IBM WebSphere Commerce Business Edition
IBM WebSphere Commerce Professional Edition

IBM

Migration Guide
for Linux

from WebSphere Commerce 5.4

Version 5.5

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> **Note:**
> Before using this information and the product it supports, be sure to read the general information under "Notices" on page 129.

First Edition, Fourth Revision (December, 2004).

This edition applies to IBM WebSphere Commerce Business Edition Version 5.5 for Linux, and to IBM WebSphere Commerce Professional Edition Version 5.5 for Linux, and to all subsequent releases and modifications until otherwise indicated in new editions. Make sure you are using the correct edition for the level of the product.

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About this book

This document describes the steps to migrate IBM® WebSphere® Commerce 5.4 to IBM WebSphere Commerce 5.5 on Linux. If you wish to migrate your previous version of WebSphere Commerce Studio to WebSphere Commerce Studio 5.5, see the *WebSphere Commerce Studio Migration Guide*.

This document collectively refers to the previous release plus any associated fix packs that have been applied to that previous release, as "WebSphere Commerce 5.4". This document refers to the current release, WebSphere Commerce 5.5, as "WebSphere Commerce 5.5" or "WebSphere Commerce".

Summary of changes

This Migration Guide, and any updated versions of this Migration Guide, will be available in the WebSphere Commerce Technical Library Web page (http://www.ibm.com/software/genservers/commerce/library/). For additional information for your WebSphere Commerce edition, see the overview pages:

- Business Edition

  (http://www.ibm.com/software/genservers/commerce/wcbe/)
- Professional Edition

  (http://www.ibm.com/software/genservers/commerce/wcpe/)

For additional support information, see the WebSphere Commerce Support site (http://www.ibm.com/software/genservers/commerce/support/).

To learn about last-minute changes to the product, see the updated product README file, also available from the above Web site. For instructions on how to install WebSphere Commerce 5.5 and its supported products, see the *WebSphere Commerce Installation Guide*.

Any updates to this book will be summarized in this section.

Updates from the last version of this book are identified by revision characters contained in the margin. This book uses the following conventions for revision characters:

- The "+" (plus) character identifies updates that have been made in the current version of this book.
- The "|" (split vertical bar) character identifies updates that have been made in the previous versions of this book.

The following table shows the main changes that have been made to this book.

Change	Chapter, section, or page affected
Added in information on selecting the WebSphere Application Server pass by reference setting after instance migration.	"Selecting the WebSphere Application Server pass by reference setting" on page 33
Added in information on creating JNDI names for JCA connectors.	"Creating JNDI names for JCA connectors" on page 34
Added setenv.sh file requirement for WCIM script when migrating Payments.	"Migrating your Payments instance using WCIM" on page 61

Change	Chapter, section, or page affected
Corrected steps to check the JDBC provider in the WebSphere Application Server Administration Console.	"Checking the JDBC Provider" on page 31
Added several steps to the procedure on changing your host name to the final host name after migration.	"Changing your host name(remote migration only)" on page 56
Specified that the WASPreUpgrade utility is run from the WebSphere Application Server product CD.	"Migrating your previous WebSphere Application Server configuration" on page 14
Removed *instance_name*_was_Start.xml file from list of files in the WCIM backup zip file.	"Running WCIM for migration" on page 26
Added steps to enable the "Enable servlet caching" flag.	"Enabling the dynamic cache service and servlet caching" on page 55
Clarify steps for deploying ear file.	"Deploying the migrated .ear file" on page 32
Corrected directory path.	"Configuring user roles" on page 95
Added troubleshooting item due to WebSphere Application Server behavior change.	Appendix E, "Troubleshooting," on page 123

What's new in WebSphere Commerce 5.5

Important enhancements and new features relative to WebSphere Commerce 5.4 have been introduced in WebSphere Commerce 5.5. For more detailed information on the new features and enhancements provided with WebSphere Commerce 5.5, see the *What's New in WebSphere Commerce* for Version 5.5 document. The following list is a summary of the enhancements:

- Access control policies — Updates to access control policies, including organization-based authorization policy and policy group subscription.
- Advanced discounts and promotions — New capabilities include a more flexible and easily customizable framework for both simple and complex discount and promotion models.
- Analytics and Business Intelligence — WebSphere Commerce Analyzer, Advanced Edition is now packaged with WebSphere Commerce, to provide a more sophisticated data extraction.
- Attachment support — Support introduced for a variety of file attachment formats.
- Business models — Consumer direct (formerly B2C), Business direct (formerly B2B), and Business indirect (new) which enables business-to-business transactions involving multiple enterprises.
- Catalog manager — No longer includes the Web Editor. Use the Product Management tooling in WebSphere Commerce 5.5.
- Channel management — The new Channel Management feature adds several business direct and business indirect models to support the relationships between various trading parties, such as Resellers, Distributors, Manufacturers, and Buyers, and the interactions with one another.
- Collaboration — Various enhancements including support for multiple queues and the ability for Customer Service Representatives to route or prioritize the customers waiting for assistance.

- Configuration Manager — Now contains tools to configure remote Web servers. Also new in this release is the Password Manager tool.
- Coupon Promotions — Various enhancements including support for guest customers to capture and redeem coupons and the enhanced capabilities for the Marketing Manager to manage coupons.
- Documentation — Two new guides have been introduced for WebSphere Commerce 5.5: the *Administration Guide* and the *Sample Store Guide*. The online help applicable to developers such as API and command reference information, is fully integrated with WebSphere Commerce Studio. The WebSphere Commerce help system has been tailored for Site Administrators and business users. API and command reference information has been moved to the WebSphere Commerce Studio help.
- E-mail activities — Enhancements include: opting out from e-mail at a store level rather than site, viewing statistics on e-mail activities, user interface for registering e-mail activity content.
- Outbound messages notification — Allows you to monitor whether outbound messages (including e-mail messages) have been sent or not sent.
- Installation — WebSphere Commerce 5.5 and all its associated software can now be installed through the WebSphere Commerce Install Shield. There are now three install methods: Typical, Custom, and Quick. The Quick install method allows you to quickly install WebSphere Commerce and create a WebSphere Commerce instance with minimal user interaction.
- InterChange Server adapter — Formerly known as CrossWorlds®, the IBM WebSphere InterChange Server (ICS) adapter offers a new mechanism to extend WebSphere Commerce business integration with ICSs. With this adapter, WebSphere Commerce can integrate with external systems by sending synchronous messages to these systems through ICS.
- Logging — Now uses the WebSphere Application Server logging facility, the JRas Logging Toolkit. JRas consists of multiple Java™ packages that provide message logging and diagnostic trace primitives and includes loggers, handlers, formatters, and so on.
- Messaging — Has migrated to the Java 2 Enterprise Edition Connector Architecture (J2EE/CA) standard (though the existing message system functionality is the same).
- WebSphere MQ — The existing listener for WebSphere MQ (previously, MQ transport adapter) now uses the new Java 2 Enterprise Edition Connector Architecture (J2EE/CA) infrastructure to integrate with JMS/MQ. WebSphere Commerce 5.5 supports WebSphere MQ Version 5.3
- Organization administration console — New functionality includes: search for organizations, the organization list appears with the list of organizations that meet search criteria, and members can be included or excluded from a group to which they implicitly belong, and so on.
- PRM messages — PRM (Partner Relationship Management) messages that represent the business flows between the Reseller marketplace and the distributors for the business indirect model have been introduced.
- Product advisor — Numerous enhancements to Product Advisor tasks.
- Product management — New wizards and notebooks have been created for bundles and kits, and merchandising associations. You can now use a wizard for creation and a notebook for changes.
- Sample stores — Existing sample stores such as FashionFlow and Tooltech (shipped with Business Edition only) have been enhanced, and a new CommercePlaza store is introduced (Business Edition only).

- Store development — The Publish utility has moved from Store Services to the Administration Console. The Store Profile, Tax and Shipping notebooks have now moved to the WebSphere Commerce Accelerator, allowing you to edit live data in the database, rather than the store archive. As a result, Store Services no longer exists. The packaging and publishing functionality is more flexible.
- Subsystems — See the *What's New in WebSphere Commerce* for Version 5.5 document for details on subsystem changes.
- Systems management — Enhancements have been made to administration, problem determination, logging, messaging, and performance monitoring.
- Web Services — Web services are self-contained, self-describing, modular applications that can be published, located, and invoked across the Web. Web services functions that can be invoked range from a simple request to complicated business processes. Once a Web service is deployed and registered, other applications can discover and invoke the deployed service. The foundation for Web services are standards such as simple object access protocol (SOAP), the Web services description language (WSDL), and the Universal Description, Discovery, and Integration (UDDI) registry. You can allow WebSphere Commerce to be the service provider by enabling its business functions as Web services that can be accessed by external systems. You can also allow WebSphere Commerce to be the service requestor by enabling it to invoke Web services hosted by external systems.
- WebSphere Commerce Payments — Formerly known as Payment Manager, WebSphere Commerce Payments is now integrated with WebSphere Commerce. As such, Payments is part of the WebSphere Commerce installation and configuration. New features include support for the new Cassette for Paymentech. The Cassette for VisaNet supports the use of SSL gateways to process credit-card transactions through the Internet. It also enables transactions to be processed through the First Horizon Merchant Services financial network in addition to the Vital Processing Services financial network. In WebSphere Commerce Payments, the SET™ and CyberCash payment methods are no longer supported.
- WebSphere Commerce Roles — Two new roles introduced in this release of WebSphere Commerce: Channel Manager and Registered Customer.

After you have migrated your WebSphere Commerce 5.4 system to WebSphere Commerce 5.5 as described in this Migration Guide, check the WebSphere Commerce 5.5 online help and other product documentation for information on how to use these features in your migrated system.

Who should perform the migration?

Since the migration tasks are quite technical, the bulk of these tasks should be performed by a System Administrator. The following is a summary of the various users and their expected role in the migration process:

System Administrator
Knowledge and experience:
- Familiar with programming (for example, Java, JavaServer Pages, and so on)
- Familiar with database administration
- Web master
- Knowledgeable on System Architecture

Tasks:

- Installs, configures, and maintains WebSphere Commerce.
- Manages the database.
- Manages the Web server.
- Controls access.
- Manages data updates through mass import or other mechanisms.

Expectations of the migration process:

*The migration programs and procedures should allow the current **system assets** to be migrated with minimum downtime.*

Store Developer

Knowledge and experience:
- Familiar with programming.
- Familiar with multimedia tools

Tasks:
- Creates and customizes the store.
- Sets up and customizes payment, shipping, and tax support.

Expectations of the migration process:

*The migration programs and procedures should allow the current **store assets** to be migrated with minimum downtime.*

Store Administrator

Knowledge and experience:
- Familiar with business-procedures.
- Web-literate.

Tasks:
- Manages orders
- Processes payments
- Assists shoppers
- Maintains online store
- Modifies online store

Expectations of the migration process:

Information acquired online such as orders and shoppers will be available and usable after migration.

Catalog Administrator

Knowledge and experience:
- Is a product expert.
- Is Web-literate and computer-literate.
- Is familiar with multimedia tools.

Tasks:
- Creates store catalogs
- Creates and manages products and categories
- Creates and manages pricing schemes
- Creates and manages reports

Expectations of the migration process:

Information using WebSphere Commerce 5.4 will not have to be recreated. Tools will be adaptable to extensions to the catalog.

Supported migration paths

> **Note:**
> This Guide describes the process to migrate to WebSphere Commerce 5.5 Business Edition or Professional Edition on the Linux platform.

The following migration paths for all national language versions are supported:
- WebSphere Commerce 5.4 Professional Edition to WebSphere Commerce 5.5 Professional Edition or Business Edition
- WebSphere Commerce 5.4 Business Edition to WebSphere Commerce 5.5 Business Edition

WebSphere Commerce 5.5 supports migration from the following WebSphere Commerce 5.4 fix pack levels:
- WebSphere Commerce 5.4.0.1
- WebSphere Commerce 5.4.0.2
- WebSphere Commerce 5.4.0.3
- WebSphere Commerce 5.4.0.4
- WebSphere Commerce 5.4.0.5

WebSphere Commerce 5.5 also supports migration from the following Commerce Enhancement Packs:
- WebSphere Commerce 5.4 Commerce Enhancement Pack 1
- WebSphere Commerce 5.4 Commerce Enhancement Pack 2
- WebSphere Commerce 5.4 Commerce Enhancement Pack 3

Attention: This Migration Guide has been tested only for the above migration paths. This Guide does not address migration to WebSphere Commerce 5.5 from any version of WebSphere Commerce 5.4 later than the above versions, that is, any version of WebSphere Commerce that has been upgraded by applying any potential future fix packs, interim fixes, or other enhancements.

Note that direct migration from Commerce Suite 5.1 to WebSphere Commerce 5.5 is also supported. To migrate from Commerce Suite 5.1, see the *WebSphere Commerce Migration Guide* for that path.

For any information on migration issues arising from the application of future fix packs, interim fixes, or other enhancements, see the WebSphere Commerce Support page (http://www.ibm.com/software/commerce/wscom/support/index.html)

Migrating from earlier versions

This guide describes the migration process for the above supported migration paths. To migrate from Commerce Suite 5.1 to WebSphere Commerce 5.5, see the *WebSphere Commerce Migration Guide* for that path.

Direct migration from earlier versions of Net.Commerce™ or Commerce Suite to WebSphere Commerce 5.5 is not supported.

To migrate from earlier versions of Net.Commerce or Commerce Suite , you must first migrate your existing system to one of the above supported levels and then use this document to migrate to WebSphere Commerce 5.5.

Migration paths by operating systems

WebSphere Commerce 5.5 supports the migration of WebSphere Commerce 5.4 on the same operating system. It specifically supports migration from the following paths:
- AIX® to AIX
- iSeries™ to iSeries
- Linux to Linux
- Solaris Operating Environment to Solaris Operating Environment
- Windows® 2000 to Windows 2000
- Windows NT® to Windows 2000

For information on the steps to migrate to WebSphere Commerce 5.5 for any of the the above platforms, refer to the appropriate *WebSphere Commerce Migration Guide* for Version 5.5, for that platform.

WebSphere Commerce 5.5 does not support migration between dissimilar operating systems, for example, WebSphere Commerce 5.4 on Windows NT to WebSphere Commerce 5.5 on Linux.

Non-supported migration paths

WebSphere Commerce 5.5 does not support the following migration path:
- Migration from WebSphere Commerce 5.4 Business Edition to WebSphere Commerce 5.5 Professional Edition; this path is invalid.
- Migration from one database vendor product to another.

Other considerations

- When you install a WebSphere Commerce 5.5 system on a machine that has WebSphere Commerce 5.4 installed, the directory for WebSphere Commerce 5.4 is preserved. The old version will not be upgraded to WebSphere Commerce 5.5.
- If you have customized code or commands written in Java or Enterprise JavaBeans™ objects in WebSphere Commerce 5.4, you need to redeploy them to the level required for WebSphere Commerce 5.5. See the ″Transitioning your customized code″ section of the *WebSphere Commerce Studio Migration Guide*. This transition is required due to the move to WebSphere Application Server 5.0 from WebSphere Application Server 4.0.x.

Conventions used in this book

This book uses the following highlighting conventions:
- **Boldface type** indicates commands or graphical user interface (GUI) controls such as names of fields, icons, or menu choices.
- `Monospace type` indicates examples of text you enter exactly as shown, file names, and directory paths and names.

- *Italic type* is used to emphasize words. Italics also indicate names for which you must substitute the appropriate values for your system. When you see any of the following names, substitute your system value as described:

host_name
    The fully qualified host name of your WebSphere Commerce server (for example, `mymachine.mydomain.ibm.com` is fully qualified).

> This icon marks a Tip - additional information that can help you complete a task.

Path variables

This Guide uses the following variables to represent directory paths:

HTTPServer1319_installdir
    This variable represents the actual installation directory for IBM HTTP Server Version 1.3.19 provided with WebSphere Commerce 5.4. The following is the default installation directory: `/opt/IBMHTTPServer`

HTTPServer1326_installdir
    This variable represents the actual installation directory for IBM HTTP Server Version 1.3.26 provided with WebSphere Commerce 5.5. The following is the default installation directory: `/opt/IBMHttpServer`

WAS40_installdir
    This variable represents the actual installation directory for WebSphere Application Server Version 4.0.x provided with WebSphere Commerce 5.4. The following is the default installation directory: `/opt/WebSphere/AppServer`

WAS50_installdir
    This variable represents the actual installation directory for WebSphere Application Server Version 5.0 provided with WebSphere Commerce 5.5. The following is the default installation directory: `/opt/WebSphere/AppServer`

WC54_installdir
    This variable represents the actual installation directory for WebSphere Commerce 5.4. The following is the default installation directory: `/opt/WebSphere/CommerceServer`

WC55_installdir
    This variable represents the actual installation directory for WebSphere Commerce 5.5. The following is the default installation directory: `/opt/WebSphere/CommerceServer55`

WPM312_path
    This variable represents the actual installation directory for the previous version of WebSphere Commerce Payments (WebSphere Payment Manager 3.1.2) provided with WebSphere Commerce 5.4. The following is the default installation directory: `/opt/PaymentManager`

Payments_installdir
    This variable represents the actual installation directory of WebSphere Commerce Payments Version 3.1.3 provided with WebSphere Commerce 5.5. The following is the default installation directory: `/opt/WebSphere/CommerceServer55/Payments`

Part 1. Required migration steps

The chapters in this part of the Migration Guide describe the mandatory tasks that are required to migrate to WebSphere Commerce 5.5 from WebSphere Commerce 5.4. They include:

- Chapter 1, "Before you migrate from WebSphere Commerce 5.4," on page 3
- Chapter 2, "Backing up WebSphere Commerce 5.4," on page 7
- Chapter 3, "Upgrading your software," on page 11
- Chapter 4, "Migrating your Commerce instance configuration," on page 17
- Chapter 6, "Migrating your WebSphere Commerce 5.4 database," on page 45
- Chapter 7, "Post instance and database migration," on page 51
- Chapter 8, "Migrating to Commerce Payments," on page 59

In addition, Chapter 12, "Migrating other WebSphere Commerce components," on page 95 describes optional post migration actions that you may wish to take depending on your requirements.

Chapter 1. Before you migrate from WebSphere Commerce 5.4

The following sections describe specific steps you must complete while you still have an operational WebSphere Commerce 5.4 system. The sections also describe some considerations you must make prior to beginning your migration to WebSphere Commerce 5.5.

Important

- This Guide describes two methods of implementing the migration process:
  - *In-place* migration - which requires a single machine
  - *Remote* migration - which requires two machines.

  While the in-place method is convenient since it requires only one machine, most users would likely find the downtime for their system using this method to be excessive, particularly for a production site. The complete migration process time duration consists of two major items:
  - Database migration - which could take many hours, depending on the size of the database (number of users, products, orders, user traffic, and so on).
  - Code migration - where code customization and testing may take a number of days.

  Since the live WebSphere Commerce 5.4 site has to be shut down as soon as the migration effort starts, the ***remote method is recommended over the in-place method for live sites where downtime is of concern***. The in-place method is suitable however for customization and testing of the migration process on a site that is not live.

- If you have customized code or commands written in Java or Enterprise JavaBeans in WebSphere Commerce 5.4, you need to redeploy them to the level required for WebSphere Commerce 5.5. See the ″Transitioning your customized code″ section of the *WebSphere Commerce Studio Migration Guide*. This transition is required due to the upgrade to WebSphere Application Server 5.0 from WebSphere Application Server 4.0.x.

- After you install WebSphere Commerce 5.5, you need to install the IBM WebSphere Commerce 5.5.0.2 fix pack. This fix pack includes fixes and enhancements for the migration process. This fix pack is available from the WebSphere Commerce Support site (`http://www.ibm.com/software/genservers/commerce/support/`). Click on the link for the edition you are using and see the section **Download**. Download this fix pack, and follow the instructions that are provided to install it. You should not proceed with the migration steps in this Guide (such as migrating your instance or database) without installing this fix pack.

Premigration actions

Before proceeding with the migration steps contained in the rest of this guide, ensure that you take the following actions while your system is operational at the WebSphere Commerce 5.4 level.

Ensuring no new messages are stored in MSGSTORE table

In WebSphere Commerce 5.4, when you send a `SendTransacted` message, a message is stored in the `MSGSTORE` table in the database. Once the message is sent, the entry is removed from the database. In fact, the data in this table is considered to be transient because there should not be any remaining messages in this table (unless some settings are incorrect). In your WebSphere Commerce 5.4 system, you should have been cleaning up this table on a regular basis.

When you migrate to WebSphere Commerce 5.5, the data in this table cannot be reused. Before shutting down your original WebSphere Commerce 5.4 instances, you should perform the steps below. A period of time is required where the original system does not take any further orders or requests, in order to bring the system to a halt gracefully. During this period, ensure that there are no new messages stored in the `MSGSTORE` table as follows:

1. Log on to the Administration Console as the Site Administrator.
2. At the Site or Store selection panel, select **Site**
3. Open the Configuration - Transports menu
4. Change the status of each transport to **Inactive**
5. Repeat the steps above to disable the transports for each store

   Disabling the transport does not prevent messages in the `MSGSTORE` table from being sent. It only prevents new messages from being saved in the `MSGSTORE` table.

   The scheduler will attempt to deliver all messages in `MSGSTORE`. (By default, the scheduler runs SendTransactedMsg job at 5 minute intervals, and the number of retries is 3.)

   After 15 minutes, there should not be any message in `MSGSTORE` with retries that are greater than zero.
6. Check whether there are any remaining entries in `MSGSTORE` with retries greater than zero using the following SQL statement:

   ```
   select count(distinct msgid) from msgstore where retries > 0
   ```

   The select statement shows how many messages WebSphere Commerce 5.4 still needs to deliver. The result is one row, one column with a numeric result that is 0 (zero) or greater.

   If the result is 0 (zero), it means that there are no pending messages to be delivered, and that the table is ready to be migrated.

   If the result is greater than 0 (zero), it means that WebSphere Commerce 5.4 is still attempting to deliver remaining messages. Note that after this count reaches 0 (zero), it should not increment if you subsequently run this SQL. If you notice that the result keeps on incrementing, it means that not all transports have been shut down. Refer to the steps above to disable the transport (you need to do that for the site as well as all stores).

   Once the SQL select statement returns 0 (zero), you can run the following:

   ```
   select count(distinct msgid) from msgstore where retries = 0 or retries = -1
   ```

   This select statement determines whether there are any messages that have not been delivered.

   If the result is zero, there are no left over messages.

   If the result is anything larger than zero, there are messages left in the `MSGSTORE` table. It is recommended that you delete the left over messages. (It is always a good practice to clean up this table periodically by deleting left over messages.)

Preparing the staging server for migration

You must synchronize your staging server database with your production WebSphere Commerce 5.4 database prior to migration. You can either:

- Run the Stage Propagate utility command (`stagingprop`) prior to the data migration. See the topic "Stage Propagate utility command" in the WebSphere Commerce 5.4 online help for more information on running the utility.
- If you do not wish to propagate the changes you have made to your database, you can use the Stage Copy utility command (`stagingcopy`) to synchronize your databases. (This option will normally take much longer.) See the topic "Stage Copy utility command" in the WebSphere Commerce 5.4 online help for more information on running the utility.

After synchronizing your staging server database:

- Clean up the staging database to speed up migration (optional).

  In order to speed up the staging server database migration, run the Stage Copy utility (stagingcopy) using the `-cleanup_stage_db _only_` option. For details on how to run the Stage Copy utility, see the information in the section "Staging server commands" in the WebSphere Commerce 5.4 online help.

  Note: You need to drop all your customized triggers. Otherwise those triggers may get executed during the staging database migration and create an unexpected problem. You need to remember those triggers and reapply them after the staging database migration if necessary.

- Migrate your staging server database using the database migrations script as documented in Chapter 6, "Migrating your WebSphere Commerce 5.4 database," on page 45. The process of migrating this database will be similar to your production database.

Transitioning to WebSphere Application Server 5.0

IBM WebSphere Application Server, Version 5, offers a world-class infrastructure for the next chapter in open e-business platforms. As the foundation of the WebSphere software platform, WebSphere Application Server provides a rich, e-business application deployment environment with a complete set of application services including capabilities for transaction management, security, clustering, performance, availability, connectivity and scalability. Version 5 offer full J2EE specification support (Servlet 2.3, JSP 1.2, EJB 2.0, and others), as well as a variety of extensions.

For details on the new features introduced in WebSphere Application Server 5.0, see the topic "What is new in Version 5" in the WebSphere Application Server 5.0 Information Center (http://www.ibm.com/software/webservers/appserv/infocenter.html)

Chapter 2. Backing up WebSphere Commerce 5.4

Before you proceed with the migration process documented in this Guide, you should perform a complete system backup of your working WebSphere Commerce 5.4 system. This will enable you to recover your previous system in the event that you encounter problems while migrating to WebSphere Commerce 5.5.

Backing up your WebSphere Commerce 5.4 system

To back up your WebSphere Commerce 5.4 system, you can perform a complete system backup of your WebSphere Commerce 5.4 system in accordance with the documentation provided with your operating system or any specialized backup and restore software you are using. Typically, you can backup your system to a tape drive, a ZIP drive, or some other file system. You should ensure that your system backup includes the following important components:

- The main WebSphere Commerce 5.4 installation directory including all underlying subdirectories and files. These directories and files should be backed up to a location that is easily accessible during the migration process since you may need to refer to these directories and files at some point in the migration process. In particular, back up the instances and *your_instance* subdirectories under *WC54_installdir*. For a list of the specific files and directories that should be backed up, see "Backing up directories and files".

- Any customized files and directories used for WebSphere Commerce 5.4 and including associated components such as the database, the Web server, WebSphere Commerce Payments (formerly WebSphere Payment Manager), WebSphere Application Server, and the IBM Developer Kit, Java 2 Technology Edition. Copy these files into a backup directory.

- Your WebSphere Commerce 5.4 database as described in "Backing up your databases" on page 8.

Backing up directories and files

If you have performed a complete system backup, you will have included the following files and directories in that backup. It may be advisable however to additionally back up the following important files and directories to a location that is easily accessible to you during the migration process. To manually back up any of the following directories or files:

1. From a command prompt, create a temporary backup directory.
2. Switch to the WebSphere Commerce 5.4 installation directory (*WC54_installdir*).
3. Select the appropriate directories or files and copy them to the temporary backup directory.

Following is the list of important directories and files that you may wish to consider for additional back up:

- The WebSphere Commerce 5.4 files and directories under *WC54_installdir* directory. Note that the WCIM instance migration tool backs up the following files and directories when you run it in "Migrating your instance configuration using WCIM" on page 20, however it is still recommended that you back these files up to a location that you can access:
  - properties/*
  - xml/product.*

- – PaymentManager/profile.dtd
- – instances/wcs_instances
- – bin/cfg.passwd
- – instances/*instance_name*/*
- The following Web server files under the *HTTPServer1319_installdir* directory:
  - – conf/httpd.conf
  - – ssl/keyfile.kdb
  - – ssl/keyfile.sth
- Customized code that you have stored to a custom location. You need to ensure that you have backed up your custom code either as part of the complete system backup or by some other manual means. Customized code is not backed up by the WCIM tool during the instance migration step in "Migrating your instance configuration using WCIM" on page 20. For further information on custom code migration, refer to the section "Transitioning your customized or extended code" in the *WebSphere Commerce Studio Migration Guide*.
- Other miscellaneous files:
  - – Any file-based content such as static HTML pages and GIF files.
  - – Any database `.sql` scripts.
  - – Any JavaServer Pages (JSP files).
  - – Any customized commands and files (for example, `.java`, `.class`, `.jar`, `.zip`, or `.properties` files).
  - – Any customized document files (for example, `.pdf` or text files).

Backing up your databases

The following sections describe how to backup your databases.

DB2 databases

To backup your DB2® database, perform the following actions from one of the following machines:

- Your DB2 server machine — in a 2–tier or 3–tier environment (where your database is installed on a machine that is remote from your WebSphere Commerce 5.4 machine)
- Your Commerce machine — in a single–tier environment (where your database is installed on the same machine as your WebSphere Commerce 5.4 machine)

1. Log on as your DB2 instance owner ID (for example, db2inst1):

   `su - `*db2_instance*

2. Complete all database transactions by shutting down your WebSphere Commerce 5.4 system.

3. Ensure that all applications are disconnected from each database. To view a list of all the applications that are connected to a database, run the following command:

   `db2 list applications`

   If no applications are connected to your database, the following message displays:

   `SQL1611W No data was returned by the Database System Monitor. SQLSTATE=00000`

   If any applications are listed as being connected to your database, you will need to locate the source of the application and shut it down. After you have shut down the connected applications, reissue the `db2 list applications` command and verify that no data is returned by the status monitor.

4. Ensure that all your WebSphere Commerce 5.4 databases (such as MSER, MALL, and so on) are cataloged. To view a list of all the cataloged databases in the current instance, type the following command:

   ```
   db2 list database directory
   ```

5. Create a directory where you will back up your databases, for example:

   ```
   mkdir /db2_backup
   ```

6. Back up all WebSphere Commerce 5.4 databases (such as MSER, MALL, and so on) by typing the following command:

   ```
   db2 backup database db_name to backup_directory
   ```

   where *db_name* is the name of the database, and *backup_directory* is the full path to where you want to back up the database. The *backup_directory* must exist. You should receive a message indicating that the back up was successful. For example, to back up the MALL database to the above backup directory, use the following command:

   ```
   db2 backup database MALL to /db2_backup
   ```

   If you have more than one database, repeat the command for each WebSphere Commerce 5.4 database.

   | You should back up any non-WebSphere Commerce 5.4 databases, such as the WAS or WAS40 databases, or the WebSphere Commerce Payments (formerly WebSphere Payment Manager) database, PAYMAN, at this time. |

For more information on backing up databases, refer to the *DB2 Administration Guide*. For more information on the syntax of the backup command, refer to the *DB2 Command Reference*.

Restoring a DB2 database: To restore a backed up DB2 database, use the following command:

```
db2 restore database db_name from backup_dir
```

where *db_name* is the name of your database that you wish to restore (for example, MALL) and *backup_dir* represents the directory where you have kept your backup copy of the database (for example, /db2_backup).

For more information on restoring DB2 databases, refer to the *DB2 Administration Guide*. For more information on the syntax of the restore command, refer to the *DB2 Command Reference*.

Chapter 3. Upgrading your software

This chapter describes how to upgrade your software to the levels required by WebSphere Commerce 5.5. Prior to upgrading your software, you should backup your WebSphere Commerce 5.4 system, including the database. See Chapter 2, "Backing up WebSphere Commerce 5.4," on page 7 on how to perform a system backup.

If you need to stop any of your WebSphere Commerce 5.4 software components, see the appendix of the appropriate Installation Guide for your product and platform for the detailed steps.

Mapping the WebSphere Commerce 5.4 to WebSphere Commerce 5.5 IBM software

The following table maps the version levels and the *default* installation paths between WebSphere Commerce 5.4 and WebSphere Commerce 5.5 for most of the software packaged with those versions.

Table 1. Supplied software versions and installation paths for WebSphere Commerce for Linux

Software	WebSphere Commerce 5.4	WebSphere Commerce 5.5
WebSphere Commerce	Version 5.4	Version 5.5
	/opt/WebSphere/CommerceServer	/opt/WebSphere/CommerceServer55
DB2 Universal Database™ Enterprise Server Edition	Version 7.1.0.67 (DB2 7.2 FixPak 7 plus eFixes (including eFix psmgtptp.bnd))	Version 8.1.0.16 (Version 8.1 plus FixPak 2)
	/usr/IBMdb2/V7.1	/opt/IBM/db2/V8.1
IBM WebSphere Application Server — Advanced Edition	Version 4.0.2 (Version 4.0.1 plus Version 4.0.2 PTF and eFixes)	.2
	/opt/WebSphere/AppServer	/opt/WebSphere/AppServer
IBM HTTP Server	Version 1.3.19.1	Version 1.3.26
	/opt/IBMHTTPServer	/opt/IBMHttpServer
IBM SDK for Java	Version 1.3.0	Version 1.3.1
	/opt/WebSphere/AppServer/java	/opt/WebSphere/AppServer/java
WebSphere Commerce Payments (Formerly IBM WebSphere Payment Manager)	Version 3.1.2	Version 3.1.3
	/opt/PaymentManager	/opt/WebSphere/CommerceServer55/payments (Integrated with WebSphere Commerce 5.5.)
IBM SecureWay® Directory Server	Version 3.2.1	Version 4.1
Blaze Advisor Rules Server	Version 3.1.3	Version 4.5.5
	/opt/WebSphere/CommerceServer/blaze	/opt/WebSphere/CommerceServer55/blaze
Macromedia LikeMinds Personalization Server	Version 5.2.x	Version 5.5

Table 1. Supplied software versions and installation paths for WebSphere Commerce for Linux (continued)

Software	WebSphere Commerce 5.4	WebSphere Commerce 5.5
Lotus® QuickPlace®	Version 2.9.8	Version 3.0
Lotus Sametime®	Version 2.5	Version 3.0

Approach to upgrading the software

You must install WebSphere Commerce 5.5 including the prerequisite software on a *clean* machine (that is, a machine which does not have any of the WebSphere Commerce 5.5 software components, or previous versions of them installed). This *clean* machine should be remote from your WebSphere Commerce 5.4 machine, that is, it should be a separate machine. It would be helpful in the migration process if the two machines are connected over the network so that assets can be easily transferred between them. Note that you can set up your WebSphere Commerce 5.5 system according to any of the supported topologies:

- 1–tier (All WebSphere Commerce components are on the same machine)
- 2–tier (The database is on a remote machine relative to WebSphere Commerce)
- 3–tier (The database and the Web server are on remote machines relative to WebSphere Commerce)
- In addition, WebSphere Commerce Payments can be installed on a separate machine from your WebSphere Commerce machine.

