WebSphere® Commerce

Version 5.7

Installation Guide for AIX

Note
Before using this information and the product it supports, be sure to read the general information under "Notices" on page 225.

First Edition (April 2005)

This edition of this book applies to a limited release of WebSphere Commerce produced for selected customers and to all subsequent releases and modifications produced for these customers until otherwise indicated in new editions. This product is referred to as IBM WebSphere Commerce Business Edition Version 5.7 throughout this book.

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 installation guide provides information on how to install and configure the following products on the IBM® AIX® operating system:

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

It is intended for system administrators or 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 `readme` 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 Web site:

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

For information updates that were made available after this book was published, refer to the technotes available from the WebSphere Commerce support Web site:

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

Conventions used in this book

This book uses the following highlighting conventions:

Boldface type	Indicates commands or graphical user interface (GUI) controls such as names of fields, icons, or menu choices.
`Monospace type`	Indicates examples of text you enter exactly as shown, file names, and directory paths and names.
Italic type	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.
DB2	Indicates information specific to DB2 Universal Database™ or to using DB2 Universal Database with WebSphere Commerce.
Oracle	Indicates information specific to Oracle9i Database or to using Oracle9i Database with WebSphere Commerce. Oracle9i Database is only supported by WebSphere Commerce Business Edition and WebSphere Commerce Professional Edition.

Terminology used in this book

This book uses the following terms:

cell Cells are arbitrary, logical groupings of one or more nodes in a WebSphere Application Server distributed network that are managed together. In this definition, a *node* is a single WebSphere Application Server instance. One or more cells managed by a single-occurrence of WebSphere Application Server deployment manager are called a *WebSphere Application Server deployment manager cell*.

cluster
A group of occurrences of WebSphere Application Server running the same enterprise application. Clusters were known in previous releases as server groups or clones. The act of creating clusters is called *clustering*. Clustering was known as *cloning* in previous releases.

cluster member
A single occurrence of WebSphere Application Server in a cluster.

federate
To collect single occurrences of WebSphere Application Server into a cell to manage the occurrences together.

node Node has two different meanings in this book depending on the context in which it is used.

WebSphere Commerce installation
In the WebSphere Commerce installation instructions, a node is a single machine or machine partition with a unique IP host address on which you install one or more WebSphere Commerce components.

federation
When discussing federation, a node is a single occurrence of WebSphere Application Server and the applications that run inside the occurrence of WebSphere Application Server. A node in a cell may or may not be running the same enterprise application as other nodes in the same cell.

Path variables used in this book

This guide uses the following variables to represent directory paths:

DB2_installdir
This is the installation directory for DB2 Universal Database. The default installation directory is `/usr/opt/db2_08_01`.

Oracle_installdir
This is the installation directory for Oracle9i Database. The default installation directory is `/oracle/u01/app/oracle/product/9.2.0.1.0`.

HTTPServer_installdir
This is the installation directory for IBM HTTP Server. The following are the default installation directories for IBM HTTP Server:

IBM HTTP Server Version 1.3.28	`/usr/WebSphere/IBMHttpServer`
IBM HTTP Server Version 2.0.42.2	`/usr/IBMIHS`

WAS_installdir
This is the installation directory for WebSphere Application Server. Thedefault installation directories for WebSphere Application Server is `/usr/WebSphere/AppServer`

WAS_ND_installdir
This is the installation directory for WebSphere Application Server Network Deployment. The default installation directories for WebSphere Application Server Network Deployment is `/usr/WebSphere/DeploymentManager`.

WC_installdir
This is the installation directory for WebSphere Commerce. The default installation directory for WebSphere Commerce is `/usr/WebSphere/CommerceServer57`.

Knowledge requirements

This book should be read by system administrators or anyone else responsible for installing and configuring WebSphere Commerce.

People who are installing and configuring WebSphere Commerce should have knowledge in the following areas:

- IBM AIX
- Basic operating system commands
- DB2 Universal Database Enterprise Server Edition or Oracle9i Database operation, configuration, and maintenance
- IBM HTTP Server operation, configuration, and maintenance
- Basic SQL commands
- The Internet

Refer to the WebSphere Commerce Information Center for more information on configuring and administering WebSphere Commerce. For more information on the WebSphere Commerce Information Center, refer to "WebSphere Commerce information center" on page 221.

To create and customize your store, you require knowledge of the following:

- WebSphere Application Server
- DB2 Universal Database or Oracle9i Database operation, configuration, and maintenance
- HTML and XML
- Structured Query Language (SQL)
- Java™ programming

Refer to the WebSphere Commerce Information Center for more information on customizing your store or mall.

Oracle knowledge

This section lists some of the important Oracle concepts that you should know before using Oracle with WebSphere Commerce. You can find information on these items in the *Oracle9i Database Concepts* document provided with your Oracle system. *Before installing and setting up your Oracle system, it is highly recommended that you read and understand the Oracle documentation supplied with your purchase of Oracle, in particular, the Concepts, Administration, and Installation information.*

Some of the concepts that you need to understand before configuring your Oracle system to work with WebSphere Commerce include:

- An Oracle Instance
- Database structure and space management. This includes:
  - Logical database structure
    - Tablespaces
    - Schemas and schema Objects.
    - Data blocks, extents, and segments.
  - Physical database structure
    - Datafiles
    - Redo log files
    - Control files
- Structured Query Language (SQL)
- Memory structure and processes
  - System Global Area (SGA)
  - Program Global Area (PGA)
  - Oracle process architecture including server and background processes
- Communications Software and Net9
- The Program Interface
- Database Administrator user names
  - SYS
  - SYSTEM
- System Identifier (SID)
- Databases, tablespaces, and datafiles
  - The SYSTEM tablespace
  - Using multiple tablespaces
  - Space management in tablespaces
  - Online and offline tablespaces
  - Temporary tablespaces
  - Datafiles

Contents

Part 1. Read this section first!

This book describes how to install and configure WebSphere Commerce Version 5.7 for AIX. It is intended for system administrators or for anyone else responsible for performing installation and configuration tasks.

How to install WebSphere Commerce

This book provides instructions on how to install WebSphere Commerce. Use this book to install WebSphere Commerce as follows:

__ Step 1. Review Part 2, "Planning your WebSphere Commerce installation," on page 5.

This part of the book provides planning information to help you decide what software stack you will use with WebSphere Commerce and what topology you will use for your WebSphere Commerce installation.

It is strongly recommended that you review "Common topologies" on page 15 carefully to understand what is required for the topology you want to use for WebSphere Commerce.

__ Step 2. Based on your review of the planning information, decide what type of installation you will perform:

Quick installation

A quick installation does the following on a single machine:

- Installs DB2 Universal Database
- Installs IBM HTTP Server Version 1.3.28
- Installs WebSphere Application Server Base
- Installs required WebSphere Application Server fix packs, cumulative fixes, and interim fixes required by WebSphere Commerce.
- Installs WebSphere Commerce
- (optional) Installs WebSphere Commerce Payments
- Creates a WebSphere Commerce instance named `demo`.
- (optional) Creates a WebSphere Commerce Payments instance named `wpm`.

A quick installation requires a "clean machine" — none of the software installed by a quick installation is installed on the machine.

Custom installation

If you are planning a multi-node installation or the machine on which you are installing does not meet the requirements for a quick installation, you must perform a custom installation.

__ Step 3. Complete the steps in the table below for the type of installation you will perform:

Quick installation	Custom installation
Complete the tasks in Part 3, "Installing WebSphere Commerce using the quick installation," on page 37.	Complete the following sections of this book: 1. Complete the instructions in Part 4, "Preparing for a custom installation," on page 67. 2. Complete the tasks in Part 5, "Installing WebSphere Commerce using the custom installation," on page 87. 3. Complete the tasks in Part 6, "Creating a WebSphere Commerce and a WebSphere Commerce Payments instance," on page 107.

__ Step 4. At this point, your installation of WebSphere Commerce is complete, review Part 7, "Last steps," on page 125 to decide on how to continue.

Part 2. Planning your WebSphere Commerce installation

This section provides information to help you plan your configuration of WebSphere Commerce. Review all of the information in this section before continuing with your installation of WebSphere Commerce.

Migrating previous versions of WebSphere Commerce

Migration to WebSphere Commerce Version 5.7 from the following versions of WebSphere Commerce is supported:

- WebSphere Commerce Version 5.6
- WebSphere Commerce Version 5.5
- WebSphere Commerce Version 5.4

Migration from other versions of WebSphere Commerce and WebSphere Commerce Suite is not supported.

For information on how to migrate to WebSphere Commerce Version 5.7 from previous versions of WebSphere Commerce, refer to the *WebSphere Commerce Migration Guide*.

The *WebSphere Commerce Migration Guide* is available from the WebSphere Commerce technical library:

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

Coexistence with previous versions of WebSphere Commerce

WebSphere Commerce Version 5.7 can coexist on the same machine with the following previous versions of WebSphere Commerce:

- WebSphere Commerce Version 5.6
- WebSphere Commerce Version 5.5
- WebSphere Commerce Version 5.4

Coexistence of other versions of WebSphere Commerce or WebSphere Commerce Suite is not supported.

The machines on which different versions of WebSphere Commerce will coexist must meet the requirements for WebSphere Commerce Version 5.7 documented in "Prerequisites" on page 27.

If you plan to run two or more versions of WebSphere Commerce at the same time:

- You will have port conflicts that must be resolved before you can run versions of WebSphere Commerce simultaneously.
- Your machine requirements will be greater than those listed in "Prerequisites" on page 27. For memory, hard disk requirements, you must sum the requirements for all versions of WebSphere Commerce running on the same machine in order to determine the hardware requirements.

If you plan to run only one version of WebSphere Commerce at a time:

- You will not need to resolve port conflicts with the other versions of WebSphere Commerce.
- Your machine must meet the requirements listed in "Prerequisites" on page 27.

For information on coexistence, refer to the *WebSphere Commerce Migration Guide*.

The *WebSphere Commerce Migration Guide* is available from the WebSphere Commerce technical library:

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

Coexistence with previous version of WebSphere Application Server

WebSphere Commerce Version 5.7 uses WebSphere Application Server Version 5.1.1.3. If you have a version of WebSphere Application Server lower than version 5.1 installed on the same machine where you install WebSphere Commerce, these versions of WebSphere Application Server may be able to coexist, however there will be port conflicts as both version of WebSphere Application Server use the same ports.

The WebSphere Commerce installation wizard does not setup WebSphere Application Server in a coexistence mode.

For more information on WebSphere Application Server coexistence support, refer to the following URL:

`http://publib.boulder.ibm.com/infocenter/ws51help/index.jsp?topic=/com.ibm.websphere.base.doc/info/aes/ae/rins_coexist.html`

Software supported by WebSphere Commerce

WebSphere Commerce requires a number of supporting software packages to run. The supporting software packages supported by WebSphere Commerce are listed in the following sections.

Important

This guide has been tested using the software levels listed in this sections. However, at the time of your installation, there may be more recent fixes and patches available for the WebSphere Commerce software stack components (for example, WebSphere Application Server or DB2 Universal Database). Unless these fixes or patches contain a resolution to a problem that is critical for your system, use the software levels documented in this guide when installing WebSphere Commerce. Once you have completed your installation of WebSphere Commerce, you can apply these later fixes and patches.

Also, this guide was tested with WebSphere Commerce and the supporting software stack running on the same operating system. Heterogeneous operating environments have not been tested.

Supported database servers

The following table lists database servers supported by WebSphere Commerce:

WebSphere Commerce edition	Database server supported
WebSphere Commerce Business Edition	DB2 Universal Database Version 8.2 Enterprise Server Edition Oracle9i Database Release 2 Enterprise Edition with fix pack 1 Oracle9i Database Release 2 Standard Edition with fix pack 1
WebSphere Commerce Professional Edition	DB2 Universal Database Version 8.2 Enterprise Server Edition Oracle9i Database Release 2 Enterprise Edition with fix pack 1 Oracle9i Database Release 2 Standard Edition with fix pack 1

Database servers not listed in this table are not supported — this includes versions or editions of DB2 Universal Database not listed in this table.

Supported Web servers

The following table lists Web servers supported by WebSphere Commerce:

WebSphere Commerce edition	Web servers supported
WebSphere Commerce Business Edition	• IBM HTTP Server Version 1.3.28 • IBM HTTP Server Version 2.0.42.2
WebSphere Commerce Professional Edition	• IBM HTTP Server Version 1.3.28 • IBM HTTP Server Version 2.0.42.2

Web servers not listed in this table are not supported by WebSphere Commerce — this includes versions of IBM HTTP Server not listed.

Supported application servers

WebSphere Commerce requires WebSphere Application Server Base Version 5.1 base with fix pack 1 and cumulative fix 3 (also known as WebSphere Application Server Base, Version 5.1.1.3) to run.

WebSphere Commerce does not support WebSphere Application Server - Express or WebSphere Application Server Enterprise.

The WebSphere Commerce installation wizard installs WebSphere Application Server Base Version 5.1.1.3 for you from the WebSphere Application Server and WebSphere Application Server fixes CDs provided with WebSphere Commerce.

If you have a pre-existing installation of WebSphere Application Server Version 5.1, the WebSphere Commerce installation wizard will apply the required fix packs, cumulative fixes, and interim fixes to bring the version up to Version 5.1.1.3.

If you are using a remote Web server with your existing installation of WebSphere Application Server, you must bring the WebSphere Application Server plug-in on the Web server up to the level required by WebSphere Commerce (Version 5.1.1.3).

Instructions for using an existing WebSphere Application Server are provided in "Using an existing WebSphere Application Server installation with WebSphere Commerce" on page 80.

For normal operation, only WebSphere Application Server Base is used. However, if you plan to cluster WebSphere Commerce, you must install WebSphere Application Server Network Deployment to enable clustering. For more information about clustering WebSphere Commerce, refer to "Clustering WebSphere Commerce" on page 143.

Supported Web browsers

The Web browsers supported by WebSphere Commerce depend on the activity for which they will be used. Refer to the following sections for more information:

- "Web browser support for WebSphere Commerce tools" on page 13
- "Web browser support for WebSphere Commerce information center" on page 13

Web browser support for WebSphere Commerce tools

You can only access the WebSphere Commerce tools using Microsoft® Internet Explorer 6.0 from a machine running a Windows® operating system on the same network as your WebSphere Commerce machine. You must use Internet Explorer full version 6.0 (also known as Internet Explorer 6.0 Service Pack 1 and Internet Tools) or later with the latest critical security updates from Microsoft — prior versions do not support full functionality of WebSphere Commerce tools.

The WebSphere Commerce tools function best if you also have the Macromedia Flash Player plug-in version 4 or higher for Microsoft Internet Explorer.

Important: Ensure that you do not have any pop-up blocker software installed on the machine(s) from which you want to access the WebSphere Commerce tools. Pop-up blocking software will prevent the WebSphere Commerce tools from displaying.

Web browser support for WebSphere Commerce information center

You can access the WebSphere Commerce information center using Microsoft Internet Explorer Version 6.0 or higher, or Netscape Navigator Version 6.0 or higher.

Common topologies

This section describes common topologies for WebSphere Commerce components and the supporting software, such as the database server and the Web server. Although the topologies described in this chapter are the most common, other topologies of WebSphere Commerce are still possible.

WebSphere Commerce is tested with all nodes in a given topology running the same operating system at the same level. This includes any patches, revisions, service packs or fix packs required by WebSphere Commerce.

This section often refers to ″software supported by WebSphere Commerce″. For a list of software supported by WebSphere Commerce, refer to “Software supported by WebSphere Commerce” on page 11.

In this chapter the following terms are used:

Database node
A node in a topology that only contains the database server used by WebSphere Commerce.

Web server node
A node in a topology that only contains the Web server used by WebSphere Commerce.

WebSphere Commerce node
A node in a topology that contains the WebSphere Commerce server. While the node may also contain the database server or Web server, depending on the topology, if a node contains the WebSphere Commerce server, it will be referred to as the WebSphere Commerce node.

Important

The instructions in this section are meant as a general outline only to provide information for planning purposes. Detailed instructions are provided later in this book.

For specific information on how to configure non-IBM software or pre-installed IBM software for use with WebSphere Commerce, refer to Part 4, “Preparing for a custom installation,” on page 67.

One-node topology

In a one-node topology, all WebSphere Commerce components and the supporting software are installed on a single node. This includes your database server, Web server, WebSphere Application Server, WebSphere Commerce Payments, and the WebSphere Commerce server.

Installing WebSphere Commerce in a one-node topology

To install WebSphere Commerce in a one-node topology, you have two options:

Quick installation
You can only use the quick installation option of the WebSphere Commerce

installation wizard to install WebSphere Commerce in a one-node topology if the machine meets the following criteria:

- No version or edition of WebSphere Commerce is installed on the machine.
- No version or edition of DB2 Universal Database is installed on the machine.
- No edition or version of WebSphere Application Server is installed on the machine.
- No version or edition of IBM HTTP Server is installed on the machine.
- The node meets the requirements for WebSphere Commerce provided in "Prerequisites" on page 27.

During a quick installation, you can choose not to install the WebSphere Commerce Payments component, but all other WebSphere Commerce components and supported IBM software are installed.

A quick installation creates a WebSphere Commerce instance after all components and supporting software have been installed. If you choose to install WebSphere Commerce Payments, a WebSphere Commerce Payments instance is also created.

Instructions for completing a quick installation are provided in Part 3, "Installing WebSphere Commerce using the quick installation," on page 37.

Custom installation

You can use the custom installation option of the WebSphere Commerce installation wizard to install WebSphere Commerce in a one-node topology as long as the following conditions have been met:

Hardware and operating system requirements

The node meets the requirements for WebSphere Commerce provided in "Prerequisites" on page 27.

Database requirements

DB2 Universal Database requirements

If DB2 Universal Database is not detected on the system, DB2 Universal Database Enterprise Server Edition, Version 8.2 will be installed for you when you select the **DB2 Universal Database** option.

If a DB2 Universal Database is already installed on the node, DB2 Universal Database must be at the version level required by WebSphere Commerce.

For instructions, refer to "Using an existing DB2 Universal Database installation with WebSphere Commerce" on page 77.

Oracle9i Database requirements

If you want to use Oracle9i Database, Oracle9i Database must be already installed on the node and configured according the information provided in "Installing and configuring Oracle9i Database" on page 69 before installing WebSphere Commerce.

Web server requirements

If IBM HTTP Server Version 1.3.28 is not detected on the system, IBM HTTP Server Version 1.3.28 will be installed when you select the **IBM HTTP Server** option.

If IBM HTTP Server Version 1.3.28 is already installed on the node, IBM HTTP Server must be configured correctly for WebSphere Commerce.

For instructions, refer to "Using an existing IBM HTTP Server Version 1.3.x installation with WebSphere Commerce" on page 78.

If you want to use any of the following Web servers, they must be installed and configured before you start the installation wizard:

- IBM HTTP Server Version 2.0.42.2

  For installation and configuration requirements, refer to "Using IBM HTTP Server Version 2.0.42.2 with WebSphere Commerce" on page 75.

WebSphere Application Server requirements

If WebSphere Application Server is not detected on the node, it will be installed for you when choose to install WebSphere Commerce or WebSphere Commerce Payments.

If WebSphere Application Server is already installed on the node, WebSphere Application Server must be the edition and version of WebSphere Application Server supported by WebSphere Commerce.

If you have WebSphere Application Server Version 5.1 installed without the required fix packs, cumulative fixes, or interim fixes required by WebSphere Commerce, the required fix packs, cumulative fixes, and fixes required by WebSphere Commerce will be installed during the installation of WebSphere Commerce.

For more information on using a version of WebSphere Application Server already installed on the node, refer to "Using an existing WebSphere Application Server installation with WebSphere Commerce" on page 80.

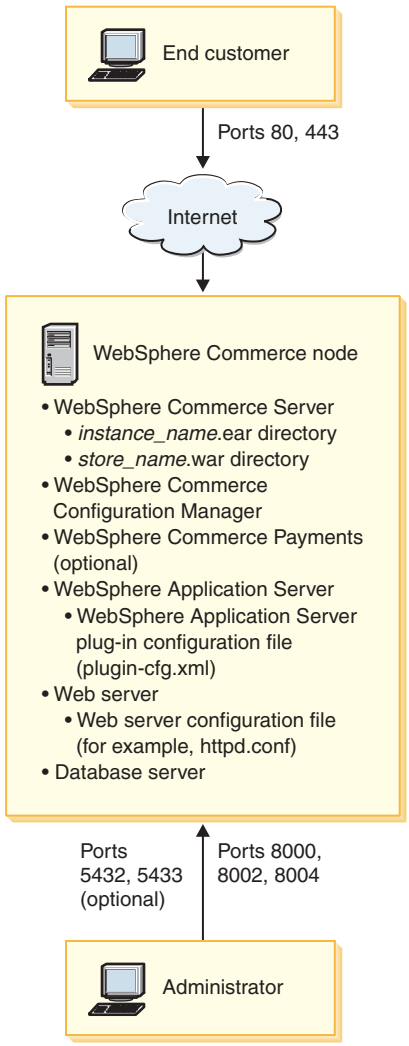
Instruction for completing a custom installation are provided in Part 5, "Installing WebSphere Commerce using the custom installation," on page 87.

Select options in the installation wizard for a custom installation as follows:

Database server	Web server	Custom installation options
DB2 Universal Database (not pre-existing)	IBM HTTP Server Version 1.3.28 (not pre-existing)	• **WebSphere Commerce Server** • **WebSphere Commerce Payments** (optional) • **DB2 Universal Database** • **IBM HTTP Server**
	IBM HTTP Server Version 1.3.28 (pre-existing)	• **WebSphere Commerce Server** • **WebSphere Commerce Payments** (optional) • **DB2 Universal Database** • **WebSphere Application Server Web server plug-in**
	IBM HTTP Server Version 2.0.42.2	
DB2 Universal Database (pre-existing)	IBM HTTP Server Version 1.3.28 (not pre-existing)	• **WebSphere Commerce Server** • **WebSphere Commerce Payments** (optional) • **IBM HTTP Server**
	IBM HTTP Server Version 1.3.28 (pre-existing)	• **WebSphere Commerce Server** • **WebSphere Commerce Payments** (optional) • **WebSphere Application Server Web server plug-in**
	IBM HTTP Server Version 2.0.42.2	
Oracle9i Database	IBM HTTP Server Version 1.3.28 (not pre-existing)	• **WebSphere Commerce Server** • **WebSphere Commerce Payments** (optional) • **IBM HTTP Server**
	IBM HTTP Server Version 1.3.28 (pre-existing)	• **WebSphere Commerce Server** • **WebSphere Commerce Payments** (optional) • **WebSphere Application Server Web server plug-in**
	IBM HTTP Server Version 2.0.42.2	

A custom installation does not create a WebSphere Commerce instance or a WebSphere Commerce Payments instance. The instances must be manually created after completing the installation. Instructions for creating instances are provided in Part 6, "Creating a WebSphere Commerce and a WebSphere Commerce Payments instance," on page 107.

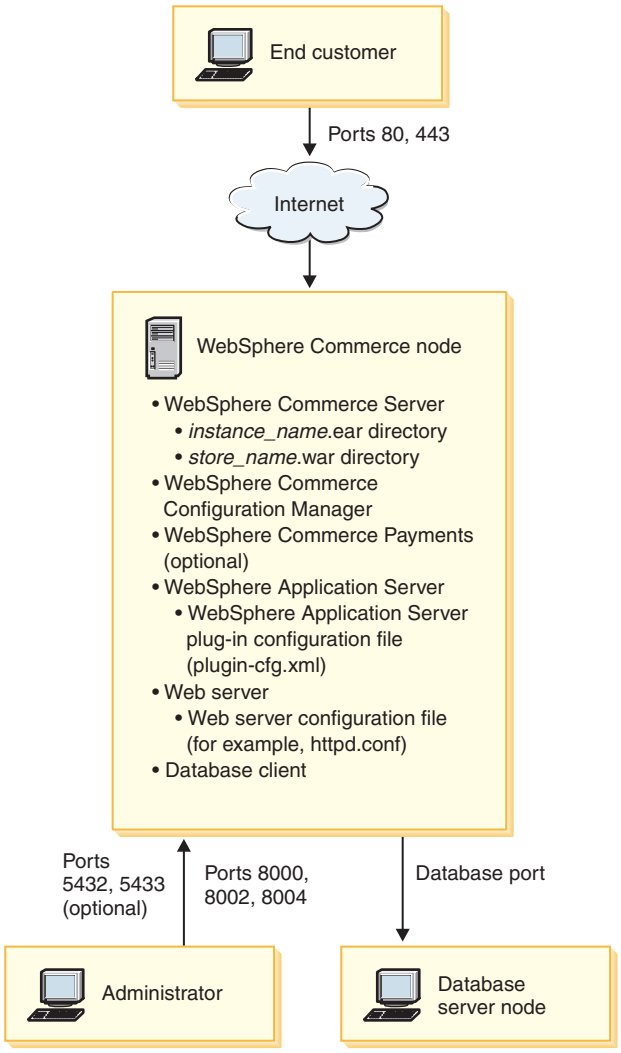
The following diagram shows a one-node topology:



Two-node topology

In a two-node topology, the database server is installed on one node and all WebSphere Commerce components and the Web server are installed on a different node.

The following diagram shows a two-node topology:



Installing WebSphere Commerce in a two-node topology

To install WebSphere Commerce in a three-node topology, do the following:

1. Ensure all nodes meet the requirements for WebSphere Commerce provided in "Prerequisites" on page 27.
2. If required, install the database server on the database node as follows:

   DB2 Universal Database

   To install DB2 Universal Database as your WebSphere Commerce database, perform a custom installation on the database node and select **DB2 Universal Database** from the list of components available. Instructions for performing a custom installation are provided in Part 5, "Installing WebSphere Commerce using the custom installation," on page 87.

   If a DB2 Universal Database is already installed on the database node, DB2 Universal Database must be at the version level required by WebSphere Commerce.

   For instructions, refer to "Using an existing DB2 Universal Database installation with WebSphere Commerce" on page 77.

Oracle9i Database

If you want to use Oracle9i Database, Oracle9i Database must be already installed on the database node and configured according to the information provided in "Installing and configuring Oracle9i Database" on page 69.

3. If required, install the Web server on the WebSphere Commerce node, as follows:

   IBM HTTP Server Version 1.3.28

   If you want to use IBM HTTP Server Version 1.3.28 as your Web server and you are doing a new installation of the Web server, proceed to the next step where you will install IBM HTTP Server Version 1.3.28 along with other WebSphere Commerce components.

   If IBM HTTP Server Version 1.3.28 is already installed on the Web server node, IBM HTTP Server must be configured correctly for WebSphere Commerce before starting the installation wizard.

   For instructions, refer to "Using an existing IBM HTTP Server Version 1.3.x installation with WebSphere Commerce" on page 78.

   IBM HTTP Server Version 2.0.42.2

   IBM HTTP Server Version 2.0.42.2 must be installed and configured on the WebSphere Commerce server node before starting the installation wizard.

   For installation and configuration requirements, refer to "Using IBM HTTP Server Version 2.0.42.2 with WebSphere Commerce" on page 75.

4. Install the remaining WebSphere Commerce components on the WebSphere Commerce node.

   If WebSphere Application Server is already installed on the WebSphere Commerce node, WebSphere Application Server must be the edition and version of WebSphere Application Server supported by WebSphere Commerce.

   If you have WebSphere Application Server Version 5.1 installed without the required fix packs, cumulative fixes, or interim fixes required by WebSphere Commerce, the required fix packs, cumulative fixes, and interim fixes required by WebSphere Commerce will be installed during the installation of WebSphere Commerce.

   For more information on using a version of WebSphere Application Server already installed on the node, refer to "Using an existing WebSphere Application Server installation with WebSphere Commerce" on page 80.

   To install the remaining WebSphere Commerce components, perform a custom installation on the WebSphere Commerce node and select the following components from the list of components available:

   - **WebSphere Commerce Server**
   - **WebSphere Commerce Payments** (optional)

   Installing WebSphere Commerce Payments is optional.

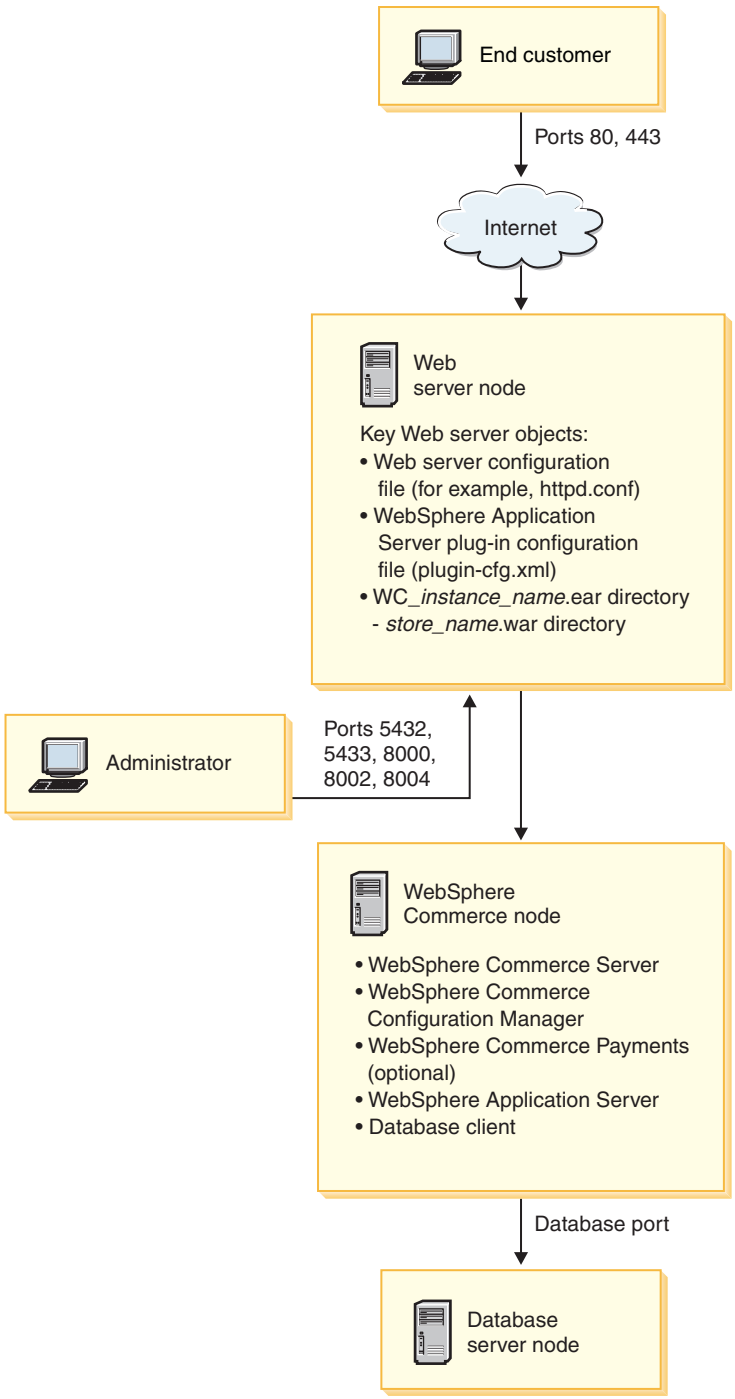
   If you want to use IBM HTTP Server Version 1.3.28 as your Web server, select **IBM HTTP Server, including WebSphere Application Server plug-in** also.

   Instructions for performing a custom installation are provided in Part 5, "Installing WebSphere Commerce using the custom installation," on page 87.

Three-node topology

In a three-node topology, all WebSphere Commerce components are installed on one node, the database server is installed on a second node, and the Web server is installed on a third node.

The following diagram shows a three-node topology:



Installing WebSphere Commerce in a three-node topology

To install WebSphere Commerce in a three-node topology, do the following:

1. Ensure all nodes meet the requirements for WebSphere Commerce provided in "Prerequisites" on page 27.
2. If required, install the database server on the database node as follows:

   DB2 Universal Database
   To install DB2 Universal Database as your WebSphere Commerce database, perform a custom installation on the database node and select **DB2 Universal Database** from the list of components available. Instructions for performing a custom installation are provided in Part 5, "Installing WebSphere Commerce using the custom installation," on page 87.

   If a DB2 Universal Database is already installed on the database node, DB2 Universal Database must be at the version level required by WebSphere Commerce.

   For instructions, refer to "Using an existing DB2 Universal Database installation with WebSphere Commerce" on page 77.

   Oracle9i Database
   If you want to use Oracle9i Database, Oracle9i Database must be already installed on the database node and configured according to the information provided in "Installing and configuring Oracle9i Database" on page 69.
3. If required, install the Web server on the Web server node, as follows:

   IBM HTTP Server Version 1.3.28
   To install IBM HTTP Server Version 1.3.28 as your WebSphere Commerce Web server, perform a custom installation on the Web server node and select **IBM HTTP Server, including WebSphere Application Server plug-in** from the list of components available. Instructions for performing a custom installation are provided in Part 5, "Installing WebSphere Commerce using the custom installation," on page 87.

   If IBM HTTP Server Version 1.3.28 is already installed on the Web server node, IBM HTTP Server must be configured correctly for WebSphere Commerce before starting the installation wizard.

   For instructions, refer to "Using an existing IBM HTTP Server Version 1.3.x installation with WebSphere Commerce" on page 78.

   IBM HTTP Server Version 2.0.42.2
   IBM HTTP Server Version 2.0.42.2 must be installed and configured on the Web server node before starting the installation wizard.

   For installation and configuration requirements, refer to "Using IBM HTTP Server Version 2.0.42.2 with WebSphere Commerce" on page 75.
4. Install the remaining WebSphere Commerce components on the WebSphere Commerce node.

   If WebSphere Application Server is already installed on the WebSphere Commerce node, WebSphere Application Server must be the edition and version of WebSphere Application Server supported by WebSphere Commerce.

   If you have WebSphere Application Server Version 5.1 installed without the required fix packs, cumulative fixes, or interim fixes required by WebSphere Commerce, the required fix packs, cumulative fixes, and interim fixes required by WebSphere Commerce will be installed during the installation of WebSphere Commerce.

For more information on using a version of WebSphere Application Server already installed on the node, refer to "Using an existing WebSphere Application Server installation with WebSphere Commerce" on page 80.

To install the remaining WebSphere Commerce components, perform a custom installation on the WebSphere Commerce node and select the following components from the list of components available:

- **WebSphere Commerce Server**
- **WebSphere Commerce Payments** (optional)

Installing WebSphere Commerce Payments is optional.

Instructions for performing a custom installation are provided in Part 5, "Installing WebSphere Commerce using the custom installation," on page 87.

WebSphere Commerce environments

Production server environment

The production server environment is the ″live″ environment that is open for business and accessible to customers.

Important
All nodes in a WebSphere Commerce production server configuration must be running the same operating system at the required levels. Heterogeneous operating environments are not supported.

Staging server environment

The staging server environment is an instance of a WebSphere Commerce that is used for testing purposes before new functions or data are deployed to the production server.

Most production environments operate 24 hours a day, 365 days of the year, making it difficult to perform maintenance or test changes. The WebSphere Commerce staging environment allows Site Administrators to copy their production database to a staging database in order to test updates without affecting customers. This is useful for testing updates to the product catalog and new shopping process commands. It is also useful for testing WebSphere Commerce fixes against any custom code you have.

The staging environment requires you to configure the WebSphere Commerce instance as a staging server when you create the WebSphere Commerce instance. You cannot convert a WebSphere Commerce production server environment to a WebSphere Commerce staging server environment.

