

IBM Rational Synergy DCM-GUI

Release 7.2.1.1

*This edition applies to IBM Rational Synergy version 7.2.1.1, and to all subsequent releases and modifications until otherwise indicated in new editions.
Before using this information, be sure to read the general information under Appendix: Notices on last section.
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Introduction

This chapter explains what you should know before you read this manual. This manual describes the features of Rational Synergy client for Synergy Distributed Configuration Management (DCM).

Intended audience

This manual is intended for the DCM Manager and Configuration Management (CM) administrator. This manual mainly describes the new features in Synergy GUI client to support Synergy DCM operations. Readers should have a good knowledge in DCM feature and should have worked in DCM command line. For more information on Synergy DCM, see “[Administering Rational Synergy Distributed](#)” in [Synergy 7.2.1 Help](#)

Sources of DCM information

The published DCM information is located in this book and in the Synergy Classic Help. Generally speaking, this document gives a detailed view of new DCM functionality in Synergy GUI client. The detailed information on Synergy DCM is available in Help.

This document contains the latest information available at the time of publication. For late addition, check the Rational Synergy Readme located on the IBM Rational Synergy Information Center Web Site (<http://pic.dhe.ibm.com/infocenter/synhelp/v7m2r0/index.jsp>)

How this manual is organized

This document is arranged as follows:

- “Overview of DCM”
This session gives an overview of Synergy Distributed Configuration Management (DCM) and briefly describes some of its features
- “Setting up a DCM database”
This session shows how to set up a DCM database to perform transfers to other database
- “Using DCM in Synergy GUI client”
This session shows various DCM operations from Synergy GUI client and detailed information on each dialog boxes.

References used in this manual

All the information on DCM features and DCM related operations are described in the Synergy Classic Help. This document describes the new GUI features supported in Synergy client to perform various DCM related operations.

Overview of DCM

About DCM

DCM is a distributed configuration management tool. DCM lets multiple Rational Synergy databases share objects that originate, and are being changed in parallel, in any Rational Synergy database in the world that has been initialized to use DCM.

DCM uses standard Rational Synergy databases to share software development objects. These objects include: the files used to build products, the products themselves, projects, folders, change requests, and tasks.

The following are reasons for using DCM:

- To support multiple sites
- For localization or porting
- To split up databases
- For different levels of testing
- For security purposes

Whether you are sharing changes made locally in different databases, or changes made by development teams that are located on different continents, DCM lets you control the process.

Note This document assumes you are familiar with Rational Synergy and Synergy DCM concept.

Features

DCM is designed for distributed and parallel development. Its main features are described in this section.

Transparency

DCM has very little impact on developers' daily operations. Its databases can be set up so that minimal management is required.

Integrating with the existing configuration management suite

DCM has the same user interface as Rational Synergy and supports command line operations. Once a Rational Synergy database is initialized to use DCM, its data is

automatically displayed in the appropriate Rational Synergy dialogs. Developers see this data in the dialogs, but they do not need to change their work habits.

Flexibility

DCM lets you send source files, projects, folders, and tasks, in any combination, to any Rational Synergy database that is initialized to use DCM. There are no restrictions on how objects are grouped. It also supports many distributed methodologies.

Support for parallel development

DCM supports parallel development using the **Parallel Notification** and **Merge and Compare** features of Rational Synergy. If a DCM database receives a new object version that has a parallel version, the developer who owns or created the parallel version is notified by email. Then, use the Merge and Compare feature in Rational Synergy to resolve the parallels.

Time zone independence

DCM supports multiple databases that are located in different time zones. When data is transferred to a destination database, DCM interprets and records all times in Greenwich Mean Time (GMT), thus ensuring time zone independence.

Terms and concepts

Before using Synergy Distributed Configuration Management (DCM), you should be familiar with the following terms and concepts.

DCM database

A DCM database is any Rational Synergy database that has been initialized to use DCM.

Source and destination databases

A source database is any DCM database that sends data to another database. A destination database is any DCM database that receives data from another database. A given database can be a source database, a destination database, or both.

DCM cluster and database IDs

A DCM cluster is any group of DCM databases that shares data. Each database in a cluster is manually given a unique database ID (dbid). Database IDs are used to define source and destination databases. They are also used to make each object version in the cluster unique.

Destination database definitions, transfer sets, and transfer packages

DCM uses the destination database definition to send data to the destination database. This definition names, describes, and provides transfer information about the destination database. A transfer set is a related group of objects that can be sent to a destination database.

Generating, transferring, and receiving

Three DCM operations must be performed to send data from a source to a destination database: generate, transfer, and receive. The generate operation creates a transfer package. This package is sent from the source to the destination database using the transfer operation. The transferred data is then loaded into the destination database using the receive operation.

DCM lets you combine the generate, transfer, and receive operations. With one action you can either: 1) Generate and transfer a transfer package, or 2) Generate, transfer, and receive a transfer package. You also have the option of performing each operation separately.

Setting up a DCM database

Initializing DCM

In order for a Rational Synergy database to be usable by DCM, a DCM initialization must be performed on the database. This operation sets DCM properties for the database, objects currently in the database, and any objects that will be added to the database in the future.

