WebSphere® Commerce Business Edition
Commerce Professional Edition

Version 5.7

Additional Software Guide

Note:
Before using this information and the product it supports, be sure to read the general information under "Notices" on page 121.

First edition (December 2004)

This edition applies to Version 5.7 of the following editions WebSphere Commerce and to all subsequent releases and modifications until otherwise indicated in new editions:

- IBM WebSphere Commerce Business Edition
- IBM WebSphere Commerce Professional Edition

Ensure that you are using the correct edition for the level of the product.

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IBM welcomes your comments. You can send your comments by using the online IBM WebSphere Commerce documentation feedback form, available at the following URL:

http://www..ibm.com/software/webservers/commerce/rcf.html

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About this book

Document description

This guide provides information on how to configure the additional software components provided with WebSphere® Commerce. It also provides information on how to configure WebSphere Commerce to work with WebSphere MQ. WebSphere MQ is *not* provided with WebSphere Commerce — it must be purchased separately.

This guide does not cover configuring the additional software components when WebSphere Commerce is running under WebSphere Application Server Network Deployment.

This guide is intended for system administrators or for anyone else responsible for performing installation and configuration tasks.

Updates to this book

To learn about last-minute changes to the product, refer to the README file in the root directory of WebSphere Commerce CD 1. In addition, a copy of this book, and any updated versions of this book, are available as PDF files from the WebSphere Commerce Technical Library. For information on accessing the WebSphere Commerce Technical Library, refer to "WebSphere Commerce technical library" on page 119.

Updated versions of this book are also available from the WebSphere Commerce Zone at WebSphere Developer Domain which is at the following Web site:

`http://www.ibm.com/software/wsdd/zones/commerce/`

Significant updates from the previous edition of this document are identified by revision characters contained in the margin. This book uses the following conventions for revision characters:

- The "+" character identifies updates that have been made in the current version of this document.
- The "|" character identifies any updates that have been made in the previous versions of this document.

Conventions and terminology 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	Used to emphasize words. Italics also indicate names for which you must substitute the appropriate values for your system.

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

Important
These sections highlight especially important information.

Attention
These sections highlight information intended to protect your data.

Business — Indicates information specific to WebSphere Commerce Business Edition.

Professional — Indicates information specific to WebSphere Commerce Professional Edition.

AIX — Indicates information specific to programs running on AIX®.

400 — Indicates information specific to programs running on OS/400®.

Linux — Indicates information specific to programs running on Linux®.

Solaris — Indicates information specific to programs running on Solaris Operating Environment.

Windows — Indicates information specific to programs running on Windows®.

DB2 — Indicates information specific to DB2 Universal Database™.

Oracle — Indicates information specific to Oracle9i Database.

390 — Indicates information specific to using DB2 Universal Database for OS/390® and z/OS® with WebSphere Commerce running on Linux on Intel® processor based systems or Linux on @server® zSeries® and S/390® systems.

Path variables

This guide uses the following variables to represent directory paths:

WC_installdir
This is the installation directory for WebSphere Commerce. The following are the default installation directories for WebSphere Commerce on various operating systems:

AIX — `/usr/WebSphere/CommerceServer57`

400 — `/QIBM/ProdData/CommerceServer57`

Linux — `/opt/WebSphere/CommerceServer57`

Solaris /opt/WebSphere/CommerceServer57

Windows C:\Program Files\WebSphere\CommerceServer57

400 *WC_userdir*
This is the directory for all the data that is used by WebSphere Commerce which can be modified or needs to be configured by a user. An example of such data is WebSphere Commerce instance information. This directory is unique to OS/400.

The *WC_userdir* variable represents the following directory:
/QIBM/UserData/CommerceServer57

WCA_installdir
This is the installation directory for WebSphere Commerce Analyzer. The following are the default installation directories for WebSphere Commerce Analyzer on various operating systems:

Windows C:\Program Files\IBM\WCA

400 *WAS_userdir*
This is the directory for all the data that is used by WebSphere Application Server which can be modified or needs to be configured by a user. This directory is unique to OS/400.

The *WAS_userdir* variable represents the following directory:
/QIBM/UserData/WebAS5/Base/*WAS_instance_name*

where *WAS_instance_name* is WAS_, followed by the name of the WebSphere Application Server instance.

WAS_installdir
This is the installation directory for WebSphere Application Server. The following are the default installation directories for WebSphere Application Server on various operating systems:

AIX /usr/WebSphere/AppServer

400 /QIBM/ProdData/WebAS5

Linux /opt/WebSphere/AppServer

Solaris /opt/WebSphere/AppServer

Windows C:\Program Files\WebSphere\AppServer

WICS_installdir
This is the installation directories for WebSphere InterChange Server software. The following are the default installation directories for WebSphere InterChange Server software on various operating systems:

AIX `$HOME/WebSphereICS`

Solaris `$HOME/WebSphereICS`

Windows `C:\Program Files\IBM\WebSphereICS`

where `$HOME` is the home directory of the WebSphere InterChange Server Administrator.

Note: WebSphere InterChange Server software is not supported on iSeries™ and Linux. However, WebSphere InterChange Server software running on Windows can be used with WebSphere Commerce running on Linux.

VisiBroker_installdir

This is the installation directories for WebSphere InterChange Server VisiBroker software. The following are the default installation directories for WebSphere InterChange Server VisiBroker software on various operating systems:

AIX `/opt/inprise/vbroker`

Solaris `/opt/inprise/vbroker`

Windows `C:\Inprise\vbroker`

Note: WebSphere InterChange Server VisiBroker software is not supported on iSeries and Linux. However, WebSphere InterChange Server VisiBroker software running on Windows can be used with WebSphere Commerce running on Linux.

Knowledge requirements

This guide is intended for system administrators or for anyone else responsible for performing installation and configuration tasks on WebSphere Commerce.

Store developers or system administrators who are installing and configuring WebSphere Commerce should have knowledge in the following areas:

- Your operating system
- The Internet
- IBM® DB2®
- WebSphere Application Server Administrative Console
- Basic operating system commands
- Basic SQL commands

Contents

Part 1. WebSphere Commerce analytic tools

WebSphere Commerce provides powerful tools that can be used together to analyze various aspects of the operation of WebSphere Commerce.

- WebSphere Commerce Analyzer. For more information, see "WebSphere Commerce Analyzer" on page 3.
- IBM Tivoli® Web Site Analyzer. For more information, see "Tivoli Web Site Analyzer" on page 4.
- IBM DB2 Intelligent Miner™ for Data. For more information, see "DB2 Intelligent Miner for Data" on page 3.

Planning your analytics tools installation

This section provides information to help you plan your configuration of WebSphere Commerce Analyzer and the other optionally installable analytics components:

- Tivoli Web Site Analyzer
- DB2 Intelligent Miner for Data

Review all of the information in this section before continuing with your installation of the analytics tools.

Determining what analytics components to install

WebSphere Commerce Analyzer can be installed on its own, or in conjunction with DB2 Intelligent Miner for Data and Tivoli Web Site Analyzer. This section helps you understand more about each component, and helps you determine which components you need to install.

WebSphere Commerce Analyzer

WebSphere Commerce Analyzer is an optional application included with WebSphere Commerce. When installed, it can provide a robust business intelligence solution designed to analyze and report on the activities of your customers. It is the tool used by WebSphere Commerce to perform business intelligence and analytics. With WebSphere Commerce Analyzer you can produce the following business intelligence reports:

- Marketing
- Sales
- Orders
- User security and authority

You can also use the reporting framework available with WebSphere Commerce to customize the reports available with WebSphere Commerce Analyzer, or create new reports for use with WebSphere Commerce Analyzer.

DB2 Intelligent Miner for Data

DB2 Intelligent Miner for Data is included as an optional component in the WebSphere Commerce Analyzer installation.

Data mining attempts to find interesting and relevant patterns about customers and their behavior by analyzing information from the WebSphere Commerce database. This data is not directly related to the result of an SQL query, but is based on a trend in the data. For example, data mining may find that customers from North America are more likely to abandon shopping carts.

Results from data mining can then be fed back into future marketing and merchandising efforts, creating what is known as a closed loop.

If you choose to install DB2 Intelligent Miner for Data, you will be able to use the data mining processes included with WebSphere Commerce Analyzer to apply a collection of mining models to the WebSphere Commerce Analyzer data mart. You will also be able to take advantage of the closed loop processes provided with

WebSphere Commerce Analyzer and WebSphere Commerce, which include creating customer segments based on the data mining results.

When you use DB2 Intelligent Miner for Data in conjunction with WebSphere Commerce Analyzer, you can mine data using the following out-of-the-box data mining models:

- What are the characteristics of initiatives that are most successful?
- What are the characteristics of customers that respond most favorably to initiatives?
- What are the characteristics of customers who use a metaphor?
- What is the relationship between customers and number of orders?
- What is the relationship between customers and average order value?
- What is the relationship between customers and total value of all orders?
- What is the relationship between customers and dollar value of each order?
- What are the characteristics of customers for a particular product?
- What are the characteristics of customers for a particular category?
- What are the characteristics of customers who abandon shopping carts?
- What are the characteristics of accounts that generate the highest/lowest revenue?
- What are the characteristics of contracts that generate the highest/lowest revenue?
- What are the characteristics of accounts that have turned RFQ responses into orders?

You can use DB2 Intelligent Miner for Data to create new mining models, or customize the existing ones for use with WebSphere Commerce Analyzer.

Note: If you choose not to install DB2 Intelligent Miner for Data as part of your initial installation of WebSphere Commerce Analyzer, you can install it a later date. If you install it a later date, you must install it manually, not through the WebSphere Commerce Analyzer install program. For more information on installing DB2 Intelligent Miner for Data manually, see your DB2 product documentation. After installing DB2 Intelligent Miner for Data manually, you must configure it to work with WebSphere Commerce Analyzer, by following the instructions in "(Optional) Configuring the data mining environment and schedule" on page 37.

Tivoli Web Site Analyzer

Tivoli Web Site Analyzer is an optional application included with WebSphere Commerce. WebSphere Commerce Analyzer is configured to work with Tivoli Web Site Analyzer.

While WebSphere Commerce Analyzer performs analysis on WebSphere Commerce data, such as marketing campaign analysis, Tivoli Web Site Analyzer collects clickstream data, such as the number of times a Web page is loaded, which URL the customer is referred from, or what type of Web browsers customers used. If you install Tivoli Web Site Analyzer in addition to WebSphere Commerce Analyzer, you will be able to report on additional clickstream and web site usage categories. These additional reports are accessed through the WebSphere Commerce Accelerator or via third party reporting tools, just as are the reports produced by WebSphere Commerce Analyzer.

When you use Tivoli Web Site Analyzer in conjunction with WebSphere Commerce Analyzer, you can produce the following business intelligence reports:

- Visits
- Requested pages
- Referrer URL
- Top entry/exit pages
- HTTP Error/Return codes

You can also use the reporting framework available with WebSphere Commerce to customize the out-of-the box reports available with WebSphere Commerce Analyzer and Tivoli Web Site Analyzer, or create new reports for use with WebSphere Commerce Analyzer. Several third party report integration kits are available, which allow you to use a reporting tool of your choice to display the WebSphere Commerce Analyzer reports.

Important

If you plan to use Tivoli Web Site Analyzer with WebSphere Commerce Analyzer, you should install and configure it before installing WebSphere Commerce Analyzer.

For more information about Tivoli Web Site Analyzer, refer to the Tivoli Web Site Analyzer Web site:

`http://publib.boulder.ibm.com/tividd/td/IBMTivoliWebSiteAnalyzer4.5.html`

Notes:

1. WebSphere Commerce Version 5.7 supports Tivoli Web Site Analyzer, Version 4.5.
2. Tivoli Web Site Analyzer can be used in conjunction with WebSphere Commerce Analyzer or with WebSphere Commerce if you are not using WebSphere Commerce Analyzer. If you do not plan to use WebSphere Commerce Analyzer, but still want to use Tivoli Web Site Analyzer with WebSphere Commerce, follow the instructions in the Tivoli Web Site Analyzer Web site.

Coexistence with previous versions of WebSphere Commerce Analyzer

WebSphere Commerce Analyzer cannot coexist with any earlier versions of WebSphere Commerce Analyzer.

WebSphere Commerce databases supported by WebSphere Commerce Analyzer

WebSphere Commerce Analyzer reports on stores that were created using WebSphere Commerce. The WebSphere Commerce Analyzer server can connect to WebSphere Commerce database servers as follows:

For a WebSphere Commerce database server on...	The WebSphere Commerce Analyzer server can connect to...
AIX	IBM DB2 Universal Database Enterprise Server Edition, Version 8.2
	Oracle 9i Release 2 Enterprise Edition with fix pack 1
	Oracle 9i Release 2 Standard Edition with fix pack 1
Linux	IBM DB2 Universal Database Enterprise Edition, Version 8.2
	IBM DB2 Universal Database Express Edition, Version 8.2
	IBM DB2 Universal Database for z/OS and OS/390 Version 7 (see note) **Note:** Note: DB2 Universal Database for z/OS and OS/390 is only supported for WebSphere Commerce running on Linux on Intel based platforms and Linux on @server zSeries or S/390. It is not supported by WebSphere Commerce running on Linux on @server iSeries or Linux on @server pSeries®.
400	IBM DB2 Universal Database for iSeries, V5R2M0
	IBM DB2 Universal Database for iSeries, V5R3
Solaris	IBM DB2 Universal Database Enterprise Edition, Version 8.2
	Oracle 9i Release 2 Enterprise Edition with fix pack 1
	Oracle 9i Release 2 Standard Edition with fix pack 1
Windows	IBM DB2 Universal Database Enterprise Edition, Version 8.2
	IBM DB2 Universal Database Express Edition, Version 8.2
	Oracle 9i Release 2 Enterprise Edition with fix pack 1
	Oracle 9i Release 2 Standard Edition with fix pack 1
Windows	

The databases supported by WebSphere Commerce on an operating system depend on the edition of WebSphere Commerce you are using. For information about this

and about the specific operating system editions and versions supported by WebSphere Commerce, refer to the *WebSphere Commerce Installation Guide* for the operating system about which you want more information.

The guides are available from the WebSphere Commerce technical library at the following URL:

`http://www.ibm.com/software/genservers/commerce/library/`

Prerequisites

Hardware prerequisites

You will need at least two machines to use analytics with WebSphere Commerce:

- One machine for WebSphere Commerce
- One machine for WebSphere Commerce Analyzer

If you plan to use Tivoli Web Site Analyzer, you will need a third machine for that.

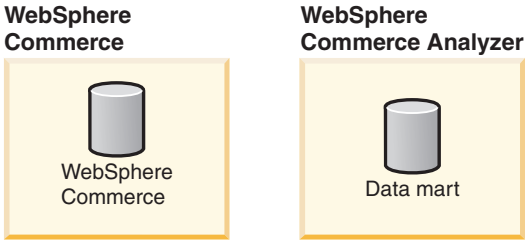
See the WebSphere Commerce Installation Guide for hardware requirements for WebSphere Commerce.

See "WebSphere Commerce Analyzer" on page 9 for hardware requirements for WebSphere Commerce Analyzer, and "Tivoli Web Site Analyzer" on page 9 for hardware for Tivoli Web Site Analyzer.

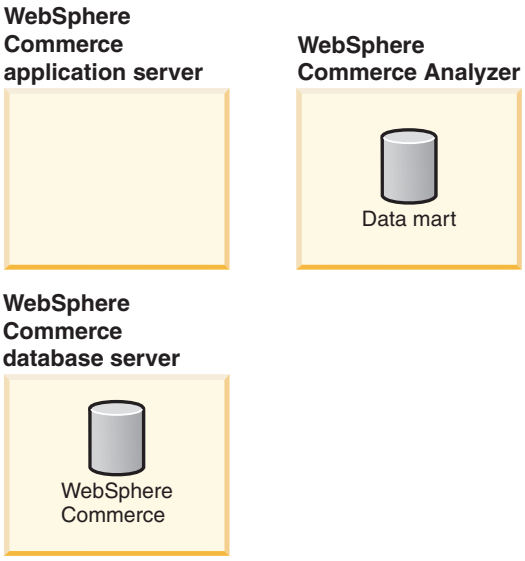
Recommended configurations

The following diagrams illustrate the recommended hardware configurations for analytics with WebSphere Commerce:

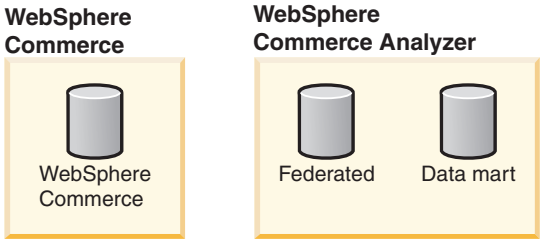
Recommended configuration for WebSphere Commerce Analyzer and WebSphere Commerce (DB2 Universal Database): The following diagram illustrates the recommended configuration for businesses with a small to medium size WebSphere Commerce database on DB2 Universal Database. Note that the Data mart database will be created during WebSphere Analyzer configuration.



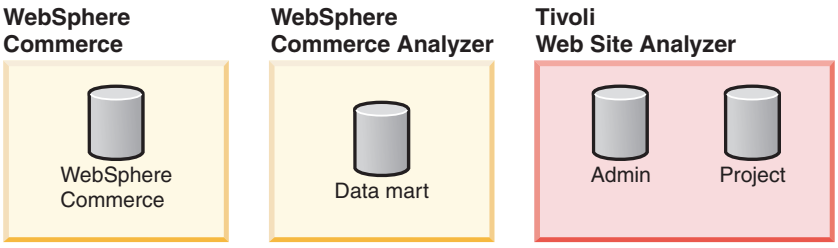
The following diagram illustrates the recommended configuration for businesses with a large WebSphere Commerce database on DB2 Universal Database. Note that the Data mart database will be created during WebSphere Analyzer configuration.



Recommended configuration for WebSphere Commerce Analyzer and WebSphere Commerce (Oracle): The following diagram illustrates the recommended configuration for businesses with a WebSphere Commerce database on Oracle. Note that the Data mart and Federated databases will be created during WebSphere Analyzer configuration.



Recommended configuration for WebSphere Commerce Analyzer, WebSphere Commerce and Tivoli Web Site Analyzer: The following diagram illustrates the recommended configuration for businesses using both WebSphere Commerce Analyzer and Tivoli Web Site Analyzer. Note that the Data mart database will be created during WebSphere Analyzer configuration. You will create the Project and Admin databases on Tivoli Web Site Analyzer during Tivoli Web Site Analyzer installation and configuration.



WebSphere Commerce Analyzer

Important
For better performance, install the WebSphere Commerce Analyzer server on a machine that does not have other duties. Do not install the WebSphere Commerce Analyzer server on the WebSphere Commerce servers.

You must ensure that you meet the following minimum hardware requirements before installing WebSphere Commerce Analyzer:

- A Pentium® III (733 MHz or higher) IBM-compatible personal computer. The computer must have the following:
  - A minimum of 1 GB of random access memory (RAM).
  - It is recommended that you install WebSphere Commerce Analyzer and it's associated database on one drive. It is recommended that the hard drive have double the space of your WebSphere Commerce database. At least 50 GB or more free disk space is recommended, more depending on the size of you WebSphere Commerce database.

    Note: You may want to consider having multiple drives for database performance tuning. For example, you could have a second and third drive for tablespace balancing, on which DB2 can write data in parallel.
  - A CD-ROM drive.
  - A graphics-capable monitor with a color depth of at least 256 colors and screen resolution of at least 1024 x 768 pixels.
  - A local area network (LAN) adapter that is supported by the Transmission Control Protocol/Internet Protocol (TCP/IP).

Tivoli Web Site Analyzer

Important
For performance reasons, IBM Tivoli Web Site Analyzer should be installed on a separate machine from WebSphere Commerce.

If you plan to install Tivoli Web Site Analyzer, (for more information on when to use Tivoli Web Site Analyzer, see "Tivoli Web Site Analyzer" on page 4), ensure that you meet the hardware requirements outlined in the *Tivoli Web Site Analyzer information center*. The information center is available through the following Web site:

`http://publib.boulder.ibm.com/tividd/td/IBMTivoliWebSiteAnalyzer4.5.html`

Operating system prerequisites

WebSphere Commerce Analyzer

You must ensure that any system on which you plan to run the WebSphere Commerce Analyzer installation wizard meets the following minimum software requirements before installing WebSphere Commerce Analyzer:

- Ensure that you have one of the following Microsoft® Windows operating systems installed:
  - Microsoft Windows Server 2003, Enterprise Edition
  - Windows 2000 Professional Service Pack 4 or higher
  - Windows 2000 Server with Service Pack 4 or higher

Tivoli Web Site Analyzer

If you plan to install Tivoli Web Site Analyzer, (for more information on when to use Tivoli Web Site Analyzer, see "Tivoli Web Site Analyzer" on page 4), ensure that you meet the operating system requirements outlined in the *Tivoli Web Site Analyzer information center*. The information center is available through the following Web site:

`http://publib.boulder.ibm.com/tividd/td/IBMTivoliWebSiteAnalyzer4.5.html`

Important

Although Tivoli Web Site Analyzer supports several operating systems, WebSphere Commerce Analyzer only supports Tivoli Web Site Analyzer when the Tivoli Web Site Analyzer database is created on Windows or AIX.

Software prerequisites

Tivoli Web Site Analyzer

Before you can install IBM Tivoli Web Site Analyzer, Version 4.5 (with fix pack 5) you must install the following software:

- IBM DB2 Universal Database Enterprise Edition, Version 8.2
- WebSphere Application Server version 5.1.1

Notes:

1. It is recommended that you use the same versions of IBM DB2 Universal Database and WebSphere Application Server for Tivoli Web Site Analyzer as you use for WebSphere Commerce. You must use at least IBM DB2 Universal Database Enterprise Edition, Version 8.2 with Tivoli Web Site Analyzer.
2. If you want to connect to a remote DB2 database using the Net driver (COM.ibm.db2.jdbc.net.DB2Driver), the remote database must be at the same version level as your Tivoli Web Site Analyzer server database.
3. You will also need IBM Tivoli Web Site Analyzer fix pack 6, available from the following URL:

   `http://www.ibm.com/support/entdocview.wss?uid=swg24008530`

   and APAR pk00702. To obtain APAR pk00702, contact your IBM customer support representative.

Preparing your WebSphere Commerce system for analytics

Before installing any of the analytics components, complete the tasks outlined in this chapter.

Configure WebSphere Commerce to record data

Before you start collecting user traffic from the site, you must enable the **UserTrafficEventListener**, **CampaignRecommendationStatisticsListener** and **CampaignRecommendationListener** components in the WebSphere Commerce Configuration Manager. If these components are not enabled, some of the business reports will contain no data. As a result, you should configure WebSphere Commerce to record data before you install WebSphere Commerce Analyzer.

Note: Enabling the listeners will slightly affect WebSphere Commerce's performance.

To configure WebSphere Commerce to record data, do the following:

1. Launch the WebSphere Commerce Configuration Manager. For instructions on launching WebSphere Commerce Configuration Manager, see the WebSphere Commerce Information Center.

   Note for OS/400 users: Ensure that both the Configuration Manager server session and the Configuration Manager client session windows are left running until the tasks in this section are complete.
2. Enter your Configuration manager user ID, and password.
3. Expand *your host name* > **Commerce**.
4. Expand **Instance List** > *instance_name* > **Components**.
5. Select **CampaignRecommendationListener** and do the following:
   a. Ensure that **Enable component** is selected.
   b. Click the **Advanced** tab.
   c. Ensure that **Start** is selected.
   d. Click **Apply** to accept the changes.
6. Select **CampaignRecommendationStatisticsListener** and repeat the instructions in step 5.
7. If you are using the Sales Assistant or Product Advisor features of WebSphere Commerce, repeat the instructions in step 5 for each of the following listeners:
   - ProductAdvisorInvocationListener
   - ProductComparisonInvocationListener
   - ProductExplorerInvocationListener
   - SalesAssistantInvocationListener
8. Select **UserTrafficEventListener** and repeat the instructions in step 5.
9. Collapse **Components**.
10. Exit the Configuration Manager.
11. Restart your WebSphere Commerce instance.