If you choose to install WebSphere Commerce using the quick installation option of the installation wizard, you must create a new WebSphere Commerce instance to use for the WebSphere Commerce staging server environment. The quick installation option of the installation wizard creates a production server instance for you.

If you choose to install WebSphere Commerce using the custom installation option of the installation wizard, you must create the WebSphere Commerce instance after the installation wizard finishes. You can choose to make this instance a staging server instance.

Important
All nodes in a WebSphere Commerce staging server configuration must be running the same operating system at the required levels. Heterogeneous operating environments are not supported.

Development environment

The development environment is used to customize parts of WebSphere Commerce and unit test any changes. The development environment must be installed on a separate machine from WebSphere Commerce. The machine must be running Microsoft Windows 2000 or Windows XP.

This development environment is provided in the WebSphere Commerce Developer product. It is not provided with WebSphere Commerce.

For more information about the development environment, refer to *WebSphere Commerce Developer Installation Guide*.

Prerequisites

Hardware prerequisites

You require a dedicated machine from either the IBM @server® pSeries® or IBM RS/6000® family of machines that meet the following hardware requirements:

- A 375 MHz processor.
- A minimum of 1 GB of random access memory (RAM) per processor for the first WebSphere Commerce and WebSphere Commerce Payments instances.
- An additional 512 MB of RAM per additional set of WebSphere Commerce and WebSphere Commerce Payments instances.
- A minimum of 6 GB of free disk space, with the following recommended allocated file sizes:
  - `/usr` 4 GB (8388608 blocks with a block size of 512 bytes)
  - `/tmp` 900 MB (1843200 blocks with a block size of 512 bytes)
  - `/home` 1 GB (2097152 blocks with a block size of 512 bytes)
- A minimum of 1GB of paging space per processor.
- A CD-ROM drive.
- A graphics capable monitor.
- A local area network (LAN) adapter that supports the TCP/IP protocol.

Operating system prerequisites

Important

This guide has been tested using the operating system levels listed in this section. However, at the time of your installation, there may be more recent fixes and patches available for your operating system. Unless these fixes or patches contain a resolution to a problem that is critical for your system, use the operating system levels documented in this guide when installing WebSphere Commerce. Once you have completed your installation of WebSphere Commerce, you can apply these later fixes and patches.

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

- Ensure that you have AIX 5.2 maintenance level 03 or later on your WebSphere Commerce machine. Check your operating system level by issuing this command: `oslevel -r`

  This command should return the following:

  ```
  5200-03
  ```

  If the output from the command does not end in –03 or higher, you are at the incorrect Maintenance Level for WebSphere Commerce. Obtain the correct Maintenance Level from IBM @server pSeries Support:

  `http://www.ibm.com/servers/eserver/support/pseries/aixfixes.html`
- Ensure that the following AIX APARs are installed:
  - IY59082

You can query your system to see if a particular APAR is installed with the following command:

```
instfix -v -i -k APAR_number
```

For example:

```
instfix -v -i -k IY59082
```

These patches can be found at IBM Support Fix Central for AIX 5.2, the following URL:

```
http://www-912.ibm.com/eserver/support/fixes/search.jsp?system=2&release=5.2
```

- The following filesets are not included in the base AIX 5.2 installation and must be installed:
  - X11.adt.lib
  - X11.adt.motif
  - X11.base.lib
  - X11.base.rte
  - X11.motif.lib
  - bos.adt.base
  - bos.adt.include
  - bos.net.tcp.client
  - bos.rte.libc
  - bos.rte.net
  - bos.perf.libperfstat
  - bos.perf.perfstat

  Use the `lslpp -l` command to determine if all the necessary filesets are installed. Use the `installp -aX` command to install any missing filesets. For information on using the `lslpp` commands, refer to the AIX documentation.
- DB2 DB2 Universal Database Version 8.2 requires that the AIX C++ Version 6 Runtime libraries are installed on your AIX system. This update is available as the March 2003 C++ Runtime PTF at the following URL:

  ```
  http://www.ibm.com/support/docview.wss?uid=swg24004427
  ```
- Ensure you have the appropriate character filesets installed for the languages in which you will use WebSphere Commerce by entering the following command:

  ```
  lslpp -l X11.fnt.ucs.ttf*
  ```

  Depending on the languages in which you will use WebSphere Commerce, you should see the following filesets:
  - X11.fnt.ucs.ttf (for single-byte and Japanese character display)
  - X11.fnt.ucs.ttf_KR (for Korean character display)
  - X11.fnt.ucs.ttf_TW (for Traditional Chinese character display)
  - X11.fnt.ucs.ttf_CN (for Simplified Chinese character display)

  Note: If these filesets are not found on your system, you will receive warning messages during the WebSphere Commerce installation even if you are not installing in any of these languages or planning to use any of these languages for WebSphere Commerce.
- Ensure that the stack quota limit is at least 32768. To check the current limit, type the following in a command window:

  ```
  ulimit -a
  ```

If the value returned for the stack is less than 32768, increase it to this level by running the following command:

```
ulimit -s 32768
```

- Ensure that the system is DNS enabled so that there is a host name and domain present. Pure IP address environments are not supported by WebSphere Commerce.

  You should have both a name server and a search domain defined in the `/etc/resolv.conf` file.
- Ensure that asynchronous I/O is enabled.

  This is especially important for logically partitioned (LPAR) systems where asynchronous I/O is enabled on the first LPAR but not on subsequent LPAR.
- Ensure that you have Netscape Navigator and Adobe Acrobat Reader installed on your system. For more information, refer to "Documentation prerequisites" on page 34

Networking prerequisites

In addition to the hardware and software requirements, ensure that the network configuration of the system meets the following requirements:

- The system must have a resolvable domain name.

  The host name combined with the domain name is the fully qualified host name. For example, if the host name is *system1* and the domain is *mydomain.com*, the fully qualified host name is *system1.mydomain.com*.

  Issuing the following command from a command prompt session should return the IP address of the system:

  ```
  nslookup fully_qualified_host_name
  ```

  The desired result is a reply with the correct IP address of the system.
- The IP address on the system must resolve to a host name (including a domain). To determine if the IP address is mapped to a fully qualified host name, start a command prompt session and issue the following command:

  ```
  nslookup IP_address
  ```

  The desired result is a reply with the correct fully qualified host name of the system.
- Ensure that all nodes in your configuration can be reached from other computers in the network by pinging the fully-qualified host name of each node in the configuration.
- Ensure that you will have no port conflicts in your planned configuration. For a list of port numbers used by a default installation of WebSphere Commerce, refer to "Port numbers used by WebSphere Commerce."

Port numbers used by WebSphere Commerce

The following is a list of the default port numbers used by WebSphere Commerce or its component products. Ensure that these port are not in use. If you have a firewall configured in your system, ensure that you can access these ports.

For instructions for learning which ports are in use, refer to your operating system documentation.

Important

This section only lists ports required by the software provided with WebSphere Commerce. For port numbers required by non-IBM software, refer to the documentation for the non-IBM software package.

Port Number	Used By
21	FTP port. This port is required when creating a WebSphere Commerce or WebSphere Commerce Payments instance that uses a remote Web server.
80	IBM HTTP Server.
389	Lightweight Directory Access Protocol (LDAP) Directory Server.
443	IBM HTTP Server – secure port. This secure port requires SSL.
636	Lightweight Directory Access Protocol (LDAP) over SSL.
1099	WebSphere Commerce Configuration Manager server.
2809	WebSphere Application Server Bootstrap address.
5432	WebSphere Commerce Payments non-secure server.
5433	WebSphere Commerce Payments secure server. This secure port requires SSL.
5557	WebSphere Application Server Internal Java Messaging Service server.
5558	WebSphere Application Server Java Messaging Service server queued address.
5559	WebSphere Application Server Java Messaging Service direct address.
7873	WebSphere Application Server DRS client address.
8000	WebSphere Commerce Accelerator. This secure port requires SSL.
8001	WebSphere Commerce information center (online help). This is the default port.
8002	WebSphere Commerce Administration Console. This secure port requires SSL.
8004	WebSphere Commerce Organization Administration Console. This secure port requires SSL.
8008	IBM HTTP Server; Administration port.
8880	WebSphere Application Server SOAP Connector address.
9043	WebSphere Application Server Administrative Console Secure Port. This secure port requires SSL.
9080	WebSphere Application Server HTTP Transport.
9090	WebSphere Application Server Administrative Console Port. **Note:** On AIX, the AIX WebSM system management server listens on this port by default. If you suspect you have a port conflict issue this command: `netstat -an | grep 9090`

If you get a match, another process is currently listening on port 9090.

To see if any processes that may not be running use port 9090, examine the `/etc/services` file

Important: Port 9090 must be available for the WebSphere Application Server Administrative Console to function.

If you want the WebSM server and WebSphere Application Server to coexist, do the following:

1. Stop the WebSM server.
2. Remove or comment out the WebSM entry for port 9090 in the `/etc/services` file.
3. Complete the installation and configuration of WebSphere Commerce.
4. Change the HTTP transport port for the WebSphere Application Server Administrative Console. For more information, refer to the "Changing HTTP transport ports" topic in the WebSphere Application Server information center:

   `http://www.ibm.com/software/webservers/appserv/infocenter.html`

   Note: If you change the HTTP transport port for the WebSphere Application Server Administrative Console, it is important that you remember what port is being used. Any WebSphere Commerce instructions that require you to access the WebSphere Application Server Administrative Console will refer to port 9090, which will no longer apply to your configuration.

Although not recommended, you can also disable the WebSM server. To disable the WebSM server, issue this command:

```
/usr/websm/bin/wsmserver -disable
```

The command permanently disables WebSM server startup.

For more information, refer to the AIX information in the "Platform-specific tips for installing and migrating" topic in the WebSphere Application Server information center:

`http://www.ibm.com/software/webservers/appserv/infocenter.html`

9443 WebSphere Application Server HTTPS Transport Port.

9501 WebSphere Application Server Secure Association Service.

9502 WebSphere Application Server Common Secure Port.

9503 WebSphere Application Server Common Secure Port.

50000 DB2® server port.

at least one port at 60000 or higher
DB2 TCP/IP communications.

Additional ports are used as you create additional WebSphere Commerce instances. When you create a new WebSphere Commerce instance, a new application server is created that has unique port numbers for the following ports:

- Bootstrap Address
- WebSphere Application Server Internal Java Messaging Service server
- WebSphere Application Server Java Messaging Service server queued address

- WebSphere Application Server SOAP Connector address
- WebSphere Application Server HTTP Transport

These additional port numbers are automatically selected by WebSphere Application Server. Generally, the new ports numbers are selected by incrementing by one the port number used by the last server created.

National language prerequisites

For national languages, WebSphere Commerce only uses valid Java language locales. Ensure that your systems have the appropriate national language locale installed for your language. Ensure that any locale-related environment variables are set to include the WebSphere Commerce–supported locale.

Table 1. AIX locale codes supported by WebSphere Commerce

Language	Locale Code	LC_ALL value
German	de_DE	de_DE
English	en_US	en_US
Spanish	es_ES	es_ES
French	fr_FR	fr_FR
Italian	it_IT	it_IT
Japanese	Ja_JP	Ja_JP
Korean	ko_KR	ko_KR
Brazilian Portuguese	pt_BR	pt_BR
Simplified Chinese	zh_CN	zh_CN
Traditional Chinese	zh_TW	zh_TW

To determine your locale, run the following command:

```
locale
```

If your locale is not supported, change your locale properties by running the following commands as root user:

```
LANG=xx_XX
export LANG
```

Where xx_XX is your four letter locale code with the same capitalization as shown in the above table.

WebSphere Commerce tools prerequisites

The following WebSphere Commerce tools can be accessed on the same machine as WebSphere Commerce or a remote machine:

- WebSphere Commerce Accelerator
- WebSphere Commerce Administration Console
- WebSphere Commerce Organization Administration Console

Any machine that will be used to access these tools must meet the requirements listed in this section.

WebSphere Commerce tools hardware prerequisites

In order to use the WebSphere Commerce tools, the machine must meet the following minimum requirements:

Graphics adapter

The following are the minimum requirements for the graphics adapter:

Parameter	Minimum value
Resolution	1024x768
Color depth	256 colors

Ensure that the system meets or exceeds these requirements.

WebSphere Commerce tools software prerequisites

In order to use the WebSphere Commerce tools, you require the following software and operating system settings:

Web browser requirements

You can only access the WebSphere Commerce tools using Microsoft Internet Explorer 6.0 from a machine running a Windows operating system on the same network as your WebSphere Commerce machine. You must use Internet Explorer full version 6.0 (also known as Internet Explorer 6.0 Service Pack 1 and Internet Tools) or later with the latest critical security updates from Microsoft — prior versions do not support full functionality of WebSphere Commerce tools.

Accessing WebSphere Commerce tools from Windows Server 2003: Windows Server 2003 Internet Explorer Enhanced Security may prevent access to the WebSphere Commerce tools.

If you want to access the WebSphere Commerce tools from a Windows Server 2003 system, add the following URLs to the list of trusted sites in the security settings for Internet Explorer:

- http://*host_name*
- http://*fully_qualified_host_name*
- https://*host_name*
- https://*fully_qualified_host_name*

For example, if the fully qualified host name of your Web server is commerce.ibm.com, you would add the following URLs to the list of trusted sites:

- http://commerce
- http://commerce.ibm.com
- https://commerce
- https://commerce.ibm.com

Refer to you Internet Explorer documentation for instructions on how to add URLs to the list of trusted sites in the security settings.

Operating system display settings

Ensure that you have set the following display values to the recommended values or higher:

Display setting	Minimum value
Screen area	1024x768
Colors	256 colors

Documentation prerequisites

In order to view the WebSphere Commerce documentation and use the documentation links in the WebSphere Commerce launch pad, you must have the following software installed:

Adobe Acrobat Reader

Adobe Acrobat Reader is required to view any documentation that is provided as a PDF file.

You can obtain Adobe Acrobat Reader at the following URL:

`http://www.adobe.com/products/acrobat/readstep2.html`

Netscape Navigator Web browser

The WebSphere Commerce launchpad and First Steps panels require the Netscape Navigator Web browser in order to use the documentation links.

The full path to the `netscape` executable file must be defined in your system's PATH environment variable so that Netscape Navigator can be launched by only issuing the `netscape` command. No path information should need to be part of the command to launch Netscape Navigator.

Netscape Navigator should be configured to launch Adobe Acrobat Reader so that URLs pointing to PDF files can be launched easily.

You can obtain the Netscape Navigator Web browser at the following URL:

`http://www.ibm.com/servers/aix/browsers/`

The WebSphere Commerce launchpad and First Steps panel do not support any other Web browsers.

Next steps

Depending on the type of installation you want to perform, go to one of the following sections:

Quick installation
Proceed to Part 3, "Installing WebSphere Commerce using the quick installation," on page 37.

Custom installation
Proceed to Part 4, "Preparing for a custom installation," on page 67.

Part 3. Installing WebSphere Commerce using the quick installation

The quick installation does the following:

- Installs DB2 Universal Database
- Installs IBM HTTP Server Version 1.3.28
- Installs WebSphere Application Server Base
- Installs required WebSphere Application Server fix packs, cumulative fixes, and interim fixes required by WebSphere Commerce.
- Installs WebSphere Commerce
- (optional) Installs WebSphere Commerce Payments
- Creates a WebSphere Commerce instance named `demo`.
- (optional) Creates a WebSphere Commerce Payments instance named `wpm`.

A quick installation will be prevented if any of the following conditions are detected on the system:

- DB2 Universal Database is installed
- IBM HTTP Server (any version) is installed
- Any edition of WebSphere Application Server is installed
- Any WebSphere Commerce Version 5.7 components are installed

You cannot use a quick installation if any of the following statements apply to your WebSphere Commerce configuration:

- I want to use Oracle9i Database as the WebSphere Commerce database.
- I want to use an existing installation of DB2 Universal Database as the WebSphere Commerce database.
- I want to use IBM HTTP Server Version 2.0.42.2 as the WebSphere Commerce Web server.
- I want to use an existing installation of IBM HTTP Server Version 1.3.28 as the WebSphere Commerce Web server.
- I want to use an existing installation of WebSphere Application Server as the WebSphere Commerce application sever.

If any of the above statements apply to your WebSphere Commerce configuration, you must use the custom installation. To use the custom installation option of the WebSphere Commerce installation wizard, refer to Part 5, “Installing WebSphere Commerce using the custom installation,” on page 87.

Important

If you want to install WebSphere Commerce Developer
Refer to the *WebSphere Commerce Developer Installation Guide*.

Preparing your system to run the WebSphere Commerce installation wizard

Before starting the WebSphere Commerce installation wizard, complete the following checklist:

__ 1. Review the WebSphere Commerce README file. The README file contains information about last-minute changes to the product. Last-minute changes may include additional fixes that must be installed before using WebSphere Commerce.

   For more information, see "Reviewing the README file."

__ 2. Ensure that any Lotus® Notes® server, Web servers, Java application servers, and any non-essential Java processes are stopped before installing WebSphere Commerce.

__ 3. Ensure that any other InstallShield MultiPlatform installers have completed or you have exited them before installing WebSphere Commerce.

__ 4. If you have a Web server or any other service on your machine that is currently using any of the following ports: `80`, `443`, `5432`, `5433`, `8000`, `8001`, `8002`, and `8004`, stop the Web server.

__ 5. Create the user IDs and groups required by WebSphere Application Server on any machine on which you plan to install WebSphere Commerce or WebSphere Commerce Payments. For instructions, refer to "Creating required WebSphere Application Server users and groups" on page 40.

__ 6. Ensure that the user ID under which you are performing the installation has its umask set to 022.

Checklist tasks

Use the instructions in the following sections to complete the checklist used to ensure that you are ready to run the WebSphere Commerce installation wizard.

Reviewing the README file

Reviewing the README file is an important prerequisite for installing WebSphere Commerce. The README file contains information about last-minute changes to the product. Last-minute changes may include additional fixes that must be installed before using WebSphere Commerce.

Failure to install any last minute fixes listed in the README file will result in WebSphere Commerce not functioning correctly.

The README file can be found in the `readme` directory of WebSphere Commerce CD 1. The README file name is:

`readme_`***`language_code`***`.htm`

where ***language_code*** is one of the following:

Language	Language code
German	de_DE
English	en_US
Spanish	es_ES

Language	Language code
French	fr_FR
Italian	it_IT
Japanese	ja_JP
Korean	ko_KR
Brazilian Portuguese	pt_BR
Simplified Chinese	zh_CN
Traditional Chinese	zh_TW

Creating required WebSphere Application Server users and groups

On any machine where you install WebSphere Commerce components including: WebSphere Commerce; WebSphere Commerce Payments; and the WebSphere Commerce Configuration Manager client, do the following:

1. Log on as `root`.
2. Create a non-root user ID, give the new user ID a password and ensure that umask is set to 022.

   This user ID will be used to start the WebSphere Commerce and WebSphere Commerce Payments application servers as part of the instance creation part of the Quick installation process.

   By default, the WebSphere Commerce installation wizard specifies **wasuser** as the non-root WebSphere Commerce user ID and **wasgroup** as the group ID for the non-root WebSphere Commerce user ID. You can either create this user and group or replace the default values in the installation wizard with the user ID and group you create.
3. Create a new user group and add the non-root user ID to the new group.

   Take note of the non-root user ID, user group ID for the non-root user, and the full path of the home directory for the non-root user. This information will be required to complete the WebSphere Commerce installation wizard.
4. Create the user IDs and groups required by the WebSphere Application Server embedded messaging components. These user IDs and groups are required for WebSphere Application Server to install successfully.

   Create the required user IDs and groups as follows:

   a. Create the user ID `mqm` and give the user ID a password.

      Note: This user ID is used for the WebSphere Application Server Java Messaging Service (JMS) Client option. No WebSphere MQ components are installed by the WebSphere Commerce installation wizard.

   b. Create the following user groups:

      - `mqm`
      - `mqbrkrs`

      Note: These user groups are used for the WebSphere Application Server Java Messaging Service (JMS) Client option. No WebSphere MQ components are installed by the WebSphere Commerce installation wizard.

   c. Add the following users to the `mqm` user group:

- mqm
- root

d. Add the following user to the mqbrkrs user group:
   - root

e. Log off.

f. Log on as root to allow the group membership changes to take effect.

5. Ensure that the non-root user has no open connections when you start the installation wizard.

For instructions on creating users, creating user groups, and adding users to groups, refer to your operating system documentation.

You can confirm that root is a member of the required groups by issuing the following command:

```
id root
```

This command displays all of the groups to which root belongs.

If these user IDs and groups are not set up correctly before starting the WebSphere Commerce installation wizard, the installation wizard will not proceed past the point where the wizard checks for the existence of the required users and groups.

Information required to complete a quick installation

Prerequisites: Before completing this section, ensure that you have completed "Preparing your system to run the WebSphere Commerce installation wizard" on page 39.

The WebSphere Commerce installation wizard prompts you for a number of different user IDs and other information in order to complete the installation. Before starting your installation of WebSphere Commerce, fill in the following table so you will have the information handy when you complete the WebSphere Commerce installation wizard:

Operating system user IDs

Review the descriptions in "Operating system information required to complete the installation wizard" on page 45 then fill in this table:

User ID description	User ID	Password	Group	Full path of home directory	umask
Database user ID					022
Non-root WebSphere Commerce user ID					022

For information on creating user IDs, creating groups, and setting passwords, refer to your operating system documentation.

Instructions for creating the WebSphere Commerce non-root user are provided in "Creating required WebSphere Application Server users and groups" on page 40.

By default, the WebSphere Commerce installation wizard specifies **wasuser** as the non-root WebSphere Commerce user ID and **wasgroup** as the group ID for the non-root WebSphere Commerce user ID. You can either create this user and group or replace the default values in the installation wizard with the user ID and group you create.

Other required users and groups

The installation of WebSphere Commerce requires that specific user IDs and groups exist before installing WebSphere Commerce. Create any users and groups that do not exist and ensure that the users are added to the groups before installing WebSphere Commerce.

User ID or group description	User ID	User ID must exist in these groups	umask
root user	root	mqbrkrs, mqm	022
WebSphere Application Server embedded messaging user	mqm	mqm	022

Details for creating these user IDs and groups are provided in "Creating required WebSphere Application Server users and groups" on page 40.

Important: The existence of these user IDs and groups is *not* optional. The installation wizard will halt if these specific user IDs and groups do not exist.

If the installation wizard halts because these user IDs and groups do not exist, create the user IDs and groups, then click **Back** and then **Next**. The installation wizard should continue.

Note: The mqm user ID and the mqbrkrs and mqm user groups are required for the WebSphere Application Server Java Messaging Service (JMS) Client option. No WebSphere MQ components are installed by the WebSphere Commerce installation wizard.

WebSphere Commerce and WebSphere Commerce Payments information

Review the descriptions in "WebSphere Commerce information required to complete the installation wizard" on page 46 then fill in this table:

Other information	Your value
WebSphere Commerce Site Administrator ID	
WebSphere Commerce Site Administrator password	
Merchant key	
WebSphere Commerce Payments instance password	
WebSphere Commerce Configuration Manager initial ID	**webadmin**
WebSphere Commerce Configuration Manager initial password	**webibm**

Operating system information required to complete the installation wizard

To complete the installation of WebSphere Commerce, you will need the following IDs defined:

User ID	Description
Non-root WebSphere Commerce user ID	For security reasons, it is important to run all WebSphere Commerce and its software stack components as a non-root user. Instructions for creating the WebSphere Commerce non-root user are provided in "Preparing your system to run the WebSphere Commerce installation wizard" on page 39. You must have the non-root user ID, the group to which the ID belongs, the full path of non-root user's home directory, and the non-root user ID's password to complete the quick installation option of the installation wizard.
Database user ID	This operating system ID is created for DB2 Universal Database. This ID must not exist before installing DB2 Universal Database through the WebSphere Commerce installation wizard. As part of the installation of DB2 Universal Database, the user ID under which all DB2 processes run is created. To create the DB2 user, the following information will be required: • User ID • password • Group to which the user ID will belong • Full path to the home directory for the user ID **Note:** The user ID must meet DB2 Universal Database user ID requirements outlined in "DB2 Universal Database user ID requirements."

Notes:

1. For installing WebSphere Commerce with a local database, all user IDs can be the same ID on the local machine.
2. The database administrator ID and database user ID must meet DB2 Universal Database user ID requirements outlined in "DB2 Universal Database user ID requirements."

DB2 Universal Database user ID requirements

DB2 requires that the user IDs and passwords for database administrators and database users adhere to the following rules:

- They cannot be more than 8 characters in length.
- They can contain only the characters a to z and 0 to 9 (upper-case letters are not permitted).
- They cannot begin with an underscore (_).
- The user ID cannot be any of the following, in upper, lower, or mixed case: `USERS`, `ADMINS`, `GUESTS`, `PUBLIC`, `LOCAL`.
- The user ID cannot begin with any of the following in upper, lower, or mixed case: `IBM`, `SQL`, `SYS`.

WebSphere Commerce information required to complete the installation wizard

To complete the installation of WebSphere Commerce, you will need to know the following additional information:

Information	Description
WebSphere Commerce Site Administrator ID	This ID is used to access the WebSphere Commerce tools such as the WebSphere Commerce Accelerator, the WebSphere Commerce Administration Console, and the WebSphere Commerce Organization Administration Console. This ID is also used to access the WebSphere Commerce Payments console. This is not an operating system ID. This ID is created by the WebSphere Commerce installation wizard.
WebSphere Commerce Site Administrator password	WebSphere Commerce requires that the Site Administrator password adhere to the following rules: • Must be at least 8 characters in length. • Must contain at least one numeric character (0–9) • Must contain at least one alphabetic character (a–z, A–Z) • Cannot contain four consecutive occurrences of a character • The same character cannot appear more than four times in the password.
Merchant Key	The merchant key is used by the WebSphere Commerce Configuration Manager as an encryption key. You must enter your own key in the Merchant key field. Ensure that the key that you enter will be sufficient to protect your site. The merchant key is a 16 digit hexadecimal number that must meet the following criteria: • Must contain at least one numeric character (0–9) • Must contain at least one alphabetic character (a–f) **Important:** Uppercase letters are not valid in the merchant key. • Cannot contain four consecutive occurrences of a character. • The same character cannot appear more than four times in the merchant key.

Information	Description
WebSphere Commerce Payments instance password	This is the password used by WebSphere Commerce Payments to connect to the WebSphere Commerce Payments database and decrypt any sensitive data that is stored in the database. This password will be specified when issuing the `IBMPayServer` and `StopIBMPayServer` commands when starting and stopping WebSphere Commerce Payments from a command line. For more details, refer to "Starting or stopping a WebSphere Commerce Payments instance" on page 169. The WebSphere Commerce Payments instance password must meet the following criteria: • Must be at least 8 characters in length. • Must contain at least one numeric character (0–9) • Must contain at least one alphabetic character (a–z, A–Z) • Cannot contain four consecutive occurrences of a character • The same character cannot appear more than four times in the password.

Starting the installation wizard

You can start the installation in two ways — as a GUI based installation wizard or as a text based installation wizard. For instructions on how to start the wizard, refer to one of the following sections:

- "Starting the GUI based installation wizard."
- "Starting the text based installation wizard" on page 50.

Starting the GUI based installation wizard

Prerequisites:

__ The system on which you are starting the installation wizard meets all of the requirements listed in "Prerequisites" on page 27.

__ You have completed all of the tasks listed in "Preparing your system to run the WebSphere Commerce installation wizard" on page 39.

Procedure:

To start the GUI based installation wizard, do the following:

1. Ensure that you are logged onto your system as `root`.
2. From a terminal session, issue the following commands:

   ```
   DISPLAY=host_name:0.0
   export DISPLAY
   ```

   where *host_name* is the fully qualified host name of the machine from which you want to run the installation wizard.

   Note: If you are running the installation wizard in an X client, 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.
3. Insert WebSphere Commerce CD 1 into the CD-ROM drive of the node.
4. Mount the CD-ROM drive.

   Important: Do not change the directory to the mount point. Changing directories to the mount point will lock the CD drive and prevent you from being able to swap CDs when the WebSphere Commerce installation wizard asks you to do so.

   Note: The WebSphere Commerce CDs use Universal Disk Format (UDF). You may need to use a specific mount command depending on your operating system.

   For example, `mount -o ro -v udfs /dev/cd0 /cdrom`

   All other CDs provided with WebSphere Commerce use ISO formatted CDs. Ensure that you mount the CDs correctly.
5. Issue the following command as *root*:

mount_point/setup_aix

where *mount_point* is the CD-ROM mount point, for example, /mnt/cdrom0.

If at any point during the installation, the text in the installation wizard appears to be cut off or missing, resize the wizard so that you can read all of the text on the wizard.

Important: The installation wizard starts by displaying a language selection panel. The language selected in the language selection panel becomes the default language for all WebSphere Commerce instances. Attempting to create a WebSphere Commerce instance with a default language different from the language selected in the language selection panel will cause the WebSphere Commerce instance to be populated with data in the language originally selected in the language selection panel.

After you have completed the instructions in this section, proceed to "Completing a quick installation" on page 53.

Starting the text based installation wizard

Prerequisites:

__ The system on which you are starting the installation wizard meets all of the requirements listed in "Prerequisites" on page 27.

__ You have completed all of the tasks listed in "Preparing your system to run the WebSphere Commerce installation wizard" on page 39.

Procedure:

To start the text based installation wizard, do the following:

1. Ensure that you are logged onto your system as root.
2. Insert WebSphere Commerce CD 1 into the CD-ROM drive of the node.
3. Mount the CD-ROM drive.

   Important: Do not change the directory to the mount point. Changing directories to the mount point will lock the CD drive and prevent you from being able to swap CDs when the WebSphere Commerce installation wizard asks you to do so.

   Note: The WebSphere Commerce CDs use Universal Disk Format (UDF). You may need to use a specific mount command depending on your operating system.

   For example, `mount -o ro -v udfs /dev/cd0 /cdrom`
4. Issue the following command as *root*:

   mount_point/setup_aix -console

The steps in the text-based installation wizard and the GUI based installation wizard are the same, but the methods of selection options and continuing in the two installation wizards differ.

Important: The installation wizard starts with a language selection prompt. The language selected at the language selection prompt becomes the default language for the WebSphere Commerce instance. Attempting to create a WebSphere Commerce instance with a default language different

from the language selected at the language selection prompt will cause the WebSphere Commerce instance to be populated with data in the language originally selected in the language selection panel.

After you have completed the instructions in this section, proceed to "Completing a quick installation" on page 53.

Completing a quick installation

Prerequisites:

__ No version or edition of WebSphere Commerce is installed on the machine.

__ No version or edition of DB2 Universal Database is installed on the machine.

__ No version or edition of WebSphere Application Server is installed on the machine.

__ No version or edition of IBM HTTP Server is installed on the machine.

__ The system on which you are starting the installation wizard meets all of the requirements listed in "Prerequisites" on page 27.

__ You have completed all of the tasks listed in "Preparing your system to run the WebSphere Commerce installation wizard" on page 39.

__ You have started the installation wizard according to the instructions in "Starting the installation wizard" on page 49.

Note: Non-IBM software supported by WebSphere Commerce may be installed on the system before performing a quick installation, however the non-IBM software will not be used by WebSphere Commerce.

Procedure:

To complete a quick installation, do the following:

1. Select the installation language in the language selection panel, and select **OK**.

   The software will be installed in this language, regardless of the language settings of your system.

   Important: The language selected here becomes the default language for the WebSphere Commerce instance. Attempting to create a WebSphere Commerce instance with a default language different from the language selected here will cause the WebSphere Commerce instance to be populated with invalid data.
2. Read the Welcome screen, and select **Next**.
3. Read the license agreement. If you accept the terms of the agreement, select that you accept the terms, and select **Next**.
4. When prompted to select an installation type, select **Quick Installation**, and select **Next**.
5. Accept the default destination directory or enter another directory, and select **Next**.

   If you accept the default destination directory, the WebSphere Commerce components will be installed to the following paths:

   DB2 Universal Database
   ```
   /usr/opt/db2_08_01
   ```

   Note: The path for DB2 Universal Database cannot be changed.

   IBM HTTP Server
   ```
   /usr/WebSphere/IBMHttpServer
   ```

   WebSphere Application Server
   ```
   /usr/WebSphere/AppServer
   ```

WebSphere Commerce
`/usr/WebSphere/CommerceServer57`

Important: If you have removed DB2 Universal Database, WebSphere Application Server, or IBM HTTP Server from your system and you want the WebSphere Commerce installation wizard to install them in the same location where they were installed earlier, do the following:

a. Backup any files from the directories you want to keep.
b. Delete the directories.

   The directories will be recreated during the installation.

If you fail to clean up these directories before you continue to the next step, your installation of WebSphere Commerce will not function correctly.

6. Choose whether or not you want to install WebSphere Commerce Payments, then select **Next**.

   If you choose not to install WebSphere Commerce Payments, you can install WebSphere Commerce Payments later by using the **Custom Installation** option of the WebSphere Commerce installation wizard.

7. Enter the following information:
   - Database user ID
   - Database user password
   - Database user group
   - Database user home directory

   For descriptions of these items, refer to "Information required to complete a quick installation" on page 43.

   Select **Next** to continue.

   Note: When navigating through the Install Wizard, the following warning message may be posted after entering user information: `The system cannot validate the user password. Ensure the password is correct before proceeding.` This means that the user password cannot be validated due to a system limitation. This system limitation could be either the PAM library not being installed on your operating system or custom security settings on your system. No further action is required at this time. Ensure the correct password has been entered on the panel and click **OK** to proceed with the installation.

8. If you chose to install WebSphere Commerce Payments, enter the following information:
   - WebSphere Commerce Payments instance password

   For descriptions of this item, refer to "Information required to complete a quick installation" on page 43.

   Select **Next** to continue.

9. Enter the following information:
   - Site Administrator ID
   - Site Administrator password
   - Merchant Key

   Important: Ensure that you do not forget the Site Administrator ID and password entered when installing WebSphere Commerce. Without

this ID and password, you will not be able to access WebSphere Commerce Accelerator, Administration Console, Organization Administration Console, or the WebSphere Commerce Payments console.

For descriptions of these items, refer to "Information required to complete a quick installation" on page 43.

Select **Next** to continue.

10. Select the languages of the documentation that you want installed, then select **Next** to continue.
11. Enter the following information:
    - Non-root user ID
    - Non-root user group
    - Non-root user home directory

    For descriptions of these items, refer to "Information required to complete a quick installation" on page 43.

    The location of the IBM HTTP Server configuration file (`httpd.conf`) also displays. This value cannot be changed.Select **Next** to continue.
12. Confirm your installation choices, then select **Next**.

    To modify your choices, select **Back**
13. When prompted to change CDs by the WebSphere Commerce installation wizard, do the following:
    a. Unmount the CD-ROM drive.
    b. Change the CD in the CD-ROM to the requested CD.
    c. Mount the CD-ROM drive.

    Notes:

    1) When prompted to insert the IBM DB2 Universal Database Enterprise Server Edition Version 8.2 (8.1 FP7a) CD, insert the IBM DB2 Universal Database Enterprise Server Edition Version 8.2 (8.1 FP9) CD.

       WebSphere Commerce has provided a more recent version of DB2 Universal Database than indicated by the installation wizard.
    2) Do not change directories to the mount point. Changing directories to the mount point will lock the CD drive and prevent you from being able to swap CDs.
    3) Only WebSphere Commerce CD 1 and CD 2 are formatted in UDF, all other CDs provided are in ISO format. Ensure that you use the correct command to mount a CD according to its format.
    4) The installation wizard panel will display the mount point when a new CD is required for the installation. Do not alter this panel, for any CD that is mounted, during the installation.

