IBM® WebSphere™ Commerce Suite
Service Provider Edition
for Solaris™ Operating Environment
Software

IBM

Installing and Getting Started Guide

Version 3.2

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> **Note!**
>
> Before using this information and the product it supports, be sure to read the general information under "Notices" on page 239.

Contents

Welcome to WebSphere Commerce Suite, Service Provider Edition

This book describes how to install and configure WebSphere Commerce Suite, Service Provider Edition for the Solaris Operating Environment, and provides guidance on creating and customizing your store or mall. This book is intended for system administrators or for anyone else responsible for performing the above tasks.

This book refers to *WebSphere Commerce Suite, Service Provider Edition* by its short name, *WebSphere Commerce Service Provider*.

> **Note:**
> To learn about last-minute changes to the product, see the README file on our Technical Library page at our product Web site at:
> `http://www.ibm.com/software/webservers/commerce/servers/lit-tech-general.html`
>
> In addition, a copy of this book, and any updated versions of this book, are available in PDF format from the *Library* section of our product Web site at:
> `http://www.ibm.com/software/webservers/commerce/servers`

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

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

  This icon to the left denotes a Tip - additional information that can help you complete a task.

When this book refers to installation paths, it uses the following default path names:

`/opt/IBMnetc/NetCommerce3`
        The WebSphere Commerce Service Provider installation path.

`/opt/IBMdb2/V6.1`
        The DB2® installation path.

`/opt/IBMdb2tx`
        The DB2 Text Extender installation path.

`/opt/GoServer/usr/internet/server_root`
        The Domino™ Go Webserver installation path.

```
/opt/IBM_payment_server
```
The Payment Server installation path.

```
/opt/WebSphere/AppServer
```
The WebSphere Application Server installation path.

```
/opt/IBMNetData
```
The Net.Data installation path.

Note: WebSphere Commerce Service Provider is only supported in the default directory.

If you want to override the default paths of the other components during installation, you must substitute your own path names where applicable, and use the new installation path names in the procedures described throughout this book.

Products Included with WebSphere Commerce Service Provider

The following products are packaged with Service Provider Edition:
- IBM DB2 Universal Database® 6.1.0.6
- DB2 Text Extenders 6.1.1
- IBM Net.Data® 6.1.1
- Lotus® Domino Go Webserver 4.6.2.61
- Netscape Communicator 4.61 for Windows®
- IBM WebSphere Application Server 2.0.3.1 and JDK 1.1.7
- IBM Payment Server™ 1.2.20.3
- WebSphere Commerce Service Provider 3.2

Compatible Web Servers

Although Domino Go Webserver 4.6.2.61 is the Web server provided with WebSphere Commerce Service Provider, you can use Netscape Enterprise Server 3.6.1.

Compatible Databases

Although DB2 Universal Database 6.1.0.6 is the database provided with WebSphere Commerce Service Provider, you can alternatively use Oracle 8.0.5 or Oracle 8.0.6 as your database.

If you have DB2 Universal Database 5.x currently installed, you must upgrade it to IBM DB2 Universal Database 6.1, and migrate your database. Follow the DB2 migration instructions in "Migrating DB2" on page 164.

Supported Web Browsers

WebSphere Commerce Service Provider access to the Administrator is supported using Netscape Navigator 4.61 from any Windows NT® machine that is on the same network as your WebSphere Commerce Service Provider machine.

Merchants can access the Administrator using Netscape Navigator 4.06 and higher, or Microsoft® Internet Explorer 4.01 and higher.

Shoppers can access Web sites by using use Netscape 3.x or Netscape 4.x.

Quick Reference to User IDs, Passwords, and Web Addresses

Administration in the WebSphere Commerce Service Provider 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 Service Provider user IDs, the default passwords are identified.

Configuration Manager User ID

The Configuration Manager tool has a graphical interface that allows you to modify the way WebSphere Commerce Service Provider is configured. You can access Configuration Manager from any PC running the required version of Netscape, and is on the same network as the WebSphere Commerce Service Provider server.

To access Configuration Manager, do the following:

1. On your WebSphere Commerce Service Provider machine, switch to the `/opt/IBMnetc/NetCommerce3/server/bin` directory and type `./start_admin_server`.
2. From the Windows machine running the required Netscape browser, open the following Web address in your Web browser:

   `http://host_name:4444`

   where *host_name* is the fully qualified host name of your WebSphere Commerce Service Provider machine.

The Configuration Manager main window appears.

For more information, see "Accessing the Configuration Manager" on page 71. The Configuration Manager user ID is `webadmin` and the default password is `webibm`.

To protect the configuration settings you defined during installation, you should change the default password after installation. See "Changing Your Configuration Manager Password" on page 72 for more information.

Web Server User ID

If you are using Domino Go Webserver, you can access your Domino Go Webserver home page by opening your Web browser and typing the following Web address:

`http://host_name`

where *host_name* is the fully qualified host name of your WebSphere Commerce Service Provider machine.

If you have customized your Web server, you may be required to type the name of the Domino Go Webserver's front page after the host name. After WebSphere Commerce Service Provider installation is complete and you launch the Configuration Manager for the first time as in step 5 on page 48, your Domino Go Webserver user ID is `webadmin` and the default password is `webibm`. For details on changing your password, refer to "Changing Your Domino Go Webserver Password" on page 75.

The user ID `webadmin` is used for both the Configuration Manager and Domino Go Webserver. Using the different methods described in "Changing Your Configuration Manager Password" on page 72 and "Changing Your Domino Go Webserver Password" on page 75, you can set

different passwords for the `webadmin` user ID; one password for the Configuration Manager and a different password for Domino Go Webserver.

WebSphere Commerce Service Provider Administrator User ID

The WebSphere Commerce Service Provider Administrator (NCAdmin) allows you to maintain your store or mall. You must have an instance created and SSL enabled before you are able to access the Administrator.

To access the Administrator, open your Web browser and type the following Web address:

`http://host_name/ncadmin`

where *host_name* is the fully qualified host name of your WebSphere Commerce Service Provider machine. The Administrator user ID is `ncadmin` and the default password is `ncadmin`. For information on changing the Administrator password, see "Changing the WebSphere Commerce Service Provider Administrator Password" on page 74.

Certificate File Password

If you are using Payment Server, you must use a password to protect your certificate file.

When you configure your WebSphere Commerce Service Provider instance, you can enter a password on the **Payment** tab of the Configuration Manager.

WebSphere Application Server Administrator User ID

The WebSphere Application Server Administrator User ID administers Java® servlets in the application server. This administrator ID specifies the Java Virtual Machine (JVM) settings, views and configures Java servlets, sets up security for the application server, and monitors execution of the application server.

To access the WebSphere Application Server Administrator, open your Web browser and type the following Web address:

`http://host_name:9527`

where *host_name* is the fully qualified host name of your WebSphere Commerce Service Provider machine. The WebSphere Application Server Administrator user ID is `admin` and the default password is `admin`.

How This Book Is Organized

The following table helps you quickly find the related information you need.

If you want to . . .	Refer to . . .
Review what user IDs, passwords and Web addresses are used by WebSphere Commerce Service Provider,	"Quick Reference to User IDs, Passwords, and Web Addresses" on page ix.
Confirm that your system meets the WebSphere Commerce Service Provider hardware and software prerequisites,	"Chapter 1. Preinstallation Requirements" on page 3.
Install WebSphere Commerce Service Provider,	"Part 1. Installing WebSphere Commerce Service Provider" on page 1.
Migrate an existing version of Net.Commerce Hosting Server to WebSphere Commerce Service Provider 3.2,	"Part 5. Migrating to WebSphere Commerce Service Provider 3.2" on page 143.

Install and configure a remote DB2 database (2–tier installation),	"Chapter 17. Installing Your Database on a Separate Machine" on page 87.
Configure a multi-tier WebSphere Commerce Service Provider system,	"Chapter 18. Configuring eNetwork Dispatcher 2.0.0.3" on page 97
Create and customize your WebSphere Commerce Service Provider site,	"Part 4. Getting Started" on page 121.
Start and stop WebSphere Commerce Service Provider components,	"Appendix B. Starting and Stopping WebSphere Commerce Service Provider Components" on page 205.
Uninstall WebSphere Commerce Service Provider components,	"Appendix C. Uninstalling WebSphere Commerce Service Provider Components" on page 211.
Troubleshoot your WebSphere Commerce Service Provider installation,	"Appendix D. Troubleshooting" on page 223.
Print or review online documentation,	"Appendix E. Where to Find More Information" on page 231.

Navigating Through This Book

Depending the configuration of your components, you should visit the chapters listed in the sections below in order to complete your installation and configuration of WebSphere Commerce Service Provider.

Important Note on Navigating the Information

For a 1–tier installation of WebSphere Commerce Service Provider, you essentially proceed through the book sequentially and follow the navigation provided in *The Next Step* sections at the end of most chapters. For a 2–tier installation, you proceed to "Chapter 17. Installing Your Database on a Separate Machine" on page 87 where you are guided to the other chapters in the book to install various WebSphere Commerce Service Provider components. It is important to remember that after you install a component, to return to the section in "Chapter 17. Installing Your Database on a Separate Machine" on page 87 and continue with the navigation contained there.

One-tier Installation

With a one-tier installation, you can essentially proceed sequentially through the book.

DB2 With Domino Go Webserver
- "Chapter 1. Preinstallation Requirements" on page 3 to meet all preinstallation requirements on your machine.
- "Chapter 2. Installing DB2 UDB" on page 13 to install DB2 and create your DB2 instance ID.
- "Chapter 3. Installing DB2 Text Extender 6.1.1" on page 19 to optionally install DB2 Text Extender, create your Text Extender instance ID, and set up the Text Extender environment.
- "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27 to install Domino Go Webserver. You configure SSL in a later chapter.
- "Chapter 6. Installing Net.Data 6.1.1" on page 29 to install Net.Data.

- "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31 to install the JDK and WebSphere Application Server.
- "Chapter 8. Installing IBM Payment Server 1.2.20.3" on page 35 to optionally install Payment Server and its Fixpak.
- "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37 to install WebSphere Commerce Service Provider.
- "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47 to start Configuration Manager, create a WebSphere Commerce Service Provider instance, populate the database, and start the instance.
- "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59 to create your certificate, set test ring as current, receive your certificate, and set the designated trusted root.
- "Chapter 14. Verifying Your Installation and Configuration" on page 67 to verify your installation.

At this point you will have completed your installation. You can proceed to any of the remaining chapters in the book depending on your requirements.

DB2 With Netscape Enterprise Server

- "Chapter 1. Preinstallation Requirements" on page 3 to meet all preinstallation requirements on your machine, to preinstall Netscape Enterprise Server, and to create a server for port 80 and a secure server for port 443.
- "Chapter 2. Installing DB2 UDB" on page 13 to install DB2 and create your DB2 instance ID.
- "Chapter 3. Installing DB2 Text Extender 6.1.1" on page 19 to optionally install DB2 Text Extender, create your Text Extender instance ID, and set up the Text Extender environment.
- "Chapter 6. Installing Net.Data 6.1.1" on page 29 to install Net.Data.
- "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31 to install the JDK and WebSphere Application Server.
- "Chapter 8. Installing IBM Payment Server 1.2.20.3" on page 35 to optionally install Payment Server and its Fixpak.
- "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37 to install WebSphere Commerce Service Provider.
- "Chapter 10. Configuring Netscape Enterprise Server" on page 41 to configure WebSphere Application Server for use with Netscape Enterprise Server.
- "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47 to start Configuration Manager, create a WebSphere Commerce Service Provider instance, populate the database, stop and restart the Netscape Enterprise Server servers and then start the instance.
- "Chapter 14. Verifying Your Installation and Configuration" on page 67 to verify your installation.

At this point you have essentially completed your installation. You can proceed to any of the remaining chapters in the book depending on your requirements.

Oracle With Domino Go Webserver

- "Chapter 1. Preinstallation Requirements" on page 3 to meet all preinstallation requirements on your machine including preinstalling Oracle.

- "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23 to install and configure JDBC and ODBC, create necessary user IDs, and verify Oracle connectivity.
- "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27 to install Domino Go Webserver. You configure SSL in a later chapter.
- "Chapter 6. Installing Net.Data 6.1.1" on page 29 to install Net.Data.
- "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31 to install the JDK and WebSphere Application Server.
- "Chapter 8. Installing IBM Payment Server 1.2.20.3" on page 35 to optionally install Payment Server and its Fixpak.
- "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37 to install WebSphere Commerce Service Provider.
- "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47 to start Configuration Manager, and create a WebSphere Commerce Service Provider instance without starting it.
- "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59 to create your certificate, set test ring as current, receive your certificate, and set the designated trusted root.
- "Chapter 13. Creating a Schema Using Oracle (1–tier)" on page 63 to populate your Oracle database and start your WebSphere Commerce Service Provider instance.
- "Chapter 14. Verifying Your Installation and Configuration" on page 67 to verify your installation.

At this point you will have completed your installation. You can proceed to any of the remaining chapters in the book depending on your requirements.

Oracle With Netscape Enterprise Server
- "Chapter 1. Preinstallation Requirements" on page 3 to meet all preinstallation requirements on your machine, to preinstall Netscape Enterprise Server, and to create a server for port 80 and a secure server for port 443.
- "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23 to install and configure JDBC and ODBC, create necessary user IDs, and verify Oracle connectivity.
- "Chapter 6. Installing Net.Data 6.1.1" on page 29 to install Net.Data.
- "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31 to install the JDK and WebSphere Application Server.
- "Chapter 8. Installing IBM Payment Server 1.2.20.3" on page 35 to optionally install Payment Server and its Fixpak.
- "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37 to install WebSphere Commerce Service Provider.
- "Chapter 10. Configuring Netscape Enterprise Server" on page 41 to configure WebSphere Application Server for use with Netscape Enterprise Server.
- "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47 to start Configuration Manager, and create a WebSphere Commerce Service Provider instance without starting it.
- "Chapter 13. Creating a Schema Using Oracle (1–tier)" on page 63 to populate your Oracle database and start your WebSphere Commerce Service Provider instance.

- "Chapter 14. Verifying Your Installation and Configuration" on page 67 to verify your installation.

At this point you will have completed your installation. You can proceed to any of the remaining chapters in the book depending on your requirements.

Two-tier Installation

With a two-tier installation, you should begin by reading "Chapter 17. Installing Your Database on a Separate Machine" on page 87 and then proceeding through the chapters listed below for the components you are using:

DB2 With Domino Go Webserver

- "Chapter 17. Installing Your Database on a Separate Machine" on page 87 for an overview of installing in a two-tier environment.
- "Chapter 1. Preinstallation Requirements" on page 3 to meet all preinstallation requirements (on both machines).
- "Chapter 2. Installing DB2 UDB" on page 13 to install the DB2 server on your remote DB2 server machine, the DB2 client on your WebSphere Commerce Service Provider machine, and to create your DB2 instance ID on both machines.
- "Chapter 3. Installing DB2 Text Extender 6.1.1" on page 19 to optionally install DB2 Text Extender and create your Text Extender instance ID on both machines, and to set up the Text Extender environment on your DB2 server machine.
- "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27 to install Domino Go Webserver on your WebSphere Commerce Service Provider machine. You configure SSL in a later chapter.
- "Chapter 6. Installing Net.Data 6.1.1" on page 29 to install Net.Data on your WebSphere Commerce Service Provider machine.
- "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31 to install the JDK and WebSphere Application Server on your WebSphere Commerce Service Provider machine.
- "Chapter 8. Installing IBM Payment Server 1.2.20.3" on page 35 to optionally install Payment Server and its Fixpak on your WebSphere Commerce Service Provider machine.
- "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37 to install WebSphere Commerce Service Provider on your WebSphere Commerce Service Provider machine.
- "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47 to start Configuration Manager, create a WebSphere Commerce Service Provider instance, populate the database, and start the instance. Note the instructions from "Creating the Remote Database" on page 90 in order to populate your database.
- "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59 to create your certificate, set test ring as current, receive your certificate, and set the designated trusted root on your WebSphere Commerce Service Provider machine.
- "Chapter 14. Verifying Your Installation and Configuration" on page 67 to verify your installation.

At this point you will have completed your installation. You can proceed to any of the remaining chapters in the book depending on your requirements.

DB2 With Netscape Enterprise Server

- "Chapter 17. Installing Your Database on a Separate Machine" on page 87 for an overview of installing in a two-tier environment.

- "Chapter 1. Preinstallation Requirements" on page 3 to meet all preinstallation requirements on both machines, to preinstall Netscape Enterprise Server, and to create a server for port 80 and a secure server for port 443 on your WebSphere Commerce Service Provider machine.
- "Chapter 2. Installing DB2 UDB" on page 13 to install the DB2 server on your remote DB2 server machine, the DB2 client on your WebSphere Commerce Service Provider machine, and to create your DB2 instance ID on both machines.
- "Chapter 3. Installing DB2 Text Extender 6.1.1" on page 19 to optionally install DB2 Text Extender and create your Text Extender instance ID on both machines, and to set up the Text Extender environment on your DB2 server machine.
- "Chapter 6. Installing Net.Data 6.1.1" on page 29 to install Net.Data on your WebSphere Commerce Service Provider machine.
- "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31 to install the JDK and WebSphere Application Server on your WebSphere Commerce Service Provider machine.
- "Chapter 8. Installing IBM Payment Server 1.2.20.3" on page 35 to optionally install Payment Server and its Fixpak on your WebSphere Commerce Service Provider machine.
- "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37 to install WebSphere Commerce Service Provider on your WebSphere Commerce Service Provider machine.
- "Chapter 10. Configuring Netscape Enterprise Server" on page 41 to configure WebSphere Application Server for use with Netscape Enterprise Server on your WebSphere Commerce Service Provider machine.
- "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47 to start Configuration Manager, create a WebSphere Commerce Service Provider instance, populate the database, and start the instance. Note the instructions from "Creating the Remote Database" on page 90 in order to populate your database.
- "Chapter 14. Verifying Your Installation and Configuration" on page 67 to verify your installation.

At this point you have essentially completed your installation. You can proceed to any of the remaining chapters in the book depending on your requirements.

Oracle With Domino Go Webserver
- "Chapter 17. Installing Your Database on a Separate Machine" on page 87 for an overview of installing in a two-tier environment.
- "Chapter 1. Preinstallation Requirements" on page 3 to meet all preinstallation requirements on both machines.
- "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23 to install the Oracle server on your Oracle server machine; install the Oracle client, install and configure JDBC and ODBC, create necessary user IDs, and verify Oracle connectivity on your WebSphere Commerce Service Provider machine.
- "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27 to install Domino Go Webserver on your WebSphere Commerce Service Provider machine. You configure SSL in a later chapter.
- "Chapter 6. Installing Net.Data 6.1.1" on page 29 to install Net.Data on your WebSphere Commerce Service Provider machine.
- "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31 to install the JDK and WebSphere Application Server on your WebSphere Commerce Service Provider machine.

- "Chapter 8. Installing IBM Payment Server 1.2.20.3" on page 35 to optionally install Payment Server and its Fixpak on your WebSphere Commerce Service Provider machine.
- "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37 to install WebSphere Commerce Service Provider on your WebSphere Commerce Service Provider machine.
- "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47 to start Configuration Manager and create a WebSphere Commerce Service Provider instance without starting it.
- "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59 to create your certificate, set test ring as current, receive your certificate, and set the designated trusted root on your WebSphere Commerce Service Provider machine.
- "Configuring the Oracle Server Machine" on page 92 and "Configuring the Oracle Client Machine" on page 93 to populate your Oracle database and start your WebSphere Commerce Service Provider instance.
- "Chapter 14. Verifying Your Installation and Configuration" on page 67 to verify your installation.

At this point you will have completed your installation. You can proceed to any of the remaining chapters in the book depending on your requirements.

Oracle With Netscape Enterprise Server

- "Chapter 1. Preinstallation Requirements" on page 3 to meet all preinstallation requirements on both machines, to preinstall Netscape Enterprise Server, and to create a server for port 80 and a secure server for port 443 on your WebSphere Commerce Service Provider machine.
- "Chapter 17. Installing Your Database on a Separate Machine" on page 87 for an overview of installing in a two-tier environment.
- "Chapter 1. Preinstallation Requirements" on page 3 to meet all preinstallation requirements on both machines.
- "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23 to install the Oracle server on your Oracle server machine; install the Oracle client, install and configure JDBC and ODBC, create necessary user IDs, and verify Oracle connectivity on your WebSphere Commerce Service Provider machine.
- "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27 to install Domino Go Webserver on your WebSphere Commerce Service Provider machine. You configure SSL in a later chapter.
- "Chapter 6. Installing Net.Data 6.1.1" on page 29 to install Net.Data on your WebSphere Commerce Service Provider machine.
- "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31 to install the JDK and WebSphere Application Server on your WebSphere Commerce Service Provider machine.
- "Chapter 8. Installing IBM Payment Server 1.2.20.3" on page 35 to optionally install Payment Server and its Fixpak on your WebSphere Commerce Service Provider machine.
- "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37 to install WebSphere Commerce Service Provider on your WebSphere Commerce Service Provider machine.
- "Chapter 10. Configuring Netscape Enterprise Server" on page 41 to configure WebSphere Application Server for use with Netscape Enterprise Server on your WebSphere Commerce Service Provider machine.

- "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47 to start Configuration Manager and create a WebSphere Commerce Service Provider instance without starting it.
- "Configuring the Oracle Server Machine" on page 92 and "Configuring the Oracle Client Machine" on page 93 to populate your Oracle database and start your WebSphere Commerce Service Provider instance.
- "Chapter 14. Verifying Your Installation and Configuration" on page 67 to verify your installation.

At this point you will have completed your installation. You can proceed to any of the remaining chapters in the book depending on your requirements.

Multi-tier Installation

For a multi-tier installation of WebSphere Commerce Service Provider using eNetwork Dispatcher, you should begin by reading "Chapter 1. Preinstallation Requirements" on page 3 and then proceeding to "Chapter 18. Configuring eNetwork Dispatcher 2.0.0.3" on page 97. The navigation provided in "Chapter 18. Configuring eNetwork Dispatcher 2.0.0.3" on page 97 guides you through the other chapters in this book that are required to set up the WebSphere Commerce Service Provider components that you need for your eNetwork Dispatcher configuration.

Part 1. Installing WebSphere Commerce Service Provider

This part describes how to install each component of WebSphere Commerce Service Provider. Topics covered include the following:

> **Migration**
>
> If you are migrating from an existing version of Net.Commerce Hosting Server, refer to "Part 5. Migrating to WebSphere Commerce Service Provider 3.2" on page 143 for detailed migration instructions. *Do not follow the instructions in this section*, "Part 1. Installing WebSphere Commerce Service Provider", as you may overwrite your existing files and lose any customizations you have performed.

Chapter 1. Preinstallation Requirements

This chapter describes the steps you need to perform before you install WebSphere Commerce Service Provider.

To perform the steps described in this publication, you must have `root` user access.

Important

You *must* complete these preinstallation steps to ensure that installation will be successful. If you are migrating from an existing version of Net.Commerce Hosting Server, refer to "Part 5. Migrating to WebSphere Commerce Service Provider 3.2" on page 143 for detailed migration instructions.

Knowledge Requirements

To install and configure WebSphere Commerce Service Provider, you should be knowledgeable about the following:

- Your operating system
- The Internet
- Web server operation and maintenance
- Your database system (IBM DB2 Universal Database or Oracle)
- IBM DB2 Text Extender (if you are using DB2 as your database system)
- Your Web server (Domino Go Webserver or Netscape Enterprise Server)
- IBM Net.Data
- HTML
- Structured Query Language (SQL)

Preinstallation Requirements

Prerequisite Hardware

You must ensure that you meet the following minimum hardware requirements before installing WebSphere Commerce Service Provider 3.2:

- Any processor that supports Solaris 2.6 or 2.7, such as a Sun SPARC or UltraSPARC station, with the following:
  - A minimum of 256 MB of random access memory (RAM) with 320 MB of swap space.
  - A minimum of 1 GB of free disk space, if you install all of the required and optional components.
  - A communication hardware adapter that uses the TCP/IP protocol stack to make network connections.
  - A CD-ROM drive.
  - A graphics-capable monitor.
- To access the WebSphere Commerce Service Provider Administrator, a personal computer capable of running Windows NT, Windows 98, or Windows 95, with a graphics-capable monitor with at least 256 colors, and a mouse or other pointing device, is needed.

Prerequisite Software

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

- Ensure that you have Solaris 2.6 or 2.7. If you are using Solaris 2.6, you will have to apply the following patches:
  - 105568 Rev. 12 or higher
  - 105210 Rev. 13 or higher
  - 105181 Rev. 13 or higher

  These patches can all be found in the latest kernel cluster patch, available at `http://sunsolve.sun.com`.

- Ensure that you have the following installed on the machine(s) you will use to access the WebSphere Commerce Service Provider Administrator :
  - Windows NT, Windows 98 or Windows 95
  - Netscape Navigator 4.61 (Provided on the WebSphere Commerce Service Provider CD in the `/netscape` directory.)

To install Netscape Navigator 4.61 from the WebSphere Commerce Service Provider CD, do the following:

1. Insert the WebSphere Commerce Service Provider CD into your CD drive.
2. Switch to the `/netscape` directory on the CD drive.
3. Run `cc32e461.exe` and follow the install shield instructions to complete the installation.
4. When the installation is complete, remove the CD from the drive.

Updating Solaris Kernel Configuration Parameters for DB2

> **Important**
>
> You *must* set the Solaris kernel file parameters as described in the chart below. If you do not set the parameters as specified, DB2 will not be able to create a DB2 instance ID.
>
> For a 2–tier DB2 installation, these parameters must be updated on both the DB2 server and DB2 client machine.

If you are using DB2 Universal Database, log in as user ID `root` and use a text editor to add the following parameters to the Solaris kernel file, `/etc/system`. To set a kernel parameter, add a line at the end of the `/etc/system` file as follows:

`set parameter-name=value`

Do not leave any spaces at the end of any of the statements that you type into the kernel file. Select the values for the following parameters based on the configuration that applies to your system. For example, an entry could be:

`set msgsys:msginfo_msgmax=65535`

Note: Some of these values have been updated from previous releases of DB2 UDB. If you are migrating from a previous version of Net.Commerce Hosting Server and a previous version of DB2 UDB, you must update these parameters to the new values.

Sample kernel parameters files are located on the DB2 CD in the /db2/install/samples directory. You can copy and paste the parameters from this file into your /etc/system file. Make sure they conform to the recommended values in the following table as applicable to your system.

Table 1. Solaris Kernel Configuration Parameters (Recommended Values)

	Physical Memory		
	128MB - 256MB	256MB - 512MB	512MB+
msgsys:msginfo_msgmax	65535 (1)	65535 (1)	65535 (1)
msgsys:msginfo_msgmnb	65535 (1)	65535 (1)	65535 (1)
msgsys:msginfo_msgmap	258	258	258
msgsys:msginfo_msgmni	256	256	256
msgsys:msginfo_msgssz	16	16	16
msgsys:msginfo_msgtql	512	1024	1024
msgsys:msginfo_msgseg	16384	32768	32768
shmsys:shminfo_shmmax	134217728 (2)	268435456 (2)	536870912 (2)
shmsys:shminfo_shmseg	16	16	16
shmsys:shminfo_shmmni	300	300	300
semsys:seminfo_semmni	256	512	1024
semsys:seminfo_semmap	258	514	1026
semsys:seminfo_semmns	512	1024	2048
semsys:seminfo_semmnu	512	1024	2048

The values shown above are the minimum required for DB2. You may adjust them higher if you wish. For more information, refer to the *IBM DB2 Universal Database for UNIX® Quick Beginnings Guide*.

Notes:

1. The parameters msgsys:msginfo_msgmnb and msgsys:msginfo_msgmax *must* be set to 65535 or larger.

2. The parameter shmsys:shminfo_shmmax should be set to the suggested value in the chart above or to 90% of the physical memory (in bytes), whichever is higher.

Reboot your machine after updating the Solaris kernel parameters.

Using Supported Software Not Bundled with WebSphere Commerce Service Provider

Oracle   If you want to use Oracle instead of DB2, after reading this chapter on preinstallation requirements, see "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23. Chapter 4. Installing and Configuring ODBC and Oracle provides a checklist for a list of the Oracle products that you must install, and the items that you must create before you install and configure WebSphere Commerce Service Provider. It also provides information on obtaining and

configuring the ODBC driver and verifying database connectivity. Ensure that you have also read the Oracle product documentation for installation information. After you have installed all the WebSphere Commerce Service Provider components, you need to create a database schema as described in "Chapter 13. Creating a Schema Using Oracle (1–tier)" on page 63.

Netscape Enterprise Server

If you are using Netscape Enterprise Server instead of Domino Go Webserver, it must be version 3.6.1. Install it according to the instructions provided by Netscape. Netscape Enterprise Server will be configured later, when the WebSphere Commerce Service Provider instance is created.

Notes:

1. Ensure that you create two Web servers: one server for non-SSL communication (on port 80); and one server for SSL communication (on port 443).

2. You *must* install a secure certificate signed by a certifying authority, according to Netscape's instructions.

Other Requirements

You must also do the following:

1. Install and activate an E-mail server that supports SMTP (Simple Mail Transfer Protocol) in order to send order notifications to merchants.

2. 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 port 80, or 443, or both, disable it.

Recommended Production System Hardware

Although the minimum system requirements will allow you to install WebSphere Commerce Service Provider and to develop your store, they are not adequate for a full-time production setting. The following table outlines the minimum recommended hardware required for full-time operation in various load environments.

Table 2. Recommended Production System Configuration Requirements

1-Tier System (Database and Web Server on the Same Machine)	For the Web/Database Server: • 2-way Enterprise 450 (400 MHz UltraSPARC-II) • 2 GB RAM • 1 drive for the operating system and for the applications • 1 drive for paging • 8 drives for the database • 1 drive for the database logs • 1 drive for the Web server and for the WebSphere Commerce Service Provider logs

Table 2. Recommended Production System Configuration Requirements (continued)

2-Tier System (Single Web Server Connected to Remote Database Server)	For the Web Server: • 2-way Enterprise 250 (250 MHz UltraSPARC-II) • 512 MB RAM • 1 drive for the operating system and for the applications • 1 drive for paging • 1 drive for the Web server and for the WebSphere Commerce Service Provider logs
	For the Database Server: • 2-way Enterprise 450 (400 MHz UltraSPARC-II) • 2 GB RAM • 1 drive for the operating system and for the applications • 1 drive for paging • 8 drives for the database • 1 drive for the database logs
3-Tier System (Multiple, Load-Balanced Web Servers Connected to a Remote Database Server)	For each Web Server: • *n* times 2-way Enterprise 250 (250 MHz UltraSPARC-II) • 512 MB RAM • 1 drive for the operating system and for the applications • 1 drive for paging • 1 drive for the Web server and for the WebSphere Commerce Service Provider logs
	For the Database Server: • 4-way Enterprise 450 (400 MHz UltraSPARC-II) • 2 GB RAM • 1 drive for the operating system and for the applications • 1 drive for paging • 8 drives for the database • 1 drive for the database logs

Notes:

1. You may want to consider the following guidelines for determining the number of tiers in your system configuration:
   - If you expect your Web server to receive up to 15 commands per second, use a 1-tier configuration.
   - If you expect your Web server to receive more than 15 commands per second, use a multi-tier configuration.
   - For a multi-tier configuration, you can add Web servers until your maximum load is accommodated, or until you maximize the load on your database server.
   - For all the above configurations, your Web server should be sized to accommodate up to five server processes per CPU.

2. All CPU numbers, CPU speed, memory, and drive requirements are minimum recommendations for a production environment.

3. None of the drive estimates include mirroring requirements. However, we strongly suggest, at a minimum, that you mirror the following on all production servers on all platforms.
   - Paging drives

- Database log drives

We also recommend that you mirror the following on all production servers and platforms:

- Database drives
- Operating system drives
- Application drives

To access the WebSphere Commerce Service Provider Administrator, you require a personal computer capable of running Windows NT, Windows 98, or Windows 95, with a graphics capable monitor with a color depth of at least 256 colors, and a mouse or other pointing device.

Supported WebSphere Commerce Service Provider Configurations

The following section describes possible WebSphere Commerce Service Provider configurations. These configurations have been tested and are fully supported. If you have requirements beyond these configurations, contact your IBM representative for additional information.

Supported Software

The following software is supported, and has been tested in the configurations documented below on the AIX, NT and Solaris Operating Environment platforms:

- *One* Web server with a dedicated Network Adapter card and IP address. It can be either:
  - Domino Go Webserver 4.6.2.61
  - Netscape Enterprise Server 3.6.1
- *One* back-end database. It can be either:
  - DB2 Universal Database 6.1.0.6
  - Oracle 8.0.5 or 8.0.6
- eNetwork Dispatcher 2.0.0.3
- DB2 Text Extenders 6.1.1
- Net.Data 6.1.1
- IBM WebSphere Application Server 2.0.3.1 and JDK 1.1.7
- IBM Payment Server 1.2.20.3
- Netscape Communicator 4.61 for Windows
- WebSphere Commerce Service Provider 3.2

Multiple Web servers and databases are not supported.

Supported Configurations

The following configurations have been tested with no concurrent products running. The configurations vary based upon the interaction of the following:

- WebSphere Commerce Service Provider server instances
- Database instances
- Web servers
- Machines

In a 1–tier configuration, the Web server, the WebSphere Commerce Service Provider server and the database all reside on one machine. In a 2–tier configuration, the Web server and the WebSphere Commerce Service Provider

server are on one machine, and the database is on a second machine. A 3–tier configuration has multiple machines with the Web server and WebSphere Commerce Service Provider server pairs, communicating with a single, database machine.

For configurations other than those explicitly identified below, extensive operational testing is recommended before going to production. It is also recommended that WebSphere Commerce Service Provider run on dedicated servers in order to minimize interference from other applications, thus attaining optimum performance and security.

Examine this section to develop a better understanding of the configuration requirements for developing and operating your store.

1–Tier Configuration

The simplest configuration is the single tier configuration. In this case, there is one machine upon which a single WebSphere Commerce Service Provider server instance, a single database instance, and single Web server reside. The following diagram displays this configuration.

Single Server Configuration
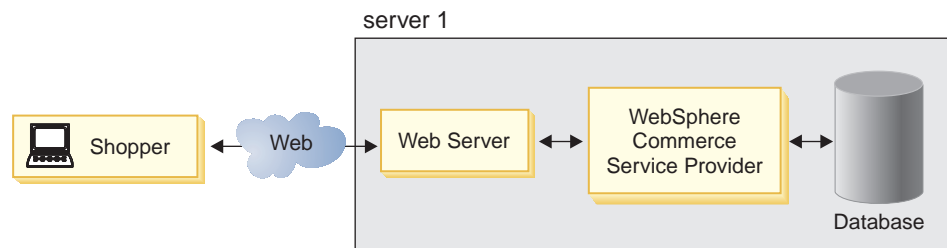
This configuration is particularly useful during development because it allows developers to have a self-contained development environment. It can also be used for the operation of low–volume stores, but is not recommended for high volume stores or malls.

2–Tier Configuration

The separate database configuration is one of the configurations that uses multiple servers. In this case, the WebSphere Commerce Suite server and Web server reside on one machine and the database server resides on a separate machine.

Whenever the database resides on a separate machine from WebSphere Commerce Service Provider, you must ensure that the platforms for the database server and WebSphere Commerce Service Provider server are the same.

The following diagram displays a 2–tier configuration.

Separate Database Server Configuration
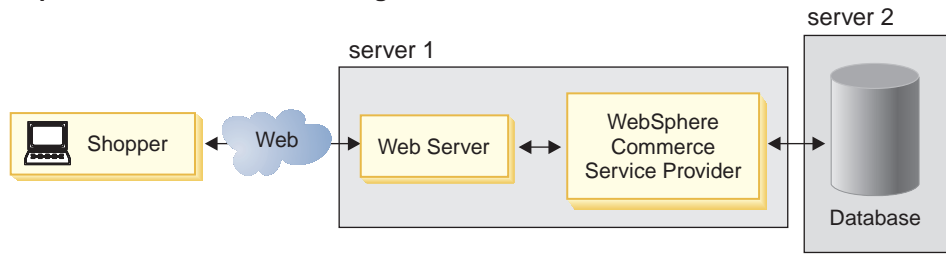
This configuration is recommended for moderate volume stores. This type of configuration is ideal for ensuring that you can tune the Web and database servers separately for performance (since performance tuning considerations of a Web server vary widely from that of a database server). In addition, the separate database configuration lends itself to further extensibility, scalability and reliability. As the load on the Web site increases, you can scale from this configuration to a 3–tier configuration by adding additional machines that are running a Web server and WebSphere Commerce Service Provider.

3–tier Configuration
A 3–tier configuration has multiple Web server and WebSphere Commerce Service Provider server pairs, communicating with a single database. This configuration uses a single instance (each WebSphere Commerce Service Provider server is running the same mall or store) with an IP dispatcher that directs traffic between the servers.

The following diagram displays a multiple Web server configuration that also uses a remote database (on a separate machine).

Multiple Server Configuration
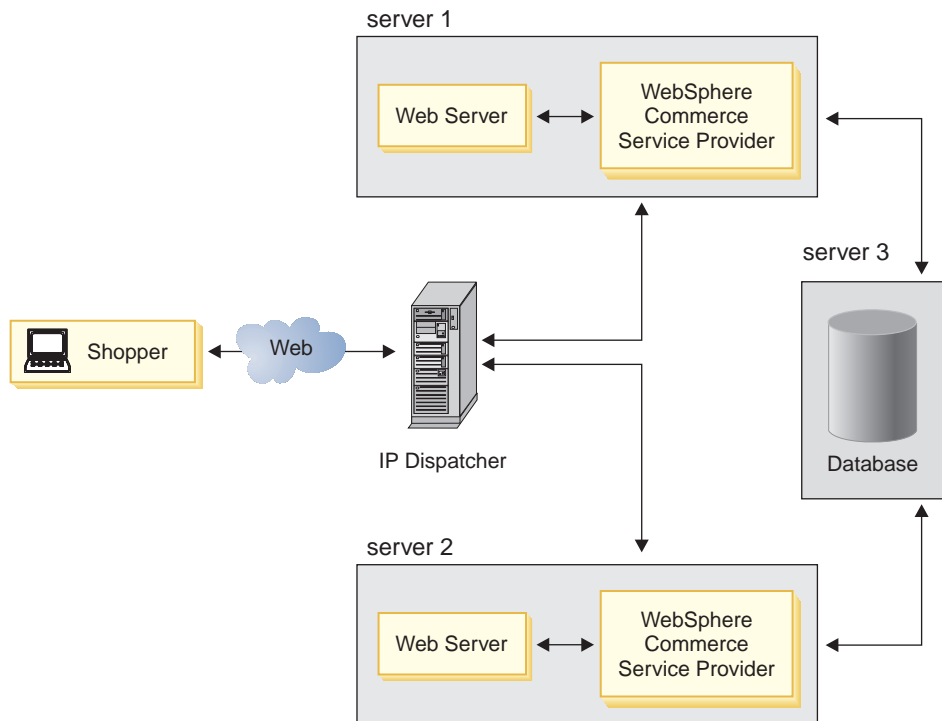
This configuration is recommended for high volume sites because it can be part of an effective work load balancing strategy.

The Next Step

Once you have met all the preinstallation requirements documented in this chapter, you are ready to continue.

If you want to use Domino Go Webserver as your Web server, depending on which database management system you are using, do one of the following:

* If you wish to use DB2 as your database but you do not have it installed on your system, turn to "Chapter 2. Installing DB2 UDB" on page 13 to continue. If you already have DB2 installed, turn to "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27 to continue.
* If you wish to use Oracle as your database, but you do not have it installed on your system, turn to "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23 to continue. If you already have Oracle installed and configured, turn to "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27 to continue.

If you want to use Netscape Enterprise Server (NES) as your Web server, it should be installed according to the instructions provided by Netscape. WebSphere Commerce Service Provider supports Netscape Enterprise Server 3.61. Once you have installed Netscape Enterprise Server, depending on which database management system you are using, do one of the following, :

* If you wish to use DB2 as your database, but you do not have it installed on your system, turn to "Chapter 2. Installing DB2 UDB" on page 13 to continue. If you already have DB2 installed, turn to "Chapter 6. Installing Net.Data 6.1.1" on page 29 to continue.
* If you wish to use Oracle as your database, but you do not have it installed on your system, turn to "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23 to continue. If you already have Oracle installed and configured, turn to "Chapter 6. Installing Net.Data 6.1.1" on page 29 to continue.

If you are installing your database for a 2–tier configuration, that is if you want to install your database server on a machine that is remote from your WebSphere Commerce Service Provider machine (database client machine), see "Chapter 17. Installing Your Database on a Separate Machine" on page 87.

If you want to perform a multi-tier installation of WebSphere Commerce Service Provider using eNetwork Dispatcher, see "Chapter 18. Configuring eNetwork Dispatcher 2.0.0.3" on page 97.

Chapter 2. Installing DB2 UDB

This chapter explains how to install DB2 Universal Database 6.1.0.6. To complete the steps in this chapter you will require the DB2 Universal Database 6.1.0.6 CD.

Note: For a 2–tier DB2 configuration, you must run the steps in this chapter on both the DB2 server machine and the DB2 client machine (WebSphere Commerce Service Provider machine) except as noted for the DB2 client machine. For a stand-alone DB2 machine in a 1–tier configuration, you must run all the steps in this chapter.

> **Important!**
> You must have updated the Solaris kernel parameters before performing the steps in this chapter. If you did not update the Solaris kernel parameters, as indicated in "Updating Solaris Kernel Configuration Parameters for DB2" on page 4, you *must* update these parameters before installing DB2. If the Solaris kernel parameters are not set correctly, DB2 will be unable to create the instance. For a 2–tier installation these parameters must be updated on both the DB2 server and DB2 client machine.

Chapter Prerequisites

To ensure that you can successfully complete the steps in this chapter, ensure that you have met the following requirements:

__ 1. Ensure that the `/export/home` directory exists. If it does not, then create it. Otherwise, the DB2 instance creation will fail. This directory *must* exist before you begin to install DB2 UDB.

__ 2. The DB2 Installer's `db2setup` command only works with the Bourne and Korn shells.

__ 3. If you have uninstalled a previous version of DB2 from this machine, ensure that all DB2 files have been deleted. If there is any DB2 information or any DB2–related files left on the system, you may be unable to successfully install DB2 or create the instance. For information on completely removing DB2 from your system, refer to "Uninstalling DB2 Universal Database 6.1.0.6" on page 216.

__ 4. If you are using NIS (Network Information Services), you must disable it before installing DB2. If you do not disable NIS, the DB2 instance will not be created.

__ 5. Note that after installation, the DB2 instance user ID must run the Korn shell as described in "Verify Your DB2 Instance ID" on page 17.

Installation Procedures

To install DB2 Universal Database 6.1.0.6, do the following:

1. Log on as user ID `root`.
2. Ensure that the `/export/home` directory exists. If it does not, create it.
3. If necessary, mount the DB2 Universal Database 6.1.0.6 CD.

4. Maximize your shell prompt window. The DB2 installation requires a minimum display size of 24 rows by 80 columns.

5. Switch to the install directory by typing:

   ```
   cd /cdrom/cdrom0/
   ```

6. Start the db2setup program by typing the following:

   ```
   ./db2setup
   ```

   > You can generate a trace log, /tmp/db2setup.trc, to record errors experienced during the installation. To do this, run the db2setup command as follows:
   >
   > ```
   > ./db2setup -d
   > ```

7. The db2setup program scans your system for information about your current configuration, and displays the following window:

   ```
   +---------------------------- Install DB2 V6.1 ----------------------------+
   |                                                                          |
   |    Select the products you are licensed to install.  Your Proof of       |
   |    Entitlement and License Information booklet identify the products for  |
   |    which you are licensed.                                                |
   |                                                                          |
   |    To see the preselected components or customize the selection, select   |
   |    Customize for the product.                                             |
   |    [ ] DB2 Administration Client                     : Customize... :     |
   |    [ ] DB2 UDB Enterprise Edition                    : Customize... :     |
   |    [ ] DB2 Software Developer's Kit                  : Customize... :     |
   |                                                                          |
   |    To choose a language for the following components, select Customize for|
   |    the product.                                                           |
   |        DB2 Product Messages                          [ Customize... ]      |
   |        DB2 Product Library                           [ Customize... ]      |
   |                                                                          |
   |                                                                          |
   |                                                                          |
   |                                                                          |
   |    [   OK   ]                   [ Cancel ]                    [ Help  ]    |
   +--------------------------------------------------------------------------+
   ```

   Highlight your selections, and then either press the space bar or press **Enter** to select them as follows:

   a. Select **DB2 Administration Client** or **DB2 UDB Enterprise Edition**, depending on the following:

      - If you intend to run a WebSphere Commerce Service Provider database on this machine, select **DB2 UDB Enterprise Edition**. Make this selection if you are performing a 1–tier DB2 installation, or if you are performing the DB2 installation on the DB2 server machine in a 2–tier DB2 installation.