For more details, refer to "Installing WebSphere Commerce 5.5 on a separate machine (remote migration)."

Installing WebSphere Commerce 5.5 on a separate machine (remote migration)

Install and setup your WebSphere Commerce 5.5 system on a machine that is separate from WebSphere Commerce 5.4. The target machine must be one of the supported WebSphere Commerce 5.5 platforms with the prerequisite amount of memory, CPU-type, and disk space. For information on these pre-requirements, see the *WebSphere Commerce Installation Guide* for your platform. For information on installing the WebSphere Commerce 5.5 system, see the chapters on installation in the *WebSphere Commerce Installation Guide* for your platform.

> **Important**
>
> After you install WebSphere Commerce 5.5, you need to install the IBM WebSphere Commerce 5.5.0.2 fix pack. This fix pack includes fixes and enhancements for the migration process. This fix pack is available from the WebSphere Commerce Support site
> (http://www.ibm.com/software/genservers/commerce/support/). Click on the link for the edition you are using and see the section **Download**. Download this fix pack, and follow the instructions that are provided to install it. You should not proceed with the migration steps in this Guide (such as migrating your instance or database) without installing this fix pack.

Note: In order to successfully apply all WebSphere Application Server interim fixes during the WebSphere Commerce 5.5 installation process, you should ensure that your Web server is shut down. In addition, after the WebSphere

Commerce 5.5 installation is complete, check the `wcWASeFixer.log` file and ensure that all WebSphere Application Server interim fixes were successfully installed.

Additional machine requirements for transition

In addition to the pre-requirements documented in the *WebSphere Commerce Installation Guide*, you need to meet the following additional requirement for migration:

For a single-tier configuration, the target machine hard disk space requirement should be at least twice the current WebSphere Commerce 5.4 database size in addition to the WebSphere Commerce 5.5 installation hard disk requirement. The guideline is based on the following requirements:

- Space to hold a backup copy of the WebSphere Commerce 5.4 database.
- Space to hold a backup copy of the WebSphere Commerce 5.5 database at various stage of the migration.
- Space for logs.

Creating a WebSphere Commerce test instance

After you have successfully installed and verified the WebSphere Commerce 5.5 software as documented in the *WebSphere Commerce Installation Guide*, you should create a WebSphere Commerce test instance on your WebSphere Commerce 5.5 system.

To create a test instance, log on to the WebSphere Commerce Configuration Manager interface.

For information on the steps to create a WebSphere Commerce instance using Configuration Manager, see the configuration section of the *WebSphere Commerce Installation Guide* for your database and platform.

You can create a test store to verify the functionality of the WebSphere Commerce 5.5 installation. If you intend to retain the test instance, ensure that you choose an instance name that is different from the one that you are migrating from WebSphere Commerce 5.4, to avoid any possible conflicts. Once you are satisfied that the WebSphere Commerce 5.5 system is functional, you can delete your test instance and test database. See the *WebSphere Commerce Installation Guide* for information on deleting a WebSphere Commerce 5.5 instance.

Exporting the WebSphere Commerce 5.4 enterprise application

Before you begin the transition to WebSphere Application Server 5.0, you need to export your existing WebSphere Commerce 5.4 enterprise applications (`WC_Enterprise_App_instance_name.ear`, for example, `WC_Enterprise_App_demo.ear`) while you are at the previous WebSphere Application Server 4.0.x level. You should also export the previous Payment Manager ear file. The WebSphere Commerce 5.5 WCIM instance migration tool will need to access the exported application in order to migrate it to the WebSphere Commerce 5.5 level.

You can export your application to a location of your choice:

1. Select the Enterprise Applications folder in the tree view of the WebSphere Application Server 4.0.x administrative console. The details view of the console will display the list of the installed applications (including those for WebSphere Commerce 5.4 and Payment Manager).

2. Right-click your application in the details view and select **Export Application** from the menu.

3. In the Export Application dialog that opens:

   a. From the **Node** drop-down list, select a node to which the application should be exported.

   b. In the **Export directory** field, specify the target drive and directory for the application. (for example, /WAS40_backup)

   c. Click **OK**.

   The application will be exported to the specified node and directory, and will have the name *enterpriseApplicationName*.ear.

4. Copy the exported WC_Enterprise_App_*instance_name*.ear file into the migration working directory on WebSphere Commerce 5.5. This is specified by the WORK_DIR variable in the wcimenv.sh file. (WORK_DIR is typically set to *WC55_installdir*/temp.) See Table 2 on page 22 for the definition of WORK_DIR.

Migrating your previous WebSphere Application Server configuration

In order to migrate your previous WebSphere Application Server administrative configurations to the new WebSphere Commerce 5.5 system, you need to use the WASPreUpgrade and WASPostUpgrade tools.

1. Ensure the administrative server of the previous WebSphere Application Server environment is running. From the WebSphere Application Server 5.0 product CD, run the WASPreUpgrade tool and have it point to your previous WebSphere Application Server machine. The tool will preserve the previous administrative configurations into a backup directory. The syntax to run the WASPreUpgrade tool is described in the WebSphere Application Server 5.0 Information Center (http://www.ibm.com/software/webservers/appserv/infocenter.html). For example:

   WASPreUpgrade *backupDirectory WAS40_installdir yourNodeName*

   In addition, you will need to export your WebSphere Commerce 5.4 and Payment Manager enterprise application (EAR file) as documented in "Exporting the WebSphere Commerce 5.4 enterprise application" on page 13. The WCIM tool requires access to the exported EAR file in "Migrating your instance configuration using WCIM" on page 20, in order to migrate your instance.

   Due to the time spent on importing and deploying EJBs, you may experience a performance problem with the instance migration to WebSphere Commerce 5.5. To improve instance migration performance, you need to modify the websphere_backup.xml file and remove the EJB-related section after you have run the WASPreUpgrade tool as follows:

   a. After running WASPreupgrade, locate the file websphere_backup.xml and make a backup copy of it, and then open the file in an editor.

   b. Locate the <enterprise-application action="create" name="*instance_name* - WebSphere Commerce Enterprise Application"> entry and remove the entire node:

```
|        <enterprise-application action="create" name="instance_name -
|           WebSphere Commerce Enterprise Application">
|        ...
|        </enterprise-application>
```

| This will prevent the EJBs from being imported or deployed during instance
| migration.

2. Transfer the complete backup directory of your previous administrative
   configurations (including all files and subdirectories) from your previous
   WebSphere Commerce 5.4 machine to your WebSphere Commerce 5.5 machine.

3. After transferring the backup directory, edit the `websphere_backup.xml` file (that
   is located in the backup directory on the WebSphere Commerce 5.5 machine).
   Search for all occurrences of the WebSphere Commerce 5.4 machine's node
   name, IP address, and domain, and replace them with the WebSphere
   Commerce 5.5 machine's node name IP address, and domain respectively.

4. Run the `WASPostUpgrade` tool on your WebSphere Application Server 5.0
   machine to migrate the previous configuration (stored in the backup directory)
   to the new installation. The `WASPostUpgrade` tool is available in the
   `WAS50_installdir`/bin directory.The syntax to run this tool is described in the
   WebSphere Application Server 5.0 Information Center
   (`http://www.ibm.com/software/webservers/appserv/infocenter.html`).

   For example:

   `WASPostUpgrade backupDirectory`

   Check the `WASPostUpgrade.log` file located in the `WAS50_installdir`/logs
   directory. You can ignore any messages related to missing EJB files since they
   will not be available on the WebSphere Commerce 5.5 machine.

WebSphere Application Server JDBC Provider level consideration

The default behavior of WASPostUpgrade is to maintain the previous scope of the
JDBC Provider level of WebSphere Application Server 4.0.*x* when migrating to
WebSphere Application Server 5.0. This means that the JDBC provider scope will
be kept as global as this the default scope in WebSphere Application Server 4.0.*x*.
In WebSphere Application Server 5.0, the default for the JDBC provider scope is
under the server level as opposed to global.

Next Step

Proceed to Chapter 4, "Migrating your Commerce instance configuration," on page
17.

Chapter 4. Migrating your Commerce instance configuration

This section describes how to migrate your WebSphere Commerce 5.4 instance configuration to a WebSphere Commerce 5.5 instance configuration. For information on how to create a new WebSphere Commerce 5.5 instance, refer to the section "Create or modify an instance with Configuration Manager" in the *WebSphere Commerce Installation Guide* for your database and platform.

The WebSphere Commerce 5.4 instance migration is performed by starting from a base WebSphere Commerce 5.5 instance (EAR) and adding in the required components from the WebSphere Commerce 5.4 instance. As there are some changes in the instance packaging between WebSphere Commerce 5.4 and WebSphere Commerce 5.5, the instance migration tool places the instance files into the appropriate module within the WebSphere Commerce 5.5 EAR, and updates the instance files, configuration files and deployment descriptors as necessary.

The WCIM (WebSphere Commerce Instance Migrator) tool is provided to perform the WebSphere Commerce instance migration step.

Checking the LANG environment variable

You should ensure that the `LANG` environment variable is set correctly on your operating system for your national language before you proceed with the instance or database migration. To see the value of the `LANG` environment variable, from a command prompt, enter the following command:

```
echo $LANG
```

If it is not set to your correct locale, you need to execute the following command before database migration:

```
export LANG=locale
```

where locale is the locale corresponding to your national language, for example, en_US for English (United States). The `LANG` environment variable must be set correctly for your system in order for the database migration to work properly.

If it is not set, you can add the following statement in your `.profile` file:

```
export LANG=locale
```

For list of locales supported by WebSphere Commerce, see the section "Locales used by WebSphere Commerce" in the *WebSphere Commerce Installation Guide*.

Checking the WebSphere Commerce 5.5 product.xml file (in-place migration only)

You should check the `<migrationFrom>` section of the `product.xml` file on the WebSphere Commerce 5.5 machine and ensure that all the values are properly set for your migration path prior to running WCIM. The `product.xml` file is located in the `WC55_installdir`/xml directory.

Verify that the values are correctly set in the `<migrationFrom>` section in the `product.xml` file as follows. (The `<migrationFrom>` section specifies information for your previous machine, from where you are migrating.)

17

```
<migrationFrom>
   <edition>
      <name>name</name>
   </edition>
   <version>5</version>
   <release>rel</release>
   <modification>mod</modification>
   <fixpak>fixpak</fixpak>
   <path>path</path>
   <altpath>alt_path</altpath>
</migrationFrom>
```

In the above:

- *name* is one of:

  Pro   WebSphere Commerce Professional Edition

  Business   WebSphere Commerce Business Edition

- **5** is the version of WebSphere Commerce. The only possible value for this migration is 5.
- *rel* is:

  4   For the WebSphere Commerce 5.4 release.

- *mod* is one of:

  0   WebSphere Commerce 5.4.**0**.1

  0   WebSphere Commerce 5.4.**0**.2

  0   WebSphere Commerce 5.4.**0**.3

  0   WebSphere Commerce 5.4.**0**.4

  0   WebSphere Commerce 5.4.**0**.5

- *fixpak* is one of:

  0   WebSphere Commerce 5.4.0.**0** or WebSphere Commerce 5.4.0.1 (See the **Note** at the end of this section on page 19.)

  2   WebSphere Commerce 5.4.0.**2**

  3   WebSphere Commerce 5.4.0.**3**

  4   WebSphere Commerce 5.4.0.**4** or WebSphere Commerce 5.4.0.5 (See the **Note** at the end of this section on page 19.)

- *path* is the installation path for the previous WebSphere Commerce 5.4 system (*WC54_installdir*).
- *alt_path* is the full or long installation path for the previous WebSphere Commerce 5.4 system (*WC54_installdir*). This is only used on Windows. On non-Windows platforms, this can either be the same value as *path* or be left blank.

> To check your current release, use the following SQL query against the site table:
>
> ```
> select * from SITE
> ```
>
> View the results for the `PRODUCTVERSION` column to determine your release level.

The following is an example of what your `product.xml` file needs to contain if you are migrating from WebSphere Commerce 5.4.0.0 Business Edition:

```
<migrationFrom>
   <edition>
      <name>Business</name>
   </edition>
   <version>5</version>
   <release>4</release>
   <modification>0</modification>
   <fixpak>0</fixpak>
   <path>/opt/WebSphere/CommerceServer</path>
   <altpath>/opt/WebSphere/CommerceServer</altpath>
</migrationFrom>
```

Note: If you are migrating from WebSphere Commerce 5.4.0.**1** (WebSphere Commerce 5.4 plus fix pack 1), you need to use the same parameters that you would use if you are migrating from WebSphere Commerce 5.4.0.**0**. That is, the `<fixpak></fixpak>` value should be set to **0**and not **1**. So your `<migrationFrom>` section should appear consistent with the above example.

Similarly, if you are migrating from WebSphere Commerce 5.4.0.**5** (WebSphere Commerce 5.4 plus fix pack 5), you need to use the same parameters that you would use if you are migrating from WebSphere Commerce 5.4.0.**4**. That is, the `<fixpak></fixpak>` value should be set to **4** and not **5**.

Workaround to adjust the fix pack level

For migrations on Linux, you need to ensure that the fix pack level is set to a value of 0 (zero) in the WebSphere Commerce 5.5 `product.xml` file. For example, in your `product.xml` file for Professional Edition, the default values are:

```
<commerceserver>
     <name>IBM WebSphere Commerce Server</name>
     <edition>
       <name>Pro</name>
     </edition>
     <version>5</version>
     <release>5</release>
     <modification>0</modification>
     <fixpak>1</fixpak>
     <build>
     .
     .
     .
```

Change 1 to 0 (that is, **<fixpak>0</fixpak>**) and save the `product.xml` file before you perform the instance migration.

Steps before migrating your instance configuration

Before migrating your WebSphere Commerce 5.4 instance to WebSphere Commerce 5.5:

- The WCIM tool will back up the entire directory structure for your instance. If you have WebSphere Commerce 5.4 customized files and directories in other locations outside of the instance directory, you must now copy these files and directories from these other locations to a directory under the instance root directory structure. This way, WCIM will restore your customized files and directories for you. For details on custom code migration, refer to the *WebSphere Commerce Studio Migration Guide*.

To restore the files and directories from the other locations, do the following:

1. Open a command window and navigate to the directory that contains the customized files, or to the custom directory.
2. Select the appropriate files or directories and copy them to the appropriate WebSphere Commerce 5.4 directory.

- If WebSphere Application Server security is turned on, you must disable it before migrating your instance as follows:
  1. Open the WebSphere Application Server Administration console.
  2. Click **Console > Security Center** and clear the **Enable Security** check box on the General tab.
  3. Click **Finish**.
  4. Restart the WebSphere Application Server administrative server.
- Updating the WebSphere Commerce administration tools ports (optional)

  In WebSphere Commerce 5.5, the administration tools run on separate ports than the WebSphere Commerce server. Instance migration, assigns the following default port numbers for these administration tools:

  Port number
  >   **WebSphere Commerce tool**

  8000   WebSphere Commerce Accelerator

  8002   WebSphere Commerce Administration Console

  8004   WebSphere Commerce Organization Administration Console

  If you wish to use non-default ports for the above tools, add the following three lines in the `<Websphere>` node under the `<InstanceProperties>` node in the `instance_name.`xml file. This file is located in the `WC55_installdir`/instances/`your_instance`/xml directory. The following lines override the default settings and use a non-default port for these administration tools:

  ```
  ToolsPort = "desired_tools_port_number"
  AdminPort="desired_admin_port_number"
  OrgAdminPort="desired_org_admin_port_number"
  ```

  For example:
  ```
  <Websphere Name="WebSphere Commerce DB2 DataSource"
      JDBCDriverLocation=""
      StoresWebApp="true"
      ToolsWebApp="true"
      WCMWebApp="true"
      name="WebSphere"
      ToolsPort = "9000"
      AdminPort="9001"
      OrgAdminPort="9002"
      port="900"/>
  ```

Migrating your instance configuration using WCIM

This section describes how you run WCIM to migrate your previous instance of WebSphere Commerce. For details on what WCIM does, see "Instance migration using WCIM" on page 109

The WCIM package provides two main scripts in the `WC55_installdir`/bin directory:
- `wcimenv.sh` — Sets up the environmental settings for `wcim` to run properly on your system.
- `wcim.sh` — Performs the actual instance migration.

The basic process to run `wcim` is as follows:

1. Update the `wcimenv.sh` file for backup of your instance. For a remote migration, this is done on the WebSphere Commerce 5.4 system.

2. Run `wcim` for backup.

3. Update the `wcimenv.sh` file for migration of your instance. For a remote migration, this is done on the WebSphere Commerce 5.5 system.

4. Run `wcim` for migration.

The details on running the scripts are contained in the following sections.

Prerequirements for running WCIM

Before running the WCIM tool to migrate your instance, you must ensure the following:

- You need to have Apache ANT version 1.4.1 installed on the machine where you are running WCIM. This version of Apache ANT is installed with WebSphere Application Server 5.0. For more information, see the topic "Ant tasks" in the WebSphere Application Server 5.0 Information Center (`http://www.ibm.com/software/webservers/appserv/infocenter.html`). For more information on Apache ANT, see the following Web address: `http://ant.apache.org/index.html`. ANT is a Java-based build tool (somewhat similar to the Make utility).

  The WCIM tool is an ANT-based tool that automates many of the processes to migrate your instance, thus minimizing the manual steps. It gathers all necessary data from a WebSphere Commerce 5.4 instance and executes the necessary manipulations. The WCIM tool is invoked through a command line script.

- The WebSphere Commerce software components including the Web server have been upgraded to the WebSphere Commerce 5.5 level

- Before running the WCIM utility to migrate your instance, ensure that the user ID that runs the utility (that is, `root` or `wasuser`) has full permission to access files and subfolders in the following directories:

  - *WC55_installdir*/`instances`

    This directory will not exist if a WebSphere Commerce 5.5 instance has not been previously created, that is, if you have not created a test instance after installing WebSphere Commerce 5.5, as recommended. If the directory does not exist, the WCIM tool will create it.

  - *WC54_installdir*/`instances`

  - A migration working directory (for example, *WC55_installdir*/`temp`).

Notes:

1. When you run the `wcim.sh` script with the `WCIM_BACKUP` variable in `wcimenv.sh` set to `true`, WCIM generates a backup ZIP file of your previous instance by passing the required parameters to the script. The ZIP file, `wcbackup54.zip`, is generated in the `WORK_DIR/zip` directory, where `WORK_DIR` is a user-defined working directory in the `wcimenv.sh` file. For example, you can define the working directory, to *WC54_installdir*/`temp`/ (see Table 2 on page 22 where this variable is defined).

2. You have to manually copy the ZIP file, `wcbackup54.zip`, into the `WORK_DIR/zip` directory (*WC55_installdir*/`temp/zip`) on the WebSphere Commerce 5.5 machine.

Migrating a WebSphere Commerce 5.4 instance

Variables you specify in wcimenv

Prior to running `wcim.sh` for migrating your instance, you need to set up the environment variables correctly in `wcimenv.sh` for your environment. In addition, you need to set the variables differently depending on whether you are performing a backup of your instance and instance related file assets, or actually migrating them.

The following table summarizes the variables and their values:

Table 2. Variables set in wcimenv.sh

Variable	Value	Description
WCIM_BACKUP	true	The WCIM tool will *backup* your WebSphere Commerce instance related file assets.
	false	The WCIM tool will *migrate* your WebSphere Commerce instance and instance related file assets.
WCIM_INPLACE	true	Always set WCIM_INPLACE= true (except when WCIM_BACKUP=true and the migrated instance will be moved to a different machine — remote machine)
	false	Set WCIM_INPLACE=false *only* when WCIM_BACKUP=true and the migrated instance will be moved to a different machine — remote migration.

The above WCIM_BACKUP and WCIM_INPLACE variables are used in the following combinations:

- For backup:
  - WCIM_BACKUP is always set to true.
  - WCIM_INPLACE = true when WebSphere Commerce 5.4 is on the same machine as WebSphere Commerce 5.5 (in-place).
  - WCIM_INPLACE = false when WebSphere Commerce 5.4 is not on the same machine as WebSphere Commerce 5.5 (remote).
- For migration:
  - WCIM_BACKUP is always set to false.
  - WCIM_INPLACE = true when WebSphere Commerce 5.4 is on the same machine as WebSphere Commerce 5.5 (in-place).
  - WCIM_INPLACE = true when WebSphere Commerce 5.4 is not on the same machine as WebSphere Commerce 5.5 (remote).

Variable	Value	Description
WCIM_MIGRATE_FROM	54	Backup or migrate from WebSphere Commerce 5.4
	WPM221	Backup or migrate from Payment Manager 2.2.1. See "Migrating your Payments instance and database" on page 61 for details.
	WPM312	Backup or migrate from Payment Manager 3.1.2. See "Migrating your Payments instance and database" on page 61 for details.
	WCP313	Backup or migrate from WebSphere Commerce Payments 3.1.3. See "Migrating your Payments instance and database" on page 61 for details.
DB_TYPE	db2	The database type for DB2 databases.

Table 2. Variables set in wcimenv.sh (continued)

Variable	Value	Description
WAS_PATH	*WAS40_installdir* or *WAS50_installdir*	The WebSphere Application Server installation path: • For backups (where WCIM_BACKUP is true), specify the previous WebSphere Application Server installation path. • For migration (where WCIM_BACKUP is false), specify the WebSphere Application Server 5.0 installation path.
JAVA_EXE	java	The SDK for Java executable.
WC_PATH	*WC54_installdir* or *WC55_installdir*	The WebSphere Commerce installation path: • For backups (where WCIM_BACKUP is true), specify the WebSphere Commerce 5.4 installation path. • For migration (where WCIM_BACKUP is false), specify the WebSphere Commerce 5.5 installation path.
WEBSERVER_PATH	• For IBM HTTP Server: *HTTPServer1319_installdir* or *HTTPServer1326_installdir*	The Web server installation path: • For backups (where WCIM_BACKUP is true), specify the previous Web server path. • For migration (where WCIM_BACKUP is false), specify the current Web server installation path.
ANT_PATH	*Ant_installdir*/lib	The ANT library path on your machine. For backup, you can set this to *temp_work_dir*/lib on your WebSphere Commerce 5.4 machine to where you copy ant.jar; for migration, you can set this to *WAS50_installdir*/lib since ANT 1.4.1 is shipped with WebSphere Application Server 5.0.
WORK_DIR	user-defined	Working directory for WCIM tool. (For example, *WC55_installdir*/temp)
WPM_PATH	*Payments_installdir*	This variable is used when using WCIM to migrate your previous version of WebSphere Commerce Payments. The process to migrate Payments is described in detail in "Migrating your Payments instance and database" on page 61.
LOG_FILE	user-defined	Log file for WCIM. You can specify any file name under any directory. If no directory is specified, the log file is generated in the working directory specified by WORK_DIR. For example: • For backups, wcimbackup.log • For migration, wcimmigration.log
INSTANCE	WebSphere Commerce 5.4 *instance_name*	The name of the instance that WCIM will either migrate, or whose file assets WCIM will backup.

Running WCIM for instance migration

The following sections describe the steps for instance migration.

Pre-requirements for instance migration:

Running WCIM for backup: Before running WCIM for migration, you should run WCIM to create a backup of your current instance and instance related files:

1. Create a temporary work directory on your WebSphere Commerce 5.4 machine, for example *WC54_installdir*/temp. In addition, you should also create the following subdirectories under the temp working directory:
   - lib
   - bin
   - xml/migration
   - zip

2. Copy the following files:
   - From the *WAS50_installdir*/lib directory on your WebSphere Commerce 5.5 machine to the lib subdirectory under your work directory on your remote WebSphere Commerce 5.4 machine (*WC54_installdir*/temp/lib):
     - ant.jar
     - j2ee.jar

     These files are Apache ANT 1.4.1 files (available from WebSphere Application Server 5.0) required for the proper operation of WCIM. For information on Apache ANT, see the following Web address: http://ant.apache.org/index.html.
   - From the *WC55_installdir*/lib directory on your WebSphere Commerce 5.5 machine to the lib subdirectory under your work directory on your remote WebSphere Commerce 5.4 machine (*WC54_installdir*/temp/lib):
     - Utilities.jar
     - ConfigManager.jar
     - xerces.jar
   - From the *WC55_installdir*/xml/migration directory on your WebSphere Commerce 5.5 machine, copy the instbackup54.xml file to the xml/migration subdirectory under the working directory on your WebSphere Commerce 5.4 machine (*WC54_installdir*/temp/xml/migration).

     Note: If migrating Payments, instead of copying instbackup54.xml, copy either instbackupwpm221.xml, instbackupwpm312.xml, or instbackupwcp313.xml, depending on the Payments version of the instance are migrating.
   - From the *WC55_installdir*/bin directory on your WebSphere Commerce 5.5 machine to the bin subdirectory under the working directory on your WebSphere Commerce 5.4 machine (*WC54_installdir*/temp/bin), copy the following files:
     - wcim.sh
     - wcimenv.sh
   - From the *WC54_installdir*/xml directory in the WebSphere Commerce 5.4 machine, copy the product.xml and product.dtd files to the xml subdirectory under the migration working directory (*WC54_installdir*/temp/xml).
   - For Payments instance backup:

     From the *WC55_installdir*/payments/lib directory on your WebSphere Commerce 5.5 machine, copy the eTillConfig.jar file (for Payments instance backup) to the lib subdirectory under your work directory on your remote WebSphere Commerce 5.4 machine (*WC54_installdir*/temp/lib).

3. On your WebSphere Commerce 5.4 machine, before running the `wcim.sh` script for backup, add the statements specifying the path variable for the SDK for Java to the `wcimenv.sh` file as follows (in bold):

```
......
# only call setenv.sh if it exists
if [ -f $BINDIR/setenv.sh ]; then
   . $BINDIR/setenv.sh
elif [ -f ./setenv.sh ]; then
   . ./setenv.sh
else
   # set JAVA_EXE here since setevn.sh is not found
   if [ "$OS_NAME" = "OS400" ] ; then
      JAVA_EXE="java"
   elif [ "$OS_NAME" = "Linux" ]; then
      JAVA_EXE="java"
   fi

fi
......
```

4. On your WebSphere Commerce 5.4 machine, before running the `wcim.sh` script, update the environment variables in the `wcimenv.sh` file (that you copied to the working directory on your remote machine) for backup.

   The `wcimenv.sh` file contains the following entries:

```
...

WCIM_BACKUP="true"
WCIM_INPLACE="false"
WCIM_MIGRATE_FROM="54"
DB_TYPE="db2"

export WCIM_BACKUP
export WCIM_INPLACE
export WCIM_MIGRATE_FROM
export DB_TYPE

WAS_PATH="WAS40_installdir"
JAVA_EXE=$WAS_PATH/java/jre/bin/java
WC_PATH="WC54_installdir"
WEBSERVER_PATH="HTTPServer1319_installdir"
ANT_PATH="WC54_installdir/temp/lib"
WORK_DIR="WC54_installdir/temp"
LOG_FILE="=wcimbackup.log"
INSTANCE="instance_name"
PATH=temp_work_dir/java/jre/bin:$PATH

export WAS_PATH
export JAVA_EXE
export WC_PATH
export WEBSERVER_PATH
export ANT_PATH
export WORK_DIR
export LOG_FILE
export INSTANCE
export PATH
...
```

   Note that the log file set by the `LOG_FILE` variable gets generated in the `WORK_DIR/logs/` directory.

5. On your WebSphere Commerce 5.4 machine, ensure the `/usr/bin/sh` directory exists. If not, you need to make a symbolic link from `/usr/bin/sh` to `/bin/sh`, or you need to modify the first line in `wcim.sh` and `wcimenv.sh` to `#!/bin/sh`.

If you are only backing up WebSphere Commerce 5.4, you can log on to the
WebSphere Commerce 5.4 machine as `root`, and switch to the working
directory in order to run the `wcim.sh` command.

6. On your WebSphere Commerce 5.4 machine, run the `wcim.sh` script as follows:

   `./wcim.sh [wcimenv_path] [PM_database_password]`

   where:

   - *wcimenv_path* is the path where the `wcimenv.sh` is located on your machine. If
     this file is located in the same directory as `wcim.sh`, this parameter is not
     required.
   - *PM_database_password* is the WebSphere Commerce Payments database
     password and is only used when migrating a WebSphere Commerce
     Payments instance. Note that usage of WCIM for WebSphere Commerce
     Payments migration is covered in detail in "Migrating your Payments
     instance using WCIM" on page 61.

   Note: If you are using the *PM_database_password* parameter, you have to specify
   the `wcimenv` path even if it is in the current directory; in this case use "."
   to specify the current directory. For example:

   `./wcim.sh . mypassword`

7. Copy the `wcbackup54.zip` file from the working directory on the remote
   WebSphere Commerce 5.4 machine (for example, *WC54_installdir*/temp/zip), to
   the `zip` subdirectory of the working directory on the WebSphere Commerce 5.5
   machine (for example, *WC55_installdir*/temp/zip).

   If it does not exist on your WebSphere Commerce 5.5 machine, you will have to
   create the *WC55_installdir*/temp/zip directory.

Running WCIM for migration:

Notes:

1. Ensure that you have copied all necessary files from the WebSphere Commerce
   5.5 machine to the remote WebSphere Commerce 5.4 machine as documented in
   step 2 on page 24.
2. The `WCIM_INPLACE` variable is, in fact, set to `true` when performing a remote
   migration.

After running WCIM for backup, run WCIM to migrate your instance and instance
related files:

1. Before running the `wcim.sh` script on your WebSphere Commerce 5.5 machine,
   search all the files in the `wcbackup54.zip` package for all occurrences of the
   WebSphere Commerce 5.4 machine's node name, IP address, and domain.
   Replace these occurrences with the WebSphere Commerce 5.5 machine's node
   name, IP address, and domain name respectively. For example, the files that
   you will likely need to update include:
   - `product.xml`
   - `product.xml.migration`
   - *instance_name*`.xml`
   - *instance_name*`_was.xml`
   - *instance_name*`_was_DB.xml`
   - *instance_name*`_was._EJB.xml`
   - *instance_name*`_was_VH.xml`
   - `cache.properties`

You should check all files in the `wcbackup54.zip` package except for the Web server configuration file, for example, `httpd.conf` if you are using IBM HTTP Server. The Web Server configuration file is not migrated by WCIM so you need not update it.

2. Update the environment variables in the `wcimenv.sh` file for your machine for migration.

   The `wcimenv.sh` file typically contains the following entries:

   ```
   ...

   WCIM_BACKUP="false"
   WCIM_INPLACE="true"
   WCIM_MIGRATE_FROM="54"
   DB_TYPE="db2"

   export WCIM_BACKUP
   export WCIM_INPLACE
   export WCIM_MIGRATE_FROM
   export DB_TYPE

   WAS_PATH="WAS50_installdir"
   JAVA_EXE=$WAS_PATH/java/jre/bin/java
   WC_PATH="WC55_installdir"
   WEBSERVER_PATH="HTTPServer1326_installdir"
   ANT_PATH="WAS50_installdir/lib"
   WORK_DIR="WC55_installdir/temp"
   LOG_FILE="=wcimmigration.log"
   INSTANCE="instance_name"
   PATH=$WAS_PATH/java/jre/bin:$PATH

   export WAS_PATH
   export JAVA_EXE
   export WC_PATH
   export WEBSERVER_PATH
   export ANT_PATH
   export WORK_DIR
   export LOG_FILE
   export INSTANCE
   export PATH

   ...
   ```

   Ensure the exported `WC_Enterprise_App_instance_name`.ear (referenced in step 4 on page 14) is available in the migration working directory specified by `WORK_DIR` in the `wcimenv.sh` file (for example, `WC55_installdir/temp`).

   Note that the log file set by the `LOG_FILE` variable gets generated in the `WORK_DIR/logs/` directory.