You can initialize a database for DCM use from the CLI only. To perform a DCM initialization, start a Synergy command line interface (CLI) in *single user admin mode*. To know more about single user admin mode, see [ccm start command](#) in Synergy CLI help.

After starting a session, execute `ccm dcm -init` command to start DCM initialization. For more information on `ccm dcm` command, see [Initializing a database](#) in Synergy help.

Setting user roles

To enable all DCM related options and menus in Synergy Client, user must have a DCM manager (*dcm_mgr*) in the database. In DCM some operations require the *dcm_mgr* role while others need the *ccm_admin* role.

The *dcm_mgr* role is required for these operations:

- Defining destination databases
- Defining transfer sets
- Adding objects to transfer sets
- Generating a transfer package

The *ccm_admin* role is needed for any operation that might change the properties of non-modifiable objects.

- Initializing a database to use DCM – During this operation, DCM might add properties to non-modifiable objects. You can perform this operation only from CLI
- Changing the DCM database ID or DCM delimiter. You can perform these operations only from CLI

- Receiving a transfer set – During this operation, DCM might add or change properties of non-modifiable objects.

To assign appropriate role to the user

1. Access the Web Administrator User interface, located at server URL/admin.

For example: <http://myhost:8400/admin>

2. Log on as Administrator.
3. Click the **User Administration** tab.
4. From the list of users in the **User Administration** section, select the user you want to add to a database.

If the user is not on the list, click **Add New Users** to add the user.

5. Assign the appropriate roles to the user and add the user to the appropriate databases.
6. Click **Update**.
7. Click **Save**.
8. Click **Logout** to log out of the interface.

Using DCM in Synergy GUI Client

Create a new DCM database definition

Before you send transfer set to a given database, you must create a DCM database definition for the destination database. DCM uses this information whenever a transfer package is sent from source to the destination database. This operation is performed using **Create DCM Database Definition** dialog. To create a new DCM database definition, Click on the **Task** menu, point to **New**, choose **Database Definition...**

The screenshot shows a dialog box titled "Create DCM Database Definitions - b1 - IBM Rational Synergy". The dialog contains the following fields and options:

- Database ID:** A text input field with a checkbox labeled "Mark this database ID hidden".
- Description:** A text input field.
- Location:** A text input field.
- Admin Info:** A text input field.
- Transfer Mode:** A dropdown menu currently set to "Manual Copy".
- Receive Options:** Two checkboxes: "Allow Handover to this database" (unchecked) and "Allow Generate to this database" (checked).
- Hostname:** A text input field.
- Platform:** A dropdown menu currently set to "Windows".
- Compress packages:** A checkbox (unchecked).
- Database Path:** A text input field with a browse button (...).
- Transfer Path:** A text input field with a browse button (...).
- CCM_HOME:** A text input field with a browse button (...).
- Buttons:** "OK" and "Cancel" buttons at the bottom right.

Database ID: Specifies the DCM database identifier for the new database definition. The database id cannot be longer than 8 characters and must be unique in a DCM cluster. In a

cluster using lowercase databases, identifiers should be unique without respect to case. For example, do not use "a" and "A" for two different definitions.

Mark this database ID hidden: Specifies to hide the new database definition in dialogs that list database identifiers

Description: Specifies a description of the database definition you're creating.

Location: Specifies the geographic location of the database.

Admin info: Specifies the contact information for the database administrator. For example, phone numbers and e-mail addresses.

Allow Handover to this database: This option will allow you to give control of objects to the destination database.

Allow Generate to this database: Specifies that the new database ID can be used in DCM generate. If database is to be used directly as a destination database, this option should be selected.

Transfer Mode: The transfer mode defines the way transfer packages are transferred to the destination database. DCM provides following transfer modes.

- Manual Copy
- Direct
- Local Copy
- Remote Copy
- File Transfer Protocol
- User Defined

Manual Copy mode

When you generate a transfer package using Manual Copy mode, DCM place the transfer packages in the in the *generate_directory*, but does not send them. This mode is used when you do not want to automatically send transfer packages to destination database. This mode requires that you manually move transfer packages from *generate_directory* to *receive_directory* of the destination database.

Direct mode

When you generate a transfer package using Direct mode, the transfer package is created directly in the receive directory of the destination database or in the Transfer path directory if specified. Thus, the Direct mode can only be used when source and destination databases file systems that are visible to each other.

Local Copy mode

When you generate a package with Local Copy mode, DCM uses a copy command to send the transfer package from generate directory to *receive_directory* of the destination database or to the **Transfer Path** if specified. The Synergy DCM engine that generates the packages the transfer packages performs the copy.

Remote Copy mode

When you generate a package with Remote Copy mode, DCM uses an rcp command to send the transfer package from generate directory to *receive_directory* of the destination database or to the **Transfer Path** if specified. The Synergy DCM engine that generates the packages the transfer packages performs the copy. DCM uses the **Hostname** as the name of the destination database machine.

File Transfer Protocol mode

When you generate a package with File Transfer Protocol mode, DCM sends transfer packages from *generate_directory* to ftp directory of a remote destination database using an ftp command. The Synergy DCM engine that generates the packages the transfer packages performs the copy.