      - If you intend to run all your Net.Commerce Hosting Server databases on other machines, select **DB2 Administration Client**. Make this selection if you are performing a DB2 installation on the WebSphere Commerce Suite machine in a 2–tier DB2 installation.

   b. If you want DB2 messages displayed in a language other than English, select **Customize** beside **DB2 Product Messages** (near the bottom of the window) to open the DB2 Messages window. Then highlight your language code, press the space bar, then tab repeatedly to highlight **OK**, and press **Enter**.

   c. If you want to install the DB2 publications in HTML format in a language other than English, highlight **Customize** beside **DB2 Product Library** to

open the DB2 Product Library window. Then highlight your language
code, press the space bar, then tab repeatedly to highlight **OK**, and press
Enter.

8. When you have made your selections, tab to highlight **OK** and press **Enter**.

9. If you have selected DB2 UDB Enterprise Edition, the following Create DB2
Services window appears:

```
+-------------------------- Create DB2 Services ----------------------------+
|                                                                           |
|   Select the items you want to create, and select OK when finished.       |
|                                                                           |
|   A DB2 Instance is an environment where you store data and run           |
|   applications.  An instance can contain multiple databases.              |
|                                                                           |
|   (*) Create a DB2 Instance.                          [ Customize... ]     |
|   ( ) Do not create a DB2 Instance.                                        |
|                                                                           |
|   An Administration Server provides services to support client tools that |
|   automate the configuration of connections to DB2 databases.             |
|                                                                           |
|   ( ) Create the Administration Server.               : Customize... :     |
|   (*) Do not create the Administration Server.                             |
|                                                                           |
|                                                                           |
|                                                                           |
|                                                                           |
|   [   OK   ]                      [ Cancel ]                  [  Help  ]    |
+---------------------------------------------------------------------------+
```

If you have selected the DB2 Administration Client in a 2–tier installation, the
Create DB2 Services window that appears is similar, but does not contain the
section on the Administration Server. Ensure that **Do not create a DB2
Instance** is highlighted. If you have selected DB2 UDB Enterprise Edition,
ensure that **Do not create the Administration Server** is also highlighted. Press
Enter after you have made your selections.

10. The following window appears:

```
+-------------------------- Create DB2 Services ----------------------------+
| +--- DB2 Instance -------------------------------------------------------+ |
| |                                                                       | |
| |   Authentication:                                                     | |
| |       Enter User ID, Group ID, Home Directory and Password that will be| |
| |       used for the DB2 Instance.                                      | |
| |       User Name            [db2inst1]                                  | |
| |       User ID              :        :              [*] Use default UID | |
| |       Group Name           [db2iadm1]                                  | |
| |       Group ID             :        :              [*] Use default GID | |
| |       Home Directory       [<t/home/db2inst1]                          | |
| |       Password             [             ]                             | |
| |       Verify Password      [             ]                             | |
| |                                                                       | |
| |   Select Properties to view or change more         [ Properties... ]   | |
| |   options.                                                            | |
| |                                                                       | |
| |   Select Default to restore all default            [ Default ]         | |
| |   settings.                                                           | |
| |   [   OK   ]                    [ Cancel ]              [  Help  ]      | |
| +-----------------------------------------------------------------------+ |
+---------------------------------------------------------------------------+
```

Complete the fields as follows:

User Name

Type the DB2 instance ID that you want to use. The instance ID *must*
meet the following criteria:

- It cannot be more than 8 characters in length.

- It can contain only the characters A to Z, a to z, 0 to 9, @, #, $, and _.
- It cannot begin with an underscore (_).
- It cannot be any of the following, in upper, lower, or mixed case: USERS, ADMINS, GUESTS, PUBLIC, LOCAL.
- It cannot begin with any of the following in upper, lower, or mixed case: IBM, SQL, SYS.

> **Note:** In a 2–tier installation, use the same user name and password on both the DB2 server and DB2 client machines.

Group Name

Type a group name that you are not currently using for any other user ID. This group will automatically become the system administration group for the DB2 instance, and it will be given administration authority.

Password

Type a password that meets the following criteria:
- It cannot be more than 8 characters in length.
- It can contain only the characters A to Z, a to z, 0 to 9, @, #, $, and _.
- It cannot begin with an underscore (_).

Verify Password

Type the same password again.

Accept the defaults for all other fields, highlight **OK**, and press **Enter**.

11. If you are installing the DB2 Administration Client (the DB2 client), proceed to step 12 on page 17. If you are installing DB2 UDB Enterprise Edition (the DB2 server) you see the following windows:

- The Fenced User window is displayed:

```
+--------------------------- Create DB2 Services ---------------------------+
+--- Fenced User -----------------------------------------------------------+
||                                                                          ||
||   Fenced user defined functions (UDFs) and stored procedures will        ||
||   execute under this user and group.                                     ||
||                                                                          ||
||                                                                          ||
||   Authentication:                                                        ||
||       Enter User ID, Group ID, Home Directory and Password that will be  ||
||       used for the Fenced User.                                          ||
||       User Name          [db2fenc1]                                      ||
||       User ID            :         :             [*] Use default UID     ||
||       Group Name         [db2fadm1]                                      ||
||       Group ID           :         :             [*] Use default GID     ||
||       Home Directory     [<t/home/db2fenc1]                              ||
||       Password           [              ]                                ||
||       Verify Password    [              ]                                ||
||                                                                          ||
||   Select Default to restore all default              [ Default ]         ||
||   settings.                                                              ||
||                                                                          ||
||   [  OK  ]                    [ Cancel ]                 [ Help ]         ||
++-------------------------------------------------------------------------++
```

Tab to highlight **OK** and press **Enter**.

- A notice message appears indicating that a system-generated password will be used. Highlight **OK** and press **Enter**.
- The Create DB2 Services window is displayed. Tab to highlight **OK** and press **Enter**.

- Ignore the warning message that indicates that the Administration Server is not created by highlighting **OK** and pressing **Enter**.

12. A summary report appears, listing the components that will be installed. Highlight **Continue** and press **Enter**.

13. A warning appears, advising you that this is your last chance to stop the install. Highlight **OK** and press **Enter**.

14. The db2setup program installs your components and creates your instance ID in the group you specified. Depending on the speed of your processor, this can take up to 15 minutes. When it completes, a Notice window informs you whether it was successful. Highlight **OK** and press **Enter**.

15. Scan the Status Report to ensure that all components were installed successfully and that the DB2 instance ID was created successfully. Highlight **OK** and press **Enter**.

    Note: If you use **View Log** to view the installation log, you may see a message, SQL8006W, indicating that a trial license has been installed. This license will be replaced automatically when you install WebSphere Commerce Service Provider in a later step.

16. To close the DB2 Installer window, highlight **Close** and press **Enter**.

17. You will see a message that the Administration Server is not created. Ignore this message by highlighting **OK** and pressing **Enter**.

18. To confirm that you want to exit DB2 Installer, highlight **OK** and press **Enter**.

19. Use . You can change the shell as follows:

20. Change to the root directory:

    ```
    cd /
    ```

21. Eject the DB2 CD.

Verify Your DB2 Instance ID

Verify that the DB2 instance ID you created uses the Korn shell as WebSphere Commerce Service Provider requires that the DB2 instance ID run in the Korn shell. You can use the Admintool to check the characteristics of this user ID and change the default shell if necessary to the Korn shell using the following steps:

1. Start the Administration tool by typing the following command:

   ```
   /bin/admintool&
   ```

2. From the **Browse** pull-down menu, select **Users**. The Admintool: Users window appears.

3. Double click on the *DB2 instance ID* you have created in step 9 on page 15.

4. The **Modify User** window appears. On the drop down list for **login shells** select **Korn**.

5. Click **OK** to accept the changes.

6. Close the Administration Tool by selecting **Exit** from the **file** menu.

The Next Step

Now that you have installed DB2 Universal Database 6.1.0.6, continue by doing one of the following:

- If you choose to install the DB2 Text Extender, turn to "Chapter 3. Installing DB2 Text Extender 6.1.1" on page 19.
- If you are not installing the DB2 Text Extender, and you are using Domino Go Webserver as your Web server, turn to "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27.

Chapter 3. Installing DB2 Text Extender 6.1.1

This chapter describes how to install DB2 Text Extender, which is an optional component. To complete the steps in this chapter, you will need the DB2 Universal Database Extenders CD.

Note: For a 2–tier DB2 configuration, if you want to install the Text Extender, run the steps in this chapter on both the DB2 server and the DB2 client machine (WebSphere Commerce Service Provider machine) except as noted for the DB2 client machine. For a stand-alone DB2 machine in a 1–tier configuration, run all the steps in this chapter.

Installation Procedures

To install DB2 Text Extender, do the following:

1. Log in as user ID `root`.
2. If necessary, mount the DB2 Universal Database Extenders V611 CD. where *CDROM_dir* is the directory that you want to specify as your mounted CD.
3. On a command line, switch to the Text Extender installation directory on the CD by typing:

   `cd /cdrom/cdrom0/SOLDB2TextExtenderV611`
4. Enter the following command to begin installing Text Extender:

   `./db2tx_install`
5. Indicate whether you want to install a Text Extender Client or Server when you receive the following prompt:

   `Do you want to install a Text Extender server [yes/no] ?`

   If you are installing Text Extender on your:
   * Stand-alone machine in a 1–tier configuration, enter **yes**.
   * DB2 server machine in a 2–tier configuration, enter **yes**.
   * WebSphere Commerce Service Provider machine (DB2 client machine) in a 2–tier configuration, enter **no**.
6. If you are installing a Text Extender server (you entered **yes** in step 5):

   You are asked to specify the dictionaries to install from the list of language keywords such as `En_US` for US English Dictionary, `Fr_CA` for Canadian French Dictionary, and so on. Enter the dictionary for the language that you prefer, for example, `En_US`. Note that you can install more than one dictionary.

   After entering the dictionary you require (in this example, `En_US`, the packages that get installed are listed on the screen as follows:

   `dbtxsrv db2txdius db2txclnt db2txmsgs db2txcom`

   Next you see the following prompt:

   `Do you want to continue [yes/no] ?`

   Enter **yes** to continue.
7. If you are installing a Text Extender client (you entered **no** in step 5):

   You see the following prompt:

   `Do you want to install a Text Extender client [yes/no] ?`

If you are installing Text Extender on your WebSphere Commerce Service Provider machine (DB2 client machine) in a 2–tier configuration, enter **yes**.

You are asked to specify the dictionaries to install from the list of language keywords such as `En_US` for US English Dictionary, `Fr_CA` for Canadian French Dictionary, and so on. Enter the dictionary for the language that you prefer, for example, `En_US`. Note that you can install more than one dictionary.

After entering the dictionary you require (in this example, `En_US`, the packages that get installed are listed on the screen as follows:
```
dbtxclnt db2txdius db2txcom db2txmsgs
```

Next you see the following prompt:
```
Do you want to continue [yes/no] ?
```

Enter **yes** to continue.

8. Unmount the CD by typing,
```
cd /
umount CDROM_dir
```

where *CDROM_dir* is the directory that you specified as your mounted CD.
9. Remove the DB2 Universal Database Extenders CD.

Establishing the Text Extender Instance

You only perform this step on your stand-alone machine in a 1–tier installation or your DB2 server machine in a 2–tier installation. You do not need to create a Text Extender instance on your WebSphere Commerce Service Provider (DB2 client) machine in a 2–tier installation.

The Text Extender instance ID you create will be identical to your DB2 instance ID you created when you installed DB2 (for example, `db2inst1`).

To establish the Text Extender instance perform the following steps:
1. Log in as user ID `root`.
2. Ensure that the DB2 instance ID (default is `db2inst1`) and the DB2 Fenced User ID (default is `db2fenc1`) are members of the DB2 System Administration group, identified by `SYSADM_GROUP` in the DB2 Database Manager Configuration file. The default is the `db2iadm1` group.
3. Switch to the /export/home/*db2inst_ID*/sqllib directory and ensure that the following line is in the file db2profile :
   . /export/home/*db2inst_ID*/db2tx/db2txprofile

   where *db2inst_ID* is your DB2 instance ID that you created when you installed DB2 Universal Database (for example, `db2inst1`). If it is not present in the file, add it in.
4. Switch to the /export/home/*db2fenced_ID* directory and ensure that the following line is in the file .profile :
   . /export/home/*db2inst_ID*/db2tx/db2txprofile

   where *db2fenced_ID* is your DB2 Fenced User ID that you created when you installed DB2 Universal Database (for example, `db2fenc1`) and *db2inst_ID* is your DB2 instance ID that you created when you installed DB2 Universal Database (for example, `db2inst1`). If it is not present in the file, add it in.

5. Switch to the Text Extender instance directory by typing the following command:

   ```
   cd /opt/IBMdb2tx/V6.1/instance
   ```

6. Run the following command:

   ```
   ./txicrt db2inst_ID db2inst_ID
   ```

   where *db2inst_ID* is the instance ID you created when you installed DB2 Universal Database (for example, db2inst1). This user ID must already exist.

   Important:
   - Running `txicrt` creates the /export/home/*db2inst_ID*/db2tx directory. If you delete the Text Extender instance any files stored under this directory will be lost.
   - Additional parameters are required if you are using a partitioned database environment. Please read the *DB2 Text Extender Administration and Programming Guide* for more information.

Establishing the Text Extender Instance Environment

You only perform this step on your stand-alone machine in a 1–tier installation or your remote DB2 server machine in a 2–tier installation. You do not need to perform this step on your WebSphere Commerce Service Provider machine in a 2–tier installation.

To establish the Text Extender instance environment, do the following:

1. Switch to your DB2 instance ID by typing the following:

   ```
   su - db2inst_ID
   ```

   where *db2inst_ID* is the instance ID you created when you installed DB2 Universal Database (for example, db2inst1).

2. Stop and start DB2 Universal Database by typing:

   ```
   db2stop
   db2start
   ```

3. Start the Text Extender server by typing:

   ```
   txstart
   ```

4. Export the default database name for the WebSphere Commerce Service Provider database you will create by typing the following command:

   ```
   export DB2DBDFT=database_name
   ```

   where *database_name* is the WebSphere Commerce Service Provider database you will create (for example, mser).

   Note: After you create your DB2 database, ensure you update your DB2 configuration file by typing in the following command:

   ```
   db2 update db config for database_name using APP_CTL_HEAP_SZ 1024
   ```

   where *database_name* is the database you will use for WebSphere Commerce Service Provider (for example, mser).

The Next Step

If you are using Domino Go Webserver as your Web server, turn to "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27 to continue.

If you are using Netscape Enterprise Server as your Web server, it should be installed already. Turn to"Chapter 6. Installing Net.Data 6.1.1" on page 29 to continue.

Chapter 4. Installing and Configuring ODBC and Oracle

This chapter provides information on configuring ODBC and Oracle. It does not provide detailed information on installing Oracle.

Notes:

1. Only Oracle 8.0.5 and 8.0.6 are supported by WebSphere Commerce Service Provider.

2. You need advanced knowledge of Oracle (at the DBA level) to follow the instructions in this chapter.

3. For more information about Oracle, go to `http://www.oracle.com`. You can obtain copies of the Oracle documentation from `http://technet.oracle.com`. The Oracle installation and configuration information in this chapter is provided only as a guideline.

Installing and Configuring Oracle

If you want to use Oracle as your database management system instead of DB2, you must do the following:

__ 1. Install the following Oracle products (recommended) from the Oracle CD-ROM:

   - Net8
   - Oracle8 Enterprise (Install on your stand-alone machine for a 1–tier installation, or on your Oracle server machine in a 2–tier installation)
   - Oracle Client Software (Install on your WebSphere Commerce Service Provider machine in a 2–tier installation)
   - Oracle UNIX Installer
   - SQL*Plus
   - TCP/IP Protocol Adapter
   - Oracle Intelligent Agent
   - Object Type Translator
   - Oracle 8 JDBC driver

__ 2. Create the following items:

   a. Oracle SID.

   b. Oracle user ID for WebSphere Commerce Service Provider.

   c. Oracle user ID, `EJSADMIN`, with administrative privileges for WebSphere Commerce Service Provider.

   d. Oracle table space or table spaces for Oracle user ID for WebSphere Commerce Service Provider.

   e. Oracle table space or table spaces for Oracle user ID, `EJSADMIN`.

   f. Oracle service name for the Oracle listener

__ 3. Configure the ODBC driver, as described in "Configuring the ODBC Driver" on page 24.

If you want to use Oracle with Product Advisor, refer to the instructions in "Appendix A. Configuring Product Advisor" on page 201.

Configuring the ODBC Driver

To configure ODBC for Oracle, do the following:

1. Obtain a licensed copy of the ODBC driver. The driver is available from the following Web site: `http://www.merant.com`. You require a license to use this driver. WebSphere Commerce Service Provider supports Version 3.5 of the ODBC driver.

   Important:

   You *must* follow the instructions provided in the `READ.ME` file that accompanies the Merant driver. If you do not follow the instructions for your platform you will not be able to create an instance.

2. Install the ODBC driver in the `/opt/odbc` directory.

3. Log on to the Oracle user ID.

   Note: This ID is the one that you will specify in the **Instance Owner ID** field of the **Database** tab when you configure WebSphere Commerce Service Provider.

4. Copy the files `/opt/odbc/odbc.ini` and `/opt/odbc/odbc.sh` to the home directory of the Oracle user, and rename `odbc.ini` to `.odbc.ini`:

   ```
   cp /opt/odbc/odbc.ini $HOME/.odbc.ini
   cp /opt/odbc/odbc.sh $HOME/
   ```

5. Modify the `.odbc.ini` file to specify the ODBC data source name that you used. This name is equivalent to the database name that you specify on the Database tab of the Configuration Manager. In the following example, `o805` is the data source name.

   ```
   [ODBC Data Source]
   o805=IBM WebSphere Commerce Service Provider

   [o805]
   Driver=/opt/odbc/lib/ODBC_driver_name
   Description=WebSphere Commerce Service Provider Data Source
   ServerName=[oracle_instance_service_name]
   LogonID=
   Password=

   [ODBC]
   Trace=0
   TraceFile=odbctrace.out
   TraceDll=/opt/odbc/lib/odbctrac.so
   InstallDir=/opt/odbc
   ```

   Note that the square brackets in the preceding sample indicate that the *oracle_instance_service_name* is optional. Do not type the square brackets. An example of the *oracle_instance_service_name* is `o805`.

6. Add the following three lines in the `.profile` file of the Oracle user:

   ```
   export ODBCHOME=/opt/odbc
   export ODBCINI=$HOME/.odbc.ini
   . odbc.sh
   ```

   See "Example of an Oracle User .profile File" on page 65 for an example of an Oracle user `.profile` file.

7. Regenerate the `libclntsh.so` shared library as described in the Merant `READ.ME` file.

Preparing the WebSphere Plug-in Environment

To set up the WebSphere Application Server plug-in for ODBC, as user `root` create the following soft links for the ODBC driver files:

```
ln -sf /opt/odbc/lib/libodbc.so /usr/lib/
ln -sf /opt/odbc/lib/libodbcinst.so /usr/lib/
```

In a 2–tier Oracle installation, this step is required only on the Oracle client machine.

Verifying Connectivity

To verify database connectivity, follow the steps in this section:

1. Verify connectivity through SQL*PLUS. Ensure that you logon to the Oracle user ID before running SQL*PLUS, and ensure that you specify @*service_name* following the password when using this command. For example:

   ```
   su - oracle_user_id
   sqlplus user/password@service_name
   ```

   If the `sqlplus` command is unsuccessful, ensure that the files `tnsnames.ora` and `listener.ora` located in `$ORACLE_HOME/network/admin` contains a valid SID and the host name of the Oracle server machine.

2. Verify connectivity through the ODBC client. To do this, follow these steps:

   a. In order to set the correct permissions for the `demoodbc` executable, as user `root`, run the following command:

      ```
      chmod a+x /opt/odbc/demo/demoodbc
      xhost + local_machine_name
      ```

      where *local_machine_name* is your fully qualified machine name.

   b. Logon to the Oracle user ID:

      ```
      su - oracle_user_id
      ```

   c. Change to the /opt/odbc/demo directory (assuming you have installed to the default ODBC directory):

      ```
      cd /opt/odbc/demo
      ```

   d. Run the command:

      ```
      ./demoodbc -uid user_id -pwd password service_name
      ```

      where *user_id* is a valid Oracle user, *password* is the corresponding password for the user, and *service_name* is the Oracle instance service name.

      You should receive a message indicating that you have connected to the Oracle database.

   e. Click `Connect` from the pop-up window.

   f. Logon with your Oracle user ID and password. You should receive a message stating that you connected successfully.

   Note: When running `demoodbc`, you receive a message similar to:

   ```
   Failed to load /opt/oracle/product/8.0.5/lib/libclntsh.sold.so.1:
   ./demoodbc: fatal: relocation error:
   file /opt/oracle/product/8.0.5/lib/libclntsh.so:
   symbol slpmprodstab: referenced symbol not found
   ```

   rebuild the default Oracle 8.0.5 library, /opt/oracle/product/8.0.5/lib/libclntsh.so, to work with the Merant

ODBC driver. Use the `getclntsh8` script provided with Merant ODBC installation located in the `$ODBC_HOME/src/oracle/getclntsh8` directory (where `$ODBC_HOME` is set to `/opt/odbc`).

This is the end of the prerequisites for Oracle, prior to installing the WebSphere Commerce Service Provider components.

The Next Step

If you are using Domino Go Webserver as your Web server turn to "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27 to continue.

If you are using Netscape Enterprise Server as your Web server, it should already be installed. Turn to"Chapter 6. Installing Net.Data 6.1.1" on page 29 to continue.

Chapter 5. Installing Domino Go Webserver 4.6.2.61

This chapter explains how to install Domino Go Webserver 4.6.2.61. To complete the steps in this chapter, you will need the Lotus Domino Go Webserver 4.6.2.61 CD.

Installation Procedures

To install Domino Go Webserver 4.6.2.61, do the following:

1. Log on as user ID `root`.

2. If necessary, mount the Domino Go Webserver 4.6.2.61 CD.

3. Start the Administration tool by typing the following command:

   `/bin/admintool&`

4. From the **Browse** pull-down menu, select **Software**. The Admintool: Software window appears.

5. From the **Edit** pull-down menu, select **Add**. The Admintool: Set Source Media window appears.

6. If you have Volume Manager installed, select **CD with Volume Management** in the **Software Location** field. Then, in the **CD Path** field, type `/cdrom/cdrom0/spool` and click **OK**.

7. If you do not have Volume Manager installed, select **CD without Volume Management** in the **Software Location** field. In the **Mount Point** field, type `/cdrom/cdrom0/spool` and click **OK**.

8. From the list of packages, make your selections as follows:

   - **Lotus Domino Go Webserver**.
   - *One* of the following:
     - **gskru301** — If you are installing the North American version of Domino Go Webserver.
     - **gskre301** — If you are installing the Export version of Domino Go Webserver.
     - **gskrf301** — If you are installing the French Export version of Domino Go Webserver.
   - *One* of the following:
     - **Lotus Domino Go Webserver — North American Edition** — If you are installing the North American version of Domino Go Webserver.
     - **Lotus Domino Go Webserver — International English Edition** — If you are installing the Export version of Domino Go Webserver.

   Note: Do not install Java components.

9. Click **Add**. The Admintool: Add Software window appears.

10. Respond to the prompts as follows:

    - If asked to enter the path to the package base directory, type **/**. Domino Go Webserver is supported only when installed in this package base directory.
    - When asked whether you want to install the Domino Go Webserver files as setuid/setgid files, respond **y** to each prompt.
    - When asked whether you want to proceed with the install of each package, respond **y** to each prompt.

- If asked whether you want to install conflicting files, respond **y** to each prompt.
11. When all packages are installed, press **Enter** and close all Admintool windows.
12. While logged on as user ID `root` stop Domino Go Webserver by doing the following:
    a. Determine whether Domino Go Webserver is running, by typing the following command:

       `ps -ef|grep httpd`

       Note the process ID for the `/usr/sbin/httpd` process.
    b. Stop Domino Go by typing the following command:

       `kill` *process_id*

       where *process_id* is the process ID that you noted in the previous step.
13. Eject the Domino Go Webserver 4.6.2.61 CD.

After the successful installation of Domino Go Webserver 4.6.2.61, you can find:
- The Web server installed in the `/opt/GoServer/usr/internet/server_root` directory.
- The Web root is in the `/opt/GoServer/usr/internet/server_root/pub` directory.
- The main Web server executable is `/usr/sbin/httpd`.

The Next Step

Now that you have installed Domino Go Webserver 4.6.2.61, turn to"Chapter 6. Installing Net.Data 6.1.1" on page 29 to continue.

Chapter 6. Installing Net.Data 6.1.1

This chapter explains how to install Net.Data. To complete the steps in this chapter you will need the Net.Data CD.

If you are installing or reinstalling Net.Data after installing WebSphere Commerce Service Provider, ensure that you back up your `/opt/intenet/server_root/db2www.ini` file before installing or reinstalling Net.Data. (Net.Data installs its own version of this file.) Once you have completed installing or reinstalling Net.Data, you can replace the Net.Data version of the file with your backup version of the file.

Installation Procedures

To install Net.Data, do the following:

1. Log on as user ID `root`.
2. If necessary, mount the Net.Data 6.1.1 CD.
3. From user ID `root`, start the administration tool by typing the following command:

   `/bin/admintool&`
4. From the **Browse** pull-down menu, select **Software**. The Admintool: Software window appears.
5. From the **Edit** pull-down menu, select **Add**. The Admintool: Set Source Media window appears.
6. If you have Volume Manager installed, select **CD with Volume Management** in the **Software Location** field. Then, in the **CD Path** field, type `/cdrom/cdrom0` and click **OK**.
7. If you do not have Volume Manager installed, select **CD without Volume Management** in the **Software Location** field. In the **Mount Point** field, type `/cdrom/cdrom0` and click **OK**.
8. Select **Net.Data** from the list of packages.

   Note: Net.Data is *automatically* installed in `/opt/IBMNetData`, and is only supported in that directory.
9. Click **Add**. The Admintool: Add Software window appears to display a scrolling list of what is being installed.
10. When asked whether you want to proceed with the install of each package, respond **y** to each prompt.
11. When all packages are installed, press **Enter** and close all Admintool windows.
12. Change your working directory to the root directory:

    `cd /`
13. Eject the Net.Data CD.

The Next Step

Now that you have installed Net.Data, you are ready to continue with the installation process by installing JDK 1.1.7 and WebSphere Application Server.

Turn to "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31 to continue.

Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition

This chapter describes how to install WebSphere Application Server 2.0.3.1 Standard Edition and JDK 1.1.7. To complete the steps in this chapter, you will need the WebSphere Application Server 2.0.3.1 Standard Edition CD.

Chapter Prerequisites

To ensure that you can successfully complete the steps in this chapter, ensure that you have met the following requirements:

__ 1. You *must* have a Web server (either Domino Go Webserver or Netscape Enterprise Server), Net.Data, and a relational database management system (either DB2 or Oracle) installed *before* beginning the steps in this chapter.

>   **Note:** During the WebSphere installation, you will be prompted to install a JDK. *Do not* install the JDK from this prompt as you will install the correct JDK in "Installing JDK 1.1.7", below.

__ 2. If you are using Domino Go Webserver, ensure that you *do not* have the Java servlet package installed. To determine whether this package is installed, type `pkginfo |grep LOTUSJAVA` at a shell prompt. If the response references Lotus Java, the Java servlet package is installed, and you *must* uninstall it before installing WebSphere Application Server.

__ 3. If you have a previous level of the JDK installed on your machine, uninstall it using the Administration tool and install JDK 1.1.7 as described below.

__ 4. You must have a graphical monitor or terminal to install WebSphere Application Server.

Installing JDK 1.1.7

To install JDK 1.1.7, do the following:

1. Ensure you are logged in as user ID `root`.
2. If necessary, mount the WebSphere Application Server 2.0.3.1 CD.
3. Start the administration tool by typing the following command:

   `/bin/admintool&`
4. From the **Browse** pull-down menu, select **Software**. The Admintool: Software window appears.
5. From the **Edit** pull-down menu, select **Add**. The Admintool: Set Source Media window appears.
6. If you have Volume Manager installed, select **CD with Volume Management** in the **Software Location** field. Then, in the **CD Path** field, type `/cdrom/cdrom0/Solaris/JDK` and click **OK**.
7. If you do not have Volume Manager installed, select **CD without Volume Management** in the **Software Location** field. In the **Mount Point** field, type `/cdrom/cdrom0/Solaris/JDK` and click **OK**.
8. From the list of packages, make your selections as follows:
   - **JavaVM demo programs** – Optional
   - **JavaVM developers package**

- **JavaJIT compiler**
- **JavaVM man pages** – Optional
- **JavaVM runtime environment**

9. Click **Add**. The Admintool: Add Software window appears.

10. When asked whether you want to proceed with the install of each package, respond **y** to each prompt.

11. If asked whether you want to install conflicting files, respond **y** to each prompt.

12. When all packages are installed, press **Enter** and close all Admintool windows.

By default, the JDK gets installed in the /usr/java1.1 directory.

WebSphere Application Server Installation Procedures

To install WebSphere Application Server, do the following:

1. Ensure you are logged in as user ID root.

2. Switch to the /cdrom/cdrom0/Solaris directory.

3. Type the following command to start the installation program:

   ./install.sh

4. The installation program will display your current JDK level, which should now be JDK 1.1.7. When the installation program asks if you wish to install JDK 1.1.6, type **n** in reply to the prompt.

5. The installation program will prompt you for the JAVA_HOME path. Enter the path where the JAVA_HOME is located. By default this is /usr/java1.1. Enter the path where the JAVA_HOME is located.

6. A Welcome window appears. Click **Next** to continue.

7. On the Choose Destination Location window, either accept the default installation path (/opt/WebSphere/AppServer) or enter a new installation path by clicking **Browse**. When the correct path is specified, click **Next** to continue.

8. The next window allows you to select which WebSphere Application Server components you wish to install. Select the following:

   - In the left-hand selection box, select the following:

     a. Application Server

     b. Documentation (optional)

     c. App Server Administrator

   - With Application Server highlighted, in the right-hand selection box select the following:

     – Servlet engine (base)

     – The appropriate plug-in for the Web server you are using, as follows:

       - If you are using Netscape Enterprise Server, select **Netscape V3.6**.

       - If you are using Domino Go Webserver, select **Lotus Domino Go Webserver V4.6.2.x**.

       Note: If IBM HTTP Server is selected by default, ensure that you deselect it.

9. When you have selected the components to install, click **Next**.

10. If you are using Netscape Enterprise Server, you are prompted to specify the directory and file name of the Netscape Enterprise Server configuration file

(obj.conf). Specify the path and file name for the obj.conf file for your *non-secure* server port (port 80). The default path for this file is /usr/netscape/suitespot/*server_name*/config/obj.conf. The secure server port (port 443) requires servlet support but you address this requirement when you configure a second WebSphere instance for your secure server (port 443) in a later step as described in "Chapter 10. Configuring Netscape Enterprise Server" on page 41. Click **Next**.

11. On the next window, you are prompted to confirm that you want to begin copying files. If you want to begin the installation, click **OK**. To return to the Component and Subcomponent window, click **Cancel**.

12. When the installation is complete, the Setup Complete window appears. If you want to review the WebSphere readme file, click the readme checkbox. If you do not want to review the readme file, ensure that the checkbox is not selected. Click **Finish**.

13. Change your working directory to the root directory:

```
cd /
```

14. Eject the WebSphere Application Server CD.

15. Remove the WebSphere Application Server CD.

The Next Step

Now that you have installed WebSphere Application Server 2.0.3.1, you are ready to continue with the installation process. To continue, turn to one of the following chapters:

*   If you are installing Payment Server 1.2.20.3, turn to "Chapter 8. Installing IBM Payment Server 1.2.20.3" on page 35.
*   If you are not installing Payment Server 1.2.20.3, turn to "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37.

Chapter 8. Installing IBM Payment Server 1.2.20.3

This chapter describes how to install IBM Payment Server 1.2.20.3. The IBM Payment Server is an application that enables Secure Electronic Transactions (SET). To complete the steps in this chapter, you will need the WebSphere Commerce Service Provider CD.

You will install Payment Server in two stages:

1. Install Payment Server 1.2.20.0
2. Install the Payment Server FixPak that upgrades it to Payment Server 1.2.20.3

Note: Completing the steps in this chapter will not configure Payment Server. Please refer to the online help for information on Payment Server configuration.

Installation Procedures

To install Payment Server, do the following:

1. Log on as user ID `root`.
2. If necessary, mount the WebSphere Commerce Service Provider CD.
3. Start the administration tool by typing the following command:

   `/bin/admintool&`
4. From the **Browse** pull-down menu, select **Software**. The Admintool: Software window appears.
5. From the **Edit** pull-down menu, select **Add**. The Admintool: Set Source Media window appears.
6. If you have Volume Manager installed, select **CD with Volume Management** in the **Software Location** field. Then, in the **CD Path** field, type `/cdrom/cdrom0/payment_server` and click **OK**.
7. If you do not have Volume Manager installed, select **CD without Volume Management** in the **Software Location** field. In the **Mount Point** field, type `/cdrom/cdrom0/payment_server` and click **OK**.
8. Select **IBM Payment Server** and click **Add**. The Admintool: Add Software window appears.
9. When asked whether you want to proceed with the install of each package, respond **y** to each prompt.
10. To upgrade to Payment Server 1.2.20.3, you must install the Payment Server Fixpak.

    Repeat steps 5 through 9 but set the software location to the `/cdrom/cdrom0/payment_server_fixpack` directory.
11. When Payment Server is installed, press **Enter** and close all Admintool windows.

Note: After completing your installation of WebSphere Commerce Service Provider components, you need to set up Payment Server in accordance with instructions in "Setting Up IBM Payment Server" on page 75. You also need to configure the Payment Wizard in the Merchant Tool to accept SET as described in the online help topic, *Enable SET as the Payment Authorization Method*.

The Next Step

Now that you have installed IBM Payment Server 1.2.20.3, turn to "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37 to continue with the installation process by installing WebSphere Commerce Service Provider.

Chapter 9. Installing WebSphere Commerce Service Provider 3.2

This chapter explains how to install WebSphere Commerce Service Provider. To complete the steps in this chapter you will need the WebSphere Commerce Service Provider CD.

Chapter Prerequisites

To ensure that you can successfully complete the steps in this chapter, ensure that you have met the following requirements:

__ 1. Ensure that you have installed your Web server, database, Net.Data, JDK, WebSphere Application Server, and Payment Server (if applicable) *before* you install WebSphere Commerce Service Provider.

Installation Procedures

To install WebSphere Commerce Service Provider, do the following:

1. Log on as user ID `root`.

2. If necessary, mount the WebSphere Commerce Service Provider CD.

3. From user ID `root`, start the administration tool by typing the following command:

   `/bin/admintool&`

4. From the **Browse** pull-down menu, select **Software**. The Admintool: Software window appears.

5. From the **Edit** pull-down menu, select **Add**. The Admintool: Set Source Media window appears.

6. If you have Volume Manager installed, select **CD with Volume Management** in the **Software Location** field. Then, in the **CD Path** field, type `/cdrom/cdrom0/wcsspe` and click **OK**.

7. If you do not have Volume Manager installed, select **CD without Volume Management** in the **Software Location** field. In the **Mount Point** field, type `/cdrom/cdrom0/wcsspe` and click **OK**.

8. Select **WebSphere Commerce Service Provider** from the list of packages.

   Note: WebSphere Commerce Service Provider is *automatically* installed in `/opt/IBMnetc/NetCommerce3`, and is only supported in that directory.

9. Click **Add**. The Admintool: Add Software window appears to display a scrolling list of what is being installed.

10. When asked whether you want to proceed with the install of each package, respond **y** to each prompt. Note that depending on your system, the installation takes several minutes.

11. When all packages are installed, press **Enter** and close all Admintool windows.

12. Eject the WebSphere Commerce Service Provider CD.

The Next Step

Now that you have installed WebSphere Commerce Service Provider, you are ready to continue by doing one of the following:

- If you are using Domino Go Webserver, see "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47 to create a new WebSphere Commerce Service Provider instance or to update a preexisting instance.

- If you are using Netscape Enterprise Server, you must configure NES for use with WebSphere Commerce Service Provider prior to configuring your WebSphere Commerce Service Provider instance. Turn to "Chapter 10. Configuring Netscape Enterprise Server" on page 41 to continue.

Part 2. Configuring WebSphere Commerce Service Provider Components — Basic

This part describes how to configure the basic WebSphere Commerce Service Provider components. Depending on your system configuration you may need to perform all or some of the tasks in the following chapters:

Chapter 10. Configuring Netscape Enterprise Server

This chapter describes how to configure Netscape Enterprise Server for use with WebSphere Commerce Service Provider.

Note: A sample `obj.conf` file is provided, for reference purposes, at the end of this chapter. You can use this sample to ensure that you have included all the required directives in your `obj.conf` files, and that the directives appear in the correct order.

Chapter Prerequisites

__ 1. You have installed Netscape Enterprise Server 3.6.1.

__ 2. You have created a secure Web server on port 443 with a Site certificate signed by a certifying authority (for example, Verisign) in addition to a non-secure Web server on port 80, using Netscape's instructions.

__ 3. You have installed your database (for example, DB2 Universal Database along with the DB2 Text Extenders), Net.Data, WebSphere Application Server with the Netscape Enterprise Server 3.51 plug-in, as well as WebSphere Commerce Service Provider. The steps for installing these products are documented in earlier chapters.

__ 4. The CA certificate supplied with Netscape Enterprise Server 3.6.1 expired on December 31, 1999. In order for the WebSphere Commerce Service Provider Order Placement wizard and Order Tools to work correctly, you must remove the old certificate and and replace it. To extend your certificate, follow Netscape's instructions at:

   `http://help.netscape.com/products/server/certificate/cacertdoc/`

Configuring a Second WebSphere Instance

Because Netscape Enterprise Server requires two server ports (ports 80 and 443), you must configure a second Websphere instance after you have installed WebSphere Application Server.

> The instructions in this section assume that you have installed WebSphere Application Server in the default directory, `/opt/WebSphere/AppServer`. If you installed WebSphere Application Server in another directory, substitute the correct directory path in the instructions below.

To configure the second WebSphere Application Server instance, do the following:

1. As the root user, at a shell prompt, create a new directory under `/opt/WebSphere` and set the appropriate permissions by typing:

   ```
   cd /opt/WebSphere
   mkdir AppServer-443
   mkdir AppServer-443/logs
   chmod 777 AppServer-443/logs
   ```

2. Copy the `properties` directory from your first WebSphere Application Server instance to the directory you just created for your port 443 instance, by typing the following command:

   ```
   cp -rp /opt/WebSphere/AppServer/properties /opt/WebSphere/AppServer-443/properties
   ```

3. Create soft links from the /opt/WebSphere/AppServer-443 directory to each of the remaining directories in the /opt/WebSphere/AppServer directory. Switch to the /opt/WebSphere/AppServer-443 directory and type the following commands:

```
cd /opt/WebSphere/AppServer-443
ln -sf /opt/WebSphere/AppServer/classes .
ln -sf /opt/WebSphere/AppServer/lib .
ln -sf /opt/WebSphere/AppServer/servlets .
ln -sf /opt/WebSphere/AppServer/web .
ln -sf /opt/WebSphere/AppServer/realms .
ln -sf /opt/WebSphere/AppServer/servletbeans .
ln -sf /opt/WebSphere/AppServer/plugins .
ln -sf /opt/WebSphere/AppServer/UnInst .
```

You can optionally create soft links for the following directories:

```
ln -sf /opt/WebSphere/AppServer/samples /opt/WebSphere/AppServer-443
ln -sf /opt/WebSphere/AppServer/doc /opt/WebSphere/AppServer-443
```

> The directories in your /opt/WebSphere/AppServer path may vary from those listed above, depending on which components you installed in "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31. Ensure that you create soft links for each directory listed in your /opt/WebSphere/AppServer directory. Note that you do not need to create soft links for the files in this directory.

4. Switch to the /opt/WebSphere/AppServer-443/properties directory.

5. Open the bootstrap.properties file and change any instances of WebSphere/AppServer to WebSphere/AppServer-443.

6. Switch to the /usr/netscape/suitespot/<*non_secure_port*> directory. Edit the start script file in this directory that starts the web server. Note the LD_LIBRARY_PATH directive in the file. Ensure that the same directive appears in the start script under the /usr/netscape/suitespot/<*secure_port*> directory.

You can now proceed to "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47 to create a WebSphere Commerce Service Provider instance. After you have created the WebSphere Commerce Service Provider instance, the obj.conf file for port 443 will be modified with the correct WebSphere and WebSphere Commerce Service Provider entries. However, if you have created your WebSphere Commerce Service Provider instance without having installed the second WAS instance in the path <*WAS_install_path*>-443, you must add in the WebSphere modifications manually. This is described in the next section.

Manually Configuring the Secure Server Port

Note: This information is provided as reference only and should only be used in a case where the automatic Web server configuration has failed and you must manually configure the Web server.

If you have not installed the second WAS instance in the path <*WAS_install_path*>-443, you must add in the WebSphere modifications manually, as described below:

1. Open the obj.conf file for port 443 (located in the /usr/netscape/suitespot/secure_port/config directory) in a text editor.

2. Add the following lines *before* the <Object name=default> line. If the NES Web Publishing option is turned on, the functions listed below must be added

before the `<Objectname=default>` line and before any functions that reference the Web Publishing option. The Web Publishing functions will contain a reference to `CM_` in the function line.

```
Init fn="load-modules" funcs="init_exit,service_exit,term_exit"
shlib="/opt/WebSphere/AppServer-443/plugins/sun/libns36.so"

Init fn="init_exit"
bootstrap.properties="/opt/WebSphere/AppServer-443/properties
                      /bootstrap.properties"
```

At the end of the `ObjectType` block in the same file, add the following line:

```
service fn="service_exit"
```

Note that the `Init fn` directive should appear on one line. It is split here for presentation purposes only.

3. After you make changes to the `obj.conf` file, you should apply these changes from the Netscape Enterprise Server administration page for that port.
4. Start the Commerce Suite server instance.
5. Start both Netscape servers through the command line.

Protecting the WebSphere Commerce Service Provider Configuration Files

To prevent unauthorized individuals from obtaining copies of your configuration files, do the following on both the SSL and non-SSL servers:

1. On your browser, type the following:

   `http://host_name:administration_port`

   where *administration_port* is the port you use to perform Netscape Enterprise Server administration.
2. On the Netscape Administration Server page, click the server whose configuration files you want to protect.
3. On the Server Preferences page, select **Restrict Access**.
4. In the **Editing** drop-down list, ensure that **The entire server** is selected.
5. Click **Browse** beside the **Editing** drop-down list.
6. In the Choose a Part of Your Server frame, click **Options**.
7. In the Browse Files On Your Server frame, in the **List from** edit box, enter your configuration file directory. This is the drive and directory name that you specified in the **Configuration File Path** field in step 8 on page 52.
8. Select **List files as well as directories** and click **OK**.
9. In the **Choose a Part of Your Server** list, scroll down and select `db2www.ini`.
10. Click **Edit Access Control**.
11. Check the **Access control is on** box and click **Submit**.
12. Click **Save**.
13. Repeat steps 4 to 12 for *each* of the following configuration file names (or other WebSphere Commerce Service Provider configuration files):
    - `ncommerce.conf`
    - `srvrctrl.conf`

    If Payment Server is installed:
    - `pay_back.conf`
    - `pay_etill.conf`

Each time you repeat the steps, substitute one of the above configuration file names for the file name you select in step 9. You also need to change the directory name you enter for these files in step7 on page 43 to /opt/IBMnetc/NetCommerce3/instance/*instance_name*/config.

Note: When you repeat the steps for the last time, instead of clicking **Save**, click **Save and Apply**.

When you have completed the above steps on both the secure and non-secure servers, restart your servers.

Sample Configuration File

The following obj.conf file is provided for reference purposes only. If you are experiencing difficulties configuring Netscape Enterprise Server, you can refer to the sample obj.conf file to help you determine the correct order in which the directives should appear.