3. On your WebSphere Commerce 5.5 machine, run the `wcim.sh` script as follows:

   `./wcim.sh [wcimenv_path] [PM_database_password]`

   where:

   - *wcimenv_path* is the path where the `wcimenv.sh` is located on your machine. If this file is located in the same directory as `wcim.sh`, this parameter is not required.
   - *PM_database_password* is the WebSphere Commerce Payments database password and is only used when migrating a WebSphere Commerce Payments instance. Note that usage of WCIM for WebSphere Commerce Payments migration is covered in detail in "Migrating your Payments instance using WCIM" on page 61.

> **Note:** If you are using the *PM_database_password* parameter, you have to specify the `wcimenv` path even if it is in the current directory; in this case use "." to specify the current directory. For example:
>
> `./wcim.sh . mypassword`

Verifying that WCIM ran successfully

WCIM generates a log file as specified in `wcimenv.sh` file by the `SET LOG_FILE` directive. For example, for `SET LOG_FILE=wcimmigration.log`, the log file `wcimmigration.log` is generated in the *WC55_installdir*/temp/logs/ directory if `WORK_DIR` is set to *WC55_installdir*/temp. In this log file, search for the following statement:

`Info: Instance migration is completed successfully.`

WCIM also generates an `instanceXmlMigration.log` migration log file in the `WORK_DIR/logs` directory (for example, *WC55_installdir*/temp/logs if `WORK_DIR=`*WC55_installdir*/temp). In `instanceXmlMigration.log`, search for

```
Info: WebSphere Commerce instance configuration migrated successfully.
Info: WebServer configuration migrated successfully.
```

> **Note:** Receiving this message does not guarantee that your WebSphere Commerce instance has been migrated successfully, since you have not migrated the database at this point. You migrate your database to the WebSphere Commerce 5.5 schema in Chapter 6, "Migrating your WebSphere Commerce 5.4 database," on page 45 and then you can verify that your instance is migrated in "Verifying successful instance and database migration" on page 57.

Recovering from WCIM failure: If WCIM fails for some reason, inspect the logs for the potential problem and make any fixes that are required. You can also consult Appendix E, "Troubleshooting," on page 123 for any potential problems and fixes that are known. Otherwise, you should restore your system from previous backups and carefully review the steps in this section and redo the instance migration.

Note that for problems associated with instance XML migration, you can simply fix any problems and rerun the WCIM migration. For Web server migration, since WCIM only migrates a local IBM HTTP Server, you need to delete `http.conf`, and rename `httpd.conf.old` to `httpd.conf` before rerunning the WCIM migration (if the migration had already modified the `httpd.conf` file).

 If you receive the following message during instance migration using WCIM, you will need to isolate the ANT statement that is failing and then take appropriate action:

```
Event: MethodId: invokeAnt - executing ant task:postmigrationcopy
Error: Ant task has failed. Please check the log file.
```

1. Check the `wcimbackup.log` (if you are running WCIM for back up) or `wcimmigration.log` (if you are running WCIM for migration) for an error string or message. These log files get generated in the `logs` subdirectoy under the working directory specified by `WORK_DIR` for the string "Error:" when you run WCIM. An example of an error message is as follows:

   ```
   Event: MethodId: invokeAnt - executing ant task:postmigrationcopy
   Error: Ant task has failed. Please check the log file.
   ```

2. Refer to the `Debug:` statement immediately before the `Event:` or `Error:` statement. For example:

```
Debug: java -classpath classpath -buildfile ... migratejsp
```

3. Run the java command referenced by the Debug: statement at a command prompt while in your Java Runtime environment location on your machine, *WAS50_installdir*/java/jre/bin. The error message will be displayed.

4. Take appropriate action based on the error message.

5. When you have resolved the error message, rerun WCIM.

Verifying WebSphere Commerce Payments cashier profiles

After running the instance migration, verify the following items for WebSphere Commerce Payments in the Payments directory:

WC55_installdir/instances/*instance_name*/xml/payment

1. Verify that the profiles for the Cassette for SET and the Cassette for CyberCash do not exist.

2. Verify the existing WebSphere Commerce 5.4 cashier profiles have been updated to remove all references to "Payment Manager". Open the cashier profiles, for example, files such as WC51_CustomOffline_BillMe.profile and check that they have been updated. A good way to verify the update is to see if the references to "Payment Manager" have been changed to "Commerce Payments" as in the following example.

   Before migration:

   ```
   <!-- ==================================================================
   Parameters required by Payment Manager for order creation
   ================================================================== -->
   ```

   After migration:

   ```
   <!-- ==================================================================
   Parameters required by WebSphere Commerce Payments for order creation
   ================================================================== -->
   ```

3. Verify the new profile WC_Paymentech has been created.

4. Verify that the WebSphere Commerce 5.5 Payments profile.dtd file exists.

5. Verify that the following profile files exist:
   - WC_Paymentech (new)

For details on migrating to WebSphere Commerce Payments, see Chapter 8, "Migrating to Commerce Payments," on page 59.

After running the WCIM script

The following sections describe remaining tasks to complete before running the database migration script.

Removing obsolete JVM properties in WebSphere Application Server

After you have run the WCIM script, perform the following steps to remove obsolete JVM properties from the migrated application server (WC_*instance_name*) in order to avoid conflicts.

1. Log on to the WebSphere Application Server Administration Console.

2. Expand **Servers** and click **Application Servers** in the left frame.

3. From the Application Servers panel, choose *server_name* —> **Process Definition** —> **Java Virtual Machine** —> **Custom Properties** (under Additional Properties), where *server_name* is your migrated application server (for example, WC_*instance_name*).

4. Remove the following obsolete properties (if they are present on your system):

- javax.rmi.CORBA.UtilClass
- com.ibm.ivj.ejb.runtime.instancename
- com.ibm.CORBA.iiop.noLocalCopies
- com.ibm.wca.logging.configFile
- com.ibm.websphere.ejbcontainer.fbpkAlwaysReadOnly
- com.ibm.ws.classloader.ejbDelegationMode
- com.ibm.wca.MassLoader.MassLoadOutputFilesDir

5. Save your updates (click **Apply** and **OK**).

Running the wcimWasConfig.jacl script

WCIM generates a file `wcimWasConfig.jacl` in the directory specified by `WORK_DIR` in `wcimenv.sh` file. After you complete the instance migration using WCIM, you need to run this JACL script file as it contains WebSphere Application Server 5.0 administrative commands that will minimize the manual WebSphere Application Server configuration during the migration.

Among other things, the script will add virtual hosts into WebSphere Application Server as required. The script by default adds the following virtual hosts for your migrated WebSphere Commerce instance:

- `VH_instance_name` on ports 80 and 443 (for your WebSphere Commerce instance)
- `VH_instance_name_Tools` on port 8000 (for tools such as WebSphere Commerce Accelerator)
- `VH_instance_name_Admin` on port 8002 (for the WebSphere Commerce Administration Console)
- `VH_instance_name_OrgAdmin` on port 8004 (for the WebSphere Commerce Organization Administration Console

Before running the script:

- **For a remote migration scenario only**, edit the `wcimWasConfig.jacl` file generated in the *WCIM_work_dir* on the WebSphere Commerce 5.5 machine. Search for all occurrences of the WebSphere Commerce 5.4 machine's node name, IP address, and domain, and replace them with the WebSphere Commerce 5.5 machine's node name, IP address, and domain respectively.
- In the `wcimWasConfig.jacl` script, ensure that the value of the `DB_IMPLE_CLASSNAME` variable is not null. If it is null, you need to assign the value according to the database management system you are using. For example, `COM.ibm.db2.jdbc.DB2ConnectionPoolDataSource` for DB2.
- Depending on whether you wish to deploy the migrated `.ear` file in a WebSphere Application Server single server configuration or WebSphere Application Server network deployment configuration, you need to verify or update the values in the script file before you run it.

  Any lines requiring your attention or modification are indicated in the script.
- Modify the server name in the `wcimWasConfig.jacl` file to apply the updates to the appropriate server that you are migrating (for example, `WebSphere_Commerce_Server_-_instance_name`) rather than `server1` (the default server). Refer to the following line in the script:

  ```
  # Please verify the server name
  set SERVER_NAME server1
  ```

You can check the migrated WebSphere Commerce server name from the WebSphere Application Server 5.0 Administration Console under **Servers** —> **Application Servers**.

- If required, start the WebSphere_Commerce_Server_-_instance_name application server. You can start it from the WebSphere Application Server Administration Console if you are using WebSphere Application Server ND, otherwise use the WebSphere Application Server startServer command.

Important

There is a possibility that the port numbers for these virtual hosts may conflict with existing port numbers. For example, port 443 of the default host if you use the default setting when you installed the previous WebSphere Commerce system. This port will conflict with WebSphere Commerce 5.5 and prevent you from successfully launching your migrated store.

Verify these port numbers or virtual host names do not already exist and in use on your system. If they are being used by your system, you should either change the name of the new virtual host or its predefined port number in the script prior to running it to an unused value. You can also remove the new virtual host if it is already defined. To see your existing virtual hosts, from the WebSphere Application Server 5.0 Administration Console, expand **Environment** and double-click **Virtual Hosts** to see them displayed in the WebSphere Application Server panel.

For example, suppose you have the following host alias definitions for default_host that are generated on the WebSphere Commerce 5.5 system from the WebSphere Commerce 5.4 backup, by the WCIM script:

```
<X.X.X.X> :80
<X.X.X.X> :443
localhost :80
localhost :443
host_name :80
host_name :443
fully_qualified_host_name :80
fully_qualified_host_name : 443
```

With the above entries, after completing the migration, you may have problems getting your home page to display. Simply removing these entries could enable the appearance made the store home page to appear. In effect, this default_host *grabs* the commerce requests and so in this case they never get to the right recipient — VH_instance_name. Since the WebSphere Commerce tooling is runs on other ports (for example, 8000, 8002, and 80004 by default) so the tools such as the Administration Console is unaffected.

To invoke the JACL script, enter:

```
WAS50_installdir/bin/wsadmin -f WCIM_work_dir/wcimWasConfig.jacl
```

Checking the JDBC Provider

Before deploying the migrated .ear file to your application server, check the JDBC provider in the WebSphere Application Server Administration Console to verify if the data source is configured correctly for the current WebSphere Commerce 5.5 environment. If the data source is null, you need to add it manually prior to deploying the migrated .ear file.

1. Logon again to the WebSphere Application Server Administration Console. From the Administration Console, expand **Resources** and click **JDBC Providers** > **Browse Server** and select your WebSphere Commerce instance. Click **OK**.

2. Back on the JDBC Providers panel, (from the Administration Console, expand **Resources** and click **JDBC Providers**) if the WebSphere Commerce 5.5 data source does not appear, proceed with the following steps:

   a. From the JDBC Providers panel, click **New** and select the appropriate JDBC Provider from the drop down list (for example, `DB2 JDBC provider` for DB2 databases).

   b. Configure JDBC Provider name, JDBC classpath fields. Click **Apply** and **OK** to save your changes

   c. Under the Additional Properties section of the Configuration panel, click **Data Sources (Version 4)** —> **New**

   d. Configure the Name, JNDI Name (for example, `jdbc/WebSphere Commerce DB2 Datasource WC_instance_name` for DB2 databases, the Database Name, and the Default user ID and Default Password fields for the database.

   e. Click **Apply** and **OK**.

   f. Save your changes.

Deploying the migrated .ear file

After you have migrated your instance using WCIM and run the `wcimWasConfig.jacl` script, you need to deploy the migrated `.ear` file as follows:

1. Logon again to the WebSphere Application Server Administration Console.

2. Click on *node_name* —> **Applications** —> **Install new application**. If your browser is local on your machine, select **Local path**, and enter the path to the migrated `.ear` file (for example, `WCIM_work_dir`/migrate/WC_*instance_name*.ear) and click **Next**.

3. Select **Default bindings for EJB 1.1 CMPS** (not the **Generate Default Bindings** check box at the top) and enter the JNDI name, database user name, database password, and verify the password in the section *"EJB1.1 CMP bindings"* of this panel, then click **Next**. (For example, **JNDI name**: `jdbc/WebSphere Commerce DB2 Datasource WC_instance_name`, **username**: `db2inst1`, **password**: `db2inst1`)

   Note: The above values are an example. You need to get the correct data source value for your system which you can find in the *instance_name*.xml file for your WebSphere Commerce instance. You need to prepend "jdbc/" to the data source value from the *instance_name*.xml and enter it above.

4. The Install New Application page displays. Complete the following steps:

   a. In the **Step 1** panel, accept the default configuration and click **Next**.

   b. In the **Step 2** panel, accept the default configuration and click **Next**.

   c. In the **Step 3** panel, accept the default configuration and click **Next**.

   d. In the **Step 4** panel, select all the listed EJBs, and choose the JNDI name such as *node_name*:`jdbc/WebSphere Commerce DB2 Datasource WC_instance_name`from the "Specify existing resource jndi name" drop down list. Click **Apply**, then **Next**.

   e. In the **Step 5** panel, accept the default configuration and click **Next**.

   f. In the **Step 6** panel, check and if necessary, map the virtual host for Web modules similar to:
   commerceAccelerator
   VH_*instance_name*_tools

OrganizationAdministration
      VH_*instance_name*_Orgadmin
SiteAdministration
      VH_*instance_name*_Admin
Stores VH_*instance_name*

  g. In order to deploy to the migrated application server WC_*instance_name* instead of the `server1` default server:

    In the **Step 7: Map modules to application servers** panel, select all modules by checking the check-box besides **Module** and select the migrated server (for example, `WC_demo`). Click **Apply**.

    If you accept the default configuration, the migrated .ear file gets deployed on the `server1` application server.

  h. Click **Next** for the remaining windows.

  i. Click **Finish**, and wait until you receive the update successful message.

5. In the WebSphere Application Server 5.0 Administration Console, click on *node_name* —> **Environment** —> **Update Web server plugin** —>**OK**. Ensure the update successful message appears.

6. Save your changes.

7. Change the Classloader mode and WAR Classloader policy:

  a. Expand **Applications**

  b. Click **Enterprise Applications**

  c. Click on application prefaced by WC_

  d. Change ClassLoader Mode to **PARENT_LAST**

  e. Change WAR Classloader Policy to Application

  f. Click **OK**

  g. Save your changes

8. Restart WebSphere Application Server.

Note: If you have deleted the virtual hosts defined in the JACL script so they do not conflict with the existing ones as described in "Running the wcimWasConfig.jacl script" on page 30, during EAR deployment, you have to map the existing ones to the WAR module.

For more information on deploying your applications using the WebSphere Application Server 5.0 Administration Console, see the topic "Deploying and managing applications" in the WebSphere Application Server 5.0 Information Center (`http://www.ibm.com/software/webservers/appserv/infocenter.html`).

Selecting the WebSphere Application Server pass by reference setting

After deploying the migrated `.ear` file, select the WebSphere Application Server 5.0 `pass by reference` service setting. When this setting is enabled, the WebSphere Application Server Object Resource Broker passes parameters by reference instead of by value which avoids making an object copy. If you do not enable `pass by reference`, the parameters are copied to the stack before every remote method call is made, which can be expensive.

To enable the setting:

1. Open the WebSphere Application Server Administration Console and logon.

2. On the left hand panel, click **Application Servers** -> *WC_instance_name* ->**ORB Service**

3. Select **Pass by reference** for the migrated instance and

4. Click **OK** and save the changes.

Creating JNDI names for JCA connectors

The JNDI names of all JCA connectors are created during the installation of the EAR. When an existing EAR or instance is migrated, these names are not created. For example, the JNDI name for the J2C Connection Factory of JMS Connector is "eis/JCAJMS". It is the name found under the resource adapters under the EAR configuration.

To add in the JNDI names for the JCA connectors, do the following:

1. Open the WebSphere Application Server Administration Console and logon.

2. On the left hand panel, click **Applications** -> **Enterprise Applications** -> *WC_instance_name*.

3. At the bottom of the page, click **Connector Modules** -> *Connector Module Name* -> **Resource Adapter**

4. At the bottom of the page, click **J2C Connection Factories** -> **New**

5. Use the following table to enter:
   - The name in the **Name** field.
   - The JNDI name in the **JNDI Name** field.
   - The description in the **Name** field.

Connector Module Name	Name	JNDI name	Description
Enablement-JCAEMailConnector.rar	Enablement-JCAEMailConnector.rar	eis/JCAEmail	*WC_instance_name*.JCA EMail Connector
Enablement-JCACrossWorldsConnector.rar	Enablement-JCACrossWorldsConnector.rar	eis/CWConnectionFactory	*WC_instance_name*.IBM CrossWorlds Resource Adapter for InterChange Server
Enablement-JCAFileConnector.rar	Enablement-JCAFileConnector.rar	eis/JCAFile	*WC_instance_name*.JCA File Connector
Enablement-JCAJMSConnector.rar	Enablement-JCAJMSConnector.rar	eis/JCAJMS	*WC_instance_name*.JCA JMS Connector
Enablement-JCASampleConnector.rar	Enablement-JCASampleConnector.rar	eis/JCASample	*WC_instance_name*.Sample Connector

6. Select **None** for the Authentication Preference.

7. 8. Click **OK** at the bottom of the page.

8. 9. Click the newly created **JCA Connection Factories** again and modify the connection pool properties by clicking **Connection Pool** at the bottom of the page.

9. 10. Update **Max Connection** to be 30 and click **OK** twice to return back to **J2C Connection Factories** page.

10. 11. Save the configuration by clicking **Save** on the top menu and click **OK** to confirm saving the configuration on the next page.

11. 10. Repeat steps 3 through 10 above for each connector module name in the table above.

12. 12. Restart WebSphere Commerce.

Transitioning and deploying your custom code

As part of your transition to WebSphere Commerce 5.5, you need to transition your custom code and business logic to the WebSphere Commerce 5.5 level. For

information on how to upgrading your code to the WebSphere Commerce 5.5 level, see the section "Transitioning your customized or extended code" in the *WebSphere Commerce Studio Migration Guide*.

For detailed information about deployment of customized code assets, see the sections on the deployment of business logic or a controller command, or a task command as required in the *WebSphere Commerce Programming Guide and Tutorials* document.

Updating deployed instance XML files

For your migrated WebSphere Commerce instances, update the instance XML files to the WebSphere Commerce 5.5.0.2 level by running the following steps. If you have more than one WebSphere Commerce instance, use only one of your instance names for the variable *instance_name*. The script will update all existing instances.

1. Switch to the WebSphere Commerce non-root user ID. This ID was created before installing WebSphere Commerce.

   Ensure that this user has the authority to run the `config_ant` command.

2. Navigate to the *WC55_installdir*/bin directory.

3. Run the following command:

   `./config_ant.sh -buildfile` *WC55_installdir*`/xml/config/updateInstances.xml`
   `-DupdateCEP=no -Duninstall=no -DinstName=`*instance_name*

Customizations in httpd.conf

During the instance migration, WCIM reads the Web server configuration information from the previous `instance.xml` file and reconfigures the WebSphere Commerce 5.5 `httpd.conf` file from WebSphere Application Server 5.0 installation with that information. Any customized configurations in the previous version of the `httpd.conf` file that are not specific to a WebSphere Commerce instance, are not migrated since these configurations are out of the scope of the WCIM. If you have customized your configurations, you will have to migrate the customized configurations manually after instance and Web server migration.

Reconfiguring Web servers

In order to reconfigure your Web servers, follow the Web server installation section in the *WebSphere Commerce Installation Guide*. Complete the necessary preconfiguration steps in that section. Some additional user configuration is required in WebSphere Commerce 5.5 to configure any remote Web Server including IBM HTTP Server.

To perform this additional configuration, log on to Configuration Manager after migration and complete the necessary fields on the Web server panel to configure the Web server. Click on **Apply** on the panel to configure the Web server. For information on configuring panels in Configuration Manager, see the chapter on configuring WebSphere Commerce instances in the *WebSphere Commerce Installation Guide*.

Enabling SSL for IBM HTTP Server

For a remote migration where you complete a new installation of WebSphere Commerce 5.5, the installation enables SSL on your Web server by default.

If you do not have SSL enabled on your system, and you wish to use SSL encryption, you should re-enable it.

To enable SSL for production purposes, refer to the chapter "Enabling SSL for production with IBM HTTP Server" in the *WebSphere Commerce Security Guide*.

Enabling WebSphere Application Server EJB Security

If you had WebSphere Application Server EJB Security enabled in WebSphere Commerce 5.4, you need to re-enable it for WebSphere Commerce 5.5. See the section "Enabling WebSphere Application Server security" in the *WebSphere Commerce Security Guide* for the steps to redeploy the EJB security.

Note any additional machine recommendations for EJB Security in the *WebSphere Commerce Security Guide*.

Copying files with static content to the documentation root directory

To migrate Web assets that are not located under the WebSphere Commerce WAR directory, you need to copy files with static content (such as image and HTML files) to the document root directory.

Copy all files with static content in the *WC54_installdir*/instances/*instance_name*/web directory to the *WC55_installdir*/web directory.

Chapter 5. Before migrating your database

This chapter describes the pre-database migration actions and consideration you need to take before you actually migrate your database as described in Chapter 6, "Migrating your WebSphere Commerce 5.4 database," on page 45.

- Ensure that you have performed the steps in Chapter 1, "Before you migrate from WebSphere Commerce 5.4," on page 3 including the steps in "Ensuring no new messages are stored in MSGSTORE table" on page 4 as well as the other sections in "Premigration actions" on page 3, while you had an operational WebSphere Commerce 5.4 system.
- For details on the database schema differences between WebSphere Commerce 5.4 and WebSphere Commerce 5.5 refer to the WebSphere Commerce Production and Development online help. Once you have launched the online help, select **WebSphere Commere Development information** > **Reference** > **Data** > **Database schema**. From here, select **Database tables** to view an alphabetical list of all database schema information. Select **Database changes in this release** to view the schema changes for Version 5.5. The online help also provides data model information. Ensure that you visit the WebSphere Commerce Technical Library (http://www.ibm.com/software/commerce/library/), for the latest versions of the WebSphere Commerce documentation, including any updates to the database schema information in the online help.

Note: Before migrating your database, you should ensure that the user who runs the database migration scripts has write authority to the *WC55_installdir*/instances directory and it subdirectories.

Check your DB2 instance

Before you switch to either the DB2 instance user or to the WAS user on WebSphere Commerce 5.5, ensure that the user belongs to the db2fgrp1 group, or you will run into problems running the migration script (you will not be able to create the stored procedure successfully). To add users to the db2fgrp1 group, edit the file, /etc/group, and add the user, for example, db2inst1 or wasuser at the end of the line db2fgrp1.

After adding the DB2 instance user to the WAS user to the db2fgrp1 group, ensure that your DB2 Version 8.2 instance has been upgraded correctly. Log on as the root user, switch to the *DB2_installdir*/instance directory and run the following command:

`./db2iupdt db2_instance_name`

Before you run database migration script, ensure the current path ("`.`") has been added to the system variable $PATH. You can echo $PATH, and check whether the current directory ("`.`") is included.

Considering the order of columns

The order of the columns in the migrated WebSphere Commerce 5.5 database tables are not guaranteed to be the same as the tables created when you create a new WebSphere Commerce 5.5 instance. It is recommended that when you query a table using select *, that you retrieve the value of a column by explicitly specifying the column name, and not by column position. For example, in a JDBC program:

```
resultSet rs= statement.executeQuery("select * from address");
    (while rs.next())
    {
        p= rs.getObject(1);  <---- not recommended

        p=rs.getLong("address_id");   <---- recommended
    }
```

Conversely, when you insert data, you should explicitly specify the column name. For example, consider the following insert statements:

```
insert into address values( 10001,10002,'myaddress'); <-- not recommended

insert into address (address_id,addrbook_id, displayname)
    values (10001,10002,'myaddress'); <-- recommended
```

Remote database consideration

If you are performing a remote migration, for performance reasons, it is recommended that you migrate your WebSphere Commerce 5.4 database locally on the WebSphere Commerce 5.5 machine. In order to do that, you can:

1. Back up your WebSphere Commerce 5.4 database.
2. Transfer the back up of your database (complete backupdirectory and files) to the WebSphere Commerce 5.5 machine.
3. Restore the backed up database on the WebSphere Commerce 5.5 machine.

For details and syntax on backing up and restoring databases, see "Backing up your databases" on page 8. After you have completed restoring your database on the WebSphere Commerce 5.5 machine, you can proceed to "Checking the unique indexes in the MSGTYPES table" on page 39 to continue the database premigration steps.

If you wish to run the database premigration and migration scripts remotely against your WebSphere Commerce 5.4 database from the WebSphere Commerce 5.5 machine, you need to catalog the WebSphere Commerce 5.4 database on your WebSphere Commerce 5.5 machine. See the section below.

Cataloging a remote DB2 database

If you are using a remote DB2 database and wish to run the migration scripts remotely, catalog it on your local node as follows:

1. Switch to the DB2 instance user ID for your database (for example, db2inst1):

    su - *db2_instance_user_id*

2. Catalog the remote database server node by typing the following:

    db2 catalog tcpip node *node_name*
     remote *database_server_hostname* server *port_number*

    where:

> *node_name*
>> Is the unique name of your choice that DB2 will use to identify the TCP/IP node.
>
> *database_server_hostname*
>> Is the TCP/IP host name of your database server.
>
> *port_number*
>> Is the port being used by DB2. (At installation time, DB2 attempts to use 50000 by default. If it cannot use this port number, it will pick an unused port that is available.)

3. Catalog the remote DB2 database on the remote node:

   ```
   db2 catalog db Rdb_name as db_name at node node_name
   ```

   where:

   Rdb_name
   > Is your remote DB2 database (for example, `Rmall`).

   db_name
   > Is local name of your remote DB2 database after it is cataloged (for example, `mall`).

   node_name
   > Is the remote node you previously cataloged above.

   For example:

   ```
   db2 catalog db RMALL as MALL at WCS151
   ```

   where WCS151 is the node name of the remote node.

Checking the unique indexes in the MSGTYPES table

In WebSphere Commerce 5.5, there are new rows that are created in the `MSGTYPES` table *out-of-the-box* (that is, for a non-migrated system). The `MSGTYPE_ID` and `NAME` columns are primary key and unique index respectively. If you have created your own message types in WebSphere Commerce 5.4, ensure that they are not in conflict with the new ones. If they are in conflict, you can modify the `MSGTYPE_ID` values or modify the `NAME` or change both. The key is that both `MSGTYPE_ID` and `NAME` must be unique in the table. You will need to recompile the commands that refer to the custom message types. Otherwise, you may encounter problems when migrating your data from WebSphere Commerce 5.4.

The following table lists the newly added message types for WebSphere Commerce 5.5, compared with WebSphere Commerce 5.4 products. In that case, you can check if you have anything in the `MSGTYPES` table that shares the same `MSGTYPE_ID` or `NAME` as listed.

Table 3. MSGTYPE_ID and NAME additions to MSGTYPES table in WebSphere Commerce 5.5

MSGTYPE_ID	NAME
150	OrderSummaryReportNotification
151	StoreUsageReportNotification
152	StoreCommerceReportNotification
153	SiteCommerceReportNotification
221	PriceAndAvailabilityCheck

Table 3. MSGTYPE_ID and NAME additions to MSGTYPES table in WebSphere Commerce 5.5 (continued)

MSGTYPE_ID	NAME
222	BatchAvailability
223	ShoppingCartTransfer
224	CheckInventoryAvailabilityBE
250	CustomerMessage
251	CouponsSavedNotification
310	ResellerRegistrationApprovedNotification
320	ResellerRegistrationRejectedNotification
400	CollabEmail

Note that not all the above entries will show up after the data migration. CollabEmail is only available under Business Edition.

Running the database preparation script

When you run the premigration script, you will need to take the actions suggested that are output to the screen, or that are contained in the `premigratedb54.log` file.

Once you have fixed all necessary items, back up your updated WebSphere Commerce 5.4 databases once again as described in Chapter 2, "Backing up WebSphere Commerce 5.4," on page 7, in order that you have an up-to-date copy of your databases.

Run the WebSphere Commerce 5.5 database preparation script as described below.

DB2 databases

__ 1. Open a command prompt window.

__ 2. If you are running WebSphere Application Server as the root user, switch to the DB2 instance user ID for your database (for example, db2inst1):

    su - *db2_instance_user_id*

   If you are running WebSphere Application Server as the non-root user, switch to the WebSphere Application Server user ID (for example, `wasuser`):

    su - *WAS_user*

__ 3. Switch to the `bin` subdirectory where WebSphere Commerce 5.5 is installed. For example, *WC55_installdir*/bin.

__ 4. Run the database preparation script as follows:

    ./premigratedb54.sh db2 *db_name db_userID*
      db_userID_password instance_name db2_inst_home db2_schema_owner

   where:

   - db2 represents the database management system you are using and should be `db2` for DB2 databases.
   - *db_name* is the WebSphere Commerce 5.4 database that you are migrating (for example, `mall`).
   - *db_userID* is the user ID to connect to the WebSphere Commerce 5.4 database that you are migrating (for example, `mydbuser`).

- *password* is the password for the user ID to connect to the WebSphere Commerce 5.4 database that you are migrating (for example, `mypasswd`).
- *instance_name* is the name of your WebSphere Commerce 5.4 instance (for example, `demo`).
- *db2_inst_home* is the DB2 instance path for your DB2 instance. For example, `/home/db2inst1/sqllib`.
- *db2_schema_owner* is the DB2 user ID that owns the schema, for example, `db2inst1`.

For example, to run the database preparation script for WebSphere Commerce 5.4 databases, you can use the following command:

```
./premigratedb54.sh db2 mall db2inst1 db2inst1 demo
/home/db2inst1/sqllib db2inst1
```

__ 5. Check the `premigratedb54.log` file generated in the *instance_name* subdirectory under `WC55_installdir`/logs/migrate for additional messages or errors. You need to resolve any errors that are flagged before proceeding.

If you have fixed the errors or warnings that are flagged by the database preparation script or made any changes to your database, it is recommended that you take another back up of your database as described in "Backing up your databases" on page 8.

In addition, if the data preparation script flags certain columns that contains data that exceeds the WebSphere Commerce 5.5 limits, see "Ensuring column lengths are not exceeded" on page 111.

Sample premigratedb.log file

The following is a partial example of the `premigratedb.log` output when it is run against a WebSphere Commerce 5.4 database. Note in this example, that no rows have exceeded length limits and the premigration ran successfully:

```
Info: Logging started in VERBOSE mode.
Event: Executing command: preChecking
Info: 0 rows of the table account exceeds length limits comments.
Info: 0 rows of the table acrelgrp exceeds length limits conditions.
Info: 0 rows of the table acresgrp exceeds length limits conditions.
Info: 0 rows of the table baseitmdsc exceeds length limits longdescription.
Info: 0 rows of the table bzrpentstg exceeds length limits value.
Info: 0 rows of the table calcodedsc exceeds length limits longdescription.
.
.
.
Event: Pre migration ends.
Event: Migration has terminated successfully.
```

Dropping custom constraints

If you have customized tables that contain foreign key links to the shipped WebSphere Commerce 5.4 tables, the data migration script may fail when it attempts to drop these referential integrity constraints (such as foreign keys, primary keys, and indexes) during data migration.

For DB2 databases, you need to drop these constraints using the SQL statements in the sections below. You will later restore the constraints after migrating your data to the WebSphere Commerce 5.5 schema as described in "Restoring custom constraints" on page 48.

1. Identify all new tables that you have added, as well as all the WebSphere Commerce 5.4 tables.

2. Identify all constraints and triggers (views, summary tables, triggers, SQL functions, SQL methods, referential constraints) that point from the new tables to the WebSphere Commerce 5.4 tables, or from WebSphere Commerce 5.4 tables to the new tables, or all new constraints you have added to the WebSphere Commerce 5.4 tables.

   To determine the constraints that you have added to the WebSphere Commerce 5.4 tables that point to your custom tables:

   Run the following query for DB2 databases:

   ```
   db2 select CONSTNAME from SYSCAT.TABCONST
     where TABNAME='your_table_name'
   ```

3. For DB2 databases, drop all identified constraints. If there are any SQL errors due to constraints in the migratedb_database_name.log after running the database migration script, you will need to restore the database and drop or disable these constraints before attempting to migrate the database again.

For DB2 databases, drop the constraints by running the SQL statements described in the sections below.

DB2 Databases

For DB2 databases, run the SQL statement as follows:

1. Open a command prompt window.
2. Switch to the DB2 instance user ID for your database (for example, db2inst1):

   ```
   su - db2_instance_user_id
   ```

3. Connect to your WebSphere Commerce 5.4 database as a user with administrative authority for the database:

   ```
   db2 connect to db_name user db_user_name using db_password
   ```

   The *db_user_name* user ID should be the schema owner of the *db_name* database.