Confirm currency conversions on WebSphere Commerce

WebSphere Commerce Analyzer uses currency conversions to compare the sales value of orders within and between stores. The CURCONVERT table in the WebSphere Commerce database contains information that WebSphere Commerce Analyzer uses to perform currency conversions. If this table is not populated, the Select Store step of WebSphere Commerce Analyzer configuration will not work.

A store must contain currency conversions between the store default currency and the reporting currency. If multiple stores are selected, there must also be currency conversions between the various default store currencies.

For example,

Store	Default Currency
Store 201	CAD
Store 202	USD
Store 203	JPY

Normally, there should be currency conversion entries for the store's default currency and all supported order currencies. If the desired WebSphere Commerce Analyzer reporting currency is EUR, the CURCONVERT must also contain conversions from each store's default currency to EUR. If any particular store does not have a currency conversion to the desired reporting currency you will not be able to select this store for analysis until these currency conversion entries are made.

Use the DB2 Control Center to ensure that the WebSphere Commerce CURCONVERT table is populated with the correct currency conversion before you install WebSphere Commerce Analyzer .

If you are using the hosting business model, you must define the currency conversions for the hosting hug and each hosted store. defined at the store level. Although stores can inherit currency conversions from the hosting hub, each hosted store must have its own currency conversions in order to work with WebSphere Commerce Analyzer.

For information about creating currency conversions, see the *WebSphere Commerce information center*.

Additional set up needed for WebSphere Commerce servers on OS/400

If your WebSphere Commerce server is on OS/400, you will also need to do the following steps:

1. Install the DataPropagator™ Licence Program (5722DP4) and install any available PTFs for the 5722DP4 product.

   To find a list of available PTFs for the 5722DP4 product, do the following:

   a. Go to the following URL:

      `http://www-912.ibm.com/a_dir/as4ptf.nsf/as4ptfhome`

   b. Click **Search**.

   c. Limit your search to the level of OS/400 on which WebSphere Commerce is running.

d. Search for 5722DP4.

   The resulting search will return a listing of applicable 5722DP4 PTFs that should be applied to your system.

2. Read Informational APAR II13348. This APAR contains information about iSeries PTFs required by the 5722DP4 product.
3. Check if the source tables in the library are journaled, by running the command **WRKOBJPDM** ***library_name*** and looking for processes with JRN in their names. If those processes exist, the tables are already journaled. If the source tables are not journaled, follow the instructions for journaling in the *IBM DB2 Replication Guide and Reference*.
4. Change the user profile to CCSID (coded character set identifier) 37 by typing the following at an iSeries command prompt:

   ```
   CHGUSRPRF USRPRF(username) CCSID(37)
   ```

   where *username* is the name of the current user.
5. Start the distributed data management (DDM) server by typing the following command:

   ```
   STRTCPSVR SERVER(*DDM)
   ```
6. Give the database user "secofficer" authority to register tables for replication by typing the following command on the iSeries system:

   ```
   CHGUSRPRF USRPRF(user_ID) USRCLS(*SECOFR) SPCAUT(*USRCLS)
   ```

   where *user_ID* is the user ID of the database user.
7. Give the database user the authority to change objects in the DataPropagator by typing the following command on the iSeries system:

   ```
   GRTOBJAUT OBJ(QDP4/*ALL) OBJTYPE(*PGM)USER(user_ID) AUT(*USE)
   GRTDPRAUT USER(user_ID) AUT(*REGISTRAR)
   GRTDPRAUT USER(user_ID) AUT(*SUBSCRIBER)
   GRTDPRAUT USER(user_ID) AUT(*CAPTURE)
   GRTDPRAUT USER(user_ID) AUT(*APPLY)
   ```

   where *user_ID* is the user ID of the database user. The database user is normally the WebSphere Commerce *instance name*.

   Note: Ensure that subsystem QZSNDPR in library QDP4 is started.

To find more support information on DataPropagator, refer to the following URL:

```
http://www.ibm.com/software/data/dpropr/support.html
```

Next steps

If you plan to install Tivoli Web Site Analyzer, go to "Installing Tivoli Web Site Analyzer" on page 15. If you are not installing Tivoli Web Site Analyzer, go to "Gathering information required during WebSphere Commerce Analyzer installation" on page 21.

Installing Tivoli Web Site Analyzer

If you choose to install Tivoli Web Site Analyzer you must install it and do some initial set up before installing and configuring WebSphere Commerce Analyzer. If you do not plan to install Tivoli Web Site Analyzer, continue with "Gathering information required during WebSphere Commerce Analyzer installation" on page 21.

For information on hardware and software prerequisites, see "Planning your analytics tools installation" on page 3.

To install Tivoli Web Site Analyzer, do the following:

1. Install and configure Tivoli Web Site Analyzer according to the instructions available in the *Tivoli Web Site Analyzer information center*. The information center is available through the following URL:

   `http://publib.boulder.ibm.com/tividd/td/IBMTivoliWebSiteAnalyzer4.5.html`

   When installing Tivoli Web Site Analyzer, choose to create separate databases for the administration and project data.
2. After installing Tivoli Web Site Analyzer, install Tivoli Web Site Analyzer fix pack 6. Fix pack 6 is available from the following URL:

   `http://www.ibm.com/support/entdocview.wss?uid=swg24008530`
3. Install APAR pk00702. To obtain APAR pk00702, contact your IBM customer support representative.
4. Start Tivoli Web Site Analyzer.

   The Tivoli Web Site Analyzer server must be started from the command line. The default server name is `Site_Analyzer`. So, if you accepted the default during installation, you will start the server by navigating to `\bin` and issuing the command `startServer Site_Analyzer`.

   Important

   If you plan to use the Tivoli Web Site Analyzer Web Tracker functionality with your Web site, you must set up Tivoli Web Site Analyzer with a secure environment. For more information, see Using Web Tracker with secure content in the *Tivoli Web Site Analyzer information center*. When you instrument your site with the automated tool provided with Tivoli Web Site Analyzer, you will either instrument the entire site as HTTPS or as HTTP. In order to avoid security warnings, do not have HTTPS links in pages viewed by HTTP or HTTP links in pages viewed by HTTPS.
5. Ensure that you can access the Tivoli Web Site Analyzer administration page at the following URL:

   `http://`*`host_name`*`/SiteAnalyzer/Admin/index.html`

   where *host_name* is the host name of the machine on which Tivoli Web Site Analyzer is installed.

   If you cannot access this URL, you may have a port conflict between WebSphere Application Server and Tivoli Web Site Analyzer. For instructions on resolving the port conflict, refer to "Resolving port conflicts between WebSphere Application Server and Tivoli Web Site Analyzer" on page 16.

6. Following the instructions in the *Tivoli Web Site Analyzer information center*, do the following tasks:
   a. Create a project.

      When creating a project:
      - Use a project name you will recognize later.
      - You are analyzing the WebSphere Commerce Web site, so when asked for the host name enter the name of the WebSphere Commerce machine. For example, in the **Web site host names** field, enter the host name of the WebSphere Commerce machine.
      - Ensure that you enter a user ID that has authority to access the databases on the Tivoli Web Site Analyzer machine. The default ID is `saadmin`.
      - For all other fields and pages you may accept the default values.

   b. Add your data source to the project and schedule the date and time you want Tivoli Web Site Analyzer to start retrieving data from the data source.

      Note: You can only use your Web site's log files or Web Tracker enabled Web pages as your data source.

      If you choose to use your Web site's log file as your data source, ensure that you set **Run after save** to **Yes** before saving scheduling information because data source processing creates the data needed for configuring Tivoli Web Site Analyzer with WebSphere Commerce Analyzer.

   c. Add a report database to the project and schedule the date and time you want to start a report database process, also referred to as data transformation.

> **Important**
>
> When adding the report database:
> - Ensure that **Enable Sessionization** is selected.
> - Ensure that you set **Run after save** to **Yes** since running report database creates the data needed for configuring Tivoli Web Site Analyzer with WebSphere Commerce Analyzer.

Resolving port conflicts between WebSphere Application Server and Tivoli Web Site Analyzer

To resolve port conflicts between WebSphere Application Server and Tivoli Web Site Analyzer, do the following:

1. Ensure that the Tivoli Web Site Analyzer server is started. If it is not, start it.

   The Tivoli Web Site Analyzer server must be started from the command line. The default server name is `Site_Analyzer`. So, if you accepted the default during installation, you will start the server by navigating to `\bin` and issuing the command `startServer Site_Analyzer`.
2. Set the port number for Tivoli Web Site Analyzer in WebSphere Application Server as follows:
   a. On the Tivoli Web Site Analyzer machine, open the WebSphere Application Server Administrative Console:

      `http://host_name:9090/admin`
   b. Set the port for the Tivoli Web Site Analyzer virtual host as follows:
      1) Click **Environment** > **Virtual Hosts**.

2) In the Virtual Hosts page, click **default host**.
3) In the Configuration page, click **Host Aliases**.
4) Click **New**.
5) In the **Host Name** field, type *.
6) In the **Port** field, type 9092. Click **Apply**.
7) Save your changes.

c. Set the port for the Tivoli Web Site Analyzer HTTP transport as follows:
1) Click **Servers** > **Application Servers**.
2) Click your *Tivoli Web Site Analyzer application server*.
3) Click **Web Container**.
4) Click **HTTP transports**.
5) Click **New**.
6) In the **Host** field, type *.
7) In the **Port** field, type 9092. Click **Apply**.
8) Save your changes.

3. Set the port number for Tivoli Web Site Analyzer as follows:
a. Open the following file in a text editor:
TWSA_installdir/config/sa.properties
b. Locate the following section:
```
# The hostname and port of the SiteAnalyzer application server
saam.AdminServer.hostname=localhost
saam.AdminServer.port=80
```
c. Change `saam.AdminServer.port` from 80 to 9092.
d. Save your changes and exit the text editor.
4. Restart the Tivoli Web Site Analyzer Server.

Note: If you are using Tivoli Web Site Analyzer's Web Tracker, you should also allocate a dedicated port for the WebSphere Application Server to serve Tivoli Web Site Analyzer over a secure HTTPS connection. Since by default, the IBM HTTP Server does not configure serving SSL secured content, you must ensure that you configure both the Web server and the WebSphere Application server to serve SSL secured content. See "Security considerations" on page 18.

Setting up WebSphere Commerce sites for use with Tivoli Web Site Analyzer

You must complete some additional set up in order for Tivoli Web Site Analyzer to collect data from WebSphere Commerce sites. You can use Tivoli Web Site Analyzer to analyze data from the following sources :

- your Web site's log files
- Web Tracker enabled Web pages

For more details on these methods of data collection, see the *Tivoli Web Site Analyzer information center*. The information center is available through the following URL:

`http://publib.boulder.ibm.com/tividd/td/IBMTivoliWebSiteAnalyzer4.5.html`

If you choose to use the Web logs as data source, you must ensure that the storeId parameter is available in every URL for your site, and that it is unencrypted. If you

choose to use the Web Tracker method, you must instrument all JSP files for your stores from which you want to collect data. Tivoli Web Site Analyzer provides a tool that allows you to instrument your store pages.

Note: If you choose to use the Web log analysis method, you must use the Referral log in addition to the common or access log, or configure the Web server to produce combined logs, in order to populate the Referrer URL report. For more information on these logs, see the *Tivoli Web Site Analyzer information center*, topic, **Log File Formats**. The information center is available through the following URL:

`http://publib.boulder.ibm.com/tividd/td/IBMTivoliWebSiteAnalyzer4.5.html`

Security considerations

If you choose to use Web Tracker as your method of data collection, consider the following security information. By default, Tivoli Web Site Analyzer serves content over a non secure HTTP connection. WebSphere Commerce switches to a secure HTTPS connection when a customer logs in or when transferring payment or customer information. If you instrument pages that are displayed by HTTPS with the Tivoli Web Site Analyzer tool, customers to your site or store will view warnings about non secure page content when the page loads.

To prevent displaying these warnings, configure Tivoli Web Site Analyzer to serve content over both secure and non secure connections. The *Tivoli Web Site Analyzer information center* contains information on setting up the WebSphere Application Server to serve Tivoli Web Site Analyzer over HTTPS (port 443). For more information, see the *Tivoli Web Site Analyzer information center*. The information center is available through the following URL:

`http://publib.boulder.ibm.com/tividd/td/IBMTivoliWebSiteAnalyzer4.5.html`

You should also allocate a dedicated port for the WebSphere Application Server to serve Tivoli Web Site Analyzer over a secure HTTPS connection. Since by default, the IBM HTTP Server does not configure serving SSL secured content, you must ensure that you configure both the Web server and the WebSphere Application server to serve SSL secured content. For more information, see "Resolving port conflicts between WebSphere Application Server and Tivoli Web Site Analyzer" on page 16.

Instrumenting JSP files

If you choose to use Web Tracker as your method of data collection, you must instrument all JSP files for your stores from which you want to collect data. To instrument JSP files:

1. Back up all JSP files that you plan to instrument.
2. Install the Tivoli Web Site Analyzer instrumenting tool:
   a. Extract the contents of the following file from the Tivoli Web Site Analyzer CD to a new directory on your WebSphere Commerce server:
      - Windows Tools\SA45WinWTEnable.zip
      - AIX Use `wasuser` to extract the contents of Tools\SA45UnixWTEnable.tar.
   b. Review the contents. Locate the following files:
      - Windows wtenable.bat and wtremove.bat
      - AIX wtenable.sh and wtremove.sh

c. Open the files and replace all instances of 4.2 or 42 with 4.5 or 45.

3. Create an XML configuration file to run the Tivoli Web Site Analyzer instrumenting tool. Use the following code as an example for your file.

```
<?xml version="1.0"?>
<wtenablement jsurl="http://hostname:9092/SiteAnalyzer/WebTracker.js"
servleturl="http://hostname:9092/SiteAnalyzer/WebTracker" saproject="TWSA_Project_Name">
 <script>
 <flag name="title" />
 <flag name="formData" />
 <flag name="linkCount" />
 <flag name="links" />
 <flag name="pageName" />
 <flag name="availWidth" />
 <flag name="availHeight" />
 <flag name="colorDepth" />
 <flag name="lang" />
 <flag name="encoding" />
 <flag name="statusText" />

 <kvp key="version">1.0</kvp>
 <kvp key="storeId">&lt;%=((com.ibm.commerce.command.CommandContext)request.getAttribute
(com.ibm.commerce.server.ECConstants.EC_COMMANDCONTEXT)).getStoreId()%&gt;</kvp>
 </script>
 <noscript>
 <kvp key="version">1.0</kvp>
 <kvp key="storeId">&lt;%=((com.ibm.commerce.command.CommandContext)request.getAttribute
(com.ibm.commerce.server.ECConstants.EC_COMMANDCONTEXT)).getStoreId()%&gt;</kvp>
 </noscript>

 <!-- Line for windows -->
  <directory name="WAS_Installdir\installedApps\node_name\
instance_name.ear\Stores.war">
 <!-- Line for unix -->
  <directory name="WAS_Installdir/installedApps/node_name/
instance_name.ear/Stores.war">


  <fileext name="jsp"/>
 </directory>
</wtenablement>
```

4. To instrument the site or store's JSP files, run the instrumenting tool:

   a. Windows In a command window, change the directory to *WAS_installdir*/bin. Then type `setupCmdLine`.

      1) Change the directory to the location where you saved the instrumenting tool. Save your XML configuration file to this directory.

      2) Type: `wtenable.bat` *XML_Configuration_file_name current_directory_path*, where *XML_Configuration_file_name* is the full path to the XML configuration file, and *current_directory_path* is the fully qualified path of the directory you are currently in.

   b. AIX In a command window, as WASUSER, change the directory to *WAS_installdir*/bin. Then type `. setupCmdLine.sh`.

      1) Change the directory to the location where you saved the instrumenting tool. Save your XML configuration file to this directory.

      2) Type: `wtenable.sh $PWD/`*XML_Configuration_file_name* `$PWD`, where *XML_Configuration_file_name* is the full path to the XML configuration file.

Notes:

1. The preceding instructions instrument your site's dynamic pages. You should also instrument any static Web pages to which your site links. Ensure that you

add the key value pair of storeId (case sensitive and no leading or trailing whitespace) with a value equal to the numerical store ID assigned to the store by Websphere Commerce. If the key does not match the storeId exactly or if the store number is wrong the data will not be correctly picked up and processed by Tivoli Web Site Analyzer and WebSphere Commerce. For more information, see the *Tivoli Web Site Analyzer information center*. The information center is available through the following URL:

`http://publib.boulder.ibm.com/tividd/td/IBMTivoliWebSiteAnalyzer4.5.html`

2. If a single JSP file is served over both HTTP and HTTPS connections, you must either duplicate the file so that versions exist for both HTTP and HTTPS connections or choose one method (either HTTP or HTTPS) and accept the subsequent warnings.
3. Ensure that every JSP file you instrument has both a head and a body tag. If the file is missing one of these tags the page will not be instrumented properly. The head or body tag can be empty, but must exist on the page.

Next steps

Continue with "Gathering information required during WebSphere Commerce Analyzer installation" on page 21.

Gathering information required during WebSphere Commerce Analyzer installation

Before you install WebSphere Commerce Analyzer, collect the following information, which you must supply during installation:

WebSphere Commerce information:

- Host name of the machine that WebSphere Commerce is installed on.
- Port number on the WebSphere Commerce machine that the *WebSphere Commerce information center* is installed on.
- Database name of the WebSphere Commerce server database.
- 400 Schema name for the WebSphere Commerce database.
- Currency for reports.
- User ID and password that are used to access the WebSphere Commerce server database.

Note: You should install on a machine with an NTFS file system in order to secure your WebSphere Commerce Analyzer files. For more information, see

WebSphere Commerce Analyzer information that must be defined during installation and configuration:

- The location where WebSphere Commerce Analyzer, and if necessary, DB2, and IBM DB2 Intelligent Miner for Data, Version 8.1. will be installed.
- Oracle Name of the federated WebSphere Commerce database on the WebSphere Commerce Analyzer server.
- Name of the WebSphere Commerce Analyzer data mart.
- User ID and password for the WebSphere Commerce Analyzer data mart.
- The drive on which the WebSphere Commerce Analyzer data mart is to be created.

Tivoli Web Site Analyzer information (optional)

Note: If you installed Tivoli Web Site Analyzer information, have the following information ready.

- Host name for Tivoli Web Site Analyzer.
- Database name for the Tivoli Web Site Analyzer administration database.
- User ID and password for the Tivoli Web Site Analyzer administration database.
- Database name for the Tivoli Web Site Analyzer project database.
- User ID and password for the Tivoli Web Site Analyzer project database.
- A folder location on Tivoli Web Site Analyzer server machine on which the replication table space can be stored.

Next steps

Continue your installation with “Installing WebSphere Commerce Analyzer” on page 23.

Installing WebSphere Commerce Analyzer

The WebSphere Commerce Analyzer installation program installs the WebSphere Commerce Analyzer server. It also installs the following software if it is not already installed on the machine:

- IBM DB2 Universal Database Enterprise Server Edition, Version 8.2
- (Optional) IBM DB2 Intelligent Miner for Data, Version 8.1

Use the instructions in this section to install WebSphere Commerce Analyzer.

Notes:

1. If you have already installed WebSphere Commerce Analyzer and you are reinstalling it, be sure to uninstall the existing copy first. See "Removing WebSphere Commerce Analyzer" on page 49 for information about uninstalling WebSphere Commerce Analyzer.
2. If you have other versions of the prerequisite software, you must cancel the installation and either upgrade or uninstall the older software. Then, you can restart installation.
3. Windows If you are using Windows Server 2003 Enterprise Edition and you plan to install IBM DB2 Intelligent Miner for Data, Version 8.1, you must do the following:
   a. Copy the contents of the IBM DB2 Intelligent Miner for Data, Version 8.1 CD to a directory on the machine on which you will install WebSphere Commerce Analyzer.
   b. On the WebSphere Commerce Analyzer CD, locate the following directory:
      - IM_Patch

      Install the patch in this directory, following the instructions in the same directory.
   c. Complete the WebSphere Commerce Analyzer install, following the instructions below.
   d. When asked for the location of IBM DB2 Intelligent Miner for Data, Version 8.1 during the install, point to the location on the WebSphere Commerce Analyzer machine where you copied the IBM DB2 Intelligent Miner for Data, Version 8.1 CD.
4. If you choose not to install Intelligent Miner initially, you can install it a later date, but you will not be able to install it through the WebSphere Commerce Analyzer install program. Instead you need to install it manually, and then use WebSphere Commerce Analyzer Configuration Manager to configure it. For more information on installing DB2 Intelligent Miner for Data manually, see your DB2 product documentation. After installing DB2 Intelligent Miner for Data manually, you must configure it to work with WebSphere Commerce Analyzer, by following the instructions in "(Optional) Configuring the data mining environment and schedule" on page 37, and then integrate it with WebSphere Commerce (see the instructions in "Integrate WebSphere Commerce Analyzer with WebSphere Commerce" on page 41).

To install WebSphere Commerce Analyzer, do the following:

1. Close any programs that are running.
2. Ensure that you are logged in as a Windows administrator.

3. Insert the IBM WebSphere Commerce Analyzer CD.
4. From the root directory of the IBM WebSphere Commerce Analyzer CD, run **setup.exe**. The Software License Agreement page opens.
5. Review the information on the Setup for IBM WebSphere Commerce Analyzer page, and click **Next**.
6. Review the license and click **I accept the terms in the license agreement** to accept the terms of the agreement and click **Next**.

Note: The pages that are displayed during installation vary based on what is installed on the computer. If some or all of the prerequisite software is already installed, some of the pages described in the following procedure may not display. If all of the prerequisite software is installed, skip to 11 on page 25. Otherwise, continue with the next step.

7. If any prerequisite software has not been installed, the Prerequisite Products Install Summary page displays. This page lists the prerequisite software that will be installed. If you want to install IBM DB2 Intelligent Miner, select **IBM DB2 Intelligent Miner for Data (optional)** . Click **Next**.
8. A series of pages opens in which you indicate the location of the installation software for each of the programs you are going to install. Type the location of the installation software in the corresponding field and then click **Next**.

   Note: If you cannot select the drive letter of the CD in the Browse window, type the path name in the corresponding field.
9. A series of windows opens in which the default location of the software is indicated. Either accept the default folder or click **Browse** to specify the folder in which you want to install the prerequisite software. Click **Next**.
10. If the IBM DB2 Universal Database Specify DB2 Instance Owner Information window opens, complete the following fields:
    a. Type the user name and password for the DB2 user in the **User** and **Password** fields. Keep in mind the following restrictions.
       - The user name and password can use any character.
       - The user name cannot be longer than 20 characters.
       - The password cannot be longer than 14 characters.
       - The user name cannot be any of the following, in upper, lower, or mixed case: USERS, ADMINS, GUESTS, PUBLIC, LOCAL.
       - The user name cannot begin with any of the following, in upper, lower, or mixed case: IBM, SQL, SYS.
       - The user name cannot be the same as any Windows service name or the hostname of the computer.
       - The user name must be defined on the local computer and belong to the Local Administrator's group.
       - The user name must have the **Act as part of the operating system** advanced user right.

         Note: To be sure that the user name has the correct access, specify a user name that is not already defined, and it will be created with the correct access rights.
       - If the user name is a Windows logon user name that is already defined, the password must be the password for that user name. The password must also conform to all the other requirements. If it does not conform, particularly to the character set limitations, the password for the Windows user name must be changed.

b. Retype the DB2 user password in the **Verify Password** field.

c. Click **Next**.

11. In the Specify Install Directory for WebSphere Commerce Analyzer page, either accept the default **Install directory** value or click **Browse** to specify the folder in which you want to install WebSphere Commerce Analyzer. The default is `C:\Program Files\IBM\WCA`.

12. In the **WebSphere Commerce information center host name** field, type the host name of the machine on which the *WebSphere Commerce information center* is installed. Product information for WebSphere Commerce Analyzer is available in the *WebSphere Commerce information center*. The information center is installed with WebSphere Commerce. This set is necessary to access the online help from WebSphere Commerce Analyzer, as the online help for WebSphere Commerce Analyzer is in the *WebSphere Commerce information center*.

13. In the **WebSphere Commerce information center port** field, type the port number on your WebSphere Commerce machine on which the information center is installed. By default, the information center is on `8001`.