Notes:

1. This is the sample obj.conf file for port 80. The port 443 obj.conf file will look similar, except it will contain WebSphere/AppServer-443 instead of WebSphere/AppServer

2. Many directives appear on multiple lines in the example for presentation purposes. In a real obj.conf file, each directive should be entered on a single line.

```
###### IBM Net.Commerce ###### (Do not edit this section)
Init fn="load-modules"
  shlib="/opt/IBMnetc/NetCommerce3/bin/libnc_cgi_nsapi.so"
    funcs="nc_init_cache,nc_cache,nc_auth"
Init fn="nc_init_cache"
###### End of IBM Net.Commerce ######
Init fn=flex-init
    access="/usr/netscape/suitespot/https-cabrio-80/logs/access"
    format.access="%Ses->client.ip% - %Req->vars.auth-user% [%SYSDATE%]
    \"%Req->reqpb.clf-request%\" %Req->srvhdrs.clf-status%
    %Req->srvhdrs.content-length%"
Init fn=load-types mime-types=mime.types
Init fn="load-modules" funcs="init_exit,service_exit,term_exit"
    shlib="/opt/WebSphere/AppServer/plugins/sun/libns36.so"
Init fn="init_exit" bootstrap.properties=
    "/opt/WebSphere/AppServer/properties/bootstrap.properties"

<Object name=default>
###### IBM Net.Commerce ###### (Do not edit this section)
NameTrans fn="pfx2dir" from="/msprotect"
   dir="/opt/IBMnetc/NetCommerce3/cgi-bin" name="ncauth"
NameTrans fn="pfx2dir" from="/bus2bus2"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/bus2bus2"
NameTrans fn="pfx2dir" from="/butnbars"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ncadmin/butnbars"
NameTrans fn="pfx2dir" from="/demomall"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/demomall"
NameTrans fn="pfx2dir" from="/grocery"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/grocery"
NameTrans fn="pfx2dir" from="/ncacom"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ncadmin/common"
NameTrans fn="pfx2dir" from="/ncadmin"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ncadmin"
NameTrans fn="pfx2dir" from="/ncagif"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ncadmin/gif"
NameTrans fn="pfx2dir" from="/ncbooks"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ncbooks"
```

```
NameTrans fn="pfx2dir" from="/ncerror"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ncerror"
NameTrans fn="pfx2dir" from="/nchelp"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/nchelp"
NameTrans fn="pfx2dir" from="/ncsample"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ncsample"
NameTrans fn="pfx2dir" from="/sggifs"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ncadmin/StoreCreator/sggifs"
NameTrans fn="pfx2dir" from="/sitemgr"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ncadmin/sitemgr"
NameTrans fn="pfx2dir" from="/storemgr"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ncadmin/storemgr"
NameTrans fn="pfx2dir" from="/te_html"
   dir="/opt/IBMnetc/NetCommerce3/instance/mser/teditor/te_html"
NameTrans fn="pfx2dir" from="/ca_html"
   dir="/opt/IBMnetc/NetCommerce3/pasample/ca_html"
NameTrans fn="pfx2dir" from="/tutorial"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/tutorial"
NameTrans fn="pfx2dir" from="/CHS_JS"
   dir="/opt/IBMnetc/NetCommerce3/CHS/javascript"
NameTrans fn="pfx2dir" from="/CHS"
   dir="/opt/IBMnetc/NetCommerce3/CHS/public"
NameTrans fn="pfx2dir" from="/reports"
   dir="/opt/IBMnetc/NetCommerce3/CHS"
NameTrans fn="pfx2dir" from="/cspsite"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/cspsite"
NameTrans fn="pfx2dir" from="/cspmall"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/cspmall"
NameTrans fn="pfx2dir" from="/cspstore"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/cspstore"
NameTrans fn="pfx2dir" from="/NCTools"
   dir="/opt/IBMnetc/NetCommerce3/Tools/public"
NameTrans fn="pfx2dir" from="/merchanthelp"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/merchanthelp"
NameTrans fn="pfx2dir" from="/nchshelp"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/nchshelp"
NameTrans fn="pfx2dir" from="/nchssample"
   dir="/opt/IBMnetc/NetCommerce3/Tools/samples/en_US/nchs/catalog_import"
NameTrans fn="pfx2dir" from="/yourGallery"
   dir="/opt/IBMnetc/NetCommerce3/Tools/public/gallery"
NameTrans fn="pfx2dir" from="/ca_icons"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ca_icons"
NameTrans fn="pfx2dir" from="/HotMedia"
   dir="/opt/IBMnetc/NetCommerce3/hm"
NameTrans fn="pfx2dir" from="/ca_widgets"
   dir="/opt/IBMnetc/NetCommerce3/servlets/public"
NameTrans fn="pfx2dir" from="/nextgeneration"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/nextgeneration"
NameTrans fn="pfx2dir" from="/ictmgr"
   dir="/opt/IBMnetc/NetCommerce3/html/en_US/ncadmin/ictmgr"
NameTrans fn="pfx2dir" from="/pasample"
   dir="/opt/IBMnetc/NetCommerce3/pasample"
NameTrans fn="pfx2dir" from="/cgi-bin"
   dir="/opt/IBMnetc/NetCommerce3/cgi-bin" name="cgi"
###### End of IBM Net.Commerce ######
NameTrans from="/IBMWebAS/samples" fn="pfx2dir"
   dir="/opt/WebSphere/AppServer/samples"
NameTrans from="/IBMWebAS" fn="pfx2dir"
   dir="/opt/WebSphere/AppServer/web"
NameTrans fn=pfx2dir from=/ns-icons
   dir="/usr/netscape/suitespot/ns-icons"
NameTrans fn=pfx2dir from=/mc-icons
   dir="/usr/netscape/suitespot/ns-icons"
NameTrans fn="pfx2dir" from="/help"
   dir="/usr/netscape/suitespot/manual/https/ug"
NameTrans fn=document-root root="/usr/netscape/suitespot/docs"
PathCheck fn=unix-uri-clean
```

```
                PathCheck fn="check-acl" acl="default"
                PathCheck fn=find-pathinfo
                PathCheck fn=find-index index-names="index.html,home.html"
                ObjectType fn=type-by-extension
                ObjectType fn=force-type type=text/plain
                service fn="service_exit"
                Service method=(GET|HEAD) type=magnus-internal/imagemap
                   fn=imagemap
                Service method=(GET|HEAD) type=magnus-internal/directory
                   fn=index-common
                Service method=(GET|HEAD) type=*~magnus-internal/*
                   fn=send-file
                AddLog fn=flex-log name="access"
                </Object>

                <Object name=cgi>
                ObjectType fn=force-type type=magnus-internal/cgi
                ###### IBM Net.Commerce ###### (Do not edit this section)
                Service root="/usr/netscape/suitespot/docs" fn="nc_cache"
                ###### End of IBM Net.Commerce ######
                Service fn=send-cgi
                </Object>

                ###### IBM Net.Commerce ###### (Do not edit this section)
                <Object name="ncauth">
                ObjectType fn="force-type" type="magnus-internal/cgi"
                Service root="/usr/netscape/suitespot/docs" fn="nc_auth"
                </Object>
                ###### End of IBM Net.Commerce ######
```

The Next Step

Now that you have configured Netscape Enterprise Server, see "Chapter 11.
Configuring a WebSphere Commerce Service Provider Instance" on page 47 to
create a new WebSphere Commerce Service Provider instance or to update a
pre-existing instance.

Chapter 11. Configuring a WebSphere Commerce Service Provider Instance

This chapter describes how to create a new WebSphere Commerce Service Provider instance or update an existing instance. If you need to modify the settings for an existing instance, you can refer to the information in this chapter for guidance on changing the current settings.

Note: WebSphere Commerce Service Provider instance creation will configure Domino Go Webserver and Netscape Enterprise Server. Each time you modify your instance, the Web server configuration files will be overwritten. It is recommended that you keep a backup copy of your `obj.conf` or `httpd.conf` files.

Configuration Procedures

To create and configure a WebSphere Commerce Service Provider instance, do the following:

1. Log in as user ID `root`.
2. If you are using Domino Go Webserver, do the following:
   a. Ensure that the permissions for the `/opt/GoServer/usr/internet/server_root/admin-bin` directory are set to execute. While logged on as user ID `root`, type the following:

      `chmod 755 /opt/GoServer/usr/internet/server_root/admin-bin`

   b. Add the `Hostname` directive and that the fully qualified host name of your machine in the Lotus Domino Go Webserver configuration file `/etc/httpd.conf`, if it is not present already in the file. For example, add the line:

      `Hostname host_name`

      where *host_name* is your machine's fully qualified host name.
3. If you are using DB2, start DB2 on your DB2 server machine in a 2–tier DB2 configuration or 1–tier DB2 configuration, if it is not already started. This step is not required on the DB2 client machine in a 2–tier configuration. To check if DB2 is already started, type:

   `ps -ef | grep db2`

   If DB2 has been started, you will see a number of DB2–related process. If it has not been started, do the following:

   - Switch to your DB2 instance ID, by typing:

      `su - db2inst_ID`

      where *db2inst_ID* is the DB2 instance user ID you created in step 10 on page 15.
   - Type `db2start` to start it.
   - Type `exit` to return to user ID `root`.

   If you are using Oracle, ensure you have started it. Refer to the Oracle documentation on starting Oracle.

4. If your Web server is not started, start it now. If you are using Domino Go Webserver, see "Starting and Stopping Domino Go Webserver" on page 206. If you are using Netscape Enterprise Server, start it in accordance with Netscape Enterprise Server documentation.

5. Enable access to Configuration Manager by doing the following:

   a. Switch to the `/opt/IBMnetc/NetCommerce3/server/bin` directory and type the following command:

      `./start_admin_server`

      Note: The first time you run `start_admin_server`, some additional steps are performed automatically, such as creating your Domino Go Webserver administration ID. Because of this, you *must* run `start_admin_server` immediately after you complete your installation of WebSphere Commerce Service Provider.

   b. From your Windows NT machine running the required software, access the Configuration Manager by doing the following:

      1) Open your Netscape browser and go to `http://host_name:4444`.

      2) When prompted, enter your Configuration Manager user ID and password. If you have not yet changed them, your user ID is `webadmin` and your password is `webibm`.

      3) On the Configuration Manager main window, click **New** to create a new instance. (If you are updating an existing instance, highlight the instance and click **Settings**.)

6. The following window displays:
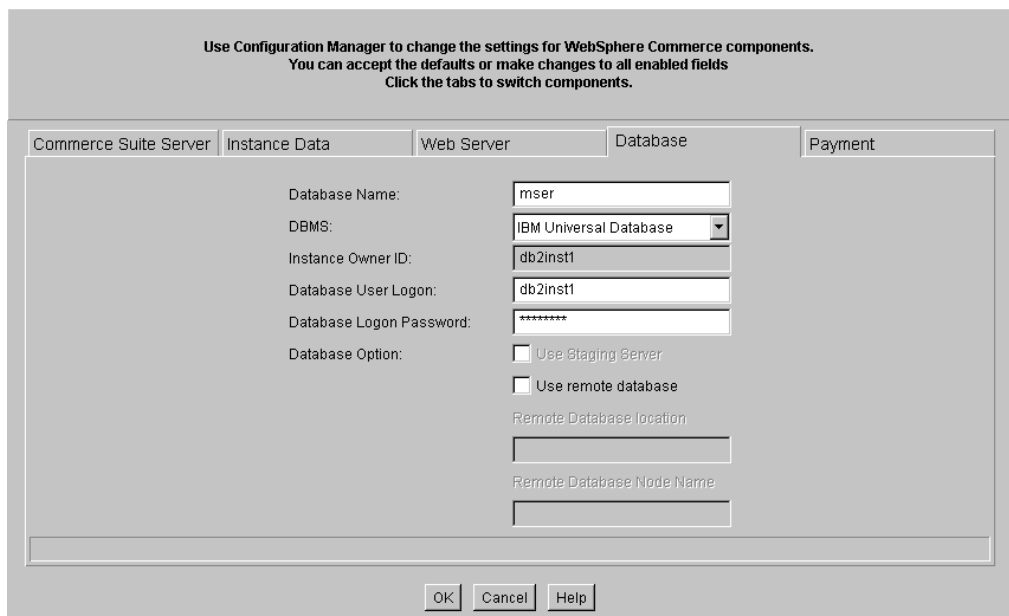
This window includes five tabs that allow you to review and update a variety of configuration settings for your WebSphere Commerce Service Provider components.

On the **Database** tab, complete the fields as follows:

Database Name
Enter the name assigned to the database.

For DB2, accept the default, or type the name you wish to assign to your database. The name must be seven characters in length or less. WebSphere Commerce Service Provider reserves one character in the normal eight character name for internal use.

For Oracle, enter the ODBC data source name that you defined in the `.odbc.ini` file. This is file located in the `/opt/odbc` directory by default, but the edited copy should have been copied to the Oracle owner ID's home directory. For more information, refer to "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23.

DBMS

From the drop-down list, select the name of the database management system you intend to use. You can select either DB2 or Oracle.

If you select Oracle, you will have to create the database manually. After you complete the steps in this section to create an instance, you will proceed to "Chapter 13. Creating a Schema Using Oracle (1–tier)" on page 63 to create your database. Note that you should not start your instance until after you create the database.

Instance Owner ID

This field is enabled only if you select **Oracle 8** from the **DBMS** drop-down list.

If you are using DB2, the instance owner ID is the same as the database user logon ID. Once you update the database user logon ID, the instance owner ID will be updated automatically.

If you are using Oracle, type the user ID of the Oracle instance owner for your Oracle server in a 2–tier installation or from your Oracle installation in a 1–tier installation. (This is the UNIX ID used for the Oracle server installation in a 2–tier configuration or in the Oracle installation for a 1–tier configuration.) The instance owner ID that you enter must already exist. If it does not, instance creation will fail.

Database User Logon

For DB2, type the name of the DB2 instance ID that you created in step 10 on page 15.

For Oracle, type the name of the database administrator ID that you will use to perform database administration.

Database Logon Password

Type the password of the user ID that you specified in the **Database User Logon** field. The password must be eight characters in length or less if you are using DB2.

Database Option

The **Use Staging Server** check box is enabled only if you are using DB2.

Leave this box unchecked. The staging server is used when migrating databases. For more information, see the Migration section of an updated version of this book. It is available in PDF format from the *Library* section of our product Web site. To access it, type the following Web address on your browser:

`http://www.ibm.com/software/websphere/commerce/servers`

Use Remote Database

Enable this check box if the database is on a different machine than the

WebSphere Commerce Service Provider server. If this box is selected, the host name and node name fields are enabled.

Remote Database Location
Use this field to enter the host name of the machine where your DB2 or Oracle database server resides.

Remote Database Node Name
Use this field to enter the name with which your remote database will be locally catalogued. It is the TCP/IP node to connect to the remote machine.

Note: This field is enabled only if you are using DB2. Ensure that the DB2 Universal Database server is already installed on your remote machine.

7. Click the **Commerce Suite Server** tab to review and update the settings for the WebSphere Commerce Service Provider server. The following window is displayed:

Use Configuration Manager to change the settings for WebSphere Commerce components.
You can accept the defaults or make changes to all enabled fields
Click the tabs to switch components.

| Commerce Suite Server | Instance Data | Web Server | Database | Payment |

Instance Name: mser

Communication Port Base: 16570

Number of Server Processes: 2

Server Options:
◉ Enable Basic Caching
○ Enable Advanced Caching
○ No Caching
☑ Use Default Merchant Key

Merchant Key:

OK   Cancel   Help

Complete the fields as follows:

Instance Name
Accept the default, or type an alphanumeric name for the WebSphere Commerce Service Provider instance that you want to create. This name must be unique for each instance. The maximum length for this field is 8 characters.

If you wish to create multiple instances of WebSphere Commerce Service Provider, you can do so after you have completed the procedures in this book. *Note that WebSphere Commerce Service Provider does not support multiple instances that are run simultaneously. You may set up additional instances for testing purposes only. Before going into production, you should delete any test instances you have created.* Refer to *Configuration Manager* in the WebSphere Commerce Service Provider online information for details. (See "Using the Online Help" on page 231 for guidance on accessing this information.)

Communication Port Base

Accept the default, or type the base port address that you want the WebSphere Commerce Service Provider server to use to communicate with your Web server.

This address will be used by the first server process. Each additional process will use consecutive port addresses, starting at this address. Therefore, ensure that there are sufficient free addresses above the base address to accommodate the number of processes you intend to create. If you are using Payment Server, note that it uses five port addresses.

The default port address allows room for at least two processes to be defined.

> The base address must be greater than 1024. The range of addresses, starting at the base, cannot include 1080 or 8080, and the highest address in the range cannot be greater than 65535.

Note: Do not use a Communication Port Base that will cause your range of ports to include port 16560.

Number of Server Processes

Accept the default (2 processes), or type the number of processes that you want started for this WebSphere Commerce Service Provider instance. The minimum number of processes is 1. A higher number will allow WebSphere Commerce Service Provider to process more transactions simultaneously, but the load on the machine will be increased. 5 server processes per CPU is recommended for WebSphere Commerce Service Provider.

Server Options

Select one of the following options:

Enable Basic Caching

Caching reduces the amount of time it takes for WebSphere Commerce Service Provider to display frequently used dynamic pages.

Basic caching uses Web server extensions and runs much faster than advanced caching. For WebSphere Commerce Service Provider, always select basic caching.

Each time a shopper requests a product or category page, Web server extensions search the cache for the requested file. If the file exists in the cache, it is immediately sent to the shopper's browser. This method only permits pages to be cached based on the following parameters:

- Product reference number (PRRFNBR in the PRODUCT table) or category reference number (CGRFNBR in the CATEGORY table).
- Product number (PRNBR in the PRODUCT table) or category number (CGNBR in the CATEGORY table).
- Merchant reference number.
- Price expiry date.

Enable Advanced Caching

For WebSphere Commerce Service Provider do not select this option. There are no advanced caching features that are

advantageous to WebSphere Commerce Service Provider, and it
does not provide as great a performance improvement as does
Basic Caching.

No Caching
Select this radio button if you do not want caching enabled.

Note: If you select either *advanced* or *basic* caching, you will have to
enable the Synchronization Daemon. For information on how to
do this, refer to the online help. For information on starting and
stopping the Synchronization Daemon, refer to "Starting and
Stopping the Synchronization Daemon" on page 209.

Use Default Merchant Key
If you want Configuration Manager to generate the merchant key
automatically, ensure that this box *is* selected. If you want
Configuration Manager to prompt you for a key to encrypt the shopper
and administrator passwords in the WebSphere Commerce Service
Provider database, ensure that this checkbox is *not* selected.

Merchant Key
If you have deselected the **Use Default Merchant Key** checkbox, the
Merchant Key field becomes enabled. Type a 16-digit hexadecimal
number for the Configuration Manager to use as the encryption key.
Keep a record of this number, as you will need it if you reconfigure
your system later.

If the key that you enter does not conform to certain criteria required
for strong encryption, the encryption algorithm will automatically
enhance your key. The enhancement of your key will not affect the
operation of WebSphere Commerce Service Provider.

8. Click the **Instance Data** tab to review and update the directory paths where
your instance files will be stored. The following window is displayed:
Complete the fields as follows:

Use Configuration Manager to change the settings for WebSphere Commerce components.
You can accept the defaults or make changes to all enabled fields
Click the tabs to switch components.

| Commerce Suite Server | Instance Data | Web Server | Database | Payment |

Root Path: /opt/IBMnetc/NetCommerce3/insta /mser
Configuration File Path: /opt/IBMnetc/NetCommerce3/insta /mser/config
Log File Path: /opt/IBMnetc/NetCommerce3/insta /mser/logs
Cache File Path: /opt/IBMnetc/NetCommerce3/insta /mser/cache
Shared Configuration Path: /opt/IBMnetc/NetCommerce3/globa

☐ Use Default Parameters

OK   Cancel   Help

Root Path
Enter the base directory path in which all instance files will be stored.
The default path is

/opt/IBMnetc/NetCommerce3/instance/*instance_name*, where
instance_name is the name you entered in the **Instance Name** field on
the **Commerce Suite Server** tab.

> **Note:** The path you enter in this field is automatically entered for the
> remaining fields on this tab. If you wish to change the paths for
> the remaining fields, enter the directory path for the **Root Path**
> field first, and then enter the paths for the remaining fields.

Configuration File Path
Enter the directory path in which all configuration files for this instance
will be stored. The default path is
/opt/IBMnetc/NetCommerce3/instance/*instance_name*/config, where
instance_name is the name you entered in the **Instance Name** field on
the **Commerce Suite Server** tab.

Log File Path
Enter the directory path in which all log files for this instance will be
stored. The default path is
/opt/IBMnetc/NetCommerce3/instance/*instance_name*/logs, where
instance_name is the name you entered in the **Instance Name** field on
the **Commerce Suite Server** tab.

Cache File Path
Enter the directory path in which all cached files will be stored. The
default path is
/opt/IBMnetc/NetCommerce3/instance/*instance_name*/cache, where
instance_name is the name you entered in the **Instance Name** field on
the **Commerce Suite Server** tab.

Shared Configuration Path
If a previous Net.Commerce Hosting Server instance has been created,
you can share the configuration files of that instance with the instance
that you are currently configuring. Enter the directory path in which
configuration files exist that you want to share with the current
WebSphere Commerce Service Provider instance. If the **Use Default
Parameters** checkbox is selected, the configuration tool will use default
parameters specified in the shared configuration files (in which case,
some fields within the Configuration Manager tabs will be disabled). If
the **Use Default Parameters** checkbox is not selected, the shared
configuration files will not be used. The shared configuration files are
also referred to as global configuration files.

9. Click the **Web Server** tab to review and update the Web server settings. The
following window is displayed:

Use Configuration Manager to change the settings for WebSphere Commerce components.
You can accept the defaults or make changes to all enabled fields
Click the tabs to switch components.

| Commerce Suite Server | Instance Data | Web Server | Database | Payment |

Host Name: svt2.torolab.ibm.com

Web Server: Domino Go Webserver

Document Root: /opt/GoServer/usr/internet/server_root/p

CGI Path: /opt/GoServer/usr/internet/server_root/c

Macro Path: /opt/IBMnetc/NetCommerce3/macro/en_

Number of Cached Files: 1000

Secure Server Configuration Path:

Non-secure Server Configuration Path:

OK   Cancel   Help

Complete the fields as follows:

Host Name
> Accept the default, or type the *fully qualified* host name of your
> WebSphere Commerce Service Provider machine (for example,
> *www.ibm.com* is a fully qualified name).

Web Server
> From the drop-down list, select the Web server that you have installed
> and intend to use. All instances must use the same Web server.

Document Root
> Accept the default, or type the path of your Web server document root.
>
> **Note:** The path you type must already exist.
>
> For Netscape Enterprise Server, this path is known as the *primary
> document root*. If you installed Netscape Enterprise Server as your Web
> server, the default value for this path is `/usr/netscape/suitespot/docs`.
> This path must be unique for each WebSphere Commerce Service
> Provider instance. If other Web servers are installed but your want to
> use Netscape Enterprise Server, you must type this path manually.

CGI Path
> If you installed Domino Go Webserver, accept the default or type the
> path in which you intend to store the WebSphere Commerce Service
> Provider CGI programs. The path you type must already exist. This
> path must be the same for all instances.
>
> If you installed only Netscape Enterprise Server as your Web server, the
> default value for this path is `/opt/IBMnetc/NetCommerce3/cgi-bin`. If
> Netscape Enterprise Server is not the only Web server installed but you
> wish to use it, you must type this path name or the name of path in
> which you intend to store the WebSphere Commerce Service Provider
> CGI programs. If you intend to use Netscape Enterprise Server, record
> this path, as you will need it to configure the Web server.

Macro Path

Accept the default path. When merchants create a store on your site, the Net.Data macro files are located in a store-specific directory under this path. Do not change this path from the default. This path must be unique for each WebSphere Commerce Service Provider instance.

Number of Cached Files

Accept the default number, or enter the maximum number of cached files. The default value is 1000. This field is only enabled if caching has been enabled on the **Commerce Suite Server** tab. If caching is disabled, this field is disabled.

The value in this field the limit for cached files per merchant. If the number of cached files for a merchant exceeds this value, the Synchronization daemon will begin to delete that merchant's cache files.

Secure Server Path

This field is enabled only if you are using Netscape Enterprise Server. It is the path for the server used for secure communications.

Enter the full path to the `obj.conf` file for the server port that you configured for secure communications.

If you used the default path when you installed Netscape Enterprise Server, type `/usr/netscape/suitespot/`*secure_server*`/config`, where *secure_server* is the name of your Netscape Enterprise Server secure server.

Non-secure Server Path

This field is enabled only if you are using Netscape Enterprise Server.

Enter the full path to the `obj.conf` file for the server port that you configured for non-secure communications.

If you used the default path when you installed Netscape Enterprise Server, type `/usr/netscape/suitespot/`*non-secure_server*`/config`, where *non-secure_server* is the name of your Netscape Enterprise Server non-secure server.

10. Click the **Payment** tab to configure the Payment Server settings, only if you are using Payment Server to process payments.

    Note: Fields in this tab are only enabled if you have installed the Payment Server.

    The following window is displayed:

Use Configuration Manager to change the settings for WebSphere Commerce components.
You can accept the defaults or make changes to all enabled fields
Click the tabs to switch components.

| Commerce Suite Server | Instance Data | Web Server | Database | Payment |

Server Cycle Time (seconds): `30`
Processing Interval (seconds): `30`
Transaction Timeout (minutes): `60`
Certificate Password:
Confirm Password:
Payment Option: ☐ Enable Message Trace

OK   Cancel   Help

Complete the fields as follows:

Server Cycle Time
> Accept the default, or type the number of seconds you want the payment background server to wait between polls for work.

Processing Interval
> Accept the default, or type the number of seconds you want the payment background server to wait between the execution of consecutive jobs waiting in the queue.

Transaction Timeout
> Accept the default, or type the number of minutes you want transactions to stay in a pending state before the WebSphere Commerce Service Provider server checks the database for data that has not been received directly from the Payment Server machine.

Certificate Password
> Type the password that has been issued to you by a certifying authority (such as Thwarte). Use this password to access your SET™ certificate files (which are also known as key files). A temporary password is created if you leave this field blank. Refer to "Setting Up IBM Payment Server" on page 75 for more information about SET certificates.

Confirm Password
> Type the password again.

Payment Option
> Select the **Enable Message Trace** box if you want the payment server to write log entries as it processes transactions. This log file is named `eTillTrace`. The log file is located in the log file directory as specified on the Instance Data tab.

11. Click **OK**. Your WebSphere Commerce Service Provider instance is configured according to your selections. A window will be displayed to inform you that your database has been created; click **OK**.

Note: If you are using the DB2 Text Extender, ensure you update your DB2 configuration file after you create your DB2 database, by typing in the following command:

```
db2 update db config for database_name using APP_CTR_HP_SIZE 1024
```

where *database_name* is the database you will use for WebSphere Commerce Service Provider (for example, `mser`).

12. If you are using Netscape Enterprise Server, the Configuration Manager updates the `obj.conf` file. You must:

   - Open the Netscape Enterprise Server Administration page and apply the changes to each server.
   - Stop and restart the Netscape Enterprise Server servers from a shell that has the `DB2INSTANCE` environment variable set.
   - Stopping the servers requires that you kill all of the WebSphere processes as stopping the servers does not stop the associated WebSphere processes. To stop the WebSphere processes manually, do the following:

     a. Type

     ```
     ps -ef | grep java
     ```

     The WebSphere Application Server process of interest should contain a string similar to the following:

     ```
     /bin/../java/bin/../bin/../bin/sparc/native_threads/java . . .
     ```

     b. Kill the WebSphere Application Server process listed that contains the above string by typing `kill process_ID`, where *process_ID* is the process ID number listed.

   When you restart Netscape Enterprise Server, ensure that the value of the `DB2INSTANCE` environment variable is set to the DB2 instance that you created in step 9 on page 15 by performing the following steps:

     a. Log in as the root user ID.
     b. Run the root profile by entering:

     ```
     . /.profile
     ```

     c. Enter the following command and ensure that the value of DB2INSTANCE is set correctly to the DB2 instance that you created in step 9 on page 15:

     ```
     env | grep DB2INSTANCE
     ```

     If it is not set, set it manually.

     d. Restart the secure and non-secure Netscape Enterprise Server servers.

13. If you are using DB2 as your database, from the main Configuration Manager window, highlight your WebSphere Commerce Service Provider instance, and click **Start**.

The Next Step

Now that WebSphere Commerce Service Provider is installed and you have configured an instance, do the following:

- If you are using DB2:
  - With Domino Go Webserver, enable the Secure Sockets Layer (SSL). Turn to "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59 to continue.

– With Netscape Enterprise Server, turn to "Chapter 14. Verifying Your Installation and Configuration" on page 67.
- If you are using Oracle:
   – With Domino Go Webserver, enable the Secure Sockets Layer (SSL). Turn to "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59 to continue. Then turn to "Chapter 13. Creating a Schema Using Oracle (1–tier)" on page 63 to continue for a 1–tier installation. If you are doing a 2–tier installation, turn to "Configuring the Oracle Server Machine" on page 92.
   – With Netscape Enterprise Server, turn to "Chapter 13. Creating a Schema Using Oracle (1–tier)" on page 63 to continue for a 1–tier installation. If you are doing a 2–tier installation, turn to "Configuring the Oracle Server Machine" on page 92.

Chapter 12. Enabling SSL on Domino Go Webserver for Testing

> **Note:** The security key ring that you build in this chapter will *not* prevent shopper transactions from being viewed by unauthorized individuals. Before you open your store to shoppers, follow the instructions in "Chapter 16. Enabling SSL for Production on Domino Go Webserver" on page 81.

As you perform these steps, your browser may display security messages. Review the information in each message carefully and decide how to proceed.

Creating a Security Key Ring for Testing

To create a security key ring for testing, do the following:

1. Ensure that Domino Go Webserver is started, by typing `ps -ef|grep httpd` on a shell prompt. If it is started, the following should appear one or more times on the right side of your screen: `/usr/sbin/httpd`. Start Domino Go Webserver if it is not started. Refer to "Starting and Stopping Domino Go Webserver" on page 206.

2. On your NT machine, start your Web browser, disable and clear all disk and memory caching, and disable all proxy servers. (In some browsers, proxy servers are known as *socks servers*.)

   > **Note:** Record these settings as you will be replacing them later in this procedure.

3. To access the Web server's front page, type the following on your browser:

   `http://host_name/path`

   where *path* is the name of your Web server's front page, if required on your system. If you have not performed any customization on the Web server, *path* is not required.

4. Click **CONFIGURATION AND ADMINISTRATION FORMS**.

5. When prompted, type your Web server administration user ID and password, and click **OK**. The default administration user ID is `webadmin`, and the default password is `webibm`.

6. On the Configuration and Administration Forms page under **Security**, click **Create Keys**.

7. On the Create Key and Request Certificate form, select certificate type **Other**, and click **Apply**.

8. On the Other Certificate form, in the **Key name** field, type `testnetc`. In the **Key ring** field, type `/opt/GoServer/usr/internet/server_root/testnetc.kyr`.

9. Change the **Size** field to the highest setting that is available.

10. Under **Key Ring Password**, in both **Password** fields, type a key ring password of your choice. You will need this password later to change the default key in the key ring and to receive certificates into that key ring.

11. Check the **Automatic login** box.

12. Complete the fields under **Distinguished Name**. For **Server name**, use the fully qualified name of your WebSphere Commerce Service Provider server.

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Notes:

    a. You must complete all of the required fields.

    b. Do not type the same information that you intend to use when you enable SSL for production.

    c. In the **State/Province** field, you must enter at least 3 characters.

13. Under **Mail To**, select **Don't mail**.

14. Under **Save Copy**, in the **Save certificate request to file** field, type `/opt/GoServer/usr/internet/server_root/testnetc.txt` and click **Apply**.

    You should see a confirmation page indicating that you have successfully created your public-private key pair and certificate request. If you get a message indicating an error instead, try these steps again. The error message should indicate the problem that was encountered.

15. Return to the Configuration and Administration Forms page by clicking **Configuration Page** at the bottom of the confirmation page.

Setting Your Test Key Ring as the Current Key Ring

To make the Web server use your test key ring, do the following:

1. On the Configuration and Administration Forms page under **Security**, click **Security Configuration**.

2. On the Security Configuration form under **Default Key rings**, select `/opt/GoServer/usr/internet/server_root/testnetc.kyr`.

3. Select **Set selected key ring as current key ring**.

4. Click **Apply**. You should see a page that confirms that the security configuration changes have been made.

5. Return to the Configuration and Administration Forms page by clicking **Configuration Page** at the bottom of the confirmation page.

Receiving and Testing the Test Key Ring Certificate

To receive and test your test key ring certificate, do the following:

1. On the Configuration and Administration Forms page under **Security**, click **Receive Certificate**.

2. On the Receive Certificate form in the **Name of file containing certificate** field, type `/opt/GoServer/usr/internet/server_root/testnetc.txt`.

3. In the **Key ring** field, type: `/opt/GoServer/usr/internet/server_root/testnetc.kyr`.

4. In the **Key ring password** field, type the password that you used to create the key ring in step 10 on page 59 in the section "Creating a Security Key Ring for Testing".

5. Click **Apply**. You should see a confirmation page that indicates that the certificate was successfully received.

6. Return to the Configuration and Administration Forms page by clicking **Configuration Page** at the bottom of the confirmation page.

7. Under **Security**, click **Key Management**.

8. On the Key Management form in the **Key Ring Password** field, type the password that you used to create the key ring in step 10 on page 59 in the section "Creating a Security Key Ring for Testing".

9. Select **Designate Trusted Root Keys**, and click **Apply**.

10. On the Designate Trusted Root Keys form under **Keys**, select `testnetc.kyr` from the list.

11. Click **Apply**. You should see a confirmation page that indicates that the operation was successful.

12. Stop and restart the Web Server as follows:

    a. Stop Domino Go Webserver as described in "Starting and Stopping Domino Go Webserver" on page 206.

    b. Stop WebSphere Application Server as described in "Starting and Stopping WebSphere Application Server" on page 207.

    c. Start Domino Go Webserver as described in "Starting and Stopping Domino Go Webserver" on page 206. WebSphere Application Server is automatically started when you start Domino Go Webserver.

13. To test the key, type the following on your browser:

    `https://`*host_name*`/`*path*

    where *path* is the name of your Web server's front page, if required on your system.

    Note: Be sure to type `https`, not `http`.

    If your key is defined correctly, you will see several messages concerning your secure connection. If you are asked whether you want to accept the certificate, respond affirmatively.

14. Restore your caching and proxy (or socks) server settings to their original states that you recorded on step 2 on page 59.

The Next Step

Now that you have enabled SSL on Domino Go Webserver for testing, do the following:

- If you are using DB2, turn to "Chapter 14. Verifying Your Installation and Configuration" on page 67 to verify your installation.

- If you are using Oracle, turn to "Chapter 13. Creating a Schema Using Oracle (1–tier)" on page 63.

Chapter 13. Creating a Schema Using Oracle (1–tier)

This chapter provides information on creating a WebSphere Commerce Service Provider database schema using Oracle. It does not provide detailed information on installing Oracle. In order to complete the steps in this chapter you must have already installed and configured Oracle as described in "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23, and configured an instance as described in "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47.

Chapter Prerequisites

In order to complete the steps in this chapter you must have already performed the following steps:

___ 1. You have completed all the steps in "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23.

___ 2. You have installed and configured WebSphere Commerce Service Provider, as described in "Part 1. Installing WebSphere Commerce Service Provider" on page 1 and "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47, with the result that a WebSphere Commerce Service Provider instance is created. Note that you will not be able to start this instance yet.

If you want to use Oracle with Product Advisor, refer to the instructions in "Appendix A. Configuring Product Advisor" on page 201.

Creating a WebSphere Commerce Service Provider Database Schema

To create your Oracle database instance and table space, follow the instructions provided by Oracle. Then, to create the WebSphere Commerce Service Provider database schema, do the following:

1. Log on to the Oracle user ID that you specified on the **Database** tab when you configured WebSphere Commerce Service Provider.

2. Switch to the `/opt/IBMnetc/NetCommerce3/nc_schema/oracle` directory, and review the scripts that are provided with WebSphere Commerce Service Provider. The main script, `schema.sh`, contains information about the other scripts.

3. If you want to change a script, create a backup, and change the original copy.

4. If you want to create a WebSphere Commerce Service Provider database containing only the required information, type the following:

   `./schema.sh` *db_user db_password* S | N "*NCAdmin_password*" [*log_file*]

   Note: When running this script, you may notice some error messages in the log concerning tables or views that are not available. You can ignore these messages.

   In the above script, the variable information is defined as follows:

   db_user
   > The user name that connects to Oracle. (The database user logon from the Database tab of Configuration Manager.)

db_password

> The password of the user name you specified above. (The database logon password from the Database tab of Configuration Manager.)

S | N The type of server. Type **S** to create the database for a staging server, or type **N** to create the database for a normal (non-staging) server.

NCAdmin_password

> The encrypted password of the WebSphere Commerce Service Provider Administrator in hexadecimal representation. The quotation marks are required. To determine the encrypted password, do the following:

> a. While logged on as the Oracle user ID, type the following from a shell prompt window on the machine on which you installed WebSphere Commerce Service Provider:
>
> ```
> cd /opt/IBMnetc/NetCommerce3/bin
> nc3_crypt -e ncadmin [merchant_key]
> ```
>
> where *merchant_key* is the merchant key you used when you configured WebSphere Commerce Service Provider. If you used the default merchant key, omit this parameter.

> b. The command responds with two character strings, one in ASCII and one in hexadecimal. Copy the hexadecimal character string to the clipboard, and paste it into the proper position in the `schema.sh` command.

log_file A substring of the name of the file, or files, into which the command writes log records as it populates the database, as follows:

> - If the command is being run for a production server, log records are written to `schema_log_file`.
> - If the command is being run for a staging server, log records are written to `schema_log_file` and `stage_log_file`.

> The default value for *log_file* is *db_user*.log.

> The above log files are written to the `/opt/IBMnetc/NetCommerce3/nc_schema/oracle` directory.

5. To populate the database, change to the `/opt/IBMnetc/NetCommerce3/nc_schema/oracle/migrate` directory and run the `chsdata.sh` script:

   ```
   cd /opt/IBMnetc/NetCommerce3/nc_schema/oracle/migrate
   ./chsdata.sh db_name db_user db_password service_name [log_file]
   ```

   where the variable information is defined as follows:

   db_name

   > The database name from the Database tab of Configuration Manager.

   db_user

   > The user name that connects to Oracle. (The database user logon from the Database tab of Configuration Manager.)

   db_password

   > The password of the user name you specified above. (The database logon password from the Database tab of Configuration Manager.)

   service_name

   > The Net Service Name for the database. To check this name, check the `.odbc.ini` file located in the Oracle user's home directory (`/export/home/oracle_user/.odbc.ini`).

> *log_file* The path and file into which you want the command to write log records. The log records are written to a file named `chsdata_log_file`.

6. Stop and start your Webserver (either Domino Go Webserver or Netscape Enterprise Server) and WebSphere Application Server. For Domino Go Webserver, see "Starting and Stopping Domino Go Webserver" on page 206; for Netscape Enterprise Server, see the Netscape Enterprise Server documentation; for WebSphere Application Server see "Starting and Stopping WebSphere Application Server" on page 207.

7. Start the WebSphere Commerce Service Provider instance.

Example of an Oracle User .profile File

For your reference, an example of an Oracle user .profile file is provided below. Note that this example file does not contain any WebSphere Commerce Service Provider information.

```
# Example of Oracle user .profile file

PATH=/usr/bin:/etc:/usr/lbin:/usr/ucb:$HOME/bin:.
export PATH

#
# Information related to the ODBC driver
#
export ODBCHOME=/opt/odbc
export ODBCINI=~$HOME/.odbc.ini
. $ODBCHOME/odbc.sh

#
# Information related to Oracle
#
export ORACLE_BASE=/opt/oracle/u01/app/oracle
export ORACLE_HOME=$ORACLE_BASE/product/8.0.4
export ORACLE_SID=o804
export ORACLE_TERM=hft
export PATH=$PATH:$ORACLE_HOME/bin:$ORACLE_HOME/lib:/bin:/usr/ccs/bin
export TMPDIR=/tmp
export TNS_ADMIN=$ORACLE_HOME/network/admin
export ORAENV_ASK=NO

NLSPATH=/usr/lib/locale/%L/%N:/usr/lib/locale/%L/%N.cat
export NLSPATH
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:/opt/odbc/lib:$ORACLE_HOME/lib
```

The Next Step

Now that you have created your Oracle database, turn to "Chapter 14. Verifying Your Installation and Configuration" on page 67 to verify your installation.

Chapter 14. Verifying Your Installation and Configuration

The high level steps within this chapter are recommended as a guide to verify that you have successfully installed and configured a functional version of WebSphere Commerce Service Provider by creating a basic store.

Before you begin the verification process, ensure that the following tasks have been completed:

__ 1. You have installed either Netscape Enterprise Server 3.6.1 or Domino Go Webserver 4.6.2.61 as your Web server. You may have installed the Web server as a preinstallation requirement, or as part of the WebSphere Commerce Service Provider installation process. If you are using Netscape Enterprise Server 3.6.1, ensure that you have met the preinstallation requirements outlined in "Using Supported Software Not Bundled with WebSphere Commerce Service Provider" on page 5.

__ 2. You have installed either IBM DB2 Universal Database 6.1 and DB2 Text Extenders, or Oracle 8.0.5 or 8.0.6 as your database. You may have installed the database as a preinstallation requirement, or as part of the WebSphere Commerce Service Provider installation process. If you are using Oracle, ensure that you have met the preinstallation requirements outlined in "Using Supported Software Not Bundled with WebSphere Commerce Service Provider" on page 5.

__ 3. You have followed the WebSphere Commerce Service Provider installation instructions to install WebSphere Commerce Service Provider 3.2, Net.Data 6.1, JDK 1.1.7, WebSphere Application Server 2.02 , and Payment Server 1.2.20.3 (optional).

__ 4. You have created a WebSphere Commerce Service Provider instance.

__ 5. If you are using Oracle, you have performed the steps outlined in "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23.

Verifying that All WebSphere Commerce Service Provider Components are Running

To verify that all WebSphere Commerce Service Provider components are active, do the following:

1. Access the Configuration Manager by doing the following:
   a. Log in as user ID `root`.
   b. Switch to the `/opt/IBMnetc/NetCommerce3/server/bin` directory.
   c. Type the following command:

      `./start_admin_server`

   d. From your Windows machine, open your browser and enter:

      `http://host_name:4444`

      where *host_name* is the host name of your WebSphere Commerce Service Provider machine.

   e. When prompted, enter your Configuration Manager user ID and password. If you have not yet changed them, your user ID is `webadmin`, and your password is `webibm`.

2. Stop and start the instance by highlighting the instance name on the main Configuration Manager window, and clicking **Stop** and **Start**. If you can stop and restart the WebSphere Commerce Service Provider instance without error messages, then it has been created successfully.

To verify that your Web server is active, do the following:
1. On your Windows machine, open your Web browser.
2. Enter the following Web address:

   `http://host_name`

   where *host_name* is the fully-qualified host name of your WebSphere Commerce Service Provider machine.

   Note: If you have modified your Web server, you may need to type the name of your Web server's front page after the host name.

3. If you can access the Web server home page, then your Web server is running.

To verify that SSL is enabled, do the following:
1. On your Windows machine, open your Web browser.
2. Enter the following Web address:

   `https://host_name`

   where *host_name* is the fully-qualified host name of your WebSphere Commerce Service Provider machine.

   Notes:
   a. Ensure that you enter `https` and *not* `http`.
   b. If you have modified your Web server, you may need to type the name of your Web server's front page after the host name.

   If you can access the Web server home page, then SSL has been enabled.

Verifying Functionality

Note: The following steps are high level verification steps to ensure that your WebSphere Commerce Service Provider components have been installed correctly and guidance to verify that WebSphere Commerce Service Provider is functioning correctly. The steps are not intended to ensure that your WebSphere Commerce Service Provider installation works for every configuration.

To verify the functionality of your installed version of WebSphere Commerce Service Provider, you can create a basic store by doing the following:
1. From your Windows machine, open your browser to the following Web address:

   `http://host_name/cspsite`

   where *host_name* is the fully qualified name of the WebSphere Commerce Service Provider server.

2. Your browser should open to the WebSphere Commerce Suite, Service Provider Edition welcome page. On the task bar on the left, click on **create store**.
3. On the *Create Store* page, Click on the **Create Basic Store** button and follow the directions of the *Create Basic Store* wizard.

The Next Step

Now that you have verified your installation, you can begin setting up your WebSphere Commerce Service Provider site. Depending on your system configuration, you may need to do some or all of the following:

- "Chapter 15. Administrative Tasks" on page 71 provides information on changing the default passwords for various user IDs, accessing the WebSphere Commerce Service Provider Administrator (NCAdmin), and requesting security certificates for your production system.
- "Chapter 16. Enabling SSL for Production on Domino Go Webserver" on page 81 provides information on creating a key ring for production.
- "Chapter 17. Installing Your Database on a Separate Machine" on page 87 provides information on setting up a remote database.

Chapter 15. Administrative Tasks

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

Accessing the Configuration Manager

To access the Configuration Manager from your WebSphere Commerce Service Provider machine:

1. Switch to the `/opt/IBMnetc/NetCommerce3/server/bin` directory.
2. Type the following command:

   `./start_admin_server`
3. From your Windows machine, open your browser and enter the following Web address:

   `http://host_name:4444`

   where *host_name* is the host name of your WebSphere Commerce Service Provider machine.
4. When prompted, type your Configuration Manager user ID and password. If you have not yet changed them, your user ID is `webadmin`, and your password is `webibm`.

Updating a WebSphere Commerce Service Provider Instance

If you want to change any of the configuration settings for your WebSphere Commerce Service Provider instance, you can do so from the Configuration Manager, or from the command line. For information on updating the instance from the command line, see "Chapter 19. Using a Command Line to Create or Configure WebSphere Commerce Service Provider Instances" on page 107.