4. Enter the following SQL statement:

   ```
   db2 ALTER TABLE table_name DROP constraint constraint_name
   ```

   where:
   - *table_name* is the name of the customized table containing the constraint.
   - *constraint_name* is the name of the referential integrity constraint you wish to drop.

5. Note the constraints that you drop, as you will need to add them back after the data migration.

Preconditions for running the database migration script for WebSphere Commerce 5.4 databases

Before running the database migration tool, you must meet the following pre-requirements:
- You have backed up the database in a location that is accessible, should it be required.
- The database type you are using is supported by WebSphere Commerce.
- The database is at the correct release level, and all necessary fix packs have been applied.
- WebSphere Commerce 5.5 has been successfully installed on your machine.
- The user ID that is invoking the script has the necessary authority to read, write, and create files in the *WC55_installdir*/temp directory.

In addition, before running the script, ensure that you have met the following preconditions, depending on your scenario:

Basic data migration (no custom data)

In this scenario, the WebSphere Commerce 5.4 database schema contains minor changes from the previous release. No changes or customizations have been made to the standard WebSphere Commerce 5.4 schema.

The preconditions for running the tool are:
- Your database schema remains uncustomized, that is, it is the same as the WebSphere Commerce 5.4 schema provided *out-of-the-box*.
- WebSphere Commerce 5.5 (in which migration package resides) is installed on your machine.
- The WebSphere Commerce 5.4 database is accessible (either locally or remotely).

Custom data migration

In this scenario, the WebSphere Commerce 5.4 database schema contains customizations relative to the WebSphere Commerce 5.4 schema provided *out-of-the-box*. For example, you have added a table or column to the standard schema, that needs to be handled by the data migration to WebSphere Commerce 5.5.

The preconditions for running the tool are:
- Your database schema is at the WebSphere Commerce 5.4 level and contains customized tables or columns.
- WebSphere Commerce 5.5 (in which migration package resides) is installed on your machine.
- The WebSphere Commerce 5.4 database is accessible (either locally or remotely).

In this scenario, prior to running the data migration tool you need to drop any custom triggers or constraints that you have added. You should note the triggers or constraints that you are dropping from the database since you will need to add them back in after you have migrated your database to WebSphere Commerce 5.5.

Chapter 6. Migrating your WebSphere Commerce 5.4 database

This chapter describes the steps to migrate your WebSphere Commerce 5.4 database schema to the WebSphere Commerce 5.5 schema level. Prior to performing the steps to migrate your schema, it is recommended that you have completed the steps in Chapter 1, "Before you migrate from WebSphere Commerce 5.4," on page 3, Chapter 2, "Backing up WebSphere Commerce 5.4," on page 7, Chapter 3, "Upgrading your software," on page 11, and Chapter 5, "Before migrating your database," on page 37. In addition, it is mandatory that you run the database preparation script as documented in "Running the database preparation script" on page 40 prior to the actual database migration described in this chapter. Note that the database preparation script modifies your database in order for proper migration to WebSphere Commerce 5.5.

After you have completed running the scripts to migrate your data, you perform some additional post database migration steps to verify the success of your database migration.

Important

Before proceeding with the migration steps described in this chapter and the remainder of this Guide:

- To run the following database migration utilities, the DB2 database has to be cataloged properly if it is a remote database. If it is local, the database will be cataloged by default.

- If you have extended the WebSphere Commerce 5.4 schema (for example, by adding a column to a table) you should perform the steps documented in Appendix B, "Extending the data migration script," on page 107.

- WebSphere Commerce summary tables are not loaded by the WebSphere Commerce 5.5 installation or migration process. If you wish to load the summary tables after migration, you can load them using the Search Configuration panel in the WebSphere Commerce 5.5 Configuration Manager, after you have completed migration. See the Configuration section of the *WebSphere Commerce 5.5 Installation Guide*.

- For a DB2 database, before running the database migration script, you will need to change the DB2 log file size for your database, otherwise, the transaction log file will probably get full when you run the script. At a minimum, you should set the DB2 log file size to 1000 blocks using the following SQL statement:

  ```
  db2 update database configuration for data_base_name using logfilsiz 1000
  ```

  If you have a large database, you may need to change the log file size to 10000 blocks or possibly even more. (You can also change the log file size within the DB2 Control Center.)

- You can consider backing up your database before you attempt to migrate it. Note that the database migration script will perform a backup of your database in any case. If you wish to backup your current database, see "Backing up your databases" on page 8.

Migrating your database

After you have eliminated all items flagged by the database preparation script, you can run the database migration script to update your WebSphere Commerce 5.4 schema to the WebSphere Commerce 5.5 level. For an overview of what the migration script does when migrating WebSphere Commerce 5.4 databases, see Appendix C, "Overview of the WCIM tool and the data migration script," on page 109. For a summary of the database schema changes between WebSphere Commerce 5.4 and WebSphere Commerce 5.5, see the topic "Database schema changes in this release" in the WebSphere Commerce Production and Development online help.

Note that you can only run the migration script once on the database.

Before migrating the database, ensure that the user who runs the database migration script has the authority to access the files in the *WC55_installdir* directory.

Note: For DB2 databases running on UNIX® systems, databases are normally cataloged as R*database_name* by default. For example, MALL will be cataloged as RMALL by default). To avoid problems when running the database migration script for remote databases, you need to do the following:

1. In the migratedb.sh script, update the following line:

   db2 connect to $database

   to:

   db2 connect to $database user $user using $password

2. When you run migratedb.sh, the database name should be R*data_base_name*, for example, RMALL

DB2 databases

The following steps show you how to run the migration script for DB2 databases:

__ 1. Open a command prompt window.

__ 2. If you are running WebSphere Application Server as the root user, switch to the DB2 instance user ID for your database (for example, db2inst1):

   su - *db2_instance_user_id*

   If you are running WebSphere Application Server as the non-root user, switch to the WebSphere Application Server user ID (for example, wasuser):

   su - *WAS_user*

__ 3. Switch to the bin subdirectory where WebSphere Commerce 5.5 is installed. For example, *WC55_installdir*/bin.

__ 4. Run the database migration script as follows:

   ./migratedb54.sh db2 *db_name db_userID password instance_name*
     schema_owner db2_install_dir db2_inst_home
     [*ldapHost ldapPort ldapAdminId ldapAdminPassword baseDN*]

   where:
   - db2 specifies that you are migrating a DB2 database.
   - *db_name* is the WebSphere Commerce 5.4 database that you are migrating, (for example, mall).
   - *db_userID* is the user ID to connect to the WebSphere Commerce 5.4 database that you are migrating (for example, mydbuser).

- *password* is the password for the user ID to connect to the WebSphere Commerce 5.4 database that you are migrating (for example, `mypasswd`).
- *instance_name* is the name of your WebSphere Commerce 5.4 instance with which your database is associated (for example, `demo`).
- *schema_owner* is the database schema owner user ID for DB2 databases. You must enter the *schema_owner* in uppercase characters.
- *db2_install_dir* is the installation path for DB2. For example, `/usr/IBMdb2/V8.1`.
- *db2_inst_home* is the DB2 instance path for your DB2 instance. For example, `/home/db2inst1/sqllib`.
- The following optional parameters are used to specify an LDAP server. These parameters are required if you are migrating collaborative workspaces from WebSphere Commerce 5.4. For details on the process of migrating collaborative workspaces, see Chapter 10, "Collaborative Workspaces migration," on page 85.
  - *ldapHost* is the fully qualified host name of LDAP server that is used for the WebSphere Commerce member subsystem.
  - *ldapPort* is the port assigned to the LDAP server access.
  - *ldapAdminId* is the LDAP server administrator login account. If the account includes an equal sign ("=") or a space " ", add double quotes (") around the parameter, for example "`cn=root`".
  - *ldapAdminPassword* is the LDAP server administrator login password
  - *baseDN* is the base DN (distinguished name) for the WebSphere Commerce member subsystem in the LDAP server. If the base DN includes an equal sign ("=") or a space " ", add double quotes (") around the parameter, for example "`o=root organization`".

Note: If the schema owner ID is different from the database user ID, modify the `createsp.db2` command as follows:

  a. Open the `createsp.db2.sh` command in a text editor.
  b. Locate the following lines:

```
db2 -v connect to $DATABASE user $USER using $PASSWORD
db2 -v set schema $SCHEMAOWNER
db2 -v put routine from availreceipts.spa owner $USER use registers
```

  c. Update the section so that it resembles the text below. The new command to insert is indicated in bold text.

```
db2 -v connect to $DATABASE user $USER using $PASSWORD
db2 -v set schema $SCHEMAOWNER
user_Tr=`echo $USER | tr '[a-z]' '[A-Z]'`
schema_Tr=`echo $SCHEMAOWNER | tr '[a-z]' '[A-Z]'`
if [ $user_Tr != $schema_Tr ]; then
 db2 -v set path=$SCHEMAOWNER, CURRENT_PATH ;
fi
db2 -v put routine from availreceipts.spa owner $USER use registers
```

  d. Save your changes and exit the text editor.

For example, to run the database migration script for a DB2 database, you can use the following command:

```
./migratedb54.sh db2 mall db2inst1 db2inst1 demo DB2INST1
  /usr/IBMdb2/V8.1 /home/db2inst1/sqllib
```

After you run the database migration script, you should check the log files as documented in "Checking the database migration log files" on page 112. The section provides some guidance for verifying that you have successfully migrated your database.

Performance consideration with ID Resolver

If you experience poor performance in completing the ID Resolver phase of the data migration with DB2 Version 8.x, you will need to change several DB2 configuration parameters. Normally, each ID Resolver phase should take no more than several minutes to complete. If the time to complete an ID Resolver phase approaches an hour or so, you should consider the following actions to improve performance:

- Change the DB2 configuration parameter CPUSPEED to a value of -1. Enter the following DB2 update configuration command:

  ```
  db2 -v update dbm cfg using cpuspeed -1
  ```

  The CPU speed, in milliseconds per instruction, is used by the DB2 SQL optimizer to estimate the cost of performing certain operations. The value of this parameter is set automatically when you install the database manager based on the output from a program designed to measure CPU speed. For more information on this parameter see the DB2 Administration information at the DB2 Technical Library.

- Either increase the buffer pool size used for your database, or assign a dedicated buffer pool for the SYSCAT tablespace as follows:

  ```
  CREATE BUFFERPOOL NEWBUFPOOL SIZE 20000 PAGESIZE 4K
  ALTER TABLESPACE SYSCATSPACE BUFFERPOOL NEWBUFPOOL
  ```

ID Resolver performs many intensive metadata fetches, which is very SYSCAT tablespace intensive. Allocating a new buffer pool alleviates the bottleneck. After making the above changes, you should notice a performance improvement in completing the ID Resolver phase when running the database migration script.

Restoring custom constraints

For DB2 databases, after migrating your WebSphere Commerce 5.4 database using the migration script, you need to restore any referential constraints that you dropped in "Dropping custom constraints" on page 41.

DB2 Databases

For DB2 databases, run the SQL statement as follows:

1. Open a command prompt window.
2. Switch to the DB2 instance user ID for your database (for example, db2inst1):

   ```
   su - db2_instance_user_id
   ```

3. Connect to your migrated WebSphere Commerce 5.4 database as a user with administrative authority for the database:

   ```
   db2 connect to db_name user db_user_name using db_password
   ```

4. Enter the following SQL statement:

   ```
   ALTER TABLE table_name
      ADD CONSTRAINT constraint_name FOREIGN KEY (column_name)
      REFERENCES foreign_table_name ON DELETE CASCADE
   ```

   where:

   - *table_name* is the name of the customized table where you need to restore the constraint.
   - *constraint_name* is the name of the referential integrity constraint you wish to restore.
   - *column_name* is the name of the column on which the referential constraint is being applied.

- *foreign_table_name* is the foreign table for which the referential constraint is being applied.

For examples of the SQL statements that add referential constraints, see the file `wcs.referential.sql` in the *WC55_installdir*`/schema/db2` directory.

Chapter 7. Post instance and database migration

The following sections describe migration actions you need to take to migrate your WebSphere Commerce 5.4 instance after you have migrated your data and WebSphere Commerce instance to the WebSphere Commerce 5.5 level. It includes the following:

- "Migrating store assets"

WebSphere Application Server startup consideration

After you migrate the WebSphere Commerce 5.4 instance or previous Payments instance, if you wish to run WebSphere Application Server 5.0 as the WAS user, traverse to the *WC55_installdir*/bin directory and run the following command:

```
./wc55nonroot.sh
```

Use this command to authorize the WAS user to start WebSphere Application Server. If you start WebSphere Application Server as root, you do not need to run the above command.

Migrating store assets

This section describes how to migrate a published WebSphere Commerce 5.4 store to WebSphere Commerce.

Updating the WebSphere Commerce 5.4 JSP files

The following sections describe updates required to various JSP files from the WebSphere Commerce 5.4 sample stores, such as Infashion or Tooltech (shipped with Business Edition only). If you reused the JSP files or your published WebSphere Commerce 5.4 stores, you need to make the updates as documented and redeploy the updated JSPs in your migrated stores.

Updating LoginForm.jsp for users without approval

> Business

In WebSphere Commerce 5.4, a user without approval could update personal information, such as addresses and other items. WebSphere Commerce 5.5 does not allow a user without approval to logon to a store. As a result, you need to update the LogonForm.jsp file to avoid a "cannot logon with approval" error message. The WebSphere Commerce 5.4 LoginForm.jsp file for the Tooltech sample store is located in the following path:

WAS_installdir/installedApps/*cell_name*/WC_*instance*.ear/Stores.war/ToolTech/

Add the following code to the error checking section of your LoginForm.jsp.

```
else if (strArrayAuth[0].equalsIgnoreCase(ECSecurityConstants.ERR_USER_IN_PENDING_APPROVAL)==true)
   {
   strErrorMessage = tooltechtext.getString("Logon_Warning2");
   }
```

CatalogMainDisplay.jsp — link to Buyer Administration Console

> Business

To approve users in WebSphere Commerce 5.4, there was a link on the CatalogMainDisplay.jsp page of the Tooltech store which would launch the Buyer Administration Console. In WebSphere Commerce 5.5, this function is integrated into the Organization Administration Console. The WebSphere Commerce 5.4 CatalogMainDisplay.jsp file is located at the following directory:

```
WAS_installdir/installedApps/cell_name/WC_instance.ear/Stores.war/ToolTech/
```

The link on the page was coded as follows:

```
String IEencodedURL = response.encodeURL("https://" + host + ":8000" +
  "/webapp/wcs/tools/servlet/MerchantCenterView?XMLFile=utf.utfCSA&storeId=" + storeId);
```

In WebSphere Commerce 5.5, the default port number for the Organization Administration Console has changed to port 8004 from port 8000. (Your actual port number may be different, as you can reconfigure the tools port number from the WebSphere Application Server Administration Console.) If you derived your approval page from the Tooltech StoreCatalogDisplay.jsp, and you are using the default ports, you need to update the Web address in the link as follows for your WebSphere Commerce 5.5 store:

```
String IEencodedURL = response.encodeURL("https://" + host + ":8004" +
  "/webapp/wcs/orgadmin/servlet/MerchantCenterView?XMLFile=utf.utfCSA&storeId=" + storeId);
```

Updating Coupon JSPs

The WebSphere Commerce 5.4 coupon function was introduced in B2C stores in the WebSphere Commerce 5.4 Commerce Enhancement Pack. In WebSphere Commerce 5.5 you are no longer allowed to add a coupon more than once. If you have a catch_all clause in your error checking code, you will receive this error as a generic error message. If you wish to handle the error message more completely, you should update the coupon error checking code (for example, in the CouponError.jsp file) in the following directory:

```
WAS_installdir/installedApps/cell_name/WC_instance_name.ear/Stores.war
  /store_name/web/ShoppingArea/CatalogSection/CategorySubsection
```

Add the following error checking to the coupons error checking code:

```
   else if( error.equals(CouponConstant.PROMO_ACCEPTED_ERROR) )
   {
%>
     <%=infashiontext.getString("COUPON_ALREADY_ADDED")%>
<%
   }
```

You also need to add the following to the properties file:

```
COUPON_ALREADY_ADDED = You have already added this coupon,
  or you have used this coupon before. You cannot add the same coupon twice
```

Removing the <jsp:root> sections in JSP files

The <jsp:root> and </jsp:root> sections in your JSP files are only valid if your JSP files are XML documents. If your JSP files are not XML documents (that is they are in JavaServer Pages format), you should remove the <jsp:root>...</jsp:root> sections from these JSP files.

For more information on XML Documents, refer to section "JSP.5.2 JSP Documents" of the *JavaServer Pages Specification* (Version 1.2) available from Sun Microsystems.

Importing the "java.util.*" packages

In WebSphere Application Server 5.0, JSP files that use the "Vector" directive have to explicitly include java.util.Vector package.

If you have the following line in your JSPs, your JSPs will not require any changes to work in WebSphere Commerce 5.5.

```
<%@ page import="java.util.*" %>
```

If you do not import the `java.util` package and you use classes inside of the package, you will need to make the following changes to your JSP files. Common classes used in WebSphere Commerce are:

Enumeration

> To import the specific class, use:

> ```
> <%@ page import="java.util.Enumeration" %>
> ```

Vector To import the specific class, use:

> ```
> <%@ page import="java.util.Vector" %>
> ```

ResourceBundle

> To import the specific class, use:

> ```
> <%@ page import="java.util.ResourceBundle" %>
> ```

For more information on classes provided with WebSphere Commerce 5.5, see the WebSphere Commerce Production and Development online help.

Other JSP changes

Other JSP changes include the following:

- The JSP 1.2 Specification states that the only language supported is "java". Thus, the following page language declaration in your JSPs are no longer valid.

  ```
  <%@ page language="JAVA" %>
  ```

  Note that the WCIM tool will convert all occurrences of `<%@ page language="JAVA" %>` to `<%@ page language="`**java**`" %>` on your behalf.

- If you are using `AbstractAccessBean.getInitContext()` to lookup the initial context in your JSPs, it is recommended that you change this to `AbstractAccessBean.getInitContext(null,null)`.

+

Tools XML Files Migration

The XML parser in WebSphere Commerce 5.5 enforces the XML 1.0 specifications more strictly than the previous version of the parser. As a result, you will need to update your XML files if they contain the following errors:

- `<XML>` element in `resources.xml`

  The XML 1.0 specification does not allow an element name to be "XML", regardless of case-sensitivity. For example, if you use elements of the form `<XML name="xxx" file="xxx">` for XML file mappings, change it to `<`**resource**`XML name="xxx" file="xxx">`

- Comments cannot contain two or more dashes ("`--`") .

  The XML 1.0 specifications do not allow "`--`" in comments. For example:

  `<!--- commment --->` <—— Incorrect

  `<!-- commment -->` <—— Correct

  `<!-- commment ----- comment2 -->` <—— Incorrect

  `<!-- commment comment2 -->` <—— Correct

- XML headers

If your XML files do not have a correct XML header (for example, <?xml, or are missing the header, fix it as follows:

```
<?xml version="1.0" encoding="UTF-8"?>
```

Migrating cache policies

WebSphere Commerce 5.5 supports caching through the dynamic cache feature of WebSphere Application Server 5.0. As a result, previous cache policies needs to be migrated. Run the cacheMigration script as follows, from the *WC55_installdir*/bin directory:

```
./cacheMigration.sh instance_name oldWCPath EARPath
```

where:

- *instance_name* is the instance to be migrated (for example, demo)
- *oldWCPath* is the previous WebSphere Commerce 5.4 installation path (*WC54_installdir*)
- *EARPath* is the WebSphere Commerce 5.5 EAR path (*WAS50_installdir*/installedApps/*cell_name*/WC_*instance_name*.ear).

For example:

```
./cacheMigration.sh demo WC54_installdir
  WAS50_installdir/installedApps/myhost/WC_demo.ear
```

The cache policy migration script generates a cachePolicyMigration.log file in the *WC55_installdir*/instance_name/logs directory.

Enabling WebSphere Application Server dynamic cache

In WebSphere Commerce 5.4, WebSphere Commerce cache pages were invalidated by a cache cleanup worker process. The WebSphere Commerce dynamic page cache used database triggers as a notification mechanism to indicate when a cached object was invalidated. These database triggers populated the CACHLOG table to indicate which cache entry needed to be removed from the cache. Once the row was committed into the CACHLOG table, the cache cleanup worker process removed the indicated page or pages on its next iteration, provided that Automatic Page Invalidation was enabled.

WebSphere Commerce 5.5 uses the new CACHEIVL table for invalidation. If you need to continue to use the previous caching mechanism to update the CACHEIVL table, that is, continue to use database triggers, see the example file cacheTriggers.sql provided in the *WC55_installdir*/samples/dynacache/triggers/*database_type* subdirectory.

WebSphere Commerce 5.5 uses the dynamic cache feature of WebSphere Application Server 5.0 as its caching mechanism. For WebSphere Application Server dynamic caching, cache entries are removed under the following circumstances:

- The timeout for the cache entry has expired.
- The cache is full and a new entry must replace an old one, based on designated priority.
- One of the cache invalidation methods has been called:
  - Command-based and servlet pathinfo based invalidation
  - Using the cache monitor

– CACHEIVL-based invalidation

For more information on cache invalidation see the chapter on Caching in the *WebSphere Commerce Administration Guide*.

For more information on WebSphere Application Server dynamic caching, see the topic "Improving performance through the dynamic cache" in the WebSphere Application Server 5.0 InfoCenter.

Note: Since WebSphere Commerce 5.5 caching mechanism utilizes the WebSphere Application Server dynamic caching facility, `CacheCommand` is no longer supported. Thus, any of your previous JSP files that utilized `CacheCommand` will need to be updated for WebSphere Commerce 5.5 to perform the functions of `CacheCommand`. For details on how to write the JSP files, refer to the *WebSphere Commerce Store Development Guide*.

Enabling the dynamic cache service and servlet caching

To enable caching, you should enable the dynamic cache service and configure servlet caching.

From the WebSphere Application Server administration console, click **Servers** > **Application Servers** in the left panel

Then (in the right panel) click the WebSphere Commerce server > **Web Container** and check **Enable servlet caching**.

For information to perform these step, see the topics "Enabling globally the dynamic cache service" and "Configuring servlet caching" in the WebSphere Application Server Information Center (`http://www.ibm.com/software/webservers/appserv/infocenter.html`).

Web server plug-in consideration

If it is present, remove the following line from the `plugin-cfg.xml` file located in the *WAS50_installdir*/plugins directory:

`<Property name="CacheLibrary" value="`*WC54_installdir*`/bin/libwccache.so"/>`

Since WebSphere Commerce 5.5 uses the WebSphere Application Server dynamic caching feature, the above line is no longer required.

For 3–tier installations

If your system is configured using a 3–tier network topology (that is, you have a remote database and Web Server), remove the following files and directories:

- *WC54_installdir*/bin/libwccache.so
- *WC54_installdir*/instances/*instance_name*/xml
- *WC54_installdir*/instances/wcs_instances

Web address change for Organization Administration Console

The launch Web address port and module for the Organization Administration Console Web address has changed in this release. The port has changed from 8000 to 8004, and the module has changed from `wctools` to `wcorgadmin`. Consider the following link to the Organization Administration Console in WebSphere Commerce 5.4:

`https://`*host_name*`/webapp/wcs/wctools/servlet/...`

In WebSphere Commerce 5.5, you need to use the following (changes are in bold):

`https://`*`host_name`*`:`**`8004`**`/webapp/wcs/`**`orgadmin`**`/servlet/`**`...`**

The port and web module are set in the *instance_name*`.xml` file. If you wish to reconfigure them, you can update the values in *instance_name*`.xml` In WebSphere Commerce 5.5 the links to the tooling is dynamically generated based on the *instance_name*`.xml`. So launching the tools within your stores is not a migration issue.

Restarting the Web server and WebSphere Application Server

After completing the instance and database migration, restart your Web server and WebSphere Application Server as follows:

1. Stop your Web server, if it is started.
2. Stop WebSphere Application Server, if it is started.
3. Start the Web server.
4. Start WebSphere Application Server
5. For DB2 databases, before starting the migrated WebSphere Commerce application server, log in as your DB2 instance user ID (for example, `db2inst1`), and run the following script:

   `. `*`db2_instance_home`*`/sqllib/db2profile`

   where *instance_home* is the home directory of your DB2 instance (for example, `/home/db2inst1`). You need to run this command before starting the application server.
6. Restart the migrated `WC_`*`instance_name`* application server in the WebSphere Application Server console.

Changing your host name(remote migration only)

If you are performing a remote migration, before you launch your migrated WebSphere Commerce 5.5 site, you will want to modify your host name for your migrated system to be the same as it was for your WebSphere Commerce 5.4 system prior to migration. Note that you will need to either take down your WebSphere Commerce 5.4 system or isolate it from your network before you bring up your renamed WebSphere Commerce 5.5 host machine to avoid conflicts.

Assuming that:

- Your migrated WebSphere Commerce 5.5 system host name is `myhost2`.
- You wish to change this host name to the original WebSphere Commerce 5.4 host name, `myhost1`, and ensure that WebSphere Commerce uses that host name as well.

The following are the high-level steps to do this. You will need to refer to the documentation for your operating system and network in order to use the required tools.

1. Using the tools available for your network, add the `myhost1` host name and IP address to the network configuration.
2. On the WebSphere Commerce 5.5 machine, manually update the Web server configuration file, `httpd.conf`, to use `myhost1` instead of `myhost2`.
3. In WebSphere Application Server, from the Administration Console:
   a. Modify the Virtual Hosts to use `myhost1`

   b. Modify the endpoints and HTTP transports to use `myhost1`

4. Manually update the WebSphere Commerce instance configuration file, *instance_name*.`xml,` to use `myhost1` instead of `myhost2`.

5. Update your domain name server to reference `myhost1` instead of `myhost2`.

6. For systems using DB2 Universal Database, log in as the DB2 user (for example, db2inst1) and edit the *db2_user_home*/sqllib/db2nodes.`cfg` file and change the `myhost2` host name to the `myhost1` host name. *db2_user_home* is typically a directory such as /home/db2inst.) This update is required in order to start the DB2 database manager process.

7. Edit the WebSphere Application Server *WAS50_installdir*/config/cells/plugin-cfg.`xml` file and change the `myhost2` host name to the `myhost1` host name in order to be able to access the WebSphere Application Server Administrative Console.

You can also do the following:

1. Search the following directories for files that contain the `myhost2` host name, or directory names that contain the `myhost2` host name, and change them to the `myhost1` host name:

- *HTTPServer1326_installdir*/conf
- *WAS50_installdir*/config
- *WAS50_installdir*/bin
- *WAS50_installdir*/java/jre/lib
- *WAS50_installdir*/instances/*instance_name*
- *WAS50_installdir*/xml
- *DB2_installdir*/DB2

2. Run the following commands:

```
move WAS50_installdir/temp/myhost2 WAS50_installdir/temp/myhost1
move WAS50_installdir/installedApps/myhost2 WAS50_installdir/installedApps/myhost1
```

After making these changes, you will need to restart the system.

Verifying successful instance and database migration

After you have migrated your instance using WCIM as described in Chapter 4, "Migrating your Commerce instance configuration," on page 17 and completed the database migration in this chapter, you should verify the migration status of your instance. Once the database is successfully migrated, you should be able to start your migrated WebSphere Commerce 5.5 instance. The migrated instance will use the new WebSphere Commerce 5.5 database schema in your migrated database.

As described in the previous section, restart WebSphere Application Server 5.0 and ensure your network status is enabled. To verify that your instance and database are properly migrated, first verify all logs as previously described, and then launch the WebSphere Commerce Accelerator by pointing your Web browser to:

`https://`*your_hostname*`:8000/accelerator`

If the WebSphere Commerce Accelerator logon page displays, and you can log on to the page, your previous instance and database has been migrated to WebSphere Commerce 5.5 successfully.

Chapter 8. Migrating to Commerce Payments

This chapter describes the procedures and scenarios for migrating the following previous versions Payment Manager to the current version of Commerce Payments provided with WebSphere Commerce 5.5

- Payment Manager 3.1.2
- Commerce Payments 3.1.3

The migration process will utilize the WebSphere Commerce 5.5 WCIM migration tool described in Chapter 4, "Migrating your Commerce instance configuration," on page 17 and a data migration script described in this chapter.

> You only have to run the Payments migration commands documented in this section if you had a previous version of WebSphere Payment Manager 3.1.2 or WebSphere Commerce Payments 3.1.3 installed and operational.

Payments migration overview

The migration of the Payments component of WebSphere Commerce is part of the overall WebSphere Commerce 5.5 migration solution. This solution provides a common procedure for you to migrate Commerce on all platforms. The Payments component, as part of this migration solution uses the WebSphere Commerce Instance Migrator (WCIM) tool. This tool provides the infrastructure required to migrate components within WebSphere Commerce and migrates an instance to the WebSphere Commerce 5.5 level. For Payments, you can migrate an earlier Payment Manager instance to a new Commerce Payments instance using this tool. The other tool that is used in the migration is the database migration tool, that provides the means and infrastructure for moving data from a previous Payments database to a new WebSphere Commerce Payments database.

Components migrated

The components of Payments that you will migrate are:

- Payments Framework
- IBM cassettes
- Vendor cassettes

The vendor cassette migration are of two categories: backward compatibility and migration. Backward compatibility allows a version 3.1.*x* cassette to work with WebSphere Commerce 5.5 Payments. The migration tools move the necessary assets of the payment cassette to the appropriate places in the new EAR file. Cassette migration follows the same rationale used to migrate the IBM cassette; the vendor provides a new version of their cassette and follows the new packaging and deployment capabilities for their cassettes. As part of the deployment packaging capabilities, a migration interface is provided to cassette writers to implement their internal migration and update a cassette to a new version.

Transition methodology

The key principle is to use one methodology for transition (migration of an old instance and old data to a new instance and new data) for all of WebSphere Commerce. Given this principle, Payments makes use of the tools provided by

WebSphere Commerce 5.5 and no longer provides its own migration tool and engine as in previous releases. This provides the following benefits:

- Use of a common set of tools and framework
- Further integration of Payments with Commerce.
- Payments Component provides additional utilities and helpers to help the overall framework as well as tools to perform Payments-specific migration.

In addition, the methodology for migrating the old Payments files and properties to WebSphere Commerce 5.5 are followed. Previous versions of Payments, are supported as follows:

- With an EAR file (Payments 3.1.2 and above, as those versions supported WebSphere Application Server 4.0.x)

Third–party cassette considerations (custom code)

Third-party cassettes data are migrated with the overall database migration of a Payments instance. Payments can handle a cassette that is incompletely migrated, that is, a casette that is missing the required files of which Payments has no knowledge. If a cassette does not work properly at runtime because of missing files for the cassette, Payments marks it as not loadable. In this case, you need to contact the appropriate cassette vendor to help you get the cassette up and running. The intent of the migration is to migrate the items that the Payments component knows needs to be migrated in a cassette.

This list includes:

- Java archive files

  Typical java archives that are migrated are files that follow the recommended naming conventions for cassette writers. The Payments component expects the java archive file to look similar to `eTillClasses.zip` in previous releases.
- PSPL files

The migration of third-party cassettes is modeled after the LDBCard cassette installation since most third–party cassettes have written their cassette using this IBM service asset. This installation is the model that is documented for third-party vendors to follow for creating their own directory structure and cassette setup.

For each migration, Payments will attempt to obtain the third-party cassettes to a point where they can with an existing migrated Payments instance. However; this not guaranteed as the cassettes could have files of which the Payments component is not aware.

Notes:

1. While this document covers migration, it is important to understand that existing, installed cassettes may work with a migration. However, a fresh install of a version 3.1.*x* cassette to WebSphere Commerce 5.5 Payments will not work because those installations are not based on the WebSphere Commerce 5.5 implementation.
2. Previous version 3.1.*x* cassettes are recognized in a migrated Payments instance. However, if a new instance of Payments is created, the previous 3.1.*x* cassettes are not recognized as Payments has no knowledge as to the table layout for these cassettes.

Product rename in version 3.1.3

Payments Version 3.*x* included a number of different Payments releases:

- WebSphere Commerce Payments version 3.1.2 was a multi-platform release of Payment Manager on WebSphere Application Server 4.0.x
- WebSphere Commerce Payments 3.1.3 (or Payments 3.1.3) was released for the mainly for the purpose of renaming the product.

Given this information, any migration of Payments from Version 3.x has to be very specific about what version of Payment Manager it is migrating from. Even though Commerce Suite 5.1 installed version 2.2.x and WebSphere Commerce 5.4 installed version 3.1.2, all aspects of a Version 3.x migration are considered since upgrades to your existing Payments are possible. Thus, the migration handles version 3.1.2 or greater.

