

Warn if JCL already exists
Indicates whether you want to be warned if the generated JCL will overwrite existing JCL.

Warn if JCL was edited after generation
Indicates whether you want to be warned if the generated JCL will overwrite existing JCL that was edited after it was generated.

Job Card Information
Specify how you want to build your job.

Confirm Action panel

Confirm or cancel deletions, such as deleting a Db2 SSID or a profile, or changes, such as changing a table. The panels display the name and description of the affected object.

- To confirm the deletion or change, press Enter.
- To cancel the deletion or change, press F12.
- (not available on all panels) To suppress future displays of the panel, type a forward slash (/) in the field next to **Set item delete confirmation off**.

Copy Data Set Parameters panel

Use this panel to define the data set allocation parameters for backup copy data sets.

The title of this panel reflects the type of backup copy data set being created or updated (Local Primary, Local Backup, Recovery Primary, Recovery Backup).

The following fields are available:

Disposition
A valid z/OS data set disposition as documented in the *z/OS MVS JCL Reference*.

Data set type
A valid z/OS data set type value as documented in the *z/OS MVS JCL Reference*.

Management class
Storage class
The SMS management and storage classes for the backup copy data set created by Accelerator Loader.

Volume serial
The volume serial number to use for the backup copy data set created by Accelerator Loader. To let SMS select the volume on which to allocate the data set, leave the field blank.

Device type
The device type to use for the backup copy data set created by Accelerator Loader. To let SMS select the device type on which to allocate the data set, leave this field blank.

Data class
The SMS data class (up to 8 alphanumeric characters) to use for the backup copy data set created by Accelerator Loader.

Space units
The allocation unit to be used when allocating the backup copy data set.

Space primary
Space secondary
The primary and secondary allocation quantities of space to use when allocating the backup copy data set. The unit of measure that you specify in the Space units field is used.

Tape device options:

Expiration date
Specifies the expiration date for a new data set. On and after the expiration date, the data set can be deleted or written over by another data set. This value is valid for tape device only.

Retention period
Specifies the retention period for a new data set to help reduce the chance of later accidental deletion. After the retention period, the data set can be deleted or written over by another data set. This value is valid for tape device only.

Create Profile panel

Use this panel to choose the type of Accelerator Loader profile that you want to create.

Load Accelerator(s) and Db2 from external file
Opens the **Load Accelerator(s) and Db2 from External File** panel. Use this panel to specify options for a new Dual profile type, or to edit options for an existing profile. A Dual profile specifies options for loading table data into both the accelerator and Db2 from an external data input file.

Load Accelerator(s) from external file
Opens the **Load Accelerator from External File** panel. Use this panel to specify options for a new External profile type, or to edit options for an existing profile. An External profile specifies options for loading table data into only the accelerator from an external data input file.

Load Accelerator with consistent data
Opens the **Load Accelerator with Consistent Data** panel. Use this panel to specify options for a new Consistent load profile, or to edit options for an existing profile. A Consistent load profile specifies options for loading data for multiple tables into the accelerator from a cataloged Db2 image copy.

Load Accelerator from a specified image copy
Opens the **Load Accelerator from Specified Image Copy** panel. Use this panel to specify options for an Image Copy profile type. An Image Copy profile specifies options for loading data for a single table into the accelerator from a user-defined Db2 image copy.

Load Accelerator(s) from Db2 table(s)
Opens the **Load Accelerator(s) from Db2 Table(s)** panel. Use this panel to specify options for a new Multi (high availability load) profile type, or to edit options for an existing profile. A Multi profile specifies options for loading data to one to four accelerators from one or more Db2 tables.

Back up Accelerator table
Opens the Back Up Accelerator Table panel. Use this panel to specify options for a Backup profile, which is used for backing up a table defined to the accelerator.

Recover Accelerator table(s) from a backup
Opens the Recover Accelerator Table(s) from a Backup panel. Use this panel to specify options for a Recovery profile, which is used for recovering a table defined to the accelerator.

Data set allocation parameters panel

Use this panel to define the data set allocation parameters for the Db2 Analytics Accelerator Loader JCL data set. The following fields are available.

Use this panel to define the data set allocation parameters for the Db2 Analytics Accelerator Loader JCL data set. The following fields are available:

SMS management class
The SMS management class for data sets created by Db2 Analytics Accelerator Loader.

SMS storage class
The SMS storage class for data sets created by Db2 Analytics Accelerator Loader.

Volume serial
The volume serial number to use for the JCL data set created by Db2 Analytics Accelerator Loader. To let SMS select the volume on which to allocate the JCL data set, leave the field blank.

Device type
The device type to use for the JCL data set created by Db2 Analytics Accelerator Loader. To let SMS select the device type on which to allocate the JCL data set, leave this field blank.

SMS data class
The SMS data class for data sets created by Db2 Analytics Accelerator Loader.

Space units
Specifies the unit of measure for space allocations. Valid values are BLKS, TRKS, CYLS, KB, MB, BYTES. The default is CYLS.

Primary quantity
Secondary quantity
Specifies the primary and secondary allocation quantities of space to use when allocating the JCL data set in the unit of measure that you specify in **Space units**.

Block size
Specifies the block size (physical record length), in bytes, of the blocks to be stored in the JCL data set.

Data Set Allocation panel

Use this panel to define the allocation parameters for the discard data set.

The following fields are available:

Data set disposition
Specifies a valid z/OS data set disposition. The default disposition is DISP(MOD,CATLG,CATLG).

Unit type
Specifies a valid DASD allocation unit for your installation. The product checks the eligible device table (EDT) to ensure that the specified value is valid. The default is blank.

Space unit
Specifies the unit of measure for space allocations. Valid values are CYL, TRK and MB. The control card is generated into the JCL as SPACE unit. If you do not specify a value for Space unit, then the default value is CYL.

Space primary
Space secondary
Specify the primary and secondary disk space allocation in the range 1 through 1677215. If you specify a value for Space primary, then you must also specify a value for Space secondary, and vice versa. If you do not specify values for Space primary and Space secondary, then default values (10 and 100) will be used.

Current data set name
Displays the current DSN that you have defined.

Db2 Analytics Accelerator Selection panel

Use this panel to select the accelerator onto which you want to load data. The panel displays the accelerators that are defined to the subsystem that you are using. The following command is available.

S: Type this command in the **Cmd** field next to the accelerator that you want to select.

The following fields are available:

Name
The name of the accelerator.

Status
The status of the accelerator.

SSID
The subsystem to which the accelerator is defined. This column is only displayed when the SSID is a data sharing group.

Db2 Table List panel

Use this panel to select the table to include in a load profile. The following commands are available.

- ADD: Type this command on the command line to open the **Enter Table and Creator Like to Display** panel.
- D: Type this command in the **Cmd** field next to the table name to delete the table.
- T: Type this command in the **Cmd** field next to the table name to specify the target table. This command opens the Db2 Table List panel, on which you can select the target table.
- RIS: Type this command in the **Cmd** field next to the table name to display the **Referentially Dependent Table Selection** panel, which lists related tables from which you can choose.
- RIA: Type this command in the **Cmd** field next to the table name to select all related tables.

The following fields are available:

Creator/Profile creator
The profile creator.

Name/Profile Name
The name of the profile, up to 30 characters. (Using meaningful names for profiles makes them easier to locate and reuse; for example, “Objects for Employee App.”)

Share option
Controls how other users can use a profile:

U (Update)
Other users can update the profile.

V (View only)
Other users can view the profile.

N (No access)
Other users cannot view nor update the profile.

Description
A description of the profile.

Table Name
The table name.

Part
The partition number (if the table space is partitioned). Note the following values in this column:

ALL
All partitions will be included.

N/A
The table space is not partitioned.

Creator
The user ID of the table space creator.

Database
The database name.

Tablespace
The table space name.

Target Name
The name of the table that is to be loaded.

Target Creator
The creator of the table that is to be loaded.

Db2 Table List panel

Use this panel to select the table to include in a load profile. The following commands are available.

- ADD: Type this command on the command line to open the **Enter Table and Creator Like to Display** panel.
- D: Type this command in the **Cmd** field next to the table name to delete the table.
- RIS: Type this command in the **Cmd** field next to the table name to display the **Referentially Dependent Table Selection** panel, which lists related tables from which you can choose.
- RIA: Type this command in the **Cmd** field next to the table name to select all related tables.

The following fields are available:

Creator/Profile creator
The profile creator.

Name/Profile Name
The name of the profile, up to 30 characters. (Using meaningful names for profiles makes them easier to locate and reuse; for example, “Objects for Employee App.”)

Share option
Controls how other users can use a profile:

U (Update)
Other users can update the profile.

V (View only)
Other users can view the profile.

N (No access)
Other users cannot view nor update the profile.

Description
A description of the profile.

Db2 Subsystem Parameters panel

Change the definition of an existing Db2 subsystem entry.

The following command and fields are available:

Accelerator Loader parameters
Opens the **Accelerator Loader Parameters** panel.

SSID
The Db2 subsystem being edited, viewed, or created.

Description
A meaningful description of the subsystem, up to 44 alphanumeric characters.

Plan name
(required) The product plan to be used when connecting to the Db2 catalog; up to 8 alphanumeric characters. No default value.

Db2 ZPARMs member
The ZPARM load module member name generated for this Db2 subsystem; up to 8 alphanumeric characters. No default value.

Db2 Bootstrap DSN #01
(required) The full data set name of the first bootstrap data set that is being used by this Db2 subsystem. No default value.

Db2 Bootstrap DSN #02
(optional) The full data set name of the second bootstrap data set that is being used by this Db2 subsystem. No default value.

Db2 Loadlib1
(required) Specify the full name of the data set comprising the current load library concatenation for Db2 and used during batch job processing. You cannot use an alias library name. No default value. Maximum of 47 alphanumeric characters. The load library usually consists of a subsystem-specific DSNEXIT library, the base DSNEXIT library for the current Db2 version, and the base DSNLOAD library for the current Db2 version.

Db2 Loadlib2
Db2 Loadlib3
Db2 Loadlib4
Db2 Loadlib5
(optional) Specify the names of additional libraries for the subsystem used during batch job processing.

Db2 Subsystems panel

Select or edit information about the Db2 subsystem on which to run Db2 Analytics Accelerator Loader.

The following commands are available:

- CREATE: Type this command on the command line to create a new Db2 subsystem entry.
- Type one of the following commands in the **Cmd** field next to an existing SSID:
  - S to select the Db2 subsystem with which you want to work.
  - D to delete the selected Db2 subsystem from the control file. This command opens the **Confirm Action** panel.
  - E to edit information about the Db2 subsystem. This command opens the **Db2 Subsystem Parameters** panel.
  - V to view information about the Db2 subsystem. This command opens the **Db2 Subsystem Parameters** panel.
  - C to copy information from one subsystem to another. This command opens the **New Db2 Subsystem** panel panel.

The following fields are available:

Current Db2 SSID
The Db2 subsystem being edited, viewed, or created.

Current user indicator
The user indicator that is specified in the CLIST that is used to start the product. You cannot change this field; it is set when the product CLIST is started.

Db2 control data set
The name of the Db2 control data set. This is the VSAM control file that you have previously created and specified in the CLIST. You cannot change this field.

DD Template Specification panel

Use this panel to specify allocation options for an ERRDDN, MAPDDN, DISCARDDN, SYSUT1, or SORTOUT template.

The following command is available:

TEMPLATE: Type this command on the command line to edit the template DSN mask.

The following fields are available:

Data set disposition
Specifies a valid z/OS data set disposition as documented in the *Db2 for z/OS Utility Guide and Reference*. The default is MOD,DELETE,DELETE. When you specify a value, the control card is generated into the TEMPLATE statement as DISP(*specified_value*).

Example:

```
TEMPLATE SYSERR
         DSN      'syserr.dataset.name'
         DISP     (MOD,DELETE,DELETE)
```

The default disposition for each type of template is as follows:

- ERRDDN: DISP(MOD,CATLG,CATLG)
- MAPDDN: DISP(MOD,CATLG,CATLG)
- DISCARDDN: DISP(MOD,CATLG,CATLG)
- SYSUT1: DISP(MOD,DELETE,CATLG)
- SORTOUT: DISP(MOD,DELETE,CATLG)

Unit type

Specifies a valid DASD allocation unit for your installation. The product checks the eligible device table (EDT) to ensure that the specified value is valid. The default is blank. When you specify a value, the control card is generated into the TEMPLATE statement as UNIT *specified_unit_type*.

Example:

```
TEMPLATE SYSERR
         UNIT     SYSALLDA
         DSN      'syserr.dataset.name'
         SPACE    TRK
         MAXPRIME 00006666
         UNCNT    5
         DISP     (MOD,DELETE,DELETE)
```

Space unit

Specifies the unit of measure for space allocations. Valid values are CYL, TRK and MB. The default is CYL. The control card is generated into the JCL as SPACE unit. If you do not specify values for **Space primary** and **Space secondary**, then Db2 calculates the primary and secondary allocated space at runtime. **Space unit** is required when you specify values for **Space primary** and **Space secondary**.

Example (only **Space unit** is defined):

```
TEMPLATE SYSERR
         UNIT     SYSDA
         DSN      'syserr.dataset.name'
         SPACE    CYL
         DISP     (MOD,DELETE,DELETE)
```

Example (**Space primary**, **Space secondary**, and **Space unit** are defined):

```
TEMPLATE SYSERR
         UNIT     SYSALLDA
         DSN      'syserr.dataset.name'
         SPACE    (10,5) CYL
         DISP     (MOD,DELETE,DELETE)
```

Space primary
Space secondary

Specify the primary and secondary disk space allocation (1 - 1677215). The default value is blank. If you specify a value for **Space primary**, then you must also specify a value for **Space secondary**, and vice versa. The control card is generated into the JCL as SPACE (*primary*,*secondary*).