To update a WebSphere Commerce Service Provider instance using the Configuration Manager:

1. Access the Configuration Manager, as described in the section above.
2. From the list of instances, select the instance that you want to configure.
3. Click **Stop** to stop the instance if you want the changes to be effective immediately.
4. Click **Settings**. You can then select any of the five tabs to update your instance configuration:
   - **Commerce Suite Server**
   - **Instance Data**
   - **Webserver**
   - **Database**
   - **Payment**

   For more information on the fields on each of these tabs, you can see:
   - "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47
   - The WebSphere Commerce Service Provider online help
   - The **Help** push button on each tab

5. When you have made all necessary changes to your instance, click **OK** to return to the main Configuration Manager window.

6. If you stopped the instance in step 3, restart it by clicking **Start**. The changes you made take effect when you restart the instance.

If you are using Netscape Enterprise Server, you must apply the changes of the Netscape Enterprise Server configuration to both the secure and non-secure server. You need to stop Netscape Enterprise Server servers, apply the changes, and then restart them in accordance with the Netscape Enterprise Server documentation.

Changing Your Configuration Manager Password

To protect the configuration settings that you defined during installation (or updated at any other time), change the default password of the Configuration Manager by typing the following at the shell prompt:

```
cd /opt/IBMnetc/NetCommerce3/server/bin
./htadm -deluser /opt/IBMnetc/NetCommerce3/server/admin/webadmin.passwd webadmin
./htadm -adduser /opt/IBMnetc/NetCommerce3/server/admin/webadmin.passwd
                userid new_passwd real_name
```

Note: The `htadm -adduser` command must be typed on one line. It is split here for presentation purposes only.

where *userid* is your user ID, *new_passwd* is your new password, and *real_name* is your real name.

Opening WebSphere Commerce Service Provider Administrator

To launch the Administrator:

1. Ensure that the WebSphere Commerce Service Provider instance is started. You can start the instance from Configuration Manager by selecting the instance, and then clicking **Start**. (You can also start the instance from the command line. For information on how to do this, see "Starting a WebSphere Commerce Service Provider Instance" on page 118.)

2. Open your Netscape browser on your Windows machine and make the following changes to the browser settings:
   - Set the **Memory Cache** and **Disk Cache** to values greater than zero.
   - Enable the **Java** and **JavaScript** languages.
   - For variable-width fonts, select **Times New Roman 12** point. For fixed-width fonts, select **Courier 10** point. (Other fonts and font sizes may affect the layout of the Administrator forms on your screen. If you want to use something different, you should experiment to see which combination gives the best results.)
   - Enable **Once per Session** for **Document in cache is compared to document on network**.

3. For optimal results, make the following adjustments to your computer settings. From the Windows **Start** menu, select **Settings**, then select **Control Panel**, then select **Display**. In the **Display Properties** notebook, click the **Settings** tab. Make the following changes:
   - Desktop Area: Select **1024 x 768 pixels** or higher. The program will run on any resolution setting, but higher settings produce clearer screen images.
   - Color Palette: Select **256 Colors** or greater.
   - Font Size: Select **Small Fonts**.

4. Maximize your browser window.
5. From your Windows machine, open your browser and type the following Web address:

   `http://host_name/ncadmin`

   where *host_name* is the fully-qualified host name of your WebSphere Commerce Service Provider machine.
6. You will see a series of warnings from the browser about the secure connection that is being established. Accept these warnings.
7. When the Administrator login screen appears, type the user ID and default password. Initially, the user ID and password are both set to `ncadmin`. The Administrator home page appears.

Note: Never use the **Reload** button at any time while in the Administrator. If you use the **Reload** button after you have entered data on an Administrator form, the data is lost.

Determining the Encrypted WebSphere Commerce Service Provider Administrator Password

For security reasons, the Administrator system-assigned password is encrypted. If you need to determine the encrypted password:

1. Type the following commands:

   ```
   cd /opt/IBMnetc/NetCommerce3/bin
   nc3_crypt -e ncadmin [merchant_key]
   ```

   where *merchant_key* is the merchant key you used when you configured WebSphere Commerce Service Provider. If you used the default merchant key, omit this parameter. Note that the command responds with two character strings, one in ASCII and one in hexadecimal format.

Updating the WebSphere Commerce Service Provider Administrator Password

If you are using the database creation scripts from a command line, the administrator will not be able to log in with the Administrator password unless the *NCAdmin_password* is included in double quotes. These scripts are:

- `schema.sh`
- `demomall.sh`
- `grocery.sh`
- `bus2bus.sh`
- `tutorial.sh`
- `remote_schema.sh`

If you encounter a password problem while logging into the Administrator, following these steps to correct the problem:

1. While logged in as your DB2 instance ID, connect to the database by typing the following:

   `db2 connect to db_name`
2. Verify that the SHOPPER table Administrator password matches the `nc3_crypt` encrypted string (HEX) by typing the following command:

   `db2 select shlpswd from shopper where shlogid='ncadmin'`

3. Type the following command:

```
nc3_crypt -e ncadmin (Encrypted string (ASCII))
```

The output from the command should be as follows:

```
IBM*
    Licensed Materials - Property of IBM
    5697-A16
    (C) Copyrights by IBM and by other(s) 1978, 1996. All Rights Reserved.
    * Trademark of International Business Machines Corp.
    Encrypted string (ASCII): KDRiGCv9hAM=
    Encrypted string (hex): 4B44526947437639684 14D3D
```

Following this procedure should produce the same results as above except for the padding. If this is not the case, perform a DB2 update to correct the problem. For example, type the following command on one line:

```
DB2 update SHOPPER set SHLPSWD=x'4B4452694743763968414D3D' where SHLOGID='ncadmin'
```

Please note that the value of SHLPSWD should be the same as the encrypted string (HEX) given above.

Changing the WebSphere Commerce Service Provider Administrator Password

After you open the Administrator with the system-assigned password (ncadmin), you should change the default password immediately to ensure that unauthorized individuals cannot access the program or the database.

To change your password using the Administrator, do the following:

1. From the Site Manager, click **Access Control**.
2. On the form that appears, ensure that all the fields are blank. If they are not, click **Clear**.
3. Click **Search**. A list appears in the bottom frame.
4. Select ncadmin from the list.
5. In the **Password** field, type a new password. Only letters and numbers are allowed for a password. You cannot use any special characters, such as an ampersand (&).
6. In the **Password Confirmation** field, retype the new password.
7. In the appropriate fields, type your last name and your first name. You can also fill in other fields.
8. Click **Save**.
9. Click **OK** in the confirmation window.
10. Close and then open your browser again.

Connecting to the Domino Go Webserver Home Page

If you are using the Domino Go Webserver, follow the steps below to connect to the Domino Go Webserver home page.

1. Ensure that Domino Go Webserver is started, by logging on as user ID root and typing ps -ef | grep /usr/sbin/httpd. If it is started, the following should appear twice on the right side of your screen: /usr/sbin/httpd.
2. Start your Web browser, disable and clear all disk and memory cache, and disable all proxy servers. (In some browsers, proxy servers are called *socks servers*.)

3. To access the Web server home page, open your browser and type the following Web address:

```
http://host_name
```

where *host_name* is the fully-qualified host name of your WebSphere Commerce Service Provider machine.

If you have customized your Web server, you may be required to type the name of your Web server's home page after the host name.

You have now successfully accessed the Web server front page.

Changing Your Domino Go Webserver Password

If you are using Domino Go Webserver, follow the steps below to change your Web server password for the user ID webadmin.

1. Access the Domino Go Webserver home page by opening your browser and typing the following Web address:

```
http://host_name
```

where *host_name* is the fully-qualified host name of your WebSphere Commerce Service Provider machine.

If you have customized your Web server, you may be required to type the name of your Web server's home page after the host name (for example, `http://host_name/myhomepage` where *host_name* is the fully-qualified host name of your WebSphere Commerce Service Provider machine).

2. Click **Configuration and Administration Forms**.
3. When prompted, type the default Web server administration user ID webadmin and password webibm. (If you have already changed these defaults, use the new user ID and password.) Click **OK**.
4. To change your password, do the following:
   a. Under **Administration of Users**, click **Change password**.
   b. In the **User Name** field, type webadmin.
   c. In the **Password** field, type a new password, then retype it in the **Confirm password** field.
   d. Click **Apply**.
   e. Click **Restart server**.
   f. Type your new password.
   g. Click **Configuration Page**.

You have now successfully changed your Domino Go Webserver administration password.

Setting Up IBM Payment Server

As part of the Secure Electronic Transaction (SET) functions, you can use Payment Server 1.2.20.3. You use a utility called eecertreq, which is provided by Payment Server, to request a SET merchant certificate, which you need for conducting SET transactions. A separate merchant certificate is required for each brand of payment card that your store accepts.

The information provided here is merely intended as an overview of the Payment Server process and requirements. Additional instructions on SET, Payment Server, and the Configuration Manager are provided in the online information. For information about using the eecertreq utility, refer to the *IBM Payment Server Administrator's Guide* in the directory where the IBM Payment Server is installed; the file is named eTillAdmin.pdf.

To set up IBM Payment Server:

1. Arrange for an acquiring institution to perform payment processing. The acquiring institution will provide you with configuration details and information on how to obtain a certificate.

2. Obtain a merchant certificate, and generate a private and public key pair using the eecertreq utility provided by Payment Server. Make sure you use a valid SET certificate file password, as stated below.

3. Configure SET using the information provided by the acquiring institution.

Changing the SET Certificate File Password

You must use a password to protect your SET certificate file. You are asked to specify a password for the SET certificate file during installation of WebSphere Commerce Service Provider. If you have migrated from an earlier version of Net.Commerce Hosting Server, your password is no longer valid.

To change your SET certificate password, you should do so before using the eecertreq utility. You can change the SET certificate file password on the Payment tab of the Configuration Manager or by using the command line. If you want to change your SET certificate password after you have received your SET certificate, you must make the change in the eecertreq utility and either in the WebSphere Commerce Service Provider Configuration Manager or on the command line. For more information on using the command line, see "Updating an Instance" on page 113.

When you use the eecertreq utility, make sure you use the same SET certificate password that you specified in the Configuration Manager or on the command line.

Running the eecertreq Utility

When you run the eecertreq utility according to the instructions provided in the Payment Server documentation, the files bci.db, crl.db, key.db, and keypair.db are created in the installation directory that you specify. These files are referred to as the "key files" in the *IBM Payment Server Administrator's Guide*. You must move these files to the following directory before running WebSphere Commerce Service Provider with Payment Server:

/opt/IBMnetc/NetCommerce3/instance/*instance_name*/data

Later, if you want to add certificates, you can run the eecertreq utility again to add the new certificates to the existing key files.

Requesting a Production Key Ring Certificate

If you are using Domino Go Webserver, the security key ring you created in "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59 is for testing purposes only. You will need a production key ring for the site you will create. This requires a production certificate to be issued by a certifying authority such as Equifax or VeriSign. It can take several days for this certificate to arrive, so

you may want to submit your request now. Turn to "Requesting a Secure Certificate from a Certifying Authority" on page 83 for instructions.

Using Domain Name Redirection

By using a domain name redirection or a virtual host name rather than the true server host name, you can make your server more secure by hiding its file structure and also increase the professional look of your Web site. For example, use www.abc.com instead of www.*machine_name*.com/*store_name*.

To create a domain name redirection or a virtual host name, do the following:
- Consult your network administrator to obtain a useful domain name for your Web server machine, along with its IP address (for example, www.abc.com).
- If you are using Domino Go Webserver, redirect your store's root path to your new domain by adding the following line in your Web server's configuration file, /etc/httpd.conf:

  Pass /* /opt/GoServer/usr/internet/server_root/pub/*store_name*/* www.abc.com
- If you are using Netscape Enterprise Server, do the following:
  1. From the Netscape Enterprise Server administration home page, choose the port 80 Server Manager, and select **Content Management**.
  2. Click the **Primary Document Directory** tab, and change the document root path to your store's home page location.
  3. Select **Software Virtual Servers**.
  4. Type the host Web address with the redirection name, for example, http://www.abc.com for the customer home page that you want to set up.
  5. Type the full path to the home page you want to use for this virtual server. The path must include your store's home page HTML file (for example, index.html).
  6. Click **OK**.
  7. Click **Save and Apply** to apply your changes.
  8. Restart your Netscape Enterprise Server Web server in accordance with Netscape documentation. Also restart WebSphere Commerce Service Provider, and WebSphere Application Server. See "Appendix B. Starting and Stopping WebSphere Commerce Service Provider Components" on page 205 for information on starting WebSphere Commerce Service Provider and WebSphere Application Server.

The Next Step

You can proceed to any of the chapters in "Part 3. Configuring WebSphere Commerce Service Provider Components — Advanced" on page 79. Select the appropriate chapter for your system configuration requirements.

Part 3. Configuring WebSphere Commerce Service Provider Components — Advanced

This part describes how to configure the advanced or optional WebSphere Commerce Service Provider components. Depending on your requirements, you may need to perform all or some of the tasks in the following chapters:

- "Chapter 16. Enabling SSL for Production on Domino Go Webserver" on page 81
- "Chapter 17. Installing Your Database on a Separate Machine" on page 87
- "Chapter 18. Configuring eNetwork Dispatcher 2.0.0.3" on page 97
- "Chapter 19. Using a Command Line to Create or Configure WebSphere Commerce Service Provider Instances" on page 107

Chapter 16. Enabling SSL for Production on Domino Go Webserver

The security key ring that you created in "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59 is for testing purposes only. It will *not* prevent shopper transaction from being viewed by unauthorized individuals.

Before you open your site to shoppers, you must enable SSL for production by following the steps in this chapter.

About Security

Domino Go Webserver provides a secure environment for your business transactions by using encryption technology. Encryption is the scrambling of information transactions on the Internet so that they cannot be read until they are unscrambled by the receiver. The sender uses an algorithmic pattern or key to scramble (encrypt) a transaction, and the receiver uses a decryption key. These keys are used by the Secure Sockets Layer (SSL) protocol.

Your Web server uses an authentication process to verify the identity of the person with whom you are conducting business (that is, to make sure they are whom they say they are). This involves obtaining a certificate signed by a trusted third party called a certification authority (CA). For Domino Go Webserver users, the CA may be Equifax or VeriSign Inc. Other CAs are available as well.

To create a production key ring, complete the following steps:

1. Create a security key ring for production.
2. Request a secure certificate from a certifying authority.
3. Set your production key ring as the current key ring.
4. Receive the certificate and test the production key ring.

These steps are described in detail below.

Notes:

- If you are already using a production key ring signed by a certifying authority, you may be able to skip these steps. Read this chapter to make this determination.
- As you perform these steps, your browser may display security messages. Review the information in each message carefully and decide how to proceed.
- Domino Go Webserver also provides a command line utility called MKKF which you can use to perform the procedures documented in this chapter. For more information about MKKF, refer to the *Domino Go Webserver Webmaster's Guide for Solaris*.

Creating a Security Key Ring for Production

When you create the key ring file, you provide information about public keys, private keys, trusted root keys, and certificates. This information is required to enable secure transactions.

To create a security key ring for production using VeriSign as the certifying authority, do the following (if you are using a different certifying authority, contact it directly for its procedure):

1. Ensure that Domino Go Webserver is started, by typing `ps -ef|grep httpd` on a shell prompt. If it is started, the following should appear one or more times on the right side of your screen: `/usr/sbin/httpd`.

2. On your NT machine, start your Web browser, disable and clear all disk and memory caching, and disable all proxy servers. (In some browsers, proxy servers are known as *socks servers*.)

   Note: You should record these settings as you will be replacing them later in this procedure.

3. To access the Web server's front page, type the following on your browser:

   `http://`*host_name*`/`*path*

   where *path* is the name of your Web server's front page, if required on your system. If you have not performed any customization on the Web server, *path* is not required.

4. Click **CONFIGURATION AND ADMINISTRATION FORMS**.

5. When prompted, type your Web server administration user ID and password, and click **OK**. The default administration user ID is `webadmin`, and the default password is `webibm`.

6. On the Configuration and Administration Forms page under **Security**, click **Create Keys**.

7. On the Create Key and Request Certificate form, select **VeriSign**, and click **Apply**.

8. On the VeriSign Secure Server Certificate form, in the **Key Name** field, type `netc`. In the **Key Ring** field, type `/opt/GoServer/usr/internet/server_root/netc.kyr`. (You can choose different names for the key and the key ring file, if desired.)

9. Change the **Size** field to the highest setting possible.

10. Under **Key Ring Password**, type a key ring password of your choice in both password fields. You will need this password to change the default key in the key ring and to receive certificates into that key ring.

11. Enable the **Automatic login** box.

12. Complete the fields under Distinguished Name, as follows:
    - Server Name: The fully qualified TCP/IP name of your Web server (for example, *www.ibm.com*).
    - Organizational Unit: For example, you might specify the division of your company (optional).
    - Organization: The name of your company or organization. If you already have an account with VeriSign, the name in this field should match the name on that account.
    - Locality/City: The city or locality where your server resides (optional).
    - State/Province: The state or province where the server resides. You must specify at least three characters.
    - Postal Code: The postal code or zip code where the server resides.
    - Country: The two-character country code for the country in which the server resides.

13. If you are using VeriSign as your CA, you must save the secure server certificate request in a file and manually E-mail it to VeriSign.

> **Note:** Some E-mail programs alter files and should not be used to send a certificate request. Also, if you are behind a fire wall, verify with your system administrator about what you need to do to electronically mail this request. The VeriSign home page at `http://www.verisign.com/enroll.s` has instructions on what you need to provide in the certificate request.

14. Under Save Copy, in the **Save certificate request to file** field, type:

    `/opt/GoServer/usr/internet/server_root/netcreq.txt`. You can choose a different name for the certificate request file, if desired.

15. Check that you filled out the form correctly, and click **Apply** to process the form.

Note: Record where you have saved the `netcreq.txt` file, because in the next step you will need to send its contents to the certifying authority.

You should see a confirmation message indicating that you have successfully created your public-private key pair and certificate request. If you see an error message instead, ensure that:

- You entered the correct information.
- Your password is correct.
- You filled out the fields under Distinguished Name as specified.

Requesting a Secure Certificate from a Certifying Authority

To validate the security key ring that you just created in the previous step, you need a certificate from a certifying authority (CA) such as Equifax or VeriSign. The certificate contains the server's public key, the Distinguished Name associated with the server's certificate, and the serial number and expiration date of the certificate.

If you want to use a different CA, contact it directly for information on the procedure to follow.

Equifax Users

To request a secure server certificate from Equifax, type the following Web address on your browser and follow the instructions provided:

`http://www.equifax.com`

You should receive the secure server certificate through E-mail from Equifax in 2 to 4 business days.

VeriSign Users

To request a secure server certificate from VeriSign, type the following Web address on your browser and follow the instructions provided:

`http://www.verisign.com/ibm`

Even though you are using the procedures for Domino Go Webserver, follow the link for **Internet Connection Secure Server** (ICSS). The subsequent page indicates that the procedures apply to the OS/2® and AIX® platforms. These instructions also apply for Solaris. Follow the instructions provided. Once you submit your request, your certificate should arrive within three to five working days. When you receive it, create the production key ring as described in the previous section, if you have not already done so.

Setting Your Production Key Ring as the Current Key Ring

After the certificate arrives from the CA, you must make the Web server use your production key ring. Perform the following steps:

1. Enter the following Web address to access the Web server administration forms:

   `http://`*host_name*

2. Click **Configuration and Administration Form**.

3. Under Security, click **Security Configuration**. The Security Confirmation form appears.

4. Under Key Rings, select **netc.kyr**, or the name of the key ring file that you created in "Creating a Security Key Ring for Production" on page 81.

5. Select **Set selected key ring as current key ring**.

6. Click **Apply**. You should see a message that confirms that the security configuration changes have been made.

7. Click **Configuration Page** to return to the Configuration and Administration Forms page.

Receiving the Certificate and Testing the Production Key Ring

To receive the production key ring certificate and test the production key, do the following:

1. Save the E-mail from the certifying authority as an ASCII text file called `netc.crt`. (Some E-mail programs may alter files, so they should not be used to receive certificates.)

2. Use a file transfer program (FTP) to copy the file to the `/opt/GoServer/usr/internet/server_root` directory on your server.

3. Enter the following Web address to access the Web server administration forms:

   `http://`*host_name*

4. Click **Configuration and Administration Form**.

5. On the Configuration and Administration page, under Security, click **Receive Certificate**.

6. When prompted, type the Web server user ID and password, and click **OK**.

7. On the Receive Certificate form, enter the following information:

   - In the **Name of file containing certificate** field, type: `/opt/GoServer/usr/internet/server_root/netc.crt`.

   - In the **Key Ring** field, type: `/opt/GoServer/usr/internet/server_root/netc.kyr`.

   - In the **Key Ring Password** field, type the password that you defined in step 10 on page 82.

   - Click **Apply**. You should see a confirmation page that indicates that the form was successfully processed. The certificate is now stored in the key ring.

8. Click **Configuration Page** to return to the Configuration and Administration Forms page.

9. Under Security, click **Key Management**.

10. In the **Key Ring Password** field, type the server key ring password that you defined in step 10 on page 82, select **Manage Keys**, and then click **Apply**.

11. A list of the keys in the key ring appears. Select **netc** (or the name that you specified in "Creating a Security Key Ring for Production" on page 81), then

select **Set as Default**, and then click **Apply**. You should see a confirmation page that indicates that the default was successfully applied.

12. To test the key, type the following on your browser:

    `https://`*host_name*

    Notes:

    a. If you have customized your Web server, you may need to type the name of the Web server's front page after the host name.

    b. Be sure to type `https`, not `http`

    If your key is defined correctly, you will see several messages about your new certificate.

13. On the **New Site Certificate** panel, if you want to accept this certificate, select the **Accept this certificate forever (until it expires)** radio button.

14. From your Web browser, restore your caching and proxy (or socks) server settings to their original states.

You have now enabled SSL on your server.

Chapter 17. Installing Your Database on a Separate Machine

To reduce the load on your WebSphere Commerce Service Provider server, you may wish to install your DB2 or Oracle database on a separate machine from where you have installed WebSphere Commerce Service Provider.

There are two basic configurations for using DB2 UDB or Oracle with WebSphere Commerce Service Provider. In the first scenario, the 1–tier environment, both the DB2 UDB or Oracle database server and WebSphere Commerce Service Provider are installed on the same machine. This configuration is suitable for implementations where web site usage is not high enough to fully utilize the capacity of the server. For sites anticipating high usage levels, overall performance can be increased by using separate machines for the DB2 UDB or Oracle server, and WebSphere Commerce Service Provider and its components, the 2–tier environment.

The Two-Tier Environment

In a two-tier environment, WebSphere Commerce Service Provider and its components including the DB2 or Oracle client reside on one machine. The DB2 UDB or Oracle server along with the DB2 UDB or Oracle database resides on a separate machine. In this document, the two machines are referred to as the *WebSphere Commerce Service Provider machine*, and the *DB2 server machine* or the *Oracle server machine*, respectively. The components for each machine are listed below.

- WebSphere Commerce Service Provider machine:
  - DB2 Universal Database 6.1.0.6 (Administration Client) or Oracle Client
  - DB2 UDB Text Extender 6.1.1 client (optional)
  - A web server, either Domino Go Webserver or Netscape Enterprise Server
  - Net.Data 6.1.1
  - WebSphere Application Server 2.0.3.1
  - Payment Server 1.2.20.3 (optional)
  - WebSphere Commerce Service Provider 3.2
- DB2 or Oracle Server machine:
  - DB2 Universal Database 6.1.0.6 Enterprise Edition (the DB2 Server) or Oracle server
  - On DB2 server machine, DB2 UDB Text Extender 6.1.1 server (optional)
  - WebSphere Commerce Service Provider database

In a two-tier installation, the WebSphere Commerce Service Provider components are typically installed on the WebSphere Commerce Service Provider machine, but with the client portion of the database management system installed. When installing DB2 UDB or Oracle in a two-tier installation, there are several additional steps relative to a one-tier installation that are required on the UDB or Oracle server machine and the WebSphere Commerce Service Provider machine before you create a WebSphere Commerce Service Provider instance. These additional steps are required to configure the TCP/IP communications between the WebSphere Commerce Service Provider machine and the DB2 or Oracle server machine, and to set up the WebSphere Commerce Service Provider database on the DB2 or Oracle server machine.

For a two-tier installation, since you are installing your WebSphere Commerce Service Provider database on a machine that is separate from your WebSphere Commerce Service Provider machine, the installation process is more complex than for a one-tier installation. For a two-tier configuration, you install most of the required components on the WebSphere Commerce Service Provider machine, and the DB2 UDB or Oracle server, the database, and optionally, the DB2 Text Extenders on the DB2 or Oracle server machine.

To install and setup the WebSphere Commerce Service Provider components using DB2 in a 2–tier configuration, see "2–tier DB2 Universal Database Set Up".

To install and setup the WebSphere Commerce Service Provider components using Oracle in a 2–tier configuration, see "2–tier Oracle Set Up" on page 91.

2–tier DB2 Universal Database Set Up

This section describes the procedures for installing and setting up DB2 Universal Database in a 2–tier configuration.

> **Important Note on Navigating the Information**
> Note that in the following sections, you will navigate through the other chapters in the book to install various WebSphere Commerce Service Provider components. It is important to remember that after you install a component to return to this section of the book and continue with the navigation contained in this chapter.

Installing Components on the WebSphere Commerce Service Provider Machine

Complete the following high-level steps on your WebSphere Commerce Service Provider machine:

1. Install the DB2 Administration Client, and created a DB2 instance as described in "Chapter 2. Installing DB2 UDB" on page 13. Ensured that the DB2 instance user ID runs in the Korn shell.
2. Optionally, install the DB2 Extenders client including the DB2 Text Extenders as described "Chapter 3. Installing DB2 Text Extender 6.1.1" on page 19.
3. Install your Web server, either Domino Go Webserver as described in "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27, or Netscape Enterprise Server in accordance with Netscape Enterprise Server installation instructions.
4. Install Net.Data as described in "Chapter 6. Installing Net.Data 6.1.1" on page 29.
5. Install WebSphere Application Server as described in "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31.
6. Optionally, install Payment Server as described in "Chapter 8. Installing IBM Payment Server 1.2.20.3" on page 35.
7. Install WebSphere Commerce Service Provider as described in "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37.
8. If you are using Domino Go Webserver, enable SLL as described in "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59

9. If you are using Netscape Enterprise Server, install it in accordance with instructions from Netscape and then configure Netscape Enterprise Server as described in "Chapter 10. Configuring Netscape Enterprise Server" on page 41.

Before you begin installation on your remote machine, note the following:

- If you use the `db2setup` utility, DB2 creates the instance user ID under the `/export/home` directory. This directory *must* exist before you begin to install DB2 UDB. If the directory does not exist, the DB2 instance creation will fail.
- If you have uninstalled a previous version of DB2 from this machine, ensure that all DB2 files have been deleted. If there is any DB2 information or any DB2–related files left on the system, you may be unable to successfully install DB2 or create the instance. For information on completely removing DB2 from your system, refer to "Uninstalling DB2 Universal Database 6.1.0.6" on page 216.
- If `db2setup` fails to create the DB2 instance ID automatically, check the `db2setup.log` file to find out the details of the problem. After correcting the problems, reinstall DB2 from the CD.

Installing the Components On the Remote DB2 Server Machine

To set up your DB2 database on the remote DB2 server machine, you must install the following components on that machine:

1. Install DB2 Universal Database Enterprise Edition from the IBM DB2 Universal Database 6.1 CD. For instructions, see "Chapter 2. Installing DB2 UDB" on page 13.
2. You must also create a database instance. The instance ID and password must be the same on both the WebSphere Commerce Service Provider machine (DB2 client machine) and the remote DB2 server machine.
3. Install DB2 Text Extenders server from the DB2 Extenders 6.1.1 CD. For instructions, see "Chapter 3. Installing DB2 Text Extender 6.1.1" on page 19.

Updating your DB2 Trial License

When you install DB2, a trial DB2 license gets installed. When you install WebSphere Commerce Service Provider in a 1–tier scenario, the trial license gets updated automatically. In 2–tier scenario, WebSphere Commerce Service Provider is not installed on the remote DB2 server machine, so the trial license does not get updated on that machine. After the trial license expires on your DB2 server machine, you receive messages that your license is not valid, or that it will expire in several days. To update the license manually on the DB2 server machine, do the following:

- On your IBM DB2 Universal Database 6.1 CD, find the DB2 license information file `db2udbee.lic` in the directory `/cdrom/cdrom0/db2/license`.
- Copy this file to your DB2 server machine in the following directory:

  `/opt/IBMdb2/V6.1/adm`
- On your DB2 server machine, log on as the `root` user and switch to the following directory and run the DB2 license utility:

  ```
  cd /opt/IBMdb2/V6.1/adm
  ./db2licm db2udbee.lic
  ```

You then need to stop and restart the DB2 server using the following commands:

```
su - db2_instance_id
db2 force applications all
db2stop
db2start
```

Your DB2 license should be updated.

Creating the Remote Database

To create the remote database, perform the following on the WebSphere Commerce Service Provider machine (DB2 client machine):

1. As the `root` user, copy the `/opt/IBMnetc/NetCommerce3/bin/netcpswd` file on the WebSphere Commerce Service Provider machine to the `/export/home/`*db2_instance*`/sqllib/function` directory of the database instance user (for example, `db2inst1`) on the remote database server machine.

2. Start Configuration Manager as descibed in "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47.

3. On the **Database** tab of Configuration Manager, select the **Use remote database** check box to create the remote database. The default database name for WebSphere Commerce Service Provider is `mser`.

4. Type in the the fully-qualified DB2 server host name on which the remote database is located, in **Remote Database location**.

   Type in the node name for the DB2 server machine in the **Remote Database node name** field. The node name is 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 using your DB2 database logon ID and look for the name in the response:

   ```
   db2 list node directory
   ```

   If the name does not appear in the list, you can use it as the node name.

5. Create a WebSphere Commerce Service Provider instance as described in "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47.

6. Check the WebSphere Commerce Service Provider log files in the `/opt/IBMnetc/NetCommerce3/instance/`*instance_name*`/logs` directory for any errors (*instance_name* is your WebSphere Commerce Service Provider instance; the default instance is `mser`.

Once you have created your remote database, you can proceed to "Chapter 14. Verifying Your Installation and Configuration" on page 67 to verify your installation. If you have a preexisting database to which you wish to remotely connect, continue to the next section below.

Connecting to a Preexisting Remote Database

If you have a preexisting remote database, you must perform the following manual steps to connect to the database from your WebSphere Commerce Service Provider machine. On your WebSphere Commerce Service Provider machine, perform the following:

1. In a DB2 command window, catalog the TCP/IP node and remote database by typing the following :

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

   where the variable information 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 using your DB2 database logon ID and look for the name in the response:

```
db2 list node directory
```

If the name does not appear in the list, you can use it as the node name.

host_name
   The host name of the machine on which the WebSphere Commerce Service Provider database resides.

port_num
   The DB2 connection port number. The default is 50000.

db_name
   The name of your WebSphere Commerce Service Provider database.

2. From the Windows machine running the required software, access Configuration Manager. On your Web browser, go to `http://host_name:4444`, where *host_name* is the fully qualified host name of your WebSphere Commerce Service Provider machine (for example, *www.ibm.com* is fully qualified).

3. On the Configuration Manager window for your WebSphere Commerce Service Provider instance, click the **Database** tab.

4. In the **Database Name** field, type the name of your remote database and select the Remote Database check box. In the **Remote Database Location** field, type the host name that you used in the above `db2 catalog tcpip node` command. In the **Remote Database Node Name** field, type the node name that you used in the above `db2 catalog tcpip node` command.

5. Click **OK**.

2–tier Oracle Set Up

This section describes the procedures for setting up Oracle in a 2–tier configuration.

You should be an Oracle Data Base Administrator to perform the following steps as you will require a significant amount of Oracle administration knowledge.

> **Important Note on Navigating the Information**
> Note that in the following sections, you will navigate through the other chapters in the book to install various WebSphere Commerce Service Provider components. It is important to remember that after you install a component to return to this section of the book and continue with the navigation contained in this section. For a 2–tier installation, ignore *The Next Step* sections at the end of the other chapters in the book.

Installing Your Components in a 2-Tier Installation

Install the Oracle server on your remote Oracle server machine in accordance with installation instructions from Oracle.

Complete the following high-level installation steps on your WebSphere Commerce Service Provider (Oracle client) machine:

1. Install the Oracle client in accordance with installation instructions from Oracle.

2. Install your web server, either Domino Go Webserver as described in "Chapter 5. Installing Domino Go Webserver 4.6.2.61" on page 27, or Netscape Enterprise Server in accordance with Netscape Enterprise Server installation instructions.
3. Install Net.Data as described in "Chapter 6. Installing Net.Data 6.1.1" on page 29.
4. Install WebSphere Application Server as described in "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31.
5. Install WebSphere Commerce Service Provider as described in "Chapter 9. Installing WebSphere Commerce Service Provider 3.2" on page 37.
6. If you are using Netscape Enterprise Server, install it in accordance with instructions from Netscape and then configure Netscape Enterprise Server as described in "Chapter 10. Configuring Netscape Enterprise Server" on page 41.
7. Install the Oracle product components, including the JDBC driver. See "Installing and Configuring Oracle" on page 23 for information on setting up the JDBC drivers.
8. Configure the ODBC driver as described in "Configuring the ODBC Driver" on page 24.
9. Set up the WebSphere Application Server plug-in as described in "Preparing the WebSphere Plug-in Environment" on page 25.
10. Verify your ODBC connectivity as described in "Verifying Connectivity" on page 25

On your Oracle server machine, install the Oracle components including the JDBC driver, as described in "Installing and Configuring Oracle" on page 23.

Create a WebSphere Commerce Service Provider instance as described in "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47. Ensure that you enable the remote machine check box, and type in the fully qualified remote Oracle server machine name when you fill in the fields for the **Database** tab. Do not start the instance as you will not be able to start it yet. Ensure that you select Oracle as your DBMS when you configure WebSphere Commerce Service Provider.

If you are using Domino Go Webserver, enable SLL on your WebSphere Commerce Service Provider machine as described in "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59

Configuring the Oracle Server Machine

Perform the following steps on the Oracle server machine:
1. Create an Oracle table space and an Oracle database user. Grant necessary privileges to the user, and create an Oracle schema for the user.
2. Edit the following files and check that they contain the correct SID and the correct host name for the Oracle server machine:
   - `$HOME/.odbc.ini`
   - `/$ORACLE_HOME/network/admin/listener.ora`
   - `/$ORACLE_HOME/network/admin/tnsnames.ora`

   Your `$HOME/.odbc.ini` file should contain an SID section similar to:

```
[o805] Driver=/opt/odbc/lib/ODBC_driver_name
Description=WebSphere Commerce Service Provider Data Source
ServerName=[oracle_instance_service_name]
LogonID=
Password=
```

If it does not, you need to manually add in this section.

3. Start the Oracle Server Manager and Listener from command line.

Configuring the Oracle Client Machine

Perform the following steps on the Oracle client machine where you have installed WebSphere Commerce Service Provider components:

1. Configure the ODBC driver as described in "Configuring the ODBC Driver" on page 24.

2. Create a UNIX user that has the same name as the remote Oracle server user.

3. Copy the /$ORACLE_HOME/network/admin/tnsnames.ora file on the remote Oracle server machine to the same location on the Oracle client machine. If the file exists on the client machine, replace it with the file from the server.

4. To create the WebSphere Commerce Service Provider database schema, do the following:

   a. Log on to the Oracle user that you will specify on the **Database** tab when you configure WebSphere Commerce Service Provider. The Oracle user is the UNIX user ID that is the Oracle owner.

      `su - oracle_user`

   b. Switch to the /opt/IBMnetc/NetCommerce3/nc_schema/oracle directory, and review the scripts that are provided with WebSphere Commerce Service Provider. The script, remote_schema.sh, contains information about how to use the other scripts.

   c. If you want to change a script, create a backup, and change the original copy.

   d. If you want to create a default WebSphere Commerce Service Provider database (mser), type the following:

      `./remote_schema.sh db_user db_password S | N "NCAdmin_password" host_name [log_file]`

      Note: When running this script, you may notice some error messages in the log concerning tables or views that are not available. You can ignore these messages.

      For the above script, the variable information is defined as follows:

      db_user
      > The user name that connects to Oracle. (The database user logon from the Database tab of Configuration Manager.)

      db_password
      > The password of the user name you specified above. (The database logon password from the Database tab of Configuration Manager.)

      S | N The type of server. Type **S** to create the database for a staging server, or type **N** to create the database for a normal (non-staging) server.

      NCAdmin_password
      > The encrypted password of the WebSphere Commerce Service

Provider Administrator in hexadecimal representation. The quotation marks are required. To determine the encrypted password, do the following:

1) While logged on as the Oracle user ID, type the following from a shell prompt window on the machine on which you installed WebSphere Commerce Service Provider:

```
cd /opt/IBMnetc/NetCommerce3/bin

nc3_crypt -e ncadmin [merchant_key]
```

where *merchant_key* is the merchant key you used when you configured WebSphere Commerce Service Provider. If you used the default merchant key, omit this parameter.

2) The command responds with two character strings, one in ASCII and one in hexadecimal. Copy the hexadecimal character string to the clipboard, and paste it into the proper position in the `remote_schema.sh` script.

host_name
    The fully qualified remote Oracle server machine name (for example, `my_host.my_domain.ibm.com`).

log_file A substring of the name of the file, or files, into which the command writes log records as it populates the database, as follows:

- If the command is being run for a production server, log records are written to `schema_log_file`.
- If the command is being run for a staging server, log records are written to `schema_log_file` and `stage_log_file`.

The default value for *log_file* is *db_user*.log.

The above log files are written to the `/opt/IBMnetc/NetCommerce3/nc_schema/oracle` directory.

e. To populate the database, change to the `/opt/IBMnetc/NetCommerce3/nc_schema/oracle/migrate` directory and run the `chsdata.sh` script:

```
cd /opt/IBMnetc/NetCommerce3/nc_schema/oracle/migrate

./chsdata.sh db_name user_name password host_name [log_file]
```

where the variable information is defined as follows:

db_name
    The database name from the Database tab of Configuration Manager.

db_user
    The user name that connects to Oracle. (The database user logon from the Database tab of Configuration Manager.)

db_password
    The password of the user name you specified above. (The database logon password from the Database tab of Configuration Manager.)

host_name
    The fully qualified remote Oracle server machine name.

log_file The path and file into which you want the command to write log records. The log records are written to a file named `chsdata_`*`log_file`*.

f. Stop and start your Webserver (either Domino Go Webserver or Netscape Enterprise Server) and WebSphere Application Server. For Domino Go Webserver, see "Starting and Stopping Domino Go Webserver" on page 206; for Netscape Enterprise Server, see the Netscape Enterprise Server documentation; for WebSphere Application Server see "Starting and Stopping WebSphere Application Server" on page 207.

g. Start the WebSphere Commerce Service Provider instance.

You can also populate the database with information for the sample mall that is provided with WebSphere Commerce Service Provider. More information on the sample mall is provided in the WebSphere Commerce Service Provider online help. Check your logs to ensure there are no fatal errors.

If you encounter any errors when running the scripts in step 4 on page 93, or you want to refresh the database on the Oracle server machine, you must:

1. Enter Server Manager command line:

    `SVRMGRL `*`system`*`/`*`manager`*

2. Connect to internal (system DB) using the following command:

    `CONNECT INTERNAL;`

3. Drop the Oracle user using the following command:

    `DROP USER `*`oracle_user`*` CASCADE;`

4. Recreate your Oracle user and schema as documented in "Configuring the Oracle Server Machine" on page 92.

5. Repeat step 4 on page 93 on your WebSphere Commerce Service Provider machine.

Chapter 18. Configuring eNetwork Dispatcher 2.0.0.3

This chapter describes how to configure eNetwork Dispatcher for use with WebSphere Commerce Service Provider. Read this chapter if your system configuration includes multiple Web server machines for enhanced load sharing. The chapter assumes that you have eNetwork Dispatcher installed as described in the eNetwork Dispatcher User's Guide (document number GC31–8496). Before using the information in this section, it is highly recommended that you familiarize yourself with the content of the eNetwork Dispatcher User's Guide.

WebSphere Commerce Service Provider supports eNetwork Dispatcher 2.0.0.3.

The following configurations have been tested on the Solaris Operating Environment:

- Domino Go Webserver 4.6.2.61 with DB2 Universal Database 6.1.0.6
- Netscape Enterprise Server 3.6.1 with DB2 Universal Database 6.1.0.6
- Netscape Enterprise Server 3.6.1 with Oracle 8.0.5

All the above configurations used eNetwork Dispatcher 2.0.0.3 on Windows NT, and two WebSphere Commerce Service Provider machines on the Solaris Operating Environment.

Chapter Prerequisites

Before proceeding with the steps in this chapter to configure eNetwork Dispatcher for use with WebSphere Commerce Service Provider, ensure that you have completed the following:

__ 1. A 2–tier installation of WebSphere Commerce Service Provider that is configured to use a remote database as described in "Chapter 17. Installing Your Database on a Separate Machine" on page 87.

__ 2. Installation of any additional WebSphere Commerce Service Provider machines to the cluster as required to meet your anticipated WebSphere Commerce Service Provider load requirements. If you are using DB2, you will need to catalog the remote database as described in the next section.

__ 3. Installation of eNetwork Dispatcher 2.0.0.3 on an NT machine that is connected to the cluster that is dedicated to eNetwork Dispatcher. The installation procedure for eNetwork Dispatcher is described in the eNetwork Dispatcher User's Guide (document number GC31–8496).

__ 4. Creation of a WebSphere Commerce Service Provider instance for each WebSphere Commerce Service Provider machine in the cluster. Each instance should be configured to use the same remote database. See "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47 for information on configuring instances. *Do not start any of the instances until you have reviewed step 5 below.*

__ 5. In consultation with your System Administrator, determine the WebSphere Commerce Service Provider machine (the source machine) whose file system you wish to share with other WebSphere Commerce Service Provider machines in the eNetwork Dispatcher cluster.

Ensure that you start the WebSphere Commerce Service Provider instance for the source machine first, before starting the instances on the other WebSphere Commerce Service Provider machines in the cluster. Otherwise,

the directories containing the Sample Mall will reside on a machine other than the source machine, and you will not be able to view the Sample Mall from the other machines.

Cataloging Your Remote DB2 Databases

Before you begin the steps in this section you should have created your WebSphere Commerce Service Provider instance on *each* WebSphere Commerce Service Provider machine, as described in "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47. All WebSphere Commerce Service Provider instances should be configured to use the same remote database. Note that if the database already exists, you need to catalog it manually as shown below.

For DB2, a remote database can only be created at *one* WebSphere Commerce Service Provider machine, and can be created only *once*. Create the remote database from one WebSphere Commerce Service Provider machine. After creating the remote database, catalog the remote node and database manually from each of the remaining WebSphere Commerce Service Provider machines. Issue the following DB2 commands from a DB2 command window:

```
db2 catalog tcpip node node_name remote remote_host_name
    server port_num
db2 catalog db db_name at node node_name
db2 catalog db db_name as Rdb_name at node node_name
```

where the variable information 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 using your DB2 database logon ID and look for the name in the response:
> ```
> db2 list node directory
> ```
>
> If the name does not appear in the list, you can use it as the node name.

host_name
> The host name of the machine on which the WebSphere Commerce Service Provider database resides.

port_num
> The DB2 connection port number. The default is 50000.

db_name
> The name of your WebSphere Commerce Service Provider database.

Configuring the eNetwork Dispatcher Server

As documented in the eNetwork Dispatcher User's Guide, you will require at least two valid IP addresses for the Dispatcher machine:

- An IP address specifically for the Dispatcher machine.

  This IP address is the primary IP address of the Dispatcher machine and is called the non-forwarding address (NFA). This is by default the same address as that returned by the eNetwork Dispatcher hostname command. Use this address to connect to the machine for administrative purposes, such as performing remote configuration using Telnet or accessing the SNMP subagent. If the

Dispatcher machine can ping other machines on the network, you do not need to do anything further to set up the non-forwarding address.

- One IP address for each eNetwork Dispatcher cluster.

  A cluster address is an address that is associated with a host name (such as `www.yourcompany.com`). This IP address is used by a client to connect to the WebSphere Commerce Service Provider servers in a cluster. This is the address that is load balanced by the Dispatcher.

- The following instructions assume that the eNetwork Dispatcher machine and WebSphere Commerce Service Provider machines in your cluster use the same subnet (that is, the machines are on the same TCP/IP ring).

Windows NT Only: Ensure that IP forwarding is not enabled for the TCP/IP protocol. (See your Windows NT TCP/IP configuration.)

For more information, refer to the eNetwork Dispatcher User's Guide.

With WebSphere Commerce Service Provider, you need to set up eNetwork Dispatcher on a dedicated Windows NT machine. This configuration has been tested for use with WebSphere Commerce Service Provider. The configuration instructions provided below apply to the Windows NT platform.