    Depending on your configuration, you may not need to mount and unmount the CD-ROM drive when changing CDs.

    Progress bars indicate how much of the installation has completed.
14. When the installation is complete, click **Finish** to exit the installation wizard.
15. If you chose to install WebSphere Commerce Payments, complete the steps in "Configuring WebSphere Commerce to use WebSphere Commerce Payments" on page 56.

16. Update the WebSphere Commerce non-root user's `.profile` file as documented in "Updating the WebSphere Commerce non-root user's .profile file."

After completing this section, proceed to "Verifying a quick installation" on page 59.

Configuring WebSphere Commerce to use WebSphere Commerce Payments

If you chose to install WebSphere Commerce Payments, you must configure WebSphere Commerce to use WebSphere Commerce Payments:

1. Start the default WebSphere Application Server (server1).

   For instructions on starting an application server, refer to "Starting or stopping an application server" on page 179.
2. Start the WebSphere Commerce Configuration Manager. For details, refer to "Starting the Configuration Manager" on page 110.
3. Under **WebSphere Commerce**, expand *hostname* **> Commerce > Instance List > demo > Instance Properties**.
4. Select **Payments**.
5. In the **Web server Hostname** field, enter the fully qualified host name of the node.
6. In the **Web server Port** field, enter 5433.
7. Click **Apply**.
8. Exit Configuration Manager by selecting **Console > Exit**.
9. Stop the default WebSphere Application Server (server1).

   For instructions on stopping an application server, refer to "Starting or stopping an application server" on page 179.

Updating the WebSphere Commerce non-root user's .profile file

For WebSphere Commerce to function correctly, the WebSphere Commerce installation wizard updates the non-root user's `.profile` file.

Confirm that the updates were made to the WebSphere Commerce non-root user's `.profile` file as follows:

1. Check one of the following, depending on the database you are using:

   - DB2 Ensure that the WebSphere Commerce non-root user's `.profile` file calls the WebSphere Commerce database user's `.profile` file. The following line should appear in the WebSphere Commerce non-root user's `.profile` file:

     `. DB2_users_dir/.profile`

     where *DB2_users_dir* is the full path of the home directory for the DB2 Universal Database user.

     Ensure that *DB2_users_dir*`/.profile` does not contain any statements that will not run in `sh`.

   - Oracle Ensure that the WebSphere Commerce non-root user's `.profile` file calls the Oracle installation owner's `.profile` file. The following line should appear in the WebSphere Commerce non-root user's `.profile` file:

     `. Oracle_home_dir/.profile`

where *Oracle_home_dir* is the home directory of the Oracle installation owner.

Ensure that *Oracle_home_dir*`/.profile` does not contain any statements that will not run in `sh`.

2. If you use the CDE desktop, ensure that the WebSphere Commerce non-root user's `.dtprofile` file calls the WebSphere Commerce non-root user's `.profile` file.

Verifying a quick installation

You can verify a quick installation by doing the following:

1. "Verifying your installation with the WebSphere Commerce tools."

   If you can complete this section successfully, you may skip the other verification steps.
2. "Verifying your installation using log files" on page 60.

After verifying your installation, proceed to "Next step" on page 65.

Verifying your installation with the WebSphere Commerce tools

After completing a quick installation, you can verify your installation by doing the following:

1. If it is not started, start DB2 Universal Database
2. If it is not started, start IBM HTTP Server.
3. If it is not started, start WebSphere Commerce.
4. If you chose to install it and it is not started, start WebSphere Commerce Payments.

In the following steps, *fully_qualified_hostname* is the fully qualified host name of the machine on which you completed the quick installation of WebSphere Commerce.

5. Ensure that you can access the following URLs:
   - http://*fully_qualified_hostname*
   - https://*fully_qualified_hostname*

   If you cannot access the secure (https) URL, the keyfile database password has expired or the self-signed certificate has expired. You may need to create a new key database file and a new self-signed certificate. Refer to the IBM HTTP Server documentation for instructions.

   Note: The default SSL key is meant for testing only and should not be used in production.

   Ensure that the secure URL (https) functions before continuing.
6. Access the following URLs:
   - https://*fully_qualified_hostname*:8000/accelerator
   - https://*fully_qualified_hostname*:8002/adminconsole
   - https://*fully_qualified_hostname*:8004/orgadminconsole

   For each of these URLs, do the following:

   a. Ensure that you see the login page for each URL.
   b. For each URL, log in using the Site Administrator ID and password you entered when completing a quick installation.

   If you can log in to each of these URLs, you have installed WebSphere Commerce successfully.
7. If you chose to install WebSphere Commerce Payments, do the following:

   a. Access the following URLs:

- http://*fully_qualified_hostname*:5432/webapp/PaymentManager
- https://*fully_qualified_hostname*:5433/webapp/PaymentManager

For each of these URLs, do the following:

1) Ensure that you see the login page for each URL.
2) For each URL, log in using the Site Administrator ID and password you entered when completing a quick installation.

b. Ensure that you can access WebSphere Commerce Payments from Administration Console as follows:

1) Access and log on to the Administration Console as Site Administrator at the following URL:

   `https://fully_qualified_hostname:8002/adminconsole`

2) Select **Site** and click **OK**.
3) Select any item in the **Payments** menu.

   Ensure that you do not receive any error messages or that the resulting screen is not blank.

4) Exit the Administration Console.

If you can complete this step successfully, you have installed WebSphere Commerce Payments successfully.

If you can complete this section successfully, you may skip the other verification steps.

Verifying your installation using log files

During the installation of WebSphere Commerce and its components, log files are generated. Examine the following log files to ensure that your installation was successful:

- "WebSphere Commerce installation logs"
- "DB2 Universal Database installation logs" on page 61
- "WebSphere Application Server installation logs" on page 62
- "IBM HTTP Server Version 1.3.28 installation logs" on page 63
- "WebSphere Commerce instance creation logs" on page 63
- "WebSphere Commerce Payments instance creation logs" on page 64

To confirm the installation of any non-IBM software, refer to the documentation provided with the non-IBM software package.

WebSphere Commerce installation logs

The following log files contains messages generated by the WebSphere Commerce installation wizard:

- *WC_installdir*/logs/install_*date_time*.log

  Note: Depending on the number of installation attempts, there may be more than one of these log files. Ensure you look at the most recent log file.

- *WC_installdir*/logs/wctrace_*date_time*.log

  Note: This log file is intended for use by IBM support only. Examining this file will not provide you with any useful information.

- *WC_installdir*/logs/wcnonroot.log

Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

If the installation of WebSphere Commerce fails, these log files will be in the `/tmp` directory.

Review these log files to ensure that all components of WebSphere Commerce installed successfully.

The WebSphere Commerce installation is complete if the following message appears in the `install_`*`date_time`*`.log` log file:

```
WebSphere Commerce installation complete.
```

DB2 Universal Database installation logs

This log contains messages generated during the installation of DB2 Universal Database. The default location for this log file is the following:

```
WC_installdir/logs/db2setup.log
```

Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

If the WebSphere Commerce installation wizard did not complete successfully or was otherwise interrupted and DB2 Universal Database was installed, the log files will be in the following location:

```
/tmp
```

DB2 Universal Database installed successfully if all of the components listed in the `Installation` section near the end of the log file have a status of `SUCCESS`. As an example, here is the Installation section of the DB2 Universal Database installation log file from a typical single-node or Quick installation:

```
Installation
------------

DB2 Client                                                 SUCCESS
Code Page Conversion Support - Uni Code Support            SUCCESS
Code Page Conversion Support - Japanese                    SUCCESS
Code Page Conversion Support - Korean                      SUCCESS
Code Page Conversion Support - Simplified Chinese          SUCCESS
Code Page Conversion Support - Traditional Chinese         SUCCESS
Java Support                                               SUCCESS
Common Jar Files                                           SUCCESS
DB2 Run-time Environment                                   SUCCESS
DB2 Engine                                                 SUCCESS
Transformer Stored Procedure Files                         SUCCESS
DB2 Communication Support - TCP/IP                         SUCCESS
DB2 Communication Support - SNA                            SUCCESS
DB2 Communication Support - DRDA Application Server        SUCCESS
DB2 Communication Support - IPX/SPX                        SUCCESS
Administration Server                                      SUCCESS
DB2 Connect Support                                        SUCCESS
Replication                                                SUCCESS
DB2 Control Server                                         SUCCESS
DB2 Sample Database Source                                 SUCCESS
Distributed Join for DB2 Data Sources                      SUCCESS
Getting Started                                            SUCCESS
Light-weight Directory Access Protocol                     SUCCESS
Product Signature for DB2 UDB Enterprise Edition           SUCCESS
DB2 Application Development Tools (ADT)                    SUCCESS
DB2 Sample Applications                                    SUCCESS
Stored Procedure Builder                                   SUCCESS
```

The content of your log file may be different.

If the Installation section of the DB2 Universal Database installation contains any components with a status of FAILURE, examine the installation log file carefully to see where errors occurred during installation. Refer to the DB2 Universal Database documentation to correct any errors that occurred.

Correct any DB2 Universal Database installation errors before continuing with the instructions in this book.

WebSphere Application Server installation logs

The installation of WebSphere Application Server and its associated fixes generates the following log files:

- *WAS_installdir*/logs/http_plugin.log
- *WAS_installdir*/logs/log.txt
- *WAS_installdir*/logs/mq_install.log
- *WAS_installdir*/logs/WASFixes.err.log
- *WAS_installdir*/logs/WASFixes.log
- *WAS_installdir*/logs/WASFixPack.log
- *WAS_installdir*/logs/WASFixPack.err.log

Default values for *WAS_installdir* are listed in "Path variables used in this book" on page iv.

If the WebSphere Commerce installation wizard did not complete successfully or was otherwise interrupted and WebSphere Application Server was installed, the log files will be in the following location:

```
/tmp
```

The WebSphere Application Server installation is complete if the following message appears in the log.txt log file:

```
INSTFIN: The WebSphere 5.1 install is complete.
```

To confirm that WebSphere Application Server is at the correct version required by WebSphere Commerce, open the following file in a text editor:

WAS_installdir/properties/version/BASE.product

WebSphere Application Server is at the correct version required by WebSphere Commerce if the version indicated in the file is 5.1.1.3. For the applied WebSphere Application Server fix packs, the following files are created for each fix pack:

WAS_installdir/properties/version/history/*fix*.ptfApplied
WAS_installdir/properties/version/history/*fix*.ptfDriver

where *fix* will be the following:

- was51_fp1_aix
- was511_cf3_aix

Ensure that the appropriate files were created for the fixes applied to your installation.

For the applied WebSphere Application Server interim fixes, the following files are created for each interim fix:

WAS_installdir/properties/version/history/*fix*.efixApplied
WAS_installdir/properties/version/history/*fix*.efixDriver

where *fix* will be the following:

- PQ99045
- PK05011
- PK02063

Ensure that the files were created for each fix.

IBM HTTP Server Version 1.3.28 installation logs

The installation of IBM HTTP Server Version 1.3.28 and its associated fixes generates the following log files:

- *HTTPServer_installdir*/logs/error.log
- *WAS_installdir*/logs/ihs_log.txt
- *WAS_installdir*/logs/WASFixes.log
- *WAS_installdir*/logs/WASFixes.err.log
- *WAS_installdir*/logs/WASFixPack.log
- *WAS_installdir*/logs/WASFixPack.err.log

Default values for *HTTPServer_installdir* and *WAS_installdir* are listed in "Path variables used in this book" on page iv.

If the WebSphere Commerce installation wizard did not complete successfully or was otherwise interrupted and IBM HTTP Server was installed, the log files will be in the following location:

/tmp

If no errors occurred during the installation of IBM HTTP Server Version 1.3.28 and its associated fixes, the following files will not exist, or if they do exist, they will be empty:

- *WAS_installdir*/logs/WASFixes.err.log
- *WAS_installdir*/logs/WASFixPack.err.log

Note: If IBM HTTP Server Version 1.3.28 and WebSphere Application Server are installed on the same machine, the following log files apply to both IBM HTTP Server Version 1.3.28 and WebSphere Application Server:

- *WAS_installdir*/logs/WASFixes.log
- *WAS_installdir*/logs/WASFixes.err.log
- *WAS_installdir*/logs/WASFixPack.log
- *WAS_installdir*/logs/WASFixPack.err.log

WebSphere Commerce instance creation logs

The configuration information for the WebSphere Commerce instance created as part of the quick installation, `demo`, is stored in the following file:

WC_installdir/instances/demo/xml/demo.xml

where default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

Confirm that this file exists before checking the log files produced during instance creation.

Creating a WebSphere Commerce instance produces log files in the following directory:

WC_installdir/instances/demo/logs

where default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

WebSphere Commerce Payments instance creation logs

The configuration information for the WebSphere Commerce Payments instance created as part of the quick installation, wpm, is stored in the following file:

WC_installdir/instances/wpm/xml/wpm.xml

where default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

Confirm that this file exists before checking the log files produced during instance creation.

Creating a WebSphere Commerce Payments instance produces the following log files:

Log file directory	Log files
WC_installdir/instances	• Configurator.1.log This log file will be required by IBM support if there was a problem with the WebSphere Commerce Payments instance creation.
WC_installdir/instances/wpm/logs	• createdb.log • createdb.err.log

where default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

If instance creation failed, the WebSphere Commerce Payments instance can be created manually by following the instructions in Part 6, "Creating a WebSphere Commerce and a WebSphere Commerce Payments instance," on page 107.

Next step

After you complete a quick installation, review Part 7, “Last steps,” on page 125 to decide how to continue.

Important

For WebSphere Commerce Configuration Manager, the initial ID is **webadmin** and the initial password is **webibm**.

The first time you log in to Configuration Manager, you will be asked to change the password for security purposes.

Part 4. Preparing for a custom installation

This part of the book covers the tasks you must perform to prepare for a custom installation.

Complete the instructions in this part of the book as follows:

1. If you want to use Oracle9i Database as the WebSphere Commerce database, complete "Installing and configuring Oracle9i Database" on page 69.
2. If you want to use an existing installation of DB2 Universal Database as the WebSphere Commerce database, complete "Using an existing DB2 Universal Database installation with WebSphere Commerce" on page 77.

   If you want to use DB2 Universal Database but do not have an existing DB2 Universal Database installation, you can use the WebSphere Commerce installation wizard to install DB2 Universal Database.
3. If you want to use Sun ONE Web server as the WebSphere Commerce Web server, complete "Installing and configuring Sun ONE Web Server 6.0.5" on page 71.
4. If you want to use IBM HTTP Server Version 2.0.42.2 as the WebSphere Commerce Web server, complete "Using IBM HTTP Server Version 2.0.42.2 with WebSphere Commerce" on page 75.
5. If you want to use an existing installation of IBM HTTP Server Version 1.3.28 as the WebSphere Commerce Web server, complete "Using an existing IBM HTTP Server Version 1.3.x installation with WebSphere Commerce" on page 78.

   If you want to use IBM HTTP Server Version 1.3.28 but do not have an existing IBM HTTP Server Version 1.3.28 installation, you can use the WebSphere Commerce installation wizard to install IBM HTTP Server Version 1.3.28.
6. If you want to use an existing installation of WebSphere Application Server as the WebSphere Commerce or WebSphere Commerce Payments application sever, complete "Using an existing WebSphere Application Server installation with WebSphere Commerce" on page 80.

   If you do not have an existing WebSphere Application Server installation, WebSphere Application Server will be installed for you when you choose to install WebSphere Commerce or WebSphere Commerce Payments.
7. Complete the instructions in "Preparing your systems to run the WebSphere Commerce installation wizard" on page 83.

   All users must complete this section before continuing.

Installing and configuring non-IBM software stack components

If you use any non-IBM software as part of the WebSphere Commerce software stack, you cannot use the quick installation option in the WebSphere Commerce installation wizard. You must use the custom installation option.

Installing and configuring Oracle9i Database

If you use Oracle9i Database as the WebSphere Commerce database, you must install and configure Oracle9i Database before installing WebSphere Commerce.

Oracle9i Database support on 64–bit systems
Oracle9i Database is supported in 32–bit compatibility mode on 64–bit systems only. 64–bit mode is not exploited.

Note: Oracle9i Database may require additional filesets or components not installed by a default installation of the operating system. Ensure that you review the Oracle9i Database documentation carefully and install any filesets or components required by Oracle9i Database.

To install and configure Oracle9i Database for use with WebSphere Commerce, do the following:

1. Install the following Oracle9i Database components according to the instructions found in the Oracle9i Database documentation:
   - Oracle9i Database
   - Oracle Net Services
   - Oracle Net Listener
   - Oracle JDBC/OCI Interfaces
2. If you plan to have the Oracle9i Database server on a separate node from the WebSphere Commerce or WebSphere Commerce Payments node, install the following Oracle9i Database components on the WebSphere Commerce and WebSphere Commerce Payments nodes:
   - Oracle9i Enterprise Client
   - SQL*Plus
   - Oracle JDBC/OCI Interfaces
   - Oracle Net Services

   Install these components according to the instructions found in the Oracle9i Database documentation.
3. Create and configure a database for use with WebSphere Commerce before installing WebSphere Commerce. Settings for the database are listed in "Oracle9i Database settings for WebSphere Commerce" on page 70.

   Create and configure the database according to the instructions in the Oracle9i Database documentation.

When creating and configuring Oracle9i Database, take note of the following information:

- User account to own Oracle software
- Oracle9i Database home directory
- Oracle WebSphere Commerce database name
- (optional) Oracle WebSphere Commerce Payments database name
- Oracle SID for WebSphere Commerce database
- (optional) Oracle SID for WebSphere Commerce Payments database
- Oracle ID and password for database administrator
- Oracle ID and password for WebSphere Commerce database user

This information will be needed when creating the WebSphere Commerce instance and, optionally, the WebSphere Commerce Payments instance.

For security reasons, an Oracle DBA account should not be used as the WebSphere Commerce database user.

The WebSphere Commerce instance creation wizard does the following when you select **Create a new database or tablespace** in the wizard:

- Creates an Oracle9i Database user ID for the WebSphere Commerce schema.
- Creates the tablespace for WebSphere Commerce.
- Populates the WebSphere Commerce tablespace.

The WebSphere Commerce Payments instance creation wizard does the following when you select **Create a new database or tablespace** in the wizard:

- Creates an Oracle9i Database user ID for WebSphere Commerce Payments.
- Creates the tablespace for WebSphere Commerce Payments.
- Populates the WebSphere Commerce Payments tablespace.

Oracle9i Database settings for WebSphere Commerce

This section provides information about recommended settings for Oracle9i Database databases used with WebSphere Commerce.

Notes:

1. WebSphere Commerce Version 5.7 supports Oracle9i Database Release 2 with fix pack 1 (9.2.0.1), Enterprise Edition or Standard Edition. WebSphere Commerce supports 32–bit compatibility mode on 64-bit systems only. 64–bit mode is not exploited.
2. You should have advanced knowledge of Oracle9i Database (at the DBA level) before changing the database settings as recommended in this chapter.
3. For more information about Oracle9i Database, go to `http://www.oracle.com`. You can obtain copies of the Oracle9i Database documentation and software from `http://otn.oracle.com`. The Oracle9i Database information in this chapter is provided only as a guideline.
4. For additional information on Oracle9i Database terminology and concepts, refer to the *Oracle 9i Concepts* document provided with your purchase of Oracle9i Database.

Important
This section assumes you have installed the correct Oracle9i Database components for the WebSphere Commerce configuration you are installing. If you have not yet installed Oracle9i Database, refer to "Installing and configuring Oracle9i Database" on page 69.

Required Oracle9i Database settings for WebSphere Commerce

The following table lists required and strongly recommended database parameter settings to use when using Oracle9i Database with WebSphere Commerce:

Table 2. Required database parameter settings for Oracle9i Database

Parameter	Value
Database character set	UTF-8
National character set	UTF-8

Refer to the Oracle9i Database documentation for instructions on setting or changing database parameters.

Recommended Oracle9i Database settings for WebSphere Commerce

The following table lists recommended database parameter settings to use when using Oracle9i Database with WebSphere Commerce:

Table 3. Recommended database parameter settings for Oracle9i Database

Parameter	Value
block size	8 KB
db_cache_size (buffer cache)	120 MB
open_cursors	1000
pga_aggregate_target	50 MB
shared_pool_size	120 MB
sort_area_size	640 KB

Refer to the Oracle9i Database documentation for instructions on setting or changing database parameters.

Installing and configuring Sun ONE Web Server 6.0.5

If you are using Sun ONE Web Server, Enterprise Edition Version 6.0.5 as your Web server, complete the following steps:

1. Install Sun ONE Web server according to the instructions provided by Sun. Ensure that you install the following components:
   - Sun ONE Web server, Enterprise Server
   - Server Core
   - Java Runtime Environment
   - Java Support
   - SSJS Support
   - SSJS Database Support

   Do *not* select **Use Custom JDK**.

Important

Ensure that you install Sun ONE Web server in its default location. Changing the installation location of Sun ONE Web server will prevent the WebSphere Commerce installation wizard from recognizing that Sun ONE Web server is installed, causing your installation of WebSphere Commerce to fail.

2. Ensure that you create the following virtual servers following the instructions in the Sun ONE Web server documentation:
   - non-SSL communication on port 80
   - SSL communication on port 443
   - SSL communication on port 8000
   - SSL communication on port 8002
   - SSL communication on port 8004

   If you plan to use WebSphere Commerce Payments with WebSphere Commerce, also create the following virtual servers:
   - non-SSL communication on port 5432
   - SSL communication on port 5433

   Important: Ensure that you only create virtual servers for the required ports. Having a separate Web server for each required port will cause WebSphere Commerce to function incorrectly.
3. Install a secure certificate signed by a certifying authority, according to the Sun ONE Web server documentation.
4. Test your installation and configuration of Sun ONE Web server by opening a Web browser and going to the following URLs:

   ```
   http://SunONEWebServer_hostname
   https://SunONEWebServer_hostname
   https://SunONEWebServer_hostname:8000
   https://SunONEWebServer_hostname:8002
   https://SunONEWebServer_hostname:8004
   ```

   If you plan to use WebSphere Commerce Payments with WebSphere Commerce, also test the following URLs:

   ```
   http://SunONEWebServer_hostname:5432
   https://SunONEWebServer_hostname:5433
   ```

   where *SunONEWebServer_hostname* is the fully-qualified host name of the Sun ONE Web Server machine.

   If you have successfully created the virtual servers earlier, the default Sun ONE Web server page should display for each URL. If the page does not display or you receive other errors, Sun ONE Web server is not configured correctly for use with WebSphere Commerce.

   Do not continue with the installation of WebSphere Commerce until you can complete this step. If you continue to install WebSphere Commerce without completing this step successfully, the installation and configuration of WebSphere Commerce will fail.

   Refer to the Sun ONE Web server documentation for help correcting any problems.
5. If you will use Sun ONE Web server as a remote Web server, do the following:

a. Install the WebSphere Application Server Web server plug-in using the custom installation option in the WebSphere Commerce installation wizard.

   Refer to Part 5, "Installing WebSphere Commerce using the custom installation," on page 87 for instructions.

b. Apply WebSphere Application Server Version 5.1 Fix Pack 1.

   For instructions, refer to "Applying WebSphere Application Server Version 5.1 Fix Pack 1" on page 185.

   This brings your WebSphere Application Server plug-in version to Version 5.1.1.

c. Apply WebSphere Application Server Version 5.1.1 Cumulative Fix 3.

   For instructions, refer to "Applying WebSphere Application Server Version 5.1.1 Cumulative Fix 3" on page 186.

   This brings your WebSphere Application Server plug-in version to Version 5.1.1.3.

d. Apply the WebSphere Application Server cumulative plug-in fix.

   For instructions and to obtain the fix, refer to the following URL:

   `http://www.ibm.com/support/docview.wss?uid=swg24007227`

   The WebSphere Application Server cumulative plug-in fix is updated frequently and is not provided on the WebSphere Application Server fixes CD provided with WebSphere Commerce.

Important

By default, outside users can access any file that can be served up by Sun ONE Web server. For security reasons, you should restrict access to Web directories. See Sun ONE Web server documentation for information on restricting file and directory access. In addition, you should open the `obj.conf` file and search for the `NameTrans` entries; ensure that the files in the targeted directories are protected.

Also, the installation and configuration of WebSphere Commerce will change the ownership of the following directories and files to allow WebSphere Commerce Configuration Manager to configure the files:

SunONE_installdir`/https-admserv/config/`
SunONE_installdir`/https-admserv/config/magnus.conf`
SunONE_installdir`/https-`*host_name*`/config/`
SunONE_installdir`/https-`*host_name*`/config/magnus.conf`
SunONE_installdir`/https-`*host_name*`/config/`*identifier*`.obj.conf`

Note: There will be one `obj.conf` file for each WebSphere Commerce or WebSphere Commerce Payments Web server port defined.

The variables are defined as follows:

SunOne_installdir
: Default values for this path are listed in "Path variables used in this book" on page iv.

host_name
: This is the host name (not fully qualified) of the Web server.

identifier
: This is the part of the `obj.conf` file name used to identify the various configurations for the virtual servers associated with the Web server.

Using IBM HTTP Server Version 2.0.42.2 with WebSphere Commerce

Important: Follow the instructions in this section only if you want to use a *new* installation of IBM HTTP Server Version 2.0.42.2 with WebSphere Commerce. If you want to use an existing IBM HTTP Server Version 2.0.x installation with WebSphere Commerce, refer to "Using an existing IBM HTTP Server Version 2.0.x installation with WebSphere Commerce" on page 79.

By default, WebSphere Commerce uses IBM HTTP Server Version 1.3.28 provided with WebSphere Application Server. However, you may use IBM HTTP Server Version 2.0.42.2 with WebSphere Commerce.

If you want use IBM HTTP Server Version 2.0.42.2 with WebSphere Commerce, you must install IBM HTTP Server Version 2.0 and bring it up to the required level before starting the WebSphere Commerce installation wizard. Also, you cannot use the quick installation option of the WebSphere Commerce installation wizard. You must use the custom installation option.

To use IBM HTTP Server Version 2.0.42.2 with WebSphere Commerce, do the following before continuing with your installation of WebSphere Commerce:

1. Review the information at the following URL:

   ```
   http://publib.boulder.ibm.com/infocenter/ws51help/index.jsp?
    topic=/com.ibm.websphere.base.doc/info/aes/ae/tins_installIHS2.html
   ```

   Important: You must install the operating system fixes listed in this document for your operating system before continuing.
2. Install IBM HTTP Server Version 2.0.42.2 according to the documentation provided with the IBM HTTP Server Version 2.0.42.2 package.

   Refer to "IBM HTTP Server information" on page 222 for information on where to find IBM HTTP Server documentation.
3. Follow the instructions in "Using an existing IBM HTTP Server Version 2.0.x installation with WebSphere Commerce" on page 79.

Configuring pre-existing IBM software stack components

If you have use any pre-existing IBM software as part of the WebSphere Commerce software stack, you cannot use the quick installation option in the WebSphere Commerce installation wizard. You must use the custom installation option.

This section does not cover migration from previous versions of WebSphere Commerce. For WebSphere Commerce migration information, refer to *WebSphere Commerce Migration Guide*.

Using an existing DB2 Universal Database installation with WebSphere Commerce

Prerequisites:

- Your existing DB2 Universal Database installation must be DB2 Universal Database Enterprise Server Edition Version 8.2 or higher.

Procedure:

To use an existing DB2 Universal Database installation with WebSphere Commerce, do the following:

1. Ensure that the DB2 Application Development Tools are installed on the database server. WebSphere Commerce requires the DB2 Application Development Tools to function correctly.
2. Create the user IDs required by WebSphere Application Server as outlined in "Creating required WebSphere Application Server users and groups" on page 40.

   You can use any user ID as the WebSphere Commerce non-root user ID except `mqm` or the database user ID. The non-root user ID is used to start any application server on the WebSphere Commerce and WebSphere Commerce Payments nodes. Starting the application servers as `root` is strongly discouraged as starting an application server as `root` changes the permissions of key WebSphere Commerce files, preventing WebSphere Commerce from functioning correctly.

   For information about how to create user IDs and groups, refer to your operating system documentation.

   Ensure that you set the passwords for this user ID, since it may be possible to create the user ID without a password. If this user ID does not have a password associated with it, WebSphere Commerce may not function correctly.
3. Add the DB2 Fenced user group to the list of groups associated with the WebSphere Commerce non-root user ID.

   If you are planning to use a multiple node topology, only do this on the database server node.
4. Add the DB2 Fenced user group to the list of groups associated with the DB2 Universal Database user ID.

   If you are planning to use a multiple node topology, only do this on the database server node.

For more information on the DB2 Fenced user group, refer to the DB2 Universal Database documentation.

5. Restart DB2 Universal Database.

Using an existing IBM HTTP Server Version 1.3.x installation with WebSphere Commerce

Prerequisites:

- You have IBM HTTP Server Version 1.3.x installed.

Procedure:

If you are using an existing IBM HTTP Server installation with WebSphere Commerce, do the following:

1. If your version of IBM HTTP Server is lower than Version 1.3.28, upgrade your version of IBM HTTP Server to IBM HTTP Server Version 1.3.28.
2. Ensure that Secure Sockets Layer (SSL) protocol is enabled.

   For instructions on enabling SSL in IBM HTTP Server Version 1.3.28, refer to your IBM HTTP Server Version 1.3.28 documentation.

   Refer to "IBM HTTP Server information" on page 222 for information on where to find IBM HTTP Server documentation.

   If SSL is enabled, you should be able to open the following URL in a Web browser:

   `https://host_name`

   where *host_name* is the fully qualified host name of the machine running IBM HTTP Server.
3. If you will be using your existing IBM HTTP Server as a remote Web server, do the following:
   a. Install the WebSphere Application Server Web server plug-in using the custom installation option in the WebSphere Commerce installation wizard.

      Refer to Part 5, "Installing WebSphere Commerce using the custom installation," on page 87 for instructions.
   b. Apply WebSphere Application Server Version 5.1 Fix Pack 1.

      For instructions, refer to "Applying WebSphere Application Server Version 5.1 Fix Pack 1" on page 185

      This brings your WebSphere Application Server plug-in version to Version 5.1.1.
   c. Apply WebSphere Application Server Version 5.1.1 Cumulative Fix 3.

      For instructions, refer to "Applying WebSphere Application Server Version 5.1.1 Cumulative Fix 3" on page 186.

      This brings your WebSphere Application Server plug-in version to Version 5.1.1.3.
   d. Apply the WebSphere Application Server cumulative plug-in fix.

      For instructions and to obtain the fix, refer to the following URL:

      `http://www.ibm.com/support/docview.wss?uid=swg24007227`

      The WebSphere Application Server cumulative plug-in fix is updated frequently and is not provided on the WebSphere Application Server fixes CD that is packaged with WebSphere Commerce.

4. If you are using an existing IBM HTTP Server installation with an existing WebSphere Application Server installation, follow the instructions in "Using an existing WebSphere Application Server installation with WebSphere Commerce" on page 80.

Using an existing IBM HTTP Server Version 2.0.x installation with WebSphere Commerce

Prerequisites:

- You have IBM HTTP Server Version 2.0.x installed.

Procedure:

If you are using an existing IBM HTTP Server installation with WebSphere Commerce, do the following:

1. If your version of IBM HTTP Server is lower than Version 2.0.42.2, upgrade your version of IBM HTTP Server to IBM HTTP Server Version 2.0.42.2.
2. Ensure that Secure Sockets Layer (SSL) protocol is enabled.

   For instructions on enabling SSL in IBM HTTP Server Version 2.0.42.2, refer to your IBM HTTP Server Version 2.0.42.2 documentation.

   Refer to "IBM HTTP Server information" on page 222 for information on where to find IBM HTTP Server documentation.

   When enabling SSL, store the keyfile database files in the *HTTPServer_installdir*/ssl directory and use keyfile.kdb as your database.

   If SSL is enabled, you should be able to open the following URL in a Web browser:

   ```
   https://host_name
   ```

   where *host_name* is the fully qualified host name of the machine running IBM HTTP Server.
3. If you will be using your existing IBM HTTP Server as a remote Web server, do the following:
   a. Install the WebSphere Application Server Web server plug-in using the custom installation option in the WebSphere Commerce installation wizard.

      Refer to Part 5, "Installing WebSphere Commerce using the custom installation," on page 87 for instructions.
   b. Ensure the plug-in has been applied to the *HTTPServer_installdir*/conf/httpd.conf file.

      The following four lines should exist in the httpd.conf file:

      ```
      Alias /WSsamples WAS_installdir/WSsamples
      Alias /IBMWebAS/ WAS_installdir/web/
       LoadModule was_ap20_module WAS_installdir/bin/
       mod_was_ap20_http.so
      WebSpherePluginConfig WAS_installdir/config/cells/plugin-cfg.xml
      ```

      These lines may not appear together — you may have perform a text search on the file to confirm the presence of these lines. If these lines are missing, add them to the end of the file and restart the Web server.
   c. Apply WebSphere Application Server Version 5.1 Fix Pack 1.

      For instructions, refer to "Applying WebSphere Application Server Version 5.1 Fix Pack 1" on page 185

This brings your WebSphere Application Server plug-in version to Version 5.1.1.

d. Apply WebSphere Application Server Version 5.1.1 Cumulative Fix 3.

   For instructions, refer to "Applying WebSphere Application Server Version 5.1.1 Cumulative Fix 3" on page 186.

   This brings your WebSphere Application Server plug-in version to Version 5.1.1.3.

e. Apply the WebSphere Application Server cumulative plug-in fix.

   For instructions and to obtain the fix, refer to the following URL:

   `http://www.ibm.com/support/docview.wss?uid=swg24007227`

   The WebSphere Application Server cumulative plug-in fix is updated frequently and is not provided on the WebSphere Application Server fixes CD that is packaged with WebSphere Commerce.

4. If you are using IBM HTTP Server Version 2.0.42.2 with an existing WebSphere Application Server installation that you will be using for WebSphere Commerce, follow the instructions in "Using an existing WebSphere Application Server installation with WebSphere Commerce."

Using an existing WebSphere Application Server installation with WebSphere Commerce

Prerequisites:

- WebSphere Application Server Version 5.1 is already installed.

  Notes:

  1. WebSphere Application Server Enterprise Edition is not supported by WebSphere Commerce

Procedure:

If you are using an existing WebSphere Application Server Version 5.1, it will be upgraded to the level required by WebSphere Commerce when you install WebSphere Commerce or WebSphere Commerce Payments.

If you are using an existing WebSphere Application Server installation with an existing IBM HTTP Server installation, follow the instructions in one of the following sections, depending on the version of IBM HTTP Server you are using:

- "IBM HTTP Server Version 1.3.28 and WebSphere Application Server Version 5.1.1.3"
- "IBM HTTP Server Version 2.0.42.2 and WebSphere Application Server Version 5.1.1.3" on page 81

IBM HTTP Server Version 1.3.28 and WebSphere Application Server Version 5.1.1.3

Important: Follow the instructions in this section only if you have both IBM HTTP Server Version 1.3.28 and WebSphere Application Server Version 5.1.1.3 already installed.