Payment Manager 3.1.1

Migration from Payment Manager 3.1.1 is not supported by WebSphere Commerce 5.5. If you are using Payment Manager 3.1.1, you need to apply the latest Payments PTF (version 3.1.3 at this time) before migrating to the WebSphere Commerce 5.5 level of Payments. If the migration detects version 3.1.1, it will flag an error in order to prevent migration from occurring.

Premigration considerations

Before migrating to WebSphere Commerce Payments, ensure that you have addressed the following:
- All prerequisite software has been migrated or updated.
- WebSphere Application Server 5.0 has been installed to a separate machine from where WebSphere Application Server 4.0.x resides.
- The Payments 3.1.*x* enterprise application has been exported and saved in the *previous_Payments_installdir*/deployable directory.
- You can access the previous Payment Manager and Commerce databases.

Migrating your Payments instance and database

The Payments migration process will be a three-step process using:
- The WCIM tool as described in "Migrating your Payments instance using WCIM."
- Removing virtual hosts if required as described in "Updating the virtual host ports" on page 65.
- The Payments data migration script as described in "Migrating your Payments database" on page 66.

The process follows the general migration methodology for other WebSphere Commerce components.

Note: For 3.1.x migration - Before upgrading WebSphere Application Server 4.0.x to WebSphere Application Server 5.0, the WebSphere Application Server 4.0.x Payments information needs to be exported using the WebSphere Application Server XMLConfig tool or from the WebSphere Application Server Administration console. The exported information must be saved in the *previous_Payments_installdir*/deployable directory.

Migrating your Payments instance using WCIM

As in "Migrating your instance configuration using WCIM" on page 20, when you invoke WCIM to migrate Payments, you first invoke WCIM for backup, and then

invoke WCIM again for migration. The basic process is similar to that described in "Migrating your instance configuration using WCIM" on page 20 but for a few additional variables that are required for Payments.

| **Note:** The WCIM scripts, wcim.sh and wcimenv.sh, require access to the `setenv.sh`
| file. If you move or copy wcim.sh and wcimenv.sh from the default
| WebSphere Commerce `bin` subdirectory to your working directory, ensure
| that you move or copy the `setenv.sh` file to that working directory as well.
The main steps are as follows:

Running WCIM for backup

Before running WCIM for migration, you should run WCIM to create a backup of your current instance and instance related files:

1. Customize `wcimenv.sh` to provide the necessary migration information such as the version of your previous Payments instance, installation path, working directory name, and so on.

   The following are the changes you need to make to the WCIM scripts for Payments:

   - In the `wcimenv.sh` script, add the following line:
     ```
     WPM_PATH="Payments_installdir"
     export WPM_PATH
     ```
   - The instance name for the SET INSTANCE line must be set to "default", as previous versions of Payments on this platform did not support instances.
   - Set the line WCIM_MIGRATE_FROM="PM_version" where *PM_version* is one of the following depending on the version of your previous version of Payment Manager:
     - Payment Manager 3.1.2 — WPM312

       Use WPM312 if your exported `.ear` file is of the form *PM_instance_name*_IBM_PaymentManager.ear
     - WebSphere Commerce Payments 3.1.3 — WCP313

       Use WCP313 if your exported `.ear` file is of the form *PM_instance_name*_IBM_Payments.ear

   For example:
   ```
   ...

   WCIM_BACKUP="true"
   WCIM_INPLACE="false"
   WCIM_MIGRATE_FROM="WPM312 | WCP313"

   DB_TYPE="db2"


   export WCIM_BACKUP
   export WCIM_INPLACE
   export WCIM_MIGRATE_FROM
   export DB_TYPE

   WAS_PATH="WAS40_installdir"
   WC_PATH="WC54_installdir"
   WEBSERVER_PATH="HTTPServer1319_installdir"
   ANT_PATH="WAS40_installdir/lib"
   WORK_DIR="WAS40_installdir/temp"
   LOG_FILE="wcim_pm_backup.log"
   INSTANCE="default"
   PATH=WAS50_installdir/java/jre/bin:$PATH
   WPM_PATH="WPM312_path | WCP313_path"
   ```

```
        export WAS_PATH
        export WC_PATH
        export WEBSERVER_PATH
        export ANT_PATH
        export WORK_DIR
        export LOG_FILE
        export INSTANCE
        export PATH
        export WPM_PATH

        ...
```

2. For a remote Payments migration scenario only, you should change the
   following variables to your actual path on the remote WebSphere Commerce 5.4
   machine. For example

   ```
   WORK_DIR="WC54_installdir/temp"
   ANT_PATH="WORK_DIR/lib"
   PATH=WAS40_installdir/java/jre/bin:$PATH
   ```

3. Run WCIM to backup the Payments instance, as follows:

   ```
   ./wcim.sh [wcimenv_path] PM_database_password
   ```

   where:

   - *wcimenv_path* is the path where the wcimenv.sh is located on your machine. If
     the wcimenv.sh path is the same as the wcimenv.sh path, use "." to specify the
     current directory. For example:

     ```
     ./wcim.sh . mypassword
     ```

4. The script backs up the version 3.1.x Payments instance files, including custom
   code, into the /backupInst directory on the WebSphere Commerce 5.4
   (payments components) machine.

   WCIM packages the files as a .zip file in the .../zip subdirectory of the
   working directory supplied in wcimenv.sh.

5. Copy the .zip file into the working directory's .../zip/ subdirectory in the
   WebSphere Commerce 5.5 machine.

   For a remote backup, you also need to copy the instbackupwpm312.xml or the
   instbackupwcp313.xml file from the *WC55_installdir*/xml/migration directory
   to the .../xml/migration subdirectory of your temporary working directory.

   You need to copy the following files to the .../lib subdirectory of your
   temporary working directory:

   - eTillConfig.jar (from *Payments_installdir*/lib)
   - j2ee.jar and ant.jar (from *WAS50_installdir*/lib)
   - xerces.jar, ConfigManager.jar and Utilities.jar (from
     WC55_installdir/lib)

   Copy the following files to the .../bin subdirectory of your temporary
   working directory:

   - wcim.sh
   - wcimenv.sh

   You can find these files in the *WC55_installdir*/bin directory.

Running WCIM for migration

For a remote migration of your Payments instance, ensure that you do the
following before running WCIM for migration:

- Ensure that the new Payments database exists. This database can be empty —
  the data can be migrated later.

- If the IP address or host name of the Payment Manager 3.1.2 or Commerce Payments 3.1.3 machine is different from your WebSphere Commerce 5.5 machine, you must replace all occurrences of the Payment Manager 3.1.2 or Commerce Payments 3.1.3 machine's IP address, host name, node name, and domain with the information for your WebSphere Commerce 5.5 machine in the .zip file created when you ran WCIM for backup.

  For example, the files that you must likely update include the .properties files.

Before migrating your instance, create an empty PaymentServlet.properties file and add it to the .zip file created when you ran WCIM for backup.

After running WCIM to backup your Payments instance, run WCIM to migrate your Payments instance and instance-related files:

1. Customize wcimenv.sh to provide the necessary migration information. For example:

```
...

WCIM_BACKUP="false"
WCIM_INPLACE="true"
WCIM_MIGRATE_FROM="WPM312 | WCP313"

DB_TYPE="db2"


export WCIM_BACKUP
export WCIM_INPLACE
export WCIM_MIGRATE_FROM
export DB_TYPE
WAS_PATH="WAS50_installdir"
WC_PATH="WC55_installdir"
WEBSERVER_PATH="HTTPServer1326_installdir/htdocs/locale"
ANT_PATH="WAS50_installdir/lib"
WORK_DIR="WC55_installdir/temp"
LOG_FILE="wcim_pm_migration.log"
INSTANCE="default"
PATH=$WAS_PATH/java/jre/bin:$PATH
WPM_PATH="WC55_installdir/payments"

export WAS_PATH
export WC_PATH
export WEBSERVER_PATH
export ANT_PATH
export WORK_DIR
export LOG_FILE
export INSTANCE
export PATH
export WPM_PATH

...
```

2. Ensure that you are logged in as the Payments database user prior to running the wcim.sh script. In addition, ensure the Payments database user ID (for example, db2inst1) has sufficient authority to the following directories:
   - *WC55_installdir*
   - *WC55_installdir*/payments
   - *your_work_dir*
   - *WAS50_installdir*/config

You can provide the Payments database user ID the required authority by adding the Payment database user ID to the `wasgroup` user group. For example, `gpasswd -a db2inst1 wasgroup` adds the db2inst1 user ID to the `wasgroup` user group.

After you have completed the Payments migration, you need to restore the authority for following directories:

```
chmod 775 -Rf WC55_installdir/payments
chmod 775 -Rf WAS50_installdir/config
```

3. When running WCIM to migrate the Payments instance, run the `wcim.sh` script as follows:

```
./wcim.sh wcimenv_path PM_database_password
```

where the following are *required* parameters for Payments migration:

- *wcimenv_path* is the path where the `wcimenv.sh` is located on your machine. If the `wcimenv.sh` path is the same as the `wcimenv.sh` path, use "." to specify the current directory. For example:

```
./wcim.sh . mypassword
```

- *PM_database_password* is the WebSphere Commerce Payments database password and is used when migrating a WebSphere Commerce Payments instance.

4. When you run WCIM for migration, it does the following:

- Copies the WebSphere Commerce 5.5 instance base files into the working directory's `.../migrate` subdirectory. (This is the new EAR template to add the pre-WebSphere Commerce 5.5 EAR information, for `Payments = cassettes` related files.)

- Unpacks the copied jar file into the working directory's `.../migrate` subdirectory.

- Performs the instance migration (this is Payments instance specific):

  - Updates the WebSphere Commerce 5.5 deployment descriptors. That is, it adds unknown `.jar` files from the migrated instance to the Payments `Manifest.MF` file.

  - Starts collecting the configuration information from the existing Payments instance (`instance.xml`) to be used later when the Payments migration creates the migrated instance. The migration process reads the current Payments information and uses it to create the new instance and the WebSphere Application Server information. No tables are created and no EAR file is deployed at this point.

  - Migrates the `instance` file.

  - Migrates the Web server configuration file.

  - Displays the remaining migration steps, if any, that are required after running WCIM.

Updating the virtual host ports

After executing the Payments instance migration with WCIM, modify the virtual host ports in WebSphere Application Server Administration Console as required. For example, if the virtual hosts "VH_PYM_*migrated_payments_instance*" and "VH_*commerce_instance*" are using the same port, say port 80, this will result in a port conflict.

In order to remove the conflict, you should remove the port 80 from "VH_PYM_*migrated_payments_instance*" (since Payments no longer uses port 80) and map the web module of "*migrated_payments_instance*_Commerce_Payments_App" to "VH_*commerce_instance*".

In commerce WebSphere Commerce 5.4, ports 80 and 443 are only defined under the default host, and both Commerce and Payment Manager use the default host to access those two ports.

In WebSphere Commerce 5.5 ports 80 and 443 belong to VH_*commerce_instance*, and Payments uses another virtual host with ports 5432 and 5433. For a migrated WebSphere Commerce 5.5 environment, a migrated Payments instance will continue to use port 80 but is mapped to a new virtual host which is automatically created during the Payment instance migration process. If you wish to still use port 80 for the migrated Payments instance, it needs to map to VH_*commerce_instance* (for example, VH_demo). Otherwise, you need to change the port number for "VH_PYM_*migrated_payments_instance*".

You need to manually check and update and virtual hosts that may result in a port conflict after Payments migration.

Migrating your Payments database

Before running the Payments data migration script (migratepaymentsdb) on your previous Payments database, it is recommended that you back it up as described in "Backing up your databases" on page 8.

When you run the Payments database migration script (migratepaymentsdb) against your previous Payments database (as described below) the script:
1. Collects database information to determine the version, release level, database type
2. Runs the premigration steps based on version, release level and type
3. Updates the Payments Schema to the WebSphere Commerce 5.5 level.
4. Based on the version and release, runs the Payments data migration command. This will be done for the Payments Framework and IBM Cassettes, and also for any third–party cassette that is installed before running the migration script.

DB2 databases

The following steps show you how to run the migration script for DB2 databases:

__ 1. Open a command prompt window.

__ 2. If you are running WebSphere Application Server as the root user, switch to the DB2 instance user ID for your database (for example, db2inst1):

    su - *db2_instance_user_id*

   If you are running WebSphere Application Server as the non-root user, switch to the WebSphere Application Server user ID (for example, wasuser):

    su - *WAS_user*

__ 3. Switch to the bin subdirectory where WebSphere Commerce 5.5 is installed. For example, *WC55_installdir*/bin.

__ 4. Run the database migration script as follows:

    ./migratepaymentsdb.sh db2 *db_name db_userID password schema_owner*

   where:
   - db2 specifies that you are migrating a DB2 database.

- *db_name* is the Payment Manager database that you are migrating.
- *db_userID* is the user ID to connect to the Payment Manager database that you are migrating.
- *password* is the password for the user ID to connect to the Payment Manager database that you are migrating.
- *schema_owner* is the database schema owner user ID for DB2 databases. You must enter the *schema_owner* in uppercase characters.

After the Payments database migration is complete, in order to start the Payments server successfully, you should increase the database log file size by updating your database configuration as follows:

```
db2 update db cfg for your_payments_db using logfilsiz 10000
```

After you have made the update, restart DB2.

Checking the JDBC Provider

Before starting the Payments server, check the JDBC provider in the WebSphere Application Server Administration Console to verify if the data source is configured correctly for the current environment. If the data source is null, you need to add it manually prior to starting, as follows:

1. Logon again to the WebSphere Application Server Administration Console. From the Administration Console, expand **Resources** and click **JDBC Providers** > **Browse Server** and select your WebSphere Commerce instance. Click **OK**.
2. Back on the JDBC Providers panel, (from the Administration Console, expand **Resources** and click **JDBC Providers**) if the WebSphere Commerce 5.5 data source does not appear, proceed with the following steps:
   a. From the JDBC Providers panel, click **New** and select the appropriate JDBC Provider from the drop down list (for example, DB2 JDBC provider for DB2 databases).
   b. Configure JDBC Provider name, JDBC classpath fields. Click **Apply** and **OK** to save your changes
   c. Under the Additional Properties section of the Configuration panel, click **Data Sources (Version 4)** —> **New**
   d. Configure the Name, JNDI Name (for example, jdbc/WebSphere Commerce DB2 Datasource *WC_instance_name* for DB2 databases, the Database Name, and the Default user ID and Default Password fields for the database.
   e. Click **Apply** and **OK**.
   f. Save your changes.

Payments migration usage scenarios

The following scenarios reflect the Payments-only flow that occurs during the transition to WebSphere Commerce 5.5.

Migrating the previous Payment Manager

Description
> To migrate Payment Manager 3.1.*x* to WebSphere Commerce Payments

Performed by
> Site administrator

Preconditions
- You have installed WebSphere Application Server 5.0.

- You have saved the previous WebSphere Application Server configuration.
- You have exported the enterprise application and if required, the application server.
- WCIM is available on both the previous Payment Manager and the WebSphere Commerce 5.5 machines.
- You have started all required services.
- You can access the previous Payment Manager and Commerce databases.

Main flow

From the previous Payment Manager machine (remote system):

1. Copy `wcimenv.sh` and `wcim.sh` from the *WC55_installdir*/bin directory on the WebSphere Commerce 5.5 machine to your temporary working directory on the WebSphere Commerce 5.4 machine.

2. For a remote backup, you need to copy the `instbackupwpm312.xml` or the `instbackupwcp313.xml` file from the *WC55_installdir*/xml/migration directory to the `.../xml/migration` subdirectory of your temporary working directory.

   You also need to copy the following files to the `.../lib` subdirectory of your temporary working directory:
   - `eTillConfig.jar` (from *Payments_installdir*/lib)
   - `xerces.jar`, `j2ee.jar` and `ant.jar` (from *WAS50_installdir*/lib)
   - `ConfigManager.jar` and `Utilities.jar` (from *WC55_installdir*/lib)

3. Edit `wcimenv.sh` to supply the information necessary to back up the old Payments instance. Specify `WCIM_BACKUP=true` and `WCIM_INPLACE=false`. See "Running WCIM for backup" on page 24 for more details on the information necessary for a successful backup.

4. Run the `wcim.sh` command to backup the instance.

5. Copy the `backup.zip` file into the working directory's `zip` subdirectory in the WebSphere Commerce 5.5 machine.

From the WebSphere Commerce 5.5 machine:

1. Edit `wcimenv.sh` on the WebSphere Commerce 5.5 machine. Specify "WCIM_BACKUP=false" and "WCIM_INPLACE=true". See "Running WCIM for migration" on page 26 for more details on the information necessary for a successful migration.

2. Ensure that you are logged in as your Payments database user in order to run WCIM.

3. Run the WCIM script from the command line, passing in the Payments database password:

   `./wcim.sh` *wcimenv_path payments_db_password*

4. When WCIM displays the migration log file, you should inspect the log to verify the migration.

5. WCIM displays any remaining migration steps required for Payments.

6. Invoke the Payments data migration script to migrate the previous Payments database to the current level. See "Migrating your Payments database" on page 66 for the syntax to invoke the script.

Post condition

The previous Payment Manager 3.1.*x* is successfully migrated to WebSphere Commerce Payments.

Multiple WebSphere Commerce instances pointing to one instance of Payments

Description

To migrate Payment Manager 3.1.2 or Commerce Payments 3.1.3 to WebSphere Commerce Payments, when multiple WebSphere Commerce instances point to one Payments instance.

Performed by

Site administrator

Preconditions

- You have installed WebSphere Application Server 5.0.
- You have saved the previous WebSphere Application Server configuration.
- You have exported the application server and enterprise application.
- You have installed WebSphere Commerce Payments as part of the WebSphere Commerce 5.5 installation.
- WCIM is available on both the previous Payment Manager and the WebSphere Commerce 5.5 machines (Note: They may be installed on the same machine).
- You have started all required services.
- You can access the previous Payment Manager and Commerce databases.

Main flow

1. Migrate Payments — depending on the scenario, refer to appropriate use case above.
2. For all WebSphere Commerce instances, point to the newly migrated Payments instance.
3. Choose which WebSphere Commerce instance to migrate.

Post condition

The previous Payment Manager 3.1.*x*, or Commerce Payments 3.1.3 is successfully migrated to WebSphere Commerce Payments.

Payments subsystem migration considerations

WebSphere Commerce 5.5 has introduced the following changes relative to WebSphere Commerce 5.4:

- Policy IDs for the CustomOffline_COD and CustomOffline_BillMe profile names are now supplied in WebSphere Commerce 5.5. In WebSphere Commerce 5.4, they were not supplied and you were required to create your own.

Table 4. CustomOffline profile names

Policy ID	Policy name	Profile name
–9991	CustomOffline_COD	WC51_CustomOffline_COD
–9990	CustomOffline_BillMe	WC51_CustomOffline_BillMe

- All SET profiles (WCS51_SET_MIA and WCS51_SET_Wallet) will be in the WebSphere Commerce 5.5 database tables, but are disabled to the runtime. To enable these profiles, you need contact IBM.
- Cybercash is no longer supported and it will be disabled in WebSphere Commerce 5.5. Contact IBM for additional information.

- A new policy, Paymentech, has been introduced:

Table 5. Paymentech profile

Policy ID	Policy name	Profile name
–9980	Paymentech	WC_Paymentech

Note that all previously supplied Payments cassette profiles that continue to be supported in WebSphere Commerce 5.5 have been updated:

- All references to "Payment Manager" have been removed.
- The DTD path in the profiles now reference the DTD in the current directory rather than in *WC55_installdir*/xml/PaymentManager/profile.dtd for consistency across platforms.

If you have modified the profiles supplied in WebSphere Commerce 5.4, you should reapply your changes to the updated WebSphere Commerce 5.5 profiles of the same name, if you still require the change for your migrated Payments instance.

What the data migration does

The data migration script performs the following steps when you run it against your previous database:

1. The database migration copies all the standard profiles, plus the profile.dtd file from the *WC55_installdir*/instances/default/xml/payment directory into the *WC55_installdir*/instances/*instance_name*/xml/paymentdirectory. The names of the profiles in the .../default/xml/payment directory for WebSphere Commerce 5.5 are:
   - WC_Paymentech (new in WebSphere Commerce 5.5)
   - WC51_BankServACH.profile
   - WC51_CustomOffline_BillMe.profile
   - WC51_CustomOffline_COD.profile
   - WC51_OfflineCard.profile
   - WC51_VisaNet.profile
   - WC51_VisaNet_PCard.profile
   - WCS51_CustomOffline.profile
   - WCS51_OfflineCard.profile
2. Copies all the files from the original WebSphere Commerce 5.4 .../instances/instance_name/xml/payment directory into the same directory in the WebSphere Commerce 5.5 installation, except for the following files:
   - WC51_BankServACH.profile
   - WC51_CustomOffline_BillMe.profile
   - WC51_CustomOffline_COD.profile
   - WC51_CyberCash.profile
   - WC51_OfflineCard.profile
   - WC51_SET_MIA.profile
   - WC51_SET_MIA_PCard.profile
   - WC51_SET_Wallet.profile
   - WC51_VisaNet.profile
   - WC51_VisaNet_PCard.profile
   - WCS51_CustomOffline.profile

- WCS51_CyberCash.profile
- WCS51_OfflineCard.profile
- WCS51_SET_MIA.profile
- WCS51_SET_Wallet.profile

3. Copies `profile.dtd` from the WebSphere Commerce 5.4 `.../xml/PaymentManager` directory to the same directory in the WebSphere Commerce 5.5 installation tree, if any files were copied in step 2, above.

   That is because the WebSphere Commerce 5.4 versions of the profiles expect the `profile.dtd` to reside in `.../xml/PaymentManager`. The updated WebSphere Commerce 5.5 profiles expect the `profile.dtd` file to reside in the same directory as the profiles.

4. When migrating the Payment Business Policies in the `POLICY` table (`PolicyType_Id = 'Payment'`), the script sets the `ENDTIME` column to the `CURRENT TIME` for payment policy entries that include the String "`cassetteName=SET`" or "`cassetteName=CyberCash`" in the `PROPERTIES` column. (This effectively marks the policy as inactive.)
   ```
   UPDATE POLICY SET ENDTIME = CURRENT TIME
     WHERE PolicyType_Id = 'Payment'
     AND ( Properties LIKE '%cassetteName=SET%' OR
           Properties LIKE '%cassetteName=CyberCash%' )
   ```

5. When migrating the PAYMTHDSUP table, the script leaves out the entries with PayMthd_Id in the set.
   ```
   SELECT PayMthd_Id FROM PAYMTHD
     where PAYMTHD.ProfileName like '%SET%'
     or PAYMTHD.ProfileName like '%CyberCash%')
   ```

   The Migration script should log the PAYMTHDSUP entries that were left out from this step.

The migration to WebSphere Commerce 5.5 does *not* copy the following profiles as WebSphere Commerce 5.5 no longer supports the Cassette for SET and Cassette for CyberCash. If these cassettes and profiles are still required, contact IBM service for support:
- WC51_CyberCash.profile
- WC51_SET_MIA.profile
- WC51_SET_MIA_PCard.profile
- WC51_SET_Wallet.profile
- WCS51_CyberCash.profile
- WCS51_SET_MIA.profile
- WCS51_SET_Wallet.profile

Part 2. Additional migration steps

The chapters in this part of the Migration Guide describe additional migration considerations and scenarios that may not apply to all WebSphere Commerce 5.4 customers. In most cases, these sections should be considered as optional steps. They include:

- Chapter 9, "Request For Quotation (RFQ) migration," on page 75
- Chapter 10, "Collaborative Workspaces migration," on page 85
- Chapter 11, "Customer Care migration," on page 89
- Chapter 12, "Migrating other WebSphere Commerce components," on page 95

Chapter 9. Request For Quotation (RFQ) migration

> Business

A Request For Quotation (RFQ) is a process where a buying organization solicits offers from selling organizations to obtain a suitable price for a given product or set of products. The buyers in the buying organization may not find the products they wanted in the catalog of the selling organizations.

In WebSphere Commerce 5.5, the RFQ request tools have been changed to allow the buyer to create an RFQ on a "made to order" item. To fully specify the attributes of the "made to order" item, personalization attributes are used just like any other RFQ item.

If the seller cannot find an existing product in the catalog to substitute the made to order item specified in the RFQ request, the seller generates a new SKU in the response for that made to order item and a new catalog entry is created for the made to order item. The seller generates a new SKU by using the existing Product Management Tool (PMT) in the Accelerator. A catalog entry that is a product cannot be used as a substitution in the response. The catalog entry that is to be a substitute should be an item, so if you create a product using the PMT, you also need to create an item. If the new items are not meant to be sold to the general public and are only meant for a specific "made to order" item, then they should:

- Have no offer prices
- Should have the Publish flag set to "No"
- Be placed under a special category like the recommended "MadeToOrder". This will enable easy clean up of the catalog entries. The seller must create the special category. It can have any name.

To clean up any catalog entries that were created for responding to "made to order" items if the RFQ response was rejected, WebSphere Commerce 5.5 has added a DBCLEAN SQL method. Once the new catalog entries have been created using the PMT, the seller can then refer to this new catalog entry, in their RFQ response, the same way as any other catalog entry.

In the marketplace, the master catalog is created and managed under the marketplace's catalog profile store. The marketplace's catalog profile store is defined as the alternate store for the seller store. The marketplace administrator creates categories and products in the marketplace's catalog profile store. The seller logs into the seller hosted store to respond to the RFQ that contained made to order items. The seller provides information (such as product code, product name, parent category in the master catalog, product attributes and attribute values) about the made to order items to generate the catalog entries. The generated catalog entries for made to order items exist in the seller's store but not in marketplace's store.

New or changed assets

The RFQ request creation and modification commands have been changed as follows:

- They get a new value for `RFQPROD_ID` from the `KEYS` table when a product is added to the RFQ.
- They allow adding a product ("made to order" item) without a `catentry_id` to the RFQ.
- They store the `RFQPROD_ID` in the `PATTRVALUE` table instead of creating an `OrderTCOrderItemPAttribute` term and condition when a personal attribute is added to a product in the RFQ.

  The following command is modified: `CreateRFQCatentryRel`.

  The following are new controller commands:
  – RFQItemAdd
  – RFQItemUpdate
  – RFQItemSpecificationAdd
  – RFQItemSpecificationRemove
  – RFQItemSpecificationUpdate
  – RFQItemCommentAdd
  – RFQItemCommentRemove
  – RFQItemCommentUpdate

  The following are new task commands:
  – CreatePAttributeValue
  – DeletePAttributeValue

  For information on these commands, see the WebSphere Commerce Production and Development online help.

  The RFQ response creation and modification commands have been changed as follows:
- They get a new value for `RFQRSPPROD_ID` from the `KEYS` table and keep the `RFQPROD_ID` in the `RFQRSPPROD` table when responding to a product in the RFQ.
- They allow responding to product (made-to-order item) in RFQ without a `catentry_id`.
- They store the `RFQRSPPROD_ID` in the `PATTRVALUE` table instead of creating an `OrderTCOrderItemPAttribute` term and condition when responding to a personal attribute specified to a product in the RFQ .
- The defined product attributes and attribute values are created for the newly created "made to order" product. The following commands have been modified:
  – RespondProductPQ
  – RFQResponseCreate
  – RFQResponseModify

  The following are new task commands
  – RespondPAttribute
  – ModifyResponsePAttribute

  For information on these commands, see the WebSphere Commerce Production and Development online help.
- The RFQ response change state commands have been changed as follows:

  If the target state is "ACTIVE", you can only change the state if special catalog entries are created for all "made to order" items with non-zero quantity values. At least one of the products in the response must have a non-zero quantity value. The following commands have been modified:
  – RFQResponseChangeState

- The RFQ command has been changed as follows:
  - If it is converting the winning response to an order:
    - It stores the `ORDERITEMS_ID` in the `PATTRVALUE` table for the personal attributes that are left.
    - If there is a pattribute value for a "made to order" item, the `ORDERITEMS.PREPAREFLAG` should be set to indicate that pattribute values exist.
  - Creates an `OrderTCOrderItemPAttribute` term and condition for the personal attributes left if converting the winning response to a contract.
  - The following commands are new:
    - RFQToOrderCreate
    - RFQToContractCreate

Multiple catalog entries in an RFQ

To allow a catalog entry to appear multiple times within one RFQ, the following items have been changed:

- `RFQPROD.CATENTRY_ID` is nullable, and a name column is used to reference the "made to order" item.
- `RFQRSPPROD.CATENTRY_ID` is nullable.
- The `PATTRVALUE` table has added three new columns, and the `TERMCOND_ID` is nullable:
  - `ORDERITEMS_ID`
  - `RFQPROD_ID`
  - `RFQRSPPROD_ID`

  Note that the `PATTRVALUE` table used to be attached to the catalog entries through the terms and conditions. In WebSphere Commerce 5.5, it is directly attached. In WebSphere Commerce 5.5, contracts still use `TERMCOND_ID` while order use `ORDERITEMS_ID`. For more information on the above tables and columns, see the database schema description in the WebSphere Commerce Production and Development online help.

  The `ORDERITEMS` table has a new flag for the `PREPAREFLAGS` column. This new value is described as: "256 - personalized - the OrderItem has personalization attribute values associated with it. These personalization attribute values are found in the table PATTRVALUE."

Because the OrderTCOrderItemPAttribute terms and condition item is not created until the RFQ is converted into a contract, a new `RFQRSPPARL` table has been created to keep track of the relationship.

Migrating the RFQ request tool

If you have used RFQ in WebSphere Commerce 5.4, the following are the steps to migrate the RFQ request tool to the current level:

1. Back up your current store assets
2. Create a subfolder, `RFQArea` under your store directory and copy all the files in the `WC55_installdir`/migration/RFQ/ToolTech/RFQArea directory into the subfolder you created.
3. For any of your stores that are based on the ToolTech sample store:

a. Copy the following files in the
   WC55_installdir/migration/RFQ/ToolTech/include into the
   store_directory/include directory:

   - EnvironmentSetup.jsp
   - HeaderDisplay.jsp
   - SidebarDisplay.jsp
   - CachedHeaderDisplay.jsp
   - CachedSidebarDisplay.jsp
   - CacheParametersSetup.jsp

   These files are included in all RFQ JSP files.

b. Copy the following files in the
   WC55_installdir/migration/RFQ/ToolTech/images into the
   store_directory/images directory:

   - button_divider.gif
   - header_back.gif
   - strip.gif

4. Open ToolTech.css in a text editor, make the following changes, then save the
   changes in ToolTech.css. Add the following (note that the following should
   be on one line, and has been split across two lines for display purposes):

   ```
   TD.header { FONT-WEIGHT: bold; FONT-SIZE: 10pt; COLOR: #4C6178;
               FONT-FAMILY: Verdana; padding-left: 3px;}
   ```

   A sample modified version of ToolTech.css is included in the
   WC55_installdir/migration/RFQ/ToolTech directory for reference.

