IBM WebSphere Commerce Business Edition
IBM WebSphere Commerce Professional Edition

Installation Guide for Linux systems

Version 5.5

Note:
Before using this information and the product it supports, be sure to read the general information under "Notices" on page 165.

Second Edition, First Revision February 2004

This edition applies to version 5.5 of the following products and to all subsequent releases and modifications until otherwise indicated in new editions:

- IBM WebSphere Commerce Business Edition for Linux (Intel platforms)
- IBM WebSphere Commerce Business Edition for Linux for @server pSeries
- IBM WebSphere Commerce Business Edition for Linux for @server iSeries
- IBM WebSphere Commerce Business Edition for Linux for @server zSeries and S/390
- IBM WebSphere Commerce Professional Edition for Linux (Intel platforms)

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

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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 IBM® WebSphere® Commerce Business Edition and IBM WebSphere Commerce Professional Edition on Linux operating systems. It is intended for system administrators or for anyone else responsible for performing installation and configuration tasks.

Installation instructions for Linux running on the following platforms are provided in this book:

- IBM @server® iSeries™ systems
- IBM @server pSeries™ systems
- IBM @server zSeries® and S/390® systems
- Intel® based systems

Updates to this book

To learn about last-minute changes to the product, refer to the README file in the root directory of the 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/`

Updated versions of this book are also available from the WebSphere Commerce Zone at WebSphere Developer Domain:

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

Support is information is available from the WebSphere Commerce support Web site:

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

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

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

Conventions 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 using DB2 Universal Database with WebSphere Commerce.

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.

clustering
When discussing clustering, 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 cell may or may not be running the same enterprise application as other nodes in the same cell.

Path variables

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 `/opt/IBM/db2/V8.1`.

HTTPServer_installdir
This is the installation directory for IBM HTTP Server. The default installation directory is `/opt/IBMHttpServer`.

WAS_installdir
This is the installation directory for WebSphere Application Server. The default installation directories is `/opt/WebSphere/AppServer`

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

WC_installdir
This is the installation directory for WebSphere Commerce. The default installation directory is `/opt/WebSphere/CommerceServer55`.

Knowledge requirements

This book should be read by for 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:

- Linux
- Basic operating system commands
- DB2 Universal Database
- IBM HTTP Server operation and maintenance
- Basic SQL commands
- The Internet

Refer to *WebSphere Commerce Administration Guide* and *WebSphere Commerce Security Guide* for more information on configuring and administering WebSphere Commerce

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

- WebSphere Application Server
- DB2 Universal Database
- HTML and XML
- Structured Query Language (SQL)
- Java™ programming

Refer to *WebSphere Commerce Programming Guide and Tutorials* for more information on customizing your store or mall. A copy of this book is included with both WebSphere Commerce and WebSphere Commerce Studio.

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Part 1. Getting ready to install WebSphere Commerce

Chapter 1. Welcome to WebSphere Commerce

This book describes how to install and configure IBM WebSphere Commerce Version 5.5 for Linux. It is intended for system administrators or for anyone else responsible for performing installation and configuration tasks.

If you have WebSphere Commerce Suite Version 5.1 or WebSphere Commerce Version 5.4 installed, follow the migration steps described in the *WebSphere Commerce Migration Guide* for Version 5.1 or the *WebSphere Commerce Migration Guide* for Version 5.4, as appropriate. The Migration Guides are available from the WebSphere Commerce technical library:

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

Products included with WebSphere Commerce

The following products are packaged with WebSphere Commerce:

- WebSphere Commerce:
  - WebSphere Commerce server, which includes:
    - LikeMinds client
    - Product Advisor
    - WebSphere Commerce Accelerator
    - WebSphere Commerce Administration Console
    - WebSphere Commerce Organization Administration Console
  - WebSphere Commerce Payments, which includes:
    - WebSphere Commerce Payments Cassette for VisaNet
    - WebSphere Commerce Payments Cassette for BankServACH
    - WebSphere Commerce Payments Cassette for Paymentech
    - WebSphere Commerce Payments CustomOffline Cassette
    - WebSphere Commerce Payments OfflineCard Cassette
  - Blaze Rules Server, version 4.5.5 and Blaze Innovator Runtime, Version 4.5.5
  - WebSphere Commerce Analyzer
  - WebSphere Commerce Recommendation Engine powered by LikeMinds
- IBM DB2 Universal Database Version 8.1.2 Enterprise Edition (DB2 Universal DatabaseVersion 8.1 Enterprise Edition with FixPak 2), which includes the following:
  - DB2 Universal Database Administration Clients
- IBM DB2® Text Extender 8.1
- IBM HTTP Server Version 1.3.26.2
- IBM WebSphere Application Server Version 5.0.2
- IBM Directory Server Version 5.1
- Business IBM Lotus® QuickPlace® Version 3.0
- IBM Lotus Sametime® Version 3.0

Important

All WebSphere Commerce components and the supporting software must run on the same operating system. The operating system must meet the requirements outlined in Chapter 2, "Preinstallation requirements," on page 9.

WebSphere Commerce does not support a heterogeneous operating environment — all nodes in a multiple node topology must run the same version and level of operating system as documented in Chapter 2, "Preinstallation requirements," on page 9.

Alternative databases

You may use DB2 Universal Database for OS/390 and z/OS, Version 7 if you plan to run WebSphere Commerce and WebSphere Commerce Payments on the following platforms:

- Linux on Intel processor based systems
- Linux on @server zSeries and S/390 systems

For instructions on installing and configuring WebSphere Commerce and WebSphere Commerce Payments for use with DB2 Universal Database for OS/390 and z/OS, refer to Appendix A, "Using DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce and WebSphere Commerce Payments," on page 133.

To use DB2 Universal Database for OS/390 and z/OS you will need WebSphere Commerce Fix Pack V5.5.0.3 or higher.

Components already installed

This section outlines tasks you must perform if you have already installed any of the IBM products that are included with WebSphere Commerce Version 5.5.

Non-IBM software used with WebSphere Commerce must be installed before installing WebSphere Commerce. Instructions for non-IBM software appear elsewhere in this book.

IBM DB2 Universal Database Version 8.1.2

If you are currently using IBM DB2 Universal Database Version 8.1 Workgroup Edition, you will be required to upgrade it to IBM DB2 Universal Database Version 8.1.2 Enterprise Edition.

Also, ensure that the DB2 Application Development Client is installed. WebSphere Commerce requires the DB2 Application Development Client to function correctly.

If you are currently using IBM DB2 Universal Database, Version 8.1 Enterprise Edition, you must apply DB2 Version 8.1, FixPak 2.

If you have IBM DB2 Universal Database Version 8.1.2 Enterprise Edition already installed, do the following:

1. Create the user IDs required by WebSphere Application Server as outlined in "Creating required WebSphere Application Server users and groups" on page 27. More information about these user IDs is provided in Chapter 7, "Quick reference to IDs required during installation," on page 37.

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.

2. Add the DB2 Fenced user group to the list of groups associated with the WebSphere Commerce non-root user ID.
3. Add the DB2 Fenced user group to the list of groups associated with the DB2 Universal Database user ID.

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

4. Restart DB2 Universal Database.

IBM HTTP Server Version 1.3.26.2

Preparing Secure Sockets Layer protocol for testing

If you have IBM HTTP Server already installed on your system, you must ensure that SSL is enabled. 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.

If you cannot open the URL above, you must enable SSL on the Web server. For instructions on enabling SSL, refer to the IBM HTTP Server documentation.

Before you open your store to shoppers, ensure you review *WebSphere Commerce Security Guide*.

IBM HTTP Server Version 1.3.26.2 and IBM WebSphere Application Server Version 5.0.2

If you have IBM HTTP Server Version 1.3.26.2 and IBM WebSphere Application Server Version 5.0.2 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, ensure the plug-in has been applied to the *`HTTPServer_installdir`*`/conf/httpd.conf` file. The following four lines should exist in the file:

     ```
     Alias /IBMWebAS/ WAS_installdir/web/
     Alias /WSsamples WAS_installdir/WSsamples/
     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 — 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 files. If any of the following four lines exist, remove them from the file:

```
Alias /IBMWebAS/ WAS_installdir/web/
Alias /WSsamples WAS_installdir/WSsamples/
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 — 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.

Supported Web browsers

You can only access the WebSphere Commerce tools and online help 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.

Shoppers can access Web sites by using any of the following Web browsers, all of which have been tested with WebSphere Commerce:

- AOL 7 or above for Windows
- Microsoft Internet Explorer:
  - Version 5.5 or higher for Windows
  - Version 5 or higher for Macintosh
- Mozilla Version 1.0 or higher
- Netscape Version 6.0 or higher
- Netscape Navigator Version 4.6 or higher

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 you do not use these ports for non-WebSphere Commerce applications. 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.
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 Tools. This secure port requires SSL.
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 Administration Console Secure Port. This secure port requires SSL.
9080	WebSphere Application Server HTTP Transport.
9090	WebSphere Application Server Administration Console Port.
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.

Locales used by WebSphere Commerce

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

Table 1. Linux 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

Note: SuSE Linux Enterprise Server 8 operating system does not support the following locales:

- Traditional Chinese (zh_TW)

To determine your locale, run one the following commands, depending on the Linux distribution you are using:

Linux distribution	Command
Red Hat	`echo $LANG`
SuSE	`echo $LC_CTYPE`

If your locale is not supported, change your locale properties by running one of the following sets of commands as root user, depending on the Linux distribution you are using:

Linux distribution	Command
Red Hat	`LANG=xx_XX` `export LANG`
SuSE	`LC_CTYPE=xx_XX` `export LC_CTYPE`

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

Chapter 2. Preinstallation requirements

This chapter describes the steps you need to perform before you install WebSphere Commerce. To perform the steps described in this publication, you must have `root` user access.

Prerequisite hardware

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

Prerequisite hardware for Linux on Intel based systems

You require a dedicated Pentium® III 733 MHz (or higher recommended for a production environment) IBM-compatible system with the following:

- A minimum of 1 GB of random access memory (RAM) per processor

  This requirement is for the initial WebSphere Commerce instance and its associated WebSphere Commerce Payments instance. Each additional WebSphere Commerce instance and its associated WebSphere Commerce Payments instance requires an additional 512 MB of RAM per processor.
- A minimum of 4 GB of free disk space
- A minimum of 1 GB of paging space per processor

  This requirement is for the initial WebSphere Commerce instance and its associated WebSphere Commerce Payments instance. Each additional WebSphere Commerce instance and its associated WebSphere Commerce Payments instance requires an additional 1 GB of paging space per processor.
- A CD-ROM drive
- A graphics capable monitor
- A mouse or other pointing device
- A local area network (LAN) adapter that supports TCP/IP

Prerequisite hardware for Linux on @server iSeries systems

Linux runs on selected @server iSeries systems in a logical partition. For a list of the @server iSeries models that support Linux, refer to the following URL:

`http://www.ibm.com/servers/eserver/iseries/linux/hardware.html`

In addition to supporting Linux, the @server iSeries system must meet the following requirements:

- A minimum of 1 GB of random access memory (RAM) per processor

  This requirement is for the initial WebSphere Commerce instance and its associated WebSphere Commerce Payments instance. Each additional WebSphere Commerce instance and its associated WebSphere Commerce Payments instance requires an additional 1 GB to 1.5 GB of RAM per processor.
- A minimum of 4 GB of free disk space
- A minimum of 1 GB of paging space per processor.

  This requirement is for the initial WebSphere Commerce instance and its associated WebSphere Commerce Paymentsinstance. Each additional WebSphere Commerce instance and its associated WebSphere Commerce Payments instance requires an additional 1 GB of paging space per processor.

- A CD-ROM drive
- A graphics capable monitor
- A mouse or other pointing device
- A local area network (LAN) adapter that supports TCP/IP

In addition to the server, you require the following:

- A Windows, Linux, or UNIX® machine with a graphics capable monitor and a mouse or other pointing device

  This workstation is required to Telnet to the @server iSeries so that the installation wizard can be run.
- A Windows workstation capable of running a Web browser such as Internet Explorer with a graphics-capable monitor

  This workstation is required to access the WebSphere Commerce tools such as WebSphere Commerce Accelerator.

Prerequisite hardware for Linux on @server pSeries systems

Linux is supported on selected @server pSeries systems. For a list of @server pSeries systems and peripherals that support Linux, refer to the following document:

`http://www.ibm.com/servers/eserver/pseries/hardware/linux_facts.pdf`

In addition to supporting Linux, the @server pSeries system must meet the following requirements:

- A minimum of 1 GB of random access memory (RAM) per processor

  This requirement is for the initial WebSphere Commerce instance and its associated WebSphere Commerce Payments instance. Each additional WebSphere Commerce instance and its associated WebSphere Commerce Payments instance requires an additional 512 MB of RAM per processor.
- A minimum of 4 GB of free disk space
- A minimum of 1 GB of paging space per processor.

  This requirement is for the initial WebSphere Commerce instance and its associated WebSphere Commerce Payments instance. Each additional WebSphere Commerce instance and its associated WebSphere Commerce Payments instance requires an additional 1 GB of paging space per processor.
- A CD-ROM drive
- A graphics capable monitor
- A mouse or other pointing device
- A local area network (LAN) adapter that supports TCP/IP

In addition to the server, you require a workstation, running a Windows operating system and capable of running a Web browser such as Internet Explorer with a graphics-capable monitor. This workstation is required to access the WebSphere Commerce tools such as WebSphere Commerce Accelerator.

Prerequisite hardware for Linux on @server zSeries and S/390 systems

You require a @server zSeries or S/390 system running that meets one of the following specifications:

- For a VM configuration:
  - A minimum of 1 GB of virtual memory per Linux instance (guest)

+ – A minimum of 200 MB of Linux swap file space
+ – A minimum of 2 GB of VM paging space per Linux instance
+ – 2 full volume (3300 cylinders) free disk space for the Linux system
+ – 1 full volume (3300 cylinders) free disk space for DB2 Universal Database
+ – 1 full volume (3300 cylinders) free disk space for WebSphere Commerce and WebSphere Application Server
+ – 1 full volume (3300 cylinders) temporary free disk space for the contents of the WebSphere Commerce CDs that are transferred from a workstation to the @server zSeries or S/390
+ – A local area network (LAN) adapter that supports TCP/IP
+ • For a native LPAR configuration:
+ – A minimum of 1 GB of random access memory (RAM) per Linux instance
+ – A minimum of 200 MB of Linux swap file space
+ – 2 full volume (3300 cylinders) free disk space for the Linux system
+ – 1 full volume (3300 cylinders) free disk space for DB2 Universal Database
+ – 1 full volume (3300 cylinders) free disk space for WebSphere Commerce and WebSphere Application Server
+ – 1 full volume (3300 cylinders) temporary free disk space for the contents of the WebSphere Commerce CDs that are transferred from a workstation to the @server zSeries or S/390
+ – A local area network (LAN) adapter that supports TCP/IP

+ In addition to the server, you require the following:

+ • A Windows, Linux, or UNIX machine with a graphics capable monitor, a CD-ROM drive, and a mouse or other pointing device.

  Ensure that this machine has a minimum of 1 GB free disk available. This free disk space is required when packaging the WebSphere Commerce CDs for transfer to the @server zSeries or S/390 machine.

+ • A Windows workstation capable of running a Web browser such as Internet Explorer with a graphics-capable monitor

  This workstation is required to access the WebSphere Commerce tools such as WebSphere Commerce Accelerator.

Prerequisite software

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

Prerequisite software for Linux on Intel based systems

WebSphere Commerce requires one of the following operating systems:

- Red Hat Enterprise Linux AS (formerly Red Hat Linux Advanced Server) Version 2.1

  Ensure the following packages are available on the system:

  – pdksh-5.2.14-13
  – ncurses-5.2-12

- SuSE Linux Enterprise Server 8

  Ensure that the following packages are available on the system:

  – pdksh-5.2.14-532
  – ncurses-5.2-402

You can check the availability of packages by issuing the following command:

```
rpm -qa | grep package_name
```

If the required packages have not been installed, you must install the packages before installing WebSphere Commerce.

Important

Your operating system installation may have installed a Web server by default. Ensure that all Web servers other than IBM HTTP Server have been completely uninstalled.

If a Web server other than IBM HTTP Server is installed before you start the WebSphere Commerce installation wizard, the resulting installation of WebSphere Commerce will not function correctly.

Ensure that you have a Netscape Web browser installed. A Netscape Web browser is required to view the information available through the Installation Complete panel of the WebSphere Commerce installation wizard.

Prerequisite software for Linux on @server iSeries systems

WebSphere Commerce requires SuSE Linux Enterprise Server 8 (64-bit support only).

Ensure that the following package is available on the system:

- pdksh-5.2.14-433

You can check the availability of packages by issuing the following command:

```
rpm -qa | grep package_name
```

If the required packages have not been installed, you must install the packages before installing WebSphere Commerce.

Important

Your operating system installation may have installed a Web server by default. Ensure that all Web servers other than IBM HTTP Server have been completely uninstalled.

If a Web server other than IBM HTTP Server is installed before you start the WebSphere Commerce installation wizard, the resulting installation of WebSphere Commerce will not function correctly.

Ensure that you have a Netscape Web browser installed. A Netscape Web browser is required to view the information available through the Installation Complete panel of the WebSphere Commerce installation wizard.

Prerequisite software for Linux on @server pSeries systems

WebSphere Commerce requires SuSE Linux Enterprise Server 8 (64-bit support only).

Ensure that the following package is available on the system:

- pdksh-5.2.14-433

You can check the availability of packages by issuing the following command:

```
rpm -qa | grep package_name
```

If the required packages have not been installed, you must install the packages before installing WebSphere Commerce.

Important

Your operating system installation may have installed a Web server by default. Ensure that all Web servers other than IBM HTTP Server have been completely uninstalled.

If a Web server other than IBM HTTP Server is installed before you start the WebSphere Commerce installation wizard, the resulting installation of WebSphere Commerce will not function correctly.

Ensure that you have a Netscape Web browser installed. A Netscape Web browser is required to view the information available through the Installation Complete panel of the WebSphere Commerce installation wizard.

Prerequisite software for Linux on @server zSeries and S/390 systems

WebSphere Commerce requires one of the following operating systems:

- Red Hat Linux 7.2

  Ensure the following packages are available on the system:
  - pdksh-5.2.14-13
  - compat-libstdc++-2.10.0-1
- SuSE Linux Enterprise Server 8

  Ensure that the following packages are available on the system:
  - pdksh-5.2.14-337

You can check the availability of the required packages by issuing the following command:

```
rpm -qa | grep package_name
```

If these packages have not been installed, you must install the packages before installing WebSphere Commerce.

Important

Your operating system installation may have installed a Web server by default. Ensure that all Web servers other than IBM HTTP Server have been completely uninstalled.

If a Web server other than IBM HTTP Server is installed before you start the WebSphere Commerce installation wizard, the resulting installation of WebSphere Commerce will not function correctly.

If the machine you are using to administer your WebSphere Commerce site is running the Windows 2000 operating system, ensure that the Linux installation includes an X Server and that the X Server is running.

Ensure that you have a Netscape Web browser installed. A Netscape Web browser is required to view the information available through the Installation Complete panel of the WebSphere Commerce installation wizard.

Network configuration requirements

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 *domain.net*, the fully qualified host name is *system1.domain.net*.

  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.

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 root 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
French	fr_FR

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

Other requirements

You must also do the following:

- Ensure that any Java application servers, and any non-essential Java processes are stopped before installing WebSphere Commerce.
- Ensure than any other InstallShield MultiPlatform installers have completed or are stopped before installing WebSphere Commerce.
- If you are running Lotus Notes®, or any other server on your machine, stop the server. If you have a Web server on your machine that is currently using the following port, disable it: `80`, `443`, `5442`, `5443`, `8000`, `8002`, and `8004`.

Chapter 3. How to install WebSphere Commerce

This chapter provides an outline of the steps you must perform to successfully install WebSphere Commerce.

If you are planning to use DB2 Universal Database for OS/390 and z/OS as the database server for WebSphere Commerce and WebSphere Commerce Payments, skip this chapter. Refer to Appendix A, "Using DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce and WebSphere Commerce Payments," on page 133 for instructions.

To complete a successful installation and configuration of WebSphere Commerce, do the following:

1. Plan your configuration of WebSphere Commerce.

   In planning your configuration, you should determine the number of machines on which you will install the various components of WebSphere Commerce, including the database and the Web server.

   Review the descriptions of the installation configurations supported by the WebSphere Commerce installation wizard available in "Choosing your installation type" on page 29 to help plan your configuration.
2. Ensure that all of the nodes in your planned configuration meet the prerequisites outlined in Chapter 2, "Preinstallation requirements," on page 9.
3. Install and configure the database according to the information available in Part 2, "Installing a database," on page 19.

   Ensure that you review *all* of the chapters in the section before installing and configuring the database.
4. Create the operating system user IDs and groups required by WebSphere Commerce. For details, refer to "Creating required WebSphere Application Server users and groups" on page 27.
5. Gather all of the IDs and other information required to complete the WebSphere Commerce installation wizard. This information is outlined in Chapter 7, "Quick reference to IDs required during installation," on page 37.
6. Complete the pre-installation checklist provided in "Preinstallation checklist" on page 28 to ensure that you are ready to install WebSphere Commerce.
7. Install WebSphere Commerce according to your planned configuration and the information available in Part 3, "Installing WebSphere Commerce," on page 25.

   Ensure you review *all* of the chapters in the section before installing and configuring WebSphere Commerce.
8. Create a WebSphere Commerce instance and a WebSphere Commerce Payments instance according to the information available in Part 4, "Creating a WebSphere Commerce and a WebSphere Commerce Payments instance," on page 59.

Important

When you create a WebSphere Commerce instance, you create a Site Administrator user ID and password. It is crucial that you remember this user ID and password as after instance creation, this is the only user ID that can access the WebSphere Commerce Administration Console, WebSphere Commerce Organization Administration Console, and WebSphere Commerce Accelerator.

If you forget the Site Administrator password, you can reset the password by following the instructions in "Resetting the Site Administrator password" on page 124.

If you forget the Site Administrator ID, you can recover the ID by following the instructions in "Recovering the Site Administrator ID" on page 125.

9. Complete the mandatory post-instance creation tasks outlined in Chapter 14, "Mandatory post-instance creation tasks," on page 73.

After completing these steps, you are ready to perform any of the tasks outlined in Chapter 15, "Recommended post-instance creation tasks," on page 75.

Part 2. Installing a database

WebSphere Commerce for Linux supports DB2 Universal Database. The database can be installed on the same node as other WebSphere Commerce components, or it can be installed on a remote node.

If you plan to use a database running on the same node as WebSphere Commerce and WebSphere Commerce Payments, follow the instructions in Chapter 4, "Using a local database with WebSphere Commerce," on page 21.

If you plan to use a database running on a different node from WebSphere Commerce or WebSphere Commerce Payments, follow the instructions in Chapter 5, "Using a remote database with WebSphere Commerce," on page 23.

If you plan to use DB2 Universal Database for OS/390 and z/OS, Version 7 with WebSphere Commerce or WebSphere Commerce Payments on Linux on Intel processor based systems or Linux on @server zSeries and S/390 systems, refer to Appendix A, "Using DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce and WebSphere Commerce Payments," on page 133 before reviewing the instructions in this section.

Chapter 4. Using a local database with WebSphere Commerce

In this configuration, WebSphere Commerce, WebSphere Commerce Payments and the database management system are installed on the same node.

Using DB2 Universal Database as the local WebSphere Commerce database

If you use DB2 Universal Database as the local WebSphere Commerce database, no additional steps are required. DB2 Universal Database is installed and the WebSphere Commerce database is created and configured as part of WebSphere Commerce instance creation.

To install DB2 Universal Database when using the custom installation option of the installation wizard, ensure that you select **DB2 Universal Database** from the list of installable components.

Proceed with your installation of WebSphere Commerce by following the instructions in Part 3, "Installing WebSphere Commerce," on page 25.

The next step

After completing the instructions in this chapter, proceed with your installation of WebSphere Commerce by following the instructions in Part 3, "Installing WebSphere Commerce," on page 25.

Chapter 5. Using a remote database with WebSphere Commerce

In this configuration, WebSphere Commerce and the WebSphere Commerce database are installed on different nodes.

Using DB2 Universal Database as the remote WebSphere Commerce database

If you use DB2 Universal Database as the remote WebSphere Commerce database, no additional steps are required. The WebSphere Commerce installation wizard will install and configure DB2 Administration Client on the WebSphere Commerce node. The WebSphere Commerce installation wizard is also used to install DB2 Universal Database on the database server node.

Proceed with your installation of WebSphere Commerce by following the instructions in Part 3, "Installing WebSphere Commerce," on page 25.

The next step

After completing the instructions in this chapter, proceed with your installation of WebSphere Commerce by following the instructions in Part 3, "Installing WebSphere Commerce," on page 25.

Part 3. Installing WebSphere Commerce

If you plan to use DB2 Universal Database for OS/390 and z/OS, Version 7 with WebSphere Commerce or WebSphere Commerce Payments on Linux on Intel processor based systems or Linux on @server zSeries and S/390 systems, refer to Appendix A, "Using DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce and WebSphere Commerce Payments," on page 133 before reviewing the instructions in this section.

Chapter 6. Before installing WebSphere Commerce

This section describes what must be completed before using the WebSphere Commerce installation wizard. Before using the WebSphere Commerce installation wizard, you must do the following:

1. 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."
2. Complete the pre-installation checklist to ensure the all pre-installation requirements have been met. The pre-installation checklist is provided in "Preinstallation checklist" on page 28.
3. Choose an installation type based on the descriptions available in "Choosing your installation type" on page 29. The descriptions in this section will direct you to the appropriate instructions to complete the type of installation you choose.
4. (@server zSeries and S/390 users only) Transfer required installation files from a workstation to the @server zSeries or S/390. For instructions, refer to "Transferring installation files to the @server zSeries or S/390" on page 34.

Creating required WebSphere Application Server users and groups

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

1. Log on as `root`.
2. Create a non-root user ID and give the new user ID a password.

   This user ID must be used to start the WebSphere Commerce and WebSphere Commerce Payments application servers, and the WebSphere Commerce Configuration Manager server and client. Using `root` to start these components causes permissions problems which will cause WebSphere Commerce, WebSphere Commerce Payments, and WebSphere Commerce Configuration Manager to function incorrectly.

   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.
   b. Create the following user groups:
      - `mqm`

- mqbrkrs

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.

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

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.

Preinstallation checklist

Before installing WebSphere Commerce complete the following checklist to ensure that all of the pre-installation requirements have been met:

__ All of the systems in the planned installation meet the hardware and software requirements outlined in Chapter 2, "Preinstallation requirements," on page 9.

__ All of the ports required by WebSphere Commerce are available. The ports required by WebSphere Commerce are listed in "Port numbers used by WebSphere Commerce" on page 6.

__ The correct locale codes are set on the machines on all of the nodes in the planned installation. The locale codes required by WebSphere Commerce are listed in "Locales used by WebSphere Commerce" on page 8.

__ All the IDs, passwords, paths, and other information required to complete the WebSphere Commerce installation wizard have been gathered. The information required to complete the WebSphere Commerce installation wizard is listed in Chapter 7, "Quick reference to IDs required during installation," on page 37.

__ The WebSphere Application Server embedded messaging user ID and groups have been created and configured correctly. The IDs, groups and their configuration is covered in "Creating required WebSphere Application Server users and groups" on page 27.

__ The non-root user ID required to start and run WebSphere Commerce and WebSphere Commerce Payments has been created and the password for this user ID has been set. Details on this user ID are provided in "User IDs required to complete the installation wizard" on page 38.

__ Any pre-installed Web servers are stopped. If a Web server is running on the machine during the WebSphere Commerce installation, the installation will not complete successfully.

__ Any Java application servers, and any non-essential Java processes are stopped.

__ Any other InstallShield MultiPlatform installers have completed or are stopped.

Important

Failure to complete this checklist will result in a failed installation or unexpected behavior in WebSphere Commerce and its components. It is strongly recommended that the systems on which you install WebSphere Commerce and its components meet all the requirements outlined in this checklist.

Choosing your installation type

This section provides descriptions of the installation types available in the WebSphere Commerce installation wizard. Review the descriptions, choose your installation type, and go to the information referenced in each description for instructions on completing the installation type you choose.

The following installation types are available in the WebSphere Commerce installation wizard:

- "Quick installation"
- "Typical 1–node installation"
- "Typical 3–node installation" on page 30
- "Custom installation" on page 32

Quick installation

This installs the following components on a single node, provided that none of the components already exist on the node:

- IBM DB2 Universal Database Version 8.1.2
- IBM HTTP Server Version 1.3.26.2
- WebSphere Application Server base product, Version 5.0.2
- IBM WebSphere Commerce Version 5.5 (including WebSphere Commerce Payments)

A quick installation also creates a WebSphere Commerce instance and a WebSphere Commerce Payments instance.

Non-IBM software is not supported by the quick installation.

Instructions for completing a quick installation are covered in *WebSphere Commerce Quick Beginnings*.

Typical 1–node installation

This will install all WebSphere Commerce software on a single node. This includes your database, Web server, WebSphere Application Server, WebSphere Commerce Payments, and the WebSphere Commerce server.

This installation is similar to a quick installation with the following differences:

- A pre-installed database is supported, as long as the database is a database supported by WebSphere Commerce and the database is at the required version level.

- A pre-installed Web server is supported, as long as the Web server is a Web server supported by WebSphere Commerce and the Web server is at the required version level.
- A pre-installed WebSphere Application Server is supported, as long as it is at the version level supported by WebSphere Commerce.
- Non-IBM software is supported by the typical 1–node installation.
- A WebSphere Commerce instance and a WebSphere Commerce Payments instance are *not* created as part of the installation process.

Completing a typical 1-node installation is described in Chapter 8, "Completing a typical installation," on page 39.

Typical 3–node installation

This will install the WebSphere Commerce software across three nodes:

- 1st node: Database
- 2nd node: Web server
- 3rd node: WebSphere Application Server, WebSphere Commerce Payments, and the WebSphere Commerce server.

All nodes must be running the same operating system meeting the operating system requirements listed in Chapter 2, "Preinstallation requirements," on page 9.

Completing a typical 3-node installation is described in Chapter 8, "Completing a typical installation," on page 39.

Important: You must install the components in a typical 3–node installation in the order the components are listed above. Installation of some nodes will require information about previous nodes to complete the installation.

The diagram on the following page shows how the various WebSphere Commerce components are distributed in a typical 3–node installation.

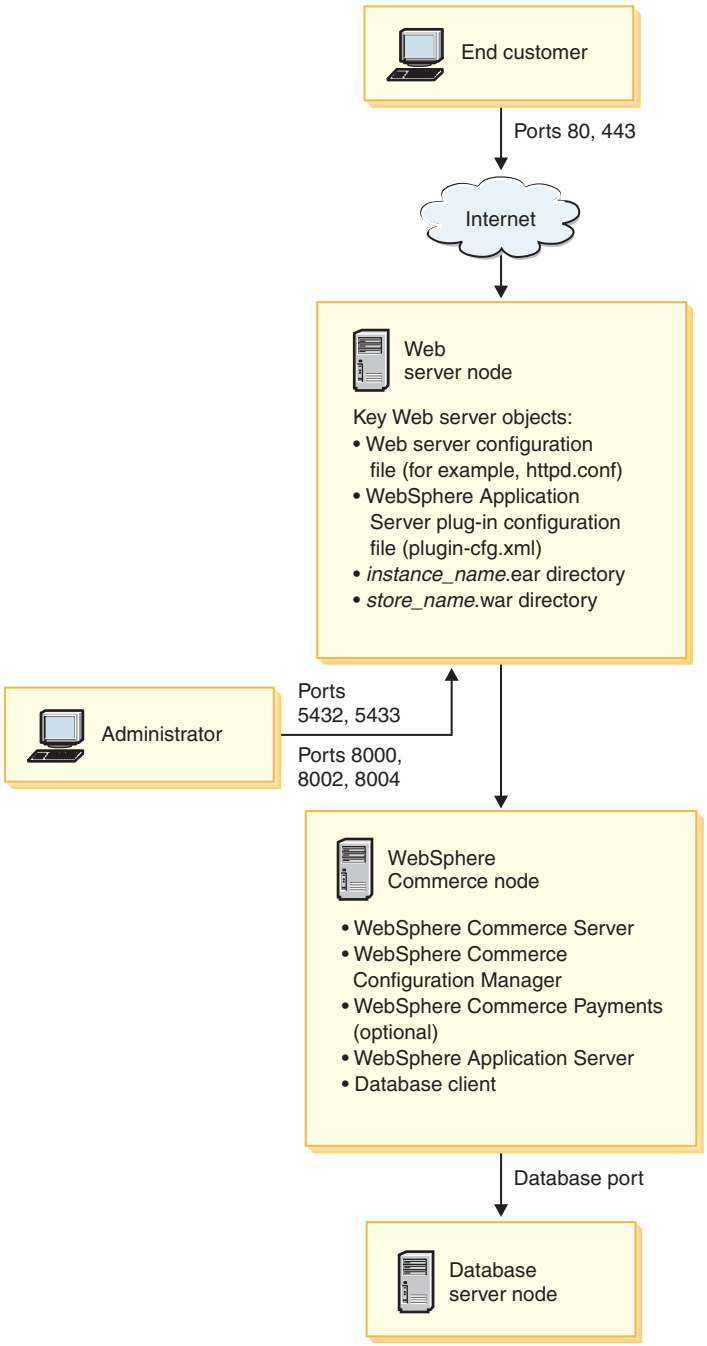


Figure 1. Typical 3–node installation

Note: Oracle9i is not supported by WebSphere Commerce on Linux

Custom installation

A custom installation can be used to install WebSphere Commerce components across several nodes. All nodes must be running the same operating system meeting the operating system requirements listed in Chapter 2, "Preinstallation requirements," on page 9.

The following are some examples of scenarios in which you would perform a custom installation:

- You want to install a topography of WebSphere Commerce not supported by the other install options. For example, a two-node installation with the database server one node and all other WebSphere Commerce components on the other node.
- You want WebSphere Commerce Payments to run remotely from WebSphere Commerce.
- You want to install only the WebSphere Commerce Configuration Manager client on a system.
- You want to install only the WebSphere Application Server Web server plug–in for a remote Web server.
- You want to distribute WebSphere Commerce components over several machines, offering the following benefits:
  - Improved speed of transactions by dispersing CPU load
  - You can use existing databases, Web servers, and machines with limited space
  - Offers the ability to cluster for redundancy for mission critical WebSphere Commerce data
  - Improved scalability and load balancing abilities

This installation should only be attempted by users with advanced knowledge of WebSphere Commerce. Advanced knowledge includes:

- Advanced knowledge of IBM WebSphere Application Server Version 5.0.2 configuration and operation in distributed environments, including cloning, clustering, and federation.
- Experience in the creation of WebSphere Commerce instances in distributed environments.
- Experience in the configuration and administration of remote databases.
- Experience in the configuration of Web servers to work with remote applications.

Completing a custom installation is described in Chapter 9, "Completing a custom installation," on page 51.

As an example of a how a custom installation could be used, the diagram on the following page shows how the various WebSphere Commerce components are distributed in a custom 5–node installation.

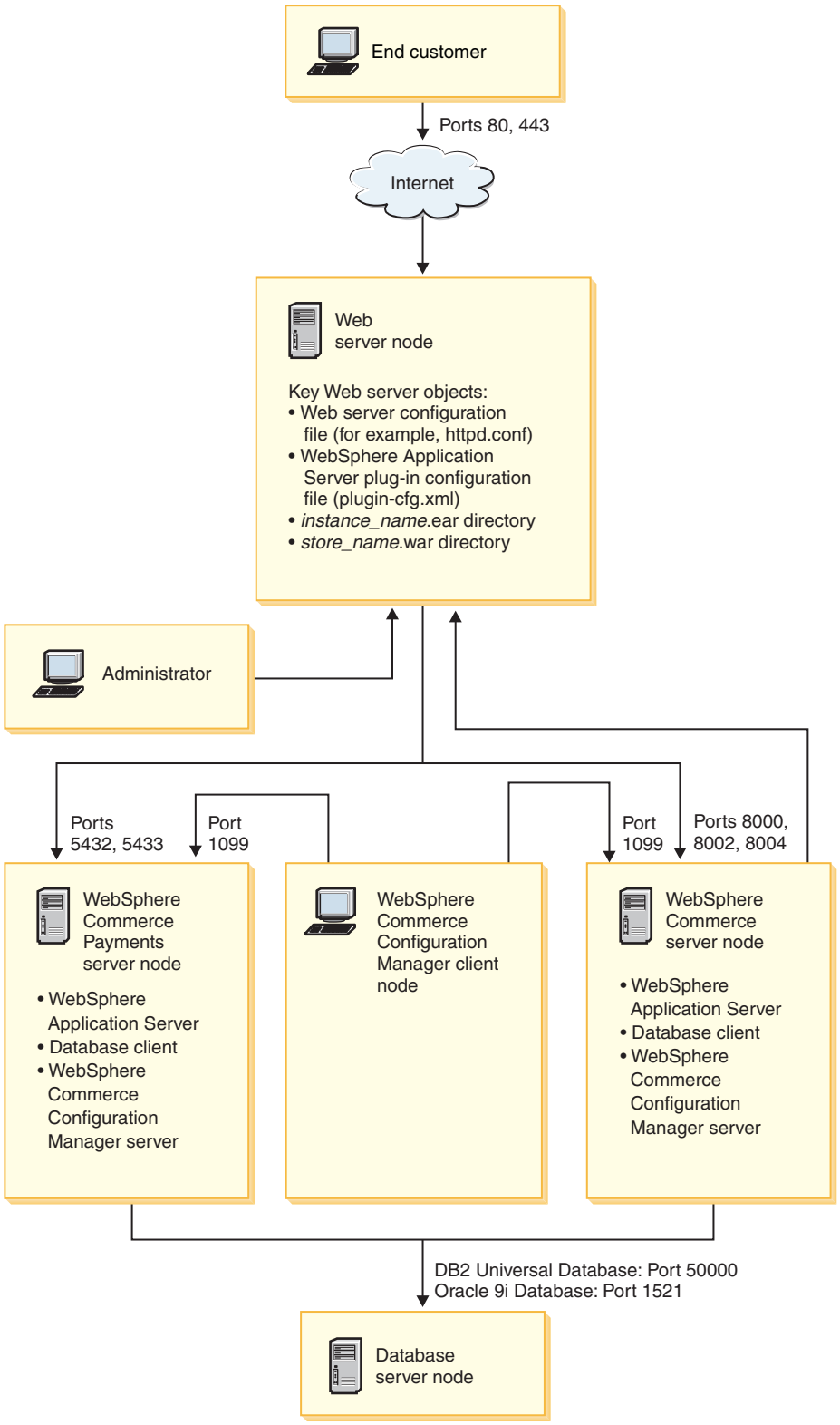


Figure 2. Custom 5–node installation

Note: Oracle9i is not supported by WebSphere Commerce on Linux

Transferring installation files to the @server zSeries or S/390

Before you can install WebSphere Commerce and its supporting software on Linux partitions on an @server zSeries or S/390 machine, you must transfer the contents of the WebSphere Commerce CDs from a workstation with a CD-ROM drive to the @server zSeries or S/390 machine on which you want to install WebSphere Commerce and its supporting software.

The following CDs must be transferred:

- DB2 Universal Database CDs

  These CDs must be transferred to the node on which you plan to install DB2 Universal Database. If you already have a DB2 Universal Database installation you plan to use with WebSphere Commerce, you do not need to transfer these CDs.
- WebSphere Application Server CD

  This CD must be transferred to the following nodes:
  - Web server node
  - WebSphere Commerce node
  - WebSphere Commerce Payments node
- WebSphere Commerce CDs

  These CDs must be transferred to the following nodes:
  - Database node (if installing DB2 Universal Database)
  - Web server node
  - WebSphere Commerce node
  - WebSphere Commerce Payments node

To transfer the contents of a CD to the @server zSeries or S/390 machine, do the following:

1. Do the following on a workstation:
   a. Insert the CD into the CD-ROM drive of a workstation.
   b. Use a file compression utility such a *gzip* or an archiving utility such as *tar* to package the entire contents of the CD-ROM into a single file.
   c. Transfer the file from the workstation to the @server zSeries or S/390 machine using FTP or another transfer method you have available
   d. If the amount of hard drive space is limited on the workstation, delete the file.
2. Do the following on the @server zSeries or S/390 machine:
   a. Ensure that you are logged in as `root`.
   b. Create a temporary directory for the contents of the CD, ensuring that the directory has a meaningful name. You will need to know the name and location of each directory containing the contents of a CD in order to complete the WebSphere Commerce installation wizard.

      Ensure that you create a separate directory for each CD.
   c. Uncompress or dearchive the file into its temporary directory.

      Ensure that the file is being uncompressed or dearchived into a unique temporary directory. Different CDs may contain files with the same names. Storing the contents of multiple CDs in one directory will result in files that share names being overwritten as you uncompress or dearchive each file into the directory.

d. (Optional) Delete the compressed or archive file to conserve hard drive space.

Important

If you are installing WebSphere Commerce and its supporting software across multiple nodes, ensure that you transfer the required CDs to each node before starting to install WebSphere Commerce.

Chapter 7. Quick reference to IDs required during 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 38 then fill in this table:

User ID description	User ID	Password	Group	Full path of home directory
DB2 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 "Creating required WebSphere Application Server users and groups" on page 27.

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 "Creating required WebSphere Application Server users and groups" on page 27.

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.

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 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 Ensure that the `.profile` script for the user ID does not contain any errors. **Note:** The user ID must meet DB2 Universal Database user ID requirements outlined in "DB2 Universal Database user ID requirements."
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 "Creating required WebSphere Application Server users and groups" on page 27.

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`.

Chapter 8. Completing a typical installation

This chapter covers how to complete the types of typical installations available in the WebSphere Commerce installation wizard.

Performing a typical one-node installation

To perform a typical one-node installation, do the following:

1. Ensure the user IDs required by WebSphere Application Server have been created. For instructions on creating these user IDs, refer to "Creating required WebSphere Application Server users and groups" on page 27.
2. Ensure that the pre-installation checklist is completed. Failure to complete this checklist could result in a failed installation. For more information, refer to "Preinstallation checklist" on page 28.
3. Ensure that you are logged onto your system as `root`.
4. Depending on your hardware platform, do the following:

Hardware platform	Instructions
Intel-based systems	Insert WebSphere Commerce CD 1 into the CD-ROM drive of the node. Mount the CD-ROM drive, but do not change 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.
@server iSeries systems	
@server pSeries systems	
@server zSeries systems	Switch directories to the directory containing the contents of WebSphere Commerce CD 1. The contents of this CD and other CDs should have already been transferred to the @server zSeries or S/390 system.
S/390 systems	For instruction on transferring the contents of CDs to the @server zSeries or S/390 system, refer to "Transferring installation files to the @server zSeries or S/390" on page 34.

5. From a terminal session, issue the following command:

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

   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.
6. Issue one of the following commands as `root`, depending on the hardware platform:

Hardware platform	Command
Intel-based systems	*mount_point*/setup_linux or *mount_point*/setup_linux -console
@server iSeries systems	*mount_point*/setup_ppclinux or *mount_point*/setup_ppclinux -console
@server pSeries systems	*mount_point*/setup_ppclinux or *mount_point*/setup_ppclinux -console
@server zSeries systems	./setup_zlinux or ./setup_zlinux -console
S/390 systems	

where *mount_point* is the CD-ROM mount point. For example, /mnt/cdrom0. Using the -console parameter starts a text-based installation wizard. 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 installation wizard differ.
In this section, instructions for selecting options and continuing are provided only for the GUI-based installation wizard. To select options and continue when using the text-based installation wizard, follow the prompts provided by the text-based installation wizard.

Do not switch directories to the CD-ROM mount point. This will prevent you from switching the CDs in the CD-ROM drive when prompted to do so by the installation wizard.

7. Select the language you want to use during the install and click **OK**.

   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.

   After selecting the language you want to use during the install, a check is performed to ensure that the system meets the pre-installation requirements.

   If your system meets the pre-installation requirements the Welcome panel displays.

   If your system does not meet the pre-installation requirements, a dialog box will display detailing the requirements which have not been met. Click **Cancel** and then **Exit Setup** to exit the installation program. Take the appropriate steps to meet the pre-installation requirements which were listed and begin the installation again.
8. If your system meets the pre-installation requirements, click **Next** on the Welcome panel.

9. 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 click **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 click **Next**. Declining the terms of the License agreement exits the install program.
10. If you accept the terms of the license agreement, the install type panel displays. Select **Typical Installation**. Click **Next** to continue.
11. When prompted for the topology, select **One–node installation**. Click **Next** to continue.
12. Select your database and Web server from the drop-down lists. Click **Next** to continue.
13. Accept the default destination directories for the products being installed, or enter another directory. Click **Next** to continue.
14. Enter the information for the database user as prompted by the installation wizard. Click **Next** to continue. Ensure that the database user ID and password meet the requirements outlined in Chapter 7, "Quick reference to IDs required during installation," on page 37.

    Note: Ensure that the database user information is the information for the operating system ID that owns the database instance.
15. Select the language of the documentation that you want installed. Click **Next** to continue.