Example:

```
TEMPLATE SYSERR
         UNIT     SYSALLDA
         DSN      'syserr.dataset.name'
         SPACE    (10,5) CYL
         MAXPRIME 00006666
         UNCNT    5
         DISP     (MOD,DELETE,DELETE)
```

PCTPRIME
Specifies primary space allocation as a percentage. Valid values are 0 through 100. The default value is blank. When you specify a value, the control card is generated into the JCL is PCTPRIME *value*.

Example:

```
TEMPLATE SYSERR
         UNIT     SYSALLDA
         DSN      'syserr.dataset.name'
         SPACE    (10,5) CYL
         PCTPRIME 50
         DISP     (MOD,DELETE,DELETE)
```

MAXPRIME
Specifies the maximum allowable primary space allocation. The default is blank. You can specify an integer value of up to eight characters. The control card is generated into the JCL as MAXPRIME *value*.

Example:

```
TEMPLATE SYSERR
         UNIT     SYSALLDA
         DSN      'syserr.dataset.name'
         SPACE    (10,5) CYL
         MAXPRIME 000024
         PCTPRIME 50
         DISP     (MOD,DELETE,DELETE)
```

NBRSECOND
Specifies the division of secondary space allocations. Primary space is allocated first, and then remaining space is divided into the specified secondary allocations. The default is blank. You can specify a value of 1 - 10. The control card is generated into the JCL as NBRSECOND *value*.

Example:

```
TEMPLATE SYSERR
         UNIT     SYSALLDA
         DSN      'syserr.dataset.name'
         SPACE    (10,5) CYL
         MAXPRIME 000024
         PCTPRIME 50
         NBRSECOND 10
         DISP     (MOD,DELETE,DELETE)
```

Current Template DSN
Displays the default template for the DSN that you are defining.

The default DSN mask for each template is as follows:

- ERRDDN: &US..IDSE.&DB..&TS..&UQ.
- MAPDDN: &US..IDSM.&DB..&TS..&UQ.
- DISCARDDN: &US..IDSD.&DB..&TS..&UQ.
- SYSUT1: &US..IDSU.&DB..&TS..&UQ.
- SORTOUT: &US..IDSO.&DB..&TS..&UQ.

DD DSN Template panel

Use this panel to specify options for the DSN that Db2 Analytics Accelerator Loader generates. The following command and fields are available.

SHOW
Type this command on the command line to display the DSN mask.

Template name
Displays the name of the template that you are editing.

Qualifier code
Specify a data set name specification code from the list of valid codes and press Enter.

Free form literal
Specify the qualifier code for **Use freeform literal**, and then in this field, type the literal value that you want to include in the data set name.

Current data set name qualifier string
Displays the symbolic string for your selected qualifier codes. You can also type the data set name directly in this field.

Database
Includes the database name.

Space name
Includes the table space name.

Partition/DSNUM
When you select this qualifier, you are prompted to enter a prefix to make the data set name valid. Enter the letter P to select a partition.

Date (YYYYDDD)
Includes the current date in the format *YYYYDDD*.

Year (YYYY)
Includes the current year in the format *YYYY*.

Month (MM)
Includes the current month in the format *MM*.

Day (DD)
Includes the current day of the month in the format *DD*.

Julian Day (DDD)
Includes the Julian day in the format *DDD*.

Time (HHMMSS)
Includes the current time in the format *HHMMSS*.

Hours (HH)
Includes the current time in hours in the format *HH*.

Minutes (MM)
Includes the current time in minutes in the format *MM*.

Seconds (SS)
Includes the current time in seconds in the format *SS*.

Local/Recovery (L/R)
When selected, this qualifier includes the backup type. L indicates local site and R indicates recovery site.

Primary/Backup (P/B)
Includes the backup type. P indicates primary and B indicates backup.

Copy type (Full/Incr)
Includes the type. F indicates full image copy type and I indicates incremental image copy type.

Listdef
Includes the name of the list that is defined by using the LISTDEF control statement and that is referenced on the same control statement as this TEMPLATE.

Sequence
Includes the sequence number of the item in the list being processed.

Unique
Unique eight characters that Db2 derives from the system clock at the time of allocation.

SSID
Includes the relevant subsystem ID.

User ID
Includes the TSO user ID of the job builder.

Job name
Includes the job name.

Step name
Includes the job step name.

Utility ID
Includes the utility ID.

Utility name
Includes the utility name.

Use Freeform Literal
Includes the eight-character literal that you type in the Free Form literal field.

Substring qualifier
Includes the substring qualifier. If you specify this qualifier code, the Substring Parameters popup is displayed, and contains the following fields:

Enter the Qualifier Code
Type the number corresponding to the qualifier code that you want to add.

Enter Starting Position
Type the starting position of the substring.

Enter Substring Length
Type the length of the substring.

DD DSN Template (View) panel

Use this panel to view information about a DD DSN template. For more detailed information about using a template and the options, see the *Db2 Utility Guide* for TEMPLATE. The following command and fields are available.

SHOW
Type this command on the command line to display the DSN mask.

Template name
Displays the name of the template that you are editing.

Qualifier code
Specify a data set name specification code from the list of valid codes and press Enter.

Free form literal
Specify the qualifier code for **Use freeform literal**, and then in this field, type the literal value that you want to include in the data set name.

Current data set name qualifier string
Displays the symbolic string for your selected qualifier codes. You can also type the data set name directly in this field.

Delimiter Parameters panel

Use this panel to specify the delimiter parameters for the input data file that is in a delimited format. The delimiter characters can be specified as either a character or a hexadecimal constant. You cannot specify the same character for more than one type of delimiter.

This panel includes the following fields:

Column delimiter
Specifies the column delimiter that is used in the input file. The default value is a comma (,).

Character string delimiter
Specifies the character string delimiter that is used in the input file. The default value is a double quotation mark (").

Decimal point delimiter
Specifies the decimal point character that is used in the input file. The default value is a period (.).

Display Global Variables panel

Use this panel to view, create, and modify global variables.

Global variables are shared by TSO address spaces and Accelerator Loader server Event Facility procedures. They are saved across system IPLs and product restarts. Global variables are implemented as REXX compound and are distinguished from other compound symbols by the stem string "GLOBAL" or "GLOBALx" where "x" is an alphanumeric character (A-Z or 0-9). Modify the "GLOBAL PREFIX:" entry on the panel to display a different Global Variable stem.

Subnode Name
The last part of the variable tail.

Nodes
The number of subnodes under this node.

Nodes Value
The data value assigned to this variable. When this subnode does not exist, the text string “NO VALUE ASSIGNED AT THIS LEVEL” is displayed.

Created
The date of creation.

Last Change
The date of the last modification.

Time
The time of the last modification.

Rule or Program
The rule or program that last updated the variable.

Jobname
The job that last updated the variable.

Updates
The number of updates to the variable.

DMF Map Adabas Password Encryption panel

Use this panel to create an encoded version of your Adabas password for use in a DMF batch job.

This panel enables you to create an encoded version of your Adabas password for use in a DMF batch job.

The following fields are available on this panel:

Adabas password / Re-Enter Password
Specifies the password in plain text to be used in batch DMF for Adabas.

ADABAS PASSWORD =
Returns the encoded version of the Adabas password. Copy and paste this value into your batch JCL SYSIN DD statement.

Enter Table and Creator Like to Display panel

Use this panel to filter tables from which to select for inclusion in the profile. The following fields are available.

Table creator like
The table creator search criteria. Wildcard values are allowed. The wildcard character is an asterisk (*).

Note: Case sensitivity of this field is controlled by the **Case sensitive** field on the **Enter Table and Creator Like to Display** panel.

Table name like
The table name search criteria. Wildcard values are allowed. The wildcard character is an asterisk (*).

Note: Case sensitivity of this field is controlled by the **Case sensitive** field on the **Enter Table and Creator Like to Display** panel.

Match views and aliases
The object type criteria. Specify **Yes** to display tables, views, and aliases. Specify **No** to display tables only. The product resolves a view or alias to the base table space and includes the base table space in the generated JCL.

Case sensitive
Controls case sensitivity in table names when you are selecting objects for a profile. If the value is **No** (the default), then lowercase letters match uppercase object names, and vice versa. If the value is **Yes**, then the wildcard patterns abc* and ABC* return different results.

Event Facility (SEF) Ruleset Entry Profile panel

Use this panel to control how the SEF procedure ruleset list is displayed, along with the following application control options:

- Restrict display to only the single ruleset in which you are interested, or (using SEF V4 only) display only rulesets containing a specific type of rule.
- Bypass rereading of a ruleset's PDS(E) directory if you do not require update-to-date member statistical information.
- Bypass confirmation panels when requesting a mass change operation.
- Indicate that this entry panel should be bypassed in the future.

Event Facility Proc. Rulesets - Using SEF V4 Configuration panel

This panel displays a list of event procedure rulesets. You can filter the list by setting entry panel options.

In the **S** column beside a member, type a line command to take one of the following actions:

- S: Display the list of members within the ruleset.
- E: Enable all members of an entire ruleset.
- D: Disable all members of an entire ruleset.
- U: Display the ISPF/PDF utility panel to rename, delete, or print members.
- A: Set the Auto-Enable (AE) flag for all members of a ruleset.
- Z: Reset the Auto-Enable (AE) flag for all members of a ruleset.

Event Facility (SEF) Event Procedure List panel

This panel displays all members in a specific ruleset and to create a new event procedure.

In the **S** column beside a member, type a line command to take one of the following actions:

- S: Select an event procedure for modification using the ISPF editor.

  To create a new event procedure, type "S" followed by a space and the name of the new event procedure.
- E: Enable an event procedure
- D: Disable an event procedure.
- A: Set the Auto-Enable (AE) flag for an event procedure member.
- Z: Reset the Auto-Enable (AE) flag for an event procedure member.
- B: Set the Auto-Enable (AE) flag and enable the event procedure.
- C: Disable an event procedure and reset the Auto-Enable (AE) flag.

Event Facility (SEF) Control panel

Use this panel to view and modify Server Event Facility (SEF) event procedures and procedure rulesets.

Global Variables
Select this option to open the Display Global Variables panel, on which you can view and modify global variables.

SEF Rule Management
Select this option to open the Event Facility (SEF) Ruleset Entry Profile panel, on which you can control SEF event procedures and libraries.

Interactive Command
Select this option to open the SEF - Command Response Display panel, on which you can view results of interactive command requests.

FlashCopy DSN Template panel

Use this panel to make changes to a FlashCopy DSN template.

For more detailed information about using a template and the options, see *Db2 for z/OS Utility Guide and Reference*.

SHOW
Type this command on the command line to display the DSN mask.

Template name
Displays the name of the template that you are editing.

Qualifier code
Specify a data set name specification code from the list of valid codes and press Enter.

Free form literal
Specify the qualifier code for **Use freeform literal**, and then in this field, type the literal value that you want to include in the data set name.

Current data set name qualifier string
Displays the symbolic string for your selected qualifier codes. You can also type the data set name directly in this field.

Database
Includes the database name.

Space name
Includes the table space name.

Partition/DSNUM
When you select this qualifier, you are prompted to enter a prefix to make the data set name valid. Enter the letter P to select a partition.

Date (YYYYDDD)
Includes the current date in the format *YYYYDDD*.

Year (YYYY)
Includes the current year in the format *YYYY*.

Month (MM)
Includes the current month in the format *MM*.

Day (DD)
Includes the current day of the month in the format *DD*.

Julian Day (DDD)
Includes the Julian day in the format *DDD*.

Time (HHMMSS)
Includes the current time in the format *HHMMSS*.

Hours (HH)
Includes the current time in hours in the format *HH*.

Minutes (MM)
Includes the current time in minutes in the format *MM*.

Seconds (SS)
Includes the current time in seconds in the format *SS*.

Local/Recovery (L/R)
When selected, this qualifier includes the backup type. L indicates local site and R indicates recovery site.

Primary/Backup (P/B)
Includes the backup type. P indicates primary and B indicates backup.

Copy type (Full/Incr)
Includes the type. F indicates full image copy type and I indicates incremental image copy type.

Listdef
Includes the name of the list that is defined by using the LISTDEF control statement and that is referenced on the same control statement as this TEMPLATE.

Sequence
Includes the sequence number of the item in the list being processed.

Unique
Unique eight characters that Db2 derives from the system clock at the time of allocation.

SSID
Includes the relevant subsystem ID.

User ID
Includes the TSO user ID of the job builder.

Job name
Includes the job name.

Step name
Includes the job step name.

Utility ID
Includes the utility ID.

Utility name
Includes the utility name.

Use Freeform Literal
Includes the eight-character literal that you type in the Free Form literal field.

Substring qualifier
Includes the substring qualifier. If you specify this qualifier code, the Substring Parameters popup is displayed, and contains the following fields:

Enter the Qualifier Code
Type the number corresponding to the qualifier code that you want to add.

Enter Starting Position
Type the starting position of the substring.

Enter Substring Length
Type the length of the substring.

FlashCopy DSN Template (View) panel

Use this panel to view information about a FlashCopy DSN template.

For more detailed information about using a template and the options, see *Db2 for z/OS Utility Guide and Reference*.

SHOW
Type this command on the command line to display the DSN mask.

Template name
Displays the name of the template that you are editing.

Qualifier code
Specify a data set name specification code from the list of valid codes and press Enter.

Free form literal
Specify the qualifier code for **Use freeform literal**, and then in this field, type the literal value that you want to include in the data set name.

Current data set name qualifier string
Displays the symbolic string for your selected qualifier codes. You can also type the data set name directly in this field.

IBM Db2 Analytics Accelerator Loader for z/OS main menu

The main panel for Db2 Analytics Accelerator Loader provides the following options and fields. Type the number or letter that corresponds to the task that you want to perform.

Setup
Opens the **User Settings** panel, on which you can choose the Db2 subsystem on which to run the product or specify the job card to use when building JCL.

Server administration
Opens the Administer Accelerator Loader server panel, on which you can work with the Accelerator Loader server.

Manage Loader profiles
Opens the Manage Loader Profiles panel, on which you create, edit, or view an existing profile definition.