On each eNetwork Dispatcher server you have, do the following:
1. Log in to your eNetwork Dispatcher Windows NT machine with a user ID that has Administrator authority.
2. Start the eNetwork Dispatcher server, by doing the following:

   In Windows NT, click **Start**, point to **Settings**, click **Control Panel**, click the **Services** icon, and then click **IBM Network Dispatcher**.
3. Start the eNetwork Dispatcher executor, by typing the following command on a DOS command prompt:

   ```
   ndcontrol executor start
   ```
4. Set the Maximum Transfer Unit (MTU) for your eNetwork Dispatcher server. MTU is the maximum TCP/IP packet size in bytes. Type the following command:

   ```
   ndcontrol e xm 32 MTU_size
   ```

   where *MTU_size* is the maximum TCP/IP packet size in bytes. By default, your eNetwork Dispatcher server is set up to handle an MTU size of 1500 bytes. Depending on your application, you may need to increase this setting, especially if you are transferring large graphic images in your application. Consult your Network Administrator to obatain the appropriate MTU size for your requirements.

   Note: You must set up your eNetwork Dispatcher server and each of your WebSphere Commerce Service Provider machines with the *same* TCP/IP packet size. Setting up your WebSphere Commerce Service Provider machines is described in the next section.
5. Set up a cluster host name, so that the eNetwork Dispatcher server can accept all packets and forward them to the appropriate server. To do this, type the following on a command line:

   ```
   ndconfig network_interface alias cluster_hostname netmask 255.255.0.0
   ```

where *network_interface* is your network interface type (for example, for token ring `tr0`, or for ethernet `en0`), and *cluster_hostname* is the fully qualified host name that shoppers use to access your Web site.

6. Add the cluster address by typing the following command:

   `ndcontrol cluster add cluster_hostname`

   where *cluster_hostname* is the host name you used in step 5 on page 99.

7. Add the port numbers that the eNetwork Dispatcher server will listen to, by typing the following command:

   `ndcontrol port add cluster_hostname:80+443`

   where *cluster_hostname* is the host name you used in step 5 on page 99. If you want to add more port numbers, type the command again, substituting the new port numbers for the port numbers (80+443) that you have already added.

8. For each port number you have added, you must add each WebSphere Commerce Service Provider server to the port, so that eNetwork Dispatcher can dispatch to the appropriate server. You may want to define and configure several servers to a port on a cluster. To do this, type the following command for *each* port number:

   `ndcontrol server add cluster_hostname:port_num:server_hostname`

   where the variables are defined as follows:

   cluster_hostname
   > The fully qualified host name that shoppers use to access your Web site.

   port_num
   > The port number(s) you added in step 7.

   server_hostname
   > The host name of your WebSphere Commerce Service Provider machine(s).

Note: The instructions above show you how to configure eNetwork Dispatcher using the command line utility called `ndcontrol`. An alternate way to configure eNetwork Dispatcher is to use the Network Dispatcher Graphical User Interface (GUI). To start the GUI, first make sure the eNetwork Dispatcher sever is running (refer to step 2 on page 99). To run the GUI, click **Start**, click **Programs**, and then click **Network Dispatcher** on your Windows NT machine.

> If you use the GUI, remember that you must enter the `ndconfig` and `ifconfig` commands (see step 5 on page 99) from the command line before starting the GUI. For more information on using the GUI, see the eNetwork Dispatcher User's Guide.

Configuring the WebSphere Commerce Service Provider Machines

To configure your WebSphere Commerce Service Provider machines for eNetwork Dispatcher, perform the following steps on each WebSphere Commerce Service Provider machine except where otherwise indicated:

1. Log in as user ID `root`.
2. Stop the following:
   - WebSphere Commerce Service Provider instance

- Your Web server (either Domino Go Webserver or Netscape Enterprise Server)
- WebSphere Application Server

For information on stopping WebSphere Commerce Service Provider components, refer to "Appendix B. Starting and Stopping WebSphere Commerce Service Provider Components" on page 205.

3. Configure each WebSphere Commerce Service Provider machine to accept traffic for the cluster host name that you set up in "Configuring the eNetwork Dispatcher Server" on page 98, by typing the following at a shell prompt:

```
ifconfig lo0:1 cluster_hostname 127.0.0.1 up
```

where *cluster_hostname* is the host name you entered in step 5 on page 99 in "Configuring the eNetwork Dispatcher Server" on page 98 above.

4. Set the MTU value for each WebSphere Commerce Service Provider machine. Type the following command while logged in as user `root`:

```
ifconfig network_interface_card mtu MTU_size
```

where *network_interface_card* is the name of the network interface card you are using and *MTU_size* is the maximum TCP/IP packet size in bytes.

   Note: You must set up your eNetwork Dispatcher server and each of your WebSphere Commerce Service Provider machines with the *same* TCP/IP packet size.

5. For each WebSphere Commerce Service Provider machine, use a text editor to edit the `MS_HOSTNAME` directive for each of the `*.conf` files within the `/opt/IBMnetc/NetCommerce3/instance/`*instance_name*`/config` directory, where *instance_name* is the WebSphere Commerce Service Provider instance. Change the `MS_HOSTNAME` from the individual WebSphere Commerce Service Provider host name to the cluster host name (the *cluster_hostname* value from step 5 on page 99). Note that you *must* update the following 3 files: `ncommerce.conf`, `scheduler.conf`, and `srvrctrl.conf`.

   Do *not* change the `JDBC_hostname` and `Etill_hostname` values.

6. On each WebSphere Commerce Service Provider machine, change your Web server configuration file:

- If you are using Domino Go Webserver, edit the `/etc/httpd.conf` file, by making the following changes:

   a. Change all occurrences of the host name from the individual machine's host name to the Cluster host name (the *cluster_hostname* value from step 5 on page 99).

   b. Change all occurrences of the IP addresses from the individual machine's IP address to the Cluster IP address.

- If you are using Netscape Enterprise Server, change the configuration files (`obj.conf` and `magnus.conf`) for both the port 80 and 443 servers. The files are located in the following paths:

```
/usr/netscape/https-<host_name>-80/config
/usr/netscape/https-<host_name>-443/config
```

   For the `obj.conf` files, change the following lines:

```
    NameTrans fn="redirect" from="/nchelp/catalog/panelinf"
url-prefix="http://<cluster_hostname>/nchelp/catalog/panelinf"
    NameTrans fn="redirect" from="/ncadmin/ictmgr"
url-prefix="http://<cluster_hostname>/ncadmin/ictmgr"
```

For the `magnus.conf` files, change:

`ServerName <local_hostname>` to `ServerName <cluster_hostname>`

Apply the changes you have made to your `obj.conf` and `magnus.conf` files through your Netscape Enterprise Server Administrator. Log on to the port used to configure the Netscape Enterprise Server Administrator and click on the Netscape Enterprise Server server with the `obj.conf` or `magnus.conf` file that you changed. You should see a message telling you that changes were made to these files, and you must apply your changes. Click the **Apply** button at the top of the screen, then click the **Load Configuration Changes** button that pops up.

> **Note:** You need to apply your changes every time you make changes to these files, as well as when you create your WebSphere Commerce Service Provider instance. Otherwise you may lose your changes upon rebooting.

7. Enable file sharing between WebSphere Commerce Service Provider machines:

a. As described in step 5 on page 97, you should have decided the source machine whose file system you will share with the other machines in the eNetwork Dispatcher cluster.

b. Certain directories need to be shared between all the WebSphere Commerce Service Provider machines in the cluster. In order to allow other users to read, write, and access the shared subdirectories, the owner of these directories can run the following `chmod` commands *on the source machine only*.

For Domino Go Webserver:

```
chmod 747 /opt/GoServer/usr/internet/server_root/pub
chmod 747 /opt/IBMnetc/NetCommerce3/macro/en_US
chmod 747 /opt/IBMnetc/NetCommerce3/CHS/source
chmod 747 /opt/IBMnetc/NetCommerce3/CHS/locked
chmod 747 /opt/IBMnetc/NetCommerce3/Tools/public
```

For Netscape Enterprise Server:

```
chmod 747 /usr/netscape/suitspot/docs
chmod 747 /opt/IBMnetc/NetCommerce3/macro/en_US
chmod 747 /opt/IBMnetc/NetCommerce3/CHS/source
chmod 747 /opt/IBMnetc/NetCommerce3/CHS/locked
chmod 747 /opt/IBMnetc/NetCommerce3/Tools/public
```

c. On the source machine whose file system you want to share, configure the file-share system:

- Edit the file `/etc/dfs/dfstab`
- Share each subdirectory using the following `share` commands. For Domino Go Webserver:

```
share -F nfs /opt/GoServer/usr/internet/server_root/pub
share -F nfs /opt/IBMnetc/NetCommerce3/macro/en_US
share -F nfs /opt/IBMnetc/NetCommerce3/CHS/source
share -F nfs /opt/IBMnetc/NetCommerce3/CHS/locked
share -F nfs /opt/IBMnetc/NetCommerce3/Tools/public
```

For Netscape Enterprise Server:

```
share -F nfs /usr/netscape/suitspot/docs
share -F nfs /opt/IBMnetc/NetCommerce3/macro/en_US
share -F nfs /opt/IBMnetc/NetCommerce3/CHS/source
share -F nfs /opt/IBMnetc/NetCommerce3/CHS/locked
share -F nfs /opt/IBMnetc/NetCommerce3/Tools/public
```

- Start the NFS server:

```
/etc/init.d/nfs.server start
```

- To view the current shared file systems on the machine enter:

  `share`

d. On each target WebSphere Commerce Service Provider machine, mount the shared subdirectories using the following `mount` commands.

For Domino Go Webserver:

```
mount source_machine:/opt/GoServer/usr/internet/server_root/pub
  /opt/GoServer/usr/internet/server_root/pub
mount source_machine:/opt/IBMnetc/NetCommerce3/macro/en_US
  /opt/IBMnetc/NetCommerce3/macro/en_US
mount source_machine:/opt/IBMnetc/NetCommerce3/CHS/source
  /opt/IBMnetc/NetCommerce3/CHS/source
mount source_machine:/opt/IBMnetc/NetCommerce3/CHS/locked
  /opt/IBMnetc/NetCommerce3/CHS/locked
mount source_machine:/opt/IBMnetc/NetCommerce3/Tools/public
  /opt/IBMnetc/NetCommerce3/Tools/public
```

For Netscape Enterprise Server:

```
mount source_machine:/usr/netscape/suitespot/docs
  /usr/netscape/suitespot/docs
mount source_machine:/opt/IBMnetc/NetCommerce3/macro/en_US
  /opt/IBMnetc/NetCommerce3/macro/en_US
mount source_machine:/opt/IBMnetc/NetCommerce3/CHS/source
  /opt/IBMnetc/NetCommerce3/CHS/source
mount source_machine:/opt/IBMnetc/NetCommerce3/CHS/locked
  /opt/IBMnetc/NetCommerce3/CHS/locked
mount source_machine:/opt/IBMnetc/NetCommerce3/Tools/public
  /opt/IBMnetc/NetCommerce3/Tools/public
```

Note that each time you reboot your machine, you need to repeat this mount operation.

8. On each WebSphere Commerce Service Provider machine, restart the WebSphere Commerce Service Provider instance from Configuration Manager (port 4444). For more information on starting WebSphere Commerce Service Provider from Configuration Manager, refer to "Appendix B. Starting and Stopping WebSphere Commerce Service Provider Components" on page 205.

9. On each WebSphere Commerce Service Provider machine, restart the Web server. If you are using Domino Go Webserver, refer to "Starting and Stopping Domino Go Webserver" on page 206. If you are using Netscape Enterprise Server, refer to the Netscape Enterprise Server documentation.

Notes:

1. Each time you reboot your WebSphere Commerce Service Provider machine, you need to repeat step 3 on page 101.

2. Each time you create a new instance, you must repeat steps 5 to 9.

3. To enable Secure Socket Layer (SSL) for production, you need to purchase a production certificate from a certifying authority *that uses the cluster host name*. See "Chapter 16. Enabling SSL for Production on Domino Go Webserver" on page 81 for more information.

   In a test environment, you may receive messages indicating that there is a discrepancy between the cluster host name and the individual machine names. You can ignore these messages.

Merchant Tool Considerations

In an eNetwork Dispatcher environment, you will be unable to work with orders using the Edit Order and Place Order wizards within the Merchant Tool. This is because the `KeyRing.class` file is only created for one of theWebSphere Commerce Service Provider the machines and not the other machines in the cluster. To use the Edit Order and Place Order wizards within the Merchant Tool, complete the following:

1. For each WebSphere Commerce Service Provider machine in your cluster, ensure that the secure Web server is enabled. You can verify this by pointing your browser to `https://`*host_name* and if you see some windows prompting you for secure certificates, it is running. Otherwise, you need to set up SSL for your Web server on that machine.

2. On one of the WebSphere Commerce Service Provider machines in the eNetwork Dispatcher cluster, log on as the `root` user and export the `CLASSPATH` environment variable from a command prompt as follows:

   ```
   export CLASSPATH=$CLASSPATH:/opt/IBMnetc/NetCommerce3/Tools:
           /opt/IBMnetc/NetCommerce3/Tools/lib/sslite1.jar
   ```

3. On the same WebSphere Commerce Service Provider machine, run the following command from the `/opt/IBMnetc/NetCommerce3/Tools` directory:

   ```
   java com.ibm.sslite.tools.keyrng KeyRing connect host_name:443
   ```

   where *hostname* is the machine's host name.

4. Enter the following information:
   - `keyRing` for the password
   - 0 (zero) as the site certificate number
   - 0 (zero) as site

   This creates the `KeyRing.class` file in the `/opt/IBMnetc/NetCommerce3/Tools` directory.

5. Copy this java class file to the same directory for the remaining WebSphere Commerce Service Provider machines.

Configuring Payment Server for eNetwork Dispatcher

If you are using Payment Server 1.2.20.3, you must perform the following steps to configure your Payment Server machines for eNetwork Dispatcher:

Note: These instructions assume that Payment Server is installed on the same machines as WebSphere Commerce Service Provider. You must perform the steps below on *each* Payment Server machine.

1. Edit `pay_back.conf` and `pay_etill.conf` files, changing the `MS_HOSTNAME` parameter from the local host name to the cluster host name.

   Note: Do not change the host name for the `ETILL_HOSTNAME` and `USEREXIT_HOSTNAME` parameters.

Verifying Your eNetwork Dispatcher Configuration

Now that you have installed and configured eNetwork Dispatcher, you can verify your configuration as follows:

1. Disconnect all WebSphere Commerce Service Provider machines from your eNetwork Dispatcher server, except for one test machine. This will keep one

branch of the eNetwork Dispatcher whose functionality you will verify. Use the following eNetwork Dispatcher command:

```
ndcontrol server remove cluster_hostname:port_number:hostname
```

Run this command for each WebSphere Commerce Service Provider server machine identified by *hostname* in the above command *except for your test server*. In addition, run this command for both port 80 and port 443.

2. Create a test store through the test WebSphere Commerce Service Provider machine by pointing your browser to the CSPsite at the cluster (that is, http://*cluster_hostname*/cspsite) and using the Create Store wizard (either Basic or Advanced). After you have created the test store, open the store by using ncadmin (http://*cluster_hostname*/ncadmin).

3. Disconnect the test WebSphere Commerce Service Provider machine from eNetwork Dispatcher using the command in step 1 on page 104.

4. Connect one of the previously disconnected WebSphere Commerce Service Provider machines as follows:

```
ndcontrol server add cluster_hostname:port_number:hostname
```

You must run this command for both port 80 and port 443.

5. Point your browser to the test store that you created (http://*cluster_hostname*/store_name) and attempt to browse and shop at the store.

6. Repeat steps 3 to 5 for each remaining WebSphere Commerce Service Provider machine in your cluster in order that you can access the test store on each branch in the cluster.

Optionally, you can repeat the above process and create a test store for each WebSphere Commerce Service Provider machine, and verify the access to each test store created from the remaining branches in the cluster.

Once you have verified your eNetwork Dispatcher functionality, you need to do the following:

- Close all test stores that you created.
- Connect all WebSphere Commerce Service Provider machines to your eNetwork Dispatcher machine.

Chapter 19. Using a Command Line to Create or Configure WebSphere Commerce Service Provider Instances

This chapter provides detailed instructions on creating and managing your instances through a command line, as opposed to using the Configuration Manager interface. All the functionality available from the Configuration Manager interface is available through the command line. The following topics are covered:

- Using a Text File to Create or Update Instances
- Creating a New Instance
- Updating an Instance
- Viewing the Default Settings for a WebSphere Commerce Service Provider Instance
- Viewing the Current Settings for a WebSphere Commerce Service Provider Instance
- Viewing the Status for all WebSphere Commerce Service Provider Instances
- Setting a DB2 Database for a WebSphere Commerce Service Provider Instance
- Modifying the Domino Go Webserver or Netscape Enterprise Server Configuration File
- Starting a WebSphere Commerce Service Provider Instance
- Stopping a WebSphere Commerce Service Provider Instance
- Deleting a WebSphere Commerce Service Provider Instance

Note: The first time you create an instance, you must run the `./start_admin_server` command from the `/opt/IBMnetc/NetCommerce3/server/bin` directory. The command sets the default Web server ID and password.

Using a Text File to Create or Update Instances

You can create a text file containing multiple commands and use the text file to process the commands. Creating a text file which contains all the commands and parameters for creating or updating an instance eliminates the need to enter each command and parameter manually.

If you do not want to use a text file to run commands, proceed to "Creating a New Instance" on page 108. If you want to use a text file to run commands, do the following each time that you want to run the command:

1. Log on as user ID `root`.
2. Switch to the `/opt/IBMnetc/NetCommerce3/server/admin` directory.
3. Create a text file. For example, create an `update.txt` file to update an existing instance. You can create a text file for any of the commands described in this chapter. The text file must contain the command and all the parameters required by the command.
4. Ensure that the following environment variables are set, by typing the following commands:
   ```
   CONTENT_LENGTH=20; export CONTENT_LENGTH
   REQUEST_METHOD=POST; export REQUEST_METHOD
   ```
5. Run the command by typing the following:

```
./webconfig < text_file
```

where *text_file* is the name of the text file.

The text file for updating an instance would look like this:
```
$COMMAND=UPDATE_INSTANCE
NAME=
MERKEY=
ROOTPATH=
CONFIGPATH=
LOGPATH=
CACHEPATH=
DEFAULTS=
CGIPATH=
HTMLPATH=
MACROPATH=
ISHOST=
DBNAME=
DBUSER=
DBOWNER=
DBTYPE
DBPSWD=
DBHOST=
DBSVC=
ETHOST=
CMSPSWD=
ISTYPE=
NCPROC=
NCPORT=
DBPORT=
MAX_CACHE_FILES=
ETCYCLE=
ETINTVL=
ETTMOUT=
OPTION=
NES_SECURE=
NES_NONSECURE=
```

Enter the current values for your instance. When you want to update the instance, you need only edit the text file, changing the parameters that you wish to update.

Creating a New Instance

To create a new instance, do the following:

1. Log on as user ID root.
2. Ensure that the following environment variables are set, by typing the following commands:
   ```
   CONTENT_LENGTH=20; export CONTENT_LENGTH
   REQUEST_METHOD=POST; export REQUEST_METHOD
   ```
3. Switch to the /opt/IBMnetc/NetCommerce3/server/admin directory.
4. Type the following commands:
   ```
   ./webconfig
   $COMMAND=ADD_INSTANCE
   ```

   The command will be echoed back to you.
5. Enter each of the parameters listed in the chart below one at a time, using the following syntax:
   ```
   parameter_name=value
   ```

For example, NAME=*mser.* When you have entered all the parameters, the instance is created and a message is returned indicating that the instance has been successfully created.

Parameter	Description
NAME	• The default value is mser. • Enter the default value or type an alphanumeric name for the WebSphere Commerce Service Provider instance you want to create.
MERKEY	• The default setting is blank. If you want this key to be automatically generated, leave this parameter blank. • If you want to define your own Merchant Key, enter a 16 digit hexadecimal number that will be used as the encryption key for shopper and administrator passwords in the WebSphere Commerce Service Provider database. Keep a record of this number, as you will need it if you reconfigure your system later. • If the key that you enter does not conform to certain criteria required for strong encryption, the encryption algorithm will automatically enhance your key. The enhancement of your key will not affect the operation of WebSphere Commerce Service Provider.
ROOTPATH	• Enter the directory path where the files for this instance will be stored. The default directory path is /opt/IBMnetc/NetCommerce3/instance/*instance_name*.
CONFIGPATH	• Enter the directory path in which all configuration files for this WebSphere Commerce Service Provider instance will be stored.
LOGPATH	• Enter the directory path in which all log files for this WebSphere Commerce Service Provider instance will be stored.
CACHEPATH	• Enter the directory path in which all cached files for this WebSphere Commerce Service Provider instance will be stored, if caching is enabled.
DEFAULTS	• The directory in which shared configuration files are stored for the WebSphere Commerce Service Provider instance.
CGIPATH	• If you are using Domino Go Webserver or Netscape Enterprise Server, or type the path in which you intend to store the WebSphere Commerce Service Provider CGI programs. The path you type must already exist. The default path for Domino Go Webserver and Netscape Enterprise Server is /opt/IBMnetc/NetCommerce3/cgi-bin.
HTMLPATH	• If you intend to use Domino Go Webserver or Netscape Enterprise Server and you used the default path when you installed it, type the path of your Web server HTML document root.
MACROPATH	• Enter the default, which is /opt/IBMnetc/NetCommerce3/macro/en_US, or type the path in which you intend to store your Net.Data macros.
ISHOST	• Enter the fully qualified host name of your WebSphere Commerce Service Provider server. For example, www.ibm.com is fully qualified.

DBNAME	• If you are using DB2, enter the default database name, which is `mser`, or type the name you wish to assign to your database. The name must be eight characters in length or less. • If you are using Oracle, enter the ODBC data source that you defined in the `odbc.ini` file. For more information, refer to "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23.
DBUSER	• If you are using DB2, type the name of the DB2 instance ID that you created when you installed DB2. • If you are using Oracle, type the name of the database administrator ID that you will use to perform database administration.
DBOWNER	• If you are using DB2, enter the name of the DB2 instance ID that you created when you installed DB2. This value should be the same as what you entered for DBUSER. • If you are using Oracle, enter the user ID of the Oracle instance owner for your Oracle server. The instance owner ID that you enter must already exist. If it does not, instance creation will fail.
DBPSWD	• Type the password of the user ID that you specified for the `DBUSER` parameter. The password should not be encrypted.
DBHOST	• If you are using a remote database, enter the host name of the remote database machine. • If you are using a local database, you should enter a blank value for this parameter. For example, you would type: `DBHOST=`
DBSVC	• If you are using a local database, leave this parameter blank. • If you are using a remote database, enter the DB2 TCP/IP service.
ETHOST	• Enter the fully qualified host name of the machine where Payment Server is installed. • If you are not using Payment Server, leave this parameter blank.
CMSPSWD	• Type the password that you want the payment server to use to access your certificate files (which are also known as key files). • If you are not using Payment Server, leave this parameter blank.
ISTYPE	• Type the numeric code representing the Web server you are using with WebSphere Commerce Service Provider. The codes are: **0** Domino Go Webserver **1** Netscape Enterprise Server
DBTYPE	• Type the numeric code representing the database management system you are using with WebSphere Commerce Service Provider. The codes are: **0** DB2 Universal Database **1** Oracle

NCPROC	• The default value is 2. • Enter the default value, or type the number of processes that you want started for this WebSphere Commerce Service Provider instance. A higher number will allow WebSphere Commerce Service Provider to process more transactions simultaneously, but the load on the machine will be increased.
NCPORT	• The default value is 16570. • Type the base port address that you want the WebSphere Commerce Service Provider server to use to communicate with your Web server. • This address will be used by the first server process. Each additional process will use consecutive port addresses, starting at this address. Therefore, you must ensure that there are a sufficient number of free addresses above the base address to accommodate the number of processes you intend to create. If you are using Payment Server, note that it uses five port addresses. • The base address must be greater than 1024. The range of addresses, starting at the base, cannot include 1080 or 8080, and the highest address in the range cannot be greater than 65535. • If you are configuring a new instance of WebSphere Commerce Service Provider or reconfiguring an existing one, do not use a Communication Port Base that will cause your range of ports to include port 16560.
DBPORT	• The default value is 0. • Enter the default value, or type the number of the database port.
MAX_CACHE_FILES	• The default value is 1000. • Enter the maximum number of cached files. This field only applies if caching is enabled.
ETCYCLE	• The default value is 30. • Enter the default value, or type the number of seconds you want the payment server to wait between polls for work. This parameter applies only if Payment Server is installed.
ETINTVL	• The default value is 30. • Enter the default value, or type the number of seconds you want the payment server to wait between the execution of consecutive jobs waiting in the queue. This parameter applies only if Payment Server is installed.
ETTMOUT	• The default value is 3600 seconds. • Enter the default value, or type the number of minutes you want transactions to stay in a pending state before the commerce server checks the database for data that has not been received directly from the payment server. This parameter applies only if Payment Server is installed.

OPTION	• This is an option bit mask. To specify the options, select all the bits that apply from the list below, and do a bitwise OR between the bits, and then convert it to a decimal number. The options are:
	  – Staging Server 0x01
	  – Remote database 0x04
	  – Basic Server caching enabled 0x08
	  – Payment Server trace option enabled 0x10
	  – This instance is being created as part of a migration from a previous level of WebSphere Commerce Service Provider 0x20
	  – Payment Server is installed 0x40
	  – Advanced Server caching enabled 0x100
	  – Server caching disabled 0x200
	  – All of the above options apply 0xffff
	Notes:
	a. Server caching reduces the time it takes for WebSphere Commerce Service Provider to display frequently used dynamic pages.
	b. Select the Payment Server trace option if you want the payment server to write log entries as it processes transactions.

NES_SECURE	• Enter the full path to the obj.conf file for the server port that you configured for secure communications. If you used the default path when you installed Netscape Enterprise Server, type /usr/netscape/suitespot/*secure_server*/config, where *secure_server* is the name of your secure server. This parameter applies only if Netscape Enterprise Server is selected as the Web Server.
NES_NONSECURE	• Enter the full path to the obj.conf file for the server port that you configured for non-secure communications. If you used the default path when you installed Netscape Enterprise Server, type /usr/netscape/suitespot/*non-secure_server*/config, where *non-secure_server* is the name of your non-secure server. This parameter applies only if Netscape Enterprise Server is selected as the Web Server.

6. If you are using Domino Go Webserver, after the instance has been created, you must update the Web server configuration files by typing the following commands:

```
./webconfig
$COMMAND=SET_WEBSERVER
NAME=instance_name
NES_SECURE=
NES_NONSECURE=
```

Note that you must include the NES_SECURE and NES_NONSECURE parameters, but leave them blank:

If you are using Netscape Enterprise Server, after the instance has been created, you must update the Web server configuration files by typing the following commands:

```
NES_SECURE=secure_server_path
NES_NONSECURE=non_secure_server_path
```

Note that you must include the NES_SECURE and NES_NONSECURE commands, with appropriate values.

where the variable information is defined as follows:

instance_name
> The name of the instance you just created.

secure_server_path
> The path to the configuration file of the secure server, if you are using Netscape Enterprise Server.

non_secure_server_path
> The path to the configuration file of the non-secure server name, if you are using Netscape Enterprise Server.

Note: You must open the Netscape Enterprise Server Administration page and apply the changes to each server and then stop and restart the servers to continue. Stopping the servers requires that you kill all of the WebSphere processes, as stopping the Web server does not stop the associated WebSphere processes. To stop the WebSphere processes manually, do the following:

    a. Type `ps -ef|grep java`.

    b. Kill all WebSphere Application Server processes listed by typing `kill process_ID` where *process_ID* is the process ID number listed. You may have to use this command more than once to kill all of the processes.

    c. If necessary, restart Netscape Enterprise Server.

7. If you are using DB2, create the database for the instance by typing the following commands:

```
./webconfig
$COMMAND=SET_DATABASE
NAME=instance_name
```

where *instance_name* is the name of the instance you just created. After the database has been created, a message is returned indicating the location of the log files.

8. If you are using Oracle, see "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23 for information about creating the database for the instance.

9. Start your WebSphere Commerce Service Provider instance, by typing the following commands:

```
./webconfig
$COMMAND=START_SERVER
NAME=instance_name
```

where *instance_name* is the name of the instance you just created.

Updating an Instance

To update an instance, do the following:

1. Log on as user ID `root`.
2. Ensure that the following environment variables are set, by typing the following commands:

```
CONTENT_LENGTH=20; export CONTENT_LENGTH
REQUEST_METHOD=POST; export REQUEST_METHOD
```

3. Switch to the `/opt/IBMnetc/NetCommerce3/server/admin` directory.
4. Type the following commands:

```
./webconfig
$COMMAND=UPDATE_INSTANCE
```

The command will be echoed back to you.

5. Enter the parameters listed below one at a time, using the following syntax:

parameter_name=value

You must enter all the parameters listed. Enter new values for the parameters you want to update. If you do not want to update a parameter, you must still enter the parameter and its current value. For details on each parameter, refer to the chart in step 5 on page 108.

Enter the following parameters and their values:

```
NAME=
MERKEY=
ROOTPATH=
CONFIGPATH=
LOGPATH=
CACHEPATH=
DEFAULTS=
CGIPATH=
HTMLPATH=
MACROPATH=
ISHOST=
DBNAME=
DBUSER=
DBOWNER=
DBTYPE=
DBPSWD=
DBHOST=
DBSVC=
ETHOST=
CMSPSWD=
ISTYPE=
NCPROC=
NCPORT=
DBPORT=
MAX_CACHE_FILES=
ETCYCLE=
ETINTVL=
ETTMOUT=
OPTION=
NES_SECURE=
NES_NONSECURE=
```

Note: The `ETCYCLE`, `ETINTVL`, and `ETTMOUT` parameters only apply if you are using Payment Server.

When you have entered all the parameters, the instance is updated and a message is returned indicating that the instance has been successfully updated.

6. If you are using Domino Go Webserver, after the instance has been created, you must update the Web server configuration files by typing the following commands:

```
./webconfig
$COMMAND=SET_WEBSERVER
NAME=instance_name
NES_SECURE=
NES_NONSECURE=
```

Note that you must include the `NES_SECURE` and `NES_NONSECURE` parameters, but leave them blank:

If you are using Netscape Enterprise Server, after the instance has been created, you must update the Web server configuration files by typing the following commands:

```
NES_SECURE=secure_server_name
NES_NONSECURE=non_secure_server_name
```

Note that you must include the NES_SECURE and NES_NONSECUREcommands, with appropriate values.

where the variable information is defined as follows:

instance_name
> The name of the instance you just created.

secure_server_name
> The name of the secure server name, if you are using Netscape Enterprise Server.

non_secure_server_name
> The name of the non-secure server name, if you are using Netscape Enterprise Server.

Note: You must open the Netscape Enterprise Server Administration page and apply the changes to each server and then stop and restart the servers to continue. Stopping the servers requires that you kill all of the WebSphere processes, as stopping the Web server does not stop the associated WebSphere processes. To stop the WebSphere processes manually, do the following:

   a. Type `ps -ef|grep java`.
   b. Kill all WebSphere Application Server processes listed by typing `kill process_ID` where *process_ID* is the process ID number listed. You may have to use this command more than once to kill all of the processes.
   c. If necessary, restart Netscape Enterprise Server.

7. Start your WebSphere Commerce Service Provider instance, by typing the following commands:

```
./webconfig
$COMMAND=START_SERVER
NAME=instance_name
```

where *instance_name* is the name of the instance you just created.

Viewing the Default Settings for a WebSphere Commerce Service Provider Instance

To view the default settings for a WebSphere Commerce Service Provider instance, do the following:

1. Log on as user ID `root`.
2. Ensure that the following environment variables are set, by typing the following commands:

```
CONTENT_LENGTH=20; export CONTENT_LENGTH
REQUEST_METHOD=POST; export REQUEST_METHOD
```

3. Switch to the `/opt/IBMnetc/NetCommerce3/server/admin` directory.
4. Type the following commands:

```
./webconfig
$COMMAND=GET_DEFAULT
```

The default settings will be listed.

Viewing the Current Settings for a WebSphere Commerce Service Provider Instance

To view the current settings for a specific WebSphere Commerce Service Provider instance, do the following:

1. Log on as user ID root.
2. Ensure that the following environment variables are set, by typing the following commands:
   ```
   CONTENT_LENGTH=20; export CONTENT_LENGTH
   REQUEST_METHOD=POST; export REQUEST_METHOD
   ```
3. Switch to the /opt/IBMnetc/NetCommerce3/server/admin directory.
4. Type the following commands:
   ```
   ./webconfig
   $COMMAND=GET_INSTANCE
   NAME=instance_name
   ```

The current settings for the instance you specified will be listed.

Viewing the Status for all WebSphere Commerce Service Provider Instances

To view the current status for the WebSphere Commerce Service Provider system, including a list of all the instances and whether they are active or not, do the following:

1. Log on as user ID root.
2. Ensure that the following environment variables are set, by typing the following commands:
   ```
   CONTENT_LENGTH=20; export CONTENT_LENGTH
   REQUEST_METHOD=POST; export REQUEST_METHOD
   ```
3. Switch to the /opt/IBMnetc/NetCommerce3/server/admin directory.
4. Type the following commands:
   ```
   ./webconfig
   $COMMAND=GET_CONFIG
   ```

Setting a DB2 Database for a WebSphere Commerce Service Provider Instance

To set a DB2 database for a WebSphere Commerce Service Provider instance, do the following:

1. Log on as user ID root.
2. Ensure that the following environment variables are set, by typing the following commands:
   ```
   CONTENT_LENGTH=20; export CONTENT_LENGTH
   REQUEST_METHOD=POST; export REQUEST_METHOD
   ```
3. Switch to the /opt/IBMnetc/NetCommerce3/server/admin directory.
4. Type the following commands

```
./webconfig
$COMMAND=SET_DATABASE
NAME=instance_name
```

where *instance_name* is the name of the instance for which you want to set the database.

The database is set, and a message is returned indicating where the log files are located.

Modifying the Domino Go Webserver or Netscape Enterprise Server Configuration File

If you are using the Domino Go Webserver or the Netscape Enterprise Server, you must update the corresponding configuration file after you create or update an instance.

To update the Domino Go Webserver or the Netscape Enterprise Server configuration file, do the following:

1. Log on as user ID root.
2. Ensure that the following environment variables are set, by typing the following commands:
   ```
   CONTENT_LENGTH=20; export CONTENT_LENGTH
   REQUEST_METHOD=POST; export REQUEST_METHOD
   ```
3. Switch to the /opt/IBMnetc/NetCommerce3/server/admin directory.
4. If you are using Domino Go Webserver, after the instance has been created, you must update the Web server configuration files by typing the following commands:
   ```
   ./webconfig
   $COMMAND=SET_WEBSERVER
   NAME=instance_name
   NES_SECURE=
   NES_NONSECURE=
   ```

   Note that you must include the NES_SECURE and NES_NONSECURE parameters, but leave them blank:

   If you are using Netscape Enterprise Server, after the instance has been created, you must update the Web server configuration files by typing the following commands:
   ```
   NES_SECURE=secure_server_name
   NES_NONSECURE=non_secure_server_name
   ```

   Note that you must include the NES_SECURE and NES_NONSECURE commands, with appropriate values.

   where the variable information is defined as follows:

   instance_name
   > The name of the instance you just created.

   secure_server_name
   > The name of the secure server name, if you are using Netscape Enterprise Server.

non_secure_server_name
> The name of the non-secure server name, if you are using Netscape Enterprise Server.

Note: You must open the Netscape Enterprise Server Administration page and apply the changes to each server and then stop and restart the servers to continue. Stopping the servers requires that you kill all of the WebSphere processes, as stopping the Web server does not stop the associated WebSphere processes. To stop the WebSphere processes manually, do the following:

  a. Type `ps -ef|grep java`.
  b. Kill all WebSphere Application Server processes listed by typing `kill process_ID` where *process_ID* is the process ID number listed. You may have to use this command more than once to kill all of the processes.
  c. Restart Netscape Enterprise Server on the command line in accordance with Netscape Enterprise Server documentation.

Starting a WebSphere Commerce Service Provider Instance

To start a WebSphere Commerce Service Provider instance, do the following:

1. Log on as user ID `root`.
2. Ensure that the following environment variables are set, by typing the following commands:
   ```
   CONTENT_LENGTH=20; export CONTENT_LENGTH
   REQUEST_METHOD=POST; export REQUEST_METHOD
   ```
3. Switch to the `/opt/IBMnetc/NetCommerce3/server/admin` directory.
4. Type the following commands:
   ```
   ./webconfig
   $COMMAND=START_SERVER
   NAME=instance_name
   ```

   where *instance_name* is the name of the instance you want to start.

   Note: To start the Payment Server for an instance, type the following commands:
   ```
   ./webconfig
   $COMMAND=START_SERVER
   NAME=PS instance for instance_name
   ```

   where *instance_name* is the name of the instance corresponding to the Payment Server instance that you want to start.

Stopping a WebSphere Commerce Service Provider Instance

To stop a WebSphere Commerce Service Provider instance, do the following:

1. Log on as user ID `root`.
2. Ensure that the following environment variables are set, by typing the following commands:
   ```
   CONTENT_LENGTH=20; export CONTENT_LENGTH
   REQUEST_METHOD=POST; export REQUEST_METHOD
   ```
3. Switch to the `/opt/IBMnetc/NetCommerce3/server/admin` directory.
4. Type the following commands:

```
./webconfig
$COMMAND=STOP_SERVER
NAME=instance_name
```

where *instance_name* is the name of the instance that you want to stop.

Note: To stop the Payment Server for an instance, type the following commands:

```
./webconfig
$COMMAND=STOP_SERVER
NAME=PS instance for instance_name
```

where *instance_name* is the name of the instance corresponding to the Payment Server instance that you want to stop.

Deleting a WebSphere Commerce Service Provider Instance

To delete an instance from a command line:

1. Log on as user ID root.
2. Ensure that the following environment variables are set, by typing the following commands:
   ```
   CONTENT_LENGTH=20; export CONTENT_LENGTH
   REQUEST_METHOD=POST; export REQUEST_METHOD
   ```
3. Switch to the /opt/IBMnetc/NetCommerce3/server/admin directory.
4. Type the following commands:
   ```
   ./webconfig
   $COMMAND=DEL_INSTANCE
   NAME=instance_name
   ```

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

The Next Step

Now that you have configured an instance, you are ready to continue. Depending on which Web server you are using, do one of the following:

- If you are using Domino Go Webserver, turn to "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59 to continue.
- If you are using Netscape Enterprise Server, you can refer to any of the following chapters:
  - "Chapter 14. Verifying Your Installation and Configuration" on page 67 provides information on verifying your WebSphere Commerce Service Provider installation.
  - "Chapter 15. Administrative Tasks" on page 71 provides information on changing the default passwords for various user IDs.
  - "Chapter 17. Installing Your Database on a Separate Machine" on page 87 provides information on setting up a remote database.
  - "Chapter 4. Installing and Configuring ODBC and Oracle" on page 23 provides information on configuring Oracle for WebSphere Commerce Service Provider.

Part 4. Getting Started

This part provides an overview of the following topics:

- "Chapter 20. WebSphere Commerce Suite, Service Provider Edition Guided Tour" on page 123 provides a guided tour of WebSphere Commerce Service Provider.

- "Chapter 21. Configuring WebSphere Commerce Suite, Service Provider Edition" on page 135 shows you how to configure the main components of WebSphere Commerce Service Provider.

Chapter 20. WebSphere Commerce Suite, Service Provider Edition Guided Tour

Welcome to the guided tour of WebSphere Commerce Suite, Service Provider Edition. This chapter describes the major components of WebSphere Commerce Service Provider, and is designed for users who have limited or no experience with the product.

After completing this chapter, you will have more knowledge about the options available for your commerce service provider Web site. Moreover, you will understand how merchants create stores and be familiar with the main features of these hosted stores.

For more detailed information about WebSphere Commerce Service Provider, refer to the online help.

Learning about the Sample Site

WebSphere Commerce Suite, Service Provider Edition includes a sample site, mall, hosted store, and service store. The product installation process automatically installs these samples. They provide practical hands-on experience with the product. They also act as a reference point when you begin using WebSphere Commerce Service Provider. Read this guide in conjunction with the information about samples in the Customization Guide. This file, `customization.pdf`, is located in the following directory:

`/opt/IBMnetc/NetCommerce3/books/`*locale*

where *locale* is the locale you are using (for example, `En_US`). These two sources of documentation will provide you with a comprehensive understanding of the four samples.

The sample site is the most extensive sample, and includes links to the other three samples. You can link pages of the sample site to your existing Web site and customize these pages as required.

The sample site has a straightforward design consisting of a main window to display information, and a navigation bar on the left side of the page. The navigation bar contains links to the different components of your Web site. The following section describes the principal components of the sample site.

Exploring the Sample Site

Access the sample site with a Web browser. Open your Web browser and type the sample site Web address, `http://<host_name>/cspsite`, in the address line. WebSphere Commerce Suite, Service Provider Edition generates the sample site for a commerce service provider.

The opening page welcomes people to your site and briefly describes your services. The navigation bar contains a list of links that are grouped according to subject matter. The first group of links provides general information about your Web site, the second group relates to hosted stores, and the third group of links

gives further reference on related topics. The online help and the `customization.pdf` describe the content, structure, and customization options for all sample site pages.

General Information Links

General information links provide a basic introduction to your commerce service provider Web site. These links are located at the top of the navigation bar. The general information pages are all static HTML files that you can edit or replace.

ISP Logo
> Displays a welcome message for merchants and describes how to access the key functions on the Web site. You should replace this sample logo at the top of the navigation bar with your own logo. For more information on the process of branding your own Web site, see the online help.

home Displays the home page for your commerce service provider Web site. The home page briefly discusses hosted stores, and provides some statistics about the activity on your Web site, such as the average number of visitors per day. These statistics are hardcoded into the page.

about us
> Displays a page with brief facts about your company. This page tells merchants more about your company before they decide to buy services from you.

services provided
> Displays a page that lists the services you provide. For example, you can use this page to describe how you host merchant stores on your server, and what other services you supply to merchants.

prices Displays one or more pages that show prices for the various services your company provides.

Store Information Links

Store information links provide information about the different levels of store that you support. After reading the general information, merchants use this group of links to investigate hosted stores further. They can navigate through your mall, create their own store, purchase the store and administer a store they have purchased. You may want to customize these links to allow merchants to develop test stores at no cost.

view mall
> Displays the sample mall page in a new browser window. The concept of an online mall is similar to the reality of a shopping mall. Shoppers can browse through a variety of stores, or browse through stores within a specific category. The mall page can display graphics, store advertisements, and store specials that are selected at random from all hosted stores. For more information on this component of WebSphere Commerce Service Provider, see "Learning about the Sample Mall" on page 133.

create store
> Displays the main Create Store page, which describes the three levels of store that a merchant can create. You can test the capabilities of these store levels, and place test orders.

manage store
> Generates a logon dialog box where merchants log on to access their hosted store. After you logon, the merchant tool page displays in a new browser window. This tool allows merchants to administer all aspects of their online stores. Merchants can create and edit their store catalog,

customize the look and text of store pages, process shopping orders, and generate shopping reports. For more information on the merchant tool, see "Understanding the Store" on page 129.

buy store
Displays the sample service store in a new browser window. The service store provides an example of a commerce service provider store you could include on your Web site. Merchants can access the service store catalog and purchase the level of store they require. Assuming that you have configured your store for online payments, you can process merchants' payments immediately. When payment has cleared, you change the merchant store state in the Administrator to open the store. Merchants can then access their new store through the **manage store** link. See "Exploring the Sample Service Store" on page 132 for further detail on the sample service store. For more information on administering merchant stores, see "Chapter 21. Configuring WebSphere Commerce Suite, Service Provider Edition" on page 135.

Reference Information Links

Reference information links are a source of further information about your Web site, and these links provide further detail about online hosted stores.

view sample store
Displays the sample store Everything Green in a new browser window. This fully functional store shows an example of a basic store created in WebSphere Commerce Suite, Service Provider Edition. Merchants can test out the capabilities of the sample store, and begin to understand the structure, capabilities, and features of a basic hosted store. Everything Green demonstrates how an online store displays to shoppers, and may provide merchants with ideas for their own store catalog, layout, and style. For further information on the sample store, see "Exploring the Sample Store as a Shopper" on page 125.

faq	Displays a page listing general questions and answers about the performance, capabilities, and functions of hosted stores.

contact us
Displays an e-mail form that is addressed to your Web site administrator. Merchants can type questions or comments on this form and then submit the form to you. You may want to include information on this page about configuring browsers to support e-mail messages. Merchants cannot send this e-mail form unless their browsers are configured correctly.

Exploring the Sample Store as a Shopper

Before creating a hosted store, it is worthwhile to take a tour through the sample store provided with WebSphere Commerce Suite, Service Provider Edition. This store, Everything Green, displays what a store would look like when created using the Store Creator wizard. It is an example of a fully-operative basic store.

Note: The sample mall includes a link to Everything Green when you first begin using the product. This demonstrates how stores display in the mall when you have clients listed there. The link also shows how shoppers access stores through the mall.

Shopping at Everything Green

From the sample site navigation bar, click **view sample store**. The Everything Green store displays in a new browser window. The Everything Green store is an

example of a retail online store. It sells a variety of plants and flower arrangements, and features a simple catalog and store front.