    Note: If you need to change the port number or host name after you have completed install, edit the following file:

    - *WCA_installdir*\lib\wcaenv.properties

    The information host name is WCIC_HOST. The information center port number is WCIC_PORT.

    Click **Next**.

    - If you are installing prerequisite products, the Prerequisite Products Install Summary page displays, stating the prerequisite products to be installed.

      Review the information on the window. Click **Next** if all information is correct. Installation of each of the prerequisite software products begins. When each product is installed, a message window opens indicating whether the installation was successful. Click **Next** to begin installation of the next product. After the last of the prerequisite software products is installed, a window opens indicating the WebSphere Commerce Analyzer installation directory and the program size.

    - If you are not installing prerequisite software, a window displays indicating the WebSphere Commerce Analyzer installation directory and the program size. Continue with step 14.

14. If the information is correct, click **Next**. A progress indicator is displayed while the installation program copies files.

15. When installation is complete, a message is displayed indicating whether WebSphere Commerce Analyzer installation was successful. Click **Next**. A message window is displayed indicating you should check the following Web page for information about fix packs you must download and install:

    `http://www.ibm.com/software/genservers/commerce/wca/support/`

16. If you installed Intelligent Miner for Data, you must restart the computer. A page displays giving you the choice to restart immediately or later. To restart the computer immediately, click **Yes, I want to restart my computer now**. If you do not want to restart the computer right away, click **No, I will restart my computer later**.

17. Click **Finish**.

Next steps

Continue with “Securing your WebSphere Commerce Analyzer files” on page 27.

Securing your WebSphere Commerce Analyzer files

After installing WebSphere Commerce Analyzer, you need to manually set file permissions in order that sensitive files cannot be accessed by unauthorized users. WebSphere Commerce Analyzer encrypts the database passwords entered during configuration using a key file. For added security, this key file can be stored on a removable disk. This key file will need to be read by WebSphere Commerce Analyzer in order to run. This procedure ensures that only the Administrators group has the read/write/execute right in for sensitive files. Note that you must use an NTFS file system in order to complete this procedure.

To set the file permissions, complete the following steps:

1. In Windows Explorer, right-click the *WCA_installdir* folder.
2. Click **Properties** and **Security**. By default the "Everyone" group has the **all** permission for this folder.
3. Click **Add**. The **Select Users or Groups** window displays.
4. In the **Select Users or Groups** window, select the Administrators group. The Administrators group is indicated by the following icon:

   Note: In this window, it may be difficult to tell users and groups and apart. Ensure that you select the Administrators group and not the Administrator user.
5. Click **Add** and then click **OK**. In the Security tab, the Administrators Group has been added.
6. Ensure that the Administrators Group has **Modify** and **Write** permissions.
7. Remove **Everyone** from the Security tab as follows:
   a. Select **Everyone**.
   b. Clear the **Allow inheritable permissions from parent to propagate to this object** check box.
   c. Click **Remove**.
8. Click **OK** to apply your changes and exit the folder properties dialog.

Next steps

Continue with "Configuring WebSphere Commerce Analyzer" on page 31.

Additional set up needed for WebSphere Commerce databases on Oracle

In order to use DB2's replication technology with an Oracle database, DB2 uses federated databases. A federated database is a DB2 database that knows how to communicate with other data sources, such as an Oracle database. Communication between federated databases and other data sources is facilitated by the IBM DB2 Information Integrator.

In order for the WebSphere Commerce Analyzer (which is using DB2) to see the WebSphere Commerce database, (which is on Oracle), you must create a federated database. The federated database acts as a window to the WebSphere Commerce database for Oracle. WebSphere Commerce Analyzer uses the federated database to communicate with the Oracle WebSphere Commerce database. If a step references the WebSphere Commerce database during configuration, you should use the federated database. These differences are noted throughout the guide.

To create and configure a federated database when using Oracle with WebSphere Commerce Analyzer do the following:

1. On your WebSphere Commerce Analyzer machine, install DB2 Information Integrator Replication Edition. Ensure that you install the relational wrappers. DB2 Information Integrator Replication Edition is available on the WebSphere Commerce Analyzer CD.
2. Install the Oracle client software on your WebSphere Commerce Analyzer machine and verify that you can successfully connect using SQLPLUS. For installation instructions, see your Oracle product documentation. During the Oracle client software installation you will be able to choose from three options; the 'Runtime' option is sufficient.
3. Set up an Oracle connection to the WebSphere Commerce database.
4. Log on to the WebSphere Commerce Analyzer machine as the database owner, for example, db2admin.
5. Open the file *db2dir*`/cfg/db2dj.ini`, where *db2dir* is the location where DB2 is installed. Confirm that the value for `ORACLE_HOME` is the install location of Oracle. If necessary, modify the file. For example: `ORACLE_HOME=C:\oracle\ora92`

Next steps

You have now completed the installation of WebSphere Commerce Analyzer and any associated analytics components.

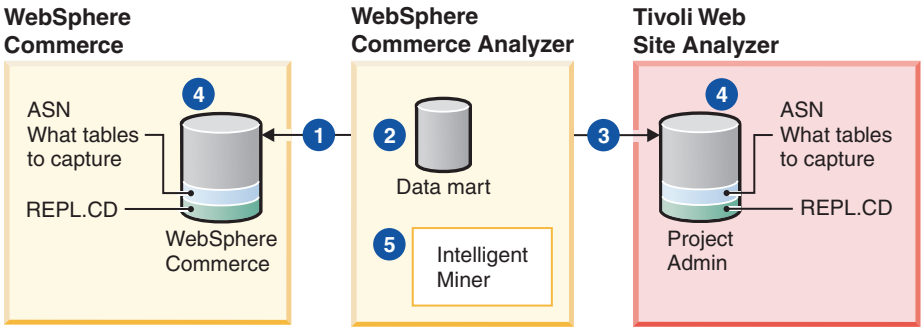
Your next step is to configure WebSphere Commerce Analyzer. Continue with "Configuring WebSphere Commerce Analyzer" on page 31.

Configuring WebSphere Commerce Analyzer

This chapter describes how to configure WebSphere Commerce Analyzer using WebSphere Commerce Analyzer Configuration Manager.

Understanding WebSphere Commerce Analyzer configuration

During configuration, the following steps occur, as illustrated in the following diagram:

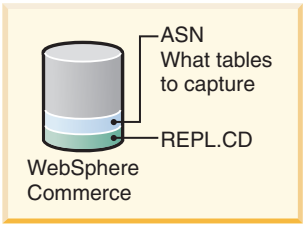


1. The first step of configuration establishes a connection between WebSphere Commerce Analyzer and the WebSphere Commerce database that includes the data you will be analyzing.

   Oracle If you are using Oracle as your WebSphere Commerce database, you will set up a connection between WebSphere Commerce Analyzer and the federated database.
2. If you are using Tivoli Web Site Analyzer, the next step in configuration establishes a connection between WebSphere Commerce Analyzer and the project database on Tivoli Web Site Analyzer.
3. Step 3 creates the data mart database on the WebSphere Commerce Analyzer machine. This database will contain the information about the store or Web site you are analyzing. After configuration, information from the WebSphere Commerce database, or Tivoli Web Site Analyzer project database will be copied to the data mart.
4. If you are using Tivoli Web Site Analyzer, the next step in configuration establishes a connection between WebSphere Commerce Analyzer and the project database on Tivoli Web Site Analyzer.
5. In step 4, ASN tables are created on the source database (that is, the WebSphere Commerce database or the Tivoli Web Site Analyzer project database). Then these tables are registered on the source database for replication. As each table is registered, a CD table is created for that registered table (by default REPL.CD).

   Note: 400 If you are using iSeries, you can change the schema name (REPL) to a name of your choice.

   The following diagram illustrates this process on the WebSphere Commerce database



6. If you are using DB2 Intelligent Miner for Data, the next step registers the mining models to be used with WebSphere Commerce Analyzer and sets up the mining schedule.

Gathering information required during WebSphere Commerce Analyzer configuration

Before you configure WebSphere Commerce Analyzer, collect the following information, which you must supply during configuration:

- The fiscal calendar requirements for your business: During configuration you define the beginning of your fiscal year and your fiscal reporting periods, ensuring that the periods used in reports match your usual fiscal calendar.
- The operating system that the WebSphere Commerce and Tivoli Web Site Analyzer (if using) database servers are on.
- The site, store or stores from which you will be collecting data.

Starting WebSphere Commerce Analyzer configuration

To configure WebSphere Commerce Analyzer, do the following:

1. Create a Windows administrator user to own the data mart. Ensure that the user is a member of the Administrators group.
2. Start the WebSphere Commerce database server.
3. If you plan to use Tivoli Web Site Analyzer, start the WebSphere Application Server on the Tivoli Web Site Analyzer server and the Tivoli Web Site Analyzer server.
4. Start all automatic DB2 services on the WebSphere Commerce Analyzer machine.
5. Log on as a Windows administrator.

   Note: You can log on as any Windows administrator to run configuration. You do not need to log in as the owner of the data mart.
6. On the Windows desktop, click **Start > Programs > IBM WCA > Configuration Manager**. The IBM WebSphere Commerce Analyzer Configuration Manager opens.
7. Continue with "Configuring access to the WebSphere Commerce database."

Configuring access to the WebSphere Commerce database

To set the parameters that enable the WebSphere Commerce Analyzer server to connect to the WebSphere Commerce database, do the following in the Configure WebSphere Commerce Database Access page:

1. In the **Database type** list, select the type of WebSphere Commerce database to which you are connecting.
   - DB2

a. In the **Database name** field, type the name of the WebSphere Commerce database.
b. In the **User name** field, type the User ID of the WebSphere Commerce database administrator.
c. In the **Password** field, type the password of the WebSphere Commerce database administrator.
d. From the **Platform** list, select the platform on which the WebSphere Commerce database resides.
e. In the **Encryption key** field, type a 16 digit hexadecimal number that will be used to encrypt the passwords for the WebSphere Commerce database and the WebSphere Commerce Analyzer data mart.
f. In the **Key file full name** field, type the name and location of the file on your local system where the encryption key will be stored. This key file will be used during WebSphere Commerce Analyzer runtime.

Note: For additional security, create this key file on a removable disk. This disk will need to be in place whenever WebSphere Commerce Analyzer runs.

g. In the **Host name** field, type the fully qualified host name of the machine where the WebSphere Commerce database resides.
h. In the **Port number** field, type the port number for the WebSphere Commerce database. By default this is 50000.

- Oracle

a. In the **Federated database name** field, type the name of the federated database created to access the WebSphere Commerce database.
b. In the **Federated database user name** field, type the federated database user name.
c. In the **Federated database password** field, type the federated database password.
d. In the **Encryption key** field, type a 16 digit hexadecimal number that will be used to encrypt the passwords for the WebSphere Commerce database and the WebSphere Commerce Analyzer data mart.
e. In the **Key file full name** field, type the name and location of the file on your local system where the encryption key will be stored.
f. From the Federated database platform list, ensure that the platform on which the federated WebSphere Commerce database resides is correct.
g. In the **Original source** field, type the name you designated for the Oracle database. This is variable name *oraalias* you specified in "Additional set up needed for WebSphere Commerce databases on Oracle" on page 29.
h. In the **Original schema** field, type the original schema name of the Oracle database. This is variable name *orauser* you specified in "Additional set up needed for WebSphere Commerce databases on Oracle" on page 29.

2. Click **Connect**.

Oracle If the connection is successful, a DB2 Command Line Processor window opens and executes the commands to create nicknames.

A message is displayed indicating whether you connected successfully. Complete the fields for the WebSphere Commerce server and click **OK**. If you receive a connection failure message, see "Configure WebSphere Commerce Database Access error messages" on page 52.

Note: Oracle When connection is successful the user mappings and nicknames for WebSphere Commerce database are set up in the federated database.

3. If you connected successfully, from the **Schema** list, select the name of the WebSphere Commerce database schema for the version of WebSphere Commerce you have installed.

   Oracle The schema will be WCSADMIN, which is the schema from the federated database, not from the Oracle database.

   Notes:

   a. If you only have one schema, you do not need to select the database schema. The schema will be automatically selected.

   b. Oracle If the **Schema** list is empty, close WebSphere Commerce Analyzer Configuration Manager, delete the contents of the directory *WCA_installdir*/tmp, and try configuring WebSphere Commerce Analyzer again.

4. Click **Next**. The Configure Tivoli Web Site Analyzer window displays. Follow the steps in "Configuring Tivoli Web Site Analyzer."

Configuring Tivoli Web Site Analyzer

If you plan to use Tivoli Web Site Analyzer, you must have already installed Tivoli Web Site Analyzer and created a Tivoli Web Site Analyzer project to which you will connect. For more information, see "Installing Tivoli Web Site Analyzer" on page 15.

If you do not want to connect to a Tivoli Web Site Analyzer project, deselect **Configure Tivoli Web Site Analyzer** and click **Next** to open the Creating the WebSphere Commerce Analyzer data mart window. Follow the steps in "Creating the WebSphere Commerce Analyzer data mart" on page 35.

To establish a connection to a Tivoli Web Site Analyzer project, do the following in the Configure Tivoli Web Site Analyzer page:

1. Select **Configure Tivoli Web Site Analyzer**.
2. In the **Administration database name** field, type the name of the database where information about all Web Site Analyzer project databases is stored.
3. In the **Administration database user** field, type the administration database user ID.
4. In the **Administration database password** field, type the corresponding password.
5. In the **Host name** field, type the fully qualified host name of the machine on which the Tivoli Web Site Analyzer administration database resides.
6. In the **Port number** field, type the number of the port for the Tivoli Web Site Analyzer administration database.
7. From the **Administration database type** list, select the type of Tivoli Web Site Analyzer administration database to which you are connecting.
8. From the **Administration database platform** list, select the platform on which Tivoli Web Site Analyzer administration database resides.
9. In the **Project database name** field, type the name of the database where Tivoli Web Site Analyzer project database where the site analysis data is stored.

10. In the **Project database user** field, type the Tivoli Web Site Analyzer project user ID.
11. In the **Project database password**, type the corresponding password for the project database.
12. In the **Host name** field, type the fully qualified host name of the machine on which the Tivoli Web Site Analyzer project database resides.
13. In the **Port number** field, type the number of the port for the Tivoli Web Site Analyzer project database.
14. From the **Project database type** list, select the type of database the project is using, for example DB2.
15. From the **Project database platform** list, select the platform on which Tivoli Web Site Analyzer is installed.
16. Click **Configure**. One of the following occurs:
    - A message is displayed indicating whether the configuration step was successful.
    - If the step was unsuccessful, refer to "Configure IBM Tivoli Web Site Analyzer error messages" on page 54.
17. From the **Project name** list, select the project.
18. Click **Next** to open the Creating the WebSphere Commerce Analyzer data mart window. Follow the steps in "Creating the WebSphere Commerce Analyzer data mart."

Creating the WebSphere Commerce Analyzer data mart

The WebSphere Commerce Analyzer data mart contains information about the store for which the business reports are generated.

Notes:

1. If the data mart already exists, the information currently in the data mart is overwritten. You will receive a message asking if you want to overwrite the data mart.
2. Creating the data mart may take several minutes while DB2 creates and populates several system tables.

To create the WebSphere Commerce Analyzer data mart, do the following in the Create WebSphere Commerce Analyzer Data mart page:

1. In the **Data mart name** field, type the name for the data mart. This name must be 8 characters or less and must contain only characters in the DB2 character set.
2. In the **Data mart user** field, type the name of the Windows administrator who is the data mart user.
3. In the **Data mart password** field, type the corresponding password for the user.
4. From the **Data mart location** list, select the drive on which the data mart will reside.
5. From the **Table Space** list, select the type of data storage for DB2 to use when it creates table spaces. You have two options:
    - (Recommended) **Database Managed Storage** (DMS): When DMS is used, the table space is managed by the database administrator. The size of the table space is specified and the space allocated when the tables are created. Data can be stored contiguously, which improves performance when data in the table is updated, deleted, or read.

- **System Managed Storage** (SMS): When SMS is used, the operating system manages the table space, which is limited by the size of the hard disk. Data is stored randomly on the hard disk under the table space's directory container (the directory name in the file system). While the use of this type of data storage requires relatively little maintenance by the administrator, it is not optimized for performance.

If you choose **DMS**, you should change the default values to more closely match your data size requirements. If you leave the default values, you may encounter problems during ETL processing with data mart table spaces filling up quickly. To change the default values, do the following:

a. Click **Customize**. The Change Initial DMS Values window opens.
b. From the **Schema name** list, select the name of the schema you are using. If you are using Tivoli Web Site Analyzer, you will have to configure both the WebSphere Commerce Analyzer (WCA) and the Tivoli Web Site Analyzer (WSA) schemas.
c. Make any necessary changes to the values in the table.
   - **Records**: The number of records the table can store.

   Note:
   - If you decide that you do not want to commit the changes, or that you have made a mistake, click **Refresh** to reload the original values in the window.
   - To expand the size of a DMS table after creating the data mart, use the ALTER TABLESPACE command to add containers; this command allows additional containers to be added to the table space. Containers can be any of the following: files in NT, raw devices, logical volumes or partitions. After the new containers are added, the data is rebalanced across all the containers. During rebalancing, the data can still be accessed.
   - For better performance, put the table spaces on different physical hard drives, so DB2 can write to them in parallel.
d. Click **Apply** to apply the changes you made. If you are configuring Tivoli Web Site Analyzer, select the WSA schema and make any necessary changes.
e. Click **OK** to close the Change Initial DMS Values window.

6. Click **Configure** to create the data mart. If you already have a data mart created, you will be asked if you want to drop or use the old data mart. If you decide to use the existing data mart, the database will be kept and replication metadata will be reloaded.

   Creation of the data mart might take several minutes. Once the process completes, a message displays indicating whether the data mart was successfully created. If the data mart is not created, see "Create the WebSphere Commerce Analyzer Data mart error messages" on page 53.
7. Click **Next** to open the Replication Setup for Source Databases window. Follow the steps in "Setting up replication for source databases."

Setting up replication for source databases

To set up replication of the database on the WebSphere Commerce server and replication of the Tivoli Web Site Analyzer project database (if a Tivoli Web Site Analyzer project has been configured), do the following in the Replication Set up for Source Databases page:

1. Ensure that the name of the data mart to which data is to be replicated displays in the **Data mart name** field. Replication subscriptions and members are created for this data mart.

   Notes:

   a. The first time you run the set up, the check boxes for the type of data sources are set according to your previous selections, and cannot be changed (that is, **Commerce Replication** is always selected and **Site Analyzer Replication** is selected if you have previously configured a Tivoli Web Site Analyzer project.)

2. If you are replicating from a WebSphere Commerce database, do the following:

   a. Ensure that the name of the WebSphere Commerce database in the **Commerce database name** field is the database from which you plan to replicate. If it is not, click **Back** until you reach the Configure WebSphere Database Access page and then connect to the correct database.

   b. 400 In the **OS/400 REPL schema name** field, type the name of the schema you want to use for the CD tables. The default is REPL.

3. If you are replicating from a Tivoli Web Site Analyzer database, do the following:

   a. Ensure that the name of the project database in the **Project database name** field is the database from which you plan to replicate. If it is not, click **Back** until you reach the **Configure Tivoli Web Site Analyzer** page and then create or reload the correct database.

4. Click **Apply**.

   Note: If you receive an error, click **View Log** to view the error.

   Oracle Open the log file `orerep_log.html` in *WCA_installdir*\log to check the problem.

   a. Correct the problem.

   b. Using SQLPlus, run *WCA_installdir*\bin\oracle\drop_sql.sql against the Oracle WebSphere Commerce database. Running this command will clean up the partial work done by replication setup.

   c. Reconfigure WebSphere Commerce Analyzer from the start.

   A message is displayed indicating whether the setup was successful. If the setup was not successful, refer to "Replication Setup for Source Databases error messages" on page 54. If setup was successful, click **Next**

   - If you have installed Intelligent Miner, the Schedule Information Mining window opens. Follow the steps in "(Optional) Configuring the data mining environment and schedule."
   - If you have not installed Intelligent Miner, the Selecting Stores, Report Languages and Currency window opens. Follow the steps in "Selecting stores, report languages and currency" on page 39.

(Optional) Configuring the data mining environment and schedule

If you do not plan to use data mining, click **Next** to display the Select Stores, Report Language and Currency page. Follow the steps in "Selecting stores, report languages and currency" on page 39. If you do not have DB2 Intelligent Miner for Data installed this page will not display.

To set up the proper environment for operating mining-related data activities in WebSphere Commerce Analyzer, which includes setting up the mining base and the parameters for mining scheduling, do the following in the Schedule Information Mining page:

1. In the **Mining base name** field, type the name of the mining base.

   Note: Ensure that the name is different from the mining base names used by other applications. If you have completed this step previously, the name you specified will be imported into DB2 Intelligent Miner for Data. You can delete this mining base in DB2 Intelligent Miner or choose a different mining base name.
2. In the **Mining user name** field, type the user ID of the data mining user.
3. In the **Mining password** field, type the password of the data mining user.
4. If you want to activate mining, select **Activate mining**. It is selected by default. Continue with step 5. If you do not want to activate mining, deselect Activate mining. Skip to step 8.
5. In the **Mining training interval** field, type the interval (measured in days) of how often the mining models need to be trained.
   a. To run data mining on the same schedule as extract, transform and load (ETL), do the following:

      Set the value of **Mining training interval** to 0. The mining model training operation will be executed every time the scheduled ETL runs.
   b. To run the mining with its own schedule, do the following:

      Set the **Mining Training Interval** to a value greater than or equal to 1. The mining operations will adjust the execution frequency according to the values specified.

      It is recommended that the mining model training be scheduled less frequently than it is applied. For example, if you want the mining model to be trained once a week, and the model to be applied to the data once a day, you can set **Mining Training Interval** to 7 and **Mining Apply Interval** to 1.
6. In the **Mining apply interval** field, type the interval (measured in days) of how often the mining models need to be applied to the operational data set.
   a. To run data mining on the same schedule as extract, transform and load (ETL), do the following:

      Set the value of **Mining Apply Interval** to 0, the mining model apply (scoring) operation will be executed every time the scheduled ETL runs.
   b. Run the mining with its own schedule.

      Set the **Mining Apply Interval** to a value greater than or equal to 1. The mining operations will adjust the execution frequency according to the values specified.
7. Select **Activate closed loop** to generate data mining results and scores that will be imported into the WebSphere Commerce database. You can use these results to create customer segments.
8. Click **Apply**. A message is displayed indicating whether the configuration step was successful. If the configuration step was not successful, refer to “Schedule Mining error messages” on page 55. If the configuration step was successful, click **Next** to display the Select Stores, Report Language and Currency window. Follow the steps in “Selecting stores, report languages and currency” on page 39.

Selecting stores, report languages and currency

To select or change the stores, language, or currency of the stores for which the business reports are generated, do the following in the Select Stores, Report Language and Currency page:

1. Select the store or stores for which you want to generate the business reports by selecting the check box that corresponds to the store listed in the **Store Name** column.

   Note: If the store you want does not display in the list, ensure that the correct schema is selected in the Configure Access to WebSphere Commerce Database page. For more information, see "Configuring access to the WebSphere Commerce database" on page 32. After making any necessary changes, return to this page and your store should be listed. Asset stores cannot be configured with WebSphere Commerce Analyzer.
2. In the **Report language** field, the language of the locale displays. This is the language in which the reports will be generated.
3. From the **Report currency** list, select the currency with which you want the business reports to be generated. If the value **None** displays in the currency list you do not have currency conversions for the store default currency.

   Note: If you decide that you do not want to commit the changes, or that you have made a mistake, click **Refresh** to reload the original values in the window.
4. Click **Apply**. A message is displayed indicating whether the configuration step was successful. If the configuration step was not successful, refer to "Select Online Stores and the Language and Currency for Reports error messages" on page 56.

   Note: If at some point you want to stop generating reports for a particular store, simply deselect the check box corresponding to the store for which you want to stop reporting. Then click **Apply** .

   Important: If data has already been extracted for a store into the data mart, the data will not be automatically deleted if the store is deselected. Disabling a store will only stop new data being loaded. To remove existing data for a store see "Removing a store" in the *WebSphere Commerce information center*.
5. If the configuration step was successful, click **Next** to display the Select Catalog page. Follow the steps in "Selecting catalogs."