5. Open CatalogItemDisplay.jsp in a text editor, make the following changes,
   then save the changes in CatalogItemDisplay.jsp. A sample modified version
   of CatalogItemDisplay.jsp is included in the
   WC55_installdir/migration/RFQ/ToolTech directory for reference.

   a. Remove the interest list function by deleting the following
      Add2InterestList() function:

      ```
      function Add2InterestList(form)
      {
           if (!busy)
           {
              busy = true;
              form.submit();
           }
      }
      ```

   b. Add the RFQ link in by adding the following Add2RFQ() function:

      ```
      function Add2RFQ(form)
      {
           if (!busy) {
              if (form.Type[0].checked) {
                    form.action="RFQCreateDisplay";
              } else  {
                    form.action="AddToExistRFQListDisplay";
              }
              form.submit();
           }
      }
      ```

   c. Change the following include JSP file from:

      ```
      incfile = includeDir + "NavSideBar.jsp";
      ```

      to:

```
     incfile = includeDir + "SidebarDisplay.jsp";
```

d. Remove the interest list function by deleting the following code:

```
<!- Code for Add to Interest List ->
   ...
<input type="hidden" name="fromIntList" value="">
   ...
    <!- Display Interest List Subtitle ->
    <%
     if (fromIntList != null)
        {
        if (fromIntList.equals("1"))
           {
           %>
           <TR>
           <TD COLSPAN="2">
                  <FONT color="#E7B610" style="font-family : Verdana;" size="2">
                  <STRONG><%=tooltechtext.getString("Item_interestitem_add_OK")%></STRONG>
                  <BR>
                  </FONT>
           </TD>
           </TR>

           <TR><TD><BR></TD></TR>

           <%
            }
          }
   %>

   <P><BR>
```

e. Replace the following "add to interest list" code:

```
<%
// Code for Add to Interest List begins. Show show to a Buyer (Buy-side) User.

if ((userState.equals("1") || userState.equals("")) && bnRegUser.findUser()
    && bBuyer)
  {
  %>

        <BR><BR>
        <B><%=tooltechtext.getString("Sidebar_RFQ")%></B>
<BR>
<%=tooltechtext.getString("ItemDisp_Text_RFQ")%>
<BR><BR>

<form name="InterestItemAddForm" action="InterestItemAdd" method="post">
<input type="hidden" name="storeId" value="<%= storeId %>">
<input type="hidden" name="catalogId" value="<%= catalogId %>">
<input type="hidden" name="langId" value="<%= languageId %>">
<input type="hidden" name="catEntryId" value="<%= itemId %>">
<input type="hidden" name="URL" value="InterestItemDisplay">

<table cellpadding="0" cellspacing="0" border="0">
<tr>
    <td bgcolor="#ff2d2d" class="pixel"><img src="<%=fileDir%>images/lb.gif" border="0"/></td>
    <td bgcolor="#ff2d2d" class="pixel"><img src="<%=fileDir%>images/lb.gif" border="0"/></td>
    <td class="pixel"><img src="<%=fileDir%>images/r_top.gif" border="0"/></td>
</tr>
<tr>
    <td bgcolor="#ff2d2d"><img alt="" src="<%=fileDir%>images/lb.gif" border="0"/></td>
    <td bgcolor="#ea2b2b">
      <table cellpadding="2" cellspacing="0" border="0">
      <tr>
      <td class="buttontext">
      <font color="#ffffff"><b>
      <a class="catalog" href="#" onClick="Add2InterestList(document.InterestItemAddForm);
          return false;" style="color:#ffffff; text-decoration : none;">
      <%=tooltechtext.getString("ItemDisp_AddtoIntList")%></a>
      </b></font>
      </td>
      </tr>
      </table>
    </td>
    <td bgcolor="#7a1616"><img alt="" src="<%=fileDir%>images/db.gif" border="0"/></td>
</tr>
<tr>
    <td class="pixel"><img src="<%=fileDir%>images/l_bot.gif"/></td>
    <td bgcolor="#7a1616" class="pixel" valign="top"><img src="<%=fileDir%>images/db.gif" border="0"/></td>
    <td bgcolor="#7a1616" class="pixel" valign="top"><img src="<%=fileDir%>images/db.gif" border="0"/></td>
</tr>
</table>
</form>

<!- Code for Add to Interest List ends->


<%
}
%>
```

with the following ″add to RFQ″ code:

```
<%
// Code for Add to RFQ begins. Show to a Buyer (Buy-side) User.

if ((userState.equals("1") || userState.equals("")) && bnRegUser.findUser() && bBuyer)
{
    %>

    <BR><BR>
    <B><%=tooltechtext.getString("Sidebar_RFQ")%></B>
    <BR>
    <%=tooltechtext.getString("RFQExtra_Desc")%>
    <BR><BR>

    <form name="RFQAddForm" action="" method="post">
    <input type="hidden" name="storeId" value="<%= storeId %>">
    <input type="hidden" name="catalogId" value="<%= catalogId %>">
    <input type="hidden" name="langId" value="<%= languageId %>">
    <input type="hidden" name="<%= com.ibm.commerce.rfq.utils.RFQConstants.EC_OFFERING_CATENTRYID %>" value="<%= itemId %>">

    <TABLE>
    <TR>
    <TD><INPUT TYPE="radio"  NAME="Type" VALUE="NEW" checked></TD>
    <TD><B><%=tooltechtext.getString("ItemDisp_Radio1")%></B></TD>
    </TR>
    <TR>
    <TD><INPUT TYPE="radio"  NAME="Type" VALUE="EXISTING"></TD>
    <TD><B><%=tooltechtext.getString("ItemDisp_Radio2")%></B></TD>
    </TR>
    </TABLE>

    <table>
    <tr>
    <td>
        <table cellpadding="0" cellspacing="0" border="0">
        <tr>
        <td bgcolor="#ff2d2d" class="pixel"><img src="<%=fileDir%>images/lb.gif" border="0"/></td>
        <td bgcolor="#ff2d2d" class="pixel"><img src="<%=fileDir%>images/lb.gif" border="0"/></td>
        <td class="pixel"><img src="<%=fileDir%>images/r_top.gif" border="0"/></td>
        </tr>
        <tr>
        <td bgcolor="#ff2d2d"><img alt="" src="<%=fileDir%>images/lb.gif" border="0"/></td>
        <td bgcolor="#ea2b2b">
            <table cellpadding="2" cellspacing="0" border="0">
            <tr>
            <td class="buttontext"><font color="#ffffff"><b>
            <a class="catalog" href="#" onClick="Add2RFQ(document.RFQAddForm);" style="color:#ffffff; text-decoration : none;">
            <%=tooltechtext.getString("RFQModifyAddProductDisplay_Add")%></a></b></font>
        </td>
        </tr>
        </table>
    </td>
    <td bgcolor="#7a1616"><img alt="" src="<%=fileDir%>images/db.gif" border="0"/></td>
    </tr>
    <tr>
    <td class="pixel"><img src="<%=fileDir%>images/l_bot.gif"/></td>
    <td bgcolor="#7a1616" class="pixel" valign="top"><img src="<%=fileDir%>images/db.gif" border="0"/></td>
    <td bgcolor="#7a1616" class="pixel" valign="top"><img src="<%=fileDir%>images/db.gif" border="0"/></td>
    </tr>
    </table>

    </td>
    </tr></table>

    </form>

    <!- Code for Add to RFQ ends->


<%
}
%>
```

6. Open `NavSidebar.jsp` in a text editor and make the following changes. Save the changes in `NavSidebar.jsp`. A sample modified version of `NavSidebar.jsp` in included in the `WC55_installdir`migration/RFQ/ToolTech/include directory for reference.

a. Change the RFQ link in the `launchRFQTool()` function by replacing the following codes:

```
if (bRightBrowser && !<%=isInterestListEmpty%>)
    {
     RFQwindow=window.open('<%=IEencodedURL%>');
    }
 else if (!bRightBrowser)
    {
     window.location.href=('<%=BrowserVerErrorURL%>');
    }
 else if (<%=isInterestListEmpty%>)
    {
     alert("<%=tooltechtext.getString("Sidebar_Alert_InterestListEmpty")%>");
     window.location.href=("InterestItemDisplay?langId=" + <%=languageId%> +
        "&storeId=" + <%=storeId%> + "&catalogId=" +
        <%=catalogId%>);
    }
```

with:

```
window.location.href=("RFQListDisplay?langId=" + <%=languageId%> + "&storeId="
    + <%=storeId%> + "&catalogId=" + <%=catalogId%>);
```

b. Remove the link to interest list by deleting the following code:

```
<TR>
   <TD COLSPAN="2">
   <A HREF="InterestItemDisplay?langId=<%=languageId%>&storeId=<%=storeId%>&catalogId=<%=catalogId%>">
   <FONT COLOR="#ffffff">
   <%=tooltechtext.getString("Sidebar_Link4")%>
   </FONT>
   </A>
   </TD>
   <TD WIDTH="6"><BR></TD>
</TR>
```

c. Change the RFQ link by replacing the following codes:

```
<TR>
   <TD COLSPAN="2">
   <A HREF="javascript: launchRFQTool();">
   <FONT COLOR="#ffffff">
   <%=tooltechtext.getString("Sidebar_Link5")%></FONT>
   </A>
   <BR>
   <%
      if (locale.toString().equals("ja_JP")||locale.toString().equals("ko_KR")||
         locale.toString().equals("zh_CN")||locale.toString().equals("zh_TW"))
        {
         %> <FONT   COLOR="#ffffff"><%
        }
      else
        {
         %> <FONT SIZE="-2"   COLOR="#ffffff"><%
        }
       %>

      <%=tooltechtext.getString("RFQList_Disclaimer_IE55")%>
      </FONT>

   </TD>
   <TD WIDTH="6"><BR></TD>
</TR>
```

with:

```
<TR>
   <TD COLSPAN="2">
      <A HREF="javascript: launchRFQTool();">
         <FONT COLOR="#ffffff">
         <%=tooltechtext.getString("RFQ_List")%>
          </FONT>
      </A>
```

```
            <BR>
            </TD>
            <TD WIDTH="6"><BR></TD>
        </TR>
```

7. Optional steps: Search all the JSP files under the store directory for the following strings, open these files with a text editor and replace the strings as follows (rename will help to reduce the effect for future migration or fix pack)

   a. Change:
      ```
      <%@ include file="include/GetResource.jsp"%>
      ```

      to:
      ```
      <%@ include file="../../../include/EnvironmentSetup.jsp"%>
      ```

   b. Change
      ```
      NavHeader.jsp
      ```

      to
      ```
      HeaderDisplay.jsp
      ```

   c. Change
      ```
      NavSidebar.jsp
      ```

      to
      ```
      SidebarDisplay.jsp
      ```

8. Add new RFQ keys in `tooltechtext_en_US.properties` file or the properties file that is used for the store. You may also need to insert the translated keys into properties files for different locale. You can find new RFQ keys and translated keys in different languages in the `WC55_installdir/migration/RFQ/WEB-INF/classes/ToolTech` directory.

9. Delete obsoleted RFQ JSP files, that is, all the JSPs under the following directories:

   - *store_dir*/ `tools/order`
   - *store_dir*/ `tools/rfq`
   - *store_dir*/ `tools/utf`

10. Add the new RFQ views for your migrated store. The `command.xml` file in the `WC55_installdir/migration/RFQ/ToolTech/data` directory contains the registration information. You have to replace all the occurrences of the `TOOLTECH_STORE_ID` string with the store ID of your migrated store before mass loading the RFQ views. For information on mass loading the views, see the *WebSphere Commerce Store Development Guide*.

11. Add the access control for the new RFQ views for your migrated store. The `accesscontrol.xml` file in the `WC55_installdir/migration/RFQ/ToolTech/data` directory contains the access control information. You have to run the ID Resolve command to generate unique identifiers for unique or primary key attributes of qualifying XML elements. For information on adding the access control, see the *WebSphere Commerce Store Development Guide*.

RFQ tool

In WebSphere Commerce 5.4, the `NavSideBar.jsp` page (from the ToolTech store) contained a link to launch the RFQ tool.

```
String IEencodedURL = response.encodeURL("https://" + host +
  "/webapp/wcs/stores/servlet/MerchantCenterView?XMLFile=utf.utfCSA&storeid="
  + storeId);
```

The RFQ tool no longer exists in WebSphere Commerce 5.5, so you should remove this link from any migrated stores if it exists.

Note that RFQ is actually build into ToolTech stores in WebSphere Commerce 5.5. So if you publish a new ToolTech store in WebSphere Commerce 5.5, it will have RFQ integrated into it.

Chapter 10. Collaborative Workspaces migration

> Business

If you have setup and used Collaborative Workspaces in WebSphere Commerce 5.4, you will need to perform the following steps to migrate to the WebSphere Commerce 5.5 level. These steps assume that you have created workspaces and added members to the manager, author, and reader groups in WebSphere Commerce 5.4.

1. Run the database migration script as documented in "Migrating your database" on page 46 against your LDAP server.
2. Compare the content of the LDAP structure against the COLLABWS and CWMEMBER tables of the migrated database. For each workspace, the mapping of the contents should be as follows:

Table 6. Collaborative workspace content mapping

Attribute name	Collaborative workspace field	Database representation
cn	Collaborative workspace ID	COLLABWS .COLLABWS_ID
userName*	Collaborative workspace creator full DN	COLLABWS .CREATOR_ID
url	Collaborative workspace URL	
UserPassword	Collaborative workspace creator's password	
Mail	Collaborative workspace's email	
Cwname*	Collaborative workspace name	COLLABWS .NAME
AccountID*	Account ID that is associated with the collaborative workspace	COLLABWS .ACCOUNT_ID
Description*	Description of the collaborative workspace	COLLABWS .DESCRIPTION
CreationTS*	Creation timestamp of the collaborative workspace	COLLABWS .TIMECREATED
Status*	Status of the collaborative workspace: active, closed, archived	
BusinessProcessType*	Business process type with which a collaborative workspace is associated, for example, contract or RFQ	COLLABWS .PROCTYPE
BusinessProcessID*	Business process ID with which a collaborative workspace is associated	COLLABWS .PROC_ID
TemplateName*	Name of the template of the collaborative workspace	COLLABWS .TEMPLATE
ACLManagerGroupName*	Name of the ACL group in the collaborative workspace that has manager access	For each member in the group (CWMEMBER.COLLABWS_ID CWMEMBER.USERS_ID, CWMEMBER.ROLE)

Table 6. Collaborative workspace content mapping (continued)

Attribute name	Collaborative workspace field	Database representation
ACLAuthorGroupName*	Name of the ACL group in the collaborative workspace that has the author access	For each member in the group (CWMEMBER.COLLABWS_ID CWMEMBER.USERS_ID, CWMEMBER.ROLE)
ACLReaderGroupName*	Name of the ACL group in the collaborative workspace that has reader access	For each member in the group (CWMEMBER.COLLABWS_ID CWMEMBER.USERS_ID, CWMEMBER.ROLE)

In the following LDAP structure, `cn=CW_2002-03-02_671685027` is a workspace. The groups under it contains the managers, authors and readers.
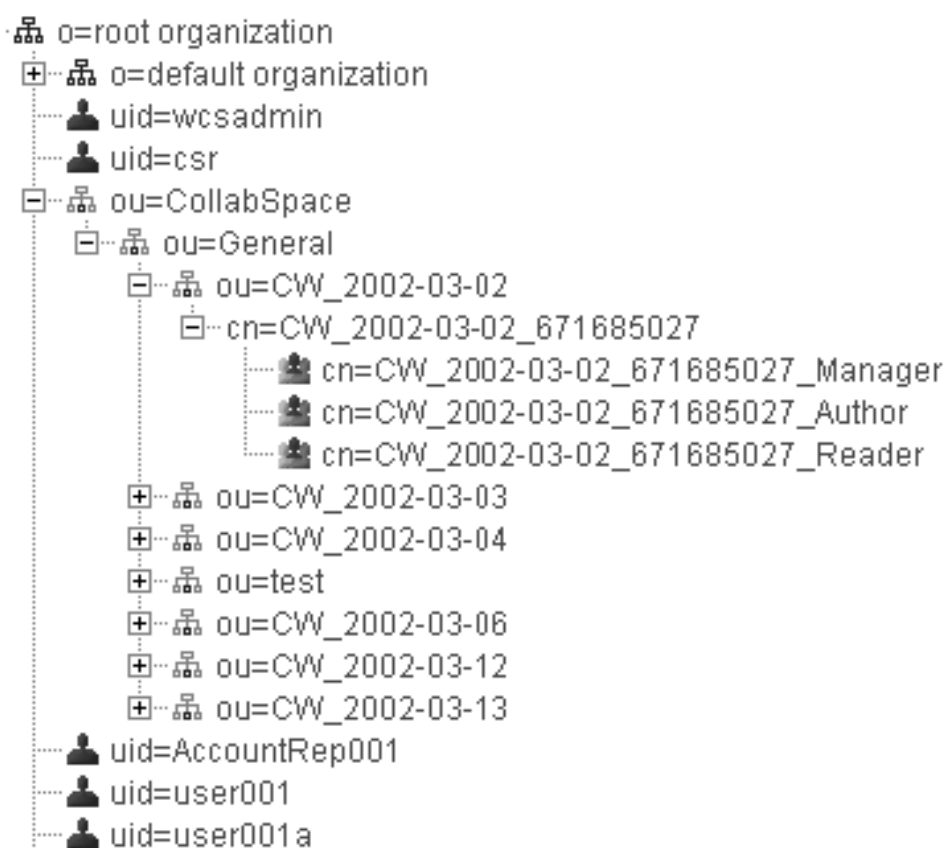
Lotus QuickPlace migration

There are two parts to QuickPlace migration:

- On the WebSphere Commerce side, all necessary data is migrated for you when you run the the database migration script as documented in "Migrating your database" on page 46.
- For the QuickPlace server, you need to upgrade the server to version 3.0 in accordance with the migration instructions contained in the *QuickPlace Installation and Upgrade Guide* for QuickPlace 3.0. You can access a PDF version

of this document at the Lotus Developer Domain Documentation Library site
(`http://www.lotus.com/ldd/doc`). Search for "QuickPlace 3.0" at this site to
access the documentation.

Chapter 11. Customer Care migration

This section describes the migration considerations for the Customer Care component of WebSphere Commerce.

Note the following items for WebSphere Commerce 5.5:

1. The Lotus Sametime 3.0 server is the required level for Customer Care in WebSphere Commerce 5.5.
2. The Customer Care integration code (applet code) for WebSphere Commerce 5.4 is not compatible with the WebSphere Commerce 5.5 release. You need to uninstall the WebSphere Commerce 5.4 version and install the WebSphere Commerce 5.5 version of the Customer Care integration code.

The overall migration tasks are as follows:

1. WebSphere Commerce database migration, that you should have already performed in Chapter 6, "Migrating your WebSphere Commerce 5.4 database," on page 45. For information on what the migration script does for customer care migration, see "Customer Care migration" on page 113.
2. Store Web assets migration, that is partially done for Customer Care assets when you migrated your WebSphere Commerce instance in Chapter 4, "Migrating your Commerce instance configuration," on page 17, using WCIM.
3. Remaining store web assets migration tasks that you need to perform for Customer Care assets as documented in "Store Web assets migration."
4. Sametime integration code migration as documented in "Sametime integration code migration" on page 92.

Store Web assets migration

Most of the store Web assets migration is done for you when you migrate your WebSphere Commerce instance in Chapter 4, "Migrating your Commerce instance configuration," on page 17 using WCIM. Migrate the remaining store Web assets as follows:

1. If you have not done so, back up your current store assets.
2. Run the `migrateCustomerCare.sh` script, located in the `WC55_installdir`/migration/CustomerCare directory. This script creates a subfolder under your store directory, and copies and replaces the files from the ToolTech sample store `.sar` file as described in "Customer Care migration" on page 113:

   `./migrateCustomerCare.sh store_path_name`

   For example: where *WAS_installdir* is the WebSphere Application Server installation path, *host_name* is your Commerce host or machine name, *EAR_file_name* is your WebSphere Application Server .ear file for the Commerce application, and *store_name* is your WebSphere Commerce store name. You need to update these variables with the actual values for your environment.
3. For WebSphere Commerce 5.4 stores:
   - That are based on the ToolTech or NewFashion sample stores.

     Ceate an `EnvironmentSetup.jsp` file by making a copy of `GetResource.jsp` file (which is located in the *store_root*/include directory) and renaming the

new copy to `EnvironmentSetup.jsp`. You also need to edit the `EnvironmentSetup.jsp` to add a `ccResBundle` object that points to the `resourceBundle` object of your store.

```
ResourceBundle ccResBundle = store_resource_bundle;
```

This file is included in all WebSphere Commerce 5.5 Customer Care JSPs.

- That are based on the FashionFlow sample store.

  Update the `EnvironmentSetup.jsp` file by using a text editor to add a new line at the end of the file

  ```
  ResourceBundle ccResBundle = store_resource_bundle;
  ```

  Note: *store_resource_bundle* is the ResourceBundle object that is defined in the store, for example:

  ```
  ResourceBundle ccResBundle = tooltechtext;
  ```

  Make sure it is in the JSP file's <% %> block.

4. Optional step — Search all the JSP files under the store directory and locate the string "StHeader1.jsp". Open these files with a text editor and change "StHeader1.jsp" to "CustomerCareHeaderSetup.jsp" (Although these two file are almost identical, renaming the file will reduce the impacts of future migrations or fix pack application.)

5. Modify the `index.jsp` and `StoreFramesetPage.jsp` files in your *store_root* directory, as follows:

   a. Open `StoreFramesetPage.jsp` in a text editor

   b. Open `index.jsp` in a text editor.

   c. Search for a line in `index.jsp` similar to this:

      ```
      FRAME NAME="main" SRC="/webapp/wcs/stores/servlet/xxxx?storeId=<%=storeId%>
       &catalogId=<%=catalogId%>&langId=<%=langId%>" MARGINWIDTH=0 SCROLLING="Auto"
       FRAMEBORDER="no" noresize>
      ```

      Note that the above line is split across three lines for display purposes.

   d. Search a line in `StoreFramesetPage.jsp` similar to this:

      ```
      var MainPageURL="<%=sWebAppPath%>Logoff?storeId=<%=storeId%>
       &URL=LogonForm?storeId=<%=storeId%>&catalogId=<%=catalogId%>";
      ```

      Note that the above line is split across two lines for display purposes.

   e. Modify the URL command of `MainPageURL` in `StoreFramesetPage.jsp` according to the Main frame source in `index.jsp`. In this example, after the modification, it will look like this in `StoreFramesetPage.jsp`:

      ```
      var MainPageURL="<%=sWebAppPath%>Logoff?storeId=<%=storeId%>
       &URL=LogonForm?storeId=<%=storeId%>&catalogId=<%=catalogId%>";
      ```

      Note that the above line is split across two lines for display purposes. Also note this is just a sample and may not be exactly the same as the URL that used in the store.

   f. Save `StoreFramesetPage.jsp`

   g. Add the following lines into `index.jsp` before the line: `<%@ include file="include/parameters.jsp"%>`

      ```
      <%@ page import="java.io.*" %>
      <%@ page import="java.util.*" %>
      <%@ page import="com.ibm.commerce.server.*" %>
      <%@ page import="com.ibm.commerce.command.*" %>
      ```

```
<%@ page import="com.ibm.commerce.common.beans.*" %>
<%@ page import="com.ibm.commerce.common.objects.*" %>
<%@ page import="com.ibm.commerce.tools.util.UIUtil" %>
```

h. Add the following lines into `index.jsp` after the line:
`request.setAttribute("storeId", storeId);`

```
String sWebPath=UIUtil.getWebPrefix(request);
String sWebAppPath=UIUtil.getWebappPath(request);
```

i. Replace the following section in `index.jsp`:

```
<flow:ifEnabled feature="customerCare">
        ...
</flow:ifEnabled>
```

with the following:

```
<flow:ifEnabled feature="customerCare">
 <HTML>
  <HEAD>
   <META HTTP-EQUIV=Refresh CONTENT="0;URL=<%=sWebAppPath%>StoreFramesetView?storeId=
           <%=storeId%>&amp;catalogId=<%=catalogId%>&langId=<%=langId%>">
  </HEAD>
 </HTML>
</flow:ifEnabled>
```

Note that the lengthy line in the above example is split across two lines for display purposes. You should add or remove parameters in the URL string and retrieve them in `StoreFramesetPage.jsp` file to be used with `MainPageURL`.

j. Save `index.jsp`.

Note: These manual steps are provide as a demonstration of how to migrate the Customer Care enablement logic to WebSphere Commerce 5.5. If you have additional customization code in the original `index.jsp` (for example, extra frames for your store, and so on), you may need to relocate this code into the `StoreFramesetPage.jsp`.

6. Add these new Customer Care keys into the `tooltechtext_locale.properties` file (where locale is the locale for your country and language , for example, en_US for American English) or the properties file that is used for your store. By default the properties file can be found under the `WAS50_installdir`/installedApps/`host_name`/`EAR_file_name`/Store.war/WEB-INF/classes/`store_name` directory. You may also need to insert the translated keys into properties files for different locales. You can find the translated keys for different languages in the ToolTech SAR file.

- customerCarePageTitleShopperReady=Customer Care Configuration (Ready)
- customerCarePageTitleShopperBlank=Customer Care Configuration (Blank)
- customerCarePageTitleShopperApplet=Customer Care (Applet)
- customerCarePageTitleShopperInformation=Customer Care Configuration (Shopper Information)
- customerCarePageTitleHome=Home
- customerCarePageTitleContent=Content
- customerCareShopperAppletTitle=Customer Care Shopper Applet
- customerCareTitle=Customer Care

7. If you wish, you can delete the obsolete Customer Care JSPs that are listed in the table below:

Table 7. Obsolete Customer Care JSPs

Obsolete JSPs	New version of JSP
StBlank.jsp	CustomerServiceArea/ CollaborationSection/ CustomerCareBlankSetup.jsp
StFrame.jsp	CustomerServiceArea/ CollaborationSection/ CustomerCareFrameSetup.jsp
StReadyJS.jsp	CustomerServiceArea/ CollaborationSection/ CustomerCareAppletReadySetup.jsp
StUpdate.jsp	CustomerServiceArea/ CollaborationSection/ CustomerCareInformationSetup.jsp
include\StHeader1.jsp	include/ CustomerCareHeaderSetup.jsp **Note:** Only delete this file if you perform step 4

8. Remove all obsolete code for shopper information updates. Search for string "updateStInfo" in all the JSP files under your store directory, and remove code sections similar to:

```
<script language="javascript">
if (typeof top.updateStInfo == "function")
top.updateStInfo()
</script>
```

9. For the following JSP files:

   - For stores published with Tooltech: `NavSideBar.jsp` and `UserRegistrationNew.jsp`
   - For stores published with NewFashion: `sidebar.jsp`
   - For stores published with FashionFlow: `SidebarDisplay.jsp`

   Search for lines similar to the following line:

```
A HREF="javascript:if((parent.sametime != null) &&
   (typeof parent.sametime.interact == 'function'))parent.sametime.interact();"
```

   Note that the above line above example is split across two lines for display purposes.

   Update the above line, as follows:

```
A HREF="javascript:if(parent.sametime != null) top.interact();"
```

Sametime integration code migration

Migrate the Lotus Sametime integration code as follows:

1. Sametime 3.0 is required for the WebSphere Commerce 5.5 Customer Care feature. Upgrade your current version of Sametime in accordance with the instructions contained in the chapter "Upgrading to Sametime 3.0" contained in the *Sametime 3.0 Installation Guide for Windows* document. You can access a PDF version of this document at the Lotus Developer Domain Documentation Library site (`http://www.lotus.com/ldd/doc`). Search for "Sametime 3.0" at this site to access the documentation.

2. Customer Care integration code for WebSphere Commerce 5.4 can not be migrated to WebSphere Commerce 5.5. You need to uninstall it and install the new integration code as documented in the Customer Care installation section of the *WebSphere Commerce Additional Software Guide*

3. If you have modified the messages for the WebSphere Commerce 5.4 customer care feature, you may need to do it again for WebSphere Commerce 5.5. See the section "Customizable store messages" in the *WebSphere Commerce Store Development Guide*.

Chapter 12. Migrating other WebSphere Commerce components

The following sections describe migration actions you may decide to take depending on your requirements, after you have migrated your data to the WebSphere Commerce 5.5 level. It includes the following:

- "Configuring user roles"
- "Migrating the staging server"
- "Reconfiguring the database cleanup utility" on page 96
- "Access control policy subscriptions" on page 97

Configuring user roles

WebSphere Commerce 5.4 used site-level registration. That is, whenever a user registered to any store on the site, they were implicitly registered to all other stores on the site. WebSphere Commerce 5.5 uses roles to determine whether the user is registered in a particular store. The customer can setup their role assignment policies so that the role gets assigned at individual stores, or for all stores under a given organization in the hierarchy.

To obtain the equivalent site level registration behavior in WebSphere Commerce 5.5, all users can simply be assigned the 'Registered Customer' role in the root organization. The migration process explicitly assigns all customers in the database this role. Thus, when existing customers attempt to shop at stores on the migrated site, they are allowed to access the store. For new customers, the role assignment works based on the configuration defined in the MemberRegistrationAttributes.xml file, located in *WC55_installdir*/instances/*instance_name*/xml/member.

For migration, a special version of this file is provided by WebSphere Commerce 5.5 in the *WC55_installdir*/migration/wcs.security directory. This version assigns the 'Registered Customer' role for a new customer into the root organization on any user registration. You can modify this file to change the role assignment policies if you wish. For more details on how to setup this file, see the topic "MemberRegistrationAttributes XML and DTD files" in the WebSphere Commerce Production and Development online help.

In order to get the correct behavior for WebSphere Commerce 5.5, you need to copy the version of MemberRegistrationAttributes.xml from the *WC55_installdir*/migration/wcs.security directory to the *WC55_installdir*/instances/*instance_name*/xml/member directory.

Migrating the staging server

In order to migrate the staging server to WebSphere Commerce 5.5, you should have already completed the following:

1. While you were at the WebSphere Commerce 5.4 level, you should have run either the Stage Propagate or Stage Copy utilities as documented in "Preparing the staging server for migration" on page 5 to synchronize your staging server and your production server.

2. You should have successfully migrated your WebSphere Commerce 5.4 production database as documented in Chapter 6, "Migrating your WebSphere Commerce 5.4 database," on page 45.

3. You should have successfully migrated your WebSphere Commerce 5.4 staging server database, also following the steps documented in Chapter 6, "Migrating your WebSphere Commerce 5.4 database," on page 45.

To complete the migration of your staging server:

1. Reapply any customized triggers that you dropped prior to migrating the staging server.

2. After the data migration is complete, you need to reconfigure the staging server. The migration process does not migrate the previous WebSphere Commerce 5.4 configuration.

   Note that in the migration process, the WebSphere Commerce 5.4 staging server tables, are renamed by appending _54 to the original name. Thus, the WebSphere Commerce 5.4 staging server tables are preserved as:

   - STGSITETAB_54
   - STGMERTAB_54
   - STGMRSTTAB_54
   - STAGLOG_54

   You can view the contents of these renamed tables for reference.

   To reconfigure your staging server, see the section "Configuring the staging server for customized tables" in the *WebSphere Commerce Administration Guide*.

3. To copy data from the production database back to the staging server database, run the Stage Copy utility (stagingcopy) using the -scope _all_ option. For details on how to run the Stage Copy utility, see the information in the section "Staging server commands" in the *WebSphere Commerce Administration Guide*.

Reconfiguring the database cleanup utility

The database migration renames the WebSphere Commerce 5.4 database cleanup utility table, by appending _54 to the original name. Thus, the WebSphere Commerce 5.4 database cleanup utility table is preserved as CLEANCONF_54. You can view the contents of this renamed table for reference.

To reconfigure the database cleanup utility for customized database tables, see the section "Adding a new configuration to the Database Cleanup utility" in the *WebSphere Commerce Administration Guide*.

Business accounts and contracts

The owner of StoreGroup1 has changed from the user "wcsadmin" to the organization "Root Organization". In any account or contract XML files that you want to import, if a PolicyReference refers to StoreGroup1, the Member element has to change from:

```
<Member>
    <User distinguishName ="uid=wcsadmin,o=Root Organization"/>
</Member>
```

to:

```
<Member>
    <Organization distinguishName ="o=Root Organization"/>
</Member>
```

Access control policy subscriptions

In WebSphere Commerce 5.4, with the out-of-the-box access control set up, guest users could shop at B2B stores. WebSphere Commerce 5.5 has introduced policy groups that allow you to prevent guest shoppers from shopping at B2B stores. In WebSphere Commerce 5.5, to allow a guest user to shop at a B2B store, it is just a matter of the B2B organization subscribing to a policy group with guest shopping policies. During migration, your existing policies are kept intact. Thus, if an existing customer had a policy that allowed guest shoppers to shop B2B stores, this is still the case after migration.

When WebSphere Commerce 5.4 is migrated, the migration process maintains the existing organization structure and policy behavior. The migration process converts policies of type 0 (standard) or null to type 2 (standard subscription). It also converts policies of type 1 (template) to type 3 (template subscription). In addition, the migration process associates these converted policies with the appropriate policy groups and subscribes these groups to the appropriate organizations to maintain your store's previous behavior.

Since stores in WebSphere Commerce 5.4 had access to all the available functionality, in addition to the policy groups with custom policies created by the migration process, the migration script will subscribe the organization who owns the store to the following policy groups by default:

- ManagementAndAdminstrationPolicyGroup
- CommonShoppingPolicyGroup
- B2CPolicyGroup
- B2BPolicyGroup

This preserves the previous behavior of your store.

After migration, if you want the store to be a B2C store, remove the subscription to the B2BPolicyGroup. If you want the store to be a B2B store, remove the subscription to the B2CPolicyGroup. For information on subscribing and unsubscribing to access control policy groups using the Organization Administration console, see the *WebSphere Commerce Administration Guide*.

If you are creating other stores with any of the new WebSphere Commerce 5.5 store types, your store may need to subscribe to a different set of policy groups. For information on which policy groups to subscribe to, refer to the Access Control portion of the *WebSphere Commerce Security Guide*.

The migration process will also automatically update the access control access groups to make use of the new policy group feature in WebSphere Commerce 5.5. To preserve the old behavior, WebSphere Commerce 5.5 has introduced a new role-for-organization qualifier called "OrgAndAncestorOrgs". With this new qualifier, the access group evaluation will start from the organization that owns the resource and continue on with all its ancestor organizations. This is the same behavior of the previous template policies. The migration process will automatically replace the previous role-for-organization qualifier with this new qualifier.

In an effort to remove language dependencies in the access groups' role evaluation, WebSphere Commerce 5.5 uses the internal names of the roles (in the ROLE table) in its access group definition instead of the translated names in the ROLEDESC table (which is introduced in this release). The migration process also performs this update automatically for you.