16. Enter the information for the non-root user ID as prompted by the installation wizard. This user ID was created when you completed the instructions in "Creating required WebSphere Application Server users and groups" on page 27.
17. Do one of the following:
    - If selected IBM HTTP Server as your Web server and the Web server is already installed, enter the directory where the Web server configuration files are located. Click **Next** to continue.
    - If you do not have a Web server installed, click **Next** to continue. IBM HTTP Server will be installed.

      In this case, the field displaying the path to the Web server configuration file cannot be edited. The contents of the field are for display purposes only.

    The Summary panel displays.
18. Review the contents of the Summary panel, then click **Next** to continue.
19. Insert the CDs as prompted, and enter the location of the CDs.

    As components are being installed, panels display showing the progress of the installation of the component.

    You may be required to unmount the CD-ROM drive in order to change CDs in the CD-ROM drive. After changing CDs, you must remount the CD-ROM drive.
20. The installation is complete when the summary panel displays. Click **Next** to continue.
21. The Installation Complete panel displays. From the Installation Complete panel, you can access more information about WebSphere Commerce or exit the installation wizard by clicking **Finish**.

After completing a typical one-node installation, follow the instructions in "The next step" on page 49.

Performing a typical three-node installation

To perform a typical three-node installation, do the following:

1. Install the database. For details, see "Installing the database in a typical three-node installation."
2. Install the Web server. For details, see "Installing the Web server in a typical three-node installation" on page 44.
3. Install the remaining WebSphere Commerce components. For details, see "Installing the remaining WebSphere Commerce components in a typical three-node installation" on page 47.

Installing the database in a typical three-node installation

If you are using DB2 Universal Database as your database, do the following on the database server node:

1. Ensure that you are logged onto your system as `root`.
2. Depending on your hardware platform, do the following:

Hardware platform	Instructions
Intel-based systems	Insert WebSphere Commerce CD 1 into the CD-ROM drive of the node. Mount the CD-ROM drive, but do not change 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.
@server iSeries systems	
@server pSeries systems	
@server zSeries systems	Switch directories to the directory containing the contents of WebSphere Commerce CD 1. The contents of this CD and other CDs should have already been transferred to the @server zSeries or S/390 system.
S/390 systems	For instruction on transferring the contents of CDs to the @server zSeries or S/390 system, refer to "Transferring installation files to the @server zSeries or S/390" on page 34.

3. From a terminal session, issue the following command:

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

   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.
4. Issue one of the following commands as `root`, depending on the hardware platform:

Hardware platform	Command
Intel-based systems	*mount_point*/setup_linux or *mount_point*/setup_linux -console
@server iSeries systems	*mount_point*/setup_ppclinux or *mount_point*/setup_ppclinux -console
@server pSeries systems	*mount_point*/setup_ppclinux or *mount_point*/setup_ppclinux -console
@server zSeries systems	./setup_zlinux or ./setup_zlinux -console
S/390 systems	

where *mount_point* is the CD-ROM mount point. For example, /mnt/cdrom0. Using the -console parameter starts a text-based installation wizard. 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 installation wizard differ.
In this section, instructions for selecting options and continuing are provided only for the GUI-based installation wizard. To select options and continue when using the text-based installation wizard, follow the prompts provided by the text-based installation wizard.

Do not switch directories to the CD-ROM mount point. This will prevent you from switching the CDs in the CD-ROM drive when prompted to do so by the installation wizard.

5. Select the language you want to use during the install and click **OK**.

   After selecting the language you want to use during the install, a check is performed to ensure that the system meets the pre-installation requirements.

   If your system meets the pre-installation requirements the Welcome panel displays.

   If your system does not meet the pre-installation requirements, a dialog box will display detailing the requirements which have not been met. Click **Cancel** and then **Exit Setup** to exit the installation program. Take the appropriate steps to meet the pre-installation requirements which were listed and begin the installation again.
6. If your system meets the pre-installation requirements, click **Next** on the Welcome panel.
7. 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 click **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 click **Next**. Declining the terms of the License agreement exits the install program.

8. If you accept the terms of the license agreement, the install type panel displays. Select **Typical Installation**. Click **Next** to continue.
9. When prompted for the topology, select **Three–node installation**. Click **Next** to continue.
10. When prompted for the node on which you are installing, select **Database server node**. Click **Next** to continue.
11. Select your database from the drop-down list. Click **Next** to continue.
12. Accept the default destination directories for the products being installed, or enter another directory. Click **Next** to continue.
13. Complete the panel by entering the appropriate information in each field. Ensure that any user IDs and passwords entered meet the requirements outlined in Chapter 7, "Quick reference to IDs required during installation," on page 37.

    Note: Ensure that the database user information is the information for the operating system ID that owns the database instance.

    Click **Next** to continue.
14. On the confirmation page, review the components being installed and their location. To make any changes, use the **Back** button to return to the panel where you want to make changes.

    To begin installing the components listed on the confirmation page, click **Next**.
15. Insert the CDs as prompted, and enter the location of the 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.

16. The installation of DB2 Universal Database is complete when the summary panel displays. Click **Next** to continue.
17. The Installation Complete panel displays. From the Installation Complete panel, you can access more information about WebSphere Commerce or exit the installation wizard by clicking **Finish**.

Continue the typical three-node installation by following the instructions in "Installing the Web server in a typical three-node installation."

Installing the Web server in a typical three-node installation

To complete an installation on the Web server node, do the following on the Web server node:

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

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

   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. Depending on your hardware platform, do the following:

Hardware platform	Instructions
Intel-based systems	Insert WebSphere Commerce CD 1 into the CD-ROM drive of the node. Mount the CD-ROM drive, but do not change 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.
@server iSeries systems	
@server pSeries systems	
@server zSeries systems	Switch directories to the directory containing the contents of WebSphere Commerce CD 1. The contents of this CD and other CDs should have already been transferred to the @server zSeries or S/390 system.
S/390 systems	For instruction on transferring the contents of CDs to the @server zSeries or S/390 system, refer to "Transferring installation files to the @server zSeries or S/390" on page 34.

4. Issue one of the following commands as `root`, depending on the hardware platform:

Hardware platform	Command
Intel-based systems	*mount_point*`/setup_linux` or *mount_point*`/setup_linux -console`
@server iSeries systems	*mount_point*`/setup_ppclinux` or *mount_point*`/setup_ppclinux -console`
@server pSeries systems	*mount_point*`/setup_ppclinux` or *mount_point*`/setup_ppclinux -console`

@server zSeries systems	`./setup_zlinux`
	or
	`./setup_zlinux -console`

S/390 systems	

where *mount_point* is the CD-ROM mount point. For example, `/mnt/cdrom0`. Using the `-console` parameter starts a text-based installation wizard. 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 installation wizard differ.
In this section, instructions for selecting options and continuing are provided only for the GUI-based installation wizard. To select options and continue when using the text-based installation wizard, follow the prompts provided by the text-based installation wizard.

Do not switch directories to the CD-ROM mount point. This will prevent you from switching the CDs in the CD-ROM drive when prompted to do so by the installation wizard.

5. Select the language you want to use during the install and click **OK**.

After selecting the language you want to use during the install, a check is performed to ensure that the system meets the pre-installation requirements.

If your system meets the pre-installation requirements the Welcome panel displays.

If your system does not meet the pre-installation requirements, a dialog box will display detailing the requirements which have not been met. Click **Cancel** and then **Exit Setup** to exit the installation program. Take the appropriate steps to meet the pre-installation requirements which were listed and begin the installation again.

6. If your system meets the pre-installation requirements, click **Next** on the Welcome panel.
7. 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 click **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 click **Next**. Declining the terms of the License agreement exits the install program.
8. If you accept the terms of the license agreement, the install type panel displays. Select **Typical Installation**. Click **Next** to continue.
9. When prompted for the topology, select **Three–node installation**. Click **Next** to continue.
10. When prompted for the node on which you are installing, select **Web server node**. Click **Next** to continue.
11. Select your Web server from the drop-down list. Click **Next** to continue.
12. Accept the default destination directories for the products being installed, or enter another directory. Click **Next** to continue.
13. Select the language of the documentation that you want installed. Click **Next** to continue.
14. Enter the information for the non-root user ID as prompted by the installation wizard. This user ID was created when you completed the instructions in "Creating required WebSphere Application Server users and groups" on page 27.
15. Do one of the following:
    - If selected IBM HTTP Server as your Web server and the Web server is already installed, enter the directory where the Web server configuration files are located. Click **Next** to continue.
    - If you do not have a Web server installed, click **Next** to continue. IBM HTTP Server will be installed.

      In this case, the field displaying the path to the Web server configuration file cannot be edited. The contents of the field are for display purposes only.

    The Summary panel displays.
16. On the Summary panel, review the components being installed and their location. To make any changes, use the **Back** button to return to the panel where you want to make changes.

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

17. Insert the CDs as prompted, and enter the location of the 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.

18. The installation of the Web server is complete when the summary panel displays. Click **Next** to continue.
19. The Installation Complete panel displays. From the Installation Complete panel, you can access more information about WebSphere Commerce or exit the installation wizard by clicking **Finish**.

Continue the typical three-node installation by following the instructions in "Installing the remaining WebSphere Commerce components in a typical three-node installation."

Installing the remaining WebSphere Commerce components in a typical three-node installation

To install the remaining WebSphere Commerce components, do the following on the WebSphere Commerce node:

1. Ensure the user IDs required by WebSphere Application Server have been created. For instructions on creating these user IDs, refer to "Creating required WebSphere Application Server users and groups" on page 27.
2. Ensure that you are logged onto your system as `root`.
3. From a terminal session, issue the following command:

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

   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.
4. Depending on your hardware platform, do the following:

Hardware platform	Instructions
Intel-based systems	Insert WebSphere Commerce CD 1 into the CD-ROM drive of the node. Mount the CD-ROM drive, but do not change 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.
@server iSeries systems	
@server pSeries systems	
@server zSeries systems	Switch directories to the directory containing the contents of WebSphere Commerce CD 1. The contents of this CD and other CDs should have already been transferred to the @server zSeries or S/390 system. For instruction on transferring the contents of CDs to the @server zSeries or S/390 system, refer to "Transferring installation files to the @server zSeries or S/390" on page 34.
S/390 systems	

5. Issue one of the following commands as `root`, depending on the hardware platform:

Hardware platform	Command
Intel-based systems	*mount_point*`/setup_linux` or *mount_point*`/setup_linux -console`
@server iSeries systems	*mount_point*`/setup_ppclinux` or *mount_point*`/setup_ppclinux -console`
@server pSeries systems	*mount_point*`/setup_ppclinux` or *mount_point*`/setup_ppclinux -console`

@server zSeries systems	`./setup_zlinux`
	
	or
	`./setup_zlinux -console`

S/390 systems	

where *mount_point* is the CD-ROM mount point. For example, `/mnt/cdrom0`. Using the `-console` parameter starts a text-based installation wizard. 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 installation wizard differ.
In this section, instructions for selecting options and continuing are provided only for the GUI-based installation wizard. To select options and continue when using the text-based installation wizard, follow the prompts provided by the text-based installation wizard.

Do not switch directories to the CD-ROM mount point. This will prevent you from switching the CDs in the CD-ROM drive when prompted to do so by the installation wizard.

6. Select the language you want to use during the install and click **OK**.

   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.

   After selecting the language you want to use during the install, a check is performed to ensure that the system meets the pre-installation requirements.

   If your system meets the pre-installation requirements the Welcome panel displays.

   If your system does not meet the pre-installation requirements, a dialog box will display detailing the requirements which have not been met. Click **Cancel** and then **Exit Setup** to exit the installation program. Take the appropriate steps to meet the pre-installation requirements which were listed and begin the installation again.

7. If your system meets the pre-installation requirements, click **Next** on the Welcome panel.
8. 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 click **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 click **Next**. Declining the terms of the License agreement exits the install program.
9. If you accept the terms of the license agreement, the install type panel displays. Select **Typical Installation**. Click **Next** to continue.
10. When prompted for the topology, select **Three–node installation**. Click **Next** to continue.
11. When prompted for the node on which you are installing, select **WebSphere Commerce Server node**. Click **Next** to continue.
12. Select the database management system installed on the database node from the drop-down list. Click **Next** to continue.
13. Accept the default destination directories for the products being installed, or enter another directory. Click **Next** to continue.
14. Complete the panel by entering the appropriate information in each field. Click **Next** to continue. Ensure that any user IDs and passwords entered meet the requirements outlined in Chapter 7, "Quick reference to IDs required during installation," on page 37.

    Note: Ensure that the database user information is the information for the operating system ID that owns the database instance.
15. Enter the information for the non-root user ID as prompted by the installation wizard. This user ID was created when you completed the instructions in "Creating required WebSphere Application Server users and groups" on page 27.
16. On the confirmation page, review the components being installed and their location. To make any changes, use the **Back** button to return to the panel where you want to make changes.

    To begin installing the components listed on the confirmation page, click **Next**.
17. Insert the CDs as prompted, and enter the location of the 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.

18. The installation is complete when the summary panel displays. Click **Next** to continue.
19. The Installation Complete panel displays. From the Installation Complete panel, you can access more information about WebSphere Commerce or exit the installation wizard by clicking **Finish**.

The next step

After completing a typical installation, do the following:

1. If you have not yet done so, review the README file and install any additional fixes mentioned in the README file. For more information about the README file, refer to "Reviewing the README file" on page 14.

2. Verify your installation by following the instructions in Chapter 10, "Verifying your installation," on page 57.

Chapter 9. Completing a custom installation

A custom installation should only be attempted by users with advanced knowledge of WebSphere Commerce including:

- Advanced knowledge of IBM WebSphere Application Server Version 5.0.2 configuration and operation in distributed environments.
- Experience in the creation of WebSphere Commerce instances in distributed environments.
- Experience in the configuration and administration of remote databases.
- Experience in the configuration of Web servers to work with remote applications.

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

WebSphere Commerce components

WebSphere Commerce Server
This component provides all of the function 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 online help
- WebSphere Commerce sample stores
- WebSphere Application Server base product
- DB2 Universal Database application development client (if required)

Important: You must have a Web server and a database installed before installing this component as information about the Web server and the database are required to complete in the installation wizard for this component.

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.

WebSphere Commerce example files
This component provides various sample files, including those for Product Advisor, Web Services and Payments.

This component does not include the WebSphere Commerce sample stores.

WebSphere Commerce online help
This component installs the online help files for WebSphere Commerce (including WebSphere Commerce Payments). Installing this component copies the online help files to a location you select in the installation wizard, but it does not install a Web server to view the files over HTTP — the files can only be viewed by opening the files from the node's file system.

If you are using a multiple node topology, install this component on the Web server node.

WebSphere Commerce Payments
This component installs all of the function 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 online help
- WebSphere Application Server base product
- DB2 Universal Database application development client (if required)

Important: You must have a Web server and a database installed before installing this component as information about the Web server and the database are required to complete in the installation wizard for this component.

If you plan to use a remote or local DB2 Universal Database with the WebSphere Commerce Payments component, no extra steps are required when installing the WebSphere Commerce Payments component.

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 IBM DB2 Universal Database Version 8.1.2, Enterprise Server Edition . Selecting this component will not install the DB2 Administration Client on a node.

IBM HTTP Server
Selecting this component installs and configures IBM HTTP Server. It also installs the WebSphere Application Server plug-in for IBM HTTP Server.

WebSphere Application Server Web server plug-in
This option is only available if IBM HTTP Server is detected on the system.

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

Performing a custom installation

In order to install all of the WebSphere Commerce components in a custom configuration, repeat the steps in this section on each node in your configuration.

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

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

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

   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. Depending on your hardware platform, do the following:

Hardware platform	Instructions
Intel based systems	Insert WebSphere Commerce CD 1 into the CD-ROM drive of the node. Mount the CD-ROM drive, but do not change 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.
@server iSeries systems	
@server pSeries systems	
@server zSeries systems	Switch directories to the directory containing the contents of WebSphere Commerce CD 1. The contents of this CD and other CDs should have already been transferred to the @server zSeries or S/390 system.
S/390 systems	For instruction on transferring the contents of CDs to the @server zSeries or S/390 system, refer to "Transferring installation files to the @server zSeries or S/390" on page 34.

4. Issue one of the following commands as `root`, depending on the hardware platform:

Hardware platform	Command
Intel based systems	*mount_point*`/setup_linux` or *mount_point*`/setup_linux -console`

Hardware platform	Command
@server iSeries systems	*mount_point*/setup_ppclinux or *mount_point*/setup_ppclinux -console
@server pSeries systems	*mount_point*/setup_ppclinux or *mount_point*/setup_ppclinux -console
@server zSeries systems	./setup_zlinux or ./setup_zlinux -console
S/390 systems	

where *mount_point* is the CD-ROM mount point. For example, /mnt/cdrom0. Using the -console parameter starts a text-based installation wizard. 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 installation wizard differ.
In this section, instructions for selecting options and continuing are provided only for the GUI-based installation wizard. To select options and continue when using the text-based installation wizard, follow the prompts provided by the text-based installation wizard.

Do not switch directories to the CD-ROM mount point. This will prevent you from switching the CDs in the CD-ROM drive when prompted to do so by the installation wizard.

5. Select the language and click **OK**.

Important: The language selected here become 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.

6. On the Welcome panel, click **Next**.
7. 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 click **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 click **Next**. Declining the terms of the License agreement exits the install program.
8. If you accept the terms of the license agreement, the install type panel displays. Select **Custom Installation**. Click **Next** to continue.
9. Select the components you want to install on the node. Click **Next** to continue.

   Descriptions of each component are provided at the beginning of this chapter.
10. 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, clicking **Next** to move to the next panel.

Descriptions of the values required to complete the installation wizard are provided in Chapter 7, "Quick reference to IDs required during installation," on page 37.

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

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

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

12. Insert the CDs as prompted, and enter the location of the 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.

    Notes:

    a. Do not specify locations of the CD or CD image as UNC paths (For example, \\system1\destination). You may use mapped drive letters.

    b. The WebSphere Application Server CD must be available in the local CD-ROM drive or as an image on the local hard drive. Specifying a network location for the WebSphere Application Server CD will cause the installation to fail.

13. The installation of the selected components is complete when the summary panel displays. Click **Next** to continue.

14. The Installation Complete panel displays. From the Installation Complete panel, you can access more information about WebSphere Commerce or exit the installation wizard by clicking **Finish**.

15. Reenable any virus checking software that was disabled before starting the installation wizard.

The next step

After completing a custom installation, do the following:

1. If you have not yet done so, review the README file and install any additional fixes mentioned in the README file. For more information about the read me file, refer to "Reviewing the README file" on page 14.
2. Verify your installation by following the instructions in Chapter 10, "Verifying your installation," on page 57.

Chapter 10. Verifying your installation

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:

- "DB2 Universal Database installation log."
- "WebSphere Application Server installation log" on page 58
- "WebSphere Commerce installation log" on page 58

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

DB2 Universal Database installation log

This log contains messages generated during the installation of DB2 Universal Database. The default location for this log file is *WC_installdir*/logs/db2setup.log

DB2 Universal Database installed successfully if all of the components listed near the end of the log file have a status of Success. As an example, here is the end section of the log file from a successful DB2 Universal Database installation:

```
.
.
.
Installing DB2 file sets:.......Success
Registering DB2 licenses:.......Success
Setting default global profile registry variables:.......Success
Creating the DB2 Administration Server:.......Success
The Fast Connection Manager (FCM) base port was not specified for the instance "db2inst1".
Default parameters will be used.

Initializing instance list:.......Success
Customizing DB2 instance configuration:.......Success
Command to be run:
"/opt/IBM/db2/V8.1/instance/db2icrt -a server -s ese -u db2fwc1 -p db2c_db2inst1 db2inst1".
The instance "db2inst1" has been created successfully.

The value "SVCENAME=db2c_db2inst1" was set in the DBM CFG file for the "db2inst1" instance.

The value "DB2AUTOSTART=YES" was set in the Profile Registry for the "db2inst1" instance.

Creating DB2 instances:.......Success
Registering DB2 licenses:.......Success
Configuring the DB2 Administration Server:.......Success
Updating global profile registry:.......Success

DB2 Setup log file finished at: date time
```

The content of your log file may be different.

If the log file 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 log

The WebSphere Application Server installation log file the following file:

WAS_installdir/logs/log.txt

Default values for *WAS_installdir* are listed in "Path variables" on page v.

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

```
INSTFIN: The WebSphere 5.0 install is complete.
```

WebSphere Commerce installation log

This log contains messages generated by the WebSphere Commerce installation wizard. The default location for this log file is:

WC_installdir/logs/install_*timestamp*.log

Default values for *WC_installdir* are listed in "Path variables" on page v.

The next step

Continue your installation and configuration of WebSphere Commerce by creating a WebSphere Commerce instance and a WebSphere Commerce Payments instance. For instructions on creating instances, follow the instructions in Part 4, "Creating a WebSphere Commerce and a WebSphere Commerce Payments instance," on page 59.

Part 4. 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 WebSphere Commerce Payments instance. These instances can be created through the Configuration Manager.

This section contains the following chapters:

- Chapter 11, "Before you create or modify an instance with Configuration Manager," on page 61
- Chapter 12, "Creating a WebSphere Commerce instance," on page 65
- Chapter 13, "Creating a WebSphere Commerce Payments instance," on page 67

Chapter 11. 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 14.
2. Ensure that you meet the prerequisites for starting Configuration Manager. The prerequisites are listed in "Configuration Manager prerequisites."
3. Start the Configuration Manager by following the instructions in "Starting the Configuration Manager."

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 "Locales used by WebSphere Commerce" on page 8.

__ 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.

__ You are using the Korn shell.

__ The database server is running.

__ Ensure that the DB2 Fenced user group is assigned to the DB2 user ID.

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" on page v.

      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.
3. Start the client by doing one the following:
   - To run the WebSphere Commerce Configuration Manager on the local machine, do the following:
     a. Open another terminal window.
     b. As the non-root user ID created before installing WebSphere Commerce, issue the following commands:
        ```
        export DISPLAY=host_name:0.0
        cd WC_installdir/bin
        ./config_client.sh [-port cm_port]
        ```

        where the variables are defined as follows:

        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:

```
export DISPLAY=host_name:0.0
cd WC_installdir/bin
```

d. Do one of the following, depending on how the Configuration Client was installed on the remote system:
   - If the remote system has both a Configuration Manager server and a client, issue the following command:

     ```
     ./config_client.sh -hostname cm_hostname [-port cm_port]
     ```

   - If the Configuration Client was installed on the remote system using the custom installation option of the WebSphere Commerce installation wizard, issue the following command:

     ```
     ./configClient.sh -hostname cm_hostname [-port cm_port]
     ```

   where the variables are defined as follows:

   hostname
   The fully qualified host name of the machine from which you want to access the Configuration Manager.

   cm_hostname
   The fully qualified host name of the Configuration Manager server machine.

   cm_port
   The port specified when starting the Configuration Manager server.

   The `-port` parameter is optional. If you do not specify the `-port` parameter, the Configuration Manager client attempts to connect to the Configuration Manager server using port 1099.

   Default values for *WC_installdir* are listed in "Path variables" on page v.

   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.
e. 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

After completing the steps in this section, continue with the following sections:

- Chapter 12, "Creating a WebSphere Commerce instance," on page 65.
- Chapter 13, "Creating a WebSphere Commerce Payments instance," on page 67.

Chapter 12. 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 107.

Creating a new WebSphere Commerce instance

To create a new WebSphere Commerce instance, do the following:

1. Start the WebSphere Commerce Configuration Manager. For details, refer to "Starting the Configuration Manager" on page 61.
2. Under **WebSphere Commerce**, expand your *hostname*.
3. Expand **Commerce**.
4. Right-click on **Instance List**.
5. From the resulting pop-up menu, select **Create Instance**. The Instance Creation wizard starts.
6. 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.

7. 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. 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 box appears containing a summary. Click **OK** to close the dialog box.
9. Other dialog boxes may display containing additional instructions, ensure that you review the contents of the dialog boxes before dismissing them.
10. Exit Configuration Manager by clicking on **Console** and **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" on page v 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 the following log files:

- auction.log
- createdb.log
- createdb.db2.log
- createdb.production.log
- createsp.log
- createsp.err.log
- EnterpriseApp.log
- GenPluginCfg.log
- populatedb.err.log
- populatedb.log
- populatedb2.err.log
- populatedb2.log
- populatedbnl.err.log
- populatedbnl.log
- reorgdb2.log
- reorgdb2.err.log
- trace.txt
- sec_check.log
- WASConfig.log
- WASConfig.err.log

The files are located in the following directory:
WC_installdir/instances/*instance_name*/logs

where default values for *WC_installdir* are listed in "Path variables" on page v and *instance_name* is the name of WebSphere Commerce instance.

The database population part of instance creation is successful if the following logs are empty:

- createsp.err.log
- populatedb.err.log
- populatedb2.err.log
- populatedbnl.err.log
- reorgdb2.err.log
- WASConfig.err.log

Also, review the contents of the following logs to confirm they do not contain any errors:

- createdb.log
- createsp.log
- createdb.db2.log

The next step

After you have configured your WebSphere Commerce instance, you should continue by creating a WebSphere Commerce Payments instance. Instructions for creating a WebSphere Commerce Payments are provided in Chapter 13, "Creating a WebSphere Commerce Payments instance," on page 67.

Chapter 13. 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 107.

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 sample store, refer to *WebSphere Commerce Store Development Guide*.

Note: You should only change WebSphere Commerce Payments ports through the WebSphere Commerce Configuration Manager, as stated in Chapter 11, "Before you create or modify an instance with Configuration Manager," on page 61 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

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 61.

   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. Expand **WebSphere Commerce**.
3. Expand your host name.
4. Expand **Payments**.
5. Right-click on **Instance List**.
6. From the resulting pop-up menu, select **Create Payments Instance**. The Payments Instance Creation wizard starts.
7. 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.

Each WebSphere Commerce Payments instance must have a unique instance name and database name.

Important: 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 you created the WebSphere Commerce instance and it was the

value entered in the **Site Admin ID** field of the WebSphere Commerce instance creation wizard.

8. 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.
9. 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.

10. 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.
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" on page v 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 the following log files:

- createdb.log
- createdb.err.log

The files are located in the following directory:

WC_installdir/instances/*instance_name*/logs

where default values for *WC_installdir* are listed in "Path variables" on page v and *instance_name* is the name of WebSphere Commerce Payments instance.

Check the createdb.err.log file for any errors.

Also, review the contents of the createdb.log log file to confirm that it does not contain any errors.

The next step

After you have configured your WebSphere Commerce Payments instance, you can continue by following the instructions in Part 5, "Last steps," on page 71.

If you are using a remote Web server, you must follow the instructions in Chapter 14, “Mandatory post-instance creation tasks,” on page 73.

Part 5. Last steps

This section outlines the mandatory tasks you must perform after creating a WebSphere Commerce and WebSphere Commerce Payments instance. This section also provides information about additional recommended tasks to perform.

Chapter 14. Mandatory post-instance creation tasks

Depending on your WebSphere Commerce topography, perform the tasks in one of the following sections after creating WebSphere Commerce and WebSphere Commerce Payments instances:

- "Local Web server post-instance creation tasks"
- "Remote Web server post-instance creation tasks"

Local Web server post-instance creation tasks

If the Web server is installed on the same node as WebSphere Commerce and WebSphere Commerce Payments you must stop and restart the Web server after creating WebSphere Commerce and WebSphere Commerce Payments instances.

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. 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 119.
2. 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 119.
3. If it does not exist, create a directory on the Web server node that matches the *WAS_installdir* directory on the WebSphere Commerce node.
4. Copy the following directories from the WebSphere Commerce node to the Web server node:

   WAS_installdir/installedApps/*cell_name*/WC_*instance_name*.ear
   WC_installdir/web/doc/*locale*

   where the variables are defined as follows:

   WAS_installdir
   Default values for this variables are listed in "Path variables" on page v

   WC_installdir
   Default values for this variables are listed in "Path variables" on page v

   cell_name
   This is the short host name of the machine on which WebSphere Commerce and WebSphere Commerce Payments are installed.

   Commerce_instance_name
   This is the name of the WebSphere Commerce instance.

   locale This is locale code for the National Language of the files contained in the directory. For example, Japanese files will be contained in the ja_JP directory.

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

It is recommended that you 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.

5. For IBM HTTP Server users, ensure that the following lines are uncommented in the `httpd.conf` file:

   ```
   AddModule mod_ibm_ssl.c
   Listen 80
   ```

6. 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 `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.

7. Stop and restart the Web server.

Chapter 15. Recommended post-instance creation tasks

After completing any mandatory post-instance creation tasks, you can continue your installation and configuration of WebSphere Commerce by performing the following tasks:

Review the security of the WebSphere Commerce installation
Security is a crucial component of a production WebSphere Commerce site. Refer to the *WebSphere Commerce Security Guide* for instructions on enabling Secure Sockets Layer (SSL), WebSphere Application Server security, configuring single sign-on and other security options for your installation. This book is available from the WebSphere Commerce technical library. Refer to "WebSphere Commerce technical library" on page 161 for more information.

Publish a WebSphere Commerce sample store
WebSphere Commerce provides a number of samples stores demonstrating various functions in WebSphere Commerce. A WebSphere Commerce sample store can be used to familiarize yourself with WebSphere Commerce and as a base for a developing a customized store.

For information on publishing a WebSphere Commerce sample store, refer to the "Publishing a store archive" topic in the WebSphere Commerce online help.

For information on developing a store in WebSphere Commerce, refer to the *WebSphere Commerce Store Development Guide*. This book is available from the WebSphere Commerce technical library. Refer to "WebSphere Commerce technical library" on page 161 for more information.

Note: In IBM WebSphere Commerce Version 5.5, publishing some the sample stores is done through the WebSphere Commerce Administration Console.

Install additional software provided with WebSphere Commerce
WebSphere Commerce provides a number of additional software packages that enhance WebSphere Commerce and provide additional function. 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 161 for more information.

Perform advanced configuration tasks
Advanced configurations for WebSphere Commerce include federation, clustering, and multiple instances. Advanced configuration are covered in Part 6, "Advanced configuration options," on page 77.

Part 6. Advanced configuration options

This section contains instructions for the following optional, advanced configurations for WebSphere Commerce:

- Chapter 16, "Creating multiple WebSphere Commerce and WebSphere Commerce Payments instances," on page 79
- Chapter 17, "Federating WebSphere Commerce and WebSphere Commerce Payments," on page 85
- Chapter 18, "Clustering WebSphere Commerce," on page 93

Chapter 16. 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*.

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 Chapter 18, "Clustering WebSphere Commerce," on page 93.

While it is possible to create multiple instance 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 exists 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:

	Original instance	**New instance**
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*

		Original instance	New instance
	WebSphere Commerce database name	*WC_db1*	*WC_db2*
DB2 Universal Database for OS/390 and z/OS user ID	Database - Database user ID	*DB2_S/390_z/OS_user1*	*DB2_S/390_z/OS_user2*
	WebSphere Commerce Payments database name	*Payments_db1*	*Payments_db2*

These variables represent the parameter values for your first and second instance 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

On each node where you want to create multiple instances of WebSphere Commerce or WebSphere Commerce Payments using virtual host names, 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'
```

- For each additional WebSphere Commerce instance and its associated WebSphere Commerce Payments instance on a system, increase the system's memory by 512MB.
- For each additional WebSphere Commerce instance and its associated WebSphere Commerce Payments instance on a system, increase the system's paging space by 1GB per processor.
- If you are using DB2 Universal Database for OS/390 and z/OS as the WebSphere Commerce, you must have a separate database user ID on the S/390 or @serverzSeries machine for each instance.

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 Chapter 12, "Creating a WebSphere Commerce instance," on page 65. 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*
Database - Database name	*WC_db1*	*WC_db2*
DB2 Universal Database for OS/390 and z/OS user ID — Database - Database user ID	*DB2_S/390_z/OS_user1*	*DB2_S/390_z/OS_user2*
Web server - hostname	*host1.domain*	*host2.domain*
Web server - Primary Document Root (IBM HTTP Server)	*HTTP_installdir*/htdocs1	*HTTP_installdir*/htdocs2
WebSphere Commerce Payments - hostname	*host1.domain*	*host2.domain*

Default values for *WC_installdir* and *IBM HTTP Server* are listed in "Path variables" on page v.

Ensure that you verify the instance creation by following the instructions in "Verifying the instance creation" on page 65.

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.

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 Chapter 13, "Creating a WebSphere Commerce Payments instance," on page 67. 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*
Database - Database name	*Payments_db1*	*Payments_db2*
DB2 Universal Database for OS/390 and z/OS user ID — Database - Database user ID	*DB2_S/390_z/OS_user1*	*DB2_S/390_z/OS_user2*
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 68.

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 107.

2. Start all WebSphere Commerce Payments instances. For instructions, refer to "Starting or stopping a WebSphere Commerce Payments instance" on page 107.
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

Chapter 17. Federating WebSphere Commerce and WebSphere Commerce Payments

WebSphere Commerce and WebSphere Commerce Payments are installed with 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

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 InfoCenter available through the following URL:

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

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.

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 14.

Failure to apply these fixes will result in WebSphere Commerce functioning incorrectly after federation.

2. Ensure that you are logged into the WebSphere Commerce node and WebSphere Application Server Network Deployment node as `root`.
3. 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 114 for instructions.
4. 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:

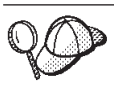
   WAS_installdir
   Default values for *WAS_installdir* are listed in "Path variables" on page v.

   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 154 for information on correcting the problem.

5. 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" on page v.

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.

6. Correct the permissions of important WebSphere Commerce files, by issuing the following command on the WebSphere Commerce machine as `root`:

   ```
   WC_installdir/bin/wc55nonroot.sh
   ```

   Default values for *WC_installdir* are listed in "Path variables" on page v.

   Important: Ensure that no application servers are running before issuing this command. The node agent may be left running.

7. 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 89.

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 115

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 14.

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 114 for instructions.
4. 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" on page v.

   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 154 for information on correcting the problem.

5. 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" on page v.

This step is not required if you have not created a WebSphere Commerce Payments instance on the node.

6. Correct the permissions of important WebSphere Commerce Payments files, by issuing the following command on the WebSphere Commerce machine:
   WC_installdir`/bin/wc55nonroot.sh`

   Default values for *WC_installdir* are listed in "Path variables" on page v.

   Ensure that no application servers, other than the node agent, are running before issuing this command.
7. 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 115

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. Refer to "Starting and stopping the WebSphere Application Server node agent" on page 114 for instructions.
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 114 for instructions.
4. Open the WebSphere Application Server Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 114.
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 114 for instructions.
    b. Correct the permissions of important files, by issuing the following command on the WebSphere Commerce machine:

       ```
       WC_installdir/bin/wc55nonroot.sh
       ```

       Default values for *WC_installdir* are listed in "Path variables" on page v.

       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 114 for instructions.

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 114 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 114 for instructions.
3. 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” on page v.

If you receive an out of memory error, refer to “removeNode.sh command returns out of memory error” on page 155 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.

Chapter 18. 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 95
- "Clustering with vertical cluster members" on page 95

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 87.

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 InfoCenter:

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

The diagram on the following page shows clustering in a custom 5–node installation of WebSphere Commerce:

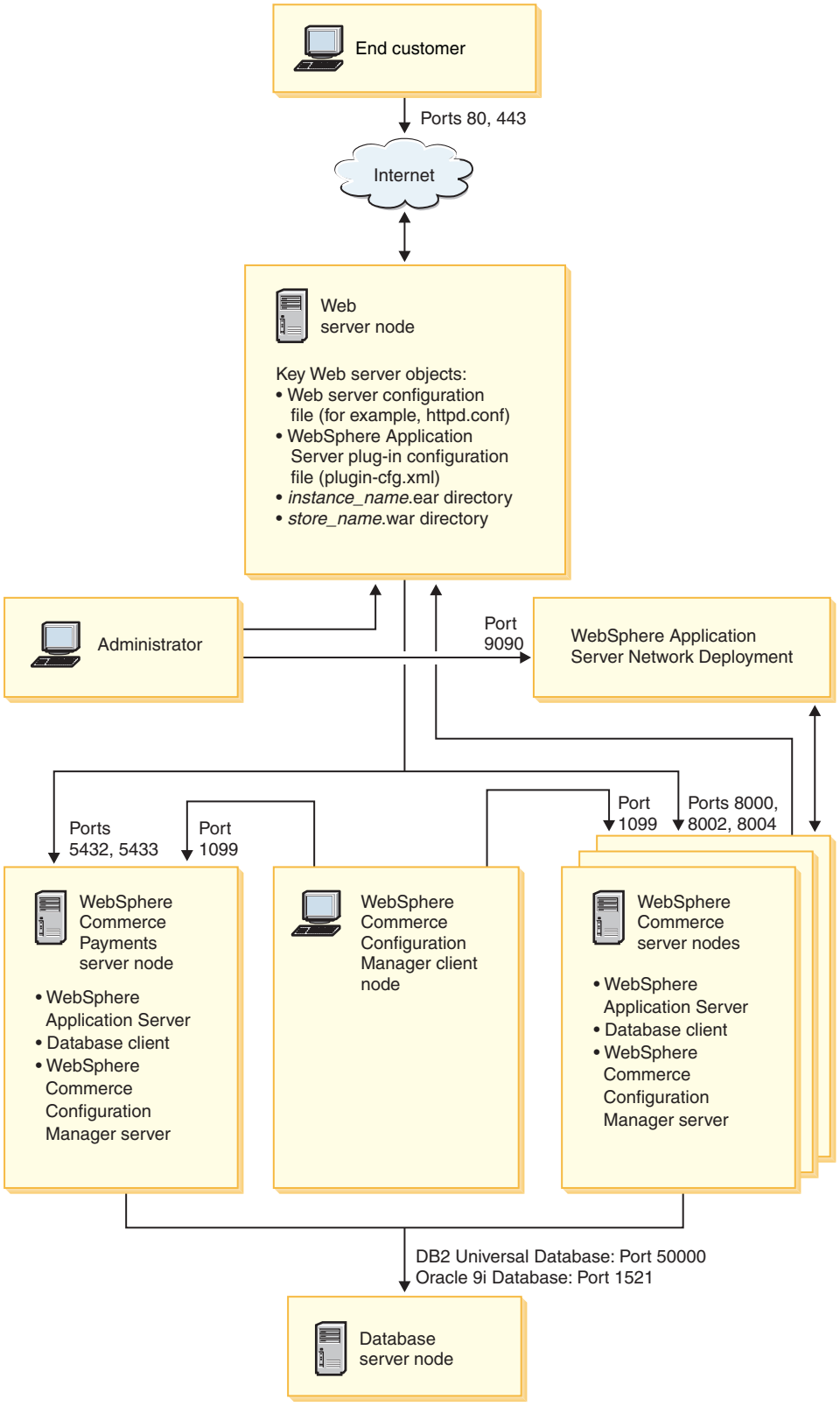


Figure 3. Custom 5–node installation with clustering

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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. For instructions, refer to Part 3, "Installing WebSphere Commerce," on page 25.
2. Create a WebSphere Commerce instance. For instructions, refer to Part 4, "Creating a WebSphere Commerce and a WebSphere Commerce Payments instance," on page 59.
3. Federate the WebSphere Commerce node into a deployment manager cell. For instructions refer to "Federating WebSphere Commerce" on page 85.
4. Prepare additional nodes for each node you want to add to the cluster. For instructions, refer to "Preparing additional nodes" on page 96.
5. Create the WebSphere Commerce cluster. For instructions, refer to "Creating the WebSphere Commerce cluster" on page 96.
6. Verify the JDBC provider path for each cluster member. For instructions, refer to "Verifying the JDBC provider path" on page 98.
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 98.
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 100.
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 100.