DCM uses the **Hostname** as the name of the ftp server. An ftp service must be running on the destination database machine. DCM uses the Transfer Path to specify the path to the ftp directory. If a blank value is used for transfer path, then the default path to the destination database to *receive_directory* is assumed.

User Defined mode

User Defined mode let you to use a script or batch file to perform transfer. This might be necessary, for example, to encrypt data before transferring it. To use User Defined mode, you need to provide all fields including **CCM_HOME** which is the destination server CCM_HOME installation area.

Find a DCM database definition

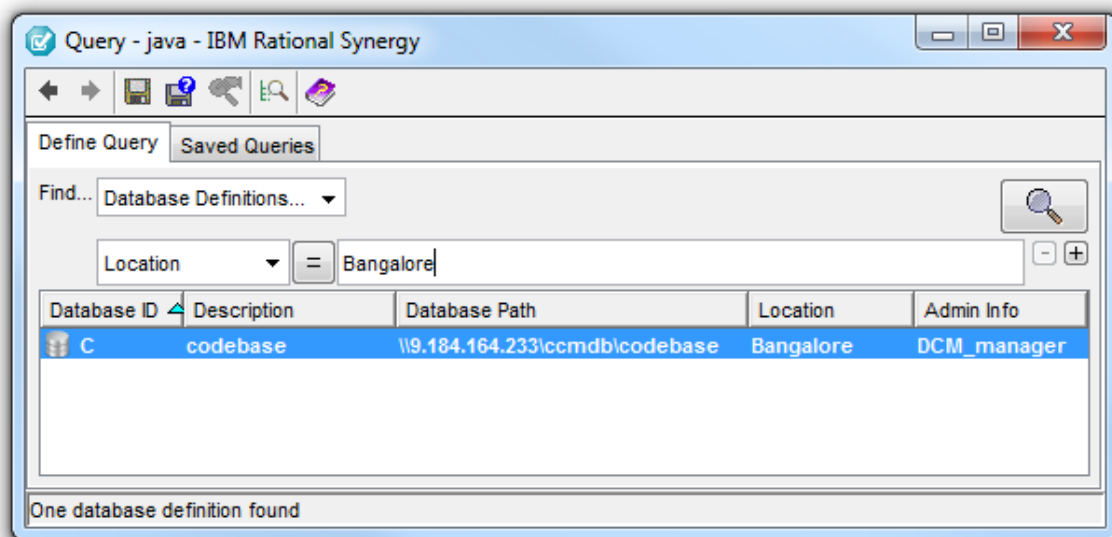
To search for a specific database definition or a set of database definitions which have common properties, you can use standard Synergy query dialog box.

To invoke find database definition query dialog, click on the **Find** menu, select **Database Definitions...**

You can search for database definitions based on the following properties:

- Database ID
- Database Path

- Location
- Transfer Mode
- Allow Generate
- Allow Handover
- Is Hidden



Edit a DCM database definition

If a destination database's properties change, you may need to edit its DCM database definition in the source database.

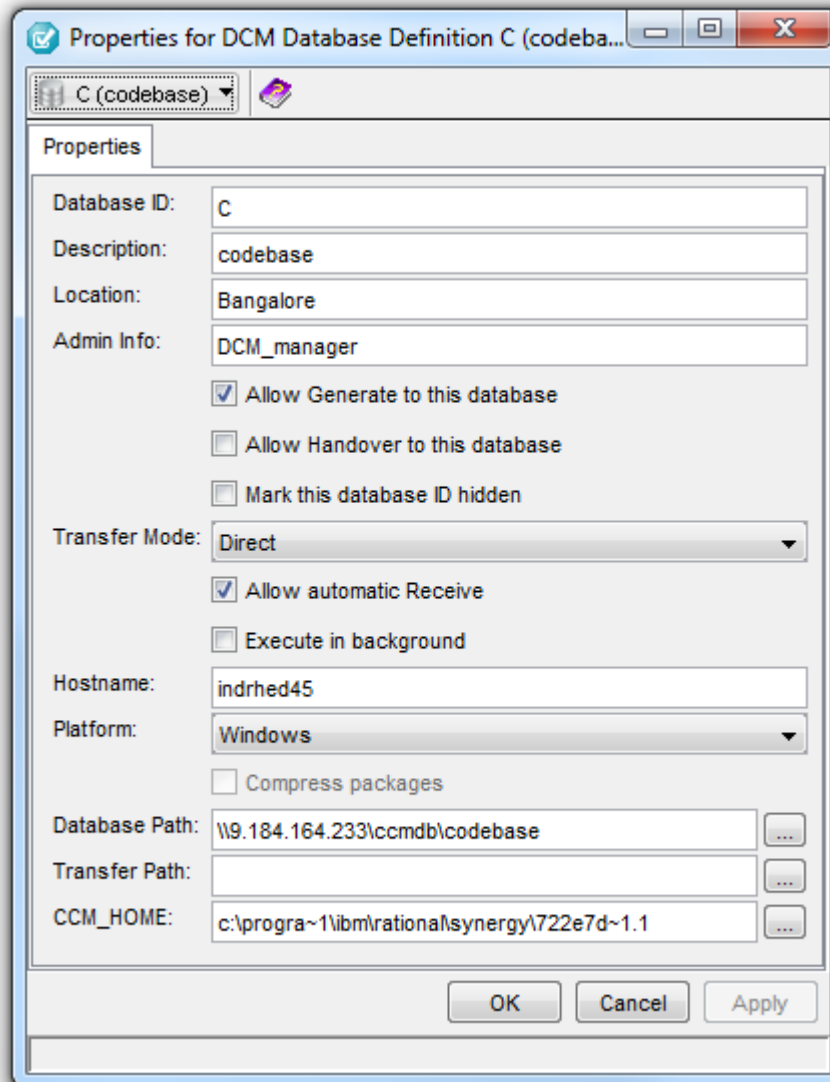
For example, suppose you can now perform a remote copy to a database to which you have performed only manual transfers in the past. By editing its destination database definition, you can change its transfer mode from Manual Copy to Remote Copy.