If you have IBM HTTP Server Version 1.3.28 and WebSphere Application Server Version 5.1.1.3 already installed, do the following:

1. Check for the existence of the WebSphere Application Server plug-in configuration file. The following is the full path for the plug-in configuration file:

   WAS_installdir/config/cells/plugin-cfg.xml

2. Do one of the following, depending on the existence of the plugin-cfg.xml file:
   - If the plugin-cfg.xml file exists:
     a. Ensure the plug-in has been applied to the *HTTPServer_installdir*/conf/httpd.conf file. The following four lines should exist in the httpd.conf file:

        ```
        Alias /WSsamples WAS_installdir/WSsamples
        Alias /IBMWebAS/ WAS_installdir/web/
        LoadModule ibm_app_server_http_module WAS_installdir/bin/
             mod_ibm_app_server_http.so
        WebSpherePluginConfig WAS_installdir/config/cells/plugin-cfg.xml
        ```

        These lines may not appear together. Perform a text search on the file to confirm the presence of these lines. If these lines are missing, add them to the end of the file, save your changes, and restart the Web server.
   - If the plugin-cfg.xml file does not exist, ensure that the plug-in has *not* been applied to the *HTTPServer_installdir*/conf/httpd.conf file. The following four lines should not exist in the httpd.conf file. If any of the following four lines exist, remove them from the httpd.conf file:

     ```
     Alias /WSsamples WAS_installdir/WSsamples
     Alias /IBMWebAS/ WAS_installdir/web/
     LoadModule ibm_app_server_http_module WAS_installdir/bin/
          mod_ibm_app_server_http.so
     WebSpherePluginConfig WAS_installdir/config/cells/plugin-cfg.xml
     ```

     These lines may not appear together. Perform a text search on the file to confirm the presence of these lines. If any of these lines are present, remove them, save your changes, and restart the Web server.

IBM HTTP Server Version 2.0.42.2 and WebSphere Application Server Version 5.1.1.3

Important: Follow the instructions in this section only if you have both IBM HTTP Server Version 2.0.42.2 and WebSphere Application Server Version 5.1.1.3 already installed.

If you have IBM HTTP Server 2.0.42 and WebSphere Application Server Version 5.1.1.3 already installed, do the following:

1. Check for the existence of the WebSphere Application Server plug-in configuration file. The following is the full path for the plug-in configuration file:

   WAS_installdir/config/cells/plugin-cfg.xml

2. Do one of the following, depending on the existence of the plugin-cfg.xml file:
   - If the plugin-cfg.xml file exists:
     a. Ensure the plug-in has been applied to the *HTTPServer_installdir*/conf/httpd.conf file. The following four lines should exist in the httpd.conf file:

        ```
        Alias /WSsamples WAS_installdir/WSsamples
        Alias /IBMWebAS/ WAS_installdir/web/
        ```

```
 LoadModule was_ap20_module WAS_installdir/bin/
 mod_was_ap20_http.so
WebSpherePluginConfig WAS_installdir/config/cells/plugin-cfg.xml
```

These lines may not appear together — you may have perform a text search on the file to confirm the presence of these lines. If these lines are missing, add them to the end of the file and restart the Web server.

- If the `plugin-cfg.xml` file does not exist, ensure that the plug-in has *not* been applied to the *HTTPServer_installdir*`/conf/httpd.conf` file. The following four lines should not exist in the `httpd.conf` file. If any of the following four lines exist, remove them from the `httpd.conf` file:

```
Alias /WSsamples WAS_installdir/WSsamples
Alias /IBMWebAS/ WAS_installdir/web/
 LoadModule was_ap20_module WAS_installdir/bin/
 mod_was_ap20_http.so
WebSpherePluginConfig WAS_installdir/config/cells/plugin-cfg.xml
```

  These lines may not appear together — you may have perform a text search on the file to confirm the presence of these lines. If any of these lines are present, remove them, save your changes, and restart the Web server.

Preparing your systems to run the WebSphere Commerce installation wizard

Before starting the WebSphere Commerce installation wizard, complete the following checklist:

__ 1. Review the WebSphere Commerce README file. The README file contains information about last-minute changes to the product. Last-minute changes may include additional fixes that must be installed before using WebSphere Commerce.

   For more information, see "Reviewing the README file."

__ 2. Ensure that any Lotus Notes server, Web servers, Java application servers, and any non-essential Java processes are stopped before installing WebSphere Commerce.

__ 3. Ensure that any other InstallShield MultiPlatform installers have completed or you have exited them before installing WebSphere Commerce.

__ 4. If you have a Web server or any other service on your machine that is currently using any of the following ports: `80`, `443`, `5432`, `5433`, `8000`, `8001`, `8002`, and `8004`, stop the Web server.

__ 5. Create the user IDs and groups required by WebSphere Application Server on any machine on which you plan to install WebSphere Commerce or WebSphere Commerce Payments. For instructions, refer to "Creating required WebSphere Application Server users and groups" on page 84.

__ 6. Ensure that the user ID under which you are performing the installation has its umask set to 022.

Checklist tasks

Use the instructions in the following sections to complete the checklist used to ensure that you are ready to run the WebSphere Commerce installation wizard.

Reviewing the README file

Reviewing the README file is an important prerequisite for installing WebSphere Commerce. The README file contains information about last-minute changes to the product. Last-minute changes may include additional fixes that must be installed before using WebSphere Commerce.

Failure to install any last minute fixes listed in the README file will result in WebSphere Commerce not functioning correctly.

The README file can be found in the `readme` directory of WebSphere Commerce CD 1. The README file name is:

`readme_`***`language_code`***`.htm`

where ***language_code*** is one of the following:

Language	Language code
German	de_DE
English	en_US
Spanish	es_ES

Language	Language code
French	fr_FR
Italian	it_IT
Japanese	ja_JP
Korean	ko_KR
Brazilian Portuguese	pt_BR
Simplified Chinese	zh_CN
Traditional Chinese	zh_TW

Creating required WebSphere Application Server users and groups

On any machine where you install WebSphere Commerce components including: WebSphere Commerce; WebSphere Commerce Payments; and the WebSphere Commerce Configuration Manager client, do the following:

1. Log on as `root`.
2. Create a non-root user ID, give the new user ID a password and ensure that umask is set to 022.

   This user ID will be used to start the WebSphere Commerce and WebSphere Commerce Payments application servers as part of the instance creation part of the Quick installation process.

   By default, the WebSphere Commerce installation wizard specifies **wasuser** as the non-root WebSphere Commerce user ID and **wasgroup** as the group ID for the non-root WebSphere Commerce user ID. You can either create this user and group or replace the default values in the installation wizard with the user ID and group you create.
3. Create a new user group and add the non-root user ID to the new group.

   Take note of the non-root user ID, user group ID for the non-root user, and the full path of the home directory for the non-root user. This information will be required to complete the WebSphere Commerce installation wizard.
4. Create the user IDs and groups required by the WebSphere Application Server embedded messaging components. These user IDs and groups are required for WebSphere Application Server to install successfully.

   Create the required user IDs and groups as follows:

   a. Create the user ID `mqm` and give the user ID a password.

      Note: This user ID is used for the WebSphere Application Server Java Messaging Service (JMS) Client option. No WebSphere MQ components are installed by the WebSphere Commerce installation wizard.

   b. Create the following user groups:

      - `mqm`
      - `mqbrkrs`

      Note: These user groups are used for the WebSphere Application Server Java Messaging Service (JMS) Client option. No WebSphere MQ components are installed by the WebSphere Commerce installation wizard.

   c. Add the following users to the `mqm` user group:

- mqm
- root

d. Add the following user to the mqbrkrs user group:
   - root

e. Log off.

f. Log on as root to allow the group membership changes to take effect.

5. Ensure that the non-root user has no open connections when you start the installation wizard.

For instructions on creating users, creating user groups, and adding users to groups, refer to your operating system documentation.

You can confirm that root is a member of the required groups by issuing the following command:

```
id root
```

This command displays all of the groups to which root belongs.

If these user IDs and groups are not set up correctly before starting the WebSphere Commerce installation wizard, the installation wizard will not proceed past the point where the wizard checks for the existence of the required users and groups.

Part 5. Installing WebSphere Commerce using the custom installation

Before completing the instructions in this section, ensure that you have completed the instructions in "Preparing your systems to run the WebSphere Commerce installation wizard" on page 83.

Important

If you have completed a quick installation

The WebSphere Commerce instance was created as part of the quick installation process. If you chose to install WebSphere Commerce Payments, a WebSphere Commerce Payments instance was also created for you. You can skip this section and continue your installation and configuration of WebSphere Commerce by following the instructions in Part 7, "Last steps," on page 125.

If you did not choose to install WebSphere Commerce Payments and need to do so, perform a custom installation.

If you want to install WebSphere Commerce Developer

Refer to the *WebSphere Commerce Developer Installation Guide*.

When you perform a custom installation, each of the following components can be installed on separate nodes:

WebSphere Commerce components

WebSphere Commerce Server

This component provides all of the functionality of WebSphere Commerce except for WebSphere Commerce Payments.

Selecting this component installs the following on the node:

- WebSphere Commerce server
- WebSphere Commerce Configuration Manager server
- WebSphere Commerce Configuration Manager client
- WebSphere Commerce information center
- WebSphere Commerce starter stores
- WebSphere Application Server base product (if it has not already been installed)
- DB2 Universal Database Administration client (if required)

  If you have an existing installation of the DB2 Universal Database Administration client, it must be upgraded manually before starting the installation wizard.

Important:

1. If you are not planning to use IBM HTTP Server Version 1.3.28 as the WebSphere Commerce Web server, you must have a Web server installed and configured before selecting this component.
2. If you are not planning to use DB2 Universal Database as the WebSphere Commerce database, you must have a database installed and configured before selecting this component.

DB2

If you plan to use a local DB2 Universal Database with the WebSphere Commerce server component and DB2 Universal Database is not yet installed, ensure that you also select the **DB2 Universal Database** component when you select the WebSphere Commerce server component in the installation wizard.

If you plan to use a remote DB2 Universal Database with the WebSphere Commerce Server component, no extra steps are required when installing the WebSphere Commerce server component. The DB2 Universal Database Administration Client will be installed on the WebSphere Commerce machine for you.

Note WebSphere Commerce - Express users: If the installation wizard detects that DB2 Universal Database Enterprise Server Edition is installed on the system, it will be used and DB2 Universal Database Express Edition will not be installed.

Oracle

If you plan to use a local Oracle9i Database with the WebSphere Commerce server component, ensure that you have Oracle9i Database installed and configured on the node before installing the WebSphere Commerce server component.

If you plan to use a remote Oracle9i Database with the WebSphere Commerce server component, ensure that you have the Oracle9i Database client software installed and configured on the node before installing the WebSphere Commerce Server component.

For more information, refer to "Installing and configuring Oracle9i Database" on page 69.

WebSphere Commerce Payments

This component installs all of the functionality of WebSphere Commerce Payments.

Selecting this component installs the following on the node:

- WebSphere Commerce Payments
- WebSphere Commerce Configuration Manager server
- WebSphere Commerce Configuration Manager client
- WebSphere Commerce information center
- WebSphere Application Server base product (if it has not already been installed)
- DB2 Universal Database Administration client (if required)

  If you have an existing installation of the DB2 Universal Database Administration client, it must be upgraded manually before starting the installation wizard.

Important:

1. If you are not planning to use IBM HTTP Server Version 1.3.28 as the WebSphere Commerce Payments Web server, you must have a Web server installed and configured before selecting this component.
2. If you are not planning to use DB2 Universal Database as the WebSphere Commerce Payments database, you must have a database installed and configured before selecting this component.

DB2

If you plan to use a local DB2 Universal Database with the WebSphere Commerce Payments component and DB2 Universal Database is not yet installed, ensure that you also select the **DB2 Universal Database** component when you select the WebSphere Commerce Payments component in the installation wizard.

If you plan to use a remote DB2 Universal Database with the WebSphere Commerce Payments component, no extra steps are required when installing the WebSphere Commerce Payments component. The DB2 Universal Database Administration Client will be installed on the WebSphere Commerce Payments machine for you.

Oracle

If you plan to use a local Oracle9i Database with the WebSphere Commerce Payments component, ensure that you have Oracle9i Database installed and configured on the node before installing the WebSphere Commerce Payments component.

If you plan to use a remote Oracle9i Database with the WebSphere Commerce Payments component, ensure that you have the Oracle9i Database client software installed and configured on the node before installing the WebSphere Commerce Payments component.

For more information, refer to "Installing and configuring Oracle9i Database" on page 69.

Remote WebSphere Commerce Configuration Manager client
This component allows you to create instances and configure WebSphere Commerce and WebSphere Commerce Payments from a node remote from both the WebSphere Commerce and WebSphere Commerce Payments nodes.

Supporting software

DB2 Universal Database
Selecting this component installs and configures DB2 Universal Database Version 8.2 Enterprise Server Edition

Selecting this component will not install the DB2 Administration Client on a WebSphere Commerce or WebSphere Commerce Payments node — the Administration Client will be installed on these nodes when you choose to install WebSphere Commerce or WebSphere Commerce Payments, do not choose to install DB2 Universal Database, but select DB2 Universal Database as the WebSphere Commerce database.

IBM HTTP Server
Selecting this component installs and configures IBM HTTP Server Version 1.3.28. It does not install and configure IBM HTTP Server Version 2.0.42.2. It also installs the WebSphere Application Server plug-in for IBM HTTP Server.

WebSphere Application Server Web server plug-in

Selecting this component installs the WebSphere Application Server Web server plug-in for a Web server you select in the installation wizard.

Information required to complete a custom installation

The WebSphere Commerce installation wizard prompts you for a number of different user IDs and other information in order to complete the installation. Before starting your installation of WebSphere Commerce, fill in the following table so you will have the information handy when you complete the WebSphere Commerce installation wizard:

User ids

Review the descriptions in "User IDs required to complete the installation wizard" on page 92 then fill in this table:

User ID description	User ID	Password	Group	Full path of home directory
DB2 DB2 user ID				
Oracle Oracle user ID				
Non-root WebSphere Commerce user ID				

For information on creating user IDs, creating groups, and setting passwords, refer to your operating system documentation.

Instructions for creating the WebSphere Commerce non-root user are provided in "Preparing your systems to run the WebSphere Commerce installation wizard" on page 83.

By default, the WebSphere Commerce installation wizard specifies **wasuser** as the non-root WebSphere Commerce user ID and **wasgroup** as the group ID for the non-root WebSphere Commerce user ID. You can either create this user and group or replace the default values in the installation wizard with the user ID and group you create.

Other required users and groups

The installation of WebSphere Commerce requires that specific user IDs and groups exist before installing WebSphere Commerce. Create any users and groups that do not exist and ensure that the users are added to the groups before installing WebSphere Commerce.

User ID or group description	User ID	User ID must exist in these groups
root user	root	mqbrkrs, mqm
WebSphere Application Server embedded messaging user	mqm	mqm

Details for creating these user IDs and groups are provided in "Preparing your systems to run the WebSphere Commerce installation wizard" on page 83.

Important: The existence of these user IDs and groups is *not* optional. The installation wizard will halt if these specific user IDs and groups do not exist.

If the installation wizard halts because these user IDs and groups do not exist, create the user IDs and groups, then click **Back** and then **Next**. The installation wizard should continue.

Note: The mqm user ID and the mqbrkrs and mqm user groups are required for the WebSphere Application Server Java Messaging Service (JMS) Client option. No WebSphere MQ components are installed by the WebSphere Commerce installation wizard.

User IDs required to complete the installation wizard

To complete the installation of WebSphere Commerce, you will need the following IDs defined:

User ID		Description
DB2	DB2 database user ID	This operating system ID is required if you want WebSphere Commerce to install DB2 Universal Database. This ID must not exist before installing DB2 Universal Database through the WebSphere Commerce installation wizard. As part of the installation of DB2 Universal Database, the user ID under which all DB2 processes run is created. To create the DB2 user, the following information will be required: • User ID • password • Group to which the user ID will belong • Full path to the home directory for the user ID **Note:** The user ID must meet DB2 Universal Database user ID requirements outlined in "DB2 Universal Database user ID requirements" on page 93.
Oracle	Oracle database user ID	This operating system ID is required if you are using Oracle9i Database with WebSphere Commerce. This is the operating system user ID that owns the physical Oracle9i Database files on the system. This ID must exist before installing WebSphere Commerce. During the installation of WebSphere Commerce, you will be prompted for the following information about the Oracle database user ID: • User ID • password • Group to which the user ID belongs • Full path to the home directory for the user ID Ensure that the `.profile` script for the user ID does not contain any errors. **Note:** The user ID must meet any Oracle9i Database user ID requirements outlined in the Oracle9i Database documentation.

User ID	Description
WebSphere Commerce non-root user ID	This ID is required to start the WebSphere Commerce and WebSphere Commerce Payments application servers. This ID must exist before installing WebSphere Commerce. Ensure that you set the password for this user ID. This prevents any security exposures that may occur from running the application servers as a user with root privileges. To create the non-root WebSphere Commerce user ID, the following information will be required: • User ID • Group the user ID belongs to • Full path of the home directory for the user ID Also, this information is required to complete the WebSphere Commerce installation wizard.

Instructions for creating the WebSphere Commerce non-root ID are provided in "Preparing your systems to run the WebSphere Commerce installation wizard" on page 83.

Notes for DB2 Universal Database users:

1. For installing WebSphere Commerce with a local database, all user IDs can be the same ID on the local machine.
2. The database administrator ID and database user ID must meet DB2 Universal Database user ID requirements outlined in "DB2 Universal Database user ID requirements."

Notes for Oracle9i Database users::

1. Oracle IDs must be defined on the Oracle server machine. For installing WebSphere Commerce with a local database, the Oracle server machine and WebSphere Commerce machine are the same machine. For installing WebSphere Commerce with a remote database, the Oracle server machine and WebSphere Commerce machine are different machines.
2. The database administrator ID and database user ID must meet any requirements for Oracle9i Database user IDs as outlined in the Oracle9i Database documentation.
3. Oracle IDs are case-sensitive. Ensure that you have the correct case for the database administrator ID and the database user ID.

DB2 Universal Database user ID requirements

DB2 requires that the user IDs and passwords for database administrators and database users adhere to the following rules:

- They cannot be more than 8 characters in length.
- They can contain only the characters a to z and 0 to 9 (upper-case letters are not permitted).
- They cannot begin with an underscore (_).
- The user ID cannot be any of the following, in upper, lower, or mixed case: `USERS`, `ADMINS`, `GUESTS`, `PUBLIC`, `LOCAL`.
- The user ID cannot begin with any of the following in upper, lower, or mixed case: `IBM`, `SQL`, `SYS`.

Starting the installation wizard

You can start the installation in two ways — as a GUI based installation wizard or as a text based installation wizard. For instructions on how to start the wizard, refer to one of the following sections:

- "Starting the GUI based installation wizard."
- "Starting the text based installation wizard" on page 96.

Starting the GUI based installation wizard

Prerequisites:

__ The system on which you are starting the installation wizard meets all of the requirements listed in "Prerequisites" on page 27.

__ You have completed all of the tasks listed in "Preparing your systems to run the WebSphere Commerce installation wizard" on page 83.

Procedure:

To start the GUI based installation wizard, do the following:

1. Ensure that you are logged onto your system as `root`.
2. From a terminal session, issue the following commands:

   ```
   DISPLAY=host_name:0.0
   export DISPLAY
   ```

   where *host_name* is the fully qualified host name of the machine from which you want to run the installation wizard.

   Note: If you are running the installation wizard in an X client, 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.
3. Insert WebSphere Commerce CD 1 into the CD-ROM drive of the node.
4. Mount the CD-ROM drive.

   Important: Do not change the directory to the mount point. Changing directories to the mount point will lock the CD drive and prevent you from being able to swap CDs when the WebSphere Commerce installation wizard asks you to do so.

   Note: The WebSphere Commerce CDs use Universal Disk Format (UDF). You may need to use a specific mount command depending on your operating system.

   For example, `mount -o ro -v udfs /dev/cd0 /cdrom`

   All other CDs provided with WebSphere Commerce use ISO formatted CDs. Ensure that you mount the CDs correctly.
5. Issue the following command as *root*:

mount_point/setup_aix

where *mount_point* is the CD-ROM mount point, for example, /mnt/cdrom0.

If at any point during the installation, the text in the installation wizard appears to be cut off or missing, resize the wizard so that you can read all of the text on the wizard.

Important: The installation wizard starts by displaying a language selection panel. The language selected in the language selection panel becomes the default language for all WebSphere Commerce instances. Attempting to create a WebSphere Commerce instance with a default language different from the language selected in the language selection panel will cause the WebSphere Commerce instance to be populated with data in the language originally selected in the language selection panel.

After you have completed the instructions in this section, proceed to "Completing a custom installation" on page 99.

Starting the text based installation wizard

Prerequisites:

__ The system on which you are starting the installation wizard meets all of the requirements listed in "Prerequisites" on page 27.

__ You have completed all of the tasks listed in "Preparing your systems to run the WebSphere Commerce installation wizard" on page 83.

Procedure:

To start the text based installation wizard, do the following:

1. Ensure that you are logged onto your system as root.
2. Insert WebSphere Commerce CD 1 into the CD-ROM drive of the node.
3. Mount the CD-ROM drive.

   Important: Do not change the directory to the mount point. Changing directories to the mount point will lock the CD drive and prevent you from being able to swap CDs when the WebSphere Commerce installation wizard asks you to do so.

   Note: The WebSphere Commerce CDs use Universal Disk Format (UDF). You may need to use a specific mount command depending on your operating system.

   For example, `mount -o ro -v udfs /dev/cd0 /cdrom`
4. Issue the following command as *root*:

   mount_point/setup_aix -console

The steps in the text-based installation wizard and the GUI based installation wizard are the same, but the methods of selection options and continuing in the two installation wizards differ.

Important: The installation wizard starts with a language selection prompt. The language selected at the language selection prompt becomes the default language for the WebSphere Commerce instance. Attempting to create a WebSphere Commerce instance with a default language different

from the language selected at the language selection prompt will cause the WebSphere Commerce instance to be populated with data in the language originally selected in the language selection panel.

After you have completed the instructions in this section, proceed to "Completing a custom installation" on page 99.

Completing a custom installation

Prerequisites:

__ The machines on which you are starting the installation wizard meets all of the requirements listed in "Prerequisites" on page 27.

__ You have completed all of the tasks listed in "Preparing your systems to run the WebSphere Commerce installation wizard" on page 83.

__ You have started the installation wizard according to the instructions in "Starting the installation wizard" on page 95.

Procedure:

To complete a custom installation on a node, do the following:

1. Select the installation language in the language selection panel, and select **OK**.

   The software will be installed in this language, regardless of the language settings of your system.

   Important: The language selected here becomes the default language for the WebSphere Commerce instance. Attempting to create a WebSphere Commerce instance with a default language different from the language selected here will cause the WebSphere Commerce instance to be populated with invalid data.
2. On the Welcome panel, select **Next**.
3. The Software License Agreement page displays. Review the terms of the license agreement in the Software License Agreement page.

   If you accept the terms of the license agreement, select **I accept the terms in the license agreement** and select **Next** to accept the terms of the license agreement.

   If you decline the terms of the license agreement, select **I do not accept the terms in the license agreement** and select **Next**. Declining the terms of the license agreement exits the install program.
4. If you accept the terms of the license agreement, the install type panel displays. Select **Custom Installation**. select **Next** to continue.
5. Select the components you want to install on the node. Select **Next** to continue.

   Descriptions of each component are provided at the beginning of this chapter.

   Components detected on the system will be unavailable for selection in the wizard.
6. Depending on the components you selected, the remaining panels of the installation wizard will prompt you for various information. Complete the information in the fields on each panel, selecting **Next** to move to the next panel.

   Descriptions of the values required to complete the installation wizard are provided in "User IDs required to complete the installation wizard" on page 92.

   Note: When navigating through the Install Wizard, the following warning message may be posted after entering user information: `The system cannot validate the user password. Ensure the password is correct`

`before proceeding.` This means that the user password cannot be validated due to a system limitation. This system limitation could be either the PAM library not being installed on your operating system or custom security settings on your system. No further action is required at this time. Ensure the correct password has been entered on the panel and click **OK** to proceed with the installation.

After you have completed the panels requesting information, the confirmation page displays.

7. On the confirmation page, review the components being installed and their location. To make any changes, select **Back** to return to the panel where you want to make changes.

   To begin installing the components listed on the confirmation page, select **Next**.

8. When prompted to change CDs by the WebSphere Commerce installation wizard, do the following:
   a. Unmount the CD-ROM drive.
   b. Change the CD in the CD-ROM to the requested CD.
   c. Mount the CD-ROM drive.

   Notes:

   1) When prompted to insert the IBM DB2 Universal Database Enterprise Server Edition Version 8.2 (8.1 FP7a) CD, insert the IBM DB2 Universal Database Enterprise Server Edition Version 8.2 (8.1 FP9) CD.

      WebSphere Commerce has provided a more recent version of DB2 Universal Database than indicated by the installation wizard.

   2) Do not change directories to the mount point. Changing directories to the mount point will lock the CD drive and prevent you from being able to swap CDs.
   3) Only WebSphere Commerce CD 1 and CD 2 are formatted in UDF, all other CDs provided are in ISO format. Ensure that you use the correct command to mount a CD according to its format.
   4) The installation wizard panel will display the mount point when a new CD is required for the installation. Do not alter this panel, for any CD that is mounted, during the installation.

   Depending on your configuration, you may not need to mount and unmount the CD-ROM drive when changing CDs.

   As components are being installed, panels display showing the progress of the installation of the component. Follow any additional prompts that may display at this time.

   Progress bars indicate how much of the installation has completed.

9. The installation of the selected components is complete when the Installation Complete panel displays. Select **Finish** to exit the installation wizard.

   If you chose to install the WebSphere Commerce Server or WebSphere Commerce Payments components the First Step panel displays.

10.

Verifying a custom installation

Verifying your installation using log files

During the installation of WebSphere Commerce and its components, log files are generated. Examine the log files that correspond to the components you installed to ensure that your installation was successful:

- "WebSphere Commerce installation logs"
- "DB2 Universal Database installation logs"
- "WebSphere Application Server installation logs" on page 102

  Check these log files if you chose to install WebSphere Commerce, WebSphere Commerce Payments, or the WebSphere Application Server Web server plug-in on a remote Web server.
- "IBM HTTP Server Version 1.3.28 installation logs" on page 104

To confirm the installation of any non-IBM software, refer to the documentation provided with the non-IBM software package.

WebSphere Commerce installation logs

The following log files contains messages generated by the WebSphere Commerce installation wizard:

- *WC_installdir*/logs/install_*date_time*.log

  Note: Depending on the number of installation attempts, there may be more than one of these log files. Ensure you look at the most recent log file.
- *WC_installdir*/logs/wctrace_*date_time*.log

  Note: This log file is intended for use by IBM support only. Examining this file will not provide you with any useful information.
- *WC_installdir*/logs/wcnonroot.log

Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

If the installation of WebSphere Commerce fails, these log files will be in the /tmp directory.

Review these log files to ensure that all components of WebSphere Commerce installed successfully.

The WebSphere Commerce installation is complete if the following message appears in the install_*date_time*.log log file:

```
WebSphere Commerce installation complete.
```

DB2 Universal Database installation logs

This log contains messages generated during the installation of DB2 Universal Database. The default location for this log file is the following:

WC_installdir/logs/db2setup.log

Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

If the WebSphere Commerce installation wizard did not complete successfully or was otherwise interrupted and DB2 Universal Database was installed, the log files will be in the following location:

`/tmp`

DB2 Universal Database installed successfully if all of the components listed in the `Installation` section near the end of the log file have a status of `SUCCESS`. As an example, here is the Installation section of the DB2 Universal Database installation log file from a typical single-node or Quick installation:

```
Installation
------------

DB2 Client                                                SUCCESS
Code Page Conversion Support - Uni Code Support           SUCCESS
Code Page Conversion Support - Japanese                   SUCCESS
Code Page Conversion Support - Korean                     SUCCESS
Code Page Conversion Support - Simplified Chinese         SUCCESS
Code Page Conversion Support - Traditional Chinese        SUCCESS
Java Support                                              SUCCESS
Common Jar Files                                          SUCCESS
DB2 Run-time Environment                                  SUCCESS
DB2 Engine                                                SUCCESS
Transformer Stored Procedure Files                        SUCCESS
DB2 Communication Support - TCP/IP                        SUCCESS
DB2 Communication Support - SNA                           SUCCESS
DB2 Communication Support - DRDA Application Server       SUCCESS
DB2 Communication Support - IPX/SPX                       SUCCESS
Administration Server                                     SUCCESS
DB2 Connect Support                                       SUCCESS
Replication                                               SUCCESS
DB2 Control Server                                        SUCCESS
DB2 Sample Database Source                                SUCCESS
Distributed Join for DB2 Data Sources                     SUCCESS
Getting Started                                           SUCCESS
Light-weight Directory Access Protocol                    SUCCESS
Product Signature for DB2 UDB Enterprise Edition          SUCCESS
DB2 Application Development Tools (ADT)                   SUCCESS
DB2 Sample Applications                                   SUCCESS
Stored Procedure Builder                                  SUCCESS
```

The content of your log file may be different.

If the Installation section of the DB2 Universal Database installation contains any components with a status of `FAILURE`, examine the installation log file carefully to see where errors occurred during installation. Refer to the DB2 Universal Database documentation to correct any errors that occurred.

Correct any DB2 Universal Database installation errors before continuing with the instructions in this book.

WebSphere Application Server installation logs

The installation of WebSphere Application Server and its associated fixes generates the following log files:

- *WAS_installdir*`/logs/http_plugin.log`
- *WAS_installdir*`/logs/log.txt`
- *WAS_installdir*`/logs/mq_install.log`
- *WAS_installdir*`/logs/WASFixes.err.log`
- *WAS_installdir*`/logs/WASFixes.log`
- *WAS_installdir*`/logs/WASFixPack.log`

- *WAS_installdir*/logs/WASFixPack.err.log

Default values for *WAS_installdir* are listed in "Path variables used in this book" on page iv.

If the WebSphere Commerce installation wizard did not complete successfully or was otherwise interrupted and WebSphere Application Server was installed, the log files will be in the following location:

/tmp

The WebSphere Application Server installation is complete if the following message appears in the log.txt log file:

```
INSTFIN: The WebSphere 5.1 install is complete.
```

To confirm that WebSphere Application Server is at the correct version required by WebSphere Commerce, open the following file in a text editor:

WAS_installdir/properties/version/BASE.product

WebSphere Application Server is at the correct version required by WebSphere Commerce if the version indicated in the file is 5.1.1.3. For the applied WebSphere Application Server fix packs, the following files are created for each fix pack:

WAS_installdir/properties/version/history/*fix*.ptfApplied
WAS_installdir/properties/version/history/*fix*.ptfDriver

where *fix* will be the following:

- was51_fp1_aix
- was511_cf3_aix

Ensure that the appropriate files were created for the fixes applied to your installation.

For the applied WebSphere Application Server interim fixes, the following files are created for each interim fix:

WAS_installdir/properties/version/history/*fix*.efixApplied
WAS_installdir/properties/version/history/*fix*.efixDriver

where *fix* will be the following:

- PQ99045
- PK05011
- PK02063

Ensure that the files were created for each fix.

If you have a distributed installation of WebSphere Commerce, check the WebSphere Application Server log files on the following nodes:

- WebSphere Commerce node
- WebSphere Commerce Payments node
- Web server node

Note: On a remote Web server node where you only installed the WebSphere Application Server plug-in, the

WAS_installdir/properties/version/BASE.product may indicate a version different than the required 5.1.1.3. The minimum version you should see is 5.1.0.0.

You will apply the required fixes to the WebSphere Application Server plug-in after you create a WebSphere Commerce instance and, optionally, a WebSphere Commerce Payments instance when you complete the instructions in "Remote Web server post-instance creation tasks" on page 120.

IBM HTTP Server Version 1.3.28 installation logs

The installation of IBM HTTP Server Version 1.3.28 and its associated fixes generates the following log files:

- *HTTPServer_installdir*/logs/error.log
- *WAS_installdir*/logs/ihs_log.txt
- *WAS_installdir*/logs/WASFixes.log
- *WAS_installdir*/logs/WASFixes.err.log
- *WAS_installdir*/logs/WASFixPack.log
- *WAS_installdir*/logs/WASFixPack.err.log

Default values for *HTTPServer_installdir* and *WAS_installdir* are listed in "Path variables used in this book" on page iv.

If the WebSphere Commerce installation wizard did not complete successfully or was otherwise interrupted and IBM HTTP Server was installed, the log files will be in the following location:

/tmp

If no errors occurred during the installation of IBM HTTP Server Version 1.3.28 and its associated fixes, the following files will not exist, or if they do exist, they will be empty:

- *WAS_installdir*/logs/WASFixes.err.log
- *WAS_installdir*/logs/WASFixPack.err.log

Note: If IBM HTTP Server Version 1.3.28 and WebSphere Application Server are installed on the same machine, the following log files apply to both IBM HTTP Server Version 1.3.28 and WebSphere Application Server:

- *WAS_installdir*/logs/WASFixes.log
- *WAS_installdir*/logs/WASFixes.err.log
- *WAS_installdir*/logs/WASFixPack.log
- *WAS_installdir*/logs/WASFixPack.err.log

Next steps

After you complete installing WebSphere Commerce components using a custom installation, continue by creating a WebSphere Commerce and (optionally) a WebSphere Commerce Payments instance. For instructions, refer to Part 6, “Creating a WebSphere Commerce and a WebSphere Commerce Payments instance,” on page 107.

Part 6. Creating a WebSphere Commerce and a WebSphere Commerce Payments instance

Once you have installed all the required software, you can create a WebSphere Commerce instance and a WebSphere Commerce Payments instance. These instances can be created through the Configuration Manager.

This section contains the following chapters:

Before you create or modify an instance with Configuration Manager

Before you start the Configuration Manager server or before you create or modify an instance with Configuration Manager, do the following:

1. Ensure that you have installed any fixes mentioned in the README file. For more information about the README file, refer to "Reviewing the README file" on page 39.
2. Ensure that you meet the prerequisites for starting Configuration Manager. The prerequisites are listed in "Configuration Manager prerequisites."
3. Start the default WebSphere Application Server application server (server1).

   For instructions on starting an application, refer to "Starting or stopping an application server" on page 179.
4. Start the Configuration Manager by following the instructions in "Starting the Configuration Manager" on page 110.

Important

You should only modify the following Web server properties, as well as any Commerce-related properties, through the Configuration Manager GUI (and not through the Web server GUI nor the WebSphere Application Server Administrative Console):

- SSL (enabling or disabling)
- Web server instance name or port number
- SSL port number
- System IP address (Payments server host)

This will ensure that all configuration files, not just the Web server configuration files, are updated properly with the correct information.

Configuration Manager prerequisites

Before starting the WebSphere Commerce Configuration Manager, complete the following checklist to ensure that you meet all the prerequisites:

__ The systems on which you are starting the Configuration Manager server and the Configuration Manager client use a supported locale as described in "National language prerequisites" on page 32.

__ You have started your WebSphere Commerce database server.

__ You have started the default WebSphere Application Server application server (server1).

For instructions on starting an application, refer to "Starting or stopping an application server" on page 179.

__ If you log on to a CDE desktop, ensure that the `.dtprofile` file has been modified to read the `.profile` file of the WebSphere Commerce non-root user.

__ The user ID you are logged on as has its umask set to 022.

Starting the Configuration Manager

To start WebSphere Commerce Configuration Manager, do the following:

1. Log in as the WebSphere Commerce non-root user ID. This ID was created before installing WebSphere Commerce.
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 used in this book" on page iv.

      Notes:

      1) Do not close the terminal window you entered the config_server 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.