Selecting catalogs

In order to configure WebSphere Commerce Analyzer you must select one or more catalogs previously set up in WebSphere Commerce.

To select catalogs, do the following in the Select catalogs page:

1. Select the catalog or catalogs you want to use for reporting.

   Notes:

   a. If the fields are empty, then the CATALOGDSC tables have no entries corresponding to the catalog_id entries in the CATALOG table. To solve this problem, insert the appropriate entries into the CATALOGDSC table for all the catalogs defined in the CATALOG table. Ensure that the correct

language_id is used when inserting these records. To find the appropriate value refer to theWebSphere Commerce LANGUAGE table and choose the language_id for your install.

b. If you decide that you do not want to use the catalogs you chose, or that you have made a mistake, click **Refresh** to reload the original values in the window.

c. 400 If you don't see the catalogs for your store, ensure you selected the correct schema on the WebSphere Commerce Database Access page.

2. Click **Apply** . A message is displayed indicating whether the configuration step was successful. If the configuration step was not successful, refer to "Select Catalog error messages" on page 57.
3. If the configuration step was successful, click **Next** to display the Load Language and Financial Periods window. Follow the steps in "Loading languages and financial periods."

Loading languages and financial periods

As part of configuration you must select the start of the fiscal year and the number of periods to load into the PERIOD table for your online store, and load reference texts.

Important: The start of the financial year can only be set for a new configuration. It *cannot* be changed after periods have already been loaded. Only additional years can be added and updated later as required.

To load languages and financial periods, do the following in the Load Language and Financial Periods page:

1. From the **Languages** list, select a language for the reference and financial period texts.
2. To load language reference texts, select **Reference texts**.
3. To load financial periods, select **Load financial periods**.

   Important: You must load financial period and language references the first time you configure WebSphere Commerce Analyzer. If you do not load financial periods and references, you will encounter problems when you try to run the extract transform and load (ETL) processes. After having loaded financial periods for the first time, the fiscal year start cannot be changed. You can load additional periods by selecting the number of years to load.
4. From the **Fiscal year starts on day** list, select the day of the month when the fiscal year starts.
5. From the **Fiscal year starts in month** list, select a number corresponding with the month in which the fiscal year starts. For example, select 4 if the start of the fiscal year is in April.
6. If your fiscal year starts in the previous year, select **Fiscal Year Backshift**.

   Note: **Fiscal Year Backshift** will be disabled if your fiscal year starts in the current calendar year.
7. From the **Load periods from year** list, select a year from which to start loading financial periods.
8. From the **Number of years to load** list, select the number of years to load. The maximum number of years you can load is nine.

Note: If you need to load additional languages for period descriptions for pre-existing periods, choose the language and select 0 from the Number of years to load list.

9. Click **Load**. A message is displayed indicating whether the configuration step was successful.
10. If you are satisfied with the selections, click **Finish**. The IBM WebSphere Commerce Analyzer Configuration Manager window closes.

Integrate WebSphere Commerce Analyzer with WebSphere Commerce

To integrate WebSphere Commerce Analyzer with WebSphere Commerce use the WebSphere Commerce Configuration Manager. Do the following steps:

1. Create a remote database connection to the WebSphere Commerce Analyzer data mart database by doing the following on the WebSphere Commerce machine:
   a. Ensure that the DB2 Administration Client is installed on the WebSphere Commerce machine.
   b. Windows Open the DB2 Configuration Assistant: From the **Start** menu, select **Programs** > **IBM DB2** > **Set-up Tools** > **Configuration Assistant**. The Configuration Assistant opens.
   c. AIX Run the db2ca utility. The Configuration Assistant opens.
   d. From the **Selected** menu, select **Add Database Using Wizard**.
   e. Select **Search the Network**, then click **Next**.
   f. Click **Add System**, and enter the information for the machine on which the WebSphere Commerce Analyzer data mart is located. Click **OK**.
   g. Expand the tree until you find the WebSphere Commerce Analyzer data mart database. Select it, and click **Finish**.

      Note: If the Add Database Confirmation window displays, close it.
2. Open the WebSphere Commerce Configuration Manager. For more information on opening the WebSphere Commerce Configuration Manager, see the *WebSphere Commerce information center*.
3. In the Configuration Manager, select the WebSphere Commerce *instance_name*, then select **Commerce Analzyer**.
4. Do the following:
   a. For **Is WebSphere Commerce Analyzer installed?**, select **Yes**.
   b. For the **Is IBM DB2 Intelligent Data Miner for Data Installed?** field, select **Yes** if DB2 Intelligent Data Miner for Data is installed for the WebSphere Commerce Analyzer database.
   c. For the **Is IBM Tivoli Web Site Analyzer Installed?** field, select **Yes** if IBM Tivoli Web Site Analyzer is installed for the WebSphere Commerce Analyzer database.
   d. For the **Data mart data source name** field, enter the name for the WebSphere Commerce Analyzer data source.

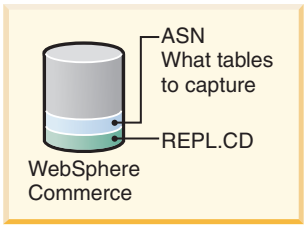
      By default the name is `WCA DataSource`.
   e. In the **Data mart name** field, type the name of the data mart on the WebSphere Commerce Analyzer machine.
   f. In the **Data mart user** field, type the name of the Windows administrator who is the data mart user.

g. In the **Data mart user password** field, type the corresponding password for the user.
h. In the **Confirm data mart user password** field, type the corresponding password for the user again.
i. Ensure the WebSphere Application Server is running on the WebSphere Commerce server.
j. Click **Apply**. A data source is created in WebSphere Application Server for the data mart.

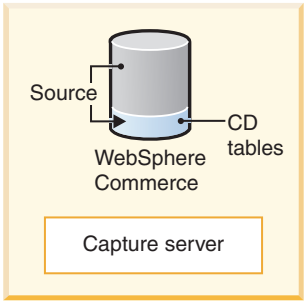
5. Exit the Configuration Manager.
6. Restart the WebSphere Commerce server.

Setting up the Capture program

During configuration, ASN tables are created on the source database (that is, the WebSphere Commerce database or the Tivoli Web Site Analyzer project database), and then these tables are registered on the source database for replication. As each table is registered, a CD table is created for that registered table (by default REPL.CD). This process is depicted in the following diagram:



The Capture program (ASNCAP) then captures the data from the source database (either the WebSphere Commerce database or the Tivoli Web Site Analyzer database) and moves it into the CD table created for that registered table.



If you are capturing data from more than one source database (for example from both the WebSphere Commerce database and the Tivoli Web Site Analyzer database) you must run capture on both databases. You must set up and run the Capture program before you can run replication.

Note: Oracle The Capture program is not necessary if you are using an Oracle database.

Detailed information about running the Capture program can be found in the *SQL Replication Guide and Reference*, which is available from the following URL:

`http://www.ibm.com/software/data/db2/udb/support/manualsv8.html`

Running Capture

The Capture program captures the data from your WebSphere Commerce and Tivoli Web Site Analyzer project databases.

Before you start Capture: AIX Linux Solaris Windows Before you start the capture program, you must check a value on the WebSphere Commerce database and the Tivoli Web Site Analyzer project database (if you are using Tivoli Web Site Analyzer):

1. Start a DB2 command line session.
2. Connect to the WebSphere Commerce database by typing the following command:

   ```
   db2 connect to database_name user user_id using password
   ```

   where
   - *database_name* is the name of the WebSphere Commerce database.
   - *user_id* is the user ID of the database user. Log in as a DB2 administrator user ID.
   - *password* is the password for the user. The password is case-sensitive.
3. Check the database configuration. Type the following command:

   ```
   db2 get database configuration for database_name
   ```

   A list of variables and corresponding values are displayed.
4. Check that the database configuration variable LOGRETAIN is set to RECOVERY. To change the setting type the following:

   ```
   db2 update database configuration for database_name using LOGRETAIN RECOVERY
   ```

   Important: When you put a database into RECOVERY mode, the database is also put into BACKUP PENDING state. You must require backup of the database. Refer to the *IBM DB2 UDB Replication Guide and Reference* for further details.
5. Back up the WebSphere Commerce database. For more information see your database documentation.
6. If you are using Tivoli Web Site Analyzer, repeat the process for the Tivoli Web Site Analyzer project database.

Starting the Capture program: The capture program must be started on the machine on which the database you are capturing data resides. That is, if you are capturing data from a WebSphere Commerce database, you need to start it on the machine where the WebSphere Commerce database resides. If you are capturing data from the Tivoli Web Site Analyzer project database, you also need to start capture on the Tivoli Web Site Analyzer machine where the project database resides.

To start the capture program, do the following:

1. On the machine where the database resides, do the following:
   a. Start a DB2 Command line session
   b. Set the Code Page by issuing the following command:

      ```
      db2set DB2CODEPAGE=1208
      ```

      Notes:

      1) This command cannot be run from a Windows Command Prompt or DB2 Command Line Processor. Ensure you are using a DB2 Command line session.

2) If you are capturing data from a Tivoli Web Site Analyzer database, you will need to set run this command on the Tivoli Web Site Analyzer machine, for the project database, as well.

c. Windows Set the DB2INSTANCE environment variable to the DB2 instance that owns the WebSphere Commerce database (on WebSphere Commerce), or the project database (on Tivoli Web Site Analyzer), and with which you plan to run the Capture program by issuing the following command:

```
SET DB2INSTANCE=database_instance_name
```

d. AIX Set the DB2INSTANCE environment variable to the DB2 instance that owns the WebSphere Commerce database (on WebSphere Commerce), or the project database (on Tivoli Web Site Analyzer), and with which you plan to run the Capture program by issuing the following command:

```
export DB2INSTANCE=database instance
```

2. Windows In the same window, issue the following command:

- Windows

  ```
  asncap database_name
  ```

- AIX In the same window, run the following command as the database user:

  ```
  asncap database_name
  ```

After you start the Capture program, it runs continuously until you stop it or it detects an unrecoverable error. Ensure that you leave the Capture program running.

Important

If you restart the Capture program in cold mode (that is, you run `asncap db_name startmode=cold`) at any time, you must then run the replication and extract, transform, and load processes twice before data is successfully captured. Starting the capture program in cold mode forces a full download of all captured data. For more information on running replication and extraction, transform, and load processes, see "Running replication and extract, transform, and load (ETL) processes" on page 45.

While the Capture program is running, a file with the name <*database_instance_name*><*database_name*>.ASN.CAP is created in the directory from which the Capture program is started. This file is a log file for the messages issued by the Capture program; these messages are also recorded in the trace table.

Next steps

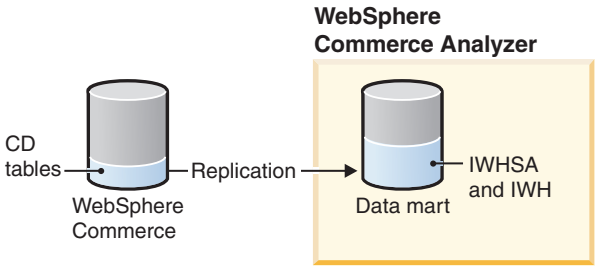
After you have configured WebSphere Commerce Analyzer, you are ready to run replication and extract, transform and load processes (ETL). You must run replication and ETL before you can view reports.

Continue with "Running replication and extract, transform, and load (ETL) processes" on page 45. After you have run those processes, refer to the *WebSphere Commerce information center* for information on viewing reports.

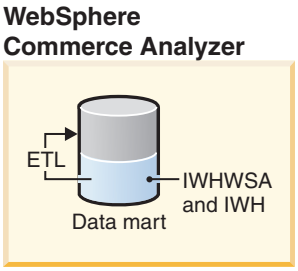
If you want to change your configuration, see "Changing the configuration" on page 47.

Running replication and extract, transform, and load (ETL) processes

After you have installed and configured WebSphere Commerce Analyzer, you are ready to run the replication and extract, transform, and load processes (ETL). Replication copies the database tables identified for replication from the WebSphere Commerce or Tivoli Web Site Analyzer database to the specified section in the data mart on the WebSphere Commerce Analyzer server.



After replication finishes, the extract, transform and load (ETL) processes move the database tables from the data staging area on the data mart, to the OLAP tables in the data mart, which are accessed by the WebSphere Commerce Accelerator to create reports. The OLAP tables are WCA and WSA.



Running replication and ETL

After configuring WebSphere Commerce Analyzer, run replication and ETL to fully populate the data mart. To run replication and ETL, do the following steps:

1. On the WebSphere Commerce Analyzer server, from the **Start** menu, select **Programs** > **IBM WCA**> **Run WebSphere Commerce Analyzer**. The WebSphere Commerce Analyzer Runtime window opens.
2. Select **Start WCA**. All of the necessary steps will run in sequence without any intervention. Leave the window open. You can view the progress of the process in this window. When replication and ETL is complete, a message in the window will say "Complete." The first time you run replication and ETL, replication will run twice, in order to fully populate the data mart.

For troubleshooting information on running replication and ETL times, refer to the *WebSphere Commerce information center*.

Next steps

After you have run those replication and extraction for the first time, refer to the *WebSphere Commerce information center* for information on viewing reports.

If you want to change your configuration, see "Changing the configuration" on page 47.

For more information on running replication and ETL subsequent times, refer to the *WebSphere Commerce information center*.

Changing the configuration

To change the configuration, you can run WebSphere Commerce Analyzer Configuration Manager again or use the WebSphere Commerce Analyzer Parameter Manager. Running Configuration Manager again permits you to change all of the configuration settings. Parameter Manager only allows you to change the business options settings.

Running WebSphere Commerce Analyzer Configuration Manager again

For instructions for using Configuration Manager, see "Starting WebSphere Commerce Analyzer configuration" on page 32.

Using WebSphere Commerce Analyzer Parameter Manager

To use WebSphere Commerce Analyzer Parameter Manager to change settings, see the *WebSphere Commerce information center*.

Removing WebSphere Commerce Analyzer

To remove WebSphere Commerce Analyzer you must uninstall WebSphere Commerce Analyzer and remove any WebSphere Commerce Analyzer databases that you don't want to keep.

During uninstallation, files in the following subdirectories of the WebSphere Commerce Analyzer installation directory are removed.

- bin
- jre
- properties
- _uninst
- license
- lib

If you have stored files or installed other products in these subdirectories, be sure to save them in another location before you uninstall WebSphere Commerce Analyzer.

To uninstall WebSphere Commerce Analyzer:

1. On the WebSphere Commerce Analyzer server, click **Start > Settings > Control Panel**.
2. Double-click **Add/Remove Programs** on the Control Panel window.
3. On the Add/Remove Programs window, click **IBM WebSphere Commerce Analyzer** in the list, and click **Change/Remove**.
4. Follow the directions on the panels to uninstall WebSphere Commerce Analyzer.

Notes:

1. If you no longer want to keep the WebSphere Commerce Analyzer installation directory and its subdirectories, which contain data specific to your installation, remove them.
2. When you uninstall WebSphere Commerce Analyzer, only WebSphere Commerce Analyzer is uninstalled. If you installed other software (for example DB2, DB2 Intelligent Miner) with the WebSphere Commerce Analyzer install, you will have to uninstall it separately.

   For more information about removing DB2 components, see your DB2 product documentation, which is available from the following URL:

   `http://www.ibm.com/software/data/db2/udb/support/manualsv8.html`

To remove the WebSphere Commerce Analyzer databases, do the following:

1. Drop the WebSphere Commerce Analyzer data mart. At a command prompt, type `db2 drop db` *`datamart`*, where data mart is the name of the WebSphere Commerce Analyzer data mart.
2. If the WebSphere Commerce database is remote, uncatalog the WebSphere Commerce database. At a command prompt, type `db2 uncatalog db` *`database`*, where database is the name of the WebSphere Commerce database.
3. If using Tivoli Web Site Analyzer, uncatalog the Tivoli Web Site Analyzer project and administration databases. At a command prompt, type `db2 uncatalog db` *`database`*, where database is the name of the Tivoli Web Site Analyzer project database. Repeat the command using the name of the administration database.

4. Remove the ODBC names as follows:
   a. Click **Start > Settings > Control Panel > Administrative Tools > Data Sources (ODBC)**.
   b. In the ODBC Data Source Administrator notebook, click the **System DSN** tab.
   c. Remove all the ODBC names you used for WebSphere Commerce Analyzer, such as the names for the WebSphere Commerce Analyzer data mart, the Warehouse Center Control database, and the WebSphere Commerce database.

After you uninstall WebSphere Commerce Analyzer

After you uninstall WebSphere Commerce Analyzer, use the following procedures to restore the WebSphere Commerce server to the state it was in before you prepared it for WebSphere Commerce Analyzer.

Stopping the Capture program

To stop the capture program, do the following:

1. Stop the capture program on the machine on which the database that you are capturing data is located, (either the WebSphere Commerce machine or the Tivoli Web Site Analyzer machine):
   - AIX Linux Solaris Windows At a command prompt, issue the following command:

     ```
     asnccmd CAPTURE_SERVER=database_name STOP
     ```

     where *database_name* is the name of the database on the WebSphere Commerce server or on the Tivoli Web Site Analyzer machine.
   - AIX At a command prompt, issue the following command as the database user:

     ```
     asnccmd CAPTURE_SERVER=database_name STOP
     ```

     where *database_name* is the name of the database on the WebSphere Commerce server or on the Tivoli Web Site Analyzer machine.
   - 400 In an OS/400 command session, issue the following command:

     ```
     ENDDPRCAP
     ```

Cleaning up the WebSphere Commerce and Tivoli Web Site Analyzer databases

After removing WebSphere Commerce Analyzer, remove buffer pools and table spaces that were automatically added to your WebSphere Commerce and Tivoli Web Site Analyzer databases during configuration.

The WebSphere Commerce Analyzer table spaces are WCA_ASN, WCA_CD16K, WCA_CD8K, WCA_CD4K. The Tivoli Web Site Analyzer table spaces are WCA_ASN, WCA_CD4k.

The WebSphere Commerce Analyzer buffer pools are WCA_BUFF_16K, WCA_BUFF_8K, WCA_BUFF_4K. The Tivoli Web Site Analyzer buffer spaces are WCA_BUFF_4K.

To remove these buffer pools and table spaces, do the following:

1. Using the DB2 Control Center, remove any table spaces in the WebSphere Commerce database or Tivoli Web Site Analyzer project database starting with WCA *table space name*, or on the machine on which the database is located (either the WebSphere Commerce or Tivoli Web Site Analyzer machine), connect to the database, then run the following command to remove the table spaces:

   ```
   db2 connect to database_name db2 drop tablespace WCAtable space name
   ```

2. Using the DB2 Control Center, remove any buffer pools in the WebSphere Commerce database or Tivoli Web Site Analyzer project database starting with WCA *buffer pool name*, or on the machine on which the database is located (either the WebSphere Commerce or Tivoli Web Site Analyzer machine), connect to the database, then run the following command to remove the buffer pools:

   ```
   db2 drop bufferpool wcabuffer pool name
   ```

Disable WebSphere Commerce listeners

In order to return WebSphere Commerce to the state it was before you installed and configured WebSphere Commerce Analyzer, you should disable the listeners you enabled in "Configure WebSphere Commerce to record data" on page 11. To disable the listeners, see "Configure WebSphere Commerce to record data" on page 11, and disable all listeners that you previously enabled.

Disconnect WebSphere Commerce Analyzer from WebSphere Commerce

To disconnect WebSphere Commerce Analyzer from WebSphere Commerce use the WebSphere Commerce Configuration Manager and the DB2 configuration assistant. Do the following steps:

1. Disconnect the remote database connection to the WebSphere Commerce Analyzer data mart database by doing the following on the WebSphere Commerce machine:
   a. Ensure that the DB2 Administration Client is installed on the WebSphere Commerce machine.
   b. Windows Open the DB2 Configuration Assistant: From the **Start** menu, select **Programs** > **IBM DB2** > **Set-up Tools** > **Configuration Assistant**. The Configuration Assistant opens.
   c. AIX Run the db2ca utility. The Configuration Assistant opens.
   d. Find the connection to the WebSphere Commerce Analyzer data mart database. Right click, and from the menu, select **Remove Database**. The Confirmation window displays. Verify that you are removing the right connection and click **OK**.
2. Open the WebSphere Commerce Configuration Manager. For more information on opening the WebSphere Commerce Configuration Manager, see the *WebSphere Commerce information center*.
3. In the Configuration Manager, select the WebSphere Commerce *instance_name*, then select **Commerce Analzyer**.
4. Do the following:
   a. For **Is WebSphere Commerce Analyzer installed?**, select **No**.
   b. Click **Apply**.
5. Exit the Configuration Manager.

Troubleshooting

If you experience problems while using the WebSphere Commerce Analyzer server, check this section to see if a solution for the problem is described. This troubleshooting section discusses the following areas:

- Problems during install
- Configuration error messages
- Problems during Capture
- Altering existing WebSphere Commerce Analyzer tables
- Miscellaneous problems
- Finding the locale of the WebSphere Commerce Analyzer system
- Finding the expected languages in the WebSphere Commerce system

Problems during install

This section contains possible solutions to errors you might encounter while installing WebSphere Commerce Analyzer.

Problems installing prerequisite products

If you encounter difficulties while installing prerequisite software such as DB2 version 8.2 or DB2 Intelligent Miner, exit the WebSphere Commerce Analyzer install and manually install the prerequisite software. Then install WebSphere Commerce Analyzer using the WebSphere Commerce Analyzer installation.

Configuration error messages

This section contains possible solutions to error messages you might encounter while running Configuration Manager. The error messages are divided into the following sections:

- Configure WebSphere Commerce Database Access error messages
- Create the WebSphere Commerce Analyzer Data mart error messages
- Configure IBM Tivoli Web Site Analyzer error messages
- Replication Setup for Source Databases error messages
- Schedule Mining error messages
- Select Online Stores and the Language and Currency for Reports error messages
- Common configuration error messages

Configure WebSphere Commerce Database Access error messages

You may receive the following error messages during the Configure WebSphere Commerce Database Access configuration step:

- Oracle Error connecting to the federated database

  If you receive an error while attempting to connect to the federated database, click **Connect** again. If the error persists, do the following:

  – Click **View Log** to view the error.
  – Exit the WebSphere Commerce Analyzer Configuration Manager.
  – Delete the contents of *WCA_installdir*\tmp.
  – Recreate the federated database.
  – Reconfigure WebSphere Commerce Analyzer .

- `IWD2002E: Your WebSphere Commerce Server database connection is not working.`

  If this message is displayed after you click **Connect**, the connection to the WebSphere Commerce database was not successful. Some possible causes are:
  - Some of the fields are incorrect. Check for correct spelling and be sure that case-sensitive parameters such as passwords are typed correctly.
  - WebSphere Commerce database parameters, such as the user ID and password, have changed.
  - You no longer have access to the WebSphere Commerce database.
- `No schema displays on an iSeries database`

  If you can connect to the database, but a schema does not display, you may need to rebind the WebSphere Commerce database. To rebind the database:
  1. Open the DB2 Configuration Assistant.
  2. Select the name of the WebSphere Commerce database.
  3. From the database's pop-up menu, select **Bind**. The Bind window displays.
  4. From the **Edit** menu, choose **Select All**.
  5. From the **Selected** menu, choose **Bind**.

See also "Common configuration error messages" on page 57.

Create the WebSphere Commerce Analyzer Data mart error messages

You may receive the following error messages during the Create WebSphere Commerce Analyzer Data mart configuration step:

- `IWD2005E: The MAKEMART command failed to properly create the WebSphere Commerce Analyzer Datamart. Please refer to the configuration log for detailed information.`

  If this message is displayed after you click **Configure**, Configuration Manager was unable to create the WebSphere Commerce Analyzer data mart. Click **View Log** to view the configuration log. Some possible causes are:
  - The **Data mart name** field contains the name of a database that already exists.
  - The drive specified in the **Data mart location** field does not exist on the computer.
  - There is insufficient disk space on the directory to create the data mart.
  - One or more applications are connected to the data mart. If this is the case, the configuration log contains a list of applications that are currently connected to the data mart.
  - The data mart name has more than 8 characters or contains characters that are not in the DB2 character set.
- `IWD2007E: The LOADMART command failed to create and populate the Datamart. Please refer to the configuration log for detailed information.`

  If this message is displayed after you click **Configure**, Configuration Manager was unable to prepare the WebSphere Commerce Analyzer data mart to contain new information. Click **View Log** to view the configuration log. Some possible causes are:
  - There is insufficient disk space on the drive to add information to the data mart.
  - The user you specified as the data mart owner does not have access to the data mart.