Exploring the Home Page

The Everything Green store has a similar layout to the sample site, containing a banner bar, navigation bar on the left, and central information window. This is one of the many available store layouts. A merchant can change this layout at any time after creating the store, using the merchant tool.

home Generates the Everything Green home page with general information about the store.

catalog
Opens the main Catalog page, where shoppers can browse through the store catalog and order products online. This catalog has only one category with different products, and one product is featured on the main Catalog page. The featured product is the last product to be added to the store catalog.

search Opens the Search page. Shoppers can use this function to search for any product in the store catalog, based on the product name, description, or product number. This is a useful feature when shoppers want to locate a product quickly, or when the store has a large catalog with many different categories and product lines. The search function employs JavaServer Pages technology. See the online help.

shopping cart
Opens the Shopping Cart page, where shoppers can see their current order and decide about buying the products they have selected.

customer service
Opens the Customer Service page, where shoppers can update their personal information, and track the status of their orders.

registration
Opens the Registration page, where shoppers can add themselves to the merchant's shopper list. Shoppers can enter the store and browse without any obligation to buy something or register with the store. When shoppers register with the store, however, their orders are tracked and available for them to see whenever they log on to the store.

logon Shoppers must log on to the store to change their personal information or access their order information on the Customer Service page.

logoff For security reasons, shoppers should log off when they have finished updating their personal information.

Purchasing a Product as a Guest Shopper

To purchase a type of flower for your garden at Everything Green, do the following:

1. From the sample site navigation bar, click **view sample store**. The Everything Green flower shop displays in a new browser window.

2. If you know a specific type of flower, you can click **search** to see if Everything Green stocks this flower. For example, to locate a Flanders Poppy, do the following:

    a. Click **search**. In the Search form, type in the name of the flower. If you want to also include the description in the search, check that box. If you had been to the store before and knew the product number, you could search using this number instead.

b. Click **Search**. The search results display below the Search form.

c. Click the active link to display the product page for the Flanders Poppy.

d. Continue from step 5 to order the Flanders Poppy.

3. If you prefer to see the full range of flowers, click **catalog**. In the Everything Green store catalog, notice that there is one category named Everything Green. There is also a featured product. You can look at the feature, or click **Everything Green** to see the products for the store catalog. In some catalogs, there will be several categories.

4. The Everything Green category page displays several different flowers. Find the Flanders Poppy and click **View Product Details**.

5. The product page describes the flower. Click **Add to Shopping Cart** to purchase this product.

6. On the Shopping Cart page, you can view your order and change the quantity of the order. You can now continue shopping and add additional products, or proceed to buy your product.

7. Click **Order** on the Checkout—Billing Address page. You must complete the required fields to receive the product. Note that the basic store does not support broadcast e-mail. This encourages merchants to upgrade to an advanced store.

8. Click **Continue** after you have completed the fields. The Checkout—Payment Information page displays. Note that no shipping or tax is applied to the order, because the basic store does not support automatic calculations of tax or shipping. Everything Green supports offline payment. This means shoppers can send credit card information securely through SSL, use COD options, or call a toll-free number and have the order processed later. You can also change this sample store to support online payments through CyberCash.

9. Click **Complete** to finish your order. On the Order Confirmation page, you see your order, as well as a unique order number and your customer reference number. You need this information to pay offline, and to track the status of your order.

The Everything Green store demonstrates how quickly a shopper can locate a product and purchase an order in a basic hosted store. The sample services store is an Advanced store, and includes a catalog with two categories and several products within each category. Proceed to "Exploring the Sample Service Store" on page 132 to learn more about the sample services store.

Registering with the Store

When you register with the store, the system saves your information in the database. Registering allows you to check the status of any of your store orders. Note that the basic store does not support broadcast e-mails to shoppers.

Shoppers can also change their registration information using this page, or using the Customer Service page. Moreover, store administrators can change their passwords using this page, rather than contacting the site administrator.

To become a registered shopper, do the following:

1. Click **registration**. On the Registration page, complete the required fields.

2. Click **Update Registration**. Check your account information on the confirmation page.

After you are registered, you can use the Customer Service page to update the details of your profile. You can change your password, registration information, and mailing options. You can also check the status of your orders from a link on this page.

Managing the Sample Store

As with any store created using WebSphere Commerce Service Provider, you can manage and change the Everything Green store through the merchant tool. To access the merchant tool as a site administrator, do the following:

1. From the sample site navigation bar, click **manage store**. The Manage Store page displays.
2. In the **LogonID** and **Password** fields, enter a site administrator ID and password. The default site administrator LogonID and password are `ncadmin`. The Choose Store page displays.
3. In the **Store name** field, enter the name of the sample store. To access the sample store, type `Everything Green`.
4. The merchant tool for the Everything Green store displays. You can now change this store to meet your own requirements.

Creating Stores

Now that you have toured through a sample hosted store, you are ready to create your own store. WebSphere Commerce Suite, Service Provider Edition provides three levels of stores, tailored to the different requirements of merchants. The basic store is the easiest store to work with when you are first testing the store models. The advanced store includes additional features to develop a more sophisticated store. The remote store allows merchants to develop a hosted advanced catalog, which is linked to the merchant's remote Web site.

Using the Store Creator Wizard

To create any level of store, click **create store** from the sample site navigation bar. The Create Store page displays. You need to choose a level of store and create a LogonID, and then the Store Creator wizard displays.

The Store Creator wizard guides you through the process of creating a store in all three store levels. As you click through the pages, the Store Creator uses the settings you specify to build a framework for your store. Once you have completed the pages, you can view the store summary and go back to change any settings as needed. When the store framework is completed, use the merchant tool to customize the store pages and add additional features.

The Store Creator wizard asks merchants for a number of details about their store. This includes pertinent addresses, store currency, store design, and payment methods. Merchants can, however, change the majority of this information after they create their stores, using the merchant tool. They must contact the site administrator to change the currency of the store, the category of the store, and their domain name and URL.

Creating a Store
To create any level of store, do the following:

1. Go to the sample site home page.
2. From the navigation bar on the left, click **create store**.

3. On the Create Store page, click the appropriate button for the store level. For example, to create a basic store, click **Create Basic Store**.

4. Fill in the Create Store dialog box fields with the appropriate information. This form saves your logon information so that only you may access your merchant store.

5. Click **Create Store**.

6. Follow the Store Creator wizard directions to create your store.

Understanding the Store

Creating the store is the first stage in the development of a hosted store. Creating a store provides merchants with a store template they can change and develop to suit their business requirements. This section of the guided tour discusses the merchant tool and introduces the basic functions of hosted stores. Help is available to the merchant from every screen.

Levels of Stores

WebSphere Commerce Suite, Service Provider Edition provides three levels of store. The following is a brief overview of the store levels. Refer to the online help for more detailed information, and for help creating the stores using the Store Creator wizard.

The Basic Store

The basic store provides a good introduction to the functions available in all three store levels. This store level is very simple in structure and navigation, allowing shoppers to quickly find the products they want and place their orders. You may want to offer the basic store at a reasonable price. In this way, more merchants can purchase a hosted store and may later need to upgrade to the advanced store. You can upgrade a basic store to an advanced store by running an SQL command, as described in the online help.

The Advanced Store

The advanced store offers merchants increased functionality and capability. Additional features include the following:

- A sophisticated store catalog structure that can easily support thousands of items.
- A catalog editor that enables modifications to a complex store catalog.
- Store page editors that enable you to customize your store in numerous ways.
- Tax wizards and shipping wizards that help you to develop a comprehensive set of tax jurisdiction codes and shipping options. WebSphere Commerce Service Provider then calculates tax and shipping on every order automatically.
- A group of order management functions to make order processing and management quick and efficient.
- Detailed reporting capability to enable you to monitor your store's activity in many different ways.
- The ability to add remote content to your store using the remote commerce functions.

The Remote Store

The remote store allows merchants to maintain their own remote sites and add e-commerce functionality. Merchants with a remote store use the checkout, authorization, and order management functions of an advanced catalog.

Examining the Storefront

A store created with the merchant tool contains three types of pages:

- Static pages that users create and change
- Dynamic pages that the system generates from the database
- Shopping pages that combine static text and generated information to allow shoppers to buy products in your store

User—Developed Pages

Pages that users develop contain static HTML. This means that the content of the page only changes when you make an update to the page. These pages include any page that you update using the different editors, and pages that you upload to the Commerce Server, such as:

- The store Home page
- The Customer Service page, where you can change the text that displays to shoppers

For advanced and remote stores, this also includes any other pages you add to your merchant Web site, such as an uploaded Home page or pages created using the Edit Pages functions.

Generated Pages

The system generates these pages based upon information that you enter into the merchant tool, and the products that shoppers selects. These pages are dynamic, meaning that they automatically refresh when new information is added. Generated pages include:

- The store catalog pages that display the store products
- The Customer Service page, where shoppers update their account information and track their orders.
- The Search page where shoppers can locate a specific catalog category or product
- The Registration page where shoppers register with the merchant store
- The Logon page and Logoff page

Store Shopping Flow Pages

Shopping flow pages are store pages that directly enable online shopping. The number and sequence of these pages affect the overall shopping experience for customers in the merchant store. The following pages comprise the shopping flow for all levels of hosted store:

- The Shopping Cart page that displays products the shopper is interested in purchasing.
- The Order Billing Address page where shoppers type their shipping address, and request promotional e-mails.
- The Order Payment Information page that displays the details of your order and applicable taxes and shipping.
- The Order Confirmation page that confirms a shopper's order and provides a unique order number for reference. Shoppers can print this confirmation from the Web browser window.

Classic and Express Shopping Flow Model Options

WebSphere Commerce Suite, Service Provider Edition provides two options for shopping flow on advanced and remote levels of store. While creating the store through the Store Creator Wizard, merchants can choose a store with a Classic shopping flow or an Express shopping flow. The Everything Green sample store is an example of a Classic store model shopping flow. The table illustrates the

differences in shopper functionality between the two store models:

Shopper Tasks	Classic Store Model	Express Store Model
Browse and search the catalog	supported	supported
Choose to become a registered shopper	supported	supported
View their shopping cart	supported	—
View the status of their orders	supported	supported
View their customer information	supported	supported
Quick Find: Enter the product number and proceed directly to the specific product page	—	supported
Quick Order: Enter the product number and proceed directly to the checkout page to order the product	—	supported

The Express store model is useful for stores where shoppers may want to order a specific product quickly and leave the store. It does not promote browsing through the catalog and adding products individually, but instead accelerates the process of ordering online through a "quick shop" option.

Under **Store Style** in the merchant tool, click **Choose Shopping Flow** to change the shopping model in a store.

As a commerce service provider, you can change the shopping flow pages and even add additional shopping models if needed. Shopping flow pages use Net.Data macros. For more information on this topic, refer to the Customization Guide, as previously discussed.

Changing the Store

Merchants use the merchant tool to change their store. The merchant tool enables merchants to complete the following tasks:

Basic Store Functions:
- Change the text, style, color, and graphics on store pages
- Create and change a simple catalog with a series of products
- Manually apply the costs for tax and shipping to orders
- Set up online and offline payment methods
- Manage orders
- Process payment transactions and create transaction batches

Advanced and Remote Store Functions:
- Change the text, style, color, and graphics on store pages, and create custom variations
- Create and change a large product catalog with multiple categories, product families, and items
- Upload store pages and pictures
- Set up automatic shipping categories and tax categories
- Set up online and offline payment methods
- Define store administrators

- Manage their files on the server
- Open their store to the public, and create store and mall specials from their catalog
- Manage shopping orders
- Send out e-mails with links to sale items or special interest items in the catalog
- Process payment transactions and create transaction batches
- Generate reports for various aspects of store activity
- Add a hosted catalog to an existing remote Web site

The best way to understand these functions is to browse through the merchant tool. Refer to the online help for further information.

Exploring the Sample Service Store

The sample service store, which sells online store creation services, is an advanced store with a Classic Model shopping flow. It is an example of a store you may want to create to sell hosted stores to merchants. Refer to the Customization Guide for information on customizing this sample service store.

To open the sample service store, click **buy store** or type the service store Web address, `http://<host_name>/servicestore` in your Web browser address line.

The sample service store contains the similar navigation links to the sample store. The catalog displays the services offered, grouped by category:

Basic Internet Services
Dial up lines, dedicated T1 to T3 lines, e-mail accounts, search engine registration, Web page design, and domain name registration.

E-Commerce Services
Web store design, CyberCash or secure electronic transactions, and three levels of online store.

These are examples of services you could offer through your online store. Merchants purchase a service in the same way that shoppers purchase goods or services in any store. When setting up your service store you decide whether to receive payment online or offline, or both, and you configure your store accordingly.

If merchants decide to buy a store they have created, you process the payment and then change the state of the store through the Administrator. You must change the store state from *new* to *open* in the Administrator before shoppers can access the store. The online help provides more detail on different store states.

Managing the Service Store

You can manage and change the sample service store through the merchant tool. To access the merchant tool as a site administrator, do the following:
- From the sample site navigation bar, click **manage store**. The Manage Store page displays.
- In the **LogonID** and **Password** fields, enter a site administrator ID and password. The default site administrator LogonID and password are `ncadmin`. The Choose Store page displays.
- In the **Store name** field, enter the name of the sample store. To access the service store, type `Service Store`.

- The merchant tool for the service store displays. You can now change this store to meet your own requirements.

Learning about the Sample Mall

From the navigation bar on the sample site, click **view mall**. The WebSphere Commerce Suite, Service Provider Edition sample mall displays in a new browser window. The mall directory page displays a list of store categories, two graphics frames, and a mall navigation bar. You can change each of these features to suit the needs of your Web site. For example, you can customize the left-hand frame with graphics or specials, and use the frame on the right side to display store advertisements. You can also change the links that are provided with the sample mall. The majority of the mall pages are static HTML files with static images. The search page and the mall directory pages employ JavaServer Pages technology.

View Mall Directory
> Displays the Mall Directory page that lists stores according to their subject category. From this main page, shoppers can access the home page of any store in the commerce service provider mall. The mall only includes stores that are created with the merchant tool. It does not support stores that are created with the Administrator or the Net.Commerce Store Creator wizard.

Create Store
> Displays the main Create Store page, which describes the three different levels of stores that a merchant can create. You can test out the capabilities of these store levels and place test orders, as can any merchant entering your Web site. This link is the same as the **create store** link on the commerce service provider sample site page.

Shopper FAQ
> Displays a page with a list of general questions and answers about online shopping. This is a good reference point if shoppers have any questions about merchant stores or security.

Search
> Displays a form where shoppers can search for a store in the mall. The search function looks for appropriate products, product descriptions, category names, category descriptions, and product numbers. The search results generate an active hyperlink to the appropriate category or store. The search is only conducted in stores in the mall that are in either an open or a closed state. The Search form uses JavaServer Pages technology.

Your Next Step

You have completed the guided tour for WebSphere Commerce Suite, Service Provider Edition.

You are now ready to configure the components of WebSphere Commerce Service Provider. Turn to "Chapter 21. Configuring WebSphere Commerce Suite, Service Provider Edition" on page 135 to continue.

Chapter 21. Configuring WebSphere Commerce Suite, Service Provider Edition

Your commerce service provider Web site is not fully functional until you configure WebSphere Commerce Service Provider. This chapter shows you how to activate many functions including site administration and store administration, messaging, data collection, and reporting.

For information on customizing WebSphere Commerce Service Provider, or creating stores by using the Store Creator or Site and Store Manager, refer to the online help.

Complete the configuration steps in the following order:

1. **Create additional site administrators**
   Designates site administrator access for WebSphere Commerce Suite, Service Provider Edition. This step is required if you have more than one administrator.

2. **Configure the messaging system**
   Configures the order message delivery method (e-mail or plain file). The messaging system delivers system error messages, order summaries, commerce reports, usage reports, password reset messages, and broadcast e-mail.

3. **Configure the data collector**
   Defines the type of statistical information to collect from the server. The data collector monitors activity on the site and stores, and then generates statistics by way of usage reports. The data collector also locates the Web servers so that they can be read and consolidated.

4. **Configure commerce reports**
   Configures commerce reports so you can view and manage statistical information generated by the site's traffic and sales. This information can help you to plan your service offering, and to decide on billing amounts for merchants based upon the commerce reports.

Create Additional Administrators

In this step, you create additional site administrators. You set up site administrators through the Administrator. If you only require one administrator, you do not need to complete this section. Proceed to "Configuring the Messaging System" on page 136.

Creating an Administrator

WebSphere Commerce Suite, Service Provider Edition provides you with the default administrator, `ncadmin`. Use this administrator information to create a new site administrator.

To create a new site administrator, do the following:

1. Open the Administrator.
2. Click **Site Manager**, then click **Access Control**.
3. On the Access Control form, enter the administrator information into the appropriate fields, and click **Save**. A confirmation box opens, confirming that you want to create a new administrator. Click **OK**. A new record is added to the database for the new administrator.

4. From the main navigation bar, click **Access Assignment**. The Administrator —
   Access Group Assignment form displays. The new administrator's Login ID
   displays in the top field.

5. Under the **All Groups** list, select **Payment Administrators (Mall)** and **Site
   Administrators (Mall)**. Click **Add Groups**. The two groups now display in the
   Groups Assigned to Administrator field.

6. Click **Save**. A confirmation message displays at the bottom of the window,
   stating that you have successfully updated the user's access level in the
   database.

The new administrator now has the same privileges as the default site
administrator LoginID.

Configuring the Messaging System

This section demonstrates how to configure the WebSphere Commerce Suite,
Service Provider Edition messaging system. The messaging system allows you to
set up and manage the delivery of all messages for your site and stores.

You configure the WebSphere Commerce Service Provider messaging system using
three forms in the Administrator. Set up and manage the messaging system with
the Messaging System Setup form. Set up the e-mail delivery method for your
Simple Mail Transfer Protocol (SMTP) server with the Set Up E-mail form. Then
specify recipients for delivery of system errors with the Error Delivery Setup form.
Complete the messaging system configuration in the following order:

1. E-mail delivery
2. Plain file delivery
3. Message delivery preferences
4. Error message delivery
5. Order message delivery

Configuring E-mail Delivery

WebSphere Commerce Suite, Service Provider Edition will not send out e-mail
messages until e-mail delivery is configured. To set up the e-mail delivery method
for messages, do the following:

1. Open the Administrator.
2. Click **Site Manager**, then click **Messaging System**. The Messaging System
   Setup form displays.
3. Click **Set Up** under the E-Mail column. The Set Up E-Mail form displays.
4. In the **Server Name** field, type the name of your SMTP server.
5. In the **Port** field, type the number of your SMTP server's port.
6. In the **Timeout** field, type the timeout period, in seconds, for the SMTP socket
   connection. This is the number of seconds the messaging system waits for the
   server to respond. The connection terminates if the server does not respond,
   and the system attempts to resend the message later.
7. In the **Site Administrator's E-mail Address** field, type the address which
   should appear as the default sender's address on outgoing e-mail messages.
8. In the **Length of Message Queue** field, type the maximum number of
   messages to accumulate in the e-mail queue before the system sends them.
   This number will be used unless the flush interval occurs before the tenth
   message is queued, or unless the message is a system error message. System

error messages are treated as top priority and are sent immediately, regardless of the setting. Note that a short queue length sends messages sooner, but at the expense of system resources.

9. In the **Queue Flush Interval (In Minutes)** field, type the number of minutes for the messaging system to wait before automatically sending messages. This does not take into account the number of messages in the queue.

10. In the **Number of Retries** field, type the number of times the system tries to resend messages before placing them in the error queue.

11. To restore the previous settings, click **Reset**. To accept the revised settings, click **Save**. A message confirms that your e-mail configuration has been successfully updated.

12. Click **Return** to return to the Messaging System Setup form.

Configuring Plain File Delivery

Plain file delivery allows you to provide merchants with order delivery messages in plain file format, sent through the method of your choice. You may want to choose this method of delivery if you need to:

* Parse the message files and integrate them with a fax server
* Encrypt the message files before sending them through e-mail
* Place message files in a File Transfer Protocol (FTP) site that merchants can access to download their messages
* Create a new interface that merchants can access to download their message files securely using HTTP

To configure the plain file delivery method for messages, do the following:

1. Open the Administrator.

2. Click **Site Manager**, then click **Messaging System**. The Messaging System Setup form displays.

3. Click **Set Up** under the Plain File column. The Set Up File Delivery form displays.

4. In the **Length of Message Queue** field, type the maximum number of messages to accumulate in the file queue before the system processes them. This number will be used unless the flush interval occurs before the tenth message is queued.

5. In the **Queue Flush Interval (In Minutes)** field, type the desired number of minutes for the queue to wait before processing messages, regardless of the number of messages in the queue.

6. In the **Number of Retries** field, type the number of times the system tries to resend messages before placing them in the error queue.

7. To restore the previous settings, click **Reset**. To accept the revised settings, click **Save**. A message confirms that the file configuration has been successfully updated.

8. Click **Return** to return to the Messaging System Setup form.

Configuring Message Delivery Preferences

To set up the site and store message delivery preferences, do the following:

1. Click **Site Manager**, then click **Messaging System**. The Messaging System Setup form displays.

2. If you have not already configured your delivery methods, complete the steps "Configuring the Messaging System" on page 136 for each of the delivery methods you intend to use.

3. In the **Available Delivery Methods** section of the Messaging System Setup form, make sure that the **Installed** checkbox is selected for each of the delivery methods you want. Only choose to install a method if you can support it. For example, if you have an SMTP server installed, you can support e-mail message delivery.

4. For each of the installed delivery methods, select the **Active** checkbox. This allows the messaging system to transmit messages from the queue.

5. In the **Delivery Preferences by Message Type** section, select the corresponding **Active** checkbox for each of the message types listed. If you have enabled plain file delivery for the order delivery message type, select the **Active** checkbox for plain file delivery as well.

6. To restore the previous settings, click **Reset**. To accept the revised settings, click **Save**.

Configuring System Error Message Delivery

After you have configured the message delivery options, you can establish the recipients of system error messages for the commerce service provider Web site.

1. Click **Site Manager**, then click **Messaging System**.

2. Click **Errors**. The Error Delivery Setup form displays.

3. In the **Recipients** field, type the e-mail address of users who should receive system error messages. If there is more than one recipient, add a comma and space between the e-mail addresses.

4. To restore the previous settings, click **Reset**. To accept the revised settings, click **Save**.

Configuring Order Message Delivery

You can provide a number of different services to merchants. The Order Delivery feature allows you to establish the delivery method for merchant store order messages. The default method is e-mail, but you may also choose to make plain file order messages available to merchants. You can specify order templates and maximum batch sizes for each method you activate.

In addition, you can provide your customers with daily summarized information about orders. Merchants use this summarized information to verify order messages received against those actually sent. Site administrators also have access to order delivery log files through the View Order Delivery Notices form.

You can also change the information sent to merchants by creating a customized template. For example, you can include specific header text, such as a salutation, for your orders and order summaries. Although this makes messages more personal, it may produce problems when you are migrating WebSphere Commerce Suite, Service Provider Edition to future releases.

Note: You can work with the forms without the system being active, but no messages will be delivered. You must set up each delivery method and make them active before you can work with your order delivery forms.

Configuring Order Summaries

To set up the template and subject text of order summary messages for all merchants, do the following:

1. Click **Site Manager**, and then click **Order Delivery**.
2. Click **Orders**. On the Order Delivery Setup form, choose your message delivery method.
3. Change your message settings as required, and change the maximum number of orders per message as required. Note that you must click **Save** when you are using this form for the first time, even if the default settings are correct.
4. From the main navigation bar, click **Summary**. The Order Summary Setup form displays. Note that you must click **Save** when you are using this form for the first time, even if the default settings are correct.
5. If you want to use a customized order summary template, type the file name of the customized template in the **File Name of Default Template** field. The default template file is odsummary.tpl.
6. In the **Contents of Subject Field** field, type a brief description of the summary. For example, Order Summary Report.
7. To restore the previous settings, click **Reset**. To accept the revised settings, click **Save**.

Configuring the Data Collector

The data collector monitors the activity on the Web site and in the stores, then generates monthly statistical usage reports. The data collector also locates the Web servers so that they can be read and consolidated. Usage reports are a valuable tool for several reasons:

- **Statistics**
  Merchants can use these reports to find out how many visitors their store is receiving, and to review trends in online shopping. Commerce service providers can use these reports to determine how to charge merchants for different levels of service, and for hardware growth and planning. For example, the usage reports may show that merchants are generating a large volume of e-mail, so you may decide to charge for the use of broadcast e-mail.

- **Availability**
  Usage reports are available both online and by way of automated e-mail delivery. As a commerce service provider, you may view activity at any time for any merchant, or for your entire site. You may also view usage by current billing period, or by any past billing period. WebSphere Commerce Suite, Service Provider Edition generates automatic usage reports for merchants beginning one month after the store is opened and continuing monthly.

- **Customization**
  You may customize the usage report template to your own specifications. The data collector collects information for usage reports based upon what you have configured. This allows you to produce many different reports, depending on your current areas of interest, or interests that are specified by your merchants.

As discussed, usage reports are generated by the data collector. To configure the data collector, do the following:

1. Click **Site Manager**, and then click **Usage Reports**.
2. Click **Data Collector**. The Settings for the Data Collector form displays.

3. In the **Host Name** field, type the host name of your Web server. This must be the same name specified in the WebSphere Commerce Service Provider server `ncommerce.conf` configuration file.

4. From the **Web Server** drop-down list, select your Web server type.

5. In the **Log File Path** field, type the path name of your Web server's log file. If you are using Netscape Enterprise Server, type the path names of the log file paths for both the HTTP (80) and HTTPS (443) server ports; separate the path names with a comma.

6. In the **Common Prefix of Access Log File** field, type the name of your Web server's access log file name. The prefix is the portion of the file name that is not related to the date. The default prefix is the one for Domino Go Webserver, which is `httpd-log`. For Netscape Enterprise Server, change the prefix to `access`.

7. In the **File Extensions to Ignore** field, type the extensions of file types that you do not want included in reports. If there is more than one file type, separate the extensions by commas.

8. To restore the previous settings, click **Reset**. To accept the revised settings, click **Save**.

9. From the main navigation bar, click **Set Up**. The Usage Report Setup form displays.

10. In the **Recipients** field, type the e-mail addresses of all the people to whom you want to send the report. Separate e-mail addresses with commas.

11. In the **Default Template** field, specify the template you want to use for the e-mail.

12. To restore the previous settings, click **Reset**. To accept the revised settings, click **Save**.

Note: For Netscape Enterprise Server, you must configure the server so that it archives the logs at midnight every night. Lotus Domino Go Webserver automatically performs this action. See the online help for further details.

Configuring Commerce Reports

Commerce reports allow you to view and analyze information about your site's traffic and sales. These reports are an important tool for the following reasons:

- **Statistics**
  Commerce reports help you plan your service offering and advertise it to merchants by way of broadcast e-mail.

  Reports are available online and by automated e-mail delivery. Reports are generated using the following criteria:
  - The geographic region of the shopper's server - Region report
  - Referring Web addresses - Click trail report
  - Items for which shoppers search - Search queries report
  - Browsers most used by shoppers - Browsers used report

- **Availability**
  With online reports, you can access your site's traffic and sales information at any time. You can also print and view graphs of reports. Automated e-mail reports are generated every thirty days, as well as at quarterly intervals.

- **Customization**
  You can customize the automated commerce report template to your own specifications. Automated reports are available both in text file and comma-separated data file formats. Text file reports are in an easy-to-read

format, while comma-separated data files may be imported into spreadsheets for further analysis by your report recipients.

Configure the commerce reports by specifying a fiscal year and setting up commerce report templates, as described in the following two sections.

Configuring the Fiscal Year

To set up the fiscal year for automated commerce reports, do the following:

1. Click **Site Manager**, and then click **Commerce Reports**.
2. Click **Fiscal Year**. The Fiscal Year form displays.
3. From the **Date** drop-down list, select the month your fiscal year begins.
4. In the **Day** field, type the day of the month that your fiscal year begins.
5. To save the settings, click **Update**. To restore the previous settings, click **Reset** before you click **Save** to save the final version of the information.

Configuring Templates for Automated Commerce Reports

To set up templates for automated commerce reports, do the following:

1. Click the **Site Manager**, and then click **Commerce Reports**.
2. Click **Templates**. The Templates for Automated Report Delivery form displays, showing the default files for all report templates.
3. If you want to use a customized quarterly or monthly commerce report template, type the file name of the customized template in the appropriate **Text File** field. In the **Comma-separated Data File** field, type the new comma-separated data file template name.
4. Click **Update** then **Save**. To restore the previous settings, click **Reset** before you click **Save**.

Configuring Recipients for Automated Commerce Reports

To set up recipients for automated commerce reports, do the following:

1. Click the **Site Manager**, and then click **Commerce Reports**.
2. Click **Recipients**. The Automated Report Delivery Setup form displays.
3. Select a report type from the drop-down list. Select a format for the report type, either text file or comma separated file.
4. In the **Recipients** field, type the list of recipients for that type of commerce report. Use commas to separate recipients.
5. Click **Update** then **Save**. To restore the previous settings, click **Reset** before you click **Save**.
6. Repeat these steps to configure the recipients for the other type of commerce report.

Part 5. Migrating to WebSphere Commerce Service Provider 3.2

This part describes how to migrate from Net.Commerce Hosting Server (3.1.2 or 3.1.2 Plug-In Enhancement) to WebSphere Commerce Service Provider 3.2.

"Chapter 22. Guidance for Migrating to Commerce Service Provider 3.2" on page 145 provides helpful information for a Net.Commerce Hosting Server migration.

"Chapter 23. Migrating from Net.Commerce Hosting Server 3.1.2 to WebSphere Commerce Service Provider" on page 155 provides migration instructions for migrating from Net.Commerce Hosting Server to WebSphere Commerce Service Provider 3.2.

Note: The information in this part applies only if you are migrating from Net.Commerce Hosting Server 3.1.2 (or the 3.1.2 Plug-In Enhancement) to WebSphere Commerce Service Provider 3.2. If you currently have Net.Commerce Hosting Server 3.1.1 installed, you must migrate and upgrade your current installation to Net.Commerce Hosting Server 3.1.2 before you follow the steps in this section to migrate to WebSphere Commerce Service Provider 3.2.

Chapter 22. Guidance for Migrating to Commerce Service Provider 3.2

This chapter provides guidance on how to migrate from a previous version of Net.Commerce Hosting Server (3.1.2 or 3.1.2 Plug-In Enhancement) to WebSphere Commerce Service Provider 3.2. It is recommended that you read this information prior to migration. This chapter contains high level helpful hints and tips for migration.

Note: To learn about last-minute changes to the product affecting migration, see the README file on our Technical Library page at our product Web site at:

`http://www.ibm.com/software/webservers/commerce/servers/lit-tech-general.html`

Publishing Existing NCHS Stores

As an ISP, before shutting down and migrating Net.Commerce Hosting Server, you will need to inform your merchants to publish all stores before you perform your migration. Any unpublished changes to your merchants' stores will be published after the migration.

You also need to advise your merchants that they will not be able to manually publish their stores after you have migrated to WebSphere Commerce Service Provider. From that time forward, all changes to your merchants' stores are automatically carried through when they are saved. They will not be able to hold or defer changes that are not ready to be published since after the migration, all such changes will be automatically published.

For more information, see "What You Need to Tell Your Merchants" on page 147.

Administrator Default ID (NCadmin)

If you have deleted and recreated the `ncadmin` ID, you must update the SHRFNBR column to reflect that `ncadmin` contains a value of 0.

When the WebSphere Commerce Service Provider database is initially installed, a row is inserted into the SHOPPER table defining the default site administrator logon ID and password as `ncadmin`; that is, column SHLOGID is set to `ncadmin`, and column SHLPSWD is set to the encrypted form of `ncadmin`. In addition, column SHRFNBR stores `ncadmin`'s reference number with a value of 0.

Migrating From Net.Commerce Hosting Server 3.1.2 to WebSphere Commerce Service Provider 3.2

Before you migrate from Net.Commerce Hosting Server 3.1.2 to WebSphere Commerce Service Provider 3.2, it is recommended that you read the following information, which may be useful to your migration process.

Replacing Net.Commerce Hosting Server Files

Installing Commerce Service Provider 3.2 replaces all Net.Commerce Hosting Server files. You *cannot* revert to your previously installed version of Net.Commerce Hosting Server. It is strongly recommended that prior to installing

Commerce Service Provider 3.2, you perform a complete system backup, including backing up any customized files, macros, and directories for Net.Commerce Hosting Server and its associated components (DB2, Domino Go Webserver, eTill/Payment Server, or Netscape Enterprise Server, as applicable).

Backing up Net.Commerce Hosting Server Databases

Ensure that you back up your Net.Commerce Hosting Server databases. If you encounter difficulties migrating your databases to the Commerce Service Provider 3.2 level, you will have to restore your databases. "DB2 Pre-Migration Steps" on page 164 shows you how to back up your DB2 database. For detailed instructions on how to make a backup copy of a DB2 database, refer to your DB2 *Administration Guide*. For details about the syntax for the backup command, refer to your DB2 *Command Reference*.

Writing Commands and Overridable Functions

If you have added commands or overridable functions for use with Net.Commerce Hosting Server 3.1.2, you must recompile them before you use them with Commerce Service Provider 3.2. Also, if you write overridable functions for use with Commerce Service Provider 3.2, ensure that you write them in C++, using the appropriate compiler and release level. All commands and overridable functions should be written using SunWorkshop, version 4.2.

See *Standards for Writing Overridable Functions* in the WebSphere Commerce Service Provider online help for more information on writing overridable functions.

Net.Data Macros

In the WebSphere Commerce Service Provider system, a Net.Data macro is a file that retrieves data from the WebSphere Commerce Service Provider database and displays it as a formatted Web page. It contains functions that usually execute SQL queries, HTML tags (which can also contain Java Script code), and Net.Data statements. The SQL statements search for and retrieve information from the WebSphere Commerce Service Provider database, the HTML defines the layout of the search results, and the Net.Data statements control the flow of the output.

Commerce Service Provider 3.2 supports Net.Data 6.1. If you are using Net.Data macros that have loosely-defined variables, ensure that you either rewrite the macros to Net.Data 6.1 level or add the entry `DTW_VARIABLE_SCOPE=GLOBAL` to the Net.Data configuration file, `db2www.ini`, if it does not already exist. By default, the `db2www.ini` contains the `DTW_VARIABLE_SCOPE=GLOBAL` parameter. For example, in Net.Data Version 1, if you define a variable within a block, you can still reference the variable outside of the block. If braces define a block then,

```
{
xx = 1;
}
if (xx==1) write message;
```

was valid in Net.Data Version 1; however in Net.Data 6.1 the xx outside of the block becomes undefined.

See *Net.Data Macros* and *Net.Data Configuration File* in the WebSphere Commerce Service Provider online help for more information about the `DTW_VARIABLE_SCOPE=GLOBAL` parameter.

Text Extender

WebSphere Commerce Service Provider supports DB2 UDB Text Extender 6.1.1. As Text Extender is an optional component of WebSphere Commerce Service Provider, you are not required to migrate or upgrade to DB2 UDB Text Extender 6.1.1. However, if you wish to use Text Extender with WebSphere Commerce Service Provider, you need to upgrade your current version of Text Extender as documented in the next chapter.

Modifying Database Schema Migration Scripts for Custom Table Spaces

> **Warning!**
> Use extreme caution when modifying the database schema migration scripts. If there have been changes made to the database schema that you do not know about, it is possible that your modifications may be incorrect. If there are any errors made in attempting to modify these files in the `nc_schema` subdirectory, the migration will not be successful.

By default, the database migration scripts drop and recreate some database tables based on the standard WebSphere Commerce Service Provider database layout. If you create your own table spaces and balance database tables across them, prior to running the database migration scripts, you must modify the scripts to handle the custom table spaces.

To modify the migration scripts to handle your table spaces, do the following:

1. Locate the database migration scripts which are contained in the following directory:

   For DB2:

   `/opt/IBMnetc/NetCommerce3/nc_schema/db2/migrate`

2. Within the scripts, search for any occurrences of `CREATE TABLE` and `CREATE INDEX` and modify the scripts based on your table space requirements.

   > You can use the grep tool to search for `CREATE TABLE` and `CREATE INDEX`.

   Once the scripts have been updated, you can run the migration script to migrate your database schema.

What You Need to Tell Your Merchants

Before you migrate from Net.Commerce Hosting Server 3.1.2 to Commerce Service Provider 3.2, there are several things that you need to communicate to your merchants.

- Unpublished merchant sites will be visible after the migration is completed.
- New 3.2 functionality will be available in merchant stores.
- Custom 3.1.2 stores in which all pages are uploaded (not created using the Home Page Creator) will appear different.
- Attributes of products will display differently for all migrated stores.
- There are also some additional (miscellaneous) items to note.

Details are described in the following sections.

Unpublished Merchant Sites

Unpublished merchant sites will be visible after the migration is completed. During the upgrade from Net.Commerce Hosting Server 3.1.2 to Commerce Service Provider 3.2, all of the merchant sites will get published at their current state at the time of running the premigration script. This means that any 3.1.2 stores that were created and but never published will now have an entry on the Web server. These stores will not be open, and the store's address will be:

```
http://<ISP_host_name>/merchant<mer_Ref_no>
```

where *<ISP_host_name>* is the root Web location for all of your merchant sites, and *<mer_Ref_no>* is the reference number of that merchant in the WebSphere Commerce Service Provider administrator (`ncadmin`).

Any Net.Commerce Hosting Server 3.1.2 store that had been published in the past will be republished. So any changes that your merchant has made to the catalog, the contents of the pages, or to any other items will now be fully visible on their web site. Merchants need to be aware of this explicitly in case they are in the middle of modifications or would rather not make any of their new additions visible externally.

If a merchant wants their store to become open and accessible on the Web, they need to contact you, their ISP, to activate their store. You do this by changing the store from the `NEW` to the `CLOSED` state. To open the store, the merchant changes the store to the `OPEN` state. Your merchants must also provide you with some information that gets filled in automatically during migration:

- The new directory from where they want their store to be accessed on the Web site.
- The category under which their store should fit for the mall directory.
- The default E-mail address that shoppers should use to contact the merchant.
- The currency that the store will use, if it is not already specified.
- The description of the store that will appear in the mall directory.

You can update the most of the above fields using `ncadmin` and selecting `Site manager`, and then selecting `Store Records (CHS)`. Select the correct merchant, and then update the information in the fields. Note that the `CURRENCY` and `MERCHANT DIRECTORY` fields are read-only, and so cannot be updated using `ncadmin`.

Updating the Merchant Directory Name

To update the merchant directory name:

1. After a merchant contacts you requesting the change to the directory name for their store, as the ISP, you have to rename the merchant document root directory to the new directory name. For Domino Go WebServer, the merchant directory name is located by default under `/opt/GoServer/usr/internet/server_root/pub`). For Netscape Enterprise Server, the merchant directory name is located by default under `/usr/netscape/suitespot/docs`). Rename the merchant directory to the new name, for example, change a hypothetical `Merchant1008` directory to `shoemart`.

2. While logged in as your DB2 instance user ID, connect to your WebSphere Commerce Service Provider database and update the `METBASE` field in the `MERCHANT` table to the new directory name by typing the following in a DB2 command window:

```
DB2 CONNECT TO db_name user db_user using db_password
DB2 UPDATE MERCHANT SET METBASE='merchant_directory_name' WHERE MERFNBR=nnnn
```

where *db_name* is your database name (for example, `mser`), *db_user* is your database instance ID, *db_password* is your database instance ID password, and *merchant_directory_name* is the new merchant directory name, (for example, entering `/shoemart/` for *merchant_directory_name* would result in `http://host_name/shoemart` as the link to the store) and *nnnn* is the merchant reference number, (for example, 1008).

3. Have the merchant recreate the `index.html` file in your store directory by running the **Design Store** wizard in the 3.2 Merchant Tool under **Store Style**. The merchant needs to reselect the frame set style and color scheme using the Design Store wizard. They can optionally update any of the other store characteristics, and then click **Finish** to exit the wizard. You should be able to point your browser to `http://host_name/shoemart`.

4. If the `index.html` file does not get recreated in the above step, you will not be able to point your browser to `http://host_name/shoemart`. In this case, manually edit the `index.html` file located in the directory that you renamed in step 1 on page 148. Search for the merchant number and replace it with the new store name. For example, replace `Merchant1088` with `shoemart` in the `index.html` file.

5. To update the path name displayed in `ncadmin` under **Store Records**, run the following DB2 update command against your database from a DB2 command window, while logged in as your DB2 instance user ID:

   ```
   DB2 UPDATE MCSPINFO SET MPDIRNAME='store_name' WHERE MPMENBR=nnnn
   ```

   where *store_name* is the new store name and *nnnn* is the merchant number. For example:

   ```
   DB2 UPDATE MCSPINFO SET MPDIRNAME='shoemart' WHERE MPMENBR=1008
   ```

6. Restart your WebSphere Commerce Service Provider instance for the changes to take effect.

Updating the Currency

To update the currency:

- After a merchant contacts you requesting the change to the currency for their store, as the ISP, you have to update the MECUR field in the MERCHANT table to the new currency. While logged in as your DB2 instance user ID, and while connected to your WebSphere Commerce Service Provider database, type the following in a DB2 command window:

  ```
  DB2 UPDATE MERCHANT SET MECUR='currency' WHERE MERFNBR=nnnn
  ```

  where *currency* is the ISO code for the currency, for example, `CAD` for Canadian dollars, and *nnnn* is the merchant reference number, for example, 1008.

- You also have to update the PPCUR field in the PRODPRCS table to the new currency. While logged in as your DB2 instance user ID, and while connected to your WebSphere Commerce Service Provider database, type the following in a DB2 command window:

  ```
  DB2 UPDATE PRODPRCS SET PPCUR='currency' WHERE PPMENBR=nnnn
  ```

  where *currency* is the ISO code for the currency, for example, `CAD` for Canadian dollars, and *nnnn* is the merchant reference number, for example, 1008.

  To list the available ISO currency codes, while logged in as your DB2 instance user ID, and while connected to your WebSphere Commerce Service Provider database, type the following in a DB2 command window:

  ```
  DB2 SELECT CURRSTR FROM CURRFORMAT
  ```

- Have the merchant update the currency information in the store's include file by running the **Customer Service** wizard in the 3.2 Merchant Tool under **Store Style**. Complete or update any fields as necessary, and click **OK**.

To verify that the directory name and currency are properly updated, check the **Store Records** for the store in `ncadmin`.

New Functionality in Merchant Stores

After Commerce Service Provider 3.2 is installed, your merchants will have new functionality in their stores that they should know about:

- If a merchant previously used the Home Page Creator Tool, then the presentation of their store will now be different. After upgrading, their store pages will be contained in a frame set with navigation in the bottom frame, and a banner at the top with the store name. For the merchant, this means some modification to the presentation of their store may be necessary. These changes can be carried out using the new Page Editor.

- If a merchant previously used a navigation bar in their pages, then they may want to remove it in favor of the new navigation bar in the bottom frame. This new navigation bar can be edited using the Navigation Bar Editor.

- The title of the merchant's store will now also be presented in a separate banner frame at the top of the page so if they had a large title for their store in the home page, they may want to remove or alter the title.

- The frame set around their stores will be new, and change how their store is presented to the public.

Appearance of Custom 3.1.2 Stores

For custom 3.1.2 stores, where all pages are uploaded (not created using the Home Page Creator), the pages will appear differently after migration.

Without the Plug-in and Without Custom Frame Sets
For custom 3.1.2 Stores without the Plug-in and without custom frame sets:

- For all the dynamic pages links (catalog, search, shop cart, customer service, logon, logoff, and register), the pages will be served within an NCHS frame set. The frames will be banner, content, and navigation bar.

- All static pages that were created by the merchant will probably end up with 2 navigation bars (one in the frame set, and one in their content page). They should probably remove the navigation bar from their content pages, and use the navigation bar editor to add their custom links.

Without the Plug-in and With Custom Frame Sets
For custom 3.1.2 stores without the Plug-in and with custom frame sets:

- If merchants have their own frame set, then the NCHS frame set will be nested within their frame set for all the dynamic pages only (catalog, search, shop cart, customer service, logon, logoff, register).

- If merchants want to continue using their own frame set instead the NCHS frame set, they will have to replace the navigation bar links in their store to call the dynamic pages that do not contain the NCHS frame sets. In the page names below, NF refers to the page without the frame set.

  For NCHS 3.1.2 without Plug-in migration, replace the following links:

  – `catalog.html` with `NFcatalog.html`

  – `search.html` with `NFsearch.html`

  – `customer_service.html` with `NFcustomer_service.html`

  – `logon.html` with `NFlogon.html`

– `register.html` with `NFregister.html`
   – `shop_cart.html` with `NFshop_cart.html.html`

You should ensure that the navigation bar includes the above set of links to the `NF*.html` pages.

With the Plug-in and Without Custom Frame Sets

For custom 3.1.2 stores with the Plug-in and without custom frame sets:

There are two versions of links that you can incorporate into your store pages as listed below. For example, to add a link to your catalog from an HTML page, copy a catalog URL. If your site uses frames, copy the first catalog link shown. If your site does not use frames copy the second link shown. Note that in the following examples, the links are supposed be on one line. Line breaks are included for formatting purposes only.