      Once the following messages are displayed, proceed to the next step:

      ```
      Registry created
      CMServer bound in registry
      ```
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:

        ```
        DISPLAY=host_name:0.0
        export DISPLAY
        cd WC_installdir/bin
        ./config_client.sh [-port cm_port]
        ```

        Important: Do not use `configClient.sh` to connect to a local Configuration Manager server.The variables are defined as follows:

        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.

b. Open a terminal window.

c. Issue the following commands:

```
DISPLAY=host_name:0.0
export DISPLAY
cd WC_installdir/bin
./configClient.sh -hostname cm_hostname [-port cm_port]
```

Important: Do not use `config_client.sh` when connecting to a remote Configuration Manager server.

The variables are defined as follows:

cm_hostname
The short host name of the Configuration Manager server machine.

To obtain the short host name of the Configuration Manager server machine, issue the `hostname` command from a command line on 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 used in this book" 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.

The next step

Continue with the following sections:

- "Creating a WebSphere Commerce instance" on page 113.
- "Creating a WebSphere Commerce Payments instance" on page 115.

Creating a WebSphere Commerce instance

This chapter describes how to create a WebSphere Commerce instance. For information on modifying a WebSphere Commerce instance, refer to "Modifying a WebSphere Commerce or WebSphere Commerce Payments instance" on page 171.

When you create a WebSphere Commerce instance, always specify the fully-qualified host name in the appropriate Configuration Manager panels.

Creating a new WebSphere Commerce instance

Important

If you use IBM HTTP Server or Sun ONE Web server, WebSphere Commerce modifies the Web server configuration file whenever you do any of the following:

- Create a WebSphere Commerce instance.
- Create a WebSphere Commerce Payments instance.
- Update information in the Web Server panel in Configuration Manager for an existing instance.

These changes are marked by the following text:

```
IBM WebSphere Commerce (Do not edit this section)
```

or

```
IBM WebSphere Payments (Do not edit this section)
```

Customized changes within these sections are not supported by WebSphere Commerce as any changes made within these sections may be overwritten at any time by WebSphere Commerce configuration tools such as Configuration Manager.

To create a new WebSphere Commerce instance, do the following:

1. If have not started the default WebSphere Application Server application server (server1), start it now.

   For instructions on starting an application, refer to "Starting or stopping an application server" on page 179.
2. Start the WebSphere Commerce Configuration Manager. For details, refer to "Starting the Configuration Manager" on page 110.
3. Under **WebSphere Commerce**, expand your *hostname*.
4. Expand **Commerce**.
5. Right-click on **Instance List**.
6. From the resulting pop-up menu, select **Create Instance**. The Instance Creation wizard starts.

7. Complete the Instance Creation wizard.

For help on completing the panels and fields in the instance creation wizard, click **Help** on the Instance creation wizard. A **Help** button is available on each panel of the wizard. The help panels apply to all supported WebSphere Commerce platforms.

8. When you have completed the necessary information in the panels, the **Finish** button is enabled. Click **Finish** to create the WebSphere Commerce instance.

The time required to create an instance depends on the speed of your system.

9. When instance creation is complete, a dialog box appears containing a summary. Click **OK** to close the dialog box.
10. Other dialog boxes may display containing additional instructions, ensure that you review the contents of the dialog boxes before dismissing them.
11. Exit Configuration Manager by selecting **Console > Exit**.

You can now verify the creation of the WebSphere Commerce instance by following the instructions in "Verifying the instance creation."

Verifying the instance creation

The configuration information for the new WebSphere Commerce instance is stored in the following file:

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

where default values for *WC_installdir* are listed in "Path variables used in this book" on page iv and *instance_name* is the name of WebSphere Commerce instance.

Confirm that this file exists before checking the log files produced during instance creation.

Creating a WebSphere Commerce instance produces log files in the following directory:

WC_installdir/instances/*instance_name*/logs

where default values for *WC_installdir* are listed in "Path variables used in this book" on page iv and *instance_name* is the name of WebSphere Commerce instance.

The next step

After you have created a WebSphere Commerce instance, you can continue by doing one of the following:

- If you installed WebSphere Commerce Payments, continue by creating a WebSphere Commerce Payments instance. Instructions for creating a WebSphere Commerce Payments are provided in "Creating a WebSphere Commerce Payments instance" on page 115.
- If you did not install WebSphere Commerce Payments, continue by completing the tasks in "Mandatory post-instance creation tasks" on page 119. You must complete the tasks in that section for WebSphere Commerce to function correctly.

Creating a WebSphere Commerce Payments instance

This chapter describes how to create a WebSphere Commerce Payments instance. For information on modifying a WebSphere Commerce Payments instance, refer to "Modifying a WebSphere Commerce or WebSphere Commerce Payments instance" on page 171.

WebSphere Commerce Payments is an optional component of WebSphere Commerce, however some of the starter stores provided with WebSphere Commerce require WebSphere Commerce Payments. Refer to the WebSphere Commerce Information Center for more information.

Refer to the WebSphere Commerce Payments cassette supplements for more information about using a particular WebSphere Commerce Payments cassette. To use a WebSphere Commerce Payments cassette with a WebSphere Commerce starter store, refer to the WebSphere Commerce Information Center.

Note: You should only change WebSphere Commerce Payments ports through the WebSphere Commerce Configuration Manager, as stated in "Before you create or modify an instance with Configuration Manager" on page 109 and not through the WebSphere Application Server Administrative Console. This ensures that all properties and files are updated with the same information.

Creating a new WebSphere Commerce Payments instance

Important

If you use IBM HTTP Server or Sun ONE Web server, WebSphere Commerce modifies the Web server configuration file whenever you do any of the following:

- Create a WebSphere Commerce instance.
- Create a WebSphere Commerce Payments instance.
- Update information in the Web Server panel in Configuration Manager for an existing instance.

These changes are marked by the following text:

```
IBM WebSphere Commerce (Do not edit this section)
```

or

```
IBM WebSphere Payments (Do not edit this section)
```

Customized changes within these sections are not supported by WebSphere Commerce as any changes made within these sections may be overwritten at any time by WebSphere Commerce configuration tools such as Configuration Manager.

To create a new WebSphere Commerce Payments instance, do the following:

1. Start the WebSphere Commerce Configuration Manager. For details, see "Starting the Configuration Manager" on page 110.

In cases where WebSphere Commerce Payments is on a separate node from WebSphere Commerce, ensure that the Configuration Manager server on the WebSphere Commerce Payments node is started.

2. Select **WebSphere Commerce** > *hostname* > **Payments** and right-click **Instance List**.
3. From the resulting pop-up menu, select **Create Payments Instance**. The Payments Instance Creation wizard starts.
4. Complete the Payments instance creation wizard information.

For help on completing the panels and fields in the Payments instance creation wizard, click **Help** on the instance creation wizard. A **Help** button is available on each panel of the wizard. The Help panels apply to all supported WebSphere Commerce platforms.

Important:

a. When completing the WebSphere Commerce Payments instance creation wizard, ensure that the value you enter in the **Site Admin ID** field is the WebSphere Commerce Site Administrator ID. The WebSphere Commerce Site Administrator ID was created when the WebSphere Commerce instance was created — either from a quick installation or manually creating a WebSphere Commerce instance.

   For a quick installation, the Site Administrator ID was entered when completing the installation wizard.

   When creating a WebSphere Commerce instance manually, the Site Administrator ID is the value that was entered in the **Site Admin ID** field of the WebSphere Commerce instance creation wizard.

b. When completing the WCSRealm information, ensure that you enter the fully qualified host name for the ***WebSphere Commerce Web server*** in the **Commerce Webserver Hostname** field.

5. When you have completed all the necessary information in all the panels, the **Finish** button is enabled. Click **Finish** to create the WebSphere Commerce Payments instance.
6. Oracle You are asked if you want to populate the Oracle database. Select **Yes** if you want your database to be populated, or **No** if you do not want your database to be populated.
7. DB2 If you chose to use an existing DB2 database, you are asked if you want to populate the database. Select **Yes** if you want your database to be populated, or **No** if you do not want your database to be populated.

The time required to create an instance depends on the speed of your system. The progress bar that displays when you start creating the instance will indicate when the process has finished.

8. When instance creation is complete, a dialog appears containing a summary. Click **OK** to close the dialog window.

   Ensure that you review contents of the dialog. It may contain additional instructions you must perform before using the instance.
9. Select **WebSphere Commerce** > *hostname* > **Commerce** > **Instance List** > *instance_name* > **Instance Properties** and click **Payments**.
10. Complete the fields and click **Apply**. For help on completing the fields, click **Help**.
11. Exit Configuration Manager by clicking on **Console** and **Exit**.

You can now verify the creation of the WebSphere Commerce Payments instance by following the instructions in "Verifying the instance creation."

Verifying the instance creation

The configuration information for the new WebSphere Commerce Payments instance is stored in the following file:

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

where default values for *WC_installdir* are listed in "Path variables used in this book" on page iv and *instance_name* is the name of WebSphere Commerce Payments instance.

Confirm that this file exists before checking the log files produced during instance creation.

Creating a WebSphere Commerce Payments instance produces log files in the following directory:

WC_installdir/instances/*payments_instance_name*/logs

where default values for *WC_installdir* are listed in "Path variables used in this book" on page iv and *payments_instance_name* is the name of WebSphere Commerce Payments instance.

Creating a WebSphere Commerce Payments instance produces the following log files:

- DB2 createdb.log
- DB2 createdb.err.log

Creating a WebSphere Commerce Payments instance also produces the following file in the *WC_installdir*/instances directory:

- Configurator.1.log

  This log file will be required by IBM support if there was a problem with the Payments instance creation.

The next step

After you have created your WebSphere Commerce Payments instance, continue by following the instructions in "Mandatory post-instance creation tasks" on page 119. You must complete the instructions in that section for WebSphere Commerce and WebSphere Commerce Payments to function correctly.

Mandatory post-instance creation tasks

Depending on your WebSphere Commerce topology, perform the tasks in the following sections after creating WebSphere Commerce and WebSphere Commerce Payments instances:

If you are using IBM HTTP Server Version 2.0.42.2

Do the following:

1. "IBM HTTP Server Version 2.0.42.2 tasks."
2. If you have a remote Web server, perform the tasks in "Remote Web server post-instance creation tasks" on page 120.
3. "Updating the WebSphere Commerce non-root user's .profile file" on page 121

If you are using any other supported Web server.

Do the following:

1. If you have a remote Web server, perform the tasks in "Remote Web server post-instance creation tasks" on page 120.
2. "Updating the WebSphere Commerce non-root user's .profile file" on page 121

IBM HTTP Server Version 2.0.42.2 tasks

After creating a WebSphere Commerce or WebSphere Commerce Payments instance for the first time, review the document available at the following URL:

`http://www.ibm.com/support/docview.wss?uid=swg21115062`

This document outlines IBM HTTP Server 2.0 plug-in support with WebSphere Application Server Version 5.1.x. It describes the steps you must take to ensure that IBM HTTP Server Version 2.0.42.2 functions correctly with WebSphere Application Server. This ensures that IBM HTTP Server Version 2.0.42.2 will work correctly with WebSphere Commerce and WebSphere Commerce Payments.

Also, ensure the plug-in has been applied to the *HTTPServer_installdir*`/conf/httpd.conf` file.

The following four lines should exist in the `httpd.conf` file:

```
Alias /WSsamples WAS_installdir/WSsamples
Alias /IBMWebAS/ WAS_installdir/web/
 LoadModule was_ap20_module WAS_installdir/bin/
 mod_was_ap20_http.so
WebSpherePluginConfig WAS_installdir/config/cells/plugin-cfg.xml
```

These lines may not appear together — you may have perform a text search on the file to confirm the presence of these lines. If these lines are missing, add them to the end of the file and restart the Web server.

If you have a remote Web server, perform the tasks in "Remote Web server post-instance creation tasks" on page 120 after completing the tasks outlined in the document.

Sun ONE Web server tasks

After creating a WebSphere Commerce or WebSphere Commerce Payments instance for the first time, apply WebSphere Application Server interim fix PQ82361.

For instructions on applying WebSphere Application Server interim fixes, refer to "Applying WebSphere Application Server interim fixes" on page 187.

If you have a remote Web server, perform the tasks in "Remote Web server post-instance creation tasks" after installing the fix.

Remote Web server post-instance creation tasks

If the Web server is installed on a different node from WebSphere Commerce and WebSphere Commerce Payments, do the following after creating a WebSphere Commerce or a WebSphere Commerce Payments instance:

1. Examine the *WAS_installdir*/properties/version/BASE.product file to ensure that WebSphere Application Server plug-in is at the required level (5.1.1.3). If your WebSphere Application Server plug-in is not at the required level, do one of the following:
   - If your version level is 5.1.0.0, you must apply WebSphere Application Server Version 5.1 Fix Pack 1 and WebSphere Application Server Version 5.1.1 Cumulative Fix 3 to the plug-in.

     For instructions on applying WebSphere Application Server Version 5.1 Fix Pack 1, refer to "Applying WebSphere Application Server Version 5.1 Fix Pack 1" on page 185.

     For instructions on applying WebSphere Application Server Version 5.1.1 Cumulative Fix 3, refer to "Applying WebSphere Application Server Version 5.1.1 Cumulative Fix 3" on page 186.
   - If your version level is 5.1.1.0, you must apply WebSphere Application Server Version 5.1.1 Cumulative Fix 3 to the plug-in.

     For instructions on applying WebSphere Application Server Version 5.1.1 Cumulative Fix 3, refer to "Applying WebSphere Application Server Version 5.1.1 Cumulative Fix 3" on page 186.
2. If you have not already applied the WebSphere Application Server cumulative plug-in fix, apply the fix now.

   For instructions and to obtain the fix, refer to the following URL:

   http://www.ibm.com/support/docview.wss?uid=swg24007227

   The WebSphere Application Server cumulative plug-in fix is updated frequently and is not provided on the WebSphere Application Server fixes CD that is packaged with WebSphere Commerce.
3. Copy the plugin-cfg.xml from the WebSphere Commerce node to the Web server node. For instructions, refer to "Copying the plugin-cfg.xml file to Web server" on page 191.
4. If WebSphere Commerce and WebSphere Commerce Payments are installed on different nodes, merge the contents of the plugin-cfg.xml file on the WebSphere Commerce Payments node with the plugin-cfg.xml on the Web server node. For instructions, refer to "Merging the WebSphere Commerce Payments plugin-cfg.xml file" on page 192.
5. If it does not exist, create a directory on the Web server node that matches the *WAS_installdir* directory on the WebSphere Commerce node.

6. Copy the following directory from the WebSphere Commerce node to the Web server node:

   WAS_installdir/installedApps/*cell_name*/WC_*instance_name*.ear

   where the variables are defined as follows:

   WAS_installdir
   Default values for this variables are listed in "Path variables used in this book" on page iv

   cell_name
   This is the short host name of the machine on which WebSphere Commerce is installed.

   Commerce_instance_name
   This is the name of the WebSphere Commerce instance.

   Ensure that the full paths on the Web server node and the WebSphere Commerce node are the same. You may need to create the directories that make up this path on the Web server node.

   Important

   - Ensure that all users have read and execute permissions on all files and directories in the *WAS_installdir*/installedApps/ directory on the Web server machine.

     If the permissions on the files and directories are incorrect, you may not be able to access WebSphere Commerce.
   - Remove any JSP and JAR files from the WC_*instance_name*.ear directory on the Web server. Only static-content files should be in the WC_*instance_name*.ear directory on the Web server.

7. For IBM HTTP Server users, ensure that the path for the WebSphere Application Server plug-in is shown correctly in the httpd.conf file on the Web server node.

   To check the path, open the *HTTPServer_installdir*/conf/httpd.conf file in a text editor and search for the following:

   ```
   WebSpherePluginConfig
   ```

   This entry should contain the full path to the plugin-cfg.xml file on the Web server node. If the path is incorrect, change the path, save the httpd.conf file, and restart the Web server.
8. Stop and restart the Web server.

Updating the WebSphere Commerce non-root user's .profile file

For WebSphere Commerce to function correctly, the WebSphere Commerce installation wizard updates the non-root user's .profile file.

Confirm that the updates were made to the WebSphere Commerce non-root user's .profile file as follows:

1. Check one of the following, depending on the database you are using:

- DB2 Ensure that the WebSphere Commerce non-root user's `.profile` file calls the WebSphere Commerce database user's `.profile` file. The following line should appear in the WebSphere Commerce non-root user's `.profile` file:

  ```
  . DB2_users_dir/.profile
  ```

  where *DB2_users_dir* is the full path of the home directory for the DB2 Universal Database user.

  Ensure that *DB2_users_dir*`/.profile` does not contain any statements that will not run in `sh`.

- Oracle Ensure that the WebSphere Commerce non-root user's `.profile` file calls the Oracle installation owner's `.profile` file. The following line should appear in the WebSphere Commerce non-root user's `.profile` file:

  ```
  . Oracle_home_dir/.profile
  ```

  where *Oracle_home_dir* is the home directory of the Oracle installation owner.

  Ensure that *Oracle_home_dir*`/.profile` does not contain any statements that will not run in `sh`.

2. If you use the CDE desktop, ensure that the WebSphere Commerce non-root user's `.dtprofile` file calls the WebSphere Commerce non-root user's `.profile` file.

Next steps

After creating a WebSphere Commerce and a WebSphere Commerce Payments instance, review Part 7, “Last steps,” on page 125 to decide how to continue.

Part 7. Last steps

Continue your installation and configuration of WebSphere Commerce by performing the following tasks:

Review the README file

If you have not already done so, review the WebSphere Commerce README file. The README file contains information about last-minute changes to the product. Last-minute changes may include additional fixes that must be installed before using WebSphere Commerce.

For more information, see "Reviewing the README file" on page 39.

Update the WebSphere Commerce information center

Important updates, additional information, and corrections are often made to the WebSphere Commerce information center. The information center (online help) contains most of the information you will need after installing or migrating WebSphere Commerce.

Ensure that you download the latest version of the WebSphere Commerce information center from the WebSphere Commerce Library for your edition of WebSphere Commerce. The WebSphere Commerce Library is available at the following URLs:

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

Review the security of your WebSphere Commerce installation

Security is a crucial component of a production WebSphere Commerce site. Refer to the WebSphere Commerce Information Center for instructions on enabling WebSphere Application Server security, configuring single sign-on and other security options for your installation.

Publish a WebSphere Commerce starter store

WebSphere Commerce provides a number of samples stores demonstrating various functions in WebSphere Commerce. A WebSphere Commerce starter store can be used to familiarize yourself with WebSphere Commerce and as a base for developing a customized store.

If you do not publish a sample store, you should publish the access control policies, organization structures, and other information associated with one of the starter stores to provide the framework for developing your store. For more information, refer to the WebSphere Commerce Information Center.

To get up and running quickly with a WebSphere Commerce starter store, refer to the **Easy Start** section of the WebSphere Commerce Information Center.

For information on publishing a WebSphere Commerce starter store, working with the starter stores provided with WebSphere Commerce, and developing a store in WebSphere Commerce, refer to the WebSphere Commerce Information Center.

The information center includes information on changing database settings to improve the time required to publish a store. Refer to the **Configuring publish** topic in the WebSphere Commerce information center.

If you are using a remote web server, ensure that you complete the tasks outlined in "Post-Store publishing tasks" on page 193 each time you publish a store.

Install and configure the additional software provided with WebSphere Commerce

WebSphere Commerce provides a number of additional software packages that enhance WebSphere Commerce and provide additional functionality. For more information on the additional software provided with WebSphere Commerce, refer to *WebSphere Commerce Additional Software Guide*. This book is available from the WebSphere Commerce technical library. Refer to "WebSphere Commerce technical library" on page 221 for more information.

Business Professional **Perform advanced configuration tasks**

Advanced configurations for WebSphere Commerce include federation, clustering, and multiple instances. Advanced configuration are covered in Part 8, "Advanced configuration options," on page 127.

Part 8. Advanced configuration options

This section contains instructions for the following optional, advanced configurations for WebSphere Commerce:

Creating multiple WebSphere Commerce and WebSphere Commerce Payments instances

WebSphere Commerce supports the creation of multiple WebSphere Commerce instances. That is, with WebSphere Commerce, you can run two or more instances of WebSphere Commerce concurrently by using a different host name for each WebSphere Commerce instance. In this case, a customer can access *host1.domain* and *host2.domain*. This method involves the use of *virtual host names*.

Important

If you are using WebSphere Commerce Payments to process payments in WebSphere Commerce, each instance of WebSphere Commerce requires its own instance of WebSphere Commerce Payments. For every new WebSphere Commerce instance you create, you must also create a new WebSphere Commerce Payments instance.

Multiple instances, as described in this chapter, are used mainly to have different occurrences of WebSphere Commerce that do not share information. Each instance will be unique. To have multiple, cloned occurrences of the same WebSphere Commerce instance, refer to "Clustering WebSphere Commerce" on page 143.

While it is possible to create multiple instances in any configuration of WebSphere Commerce components, the information in this chapter will assume that a WebSphere Commerce instance and its associated WebSphere Commerce Payments instance exist on the same node. Multiple WebSphere Commerce instances using remote WebSphere Commerce Payments instances will not be covered. The instructions in this chapter also assume that the Web server and database server exist on the same node as WebSphere Commerce and WebSphere Commerce Payments.

The information in this chapter will also assume that you have an existing WebSphere Commerce instance and an existing WebSphere Commerce Payments instance. The instructions in this chapter will focus on creating an additional WebSphere Commerce instance and an additional WebSphere Commerce Payments instance.

In this chapter, the following variables will be used when discussing the creation of multiple WebSphere Commerce and WebSphere Commerce Payments instances using virtual host names:

Object	Original instance variable	New instance variable
WebSphere Commerce instance name	*WC_instance_1*	*WC_instance_2*
WebSphere Commerce Payments instance name	*Payments_instance_1*	*Payments_instance_2*
IP address	xxx.xxx.xxx.xxx	yyy.yyy.yyy.yyy
Host name	*host1*	*host2*
Domain name	*domain*	*domain*
Fully qualified host name	*host1.domain*	*host2.domain*

Object		Original instance variable	New instance variable
DB2	WebSphere Commerce database name	*WC_db1*	*WC_db2*
Oracle	WebSphere Commerce datafile name	*Oracle_datafile1*	*Oracle_datafile2*
Oracle	WebSphere Commerce database user ID	*Oracle_user1*	*Oracle_user2*
Oracle	WebSphere Commerce tablespace name	*WC_instance_1*TBLSPC	*WC_instance_2*TBLSPC
DB2	WebSphere Commerce Payments database name	*Payments_db1*	*Payments_db2*
Oracle	WebSphere Commerce Payments tablespace name	*Payments_instance_1*TBLSPC	*Payments_instance_2*TBLSPC

These variables represent the parameter values for your first and second instance and are intended to show where values are unique or common between instances.

Normally, you will have operational pre-existing WebSphere Commerce and WebSphere Commerce Payments instances and you want to create an additional instance or instances. If you have a pre-existing instance, you do not have to modify any of the parameter values for that instance in order to add an additional instance. You may want to modify some parameters of your original instance in order to better organize your multi-instance environment.

Prerequisites

Ensure that the node meets the following requirements:

- Each WebSphere Commerce instance must have its own host name. This host name will also be used by the associated WebSphere Commerce Payments instance.
- Each host name for each instance requires its own IP address. The IP address must be valid on the network, with associated host names in the DNS server. The IP address must also be on the same VLAN as the IP address of the original instance.

- You may also use the IP address and host name of the node for one of the instances. In this case, you need just two IP addresses for two instances.
- Each set of WebSphere Commerce and WebSphere Commerce Payments instances requires its own host name.

Note: IBM HTTP Server; does not allow underscore characters (_) in a host name.

For instructions on adding another IP address to a machine, refer to your operating system documentation.

- The host name for each instance must resolve fully to separate IP addresses. For example, to verify that you can run WebSphere Commerce Configuration Manager and create multiple instances, run the `nslookup` command on both the host name and IP address for each instance. The host name should resolve to its correct IP address, and the IP address should resolve to its correct host name:

```
nslookup 'host1.domain'
nslookup 'xxx.xxx.xxx.xxx'

nslookup 'host2.domain'
nslookup 'yyy.yyy.yyy.yyy'
```

- If you are using the minimum required amount of system memory, increase the system's memory by 512 MB for each additional WebSphere Commerce instance and its associated WebSphere Commerce Payments instance on a system.
- If you are using the minimum required paging space, increase the system's paging space by 1 GB per processor for each additional WebSphere Commerce instance and its associated WebSphere Commerce Payments instance on a system.
- Oracle If you are using Oracle9i Database with WebSphere Commerce, each additional WebSphere Commerce instance and its associated WebSphere Commerce Payments instance will require its own datafile. The tablespaces and Oracle9i Database IDs required by WebSphere Commerce and WebSphere Commerce Payments can be created for you when you create the instances.

Creating multiple WebSphere Commerce instances

Assuming you have already created your first WebSphere Commerce instance, you can create each additional instance that you require by following the instructions in "Creating a WebSphere Commerce instance" on page 113. In the following table, the existing instance is represented by **Original instance** and the new instance is represented by **New instance**. You do not have to modify the values for an existing instance.

You can create multiple WebSphere Commerce instances in the same WebSphere Commerce Configuration Manager session.

The following table lists the modified default values for the new instance. Replace these values with the actual values that you want to use for your instance.

Field in Configuration Manager	Original instance	New instance
Instance - Instance name	*WC_instance_1*	*WC_instance_2*
Instance - Instance root path	*WC_installdir*/instances/*WC_instance_1*	*WC_installdir*/instances/*WC_instance_2*
DB2 Database - Database name	*WC_db1*	*WC_db2*
Oracle Database - Datafile name	*Oracle_datafile1*	*Oracle_datafile2*
Oracle Database - Database user ID	*Oracle_user1*	*Oracle_user2*

Field in Configuration Manager	Original instance	New instance
Oracle Database - Tablespace name	*WC_instance_1*TBLSPC	*WC_instance_2*TBLSPC
Web server - hostname	*host1.domain*	*host2.domain*
Web server - Primary Document Root (IBM HTTP Server)	N/A	N/A
WebSphere Commerce Payments - hostname	*host1.domain*	*host2.domain*

Default values for *WC_installdir* and *IBM HTTP Server* are listed in "Path variables used in this book" on page iv.

Ensure that you verify the instance creation by following the instructions in "Verifying the instance creation" on page 114.

If you are using WebSphere Commerce Payments to process payments in WebSphere Commerce, you must create a WebSphere Commerce Payments instance for each additional WebSphere Commerce instance.

If you are not using WebSphere Commerce Payments, proceed to "Testing multiple instances" on page 133.

Creating multiple WebSphere Commerce Payments instances

Assuming you have already created your first WebSphere Commerce Payments instance, you can create each additional instance that you require by following the instructions in "Creating a WebSphere Commerce Payments instance" on page 115. In the following table, the existing instance is represented by **Original instance** and the new instance is represented by **New instance**. You do not have to modify the values for an existing instance.

You can create multiple WebSphere Commerce Payments instances in the same WebSphere Commerce Configuration Manager session.

The following table lists the modified default values for the new instance. Replace these values with the actual values that you want to use for your instance.

Field in Configuration Manager	Original instance	New instance
Instance - Instance name	*Payments_instance_1*	*Payments_instance_2*
WebSphere Node Name	*host_name*	*host_name* This should be the same host name as the original WebSphere Commerce Payments instance.
DB2 Database - Database name	*Payments_db1*	*Payments_db2*
Oracle Database - Datafile name	*Oracle_datafile1*	*Oracle_datafile2*

Field in Configuration Manager		Original instance	New instance
Oracle	Database - Database user ID	*Oracle_user1*	*Oracle_user2*
Oracle	Database - Tablespace name	*Payments_instance_1*TBLSPC	*Payments_instance_2*TBLSPC
Web server - hostname		*host1.domain*	*host2.domain*
WebSphere Commerce - hostname		*host1.domain*	*host2.domain*
Web server - Primary Document Root (IBM HTTP Server)		`HTTP_installdir/htdocs1`	`HTTP_installdir/htdocs2`

Ensure that you verify the instance creation by following the instructions in "Verifying the instance creation" on page 117.

After verifying the additional WebSphere Commerce Payments instances, test the instances.

Testing multiple instances

To test the original and new instances, do the following:

1. Start all WebSphere Commerce instances. For instructions, refer to "Starting or stopping a WebSphere Commerce instance" on page 169.
2. If you are using WebSphere Commerce Payments, start all WebSphere Commerce Payments instances. For instructions, refer to "Starting or stopping a WebSphere Commerce Payments instance" on page 169.
3. Test the following URLs:

Original instance	New instance
• http://*host1.domain* • http://*host1.domain*:5432/webapp/PaymentManager • https://*host1.domain* • https://*host1.domain*:5433/webapp/PaymentManager • https://*host1.domain*:8000/accelerator • https://*host1.domain*:8002/adminconsole • https://*host1.domain*:8004/orgadminconsole	• http://*host2.domain* • http://*host2.domain*:5432/webapp/PaymentManager • https://*host2.domain* • https://*host2.domain*:5433/webapp/PaymentManager • https://*host2.domain*:8000/accelerator • https://*host2.domain*:8002/adminconsole • https://*host2.domain*:8004/orgadminconsole

Federating WebSphere Commerce and WebSphere Commerce Payments

When WebSphere Commerce and WebSphere Commerce Payments are installed, they use the WebSphere Application Server base product. Both WebSphere Commerce and WebSphere Commerce Payments can be considered base WebSphere Application Server nodes.

WebSphere Application Server Network Deployment provides a mechanism which allows you to start the application servers from the WebSphere Application Server Administrative Console. This mechanism is called *federating the application server nodes*. Application server nodes are federated into a *cell* and all of the application servers in a cell are administered by a *deployment manager*. The deployment manager is also an application server. Cells can also be referred to as *deployment manager cells*.

By federating the WebSphere Commerce node and the WebSphere Commerce Payments node into a single deployment manager cell, you can start, stop, and administer both application servers from a WebSphere Application Server Administrative Console. The WebSphere Application Server Administrative Console is a browser-based application, so it can be accessed from any machine on the same network as the cell that has a Web browser. For Web browser requirements for the WebSphere Application Server Administrative Console, refer to the WebSphere Application Server documentation.

Important

Take note of the following considerations when federating WebSphere Commerce and WebSphere Commerce Payments:

- Before federating WebSphere Commerce, it strongly recommended that you backup the WebSphere Application Server administrative configuration. Backing up the administrative configuration will allow you to restore the original configuration if federation fails during the federation process. For more information, refer to the ″Backing up and restoring administrative configurations″ topic in the WebSphere Application Server information center available through the following URL:

  `http://www.ibm.com/software/webservers/appserv/infocenter.html`
- If you want to create a WebSphere Commerce instance or a WebSphere Commerce Payments instance in a federated environment, you must disable WebSphere Application Server global security before you create the instance.

Federating WebSphere Commerce

To federate WebSphere Commerce into a deployment manager cell, do the following:

1. Install the WebSphere Application Server Network Deployment product on a separate machine from the machines on which you installed WebSphere Commerce, WebSphere Commerce Payments, the database, and the Web server. This machine now hosts the deployment manager.

Only one system hosts the deployment manager. As it federates application servers, it expands the cell that it manages. Although you can install other application servers on the same machine as the deployment manager, it is not generally done unless you have a machine with the capacity to host both products. The deployment manager is the central administrative manager.

Instructions for installing WebSphere Application Server Network Deployment are available in *IBM WebSphere Application Server Network Deployment Getting started*. This book is available as a PDF file in the `docs` directory of the WebSphere Application Server Network Deployment CD.

2. Apply the WebSphere Application Server fixes to WebSphere Application Server Network Deployment as documented in "Applying WebSphere Application Server interim fixes" on page 187.

   Ensure that you apply fix pack 1, cumulative fix 3 and any interim fixes to WebSphere Application Server Network Deployment.

3. Ensure that you are logged into the WebSphere Commerce node and WebSphere Application Server Network Deployment node as `root`.

   Complete the remaining steps as `root`.

4. On the WebSphere Application Server Network Deployment machine, start the deployment manager. Refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180 for instructions.

5. (Optional) To prevent problems in the next step, update `addNode.sh` by following the instructions in "addNode.sh command returns out of memory error" on page 209.

6. On the WebSphere Commerce node, do the following:

   a. Ensure that no application servers (for example, server1) are running.

   b. Federate the WebSphere Commerce application server into the deployment manager cell by issuing the following command:

      ```
      WAS_installdir/bin/addNode.sh
          deployment_manager_machine_name deployment_manager_port [-includeapps]
      ```

      The command is shown on multiple lines for display purposes only, enter the command on one line.

      The variables and parameters in the command are defined as follows:

      WAS_installdir
      : Default values for *WAS_installdir* are listed in "Path variables used in this book" on page iv.

      deployment_manager_machine_name
      : This is the fully-qualified domain name of the deployment manager machine.

      deployment_manager_port
      : This is the port on which the deployment manager listens. The default deployment manager port is 8879.

      `–includeapps`
      : This parameter is optional.

        Specify this parameter if one or more of the following conditions apply:

        - You have non-WebSphere Commerce applications on the WebSphere Commerce node that you want to include in the deployment manager cell.

- A WebSphere Commerce instance exists on the WebSphere Commerce node. If you have not created a WebSphere Commerce instance, this parameter is not required.

- If you receive an out of memory error, refer to "addNode.sh command returns out of memory error" on page 209 for information on correcting the problem.
- If you receive a clock synchronization error, you must set the clocks of the WebSphere Commerce machine and the WebSphere Application Server Network Deployment machine to be within five minutes of each other.

7. If you have federated a WebSphere Commerce node that contains WebSphere Commerce instances and these WebSphere Commerce instances are being federated into the deployment manager cell, create the virtual hosts required by the WebSphere Commerce application server by issuing the following command on the WebSphere Commerce machine for each WebSphere Commerce instance on the node:

   ```
   WC_installdir/bin/createVirtualHosts.sh instance_name
   ```

   where *instance_name* is the name of the WebSphere Commerce instance.

   Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

   Note: This step should only be performed if WebSphere Commerce instances exist on the node being federated — only one node being federated into the cell should have an instance.

   This step is not required when adding additional WebSphere Commerce application servers to a deployment manager cell nor is it required if you have not created a WebSphere Commerce instance on the node.
8. Correct the permissions of important WebSphere Commerce files, by issuing the following command on the WebSphere Commerce machine as `root`:

   ```
   WC_installdir/bin/wcnonroot.sh
   ```

   Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

   Important: Ensure that no application servers are running before issuing this command. The node agent may be left running.
9. Change the process execution user ID and group for the WebSphere Commerce application server. For instructions, refer to "Changing the process execution user ID and group" on page 139.

Once you have federated the WebSphere Commerce application server nodes into a deployment manager cell, you can start and stop WebSphere Commerce by following the instructions in "Starting or stopping an application server under WebSphere Application Server Network Deployment" on page 181

Federating WebSphere Commerce Payments

To federate WebSphere Commerce Payments into a deployment manager cell, do the following:

1. If you have not already installed the WebSphere Application Server Network Deployment product on a separate machine from the machines on which you installed WebSphere Commerce, WebSphere Commerce Payments, the database, and the Web server, do so now.

   Only one system hosts the deployment manager. As it federates application servers, it expands the cell that it manages. Although you can install other application servers on the same machine as the deployment manager, it is not generally done unless you have a machine with the capacity to host both products. The deployment manager is the central administrative manager.

   Instructions for installing WebSphere Application Server Network Deployment are available in *IBM WebSphere Application Server Network Deployment Getting started*. This book is available as a PDF file in the `docs` directory of the WebSphere Application Server Network Deployment CD.

   Important: Ensure that you apply any WebSphere Application Server fixes documented in the WebSphere Commerce README file to the WebSphere Application Server Network Deployment installation. For more information about the README file, refer to "Reviewing the README file" on page 39.