Beginning from the organization that owns the resource, WebSphere Commerce 5.5 searches for policies of both the old and new types. WebSphere Commerce 5.5 stops searching policies of the new type once it reaches an organization that subscribes to one or more policy groups. However, it will continue searching for policies of the old type until the highest organization in the hierarchy has been reached. This is not affected by the policy subscription model and will behave exactly the same as WebSphere Commerce 5.4.

Note: If you have a custom policies XML files that you composed in WebSphere Commerce 5.4, it is recommended that you migrate these policies according to the process described above and assign them to the appropriate policy groups after the conversion. One item that is not mentioned in the process above is that in WebSphere Commerce 5.5, the DTD for the access group definition XML file has been changed from "ACUserGroups_en_US.dtd" to "ACUserGroups.dtd". Update your customized policies accordingly. Consult the Access Control section of the *WebSphere Commerce Security Guide* for more information on the new XML format supported in WebSphere Commerce 5.5.

Migrating WebSphere Commerce 5.4 overridden policies in the ACORGPOL table

With the introduction of policy groups in WebSphere Commerce 5.5, overridden policies are no longer supported. To override policies, WebSphere Commerce 5.5 creates new policy groups with the overridden policies removed, and subscribes the organization to these new policy groups instead.

The following steps briefly outline on how to override policies:
1. Identify the policy groups that contain the policies in the ACORGPOL table.
2. Create a copy of each of these policy groups.
3. From each copy of the policy groups, remove the unwanted policies.
4. Have the organization subscribe to the new policy groups as required.

For the detail instruction on how to create policy groups and assign policies to policy groups, see the Access Control section of the *WebSphere Commerce Security Guide*.

Roles removed in WebSphere Commerce 5.5

The Store Developer and Procurement Manager roles are not used in WebSphere Commerce 5.5. As such, WebSphere Commerce 5.5 bootstrap access control policies do not make reference to these roles. However, these roles and any access control policies referencing these roles are preserved in the system. They will be treated as customized policies and will be placed in policy groups other than the bootstrap policy groups.

WebSphere Commerce 5.4 setup (premigration)

The diagram below depicts a hypothetical setup of an existing WebSphere Commerce 5.4 site. Note the following items with respect to access control policy setup:
1. In WebSphere Commerce 5.4, all the customized template policies are owned and applied at the Root Organization.
2. Standard policies can be owned by any organization. The owning organization is where the policy was applied.

3. If a resource is accessed, all the policies starting at the resource owning organization and walking up the tree branch to the root organization can grant access to the resource.
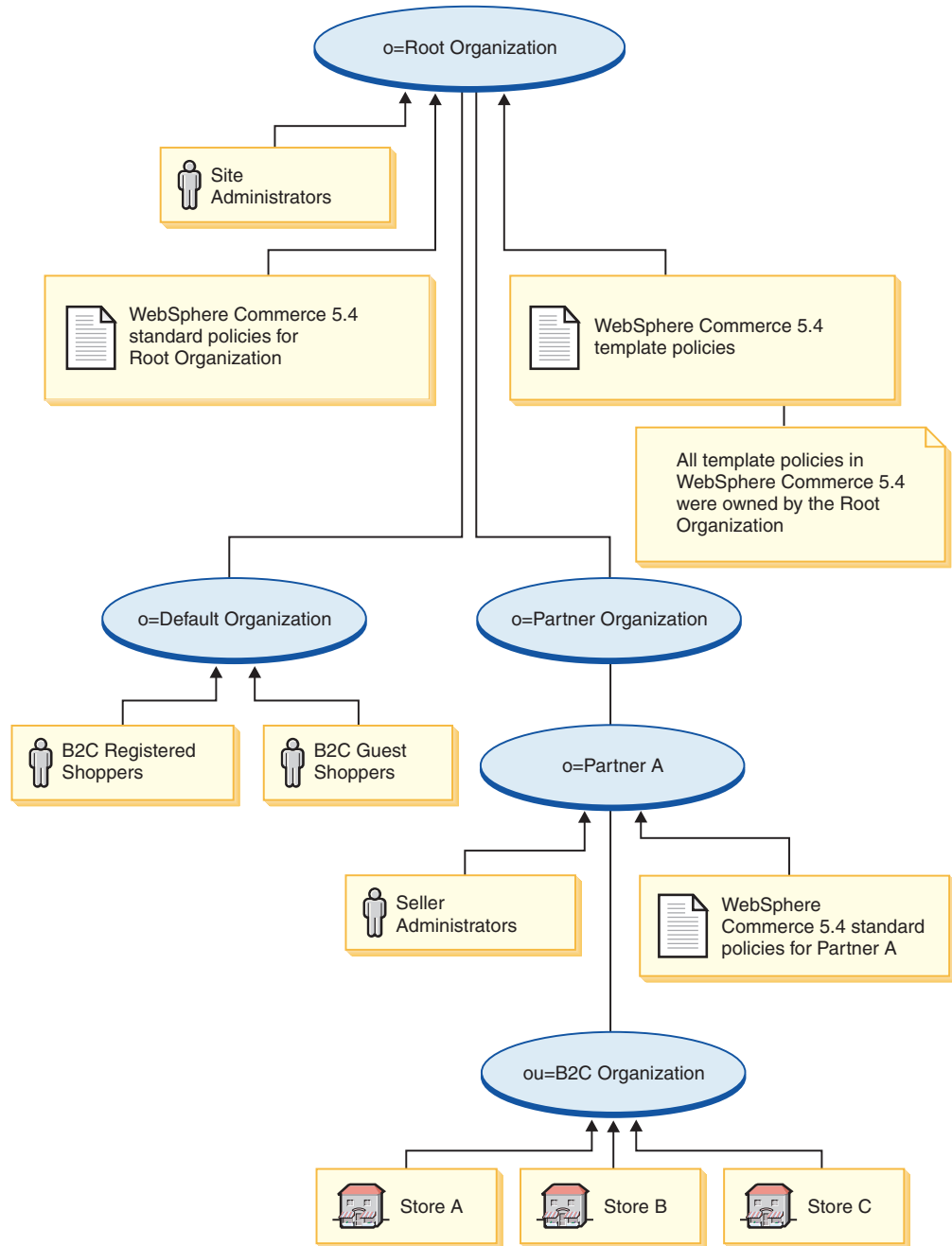
WebSphere Commerce 5.5 conversion (postmigration)

The diagram below depicts the migrated WebSphere Commerce 5.5 site. Note the following items with respect to access control policy setup:

1. All WebSphere Commerce 5.5 bootstrap policies are loaded and placed under the Root Organization.

2. All the WebSphere Commerce 5.4 customized template policies (which were all owned by the Root Organization) are placed in a new policy group. The Root Organization now owns the new policy group and the Root Organization

subscribes to this group. The standard policies are converted from type 0 to type 2 while the template policies are converted from type 1 to type 3.

3. Standard policies on an organization other than the Root Organization are placed in a new policy group.

4. After migration, B2C Registered Shoppers are assigned a "Registered Customer" role in the Root Organization.
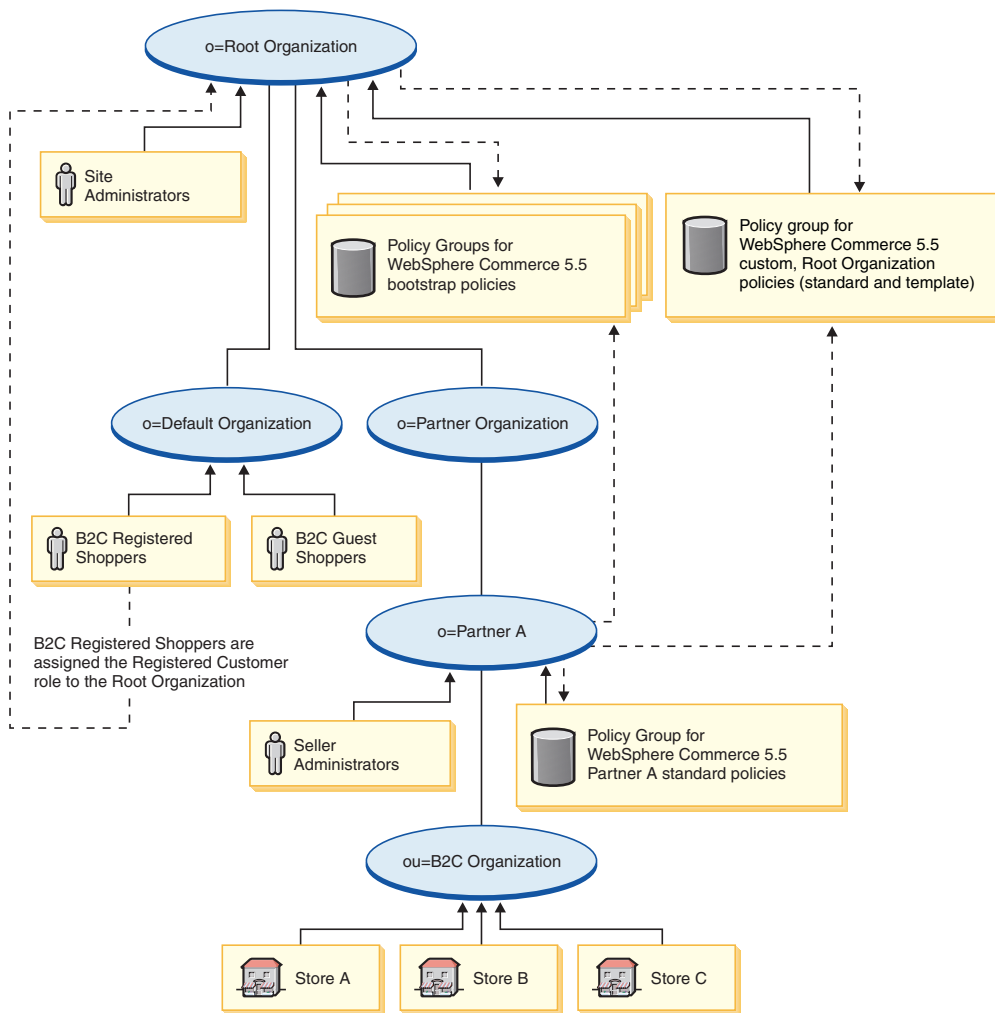
For more information on policy groups and subscriptions, refer to the Access Control portion of the *WebSphere Commerce Security Guide*.

Part 3. Appendixes

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Appendix A. Where to find more information

More information about the WebSphere Commerce system and its components is available from a variety of sources in different formats. The following sections indicate what information is available and how to access it.

WebSphere Commerce information

The following are the sources of WebSphere Commerce information:
- WebSphere Commerce online help
- WebSphere Commerce technical library

WebSphere Commerce online help

The WebSphere Commerce online information is your primary source of information for customizing, administering, and reconfiguring WebSphere Commerce. After you have installed WebSphere Commerce, you can access topics in the online information by visiting the following URL:

`https://host_name:8000/wchelp/`

where *host_name* is the fully qualified TCP/IP host name of the machine on which WebSphere Commerce is installed.

WebSphere Commerce technical library

The WebSphere Commerce technical library is available at the following URL:

`http://www.ibm.com/software/genservers/commerce/library/`

A copy of this book, and any updated versions of this book, are available as PDF files from the Library section of the WebSphere Commerce Web site. In addition, new and updated documentation may also be available from the WebSphere Commerce technical library Web site.

WebSphere Commerce Payments information

Help for WebSphere Commerce Payments is available by clicking the following help icon:

This help icon displays on the WebSphere Commerce Payments user interface within the WebSphere Commerce Administration Console and WebSphere Commerce Accelerator and in the standalone WebSphere Commerce Payments user interface at the following URL:

`http://host_name:http_port/webapp/PaymentManager`

or

`https://host_name:ssl_port/webapp/PaymentManager`

Where the variables are defined as follows:

host_name
> The fully qualified TCP/IP host name of the Web server associated with WebSphere Commerce Payments.

http_port
> The HTTP port used by WebSphere Commerce Payments. The default HTTP port is 5432.

ssl_port
> The SSL port used by WebSphere Commerce Payments. The default SSL port is 5433.

If WebSphere Commerce Payments is SSL-enabled, you can use either URL. If IWebSphere Commerce Payments is not SSL-enabled, you can only use the non-secure URL (http).

Help is also available at the following URL:

`http://`*host_name:http_port*`/webapp/PaymentManager/`*language*`/docenter.html`

or

`https://`*host_name:ssl_port*`/webapp/PaymentManager/`*language*`/docenter.html`

Where the variables are defined as follows:

host_name
> The fully qualified TCP/IP host name of the Web server associated with WebSphere Commerce Payments.

http_port
> The HTTP port used by WebSphere Commerce Payments. The default HTTP port is 5432.

ssl_port
> The SSL port used by WebSphere Commerce Payments. The default SSL port is 5433.

language
> A language code for the language in which the help page will be displayed. It is two letters for most languages. The language codes are as follows:

Language	Code
German	de
English	en
Spanish	es
French	fr
Italian	it
Japanese	ja
Korean	ko
Brazilian Portuguese	pt
Simplified Chinese	zh
Traditional Chinese	zh_TW

More information about WebSphere Commerce Payments and the Payments Cassettes is available at the WebSphere Commerce Technical Library:

http://www.ibm.com/software/genservers/commerce/library/

IBM HTTP Server information

IBM HTTP Server information is available at the IBM HTTP Server Web site:

http://www.ibm.com/software/webservers/httpservers/

The documents are in HTML format, PDF files, or both.

WebSphere Application Server information

WebSphere Application Server information is available at the WebSphere Application Server InfoCenter:

http://www.ibm.com/software/webservers/appserv/infocenter.html

DB2 Universal Database information

The HTML documentation files are available under the /doc/*locale*/html subdirectory, where *locale* is the language code for your locale (for example, *en* for American English). Any documentation that is not available in a national language is shown in English.

For a complete list of the available DB2 documentation, and how to view or print it, refer to the *DB2 Quick Beginnings for UNIX* book. Additional DB2 information is available at the DB2 Technical Library:

http://www.ibm.com/software/data/db2/library/

Other IBM publications

You can purchase copies of most IBM publications from your IBM authorized dealer or marketing representative.

Appendix B. Extending the data migration script

If you have extended the standard WebSphere Commerce 5.4 database schema, you will need to update the supplied data migration script. For example, consider the case if you have added a new column called FRIEND to the USERREG table, as INTEGER DEFAULT 0 and FRIEND has a foreign key to the MBRGRP table.

Before starting the data migration using the supplied migration scripts:

1. Check whether the table USERREG is recreated by the supplied migration scripts. You can go to the directory *WC55_installdir*/schema/migration/swim and search for the string "create table userreg" in the scripts.

2. If you find that one of the supplied scripts tries to recreate the table USERREG, you will need to modify the script to include your modification. If your modified table is not referenced in the supplied scripts, that is, the scripts do not change or update the table, you can skip the rest of this section.

3.

   a. Proceed to the *WC55_installdir*/schema/*your_platform* directory. Make a copy of the file wcs.referential.sql, in the same directory and rename it to wcs.referential_*instance*.sql, then modify it to add a referential constraint:

      ```
      ALTER TABLE USERREG ADD CONSTRAINT F_FRIEND FOREIGN KEY (FRIEND)
        REFERENCES MBRGRP ON DELETE CASCADE;
      ```

      Save the file.

   b. Make a copy of the file *WC_installdir*/schema/migration/config/DataMigrationPlan_iSeries.xml in the same directory and rename it to DataMigrationPlan_iSeries_instance.xml. Open this new file and replace the string

      ```
      <command>$MigrationRoot/../os400/wcs.referential.sql</command>
      ```

      with

      ```
      <command>$MigrationRoot/../os400/wcs.referential_instance.sql</command>
      ```

      Save the file.

   c. Make a copy of the file *WC_installdir*/bin/migratedb54.sh, and rename it to migratedb54_*instance*.sh. Open this new file, and replace the string

      ```
      DataMigrationPlan_iSeries.xml
      ```

      with

      ```
      DataMigrationPlan_iSeries_instance.xml
      ```

      Save the file.

Appendix C. Overview of the WCIM tool and the data migration script

This section describes the WCIM (WebSphere Commerce Instance Migration) tool and the database migration script, and is included for your information. You are not required to take any action based on this information.

Instance migration using WCIM

The WCIM tool performs the following instance migration steps (assuming the `WORK_DIR` variable in `wcimenv` is set to *WC55_installdir*/temp; note that `WORK_DIR` is user-defined):

1. Copies the WebSphere Commerce 5.5 instance template files into the *WC55_installdir*/temp directory.
2. Unpackages the copied ZIP file into the *WC55_installdir*/temp directory.
3. Performs the instance migration as follows:
   - Migrates the instance configuration file, *instance_name*.xml
   - Updates the `wcs_instances` file with instance information.
   - Migrates the Web server configuration file for each instance
   - Migrates any customized store properties files
   - Performs required modifications to migrate JavaServer Pages levels to version 1.3. (Some additional manual modifications are also required.)
   - Copies unpackaged WebSphere Commerce 5.4 instance files into the proper location within the WebSphere Commerce 5.5 EAR file
   - Updates the WebSphere Commerce 5.5 deployment descriptors
4. Generates a JACL script file to assist with configuring WebSphere Application Server, for example, virtual hosts, classpaths, JVM properties, and so on.
5. Generates a log file specified by the `LOG_FILE` variable in `wcimenv` in the `WORK_DIR` directory. For example:

   For example, if you have set `WORK_DIR` to *WC55_installdir*/temp, the log file is generated in the *WC55_installdir*/temp/logs directory.

Data migration script

To migrate the WebSphere Commerce 5.4 database schema to the WebSphere Commerce 5.5 level, you run the database migration tool supplied with WebSphere Commerce 5.5. The database migration tool is a native platform command that invokes a Java program of the same name; it takes the database name, database administrator ID and password, data base type, and an optional log file name as input parameters. It can also use a configuration property file or a data migration plan as input. If no parameters are passed into the tool when it is invoked, the tool will prompt the user to provide necessary information at run time.

It is recommended that before you run the database migration tool, you back up your previous database as described in "Backing up your databases" on page 8.

For details on the database schema differences between WebSphere Commerce 5.4 and WebSphere Commerce 5.5 refer to the WebSphere Commerce Production and Development online help. Once you have launched the online help, select **WebSphere Commerce Development information** > **Reference** > **Data** > **Database schema**. From here, select **Database tables** to view an alphabetical list of all database schema information. Select **Database changes in this release** to view the schema changes for Version 5.5. The online help also provides data model information. Ensure that you visit the WebSphere Commerce Technical Library (http://www.ibm.com/software/commerce/library/), for the latest versions of the WebSphere Commerce documentation, including any updates to the database schema information in the online help.

The data migration tool performs the following steps:

1. Collects information required to begin the migration:
   - Migration options that you specify (for example, the database type, or how you wish to handle items such as the master catalog, the default contract, cache triggers, store organization, and so on).
   - Information from your WebSphere Commerce 5.4 system (for example, the backup directory, the WebSphere Commerce instance directory, the migration log directory, and so on.)

   The tool shows the premigration conditions and status for the database. It will prompt you to confirm the premigration status.

2. For each WebSphere Commerce component, the tool runs the premigration commands for that component, based on the database version, release level, and database type. For example, it checks the uniqueness of the CPPMNAME column in the CPPMN table because a unique index CPPMNAME+STOREENT_ID is added in WebSphere Commerce 5.5. The tool will fix any items that does not satisfy premigration conditions or it will prompt you to provide more information if required.

3. The tool drops all WebSphere Commerce 5.4 constraints and triggers.

4. The tool updates the WebSphere Commerce 5.4 schema to the WebSphere Commerce 5.5 level.

5. The tool loads new and changed bootstrap data for WebSphere Commerce 5.5 into the database (DELTA only).

6. For each component, the tool runs the data migration command for that component based on the database version and release.

7. For each component, the tool runs a postmigration check of the migrated database and runs the database clean up commands for each WebSphere Commerce component.

8. The tool establishes new WebSphere Commerce 5.5 constraints and triggers.

9. The tool adds new or updated stored procedures required for WebSphere Commerce 5.5.

The migration script also subscribes the organization who owns a store to the required policy groups in order to preserve the previous behavior. For more information, see "Access control policy subscriptions" on page 97.

Supplemental information for data migration

The following sections provide additional reference information for the database migration tools and additional considerations for steps in the data migration process.

Ensuring column lengths are not exceeded

The lengths of the following columns have changed in WebSphere Commerce 5.5. To ensure that you do not lose any data contained in these columns during the migration process, make sure that your data in these columns do not exceed the new length for the column, prior to data migration. For example, ensure that MBRGRP.DESCRIPTION is not greater than 512 characters.If the existing data in the columns exceeds the new length, it will be flagged by the database preparation script.

Table.Column	WebSphere Commerce 5.4	WebSphere Commerce 5.5
MBRGRP.DESCRIPTION	LONG VARCHAR	VARCHAR(512)
ORGENTITY.DESCRIPTION	LONG VARCHAR	VARCHAR(512)
CONTRACT.NAME	VARCHAR(254)	VARCHAR(200)
ACCOUNT.COMMENTS	LONG VARCHAR	VARCHAR(4000)
ACRELGRP.CONDITIONS	LONG VARCHAR	VARCHAR(2500)
ACRESGRP.CONDITIONS	LONG VARCHAR	VARCHAR(2500)
BASEITMDSC.LONGDESCRIPTION	LONG VARCHAR	VARCHAR(4000)
BZRPENTSTG.VALUE	LONG VARCHAR	VARCHAR(4000)
CALCODEDSC.LONGDESCRIPTION	LONG VARCHAR	VARCHAR(4000)
CATALOGDSC.LONGDESCRIPTION	LONG VARCHAR	VARCHAR(4000)
CATCONFINF.URL	LONG VARCHAR	VARCHAR(254)
CATCONFINF.REFERENCE	LONG VARCHAR	VARCHAR(4000)
CATENTDESC.LONGDESCRIPTION	LONG VARCHAR	VARCHAR(4000)
CATENTDESC.AUXDESCRIPTION1	LONG VARCHAR	VARCHAR(4000)
CATENTDESC.AUXDESCRIPTION2	LONG VARCHAR	VARCHAR(4000)
CLEANCONF.STATEMENT	LONG VARCHAR	VARCHAR(4000)
COLLDESC.MARKETINGTEXT	LONG VARCHAR	VARCHAR(4000)
CONTRACT.COMMENTS	LONG VARCHAR	VARCHAR(4000)
CONTRLRULE.RULETEXT	LONG VARCHAR	VARCHAR(4000)
EMSPOT.DEFAULTRULE	LONG VARCHAR	VARCHAR(4000)
FFMCENTDS.DESCRIPTION	LONG VARCHAR	VARCHAR(4000)
FORUM.DESCRIPTION	LONG VARCHAR	VARCHAR(4000)
FORUMMSG.ACTREMARK	LONG VARCHAR	VARCHAR(4000)
FORUMMSG.MSGBODY	LONG VARCHAR	VARCHAR(4000)
MBRATTRVAL.STRINGVALUE	LONG VARCHAR	VARCHAR(4000)
MBRGRPCOND.CONDITIONS	LONG VARCHAR	VARCHAR(3500)
PARTICIPNT.INFORMATION	LONG VARCHAR	VARCHAR(4000)
PARTROLEDS.DESCRIPTION	LONG VARCHAR	VARCHAR(4000)
PAYSTATUS.SETSWAKEUPMSG	LONG VARCHAR	VARCHAR(4000)

Table.Column	WebSphere Commerce 5.4	WebSphere Commerce 5.5
POLICYDESC.LONGDESCRIPTION	LONG VARCHAR	VARCHAR(4000)
REFUNDMTHD.RETURNXML	LONG VARCHAR	VARCHAR(4000)
ROLE.DESCRIPTION	LONG VARCHAR	VARCHAR(4000)
SETSTATUS.SETWAKEUPMSG	LONG VARCHAR	VARCHAR(4000)
STAGLOG.STGLDCOLS	LONG VARCHAR	VARCHAR(4000)
STOREENTDS.DESCRIPTION	LONG VARCHAR	VARCHAR(4000)
TCDESC.LONGDESCRIPTION	LONG VARCHAR	VARCHAR(4000)
TCSUBTYPDS.DESCRIPTION	LONG VARCHAR	VARCHAR(4000)
TFTRENGDSC.LONGDESCRIPTION	LONG VARCHAR	VARCHAR(4000)
TRDDESC.LONGDESCRIPTION	LONG VARCHAR	VARCHAR(4000)
TRDPSCNXML.XMLDEFINITION	LONG VARCHAR	VARCHAR(16000)
TRDTYPEDSC.DESCRIPTION	LONG VARCHAR	VARCHAR(4000)
USERPROF.DESCRIPTION	LONG VARCHAR	VARCHAR(4000)
USRTRAFFIC.PREVURL	LONG VARCHAR	VARCHAR(254)
USRTRAFFIC.QUERYSTRING	LONG VARCHAR	VARCHAR(4000)
USRTRAFFIC.REFURL	LONG VARCHAR	VARCHAR(254)

Checking the database migration log files

After you have run the migration script, check the migration log files as follows:

1. Check the migratedb_*database_name*.log file.

   This log file is generated in the
   WC55_installdir/logs/migration/instance_name directory.

   Ensure that no errors have occurred in running the script before proceeding.
   Search for the error or fail string in the log file. Also, you should check for
   SQLSTATE when searching the log file. If any of these strings are present, you
   need to analyze the message, and if necessary, fix your data and then reattempt
   the data migration.

   You can ignore the following types of messages in the log file:

   - Messages similar to the following regarding the dropping of indexes. These
     indexes exist on the iSeries platform and may not exist on your platform,
     thus you receive the message:

     ```
     Event: Executing command: apply.wcs.index.delta.54.db2
     Info: Executing SQL:  DROP INDEX I922157 ;
     Error: [IBM][CLI Driver][DB2/NT] SQL0204N  "DB2ADMIN.I922157" is an undefined name.  SQLSTATE=42704

     Info: Executing SQL:  DROP INDEX I194157 ;
     Error: [IBM][CLI Driver][DB2/NT] SQL0204N  "DB2ADMIN.I194157" is an undefined name.  SQLSTATE=42704

     Info: Executing SQL:  DROP INDEX I0000032 ;
     Error: [IBM][CLI Driver][DB2/NT] SQL0204N  "DB2ADMIN.I0000032" is an undefined name.  SQLSTATE=42704

     .
     .
     .
     ```

Database migration log and trace files

The database migration script generates various log files (with the .log extension)
in the *WC55_installdir*/logs/migration/*instance_name* directory.

The log files that are generated for WebSphere Commerce 5.4 databases are:

premigrate_*dbname*__.**log**
>
> This log file contains all messages generated when the premigration script was run against your WebSphere Commerce 5.4 database. You should ensure there are no errors or warnings flagged in this log.

migratedb_*dbname*__.**log**
>
> The log file for the overall data migration including populating bootstrap data. It contains a log of the actual schema changes that were conducted, for example, dropping constraints, renaming tables, altering tables, creating new schema tables, and copying data from temporary tables to the new tables. It also flags any manipulates business logic related data. This file name does not have a timestamp attached.

`messages.txt`
>
> Contains the mass loader messages.

trace.txt
>
> Contains the trace file for the Mass Loader and ID Resolver. Note that the size of this file is usually very large.

Viewing the migratedb log file

After running the migration script, you should review the content of the database migration log file that is generated in
`WC55_installdir`/logs/migration/`instance_name`:

- `migratedb_dbname`.log — The main migration log for WebSphere Commerce 5.4 (creation of bootstrap data, create new schema tables, constraints, manipulate business logic related data)

Search for the string, `Migration has terminated successfully`. Your `migratedb.log` file should appear similar to the following:

```
[2003.02.04 17:27:01] Info: Logging started in VERBOSE mode.
[2003.02.04 17:27:01] Event: Executing command: preChecking
[2003.02.04 17:27:02] Info: 0 rows of the table account exceeds length limits comments.
...
[2003.02.04 17:27:03] Event: Pre migration ends.
[2003.02.04 17:27:03] Event: Data migration begins...
[2003.02.04 17:27:03] Event: Executing command:
...
[2003.02.04 17:31:52] Event: Data migration ends
[2003.02.04 17:31:52] Event: Post migration begins...
...
[2003.02.04 17:31:52] Info: Executing SQL:
[2003.02.04 17:33:57] Event: Post migration ends.
[2003.02.04 17:33:57] Event: Migration has terminated successfully.
```

If you are not satisfied with the database migration for any reason, and you need to run the database migration again, you must:

1. Drop the partially migrated database schema
2. Restore the original WebSphere Commerce 5.4 schema from your back up device
3. Fix any problems encountered during migration
4. Begin the migration process again, starting with the pre-data migration task.

Customer Care migration

The data migration script updates the access control as required for the new Customer Care commands that are listed in the table below. For more information on these commands, see the WebSphere Commerce Production and Development online help.

Table 8. New WebSphere Commerce 5.5 Customer Care command names

Command names	Command type	Allow access by	JavaServer Pages used
CCStoreURLListView	View	• Seller or Merchant • Customer Service Representative • Customer Service Supervisor • Sales Manager • Operations Manager • Site Administrator	.../CustomerServiceArea/ CollaborationSection/ CustomerCareStoreURLList.jsp
CCMonitorListView	View	• Seller or Merchant • Customer Service Representative • Customer Service Supervisor • Sales Manager • Operations Manager • Site Administrator	.../CustomerServiceArea/ CollaborationSection/ CustomerCareMonitorList.jsp
CCStoreQuestionListView	View	• Seller or Merchant • Customer Service Representative • Customer Service Supervisor • Sales Manager • Operations Manager • Site Administrator	.../CustomerServiceArea/ CollaborationSection/ CustomerCareStoreQuestionList.jsp
CCShopperBlankPageView	View	Everyone	.../CustomerServiceArea/ CollaborationSection/ CustomerCareBlankSetup.jsp
CCShopperInfoUpdatePageView	View	Everyone	.../CustomerServiceArea/ CollaborationSection/ CustomerCareInformationSetup.jsp
CCShopperFramePageView	View	Everyone	.../CustomerServiceArea/ CollaborationSection/ CustomerCareFrameSetup.jsp
CCShopperReadyPageView	View	Everyone	.../CustomerServiceArea/ CollaborationSection/ CustomerCareFrameSetup.jsp
CCChatPageView	View	Everyone	.../CustomerServiceArea/ CollaborationSection/ CustomerCareChatSetup.jsp
StoreFramesetView	View	Everyone	StoreFramesetPage.jsp **Note:** HTTPS required

The migrateCustomerCare script performs the following store Web assets migration steps for the Customer Care assets:

1. Backs up all your current store assets including the Customer Care assets.

2. Creates a subfolder under your store directory and copies and replaces the following files from the sample store SAR file. (The ToolTech sample store SAR file is used here as an example):

Table 9. Files from Tooltech sample store — required for Customer Care

Sub folder name	File name	Notes
.../ CustomerServiceArea/ CollaborationSection	CustomerCareAppletReadySetup.jsp	(NEW) called by CCShopperReadyPageView command, indicates the shopper applet is ready for Javascript functions
.../ CustomerServiceArea/ CollaborationSection	CustomerCareBlankSetup.jsp	(NEW) called by CCShopperBlankPageView command, as a place holder for frames
.../ CustomerServiceArea/ CollaborationSection	CustomerCareChatSetup.jsp	(NEW) called by CCChatPageView command, to launch shopper applet in non-frameset configuration
.../ CustomerServiceArea/ CollaborationSection	CustomerCareFrameSetup.jsp	(NEW) called by CCShopperFramePageView to load shopper applet in frameset configuration
.../ CustomerServiceArea/ CollaborationSection	CustomerCareInformationSetup.jsp	(NEW) called by CCShopperInfoUpdatePageView command, for updating shopper information
.../ CustomerServiceArea/ CollaborationSection	CustomerCareMonitorList.jsp	(NEW) called by CSR to load monitoring list
.../ CustomerServiceArea/ CollaborationSection	CustomerCareStoreQuestionList.jsp	(NEW) called by CSR to load store topic list
.../ CustomerServiceArea/ CollaborationSection	CustomerCareStoreURLList.jsp	(NEW) called by CSR to load store Web address (URL) list
.../	Sametime.jsp	(REPLACE) a javascript lib file that provide Customer Care javascipt functions in frameset configuration
.../	StoreFramesetPage.jsp	(NEW) called by StoreFramesetView command to construct a frameset for Customer Care feature
.../include	CustomerCareHeaderSetup.jsp	(NEW) need to be included in every page to update the shopper page Web address (URL)

Appendix D. Reducing the size of ACRELGRP.CONDITIONS and ACRESGRP.CONDITIONS

If the `ACRELGRP.CONDITIONS` and `ACRESGRP.CONDITIONS` columns exceed 2500 characters, the premigration checker will flag these columns as requiring attention. Since the length of these columns has been reduced in WebSphere Commerce 5.5, you should adjust these lengths before running the data migration script. Detailed examples are provided in the sections below.