– One or more applications are connected to the data mart. If this is the case, the configuration log contains a list of applications that are currently connected to the data mart.
– If you selected **DMS** as the Table Space Management option, additional causes may include:
  - Bufferpool names have been changed or removed.
  - The table space names were modified in the DMS script.
  - Table spaces were added or removed from the DMS script.

See also “Common configuration error messages” on page 57.

Configure IBM Tivoli Web Site Analyzer error messages

You may receive the following error message during the Configure IBM Tivoli Web Site Analyzer configuration step:

- `IWD2158E: No Tivoli Web Site Analyzer projects found. Verify that a project exists from the Tivoli Web Site Analyzer Administration site.`

  If this message is displayed, log in to the Tivoli Web Site Analyzer Administration site and create a project. For more information, see the IBM Tivoli Web Site Analyzer documentation on creating a project.

See also “Common configuration error messages” on page 57.

Replication Setup for Source Databases error messages

You may receive the following error messages during the Replication Setup for Source Databases configuration step:

- Error during replication setup for the Tivoli Web Site Analyzer database

  Ensure that the Tivoli Web Site Analyzer project has been created and that the Tivoli Web Site Analyzer has processed some data. The Tivoli Web Site Analyzer project database tables are not created until some processing has occurred, so not all necessary tables may not have been created in a new project until Tivoli Web Site Analyzer project has processed some data.
- `IWD0902E: A valid datamart name is not available. Check the logfile for successful completion of the previous steps.`

  The Create WebSphere Commerce Analyzer Data mart configuration step did not complete successfully. Click **View Log** to obtain more information about the error. You can then take an appropriate action based on the information. You probably have an incorrect entry in the **Data mart name** field on the Create WebSphere Commerce Analyzer Data mart window.
- `IWD0904E: A valid datasource name is not available. Check the logfile for successful completion of the previous steps.`

  The Configure WebSphere Commerce Database Access configuration step did not complete successfully. Click **View Log** to obtain more information about the error. You can then take an appropriate action based on the information.
- `IWD0905E: A connection to the datasource cannot be established. Check the logfile for successful completion of the previous steps.`

  The Configure WebSphere Commerce Database Access configuration step did not complete successfully. Click **View Log** to obtain more information about the error. You can then take an appropriate action based on the information.
- `IWD0901E: The WebSphere Commerce replication setup has failed.`

  The following are possible causes and remedies:

– The table spaces already exist and are populated with old data. Remove the old table spaces from the WebSphere Commerce and or Tivoli Web Site Analyzer machine using the control center. Drop table spaces with the prefix `WCA`.
– Insufficient space on the file system.

  You need to increase the space on the file system. To expand the size of a DMS table, use the ALTER TABLESPACE command to add containers; this command allows additional containers to be added to the table space. Containers can be any of the following: files in NT, raw devices, logical volumes or partitions. After the new containers are added, the data is rebalanced across all the containers. During rebalancing, the data can still be accessed.

Note: Oracle If the WebSphere Commerce server is running on an Oracle database, drop all the CD_ tables, IBMSNAP tables and related triggers from the WebSphere Commerce database. To remove all of the CD_ tables, IBMSNAP tables and related triggers from the WebSphere Commerce database, do the following:

1. Connect to the WebSphere Commerce server Oracle database from the WebSphere Commerce Analyzer machine as the WebSphere Commerce user. To connect, do the following:
   a. Click **Start** > **Programs** > **Oracle - OracleHome92** > **Application Development SQL Plus**. The Log On window opens.
   b. In the Log On window, connect to the WebSphere Commerce database by typing the **User name**, **Password** and **Host String**.
2. Run the drop_sql.sql by doing the following:
   a. At an SQL prompt, run the following command: @%IWDA_DIR%\bin\oracle\drop_sql.sql;
3. Remove all of the CD_ Nicknames, IBMSNAP_ nicknames and TSNSCA tablespace from the Federated database that was created during configuration, using the DB2 Control Center.
4. Redo the replication setup step.

If replication setup persists to fail, contact IBM Support.

See also “Common configuration error messages” on page 57.

Schedule Mining error messages

You may receive the following error messages during the Schedule Mining configuration step:

- `IWD1002E:Failed to update the mining parameters. Please check table "wca.parameters".`

  Click **View Log** to view the configuration log and determine the cause. Check the WCA.PARAMETERS table. For more information on the table, see the *WebSphere Commerce information center*.

- `IWD1003E:Failed to get the information for miningbasename about existing mining bases.`

  Check the Intelligent Miner Environment setup to see if the environment variables IDM_MNB_DIR and IDM_RES_DIR are set to the correct directory. The default directory is the \home directory in the Intelligent Miner installation directory.

  Click **View Log** to view the configuration log and determine the cause. Then check the Intelligent Miner log (loadmb.log).

- IWD1004E:Failed to create new mining base object for *miningbasename*.

  Check the Intelligent Miner Environment setup. Click **View Log** to view the configuration log and determine the cause. Then check the Intelligent Miner log (loadmb.log).
- IWD1005E:The mining base name *miningbasename* already existed.

  The mining base name you tried to use already exists in Intelligent Miner. You should either change the name you specified in the **Mining Base Name** field, or delete the mining base name in Intelligent Miner.
- IWD1006E:Import mining base *miningbasename* failed.

  Check the Intelligent Miner Environment setup. Click **View Log** to view the configuration log and determine the cause. Then check the Intelligent Miner log (loadmb.log).
- IWD1007E:Save mining base *miningbasename* failed.

  Check the Intelligent Miner Environment setup. Click **View Log** to view the configuration log and determine the cause. Then check the WebSphere Commerce Analyzer log (loadmb.log).

Note: An additional log file you can check if this configuration step fails is updwcamnb.log

See also "Common configuration error messages" on page 57.

Select Online Stores and the Language and Currency for Reports error messages

If the store you want does not display in the list, ensure that the correct schema is selected in the Configure Access to WebSphere Commerce Database page. For more information, see "Configuring access to the WebSphere Commerce database" on page 32. After making any necessary changes, return to the Select Stores, Report Language and Currency page and your store should be listed.The following error messages can occur during the Select Online Stores and the Language and Currency for Reports configuration step:

- IWD2011E: The REFRESH command failed to access the WebSphere Commerce Server database. Please verify that you still have access to the WebSphere Commerce Server database and the user ID and password combination is correct.

  If this message is displayed after you click **Apply Choices**, Configuration Manager was unable to access the database on the WebSphere Commerce transactional database server. Some possible causes are:
  - WebSphere Commerce database parameters such as the user ID and password have changed.
  - You no longer have access to the WebSphere Commerce database.
  - You do not have a store in the WebSphere Commerce database.
- IWD2021E: The SETSTORE command failed to update the datamart with your new values for store, language and currency. Please refer to the configuration log for detailed information.

  If this message is displayed after you click **Apply Choices**, Configuration Manager was unable to access the data mart on the WebSphere Commerce Analyzer server. Click **View Log** to view the configuration log. Some possible causes are:
  - The data mart is not operational.
  - You no longer have access to the data mart.

- IWD2030W: For store *x*, the default currency (*y*) can not be converted to *z*, the report currency. Please either modify the CURCONVERT table in the server or choose another report currency.

  If this message is displayed after you select a report currency, be sure that the appropriate currency conversions are defined. See "Confirm currency conversions on WebSphere Commerce" on page 12 for information.

See also "Common configuration error messages."

Select Catalog error messages

The following error messages can occur during the Select Catalog configuration step:

- IWD2012E: The command failed to save the catalog choice. Please refer to the configuration log for detailed information

  If this message is displayed after you click **Apply Choices**, your choice of catalogs could not be saved. Click **View Log** to view the configuration log and determine the cause.
- IWD2018E: The REFRESH command failed to access the WebSphere Commerce Server database. Please verify that you still have access to the WebSphere Commerce Server database and the user ID and password combination is correct.

  If this message is displayed after you click **Apply Choices**, Configuration Manager was unable to access the database on the WebSphere Commerce database server. Some possible causes are:
  - WebSphere Commerce database parameters such as the user ID and password have changed.
  - You no longer have access to the WebSphere Commerce database.

See also "Common configuration error messages."

Common configuration error messages

- IWD2051W:SQL30081N The database *database_name* is not on the hostname you indicated and/or the port number is incorrect. Please uncatalog the database *database_name*, and run Configuration Manager again.

  If this error message is displayed, you either typed the wrong hostname or port number on the Configure WebSphere Commerce Database Access page. You need to uncatalog the database outside of Configuration Manger and then run Configuration Manager again. To uncatalog the database type the following:

  ```
  db2 uncatalog database database_name
  ```

  where *database_name* is the name of the database you are going to uncatalog.
- IWD2049W:No row was found for updating *rowname* on table *tablename*.

  If this message is displayed, the Create WebSphere Commerce Analyzer Data mart configuration step failed. Click **View Log** to view the configuration log and determine the cause.
- IWD2050W:The database *database_name* is in use. Make sure you do not have any active connections to this database.

  If this message is displayed, ensure that you do not have any active connections to the database named in the message.
- **Problem**: When you click Help in WebSphere Commerce Analyzer Configuration Manager you don't receive a help page.

  Solution:

1. Open the following file: *WCA_installdir*\lib\wcaenv.properties
2. Find the following keys:
   - WCIC_HOST: Verify that the value is correct for the host name on which the WebSphere Commerce information center resides.
   - WCIC_PORT: Verify that the value is correct for the port number for the WebSphere Commerce information center

Problems during Capture

If you receive the following message,

```
ASN0121E CAPTURE"ASN" The Capture program warm start failed because
existing data is too old. The Capture program will terminate.
```

This problem occurs when the capture server has not been running for more then 7 days. Increase the capture lag limit time (ASN.IBMSNAP_CAPPARMS.LAGLIMIT) in the IBMSNAP_CAPPARMS table. The lag limit is specified in minutes. Then start the capture server without specifying the mode.

Altering existing WebSphere Commerce Analyzer tables

If you alter one or more existing tables in the WebSphere Commerce Analyzer schema, you must update the associated EXCEPTION tables. WebSphere Commerce Analyzer provides a script which, when run, updates these tables correctly. The create_load_exception_tables.sql script can be found in the%IWDA_DIR%\bin\db2*wcs_install_dir* directory. Where:

- *IWDA_DIR* is the directory where WebSphere Commerce Analyzer is installed. You set this directory location during installation.
- *wcs_install_dir* is the directory name for the version of WebSphere Commerce that is installed.

If you do not run the script, you will receive a Data Warehouse Center error that says:

```
IWD3250E: IWD3250E Failed to run update script (2nd RC = 3250)
```

Miscellaneous problems

This sections provides additional support to recover from the following possible errors:

- DBCS or MBCS characters in the reports are corrupted
- Environment variables set by WebSphere Commerce Analyzer
- Problems during nickname creation

DBCS or MBCS characters in the reports are corrupted

The following are scenarios and actions used to troubleshoot this problem.

Important: Please read all of the scenarios as multiple scenarios could play a part in the problem.

Scenario 1: DBCS and MBCS character corruption in reports based on the WebSphere Commerce Analyzer data mart: WebSphere Commerce Analyzer was designed to accommodate more than one language within the WebSphere Commerce Analyzer data mart. It is possible, however, that some applications of the data will only expect one language to be in the database and this language is expected to be the same or at least compatible with the locale in which the

application is running. This could be the locale of the operating system. The best example is an application that is running on the en_US or English locale on Windows that is connected to a database that contains Japanese characters. More than likely, the application will not understand that the data is in Japanese and will not have the font support to even display the characters if it did understand. Refer to the *DB2 Administration Guide for NLS Support* as well as the particular application's documentation for further information regarding this issue.

Scenario 2: WebSphere Commerce server is installed on a DBCS or SBCS operating system: The following scenario should not cause corruption to MBCS or DBCS characters in the WebSphere Commerce Analyzer data mart.

The WebSphere Commerce server contains only one language and that language matches the operating system locale. The WebSphere Commerce server is to be installed in the same DBCS or SBCS operating system or locale as WebSphere Commerce. See step "Scenario 3: Updating the WebSphere Commerce Analyzer data mart" for more information.

Scenario 3: Updating the WebSphere Commerce Analyzer data mart: At this point the database instance variable is set correctly and the database has been restarted. This will not change the current data in the WebSphere Commerce Analyzer data mart and the data will remain corrupted. In order to get the data back, you must to do the following:

1. Identify the WebSphere Commerce Analyzer tables that have the corrupted table.
2. Identify the corresponding WebSphere Commerce tables which are used to populate the WebSphere Commerce Analyzer tables.
3. Perform an update against the rows in the WebSphere Commerce Analyzer tables which have DBCS/MBCS data.

   Note: The data in the rows does not have to change. The update is to force an update to the WebSphere Commerce Analyzer data mart.
4. Wait for the next WebSphere Commerce Analyzer extraction cycle.

Note: This procedure is based on the premise that the updates to the WebSphere Commerce tables will trigger an update to the WebSphere Commerce Analyzer staging tables. The WebSphere Commerce Analyzer extraction will then overwrite the corrupted strings with the now non-corrupted strings from the update.

Environment variables set by WebSphere Commerce Analyzer

If you experience problems while using WebSphere Commerce Analyzer, the following information might be needed if you contact IBM Support.

The WebSphere Commerce Analyzer installation program sets the following environment variables :

Environment variable	Value
IWDA_DIR	The program directory where WebSphere Commerce Analyzer is installed. This directory is set by the user during installation.
IWDA_DATA	The directory where the WebSphere Commerce Analyzer temporary data is stored. This directory is set by the user during installation.

Environment variable	Value
WCIC_HOST	The host name of the WebSphere Commerce machine where the WebSphere Commerce information center resides.
WCIC_PORT	The port number of the WebSphere Commerce information center on the WebSphere Commerce machine.

(Oracle users only) Problems during nickname creation

If you experience problems while creating a nickname for a database, including an error message similar to the following message,

```
SQL1822N Unexpected error code "0" received from data source <"DATASOURCE">.
Associated text and tokens are "". SQLSTATE=560BD
```

do the following:

1. Check that the following variables are set up correctly in the sqllib\cfg\db2dj.ini file.
   - ORACLE_HOME: The fully qualified directory path to where the Oracle client software is installed. For example, ORACLE_HOME=<"*oracle_home_directory*">. That is, if the Oracle home directory is /usr/oracle/8.1.7, the entry in the db2dj.ini file will be ORACLE_HOME=/usr/oracle/8.1.7

     Note: If an individual user of the federated instance sets the ORACLE_HOME environment variable, the federated instance does not use that setting. The federated instance uses only the value of ORACLE_HOME that you set in the db2dj.ini file.
   - ORACLE_BASE: The root of the Oracle client directory tree. If you set the ORACLE_BASE variable when you installed the Oracle client software, set the ORACLE_BASE environment variable on the federated server. For example, ORACLE_BASE=<"*oracle_root_directory*">
   - ORA_NLS33: The ORA_NLS environment variable for Oracle 9i. If your system uses multiple versions of Oracle, you must ensure that the locale-specific data is stored in a directory specified by the ORA_NLS environment variable. Each version of Oracle has a different ORA_NLS data directory. For example, set the ORA_NLS environment variable for Windows federated servers that access Oracle 9i data sources to the following: ORA_NLS33=<"*oracle_home_directory*">/ocommon/nls/admin/data>
   - TNS_ADMIN: Determines the location of the tnsnames.ora file.
     - On Windows, the Oracle client looks for the tnsnames.ora file in the /NETWORK/ADMIN directory. If the tnsnames.ora file is not in the /NETWORK/ADMIN directory, set the TNS_ADMIN environment variable on the federated server.
     - On UNIX®, the client will look for the tnsnames.ora file in the /etc directory. If the tnsnames.ora file is not located in the /etc directory, you need to set the TNS_ADMIN environment variable in the db2dj.ini file. For example: TNS_ADMIN=<"*tnsnames.ora_directory*">
2. Start and stop the DB2 instance, using the following commands db2stop" and db2start commands.
3. Create the wrapper, server mapping, user mapping and the nickname.

Finding the locale of the WebSphere Commerce Analyzer system

To find the locale:

1. Login to the WebSphere Commerce Analyzer server as the WebSphere Commerce Analyzer owner.
2. On the desktop click **Start >Settings >Control Panel**. The Control Panel window opens.
3. Double-click the **Regional Options** icon. The Regional Options window opens.
4. Click the **General** tab.
5. The locale is listed in the **Your Locale (location)** list box.

Please refer to the appropriate operating system documentation for more information about NLS Support and locale settings.

Finding the expected languages in the WebSphere Commerce system

Find the LANGUAGE table in the WebSphere Commerce database to learn what locales are available. Run a db2 query by typing `select language_id, localname from language` to get a list of the languages supported by your system. Please note that WebSphere Commerce comes with ten locales already defined. But that *does not* mean that data in all ten languages exists in the WebSphere Commerce server's database.

You can find NLS data is the CATENTDESC table in the WebSphere Commerce database. Run a db2 query by typing: `select distinct language_id from catentdesc`. This query returns all the language IDs that are currently populated. By comparing these language_id fields to the language_id fields, it is possible to determine the most probable set of languages available in the WebSphere Commerce system.

Part 2. WebSphere Commerce business integration adapters

WebSphere Commerce can be integrated with other business processes using the following software:

- "WebSphere MQ" on page 65

These software packages are not provided with WebSphere Commerce and must be purchased separately. The chapters in this section cover how to configure adapters provided with WebSphere Commerce to work with these products.

Important

The embedded messaging server component of WebSphere Application Server cannot be used to integrate other business process with WebSphere Commerce. Using the embedded messaging server component is only supported in the WebSphere Commerce development environment.

WebSphere MQ

WebSphere Commerce provides a listener for WebSphere MQ (formerly MQSeries®) for inbound requests and an adapter for WebSphere MQ for outbound requests to allow you to integrate back-end and external systems with WebSphere Commerce using WebSphere MQ.

The listener supports WebSphere MQ Version 5.3 or higher. WebSphere MQ Version 5.3 includes MQSeries classes for Java™ and MQSeries classes for Java Message Service (JMS).

Important

You can choose to integrate a back-end system with WebSphere Commerce using WebSphere MQ server. When WebSphere Application Server Version 5.1.1.1 is installed as part of WebSphere Commerce, WebSphere embedded messaging server will not be installed, however the embedded messaging client will be installed.

To connect to a remote WebSphere MQ server, you may use the WebSphere Application Server embedded messaging client or the WebSphere MQ client.

If you want to install WebSphere MQ and WebSphere Application Server on the same machine, install WebSphere MQ first. However, if you want to install WebSphere MQ on a machine where you have an existing WebSphere Application Server installation,

1. Uninstall the WebSphere Application Server embedded messaging server and client.
2. Install WebSphere MQ server and client.

If embedded messaging client or server have not been installed as part of WebSphere Application Server, you should opt-out the embedded messaging client or server update when a WebSphere Application Server fix pack, cumulative fix, or interim fix is installed. Updates to WebSphere MQ server should be done using WebSphere MQ CSD updates.

You must create the JMS queue connection factory and JMS queues that map to the corresponding physical WebSphere MQ objects. This allows the WebSphere Commerce listener for WebSphere MQ to access WebSphere MQ entities through JMS.

You can set up the connection between WebSphere Commerce and WebSphere MQ in one of two connection modes:

Bindings mode

WebSphere Commerce is installed on the same machine as WebSphere MQ and it connects to WebSphere MQ through MQSeries classes for Java using the Java Messaging Server (JMS) API. Since communication is through inter-process bindings connection rather than through TCP/IP connection, bindings mode may provide better performance than client mode.

Client mode

WebSphere Commerce and WebSphere MQ connect using TCP/IP. This mode must be used when WebSphere Commerce is installed on one machine and WebSphere MQ is installed on a separate machine. This mode requires the WebSphere MQ client to be installed on the WebSphere Commerce machine.

Important

The embedded messaging server of WebSphere Application Server is not supported by the WebSphere Commerce adapter for WebSphere MQ. Using the embedded messaging server is only supported in the WebSphere Commerce development environment.

To use WebSphere MQ with WebSphere Commerce, do the following:

1. If required, install WebSphere MQ according to the instructions found in the WebSphere MQ documentation. More details on which WebSphere MQ documentation to use is provided in "Installing WebSphere MQ." When installing WebSphere MQ, ensure that the Java Messaging component is installed.
2. Apply fixes to messaging client used with remote WebSphere MQ servers. For instructions, refer to "Apply fixes to messaging clients when using Client mode connections" on page 68.
3. Identify existing WebSphere MQ objects or create new WebSphere MQ object required to use WebSphere MQ with WebSphere Commerce. Instructions for creating the WebSphere MQ objects are provided in "Configure WebSphere MQ for use with WebSphere Commerce" on page 68.
4. Create the JMS queue connection factory and JMS queues. Instructions for creating the JMS queue connection factory and JMS queues are provided in "Configuring WebSphere Application Server for use with WebSphere MQ" on page 70.
5. Enable the WebSphere Commerce listener for WebSphere MQ. Instructions for enabling the listener for WebSphere MQ are provided in "Configure WebSphere Commerce to use WebSphere MQ" on page 75.

For more information on the WebSphere Commerce listener for WebSphere MQ and the WebSphere Commerce messaging system, refer to the WebSphere Commerce online help.

Installing WebSphere MQ

Install WebSphere MQ according to the instructions found in the following books, ensuring that you install the Java Messaging component of WebSphere MQ:

AIX — *WebSphere MQ for AIX V5.3 Quick Beginnings*

400 — *WebSphere MQ for iSeries V5.3 Quick Beginnings*

Solaris — *WebSphere MQ for Solaris V5.3 Quick Beginnings*

Windows — *WebSphere MQ for Windows V5.3 Quick Beginnings*

These books can be found at the following Web site:

```
http://www.ibm.com/software/integration/mqfamily/
 library/manualsa/manuals/platspecific.html
```

The URL appears on two lines for presentation purposes only. Enter the URL as a single line.

Important

WebSphere MQ does not support machine names that contain spaces. If you install WebSphere MQ on a computer with a machine name that contains spaces, you cannot create any queue managers.

Installing WebSphere MQ on the same machine as WebSphere Commerce

WebSphere Commerce uses WebSphere Application Server Version 5.1.1.1. If you want to install WebSphere MQ on the same machine as WebSphere Commerce, you could experience a conflict between the software level of WebSphere MQ and the software level of the WebSphere Application Server embedded messaging client or server.

If the software level of the WebSphere Application Server embedded messaging client or server is higher than that of the software level of WebSphere MQ, the installation of WebSphere MQ could fail.

To prevent this conflict, uninstall the WebSphere Application Server embedded messaging client or server before installing WebSphere MQ.

When installing WebSphere MQ, follow the WebSphere MQ documentation and the *Installing WebSphere MQ as the JMS provider* topic in the WebSphere Application Server information center at the following URL:

```
http://publib.boulder.ibm.com/infocenter/wasinfo/topic/
 com.ibm.websphere.base.doc/info/aes/ae/tmj_instm.html
```

After installing WebSphere MQ, upgrade to WebSphere MQ CSD08 or higher.

Confirming MQ_INSTALL_ROOT environment variable

If you install the WebSphere MQ client or server on the same node as WebSphere Commerce, ensure that the MQ_INSTALL_ROOT environment variable points to the correct location.

To check the value of the MQ_INSTALL_ROOT environment variable, do the following:

1. Start the default WebSphere Application Server application server (`server1`). For instructions, refer to “Starting or stopping an application server” on page 111.
2. Open the WebSphere Application Server Administrative Console. For details, refer to “Starting the WebSphere Application Server Administrative Console” on page 114.
3. Log on to the WebSphere Application Server Administrative Console.
4. In the navigation tree, expand **Environment** and select **Manage WebSphere Variables**. The WebSphere variables page displays.
5. Ensure that the value for MQ_INSTALL_ROOT is correct.

The MQ_INSTALL_ROOT variable should point the WebSphere MQ installation directory on the WebSphere Commerce machine.