You can use the database definition's properties dialog to modify properties of the same. To invoke database property dialog box, select the database definition, from the context menu choose **Properties**.

You can change the following properties in the properties dialog box:

- Database ID
- Database description, location, admin contact info
- Database ID hidden or visible settings
- Database can be used as a destination database setting

- Handover allowed
- Receive options
- Transfer mode (and its related parameters)
- Data compression setting



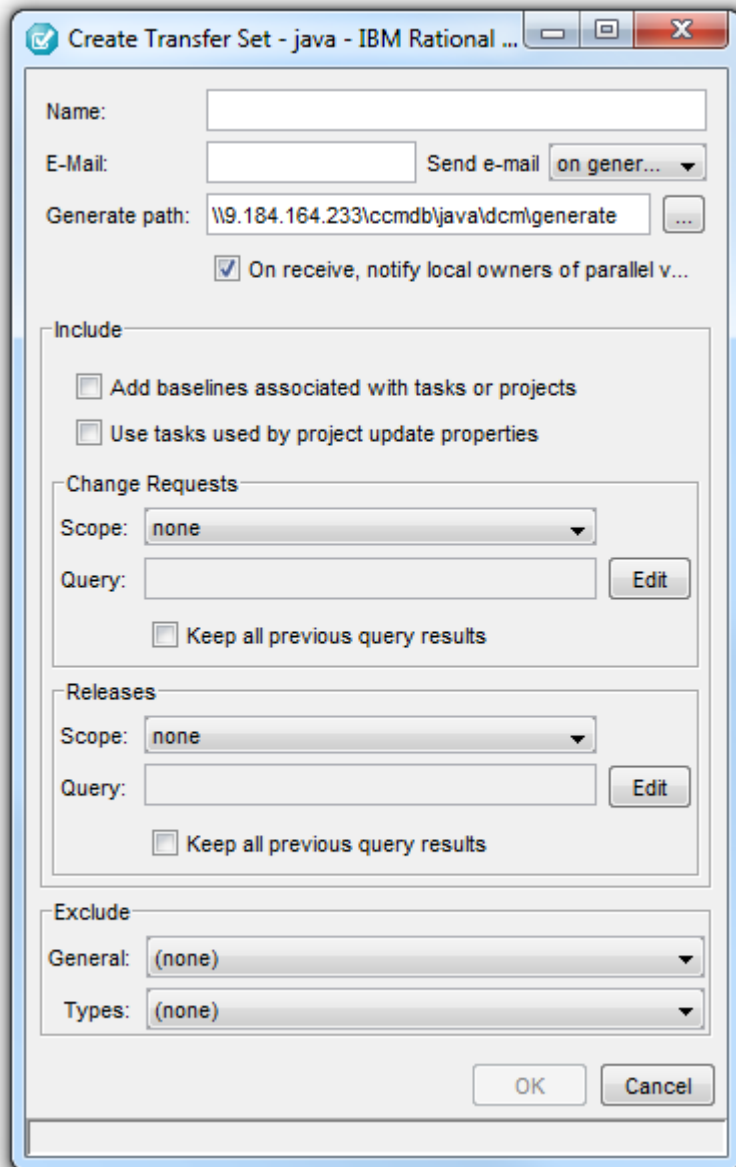
Delete a DCM database definition

When you no longer want to use a DCM database definition, you can remove it. If the database exists but you wish to exclude its database ID from various choice list, you may prefer to mark it as hidden – see “Edit a DCM database definition”

To delete a DCM database definition, select the database definition, from the context menu select **Delete**.

Create a new transfer set

A transfer set is a related group of objects that can be sent to a destination database. A transfer set has properties such as: the name of the transfer set, where email notification is sent when the transfer occurs, change request and release scope, the *generate_directory*, which object types are excluded from the transfer, and whether additional information is replicated or, etc... This operation is performed using the **Create transfer set** dialog. When you create a transfer set, you define only its properties (that is, the transfer set name, any excluded objects, and so on). Later, you add objects to the transfer set using Transfer set tab or from the context menu of objects



In addition to all basic transfer set properties, the dialog allows you to specify change request and release scopes, and corresponding custom query if required. To build a valid query, you can use the query builder by selecting the **Edit** button on right side on the **Query** fields. To copy-paste an existing query, select *Custom* in query builder dialog and paste the content to it.