   Failure to apply these fixes will result in WebSphere Commerce Payments functioning incorrectly after federation.
2. Ensure that you are logged into the WebSphere Commerce Payments node and WebSphere Application Server Network Deployment node as `root`.
3. On the WebSphere Application Server Network Deployment node, start the deployment manager application server. Refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180 for instructions.
4. (Optional) To prevent problems in the next step, update `addNode.sh` by following the instructions in "addNode.sh command returns out of memory error" on page 209.
5. On the WebSphere Commerce Payments node, federate the WebSphere Commerce Payments application server into the deployment manager cell by issuing the following command:

   ```
   WAS_installdir/bin/addNode.sh
        deployment_manager_machine_name deployment_manager_port [-includeapps]
   ```

   The command is shown on multiple lines for display purposes only, enter the command on one line.

   The variables and parameters in the command are defined as follows:

   WAS_installdir
   : Default values for *WAS_installdir* are listed in "Path variables used in this book" on page iv.

   deployment_manager_machine_name
   : This is the fully-qualified domain name of the deployment manager machine.

   deployment_manager_port
   : This is the port on which the deployment manager listens. The default deployment manager port is 8879.

   `–includeapps`
   : This parameter is optional.

     Specify this parameter if one or more of the following conditions apply:

- You have non-WebSphere Commerce applications on the WebSphere Commerce Payments node that you want to include in the deployment manager cell.
- A WebSphere Commerce Payments instance exists on the WebSphere Commerce Payments node. If you have not created a WebSphere Commerce Payments instance, this parameter is not required.

If you receive an out of memory error, refer to "addNode.sh command returns out of memory error" on page 209 for information on correcting the problem.

6. If you have federated a WebSphere Commerce Payments node that contains a WebSphere Commerce Payments instance, create the virtual hosts required by the WebSphere Commerce Payments application server by issuing the following command on the WebSphere Commerce Payments machine:

   WC_installdir/payments/bin/createPaymentsVirtualHost.sh *instance_name*

   where *instance_name* is the name of the WebSphere Commerce Payments instance. The default name for the WebSphere Commerce Payments instance is wpm.

   Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

   This step is not required if you have not created a WebSphere Commerce Payments instance on the node.
7. Correct the permissions of important WebSphere Commerce Payments files, by issuing the following command on the WebSphere Commerce machine:

   WC_installdir/bin/wcnonroot.sh

   Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

   Ensure that no application servers, other than the node agent, are running before issuing this command.
8. Change the process execution user ID and group for the WebSphere Commerce Payments application server. For instructions, refer to "Changing the process execution user ID and group."

Once you have federated the WebSphere Commerce Payments application server node into a deployment manager cell, you can start and stop WebSphere Commerce Payments by following the instructions in "Starting or stopping an application server under WebSphere Application Server Network Deployment" on page 181

Changing the process execution user ID and group

After federating a WebSphere Commerce or WebSphere Commerce Payments application server node into a cell, you must change the process execution user and group to the non-root WebSphere Commerce user ID and group created before installing WebSphere Commerce.

You must perform the instructions in this section for each node you have added to a deployment manager cell.

To change the process execution user ID and group for a node in a cell, do the following:

1. Ensure that you are logged into the application server node as root.

2. On the application server node, start the node agent if it is not already started. Running the `addNode` command when federating nodes starts the node agent automatically, so the node agent may already be running.

   Refer to "Starting and stopping the WebSphere Application Server node agent" on page 180 for instructions, however do not start the node agent under the WebSphere Commerce non-root user ID at this point. Ensure that you start the node agent as `root`.
3. On the WebSphere Application Server Network Deployment machine, start the deployment manager application server. Refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180 for instructions.
4. Open the WebSphere Application Server Network Deployment Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 181.

   Ensure that you are accessing the Administrative Console on the WebSphere Application Server Network Deployment (deployment manager) machine and not a WebSphere Application Server (node) machine.
5. In the Navigation area, expand **Servers** and click **Application Servers**. The Application Servers page displays.
6. On the Application Servers, click the name of the application server. The application server page displays.

   For WebSphere Commerce, the application server name is `WC_`*`commerce_instance_name`*, where *commerce_instance_name* is the name of the WebSphere Commerce instance.

   For WebSphere Commerce Payments, the application server name is *`payments_instance_name`*`_Commerce_Payments_Server`, where *payments_instance_name* is the name of the WebSphere Commerce Payments instance.
7. In the **Additional Properties** table on the application server page, click **Process Definition**. The Process Definition page displays.
8. In the **Additional Properties** table on the Process Definition page, click **Process Execution**. The Process Execution page displays.
9. In the **Run as user** field, enter the non-root user ID created before installing WebSphere Commerce.
10. In the **Run as group** field, enter the user group to which the non-root user ID belongs.
11. Click **OK**.
12. Click **Save** in the Administrative Console taskbar.
13. On the Save page, select **Synchronize changes with Node**.
14. On the Save page, click **Save**.
15. Exit the WebSphere Application Server Administrative Console.
16. Restart the node agent as the non-root user by doing the following on the application server node:
    a. Stop the node agent. Refer to "Starting and stopping the WebSphere Application Server node agent" on page 180 for instructions.
    b. Correct the permissions of important files, by issuing the following command on the WebSphere Commerce machine:

       `WC_installdir``/bin/wcnonroot.sh`

       Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

Ensure that no application servers, including the node agent, are running before issuing this command.

c. Switch users to the non-root user ID created before installing WebSphere Commerce by issuing the following command:

```
su - non_root_user_ID
```

where *non_root_user_ID* is the non-root user ID created before installing WebSphere Commerce.

d. Start the node agent. Refer to "Starting and stopping the WebSphere Application Server node agent" on page 180 for instructions.

Ensure that you do not start the node agent as `root`.

Removing an application server node from a cell

If the application server node is a member of a cluster, you must remove the application server node from the cluster before removing the application server node from the deployment manager cell.

If you want to remove an application server node from the deployment manager cell, do the following:

1. On each node in the cell, start the node the agent. Refer to "Starting and stopping the WebSphere Application Server node agent" on page 180 for instructions.
2. On the WebSphere Application Server Network Deployment machine, start the deployment manager. Refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180 for instructions.
3. Create a backup of your current configuration. A backup is recommend in case the `removeNode` command fails.

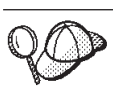
   To create a backup of your current configuration, issue the following command on the application server node machine:

   ```
   WAS_installdir/bin/backupConfig.sh backup_file.zip
   ```

   where *backup_file* specifies the file to which the backup is written. The system will create this file for you.
4. (Optional) To prevent problems in the next step, update `removeNode.sh` by following the instructions in "removeNode.sh command returns out of memory error" on page 210.
5. On the application server node machine, issue the following command:

   ```
   WAS_installdir/bin/removeNode.sh
   ```

   Default values for *WAS_installdir* are listed in "Path variables used in this book" on page iv.



If you receive an out of memory error, refer to "removeNode.sh command returns out of memory error" on page 210 for information on correcting the problem.

The `removeNode` command only removes the node specific configuration from the cell. It does not uninstall any applications that were installed as the result of executing an `addNode` command, because such applications may subsequently be deployed on additional servers in the network deployment cell.

For more information on the `removeNode` command, refer to the WebSphere Application Server documentation.

Clustering WebSphere Commerce

This chapter shows you how to use the WebSphere Application Server Network Deployment clustering mechanism.

WebSphere Commerce installs the base WebSphere Application Server product on each node where you choose to install WebSphere Commerce Server. The WebSphere Application Server Network Deployment product must be installed on a separate machine after installing WebSphere Commerce.

This chapter covers the following types of clustering for WebSphere Commerce:

- "Clustering with horizontal cluster members" on page 145
- "Clustering with vertical cluster members" on page 145

When clustering WebSphere Commerce, each WebSphere Commerce node in the cluster must use the same WebSphere Commerce Payments instance as WebSphere Commerce Payments does not support clustering. However, to manage WebSphere Commerce Payments with the WebSphere Commerce cluster, you can federate the WebSphere Commerce Payments application server into the same deployment manager cell as the WebSphere Commerce cluster by following the instructions in "Federating WebSphere Commerce Payments" on page 137.

For more information on clustering, refer to the WebSphere Application Server Network Deployment documentation.

Important

Before clustering WebSphere Commerce, it strongly recommended that you backup the WebSphere Application Server administrative configuration. Backing up the administrative configuration will allow you to restore the original configuration if clustering fails during the clustering process. For more information, refer to the "Backing up and restoring administrative configurations" topic in the WebSphere Application Server information center:

`http://www.ibm.com/software/webservers/appserv/infocenter.html`

The diagram on the following page shows clustering in a five node installation of WebSphere Commerce:

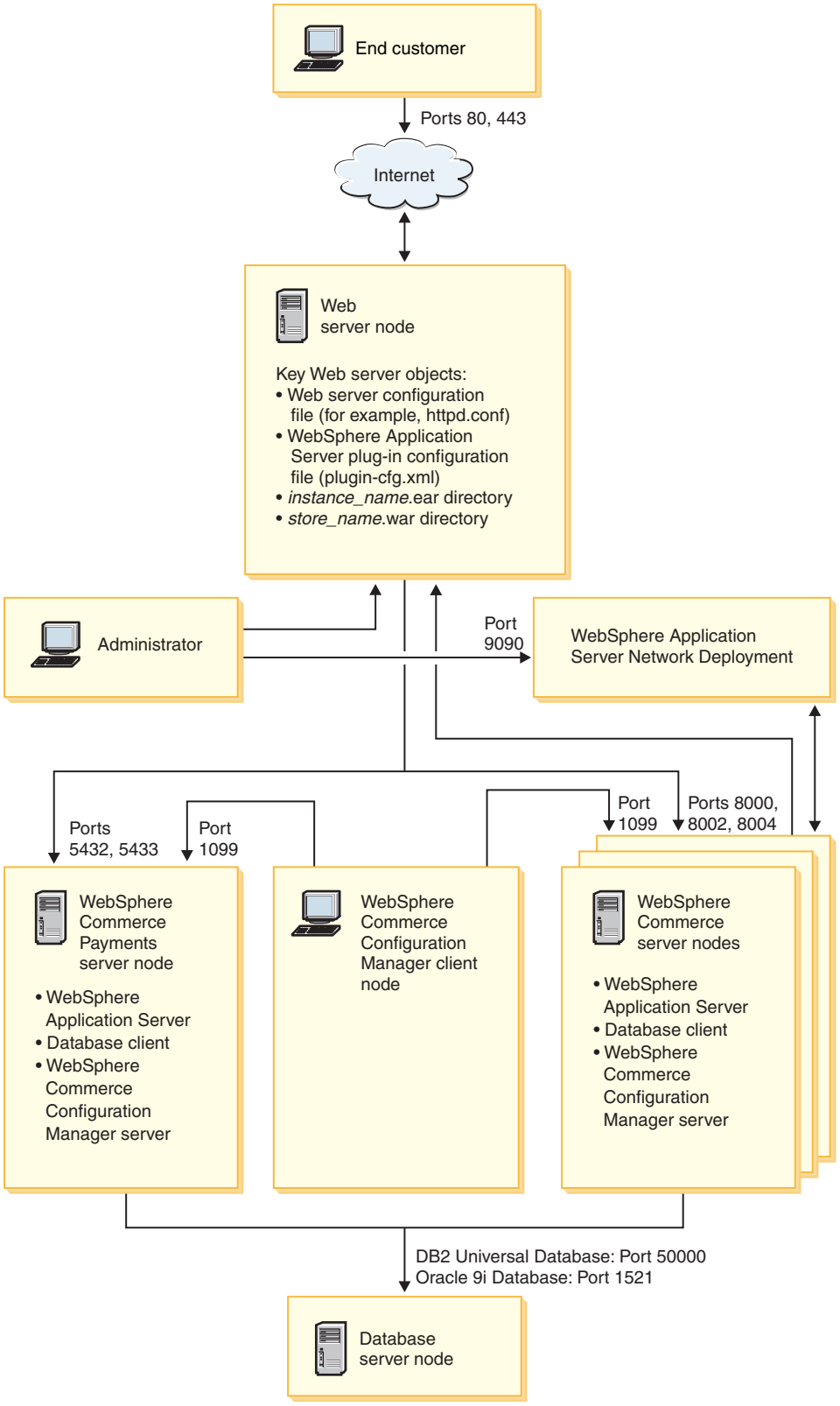


Figure 1. Five node installation with clustering

Clustering with horizontal cluster members

Clustering with horizontal cluster members refers to the traditional practice of defining cluster members of an application server on multiple physical machines, thereby allowing a single application to span several machines while presenting a single system image. Clustering with horizontal cluster members can provide increased throughput and high availability.

For clustering with horizontal cluster members, it is recommended that you use both a remote Web server and a remote database.

To create a cluster with horizontal cluster members, do the following:

1. Complete the installation of a WebSphere Commerce node using the custom install option of the installation wizard. For instructions, refer to Part 5, "Installing WebSphere Commerce using the custom installation," on page 87.
2. Create a WebSphere Commerce instance. For instructions, refer to Part 6, "Creating a WebSphere Commerce and a WebSphere Commerce Payments instance," on page 107.
3. Federate the WebSphere Commerce node into a deployment manager cell. For instructions refer to "Federating WebSphere Commerce" on page 135.
4. Prepare additional nodes for each node you want to add to the cluster. For instructions, refer to "Preparing additional nodes" on page 146.
5. Create the WebSphere Commerce cluster. For instructions, refer to "Creating the WebSphere Commerce cluster" on page 147.
6. Verify the JDBC provider path for each cluster member. For instructions, refer to "Verifying the JDBC provider path" on page 148.
7. Regenerate the Web server plug-in. For instructions, refer to "Regenerating the Web server plug-in under WebSphere Application Server Network Deployment" on page 149.
8. Copy WebSphere Commerce instance information from the original WebSphere Commerce node to each horizontal cluster member. For instructions, refer to "Copying instance information" on page 150.
9. Copy WebSphere Commerce application and store information from the original WebSphere Commerce node to each horizontal cluster member. For instructions, refer to "Copying WebSphere Commerce application and store information" on page 150.

Important

Ensure you publish your store before creating a cluster. Publishing a store after clustering is not recommended.

Clustering with vertical cluster members

Clustering with vertical cluster members refers to the practice of defining cluster members of an application server on the same physical machine. Experience has shown that a single application server, which is implemented by a single Java Virtual Machine (JVM) process, cannot always fully utilize the CPU power of a large multiprocessor machine. Clustering with vertical cluster members provides a straightforward mechanism to create multiple JVM processes, that together can fully use all the processing power available.

To create a cluster with vertical cluster members, do the following:

1. Complete the installation of a WebSphere Commerce node using the custom install option of the installation wizard. For instructions, refer to Part 5, "Installing WebSphere Commerce using the custom installation," on page 87.
2. Create a WebSphere Commerce instance. For instructions, refer to Part 6, "Creating a WebSphere Commerce and a WebSphere Commerce Payments instance," on page 107.
3. Federate the WebSphere Commerce node into a deployment manager cell. For instructions refer to "Federating WebSphere Commerce" on page 135.
4. Create the WebSphere Commerce cluster. For instructions, refer to "Creating the WebSphere Commerce cluster" on page 147.
5. Regenerate the Web server plug-in. For instructions, refer to "Regenerating the Web server plug-in under WebSphere Application Server Network Deployment" on page 149.

Important

Ensure you publish your store before creating a cluster. Publishing a store after clustering is not recommended.

Preparing additional nodes

This section applies only to clustering with horizontal cluster members.

As part of clustering with horizontal cluster members, you must install the WebSphere Commerce server component of WebSphere Commerce on each machine that will be part of the cluster containing the horizontal cluster members.

To prepare a new node as a horizontal cluster member, do the following:

1. Install the WebSphere Commerce server component of WebSphere Commerce on the machine hosting the horizontal cluster member. Use the custom installation option of the WebSphere Commerce installation wizard to do this. Instructions on completing a custom installation are provided in Part 5, "Installing WebSphere Commerce using the custom installation," on page 87.

   DB2 If you want to use DB2 as the database when performing a custom install, the installation wizard installs the DB2 Administration Client on the machine as well as the WebSphere Commerce server component.

   Oracle If you want to use Oracle as the database when performing a custom install, you must install the Oracle components for an Oracle client machine as outlined in "Installing and configuring Oracle9i Database" on page 69 before starting the WebSphere Commerce installation wizard.
2. Ensure that you can access the WebSphere Commerce database from the new WebSphere Commerce node.

   DB2 You may need to catalog the remote WebSphere Commerce database node and the remote WebSphere Commerce database. For instructions, refer to the DB2 Universal Database documentation.

   Oracle For help in ensuring access to the remote WebSphere Commerce database, refer to your Oracle9i Database documentation.
3. Federate the WebSphere Commerce node into a deployment manager cell. For instructions refer to "Federating WebSphere Commerce" on page 135.

Important: Do *not* create a WebSphere Commerce instance on the new WebSphere Commerce node.

Creating the WebSphere Commerce cluster

The instructions in this section create a new cluster that contains the original WebSphere Commerce application server. After creating this cluster, you may create additional cluster members, either on the same node or any other node in the deployment manager cell.

To create the new WebSphere Commerce cluster, do the following:

1. If it is not started, start the deployment manager. Refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180 for instructions.
2. If they are not started, start the node agent on each node you want to add to a cluster. For instructions, refer to "Starting and stopping the WebSphere Application Server node agent" on page 180.

   Ensure that you start each node agent as the WebSphere Commerce non-root user.
3. Open the WebSphere Application Server Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 181.
4. In the Navigation area, expand **Servers** and click **Clusters**. The Server Cluster page displays.
5. On the Server Cluster page, click **New**. The Create New Cluster page displays.
6. In the **Cluster Name** field, enter a name for the cluster.
7. In the **Existing server** field, select **Select an existing application server to add to this cluster** and from the list of existing servers, select the WebSphere Commerce application server from the pull-down list. The WebSphere Commerce application server name in the list will appear in the following form:

   cell_name/*machine_name*/WC_*instance_name*

   where

   cell_name
   : is the name of the cell to which the WebSphere Commerce application server belongs.

   machine_name
   : is the short host name of the WebSphere Commerce machine.

   instance_name
   : is the name of the WebSphere Commerce instance.
8. Click **Next**. The Create New Clustered Servers page displays.
9. In the **Name** field, enter the name of the new cluster member to create.
10. From the **Select Node** field, select the name of the machine on which you want to create the new cluster member.

    For horizontal clustering, the machine name would be a different name from the name of the machine on which you originally installed WebSphere Commerce.

    For vertical clustering, the machine name would be the same name as the name of the machine on which you originally installed WebSphere Commerce.
11. In the **Http Ports** field, ensure that **Generate Unique Http Ports** is selected.

For information about other parameters you can set when creating a new cluster member, refer to the WebSphere Application Server Network Deployment documentation.

12. Click **Apply**.
13. If you want to add more cluster members, repeat steps 9 on page 147 through 12 for each cluster member you want to add.
14. When you have finished adding cluster members, click **Next**.
15. Click **Finish** on the Summary page.
16. Click **Save** in the Administrative Console task bar.
17. On the Save page, select **Synchronize changes with node**.
18. On the Save page, click **Save**.
19. Exit the WebSphere Application Server Administrative Console.

Verifying the JDBC provider path

For each cluster member, you should verify that the JDBC provider path is set correctly. Failure to do so may result in the cluster not functioning correctly.

To verify the JDBC provider path for a cluster member, do the following:

1. If they are not started, start the node agent on each system managed by WebSphere Application Server Network Deployment. For instructions, refer to "Starting and stopping the WebSphere Application Server node agent" on page 180.
2. If it is not started, start the deployment manager. Refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180 for instructions.
3. Open the WebSphere Application Server Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 181.
4. In the Navigation area, expand **Resources** and click **JDBC Providers**. The JDBC Providers page displays.
5. In the **Node** field, enter the name of the machine on which the cluster member exists. This is usually the same name as the machine name on which the application server runs.

   For a list of available nodes, click **Browse**.
6. In the **Server** field, enter the name of the application server for which you want to check the JDBC provider path. This is the member name of the cluster member.

   For a list of available application servers, click **Browse**.
7. Click **Apply**. The list of JDBC providers refreshes.
8. Click on the following JDBC provider:

   ```
   instance_name - WebSphere Commerce JDBC Provider
   ```

   where *instance_name* is the name of the WebSphere Commerce instance.
9. Confirm that the path shown in the **Classpath** field is the full path to the JDBC driver on the machine on which the cluster member exists.

   If the path shown is correct, click **Cancel**.

   If the path shown is incorrect, do the following:

   a. Enter the correct path to the JDBC driver in the **Classpath** field.
   b. Click **OK**.

c. Click **Save** in the Administrative Console task bar.
d. On the Save page, select **Synchronize changes with node**.
e. On the Save page, click **Save**.

10. Exit the WebSphere Application Server Administrative Console.

Regenerating the Web server plug-in under WebSphere Application Server Network Deployment

When regenerating the plug-in, ensure that you are logged in as the non-root user created before installing WebSphere Commerce.

To regenerate the Web server plug-in, do the following:

1. If it is not started, start the deployment manager. Refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180 for instructions.
2. If they are not started, start the node agent on each system managed by WebSphere Application Server Network Deployment. For instructions, refer to "Starting and stopping the WebSphere Application Server node agent" on page 180.
3. Regenerate the plug-in in one of the following ways:
   - **[Recommended]** Using the WebSphere Application Server GenPluginCfg utility.

     For more information on the GenPluginCfg utility, refer to the *Regenerating Web server plug-in configurations"* page in the WebSphere Application Server Network Deployment information center:

     `http://publib.boulder.ibm.com/infocenter/wasinfo/index.jsp?topic=/com.ibm.websphere.nd.doc/info/ae/ae/trun_app_regen.html`

     If the deployment manager is installed on a remote machine, pay special attention to the **Note** section of the *Regenerating Web server plug-in configurations* page.
   - Using the WebSphere Application Server Administrative Console:
     a. Open the WebSphere Application Server Network Deployment Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 181.
     b. In the Navigation area, expand **Environment** and click **Update Web Server Plugin**.
     c. Click **OK** to generate a new `plugin-cfg.xml` file.
     d. Exit the WebSphere Application Server Network Deployment Administrative Console.
     e. Open the `plugin-cfg.xml` file in a text editor. The `plugin-cfg.xml` file is in the following directory:

        WAS_ND_installdir`/config/cells`

        Review any full-path information in the `plugin-cfg.xml` file. All full path information should match the full path for WebSphere Application Server information on the WebSphere Commerce node.

        For example, if the newly generated `plugin-cfg.xml` file contains `/opt/WebSphere/DeploymentManager` in some of the elements, but WebSphere Application Server is installed in `/opt/WebSphere/AppServer`

on the WebSphere Commerce node, change all occurrences of `/opt/WebSphere/DeploymentManager` in the `plugin-cfg.xml` file to `/opt/WebSphere/AppServer`.

Save any changes and exit the text editor.

4. Copy the regenerated `plugin-cfg.xml` file from the WebSphere Application Server Network Deployment machine to the Web server. For instructions, refer to "Copying the plugin-cfg.xml file to Web server" on page 191.
5. If WebSphere Commerce Payments is not federated into the same deployment manager cell as the WebSphere Commerce cluster, merge the contents of the WebSphere Commerce Payments `plugin-cfg.xml` file with the new `plugin-cfg.xml` file on the Web server. For instructions, refer to "Merging the WebSphere Commerce Payments plugin-cfg.xml file" on page 192.

   Note: Skip this step if WebSphere Commerce Payments and the original WebSphere Commerce node are on separate machines.
6. Restart the Web server according to the documentation provided with the Web server.

Copying instance information

For each WebSphere Commerce node in a horizontal cluster, you must copy the WebSphere Commerce instance store information from the original WebSphere Commerce node to the other nodes.

Perform all tasks in this section as the non-root user created before installing WebSphere Commerce.

The steps in this section must be also be performed after you create a new WebSphere Commerce instance in the cluster.

To copy the instance information to a horizontal cluster member, do the following:

1. If the cluster is running, stop the cluster. For instructions, refer to "Starting or stopping a WebSphere Commerce cluster" on page 153.
2. Stop the Web server according the documentation provided with the Web server.
3. Copy the contents of the following directory on the original WebSphere Commerce node to the same directory on the other machines:

   WC_installdir`/instances/`*instance_name*

   where *instance_name* is the name of the WebSphere Commerce instance.

   Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.
4. Start the Web server according to the documentation provided with the Web server.
5. Start the cluster. For instructions, refer to "Starting or stopping a WebSphere Commerce cluster" on page 153.

Copying WebSphere Commerce application and store information

For each WebSphere Commerce node in a horizontal cluster, you must copy the WebSphere Commerce application and store information from the original WebSphere Commerce node to the node.

Perform all tasks in this section as the non-root user created before installing WebSphere Commerce.

The steps in this section must also be performed each time after you publish a store in the cluster.

To copy the application and store information to a horizontal cluster member, do the following:

1. If the cluster is running, stop the cluster. For instructions, refer to "Starting or stopping a WebSphere Commerce cluster" on page 153.
2. Stop the Web server according the documentation provided with the Web server.
3. Copy the contents of the following directory on the original WebSphere Commerce node to the same directory on the node:

   WAS_installdir/installedApps/*server_name*/WC_*instance_name*.ear

   This directory should have been created automatically when the cluster member was added.

   The variables are defined as follows:

   WAS_installdir
   Default values for *WAS_installdir* are listed in "Path variables used in this book" on page iv.

   server_name
   This is the machine name of the original WebSphere Commerce node.

   instance_name
   This is the name of the WebSphere Commerce instance.
4. Start the Web server according to the documentation provided with the Web server.
5. Start the cluster. For instructions, refer to "Starting or stopping a WebSphere Commerce cluster" on page 153.

Adding additional cluster members

The instructions in this section describe how to add more members to the cluster you created in "Creating the WebSphere Commerce cluster" on page 147.

To add additional cluster members, do the following:

1. If they are not started, start the node agent on each node you want to add to the cluster. For instructions, refer to "Starting and stopping the WebSphere Application Server node agent" on page 180.

   Ensure that you start each node agent as the WebSphere Commerce non-root user.
2. If you want to add a horizontal cluster member to the cluster, complete the tasks in "Preparing additional nodes" on page 146.
3. If it is not started, start the deployment manager. Refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180 for instructions.
4. Open the WebSphere Application Server Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 181.

5. In the Navigation area, expand **Servers** and click **Clusters**. The Server Cluster page displays.
6. Ensure that the cluster is stopped. If the cluster is not stopped, select the cluster name and click **Stop**.
7. Click the cluster name.
8. In the Additional Properties table, click **Cluster Members**.
9. On the Cluster Members page, click **New**.
10. In the **Name** field, enter the name of the new cluster member to create.
11. From the **Select Node** field, select the name of the machine on which you want to create the new cluster member.

    For horizontal clustering, the machine name is different name from the name of the machine on which you originally installed WebSphere Commerce.

    For vertical clustering, the machine name is the same name as the name of the machine on which you originally installed WebSphere Commerce.
12. In the **Http Ports** field, ensure that **Generate Unique Http Ports** is selected.

    For information about other parameters you can set when creating a new cluster member, refer to the WebSphere Application Server Network Deployment documentation.
13. Click **Apply**.
14. To create additional cluster members in the cluster, enter a new name for the node in the **Member name** field and click **Apply**.

    Repeat this step until you have created all the cluster members you want to have in this cluster.
15. Click **Next**.
16. Click **Finish**.
17. Click **Save** in the menu along the top of the Administrative Console. The Save page displays.
18. On the Save page, select **Synchronize changes with node**.
19. On the Save page, click **Save**.
20. Exit the WebSphere Application Server Administrative Console.
21. Regenerate the web server plug-in configuration file. For instructions, refer to "Regenerating the Web server plug-in under WebSphere Application Server Network Deployment" on page 149.
22. Copy the regenerated `plugin-cfg.xml` file from the WebSphere Application Server Network Deployment machine to the Web server. For instructions, refer to "Copying the plugin-cfg.xml file to Web server" on page 191.
23. If you are adding additional new horizontal cluster members to the cluster, do the following:
    a. Copy WebSphere Commerce instance information from the original WebSphere Commerce node to each new horizontal cluster member. For instructions, refer to "Copying instance information" on page 150.
    b. Copy WebSphere Commerce application and store information from the original WebSphere Commerce node to each new horizontal cluster member. For instructions, refer to "Copying WebSphere Commerce application and store information" on page 150.

Starting or stopping a WebSphere Commerce cluster

Perform all tasks in this section as the non-root user created before installing WebSphere Commerce.

To start or stop a WebSphere Commerce cluster, do the following:

1. If they are not started, start the node agent on each node in the cluster. For instructions, refer to "Starting and stopping the WebSphere Application Server node agent" on page 180.
2. If it is not started, start the deployment manager. Refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180 for instructions.
3. Start the WebSphere Application Server Administrative Console and log on to the console. For instructions on starting the WebSphere Application Server Administrative Console, refer to "Starting the WebSphere Application Server Administrative Console" on page 181.
4. In the Navigation area, expand **Servers** and click **Clusters**. The Server Cluster page displays.
5. Select the check box next to the cluster you want to start or stop and click **Start** or **Stop**.

Removing a cluster member

To remove a cluster member from a cluster, do the following:

1. If they are not started, start the node agent on each node in the cluster. For instructions, refer to "Starting and stopping the WebSphere Application Server node agent" on page 180.

   Ensure that you start the node agent on each node as the WebSphere Commerce non-root user.
2. If it is not started, start the deployment manager. Refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180 for instructions.
3. Open the WebSphere Application Server Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 181.
4. In the Navigation area, expand **Servers** and click **Clusters**. The Server Cluster page displays.
5. From the list of clusters, click the cluster for which you want to change the membership. The cluster properties page displays.
6. In the Additional Properties table, click **Cluster members**. The Cluster members page displays.
7. Select the cluster members you want to remove from the cluster and click **Delete**.
8. Click **Save** in the Administrative Console task bar.
9. On the Save page, select **Synchronize changes with node**.
10. On the Save page, click **Save**.
11. Exit the WebSphere Application Server Administrative Console.
12. Regenerate the web server plug-in and copy the plug-in to the Web server. For instructions, refer to "Regenerating the Web server plug-in under WebSphere Application Server Network Deployment" on page 149.

Part 9. Uninstalling WebSphere Commerce

WebSphere Commerce components must be uninstalled in the reverse order from which they were installed. Uninstall WebSphere Commerce and its software stack components in the following order:

1. All WebSphere Commerce components.

   For example, WebSphere Commerce, WebSphere Commerce Payments, and the WebSphere Commerce Configuration Manager server and client.

   All WebSphere Commerce components should be removed from all nodes on which they are installed before uninstalling any other software stack components.
2. WebSphere Application Server
3. Web server
4. Database

Uninstalling WebSphere Commerce, WebSphere Commerce Payments, or the WebSphere Commerce Configuration Manager client

To uninstall WebSphere Commerce, WebSphere Commerce Payments, or the WebSphere Commerce Configuration Manager client from a node, do the following:

1. Stop WebSphere Commerce as described in "Starting or stopping a WebSphere Commerce instance" on page 169.
2. Stop WebSphere Commerce Payments as described in "Starting or stopping a WebSphere Commerce Payments instance" on page 169.
3. Stop the WebSphere Commerce information center as described in "Starting and stopping the WebSphere Commerce information center" on page 170.
4. Delete any WebSphere Commerce instances following the instructions provided in "Deleting a WebSphere Commerce instance" on page 172.
5. Delete any WebSphere Commerce Payments instances following the instructions provided in "Deleting a WebSphere Commerce Payments instance" on page 174.
6. If you have created or customized any files in the *WC_installdir* directory or its subdirectories, and you wish to retain them, back them up to a directory that is not used by any WebSphere Commerce components.

   Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.
7. From a terminal session, issue the following commands:

   ```
   DISPLAY=host_name:0.0
   export DISPLAY
   ```

   where *host_name* is the fully qualified host name of the machine from which you want to run the installation wizard.

   Note: If you are running the installation wizard in an X client, 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.
8. While logged in as `root`, start the uninstallation wizard by issuing one of the following commands:

   ```
   WC_installdir/_uninst/uninstall
   ```

   or

   ```
   WC_installdir/_uninst/uninstall -console
   ```

   Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

Note: The WebSphere Commerce uninstallation wizard can not be used to uninstall WebSphere Application Server, the Web server, or the database server.

For a distributed installation of WebSphere Commerce, run the uninstallation wizard on the WebSphere Commerce node, the WebSphere Commerce Payments node, and the WebSphere Commerce Configuration Manager client node.

Using the `-console` parameter starts a text-based uninstallation wizard. The steps in the text-based uninstallation wizard and the GUI-based uninstallation wizard are the same, but the methods of selection options and continuing in the uninstallation wizard differ.

9. Complete the uninstallation wizard by following the prompts.
10. If the *WC_installdir* directory still exists on the node, remove it.

    Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

Repeat the instructions on each node where you have WebSphere Commerce, WebSphere Commerce Payments, or the WebSphere Commerce Configuration Manager client installed.

Uninstalling WebSphere Application Server

If you have a distributed installation of WebSphere Commerce, you must uninstall WebSphere Application Server from the WebSphere Commerce node, the WebSphere Commerce Payments node, and the Web server node.

For information on uninstalling WebSphere Application Server, refer to *IBM WebSphere Application Server Version 5.0.x Getting Started*. This publication is available through the WebSphere Application Server information center library:

`http://www.ibm.com/software/webservers/appserv/infocenter.html`

Uninstalling WebSphere Application Server Network Deployment

WebSphere Application Server must be uninstalled from the WebSphere Commerce and WebSphere Commerce Payments nodes.

For information on uninstalling WebSphere Application Server Network Deployment, refer to *IBM WebSphere Application Server Network Deployment Version 5.1.x Getting Started*. This publication is available through the WebSphere Application Server information center library:

`http://www.ibm.com/software/webservers/appserv/infocenter.html`

Uninstalling IBM HTTP Server

If IBM HTTP Server Version 1.3.28 is installed on the same node as WebSphere Application Server, IBM HTTP Server will be uninstalled automatically when you uninstall WebSphere Application Server.

For information on uninstalling IBM HTTP Server Version 1.3.28, refer to the IBM HTTP Server Version 1.3.28 information center at the following URL:

```
http://www-306.ibm.com/software/webservers/httpservers/doc/v1326/
 manual/ibm/index.html
```

For information on uninstalling IBM HTTP Server Version 2.0.42.2, refer to the IBM HTTP Server Version 2.0.42.2 information center at the following URL:

```
http://www.ibm.com/software/webservers/httpservers/doc/v20/
 manual/ibm/index.html
```

Uninstalling DB2 Universal Database

If you have a distributed installation of WebSphere Commerce, you must uninstall DB2 Universal Database from the database server node and uninstall the DB2 Universal Database Administration client from the WebSphere Commerce node and the WebSphere Commerce Payments node.

For information on uninstalling DB2 Universal Database, refer to *IBM DB2 Universal Database Installation and Configuration Supplement*. This publication is available through the DB2 Universal Database library:

`http://www.ibm.com/cgi-bin/db2www/data/db2/udb/winos2unix/support/v8pubs.d2w/en_main`

After installing DB2 Universal Database, do the following:

1. Remove all DB2 Universal Database entries from the `/etc/services` file.

   DB2 Universal Database entries are entries that start with `db2`.
2. Delete all DB2 Universal Database users and groups.