If the value is incorrect, change it by doing the following:

a. Click **MQ_INSTALL_ROOT**.
b. In the **Value** field, enter the correct path.
c. Click **OK**.
d. Click **Save** in the Administrative Console task bar.
e. On the Save page, select **Synchronize changes with node**.
f. On the Save page, click **Save**.

6. Exit the WebSphere Application Server Administrative Console.
7. Stop the default WebSphere Application Server application server (`server1`). For instructions, refer to "Starting or stopping an application server" on page 111.

Apply fixes to messaging clients when using Client mode connections

Update your messaging clients with the latest fixes available from the following URL:

`https://www14.software.ibm.com/webapp/iwm/web/reg/pick.do?source=wsmqcsd`

You will need an IBM ID and password to access the fixes. If you do no have an IBM ID or password, click **My IBM registration** to obtain an ID and password.

If you are using the WebSphere MQ client, ensure that you are at CSD08 or later.

If you are using the WebSphere Application Server embedded messaging client, obtain the fixes under **WebSphere embedded messaging interim fixes for WebSphere Application Server V5.1.1**.

Important

If you are using the WebSphere Application Server embedded messaging client in WebSphere Application Server Version 5.1.1.3, you must install the interim fix for APAR IC45152. This interim fix may be included in future WebSphere Application Server cumulative fixes or fix packs. If you are using WebSphere Application Server Version 5.1 with a cumulative fix higher than 3 or a fix pack higher than 1, you may already have this fix. Check the fix pack or cumulative fix documentation.

Configure WebSphere MQ for use with WebSphere Commerce

WebSphere Commerce requires a set of information to be defined in WebSphere MQ for WebSphere Commerce to work with WebSphere MQ. These include a queue manager and a set of queues.

To configure WebSphere MQ to work with WebSphere Commerce, do the following:

1. Add the non-root WebSphere Commerce user ID to the `mqm` user group.

   The non-root WebSphere Commerce user ID was created before installing WebSphere Commerce.

2. Windows Add the Windows user ID used to start WebSphere Commerce to the `mqm` group.

3. Identify the queue manager that WebSphere Commerce will use. This can be an existing queue manager or a newly created queue manager. The choice of the queue manager depends on you integration configuration.

   For instructions on creating a queue manager, refer to the WebSphere MQ documentation. Information on the WebSphere MQ documentation is provided in "Additional WebSphere MQ documentation" on page 76.

   The instructions in this chapter assume that the queue manager name is *hostname*.qm, where *hostname* is the host name (without a domain) for the machine running WebSphere MQ.

   Take note of both the queue manager name and the port number used by the queue manager listener. This information is used in later steps.

   Important

   Ensure that the operating system user ID used to start WebSphere Commerce is also authorized for the queue manager. For instructions on authorizing a user ID for a WebSphere MQ queue manager, refer to the WebSphere MQ documentation.

   Also, The queue manager name is case-sensitive. Ensure that you use the correct case for the queue-manager name in later steps.

4. Identify the local message queues for the queue manager. These can be existing message queues or newly created queues.

   For instructions on creating queues, refer to the WebSphere MQ documentation. Information on the WebSphere MQ documentation is provided in "Additional WebSphere MQ documentation" on page 76.

   The instructions in this chapter assume that the following local message queues are created:

Queue	Description
hostname.error	Default error queue. Collects erratic inbound messages.
hostname.inbound	Used by SendReceiveImmediate mode of the adapter for WebSphere MQ. It is where the reply and response messages from the backend system should go. WebSphere Commerce can optionally pick reply and response messages based on an outgoing request to a backend system.
hostname.inboundp	Any message arrive at this queue will be processed in parallel manner.
hostname.inbounds	Any message arrive at this queue will be processed in serial manner based on first-in-first-out.
hostname.outbound	Used for WebSphere Commerce initiated outbound messages and reply messages from WebSphere Commerce.

   where *hostname* is the TCP/IP name of the machine running WebSphere MQ.

   Take note of the names of the message queues you identified or created. This information is used in later steps.

Important

Ensure that the operating system user ID used to start WebSphere Commerce is also authorized for the message queues. For instructions on authorizing a user ID for a WebSphere MQ message queue, refer to the WebSphere MQ documentation.

Also, queue names are case-sensitive. Ensure that you use the correct case for the queue names in later steps.

Note: The number of queues to define depends on the application with which WebSphere Commerce is integrated. These five queues are the minimum of queues required for integration.

5. (Client mode only) Create a listener port for the queue manager you created.

After completing the steps to configure WebSphere MQ, continue with the instructions in "Configuring WebSphere Application Server for use with WebSphere MQ."

Configuring WebSphere Application Server for use with WebSphere MQ

To configure WebSphere Application Server for use with WebSphere MQ, do the following:

1. Start the default WebSphere Application Server application server (`server1`). For instructions, refer to "Starting or stopping an application server" on page 111.
2. Open the WebSphere Application Server Administrative Console. For details, refer to "Starting the WebSphere Application Server Administrative Console" on page 114.
3. Log on to the WebSphere Application Server Administrative Console.
4. Determine the maximum number of ManagedConnections for the JCA-JMS connector. Detailed instructions are provided in "Determining the maximum number of ManagedConnections for the JCA-JMS connector" on page 71.
5. Create a WebSphere MQ JMS Provider queue connection factory. Detailed instructions are provided in "Creating a WebSphere MQ JMS Provider queue connection factory" on page 71.
6. Create WebSphere MQ JMS Provider queue destinations. Detailed instructions are provided in "Creating WebSphere MQ JMS Provider queue destinations" on page 73.
7. Exit the WebSphere Application Server Administrative Console.
8. Stop the default WebSphere Application Server application server (`server1`). For instructions, refer to "Starting or stopping an application server" on page 111.

After completing the steps to configure WebSphere Application Server, continue with the instructions in "Configure WebSphere Commerce to use WebSphere MQ" on page 75.

Determining the maximum number of ManagedConnections for the JCA-JMS connector

To determine the maximum number of ManagedConnections for the JCA-JMS connector, do the following on the WebSphere Commerce machine:

1. In the WebSphere Application Server Administrative Console navigation tree, expand **Applications** and select **Enterprise Applications**. The Enterprise Applications page displays.
2. In the list of enterprise applications, click **WC**_*instance_name* where *instance_name* is the name of your WebSphere Commerce instance.
3. In the Related Items table, click **Connector Modules**. You may need to scroll down the page to refer to the Related Items table. The Connector Modules page displays.
4. In the list of connector modules, click **Enablement-JCAJMSConnector.rar**. The Enablement-JCAJMSConnector.rar page displays.
5. In the Additional Properties table on the Enablement-JCAJMSConnector.rar page, click **Resource Adapter**. The WC_*instance_name*.Adapter for WebSphere MQ page displays, where *instance_name* is the name of your WebSphere Commerce instance.
6. In the Additional Properties table of the WC_*instance_name*.Adapter for WebSphere MQ page, click **J2C Connection Factories**. The J2C Connection Factories page displays.
7. In the list of J2C Connection Factories, click **Enablement-JCAJMSConnector.rar**. The Enablement-JCAJMSConnector.rar page displays.
8. In the Additional Properties table on the Enablement-JCAJMSConnector.rar page, click **Connection Pool**. You may need to scroll down the page to refer to the Additional Properties table. The Connection Pools page displays.
9. Take note of the value in the **Max connections** field. This value will be required in "Creating a WebSphere MQ JMS Provider queue connection factory."

Important: If you change the value of the maximum number of ManagedConnections for the JCA-JMS connector later, you must also change the value of the maximum number ManagedConnections for the WebSphere MQ JMS Provider.

Creating a WebSphere MQ JMS Provider queue connection factory

To create a WebSphere MQ JMS Provider queue connection factory, do the following on the WebSphere Commerce machine:

1. In the WebSphere Application Server Administrative Console navigation tree, expand **Resources** and select **WebSphere MQ JMS Provider**. The WebSphere MQ JMS Provider page displays.
2. Scope any changes to the WebSphere Commerce application server by doing the following:
   a. Click **Browse Servers**. The Select a Server Scope page displays.
   b. From the list of application servers, select `WC_instance_name`, where *instance_name* is the name of the WebSphere Commerce instance.
   c. Click **OK**. The WebSphere MQ JMS Provider page displays.
   d. Click **Apply**.

3. In the Additional Properties table on the WebSphere MQ JMS Provider page, click **WebSphere MQ Queue Connection Factories**. You may need to scroll down the page to refer to the Additional Properties table.

   The WebSphere MQ Queue Connection Factories page displays.
4. On the WebSphere MQ Queue Connection Factories page, click **New**.
5. Fill in the fields as follows:

   Name Enter the name for the new WebSphere MQ JMS Provider queue connection factory. The instructions in this chapter assume the name of the WebSphere MQ JMS Provider queue connection factory is `JMSQueueConnectionFactory`.

   JNDI Name
   Enter the Java Naming and Directory Interface (JNDI) name for the new WebSphere MQ JMS Provider queue connection factory. The instructions in this chapter assume the JNDI name of the WebSphere MQ JMS Provider queue connection factory is `JMSQueueConnectionFactory`.

   Queue Manager
   Enter the name of the queue manager identified or created in "Configure WebSphere MQ for use with WebSphere Commerce" on page 68. Enter the name of the queue manager created in For example, *`hostname`*`.qm`, where *hostname* is the host name (without the domain) for the machine running WebSphere MQ.

   Host Complete this field according to the connection mode you are using:

   Bindings mode Ensure that this field is cleared.

   Client mode Enter the fully qualified TCP/IP hostname of the machine running WebSphere MQ.

   Port Complete this field according to the connection mode you are using:

   Bindings mode Ensure that this field is cleared. If this field contains any value, bindings mode will fail to function correctly.

   Client mode Enter the listener port number for the queue manager you created in "Configure WebSphere MQ for use with WebSphere Commerce" on page 68.

   Transport Type
   Select the transport type based on your system configuration:
   - If WebSphere Commerce and WebSphere MQ are installed on the same machine and you want to use bindings mode, choose **BINDINGS**.
   - If you have a WebSphere MQ installed on the WebSphere Commerce machine, and you want to use client mode, choose **CLIENT**.

   Channel
   Complete this field according to the connection mode you are using:

   Bindings mode Ensure that this field is cleared. If this field contains any value, bindings mode will fail to function correctly.

   Client mode Ignore this field.

CCSID

Complete this field according to the connection mode you are using:

Bindings mode Ensure that this field is cleared. If this field contains any value, bindings mode will fail to function correctly.

Client mode This is the coded character set identifier (CCSID) to use with the WebSphere MQ queue manager. Enter `1208` in this field. CCSID 1208 is UTF-8 which is the character set used by WebSphere MQ.

Message Retention

Clear the **Enable message retention** check box.

XA Enabled

Clear the **Enable XA** check box.

All other fields can be ignored.

Click **Apply** when you are done.

6. In the Additional Properties table, click **Connection Pool**. You may need to scroll down the page to refer to the Additional Properties table. The Connection Pools page displays.
7. Set the value in the **Max Connections** to value higher than the value you determined in "Determining the maximum number of ManagedConnections for the JCA-JMS connector" on page 71. For example, if you found a value of 30 in "Determining the maximum number of ManagedConnections for the JCA-JMS connector" on page 71, enter a value of 31 here.

   Important: This value must always be higher than the value of the maximum number of ManagedConnections for the JCA-JMS connector. If you change the value of the maximum number of ManagedConnections for the JCA-JMS connector later, you must also change the value of the maximum number ManagedConnections for the WebSphere MQ JMS Provider.
8. Click **OK**.
9. Click **Save** in the Administrative Console task bar.
10. On the Save page, click **Save**.

Creating WebSphere MQ JMS Provider queue destinations

The WebSphere Commerce listener for WebSphere MQ requires various JMS queues. The JMS queues map to the WebSphere MQ message queues you identified or created in "Configure WebSphere MQ for use with WebSphere Commerce" on page 68. The JMS queues map to the WebSphere MQ message queues as follows:

Table 1. JMS queue to WebSphere MQ queue mappings

JMS queue	WebSphere MQ queue
JMSErrorQueue	*hostname*.error
JMSInboundQueue	*hostname*.inbound
JMSOutboundQueue	*hostname*.outbound
JMSParallelInboundQueue	*hostname*.inboundp
JMSSerialInboundQueue	*hostname*.inbounds

where *hostname* is the TCP/IP name of the machine running WebSphere MQ.

A JMS queue is created by creating a WebSphere MQ JMS Provider queue destination in WebSphere Application Server.

The JMS queue names provided in the table are the default names used by WebSphere Commerce. If you have modified the JMS queue names using the WebSphere Commerce Configuration manager, the JMS queue names must be changed to match the new queue names.

Note: The number of queues to define depends on the application with which WebSphere Commerce is integrated. These five queues are the minimum of queues required for integration.

Important: The queue name are case-sensitive. Ensure that you use the correct case for the queue names.

To create the WebSphere MQ JMS Provider queue destinations, do the following:

1. In the WebSphere Application Server Administrative Console navigation tree, expand **Resources** and select **WebSphere MQ JMS Provider**. The WebSphere MQ JMS Provider page displays.
2. Scope any changes to the WebSphere Commerce application server by doing the following:
   a. Click **Browse Servers**. The Select a Server Scope page displays.
   b. From the list of application servers, select `WC_instance_name`, where *instance_name* is the name of the WebSphere Commerce instance.
   c. Click **OK**. The WebSphere MQ JMS Provider page displays.
   d. Click **Apply**.
3. In the Additional Properties table on the WebSphere MQ JMS Provider page, click **WebSphere MQ Queue Destinations**. You may need to scroll down the page to refer to the Additional Properties table.

   The WebSphere MQ Queue Destinations page displays.
4. On the WebSphere MQ Queue Destinations page, click **New**.
5. Fill in the fields as follows:

   Name Enter a name for the new WebSphere MQ JMS Provider queue destination as shown in the JMS Queue column of Table 1 on page 73.

   JNDI Name
   Enter the JNDI name for the new WebSphere MQ JMS Provider queue destination. Use the same name as entered in the **Name** field.

   Base Queue Name
   Enter the name of the message queue as defined in WebSphere MQ. These message queues were defined in "Configure WebSphere MQ for use with WebSphere Commerce" on page 68.

   Base Queue Manager Name
   Enter the name of the queue manager name you created in "Configure WebSphere MQ for use with WebSphere Commerce" on page 68.

   CCSID
   This is the coded character set identifier (CCSID) to use with the WebSphere MQ queue manager. Enter `1208` in this field. CCSID 1208 is UTF-8 which is the character set used by WebSphere MQ.

Target Client
For *JMSErrorQueue* and *JMSOutboundQueue*, select **MQ**. For the other JMS queues, select **JMS**.

All other fields can be ignored.

Click **OK** when you are done.

Repeat these instruction for each JMS queue.

When you have created all of the JMS queues, do the following:

1. Click **Save** in the Administrative Console task bar.
2. On the Save page, click **Save**.

Configure WebSphere Commerce to use WebSphere MQ

To configure WebSphere Commerce to use WebSphere MQ you must enable the transport adapter by doing the following:

1. Stop WebSphere Commerce. For instructions on stopping WebSphere Commerce, refer to "Starting or stopping a WebSphere Commerce instance" on page 107.
2. Launch the WebSphere Commerce Configuration Manager. For instructions on launching the WebSphere Commerce Configuration Manager, refer to "Launching WebSphere Commerce Configuration Manager" on page 103.
3. Enter your Configuration Manager user ID and password.
4. Expand *host_name* **> Commerce > Instance List >** *instance_name* **> Components > Listener for WebSphere MQ (Transport Adapter)**.

   where *host_name* is the short name of the machine running WebSphere Commerce and *instance_name* is the name of the WebSphere Commerce instance.
5. Select the **Enable** check box.
6. Click **Apply**.
7. Exit the WebSphere Commerce Configuration Manager.
8. Start WebSphere Commerce. For instructions on starting WebSphere Commerce, refer to "Starting or stopping a WebSphere Commerce instance" on page 107.

Testing your WebSphere MQ configuration

To test your WebSphere MQ configuration, insert the following message in the *hostname*.inbounds message queue

```
<?xml test message>
```

Windows To insert the message with WebSphere MQ on Windows, do the following:

1. Open the WebSphere MQ Explorer according the instructions in the WebSphere MQ documentation.
2. Right-click *hostname***.inbounds** and select **Put Test Message** from the pop-up menu.
3. In the test message window, enter the following text:

   ```
   <?xml test message>
   ```
4. Click **OK**.

For other platforms, you can use the Put message utility available at the following URL:

```
http://www.ibm.com/support/docview.wss?uid=swg24000653
```

WebSphere MQ is configured properly if the following occurs:

- The test message is consumed from the serial inbound queue (*hostname*.inbounds).
- An error message appears in the *hostname*.outbound queue.
- The original message appears in the *hostname*.error queue.

Additional WebSphere MQ documentation

Information on WebSphere MQ tasks can be found in the following books:

AIX *WebSphere MQ System Administration Guide*

400 *WebSphere MQ for iSeries System Administration Guide*

Solaris *WebSphere MQ System Administration Guide*

Windows *WebSphere MQ System Administration Guide*

The *WebSphere MQ System Administration Guide* is available at the following Web site:

```
http://www.ibm.com/software/integration/mqfamily/
 library/manualsa/manuals/crosslatest.html
```

The *WebSphere MQ for iSeries System Administration Guide* is available at the following Web site:

```
http://www.ibm.com/software/integration/mqfamily/
 library/manualsa/manuals/platspecific.html
```

Note: The Web addresses appear on multiple lines for presentation purposes only. Enter each URL as a single line.

Part 3. Directory services and WebSphere Commerce

The following table shows which directory servers are supported by WebSphere Commerce on various operating systems:

Directory Server	Operating system on which WebSphere Commerce runs	
	AIX	Windows
IBM Directory Server Version 5.2	X	X

To integrate directory services and WebSphere Commerce, do the following:

Step 1. Install the directory server you want to use with WebSphere Commerce.

Install the directory server according the installation documentation provided with the directory server.

WebSphere Commerce and your directory server software should run on different machines unless you have a machine with enough capacity to run both.

Step 2. Implement an LDAP organizational structure for use with WebSphere Commerce.

When implementing an LDAP organizational structure for use with WebSphere Commerce, you have two choices:

- Implement the default LDAP organizational structure provided in WebSphere Commerce in your directory server.

  Refer to "Implementing the default WebSphere Commerce LDAP organizational structure" on page 79.
- Use a customized LDAP organizational structure with WebSphere Commerce.

  Refer to "Using a customized LDAP organizational structure with WebSphere Commerce" on page 81.

Step 3. Install WebSphere Member Manager.

Refer to "Installing WebSphere Member Manager" on page 83.

Step 4. Configure WebSphere Member Manager for your directory server and organizational structure.

Refer to "Configuring WebSphere Member Manager" on page 85.

Step 5. Set the WebSphere Commerce member subsystem to use WebSphere Member Manager.

WebSphere Member Manager is a component of WebSphere Application Server and WebSphere Commerce required when using LDAP with WebSphere Commerce.

Refer to "Configuring WebSphere Commerce to use WebSphere Member Manager" on page 89.

Step 6. Enable user migration in WebSphere Commerce.

Refer to "Enabling user migration in WebSphere Commerce" on page 93.

Step 7. (Optional) If you have installed WebSphere Commerce Payments, enable WebSphere Commerce Payments under LDAP.

Refer to “Enabling WebSphere Commerce Payments under LDAP” on page 95.

Step 8. Test LDAP with WebSphere Commerce.

Refer to “Testing LDAP with WebSphere Commerce” on page 97.

Implementing the default WebSphere Commerce LDAP organizational structure

Complete the instructions in one of the following sections, according to the directory server you are using with WebSphere Commerce:

- "Implementing the default WebSphere Commerce LDAP organizational structure in IBM Directory Server"

Implementing the default WebSphere Commerce LDAP organizational structure in IBM Directory Server

Prerequisites: Ensure that you have completed the following before performing the tasks in this section:

__ Install and configure WebSphere Commerce.

__ Install and configure IBM Directory Server according to the IBM Directory Server documentation for the version of IBM Directory Server you are using.

To implement the default WebSphere Commerce LDAP organizational structure in IBM Directory Server:

1. Add the following suffix Distinguished Name (DN) to your directory:

   ```
   o=root organization
   ```

2. Restart the directory server.
3. Add the following organization Relative Distinguished Name (RDN™) to your directory:

   ```
   o=root organization
   ```

   This organization should have no parent DNs.
4. Add the following organization RDN as a child of the `o=root organization` RDN to your directory:

   ```
   o=default organization
   ```

Refer to the documentation for your version of IBM Directory Server for instructions on how to complete these tasks.

The next step

Continue by installing WebSphere Member Manager. Follow the instructions in "Installing WebSphere Member Manager" on page 83.

Using a customized LDAP organizational structure with WebSphere Commerce

Prerequisites: Ensure that you have completed the following before performing the tasks in this section:

__ Install and configure WebSphere Commerce.

__ Install and configure the directory server you want to use with WebSphere Commerce.

If you have a customized LDAP organizational structure that you would like to use with WebSphere Commerce, do the following:

1. Map the WebSphere Commerce root organization (`o=root organization`) to the root organization of the customized hierarchy that you want to use by renaming each the DN field of each row in the ORGENTITY table in the WebSphere Commerce database.

   For example, to update the WebSphere Commerce root organization, you would use the following SQL statements:

   ```
   update orgentity
     set dn='o=custom_organization'
     where orgentity_id=-2001

   update orgentity
     set dn='o=default organization,o=custom_organization'
     where orgentity_id=-2000
   ```

   where *custom_organization* is the name of your custom organization in your LDAP hierarchy in lower case letters only.

2. Modify the *WC_installdir*`/xml/ldap/ldapentry.xml` file to match the new root organization and default organization.

   In this file, replace occurrences of `o=root organization` with `o=`*`custom_organization`*.

3. For each start store you plan to publish, you must update the files for the starter store. Directories containing the store archive (SAR) files for the various starter stores can be found in the following directory:

   WC_installdir`/starterstores`

   Go to the directory containing the starter store you want to publish and do the following:

   a. Open the SAR file for the starter store using a ZIP file utility.

   b. Update any XML or DTD files in the SAR file as follows:

      1) Open the file in a text editor.

      2) Change all instances of `o=root organization` to `o=`*`custom_organization`*.

         Ensure that your organization name is entered in all lower-case letters.

      3) Save your changes.

   c. Ensure that all XML and DTD files in the SAR file are updated.

   d. Update the following WebSphere Commerce contract template files:

      - *WC_installdir*`\xml\trading\xml\TemplateHostingContractSPS.xml`
      - *WC_installdir*`\xml\trading\xml\TemplateHostingContractRPS.xml`
      - *WC_installdir*`\xml\trading\xml\TemplateHostingContractMPS.xml`
      - *WC_installdir*`\xml\trading\xml\DeploymentHostingContractMHS.xml`

- *WC_installdir*xml\trading\xml\DeploymentHostingContractRHS.xml

To update these files, do the following:

1) Open the file in a text editor.
2) Change all instances of o=root organization to o=*custom_organization*. Ensure that your organization name is entered in all lower-case letters.
3) Save your changes.

The next step

Continue by installing WebSphere Member Manager. Follow the instructions in "Installing WebSphere Member Manager" on page 83.

Installing WebSphere Member Manager

To install WebSphere Member Manager on the WebSphere Commerce machine:

1. Log in as root.
2. Extract the contents of the following file to *WAS_installdir*:

   AIX *WC_installdir*/wmm/MemberManager.tar

   Windows *WC_installdir*\wmm\MemberManager.zip
3. Open the following file in a text editor:

   AIX *WAS_installdir*/wmm/bin/setenv.sh

   Windows *WAS_installdir*\wmm\bin\setenv.bat
4. Replace variables in the file with the values shown in the following table:

   Table 2. Variable values for the configuration of WebSphere Member Manager

Variable	Value
@APP_SERVER_NAME@	Replace @APP_SERVER_NAME@ with the name of the application server where you want to install WebSphere Member Manager. If you want to install WebSphere Member Manager into the WebSphere Commerce application server, the application server name is `WC_instance_name`, where *instance_name* is the name of your WebSphere Commerce instance. For example, if your WebSphere Commerce instance name is `demo`, the WebSphere Commerce application server is `WC_demo`.
@DB_TYPE@	`db2`
@DB_DRIVER_LOCATION@	`DB2_installdir/java/db2java.zip`
@DB_DRIVER@	`com.ibm.db2.jdbc.app.DB2Driver`
@DB_NAME@	Replace @DB_NAME@ with the name you want to use for the WebSphere Member Manager database.
@DB_JDBC_URL@	`jdbc:db2:database_name` where *database_name* is the database name you used for the @DB_NAME@ variable.
@DB_USER@	Replace @DB_USER@ with the database user ID for the WebSphere Member Manager database.
@DB_PASSWORD@	Replace @DB_PASSWORD@ with the password for the database user ID.