Load Accelerator(s) and Db2 from external file
Opens the **Load Accelerator(s) and Db2 from External File** panel. Use this panel to specify options for a new Dual profile type, or to edit options for an existing profile. A Dual profile specifies options for loading table data into both the accelerator and Db2 from an external data input file.

Load Accelerator(s) from external file
Opens the **Load Accelerator from External File** panel. Use this panel to specify options for a new External profile type, or to edit options for an existing profile. An External profile specifies options for loading table data into only the accelerator from an external data input file.

Load Accelerator with consistent data
Opens the **Load Accelerator with Consistent Data** panel. Use this panel to specify options for a new Consistent load profile, or to edit options for an existing profile. A Consistent load profile specifies options for loading data for multiple tables into the accelerator from a cataloged Db2 image copy.

Load Accelerator from a specified image copy
Opens the **Load Accelerator from Specified Image Copy** panel. Use this panel to specify options for an Image Copy profile type. An Image Copy profile specifies options for loading data for a single table into the accelerator from a user-defined Db2 image copy.

Load Accelerator(s) from Db2 table(s)
Opens the **Load Accelerator(s) from Db2 Table(s)** panel. Use this panel to specify options for a new Multi (high availability load) profile type, or to edit options for an existing profile. A Multi profile specifies options for loading data to one to four accelerators from one or more Db2 tables.

Back up Accelerator table
Opens the Back Up Accelerator Table panel, on which you can specify options to generate JCL to back up a table defined to the accelerator. These options can be saved to a Backup profile.

Recover Accelerator table(s) from a backup
Opens the Recover Accelerator table(s) from a backup panel, on which you can specify options to generate JCL to recover a table defined to the accelerator. These options can be saved to a Recovery profile.

Exit
Closes the main menu.

User ID
Your user ID.

System ID
The z/OS system on which Db2 Analytics Accelerator Loader is running.

Appl ID
The Db2 Analytics Accelerator Loader application ID.

Version
The version of Db2 Analytics Accelerator Loader that you are running.

Db2 SSID
The Db2 subsystem name, group attachment name, or data sharing member name of the Db2 subsystem on which to run Db2 Analytics Accelerator Loader. To display a list of the existing Db2 SSIDs, type a question mark (?) in the field and press Enter. The **Db2 Subsystems** panel panel opens.

Note: You can optionally set this value when using the startup CLIST to start the Accelerator Loader ISPF interface. For more information, see "Using the startup CLIST" on page 943.

Server ID
Enter the name of the z/OS system on which the Accelerator Loader server is running.

Note: You can optionally set this value when using the startup CLIST to start the Accelerator Loader ISPF interface. For more information, see "Using the startup CLIST" on page 943.

ISPF Session Parameters panel

Use this panel to change parameters for the product ISPF application. The settings are saved in the current user's profile variable pool under the SDB ISPF application.

Subsystem Name (SSID)
The four-character subsystem name for the product address space. This name is used to construct the name of the parameterization EXEC for the Debug Facility.

Status Information
Product version and build information.

Trace Browse Facility
The four-character subsystem name for the Trace Browse Facility subsystem for the Accelerator Loader server.

Load Accelerator from Specified Image Copy panel

Use this panel to specify or view processing options for an Image Copy load profile type.

The load job that is generated from the input on this panel loads data for a single table into the accelerator from a user-defined Db2 image copy. All of the following commands are available on the editable version of the panel. On the view-only panel, BUILD is available.

- TABLE: Type this command on the command line to add a Db2 table to a profile.
- ACCELERATOR: Type this command on the command line to a select the accelerators into which you want to load data. This command opens the **Db2 Analytics Accelerator Selection** panel. You must have proper Db2 authority to access the list of accelerators.
- SAVE: Type this command on the command line to save your specifications in the profile.
- BUILD: Type this command on the command line to build JCL for the profile to the specified data set.

The following fields are available:

Creator/Profile creator
The profile creator.

Name/Profile Name
The name of the profile, up to 30 characters. (Using meaningful names for profiles makes them easier to locate and reuse; for example, “Objects for Employee App.”)

Share option
Controls how other users can use a profile:

U (Update)
Other users can update the profile.

V (View only)
Other users can view the profile.

N (No access)
Other users cannot view nor update the profile.

Description
A description of the profile.

Schema
Table name
Partition
These fields display values for the currently selected Db2 table. To change the table, issue the TABLE command.

Utility Processing Options:

Accelerator(s)
The individual accelerator(s) or accelerator group on which to load data. To display a list of existing accelerators or groups, use the ACCELERATOR command.

Add table to Accelerator
Indicates whether to add missing tables to the accelerator before starting the load job.

(default) N (No)
Do not add tables.

A (Add)
Add missing tables. This value generates the control card ACCEL_ADD_TABLES into the JCL.

R (Refresh)
Add missing tables; remove and re-add existing tables. This value generates the control card ACCEL_REMOVE_AND_ADD_TABLES into the JCL.

Enable acceleration on success
Controls whether Db2 Analytics Accelerator Loader enables query acceleration for the table after a successful load. Valid values are as follows:

- Y (Yes): Enable a table for acceleration after a successful load. This value generates the control card ACCEL_ON_SUCCESS_ENABLE YES into the JCL.
- (default) N (No): Do not enable a table for acceleration after a successful load. The control card ACCEL_ON_SUCCESS_ENABLE NO is generated into the JCL.

Continue on errors

Causes most setup errors on an individual object to be ignored and the object skipped while the rest of the job continues. With the value Yes, the control card CONTINUE_ON_ERROR is generated into the JCL.

If you set Continue on error to Yes or specify CONTINUE_ON_ERROR in the control card, errors with return codes 4 and higher are reported as return code 4 and job processing continues. I/O and other serious issues are not ignored and cause the job to fail.

Input image copy DSN
The data set that contains the image copy for the table spaces. The data set contains non-unique records in following format: `DBNAME TSNAME PART ICDSN`

The records come from the Db2 SYSCOPY table and are preordered by time stamp.

The JCL generator gets the image copy DSN from the input data set that you choose when you issue the TABLES command and uses it in the output JCL in the SPACE() scope as follows: `TO_IC data_set`.

Inline copy
Indicates if the origin type of the specified input image copy is inline and not retrieved from a SYSCOPY row. If the origin type is an inline image copy created by the REORG or LOAD utility or an image copy of a compressed object, the data set must be sorted.

YES
The specified input image copy is of an origin type that must be sorted. This value generates the control card TO_IC_INLINE into the JCL, by which a sort will be performed on the specified input image copy.

NO
(default) The specified input image copy does not need to be sorted automatically. This value does not generate the control card TO_IC_INLINE into the JCL.

Db2 Sort
Indicates whether to use the Db2 Sort product for load job sort operations.

YES
The load job will use Db2 Sort for sort operations if Db2 Sort is available. If Db2 Sort is not found, the load job will use the system sort program that is installed on the LPAR (DFSORT or Syncsort). This value generates the control card DB2_SORT YES into the JCL.

NO
The load job will not use Db2 Sort and will instead use the system sort program that is installed on the LPAR (DFSORT or Syncsort). This value generates the control card DB2_SORT NO into the JCL.

Log Read and Log Apply Options:

Check data operating mode
Indicates if and when Accelerator Loader checks the integrity of Db2 for z/OS data pages. Valid values are:

No
Do not check data page integrity.

Write
(Default) Check data page integrity before passing the page to the accelerator.

Operation
Check data page integrity before and after each Db2 log apply operation to the image copy, as well as before passing the page to the accelerator.

Load Accelerator with Consistent Data panel

Use this panel to specify or view processing options for a Consistent load profile.

The load job that is generated from the input on this panel loads data for multiple tables into the accelerator from a cataloged Db2 image copy. All of the following commands are available on the editable version of the panel. On the view-only panel, TABLES and BUILD are available.

- `TABLES`: Type this command on the command line to add a Db2 table to a profile.
- `ACCELERATOR`: Type this command on the command line to a select the accelerators into which you want to load data. This command opens the **Db2 Analytics Accelerator Selection** panel. You must have proper Db2 authority to access the list of accelerators.
- `SAVE`: Type this command on the command line to save your specifications in the profile.
- `BUILD`: Type this command on the command line to build JCL for the profile to the specified data set.

The following fields are available on this panel.

Creator/Profile creator
The profile creator.

Name/Profile Name
The name of the profile, up to 30 characters. (Using meaningful names for profiles makes them easier to locate and reuse; for example, “Objects for Employee App.”)

Share option
Controls how other users can use a profile:

U (Update)
Other users can update the profile.

V (View only)
Other users can view the profile.

N (No access)
Other users cannot view nor update the profile.

Description
A description of the profile.

The following fields are available:

Utility Processing Options:

Accelerator(s)
The individual accelerator(s) or accelerator group on which to load data. To display a list of existing accelerators or groups, use the ACCELERATOR command.

Target SSID
Specifies the four-character Db2 subsystem ID that contains the table that is to be loaded. The default value is the current SSID (that is, the SSID that was selected on the main menu). To select the target SSID, type “?” (question mark) and press Enter. The **Db2 Subsystems** panel opens, on which you can select the target SSID. If the specified target SSID differs from the current SSID, the product searches for the accelerator that is associated with the target SSID (not the current SSID) and uses it to populate **Accelerator name**.

Add tables to Accelerator
Indicates whether to add missing tables to the accelerator before starting the load job.

(default) N (No)
Do not add tables.

A (Add)
Add missing tables. This value generates the control card ACCEL_ADD_TABLES into the JCL.

R (Refresh)
Add missing tables; remove and re-add existing tables. This value generates the control card ACCEL_REMOVE_AND_ADD_TABLES into the JCL.

Enable acceleration on success
Controls whether Db2 Analytics Accelerator Loader enables query acceleration for the table after a successful load. Valid values are as follows:

- Y (Yes): Enable a table for acceleration after a successful load. This value generates the control card ACCEL_ON_SUCCESS_ENABLE YES into the JCL.
- (default) N (No): Do not enable a table for acceleration after a successful load. The control card ACCEL_ON_SUCCESS_ENABLE NO is generated into the JCL.

Load time
Specifies the consistent or historical point at which data is loaded. Valid values are:

Current
Includes the TO_CURRENT keyword in Db2 Analytics Accelerator Loader syntax. This option directs Db2 Analytics Accelerator Loader to read the log and load data up to the current point in time, which is the end of the log file. A load time value of **CURRENT** and the option **RBA or LRSN End Point** are mutually exclusive. A load time value of **CURRENT** is required when **Use Flashcopy** is set to Yes.

Specified
Indicates that you will specify an end point in either the **RBA/LRSN** or the **Timestamp End Point** field.

Quiesce
Indicates that you will specify an end point in the **Quiesce end point** field. Includes the TO_QUIESCE keyword in Db2 Analytics Accelerator Loader syntax. This option directs Db2 Analytics Accelerator Loader to read the log and load data up to the specified quiesce point.

Notes:

- The RBA (relative byte address) chosen is determined by rolling the RBA back to the start point of any in-flight URIDs. If there are none, the RBA may also be adjusted forward to the next SYSLOGRANGE start point (if there is one) or to the RBA of the last valid log record read from the log (if there are no further SYSLOGRANGE records). This allows Db2 Analytics Accelerator Loader not to have to verify the validity of a specified log point by attempting a read of that log record in the actual log and possibly incurring a tape mount, data set allocation, or extra I/O.
- Only with the TO_QUIESCE option (option **Q**) will the RBA (retrieved from SYSCOPY) be considered to be validated. User-specified RBAs are not considered validated. This means that Db2 Analytics Accelerator Loader will load that validated RBA into SYSCOPY for a new image copy, but will still advance the RBA to a known valid point for user specified ones to avoid extra tape mounts, data set allocations, and I/O.

RBA or LRSN end point
With this option, the **Load Time** value must be SPECIFIED. Directs Db2 Analytics Accelerator Loader to read the log and to incorporate data into the image copy up to the specified hexadecimal end point. In a data sharing environment, **END_LRSN byte_string** is added to the syntax. In a non-data sharing environment, **END_RBA byte_string** is added to the syntax.

Timestamp end point
With this option, the **Load Time** value must be SPECIFIED. Indicates the end point at which the Db2 Analytics Accelerator Loader process will stop. Specify the time stamp in the format (YYYY-MM-DD-hh.mm.ss.nnnnnn). For convenience, you can copy the end point from SYSCOPY and paste it into this field.

Time zone of timestamp
The control card **TO_TIMESTAMP/TO_TIMESTAMP_LOCAL** is generated into the JCL. Time stamps are handled internally in GMT/Universal time. If you specify a local time stamp, it is converted to GMT/Universal. **TO_TIMESTAMP** is a GMT/Universal time stamp, and no conversion necessary. **TO_TIMESTAMP_LOCAL** is a local time zone time stamp that must be converted to GMT/Universal. The time zone in which the computer operates is given at IPL time; no action is required for the conversion from local to GMT/Universal.

Quiesce end point
With this option, the **Load Time** value must be QUIESCE.

Continue on errors

Causes most setup errors on an individual object to be ignored and the object skipped while the rest of the job continues. With the value Yes, the control card CONTINUE_ON_ERROR is generated into the JCL.

If you set Continue on error to Yes or specify CONTINUE_ON_ERROR in the control card, errors with return codes 4 and higher are reported as return code 4 and job processing continues. I/O and other serious issues are not ignored and cause the job to fail.

Load partitions individually
Indicates how the SPACE statement is generated for partitions of a partitioned table. With the default value **Yes**, when all partitions are specified, the SPACE statement is generated for each partition. With the value **No**, one SPACE statement is generated for the table.

Db2 Sort
Indicates whether to use the Db2 Sort product for load job sort operations.

YES
The load job will use Db2 Sort for sort operations if Db2 Sort is available. If Db2 Sort is not found, the load job will use the system sort program that is installed on the LPAR (DFSORT or Syncsort). This value generates the control card DB2_SORT YES into the JCL.