If a record in `ACRESGRP` table exceeds the length, do the following:

1. Extract the contents of the access control tables into XML files by running the `acpextract.sh` script as described in the Access Control portion of the *WebSphere Commerce Security Guide*. For example, from the *WC55_installdir*/bin directory, run:

   ```
   acpextract.sh database_name database_user
     database_user_password ACPoliciesfilter.xml [schema_name]
   ```

   One of the files produced after running the script is:
   WC55_installdir/xml/policies/xml/AccessControlPolicies.xml. This file contains the language-independent access control policy information; this includes the data stored in the `ACRESGRP.CONDITIONS` column.

2. Open the `AccessControlPolicies.xml` file and isolate the "<ResourceGroup>" element representing the record that has been flagged by the premigration script. For example, assume you have a file, `acresgrp_conditions_too_big.xml`, that contains only one resource definition: `RFQResponseDataBeansViewabletoRFQOwnerResourceGroup` as shown below. Assume that this definition is too large. Note that the `ACRESGRP.CONDITIONS` data is the information within the "<ResourceCondition>" element.

   ```
   <?xml version="1.0" encoding="ISO-8859-1" standalone="no" ?>

   <!DOCTYPE Policies SYSTEM "../dtd/accesscontrolpolicies.dtd">
   <Policies>

     <ResourceGroup Name="RFQResponseDataBeansViewabletoRFQOwnerResourceGroup"
     OwnerID="RootOrganization">
     <ResourceCondition>
       <![CDATA[
         <profile>
          <andListCondition>
            <orListCondition>
              <simpleCondition>
                <variable name="state"/>
                <operator name="="/>
                <value data="2"/>
              </simpleCondition>
              <simpleCondition>
                <variable name="state"/>
                <operator name="="/>
                <value data="4"/>
              </simpleCondition>
              <simpleCondition>
                <variable name="state"/>
                <operator name="="/>
                <value data="8"/>
              </simpleCondition>
              <simpleCondition>
                <variable name="state"/>
                <operator name="="/>
                <value data="9"/>
              </simpleCondition>
   ```

```
                    <simpleCondition>
                       <variable name="state"/>
                       <operator name="="/>
                       <value data="10"/>
                    </simpleCondition>
                    <simpleCondition>
                       <variable name="state"/>
                       <operator name="="/>
                       <value data="11"/>
                    </simpleCondition>
                 </orListCondition>
                    <simpleCondition>
                       <variable name="classname"/>
                       <operator name="="/>
                       <value data="com.ibm.commerce.rfq.beans.RFQResponseDataBean"/>
                    </simpleCondition>
              </andListCondition>
              </profile>
       ]]>
    </ResourceCondition>
       </ResourceGroup>

    <Policy Name="RFQBuyersDisplayRFQResponseDataBeansViewabletoRFQOwnerResourceGroup"
         OwnerID="RootOrganization"
         UserGroup="RFQBuyers"
         ActionGroupName="DisplayDatabeanActionGroup"
         ResourceGroupName="RFQResponseDataBeansViewabletoRFQOwnerResourceGroup"
         RelationName="owner of RFQ"
         PolicyType="groupableStandard">
    </Policy>

    <PolicyGroup Name="B2BPolicyGroup" OwnerID="RootOrganization">
       <PolicyGroupPolicy
        Name="RFQBuyersDisplayRFQResponseDataBeansViewabletoRFQOwnerResourceGroup"
        PolicyOwnerId="RootOrganization" />
    </PolicyGroup>
</Policies>
```

3. The easiest option to reduce the size is to delete any extraneous data that is defined in the "<ResourceCondition>" element.

   However, if everything in the"<ResourceCondition>" element is needed, you will need to split this into two or more separate conditions that would yield the same boolean result with a boolean OR condition. In the following example file, acresgrp_conditions_fixed.xml, the resource group from the above step is split into two resource groups: RFQResponseDataBeansViewabletoRFQOwnerResourceGroup_1 and RFQResponseDataBeansViewabletoRFQOwnerResourceGroup_2. Note that the WebSphere Commerce Access Control model is a granting model; that is, if WebSphere Commerce finds at least one policy that grants access, then it provides authorization to the resource.

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="no" ?>

<!DOCTYPE Policies SYSTEM "../dtd/accesscontrolpolicies.dtd">
<Policies>
  <ResourceGroup Name="RFQResponseDataBeansViewabletoRFQOwnerResourceGroup_1"
   OwnerID="RootOrganization">
  <ResourceCondition>
     <![CDATA[
       <profile>
        <andListCondition>
         <orListCondition>
          <simpleCondition>
             <variable name="state"/>
             <operator name="="/>
             <value data="2"/>
          </simpleCondition>
          <simpleCondition>
             <variable name="state"/>
             <operator name="="/>
             <value data="4"/>
          </simpleCondition>
```

```
                          <simpleCondition>
                             <variable name="state"/>
                             <operator name="="/>
                             <value data="8"/>
                          </simpleCondition>
                          <simpleCondition>
                             <variable name="classname"/>
                             <operator name="="/>
                             <value data="com.ibm.commerce.rfq.beans.RFQResponseDataBean"/>
                          </simpleCondition>
                       </andListCondition>
                     </profile>
                  ]]>
             </ResourceCondition>
             </ResourceGroup>

             <ResourceGroup Name="RFQResponseDataBeansViewabletoRFQOwnerResourceGroup_2"
             OwnerID="RootOrganization">
             <ResourceCondition>
                  <![CDATA[
                   <profile>
                    <andListCondition>
                     <orListCondition>
                      <simpleCondition>
                         <variable name="state"/>
                         <operator name="="/>
                         <value data="9"/>
                      </simpleCondition>
                      <simpleCondition>
                         <variable name="state"/>
                         <operator name="="/>
                         <value data="10"/>
                      </simpleCondition>
                      <simpleCondition>
                         <variable name="state"/>
                         <operator name="="/>
                         <value data="11"/>
                      </simpleCondition>
                     </orListCondition>
                     <simpleCondition>
                         <variable name="classname"/>
                         <operator name="="/>
                         <value data="com.ibm.commerce.rfq.beans.RFQResponseDataBean"/>
                     </simpleCondition>
                    </andListCondition>
                   </profile>
                  ]]>
             </ResourceCondition>
             </ResourceGroup>

             <Policy Name="RFQBuyersDisplayRFQResponseDataBeansViewabletoRFQOwnerResourceGroup"
                   OwnerID="RootOrganization"
                   UserGroup="RFQBuyers"
                   ActionGroupName="DisplayDatabeanActionGroup"
                   ResourceGroupName="RFQResponseDataBeansViewabletoRFQOwnerResourceGroup_1"
                   RelationName="owner of RFQ"
                   PolicyType="groupableStandard">
             </Policy>

             <Policy Name="RFQBuyersDisplayRFQResponseDataBeansViewabletoRFQOwnerResourceGroup_2"
                   OwnerID="RootOrganization"
                   UserGroup="RFQBuyers"
                   ActionGroupName="DisplayDatabeanActionGroup"
                   ResourceGroupName="RFQResponseDataBeansViewabletoRFQOwnerResourceGroup_2"
                   RelationName="owner of RFQ"
                   PolicyType="groupableStandard">
             </Policy>

             <PolicyGroup Name="B2BPolicyGroup" OwnerID="RootOrganization">
                <PolicyGroupPolicy
                 Name="RFQBuyersDisplayRFQResponseDataBeansViewabletoRFQOwnerResourceGroup"
                 PolicyOwnerId="RootOrganization" />
                <PolicyGroupPolicy
```

```
                    Name="RFQBuyersDisplayRFQResponseDataBeansViewabletoRFQOwnerResourceGroup_2"
            PolicyOwnerId="RootOrganization" />
        </PolicyGroup>
    </Policies>
```

4. You must now split the policy that referred to the original resource group into similar polices, such that each one refers to one of the newly created resource groups. The original policy can keep its name, but it must now refer to one of the new split resource groups. You should create a new policy that is similar to the first one, however, it must a have a different name and it should refer to another one of the newly created resource groups. You must then assign this new policy to the same policy groups as the original policy in order for the new policy to take effect. You repeat this process until there is a policy for each of the newly created resource groups. In the example, the original policy, RFQBuyersDisplayRFQResponseDataBeansViewabletoRFQOwnerResourceGroup maintains the same name, but refers to a new resource group: RFQResponseDataBeansViewabletoRFQOwnerResourceGroup_1. A new policy is created, named RFQBuyersDisplayRFQResponseDataBeansViewabletoRFQOwnerResourceGroup_2, and it refers to the other new resource group: RFQResponseDataBeansViewabletoRFQOwnerResourceGroup_2.

5. Once you split the resource group, associate the groups with different policies and assign the new policies into appropriate policy groups, this data must be loaded back to the database. This can be done by loading the new access control data definition file (acresgrp_conditions_fixed.xml in this example) using the acpload.sh script. For example, from the *WC55_installdir*/bin directory, run:

```
acpload.sh database_name database_user database_user_password
   acresgrp_conditions_fixed.xml [schema_name]
```

6. Steps 2 through 5 should be repeated for other records whose ACRESGRP.CONDITIONS value is flagged as too large.

You can repeat steps 2 through 6 for ACRELGRP.CONDITIONS if it is flagged as being too large by the premigration script. This time, you work with the "<RelationGroup>" element. In the sample file, relationship_group_too_big.xml below, CustomerOrderManagers->RegisteredOrganizationalEntity gets separated into CustomerOrderManagers->RegisteredOrganizationalEntity_1 and CustomerOrderManagers->RegisteredOrganizationalEntity_2 in relationship_group_fixed.xml. The original CustomerOrderManagersExecuteCustomerWriteCommandsOnUserResource policy is modified to refer to relationship group CustomerOrderManagers->RegisteredOrganizationalEntity_1, and a new policy, CustomerOrderManagersExecuteCustomerWriteCommandsOnUserResource, to refer to the other relationship group: CustomerOrderManagers->RegisteredOrganizationalEntity_2. After the new policy is created, assign this new policy to the same policy groups as the original policy.

Content of relationship_group_too_big.xml:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="no" ?>

<!DOCTYPE Policies SYSTEM "../dtd/accesscontrolpolicies.dtd">
<Policies>

    <RelationGroup Name="CustomerOrderManagers->RegisteredOrganizationalEntity"
      OwnerID="RootOrganization">
      <RelationCondition><![CDATA[
        <profile>
          <orListCondition>
            <openCondition name="RELATIONSHIP_CHAIN">
                <parameter name="ROLE" value="Customer Service Representative"/>
                <parameter name="RELATIONSHIP" value="RegisteredOrganizationalEntity"/>
```

```
                                    </openCondition>
                                    <openCondition name="RELATIONSHIP_CHAIN">
                                     <parameter name="ROLE" value="Seller"/>
                                        <parameter name="RELATIONSHIP" value="RegisteredOrganizationalEntity"/>
                                    </openCondition>
                                    <openCondition name="RELATIONSHIP_CHAIN">
                                        <parameter name="ROLE" value="Operations Manager"/>
                                        <parameter name="RELATIONSHIP" value="RegisteredOrganizationalEntity"/>
                                    </openCondition>
                                    <openCondition name="RELATIONSHIP_CHAIN">
                                        <parameter name="ROLE" value="Customer Service Supervisor"/>
                                        <parameter name="RELATIONSHIP" value="RegisteredOrganizationalEntity"/>
                                    </openCondition>
                                    <openCondition name="RELATIONSHIP_CHAIN">
                                     <parameter name="ROLE" value="Sales Manager"/>
                                        <parameter name="RELATIONSHIP" value="RegisteredOrganizationalEntity"/>
                                    </openCondition>
                                </orListCondition>
                        </profile>
            ]]>
            </RelationCondition>
        </RelationGroup>

    <Policy Name="CustomerOrderManagersExecuteCustomerWriteCommandsOnUserResource"
            OwnerID="RootOrganization"
            UserGroup="CustomerOrderManagers"
            ActionGroupName="CustomerServiceCustomerWrite"
            ResourceGroupName="UserDataResourceGroup"
            RelationGroupName="CustomerOrderManagers->RegisteredOrganizationalEntity"
            PolicyType="groupableStandard">
    </Policy>

    <PolicyGroup Name="ManagementAndAdministrationPolicyGroup" OwnerID="RootOrganization">
        <PolicyGroupPolicy
         Name="CustomerOrderManagersExecuteCustomerWriteCommandsOnUserResource"
         PolicyOwnerId="RootOrganization" />
    </PolicyGroup>
</Policies>
```

Content of relationship_group_fixed.xml:

```
<?xml version="1.0" encoding="ISO-8859-1" standalone="no" ?>

<!DOCTYPE Policies SYSTEM "../dtd/accesscontrolpolicies.dtd">
<Policies>

    <RelationGroup Name="CustomerOrderManagers->RegisteredOrganizationalEntity_1"
        OwnerID="RootOrganization">
        <RelationCondition><![CDATA[
          <profile>
             <orListCondition>
                <openCondition name="RELATIONSHIP_CHAIN">
                    <parameter name="ROLE" value="Customer Service Representative"/>
                    <parameter name="RELATIONSHIP" value="RegisteredOrganizationalEntity"/>
                </openCondition>
                <openCondition name="RELATIONSHIP_CHAIN">
                    <parameter name="ROLE" value="Seller"/>
                    <parameter name="RELATIONSHIP" value="RegisteredOrganizationalEntity"/>
                </openCondition>
                <openCondition name="RELATIONSHIP_CHAIN">
                    <parameter name="ROLE" value="Operations Manager"/>
                    <parameter name="RELATIONSHIP" value="RegisteredOrganizationalEntity"/>
                </openCondition>
             </orListCondition>
          </profile>
        ]]>
        </RelationCondition>
    </RelationGroup>

    <RelationGroup Name="CustomerOrderManagers->RegisteredOrganizationalEntity_2"
        OwnerID="RootOrganization">
        <RelationCondition><![CDATA[
          <profile>
             <orListCondition>
                <openCondition name="RELATIONSHIP_CHAIN">
                    <parameter name="ROLE" value="Customer Service Supervisor"/>
                    <parameter name="RELATIONSHIP" value="RegisteredOrganizationalEntity"/>
                </openCondition>
                <openCondition name="RELATIONSHIP_CHAIN">
                    <parameter name="ROLE" value="Sales Manager"/>
```

```
                            <parameter name="RELATIONSHIP" value="RegisteredOrganizationalEntity"/>
                        </openCondition>
                    </orListCondition>
                </profile>
            ]]>
            </RelationCondition>
        </RelationGroup>

        <Policy Name="CustomerOrderManagersExecuteCustomerWriteCommandsOnUserResource"
            OwnerID="RootOrganization"
            UserGroup="CustomerOrderManagers"
            ActionGroupName="CustomerServiceCustomerWrite"
            ResourceGroupName="UserDataResourceGroup"
            RelationGroupName="CustomerOrderManagers->RegisteredOrganizationalEntity_1"
            PolicyType="groupableStandard">
        </Policy>

        <Policy Name="CustomerOrderManagersExecuteCustomerWriteCommandsOnUserResource_2"
            OwnerID="RootOrganization"
            UserGroup="CustomerOrderManagers"
            ActionGroupName="CustomerServiceCustomerWrite"
            ResourceGroupName="UserDataResourceGroup"
            RelationGroupName="CustomerOrderManagers->RegisteredOrganizationalEntity_2"
            PolicyType="groupableStandard">
        </Policy>

        <PolicyGroup Name="ManagementAndAdministrationPolicyGroup" OwnerID="RootOrganization">
            <PolicyGroupPolicy
                Name="CustomerOrderManagersExecuteCustomerWriteCommandsOnUserResource"
                PolicyOwnerId="RootOrganization" />
            <PolicyGroupPolicy
                Name="CustomerOrderManagersExecuteCustomerWriteCommandsOnUserResource_2"
                PolicyOwnerId="RootOrganization" />
        </PolicyGroup>
</Policies>
```

For more information on manually loading access control policies, see the topic
"Managing access control policies" in the WebSphere Commerce Production and
Development online help.

Appendix E. Troubleshooting

This section lists potential problems you may encounter during migration, and actions to resolve these problems.

1. **Problem**: For DB2 databases, when you try to delete an access group from theWebSphere Commerce Organization Administration Console, you receive an error similar to the following in the `SystemOut.log` file:

```
[7/21/03 13:39:28:892 CST] 289b7b86 ExceptionUtil E CNTR0020E: Non-application exception occurred
while processing method "remove" on bean "BeanId(WC_demo#Member-MemberManagementData.jar#MemberGroup,
com.ibm.commerce.user.objects.MemberKey@5425b554)". Exception data: com.ibm.websphere.cpi.CPIException:
; nested exception is: com.ibm.ejs.cm.portability.ResourceAllocationException: [IBM][CLI Driver]
[DB2/LINUX390] SQL0973N Not enough storage is available in the "PCKCACHESZ" heap to process the
statement. SQLSTATE=57011
```

   Solution: You will need to increase the package cache size to 4096 (in 4 KB pages) or possibly an even higher value using the following SQL statement:

   `db2 update database configuration for database_name using pckcachesz 4096`

2. **Problem**: For DB2 databases, when you try to delete an access group from theWebSphere Commerce Organization Administration Console, you receive an error similar to the following in the `SystemOut.log` file:

```
[8/21/03 0:31:41:413 PDT] 12264319 ExceptionUtil E CNTR0020E:
Non-application exception occurred whi le processing method "remove" on bean
"BeanId(WC_demo#Member-MemberManagementData.jar#MemberGroup,
com.ibm.commerce.user.objects.MemberKey@5425b5ab)".
Exception data: com.ibm.websphere.cpi.CPIException: ; nested exception is:

COM.ibm.db2.jdbc.DB2Exception: [IBM][CLI Driver][DB2/LINUX]
SQL0101N The statement is too long or too complex. SQLSTATE=54001

COM.ibm.db2.jdbc.DB2Exception: [IBM][CLI Driver][DB2/LINUX]
SQL0101N The statement is too long or too complex. SQLSTATE=54001
```

   Solution: You will need to increase the SQL statement heap to 60000 (in 4 KB pages) or possibly an even higher value using the following SQL statement:

   `db2 update database configuration for database_name using stmtheap 60000`

3. **Problem**: When starting your application server in WebSphere Application Server 5.0, you receive an error similar to the following:

```
7e171f0 BeanMetaData  E CNTR0035E: EJB container caught com.ibm.ejs.container.ContainerException: ;
nested exception is:
      com.ibm.websphere.cpi.CPIException: Persister creation failed.The bean's J2EEName is
      WC_demo#Catalog-ProductManagementData.jar#Package. The data source name is
      jdbc/WebSphere Commerce DB2 DataSource demo.; nested exception is:
      com.ibm.ejs.persistence.EJSPersistenceException: ; nested exception is:
      java.sql.SQLException: SQLAllocEnv() Error: rc = -1
com.ibm.websphere.cpi.CPIException: Persister creation failed.The bean's J2EEName is
WC_demo#Catalog-ProductManagementData.jar#Package. The data source name is jdbc/WebSphere
Commerce DB2 DataSource demo.; nested exception is:
      com.ibm.ejs.persistence.EJSPersistenceException: ; nested exception is:
      java.sql.SQLException: SQLAllocEnv() Error: rc = -1
com.ibm.ejs.persistence.EJSPersistenceException: ; nested exception is:
      java.sql.SQLException: SQLAllocEnv() Error: rc = -1
java.sql.SQLException: SQLAllocEnv() Error: rc = -1
      at COM.ibm.db2.jdbc.DB2BaseDataSource.loadDLL(DB2BaseDataSource.java:316)
```

   Solution: For DB2 databases, before starting the migrated WebSphere Commerce application server, log in as your DB2 instance user ID (for example, db2inst1), and run the following script:

   `.`*instance_home*`/sqllib/db2profile`

   where *instance_home* is the home directory of your DB2 instance (for example, /home/db2inst1). You need to run this command before starting the application server.

4. **Problem**: For DB2 databases, when you run the database migration script, you receive the following error:

```
SQL0964C  The transaction log for the database is full SQLSTATE=57011
```

Solution: You will need to increase the DB2 log file size for your database. At a minimum, you should set the DB2 log file size to 1000 blocks using the following SQL statement, but if you have a large database, you may need to change the log file size to 10000 blocks or possibly even more. :

```
db2 update database configuration for data_base_name using logfilsiz 10000
```

(You can also change the log file size within the DB2 Control Center.)

5. **Problem**: You have store that uses the `CatalogDataBean` access bean, or a store that is based on the WebFashion sample store, and you can no longer display catalog groups such as the product in the home page.

Solution: In WebSphere Commerce 5.4, `CatalogDataBean` displays catalog groups that do not belong to the current store. That is, it displays catalog groups that should not be displayed. In WebSphere Commerce 5.5, this behavior has been modified so as not to display the catalog groups that do not belong to the current store.

If you want to display the catalog groups in the home page after migration you can perform the following steps:

   a. Execute the following SQL:

   ```
   select * from cattogrp where CATALOG_ID= your_store_id
   ```

   b. From the result , you can find the value of `catgroup_id` that catalog missed in the home page, for example, 11111.

   c. Execute the following SQL:

   ```
   insert into storecgrp (catgroup_id,storeent_id) values (11111,your_store_id)
   ```

   d. Launch your store. You should now be able to find the product in the home page.

6. **Problem**: After upgrading your software during an in-place migration, you cannot restart IBM HTTP Server.

Solution: Check the path to the `plug-in-cfg.xml` file in the `httpd.conf` configuration file. If the plug-in path points to the old location for the previous IBM HTTP Server, the WebSphere Application Server interim fixes may not have been applied properly on your system during WebSphere Commerce 5.5 installation. (This might be because your Web server was not shut down during WebSphere Commerce 5.5 installation.)

WebSphere Application Server interim fix PQ72596 changes the plug-in location to the correct path, *WAS50_installdir*/plugins/plugin-cfg.xml. Ensure that this fix is applied correctly.

7. **Problem**: You receive a "Response already committed" error, for a `catalogReq.jsp` page similar to the following:

```
452957dc WebGroup     I SRVE0180I: [Stores] [/webapp/wcs/stores] [Servlet.LOG]: /xxxxx/catalogReq.jsp: init
ERROR 2004-06-01 15:34:31,528 - Unrecoverable error: JSP Exception occurred on the catalogReq.jsp page.
Thread ID:    <Servlet.Engine.Transports : 0_452957dc#14>
Client ID:    <X%2bh99Sz3R7L0jKCiXLiqT6J6DWA%3d%0d%0a>

com.ibm.ws.webcontainer.servlet.exception.UncaughtServletException: Server caught unhandled exception from servlet
  [SimpleFileServlet]:  Response already committed.
 at com.ibm.ws.webcontainer.webapp.WebAppRequestDispatcher.handleWebAppDispatch(WebAppRequestDispatcher.java:994)
 at com.ibm.ws.webcontainer.webapp.WebAppRequestDispatcher.dispatch(WebAppRequestDispatcher.java:530)
```

Solution: WebSphere Application Server 5.0 looks for the file to be included based on the Application Server root and not the Web Server root. For instance, assume that you have set up a Web server project and pointed its "extendedDocumentRoot" to "C:\htdocs". And under C:\htdocs, you have your \stores\catalog\YY.html file. With this setting you are able to view this

file in your browser using the following Web address:
`http://myhostname/stores/catalog/YY.html`. If your JSP file contains the
following include page statement:

`<jsp:include page="/stores/catalogs/YY.html" />`

it looks for the `YY.html` file under `../workspace/Stores/Web
Content/stores/catalogs`. As it cannot find it there, it redirects to the 404 page,
and the server throws an exception. If you add ″`C:\htdocs`″ to the
`extendedDocumentRoot` attribute of the Stores project, it resolves properly.

In this case, the above exception is due to the presence of an HTML file inside
the JSP file, instead of another JSP file. The solution is to change the HTML file
to a JSP file.

Enabling logging and tracing

In WebSphere Commerce 5.5, the logging subsystem makes use of the WebSphere
Application Server logging infrastructure. This simplifies administration by making
the logs consistent throughout the system and takes advantage of the tooling
provided with WebSphere Application Server to improve problem determination
capabilities. As log files are shared between the WebSphere Commerce application
infrastructure the WebSphere Application Server correlation of log records between
the two is automatic.

If you have created tools which use the WebSphere Commerce 5.4 logs directly,
you will need to modify the tools use the WebSphere Application Server logging
infrastructure. For the WebSphere Commerce standalone applications (such as
Configuration Manager and the dbclean utility), the logs and traces use the
previous logging format, rather than the new WebSphere Application Server JRas
format.

For more information, see the sections on diagnosing and fixing problems using
the available logging infrastructure, in the WebSphere Application Server Version
5.0 Information Center
(`http://www.ibm.com/software/webservers/appserv/infocenter.html`).

Logging

The following sections describe logging:

- Logging severities

  In WebSphere Commerce 5.4, there are five severity types: ERROR,
  INFORMATION, DEBUG, STATUS, WARNING. However, in the WebSphere
  Application Server logging facility, there are three types of logging - ERROR,
  INFORMATION and WARNING. The following table shows the mapping to the
  WebSphere Application Server log types.

Table 10. Mapping of log severity types

Severity types in WebSphere Commerce 5.4 logging	Severity types in WebSphere Commerce 5.5 logging (using WebSphere Application Server JRas extensions)
ERROR or ERR	TYPE_ERROR or TYPE_ERR
INFORMATION or INFO	TYPE_INFORMATION or TYPE_INFO
DEBUG	TYPE_INFORMATION or TYPE_INFO
WARNING or WARN	TYPE_WARNING or TYPE_WARN
STATUS	TYPE_INFORMATION or TYPE_INFO

Note that the ERROR, INFORMATION, and WARNING types do not change and are mapped to the corresponding types in WebSphere Application Server JRas extensions. The STATUS and DEBUG are logged as INFORMATION type.

- Output file location

  By default, the output log file is called activity.log which is located in the following directory: *WAS50_installdir*/logs. Since the file activity.log is in binary format, you need to use the WebSphere Application Server Log Analyzer to read this file. Instructions for using Log Analyzer:

  If any of the trace components are enabled, WebSphere Application Server JRas will write the log entries in plain text format into the trace output file along with the trace entries.

- Configuring logging

  You can configure logging, for example, enabling and disabling the logging severities and changing the file name. To configure logging from the WebSphere Application Server Administration Console:

  1. Click **Troubleshooting** —> **Logs and Trace** —> **WC_***instance_name* —> **IBM Service Logs**

  2. Click on **IBM Service Logs**. In the Configuration panel, click **Message Filtering** to enable the logging severities. You can change the default logging output file in the File Name field before the server is started.

  Note: To dynamically configure the WC_*instance_name* server from the WebSphere Application Server Administration Console, you need to have WebSphere Application Server Network Deployment installed. Otherwise, you need to restart the server WC_*instance_name* server after configuring it.

Using Log Analyzer

Log Analyzer is installed by default when you install WebSphere Application Server 5.0. To launch and use Log Analyzer:

- Click **Start** —> **Programs** —> **IBM WebSphere** —> **Application Server v5.0** —> **Log Analyzer**.

- Use Log analyzer for trouble shooting runtime logs:

  1. Open the log file you wish to analyze:

     From the Log Analyzer window, select **File** —> **Open** to open the log file to be analyzed. The WebSphere Commerce and WebSphere Application Server logs are located in *WAS50_installdir*/logs

  2. (Optional) To select the sequence of the messages in left panel:

     From the Log Analyzer window, select **File** —> **Preferences**, and highlight **Logs** from the left panel, and in the Sorting Sequence table in the right panel, select the sequence you would like the messages to be displayed in the left panel.

  3. To analyze a message:

     a. Expand time stamps to display messages to be analyzed

     b. Highlight and right-click a message and choose Analyze. The result will be shown in the tables in the right panel.

Tracing

The following sections describe tracing:

- Configuring tracing

Trace entries are stored in an in-memory circular buffer called a ring buffer. A ring buffer must be dumped to a file in order for the trace to be viewed. In the WebSphere Application Server Administrative Console GUI, you can set the size of the ring buffer, dump the ring buffer and direct the trace entries to a file by specifying the output file name. By default, the trace output file, trace.log, is located at: *WAS50_installdir*/logs/WC_*instance_name*/

To configure tracing from the WebSphere Application Server Administration Console:

1. Click **Troubleshooting** —> **Logs and Trace** —> *WC_instance_name* —> **Diagnostic Trace**

2. Click on **IBM Service Logs**. Use the Configuration panel before the server is started. You can enter the trace specification directly. For example,

```
com.ibm.websphere.commerce.WC_SERVER=all=
   enabled:com.ibm.websphere.commerce.WC_RAS=all=enabled
```

(Note that the above example is split across two lines for display purposes; it should actually be on one line.)

Also you can specify the trace output format and output file name.

3. If WebSphere Application Server Network Deployment is not installed, please manually enter the trace string as shown in the above step. If WebSphere Application Server Network Deployment is installed, you can use the WebSphere Application Server GUI to configure the tracing in the Configuration and Runtime tab as following:

   a. Click the **Modify** button to enable the tracing components using the graphical trace interface.

   b. Expand until you see com.ibm.websphere.commerce

   c. Right-click on the tracing component you would like to enable and select **All**.

   Note that the tracing components can be dynamically enabled by clicking the **Apply** button without restarting the server.

- Trace components

Table 11. Mapping of trace components

WebSphere Commerce 5.4 tracing components	WebSphere Application Server JRas extensions trace logger
SERVER	com.ibm.websphere.commerce.WC_SERVER
CATALOG	com.ibm.websphere.commerce.WC_CATALOG
DATASOURCE	com.ibm.websphere.commerce.WC_DATASOURCE
ORDER	com.ibm.websphere.commerce.WC_ORDER
USER	com.ibm.websphere.commerce.WC_USER
COMMAND	com.ibm.websphere.commerce.WC_COMMAND
CF	com.ibm.websphere.commerce.WC_CF
NEGOTIATION	com.ibm.websphere.commerce.WC_NEGOTIATION
RAS	com.ibm.websphere.commerce.WC_RAS
DB	com.ibm.websphere.commerce.WC_DB
METAPHOR	com.ibm.websphere.commerce.WC_METAPHOR
SCHEDULER	com.ibm.websphere.commerce.WC_SCHEDULER
DEVTOOLS	com.ibm.websphere.commerce.WC_DEVTOOLS
TOOLSFRAMEWORK	com.ibm.websphere.commerce.WC_TOOLSFRAMEWORK
RULESYSTEM	com.ibm.websphere.commerce.WC_RULESYSTEM

Table 11. Mapping of trace components (continued)

WebSphere Commerce 5.4 tracing components	WebSphere Application Server JRas extensions trace logger
MERCHANDISING	com.ibm.websphere.commerce.WC_MERCHANDISING
MARKETING	com.ibm.websphere.commerce.WC_MARKETING
REPORTING	com.ibm.websphere.commerce.WC_REPORTING
TRANSPORT_ADAPTER	com.ibm.websphere.commerce.WC_TRANSPORT_ADAPTER
SVT	com.ibm.websphere.commerce.WC_SVT
PERFMONITOR	com.ibm.websphere.commerce.WC_PERFMONITOR
MESSAGING	com.ibm.websphere.commerce.WC_MESSAGING
STOREOPERATIONS	com.ibm.websphere.commerce.WC_STOREOPERATIONS
CACHE	com.ibm.websphere.commerce.WC_CACHE
EVENT	com.ibm.websphere.commerce.WC_EVENT
EJB	com.ibm.websphere.commerce.WC_EJB
CURRENCY	com.ibm.websphere.commerce.WC_CURRENCY
CATALOGTOOL	com.ibm.websphere.commerce.WC_CATALOGTOOL
CONTRACT	com.ibm.websphere.commerce.WC_CONTRACT
UBF	com.ibm.websphere.commerce.WC_UBF
BI	com.ibm.websphere.commerce.WC_BI
INVENTORY	com.ibm.websphere.commerce.WC_INVENTORY
UTF	com.ibm.websphere.commerce.WC_UTF
RFQ	om.ibm.websphere.commerce.WC_BI
EXCHANGE	com.ibm.websphere.commerce.WC_INVENTORY
ACCESSCONTROL	com.ibm.websphere.commerce.WC_ACCESSCONTROL
AC_UNITTEST	com.ibm.websphere.commerce.WC_AC_UNITTEST
APPROVAL	com.ibm.websphere.commerce.WC_APPROVAL
COLLABORATION	com.ibm.websphere.commerce.WC_COLLABORATION
THREAD	com.ibm.websphere.commerce.WC_THREAD

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