5. Locate the following text:

   `WMM_CONFIG=5`
6. Replace `WMM_CONFIG=5` with `WMM_CONFIG=2`.
7. Save your changes and exit the text editor.
8. Ensure that the application server where you want to install WebSphere Member Manager is stopped.

If you want to install WebSphere Member Manager into the same application server as WebSphere Commerce, refer to “Starting or stopping a WebSphere Commerce instance” on page 107.

9. Depending on your platform, do the following sets of steps:

   AIX

   a. Change users to the database administrator user with the following command:

      ```
      su - database_administrator_user_ID
      ```

   b. Change directories to the following directory:

      WAS_installdir/wmm/bin/

   c. Issue the following command:

      ```
      ./create_wmmdb.db2.sh database_name
      ```

      where *database_name* is the same value as used for @DB_NAME@ earlier.

   d. Issue the following command:

      ```
      ./database_create.sh
      ```

   e. Return to being root user.

   f. Ensure you are still in the following directory:

      WAS_installdir/wmm/bin/

      If you are not, change directories to this directory.

   g. Issue the following command:

      ```
      ./install.sh
      ```

   Windows

   a. Start a command line session and issue the following command:

      ```
      WAS_installdir\wmm\bin\setup
      ```

10. Verify the success of the installation by checking the following log files for errors:
    - *WAS_installdir*/wmm/bin/trace.log
    - *WAS_installdir*/logs/installMemberManager.log

    If these log files do not contain errors, your installation of WebSphere Member Manager is successful.

11. Start the application sever where you installed WebSphere Member Manager.

    If you installed WebSphere Member Manager into the same application server as WebSphere Commerce, refer to “Starting or stopping a WebSphere Commerce instance” on page 107.

12.

The next step

Continue by configuring WebSphere Member Manager for your directory server and organizational structure by following the steps in “Configuring WebSphere Member Manager” on page 85.

Configuring WebSphere Member Manager

To configure WebSphere Member Manager for your directory server and organizational structure:

1. Open the following file in a text editor on the node where you installed WebSphere Member Manager:

   WAS_installdir/config/wmm/wmm.xml

2. Do one of the following steps, depending on the organizational structure you are using:

   Default WebSphere Commerce LDAP organizational structure

   a. Find the following tag:

      ```
      <supportedMemberType name="Person"
      ```

      Replace `defaultParentMember="cn=users,dc=yourco,dc=com"` in the tag with the following text:

      ```
      defaultParentMember="o=default organization,o=root organization"
      ```

   b. Find the following tag:

      ```
      <supportedMemberType name="Group"
      ```

      Replace `defaultParentMember="cn=users,dc=yourco,dc=com"` in the tag with the following text:

      ```
      defaultParentMember="o=default organization,o=root organization"
      ```

   c. Find the following tag:

      ```
      <supportedMemberType name="Organization"
      ```

      Replace `defaultParentMember="cn=users,dc=yourco,dc=com"` in the tag with the following text:

      ```
      defaultParentMember="o=root organization"
      ```

   d. Find the following tag:

      ```
      <supportedMemberType name="OrganizationUnit"
      ```

      Replace `defaultParentMember="cn=users,dc=yourco,dc=com"` in the tag with the following text:

      ```
      defaultParentMember="o=root organization"
      ```

   e. Find the following tag:

      ```
      <ldapRepositoryname wmmLDAP"
      ```

      and do the following in the tag:

      1) Replace the following text in the tag:

      ```
      adapterClassName="com.ibm.ws.wmm.ldap.ibmdir.IBMDirectoryAdapterImpl"
      ```

      with the following text:

      ```
      adapterClassName="com.ibm.ws.wmm.ldap.ibmdir.IBMDirectory5AdapterImpl"
      ```

      2) Update the following block with values for your directory server:

```
adminId="cn=root"
adminPassword="******"
ldapHost="localhost"
ldapPort="389"
```

f. Find the following block:

```
<nodeMaps>
 <nodeMap node="dc=yourco,dc=com" pluginNode="dc=yourco,dc=com">
 <nodeMap node="cn=users,dc=yourco,dc=com" pluginNode="cn=users,dc=yourco,dc=com">
 <nodeMap node="cn=groups,dc=yourco,dc=com" pluginNode="cn=groups,dc=yourco,dc=com">
</nodeMaps>
```

Replace the block with the following block:

```
<nodeMaps>
 <nodeMap node="o=root organization" pluginNode="o=root organization">
 <nodeMap node="o=default organization,o=root organization" pluginNode="o=default organization,o=root organization">
</nodeMaps>
```

g. Find the following tag:

```
<supportedLdapEntryTypes>
```

Within this tag, do the following steps:

1) Find the following tag:

```
<supportedLdapEntryType name="Person"
```

Replace `searchBases="cn=users,dc=yourco,dc=com"/>` in the tag with the following text:

```
searchBases="o=root organization"/>
```

2) Finr the following tag:

```
<supportedLdapEntryType name="Group"
```

Replace `searchBases="cn=users,dc=yourco,dc=com"/>` in the tag with the following text:

```
searchBases="o=root organization"/>
```

Customized LDAP organizational structure

a. Find the following tag:

```
<supportedMemberType name="Person"
```

Replace `defaultParentMember="cn=users,dc=yourco,dc=com"` in the tag with the following text:

```
defaultParentMember="o=default organization,o=custom_organizationn"
```

b. Find the following tag:

```
<supportedMemberType name="Group"
```

Replace `defaultParentMember="cn=users,dc=yourco,dc=com"` in the tag with the following text:

```
defaultParentMember="o=default organization,o=custom_organization"
```

c. Find the following tag:

```
<supportedMemberType name="Organization"
```

Replace `defaultParentMember="cn=users,dc=yourco,dc=com"` in the tag with the following text:

```
defaultParentMember="o=custom_organization"
```

d. Find the following tag:

```
<supportedMemberType name="OrganizationUnit"
```

Replace `defaultParentMember="cn=users,dc=yourco,dc=com"` in the tag with the following text:

```
defaultParentMember="o=custom_organization"
```

e. Find the following tag:

```
<ldapRepositoryname wmmLDAP"
```

and do the following in the tag:

1) Replace the following text in the tag:

```
adapterClassName="com.ibm.ws.wmm.ldap.ibmdir.IBMDirectoryAdapterImpl"
```

with the following text:

```
adapterClassName="com.ibm.ws.wmm.ldap.ibmdir.IBMDirectory5AdapterImpl"
```

2) Update the following block with values for your directory server:

```
adminId="cn=root"
adminPassword="******"
ldapHost="localhost"
ldapPort="389"
```

f. Find the following block:

```
<nodeMaps>
 <nodeMap node="dc=yourco,dc=com" pluginNode="dc=yourco,dc=com">
 <nodeMap node="cn=users,dc=yourco,dc=com" pluginNode="cn=users,dc=yourco,dc=com">
 <nodeMap node="cn=groups,dc=yourco,dc=com" pluginNode="cn=groups,dc=yourco,dc=com">
</nodeMaps>
```

Replace the block with the following block:

```
<nodeMaps>
 <nodeMap node="o=root organization" pluginNode="o=custom_organizationn">
 <nodeMap node="o=default organization,o=custom_organization" pluginNode="o=default organization,o=custom_organization">
</nodeMaps>
```

g. Find the following tag:

```
<supportedLdapEntryTypes>
```

Within this tag, do the following steps:

1) Find the following tag:

```
<supportedLdapEntryType name="Person"
```

Replace `searchBases="cn=users,dc=yourco,dc=com"/>` in the tag with the following text:

```
searchBases="o=custom_organization"/>
```

2) Finr the following tag:

```
<supportedLdapEntryType name="Group"
```

Replace `searchBases="cn=users,dc=yourco,dc=com"/>` in the tag with the following text:

```
searchBases="o=custom_organization"/>
```

3. Save your changes and exit the text editor.

The next step

Continue by setting the WebSphere Commerce member subsystem to use WebSphere Member Manager by following the instructions in "Configuring WebSphere Commerce to use WebSphere Member Manager" on page 89.

Configuring WebSphere Commerce for LDAP

To configure WebSphere Commerce for LDAP, follow the instructions in "Configuring WebSphere Commerce to use WebSphere Member Manager."

Configuring WebSphere Commerce to use WebSphere Member Manager

WebSphere Member Manager requires WebSphere Application Server and you have two options where to install WebSphere Member Manager:

Local WebSphere Member Manager
In a local WebSphere Member Manager installation, WebSphere Member Manager uses the same WebSphere Application Server that WebSphere Commerce uses.

For a local installation of WebSphere Member Manager, install WebSphere Member Manager into the default WebSphere Application Server application server (server1). Do not install WebSphere Member Manager into the WebSphere Commerce application server (WC_*instance_name*).

Refer to "Configuring WebSphere Commerce to use a local WebSphere Member Manager" for instructions.

Remote WebSphere Member Manager
In a remote WebSphere Member Manager installation, WebSphere Member Manager uses WebSphere Application Server running on a different machine from WebSphere Commerce.

In this case, WebSphere Member Manager was installed by a product other than WebSphere Commerce. For example, you can configure WebSphere Commerce to use a remote WebSphere Member Manager that was installed by WebSphere Portal.

Refer to "Configuring WebSphere Commerce to use a remote WebSphere Member Manager" on page 90 for instructions.

Configuring WebSphere Commerce to use a local WebSphere Member Manager

To enable LDAP in the WebSphere Commerce Configuration Manager, do the following on the server running WebSphere Commerce:

1. Launch the WebSphere Commerce Configuration Manager. For instructions on launching WebSphere Commerce Configuration Manager, refer to "Launching WebSphere Commerce Configuration Manager" on page 103.
2. Enter your Configuration manager user ID and password.
3. Expand *your host name* > **Commerce**.
4. Expand **Instance List** > *instance_name* > **Instance Properties**.
   instance_name is the name of the WebSphere Commerce instance you are updating.
5. Select **Member Subsystem** and do the following:
   a. In the **Authentication Mode** field, select **Member Manager**.
   b. Select **Single sign-on** if

c. Ensure the **Entry File Name** contains
d. Ensure that the **Remote Member Manager Server** check box is cleared.
e. From the **LDAP Type** list, select **IBM Directory Server**.
f. In the **Host** field, enter the *host_name* of your LDAP server machine.
g. Ensure that the port number is correct. The default non-SSL port number for most LDAP servers is 389. The default SSL port number for most LDAP servers is 636.
h. Enter your administrator's distinguished name in the **Administrator Distinguished Name** field. This distinguished name must match, the name used on your LDAP server (for example, `cn=root` or `cn=Administrator`).
i. Enter the administration password in the **Administrator Password** field. You must confirm the password in the **Confirm Password** field.
j. Click **Apply**.
k. The **Successfully configured member subsystem for WebSphere Commerce** window displays. Click **OK** to continue.

6. Exit the Configuration Manager.
7. Open the following file in a text editor:

   AIX *WC_installdir*/instances/*instance_name*/xml/*instance_name*.xml

   Windows *WC_installdir*\instances*instance_name*\xml*instance_name*.xml

   The default values for *WC_installdir* and *WC_userdir* are available in "Path variables" on page iv.
8. Locate the following text:

   ```
   PMAdminId="Site_Admin_ID"
   ```

   where *Site_Admin_ID* is the WebSphere Commerce Site Administrator ID.
9. Change the text to:

   ```
   PMAdminId="Site_Admin_long_DN"
   ```

   where *Site_Admin_long_DN* is the full DN of the WebSphere Commerce Site Administrator ID as it exists on your LDAP server. For example, `PMAdminId="uid=wcsadmin,o=root organization"`.
10. Save the file.
11. Restart WebSphere Commerce and WebSphere Commerce Payments for these changes to take effect. For instructions on stopping WebSphere Commerce and WebSphere Commerce Payments, refer to "Starting or stopping a WebSphere Commerce instance" on page 107 and "Starting or stopping a WebSphere Commerce Payments instance" on page 107.

Configuring WebSphere Commerce to use a remote WebSphere Member Manager

To enable LDAP in the WebSphere Commerce Configuration Manager, do the following on the server running WebSphere Commerce:

1. Launch the WebSphere Commerce Configuration Manager. For instructions on launching WebSphere Commerce Configuration Manager, refer to "Launching WebSphere Commerce Configuration Manager" on page 103.
2. Enter your Configuration manager user ID and password.
3. Expand *your host name* > **Commerce**.
4. Expand **Instance List** > *instance_name* > **Instance Properties**.

instance_name is the name of the WebSphere Commerce instance you are updating.

5. Select **Member Subsystem** and do the following:
   a. In the **Authentication Mode** field, select **Member Manager**.
   b. Select **Single sign-on** if
   c. Ensure the **Entry File Name** contains
   d. Select **Remote Member Manager Server**.
   e. From the **LDAP Type** list, select **IBM Directory Server**.
   f. In the **Member Manager Provider URL** field, enter the URL used for the remote member manager. The URL must be in the following form:

      `iiop://hostname:port`

      where *hostname* is the fully-qualified host name of the machine with the remote WebSphere Member Manager and *port* is the port on which the remote WebSphere Member Manager is configured to communicate. The default port for WebSphere Member Manager is
   g. In the **Member Manager JNDI Name** field, enter the Java Naming and Directory Interface (JNDI) name of.

      Unless you have customized something somewhere, you should probably use the default of `ejb/MemberServiceHome`.
   h. Click **Apply**.
   i. The **Successfully configured member subsystem for WebSphere Commerce** window displays. Click **OK** to continue.
6. Exit the Configuration Manager.
7. Open the following file in a text editor:

   AIX *WC_installdir*/instances/*instance_name*/xml/*instance_name*.xml

   Windows *WC_installdir*\instances*instance_name*\xml*instance_name*.xml

   The default values for *WC_installdir* and *WC_userdir* are available in "Path variables" on page iv.
8. Locate the following text:

   `PMAdminId="Site_Admin_ID"`

   where *Site_Admin_ID* is the WebSphere Commerce Site Administrator ID.
9. Change the text to:

   `PMAdminId="Site_Admin_long_DN"`

   where *Site_Admin_long_DN* is the full DN of the WebSphere Commerce Site Administrator ID as it exists on your LDAP server. For example, `PMAdminId="uid=wcsadmin,o=root organization"`.
10. Save the file.
11. Restart WebSphere Commerce and WebSphere Commerce Payments for these changes to take effect. For instructions on stopping WebSphere Commerce and WebSphere Commerce Payments, refer to "Starting or stopping a WebSphere Commerce instance" on page 107 and "Starting or stopping a WebSphere Commerce Payments instance" on page 107.

The next step

Continue by enabling user migration in WebSphere Commerce. Refer to "Enabling user migration in WebSphere Commerce" on page 93.

Enabling user migration in WebSphere Commerce

Enabling user migration allows users with profiles currently in the WebSphere Commerce database to be migrated to LDAP server.

To enable user migration in WebSphere Commerce, activate user migration by following the instructions in "Activating user migration in WebSphere Commerce"

Activating user migration in WebSphere Commerce

To enable user migration in WebSphere Commerce, do the following on the server running WebSphere Commerce:

1. Stop WebSphere Commerce and WebSphere Commerce Payments. For instructions on stopping WebSphere Commerce and WebSphere Commerce Payments, refer to "Starting or stopping a WebSphere Commerce instance" on page 107 and "Starting or stopping a WebSphere Commerce Payments instance" on page 107.
2. Open the following file in a text editor:

   AIX *WC_installdir*/instances/*instance_name*/xml/*instance_name*.xml

   Windows *WC_installdir*\instances*instance_name*\xml*instance_name*.xml

   The default values for *WC_installdir* and *WC_userdir* are available in "Path variables" on page iv.
3. Ensure that the `MigrateUsersFromWCSdb` entry is set to "ON". This line should appear as follows:

   ```
   MigrateUsersFromWCSdb="ON"
   ```
4. Save the file.
5. Start WebSphere Commerce and WebSphere Commerce Payments. For instructions on starting WebSphere Commerce and WebSphere Commerce Payments, refer to "Starting or stopping a WebSphere Commerce instance" on page 107 and "Starting or stopping a WebSphere Commerce Payments instance" on page 107.
6. Log on to the WebSphere Commerce Administration Console using the Site Administrator ID.

   The Site Administrator ID was created during WebSphere Commerce instance creation.

   This step migrates the Site Administrator ID to LDAP.
7. Stop WebSphere Commerce and WebSphere Commerce Payments. For instructions on stopping WebSphere Commerce and WebSphere Commerce Payments, refer to "Starting or stopping a WebSphere Commerce instance" on page 107 and "Starting or stopping a WebSphere Commerce Payments instance" on page 107.

The next time a user logs into any WebSphere Commerce administration page or a WebSphere Commerce store, their user profile is migrated to the LDAP server.

The next step

Depending on your configuration, continue by doing one of the following:

- If you have installed WebSphere Commerce Payments, continue by enabling WebSphere Commerce Payments under LDAP. Refer to "Enabling WebSphere Commerce Payments under LDAP" on page 95.
- If you have not installed WebSphere Commerce Payments, continue by testing LDAP with WebSphere Commerce. Refer to "Testing LDAP with WebSphere Commerce" on page 97.

Enabling WebSphere Commerce Payments under LDAP

Important

You must keep the password for the WebSphere Commerce Site Administrator in the WebSphere Commerce database synchronized with the LDAP password for the WebSphere Commerce Site Administrator.

If you do not keep the two passwords synchronized, you will not be able to access the WebSphere Commerce Payments console or the WebSphere Commerce Payments function in the WebSphere Commerce Accelerator.

To keep the password synchronized, you must change the password in the WebSphere Commerce Site Administrator in the WebSphere Commerce database whenever you change the LDAP password for the WebSphere Commerce Site Administrator.

For instructions on changing the Site Administrator password in the WebSphere Commerce database, refer to "Resetting the Site Administrator password" on page 107

If your organizational structure uses `cn` instead of `uid` , do the following to enable WebSphere Commerce Payments under LDAP:

1. Stop WebSphere Commerce and WebSphere Commerce Payments. For instructions on stopping WebSphere Commerce and WebSphere Commerce Payments, refer to "Starting or stopping a WebSphere Commerce instance" on page 107 and "Starting or stopping a WebSphere Commerce Payments instance" on page 107.
2. Start the WebSphere Application Server Administrative Console. For instructions, refer "Starting the WebSphere Application Server Administrative Console" on page 114.
3. In the WebSphere Application Server Administrative Console, expand **Servers > Application Servers >***wpm_instance***_Commerce_Payments_Server > Process Definition > Java Virtual Machine > Custom Properties**.

   wpm_instance is the name of the WebSphere Commerce Payments instance. For example, wpm.
4. Click **New**.
5. Add the following property:

   `wpm_instance.LDAPUserIndicator`

   where *wpm_instance* is the name of the WebSphere Commerce Payments instance. For example, wpm.
6. Give the property the following value:

   `cn`
7. Click **Apply** and save your changes.
8. Exit the WebSphere Application Server Administrative Console.
9. Start WebSphere Commerce and WebSphere Commerce Payments. For instructions on starting WebSphere Commerce and WebSphere Commerce

Payments, refer to "Starting or stopping a WebSphere Commerce instance" on page 107 and "Starting or stopping a WebSphere Commerce Payments instance" on page 107.

The first time restarting WebSphere Commerce Server after configuring LDAP, you may find the following exception in the WebSphere Application Server `system.out` log file:

```
SystemOut O date time DefaultCredentialsProgramAdapterSessionContext obtainDefaultUserId()
CMN8016E: The logonId wcsadmin was not found in USERREG table.Current exception:
```

This should only occurs during the first time you start WebSphere Commerce after configuring LDAP. The exception occurs because no user ID has been migrated to LDAP yet. The exception is expected and should occur only during the first restart.

After enabling WebSphere Commerce Payments under LDAP, you must specify the full distinguished name of the Site Administrator when logging on to the WebSphere Commerce Payments console. The WebSphere Commerce Payments console does not allow you to logon using the Site Administrator short name.

The next step

Continue by testing LDAP with WebSphere Commerce. Refer to "Testing LDAP with WebSphere Commerce" on page 97.

Testing LDAP with WebSphere Commerce

To ensure that LDAP is working correctly with WebSphere Commerce, perform the following test:

1. Log on to the WebSphere Commerce Organization Administration Console using your WebSphere Commerce Administrator ID.
2. Check your LDAP server to ensure that the WebSphere Commerce Administrator ID now appears under the root organization.

   If the WebSphere Commerce Administrator ID appears under the root organization on your LDAP server, LDAP is configured correctly to work with WebSphere Commerce.
3. Log out from the WebSphere Commerce Organization Administration Console.
4. Create a new user under the `root organization` organization on your LDAP server.
5. Attempt to logon to the WebSphere Commerce Organization Administration Console using the new user ID.

   You should receive the following error:

   ```
   User does not have the proper authority to logon
   ```

   This error indicates that the user ID was resolved, but does not have rights to access the WebSphere Commerce Organization Administration Console.

   If you receive any other error message, then the authentication has failed and either the user creation was done incorrectly or the LDAP server is not configured correctly to work with WebSphere Commerce.
6. Log on to the WebSphere Commerce Organization Administration Console using your WebSphere Commerce Administrator ID.
7. Assign the new user ID the Site Administrator role in the root organization.
8. Logout from the WebSphere Commerce Organization Administration Console.
9. Log on to the WebSphere Commerce Accelerator using the new user ID.

   A successful login indicates that LDAP is configured correctly to work with WebSphere Commerce.
10. (Recommended) In the WebSphere Commerce Organization Administration Console, remove the site administration role from the new user ID.

    This step is security precaution to prevent anyone from using the new ID to make unauthorized changes to WebSphere Commerce.

Disabling LDAP in WebSphere Commerce

Caution

Disabling LDAP will cause the following:

- Users created after enabling LDAP in WebSphere Commerce will not be able to authenticate to WebSphere Commerce because their passwords do not exist in the WebSphere Commerce database.
- Users who changed their passwords after enabling LDAP in WebSphere Commerce can only access WebSphere Commerce using the password they had *before* LDAP was enabled. Their current (LDAP) password will no longer work with WebSphere Commerce.
- Users must log in to WebSphere Commerce using the a full LDAP-style ID. From example, a person with a user ID of `wcsadmin` must log in as `uid=wcsadmin, o=root organization`.

To disable the use of Lightweight Directory Access Protocol in WebSphere Commerce, do the following:

1. Launch the WebSphere Commerce Configuration Manager. For instructions on launching WebSphere Commerce Configuration Manager, refer to "Launching WebSphere Commerce Configuration Manager" on page 103.
2. Enter your Configuration manager user ID, and password.
3. Expand *your host name* → **Commerce**.
4. Expand **Instance List** → *instance_name* → **Instance Properties**.
5. Select **Member Subsystem** and do the following:
   a. In the **Authentication Mode** field, select **Database**.
   b. Click **Apply**.
   c. The **Successfully configured member subsystem for WebSphere Commerce** window displays. Click **OK** to continue.
6. Exit the Configuration Manager.

Part 4. Additional software tasks

The instructions in this section describe common or operating system specific tasks performed while installing and configuring the additional software components in this book.

WebSphere Commerce tasks

This section provides instructions for each operating system for WebSphere Commerce tasks you may need to complete while installing and configuring the additional software provided with WebSphere Commerce.

Launching WebSphere Commerce Configuration Manager

Launching WebSphere Commerce Configuration Manager on AIX, Linux, and Solaris Operating Environment

To start WebSphere Commerce Configuration Manager, do the following:

1. Log in as the non-root user ID created before installing WebSphere Commerce.

   Important information for Solaris Operating Environment users
   Ensure that you do not run WebSphere Commerce commands under the Bourne shell. Running WebSphere Commerce commands under the Bourne shell will cause the commands to fail.