NO
The load job will not use Db2 Sort and will instead use the system sort program that is installed on the LPAR (DFSORT or Syncsort). This value generates the control card DB2_SORT NO into the JCL.

FlashCopy Options:

Use FlashCopy
Indicates whether you want to create a new FlashCopy image copy for each table space that is involved in the load process. Specify Yes to generate the control card **FLASHCOPY** into the JCL with either a corresponding template name or an image copy data set name. The **NEW_COPY** keyword is also generated into the JCL. To use FlashCopy, you must specify a value of CURRENT for **Load Time**.

With the value No, a legacy image copy will be used.

Note: Use FlashCopy must be set to Yes if you want to create a new Db2 image copy. No other options result in a new image copy.

Use FlashCopy DSN template
Indicates whether you want to specify a FlashCopy data set template or use the default template the FlashCopy image copy that is specified in DSNZPARMs. If you specify Yes, then the control card parameter **FCCOPYDDN** *template_name* is generated after the **NEW_COPY** keyword in the JCL. *template_name* is the name of a template that you created.

```
TEMPLATE (template_name)
   DSN 'image.copy.dsn.spec'

NEW_COPY FCCOPYDDN (template_name)
```

Update
If you specified Yes for **Use FlashCopy DSN Template**, and you want to make changes to the template, specify Yes to access the **FlashCopy DSN Template** panel.

Log Read and Log Apply Options:

SYSCOPY scan operating mode
Specifies which SYSCOPY rows to consider when finding a starting point for processing. Valid values are:

Local
Refers to the LP/LB rows to find a starting point for processing. Includes the LOCAL_SITE keyword in Db2 Analytics Accelerator Loader syntax.

Recover
Uses the RP/RB rows to find a starting point for processing. Includes the RECOVERY_SITE keyword in Db2 Analytics Accelerator Loader syntax.

ZPARM
Default. Db2 Analytics Accelerator Loader detects the operating mode Db2 is running under and automatically inserts the corresponding control card. This option omits the LOCAL_SITE, RECOVER_SITE, and IMAGE_COPY_PREFERENCE control cards; uses the value found in the ZPARMs on the Db2.

User
Uses the user-specified scan preference defined in the **SYSCOPY Selection Preference** field to find a starting point for processing. Includes the IMAGE_COPY_PREFERENCE keyword in Db2 Analytics Accelerator Loader JCL.

SYSCOPY selection preference
Specifies the image copy types to attempt to use when scanning SYSCOPY for a starting point. Results in generation of the control card **IMAGE_COPY_PREFERENCE** *LPLBRPRB* into the JCL. You can specify at least one and up to five image copy types for which to scan. For example:

LB
Scans for LB type image copies in SYSCOPY.

LP
Scans for LP type image copies in SYSCOPY.

LPLB
Scans first for LP type image copies, then for LB type image copies (and always uses LP type image copies on identically time-stamped SYSCOPY rows).

LPLBRB
Allows the SYSCOPY scan program to pick an RB if it came up first while scanning SYSCOPY backwards for a starting point.

LPLBRPRBFC
(Default) Causes the SYSCOPY Selection Preference to be ignored.

This selection preference is only applied if the **SYSCOPY scan operating mode** is set to **USER**. One to five codes in total can be entered in a packed 10-character maximum field. Valid codes are:

LP
Local primary.

LB
Local backup.

RP
Recovery primary.

RB
Recovery backup.

FC
FlashCopy. Enables Db2 Analytics Accelerator Loader to use Db2 Recovery Expert (ARY)-managed FlashCopy data sets in addition to Db2 V10 and later FlashCopy data sets as image copy starting points in Db2 Analytics Accelerator Loader processing.

Log reader copy preference
Includes the LOG_COPY_PREFERENCE keyword in the Db2 Analytics Accelerator Loader generated JCL.

Specifies the order in which the archive and active log lists in the BSDS are to be scanned when Accelerator Loader searches for a log to satisfy a need for log records. The value that you specify in this field must use the syntax R1 (archive log copy #1), R2 (archive log copy #2), A1 (active log #1), and A2 (active log #2). All four unique values must be specified, even if copy #2 is not used in Db2. For example:

- A1A2R1R2 - Scans the active logs before scanning the archive logs.

  Note: Avoid using this setting because Db2 might attempt to open one of the active logs for output that Accelerator Loader is currently reading for input. Such an attempt might result in an open error within Db2.
- R1R2A1A2 - (Default) Scans the archive logs first and uses archive logs when the same range exists in an archive and active log.

You can change the default value in the ISPF interface by using the **Log Reader Copy Preference** field on the **Accelerator Loader Parameters** panel.

Number of PARALLEL log read
(Default 0)

The number of parallel log read tasks. Valid values are integers, 0 - 16. A value of 0 means that a maximum of 1 task per data sharing group member will run at the same time. If a non-zero value is specified, then that number is the maximum number of parallel tasks that can run at the same time for log read. If there are more logs to read than the number of parallel tasks specified for **Number of PARALLEL log read**, a task to read the remaining logs will be launched as soon as a running task finishes and until all necessary logs have been read.

Number of PARALLEL log apply
(Default 4)

The number of parallel log apply tasks. Valid values are integers, 1 - 10. If a value greater than 1 is specified, and there is a single GROUP(...) control card structure present, the Db2 Analytics Accelerator Loader batch process clusters and reorders partitioned objects to distribute the objects into the specified number of tasks, and load the partitions in parallel. If there are multiple GROUP(...) control card structures present, the *y* value is ignored, and each GROUP is assigned its own parallel task.

When partition-level image copies are on tape, and the value of y is greater than 1, the following conditions apply:

- If each image copy is on a different volume sequence, the specified number of parallel tasks will be used for log apply processing.
- If all image copies are stacked on the same volume sequence, only one log apply task will be performed.

Bypass SYSIBM.SYSLGRNX Proc
Specifies whether the product skips reading SYSIBM.SYSLGRNX and only reads the Db2 logs.

Y
The product skips reading SYSIBM.SYSLGRNX and reads the entire Db2 log from the earliest object starting point to the latest object ending point.

N
The product reads SYSIBM.SYSLGRNX to limit reading only those portions of the Db2 log that are marked as being actively altered for the objects that are being processed.

Note: Skipping SYSIBM.SYSLGRNX might result in a significant increase in processing time due to the number of log data sets and log records read, and reading the entire Db2 log from the earliest object starting point to the latest object ending point.

Check data operating mode
Indicates if and when Accelerator Loader checks the integrity of Db2 for z/OS data pages. Valid values are:

No
Do not check data page integrity.

Write
(Default) Check data page integrity before passing the page to the accelerator.

Operation
Check data page integrity before and after each Db2 log apply operation to the image copy, as well as before passing the page to the accelerator.

Load Accelerator(s) and Db2 from External File panel

Use this panel to specify or view options for a Dual load profile type. A Dual load profile specifies options for loading table data into both the accelerator and Db2 from an external data input file.

All of the following commands are available on the editable version of the panel. On the view-only version of the panel, only the BUILD command is available.

- TABLE: Type this command on the command line to add a Db2 table to a profile.
- ACCELERATOR: Type this command on the command line to a select the accelerators into which you want to load data. This command opens the **Db2 Analytics Accelerator Selection** panel. You must have proper Db2 authority to access the list of accelerators.
- COLINFO: Edit column definitions within the data set that is defined in field **Column Info DSN**. This command opens an ISPF edit session that enables you to create or edit the column information for the LOAD control card. This data set must contain only the table column definitions (without the parenthesis), and not the entire LOAD utility syntax.
- SAVE: Type this command on the command line to save your specifications in the profile.

- BUILD: Type this command on the command line to build JCL for the profile to the specified data set.

The following fields are available on this panel. Scroll forward to see all fields.

Creator/Profile creator
The profile creator.

Name/Profile Name
The name of the profile, up to 30 characters. (Using meaningful names for profiles makes them easier to locate and reuse; for example, “Objects for Employee App.”)

Share option
Controls how other users can use a profile:

U (Update)
Other users can update the profile.

V (View only)
Other users can view the profile.

N (No access)
Other users cannot view nor update the profile.

Description
A description of the profile.

Schema
Table name
Partition
These fields display values for the currently selected Db2 table. To change the table, issue the TABLE command.

Target Options:

Accelerator(s)
The individual accelerator(s) or accelerator group on which to load data. On the editable panel, to display a list of existing accelerators or groups, use the ACCELERATOR command.

Add table to Accelerator
Indicates whether to add missing tables to the accelerator before starting the load job.

(default) N (No)
Do not add tables.

A (Add)
Add missing tables. This value generates the control card ACCEL_ADD_TABLES into the JCL.

R (Refresh)
Add missing tables; remove and re-add existing tables. This value generates the control card ACCEL_REMOVE_AND_ADD_TABLES into the JCL.

Enable acceleration on success
Controls whether Db2 Analytics Accelerator Loader enables query acceleration for the table after a successful load. Valid values are as follows:

- Y (Yes): Enable a table for acceleration after a successful load. This value generates the control card ACCEL_ON_SUCCESS_ENABLE YES into the JCL.
- (default) N (No): Do not enable a table for acceleration after a successful load. The control card ACCEL_ON_SUCCESS_ENABLE NO is generated into the JCL.

Parallel load
Indicates that you want to generate load control cards that will enable parallelism. This field is available when you choose to load a partitioned table. For nonpartitioned objects, the field is read-only and the value is **No**. Valid values are **Yes** and **No**.

When the value is **Yes**:

- You must enter a TEMPLATE data set name pattern in **Input data set**. This data set name pattern is used to generate a template definition.

- The **Load tasks** field is enabled.

Load tasks
Specifies the number of parallel load tasks to use. Valid values are blank or 1 - 20. If no value is specified, then the value from the options module parameter **ACCEL_LOAD_TASKS** is used. This value is used to generate the ACCEL_LOAD_TASKS *n* clause of the load statement.

Db2 Sort
Indicates whether to use the Db2 Sort product for load job sort operations.

YES
The load job will use Db2 Sort for sort operations if Db2 Sort is available. If Db2 Sort is not found, the load job will use the system sort program that is installed on the LPAR (DFSORT or Syncsort). This value generates the control card DB2_SORT YES into the JCL.

NO
The load job will not use Db2 Sort and will instead use the system sort program that is installed on the LPAR (DFSORT or Syncsort). This value generates the control card DB2_SORT NO into the JCL.

Input File Options:

Data set
For the SYSREC data set that contains the data of the table in external format, specify a name or pattern as follows:

- The fully qualified data set name of the SYSREC data set. For a PDS, enclose the member name in parentheses; for example, HLO.LOADCARD(FILE). If you specify an existing data set, the product generates the DD ISYSREC in the output JCL.
- The DSN template for the SYSREC data set. You can specify a DSN template for both parallel and nonparallel loads (**Parallel load** field). For a parallel load, the DSN template pattern must include the &PART variable to ensure that a unique SYSREC data set name is generated for each partition. The partition number must be included in your partition-level SYSREC data sets.

  If you specify a DSN template, the product generates the TEMPLATE(...) statement in the output JCL.

  To update the DSN template and its parameters, specify Yes in the **Update** field. You can specify the template pattern and the parameters with which to allocate the data set.

The product does not restore a previous value for the SYSREC data set if you change the value of **Parallel load**. In this case, only the SYSREC field validation changes to require the &PART variable for a parallel load.

Encoding
Specifies the SYSREC encoding scheme. Valid values are as follows:

UNICODE
When UNICODE is specified, the UNICODE Db2 LOAD utility keyword is generated into the LOAD control cards.

EBCDIC
(default) When EBCDIC is specified, no additional keywords are added to the LOAD control cards. EBCDIC is the default for both Accelerator Loader and Db2 LOAD.

Format
Indicates whether the SYSREC data is in Db2 internal, delimited format, or governed by the rules for field specifications. Valid values are:

Internal
The FORMAT INTERNAL keyword is included in the LOAD utility control cards.

Delimited
The FORMAT DELIMITED keyword is included in the LOAD utility control cards. To update the delimiter parameters, specify Yes in the Update field.

blank
(default) The format is governed by the rules for field specifications.

Column info DSN
The product detects whether the table column information data set is from an UNLOAD utility. If so, it automatically includes the correct information in the JCL that it generates. Otherwise, specify the name of the fully qualified data set that contains the column information from the SYSPUNCH data set. Specify a single data set; a template cannot be used in this field.

Db2 Load Options:

Utility ID
Specifies a unique identifier for this utility within Db2. This is an input parameter of type VARCHAR(16) in EBCDIC. It is passed as a parameter to the JCL in the PARM field, such as, `// DLD0001 EXEC PGM=PGM#DLD, PARM=('QA1A, ,utility ID')`

RESUME
Specify Yes to generate the control card `LOAD RESUME YES` into the JCL. The product appends data to the accelerator table rather than replacing it. When loading to both Db2 and the accelerator, Db2 will also append the data to the Db2 table. When loading to only the accelerator, no data is added to the Db2 table, but any existing data in Db2 is left intact. Specify No if you want the product to replace existing data rather than appending it.

KEEPDICTIONARY
Specify Yes to generate the control card KEEPDICTIONARY into the JCL.

Example:

```
LOAD DATA INDDN SYSREC REPLACE KEEPDICTIONARY
INTO TABLE schema.tableName part#
```

ENFORCE
Specifies whether to enforce check constraints and referential constraints. When you specify Yes for this option, **MAPDDN** is required. Specify No to generate the control card `ENFORCE NO` into the JCL.

Example:

```
LOAD DATA INDDN SYSREC REPLACE KEEPDICTIONARY LOG NO ENFORCE NO
INTO TABLE schema.tableName part#
```

LOG
Specifies whether logging occurs. Specify No to generate the control card **LOG NO** into the JCL.

Example:

```
LOAD DATA INDDN SYSREC REPLACE KEEPDICTIONARY LOG NO
INTO TABLE schema.tableName part#
```

NUMRECS
Specifies the number of input records for the specified table or table partition. Valid values are integers between 1 and 1099511627776, or blank.