Important

Before publishing a store in a cluster with horizontal cluster members, review "Publishing a store in a WebSphere Commerce cluster" on page 103.

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. For instructions, refer to Part 3, "Installing WebSphere Commerce," on page 25.
2. Create a WebSphere Commerce instance. For instructions, refer to Part 4, "Creating a WebSphere Commerce and a WebSphere Commerce Payments instance," on page 59.
3. Federate the WebSphere Commerce node into a deployment manager cell. For instructions refer to "Federating WebSphere Commerce" on page 85.
4. Create the WebSphere Commerce cluster. For instructions, refer to "Creating the WebSphere Commerce cluster."
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 98.

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 Chapter 9, "Completing a custom installation," on page 51.

   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.
2. Ensure that you can access the WebSphere Commerce database from the new WebSphere Commerce node.

   You may need to catalog the remote WebSphere Commerce database node and the remote WebSphere Commerce database. For instructions, refer to "Cataloging a Remote DB2 Database" on page 127.
3. Federate the WebSphere Commerce node into a deployment manager cell. For instructions refer to "Federating WebSphere Commerce" on page 85.

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 114 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 114.

   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 114.
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 through 12 for each cluster member you want to add.
14. When you have finished adding cluster members, click **Next**.
15. Click **Finish**.
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 114.
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 114 for instructions.
3. Open the WebSphere Application Server Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 114.
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 114 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 114.
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 Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 114.
     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 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 119.
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 119.

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 102.
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" on page v.
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 102.

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 102.
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/*cell_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" on page v.

   cell_name
   This is the 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 102.

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 96.

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 114.

   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 96.
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 114 for instructions.
4. Open the WebSphere Application Server Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 114.
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 98.
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 119.
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 100.
    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 100.

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 114.
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 114 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 114.
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 114.

   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 114 for instructions.
3. Open the WebSphere Application Server Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 114.
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 98.

Publishing a store in a WebSphere Commerce cluster

Publishing a store in a cluster with horizontal cluster members

To publish a store in a cluster with horizontal cluster members, do the following: In these steps *original WebSphere Commerce node* refers to the node containing all the information for the store you want to publish, including SAR files.

1. 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 100.

2. 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 100.
3. Publish your store.

   For information on publishing a WebSphere Commerce sample store, refer to the ″Publishing a store archive″ topic in the WebSphere Commerce online help.

   For information on developing a store in WebSphere Commerce, refer to *WebSphere Commerce Store Development Guide*. This book is available from the WebSphere Commerce technical library. Refer to “WebSphere Commerce technical library” on page 161 for more information.

Publishing a store in a cluster with vertical cluster members

When publishing a store in a cluster with vertical cluster members, no additional steps are required.

For information on publishing a WebSphere Commerce sample store, refer to the ″Publishing a store archive″ topic in the WebSphere Commerce online help.

For information on developing a store in WebSphere Commerce, refer to *WebSphere Commerce Store Development Guide*. This book is available from the WebSphere Commerce technical library. Refer to “WebSphere Commerce technical library” on page 161 for more information.

Part 7. Installation and administration tasks

This sections contains instructions for various tasks you must perform during the installation and administration of WebSphere Commerce.

Chapter 19. 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. Start, stop, or restart the application server for the WebSphere Commerce instance you want to start. Instructions for starting and stopping an application server are provided in "Starting or stopping an application server" on page 113.

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 61.
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.

Modifying a WebSphere Commerce or WebSphere Commerce Payments instance

If you want to change any of the configuration settings for your WebSphere Commerce instance, you can do so from the Configuration Manager.

To update a WebSphere Commerce instance using the Configuration Manager, do the following:

1. Ensure the database management system is started.
2. Start Configuration Manager. For instructions on starting Configuration Manager, refer to "Starting the Configuration Manager" on page 61.
3. From the list of instances, select the instance you want to configure and select the node for which you want to alter the settings. Refer to the online help for the Configuration Manager for information about the various fields and panels of Configuration Manager.
4. After you update your instance, click **Apply** to apply your changes.
5. When the changes have been successfully applied, exit the Configuration Manager client. This also terminates the Configuration Manager server.
6. 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 107.
2. 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 90.
3. 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.
4. Delete the WebSphere Commerce 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 61.
   b. In Configuration Manager, under **WebSphere Commerce**, expand *hostname* → **Commerce** → **Instance List**.
   c. Right-click the instance you want to delete and select **Delete instance**.
   d. Exit Configuration Manager when the process completes.
5. Do one of the following:

   If WebSphere Commerce is running in a standalone (non-federated) environment:
   Delete the WebSphere Commerce application server by issuing the following command from a command prompt:

   WC_installdir/bin/rmCommerceServer.sh *instance_name*

   where *instance_name* is the name of the WebSphere Commerce instance you want to delete.

   Default values for *WC_installdir* are listed in "Path variables" on page v.

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.

If WebSphere Commerce is running in a federated environment:

Delete the WebSphere Commerce application server using the WebSphere Application Server Network Deployment Administration Console.

For instructions on starting the WebSphere Application Server Network Deployment Administration Console, refer to "Starting the WebSphere Application Server Administrative Console" on page 114.

For instructions on deleting an application server in the WebSphere Application Server Network Deployment Administration Console, refer to the WebSphere Application Server Network Deployment documentation.

6. Drop the WebSphere Commerce database associated with the WebSphere Commerce instance you want to delete.

   If the WebSphere Commerce database associated with the WebSphere Commerce instance you want to delete is a remote database, issue the following command from a DB2 command session:

   ```
   db2 attach to remote_db_node_name
   ```

   To drop the WebSphere Commerce database, issue the following command 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 database.

7. If any of the following directories exist, delete them:

   ```
   WC_installdir/instances/instance_name
   WAS_installdir/logs/WC_instance_name
   ```

   where *instance_name* is the name of the WebSphere Commerce instance you deleted.

8. (Optional) If you plan to later create a new WebSphere Commerce with the same name as the instance you are deleting, delete the following directory if it still exists:

   ```
   WAS_installdir/installedApps/hostname/WC_instance_name.ear
   ```

9. Remove any WebSphere Commerce information from the IBM HTTP Server `httpd.conf` file by doing the following:

   a. Open `httpd.conf` in a text editor.

b. Remove all sections delimited by the following text:

```
# IBM WebSphere Commerce (Do not edit this section) #


# End of IBM WebSphere Commerce (Do not edit this section) #
```

There will be multiple sections in the file delimited by the text.

c. Save the changes and exit the text editor.

d. If the IBM HTTP Server node is remote from the WebSphere Commerce node, delete the following directory on the IBM HTTP Server node:

WAS_installdir/installedApps/*hostname*/WC_*instance_name*.ear

where *instance_name* is the name of the WebSphere Commerce instance you are deleting.

e. Restart the Web server.

10. If you plan to use other WebSphere Application Server application servers after deleting the WebSphere Commerce 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 116.

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 107.
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 61.
   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**.
   d. Exit Configuration Manager when the process completes.

   This step also deletes the WebSphere Commerce Payments application server.
3. Drop the WebSphere Commerce Payments database associated with the WebSphere Commerce Payments instance you want to delete.

   If the WebSphere Commerce Payments database associated with the WebSphere Commerce Payments instance you want to delete is a remote database, issue the following command from a DB2 command session:

   ```
   db2 attach to remote_db_node_name
   ```

   To drop the WebSphere Commerce Payments database, issue the following command 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.
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. Remove any WebSphere Commerce Payments information from the IBM HTTP Server `httpd.conf` file by doing the following:
   a. Open `httpd.conf` in a text editor.
   b. 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.
   c. Save the changes and exit the text editor.
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 116.

Chapter 20. 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 or WebSphere Application Server Network Deployment. Default values for *WAS_installdir* are listed in "Path variables" on page v.
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.

Application server name	Description
WC_*instance_name*	WebSphere Commerce application server
server1	Default WebSphere Application Server application server

where *instance_name* is the name of the WebSphere Commerce instance.

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 115.

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" on page v.
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" on page v.
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:

Federated application servers
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."

- 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 114.

A standalone (unfederated) application server
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 113.

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 102.

For information on federating the WebSphere Commerce application server and the WebSphere Commerce Payments application server into a deployment manager cell, refer to Chapter 17, "Federating WebSphere Commerce and WebSphere Commerce Payments," on page 85.

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 114 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 114.
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
WC_*commerce_instance_name*	WebSphere Commerce application server
*payments_instance_name*_Commerce_Payments_Server	WebSphere Commerce Payments application 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 98.

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 113 for instructions.
2. Open the WebSphere Application Server Administrative Console. For instructions, refer to "Starting the WebSphere Application Server Administrative Console" on page 114.
3. In the Navigation area, expand **Environment** and click **Update Web Server Plugin**.
4. Click **OK** to generate a new `plugin-cfg.xml` file.
5. Exit 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 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 119.
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 119.

3. Restart the Web server according to the documentation provided with the Web server.

Chapter 21. 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" on page v.

   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. 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 `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. 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" on page v.

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 Name="instance_name_Commerce_Payments_Server_short_host_name_Cluster">
    <Server Name="instance_name_Commerce_Payments_Server">
        <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_instance_name_Commerce_Payments_Server_short_host_name_Cluster_URIs">
    <Uri AffinityCookie="JSESSIONID" Name="/webapp/SampleCheckout/*">
    <Uri AffinityCookie="JSESSIONID" Name="/webapp/PaymentManager/*">
</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.

   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" on page v.

   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.

Chapter 22. 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 you 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 your 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, to change the Configuration Manager user ID or password issue the following commands in a command window:

```
WC_installdir/bin/config_env.sh
java com.ibm.commerce.config.server.PasswordChecker -action action type
    -pwfile password_file -userid user_ID
    -password password [-newpassword new_password]
```

where the parameters are as follows:

action type
: Valid actions types are `Add`, `Check`, `Delete` or `Modify`

password_file
: The path to the file where the file will be stored. The default path is *WC_installdir*/bin.

user_ID
: This is this user ID for which you want to add, create, delete, or modify the password.

password
: This is password that you want to add, create, delete, or modify.

new_password
: This parameter is only require if you specify `Modify` as the action type.

  This is the new password to assign to the user ID.

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 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
```

   Record the ASCII 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 connect to *db_name* user *user_name* using *password*

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.

4. Update the SALT and LOGONPASSWORD columns in the USERREG table for the Site Administrator ID by issuing the following commands:

```
db2 "update USERREG set LOGONPASSWORD='ASCII_encrypted_string'
 where LOGONID='site_admin_id'"
db2 "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.

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.

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 commands below:

```
db2 connect to db_name user user_name using password
db2 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.

These commands should return the Site Administrator ID.

Chapter 23. General administrative tasks

This chapter describes some of the general administrative tasks you may need to perform as you use WebSphere Commerce.

Command line configuration tasks

Through the command line you can:

- Update an instance:

  ```
  WC_installdir/bin/config_client.sh -startCmdLineConfig
    updateInstance xml_file
  ```

- Delete an instance:

  ```
  WC_installdir/bin/config_client.sh -startCmdLineConfig
    deleteInstance instance_name
  ```

- List existing instances:

  ```
  WC_installdir/bin/config_client.sh -startCmdLineConfig
   getInstances
  ```

- Find information about an instance:

  ```
  WC_installdir/bin/config_client.sh -startCmdLineConfig
    getInstanceInfo instance_name
  ```

- Print configuration information for an instance to a file:

  ```
  WC_installdir/bin/config_client.sh -startCmdLineConfig
    getInstanceConfig instance_name print_to_file_name
  ```

Default values for *WC_installdir* are listed in "Path variables" on page v.

Note: The commands in this sections appear on multiple lines for display purposes only. Enter these commands on one line.

Cataloging a Remote DB2 Database

Enable the database client/server connection, and catalog the node and the database on the client by entering the following commands on a DB2 command window from the database client machine:

```
db2 catalog tcpip node node_name remote host_name server port_num
db2 catalog db db_name at node node_name
```

The variable information in the commands is defined as follows:

node_name
: A unique name of your choice that DB2 will use to identify the TCP/IP node. To ensure that your name is unique, you can enter the following command in a DB2 command window:

  ```
  db2 list node directory
  ```

  and look for the name in the response. If the name is *not* listed, you can use it as your node name.

host_name
: The fully qualified host name of the machine on which the WebSphere Commerce database resides.

port_num

The port number that identifies the TCP/IP connection. To determine the port number, do the following from the database server machine:

1. In a DB2 command session on the database node, issue the following command:

   ```
   db2 get dbm cfg
   ```

   and note the value of `SVCENAME` (which is also identified by the text `TCP/IP Service Name`).
2. On the machine running your database, open the Services file `\etc\services` and look for the line that begins with the name you noted in the previous step. The port number appears in the second column of the same line (with the string `/tcp` appended to it). The default port number for DB2 Universal Database is 50000.

db_name

The name of the remote database.

The name of the default WebSphere Commerce database is `Mall`.

The name of the default WebSphere Commerce Payments database is `wpm`.

Chapter 24. User IDs required when administering WebSphere Commerce

Administration in the WebSphere Commerce environment requires a variety of user IDs. These user IDs along with their requisite authorities are described in the list below. For the WebSphere Commerce user IDs, the default passwords are identified.

Configuration Manager user ID

The Configuration Manager tool's graphical interface allows you to modify the way WebSphere Commerce is configured. The default Configuration Manager user ID and password are `webadmin` and `webibm`.

You can access Configuration Manager from your WebSphere Commerce machine, or any machine on the same network as WebSphere Commerce which supports a graphical user interface, and has the Configuration Manager client installed.

If you apply any WebSphere Commerce fix packs in the future, ensure that both the WebSphere Commerce Configuration Manager server and client machines are at the same fix pack level.

Important: Both the Configuration Manager server and the Configuration Manager client must be started under the WebSphere Commerce non-root user ID. Also, the Configuration Manager server or client cannot be started in the Bourne-shell.

WebSphere Commerce Site Administrator

The Site Administrator user ID and password apply to the following WebSphere Commerce tools:

WebSphere Commerce Accelerator

To access the WebSphere Commerce Accelerator from a machine running a Windows operating system, open your Internet Explorer Web browser, and type the following URL:

`https://`*`host_name`*`:8000/accelerator`

WebSphere Commerce Administration Console

To access the WebSphere Commerce Administration Console from a machine running a Windows operating system, open your Internet Explorer Web browser, and type the following URL:

`https://`*`host_name`*`:8002/adminconsole`

WebSphere Commerce Organization Administration Console

To access the WebSphere Commerce Organization Administration Console from a machine running a Windows operating system, open your Internet Explorer Web browser, and type the following URL:

`https://`*`host_name`*`:8004/orgadminconsole`

The initial Site Administrator user ID and password are specified during the creation of a WebSphere Commerce instance. WebSphere Commerce requires that the Site Administrator password adhere to the following rules:

- The password must be at least 8 characters in length.

- The password must include at least 1 numeric digit.
- The password does not contain more than 4 occurrences of the same character.
- The password does not repeat the same character more than 3 times.

Part 8. Appendixes

Appendix A. Using DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce and WebSphere Commerce Payments

You can use DB2 Universal Database for OS/390 and z/OS Version 7 with WebSphere Commerce and WebSphere Commerce Payments running on the following platforms:

- Linux on Intel processor based systems
- Linux on @server zSeries and S/390 systems

This function requires WebSphere Commerce Fix Pack V5.5.0.3 or higher.

Required additional software

To use DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce and WebSphere Commerce Payments, you must have the following additional software, beyond what is included with WebSphere Commerce:

- DB2 Universal Database for OS/390 and z/OS, Version 7. (Maintenance level PUT 0312)

  This software is not provided with WebSphere Commerce and must be purchased separately.

  Ensure that you are at the required maintenance level for DB2 Universal Database for OS/390 and z/OS before installing and configuring WebSphere Commerce.
- Fix pack 3 for DB2 Universal Database for Linux Version 8

  WebSphere Commerce provides IBM DB2 Universal Database Version 8.1.2 (DB2 Universal Database Version 8 with Fix pack 2), however to use DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce and WebSphere Commerce Payments, you must obtain fix pack 3.

  You can obtain fix pack 3 at the following URL:

  `http://www-3.ibm.com/cgi-bin/db2www/data/db2/udb/winos2unix/support/v8fphist.d2w/report`

  This URL is formatted for this book. Ensure that you enter the URL as a single line.

Installation and configuration procedure

To use DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce and WebSphere Commerce Payments, do the following:

Step 1. Install DB2 Universal Database for OS/390 and z/OS, Version 7 on the S/390 or @server zSeries machine.

Install and configure DB2 Universal Database for OS/390 and z/OS according to the installation documentation provided with DB2 Universal Database for OS/390 and z/OS.

You can also obtain DB2 Universal Database for OS/390 and z/OS, Version 7 documentation at the following URL:

`http://www.ibm.com/software/data/db2/os390/v7books.html`

Step 2. Install WebSphere Commerce and its software stack on one of the following platforms:
- Linux on Intel processor based systems
- Linux on @server zSeries and S/390 systems

Follow the instructions in "Installing WebSphere Commerce and its software stack."

Step 3. Obtain and install fix pack 3 for DB2 Universal Database Version 8 for Linux.

Install the fix pack on the Linux machine.

Step 4. Obtain and install WebSphere Commerce Fix Pack V5.5.0.3 or higher on the WebSphere Commerce machine.

You can obtain WebSphere Commerce Fix Pack V5.5.0.3 or higher from one of the following URLs, depending on the edition of WebSphere Commerce you are using:

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

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

To install the fix pack, refer to the documentation provided with the fix pack.

Step 5. Prepare the OS/390 or z/OS system for instance creation. For instructions, refer to "Preparing the OS/390 or z/OS system for instance creation" on page 135.

Step 6. Create a WebSphere Commerce instance.

The steps for creating a WebSphere Commerce instance when using a Commerce database on OS/390 or z/OS are different than when the database is on other platforms. Refer to "Creating a WebSphere Commerce instance when using a Commerce database on OS/390 or z/OS" on page 136 for instructions.

Step 7. (Optional) Create a WebSphere Commerce Payments instance.

The steps for creating a WebSphere Commerce Payments instance when using a Commerce database on OS/390 or z/OS are different than when the database is on other platforms. Refer to "Creating a WebSphere Commerce Payments instance when using a Commerce database on OS/390 or z/OS" on page 139 for instructions.

Step 8. Prepare the S/390 or @server zSeries machine to create the stored procedures. Refer to "Preparing the S/390 or @server zSeries machine to create the stored procedures" on page 141 for instructions.

Step 9. Create the stored procedures on the S/390 or @server zSeries machine. Refer to "Creating the stored procedures on the S/390 or @server zSeries machine" on page 143 for instructions.

Installing WebSphere Commerce and its software stack

To install WebSphere Commerce and its software stack, do the following:

1. Choose a topology for the Linux machines:
   - WebSphere Commerce and its software stack on one machine.
   - Web server on one machine and WebSphere Commerce, DB2 Universal Database for Linux and the remaining software stack on another machine.

   Both nodes must be running the same operating system

- Web server, DB2 Universal Database for Linux, and WebSphere Commerce and the remaining software stack on another machine.

  All three nodes must be running the same operating system

2. Ensure that the Linux systems in your configuration meets the preinstallation requirements listed in Chapter 2, "Preinstallation requirements," on page 9.
3. On the Linux machines, create the required users and groups by following the instructions in "Creating required WebSphere Application Server users and groups" on page 27.
4. Gather the information required to complete the installation wizard according to the information in Chapter 7, "Quick reference to IDs required during installation," on page 37.
5. Complete the preinstallation checklist in "Preinstallation checklist" on page 28.
6. If you are installing WebSphere Commerce and its software stack on Linux running on @server zSeries or S/390 system, transfer the installation files to the @server zSeries or S/390 system by following the instruction in "Transferring installation files to the @server zSeries or S/390" on page 34.
7. Use either the custom installation or typical installation options of the WebSphere Commerce to install WebSphere Commerce and its software stack by following the instructions in Chapter 8, "Completing a typical installation," on page 39 or Chapter 9, "Completing a custom installation," on page 51.

   If you use the custom installation option, ensure that the following that you install the following components:

   a. IBM HTTP Server

      This component can be installed on its own machine or the same machine as all of the other components.

   b. DB2 Universal Database

      Installing DB2 Universal Database provided with WebSphere Commerce on the same Linux machine as WebSphere Commerce provides the software to connect to DB2 Universal Database for OS/390 and z/OS.

   c. WebSphere Commerce Server

   The installation of WebSphere Commerce Payments is optional.
8. Install any fixes outlined in the WebSphere Commerce README file. Refer to "Reviewing the README file" on page 14 for more information.

Preparing the OS/390 or z/OS system for instance creation

To prepare the OS/390 or z/OS system for instance creation, do the following:

1. Ensure that the database administrator on the OS/390 or z/OS system has allocated the following:
   - Database user ID
   - Database user password
   - Schema owner group ID
   - Location
   - Catalog
   - Fully qualified server name for the OS/390 and z/OS database node
   - Database server port
   - System name
   - Database name prefix
   - Data storage group for WebSphere Commerce

- Data storage group for WebSphere Commerce Payments (optional)

  WebSphere Commerce Payments requires a different data storage group from WebSphere Commerce.
- Data storage group volume

  The database administrator may allocate multiple data storage group volumes.
- Index storage group

  This group must be different from the data storage groups.
- Index storage group volume

  The database administrator may allocate multiple index storage group volumes.
- Buffer pool for tables (4KB)
- Buffer pool for long tables (8KB)
- Buffer pool for tables with LOB field (16KB)
- PRIQTY value
- SECQTY value

2. Ensure that the database administrator has allocated a data set to store the JCL source files to the person responsible for creating the WebSphere Commerce or WebSphere Commerce Payments instance.
3. Transfer the following ASCII file from the Linux machine to the WebSphere Commerce dataset location on the OS/390 or z/OS machine using FTP:

   WC_installdir/schema/db2_390/CHECKV55

   Ensure that you transfer the file using ASCII mode.
4. Ensure that the user If a user is authorized to a higher authority to access the system resource, it may cause to damage other user's system resource. Solution: suggest user's system administrator defines a lower authority to access the system resource for each user,such as it can only access it's library for submitting checkv55 job but have no authority to alter other system or protected resource by RACF.

Creating a WebSphere Commerce instance when using a Commerce database on OS/390 or z/OS

To create a WebSphere Commerce instance when using a Commerce database on OS/390 or z/OS, do the following:

1. Obtain the following information for the WebSphere Commerce database from the database administrator for the OS/390 and z/OS machine:

Property	Value
Database user ID	
Database user password	
Schema owner group ID	
Location	
Catalog	
Fully qualified server name for the OS/390 and z/OS database node	
Database server port	
System name	

Property	Value
Database name prefix	
Data storage group for WebSphere Commerce	
Data storage group volumes	
Index storage group	
Index storage group volumes	
Buffer pool for tables (4KB)	
Buffer pool for long tables (8KB)	
Buffer pool for tables with LOB field (16KB)	
PRIQTY value	
SECQTY value	

These resources should have been allocated by the database administrator when completing the steps in "Preparing the OS/390 or z/OS system for instance creation" on page 135.

2. Customize the WebSphere Commerce database properties for by doing the following on the Linux machine:
   a. Issue the following commands from a terminal session:

      ```
      su - WebSphere Commerce non-root user ID
      cd WC_installdir/bin
      ./schemaupdate.db2_390.sh
      ```

      where *WebSphere Commerce non-root user ID* is the non-root user ID created to start the WebSphere Commerce and WebSphere Commerce Payments application servers, and the WebSphere Commerce Configuration Manager server and client on the Linux machine. For more information, refer to "Creating required WebSphere Application Server users and groups" on page 27.

      Values for *WC_installdir* are provided in "Path variables" on page v
   b. When prompted, provide the information gathered earlier.
3. On the WebSphere Commerce machine, start the WebSphere Commerce instance creation wizard by doing the following:
   a. Start the WebSphere Commerce Configuration Manager. For instructions, refer to "Starting the Configuration Manager" on page 61.
   b. Under **WebSphere Commerce**, expand your *hostname*.
   c. Expand **Commerce**.
   d. Right-click on **Instance List**.
   e. From the resulting pop-up menu, select **Create Instance**. The Instance Creation wizard starts.

4. 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.

The database panels in the instance creation may contain fields for which no online help is provided. Complete the database panels according to the descriptions of the fields provided in the next step.

5. Complete the database panels of the instance creation wizard as follows:

Field
Description

Database Administrator Name
Enter the local database administrator ID. This is the Linux user ID defined as the DB2 Universal Database administrator on the Linux machine.

Database Administrator Password
Enter the password associated with the local database administrator ID.

Database Administrator Home directory
Enter the local database instance home directory. This is the database instance home directory on the Linux machine. For example, /home/db2inst1.

Database name
Enter an alias name for the instance database. For example, MALL.

Database type
From the list of available database types, select **DB2/390**.

Database server hostname
Enter the fully-qualified host name of the DB2 Universal Database for OS/390 and z/OS server.

Database server port
Enter the port used to access the DB2 Universal Database for OS/390 and z/OS server.

Database node name
Enter the short host name for the DB2 Universal Database for OS/390 and z/OS server

Database Location Name
Enter the location name of the DB2 Universal Database for OS/390 and z/OS server obtained from the database administrator earlier.

Database schema owner
Enter the database schema owner group ID obtained from the database administrator earlier.

Database Name Prefix
Enter the database name prefix obtained from the database administrator earlier.

Four databases with this prefix and a numeric suffix will be created on the DB2 Universal Database for OS/390 and z/OS server.

Database user name
Enter the database user ID for DB2 Universal Database for OS/390 and z/OS server obtained from the database administrator earlier.

Database user password
Enter the password associated with the database user name.

Database user home directory
Enter the local database instance home directory. This is the database instance home directory on the Linux machine. For example, /home/db2inst1.

Ensure that this is the same value entered in the **Database Administrator Home directory** field.

6. When you have completed the necessary information in the panels, the **Finish** button is enabled. Click **Finish** to create the WebSphere Commerce instance.
7. During instance creation, a dialog displays with the following message: **Submit the JCL job CHECKV55 on the database server, then click OK to continue.**.

   When the dialog displays, connect to the S/390 or z/OS host machine using IBM Personal Communications and submit the JCL job CHECKV55 for processing.

   The CHECKV55 job was transferred to the host machine in "Preparing the OS/390 or z/OS system for instance creation" on page 135.

   Check the JCL log to ensure that the job was successful by doing the following:

   a. Check the return code.

      The job was successful if the return code is 4 or lower.

   b. Check the status of tablespaces and indices in ISPF using the following DB2 Command:

      ```
      -DIS DATABASE(SWJDB4) SPACENAM(*) RESTRICT
      ```

      The JCL job was successful if the output from the command resembles the following:

      ```
      NAME TYPE PART STATUS PHYERRLO PHYERRHI CATALOG PIECE
      -------- ---- ---- ------------------ -------- -------- -------- -----
      ******** NO SPACES FOUND
      ******* DISPLAY OF DATABASE SWJDB4 ENDED **********************
      DSN9022I - DSNTDDIS 'DISPLAY DATABASE' NORMAL COMPLETION
      ```

Creating a WebSphere Commerce Payments instance when using a Commerce database on OS/390 or z/OS

To create a WebSphere Commerce instance when using a Commerce database on OS/390 or z/OS, do the following:

1. Obtain the following information for the WebSphere Commerce database from the database administrator for the OS/390 and z/OS machine:

Property	Value
Data storage group for WebSphere Commerce Payments	
Data storage group volumes	
Buffer pool for tables (4KB)	
PRIQTY value	
SECQTY value	

Some of these resources may need to be allocated by the database administrator before values can be obtained.

2. Customize the WebSphere Commerce Payments database properties for by doing the following on the Linux machine:
   a. Issue the following commands from a terminal session:

      ```
      su - WebSphere Commerce non-root user ID
      cd WC_installdir/bin
      ./paymentschemaupdate.db2_390.sh
      ```

      where *WebSphere Commerce non-root user ID* is the non-root user ID created to start the WebSphere Commerce and WebSphere Commerce Payments application servers, and the WebSphere Commerce Configuration Manager server and client on the Linux machine. For more information, refer to "Creating required WebSphere Application Server users and groups" on page 27.

      Values for *WC_installdir* are provided in "Path variables" on page v
   b. When prompted, provide the information gathered earlier.
3. On the WebSphere Commerce machine, start the WebSphere Commerce Payments instance creation wizard by doing the following:
   a. Start the WebSphere Commerce Configuration Manager. For instructions, refer to "Starting the Configuration Manager" on page 61.
   b. Under **WebSphere Commerce**, expand your *hostname*.
   c. Expand **Payments**.
   d. Right-click on **Instance List**.
   e. From the resulting pop-up menu, select **Create Payments Instance**. The Payments Instance Creation wizard starts.
4. Complete the Payments 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.

The database panels in the instance creation may contain fields for which no online help is provided. Complete the database panels according to the descriptions of the fields provided in the next step.

5. Complete the database panels of the instance creation wizard as follows:

   Field
   Description

   Database Administrator Name
   Enter the local database administrator ID. This is the Linux user ID defined as the DB2 Universal Database administrator on the Linux machine.

   Database Administrator Password
   Enter the password associated with the local database administrator ID.

   Database Administrator Home directory
   Enter the local database instance home directory. This is the database instance home directory on the Linux machine. For example, /home/db2inst1.

   Database name
   Enter an alias name for the instance database. For example, WPM.

   Ensure that this database name is different from the database name used for the WebSphere Commerce instance.

Database type
From the list of available database types, select **DB2/390**.

Database user name
Enter the database user ID for DB2 Universal Database for OS/390 and z/OS server obtained from the database administrator earlier.

Database user password
Enter the password associated with the database user name.

Database user home directory
Enter the local database instance home directory. This is the database instance home directory on the Linux machine. For example, /home/db2inst1.

Ensure that this is the same value entered in the **Database Administrator Home directory** field.

Use remote database
Ensure this is selected.

Database server hostname
Enter the fully-qualified host name of the DB2 Universal Database for OS/390 and z/OS server.

Database server port
Enter the port used to access the DB2 Universal Database for OS/390 and z/OS server.

Database node name
Enter the short host name for the DB2 Universal Database for OS/390 and z/OS server

Database Location Name
Enter the location name of the DB2 Universal Database for OS/390 and z/OS server obtained from the database administrator earlier.

Database schema owner
Enter the database schema owner ID obtained from the database administrator earlier.

Database Name Prefix
Enter the database name prefix obtained from the database administrator earlier.

6. When you have completed the necessary information in the panels, the **Finish** button is enabled. Click **Finish** to create the WebSphere Commerce Payments instance.

Preparing the S/390 or @server zSeries machine to create the stored procedures

To prepare the S/390 or @server zSeries machine to create the stored procedures, do the following:

1. Prepare a system procedure in the system procedure library. The system procedure library is usually called SYS1.PROCLIB.

   To prepare the system procedure in the system procedure library, do the following:

   a. Create the system procedure according the following example file on the Linux machine:

      ```
      /opt/WebSphere/CommerceServer/schema/linux390/JCLs/V71AWLM3
      ```

Change the user ID, user library, and DB2SSN (DB2 subsystem name. For example, DSN1) in the sample to match your own library when creating the system procedure.

b. Add a user ID for the procedure using the same name.

   For example, enter the following command from an ISPF command shell:

   ```
   ADDUSER V71AMLM3 NOPASSWORD OMVS(UID(0))
   ```

c. Grant DB2 authority to the user ID just added.

   For example, enter the following commands from an ISPF command shell:

   ```
   RDEFINE SERVER DB2.DB2_subsystem_name.* UACC(NONE)
   PERMIT DB2.DB2_subsystem_name.* CLASS(SERVER) ID(proc_name)
   ACCESS(READ)  SETR RACLIST(SERVER) REFRESH
   ```

   where the variables are defined as follows:

   DB2_subsystem_name
   This is the DB2 subsystem name. For example, DSN1.

   proc_name
   This is the system procedure name prepared for running the stored procedures created in an earlier step. For example, V71AWLM3.

2. Prepare a Workload Manager (WLM) application environment for the stored procedures

   The application environment must have the following settings:

   Application Environment
   appl_env

   Description
   Give the application environment a meaningful description.

   Subsystem Type
   DB2

   Procedure Name
   proc_name

   Start Parameters

   ```
   DB2SSN=&IWMSSNM
   NUMTCB=17
   APPLENV=appl_env
   ```

   where the variables are defined as follows:

   appl_env
   This is the application environment name. The environment name specified in the stored procedures is WLMENV3. This name is only a suggestion.

   If you use a different name, ensure that you change the environment name in the stored procedures to match your environment name. Updating the stored procedures is covered in "Creating the stored procedures on the S/390 or @server zSeries machine" on page 143.

   proc_name
   This is the system procedure name prepared for running the stored procedures created in an earlier step. For example, V71AMLM3.

   Ensure that the definition is validated and installed. Then, activate the service policy.

3. Create the following auxiliary JCL files for the stored procedure in the system library:
   - DSNHSQL
   - TSOBATCH
   - TSOBATCA

   Use the examples available in the following directory on the Linux machine as a template for the three JCL files:

   ```
   /opt/WebSphere/CommerceServer/schema/linux390/JCLs
   ```

   Ensure that you customize the following values to match your S/390 or z/OS environment:
   - any user IDs
   - CEE library
   - IGY library
   - IEL library
   - DB2 library
   - DB2 subsystem name (DB2SSN)
   - user source DBRMLIB library
   - user RUNLIB library
   - user SRCLIB library

   This customization is done on the 3 JCL files: DSNHSQL, TSOBATCH, TSOBATCA.

Creating the stored procedures on the S/390 or @server zSeries machine

To create the stored procedures on the S/390 or @server zSeries machine, do the following:

1. Create the following data sets on the S/390 or @server zSeries machine:
   - *userID*.DBRMLIB.DATA
   - *userID*.SRCLIB.DATA
   - *userID*.WC55.STOPROC

   where *userID* is the DB2 Universal Database for OS/390 and z/OS user ID for WebSphere Commerce.

   Use the following settings for the data sets:

Parameter	Value
Space unite	TRACK
Primary quantity	5
Secondary quantity	5
Directory blocks	80
Record format	FB
Record length	80
Block size	27920
Data set name type	PDS

2. Create the *userID*.RUNLIB.LOAD on the S/390 or @server zSeries machine using the following settings for the data set:

Parameter	Value
Space unite	BLOCK
Primary quantity	720
Secondary quantity	200
Directory blocks	80
Record format	U
Record length	0
Block size	26233
Data set name type	PDS

userID is the DB2 Universal Database for OS/390 and z/OS user ID for WebSphere Commerce.

3. Transfer all of the files from the following directory on Linux WebSphere Commerce machine to the *userID*.WC55.STOPROC data set:

   WC_installdir/schema/linux390/JCLs

   Values for *WC_installdir* are provided in "Path variables" on page v

   If you transfer the files using FTP, ensure that you transfer the files as ASCII files.

4. Update the following stored procedures in *userID*.WC55.STOPROC data set:
   - ADJUSTIN
   - ALLOCATE
   - ALLOCBOR
   - AVAILABL
   - CURRENTV
   - AVAILRAD
   - AVAILREC
   - BACKORDE
   - AVALINV
   - DELETEBA
   - INVENTOR
   - GETITEMS
   - RAALLOCA
   - REVERSEI
   - SHIPITEM

   Update these stored procedures by doing the following for each of these stored procedure:

   a. Open the stored procedure in a text editor.
   b. Replace all occurrences of `XXXXXX` in the stored procedure with schema name of the WebSphere Commerce database. For example, if the schema name for the WebSphere Commerce database is P390D, change `XXXXXX.AdjustInventory` to `P390D.AdjustInventory`.
   c. Change the WLM ENVIRONMENT name to match the Workload Manager application environment name that you system administrator has prepared.

d. Save your changes and exit the text editor.

Important

If you have created these 15 stored procedures before, you must drop them all before recreating them. Job STPDLALL will do that. Edit and update STPDLALL in userID.WC55.STOPROC, change the USER, PASSWORD in the job card. Change the schema name of the procedures as in the previous step. For example: DROP PROCEDURE schema_name.AdjustInventory RESTRICT

5. Update the following JCL files in the *userID*.WC55.STOPROC data set:
   - ADJUST1
   - ALLOCAT2
   - ALLOCBO3
   - AVAILAB4
   - CURRENT5
   - AVAILRA6
   - AVAILRE7
   - BACKORD8
   - AVAILIN9
   - DELETE10
   - INVENT11
   - GETITE12
   - RAALO13
   - REVERS14
   - SHIPIT15

   Update these JCL files by doing the following for each JCL file:

   a. Open the JCL file in a text editor.
   b. Replace each occurrence of `UUUUUU` with the database user ID.
   c. Replace each occurrence of `PPPPPP` with the password for the database user ID.
   d. For all data set names beginning with `USER1.`, replace the `USER1` with your database user ID.
   e. Replace each occurrence of `SSSSSS` with the database schema owner group ID.
   f. Add the USER parameter to job step PH063S02. For example, change COND= to USER=P390C.COND=

      Job step PH063S02 starts the DSNHSQL compiled procedure.
   g. Update the PACKAGE COLLECTION name. Using the suffix of use name. For example, if the user name is `P390A`, then the package name as `CLMM0A`.
   h. Update the DSN SYSTEM ID to match your DB2 environment. This should match the system name provided to you by the database administrator.
   i. Update the format of the RUN statement. This depends on the database administrator set up DSNTEP2.

      ```
      RUN PROGRAM(DSNTEP2) PARMS('SQLTERM(!)')
      ```

      to