Find a transfer set

To search for a specific transfer set or a set of transfer sets which have common properties, you can use standard Synergy query dialog box.

To invoke find transfer set query dialog, click on the **Find** menu, select **Transfer Sets...**

You can search for transfer sets based on the following properties:

- Transfer set name
- Owner
- Created time
- Modified time
- Custom query

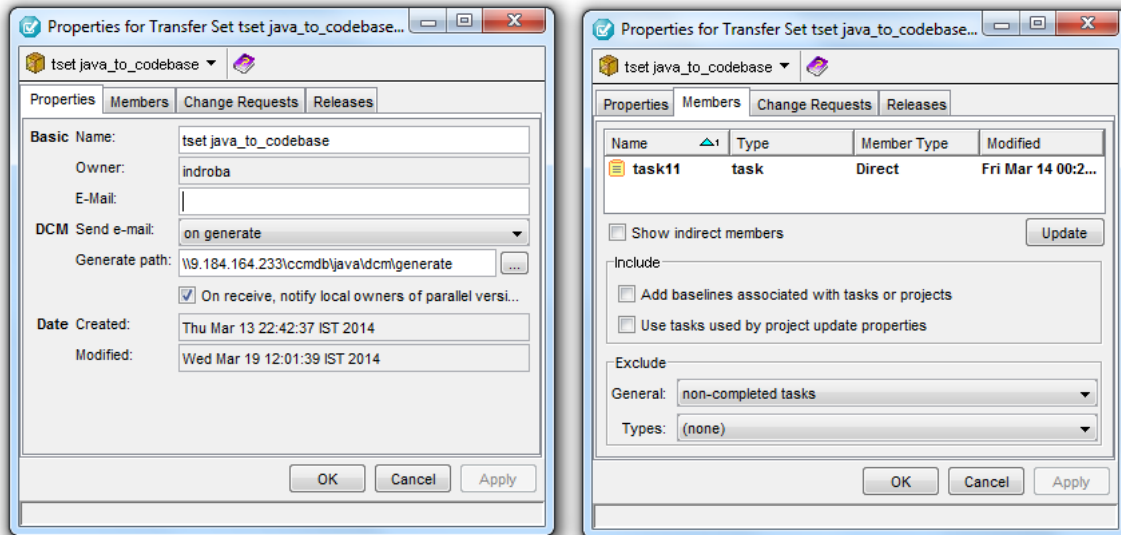
Edit a transfer set

As your needs change, you may want to change a transfer set's properties. For example, if you no longer need to include products in a given transfer set, you can change the transfer set so that products are excluded from the future generated transfer packages.

You can use the transfer set properties dialog to modify properties of the same. To invoke transfer set properties dialog box, select the transfer set, from the context menu choose **Properties**.

You can change the following properties in the properties dialog box

- Transfer set name
- E-mail address for sending notification and e-mail policy
- Generate directory path
- Include and Exclude options
- Change request scope and query
- Release scope and query



To see the list of objects associated the transfer set, select the **Members** tab. This panel lists all the associated objects to this transfer set. You can also specify to show all the indirect members by selecting **Show indirect members** checkbox. The **Update** button on this panel allows you to re-compute the members of the transfer set.

Delete a transfer set

When you no longer want to use a transfer set, you can delete it. To delete a transfer set, select the transfer set, from the context menu select **Delete**.

Adding objects to a transfer set

In Synergy GUI client, you can add an object to a transfer set in different ways

From the Transfer set tab

In the object properties dialog, select **Transfer Set** tab. You can use the '+' or '-' button to add or remove the object to a transfer set.

From the context menu

From object's context menu, select **Add to Transfer Set**. This will invoke the transfer set selection dialog where you can select one or more transfers set to which the object has to be associated with.

Drag and Drop

If you are in transfer set's properties dialog, select **Members** tab. You can select any qualified object and perform drag and drop to members list. To remove an object, select the object in the members list and from the context menu choose **Cut**.