If the LOAD utility statement does not provide the number of SYSREC records with a NUMRECS or a SORTKEYS clause, the product estimates the record count. Using the estimated record count, it then adds a NUMRECS clause for each INTO TABLE clause. The record count enables Db2 to size index-build sorts, and reduces the possibility of sort failures when loading to both the accelerator and Db2.

When specified for a parallel load, the value is passed into each INTO TABLE clause in the LOAD control card.

When using the ISPF panels to generate LOAD JCL, you cannot specify a separate NUMRECS value for individual partitions. Specify either the average number of rows per partition or the largest number of records to be loaded into any single partition. The NUMRECS option will be generated once per INTO TABLE PART clause when the utility syntax is generated.

SORTDEVT
Specifies the device type to be used for temporary sort data sets. Valid values are 1 to 8 alphanumeric characters. The product checks the eligible device table (EDT) to ensure that the specified value is valid.

SORTNUM
Specifies the number of sort data sets that are to be allocated. This value can only be specified when a **SORTDEVT** value also specified. Valid values are 2 through 255.

DISCARDS
Specifies the maximum number of source records that are to be written on the discard data set. Valid values are 0 through 2147483647. The default value is 0, which specifies that you do not want to set a maximum value. The entire input data set can be discarded. If the discard maximum is reached, the LOAD job abnormally terminates, the discard data set is empty, and you cannot see which records were discarded. You can either restart the job with a larger limit, or terminate the utility.

To specify a DISCARDS value, you must provide a DISCARDDN template DD name.

DISCARDDN template DD name
Specifies the template name for a data set to be used for discarding data rows. If DISCARDDN is not necessary, then this field should be blank. This value is optional. The default is ISYSDISC.

If **Parallel load** = YES, then the template DSN must include the &PA or &PART variable. When JCL for a parallel LOAD is generated, a separate INDDN clause is created for each table partition. A parallel load also requires a separate DISCARDDN clause for each partition.

To update the template and its parameters, specify Yes in the **Update** field. You can specify the template pattern and the parameters with which to allocate the data set. If you include the DD, then you must define the template at least once in the profile.

ERRDDN template DD name
Specifies the template name for an error processing data set. This value is required when you specify Yes for **ENFORCE**. The default is ISYSERR.

To update the template and its parameters, specify Yes in the **Update** field. You can specify the template pattern and the parameters with which to allocate the data set. If you include the DD, then you must define the template at least once in the profile.

MAPDDN template DD name
Specifies the template name for a map data set to be used for record processing. This value is required when you specify Yes for **ENFORCE**. The default is ISYSMAP.

To update the template and its parameters, specify Yes in the **Update** field. You can specify the template pattern and the parameters with which to allocate the data set. If you include the DD, then you must define the template at least once in the profile.

SYSUT1 template DD name
Specifies the first of two work data sets. This value is required when you are running the LOAD utility. The default is ISYSUT1.

To update the template and its parameters, specify Yes in the **Update** field. You can specify the template pattern and the parameters with which to allocate the data set. If you include the DD, then you must define the template at least once in the profile.

SORTOUT template DD name
Specifies the second of two work data sets. This value is required when you are running the LOAD utility. The default is ISORTOUT.

To update the template and its parameters, specify Yes in the **Update** field. You can specify the template pattern and the parameters with which to allocate the data set. If you include the DD, then you must define the template at least once in the profile.

Load Accelerator(s) from External File panel

Use this panel to specify or view options for an External load profile type.

An External load specifies options for loading table data into only the accelerator from an external data input file. All of the following commands are available on the editable version of the panel. On the view-only version of the panel, the COLINFO command is available.

- TABLE: Type this command on the command line to add a Db2 table to a profile.
- ACCELERATOR: Type this command on the command line to a select the accelerators into which you want to load data. This command opens the **Db2 Analytics Accelerator Selection** panel. You must have proper Db2 authority to access the list of accelerators.
- COLINFO: Edit column definitions within the data set that is defined in field **Column Info DSN**. This command opens an ISPF edit session that enables you to create or edit the column information for the LOAD control card. This data set must contain only the table column definitions (without the parenthesis), and not the entire LOAD utility syntax.
- SAVE: Type this command on the command line to save your specifications in the profile.
- BUILD: Type this command on the command line to build JCL for the profile to the specified data set.

The following fields are available on this panel.

Creator/Profile creator
The profile creator.

Name/Profile Name
The name of the profile, up to 30 characters. (Using meaningful names for profiles makes them easier to locate and reuse; for example, “Objects for Employee App.”)

Share option
Controls how other users can use a profile:

U (Update)
Other users can update the profile.

V (View only)
Other users can view the profile.

N (No access)
Other users cannot view nor update the profile.

Description
A description of the profile.

Schema
Table name
Partition
These fields display values for the currently selected Db2 table. To change the table, issue the TABLE command.

Target Options:

Accelerator(s)
The individual accelerator(s) or accelerator group on which to load data. On the editable panel, to display a list of existing accelerators or groups, use the ACCELERATOR command.

Add table to Accelerator
Indicates whether to add missing tables to the accelerator before starting the load job.

(default) N (No)
Do not add tables.

A (Add)
Add missing tables. This value generates the control card ACCEL_ADD_TABLES into the JCL.

R (Refresh)
Add missing tables; remove and re-add existing tables. This value generates the control card ACCEL_REMOVE_AND_ADD_TABLES into the JCL.

Enable acceleration on success
Controls whether Db2 Analytics Accelerator Loader enables query acceleration for the table after a successful load. Valid values are as follows:

- Y (Yes): Enable a table for acceleration after a successful load. This value generates the control card ACCEL_ON_SUCCESS_ENABLE YES into the JCL.
- (default) N (No): Do not enable a table for acceleration after a successful load. The control card ACCEL_ON_SUCCESS_ENABLE NO is generated into the JCL.

Parallel load
Indicates that you want to generate load control cards that will enable parallelism. This field is available when you choose to load a partitioned table. For nonpartitioned objects, the field is read-only and the value is **No**. Valid values are **Yes** and **No**.

When the value is **Yes**:

- You must enter a TEMPLATE data set name pattern in **Input data set**. This data set name pattern is used to generate a template definition.
- The **Load tasks** field is enabled.

Load tasks
Specifies the number of parallel load tasks to use. Valid values are blank or 1 - 20. If no value is specified, then the value from the options module parameter **ACCEL_LOAD_TASKS** is used. This value is used to generate the ACCEL_LOAD_TASKS *n* clause of the load statement.

Db2 Sort
Indicates whether to use the Db2 Sort product for load job sort operations.

YES
The load job will use Db2 Sort for sort operations if Db2 Sort is available. If Db2 Sort is not found, the load job will use the system sort program that is installed on the LPAR (DFSORT or Syncsort). This value generates the control card DB2_SORT YES into the JCL.

NO
The load job will not use Db2 Sort and will instead use the system sort program that is installed on the LPAR (DFSORT or Syncsort). This value generates the control card DB2_SORT NO into the JCL.

Input File Options:

Data set
For the SYSREC data set that contains the data of the table in external format, specify a name or pattern as follows:

- The fully qualified data set name of the SYSREC data set. For a PDS, enclose the member name in parentheses; for example, HLO.LOADCARD(FILE). If you specify an existing data set, the product generates the DD ISYSREC in the output JCL.
- The DSN template for the SYSREC data set. You can specify a DSN template for both parallel and nonparallel loads (**Parallel load** field). For a parallel load, the DSN template pattern must include the &PART variable to ensure that a unique SYSREC data set name is generated for each partition. The partition number must be included in your partition-level SYSREC data sets.

  If you specify a DSN template, the product generates the TEMPLATE(...) statement in the output JCL.

  To update the DSN template and its parameters, specify Yes in the **Update** field. You can specify the template pattern and the parameters with which to allocate the data set.

The product does not restore a previous value for the SYSREC data set if you change the value of **Parallel load**. In this case, only the SYSREC field validation changes to require the &PART variable for a parallel load.

Encoding
Specifies the SYSREC encoding scheme. Valid values are as follows:

UNICODE
When UNICODE is specified, the UNICODE Db2 LOAD utility keyword is generated into the LOAD control cards.

EBCDIC
(default) When EBCDIC is specified, no additional keywords are added to the LOAD control cards. EBCDIC is the default for both Accelerator Loader and Db2 LOAD.

Format
Indicates whether the SYSREC data is in Db2 internal, delimited format, or governed by the rules for field specifications. Valid values are:

Internal
The FORMAT INTERNAL keyword is included in the LOAD utility control cards.

Delimited
The FORMAT DELIMITED keyword is included in the LOAD utility control cards. To update the delimiter parameters, specify Yes in the Update field.

blank
(default) The format is governed by the rules for field specifications.

Column info DSN
The product detects whether the table column information data set is from an UNLOAD utility. If so, it automatically includes the correct information in the JCL that it generates. Otherwise, specify the name of the fully qualified data set that contains the column information from the SYSPUNCH data set. Specify a single data set; a template cannot be used in this field.

Db2 Load Options:

Utility ID
Specifies a unique identifier for this utility within Db2. This is an input parameter of type VARCHAR(16) in EBCDIC. It is passed as a parameter to the JCL in the PARM field, such as, `// DLD0001 EXEC PGM=PGM#DLD, PARM=('QA1A, ,utility ID')`

RESUME
Specify Yes to generate the control card `LOAD RESUME YES` into the JCL. The product appends data to the accelerator table rather than replacing it. When loading to both Db2 and the accelerator, Db2 will also append the data to the Db2 table. When loading to only the accelerator, no data is added to the Db2 table, but any existing data in Db2 is left intact. Specify No if you want the product to replace existing data rather than appending it.

DISCARDS
Specifies the maximum number of source records that are to be written on the discard data set. Valid values are 0 - 2147483647. The default value is 0, which specifies that you do not want to set a maximum value. The entire input data set can be discarded. If the discard maximum is reached, the LOAD job abnormally terminates, the discard data set is empty, and you cannot see which records were discarded. You can either restart the job with a larger limit or terminate the utility. To specify a DISCARDS value, you must provide a DISCARDDN name.

DISCARDDN name
Specifies the DD name for a data set to be used for discarding data rows. This value is optional. The default is ISYSDISC. If you want to use DISCARDDN, you must specify both DISCARDDN name and DISCARDDN DSN. Use the Update field to specify data set allocation parameters for the DSN specified in the DISCARDDN DSN field. See "Data Set Allocation panel" on page 953.

DISCARDDN DSN
Specifies the data set name to be used for discarding data rows. To update the data set allocation parameters, specify Yes in the Update field next to the DISCARDDN name field. See "Data Set Allocation panel" on page 953.

SYSUT1 template DD name
Specifies the first of two work data sets. This value is required when you are running the LOAD utility. The default is ISYSUT1.

To update the template and its parameters, specify Yes in the **Update** field. You can specify the template pattern and the parameters with which to allocate the data set. If you include the DD, then you must define the template at least once in the profile.

SORTOUT template DD name
Specifies the second of two work data sets. This value is required when you are running the LOAD utility. The default is ISORTOUT.

To update the template and its parameters, specify Yes in the **Update** field. You can specify the template pattern and the parameters with which to allocate the data set. If you include the DD, then you must define the template at least once in the profile.

Inline Copy Data Sets Options:

Local primary
Specifies the primary copy data set for the local site. To update the data set parameters, specify Yes in the **Update** field.

Local backup
Specifies the secondary (backup) copy data set for the local site. You can create a backup copy for the local site only when a primary copy for the local site is also being created. To update the data set parameters, specify Yes in the **Update** field.

Recovery primary
Specifies the primary copy data set for the remote recovery site. To update the data set parameters, specify Yes in the **Update** field.

Recovery backup
Specifies the secondary (backup) copy data set for the remote recovery site. You can create a backup copy for the remote recovery site only when a primary copy for the remote recovery site is also being created. To update the data set parameters, specify Yes in the **Update** field.

Load Accelerator(s) from Db2 Table(s) panel

Use this panel to specify or view options for a Multi load profile type. A Multi load specifies options for loading data from one or more Db2 tables into one to four accelerators.

All of the following commands are available on the editable version of the panel. On the view-only version of the panel, the TABLES and BUILD commands are available.

- TABLES: Type this command on the command line to add a Db2 table to a profile.
- ACCELERATOR: Type this command on the command line to a select the accelerators into which you want to load data. This command opens the **Db2 Analytics Accelerator Selection** panel. You must have proper Db2 authority to access the list of accelerators.
- SAVE: Type this command on the command line to save your specifications in the profile.
- BUILD: Type this command on the command line to build JCL for the profile to the specified data set.

The following fields are available on this panel.

Creator/Profile creator
The profile creator.

Name/Profile Name
The name of the profile, up to 30 characters. (Using meaningful names for profiles makes them easier to locate and reuse; for example, “Objects for Employee App.”)

Share option
Controls how other users can use a profile:

U (Update)
Other users can update the profile.

V (View only)
Other users can view the profile.

N (No access)
Other users cannot view nor update the profile.

Description
A description of the profile.

Target Options:

Accelerator(s)
The individual accelerator(s) or accelerator group on which to load data. On the editable panel, to display a list of existing accelerators or groups, use the ACCELERATOR command.

Add tables to Accelerator
Indicates whether to add missing tables to the accelerator before starting the load job.

(default) N (No)
Do not add tables.

A (Add)
Add missing tables. This value generates the control card ACCEL_ADD_TABLES into the JCL.

R (Refresh)
Add missing tables; remove and re-add existing tables. This value generates the control card ACCEL_REMOVE_AND_ADD_TABLES into the JCL.

Enable acceleration on success
Controls whether Db2 Analytics Accelerator Loader enables query acceleration for the table after a successful load. Valid values are as follows:

- Y (Yes): Enable a table for acceleration after a successful load. This value generates the control card ACCEL_ON_SUCCESS_ENABLE YES into the JCL.
- (default) N (No): Do not enable a table for acceleration after a successful load. The control card ACCEL_ON_SUCCESS_ENABLE NO is generated into the JCL.