Note: The DB2 Universal Database CD provided with WebSphere Commerce contains a .tar file. To follow the instructions in the DB2 Universal Database documentation, you must untar the contents of the CD to a temporary location. Run any commands that are to be run from the DB2 Universal Database CD from this temporary location instead. After uninstalling DB2 Universal Database, delete the temporary location.

Part 10. Installation and administration tasks

WebSphere Commerce tasks

This section provides instructions for WebSphere Commerce tasks you may need to complete while installing and administering WebSphere Commerce.

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. (optional) Ensure that the WebSphere Commerce information center is started.

   For instructions, refer to "Starting and stopping the WebSphere Commerce information center" on page 170.

   The WebSphere Commerce information center provides help when using the WebSphere Commerce tools such as WebSphere Commerce Accelerator. If the information center is not started, no help will be available when using the WebSphere Commerce tools.
4. Start, stop, or restart the application server from a command line 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 179.

Note: The first time you start an instance, it will take a long time to start. This delay results from the caching of information about Java programs. While the delay can be lengthy, it improves the start-up time in subsequent attempts.

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 "Starting the Configuration Manager" on page 110.
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.

Note: The first time you start an instance, it will take a long time to start. This delay results from the caching of information about Java programs. While the delay can be lengthy, it improves the start-up time in subsequent attempts.

Starting or stopping a WebSphere Commerce Payments instance from a command line session

Ensure that the WebSphere Commerce Payments Web server is started before you start a WebSphere Commerce Payments instance.

To start the WebSphere Commerce Payments instance:

1. From a command line session, navigate to the *WC_installdir*/payments/bin directory.
2. Run the following command:

   IBMPayServer *payments_instance_name password*

   where *payments_instance_name* is the Payments instance name and *password* is the corresponding Payments instance password.

To stop the WebSphere Commerce Payments instance:

1. From a command line session, navigate to the *WC_installdir*/payments/bin directory.
2. Run the following command:

   StopIBMPayServer *payments_instance_name password*

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:

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.

If you specify a port other than 8001 for the WebSphere Commerce information center, you must change the port used for contextual help in the WebSphere Commerce tools in Configuration Manager. If the port used for contextual help in the WebSphere Commerce tools does not match the port number on which you started the information center, you will not be able to access contextual help in the WebSphere Commerce tools, such as Accelerator. You will still be able to access all of the online help in the information center using the information center URL.

Refer to the WebSphere Commerce Information Center for instructions on how to change the port used for contextual help in the WebSphere Commerce tools.

Modifying a WebSphere Commerce or WebSphere Commerce Payments instance

Important

If you use IBM HTTP Server or Sun ONE Web server, WebSphere Commerce modifies the Web server configuration file whenever you do any of the following:

- Create a WebSphere Commerce instance.
- Create a WebSphere Commerce Payments instance.
- Update information in the Web Server panel in Configuration Manager for an existing instance.

These changes are marked by the following text:

```
IBM WebSphere Commerce (Do not edit this section)
```

or

```
IBM WebSphere Payments (Do not edit this section)
```

Customized changes within these sections are not supported by WebSphere Commerce as any changes made within these sections may be overwritten at any time by WebSphere Commerce configuration tools such as Configuration Manager.

If you want to change any of the configuration settings for your WebSphere Commerce or WebSphere Commerce Payments instance, you can do so from the Configuration Manager.

To update a WebSphere Commerce or WebSphere Commerce Payments instance using the Configuration Manager, do the following:

1. Ensure the database management system is started.
2. Start the default WebSphere Application Server application server (server1).

   For instructions on starting an application, refer to "Starting or stopping an application server" on page 179.
3. Start Configuration Manager. For instructions on starting Configuration Manager, refer to "Starting the Configuration Manager" on page 110.
4. In Configuration Manager, under **WebSphere Commerce**, expand ***hostname***. Choose to expand **Commerce** or **Payments** and select the instance you wish to alter.

   Refer to the online help for the Configuration Manager for information about the various fields and panels of Configuration Manager.
5. After you update your instance, click **Apply** to apply your changes.
6. When the changes have been successfully applied, exit the Configuration Manager client. This also terminates the Configuration Manager server.
7. Restart the instance you have modified.

Deleting a WebSphere Commerce instance

To delete a WebSphere Commerce instance, do the following:

1. Ensure that WebSphere Commerce is stopped. For instructions on stopping WebSphere Commerce, refer to "Starting or stopping a WebSphere Commerce instance" on page 169.

   Note: The WebSphere Commerce information center does not need to be stopped when deleting a WebSphere Commerce instance.
2. Ensure that there are no open connections to the WebSphere Commerce database.
3. If you are deleting a WebSphere Commerce instance from a deployment manager cell, remove the WebSphere Commerce instance from the deployment manager cell. For instructions, refer to "Removing an application server node from a cell" on page 141.
4. Backup any critical or customized files found in the following directories:

   WC_installdir/instances/*instance_name*
   WAS_installdir/logs/WC_*instance_name*
   WAS_installdir/installedApps/*hostname*/WC_*instance_name*.ear

   where *instance_name* is the name of the WebSphere Commerce instance you want to delete.
5. Delete the WebSphere Commerce instance by doing the following:
   a. Ensure that you are logged on as the WebSphere Commerce non-root user.
   b. Start the default WebSphere Application Server application server (server1).

      For instructions on starting an application, refer to "Starting or stopping an application server" on page 179.
   c. Start a command line session.
   d. In the command line session, change directories to *WC_installdir*/bin/.
   e. Issue the following command from a command line session:

      ```
      ./config_ant.sh
           -DdbUserName=database_user_ID
           -DdbUserPassword=database_user_password
           -DinstanceName=instance_name
           RemoveInstance
      ```

      where *instance_name* is the name of the WebSphere Commerce instance you want to delete.

      After you issue this command, you will be asked if you want to delete the WebSphere Commerce database schema for DB2 Universal Database or the WebSphere Commerce database tables for Oracle9i Database, depending on the database software you are using with WebSphere Commerce.

Important

Ensure you run this command as the non-root user created for WebSphere Commerce.

Also, ensure that you enter the name of the WebSphere Commerce instance and *not* the name of the WebSphere Commerce application server.

When the name of the WebSphere Commerce instance is *instance_name*, the name of the WebSphere Commerce application server is **WC**_*instance_name*.

If you use WC_*instance_name*, you will receive an error message.

The command does the following:

- If you chose to, deletes the WebSphere Commerce database schema for DB2 Universal Database or the WebSphere Commerce database tables for Oracle9i Database, depending on the database software you are using with WebSphere Commerce.

  The WebSphere Commerce database is not dropped. If you want to drop the WebSphere Commerce database, you must do so manually. Refer to your database software documentation for instructions on dropping a database.
- Removes the WebSphere Commerce data source from WebSphere Application Server.
- Removes the WebSphere Commerce virtual hosts from WebSphere Application Server.
- Uninstalls the WebSphere Commerce EAR from WebSphere Application Server.
- Removes the WebSphere Commerce application server from WebSphere Application Server.
- Removes WebSphere Commerce configuration information from the Web server configuration file (local and remote Web server).
- Delete the WebSphere Commerce instance directory.
- Regenerates the WebSphere Application Server Web server plug-in configuration file.
- Removes the WebSphere Commerce instance from Configuration Manager.

6. If any of the following directories exist, delete them:

   WC_installdir/instances/*instance_name*
   WAS_installdir/logs/WC_*instance_name*
   WAS_installdir/temp/*node_name*/WC_*instance_name*
   WAS_installdir/installedApps/*cell_name*/WC_*instance_name*.ear

   where *node_name* is the node name for WebSphere Application Server and *instance_name* is the name of the WebSphere Commerce instance you deleted. The WebSphere Application Server node name is usually the same as the host name of the machine on which WebSphere Application Server is installed.

7. Do the following, depending on your Web server:

Web server	Actions
IBM HTTP Server	No additional steps need to be performed when using a local IBM HTTP Server. If you are using a remote IBM HTTP Server: 1. Delete the following directory on the remote IBM HTTP Web Server node: *WAS_installdir*/installedApps/*hostname*/WC_*instance_name*.ear where *instance_name*e is the name of the WebSphere Commerce instance you are deleting. 2. If the IBM HTTP Server node is remote from the WebSphere Commerce node, copy the WebSphere Application Server Web server plug-in configuration file from the WebSphere Commerce node to the remote Web server node. For instructions, refer to "Copying the plugin-cfg.xml file to Web server" on page 191. 3. Restart the Web server.

Sun ONE Web Server	1. From the Sun ONE Web Server configuration files (for each WebSphere Commerce port), remove any sections delimited by the following text:
	`IBM WebSphere Commerce (Do not edit this section)`
	
	`End of IBM WebSphere Commerce (Do not edit this section)`
	2. If the Sun ONE Web Server node is remote from the WebSphere Commerce node, delete the following directory on the Sun ONE Web Server node:
	WAS_installdir/installedApps/*hostname*/WC_*instance_name*.ear
	
	where *instance_name* is the name of the WebSphere Commerce instance you are deleting.
	3. If the Sun ONE Web Server node is remote from the WebSphere Commerce node, copy the WebSphere Application Server Web server plug-in configuration file from the WebSphere Commerce node to the remote Web server node. For instructions, refer to "Copying the plugin-cfg.xml file to Web server" on page 191.
	4. Restart the Web server.
	
	Refer to your Sun ONE Web Server documentation for instructions.

Deleting a WebSphere Commerce Payments instance

To delete a WebSphere Commerce Payments instance, do the following:

1. Ensure that WebSphere Commerce Payments is stopped. For instructions, refer to "Starting or stopping a WebSphere Commerce Payments instance" on page 169.

Note: The WebSphere Commerce information center does not need to be stopped when deleting a WebSphere Commerce Payments instance.

2. Delete the WebSphere Commerce Payments instance from Configuration Manager by doing the following:
   a. Start Configuration Manager. For instructions on starting Configuration Manager, refer to "Starting the Configuration Manager" on page 110.
   b. In Configuration Manager, under **WebSphere Commerce** expand *hostname* > **Payments > Instance List**.
   c. Right-click the instance you want to delete and select **Delete Payments Instance**.

      A dialog displays confirming that you want to delete the instance.

      When the instance is deleted, a message displays. Click **OK**.
   d. Exit Configuration Manager.

   This step also deletes the WebSphere Commerce Payments application server.
3. Do one of the following, depending on the database you are using for WebSphere Commerce Payments:

DB2

Drop the WebSphere Commerce Payments database associated with the WebSphere Commerce Payments instance you want to delete.

To drop a local WebSphere Commerce Payments database, issue the following commands from a DB2 command window:

```
db2 drop db db_name
db2 uncatalog db db_name
```

where *db_name* is the name of the WebSphere Commerce Payments database.

To drop a remote WebSphere Commerce Payments database, issue the following commands from a DB2 command session on the WebSphere Commerce Payments machine:

```
db2 attach to remote_db_node_name user db_admin_ID
 using db_admin_password
db2 drop db db_name
db2 uncatalog db db_alias
```

where the variables are defined as follows:

remote_db_node_name
: The database node name that was specified when the WebSphere Commerce Payments instance was created.

db_admin_ID
: The database administrator ID that was specified when the WebSphere Commerce Payments instance was created.

db_admin_password
: The password for the database administrator

db_name
: The name of the WebSphere Commerce Payments database.

db_alias
: This is the alias under which the remote WebSphere Commerce Payments database is cataloged on the WebSphere Commerce Payments machine.

Oracle	Drop the WebSphere Commerce Payments tablespace and delete the Oracle user associated with the WebSphere Commerce Payments instance you want to delete. For instructions on dropping a tablespace and deleting an Oracle user, refer to the Oracle documentation.

4. Delete the following directories if they exist:

   WC_installdir/instances/*instance_name*
   WC_installdir/payments/instances/*instance_name*
   WAS_installdir/logs/*instance_name*_Commerce_Payments_Server
   WAS_installdir/installedApps/*hostname*/*instance_name*_Commerce_Payments_App.ear

   where *instance_name* is the name of the WebSphere Commerce Payments instance you want to delete.

5. Do the following, depending on your Web server:

Web server	Actions

IBM HTTP Server	• Open *HTTPServer_installdir*/conf/httpd.conf in a text editor.
	• Remove all sections delimited by the following text:
	`IBM WebSphere Payments (Do not edit this section)`
	`End of IBM WebSphere Payments (Do not edit this section)`
	There will be multiple sections in the file delimited by the text. Remove the delimiting text as well.
	• Save the changes and exit the text editor.
	• Restart the Web server.

Sun ONE Web Server	No additional steps need to be performed when using Sun ONE Web Server.

6. If you plan to use other WebSphere Application Server application servers after deleting the WebSphere Commerce Payments instance, you must regenerate the WebSphere Application Server plug-in configuration file. For information on regenerating the WebSphere Application Server plug-in configuration file, refer to "Regenerating the WebSphere Application Server Web server plug-in configuration file" on page 182.

Changing the ports used for WebSphere Commerce tools

In the Instance creation wizard, you can specify the WebSphere Commerce tools ports to be different from the default values (8000, 8002, 8004). However, if you want to change the tools ports after the instance creation, do the following:

1. Start Configuration Manager. For instructions on starting Configuration Manager, refer to "Starting the Configuration Manager" on page 110.
2. From the list of instances, expand the instance for which you want to change the tools ports.
3. Expand **Instance Properties** and click **WebServer**.
4. Change the port values in fields listed in the following table, depending on which ports you want to change:

WebSphere Commerce tool	Field	Default port
WebSphere Commerce Accelerator	WC Accelerator Port	8000

WebSphere Commerce tool	Field	Default port
WebSphere Commerce Administration Console	WC Admin Port	8002
WebSphere Commerce Organization Administration Console	WC OrgAdmin Port	8004

5. Click **Apply**.
6. Exit Configuration Manager.
7. If you have a remote Web server, copy the WebSphere Application Server Web server plug-in configuration file from the WebSphere Commerce machine to the remote Web server. For instructions, refer to "Copying the plugin-cfg.xml file to Web server" on page 191.

   If are using WebSphere Commerce Payments and have it installed remotely, you must merge the plug-in configuration files from the WebSphere Commerce and WebSphere Commerce Payments machines into one file before copying the merged plug-in configuration file to the Web server. For instructions, refer to "Merging the WebSphere Commerce Payments plugin-cfg.xml file" on page 192.
8. For Sun ONE Web server users, create a virtual server for the new ports. Ensure that the new virtual server is SSL enabled.
9. Start WebSphere Commerce.
10. Restart the Web server.

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

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. Default values for *WAS_installdir* are listed in "Path variables used in this book" 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 or stop.

Application server name	Description
Commerce_app_server	WebSphere Commerce application server. The name of the WebSphere Commerce application server is `WC_instance_name`, where *instance_name* is the name of the WebSphere Commerce instance. For example, if you have a WebSphere Commerce instance called `demo`, the application server name is `WC_demo`.
server1	Default WebSphere Application Server application server

Note: If the WebSphere Commerce node is federated into a WebSphere Application Server Network Deployment cell, you cannot start WebSphere Commerce or using this command. For instructions on starting WebSphere Commerce when is federated into a WebSphere Application Server Network Deployment cell, refer to "Starting or stopping an application server under WebSphere Application Server Network Deployment" on page 181.

Starting and stopping the WebSphere Application Server Network Deployment deployment manager

To start or stop the WebSphere Application Server Network Deployment deployment manager, do the following:

1. Ensure that your database management system is started.
2. Enter the following commands in a terminal window:

   ```
   cd WAS_ND_installdir/bin
   ```

   WAS_ND_installdir
   is the installation directory for WebSphere Application Server Network Deployment. Default values for *WAS_installdir* are listed in "Path variables used in this book" on page iv.
3. Do one of the following:
   - To start the deployment manager, enter the following command:

     ```
     ./startManager.sh
     ```
   - To stop the deployment Manager, enter the following command:

     ```
     ./stopManager.sh
     ```

Starting and stopping the WebSphere Application Server node agent

To start or stop the WebSphere Application Server node agent, do the following:

1. Ensure that you are logged in as the non-root user ID created before installing WebSphere Commerce.
2. Ensure that your database management system is started.
3. Enter the following commands in a terminal window:

   ```
   su - non_root_user
   cd WAS_installdir/bin
   ```

   WC_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 used in this book" on page iv.
4. Do one of the following:
   - To start the node agent, enter the following command:

     ```
     ./startNode.sh
     ```
   - To stop the node agent, enter the following command:

     ```
     ./stopNode.sh
     ```

Starting the WebSphere Application Server Administrative Console

You can start the WebSphere Application Server Administrative Console under the following conditions:

WebSphere Commerce in a clustered environment	Before starting the WebSphere Application Server Administrative Console, you must start the following: • The WebSphere Application Server node agent on each federated node. For instructions, refer to "Starting and stopping the WebSphere Application Server node agent" on page 180. • The WebSphere Application Server Network Deployment deployment manager. For instructions, refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180.
WebSphere Commerce in a non-clustered environment	Before starting the WebSphere Application Server Administrative Console, you must start the default WebSphere Application Server application server (`server1`). For instructions, refer to "Starting or stopping an application server" on page 179.

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 the http protocol, the default port is `9090`. For the https protocol, the default port is `9043`.

Starting or stopping an application server under WebSphere Application Server Network Deployment

The instructions in this section only apply to application servers that have been federated into a cell. For more information on federating application server nodes into cells, refer to the WebSphere Application Server Network Deployment documentation.

The instructions in this section do not apply when starting or stopping a cluster of application servers. For instructions on starting or stopping a cluster of application servers, refer to "Starting or stopping a WebSphere Commerce cluster" on page 153.

For information on federating the WebSphere Commerce application server and the WebSphere Commerce Payments application server into a deployment manager cell, refer to "Federating WebSphere Commerce and WebSphere Commerce Payments" on page 135.

To start an application server under WebSphere Application Server Network Deployment, do the following on the WebSphere Application Server Network Deployment machine:

1. If they are not started, start the node agent on each system managed by WebSphere Application Server Network Deployment.
2. If it is not started, start the deployment manager. Refer to "Starting and stopping the WebSphere Application Server Network Deployment deployment manager" on page 180 for instructions.
3. Start the WebSphere Application Server Administrative Console and log on to the console. For instructions on starting the WebSphere Application Server Administrative Console, refer to "Starting the WebSphere Application Server Administrative Console" on page 181.
4. In the Navigation area, expand **Servers** and click **Application Servers**. The Application Servers page displays.
5. Select the check box next to the application server you want to start or stop and click **Start** or **Stop**. The following table lists the WebSphere Commerce application servers that may be available:

Application server name	Description
Commerce_ app_server	WebSphere Commerce application server. The name of the WebSphere Commerce application server is `WC_`*`instance_name`*, where *instance_name* is the name of the WebSphere Commerce instance. For example, if you have a WebSphere Commerce instance called `demo`, the application server name is `WC_demo`.
Payments_ app_server	WebSphere Commerce Payments application server The name of the WebSphere Commerce Payments application server is *`instance_name`*`_Commerce_Payments_Server`, where *instance_name* is the name of the WebSphere Commerce Payments instance. For example, if you have a WebSphere Commerce Payments instance called `wpm`, the application server name is `wpm_Commerce_Payments_Server`.

Regenerating the WebSphere Application Server Web server plug-in configuration file

Perform all tasks in this section as the non-root user created before installing WebSphere Commerce.

The instructions in this section do not apply when operating WebSphere Commerce or WebSphere Commerce Payments in a federated or clustered environment under WebSphere Application Server Network Deployment. For information on generating the Web server plug-in in those environments, refer to "Regenerating the Web server plug-in under WebSphere Application Server Network Deployment" on page 149.

To regenerate the Web server plug-in, do the following on the WebSphere Commerce node:

1. If it is not started, start the default application server — `server1`. Refer to "Starting or stopping an application server" on page 179 for instructions.
2. Open the WebSphere Application Server Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 181.
3. In the Navigation area, expand **Environment**, then click **Update Web Server Plugin**.
4. Click **OK** to generate a new `plugin-cfg.xml` file.
5. Log out of the WebSphere Application Server Administrative Console.
6. If WebSphere Commerce Payments is on a separate node, repeat all of these steps on the WebSphere Commerce Payments node.

If you are using a local Web server, restart the Web server according to the documentation provided with the Web server.

If the Web server node is remote from the WebSphere Commerce node or the WebSphere Commerce Payments node, you will need to do the following:

1. Copy the plug-in from the WebSphere Commerce node to the Web server node. For details, refer to "Copying the plugin-cfg.xml file to Web server" on page 191.
2. If WebSphere Commerce and WebSphere Commerce Payments are on separate nodes, merge the WebSphere Commerce Payments plug-in with the WebSphere Commerce plug-in. For details, refer to "Merging the WebSphere Commerce Payments plugin-cfg.xml file" on page 192.
3. Restart the Web server according to the documentation provided with the Web server.

Applying WebSphere Application Server fixes

Applying WebSphere Application Server Version 5.1 Fix Pack 1

The instructions in this section only cover the installation of WebSphere Application Server Version 5.1 Fix Pack 1 using the update installation wizard. If you want to install this fix silently or want more information about WebSphere Application Server Version 5.1 Fix Pack 1, refer to the instructions available at the following URL:

`http://www-1.ibm.com/support/docview.wss?uid=swg24007195`

Apply WebSphere Application Server Version 5.1., Fix Pack 1 as follows:

1. If WebSphere Application Server is installed on the machine, ensure that all application servers are stopped.
2. If there is Web server installed on the machine, ensure that the Web server is stopped.
3. Insert the WebSphere Application Server Fixes CD from your WebSphere Commerce package provided with WebSphere Commerce into the CD-ROM drive of the machine where you have your Web server installed.

   If necessary, mount the CD-ROM drive.
4. From the WebSphere Application Server fixes CD, copy the `updateInstaller` directory to a temporary location on the machine.

   If you plan to apply multiple fixes, you only need to perform this step once.
5. Start a command line session and do the following:
   - Change directories to the updateInstaller directory on the hard disk.
   - Issue the following commands:

     ```
     . WAS_installdir/bin/setupCmdLine.sh
     ./updateWizard.sh
     ```

     This starts the update installation wizard.
6. Depending on the edition of WebSphere Application Server you are using, select one of the following when you are prompted to select the product to update:

   WebSphere Application Server Base
   IBM WebSphere Application Server v5.1.0

   WebSphere Application Server Network Deployment
   IBM WebSphere Network Deployment v5.1.0

   If you do not see either of these product to update, you are at the wrong version of the product to apply WebSphere Application Server Version 5.1 Fix Pack 1.

   Click **Next**.
7. Select **Install fix packs** and click **Next**.
8. Depending on the edition of WebSphere Application Server you are using, enter one of the following paths in the **Fix pack directory** field:

   WebSphere Application Server Base
   mount_point/BASE/fixpack

where *mount_point* is the directory on which the CD-ROM drive is mounted.

WebSphere Application Server Network Deployment
`mount_point/ND/fixpack`

where *mount_point* is the directory on which the CD-ROM drive is mounted.

Click **Next**.

9. Depending on the edition of WebSphere Application Server you are using, ensure that one of the following fix packs is selected and click **Next**:

   WebSphere Application Server Base
   was51_fp1_aix

   WebSphere Application Server Network Deployment
   was51_nd_fp1_aix

10. Continue through the update installation wizard until the installation starts.
11. When the installation has completed, do one of the following:

    If you have more fixes to install:
    Click **Run Wizard Again**.

    If you have no more fixes to install:
    Click **Finish**.

Applying WebSphere Application Server Version 5.1.1 Cumulative Fix 3

The instructions in this section only cover the installation of WebSphere Application Server Version 5.1.1 Cumulative Fix 3 using the update installation wizard. If you want to install this fix silently or want more information about WebSphere Application Server Version 5.1.1 Cumulative Fix 3, refer to the instructions available at the following URL:

`http://www.ibm.com/support/docview.wss?uid=swg24008771`

Apply WebSphere Application Server Version 5.1.1 Cumulative Fix 3 as follows:

1. If WebSphere Application Server is installed on the machine, ensure that all application servers are stopped.
2. If there is Web server installed on the machine, ensure that the Web server is stopped.
3. Iff the update installation wizard is not running from the installation of a previous fix, do the following:
   a. If necessary, insert the WebSphere Application Server Fixes CD from your WebSphere Commerce package provided with WebSphere Commerce into the CD-ROM drive of the machine.

      If necessary, mount the CD-ROM drive.

   b. If necessary, copy the `updateInstaller` directory from the WebSphere Application Server Fixes CD to a temporary location on the Web server machine.

      If you plan to apply multiple fixes, you only need to perform this step once.

   c. Start a command line session and do the following:
      - Change directories to the updateInstaller directory on the hard disk.
      - Issue the following commands:

        ```
        . WAS_installdir/bin/setupCmdLine.sh
        ./updateWizard.sh
        ```

This starts the update installation wizard.

d. Depending on the edition of WebSphere Application Server you are using, select one of the following when you are prompted to select the product to update:

   WebSphere Application Server Base
   IBM WebSphere Application Server v5.1.1

   WebSphere Application Server Network Deployment
   IBM WebSphere Network Deployment v5.1.1

   If you do not see either of these products to update, you are at the wrong version of the product to apply WebSphere Application Server Version 5.1 Fix Pack 1.

   Click **Next**.

4. Select **Install fix packs** and click **Next**.
5. Depending on the edition of WebSphere Application Server you are using, enter one of the following paths in the **Fix pack directory** field:

   WebSphere Application Server Base
   mount_point/BASE/fixpack

   where *mount_point* is the directory on which the CD-ROM drive is mounted.

   WebSphere Application Server Network Deployment
   mount_point/ND/fixpack

   where *mount_point* is the directory on which the CD-ROM drive is mounted.

   Click **Next**.
6. Depending on the edition of WebSphere Application Server you are using, ensure that one of the following cumulative fixes is selected and click **Next**

   WebSphere Application Server Base
   was511_cf3_aix

   WebSphere Application Server Network Deployment
   was511_nd_cf3_aix
7. Continue through the update installation wizard until the installation starts.
8. When the installation has completed, do one of the following:

   If you have more fixes to install:
   Click **Run Wizard Again**.

   If you have no more fixes to install:
   Click **Finish**.

Applying WebSphere Application Server interim fixes

The instructions in this section only cover the installation of WebSphere Application Server interim fixes using the update installation wizard. If you want to install interim fixes silently, refer to the instructions available at the following URL:

http://www.ibm.com/support/docview.wss?uid=swg24001908

Apply WebSphere Application Server interim fixes as follows:

1. If WebSphere Application Server is installed on the machine, ensure that all application servers are stopped.
2. If there is Web server installed on the machine, ensure that the Web server is stopped.
3. If the update installation wizard is not running from the installation of a previous fix:
   a. If necessary, insert the WebSphere Application Server Fixes CD from your WebSphere Commerce package provided with WebSphere Commerce into the CD-ROM drive of the machine.

      If necessary, mount the CD-ROM drive.
   b. If necessary, copy the updateInstaller directory from the WebSphere Application Server Fixes CD to a temporary location on the machine.

      If you plan to apply multiple fixes, you only need to perform this step once.
   c. Start a command line session and do the following:
      - Change directories to the updateInstaller directory on the hard disk.
      - Issue the following commands:

        ```
        . WAS_installdir/bin/setupCmdLine.sh
        ./updateWizard.sh
        ```

        This starts the update installation wizard.
   d. Depending on the edition of WebSphere Application Server you are using, select one of the following when you are prompted to select the product to update:

      WebSphere Application Server Base
      IBM WebSphere Application Server v5.1.1.3

      WebSphere Application Server Network Deployment
      IBM WebSphere Network Deployment v5.1.1.3

      If you do not see either of these products to update, you are at the wrong version of the product to apply WebSphere Application Server Version 5.1.1.3 interim fixes.

      Click **Next**.
4. Select **Install fixes** and click **Next**.
5. Depending on the edition of WebSphere Application Server you are using, enter one of the following paths in the **Fix directory** field:

   WebSphere Application Server Base

   ```
   mount_point/BASE/fixes
   ```

   where *mount_point* is the directory on which the CD-ROM drive is mounted.

   WebSphere Application Server Network Deployment

   ```
   mount_point/ND/fixes
   ```

   where *mount_point* is the directory on which the CD-ROM drive is mounted.

   Click **Next**.
6. Select the fix you want to install and click **Next**.

   Ensure that you install the following fixes:
   - PQ99045
   - PK05011

- PK02063

7. Continue through the update installation wizard until the installation starts.
8. When the installation has completed, do one of the following:

   If you have more fixes to install:
   Click **Run Wizard Again**.

   If you have no more fixes to install:
   Click **Finish**.

Remote Web server tasks

This sections describes tasks that must be performed if you use a Web server running on a different node than WebSphere Commerce.

Copying the plugin-cfg.xml file to Web server

To copy the `plugin-cfg.xml` file to the remote Web server, do the following:

1. Stop the Web server according the documentation provided with the Web server.
2. Copy the following file on the WebSphere Commerce node to the same location on the Web Server node, depending on your configuration:

WebSphere Commerce in a clustered environment	*WAS_ND_installdir*/config/cells/plugin-cfg.xml
WebSphere Commerce in a non- clustered environment	*WAS_installdir*/config/cells/plugin-cfg.xml

   Default values for *WAS_installdir* and *WAS_ND_installdir* are listed in "Path variables used in this book" on page iv.

   Overwrite any existing `plugin-cfg.xml` file on the Web server node.

   Important: The `plugin-cfg.xml` file contains directory-specific information. If you do not copy the file to the exact same directory structure on the Web server node, the Web server will not function correctly and WebSphere Commerce will be inaccessible.
3. For IBM HTTP Server users, ensure that the path for the WebSphere Application Server plug-in is shown correctly in the `httpd.conf` file on the Web server machine. The `httpd.conf` file is in the *HTTP_Server*/conf directory.

   To check the path, open the `httpd.conf` file in a text editor and search for the following:

   ```
   WebSpherePluginConfig
   ```

   This entry should contain the full path to the `plugin-cfg.xml` file on the Web server node. If the path is incorrect, change the path, save the `httpd.conf` file.
4. For Sun ONE Web Server users, ensure that the path for the WebSphere Application Server plug-in is shown correctly in the configuration files. The line in a configuration file for the WebSphere Application Server plug-in resembles the following:

   ```
   Init fn="as_init"
   bootstrap.properties="/opt/WebSphere/AppServer/config/cells/plugin-cfg.xml"
   ```

   This line has been formatted for this book. The line may not appear as shown in your file.

   If the path in the configuration files does not match the full path to the `plugin-cfg.xml` file on the Web server node, correct the path.
5. Start the Web server according to the documentation provided with the Web server.

If you are working on a custom installation with WebSphere Commerce and WebSphere Commerce Payments on separate nodes, continue with "Merging the WebSphere Commerce Payments plugin-cfg.xml file."

Merging the WebSphere Commerce Payments plugin-cfg.xml file

To merge the WebSphere Commerce Payments `plugin-cfg.xml` file with the Web server `plugin-cfg.xml` file , do the following:

1. Stop the Web server according the documentation provided with the Web server.
2. On the Web server node, open the `plugin-cfg.xml` file in a text editor. The full path of the `plugin-cfg.xml` file is the following:

   WAS_installdir`/config/cells/plugin-cfg.xml`

   Default values for *WAS_installdir* are listed in "Path variables used in this book" on page iv.
3. Open the `plugin-cfg.xml` file from the WebSphere Commerce Payments node in a text editor. The full path of the `plugin-cfg.xml` file is the following:

   WAS_installdir`/config/cells/plugin-cfg.xml`
4. Locate the following text in the WebSphere Commerce Payments `plugin-cfg.xml` file:

   ```
   <VirtualHostGroup Name="VH_PYM_instance_name">
       <VirtualHost Name="short_host_name:5432"/>
       <VirtualHost Name="short_host_name:5433"/>
       <VirtualHost Name="host_name:5432"/>
       <VirtualHost Name="host_name:5433"/>
   </VirtualHostGroup>
   ```

   where the variables defined as follows:

   instance_name
   : This is the name of the WebSphere Commerce Payments instance.

   short_host_name
   : This is the short host name of the WebSphere Commerce Payments node.

   host_name
   : This is the fully qualified host name of the WebSphere Commerce Payments node.
5. Copy this section to the Web server `plugin-cfg.xml` file. Ensure that you insert this section below existing entries of the same type.
6. Locate the following text in the WebSphere Commerce Payments `plugin-cfg.xml` file:

```
<ServerCluster CloneSeparatorChange="false" LoadBalance="Round Robin"
   Name="instance_name_Commerce_Payments_Server_short_host_name_Cluster"
   PostSizeLimit="10000000" RemoveSpecialHeaders="true" RetryInterval="60">
    <Server ConnectTimeout="0" ExtendedHandshake="false" MaxConnections="0"
  Name="short_host_name_instance_name_Commerce_Payments_Server"
  WaitForContinue="false">
        <Transport Hostname="IP_address" Port="9081" Protocol="http">
        <Transport Hostname="IP_address" Port="9091"Protocol="http">
    </Server>
    <PrimaryServers>
        <Server Name="instance_name_Commerce_Payments_Server">
    </PrimaryServers>
</ServerCluster>
```

where the variables are defined as follows:

instance_name
This is the name of the WebSphere Commerce Payments instance.

short_host_name
This is the short host name of the WebSphere Commerce Payments node.

IP_address
This is the TCP/IP address of the WebSphere Commerce Payments node.

7. Copy this section to the Web server `plugin-cfg.xml` file. Ensure that you insert this section below existing entries of the same type.
8. Locate the following text in the WebSphere Commerce Payments `plugin-cfg.xml` file:

```
<UriGroup Name="VH_PYM_instance_name_Commerce_Payments_Server_short_host_name_Cluster_URIs">
 <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid" Name="/webapp/SampleCheckout/*"/>
 <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid" Name="/webapp/SampleCheckoutservlet/*"/>
 <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid" Name="/webapp/PaymentManager/*"/>
 <Uri AffinityCookie="JSESSIONID" AffinityURLIdentifier="jsessionid" Name="/webapp/PaymentManagerservlet/*"/>
</UriGroup>
```

where the variables are defined as follows:

instance_name
This is the name of the WebSphere Commerce Payments instance.

short_host_name
This is the short host name (not fully-qualified) of the WebSphere Commerce Payments machine.

9. Copy this section to the Web server `plugin-cfg.xml` file. Ensure that you insert this section below existing entries of the same type.
10. Locate the following text in the WebSphere Commerce Payments `plugin-cfg.xml` file:

```
<Route ServerCluster="instance_name_Commerce_Payments_Server_short_host_name_Cluster"
    UriGroup="VH_PYM_instance_name_instance_name_Commerce_Payments_Server_short_host_name_Cluster_URIs"
    VirtualHostGroup="VH_PYM_instance_name"/>
```

where the variables are defined as follows:

instance_name
This is the name of the WebSphere Commerce Payments instance.

short_host_name
This is the short host name (not fully-qualified) of the WebSphere Commerce Payments machine.

11. Copy this section to the Web server `plugin-cfg.xml` file. Ensure that you insert this section below existing entries of the same type.
12. Save your changes and exit the text editor.
13. Start the Web server according to the documentation provided with the Web server.

Post-Store publishing tasks

If you are using a remote Web server, you must do the following every time you publish a store in WebSphere Commerce:

1. Replace the contents of the `Stores.war` directory on the Web server node with the contents of the `Stores.war` directory on the WebSphere Commerce node.

The full path to the Stores.war directory on both nodes is the following:
WAS_installdir/installedApps/*node_name*/WC_*instance_name*.ear/Stores.war

where the variables are defined as follows:

WAS_installdir
Default values for *WAS_installdir* are listed in "Path variables used in this book" on page iv.

node_name
This is the short host name of the WebSphere Commerce node.

instance_name
This is the name of the WebSphere Commerce instance.