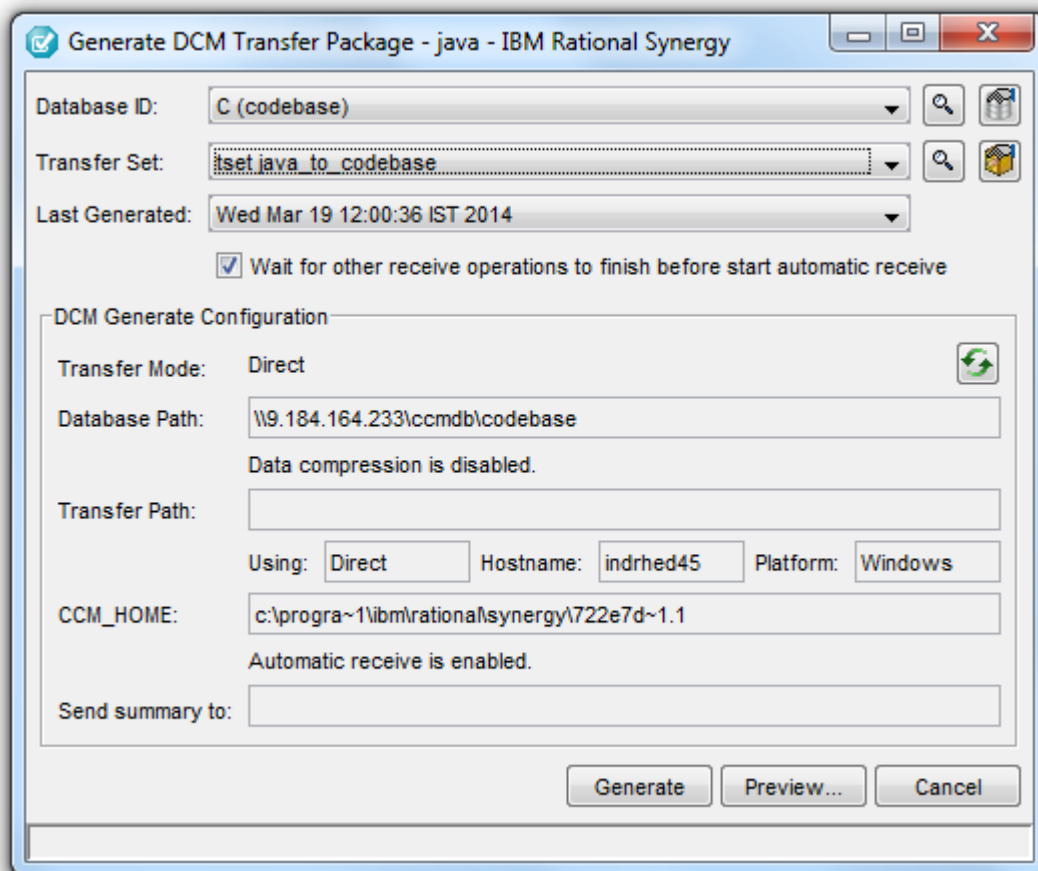
Generate transfer packages

When you generate the transfer package, DCM automatically performs the following tasks:

- Compute and create transfer package
- Send the transfer package to destination database (optional)
- Receives the transfer package at the destination database (optional)

To create a transfer package, DCM uses the time the transfer packages was last generated, object computed from the transfer set and the destination database definition.

To invoke **Generate DCM Package** dialog, Click on **Tools** menu, point to **DCM**, choose **Generate...**



You can select the **Database ID** as the destination database for which the transfer package is generated. Once the destination database is selected, it will automatically populate the **Transfer Set** field with the list of transfer sets previously used with the

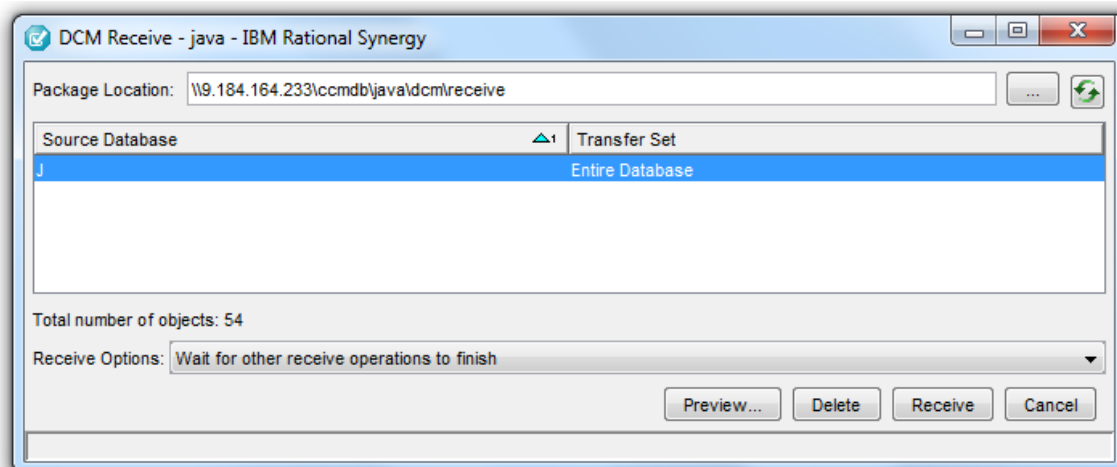
specified database. If you want to select a different transfer set, click on  button to invoke a **Select Transfer Set** dialog.

Once you select database ID and transfer set, it will automatically populated the Last Generated filed based on your selection. Normally you need to select the most recent generate time. If you are doing the generate for the first time for a specified database and transfer set, you normally select **Never**. When you select **Current time**, it uses the current server machine to generate the package. Usually it creates an empty package.

Once you select all the required fields, click on the **Generate** button to perform the generate operation. Before you generate a package, you can preview the generation of a transfer package for a specified transfer set and destination database. To show **DCM Generate Preview** dialog, click on the **Preview...** button. This will bring up the preview dialog box where you have an option to generate from the preview.