Load tasks
Specifies the number of parallel load tasks to use. Valid values are blank or 1 - 20. If no value is specified, then the value from the options module parameter **ACCEL_LOAD_TASKS** is used. This value is used to generate the ACCEL_LOAD_TASKS *n* clause of the load statement.

Detect data changes
Indicates whether to load only those tables and partitions that have changed in Db2 since the last load.

Yes
Load only the tables listed in the FROM TABLE clause that have changed in Db2 since the last load. For partitioned tables, any partition lists specified on the command are ignored; HALOAD will determine which partitions to reload. The control card DETECT_DATA_CHANGES is generated into the JCL.

No
Load all specified tables and partitions.

Db2 Sort
Indicates whether to use the Db2 Sort product for load job sort operations.

YES
The load job will use Db2 Sort for sort operations if Db2 Sort is available. If Db2 Sort is not found, the load job will use the system sort program that is installed on the LPAR (DFSORT or Syncsort). This value generates the control card DB2_SORT YES into the JCL.

NO
The load job will not use Db2 Sort and will instead use the system sort program that is installed on the LPAR (DFSORT or Syncsort). This value generates the control card DB2_SORT NO into the JCL.

Manage Loader Profiles panel

Use this panel to create, edit, or view an existing profile definition.

The following commands are available:

- CREATE: Type this command on the command line to create a profile. This command opens the **Create Profile** panel.
- Type one of the following line commands in the **Cmd** field next to an existing profile:
  - B to build the JCL for the selected profile. This command opens the **Build** Accelerator Loader **JCL** panel.
  - D to delete the selected profile or table. This command opens the **Confirm action** panel.
  - E to edit the selected profile. This command opens the options panel for the profile in edit mode.
  - R to rename the selected profile. This command opens the **Rename Profile** panel.
  - V to view the selected profile. This command opens the options panel for the profile in view mode.
  - C to copy the selected profile to a different profile name with any changes to creator, description, and share option. This command opens a panel to create a new profile of the copied type.

The following fields and columns are available on this panel. Scroll right to see all fields.

Profile like
The profile name or mask. To see different profiles on this screen, change the name or mask and press Enter. Use the asterisk wildcard (*) alone to display all object profiles. Enter one or more characters and the asterisk wildcard (*) to limit the list of names displayed to those containing the characters you specified.

Creator like
The creator name or mask. To see different creators on this screen, change the name or mask and press Enter. Use the asterisk wildcard (*) alone to display all object profiles. Enter one or more characters and the asterisk wildcard (*) to limit the list of names displayed to those that contain the characters that you specified.

Db2 SSID
The Db2 subsystem name, data sharing member name, or group attachment name of the data sharing group against which Db2 Analytics Accelerator Loader is running.

Name/Profile Name
The name of the profile, up to 30 characters. (Using meaningful names for profiles makes them easier to locate and reuse; for example, “Objects for Employee App.”)

Creator/Profile creator
The profile creator.

Type/Profile type
The types of Accelerator Loader profiles are as follows:

- **Dual** specifies options for loading table data into both the accelerator and Db2 from an external data input file.
- **Accelerator only** specifies options for loading table data into only the accelerator from an external data input file.
- **Consistent** specifies options for loading data for multiple tables into the accelerator from a cataloged Db2 image copy.
- **Image copy** specifies options for loading data for a single table into the accelerator from a user-defined Db2 image copy.
- **Multi** specifies options for loading data to one to four accelerators from one or more Db2 tables (high availability load).
- **Backup** specifies options for backing up a table defined to the accelerator.
- **Recovery/Recover** specifies options for recovering a table defined to the accelerator.
- **All** or * (asterisk) specifies all profile types.

Share option
Controls how other users can use a profile:

U (Update)
Other users can update the profile.

V (View only)
Other users can view the profile.

N (No access)
Other users cannot view nor update the profile.

Description
A description of the profile.

Created Userid
The user ID of the profile creator.

Created Timestamp
The date and time that the profile was created.

Last Updated Userid
The user ID of the last user to update the profile.

Last Updated Timestamp
The date and time that the profile was last updated.

New Db2 Subsystem panel

Specify a new Db2 subsystem ID. The following field is available:

Db2 SSID
The ID of the Db2 subsystem on which to run Db2 Analytics Accelerator Loader.

Parameter Groups panel

Use this panel to display a list of parameters that control the Accelerator Loader server address space.

These parameters control the behavior of the interfaces and facilities available within the address space. As indicated by each parameter or parameter group, some of these parameters can be altered while the address space is up and active; altering other parameters requires that the address space be shut down and restarted.

The following line commands are supported:

- D: Display the parameters within the group.
- F: Format the information for the selected row.
- P: Print the associated control block for the selected row.
- S: Display the associated control block for the selected row.

Product module information panel

Use this panel to view information about the Accelerator Loader server product module.

The panel displays status information about each module that is used in the server address space. Use this information to determine the location of any module and to obtain other status information. Software Support can use the data set that was created to contain the status information to help with problem diagnosis.

Recover Accelerator Table(s) from a Backup panel

Use this panel to specify options for generating JCL to recover a table defined to the accelerator.

These options can be saved to a Recovery profile. All of the following commands are available on the editable version of the panel. On the view-only version of the panel, the TABLES and BUILD commands are available.

- TABLES: Type this command on the command line to open the Recovery Table List panel from which you can select one or more tables to recover.
- ACCELERATOR: Type this command on the command line to open the Db2 Analytics Accelerator Selection panel where you can select the accelerator on which you want to recover data.
- SAVE: Type this command on the command line to save your specifications to a Recovery profile.
- BUILD: Type this command on the command line to build JCL for the profile to the specified data set.

The following fields are available on this panel.

Creator
The profile creator.

Name
The name of the profile, up to 30 characters. (Using meaningful names for profiles makes them easier to locate and reuse; for example, “Objects for Employee App.”).

Share option
Controls how other users can use a profile:

U (Update)
Other users can update the profile.

V (View only)
Other users can view the profile.

N (No access)
Other users cannot view nor update the profile.

Description
A description of the profile.

Target Options:

Accelerator(s)
Specifies the name of the accelerator(s) on which to recover data. To display a list of the existing accelerators, type a question mark (?) in the field and press Enter.

Add table to Accelerator
Indicates whether to add missing tables to the accelerator before starting the recover job.

N (No)
(default) Do not add tables.

A (Add)
Add missing tables. This setting generates the ACCEL_ADD_TABLES keyword in the LOAD command.

R (Refresh)
Add missing tables; remove and re-add existing tables. This setting generates the ACCEL_REMOVE_AND_ADD_TABLES keyword in the LOAD command.

Enable acceleration on success
Controls whether Accelerator Loader enables query acceleration for the table after a successful load. Valid values are as follows:

Yes
Enable a table for acceleration after a successful load. The control card ACCEL_ON_SUCCESS_ENABLE YES is generated into the JCL.

No
(default) Do not enable a table for acceleration after a successful load. The control card ACCEL_ON_SUCCESS_ENABLE NO is generated into the JCL.

Recovery Point Options:

Point in time
Specifies the point in time for recovery.

Current
Applies to all selected tables. Backup data sets for each table will be automatically chosen at time of recovery JCL generation.

Timestamp
Applies to all selected tables. Backup data sets for each table will be automatically chosen using values specified in Timestamp end point and Time zone of timestamp fields.

Selected
A backup data set for each selected table will be specified on the Recovery Table List panel, which is accessed by the TABLES command.

Timestamp end point
Indicates the end point at which all selected tables will be recovered. Specify the timestamp in the format (YYYY-MM-DD-hh.mm.ss.nnnnnn). For convenience, you can copy the end point from the HLOUCOPY table and paste it into this field.

Time zone of timestamp
Specifies the timezone of the Timestamp end point value.

Recovery Table List panel

Use this panel to identify the tables for which to recover data and to specify backup copies to use for the recovery.

The tables in this list are included in the Recovery profile. All of the following commands are available on the editable version of the panel. On the view-only panel, TABLES and BUILD are available.

- ADD: Type this command on the command line to open the Enter Table and Creator Like to Display and subsequently the Recovery Table Selection panel from which you can select one or more tables to recover.
- D: Type this command in the Cmd field next to the table name to delete the table from the profile.
- B: Type this command in the Cmd field next to the table name to specify the backup copy. This command opens the Backup Copy Selection panel, on which you can select the backup copy.

The following fields are available on this panel.

Creator
The profile creator.

Name
The name of the profile, up to 30 characters. (Using meaningful names for profiles makes them easier to locate and reuse; for example, `Objects for Employee App`.)

Share option
Controls how other users can use a profile:

U (Update)
Other users can update the profile.

V (View only)
Other users can view the profile.

N (No access)
Other users cannot view nor update the profile.

Description
A description of the profile.

Table Name
The table name.

Creator
The user ID of the table space creator.

Copy Data Set Name
The name of the backup copy data set.

Copy Type
The type of copy written to the backup copy data set.

INC
Incremental copy

FULL
Full copy

Copy Created Timestamp (Local Time)
The backup copy data set creation timestamp in local time.

Copy Created Timestamp (UTC)
The backup copy data set creation timestamp in UTC.

Recovery Table Selection panel

Use this panel to choose the tables from the generated list for which to recover data from backup copies.

After you select a table to recover, an asterisk appears in the **Cmd** field.

The following commands are available.

- ALL: Type this command on the command line to select all displayed tables.
- DEFAULT: Type this command on the command line to sort the panel contents in default order.
- S: Type this command in the **Cmd** field next to the table that you want to select.

The following fields are available:

Table creator like
The table creator search criteria. Wildcard values are allowed. The wildcard character is an asterisk (*).

Note: Case sensitivity of this field is controlled by the **Case sensitive** field on the **Enter Table and Creator Like to Display** panel.

Table name like
The table name search criteria. Wildcard values are allowed. The wildcard character is an asterisk (*).

Note: Case sensitivity of this field is controlled by the **Case sensitive** field on the **Enter Table and Creator Like to Display** panel.

Table Name
The table name.

Creator
The user ID of the table space creator.

Database
The database name.

Tablespace
The table space name.

Altered Timestamp (Local Time)
The timestamp of the table creation/alter in Local time.

Referentially Dependent Tables panel

Use this panel to select the table to include in a Consistent load profile. The following commands are available.

- ALL: Type this command on the command line to select all tables.
- DEFAULT: Type this command on the command line to sort the panel contents in default order.
- S: Type this command in the **Cmd** field next to the table name to select or deselect the table from the profile.

The following fields are available:

Table Name
The table name.

Part
The partition number (if the table space is partitioned). Note the following values in this column:

ALL
All partitions will be included.

N/A
The table space is not partitioned.

Creator
The user ID of the table space creator.

Database
The database name.

Tablespace
The table space name.

Rename Profile panel

Use this panel to rename your own profiles or those created by other users if the profile was created with a **Share Option** of **Update**. The following fields are available:

Creator/Profile creator
The profile creator.

Type/Profile type
The types of Accelerator Loader profiles are as follows:

- **Dual** specifies options for loading table data into both the accelerator and Db2 from an external data input file.
- **Accelerator only** specifies options for loading table data into only the accelerator from an external data input file.
- **Consistent** specifies options for loading data for multiple tables into the accelerator from a cataloged Db2 image copy.
- **Image copy** specifies options for loading data for a single table into the accelerator from a user-defined Db2 image copy.
- **Multi** specifies options for loading data to one to four accelerators from one or more Db2 tables (high availability load).
- **Backup** specifies options for backing up a table defined to the accelerator.
- **Recovery** specifies options for recovering a table defined to the accelerator.

Name/Profile name
The name of the profile, up to 30 characters. Using meaningful names for profiles makes them easier to locate and reuse; for example, `Objects for Employee App`.

Resulting DSN Using Current panels

Panels enable you to view the DSN mask that results from your specifications.

Resulting DSN Using Current Symbolic String panel

Use this panel to view the DSN mask that results from your specifications on any of the data set template panels. This panel is informational only.

Resulting DSN Using Current Prefix

Use this panel to view the DSN mask that results from your prefix specification on the data set template panels. This panel is informational only.

Save Profile panel

Use this panel to specify information for a new profile.

Save Accelerator Loader options as a profile?
Choose **Yes** to save a new profile with the options that you specified.

Name/Profile name
The name of the profile, up to 30 characters. Using meaningful names for profiles makes them easier to locate and reuse; for example, `Objects for Employee App`.

Creator/Profile creator
The profile creator.

Type/Profile type
The types of Db2 Analytics Accelerator Loader profiles are as follows:

- **Dual** specifies options for loading table data into both the accelerator and Db2 from an external data input file.
- **Accelerator only** specifies options for loading table data into only the accelerator from an external data input file.
- **Consistent** specifies options for loading data for multiple tables into the accelerator from a cataloged Db2 image copy.
- **Image copy** specifies options for loading data for a single table into the accelerator from a user-defined Db2 image copy.
- **Multi** specifies options for loading data to one to four accelerators from one or more Db2 tables (high availability load).
- **Backup** specifies options for backing up a table defined to the accelerator.
- **Recovery** specifies options for recovering a table defined to the accelerator.

SEF - Command Response Display panel

To use this test facility, type the required host environment name at the top and then type a valid command for that environment on the command line below it.

The command will be sent to the requested environment, and the subsequent output will be displayed in the table.

Server Management Menu

Use this panel to view and modify Accelerator Loader server data that is extracted from the main product address space for the subsystem that you have named.

Display and modify ISPF session parameters
Select this option to open the ISPF Session Parameters panel. ISPF session parameters control only the ISPF application for the current user.

Display and modify Server parameters
Select this option to open the Parameter Groups panel. These parameters control the server and affect all product users.

Display product module information
Select this option to display information that Software Support can use to help diagnose problems.

Encrypt Adabas Password (ADASCR)
Select this option to open the DMF Map Adabas Password Encryption panel, where you can create an encoded version of your Adabas password.