```
RUN PROGRAM(DSNTEP2) PLAN(DSNTEP71) LIB('DSN710.RUNLIB.LOAD')  +
  PARMS('SQLTERM(!)')" -- *
```

6. Submit the following JCL files for processing:
   - ADJUST1
   - ALLOCAT2
   - ALLOCBO3
   - AVAILAB4
   - CURRENT5
   - AVAILRA6
   - AVAILRE7
   - BACKORD8
   - AVAILIN9
   - DELETE10
   - INVENT11
   - GETITE12
   - RAALO13
   - REVERS14
   - SHIPIT15

   Check the JCL output for each job and ensure that the highest return code is less than or equal to 04.

   If the return code for any job is higher than 4, work with your system administrator to correct any problem with the job and the resubmit the job.
7. Verify the stored procedures by issuing the following command from a DB2 command line on the S/390 or @server zSeries machine:

   ```
   select name from sysibm.sysroutines where createdby ='userID'
   ```

   where *userID* is

   This query can be run in DB2I SPUFI.

   This query should return the following stored procedure names:
   - ADJUSTIN
   - ALLOCATE
   - ALLOCBOR
   - AVAILABL
   - CURRENTV
   - AVAILRAD
   - AVAILREC
   - BACKORDE
   - AVALINV
   - DELETEBA
   - INVENTOR
   - GETITEMS
   - RAALLOCA
   - REVERSEI
   - SHIPITEM

Additional considerations when using DB2 Universal Database for OS/390 and z/OS

When using DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce and WebSphere Commerce Payments, there are some differences introduced due to differences between DB2 Universal Database for OS/390 and z/OS Version 7 and DB2 Universal Database Version 8.

Database schema differences

The following table lists columns in the WebSphere Commerce database schema that change type from VARCHAR(254) to VARCHAR(212) when using DB2 Universal Database for OS/390 and z/OS. For descriptions of the tables and columns, refer to the schema information in the WebSphere Commerce online help.

Table	Column	Comment
ACCCMDGRP	VIEWNAME	
ATTRIBUTE	NAME	
ATTRVALUE	NAME	
	STRINGVALUE	
BZRPENTAT	NAME	
CALMETHOD	NAME	
CATALOG	IDENTIFIER	
CATGROUP	IDENTIFIER	
CATENTATTR	NAME	
CATGRPATTR	NAME	
CMDREG	INTERFACENAME	
COUNTRY	NAME	
CSEDITATT	CONNSPECATTNAME	
CWMEMBER	LOGONID	The logon IDs for Collaborative Workspaces should be kept to 212 characters or less.
EMLMSG	NAME	The length of your email template name should be kept to 212 chars or less.
FFMCENTER	NAME	
FILEUPLOAD	FILEPATH	
ICEXPLFEAT	COLUMNNAME	
ISEDITATT	INTERSPECATTNAME	
MBRGRP	MBRGRPNAME	
MBRVIEWPRF	VIEWNAME	
PLCYTYCMIF	BUSINESSCMDIF	
PROFNVSTRG	PROFILEATTNAME	
SMTPHOST	HOST	The SMTP hostname should be kept to 212 characters or less.
STADDRESS	NICKNAME	

Table	Column	Comment
STATEPROV	NAME	
STOREENT	IDENTITIFER	
TRADEPOSCN	NAME	
URLREG	INTERFACENAME	
USERREG	LOGONID	The user registration logon ID should be kept to 212 characters or less.
VIEWREG	VIEWNAME	

Enabling LDAP when using DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce and WebSphere Commerce Payments

If you are using DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce, you must add the `DbLogonMaxLength` attribute to the Directory element. The `DbLogonMaxLength` attribute must be set to 212.

Refer to *WebSphere Commerce Additional Software Guide* for more information.

Appendix B. 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 *WebSphere Commerce Administration Guide*.

General problems and limitations

Error received when issuing WebSphere Commerce command

On Linux running on Intel processor-based servers, you may receive the following error messages when issuing WebSphere Commerce commands:

```
bash: ulimit: cannot modify limit: Operation not permitted
```

This error message can be safely ignored.

Installation problems and limitations

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

Web server problems and limitations

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" on page v 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.
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:

   WC_installdir/schema/wcs.schema.ws_ml_db2.input
   WC_installdir/schema/wcs.schema2.ws_ml_db2.input

   Default values for *WC_installdir* are listed in "Path variables" on page v.
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 4, "Creating a WebSphere Commerce and a WebSphere Commerce Payments instance," on page 59.

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 != "OS400" ]; 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 107.
3. Run the following command:

   WC_installdir/bin/wc55nonroot.sh

   Default values for *WC_installdir* are listed in "Path variables" on page v.
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 107.

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" on page v.

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" on page v.
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 Chapter 19, "WebSphere Commerce tasks," on page 107.

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 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" on page v.
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" on page 154.

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 61.
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 Chapter 11, "Before you create or modify an instance with Configuration Manager," on page 61 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 107.
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" on page v.
4. Run the following command:

   WC_installdir`/bin/wc55nonroot.sh`

   Default values for *WC_installdir* are listed in "Path variables" on page v.
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 107.

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 \
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 \
6. Save the changes and exit the text editor.
7. Run the removeNode.sh command.

Known problems and limitations when using DB2 Universal Database for OS/390 and z/OS with WebSphere Commerce and WebSphere Commerce Payments

WebSphere Commerce and DB2 Universal Database performance degrades during mass population of the WebSphere Commerce database

During a mass population of data into the WebSphere Commerce database, WebSphere Commerce and DB2 Universal Database for for OS/390 and z/OS performance may degrade.

To correct this, the database administrator should reorganize the WebSphere Commerce table space and index space. The database administrator may also want to gather summary statistics about the WebSphere Commerce database in order to see how to optimize the database further.

Limits on concurrent users

The default setting only supports 5 or 6 concurrent users. For heavy load situations, this setting may be inadequate.

If you expect a heavy load on WebSphere Commerce, you should adjust some configuration parameters for DB2 Universal Database for OS/390 and z/OS.

The following are some recommended database settings to consider:

- Define a different buffer pool for the WebSphere Commerce tablespaces and indexes.
- Allocate a larger bufferpool(2000).
- Allocate a larger EDMPOOL(80000).
- Use the CSA area to allocate lock space.
- Use the following settings in DSNZPARM:
  - CMTSTAT=INACTIVE
  - DESCSTAT=NO
  - IRLMRWT=120
  - EDMDSMAX=1048576
  - EDMDSPAC=73125
- Use the following settings in the DB2 APPL definition:
  - VPACING=63

Appendix C. Uninstalling WebSphere Commerce components

WebSphere Commerce components must be uninstalled in the reverse order from which they were installed. Uninstall WebSphere Commerce components in the following order:

1. WebSphere Commerce, WebSphere Commerce Payments, and the WebSphere Commerce Configuration Manager server and client

   These components should be removed from all nodes on which they are installed before uninstalling any other 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 107.
2. Stop WebSphere Commerce Payments as described in "Starting or stopping a WebSphere Commerce Payments instance" on page 107.
3. Delete any WebSphere Commerce instances following the instructions provided in "Deleting a WebSphere Commerce instance" on page 108.
4. Delete any WebSphere Commerce Payments instances following the instructions provided in "Deleting a WebSphere Commerce Payments instance" on page 110.
5. 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 component.

   Default values for *WC_installdir* are listed in "Path variables" on page v.
6. While logged in as `root`, start the uninstallation wizard by issuing one the following commands, depending on the hardware platform:

Hardware platform	Command
Intel based systems	*WC_installdir*/_uninst/uninstall_linux.jar or *WC_installdir*/_uninst/uninstall_linux.jar -console
@server iSeries systems	*WC_installdir*/_uninst/uninstall_ppclinux.jar or *WC_installdir*/_uninst/uninstall_ppclinux.jar -console

Hardware platform	Command
@server pSeries systems	*WC_installdir*/_uninst/uninstall_ppclinux.jar or *WC_installdir*/_uninst/uninstall_ppclinux.jar -console
@server zSeries systems	*WC_installdir*/_uninst/uninstall_zlinux.jar or *WC_installdir*/_uninst/uninstall_zlinux.jar -console
S/390 systems	

Default values for *WC_installdir* are listed in "Path variables" on page v.

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.

In this section, instructions for selecting options and continuing are provided only for the GUI-based uninstallation wizard. To select options and continue when using the text-based uninstallation wizard, follow the prompts provided by the text-based uninstallation wizard.

7. Complete the uninstallation wizard by following the prompts.
   Wait for the uninstallation wizard to complete before continuing.
8. If the *WC_installdir* directory still exists on the node, remove it.
   Default values for *WC_installdir* are listed in "Path variables" on page v.

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

For information on uninstalling WebSphere Application Server, refer to *IBM WebSphere Application Server Version 5 Getting Started*. This publication is available through the WebSphere Application Server library:

`http://www.ibm.com/software/webservers/appserv/was/library/`

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 Getting Started*. This publication is available through the WebSphere Application Server library:

`http://www.ibm.com/software/webservers/appserv/was/library/`

Uninstalling IBM HTTP Server

If IBM HTTP Server 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, refer to the IBM HTTP Server V1.3.26 powered by Apache Installation file available through the following URL:

`http://www.ibm.com/software/webservers/httpservers/library.html`

Uninstalling DB2 Universal Database

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`

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.

Appendix D. Where to find more information

More information about the WebSphere Commerce system and its components is available from a variety of sources in different formats. The following sections indicate what information is available and how to access it.

WebSphere Commerce information

The following are the sources of WebSphere Commerce information:

- WebSphere Commerce online help
- WebSphere Commerce technical library

WebSphere Commerce online help

The WebSphere Commerce online information is your primary source of information for customizing, administering, and reconfiguring WebSphere Commerce. After you have installed WebSphere Commerce, you can access topics in the online information by visiting the following URL:

`https://host_name:8000/wchelp/`

where *host_name* is the fully qualified TCP/IP host name of the machine on which WebSphere Commerce is installed.

WebSphere Commerce technical library

The WebSphere Commerce technical library is available at the following URL:

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

A copy of this book, and any updated versions of this book, are available as PDF files from the Library section of the WebSphere Commerce Web site. In addition, new and updated documentation may also be available from the WebSphere Commerce technical library Web site.

WebSphere Commerce Payments information

Help for WebSphere Commerce Payments is available by clicking the following help icon:

This help icon displays on the WebSphere Commerce Payments user interface within the WebSphere Commerce Administration Console and WebSphere Commerce Accelerator and in the standalone WebSphere Commerce Payments user interface at the following URL:

`http://host_name:http_port/webapp/PaymentManager`

or

`https://host_name:ssl_port/webapp/PaymentManager`

Where the variables are defined as follows:

host_name
The fully qualified TCP/IP host name of the Web server associated with WebSphere Commerce Payments.

http_port
The HTTP port used by WebSphere Commerce Payments. The default HTTP port is 5432.

ssl_port
The SSL port used by WebSphere Commerce Payments. The default SSL port is 5433.

If WebSphere Commerce Payments is SSL-enabled, you can use either URL. If IWebSphere Commerce Payments is not SSL-enabled, you can only use the non-secure URL (http).

Help is also available at the following URL:

`http://host_name:http_port/webapp/PaymentManager/language/docenter.html`

or

`https://host_name:ssl_port/webapp/PaymentManager/language/docenter.html`

Where the variables are defined as follows:

host_name
The fully qualified TCP/IP host name of the Web server associated with WebSphere Commerce Payments.

http_port
The HTTP port used by WebSphere Commerce Payments. The default HTTP port is 5432.

ssl_port
The SSL port used by WebSphere Commerce Payments. The default SSL port is 5433.

language
A language code for the language in which the help page will be displayed. It is two letters for most languages. The language codes are as follows:

Language	**Code**
German	de
English	en
Spanish	es
French	fr
Italian	it
Japanese	ja
Korean	ko
Brazilian Portuguese	pt
Simplified Chinese	zh
Traditional Chinese	zh_TW

More information about WebSphere Commerce Payments and the Payments Cassettes is available at the WebSphere Commerce Technical Library:

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

IBM HTTP Server information

IBM HTTP Server information is available at the IBM HTTP Server Web site:

http://www.ibm.com/software/webservers/httpservers/

The documents are in HTML format, PDF files, or both.

WebSphere Application Server information

WebSphere Application Server information is available at the WebSphere Application Server InfoCenter:

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

DB2 Universal Database information

The HTML documentation files are available under the /doc/*locale*/html subdirectory, where *locale* is the language code for your locale (for example, *en* for American English). Any documentation that is not available in a national language is shown in English.

For a complete list of the available DB2 documentation, and how to view or print it, refer to the *DB2 Quick Beginnings for UNIX* book. Additional DB2 information is available at the DB2 Technical Library:

http://www.ibm.com/software/data/db2/library/

Other IBM publications

You can purchase copies of most IBM publications from your IBM authorized dealer or marketing representative.

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