- Home:

  `http://`*host_name*`/idremote/homepage.html`

  `http://`*host_name*`/idremote/frameset.html?`
    `CONTENTS="http://`*host_name*`/idremote/homepage.html"`

- Catalog:

  `http://`*host_name*`/servlet/Catalog?merchant.refno=`*nnnn*`&catalog.refno=`*rrrrr*

  `http://`*host_name*`/idremote/frameset.html?`
    `CONTENTS="http://`*host_name*`/servlet/Catalog?merchant.refno=`*nnnn*`"`

- Search:

  `http://`*host_name*`/servlet/StoreSearch?merchant.refno=`*nnnn*

  `http://`*host_name*`/idremote/frameset.html?`
    `CONTENTS="http://`*host_name*`/servlet/StoreSearch?merchant.refno=`*nnnn*`"`

- Shopping Cart:

  `http://`*host_name*`/servlet/ViewShoppingCart?merchant.refno=`*nnnn*

  `http://`*host_name*`/idremote/frameset.html?`
    `CONTENTS="http://`*host_name*`/servlet/ViewShoppingCart?merchant.refno=`*nnnn*`"`

- Customer Service:

  `http://`*host_name*`/servlet/CustomerService?merchant.refno=`*nnnn*

  `http://`*host_name*`/idremote/frameset.html?`
    `CONTENTS="http://`*host_name*`/servlet/CustomerService?merchant.refno=`*nnnn*`"`

- Registration:

  `http://`*host_name*`/servlet/Register?merchant.refno=`*nnnn*

  `http://`*host_name*`/idremote/frameset.html?`
    `CONTENTS="http://`*host_name*`/servlet/Register?merchant.refno=`*nnnn*`"`

- Logon:

  `http://`*host_name*`/servlet/Logon?merchant.refno=`*nnnn*
    `&merchant.homeURL=http%3A%2F%2F`*host_name*`%2Fidremote%2Fhomepage.html`

  `http://`*host_name*`/idremote/frameset.html?`
    `CONTENTS="http://`*host_name*`/servlet/Logon?merchant.refno=`*nnnn*
    `&merchant.homeURL=http%3A%2F%2F`*host_name*`%2Fidremote%2Fhomepage.html"`

  where *host_name* is the host name of the WebSphere Commerce Service Provider machine, *nnnn* is the merchant reference number, and *rrrrr* is the catalog reference number.

With the Plug-in and With Custom Frame Sets

For custom 3.1.2 stores with the Plug-in and with custom frame sets:

After migrating to 3.2, the NCHS dynamic pages will no longer contain the shopping links (`Catalog`, `Search`, `Shop Cart`, `Customer Service`, `Logon`, `Logoff`, and `Register`). To add the links back into your 3.2 store, add them to your custom navigation bar. Refer to the Useful Links component of the Merchant Tool and copy the links to your pages.

Attributes of Products

Attributes of products will display differently for all migrated stores. Thus you will also need to inform your merchants that the attributes of their products will now be displayed differently. At the bottom of the shopping cart page, a shopper will see the products they have selected with a list of possible attributes. For example:

```
Pants : blue, black, red
Tea : Orange Pekoe, Darjeeling, Lemon
```

Below this list of attributes will be a comment box as in Net.Commerce Hosting Server 3.1.2, but it will no longer contain a prompt for filling in the attributes of products. So your merchant may want to make some modifications to their store to make it clear to the shopper what the shopper needs to do. Some possibilities are:

- Add a description to the shopping cart page telling the shopper what they should do.
- Using the Catalog Editor, add items to each of their products. Items allow a merchant to have one product, say Pants, and multiple items that have different attributes but are still the same products, so there would be red pants, blue pants and black pants. These items would show up in a drop down box as separate objects to be ordered.

The merchant will need to reset the color values of their catalog pages to match them more closely with their color schema using the *Design Store* wizard in the Merchant Tool. By default, all merchants will be given a standard colour scheme. If they had uploaded a background image on their catalog pages for their 3.1.2 stores, they should reset it now from the list of gallery images presented to them.

Merchants now have many more options to customize the style of their site. Even if they are remote and thus do not use all of this functionality, such as bypassing the new frame set, they will still want to go through the Design Store wizard and reset their options from the defaults.

Additional Items

Your merchants should consider making the following updates to their stores:

- Use the Page Editor to remove the old navigation bar that will now be redundant. They will likely also want to add any custom links they had to the new framed navigation bar using the Navigation Bar Editor.
- Use the Design Store wizard to edit their store banner.
- To deal with the different way in which product attributes are now treated they will likely want to do one of the following:
  - Edit the Shopping Cart page to include a description of what to enter into the comment box. With 3.2, the shopper will be presented with a comma separated list of product attributes from which they can choose in the comment box.

- Use the new product or item functionality by recreating items for each of their products.
- Some merchants may find that images they uploaded show up as broken image links in their Page Editor, even though they all appear fine in their store. They should use the Page Editor to reset image links that will appear to be broken in the migrated stores. The images are not broken in the live store pages, only in the Merchant Tool. The Gallery images will still be readily available in the Edit Image dialog.
- The credit cards previously selected in a 3.1.2 store will still be displayed in the active store site viewed by shoppers. However in the Merchant Tool, for migrated stores, all credit cards will be displayed as the previous selections are not preserved. The merchant should reselect the credit card options in the Payment wizard.
- If the merchant had not set their country in the 3.1.2 store information, and instead used the default value, `United States`, after migrating to 3.2, they would observe that the country field is blank. As there is no longer a default country in 3.2, merchants may want to add the country manually, so that their country shows up on some of the automatically generated pages. For some US stores, the merchants may want to go into *Administration Information* in the Merchant Tool and reset their country to `United States` if they previously used the default value, `United States`.
- If merchants used HTML tags in any of the description fields in a catalog, for example in the product description, this may cause formatting problems when using the Catalog Editor. HTML table tags are particularly problematic. The symptom will be a significant reformatting of the catalog in the Catalog Editor, with perhaps entire rows appearing to be missing or with empty tables boxes on one side of the table.

  To fix this, have the merchant select the product with HTML in it (such as tables and pictures) and display the item properties. In the description field, remove the HTML contents and save them. Click **OK** on the item and it will reload the product display correctly. Now reopen the same item and add back the HTML into it and click **OK**. The additions will now show up properly.
- For Commerce Service Provider 3.2 stores, the following currencies are rounded to the nearest whole unit, as decimals are no longer supported for them:
  - Luxembourg Franc
  - Belgian Franc
  - Portuguese Escudo
- When custom stores are migrated, all customized HTML pages that were created by the merchant will be backed up, the store's dynamic pages will be updated, and the original home page will be restored.
- The home page for custom stores will not be displayed within a frame set unless the merchant had specifically created a frame set of their own. If they created a frame set of their own, the store will continue to display it.

Note: If your site contains stores that were not created using NCHS 3.1.2 Store Creator (for example, perhaps by creating a Net.Commerce store and customizing it to work in NCHS), these stores may not migrate properly to Commerce Service Provider 3.2. The files that the migration scripts looks for will not be present, and this will result in error messages in the section of log or console output for that store. These stores will need to be migrated manually to the 3.2 format. Ensure that all information regarding these

stores is backed up before migration begins. You may also want to consider contacting IBM support for guidance on how to best proceed with migration for your scenario.

Planning to Verify a Successful Migration

In order to ensure that the migration process is a success, you need to perform several steps with Net.Commerce Hosting Server 3.1.2 before you migrate to Commerce Service Provider 3.2:

- While you are still running Net.Commerce Hosting Server 3.1.2:

  From your Windows machine, open your browser to the following Web address:

  `http://host_name/cspsite`

  where *host_name* is the fully qualified name of your Net.Commerce Hosting Server machine. (If you have customized your site so that `cspsite` has been renamed, use your equivalent name for `cspsite`.)

  View several existing stores, preferably ones with orders that are pending, and that have large catalogs. In addition, you may want to create a test store in order to help you verify that the migration completes successfully.

- After you complete your migration, when you are running Commerce Service Provider 3.2:

  From your Windows machine, open your browser to the following Web address:

  `http://host_name/cspsite`

  where *host_name* is the fully qualified name of your Net.Commerce Hosting Server machine. (If you have customized your site so that `cspsite` has been renamed, use your equivalent name for `cspsite`.)

  View the same stores as before as well as your test store that you created. Ensure that the features and content in the stores are the same as they were with Net.Commerce Hosting Server, particularly:

  - Catalog items
  - Orders (any orders that were pending should still be pending)
  - Page content will be preserved although they will be displayed differently with Commerce Service Provider 3.2

- Verify that you can create new Commerce Service Provider 3.2 stores as described in "Chapter 14. Verifying Your Installation and Configuration" on page 67.

Chapter 23. Migrating from Net.Commerce Hosting Server 3.1.2 to WebSphere Commerce Service Provider

This chapter describes migrating from Net.Commerce Hosting Server 3.1.2 (or the 3.1.2 Plug-In Enhancement) to WebSphere Commerce Service Provider 3.2. If you currently have Net.Commerce Hosting Server 3.1.1 installed, you must migrate and upgrade your current installation to Net.Commerce Hosting Server 3.1.2 before you follow the steps in this section to migrate to WebSphere Commerce Service Provider 3.2.

To complete the steps in this chapter, you must have the following CD-ROMs:

- Your database management system. The DB2 Universal Database 6.1.0.6 CD is provided in the WebSphere Commerce Service Provider product box.
- Your Web server. The Domino Go Webserver 4.6.2.61 CD is provided in the WebSphere Commerce Service Provider product box.
- Net.Data 6.1, provided in the WebSphere Commerce Service Provider product box.
- WebSphere Application Server 2.0.3.1, provided in the WebSphere Commerce Service Provider product box.
- WebSphere Commerce Service Provider, provided in the WebSphere Commerce Service Provider product box.

Migration Notes

1. Installing WebSphere Commerce Service Provider replaces all Net.Commerce Hosting Server files. You *cannot* revert to your previously installed version of Net.Commerce Hosting Server. It is strongly recommended that prior to installing WebSphere Commerce Service Provider, you perform a complete system backup, including backing up any customized files, macros, and directories for Net.Commerce Hosting Server and its associated components, including your database, your Web server, Payment Server, and WebSphere Application Server, as applicable. Refer to "Chapter 22. Guidance for Migrating to Commerce Service Provider 3.2" on page 145 for more guidance on migration.

2. Ensure that you back up your Net.Commerce Hosting Server databases. If you encounter difficulties migrating your databases to the WebSphere Commerce Service Provider level, you will have to restore your databases and manually run the database migration script.

Pre-Migration Steps

Before you begin your migration, do the following:

1. Ensure that you meet the pre-installation requirements for installing WebSphere Commerce Service Provider. See "Chapter 1. Preinstallation Requirements" on page 3, for more information.

2. Perform a full system backup using your own backup utility. If your migration is unsuccessful and you need to restore your existing system, perform a restore of your full system backup.

Overview of the Migration Procedures

Migrating from Net.Commerce Hosting Server 3.1.2 to WebSphere Commerce Service Provider requires several steps. Specific instructions are described in this chapter; however, the following list outlines the high level steps required for migration:

1. Download the migration scripts from our product Web site.
2. Publish all merchant sites in order to ensure that any unpublished stores, catalogs, and other unpublished items are not lost.
3. Upgrade your Web server (Netscape Enterprise Server or Domino Web Server) as necessary.
4. Install DB2 Universal Database 6.1.0.6 and migrate your database. Note special considerations for a two-tier migration.
5. Optionally, upgrade to DB2 Text Extender 6.1.1
6. Install Net.Data 6.1.1
7. Install JDK 1.1.7 and WebSphere Application Server 2.0.3.1
8. Optionally, install Payment Server 1.2.20.3 if you wish to process payments using Secure Electronic Transactions (SET).
9. Install WebSphere Commerce Service Provider.
10. Migrate your configuration files.
11. Update the database migration and postmigration scripts.
12. Migrate your database schema.
13. Perform the post-migration instructions.

Downloading the Updated Migration Scripts

In order to obtain the current migration scripts, you need to download them from our product Web site. The package will include:

- The premigration script.
- The database schema migration script.
- The postmigration script.
- Updates to two DB2 files (`db2imdbd` and `db2imnod`) in order to correctly migrate a DB2 5.0 instance to a DB2 6.1.0.6 instance.

1. To download the package, point your browser to our WebSphere Commerce Service Provider download site::

   `http://www.ibm.com/software/webservers/commerce/servers/downloadsspe.html`

2. On the Download page for *WebSphere Commerce Suite, Service Provider Edition V3.2* find the download link, *Download for Solaris*.

3. Click on the download link to download the `spe32_mig_sun.tar` file to your machine. From the window that pops up, save the file to the `/opt/IBMnetc/NetCommerce3` directory on your WebSphere Commerce Service Provider machine. Note that if you have to transfer the downloaded tar file from an intermediary machine to your WebSphere Commerce Service Provider machine, transfer the tar file in binary mode.

4. After the tar file has been downloaded to your WebSphere Commerce Service Provider machine, switch to the `/opt/IBMnetc/NetCommerce3` directory where you have stored the file, and untar it as follows:

   ```
   cd /opt/IBMnetc/NetCommerce3
   tar -xvf spe32_mig_sun.tar
   ```

After you have untarred the file, you will see two additional tar files in the /opt/IBMnetc/NetCommerce3 directory:

- `Pre_install_migration.tar` — contains the updated premigration script and DB2 fixes
- `Post_install_migration.tar` — contains the updated database schema and postmigration scripts

5. Untar the `Pre_install_migration.tar` file containing the premigration script and DB2 fixes:

   `tar -xvf Pre_install_migration.tar`

   Note that you untar the `Post_install_migration.tar` file in a later step.

Note that these download instructions were accurate at the time of publishing this book.

Publishing Merchant Sites

Before migrating to Commerce Service Provider 3.2, you need to publish all merchant sites. This will ensure that no data from unpublished stores will be lost during the migration process. The migration script will publish all sites that merchants have left in the unpublished state. Before running the script, you should warn all merchants that their unpublished changes will be made visible after the migration.

Note:

During the upgrade from Net.Commerce Hosting Server 3.1.2 to Commerce Service Provider 3.2, all of the merchant sites get published at their current state when you run the premigration script. This means that any merchant stores that were created and never published will now have an entry on the Web server. These stores will not be open, and the address will be:

`http://<ISP_host_name>/merchant<mer_Ref_no>`

where *<ISP_host_name>* is the root Web location for all of your merchant sites, and *<mer_Ref_no>* is the reference number of that merchant in the WebSphere Commerce Service Provider administrator (`ncadmin`).

Ensure that Net.Commerce Hosting Server 3.1.2 components such as your Web server, DB2 UDB, Text Extender, WebSphere Application Server, and your Net.Commerce Hosting Server instance are started. For details on starting up these components, refer to the appendices of *Net.Commerce Hosting Server 3.1.2 Installing and Getting Started Guide*.

To publish the merchant sites, perform the following steps:

1. Open a command prompt.
   - **If you are migrating from NCHS 3.1.2 without the Plug-in**:

     Switch to the /opt/IBMnetc/NetCommerce3/ppm32/ppm32_312 directory and run the premigration script ppm32_312_SUN.sh:

     ```
     cd /opt/IBMnetc/NetCommerce3/ppm32/ppm32_312
     ./ppm32_312_SUN.sh nc_admin_user nc_admin_password db2_instanceID
     ```

     where the variables are defined as follows:

     nc_admin_user
         The user ID used to log in to the Net.Commerce administrator.

nc_admin_password
> The password used to log in to the Net.Commerce administrator.

db2_instanceID
> The DB2 instance user ID for the Net.Commerce Hosting Server database (for example, db2inst1).

- **If you are migrating from NCHS 3.12 plus the Plug-in**:

  Change the permissions of the /opt/IBMnetc/NetCommerce3/Tools/config directory:

  ```
  chmod 777 /opt/IBMnetc/NetCommerce3/Tools/config
  ```

  Switch to the /opt/IBMnetc/NetCommerce3/ppm32/ppm32_plugin directory, and run the premigration script ppm32_Plugin_SUN.sh:

  ```
  cd /opt/IBMnetc/NetCommerce3/ppm32/ppm32_plugin
  ./ppm32_Plugin_SUN.sh nc_admin_user nc_admin_passwd db2_instanceID
  ```

  where the variables are defined as follows:

  ncadmin_user
  > The user ID used to log in to the Net.Commerce administrator.

  ncadmin_passwd
  > The password used to log in to the Net.Commerce administrator.

  db2_instanceID
  > The DB2 instance user ID for the Net.Commerce Hosting Server database (for example, db2inst1).

2. View the messages on the screen. Once the premigration is complete, you will receive a message indicating that the premigration was successful.

   You can optionally look at the contents of the log file. Note that if you see any Java exception error messages similar to the following in the log, you can ignore them:

   ```
   2000.04.12 16:57:32.996 [main] ERROR - An error occured registering the task: CTcustom.nchs.payment.Finish.
   java.lang.ClassNotFoundException: custom.nchs.payment.Finish
    at com.ibm.commerce.tools.request_management.TaskDirectory.registerTask(TaskDirectory.java:208)
    at com.ibm.commerce.tools.request_management.TaskDirectory.initializeTaskDirectory(TaskDirectory.java:172)
    at com.ibm.commerce.tools.request_management.TaskDirectory.loadTaskDirectory(TaskDirectory.java:84)
    at com.ibm.commerce.tools.common.Configuration.loadConfiguration(Configuration.java:128)
    at com.ibm.commerce.tools.nchs.migration.Premigration_Plugin.main(Premigration_Plugin.java:137)
   2000.04.12 16:57:33.004 [main] ERROR - An error occured registering the task: CTcustom.nchs.payment.Initialize.
   ...
   2000.04.12 16:57:33.019 [main] ERROR - An error occured registering the task: CTcustom.nchs.order_mgmt.AddComments.
   ...
   2000.04.12 16:57:33.026 [main] ERROR - An error occured registering the task: CTcustom.nchs.order_mgmt.ChangeStatus.
   ...
   2000.04.12 16:57:33.033 [main] ERROR - An error occured registering the task: CTcustom.nchs.order_mgmt.GetAuthStatus.
   ...
   2000.04.12 16:57:33.039 [main] ERROR - An error occured registering the task: CTcustom.nchs.mtool.PreLogon.
   ...
   2000.04.12 16:57:33.046 [main] ERROR - An error occured registering the task: CTcustom.nchs.mtool.PostLogon.
   ...
   2000.04.12 16:57:33.052 [main] ERROR - An error occured registering the task: CTcustom.nchs.mtool.PreRegister.
   ...
   2000.04.12 16:57:33.059 [main] ERROR - An error occured registering the task: CTcustom.nchs.mtool.PostRegister.
   ...
   ```

   Ensure that there are no other error messages from running the script. The log file name and directory is as follows:

   - For Net.Commerce Hosting Server 3.1.2 without Plug-in, look at the content of:

     /opt/IBMnetc/NetCommerce3/ppm32/premigration.log

   - For Net.Commerce Hosting Server 3.1.2 with Plug-in, look at the content of:

     /opt/IBMnetc/NetCommerce3/Tools/logs/tools.log

     You may wish to back up the /opt/IBMnetc/NetCommerce3/Tools/logs/tools.log file as it may be overwritten by other migration actions.

Upgrading Netscape Enterprise Server

If you are using Netscape Enterprise Server, read the following sections about upgrading Netscape Enterprise Server.

Uninstalling Netscape Enterprise Server

To uninstall Netscape Enterprise Server, do the following:

1. Log on as user ID `root`.
2. Back up the entire document root directory (for example, `/usr/netscape/suitespot/docs`) including all subdirectories. Ensure that the following configuration files are contained in the document root directory:
   - `db2www.ini`
   - `srvrctrl.conf`
   - `ncommerce.conf`
   - `pay_back.conf`
   - `pay_etill.conf`
   - `pay_cyber.conf`
   - `scheduler.conf`
   - Any other customized WebSphere Commerce Service Provider files in the document root directory. This includes the directories for all merchant sites, that is, the merchant stores. You can identify these directories by looking at the store records in `ncadmin`, or by identifying all subdirectories of the document root directory that have the user authority set to `nobody nobody`. To back up these directories, use the copy command with the `-p` flag set to preserve the ownership and permissions for the directory and files copied. For example:
     ```
     cp -pr /usr/netscape/suitespot/docs backup_dir
     ```
3. Ensure that the secure (port 443) and non-secure (port 80) servers for Netscape Enterprise Server are stopped.
4. If you have created or customized any files in the `/usr/netscape` directory or its subdirectories, and you wish to retain them, back them up to a directory that is not used by Netscape Enterprise Server or any WebSphere Commerce Service Provider component.
5. Back up your `obj.conf` files (one for each of the secure and non-secure servers) and all custom HTML files.
6. Uninstall Netscape Enterprise Server, according to your Netscape documentation. You must uninstall your existing version of Netscape Enterprise Server before you install Netscape Enterprise Server 3.6.1.
7. If the `/usr/netscape` directory exists, remove it by typing the following:
   ```
   cd /usr
   rm -r netscape
   ```

Installing Netscape Enterprise Server 3.6.1

Once you have uninstalled your existing version of Netscape Enterprise Server, install Netscape Enterprise Server 3.6.1 by following your Netscape documentation. Ensure that you also activate SSL, according to Netscape's instructions, as part of your installation. When you have installed Netscape Enterprise Server 3.6.1, do the following:

1. Restore the document root directory that you backed up in step 2 above, including all configuration files and any customized directories and files. When

you are restoring the merchant root directories, use the -p flag of the copy command to preserve permissions and ownership as before. For example:

```
cp -rp merchant_directory /usr/netscape/suitespot/docs
```

Note: The owner of the merchant root directories should be user ID `nobody`. This ownership allows the WebSphere servlets to access the merchant root directories. Not all files and directories backed up from the document root directory need to be owned by user ID `nobody`.

Ensure that you do *not* restore the `obj.conf` files which you backed up in step 5 on page 159 above.

2. Migrate both servers (ports 443 and 80).

3. Ensure that the server and document root directories are the same as Net.Commerce Hosting Server 3.1.2.

4. Ensure that the server certificate has been migrated successfully. Depending on your certificate authority, you may need to install a new certificate.

Upgrading Domino Go Webserver

If you are using Domino Go Webserver, read the following sections about Domino Go Webserver.

Uninstalling Domino Go Webserver

To uninstall Domino Go Webserver, do the following:

1. Log on as user ID `root`.

2. Back up the entire document root directory, `/opt/GoServer/usr/internet/server_root/pub`, including all subdirectories. Ensure that the following configuration files are contained in the document root directory:

   - `db2www.ini`
   - `srvrctrl.conf`
   - `ncommerce.conf`
   - `pay_back.conf`
   - `pay_etill.conf`
   - `pay_cyber.conf`
   - `scheduler.conf`
   - Any other customized Net.Commerce Hosting Server 3.1.2 files in the document root directory. This includes the directories for all merchant sites, that is, the merchant stores. You can identify these directories by looking at the store records in `ncadmin`, or by identifying all subdirectories of the document root directory that have the user authority set to `nobody nobody`. To back up these directories, use the copy command with the -p flag set to preserve the ownership and permissions for the directory and files copied. For example:

     ```
     cp -pr /opt/GoServer/usr/internet/server_root/pub backup_dir
     ```

3. In addition, backup the following configuration files:

   - `/etc/httpd.conf`
   - `/etc/servlet.conf` (only exists if you installed the servlet component of Domino Go Webserver)
   - `/opt/GoServer/usr/internet/server_root/*.kyr`
   - `/opt/GoServer/usr/internet/server_root/*.txt`

- `/opt/GoServer/usr/internet/server_root/*.sth`

  The `*.kyr`, `*.txt`, and `*.sth` files are your SSL key files.

4. Ensure that Domino Go Webserver is stopped. For information on stopping Domino Go Webserver, see the appendix of the Net.Commerce Hosting Server 3.1.2 Installation Guide.

5. If you have created or customized any files in the `/opt/GoServer/usr/internet` directory or its subdirectories, and you wish to retain them, back them up to a directory that is not used by any WebSphere Commerce Service Provider component.

6. Uninstall Domino Go Webserver and NetQuestion (if you have it installed) using the Administration Tool.

7. Remove any remaining Domino Go Webserver files and directories as follows:

   a. If the `internet` directory exists, remove it by typing the following:
      ```
      cd /opt/GoServer/usr
      rm -r internet
      ```

   b. If the `/etc/httpd.conf` or `/etc/httpd.conf.old` files exist, remove them by typing the following:
      ```
      cd /etc
      rm httpd.conf
      rm httpd.conf.old
      ```

   c. If the `/etc/httpd` directory exists, remove it by typing the following:
      ```
      cd /etc
      rm -r httpd
      ```

Once you have uninstalled your existing version of Domino Go Webserver, install Domino Go Webserver 4.6.2.61 by following the instructions in "Installing Domino Go Webserver 4.6.2.61".

Installing Domino Go Webserver 4.6.2.61

To install Domino Go Webserver 4.6.2.61, do the following:

1. Log on as user ID `root`.

2. If necessary, mount the Domino Go Webserver 4.6.2.61 CD.

3. Start the Administration tool by typing the following command:
   ```
   /bin/admintool&
   ```

4. From the **Browse** pull-down menu, select **Software**. The Admintool: Software window appears.

5. From the **Edit** pull-down menu, select **Add**. The Admintool: Set Source Media window appears.

6. If you have Volume Manager installed, select **CD with Volume Management** in the **Software Location** field. Then, in the **CD Path** field, type `/cdrom/cdrom0/spool` and click **OK**.

7. If you do not have Volume Manager installed, select **CD without Volume Management** in the **Software Location** field. In the **Mount Point** field, type `/cdrom/cdrom0/spool` and click **OK**.

8. From the list of packages, make your selections as follows:
   - **Lotus Domino Go Webserver**.
   - *One* of the following:
     - **gskru301** — If you are installing the North American version of Domino Go Webserver.
     - **gskre301** — If you are installing the Export version of Domino Go Webserver.

- **gskrf301** — If you are installing the French Export version of Domino Go Webserver.
  - *One* of the following:
    - **Lotus Domino Go Webserver — North American Edition** — If you are installing the North American version of Domino Go Webserver.
    - **Lotus Domino Go Webserver — International English Edition** — If you are installing the Export version of Domino Go Webserver.

  Note: Do not install Java components.
9. Click **Add**. The Admintool: Add Software window appears.
10. Respond to the prompts as follows:
    - If asked to enter the path to the package base directory, type **/**. Domino Go Webserver is supported only when installed in this package base directory.
    - When asked whether you want to install the Domino Go Webserver files as setuid/setgid files, respond **y** to each prompt.
    - When asked whether you want to proceed with the install of each package, respond **y** to each prompt.
    - If asked whether you want to install conflicting files, respond **y** to each prompt.
11. When all packages are installed, press **Enter** and close all Admintool windows.
12. While logged on as user ID `root` stop Domino Go Webserver by doing the following:
    a. Determine whether Domino Go Webserver is running, by typing the following command:

       `ps -ef|grep httpd`

       Note the process ID for the `/usr/sbin/httpd` process.
    b. Stop Domino Go by typing the following command:

       `kill` *process_id*

       where *process_id* is the process ID that you noted in the previous step.
13. Eject the Domino Go Webserver 4.6.2.61 CD.

Apply the following changes from your back up files:

1. From the `httpd.conf` file that you backed up in step 2 on page 160 of "Uninstalling Domino Go Webserver" on page 160, copy any changes that you made to this file when you installed and configured your previous version of Domino Go Webserver to the new `httpd.conf` file created when you installed Domino Go Webserver 4.6.2.61. Ensure that you do not simply copy the new `httpd.conf` file over your backed up version. You must copy the Net.Commerce Hosting Server section, the host name directive, the key file directive, and any other customized changes from the previous `httpd.conf` file to the new `httpd.conf` file.

   Note: Do not overwrite the `httpd.conf` file that was created when Domino Go Webserver 4.6.2.61 was installed.
2. If you had installed the servlet component in your previous install of Domino Go Webserver, copy the `servlet.conf` file that you backed up in step 2 on page 160 of "Uninstalling Domino Go Webserver" on page 160, to the `/etc` directory, replacing the `servlet.conf` file that was created when you installed Domino Go Webserver 4.6.2.61.

3. Restore any configuration files or customized directories and files that you backed up in steps 2, 3, and 5 of "Uninstalling Domino Go Webserver" on page 160, to the /opt/GoServer/usr/internet/server_root/pub document root directory. When you are restoring the merchant root directories, use the -p flag of the copy command to preserve permissions and ownership as before. For example:

```
cp -rp merchant_directory /opt/GoServer/usr/internet/server_root/pub
```

Note: The owner of the merchant root directories should be user ID nobody. This ownership allows the WebSphere servlets to access the merchant root directories. Not all files and directories backed up from the document root directory need to be owned by user ID nobody.

4. Ensure you are logged on as user ID root, and restart the Web server by following the instructions in "Starting and Stopping Domino Go Webserver" on page 206.

Preparing to Migrate DB2 Text Extender 5.0 Databases and Instances

WebSphere Commerce Service Provider supports DB2 UDB Text Extender 6.1.1. As Text Extender is an optional component of WebSphere Commerce Service Provider, you are not required to migrate to DB2 UDB Text Extender 6.1.1. However, if you wish to use Text Extender with WebSphere Commerce Service Provider, you need to migrate to Text Extender 6.1.1. If you do not intend to migrate to DB2 UDB Text Extender 6.1.1, ignore this section.

If you wish to migrate Text Extender 5.0, you must prepare to migrate your DB2 Text Extender databases and instances from DB2 Text Extender 5.0 to DB2 UDB Text Extender 6.1.1 before you install DB2 Universal Database 6.1.0.6 or DB2 UDB Text Extender 6.1.1

Note: If you are migrating from DB2 Text Extender 5.2 to DB2 UDB Text Extender 6.1.1, you do not need to prepare to migrate to the 6.1 level. To migrate from DB2 Text Extender 5.2 to DB2 UDB Text Extender 6.1.1, first install 6.1 according to the steps in "Installing DB2 UDB Text Extender 6.1.1" on page 173 and then migrate to DB2 UDB Text Extender 6.1.1, as described in "Migrating from DB2 Text Extender 5.2" on page 177.

To prepare to migrate the DB2 Text Extender 5.0 databases and instances, do the following:

1. Log on as your DB2 Text Extender instance owner ID, for example, db2inst1:

```
su - db2inst1
```

2. Start a DB2 Text Extender command window by typing the following:

```
db2tx
```

3. From the DB2 Text Extender command line window, connect to the existing DB2 Text Extender 5.0 enabled database by running the following command:

```
connect to database_name
```

where *database_name* is the name of the DB2 Text Extender 5.0 enabled database.

4. Disable the existing DB2 Text Extender 5.0 enabled database by running the following command:

```
disable database
```

5. Exit the DB2 Text Extender command line:

```
exit
```

6. Stop DB2 Text Extender 5.0 by running the following command from a DB2 command line:

   ```
   txstop
   ```

7. Drop the DB2 Text Extender 5.0 instance:

   - Switch to the root user id.
   - Switch to the following directory:

     ```
     cd /opt/IBMdb2tx/V5.0/instance
     ```

   - Execute the following command:

     ```
     ./db2txidrop txinstanceName db2instanceName
     ```

     where *txinstanceName* is the name of the DB2 Text Extender 5.0 instance, and *db2instanceName* is the DB2 instance name. This command will drop the DB2 Text Extender instance.

After migrating DB2 UDB, you continue the migration of DB2 Text Extender in "Installing and Migrating DB2 Text Extender to DB2 UDB Text Extender 6.1.1" on page 173.

Migrating DB2

If you are using DB2 Universal Database, you must migrate your version to DB2 Universal Database 6.1.0.6.

Note: Before you proceed with the steps in the next section, ensure you stop the WebSphere Commerce Service Provider instance and server.

DB2 Pre-Migration Steps

To ensure that all databases on your system can be migrated to DB2 Universal Database 6.1.0.6, complete the following steps on your DB2 server machine in a 2–tier installation, or on your stand-alone machine in a 1–tier installation:

1. Set your Solaris Kernel file parameters, as described in "Updating Solaris Kernel Configuration Parameters for DB2" on page 4.
2. Log on to your DB2 instance ID by typing su - *db2inst_ID*, where *db2inst_ID* is your DB2 instance (for example, db2inst1).
3. Start DB2 by typing the following command:

   ```
   db2start
   ```

4. Complete all database transactions (that is, commit all updates and changes against the database you are migrating).
5. Ensure that all applications disconnected from each database. To view a list of all the applications that are connected to a database, run the following command:

   ```
   db2 list applications
   ```

   If all applications are disconnected, the following message appears:

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

   To force all applications to disconnect, run the following command:

   ```
   db2 force applications all
   ```

6. Ensure that all applications are stopped by reissuing the following command:

   ```
   db2 list applications
   ```

7. Ensure that all databases are catalogued. To view a list of all the catalogued databases in the current instance, run the following command:

```
db2 list database directory
```

   Note: The db2ckmig database migration verification command does not verify uncataloged databases. You will run the db2ckmig command in "Verifying that the Database Can Be Migrated" on page 169.

8. Back up all databases by typing the following command:

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

   where *db_name* is the name of the database, and *backup_directory* is the *full* path to where you wish to back up the database. If you have more than one database, repeat the command for each database.

9. Stop the database manager by typing the following command:

```
db2stop
```

10. Ensure that the instance environment setup script, db2profile, under the instance's export/home/*db2inst_ID*/sqllib directory (where *db2inst_ID* is the name of the database instance ID) contains the proper syntax. Ensure that each export statement is separated into different lines. The following is an example of the db2profile file with each export statement on a separate line:

```
# Default DB2 product directory
DB2DIR="/opt/IBMdb2/V5.0"
#----------------------------------------------------------------------
# DB2INSTANCE [Default null, values: Any valid instance name]
# Specifies the instance that is active by default.
#----------------------------------------------------------------------
DB2INSTANCE=db2inst1
export DB2INSTANCE

INSTHOME=/export/home/db2inst1
#----------------------------------------------------------------------
# Add the directories:
#   INSTHOME/sqllib/bin  - database executables
#   INSTHOME/sqllib/adm  - sysadm executables
#   INSTHOME/sqllib/misc - miscellaneous utilities
# to the user's PATH.
#----------------------------------------------------------------------
PATH=${PATH}:${INSTHOME}/sqllib/bin:${INSTHOME}/sqllib/adm
PATH=${PATH}:${INSTHOME}/sqllib/misc
export PATH
```

11. Type exit and press **Enter** to return to user ID root.

Installing DB2 Universal Database 6.1.0.6

To install DB2 Universal Database 6.1.0.6, do the following:

1. Log on as user ID root.
2. Ensure that the /export/home directory exists. If it does not, create it.
3. If necessary, mount the DB2 Universal Database 6.1.0.6 CD.
4. Maximize your shell prompt window. The DB2 installation requires a minimum display size of 24 rows by 80 columns.
5. Switch to the install directory by typing:

```
cd /cdrom/cdrom0/
```

6. Start the db2setup program by typing the following:

```
./db2setup
```

You can generate a trace log, /tmp/db2setup.trc, to record errors experienced during the installation. To do this, run the db2setup command as follows:

```
./db2setup -d
```

7. The db2setup program scans your system for information about your current configuration, and displays the following window:

```
+---------------------------- Install DB2 V6.1 ----------------------------+
|                                                                          |
|    Select the products you are licensed to install.  Your Proof of       |
|    Entitlement and License Information booklet identify the products for  |
|    which you are licensed.                                                |
|                                                                          |
|    To see the preselected components or customize the selection, select   |
|    Customize for the product.                                             |
|    [ ] DB2 Administration Client                     : Customize... :     |
|    [ ] DB2 UDB Enterprise Edition                    : Customize... :     |
|    [ ] DB2 Software Developer's Kit                  : Customize... :     |
|                                                                          |
|    To choose a language for the following components, select Customize for |
|    the product.                                                          |
|        DB2 Product Messages                          [ Customize... ]     |
|        DB2 Product Library                           [ Customize... ]     |
|                                                                          |
|                                                                          |
|                                                                          |
|                                                                          |
|    [   OK   ]                  [ Cancel ]                     [  Help  ]   |
+--------------------------------------------------------------------------+
```

Highlight your selections, and then either press the space bar or press **Enter** to select them as follows:

a. Select **DB2 Administration Client** or **DB2 UDB Enterprise Edition**, depending on the following:
   - If you intend to run a WebSphere Commerce Service Provider database on this machine, select **DB2 UDB Enterprise Edition**. Make this selection if you are performing a 1–tier DB2 installation, or if you are performing the DB2 installation on the DB2 server machine in a 2–tier DB2 installation.
   - If you intend to run all your Net.Commerce Hosting Server databases on other machines, select **DB2 Administration Client**. Make this selection if you are performing a DB2 installation on the WebSphere Commerce Suite machine in a 2–tier DB2 installation.

b. If you want DB2 messages displayed in a language other than English, select **Customize** beside **DB2 Product Messages** (near the bottom of the window) to open the DB2 Messages window. Then highlight your language code, press the space bar, then tab repeatedly to highlight **OK**, and press **Enter**.

c. If you want to install the DB2 publications in HTML format in a language other than English, highlight **Customize** beside **DB2 Product Library** to open the DB2 Product Library window. Then highlight your language code, press the space bar, then tab repeatedly to highlight **OK**, and press **Enter**.

8. When you have made your selections, tab to highlight **OK** and press **Enter**.

9. If you have selected DB2 UDB Enterprise Edition, the following Create DB2 Services window appears:

```
+--------------------------- Create DB2 Services ---------------------------+
|                                                                           |
|    Select the items you want to create, and select OK when finished.      |
|                                                                           |
|    A DB2 Instance is an environment where you store data and run          |
|    applications.  An instance can contain multiple databases.             |
|                                                                           |
|    ( ) Create a DB2 Instance.                          [ Customize... ]   |
|    (*) Do not create a DB2 Instance.                                      |
|                                                                           |
|    An Administration Server provides services to support client tools that|
|    automate the configuration of connections to DB2 databases.            |
|                                                                           |
|    ( ) Create the Administration Server.               : Customize... :   |
|    (*) Do not create the Administration Server.                           |
|                                                                           |
|                                                                           |
|                                                                           |
|                                                                           |
|   [  OK  ]                      [ Cancel ]                    [ Help  ]    |
+---------------------------------------------------------------------------+
```

If you have selected the DB2 Administration Client in a 2–tier installation, the Create DB2 Services window that appears is similar, but does not contain the section on the Administration Server. Ensure that **Do not create a DB2 Instance** is highlighted. If you have selected DB2 UDB Enterprise Edition, ensure that **Do not create the Administration Server** is also highlighted. Press **Enter** after you have made your selections.

10. Ignore the warning message that indicates that a DB2 instance is not created by highlighting **OK** and pressing **Enter**.

11. Ignore the warning message that indicates that the Administration Server is not created by highlighting **OK** and pressing **Enter**.

12. A summary report appears, listing the components that will be installed. Highlight **Continue** and press **Enter**.

13. A warning appears, advising you that this is your last chance to stop the install. Highlight **OK** and press **Enter**.

14. The db2setup program installs your components. Depending on the speed of your processor, this can take up to 15 minutes. When it completes, a Notice window informs you whether it was successful. Highlight **OK** and press **Enter**.

15. Scan the Status Report to ensure that all components were installed successfully. Highlight **OK** and press **Enter**.

    Note: If you use **View Log** to view the installation log, you may see a message, SQL8006W, indicating that a trial license has been installed. This license will be replaced automatically when you install WebSphere Commerce Service Provider in a later step.

16. To close the DB2 Installer window, highlight **Close** and press **Enter**.

17. Ignore the warning message that indicates that a DB2 instance is not created by highlighting **OK** and pressing **Enter**.

18. You will see a message that the Administration Server is not created. Ignore this message by highlighting **OK** and pressing **Enter**.

19. To confirm that you want to exit DB2 Installer, highlight **OK** and press **Enter**.

20. Change to the root directory:

    cd /

21. Eject the DB2 CD.

Note that for a 2–tier installation, assuming you have installed **DB2 Administration Client** (the DB2 client) on your WebSphere Commerce Service Provider machine, you need to install **DB2 UDB Enterprise Edition** on your DB2 server machine using the above steps.

Update Environment Variables

You need to manually update the DB2DIR and LD_LIBRARY_PATH variables in the root user's .profile file, if they exist, to point to the correct DB2 directory. Update occurrences of /opt/IBMdb2/V5.0 or /opt/IBMdb2/V5.2 to point to /opt/IBMdb2/V6.1 for both these variables.

You need to do the same thing for the db2profile file under your DB2 instance user ID home directory, (/export/home/*db2_instID*/sqllib).

Preparing the DB2 Instance for Migration

Run these steps on your DB2 server machine in a 2–tier installation, or on your stand-alone machine in a 1–tier installation.

Before you migrate a DB2 instance, all applications using any databases owned by the instance must be completed. To prepare the DB2 instance for migration, do the following:

1. Log on to your DB2 instance ID by typing su - *db2inst_ID*, where *db2inst_ID* is your DB2 instance (for example, db2inst1).
2. Type the following command:
   ```
   db2start
   ```
3. Ensure that there are no applications using any databases owned by this DB2 instance. To get a list of applications owned by the instance, type the following command:
   ```
   db2 list applications
   ```

   If there are no applications owned by the DB2 instance, you receive the following message:
   ```
   SQL1611W No data was returned by the Database System Monitor
   ```

   You can end a session by running the db2 terminate command.
4. When all applications are complete, stop all database server processes owned by the DB2 instance by typing the following command:
   ```
   db2stop
   ```
5. Ensure you are logged in as user ID root and switch to the following directory:
   ```
   /opt/IBMdb2/V6.1/adm
   ```
6. Stop the DB2 license daemon by typing the following command:
   ```
   ./db2licm end
   ```

   Note that if you encounter an error after running this command, you can ignore the error and continue with the next step.
7. Log back on to your DB2 instance ID by typing su - *db2inst_ID* and stop all command line processor sessions by typing the following command against each session that is running:
   ```
   db2 terminate
   ```

   If the session terminates, the following message appears:
   ```
   DB20001 The TERMINATE command completed successfully.
   ```

8. Clean up any remaining DB2 resources by typing the following command:

```
db2_kill
```

9. Exit your DB2 instance. Repeat the above steps for each DB2 instance.

Verifying that the Database Can Be Migrated

Run these steps on your DB2 server machine in a 2–tier installation, or on your stand-alone machine in a 1–tier installation.

To ensure that your DB2 database can be migrated to the DB2 Universal Database 6.1.0.6 format, do the following:

1. If necessary, log on to your DB2 instance ID by typing su - *db2inst_ID*, where *db2inst_ID* is your DB2 instance (for example, db2inst1).
2. From a shell prompt, switch to the `/opt/IBMdb2/V6.1/bin` directory.
3. Verify *all* databases that were created by the database instance ID specified by typing the following:

```
./db2ckmig -h -a 0 -l instance_home/log_file
```

> **Note**
>
> If the command completes with only *warning* messages and no *error* messages, you can continue.

The variable information is defined as follows:

instance_home
> The home directory of the DB2 instance (for example, /export/home/db2inst1)

log_file The partially qualified path from the `instance_home` directory, and the name of a file to which you want the command to write its log records.

4. When the command has completed, check the log file for errors. Note that if the command completes without errors, the file will exist, but it may contain no records. For details about `db2ckmig` error messages, refer to your *DB2 Quick Beginnings* documentation. If the command completes with only *warning* messages and no *error* messages, you can continue. Save the log file for future reference.

Converting Your DB2 Instance

To convert migrate your database from a previous version of DB2 to the DB2 Universal Database 6.1.0.6 format, do the following:

1. Perform the following steps on your WebSphere Commerce Service Provider machine in a 2–tier DB2 migration, or on your stand-alone machine in a 1–tier DB2 migration in order to correctly migrate your DB2 instances:

   • While logged on as user ID root, at a shell prompt, apply the DB2 fixes to migrate an instance by changing to the `/opt/IBMnetc/NetCommerce3/ppm32/fix_db2/sun` directory and copying the required files to the DB2 instance directory:

```
cd /opt/IBMnetc/NetCommerce3/ppm32/fix_db2/sun
cp db2imdbd /opt/IBMdb2/V6.1/instance
cp db2imnod /opt/IBMdb2/V6.1/instance
```

   • Switch to the `/opt/IBMdb2/V6.1/instance` directory and set the correct permissions for these files:

```
cd /opt/IBMdb2/V6.1/instance
chmod 555 db2imdbd db2imnod
```

2. Migrate your database instance ID (on both machines for a 2–tier installation) by typing the following:

   ```
   ./db2imigr [-a auth_type] [-u db_fence] db2inst_ID
   ```

   where the variable information is defined as follows:

   auth_type
   > The authentication type for the instance. Valid authentication types are (SERVER), (CLIENT), and (DCS). This parameter is optional.

   db_fence
   > Your DB2 fenced ID. This parameter is optional only when a DB2 Run-Time Client is installed.

   db2inst_ID
   > Your database instance ID

   For example, if you are migrating a DB2 server instance in a 1– or 2–tier configuration, use the following command on your DB2 server machine:

   ```
   db2imigr -a SERVER -u db_fence db2inst_ID
   ```

   If you are migrating a DB2 client instance in a 2–tier configuration, use the following command on your WebSphere Commerce Service Provider machine:

   ```
   db2imigr -a CLIENT db2inst_ID
   ```

   If the database instance ID migrated successfully, the following message appears:

   ```
   Explanation:  One or more catalogued database entries were
   detected that have an authentication type that is different
   from the authentication type that was specified for the instance.
   If no action is taken then all catalogued local database entries
   will assume the authentication type of the instance they belong to.

   User Response:  Check the file migration.log in the home directory
   of the instance for a list of the catalogued local database entries
   that are not the same as the authentication specified for the instance.
   If you want the database to maintain its previous authentication type
   then you can either change the authentication type of the instance or
   you can move the database to another instance that has the desired
   authentication type. Before changing the authentication type of the
   instance, however, you should make sure that you want all the catalogued
   local database entries to have the new authentication type.
   DBI1070I Program db2imigr completed successfully.
   ```

   The message is for informational purposes only. You can verify the authentication type by running the following command while logged in as your DB2 instance ID:

   ```
   db2 get database manager configuration
   ```

   The parameter is called AUTHENTICATION, with a default setting of SERVER.