Set Batch Job Card Information panel

Use this panel to specify how you want the batch job built when generating JCL with Accelerator Loader. The following commands are available:

- ADD: Type this command on the command line to add another line to the job card.
- Type a command in the **Cmd** field next to a line to complete a task:
  - D to delete the line.
  - I to insert a new line.
  - M to move a line to a new position.

Server Trace panel

Use this panel to view the list of product events captured by the server that are executing in your environment.

This list contains all of the events (SQL, IMS, TCP/IP, LU 6.2, and so on) that have occurred. The most recent messages are at the bottom of the list, and the oldest messages are at the top. You can display formatted columns of information such as user ID and time.

The following command line commands are available:

- FIND: Search for data or a specific time and date.
- LOCATE: Search for data or a specific time and date.
- DISPLAY: Display additional columns of information.
- STATUS: Display the trace browse status area.

Use alternate backup panel

Use this panel to specify an alternate backup copy data set after attempting to use a backup copy for recovery that is not usable.

The following fields are available on this panel.

Schema
Table name
These fields display values for the selected table to recover.

Selected backup:

Copy data set
The name of the backup copy data set that is not usable.

Creation time in UTC
The backup copy data set creation timestamp in UTC.

Alternate backup:

Copy data set
The name of an alternate backup copy data set.

Creation time in UTC
The backup copy data set creation timestamp in UTC.

User Settings panel

Select the Db2 subsystem on which to run the product and to specify the job card that you want to use when building JCL.

The following options and fields are available:

Db2 subsystem
Opens the **Db2 Subsystems** panel.

Batch
Opens the **Set Batch Job Card Information** panel.

User ID
Your user ID.

System ID
The z/OS system on which Db2 Analytics Accelerator Loader is running.

Db2 SSID
The ID of the Db2 subsystem on which Db2 Analytics Accelerator Loader is running.

Warning panel

On the **Build** Accelerator Loader **JCL** panel, you selected the option to be warned if the generated JCL will overwrite existing JCL.

- To overwrite the JCL and continue, press Enter.
- To cancel JCL generation, press F12.

Components and structure

Accelerator Loader runs as a started task on a z/OS system. The started task communicates with Db2 to perform product functions and to store information about product activities in Db2 tables.

The following topics provide information about Db2 Analytics Accelerator Loader components and how they work together.

Accelerator Loader started task

The Accelerator Loader started task receives input from the interfaces through the SVC and then communicates with the Db2 subsystems to run the JCL. A single started task can process simultaneous requests from multiple users across the system. After you start the started task, you can perform product functions.

Tip: In Db2 data sharing environments, all subsystems in a data sharing group share the same Db2 catalog. Consequently, you can create worklist tables on any single member within the group.

During customization, you must set several options for the Accelerator Loader started task in the initialization options member. For example, you must set the option that specifies the primary Db2 subsystem where the audit and logging tables are stored.

Tools Customizer generates the sample initialization options member *hloid*OPTS (where *hloid* is the started task configuration ID that you specify in Tools Customizer) in the *hlq*.*mlq*.SHLOSAMP library for your use. This member specifies the options with which your started task will be initialized. This member includes options that 1) specify the primary subsystem and the Db2 DSNLOAD library, 2) control Db2 connections, and 3) control Db2 tasks. You can edit the options member, if necessary.

DSNUTILB intercept and the DSNUTILB intercept policy

The Accelerator Loader DSNUTILB intercept is a front end to the DSNUTILB program and the Db2 LOAD utility when loading data from an external file.

To use the intercept, you must use the DSNUTILB intercept policy in XML that is created during product customization. The policy member (*hloid*PLCY) is specified in the started task PROC. The policy specifies the Db2 subsystem for which to perform DSNUTILB interception and the action to be performed, LOAD_ACCELERATOR. The following example shows the Accelerator Loader DSNUTILB intercept policy.

```
<?XML VERSION="1.0" ENCODING="UTF-8"?>
<!DOCTYPE OPTIONS SYSTEM "DD:DTD(HLODTDPL)">
<DSNUTILB_INTERCEPT>
 <POLICY>
   <DB2SYSTEM SSID="ssid" ACTION="LOAD_ACCELERATOR">
   </DB2SYSTEM>
 </POLICY>
</
DSNUTILB_INTERCEPT>
```

The <POLICY> section identifies the Db2 subsystem "*ssid*".

A <DB2SYSTEM> element identifies a Db2 subsystem for which to monitor Db2 LOAD processing. During customization, the primary Db2 subsystem and all other Db2 SSIDS associated in the Tools Customizer Workplace panel are specified in the policy. You can also manually specify additional <DB2SYSTEM> elements within the <POLICY> section of the generated Accelerator Loader policy. The <DB2SYSTEM> element has the following attributes:

- The SSID attribute indicates a valid subsystem identifier for a Db2 subsystem on which you want to monitor Db2 LOAD processing. This value can be up to four characters long. No default value is provided. Wildcards are permitted. If you specify a generic wildcard pattern as its attribute value, this element can identify multiple Db2 subsystems.

  Tip: Ensure that the Accelerator Loader plan is bound on the subsystem that you specify.
- The ACTION attribute indicates the DSNUTILB intercept action that is performed for the defined subsystem when evaluating the policy rules. The only valid value is LOAD_ACCELERATOR.

You must check the started task initialization options that pertain to the intercept worklist-error tables to ensure that they are set appropriately for your environment and intercept processing needs.

After you perform these configuration steps, the DSNUTILB intercept component can intercept the DSNUTILB program and analyze the DSNUTILB SYSIN stream for an Accelerator Loader job. The intercept divides the original SYSIN stream into separate worklist steps. Each step includes a single LOAD utility command and any applicable setup statements (for example, LISTDEF, TEMPLATE, or OPTIONS). Accelerator Loader examines the worklist steps and the DSNUTILB intercept policy to implement the enhanced load to the IBM Db2 Analytics Accelerator for z/OS.

From time to time, you might need to perform some intercept management tasks. For example, you might to need to terminate a utility for which interception has occurred in a manner that removes the associated worklist data.

Supervisor call (SVC)

The SVC enables the product interfaces to communicate with the started task. One SVC is required for each started task. You specify the SVC number during customization. When you start the started task, the specified SVC is dynamically installed. When you stop the started task, the SVC is dynamically removed. No IPL or SYS1.PARMLIB changes are required.

Console commands for the Accelerator Loader started task

Several z/OS console commands can be issued for the Accelerator Loader started task by using the **MODIFY** operator command.

Syntax

The **MODIFY** command is F if issued from the z/OS console or /F if issued from SDSF.

Use the following syntax to issue a console command from the z/OS console:

F *started_task_name*,*command_name*

where *started_task_name* is the name of the Accelerator Loader started task and *command_name* is the name of a supported console command. These names are separated by a comma only.

Use the following syntax to issue a console command from SDSF:

/F *started_task_name*,*command_name*

For some commands, you can add an option such as GLOBAL after the command name. In this case, specify the command name, a comma, and then the option name (without any blank spaces between these items), as follows:

F *started_task_name*,*command_name*,*option*

Commands

Tip: You can list all Accelerator Loader console commands in the started task output by using the **HELP** console command.

DISPLAY INTERCEPT[,GLOBAL|,ALL]
Use this command to write the local DSNUTILB interception status (Enabled or Disabled) for the specified started task to the SYSPRINT data set that is allocated to the started task. You can optionally include the GLOBAL option to display the global interception status for the entire z/OS image. Alternatively, you can include the ALL option to write all of the following information to the SYSPRINT data set: the local interception status; the global interception status; and a list of the Db2 SSIDs for which DSNUTILB interception is occurring, including the HLOIDs of the started task instances that are involved in interception processing.

DISPLAY MEPL
Use this command to write a list of all Accelerator Loader modules to the SYSPRINT data set that is allocated to the started task. For each module, the list shows the module maintenance level, the date and time when the module was built, and other information for diagnostic use. Usually, you issue this command when directed to do so by IBM Software Support.

DISPLAY POLICY
Use this command to write the contents of the DSNUTILB intercept policy for the specified started task to the SYSPRINT data set that is allocated to the started task. This information includes the Db2 subsystems that are defined in your policy member (*hloid*PLCY).

DISPLAY SESSIONS[,JOBNAME=*jobname*]
Use this command to list information on currently active sessions. The report includes the number of rows that have been loaded to the table by the job at the time the message is issued. Optionally, you can use the JOBNAME parameter to filter the report results by job name.

- To display information on all active sessions, issue the following **MODIFY** command from SDSF:

```
/F started_task_name,DISPLAY SESSIONS
```

A report similar to the following example is produced in the JOBLOG:

```
HLOS0700I 264 17:19:33.97 TCB: 008BFBF8  SESSION REPORT
*00000065*
HLOS0701I 264 17:19:33.97      *00000065* SESS: 3583D4C8-00000024-U-jobname1-
S0877403-021F-user1
```

```
HLOS0702I 264 17:19:33.97      *00000065*       STATUS: SIGNED ON
HLOS0703I 264 17:19:33.97      *00000065*       STARTED: 02-20-2019  21:19:33  UTC
HLOS0705I 264 17:19:33.97      *00000065*       ROWS LOADED: number_of_rows_loaded
HLOS0701I 264 17:19:33.97      *00000065* SESS: 3583DB68-00000022-U-jobname2-
J0009736-0049-user2
HLOS0702I 264 17:19:33.97      *00000065*       STATUS: SIGNED ON, PAUSED
HLOS0703I 264 17:19:33.97      *00000065*       STARTED: 02-20-2019  21:19:22  UTC
HLOS0705I 264 17:19:33.97      *00000065*       ROWS LOADED: number_of_rows_loaded
```

where *number_of_rows_loaded* is the number of rows that have been loaded to the table by the job at the time the message is issued. The *number_of_rows_loaded* value is 0 if the parameter ACCEL_ROWS_REPORT_THRESHOLD is set to 0.

Note: For more information about setting the ACCEL_ROWS_REPORT_THRESHOLD parameter, see "Monitoring load job progress" on page 918.

When there are no active sessions, the command produces the following report:

```
HLOS0700I 264 17:19:37.41 TCB: 008BFBF8  SESSION REPORT
*00000069*
HLOS0704I 264 17:19:37.41      *00000069* No active sessions found
```

- To filter the report results by job name, issue the following **MODIFY** command, which includes the parameter JOBNAME, from SDSF:

```
/F started_task_name,DISPLAY SESSIONS,JOBNAME=jobname
```

where *jobname* is the name of the job to include in the report.

A report similar to the following example is produced in the JOBLOG:

```
HLOS0700I 264 17:19:33.97 TCB: 008BFBF8  SESSION REPORT
*00000065*
HLOS0701I 264 17:19:33.97      *00000065* SESS: 3583D4C8-00000024-U-jobname-S0877403-021F-
user1
HLOS0702I 264 17:19:33.97      *00000065*       STATUS: SIGNED ON
HLOS0703I 264 17:19:33.97      *00000065*       STARTED: 02-20-2019  21:19:33  UTC
HLOS0705I 264 17:19:33.97      *00000065*       ROWS LOADED: number_of_rows_loaded
```

DISPLAY TRACE
Use this command to capture trace information for the specified started task. This information is written to a SNAPTRC data set that is allocated to the started task. Trace information is primarily used for diagnosing problems. You should issue this command only when directed to do so by IBM Software Support.

DUMP
Use this command to perform an SVC dump of the started task address space. Usually, a dump is produced at the request of IBM Software Support to collect error information for analysis. You can find the location of the dump data set in the system log. If the started task is unresponsive, you can produce a dump of other Accelerator Loader address spaces.

HELP
Use this command to list all of the z/OS console commands that are supported for the started task in the SYSPRINT data set for the started task. The list indicates the correct syntax for these commands.

--REFRESH DB2
After a subsystem has been in maintenance mode, the Accelerator Loader started task is not notified by Db2 when the system is restarted for normal operation. Use this command to return a Db2 subsystem that had been in maintenance mode to active status with the Accelerator Loader started task.

It is recommended to use this command only when there are no active sessions in the Accelerator Loader started task. Active sessions, which represent active intercepts of a Db2 utility, can be displayed using the **DISPLAY SESSIONS** command.

STOP [FORCE]
Use this command to stop the specified started task. The operator command /F *started_task_name*,STOP is equivalent to the standard operator command /P

started_task_name. If you want to stop the started task immediately, before it completes its current processing, you can add the optional FORCE option after the STOP command. To separate FORCE from STOP, use only a single space, as follows:

```
/F started_task_name,STOP FORCE
```

TERMINATE SESSION,SESS=*session_address*
If an Accelerator Loader batch job, intercepted DSNUTILB utility execution, or HLOMAINT job terminates abnormally without ending its session with the Accelerator Loader started task, you can use this command to force the termination of the session. For the SESS value in this command, specify a valid session address that is an 8-digit hexadecimal number. (A hexadecimal number can contain only the characters 0 through 9 and A through F.) You should be able to find this session address in an HLOS0101I message. After you issue the command, look for the HLOS0103I message to determine whether the session terminated. You might want to use this command, for example, when the HLOS5113I message is issued. This message indicates that a Db2 utility cannot be restarted because its worklist is in use by another utility. If the other utility has terminated abnormally but is still associated with an active "owning session," you can terminate the owning session by using this command. You should then be able to perform the restart operation.

Column display functions (CSETUP)

Column display functions (**CSETUP** functions) enable you to change the width of individual columns, and control the vertical ordering of columns.

CSETUP functionality enables you to:

- Change the width of individual columns using the **CSIZE** option.
- Control the vertical ordering of columns using the **CSORT** option.

Additional column display functions enable you to:

- Scroll horizontally between columns, in both left and right directions.
- Scroll horizontally within a single report column while other report columns remain stationary on the screen.
- Insert column numbers above each display column.
- Generate a ruler at the top of the report columns beneath the headings.
- Display an entire row-column data element.

The customizations, or views, you configure using **CFIX**, **CORDER**, **CSIZE**, and **CSORT** can be saved across sessions.