   If you are in the Bourne shell at this point, switch shells now. IBM recommends using the Korn shell when running WebSphere Commerce commands.

2. Depending on the instance you are creating or modifying, start the server by doing the following on the WebSphere Commerce node or WebSphere Commerce Payments node:
   a. Open a terminal window.
   b. Issue the following commands:

      ```
      cd WC_installdir/bin
      ./config_server.sh
      ```

      Default values for *WC_installdir* are listed in "Path variables" on page iv.

      Notes:

      1) Do not close the terminal window you entered the config_server.sh command in or the Configuration Manager server will stop.
      2) Do not run the Configuration Manager server as a background process – this is a potential security risk.
      3) The Configuration Manager server is now listening on port 1099 for a connection. To have the Configuration Manager server listen on a different port, issue the following command instead of the `./config_server.sh` command:

         ```
         ./config_server.sh -port port_number
         ```

         where *port_number* is the port on which the Configuration Manager server will listen for a connection.

3. Start the client by doing one the following:
   - To run the WebSphere Commerce Configuration Manager on the local machine, do the following:

a. Open another terminal window.
b. As the non-root user ID created before installing WebSphere Commerce, issue the following commands:

```
export DISPLAY=host_name:0.0
cd WC_installdir/bin
./config_client.sh [-port cm_port]
```

where the variables are defined as follows:

hostname
The fully qualified host name of the machine from which you want to access the Configuration Manager.

cm_port
The port specified when starting the Configuration Manager server.

The `-port` parameter is optional. If you do not specify the `-port` parameter, the Configuration Manager client attempts to connect to the Configuration Manager server using port 1099.

Note: The X client may need to be authorized to access the X server using the `xhost` command. To authorize an X client, issue the following command from the system console as `root`:

```
xhost +host_name
```

where *host_name* is the fully qualified host name of the machine from which you want to run the installation wizard.

c. Log in to Configuration Manager. The initial ID is **webadmin** and the initial password is **webibm**. If this is the first time you are logging in to Configuration Manager, you will be asked to change the password.

- To run the WebSphere Commerce Configuration Manager client on a remote machine, do the following:

a. Log on to the remote machine as the non-root user ID created before installing WebSphere Commerce.

> **Important information for Solaris Operating Environment users**
> Ensure that you do not run WebSphere Commerce commands under the Bourne shell. Running WebSphere Commerce commands under the Bourne shell will cause the commands to fail.
>
> If you are in the Bourne shell at this point, switch shells now. IBM recommends using the Korn shell when running WebSphere Commerce commands.

b. Open a terminal window.
c. Issue the following commands:

```
export DISPLAY=host_name:0.0
cd WC_installdir/bin
./config_client.sh -hostname cm_hostname [-port cm_port]
```

where the variables are defined as follows:

hostname
The fully qualified host name of the machine from which you want to access the Configuration Manager.

cm_hostname
The fully qualified host name of the Configuration Manager server machine.

cm_port
The port specified when starting the Configuration Manager server.

The `-port` parameter is optional. If you do not specify the `-port` parameter, the Configuration Manager client attempts to connect to the Configuration Manager server using port 1099.

Default values for *WC_installdir* are listed in "Path variables" on page iv.

Note: The X client may need to be authorized to access the X server using the `xhost` command. To authorize an X client, issue the following command from the system console as `root`:

```
xhost +host_name
```

where *host_name* is the fully qualified host name of the machine from which you want to run the installation wizard.

d. Log in to Configuration Manager. The initial ID is **webadmin** and the initial password is **webibm**. If this is the first time you are logging in to Configuration Manager, you will be asked to change the password.

Launching WebSphere Commerce Configuration Manager on OS/400

To start the WebSphere Commerce Configuration Manager on OS/400, do the following:

1. Start the Configuration Manager server by doing the following:
   a. Log on to the iSeries system ensuring that the profile has a *SECOFR user class, and is set up with the language specific settings of either English, or the language that you will choose as the default language for your instance.
   b. Start a QShell session by entering the following command:

      ```
      STRQSH
      ```

      and do the following in the QShell session:
      1) Switch to the WebSphere Commerce server bin directory by issuing the following command:

         ```
         cd WC_installdir/bin
         ```

         Default values for *WC_installdir* are listed in "Path variables" on page iv.
      2) Start the configuration manager server program by issuing the following command:

         ```
         config_server.sh [-port server_port_number]
         ```

         The `-port` parameter is optional. If you do not specify this parameter, the default port of 1099 is used. The Configuration Manager server will listen using this port number. If you specify the *server_port_number*, the value must be between 1024 and 65535 and not currently in use on the iSeries system.

      Note: If you are using a system where your primary language is not the same as the language in which you are creating your instance, then you must add the QSYS*language_feature_number* library into your user

profile's library list. Otherwise the profile will try to locate it under QSYS. To add the language feature library, use the EDTLIBL command.

If this is the first time that Configuration Manager is run on the system, you will see the following messages:

```
Attaching Java program to /QIBM/ProdData/CommerceServer55/lib/ConfigManager.JAR.
Attaching Java program to /QIBM/ProdData/CommercePayments/V55/wc.mpf.ear/lib/ibmjsse.JAR[1]
Attaching Java program to /QIBM/ProdData/CommerceServer55/lib/Utilities.JAR.
Attaching Java program to /QIBM/ProdData/CommerceServer55/lib/Enablement-BaseComponentsLogic.JAR.
Attaching Java program to /QIBM/ProdData/CommerceServer55/lib/jtopen.JAR.
Attaching Java program to /QIBM/ProdData/CommerceServer55/lib/xerces.JAR.
Attaching Java program to /QIBM/ProdData/CommerceServer55/lib/sslite.ZIP.
```

[1] This line only displays when WebSphere Commerce Payments is installed on the same node as WebSphere Commerce.

When the following messages are posted, proceed to the next step:

```
Registry created.
CMServer bound in registry.
```

2. Start the Configuration Manager client on the Windows machine where the Configuration Manager client was installed:
   a. Using a command prompt on the Configuration Manager client machine, change to the *cfgmgr_installdir*/bin directory.
   b. Start the Configuration Manager client by running the following command:

      ```
      configClient.bat -hostname iSeries_Host_name [-port server_port_number]
      ```

      where

      iSeries_Host_name
      Is the fully qualified host name of the iSeries server on which the Configuration Manager server is running.

      server_port_number
      Is the port number on the iSeries server on which the Configuration Manager is listening. This parameter is required only if you are connecting to a Configuration Manager server on a port other than 1099.

   c. Log in to Configuration Manager. The initial ID is **webadmin** and the initial password is **webibm**. If this is the first time you are logging in to Configuration Manager, you will be asked to change the password.

Launching WebSphere Commerce Configuration Manager on Windows

To launch WebSphere Commerce Configuration Manager on Windows, do the following:

1. Ensure that the IBM WC Configuration Manager server process is running by selecting **Start→ Settings → Control Panel → Administrative Tools → Services** and check that the IBM WC Configuration Manager service has a status of Started.

Important

Leaving the IBM WC Configuration Manager server service running could potentially pose a security problem. Stop the WC Configuration Manager server service when you are not using the Configuration Manager.

To prevent potential security problems, you should also ensure that the IBM WC Configuration Manager server is set for manual startup, not automatic.

2. Select **Start → IBM WebSphere Commerce → Configuration**.

Starting or stopping a WebSphere Commerce instance

To start or stop a WebSphere Commerce instance, do the following:

1. Ensure that the database management system is started.
2. Ensure that the Web server is started.
3. Start, stop, or restart the application server for the WebSphere Commerce instance you want to start. Instructions for starting and stopping an application server are provided in "Starting or stopping an application server" on page 111.

Starting or stopping a WebSphere Commerce Payments instance

To start or stop a WebSphere Commerce Payments instance, do the following:

1. Ensure that the database management system is started.
2. Ensure that the Web server is started.
3. Start Configuration Manager. For instructions on starting Configuration Manager, refer to "Launching WebSphere Commerce Configuration Manager" on page 103.
4. In Configuration Manager, under **WebSphere Commerce**, expand *hostname* → **Payments → Instance List**.
5. Right-click the name of the WebSphere Commerce Payments instance you want to start or stop and do one of the following:
   - To start the WebSphere Commerce Payments instance, select **Start Payments Instance** from the pop-up menu. After receiving the Instance started successfully dialog, click **OK** to dismiss the dialog.
   - To stop the WebSphere Commerce Payments instance, select **Stop Payments Instance** from the pop-up menu.

Resetting the Site Administrator password

If you want to reset the Site Administrator password in the WebSphere Commerce database, refer to one of the following sections, depending on the operating system on which WebSphere Commerce is installed:

- "Resetting the Site Administrator password on AIX, Solaris operating system,Linux, or Windows" on page 108.
- "Resetting the Site Administrator password on OS/400" on page 109.

Resetting the Site Administrator password on AIX, Solaris operating system,Linux, or Windows

If you want to reset the Site Administrator password, do the following:

1. Start a command prompt session.

   Ensure you are not using the Bourne shell. WebSphere Commerce commands will not work in the Bourne shell. The Korn shell is recommended for running WebSphere Commerce commands.

2. Issue the following command:

   WC_installdir/bin/wcs_password.sh *password SALT merchant_key*

   where the variables are defined as follows:

   password
   The new password that you want to assign to the Site Administrator ID.

   SALT This is any random 12–digit random that you want to use. This number seeds the encryption of the password.

   Record this number as you must update the WebSphere Commerce database USERREG table entry for the Site Administrator with this number later.

   merchant key
   This is the merchant key defined when the WebSphere Commerce instance was created. The merchant key also seeds the encryption of the password.

   The following is an example of the output from the command:

```
IBM*
 Licensed Materials - Property of IBM
 5697-A16
 (C) Copyrights by IBM and by other(s) 1978, 1997. All Rights Reserved.
 * Trademark of International Business Machines Corp.
 === WCS Encrypted Password ===
 ASCII Format: pArp97jT4NOXN6MyWswTQpwaPbIFsEWQGwfeu08yIyM=
 Hex Format: 7041727039376a54344e4f584e364d79577377545170776d
```

   DB2 Record the ASCII format value of the encrypted password.

   Oracle Record the Hex format value of the encrypted password.

3. Connect to the WebSphere Commerce database.

   Depending on the database management system being used for WebSphere Commerce, issue one of the commands below:

   DB2 `db2 connect to db_name user user_name using password`

   Oracle `sqlplus wc_user_ID/wc_password@wc_SID`

   where the variables are defined as follows:

   db_name
   The name of your WebSphere Commerce database.

user_name
The DB2 database user ID for the WebSphere Commerce database.

password
The password associated with the DB2 database user ID.

wc_user_ID
The Oracle user ID for the WebSphere Commerce database.

wc_password
The password associated with Oracle user ID.

wc_SID
The Oracle System Identifier (SID) for the WebSphere Commerce database instance.

4. Update the SALT and LOGONPASSWORD columns in the USERREG table for the Site Administrator ID by issuing the following commands:

DB2

```
db2 "update USERREG set LOGONPASSWORD='ASCII_encrypted_string'
 where LOGONID='site_admin_id'"
db2 "update USERREG set SALT='SALT' where LOGONID='site_admin_id'"
```

Oracle

```
update USERREG set LOGONPASSWORD='Hex_encrypted_string'
 where LOGONID='site_admin_id';
update USERREG set SALT='SALT' where LOGONID='site_admin_id';
```

where the variable are defined as follows:

ASCII_encrypted_string
This is the ASCII format value obtained from the `wcs_password.sh` command.

Hex_encrypted_string
This is the Hex format value obtained from the `wcs_password.sh` command.

SALT This is the random 12–digit number you used to seed the `wcs_password.sh` command.

site_admin_id
This is the Site Administrator ID for which you are resetting the password.

Resetting the Site Administrator password on OS/400

If you want to reset the Site Administrator password, do the following:

1. Start a QShell session.
2. From the QShell session, issue the following command:

```
WC_installdir/bin/chgwcspwd.sh -database WC_database_name
 -schema WC_schema_name -instance WC_instance_profile_name
 -instancePwd WC_instance_profile_pwd -merKey WC_merchant_key
 -wcsUser site_admin_ID -wcsUserPwd new_site_admin_pwd
 [-oneWayHash true_or_false]
```

where the variables and parameters are defined as follows:

WC_installdir
Default values for this variable are listed in “Path variables” on page iv.

–database *WC_database_name*
This parameter specifies the name of the WebSphere Commerce relational database.

`–schema` *`WC_schema_name`*
: This parameter specified the name of the schema where the WebSphere Commerce instance resides. The may be the same as the name of the WebSphere Commerce instance.

`–instance` *`WC_instance_profile_name`*
: This parameter specifies the name of iSeries user profile associated with the WebSphere Commerce instance. This profile name is usually the same name as the WebSphere Commerce instance.

`–instancePwd` *`WC_instance_profile_pwd`*
: This is the password associated with the WebSphere Commerce instance user profile.

`–merKey` *`WC_merchant_key`*
: This parameter specifies the WebSphere Commerce merchant key entered when the WebSphere Commerce instance was created.

`–wcsUser` *`site_admin_ID`*
: This parameter specifies the ID for the WebSphere Commerce Site Administrator.

`–wcsUserPwd` *`new_site_admin_pwd`*
: This parameter specifies the new password you want to assign to the WebSphere Commerce Site Administrator.

`–oneWayHash` *`true_or_false`*
: This parameter is optional. If this parameter is not specified, a value of `true` is assumed for the `-oneWayHash` parameter.

  WebSphere Commerce uses one way hash for password encryption. It is recommended that you use the default value for this parameter.

WebSphere Application Server tasks

This section provides instructions for WebSphere Application Server tasks you may need to complete while installing and administering WebSphere Commerce.

Starting or stopping an application server

Instructions for starting or stopping an application server differ depending on your operating system.

Starting or stopping an application server on AIX, Linux, and Solaris Operating EnvironmentLinux

To start or stop an application server, do the following:

1. Ensure that your database management system is started.
2. Type the following commands in a terminal window:

   ```
   su - non_root_user
   cd WAS_installdir/bin
   ```

   non_root_user
   is the non-root user ID created before installing WebSphere Commerce.

   WAS_installdir
   is the installation directory for WebSphere Application Server or WebSphere Application Server Network Deployment. Default values for *WAS_installdir* are listed in "Path variables" on page iv.
3. Do one of the following:
   - To start an application server, enter the following command:

     ```
     ./startServer.sh application_server_name
     ```
   - To stop an application server, enter the following command:

     ```
     ./stopServer.sh application_server_name
     ```

   where:

   application_server_name
   is the name of the application server you want to start. Some common application servers

Application server name	Description
server1	The default WebSphere Application Server application server. This server must be running to use the WebSphere Application Server Administrative Console.
WC_*commerce_instance_name*	WebSphere Commerce application server
WC_*LikeMinds_utility_server_name*	LikeMinds utility server
*payments_instance_name*_Commerce_Payments_Server	WebSphere Commerce Payments application server

where *commerce_instance_name* is the name of the WebSphere Commerce instance, *LikeMinds_utility_server_name* is the name of the LikeMinds utility server, and *payments_instance_name* is the name of the WebSphere Commerce Payments instance.

Starting or stopping an application server on OS/400

To start or stop an application server on OS/400, do the following:

1. Ensure the WebSphere Application Server subsystem is started by doing the following:
   a. Start an OS/400 command session.
   b. Issue the following command:
      ```
      WRKSBS
      ```
   c. Ensure that the following subsystem appears in the list of running subsystems displayed:
      ```
      QEJBAS5
      ```
      If the `QEJBAS5` subsystem does not appear in the list of running subsystems, you must start the subsystem before starting an application server. For instructions on starting the subsystem, refer to "Starting the OS/400 WebSphere Application Server subsystem" on page 114.
2. Start a QShell session by entering the following from an OS/400 command line:
   ```
   QSH
   ```
3. Do one of the following:
   - To start an application server, issue the following command:
     ```
     WAS_installdir/bin/startServer
       -instance WAS_instance_name application_server_name
     ```
   - To stop an application server, issue the following command:
     ```
     WAS_installdir/bin/stopServer
       -instance WAS_instance_name application_server_name
     ```

   WAS_instance_name
   is the name of the WebSphere Application Server instance in which you want to start the application server. The default WebSphere Application Server instance is *default*

   If you want to start the application server in the default WebSphere Application Server instance, the `-instance server_name` parameter is optional for the command. For example, enter the following command:
   ```
   /QIBM/ProdData/WebAS5/Base/bin/startServer application_server_name
   ```

   application_server_name
   is the name of the application server you want to start. Some common application servers

Application server name	Description
server1	The default WebSphere Application Server application server. This server must be running to use the WebSphere Application Server Administrative Console.

Application server name	Description
WC_*commerce_instance_name*	WebSphere Commerce application server
*payments_instance_name*_Commerce_Payments_Server	WebSphere Commerce Payments application server

where *commerce_instance_name* is the name of the WebSphere Commerce instance and *payments_instance_name* is the name of the WebSphere Commerce Payments instance.

Starting or stopping an application server on Windows

To start or stop an application server on Windows, do the following:

1. Log on using Windows user ID with Administrator authority.
2. Start a command prompt session.
3. Issue the following command:

   ```
   cd WAS_installdir\bin
   ```

   where *WAS_installdir* is the installation directory for WebSphere Application Server or WebSphere Application Server Network Deployment. Default values for *WAS_installdir* are listed in "Path variables" on page iv.
4. Do one of the following:
   - To start an application server, enter the following command:

     ```
     startServer application_server_name
     ```
   - To stop an application server, enter the following command:

     ```
     stopServer application_server_name
     ```

   where:

   application_server_name
   is the name of the application server you want to start. Some common application servers

Application server name	Description
server1	The default WebSphere Application Server application server. This server must be running to use the WebSphere Application Server Administrative Console.
WC_*commerce_instance_name*	WebSphere Commerce application server
*payments_instance_name*_Commerce_Payments_Server	WebSphere Commerce Payments application server

   where *commerce_instance_name* is the name of the WebSphere Commerce instance and *payments_instance_name* is the name of the WebSphere Commerce Payments instance.

Starting the WebSphere Application Server Administrative Console

You can start the WebSphere Application Server Administrative Console, after starting the default WebSphere Application Server application server (`server1`). Refer to "Starting or stopping an application server" on page 111 for instructions.

Open the WebSphere Application Server Administrative Console by opening a web browser and entering the following URL:

`http://hostname:port/admin`

or

`https://hostname:port/admin`

where *hostname* is the fully qualified TCP/IP name of the machine running WebSphere Application Server and *port* is the TCP/IP port for the WebSphere Application Server Administrative Console.

The default port for the WebSphere Application Server Administrative Console depends on the protocol specified in the URL. For HTTP, the default port is `9090`. For HTTPS, the default port is `9043`.

Starting the OS/400 WebSphere Application Server subsystem

Your user profile must have *JOBCTL authority to start the WebSphere Application Server subsystem.

To start the WebSphere Application Server subsystem on iSeries, do the following:

1. Start Transmission Control Protocol/Internet Protocol (TCP/IP). On the OS/400 command line, issue the following command:

   ```
   STRTCP
   ```

2. Start the QEJBAS5 subsystem by running the following command on the OS/400 command line:

   ```
   STRSBS SBSD(QEJBAS5/QEJBAS5)
   ```

   The default WebSphere Application Server instance will start automatically. The job for the default application server instance is *server1*.

Part 5. Appendixes

Appendix. 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 information center"
- "WebSphere Commerce technical library" on page 119
- "IBM Publications Center" on page 119

WebSphere Commerce information center

The WebSphere Commerce information center is your primary source of information for customizing, administering, and reconfiguring WebSphere Commerce. The WebSphere Commerce information center is installed when you install WebSphere Commerce or WebSphere Commerce Payments.

To access the WebSphere Commerce information center, do the following:

1. If the WebSphere Commerce information center is not started, start the WebSphere Commerce information center.

   For instructions, refer to "Starting and stopping the WebSphere Commerce information center."
2. Go to the following URL:

   AIX Linux Solaris 400

   `http://host_name:port/help/index.jsp`

   where *host_name* is the fully-qualified host name of the WebSphere Commerce machine and *port* is the port number you specified when starting the information center.

   If you did not specify a port number when you started the information center, the information center will use port 8001 — you must specify `8001` as the *port* parameter in the information center URL.

   Windows

   `http://host_name:8001/help/index.jsp`

   where *host_name* is the fully-qualified host name of the WebSphere Commerce machine.

Updates to the information center will be available from the "WebSphere Commerce technical library" on page 119.

You can also access the WebSphere Commerce information center on the World Wide Web at the following URL:

`http://publib.boulder.ibm.com/infocenter/wc56help/index.jsp`

Starting and stopping the WebSphere Commerce information center

To start or stop the WebSphere Commerce information center, do the following on the WebSphere Commerce node:

AIX

Linux

Solaris

1. Start a command line session.
2. Do one of the following:
   - To start the WebSphere Commerce information center, issue the following command:

     WC_installdir/bin/startHelp.sh [*port*]

     where *port* is an optional parameter. If you do not specify the port number, the WebSphere Commerce information center uses port 8001
   - To stop the WebSphere Commerce information center, issue the following command:

     WC_installdir/bin/stopHelp.sh

When the information center is started, the WebSphere Commerce information center will available at the following URL:

http://*host_name*:*port*
/help/index.jsp

where *host_name* is the fully-qualified host name of the WebSphere Commerce machine and *port* is the port number you specified when starting the information center. If you did not specify a port number when you started the information center, the information center will use port 8001 — you must specify 8001 as the *port* parameter in the information center URL.

400

1. Start a QShell session.
2. Do one of the following:
   - To start the WebSphere Commerce information center, issue the following command:

     WC_installdir/bin/startHelp.sh [*port*]

     where *port* is an optional parameter. If you do not specify the port number, the WebSphere Commerce information center uses port 8001
   - To stop the WebSphere Commerce information center, issue the following command:

     WC_installdir/bin/stopHelp.sh

When the information center is started, the WebSphere Commerce information center will available at the following URL:

http://*host_name*:*port*
/help/index.jsp

where *host_name* is the fully-qualified host name of the WebSphere Commerce machine and *port* is the port number you specified when starting the information center. If you did not specify a port number when you started the information center, the information center will use port 8001 — you must specify 8001 as the *port* parameter in the information center URL.

Windows

The WebSphere Commerce information center can be started and stopped from the Services panel by starting or stopping the following service:

```
IBM WC 5.6 Help Server
```

The WebSphere Commerce information center will use port 8001.

If you want to use a different port number for the WebSphere Commerce information center, refer to the WebSphere Commerce Information Center for instructions on starting the information center on a different port.

When the information center is started, the WebSphere Commerce information center will available at the following URL:

```
http://host_name:8001/help/index.jsp
```

where *host_name* is the fully-qualified host name of the WebSphere Commerce machine.

WebSphere Commerce technical library

The WebSphere Commerce technical library is available at the following URL:

Business

```
http://www.ibm.com/software/genservers/commerce/wcbe/library/
 lit-tech-general-en.html
```

Professional

```
http://www.ibm.com/software/genservers/commerce/wcpe/library/
 lit-tech-general-en.html
```

A copy of this book, any updated versions of this book, and any other new and updated documentation will be available from the WebSphere Commerce technical library Web site.

IBM Publications Center

WebSphere Commerce books, such as this one, are also available from the IBM Publication Center at the following URL:

```
http://www.elink.ibmlink.ibm.com/public/applications/publications/cgibin/pbi.cgi
```

WebSphere Application Server

WebSphere Application Server information is available at the WebSphere Application Server library:

```
http://www.ibm.com/software/webservers/appserv/infocenter.html
```

WebSphere Application Server Network Deployment

WebSphere Application Server Network Deployment information is available at the WebSphere Application Server InfoCenter:

```
http://www.ibm.com/software/webservers/appserv/infocenter.html
```

WebSphere Application Server Edge Component

WebSphere Application Server Edge Component information is available at the WebSphere Application Server InfoCenter:

```
http://www.ibm.com/software/webservers/appserv/infocenter.html
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