Receive transfer packages

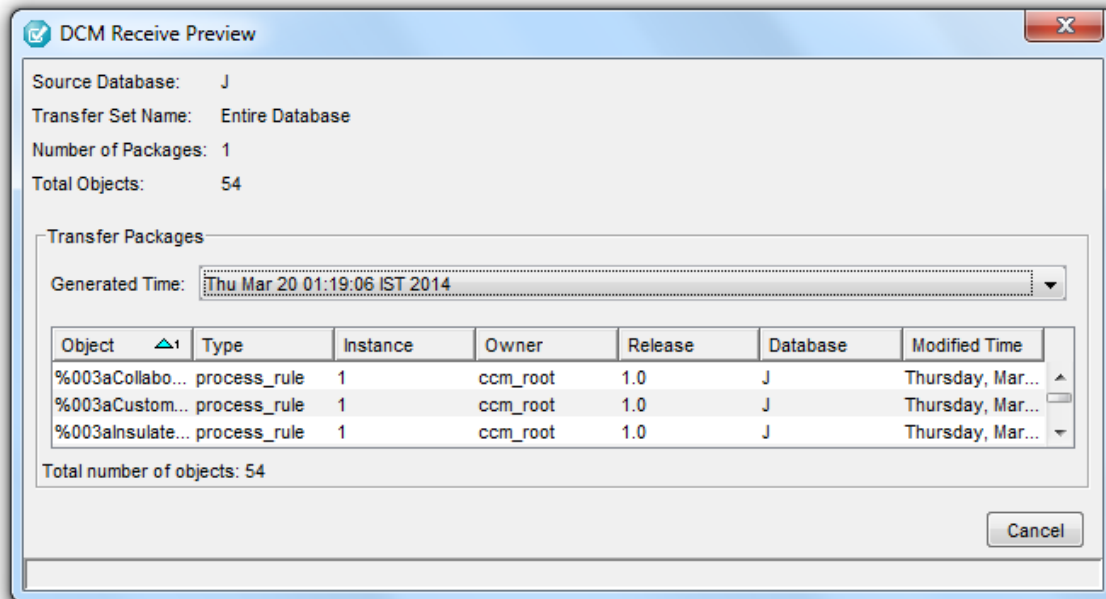
Once you generate a transfer package and the automatic receive option was not configured for that, you need to manually perform the receive operation on the destination database. You can perform the manual receive through **DCM Receive** dialog. To open the **DCM Receive** dialog, click on **Tools** menu, point to **DCM**, and choose **Receive**.



The table shows you all the pending transfer packages to receive. Before you start receiving transfer package, you can select other receive options like wait for other receive operations to finish, ignore any missing package, ignore checks for version delimiter, release delimiter or time synchronization.

If you want to remove any unwanted transfer package, select the transfer package from the table, click on **Delete**.

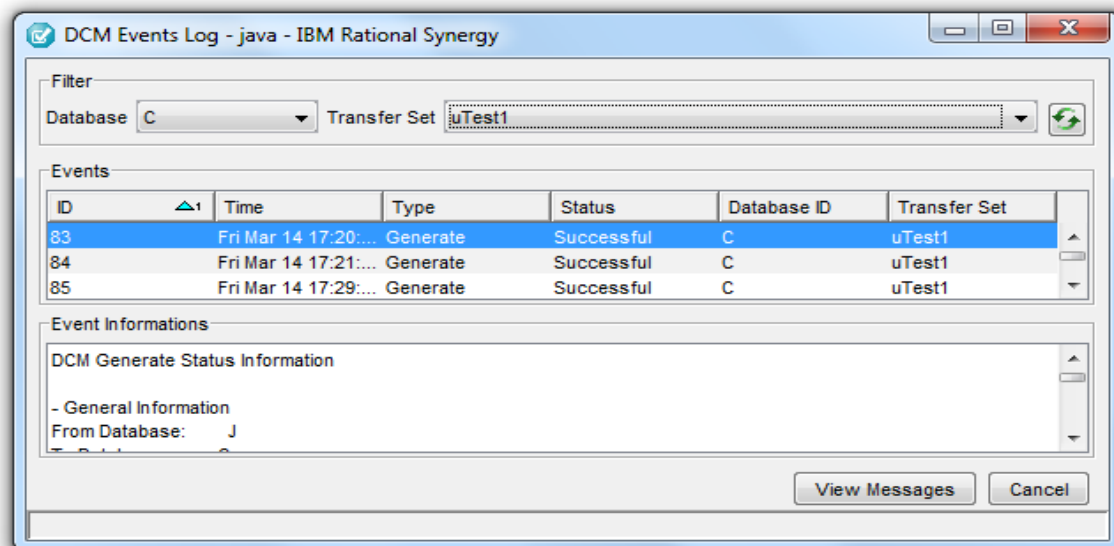
Before you start receiving, you can view the list of object in the transfer package by selecting the **Preview...** button



Once the receive is over it will create a summary and the summary will be recorded in the DCM event log. If the receive is successful, the package will be removed from the directory.

Show DCM events log

The DCM Event Log captures details of operations such as DCM initialize and reinitialize, DCM generate, DCM transfer and DCM receive. To open the **DCM Events Log** dialog, Click on the **Tools** menu, point to **DCM**, choose **Show DCM Event Log**.