The WC_*instance_name*.ear directory should have been copied to the Web server node after the creation of the WebSphere Commerce instance.

Important
Remove any JSP and JAR files from the WC_ *instance_name*.ear directory (and subdirectories) on the Web server. Only static-content files should be in the WC_*instance_name*.ear directory on the Web server.

Setting and changing passwords

Most components in WebSphere Commerce use user IDs and passwords that are validated by the operating system. For information on changing those passwords, refer to your operating system documentation. This chapter covers how to set and change passwords for WebSphere Commerce components that do not validate user IDs and passwords through the operating system.

Changing the Configuration Manager password

You can change the Configuration Manager password when you launch the Configuration Manager by clicking **Modify** in the window where you enter your user ID and password.

Alternately, you can change the Configuration Manager password as follows:

1. Start a command lineQShell session.
2. Issue the following commands:

   ```
   cd  WC_installdir/bin
   wcs_encrypt.sh new_password
   ```

   where *new_password* is new password for the Configuration Manager. An encrypted version of the new password will be generated by running the command as above.

   Two encrypted versions of the new password will be generated by running the command as above:

   - ASCII encrypted string
   - HEX encrypted string

   The ASCII encrypted string will be required for the next step.
3. Open the `PwdMgr.xml` file found in the *WC_userdir*`/instances` directory.
4. Modify the LoginPassword field, with the ASCII encrypted password generated in step 2.
5. Save your changes.

Changing the WebSphere Commerce Site Administrator password

You can change your password using the WebSphere Commerce Administration Console.

To change your password using WebSphere Commerce Administration Console, do the following:

1. Start the WebSphere Commerce Administration Console.
2. Log on with the Site Administrator ID and password created when the WebSphere Commerce instance was created.
3. Select the **Change password** check box and click **Log On**. The Change Password page displays.
4. In the **Old Password** field, type your current Administration Console logon password. This field accepts up to 128 alphanumeric characters.
5. In the **New Password** field, type a new logon password. This field accepts up to 128 alphanumeric characters.

6. In the **New password confirmation** field, re-type the new logon password.
7. Click **Change** to save the new password. The Select Store and Language page displays.
8. Exit the WebSphere Commerce Administration Console.

Resetting the Site Administrator password

If you forget the Site Administrator password and want to reset the 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.

Unlocking the Site Administrator ID

If the Site Administrator ID is locked due to too many failed login attempts or the Site Administrator account was disabled for other reasons, you can unlock the Site Administrator ID by doing the following:

1. Confirm that the Site Administrator ID is locked by issuing the following commands, depending on the database management system being used for WebSphere Commerce:

DB2

```
db2 connect to db_name user user_name using password
db2 select STATUS from USERREG where LOGONID='site_admin_ID'
```

Oracle

```
sqlplus wc_user_ID/wc_password@wc_SID
select STATUS from USERREG where LOGONID='site_admin_ID';
```

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.

site_admin_ID
The WebSphere Commerce Site Administrator 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.

If these commands return a status of 0, the Site Administrator ID has been disabled.

2. To re-enable the Site Administrator ID, issue the following commands, depending on the database management system being used for WebSphere Commerce:

DB2

```
db2 connect to db_name user user_name using password
db2 update USERREG set status=1 where LOGONID='site_admin_ID'
```

Oracle

```
sqlplus wc_user_ID/wc_password@wc_SID
update USERREG set status=1 where LOGONID='site_admin_ID';
```

For users other than the Site Administrator, use the Organization Administration console to re-enable users. For information on how to re-enable users in the Organization Administration console, refer to the WebSphere Commerce Information Center.

Recovering the Site Administrator ID

If you forget the Site Administrator ID defined when the WebSphere Commerce instance was created and you have no other IDs authorized as Site Administrators, you can recover the Site Administrator ID by doing the following:

1. Depending on the database management system being used for WebSphere Commerce, issue the following commands:

DB2

```
db2 connect to db_name user user_name using password
db2 select LOGONID from USERREG where USERS_ID=-1000
```

Oracle

```
sqlplus wc_user_ID/wc_password@wc_SID
select LOGONID from USERREG where USERS_ID=-1000;
```

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.

These commands should return the Site Administrator ID.

Part 11. Appendixes

Appendix A. Known problems and limitations

This section covers known problems and limitations with WebSphere Commerce. Refer to the README file for any late-breaking problems or limitations.

Additional troubleshooting information can be gathered by turning on the trace feature for WebSphere Commerce in WebSphere Application Server. For more information on the trace feature, refer to the WebSphere Commerce Information Center.

Installation and uninstallation problems and limitations

Warning message displayed in terminal session

A warning message may display on the console window:

```
Warning: name: Scrollbar
Class: XMScrollBar
The scrollbar page increment is less than 1
```

This is a known issue with running InstallShield on certain operating systems but will not affect the functionality of the product or the installation process.

Free space message does not change when installing in console mode

If you change the installation directory when running the installation wizard in console mode, the message displaying the free space available in the directory is not updated to reflect the free space in the selected location.

If there is not enough free space to install the product in the new location, you will receive an error when you click **Next**.

Installation problems introduced by a previous DB2 Universal Database installation on a machine

If DB2 Universal Database was previously installed on the machine and is now uninstalled, ensure that the following conditions are met before using the WebSphere Commerce installation wizard to install DB2 Universal Database:

- Ensure that all previous databases were properly dropped and uncataloged.
- Ensure that all database IDs have been dropped using the `dasdrop` and `db2idrop` commands.

  For information on these commands and their use, refer to the DB2 Universal Database documentation.
- Ensure that any DB2 ports have been removed from the `/etc/services` file.
- Ensure that the following users do not exist on the system:
  - db2fwc1
  - daswc1
- Ensure that the following groups do not exist on the system:
  - daswcg1
  - db2fwcg1

Clicking links in the launchpad results in a ″No Browser″ error message

The documentation links in the launchpad and First Steps panel require the Netscape Web browser.

If you do not have the Netscape Web browser installed, you will receive an error message indicating that no Web browser could be found on your system — even if you have a non-Netscape browser installed.

Refer to "Documentation prerequisites" on page 34 for more information.

Problems when uninstalling through a Hummingbird Exceed client

If you are performing the WebSphere Commerce uninstall through a Hummingbird® Exceed version 8.0, the final panel of the WebSphere Commerce uninstallation wizard could appear blank.

Although no text is shown on the panel, the Finish button is enabled. Click **Finish** and the wizard will close. WebSphere Commerce product will be uninstalled.

Web server problems and limitations

Modifying a WebSphere Commerce or WebSphere Commerce Payments instance

If you use IBM HTTP Server or Sun ONE Web server, WebSphere Commerce modifies the Web server configuration file whenever you do any of the following:

- Create a WebSphere Commerce instance.
- Create a WebSphere Commerce Payments instance.
- Update information in the Web Server panel in Configuration Manager for an existing instance.

These changes are marked by the following text:

```
IBM WebSphere Commerce (Do not edit this section)
```

or

```
IBM WebSphere Payments (Do not edit this section)
```

Customized changes within these sections are not supported by WebSphere Commerce as any changes made within these sections may be overwritten at any time by WebSphere Commerce configuration tools such as Configuration Manager.

Secure (HTTPS) URLs do not work

If any of the secure URLs for WebSphere Commerce do not work, the SSL certificate for the Web server may be missing or expired.

Refer to the Web server documentation for information on installing or updating the SSL certificate.

WebSphere Commerce instance problems and limitations

createsp.log file contains errors

If the createsp.log file contains errors, you may be able to correct these errors by following the procedure in this sections.

The createsp.log file can be found in the following directory:

WC_installdir/instances/*instance_name*/logs

where default values for *WC_installdir* are listed in "Path variables used in this book" on page iv and *instance_name* is the name of WebSphere Commerce instance.

If the createsp.log file contains errors, do the following:

1. Ensure the operating system ID that owns the DB2 Universal Database instance belongs to the DB2 fenced user group.

   If it does not belong to the group, add it.

   If you have a multiple node topology, ensure that you do this on both the WebSphere Commerce node and the database server node.
2. Restart DB2 Universal Database. For instructions, refer to the DB2 Universal Database documentation.
3. Start a terminal session. Ensure you are using the Korn shell.
4. Change directories to the following:

   WC_installdir/bin
5. Run the following commands:

   ```
   ./dropsp.db2.sh db_name db_user_ID db_user_password
   ./createsp.db2.sh db_name db_user_ID db_user_password dbschema
   ```

where the variables are defined as follows:

db_name
: The name of the WebSphere Commerce database. The default name of the WebSphere Commerce database is mall.

db_user_ID
: The operating system ID that owns the DB2 Universal Database instance.

db_user_password
: The password associated with *db_user_ID*.

Creating a WebSphere Commerce instance with a default language other than the WebSphere Commerce installation language

During WebSphere Commerce installation, the language selected for the installation wizard sets the default language used when creating a WebSphere Commerce instance. The creation of an instance with a default language other than the installation language will create an instance populated with data that is invalid for the chosen language.

When creating an instance with a default language other than the installation language, do the following:

1. Open a text editor to edit the following files, depending on the database used for the WebSphere Commerce database :

WebSphere Commerce database type	Files to edit
DB2	*WC_installdir*/schema/wcs.schema.ws_ml_db2.input *WC_installdir*/schema/wcs.schema2.ws_ml_db2.input
Oracle	*WC_installdir*/schema/wcs.schema.ws_ml_oracle.input *WC_installdir*/schema/wcs.schema2.ws_ml_oracle.input

Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

2. Replace all occurrences of the locale code for the installation language with the locale code for the new default instance language. Locale codes used by WebSphere Commerce are listed in "Valid locale codes for instance creation."
3. Save your changes and exit the text editor.
4. Create a new WebSphere Commerce instance ensuring you specify the new default language. Instructions for creating a WebSphere Commerce instance are provided in Part 6, "Creating a WebSphere Commerce and a WebSphere Commerce Payments instance," on page 107.

Valid locale codes for instance creation

The following are the valid locale codes to use when updating the instance creation files:

Language	Locale Code
German	de_DE
English	en_US
Spanish	es_ES
French	fr_FR
Italian	it_IT
Japanese	ja_JP
Korean	ko_KR
Brazilian Portuguese	pt_BR
Simplified Chinese	zh_CN
Traditional Chinese	zh_TW

Out of memory error occurs during instance creation

If instance creation fails, you may be receiving a java.lang.OutOfMemory exception during instance creation. Check the following log file for a java.lang.OutOfMemory exception:

WC_installdir/instances/WCSconfig.log

To correct the out of memory error, do the following:

1. Open the following file in a text editor:

   WC_installdir/bin/config_server.sh
2. Search the file for the following text:

```
if [ $OS_NAME != "i5os" ]; then
    MAX_HEAP=-Xmx256m
fi
```

3. Increase the value for MAX_HEAP. For example, change 256 to 512.
4. Save your changes.

5. Create your instance again.

WebSphere Commerce instance does not start when logged in as a non-root user

Once WebSphere Commerce instance was started as `root`, you will not be able to start the WebSphere Commerce instance as the non-root user.

In order to again be able to start the WebSphere Commerce instance as the non-root user, do the following:

1. Log in as `root` and start a terminal session.
2. Stop WebSphere Commerce. For instructions, refer to "Starting or stopping a WebSphere Commerce instance" on page 169.
3. Run the following command:

   WC_installdir`/bin/wcnonroot.sh`

   Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.
4. Switch to the non-root user ID.
5. Start WebSphere Commerce. For instructions, refer to "Starting or stopping a WebSphere Commerce instance" on page 169.

Viewing port conflicts in the log

Attempting to start your WebSphere Commerce instance may result in the following message:

```
EJB6121: Application server did not start
```

Check the `SystemOut.log` file found in the following directory:

WAS_installdir`/logs/WC_`*instance_name*

where *instance_name* is the name of the WebSphere Commerce instance that failed to start.

The `SystemOut.log` may indicate a port that is already in use. The message will be similar to:

```
SRVE0146E: Failed to Start Transport on host, port xxxx.
```

The likely cause of this message is that the port is already in use. Please ensure that no other applications are using this port and restart the server.

WebSphere Commerce Payments instance problems and limitations

Remote WebSphere Commerce Payments instance does not work

If a remote WebSphere Commerce Payments instance does not work, the WebSphere Commerce Payments instance may be configured incorrectly.

To check the configuration of WebSphere Commerce Payments, do the following:

1. On the WebSphere Commerce node, open the following file in a text editor:

   WC_installdir`/instances/`*WC_instance_name*`/xml/`
   WC_instance_name`.xml`

where *WC_instance_name* is the name of the WebSphere Commerce instance.

Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

2. Search for the following text:

   ```
   <PaymentManager
   ```

3. Ensure that the `Hostname` entry under the found text points to the Web server node used by WebSphere Commerce Payments.

   The entry should contain the fully qualified host name of the Web server node.

4. Save any changes and exit the text editor.
5. On the WebSphere Commerce Payments node, open the following file in a text editor:

   ```
   WC_installdir/instances/Payments_instance_name/xml/
     Payments_instance_name.xml
   ```

   where *payments_instance_name* is the name of the WebSphere Commerce Payments instance.

   Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.

6. Search for the following text:

   ```
   <PMWCSRealm
   ```

7. Ensure that the `Hostname` entry under the found text points to the Web server node used by WebSphere Commerce.

   The entry should contain the fully qualified host name of the Web server node.

8. Save any changes and exit the text editor.
9. Restart WebSphere Commerce and WebSphere Commerce Payments. For instructions, refer to "WebSphere Commerce tasks" on page 169.

WebSphere Commerce Payments instance does not start

The WebSphere Commerce Payments instance will not start if WebSphere Application Server is configured to use a port other than port 9090.

To confirm that this is the cause of the problem, do the following:

1. Open the following in a text editor:

   ```
   WAS_installdir/logs/payments_instance_name_Commerce_Payments_Server/
     SystemOut.log
   ```

   where *payments_instance_name* is the name of the WebSphere Commerce Payments instance.

   Default values for *WAS_installdir* are listed in "Path variables used in this book" on page iv.

2. Search the file for the following message:

   ```
   SRVE0146E: Failed to Start Transport on host *, port 9090.
   ```

If you have this error message, change the WebSphere Commerce Payments port. For instructions, refer to "Changing WebSphere Commerce Payments ports."

If you do not have this error message, contact your IBM support representative.

Changing WebSphere Commerce Payments ports

To change WebSphere Commerce Payments ports, do the following:

1. Start WebSphere Commerce Configuration Manager. For instructions, refer to "Starting the Configuration Manager" on page 110.

2. Under **WebSphere Commerce**, expand your *hostname*.
3. Expand **Payments > Instance List >** *payments_instance_name* **> Instance Properties**.
4. Click on the **Webserver** tab.
5. Update the desired ports.
6. Click **Apply** to apply your changes.

Note: All Payments ports should be changed through the Configuration Manager, as stated in "Before you create or modify an instance with Configuration Manager" on page 109 and not through the WebSphere Application Server Administration Console. This ensures that all properties and files are updated with the same information.

WebSphere Commerce Payments instance does not start when logged in as a non-root user

Once the WebSphere Commerce Payments instance was started as `root`, you will not be able to start the WebSphere Commerce Payments instance as the non-root user.

In order to again be able to start the WebSphere Commerce Payments instance as the non-root user, do the following:

1. Log in as `root` and start a terminal session.
2. Stop WebSphere Commerce Payments. For instructions, refer to "Starting or stopping a WebSphere Commerce Payments instance" on page 169.
3. Delete the following directory:

   WAS_installdir`/logs/`*instance_name*`_Commerce_Payments_Server/`

   where *instance_name* is the name of the WebSphere Commerce Payments instance.

   Default values for *WAS_installdir* are listed in "Path variables used in this book" on page iv.
4. Run the following command:

   WC_installdir`/bin/wcnonroot.sh`

   Default values for *WC_installdir* are listed in "Path variables used in this book" on page iv.
5. Switch to the non-root user ID.
6. Start WebSphere Commerce Payments. For instructions, refer to "Starting or stopping a WebSphere Commerce Payments instance" on page 169.

WebSphere Application Server problems and limitations

addNode.sh command returns out of memory error

When federating application server nodes into a deployment manager cell, the `addNode.sh` command may return an out of memory error. If this occurs, do the following:

1. Ensure that the `addNode.sh` command is not running.
2. Log on as `root`.
3. Open the following file in a text editor:

   WAS_installdir`/bin/addNode.sh`

4. In the text file, find the following line of text:
   `"$JAVA_HOME"/bin/java \`
5. Insert the following line of text below the `"$JAVA_HOME"/bin/java \` line of text:
   `-Xmx512m \`

   If you have the `-Xmx` option set already and still received errors, try using a larger number like 1024. This value must a multiple of 1024 greater than 2MB. Append the letter k or K to indicate kilobytes, or m or M to indicate megabytes.
6. Save the changes and exit the text editor.
7. Run the `addNode.sh` command.

removeNode.sh command returns out of memory error

When federating application server nodes into a deployment manager cell, the `removeNode.sh` command may return an out of memory error. If this occurs, do the following:

1. Ensure that the `removeNode.sh` command is not running.
2. Log on as `root`.
3. Open the following file in a text editor:
   WAS_installdir`/bin/removeNode.sh`
4. In the text file, find the following line of text:
   `"$JAVA_HOME"/bin/java \`
5. Insert the following line of text below the `"$JAVA_HOME"/bin/java \` line of text:
   `-Xmx512m \`

   If you have the `-Xmx` option set already and still received errors, try using a larger number like 1024. This value must a multiple of 1024 greater than 2MB. Append the letter k or K to indicate kilobytes, or m or M to indicate megabytes.
6. Save the changes and exit the text editor.
7. Run the `removeNode.sh` command again.

   If the command runs successfully, no further action is needed.

   If the command fails, do the following:

   a. Restore the configuration backup you made in step 3 on page 141 of "Removing an application server node from a cell" on page 141 by issuing the following command:
      WAS_installdir`/bin/restoreConfig.sh` *backup_file*`.zip`

      where *backup_file* is the full path to the backup file.
   b. Run the `removeNode` command again.

Appendix B. Capacity planning for WebSphere Commerce Implementations

This section provides guidelines on estimating the hardware required for WebSphere Commerce implementations. Considerations for disk usage and memory are discussed for each of the WebSphere Commerce tiers:

- "Web server tier"
- "Database server tier" on page 212
- "Application server tier" on page 218 (WebSphere Commerce tier)

This section provides information for selected software packages for each tier. All software supported by WebSphere Commerce is not covered by this section.

Important

The information in this section is based on configurations tested by IBM. Because not all configurations have been tested, information of your specific configuration may not be available.

For capacity planning assistance for your specific configuration, contact your IBM representative.

Web server tier

The section provides guidelines for estimating disk usage and memory size for the Web server tier in WebSphere Commerce.

Estimating disk usage for the Web server tier

Disk usage on the web server is affected by the following:

- Software installation footprint
- Static images used for your site
- Logging of web server requests and any other maintenance activity

  IBM suggests reserving approximately 2 GB of disk space for this.

The following table lists the approximate footprint size for selected Web server software. You will need to fill in the expected size for static images and total the appropriate column.

Table 4. Disk usage on Web Server

Web server	Footprint®	Logging	Static images
AIX IBM HTTP Server Version 1.3.28	25 MB	2 GB	
Solaris Sun ONE Web server Version 6.0.4	210 MB	2 GB	

Estimating memory size for the Web server tier

Memory requirements for Web Server depends on following factors:

Number of concurrent clients which can be processed by the Web server
Increasing the number of clients would require additional memory to be allocated for processing the additional clients

Caching
When caching is online and memory driven, you will need additional memory for storing cached information.

Based on our capacity planning test runs, IBM recommends 1 GB memory per WebSphere Commerce instance to manage user requests and online caching.

Additional information on IBM HTTP Server memory requirements is available at the following URL:

`http://www.ibm.com/software/webservers/httpservers/sysreq`

Database server tier

The section provides guidelines for estimating disk usage and memory size for the database server tier in WebSphere Commerce.

Estimating disk usage for the database server tier

Factors affecting disk usage on the database server includes:

- Database software installation footprint
- Size of the WebSphere Commerce database
- Size of the WebSphere Commerce Payments database (assuming the same server is used for both databases)

You can calculate the approximate size of the WebSphere Commerce database by estimating the size of the factors that have the largest impact on the size of the database.

- The size of the catalog
- The number of registered users
- The number of orders

Disk usage calculations in the follow sections are based on the following configurations:

- AIX DB2 Universal Database on AIX
- Solaris Oracle9i Database on Solaris operating system

For help calculating database disk usage for configurations other than those listed here, contact your IBM representative.

Disk sizing for the catalog

The following tables help estimate the size for database tables and indexes related to the catalog. The first table helps estimate the number of rows, the second table lists a few key tables, their minimum and maximum row lengths, followed by estimated row length. The number of rows estimated for an index is the same as the table for unique indexes and sixty percent of the base table row estimate for non-unique indexes. You can enter a different value for the estimated row lengths to better reflect your data. The estimated value is provided for an approximate sizing in the absence of any known data.

Complete the following table, based on estimates for your site:

Key	Entity	Value for your site
A	Number of products	
B	Number of items per product	
C	Number of attributes per product	
D	Number of values per attribute	
E	Number of languages	

Complete the catalog database size table as follows:

1. Fill in the **Estimated rows** column using the formula in the **Estimated rows calculation** column.
2. Fill in the **Estimated size** column by multiplying **Estimated rows** by value **Estimated row length**.
3. Sum the values in the **Estimated size** column to obtain disk size required for your catalog.

Table 5. Catalog database size

Table name	Index name	Minimum row length	Maximum row length	Estimated row length	Estimated rows calculation	Estmated rows	Estimed size
ATTRIBUTE		101	1295	220	A *C * E		
	GENERATED	12	12	12	A *C * E		
	I0000019	16	272	42	A *C * E		
	I0000298	11	77	18	A *C * E * 0.6		
ATTRVALUE		387	1709	519	A * C * D * E		
	GENERATED	12	12	12	A * C * D * E		
	I0000020	23	279	49	A * C * D * E		
	I0000021	269	289	289	A * C * D * E		
	10000453	8	8	8	A * C * D * E * 0.6		
	I194153	36	36	36	A * C * D * E * 0.6		
CATENTDESC		528	2009532	201428	(A + (A * B)) * E		
	GENERATED	12	12	12	(A + (A * B)) * E		
	I0000304	145	145	145	(A + (A * B)) * E * 0.6		
CATENTREL		97	663	154	A * B		
	GENERATED	48	48	48	A * B		
	10000365	40	40	40	A * B * 0.6		
	10000517	8	8	8	A * B * 0.6		
CATENTRY		169	1173	269	A + (A * B)		
	GENERATED	8	8	8	A + (A * B)		
	I0000064	10	76	17	A + (A * B)		
	I0000065	12	12	12	A + (A * B)		
	I0000305	29	29	29	A + (A * B)		
	10000375	9	9	9	A + (A * B)		
	10000518	16	16	16	A + (A * B)		

Table 5. Catalog database size (continued)

Table name	Index name	Minimum row length	Maximum row length	Estimated row length	Estimated rows calculation	Estmated rows	Estimed size
	10000519	8	8	8	A + (A * B)		
	I263103	24	24	24	A + (A * B)		
	I263121	9	9	9	A + (A * B)		
	I263122	9	9	9	A + (A * B)		
						TOTAL:	

Disk sizing for user information

The following tables help estimate the size for database tables and indexes related to the number of users. The first table helps estimate the number of rows, the second table lists a few key tables, their minimum and maximum row lengths, followed by estimated row length. The number of rows estimated for an index is the same as the table for unique indexes and sixty percent of the base table row estimate for non-unique indexes. You can enter a different value for the estimated row lengths to better reflect your data. The estimated value is provided for an approximate sizing in the absence of any known data.

Complete the following table, based on estimates for your site:

Key	Entity	Value for your site
A	Number of users	
B	Number of organization entities	

Complete the user database size table as follows:

1. Fill in the **Estimated rows** column using the formula in the **Estimated rows calculation** column.
2. Fill in the **Estimated size** column by multiplying **Estimated row length** by value **Estimated rows**.
3. Sum the values in the **Estimated size** column to obtain disk size required for your user data.

Table 6. User database size

Table Name	Index Name	Minimum row length	Maximum row length	Estimated row length	Estimated rows calculation	Estmated rows	Estimed size
ADDRBOOK		27	531	77	A		
	GENERATED	8	8	8	A		
	I0000013	16	16	16	A		
	I0000014	8	8	8	A * 0.6		
ADDRESS		219	3294	527	A		
	GENERATED	8	8	8	A		
	I0000015	21	21	21	A * 0.6		
	I0000016	25	25	25	A * 0.6		
	I0000346	3	133	16	A * 0.6		
BUSPROF		61	983	153	A		

Table 6. User database size (continued)

Table Name	Index Name	Minimum row length	Maximum row length	Estimated row length	Estimated rows calculation	Estmated rows	Estimed size
	GENERATED	8	8	8	A		
	I0000324	3	133	16	A * 0.6		
	10000486	9	9	9	A * 0.6		
	10000487	9	9	9	A * 0.6		
EMLUSRRCV		16	16	16	A		
	GENERATED	12	12	12	A		
	10000567	4	4	4	A * 0.6		
MBRREL		20	20	20	A		
	GENERATED	16	16	16	A		
	I0000328	12	12	12	A * 0.6		
	I0000336	12	12	12	A * 0.6		
MBRROLE		20	20	20	A * 3		
	GENERATED	20	20	20	A * 3		
	I0000275	16	16	16	(A * 3) * 0.6		
	I0000329	12	12	12	(A * 3) * 0.6		
	10000617	4	4	4	(A * 3) * 0.6		
MEMBER		16	16	16	A + B		
	GENERATED	8	8	8	A + B		
	I1274130	11	11	11	(A + B) * 0.6		
ORGENTITY		88	3788	458	B		
	GENERATED	8	8	8	B		
	10000677	9	9	9	B * .6		
USERS		110	1864	285	A		
	GENERATED	8	8	8	A		
	I348118	15	15	15	A * 0.6		
USERDEMO		77	769	146	A		
	GENERATED	8	8	8	A		
USERPROF		62	6192	675	A		
	GENERATED	8	8	8	A		
USERREG		206	1214	307	A		
	GENERATED	8	8	8	A		
	I0000260	2	258	28	A		
	I0000330	5	5	5	A * 0.6		
	I716117	10	266	36	A * 0.6		
						TOTAL:	

Disk sizing for order history

The following tables help estimate the size for databae tables and indexes related to order history. The first table helps estimate the number of rows, the second table

lists a few key tables, their minimum and maximum row lengths, followed by estimated row length. The number of rows estimated for an index is the same as the table for unique indexes and sixty percent of the base table row estimate for non-unique indexes. You can enter a different value for the estimated row lengths to better reflect your data. The estimated value is provided for an approximate sizing in the absence of any known data.

Complete the following table, based on estimates for your site:

Key	Entity	Value for your site
A	Number of orders	
B	Number of items per order	

Complete the order database size table as follows:

1. Fill in the **Estimated rows** column using the formula in the **Estimated rows calculation** column.
2. Fill in the **Estimated size** column by multiplying **Estimated rows** by value **Estimated rows**.
3. Sum the values in the **Estimated size** column to obtain disk size required for your order data.

Table 7. Order database size

Table Name	Index Name	Minimum row length	Maximum row length	Estimated row length	Estimated rows calculation	Estimated rows	Estimated size
ORDERITEMS		413	1923	564	A * B		
	GENERATED	8	8	8	A * B		
	I0000173	34	34	34	(A * B) * 0.6		
	I0000360	21	21	21	(A * B) * 0.6		
	I172138	22	22	22	(A * B) * 0.6		
	10000369	4	4	4	(A * B) * 0.6		
	10000639	9	9	9	(A * B) * 0.6		
	10000640	9	9	9	(A * B) * 0.6		
	10000641	9	9	9	(A * B) * 0.6		
	10000642	9	9	9	(A * B) * 0.6		
	10000643	9	9	9	(A * B) * 0.6		
	10000644	9	9	9	(A * B) * 0.6		
	10000645	9	9	9	(A * B) * 0.6		
	10000646	9	9	9	(A * B) * 0.6		
	10000647	9	9	9	(A * B) * 0.6		
	10000648	9	9	9	(A * B) * 0.6		
	10000649	5	5	5	(A * B) * 0.6		
ORDERS		230	986	306	A		
	GENERATED	8	8	8	A		
	I0000176	14	14	14	A * 0.6		
	10000652	9	9	9	A * 0.6		

Table 7. Order database size (continued)

Table Name	Index Name	Minimum row length	Maximum row length	Estimated row length	Estimated rows calculation	Estimated rows	Estimated size
	10000653	9	9	9	A * 0.6		
	10000654	4	4	4	A * 0.6		
	I173124	11	11	11	A * 0.6		
ORDPAYINFO		84	336	109	A * 4		
	GENERATED	8	8	8	A * 4		
	I0000179	8	8	8	(A * 4) * 0.6		
ORDPAYMTHD		478	1001486	100579	A		
	GENERATED	85	85	85	A		
	10000664	9	9	9	A * 0.6		
	10000665	9	9	9	A * 0.6		
	10000666	9	9	9	A * 0.6		
	10000667	9	9	9	A * 0.6		
	10000668	9	9	9	A * 0.6		
	10000669	9	9	9	A * 0.6		
	10000670	9	9	9	A * 0.6		
ORDTAX		34	34	34	A * 2		
	GENERATED	12	12	12	A * 2		
	10000676	4	4	4	A * 2 * 0.6		
SUBORDERS		149	401	174	A		
	GENERATED	8	8	8	A		
	I0000242	12	12	12	A * 0.6		
	I0000243	8	8	8	A * 0.6		
	10000801	9	9	9	A * 0.6		
						TOTAL:	

Total disk sizing

Use the following table to calculate your total disk size requirements:

Table 8. Total disk sizing

Disk size factor	Size
Footprint	400® MB
Bootstrap data	60 MB
Catalog data (from Table 5 on page 213)	
User data (from Table 6 on page 214)	
Order data (from Table 7 on page 216	
Total:	

Estimating memory size for the database server tier

Memory estimation is provided for 32-bit implementations of single partition DB2 Universal Database distributed databases only.

DB2 Refer to your DB2 Universal Database documentation for memory estimation of other DB2 Universal Database implementations.

Oracle Refer to your Oracle9i Database documentation for memory estimation for Oracle9i Database implementations.

Memory consumption at the database server is affected by two main components. The amount of memory allocated to the database, and the amount of memory consumed by connections.

For a quick estimation, you can estimate the amount of memory allocated to the database as the maximum amount possible for 32-bit single partition implementations. If your database disk size is smaller than this maximum, then use the database disk size as the estimate.

Table 9. Maximum memory allocation by platform, DB2 Universal Database 32-bit single partition

Platform	Maximum Memory
AIX	1.75 GB
Solaris	3.5 GB

In addition to the memory allocated to the database, each database connection will also require some memory. To derive a quick estimation, you can use the rule of thumb that an active connection takes up about 25 MB of memory and an idle connection takes about 15 MB of memory. This will give you an upper and lower bound for memory, based on the number of database connections you configure.

Application server tier

The section provides guidelines for estimating disk usage and memory size for the Application server tier in WebSphere Commerce. The application server tier is where the WebSphere Commerce Server application runs.

Estimating disk usage on the application server tier

Disk usage on the application server tier consists of:

- Software installation footprint for WebSphere Application Server and WebSphere Commerce
- Web assets developed for you, such as JSP files and corresponding compiled code. In the absence of any known data, estimate 0.5 GB.
- Logging of application server activity and any other maintenance fixes. Reserve about 5 GB for this.

The following table lists the approximate footprint size for selected software on the application server tier:

Table 10. Disk usage on Application server tier

Applications	Footprint	Logging	Web assets
AIX • WebSphere Application Server Base Version 5.1.1.3 • WebSphere Commerce Version 5.7 • Oracle9i Database Client	1.6 GB	5 GB	[0.5 GB]
Solaris • WebSphere Application Server Base Version 5.1.1.3 • WebSphere Commerce Version 5.7 • DB2 Universal Database Client	2.0 GB	5 GB	[0.5 GB]

Replace the value in the **Web assets** column with the an estimate of the size of any web assets developed for you, such as JSP files and corresponding compiled code.

Estimating memory size for the application server tier

An application server instance runs inside a Java Virtual Machine (JVM) and the amount of memory required per JVM is ideally established by iterative tuning. The memory size for the application server tier depends on the size of the WebSphere Commerce application, the size of the prepared statement cache for JDBC prepared statement caching and the extent to which WebSphere Application Server dynamic cache is being used. Nevertheless, for planning purposes, it can be safe to assume 1 GB of memory per JVM.

For information on tuning WebSphere Application Server, refer to the WebSphere Application Server information center at the following URL:

`http://www.ibm.com/software/webservers/appserv/infocenter.html`

Appendix C. 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"
- "IBM Publications Center" on page 222
- "WebSphere Commerce support" on page 222

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" on page 170.
2. Go to 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, the information center will use port 8001 and you must use 8001 for the *port* parameter in the information center URL.

Updates to the information center will be available from the "WebSphere Commerce technical library."

You can also access the WebSphere Commerce information center on the World Wide Web at the following URL:

`http://publib.boulder.ibm.com/infocenter/wc57help/index.jsp`

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`

Express http://www.ibm.com/software/genservers/commerce/express/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 Commerce support

WebSphere Commerce support provides additional information in the form of flashes (alerts) and technotes (FAQs). Check the WebSphere Commerce support Web site for the latest flashes and technotes before you install WebSphere Commerce or if you run into problems while running WebSphere Commerce.

The WebSphere Commerce support Web site is available at the following URL:

Business http://www.ibm.com/software/genservers/commerce/wcbe/support/

Professional http://www.ibm.com/software/genservers/commerce/wcpe/support/

Express http://www.ibm.com/software/genservers/commerce/express/support/

WebSphere Commerce Payments information

WebSphere Commerce Payments information is available from the WebSphere Commerce information center. For instructions on accessing the WebSphere Commerce information center, refer to "WebSphere Commerce information center" on page 221.

More information about WebSphere Commerce Payments and the Payments Cassettes is available at the WebSphere Commerce Technical Library:

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

IBM HTTP Server information

IBM HTTP Server information is available at the IBM HTTP Server library:

http://www.ibm.com/software/webservers/httpservers/library/

The documents in the IBM HTTP Server library are available in HTML format, PDF files, or both.

The IBM HTTP Server Version 1.3.28 information center is available at the following URL:

http://www.ibm.com/software/webservers/httpservers/doc/v1326/manual/ibm/

The IBM HTTP Server Version 2.0.42.2 information center is available at the following URL:

http://www.ibm.com/software/webservers/httpservers/doc/v20/manual/ibm/index.html

WebSphere Application Server information

WebSphere Application Server information is available at the WebSphere Application Server library:

http://www.ibm.com/software/webservers/appserv/infocenter.html

The WebSphere Application Server information center is available at the following URL:

http://publib.boulder.ibm.com/infocenter/ws51help/index.jsp

DB2 Universal Database information

The HTML documentation files are available under the /doc/*locale*/html subdirectory, where *locale* is the language code for your locale (for example, *en* for American English). Any documentation that is not available in a national language is shown in English.

Additional DB2 information is available at the DB2 Technical Library:

http://www.ibm.com/software/data/db2/library/

Other IBM publications

You can purchase copies of most IBM publications from your IBM authorized dealer or marketing representative.

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