The following syntax restrictions apply to the use of **CSETUP** functionality:

- Underlined text indicates the minimum acceptable abbreviation for each keyword.
- Variables are shown in italicized lowercase type.
- Keyword options are separated by vertical lines (|).

Accessing the CSETUP Primary Option Menu

The **CSETUP** primary option menu enables you to access the various **CSETUP** options and configure column display functions according to your display needs.

About this task

The **CSETUP** command uses the following syntax:

CSETUP
Launches the **CSETUP Primary Option Menu**.

To access and use the **CSETUP Primary Option Menu**:

Procedure

1. On any dynamic display (for example, the Manage Loader Profiles panel,) type **CSETUP** (or **CSET**) in the Option line and press Enter.

   The **Setup Primary Option Menu** displays.
2. On the command line, type the number corresponding to the option that you want to access and press Enter. The following options are available on the **Setup Primary Option Menu**:

   CFIX
   Option 1, **CFIX**, enables you to fix and unfix columns.

   CORDER
   Option 2, **CORDER**, enables you to reposition columns.

   CSIZE
   Option 3, **CSIZE**, enables you to change the displayed width of columns.

   CSORT
   Option 4, **CSORT**, enables you to select one or more columns for sorting and thus modify the order of the rows displayed.

   CHIDE
   Option 5, **HIDE**, enables you to select one or more columns to be hidden.

   CRESET
   Option 6, **CRESET**, enables you to reset all customizations.

   PVIEW
   Option 7, **PVIEW**, enables you to toggle between permanent view and temporary view.

   Note: You can also directly invoke each **CSETUP** option by typing the corresponding command (for example, **CFIX**, **CORDER**, **CSIZE**, **CSORT**, **CHIDE**, **CRESET**, or **PVIEW**) in the option line on any dynamic display and pressing Enter.

Hiding columns

The **CHIDE** option enables you to hide one or more columns from the display.

About this task

Certain columns might be permanently fixed in the report and cannot be hidden. Such a column has a fix status of P (permanently fixed).

Procedure

1. Type **CHIDE** in the option line on any display panel and press Enter.

   The **Define Hidden Columns** panel displays.

   The following fields appear on the panel:

   Column Function
   Enables you to jump to any of the CSET functions by typing in the appropriate number. The number corresponding to the current option displays in this field.

   Permanent View
   Indicate whether the view you define is permanent or temporary. Valid values are:

   - **Y**–View customizations are permanent.
   - **N**–View customizations are temporary.

   Reset View
   Reset all customizations (Yes or No).

   Cmd
   Field where you specify the number for column function.

Fix
Displays fixed columns. Valid values are:

- **F**–Indicates the column is fixed.
- **P**–Indicates the column is permanently fixed.

New
Displays the new CHIDE view settings.

Old
Displays the previous CHIDE view settings.

Column_Name
Shows the name of the column.

2. To hide columns, type **H** in the **Cmd** field beside the columns that you want to hide.
3. To display previously hidden columns, type **U** in the **Cmd** field beside columns that you want to unhide.

What's new in previous editions

This topic summarizes significant enhancements and changes to previous editions of Db2 Analytics Accelerator Loader documentation.

Version 2.1 SC27-6777-00 (First edition) - February 2016

The Accelerator Loader provides the Accelerator Loader server. The server allows non-Db2 and non-z/OS data sources to be defined for the purpose of extracting data from the source, and loaded to the accelerator via the Accelerator Loader studio, a plug-in to IBM Data Studio. Accelerator Loader studio enables you to load data to the accelerator without first landing the data in a flat file.

The Accelerator Loader integrates with Db2 tables in replication mode via IBM Change Data Capture for z/OS (CDC) when loading data to both a table in Db2 and a table on the accelerator from an external file.

You can append data to a Db2 table, the accelerator table, or both. The RESUME YES load utility keyword and the **Resume** field on the **Load Accelerator and Db2 from External File** and **Load Accelerator from External File** panels support this enhancement.

The Accelerator Loader supports appending data when loading from an external file into a Db2 table, the accelerator table, or both. The field **RESUME** on the ISPF panels generates RESUME YES into the LOAD utility control cards.

The ISPF interface has been enhanced to improve usability, as follows. For descriptions of each panel, see the reference section.

- New panels:
  - Save Profile panel
  - Create Profile panel
- Changed panels:
  - On the IBM Db2 Analytics Accelerator Loader for z/OS main menu, **Settings** is now **Setup**, **Db2 Analytics Accelerator Loader profiles** is now **Manage Loader profiles**, and the following options for creating profiles were added: **Load Accelerator and Db2 from External File**, **Load Accelerator from external file**, **Load Accelerator with consistent data**, and **Load Accelerator from a specified image copy**.
  - **Profile Options** panel was replaced by an options panel for each profile type.
  - **Profile Display** panel was replaced by the Manage Loader Profiles panel.
  - **Load From External Options** panel was replaced by the following panels:
    - Load Accelerator and Db2 from External File panel, which you use to specify options for a Dual load profile.

    - Load Accelerator from External File panel, which you use to specify options for an External load profile.
  - **Consistent Load Options** panel was replaced by the following panels:
    - Load Accelerator with Consistent Data panel, which you use to specify options for a Consistent load profile.
    - Load Accelerator from Specified Image Copy panel, which you use to specify options for an Image Copy load profile.
- The following profile types are now supported:
  - **Dual** specifies options for loading table data into both the accelerator and Db2 from an external data input file.
  - **Accelerator only** specifies options for loading table data into only the accelerator from an external data input file.
  - **Consistent** specifies options for loading data for multiple tables into the accelerator from a cataloged Db2 image copy.
  - **Image copy** specifies options for loading data for a single table into the accelerator from a user-defined Db2 image copy.

The FLOAT option is now supported.

You can add tables to the accelerator before the load job starts. The ISPF panel field **Add tables to accelerator** and the extended syntax options ACCEL_ADD_TABLES and ACCEL_REMOVE_AND_ADD_TABLES support this enhancement.

You can enable query acceleration for a table after a successful load. The options module parameter **Enable acceleration after successful load**, ISPF panel field **Acceleration on success**, and the extended syntax option ACCEL_ON_SUCCESS_ENABLE support this enhancement.

You can use parameter MESSAGE in a call to ACCEL_LOAD_TABLES for tracing capabilities.

Tools Customizer provides the option of generating IVP jobs during customization. For more information, see the worksheet for gathering parameter values for Tools Customizer.

On the **Load Accelerator with Consistent Data** panel, the default value of the **Log Reader copy preference** field is now **R1R2A1A2**.

You can control case sensitivity in object names during searches. The field **Case sensitive** on the **Enter Table and Creator Like to Display** panel enables this feature.

When searching for profile types, you can use * (asterisk) in the **Profile Type** field on the **Manage Profiles** panel to indicate all profile types.

The product detects that a table column information data set is from an UNLOAD utility. It parses out only the field specifications and includes them in the JCL that it generates. Manually deleting the LOAD control cards from the column information data set is no longer required.

When you use an Image Copy profile, you can specify an image copy for a load job in the ISPF interface and the product generates a consistent load job to load from that image copy.

SYSIN lines for the batch JCL generator cannot exceed 72 symbols. To split a long table name among multiple lines, enter the names in positions 1 - 72, and then start a new line in position 1.

Load profiles can be used by the version of the product that you used to create the profile and by later versions.

The product's ability to clean up common storage has been enhanced, and options have been added for manually cleaning common storage by table or by batch job.

When the SYSIN contains only one executable statement, such as the LOAD statement, if an error occurs during the load to the accelerator, then the product will terminate the utility and then delete the worklist from the utility tables.

When loading from an external file, the product supports parallelism with accelerator-only loads for nonpartitioned and partition-by-growth tables, improving performance for these loads. The ACCEL_LOAD_TASKS extended syntax option and options module option are supported when loading a nonpartitioned or partition-by-growth object to the accelerator only.

You can specify the maximum number of source records that are to be written on the discard data set. The **DISCARDS** field was added to the **Load Accelerator and Db2 from an External File** panel to support this enhancement.

Enhancements for loading data to a consistent time (consistent load) are as follows:

- Accelerator Loader supports a LOAD utility syntax that has no FORMAT clause and no field specifications. The field-specification restrictions for the Db2 LOAD utility also apply to Accelerator Loader.
- You can optimize product performance for either CPU usage or elapsed time for loads that meet the following criteria:
  - Loading data to both the accelerator and Db2 (Dual load profile).
  - Performing nonparallel processing.
  - Loading to a table that is not partitioned or is partitioned by growth.

  The options module parameter **Optimize processing for CPU or elapsed time** and the extended syntax option ACCEL_OPTIMIZE_FOR support this enhancement.
- Use the **Load partitions individually** field to specify whether the SPACE statement is generated for each partition of a partitioned table, or for the entire table.
- Db2 Analytics Accelerator Loader provides an ISPF panel field (**Bypass SYSIBM.SYSLGRNX Proc**) and a syntax option (NO_SYSLGRNX) that enable you to specify whether the product skips reading SYSIBM.SYSLGRNX and reads the entire Db2 log range from earliest start point to the latest end point when you perform a consistent data load.
- Accelerator Loader can read tape data sets that are stored in large block interface (LBI) format.

External load batch usability improvements, as follows:

- The product includes a snap dump of LDA control block that is triggered by the SNAPLDA DD to help diagnose S878 ABENDs. If you encounter an S878 ABEND, you can retain the SNAPLDA DD to send to IBM Software Support.
- The **Load Accelerator and Db2 from External File** and **Load Accelerator from External File** panels contain only one field for SYSREC and one field for SYSPUNCH.

Version 1.1 SC19-4165-02 (third edition) - December 2014

Accelerator Loader now verifies that a specified migrated data set exists without recalling that data set.

When filtering objects to include in a load profile, you can select a view or an alias instead of a table in the ISPF panels, or specify a view or an alias instead of a table in the batch interface. The product resolves the view or alias to the base table space and includes the base table space in the generated JCL. Support is limited to views from a single base table. A view that was created from a join of more than one table is not supported.

A batch interface enables you to generate JCL for Accelerator Loader jobs and specify new table names at JCL build time. The batch interface can be useful if you have a process or procedure that determines dynamically what tables need to be loaded and when. The batch interface allows you to specify a profile for the basic options and a list of tables to be loaded, and enables you to override many options for each table that you specify. For any parameter that you do not specify in the batch interface, the value is taken from the profile.

The Tools Customizer Discover EXEC can discover and use existing information from a previously configured installation of the Accelerator Loader. Tools Customizer can no longer use a control file from a previous installation of Db2 Change Accumulation Tool V3.1 to discover existing information to use with Accelerator Loader.

The following changes and enhancements were made to the load from an external file feature:

- Field specifications must be coded on the LOAD statement. Each INTO TABLE clause must have its own set of field specifications. The product issues a message and terminates the utility when field specifications are not coded on the LOAD statement.
- Accelerator Loader supports processing multiple partitions of the same table and loading them into the accelerator in parallel. To enable parallelism and improve performance when loading partitioned objects, you can specify multiple SYSREC data sets. The options module parameter ACCEL_LOAD_TASKS and extended syntax option ACCEL_LOAD_TASKS support this enhancement. When generating JCL through the ISPF interface, you can optionally generate load control cards that will enable parallelism by using new fields on the **Load from External Options** panel (HLOLEXLO).
- Accelerator Loader supports the IGNOREFIELDS clause of the Db2 LOAD utility. When loading only the accelerator (option IDAA_ONLY), Accelerator Loader generates valid rows when a field specification name begins with "DSN_". Previously, Accelerator Loader always behaved as though IGNOREFIELDS YES had been specified (though the product did not support the IGNOREFIELDS clause). Accelerator Loader behavior now matches that of the Db2 LOAD utility. That is, when the IGNOREFIELDS clause is omitted, Accelerator Loader behaves as though IGNOREFIELDS NO was specified.
- When performing a load to both the accelerator and Db2 (option IDAA_DUAL), Accelerator Loader can pass the load job to the Db2 LOAD utility to load data to Db2 only (no data is loaded to the accelerator) when it encounters the need for a value to be generated for an identity column. The options module parameter ACCEL_LOAD_TASKS supports this enhancement.
- If the LOAD utility statement does not contain either a NUMRECS or SORTKEYS clause to provide an estimated number of records, the product estimates the number of SYSREC records. Using the estimated record count, it then adds a NUMRECS clause for each INTO TABLE clause.
- When loading data to both the accelerator and Db2, you can provide one or more standard Db2 LOAD discard data sets.
- Accelerator Loader supports the NULLIF and DEFAULTIF LOAD utility options.
- Accelerator Loader supports the Db2 GRAPHIC, VARGRAPHIC, and TIMESTAMP WITH TIMEZONE data types.

The following changes and enhancements were made to the consistent load feature:

- Debugging information is no longer included in the Accelerator Loader output by default. To include debugging and troubleshooting information in the job output, contact IBM Software Support for instructions.
- Accelerator Loader supports processing multiple partitions of the same table and loading them into the accelerator in parallel. You can specify the number of objects that the product is to process at the same time.

  When generating JCL through the ISPF interface, you can optionally specify the number of parallel log apply tasks on the **Consistent Load Options** panel (HLOLECLO). The specified value is used as the ”y” value in the PARALLEL control card in the JCL.
- Accelerator Loader always uses the 31-bit code paths, regardless of whether the BUFFERS_IN_31_BIT control card is present. The BUFFERS_IN_31_BIT control card is obsolete and was removed from the documentation. If the control card is present, the product ignores it.
- You can specify an image copy and load the data from that image copy into the accelerator. Specifying an end time or rolling through the logs is not required; the product uses the image copy as the content of the object to be loaded.
- To enable parallel processing of multiple partitions of the same table, you specify the number of parallel log apply and load tasks. You can use the ISPF interface or the PARALLEL option.

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The Accelerator Loader documentation was corrected to remove the following unsupported options from the sample JCL:

- DISCARDDN ISYSDISC
- TEMPLATE ISYSDISC
- NULLIF

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