DCM Settings

From Synergy 7.2.1.3 fixpack, user can modify DCM settings directly from Synergy client. To open the **DCM Settings** dialog, Click on the **Tools** menu, point to **DCM**, choose **DCM Settings**. To modify any DCM Setting user must have a *ccm_admin* in the database

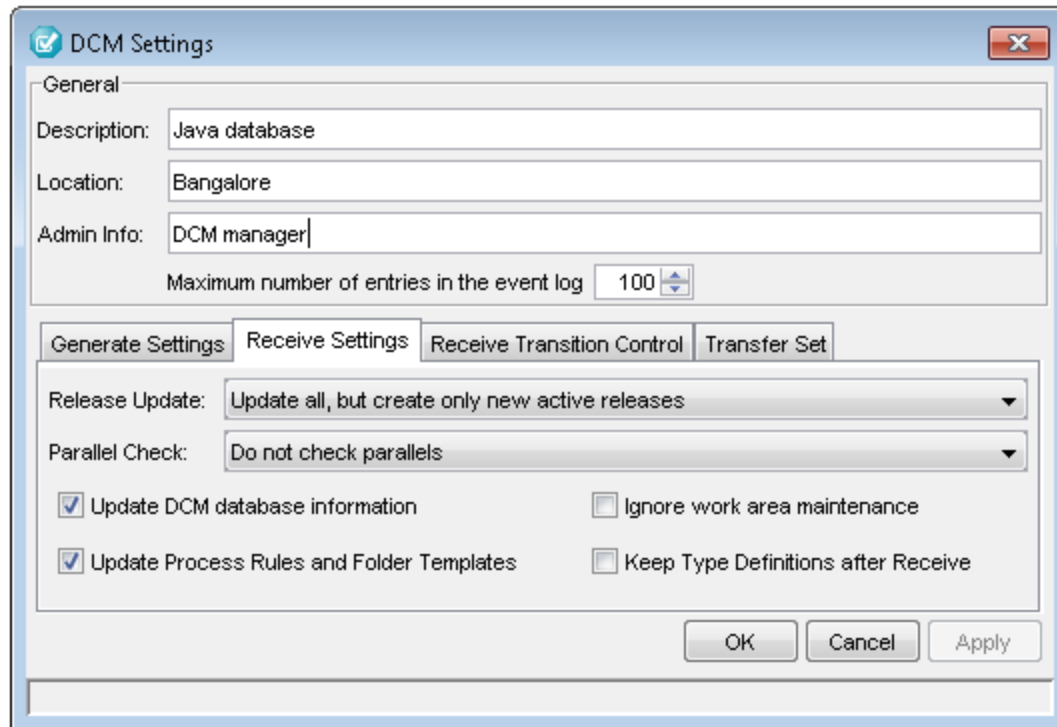
Description: Description of the current database. This description can be specified on DCM Initialize.

Location: Free-format text description of the geographic location for the current database. This location can be specified on DCM Initialize.

Admin Info: Free-format text details of the names and contact details of the DCM administrators of the current database. This information can be specified on DCM Initialize.

User can also specify the maximum number of entries allowed in the DCM Event Log. To know more about DCM event Log - see [About the DCM event log](#).

From the *Generate Settings* tab, user can modify the maximum number of last generated times for any transfer set and destination database pair, and number of old generate time along with the interval between these old generate time (Old Generate Time Resolution) . To know more about DCM generate time – see [How DCM stores generate](#)



From the Receive Setting tab, a user can configure following settings

- **Release Update:** Controls what actions, if any, are taken for release definitions on DCM receive .
- **Parallel Check:** Controls what parallel checking, if any, is performed on a DCM receive
- Controls whether DCM database definitions are automatically created or updated on DCM receive. – see [Replication of DCM database definitions](#).
- Controls whether process rules and folder templates in a transfer package are processed on a DCM receive.
- Controls whether projects that had a maintained work area in the source database is created on receive with work area maintenance enabled.
- Controls whether type definitions in a DCM transfer package are left in the *receive_directory* after the DCM receive operation has completed.

The screenshot shows the 'DCM Settings' dialog box with the 'Receive Transition Control' tab selected. The 'General' section contains the following fields: 'Description' (Java database), 'Location' (Bangalore), 'Admin Info' (DCM manager), and 'Maximum number of entries in the event log' (100). Below these are four tabs: 'Generate Settings', 'Receive Settings', 'Receive Transition Control' (selected), and 'Transfer Set'. The 'Receive Transition Control' tab contains a 'Transitions' list with one entry, 'checkpoint:integrate', and a 'Remove' button. To the right is the 'Add New Transition' section with 'From' (checkpoint) and 'To' (integrate) dropdown menus, and an 'Add' button. At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

From *Receive Transition Control* tab, a user can add or remove a valid state transition to the Receive Control Transitions list. This added state transition is allowed when receiving an object that is controlled in the current database.

The screenshot shows the 'DCM Settings' dialog box with the 'Transfer Set' tab selected. The 'General' section is the same as in the previous screenshot. Below the tabs, there are two checkboxes: 'Include associated baselines by default' (unchecked) and 'Include history by default' (checked). At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

From the *Transfer Set* tab, user can modify the settings which determines the default setting for history when an object is added to a transfer set, and the default setting for the *Include Associated Baselines* setting when a new transfer set is created.

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