Recreating the DB2 Soft Link

Run these steps on both machines for a 2–tier installation, or on your stand-alone machine in a 1–tier installation:

- While logged on as user ID root, remove the libdb2.so.1 link from the /usr/lib directory by typing the following:

```
rm /usr/lib/libdb2.so.1
```

- Properly recreate the link for DB2 Universal Database 6.1.0.6 by typing the following command:

```
ln -sf /opt/IBMdb2/V6.1/lib/libdb2.so.1 /usr/lib/libdb2.so.1
```

You need to properly recreate the link if you are upgrading from a previous version of DB2 Universal Database to DB2 Universal Database 6.1.0.6.

Cataloging Your Remote Database

For a 2–tier installation, you need to catalog the remote database. Type the following commands from your WebSphere Commerce Service Provider machine while logged as your DB2 instance ID. To check whether a node exists for your remote database server machine, type the following command while logged on as your DB2 instance:

```
db2 list node directory
```

If a node for your remote DB2 server machine does not exist (that is, you do not see your remote host name listed in the output), run the following command:

```
db2 catalog tcpip node node_name remote host_name server port_num
```

Check whether your remote database is cataloged by typing the following command:

```
db2 list database directory
```

If your remote database is not cataloged (that is, you do not see your remote database listed in the output) catalog it by running the following commands to catalog it:

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

where the variable information 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 using your DB2 database logon ID and look for the name in the response:
> ```
> db2 list node directory
> ```
>
> If the name does not appear in the list, you can use it as the node name.

host_name
> The host name of the machine on which the WebSphere Commerce Service Provider database resides.

port_num
> The DB2 connection port number. The default is 50000.

db_name
> The name of your remote WebSphere Commerce Service Provider database.

Migrating the DB2 Database

Run these steps on your DB2 server machine in a 2–tier installation, or on your stand-alone machine in a 1–tier installation.

To migrate databases owned by an instance, do the following:

1. Log on to your DB2 instance ID by typing su - *db2inst_ID*, where *db2inst_ID* is your DB2 instance (for example, db2inst1).
2. Start DB2 by typing the following command:

   `db2start`
3. Check whether your database is cataloged by typing the following command:

   `db2 list database directory`
4. If your DB2 database is not cataloged, catalog it by running the following command:

   `db2 catalog database` *db_name*

   where *db_name* is the name of your database.
5. Migrate your databases to the DB2 6.1 format by typing the following:

   `db2 migrate database` *db_name*

   where *db_name* is the name of your database. If you have more than one database, repeat the command for *each* database.

   On successful completion, you should receive the following message:

   `The MIGRATE DATABASE command completed successfully`

   If you receive the following message, your DB2 log file is full:

   `Database migration failed. Reason Code "3".`

   You can find the current size of the DB2 log file in pages (4 KB per page) using the following command:

   `db2 get db cfg for` *db_name*

   Look at the value set for `LOGFILSIZ`. A reasonable target increase for your log file size is double that of your current size. For example, if your current log file size is 250, increase it to 500. To increase the size of your log file, update your database configuration by typing the following command:

   `db2 update db cfg for` *db_name* `using LOGFILSIZ` *n*

   where *db_name* is the name of the database you wish to migrate, and *n* is the size of the log file in pages. Once you have updated the log file size, rerun the migrate database command:

   `db2 migrate database` *db_name*
6. List the applications that are connected to your database by typing the following:

   `db2 list applications`

   If there are applications connected to the database, stop any connections to your database by typing the following:

   `db2 force applications all`
   `db2 restart database` *db_name*

   where *db_name* is the name of your database. If you have more than one database, repeat the last command for *each* database.
7. Back up your migrated databases by typing the following:

   `db2 backup database` *db_name* `to` *backup_path*
   `db2stop`

where *db_name* is the name of your WebSphere Commerce Service Provider database, and *backup_path* is a path that is not used by any WebSphere Commerce Service Provider component. If you have more than one database, run db2start and repeat the last three commands for *each* database.

You will make more database changes after this step, so if you encounter problems, you can restore your converted databases and continue from this step.

8. Type the following command:

```
db2start
```

Installing and Migrating DB2 Text Extender to DB2 UDB Text Extender 6.1.1

If you wish to migrate to DB2 UDB Text Extender 6.1.1 (optional for WebSphere Commerce Service Provider), you must have completed the steps in "Preparing to Migrate DB2 Text Extender 5.0 Databases and Instances" on page 163 before migrating UDB DB2, or before proceeding with the following steps. If you do not intend to migrate to DB2 UDB Text Extender 6.1.1, ignore this section.

Installing DB2 UDB Text Extender 6.1.1

Before installing DB2 UDB Text Extender 6.1.1, you need to uninstall your old version of Text Extender. As the root user, remove your old Text Extender packages as follows:

```
pkgrm dbtxsrv db2txdius db2txclnt db2txmsgs db2txcom
```

To install DB2 UDB Text Extender 6.1.1, do the following:

1. Log in as user ID root.
2. If necessary, mount the DB2 Universal Database Extenders V611 CD.
3. On a command line, switch to the Text Extender installation directory on the CD by typing:

```
cd /cdrom/cdrom0/SOLDB2TextExtenderV611
```

4. Enter the following command to begin installing Text Extender:

```
./db2tx_install
```

5. Indicate whether you want to install a Text Extender Client or Server when you receive the following prompt:

```
Do you want to install a Text Extender server [yes/no] ?
```

If you are installing Text Extender on your:
- Stand-alone machine in a 1–tier configuration, enter **yes**.
- DB2 server machine in a 2–tier configuration, enter **yes**.
- WebSphere Commerce Service Provider machine (DB2 client machine) in a 2–tier configuration, enter **no**.

6. Perform the following steps depending on if you are installing a Text Extender server or client.

   a. If you are installing a Text Extender *server* (you entered **yes** in step 5):

   You are asked to specify the dictionaries to install from the list of language keywords such as En_US for US English Dictionary, Fr_CA for Canadian French Dictionary, and so on. Enter the dictionary for the language that you prefer, for example, En_US. Note that you can install more than one dictionary.

After entering the dictionary you require (in this example, En_US, the packages that get installed are listed on the screen as follows:

```
dbtxsrv db2txdius db2txclnt db2txmsgs db2txcom
```

Next you see the following prompt:

```
Do you want to continue [yes/no] ?
```

Enter **yes** to continue.

b. If you are installing a Text Extender *client* (you entered **no** in step 5 on page 173):

You see the following prompt:

```
Do you want to install a Text Extender client [yes/no] ?
```

If you are installing Text Extender on your WebSphere Commerce Service Provider machine (DB2 client machine) in a 2–tier configuration, enter **yes**.

You are asked to specify the dictionaries to install from the list of language keywords such as En_US for US English Dictionary, Fr_CA for Canadian French Dictionary, and so on. Enter the dictionary for the language that you prefer, for example, En_US. Note that you can install more than one dictionary.

After entering the dictionary you require (in this example, En_US, the packages that get installed are listed on the screen as follows:

```
dbtxclnt db2txdius db2txcom db2txmsgs
```

Next you see the following prompt:

```
Do you want to continue [yes/no] ?
```

Enter **yes** to continue.

7. Unmount the CD by typing,

```
cd /
umount CDROM_dir
```

where *CDROM_dir* is the directory that you specified as your mounted CD.

8. Remove the DB2 Universal Database Extenders CD.

Migrating DB2 Text Extender to DB2 UDB Text Extender 6.1.1

To migrate DB2 Text Extender 5.0 or DB2 Text Extender 5.2 to DB2 UDB Text Extender 6.1.1, refer to one of the following sections.

Migrating from DB2 Text Extender 5.0

To migrate DB2 Text Extender 5.0 to DB2 UDB Text Extender 6.1.1, do the following:

1. Ensure that you have completed the steps in "Preparing to Migrate DB2 Text Extender 5.0 Databases and Instances" on page 163.

2. Ensure that you have installed DB2 UDB Text Extender 6.1.1 as described in step "Installing DB2 UDB Text Extender 6.1.1" on page 173.

3. Delete the following lines, if they exist, from your DB2 instance .profile file located in the /export/home/*db2_instance* directory. Also delete these lines, if they exist, from your previous Text Extender instance db2profile file located in the /export/home/*te_instID*/sqllib directory:

```
. /export/home/te_instID/db2tx/db2txprofile
. dmb/dmbprofile
```

where *te_instID* is your Text Extender instance ID (normally the same as your DB2 instance ID).

4. Add the DB2 fenced user (default is `db2fenc1`) into the `SMADMIN` group using `Admintool`.

5. Add the following line (if it does not exist) to the end of the `.profile` file of the DB2 instance ID, in the `/export/home/db2_instID` directory:

```
umask u=rwx,g=rwx,o=rx
```

6. Create the DB2 UDB Text Extender 6.1.1 instance by switching to the Text Extender instance directory, and running the following command while logged on as the `root` user:

```
cd /opt/IBMdb2tx/V6.1/instance
txicrt te_instID db2_instance
```

where the names of the parameters are as follows:

te_instID
> The name of the DB2 UDB Text Extender 6.1.1 instance. Your Text Extender instance name and DB2 instance name should be the same (for example, use `db2inst1` for both).

db2_instance
> The name of the DB2 instance ID (for example, `db2inst1`).

7. Ensure the following line:

```
. /export/home/te_instID/db2tx/db2txprofile
```

exists at the end of the following files:

- DB2 instance `.profile` file (located in the `/export/home/db2_instance` directory). The line should appear prior to the `umask u=rwx,g=rwx,o=rx` line.
- Text Extender instance `db2profile` file (located in the `/export/home/te_instance/sqllib` directory)

8. Start DB2 UDB Text Extender 6.1.1 by logging in as your DB2 instance and running the following commands:

```
su - db2inst1
txstart
```

9. Update your database configuration for the database you specify in step 10 by typing the following command:

```
db2 update db config for database_name using APP_CTL_HEAP_SZ 1024
```

where *database_name* is the name of your database where you will run DB2 UDB Text Extender 6.1.1.

10. Set the default database for DB2 UDB Text Extender 6.1.1 by running the following command:

```
export DB2DBDFT=database_name
```

where *database_name* is the name of a test database where you will run DB2 UDB Text Extender 6.1.1 examples.

11. You must grant the `db2admin` privilege to the fenced user (default is `db2fenc1`). If necessary, switch to your DB2 Instance ID and run the following:

```
db2 connect to db_name
db2 grant dbadm on database to user db2fenced_ID
```

12. Ensure that your database is not enabled for Text Extender. If your database is already enabled, while logged in as your DB2 instance ID, type the following commands:

```
cd /opt/IBMdb2tx/V6.1/instance
txstop
db2tx disable database
```

13. Stop and restart the DB2 server:

```
db2stop force
db2start
```

14. While logged in as your DB2 instance ID, enable the database for DB2 UDB Text Extender 6.1.1 by running the following command from the DB2 instance directory:

```
db2tx enable database
```

15. Start Text Extenders:

```
txstart
```

16. Connect to your database by typing the following command:

```
db2 connect to database_name
```

where *database_name* is the name of the database.

17. Verify that the migration by running the following command in the /opt/IBMdb2tx/V6.1/samples directory:

```
txsample database_name [userid] [password]
```

where the variables are defined as follows:

database_name
> The test database to which you want to connect, as specified in step 10 on page 175 above.

userid Your database user ID. This is an optional parameter and is only required if the command is run from the client.

password
> Your password for the database. This is an optional parameter and is only required if the command is run from the client.

18. Verify that the indexing steps ran successfully for all index types by running the following commands in the /opt/IBMdb2tx/V6.1/bin directory:

```
db2tx get index status db2tx.sample handle h_p
db2tx get index status db2tx.sample handle h_pn
db2tx get index status db2tx.sample handle h_l
db2tx get index status db2tx.sample handle h_d
db2tx get index status db2tx.sample handle h_n
db2tx get index status db2tx.sample handle h_nce
```

If the indexing ran successfully, all of the above commands should return with a status message indicating that all 300 documents have been indexed. (Indexed documents =300, Error events=No error events)

19. Verify that search is working, run the following command from the /opt/IBMdb2tx/V6.1/samples directory:

```
db2 -tvf txsample.udf
```

The `txsample.udf` file is a DB2 command line processor input file. If search is working successfully, the output should show documents returned from the various searches.

Migrating from DB2 Text Extender 5.2

To migrate DB2 Text Extender 5.2 to DB2 UDB Text Extender 6.1.1, do the following:

1. Ensure that you have installed DB2 UDB Text Extender 6.1.1 as described in step "Installing DB2 UDB Text Extender 6.1.1" on page 173.

2. Log on as user ID `root`.

3. Stop DB2 Text Extender and DB2 by running the following commands from a DB2 command line window:

   ```
   txstop
   db2stop
   ```

4. Migrate the instance by running the following command:

   ```
   txiupdt te_instance db2_instance
   ```

   where the names of the parameters are as follows:

   te_instance
   > The name of the Text Extender instance.

   db2_instance
   > The name of the DB2 instance (for example, `db2inst1`).

5. Ensure that the fenced user name of the DB2 instance owner (for example, `db2fenc1`) and your Text Extender instance owner (for example, `db2inst1`) are in the same group as your DB2 instance ID (for example, `db2inst1`). This group should be the system administrator group (`db2iam1`).

6. Ensure that the file `/export/home/db2inst_ID/sqllib/db2profile` contains the following line:

   ```
   . /export/home/db2inst_ID/db2tx/db2txprofile
   ```

7. Start DB2 and DB2 Text Extender by running the following commands:

   ```
   txstart
   db2start
   ```

8. Migrate every DB2 Text Extender 5.2 enabled database by running the following command:

   ```
   txdbupdt database_name
   ```

   where *database_name* is the name of your DB2 Text Extender 5.2 enabled database.

Installing Net.Data 6.1.1

To install Net.Data 6.1.1, do the following:

1. Log on as user ID `root`.

2. If necessary, mount the Net.Data 6.1.1 CD.

3. From user ID `root`, start the administration tool by typing the following command:

   ```
   /bin/admintool&
   ```

4. From the **Browse** pull-down menu, select **Software**. The Admintool: Software window appears.

5. From the **Edit** pull-down menu, select **Add**. The Admintool: Set Source Media window appears.

6. If you have Volume Manager installed, select **CD with Volume Management** in the **Software Location** field. Then, in the **CD Path** field, type `/cdrom/cdrom0` and click **OK**.

7. If you do not have Volume Manager installed, select **CD without Volume Management** in the **Software Location** field. In the **Mount Point** field, type `/cdrom/cdrom0` and click **OK**.

8. Select **Net.Data** from the list of packages.

   Note: Net.Data is *automatically* installed in `/opt/IBMNetData`, and is only supported in that directory.

9. Click **Add**. The Admintool: Add Software window appears to display a scrolling list of what is being installed.

10. When asked whether you want to proceed with the install of each package, respond **y** to each prompt.

11. When all packages are installed, press **Enter** and close all Admintool windows.

12. Change your working directory to the root directory:

    `cd /`

13. Eject the Net.Data CD.

Upgrading to JDK 1.1.7 and WebSphere Application Server 2.0.3.1

You need to upgrade your previous level of JDK and WebSphere Application Server to JDK 1.1.7 and WebSphere Application Server 2.0.3.1 as described in this section.

Upgrading from WebSphere Application Server 1.x

Before installing WebSphere Application Server 2.0.3.1, uninstall any previous versions. Before you uninstall, back up your WebSphere Application Server 1.x files, using the instructions below.

Migrating files before installation

Before uninstalling a previous version of Application Server, ensure the files you want to migrate are saved. At a minimum you should backup the files in the following Application Server directories:

- `classes`
- `realms`
- `servlets`
- `properties`, including the files:
  - `servlet.properties`
  - `admin_port.properties`
  - `rules.properties`
  - `jvm.properties`
  - `aliases.properties`
  - `connmgr.properties`
  - `userprofile.properties`

If you have files that reside outside of those four directories (for example, if you created your own directory in the WebSphere Application Server installation), back up the files in a location outside of your WebSphere Application Server 2.0.3.1 installation, prior to installing WebSphere Application Server 2.0.3.1.

Uninstalling and Preparing to Migrate WebSphere Application Server Configuration Customizations

When a version of WebSphere Application Server is installed, it copies your Web server configuration file as a back up file, and then modifies the original configuration file. The modified file becomes the active configuration file when you use your Web server. When you uninstall WebSphere Application Server, it does not restore your previous configuration file, which remains the back up file.

Therefore, any changes and customizations you made to your Web server configuration file before installing WebSphere Application Server (whether this is your first installation of WebSphere Application Server or a subsequent installation of WebSphere Application Server) reside in the back up configuration file. To make these customized or changed settings in your previous version of WebSphere Application Server active again for your new version of WebSphere Application Server, you must transfer them from the back up file into the active Web server configuration file.

Note: Do not copy any of the WebSphere Application Server entries in the back up Web server configuration file to the new Web server configuration file.

Use the `admintool` to remove your earlier version of WebSphere Application Server.

To uninstall WebSphere Application Server:
1. Log on as `root` user
2. Shut down the Web server, if it is currently running.
3. Start the `admintool`
4. Open the browse menu and select **software**
5. Select all **IBM WebSphere** components.
6. Click on the **edit** menu to open it, and select **delete**.
7. When prompted to confirm that you want to remove the packages, click **delete**

You should rename the previous WebSphere installation directory, for example, rename `/opt/IBMWebAS` to `/opt/IBMWebAS_bak`.

Cleaning out CLASSPATH

If you have information in your CLASSPATH variable from a previous version of WebSphere Application Server, delete the information before installing this version. Otherwise, you might encounter a version mismatch message and be unable to view your new WebSphere Application Server administrative interface, the IBM WebSphere Application Server Manager.

Uninstalling Java support on Go Webserver

If you are using Lotus Domino Go Webserver, and the Go Webserver is already installed, uninstall the current Go Webserver Java support before installing WebSphere Application Server 2.0.3.1.

Uninstalling Java support: To uninstall the Java support:
1. Log on as `root` user
2. Shut down the Web server, if it is currently running.
3. Start `admintool`
4. Open the browse menu and select **software**
5. Select the **Lotus Domino Go Webserver - Java Servlets** component.
6. Click **OK**.
7. Open the edit menu and select **delete**.

8. When prompted to confirm that you want to remove the package, click **y**. Respond **y** to all prompts.

Uninstalling JDK 1.1.6

Before you install JDK 1.1.7, you need to uninstall your previous version of the JDK:

- If your previous version of JDK 1.1.6 was installed from the product CD, you can run the following command at a shell prompt while logged in as the `root` user to uninstall the JDK:

  `pkgrm SUNWjvdem SUNWjvman SUNWjvdev SUNWjvjit SUNWjvrt`

- If your previous version of JDK 1.1.6 was installed from the Sun web site as documented in the Net.Commerce Hosting Server 3.1.2 Installation Guide, you need to remove the directory as follows:

  `rm -r /usr/jdk1.1.6`

Pre-Installation Checklist

To ensure that you can successfully complete the WebSphere Application Server installation, ensure that you have met the following requirements:

__ 1. You *must* have a Web server (either Domino Go Webserver, Netscape Enterprise Server or Domino Web Server), Net.Data, and a database management system (either DB2 or Oracle) installed *before* beginning the steps in this chapter.

   Note: Do *not* install the JDK that you will be prompted to install during the WebSphere installation.

__ 2. If you are using Domino Go Webserver, ensure that you *do not* have the Java servlet package installed. To determine whether this package is installed, type `pkginfo |grep LOTUSJAVA` at a shell prompt. If the response references Lotus Java, the Java servlet package is installed, and you *must* uninstall it before installing WebSphere Application Server.

Installing JDK 1.1.7

To install JDK 1.1.7, do the following:

1. Ensure you are logged in as user ID `root`.
2. If necessary, mount the WebSphere Application Server 2.0.3.1 CD.
3. Start the administration tool by typing the following command:

   `/bin/admintool&`

4. From the **Browse** pull-down menu, select **Software**. The Admintool: Software window appears.
5. From the **Edit** pull-down menu, select **Add**. The Admintool: Set Source Media window appears.
6. If you have Volume Manager installed, select **CD with Volume Management** in the **Software Location** field. Then, in the **CD Path** field, type `/cdrom/cdrom0/Solaris/JDK` and click **OK**.
7. If you do not have Volume Manager installed, select **CD without Volume Management** in the **Software Location** field. In the **Mount Point** field, type `/cdrom/cdrom0/Solaris/JDK` and click **OK**.
8. From the list of packages, make your selections as follows:
   - **JavaVM demo programs** – Optional
   - **JavaVM developers package**
   - **JavaJIT compiler**

- • **JavaVM man pages** – Optional
  - • **JavaVM runtime environment**
9. Click **Add**. The Admintool: Add Software window appears.
10. When asked whether you want to proceed with the install of each package, respond **y** to each prompt.
11. If asked whether you want to install conflicting files, respond **y** to each prompt.
12. When all packages are installed, press **Enter** and close all Admintool windows.

By default, the JDK gets installed in the `/usr/java1.1` directory.

You need to update the `root` user's `.profile` file and manually update the `PATH` and `JAVA_HOME` environment variables (if they exist) to point to the correct directories:

```
PATH=$PATH:/usr/java1.1/bin
export PATH

JAVA_HOME=/usr/java1.1
export JAVA_HOME
```

If the environment variables do not exist in root's `.profile` file, add them in and have them point to the correct directory as above. Ensure there are no references to the `/usr/jdk1.1.6` directory, and save the updated `.profile` file. Run the `.profile` file as follows:

```
. /.profile
```

Installing WebSphere Application Server

To install WebSphere Application Server, do the following:
1. Ensure you are logged in as user ID `root`.
2. Switch to the `/cdrom/cdrom0/Solaris` directory.
3. Type the following command to start the installation program:
   ```
   ./install.sh
   ```
4. The installation program will display your current JDK level, which should now be JDK 1.1.7. If your new .profile settings that you set earlier are not in effect, the installation program asks if you wish to install JDK 1.1.6. Type **n** in reply to the prompt.
5. If your new `.profile` settings that you set earlier are not in effect, the installation program will prompt you for the `JAVA_HOME` path. Enter the path where the `JAVA_HOME` is located. By default this is `/usr/java1.1`. Enter the path where the `JAVA_HOME` is located.
6. A Welcome window appears. Click **Next** to continue.
7. On the Choose Destination Location window, either accept the default installation path (`/opt/WebSphere/AppServer`) or enter a new installation path by clicking **Browse**. When the correct path is specified, click **Next** to continue.
8. The next window allows you to select which WebSphere Application Server components you wish to install. Select the following:
   - • In the left-hand selection box, select the following:
     a. Application Server
     b. Documentation (optional)
     c. App Server Administrator

- With Application Server highlighted, in the right-hand selection box select the following:
  - Servlet engine (base)
  - The appropriate plug-in for the Web server you are using, as follows:
    - If you are using Netscape Enterprise Server, select **Netscape V3.6**.
    - If you are using Domino Go Webserver, select **Lotus Domino Go Webserver V4.6.2.x**.

    Note: If IBM HTTP Server is selected by default, ensure that you deselect it.

9. When you have selected the components to install, click **Next**.

10. If you are using Netscape Enterprise Server, you are prompted to specify the directory and file name of the Netscape Enterprise Server configuration file (obj.conf). Specify the path and file name for the obj.conf file for your *non-secure* server port (port 80). The default path for this file is /usr/netscape/suitespot/*server_name*/config/obj.conf. The secure server port (port 443) requires servlet support but you address this requirement when you configure a second WebSphere instance for your secure server (port 443) as described in "Chapter 10. Configuring Netscape Enterprise Server" on page 41. Click **Next**.

11. On the next window, you are prompted to confirm that you want to begin copying files. If you want to begin the installation, click **OK**. To return to the Component and Subcomponent window, click **Cancel**.

12. When the installation is complete, the Setup Complete window appears. If you want to review the WebSphere readme file, click the readme checkbox. If you do not want to review the readme file, ensure that the checkbox is not selected. Click **Finish**.

13. Change your working directory to the root directory:
    ```
    cd /
    ```

14. Eject the WebSphere Application Server CD.

15. Remove the WebSphere Application Server CD.

If you are using Netscape Enterprise Server, you need to configure a second WebSphere instance for your secure server (port 443) as described in "Chapter 10. Configuring Netscape Enterprise Server" on page 41.

Completing the Migration from WebSphere Application Server 1.x

This section only applies to you if have made changes to your original WebSphere Application Server configuration. If you have not made any customizations over and above the standard installation, you can skip this section.

After installing WebSphere Application Server, complete the migration:

1. Check that the user servlets, realms, classes, Java Server Pages (JSP), and other programming-related files saved during the first part of the migration process have been placed in the WebSphere Application Server 2.0.3.1 directories where they belong. The installation program should have completed this for you. If you backed up user files or directories you created in your old WebSphere Application Server installation, place them in your new installation now.

2. Transfer your original jvm.properties file settings to the WebSphere Application Server 2.0.3.1 bootstrap.properties file located in the /opt/WebSphere/Appserver/properties directory.

- For the WebSphere Application Server `classpath`, migrate only the user-specific parts of the `classpath` to the `bootstrap.properties` file. Do not transfer the JVM libraries or WebSphere Application Server V1.x `.jarfile` paths, as these were part of the WebSphere Application Server 1.x default configuration and you did not set them yourself. Transfer only the parts of the `classpath` you added. Do not erase the WebSphere Application Server 2.0.3.1 default classpath; simply add your V1.x items to it.
- For Java `libpath` and `path`, also move only the user-specific parts. Do not erase the WebSphere Application Server default `libpath` and path settings; simply add your V1.x items to them.
- For the other properties, migrate them only if they have a counterpart defined in the `bootstrap.properties` file.

Migrating Servlets
To use the WebSphere Application Server Manager to manage servlets that existed on your Web server before you installed WebSphere Application Server, you must first migrate those servlets. To migrate existing servlets, move the servlets from their current location to the *as_root*/`servlets` directory. The WebSphere Application Server monitors this directory, and automatically reloads servlets when the servlets change.

Migrating from CORBA Support to EJB Support
WebSphere Application Server 1.x CORBA Support offered early access to working with distributed objects and Enterprise JavaBeans (EJBs). WebSphere Application Server 2.0.3.1 contains significantly enhanced EJB support, including tool and administration support. See the WebSphere Application Server Documentation Center for instructions about migrating the applications you developed using the CORBA Support provided in 1.x.

Migrating Web Server Configuration File Customizations
As explained in "Upgrading from WebSphere Application Server 1.x" on page 178, do not forget to update your Web server configuration file after installing WebSphere Application Server.

When a version of WebSphere Application Server is installed, it copies your Web server configuration file as a back up file and then modifies the original configuration file. The modified file becomes the active configuration file when you use your Web server. When you uninstall Application Server, it does not restore your previous configuration file, which remains the back up file.

Therefore, any changes and customizations you made to your Web server configuration file before installing WebSphere Application Server 2.0.3.1 (whether this is your first installation of WebSphere Application Server or a subsequent installation) reside in the back up configuration file. To make these settings active again, you must transfer them from the back up file into the active Web server configuration file.

Upgrading Payment Server

If you are an existing WebSphere Commerce Service Provider customer who is using an earlier version of Payment Server than 1.2.20.3, take note of the following pre-migration information for Payment Server before you install Commerce Service Provider 3.2, which upgrades earlier versions of Payment Server to Payment Server 1.2.20.3

The WebSphere Commerce Service Provider migration utility calls Payment Server's database migration utility automatically. Earlier Payment Server database tables in the WebSphere Commerce Service Provider database will be recreated as Payment Server 1.2.20.3 tables with the data migrated to the new database tables.

Once you install Payment Server 1.2.20.3, you cannot restore earlier versions of Payment Server, since the update is automatically committed. If you want to restore your earlier version of Payment Server, you must uninstall Payment Server 1.2.20.3 and reinstall Payment Server from the CD of your previous version of Net.Commerce Hosting Server 3.1.2.

To use Payment Server 1.2.20.3, you must have JDK 1.1.7. You installed JDK 1.1.7 when you completed the steps in "Upgrading to JDK 1.1.7 and WebSphere Application Server 2.0.3.1" on page 178.

Pre-Migration Steps

Before installing Payment Server 1.2.20.3, do the following:

1. Stop earlier version of Payment Server if it is running. Failing to do so may produce unpredictable results.

   To ensure that all WebSphere Commerce Service Provider processes are stopped, enter the command `ps -ef | grep NetCommerce`. If WebSphere Commerce Service Provider processes are running, terminate the processes. To ensure that the eTill payment server for that instance is stopped, enter the command `ps -ef | grep java`. If there is any eTill Java process with the instance name in its `setFlatFilePath` or `certFlatFilePath` parameters, kill the process.

2. Ensure configuration data about acquirers, brands and merchants, that was used to create all version 1.0 orders is still contained in the database. If your database contains records for orders that do not use the current configuration data, you must delete them from the ETSETMESSAGES table before running the migration.

Note: Only orders in the following states will be migrated to the new tables. Orders in other states will be lost.

  - Ordered
  - Authorized
  - Captured
  - Credited
  - Failed

For important information about migrating from eTill 1.0, refer to your *IBM Payment Server Administrator's Guide*.

Installing Payment Server 1.2.20.3

To install Payment Server 1.2.20.3, do the following:

1. Log on as user ID `root`.
2. If necessary, mount the WebSphere Commerce Service Provider CD.
3. Start the administration tool by typing the following command:

   `/bin/admintool&`
4. From the **Browse** pull-down menu, select **Software**. The Admintool: Software window appears.

5. From the **Edit** pull-down menu, select **Add**. The Admintool: Set Source Media window appears.

6. If you have Volume Manager installed, select **CD with Volume Management** in the **Software Location** field. Then, in the **CD Path** field, type `/cdrom/cdrom0/payment_server` and click **OK**.

7. If you do not have Volume Manager installed, select **CD without Volume Management** in the **Software Location** field. In the **Mount Point** field, type `/cdrom/cdrom0/payment_server` and click **OK**.

8. Select **IBM Payment Server** and click **Add**. The Admintool: Add Software window appears.

9. When asked whether you want to proceed with the install of each package, respond **y** to each prompt.

10. To upgrade to Payment Server 1.2.20.3, you must install the Payment Server Fixpak.

    Repeat steps 5 through 9 but set the software location to the `/cdrom/cdrom0/payment_server_fixpack` directory.

11. When Payment Server is installed, press **Enter** and close all Admintool windows.

Installing WebSphere Commerce Service Provider

Notes:

1. To ensure that you can successfully complete the steps within this section, you should have installed your Web server, database, Net.Data, JDK, WebSphere Application Server, and Payment Server (if applicable) *before* you install WebSphere Commerce Service Provider.

2. Before you install WebSphere Commerce Service Provider, ensure that you back up the following files:

   - `/etc/rc.netc`
   - `/etc/services`

   If you encounter problems when you run the `ic_migrate` command in"Migrating Your Configuration Files" on page 186, you will need to restore these files.

To install WebSphere Commerce Service Provider, do the following:

1. Log on as user ID `root`.

2. If necessary, mount the WebSphere Commerce Service Provider CD.

3. From user ID `root`, start the administration tool by typing the following command:

   `/bin/admintool&`

4. From the **Browse** pull-down menu, select **Software**. The Admintool: Software window appears.

5. From the **Edit** pull-down menu, select **Add**. The Admintool: Set Source Media window appears.

6. If you have Volume Manager installed, select **CD with Volume Management** in the **Software Location** field. Then, in the **CD Path** field, type `/cdrom/cdrom0/wcsspe` and click **OK**.

7. If you do not have Volume Manager installed, select **CD without Volume Management** in the **Software Location** field. In the **Mount Point** field, type `/cdrom/cdrom0/wcsspe` and click **OK**.

8. Select **WebSphere Commerce Service Provider** from the list of packages.

> **Note:** WebSphere Commerce Service Provider is *automatically* installed in /opt/IBMnetc/NetCommerce3, and is only supported in that directory.

9. Click **Add**. The Admintool: Add Software window appears to display a scrolling list of what is being installed.

10. When asked whether you want to proceed with the install of each package, respond **y** to each prompt. Note that depending on your system, the installation takes several minutes.

11. When all packages are installed, press **Enter** and close all Admintool windows.

12. Change to the root directory:

    `cd /`

13. Eject the WebSphere Commerce Service Provider CD.

14. If you are using Domino Go Webserver, once Domino Go Webserver 4.6.2.61 and WebSphere Commerce Service Provider are installed, do the following:

    a. The `start_admin_server` command must be run before accessing the Domino Go Webserver home page. This command creates the `webadmin` and `webibm` user ID and password. Failure to run this command will result in required IDs not being created and subsequently, you will not be able to access your Web server home page. To run this command, switch to the /opt/IBMnetc/NetCommerce3/server/bin directory and type `./start_admin_server`.

    b. Do one of the following:
       • Request a new certificate from a certifying authority and use it to create a new key ring. To do this, following all the instructions in "Chapter 16. Enabling SSL for Production on Domino Go Webserver" on page 81.
       • Import your existing certificate to Domino Go Webserver for use with WebSphere Commerce Service Provider. For more information, refer to your Domino Go Webserver documentation.

    c. Use your existing security ring for testing purposes. This is for testing purposes only and should not be used for your production system. If you need to create a security key ring for testing, follow the instructions in "Chapter 12. Enabling SSL on Domino Go Webserver for Testing" on page 59.

Updating the Database Schema Migration and Postmigration Scripts

In order to update the database schema migration and the postmigration scripts, you need to untar the `Post_install_migration.tar` file that you downloaded from our product Web site:

1. Switch to the /opt/IBMnetc/NetCommerce3 directory where you stored the `Post_install_migration.tar` file:

   `cd /opt/IBMnetc/NetCommerce3`

2. Untar the `Post_install_migration.tar` file containing the database schema migration and postmigration scripts:

   `tar -xvf Post_install_migration.tar`

Migrating Your Configuration Files

To migrate your Net.Commerce Hosting Server configuration files to the WebSphere Commerce Service Provider 3.2 format, do the following:

1. Verify that /usr/lib/libdb2.so.1 points to the correct path for DB2 (/opt/IBMdb2/V6.1/lib/libdb2.so.1) by typing:

```
ls -l /usr/lib/libdb2.so.1
```

2. If you are using Netscape Enterprise Server 3.6.1, you must add the following parameters to the end of your `ncommerce.conf` file, which is located in your Web server document root directory:

```
NES_SECURE obj.conf_secure_path
NES_NONSECURE obj.conf_non-secure_path
```

where *obj.conf_secure_path* is the absolute path of the directory that contains the `obj.conf` file for the Netscape Enterprise Server secure server, and *obj.conf_non-secure_path* is the absolute path of the directory that contains the `obj.conf` file for the Netscape Enterprise Server non-secure server.

Note: If there are empty lines in the file, remove them.

3. Log on as user ID `root`.

4. Switch to the `/opt/IBMnetc/NetCommerce3/bin` directory, and run the following command:

```
./ic_migrate
```

This program does the following, with the result that your existing WebSphere Commerce Service Provider instances will run correctly with WebSphere Commerce Service Provider 3.2:

- Migrates the structures of your Net.Commerce Hosting Server `ncommerce.conf` and `srvrctrl.conf` files for each Net.Commerce Hosting Server instance. The directory locations will also change to the Net.Commerce 3.2 configuration path.
- Migrates the `httpd.conf` file.
- Adds information to the `db2www.ini` file for each Net.Commerce Hosting Server instance.

Update the `bootstrap.properties` file (located in the `/opt/WebSphere/AppServer/properties` directory) removing any references to DB2 version 5.0 (for example, remove any path names containing `/opt/IBMdb2/V5.0`).

To verify that `ic_migrate` ran successfully, check the file `/etc/rc.netc` and ensure it contains a reference to your WebSphere Commerce Service Provider instance. For example:

```
#Net.Commerce Instance - mser
su - db2inst1 -c "db2start; /opt/IBMnetc/NetCommerce3/bin/srvrctrl
-i /opt/IBMnetc/NetCommerce3/instance/mser/config/srvrctrl.conf&"
```

5. To enable these changes, ensure you are logged on as user ID `root`, and stop and restart the Web server. For Domino Go Webserver, follow the instructions in "Starting and Stopping Domino Go Webserver" on page 206. For Netscape Enterprise Server, kill the WebSphere Application Server Java process if it is running, then stop and restart the secure and non-secure servers.

6. If you did not enable Web server caching on Net.Commerce Hosting Server 3.1.2, you do not need to perform any manual steps to migrate your Net.Commerce Hosting Server configuration files to the Commerce Service Provider 3.2 format. If you did use Web server caching with Net.Commerce Hosting Server 3.1.2, to avoid performance degradation, you need to specify Web server caching by editing the `ncommerce.conf` file. To edit the `ncommerce.conf` file, do the following:

a. Locate the `ncommerce.conf` file. The default location for the files is in the `/opt/IBMnetc/NetCommerce3/instance/`*instance_name*`/config` directory, where *instance_name* is the name of your Net.Commerce Hosting Server instance.

b. Open the `ncommerce.conf` file and search for the **CACHE_ENABLED** string.

c. Change the value from `ON` to `WS`.

7. Check the ownership of the database instance. Switch to the `/opt/IBMnetc/NetCommerce3/instance/`*instance_name* directory (where *instance_name* is the name of the WebSphere Commerce Service Provider instance) and type the following command:

   `id` *db_instance*

   where *db_instance* is the database instance ID (for example, db2inst1).

   Change the ownership of the `config` directory as follows:

   `chown` *db_instance_owner*`:`*db_owner_group* `config`

   where *db_instance_owner* is the owner of the database instance (for example, db2inst1), and *db_owner_group* is the group to which the database owner belongs (for example, db2iadm1).

8. For a 2–tier DB2 installation, as the `root` user, copy the `/opt/IBMnetc/NetCommerce3/bin/netcpswd` file on the WebSphere Commerce Service Provider machine to the `/export/home/`*db2_instance*`/sqllib/function` directory of the database instance user (for example, db2inst1) on the remote database server machine.

Migrating Your Database Schema

After installing WebSphere Commerce Service Provider, you must migrate your Net.Commerce Hosting Server databases. To do this, follow the appropriate instructions below. The migration utility will migrate your databases.

Migrating Single-Tier DB2 Databases

Ensure that you have backed up all your databases as described in step 8 on page 165 before proceeding.

For a 1–tier configuration using DB2, do the following for each database used by each WebSphere Commerce Service Provider instance:

1. Ensure that you have started the WebSphere Commerce Service Provider Administration server as described in "Starting and Stopping WebSphere Commerce Service Provider" on page 205.

2. Log on to your DB2 instance ID by typing `su -` *db2inst_ID*, where *db2inst_ID* is your DB2 instance (for example, db2inst1).

3. Switch to the `/opt/IBMnetc/NetCommerce3/nc_schema/db2/migrate` directory.

4. Type the following:

   `db2start`

5. While logged in as *db2inst_ID*, run the following command:

   `./v321migrate.sh` *db_name logfile db_user db_password*

   where the variables are defined as follows:

   db_name
   　　　　The name of the database.

logfile　The path and file name for the log file. For example, *db_name*`.log` or
my_path/*db_name*`.log`. Note that the DB2 instance ID requires write
permission to the directory specified for the log file.

db_user
The database instance ID.

db_password
The password for the database instance ID you specified.

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

6. To verify that the database schema has been successfully migrated, do the
following:

   a. Open the migration log file that you specified when you ran the
   `v321migrate` script.

   b. Search the migration log file for occurrences of the string:

   ```
   Error running script
   ```

   If the log file contains the following message after the error string, you can
   ignore the error message:

   ```
   Please ignore error message from script_name
   ```

   You can ignore the following error messages if you see them in your log
   file:

   ```
   insert into keys ( keyrfnbr, keytable, keycolumn, keymaxid )
   select max(keys.keyrfnbr) + 1, 'cmds', 'refnum', max(cmds.refnum)
           from keys, cmds

   DB21034E  The command was processed as an SQL statement because it was
   not a valid Command Line Processor command.  During SQL processing it
   returned:

   SQL0803N  One or more values in the INSERT statement, UPDATE statement,
   or foreign key update caused by a DELETE statement are not valid because
   they would produce duplicate rows for a table with a primary key, unique
   constraint, or unique index.  SQLSTATE=23505

   Error running script 'C:\IBM\NetCommerce3\nc_schema\common\cmds_ofs.v32.sql'
   ...
   ...
   ...
   delete from prodatr where paname = 'dummy'

   DB20000I  The SQL command completed successfully.

   Error running script
   'C:\IBM\NetCommerce3\nc_schema\db2\migrate\misc_chsdata_fixes2.v32.db2.sql'

   DB20000I  The UPDATE DATABASE CONFIGURATION command completed successfully.

   DB21026I  For most configuration parameters, all applications must
   disconnect from this database before the changes become effective.
   ```

   You can also ignore the error messages from the following delete and
   subsequent insert statements if you see them in your log file:

   ```
   delete from statcode where stacntry='Japan'
   SQL0100W  No row was found for FETCH, UPDATE or DELETE; or the result of a
   query is an empty table.  SQLSTATE=02000

   insert into statcode values ('j23', 'Aichi', 'Aichi', 'JAPAN')
   DB21034E  The command was processed as an SQL statement because it was not a
   valid Command Line Processor command.  During SQL processing it returned:
   SQL0803N  One or more values in the INSERT statement, UPDATE statement, or
   foreign key update caused by a DELETE statement are not valid because they
   would produce duplicate rows for a table with a primary key, unique constraint,
   or unique index.  SQLSTATE=23505

   ...
   ...
   ```

Errors other than the ones listed above should be considered to be valid, and your schema migration considered unsuccessful.

Also, if the database schema migration was successful, a confirmation message appears at the end of the migration log. The following is a sample confirmation:

```
update mall set mhdbversion = 'V3.2; DB2'
DB200001 The SQL command completed successfully
```

Note: If running the schema migration script is unsuccessful, be sure to refresh the database to the previous step before running the script again. This script should not be run twice in a row in one migration cycle.

Migrating Two-Tier DB2 Databases

Ensure that you have backed up all your databases as described in step 8 on page 165 before proceeding.

For a 2–tier configuration using DB2, do the following for each database used by each WebSphere Commerce Service Provider instance.

On the remote DB2 server machine:
1. Log on to your DB2 instance ID by typing su - *db2inst_ID,* where *db2inst_ID* is your DB2 instance (for example, db2inst1).
2. Type the following:
   ```
   db2start
   ```

On the WebSphere Commerce Service Provider (DB2 client) machine:
1. Log on to your DB2 instance ID by typing su - *db2inst_ID,* where *db2inst_ID* is your DB2 instance (for example, db2inst1).
2. Switch to the /opt/IBMnetc/NetCommerce3/nc_schema/db2/migrate directory.
3. While logged in as *db2inst_ID* run the following command:
   ```
   ./v321migrate.sh db_name logfile db_user db_password node_name
   ```

   where the variables are defined as follows:

   db_name
   > The name of the database.

   logfile The path and file name for the log file. For example, *db_name*.log or *my_path/db_name*.log. Note that the DB2 instance ID requires write permission to the directory specified for the log file.

   db_user
   > The database instance ID.

   db_password
   > The password for the database instance ID you specified.

   node_name
   > The node name for the remote DB2 server machine. The node name is a unique name of your choice that DB2 will use to identify the TCP/IP node. This parameter is only required for a 2–tier installation.

   If you have more than one database, repeat the command for each database.
4. To verify that the database schema has been successfully migrated, do the following:

a. Open the migration log file that you specified when you ran the `v321migrate` script.

b. Search the migration log file for occurrences of the string:

```
Error running script
```

If the log file contains the following message after the error string, you can ignore the error message:

```
Please ignore error message from script_name
```

You can ignore the following error messages if you see them in your log file:

```
insert into keys ( keyrfnbr, keytable, keycolumn, keymaxid )
select max(keys.keyrfnbr) + 1, 'cmds', 'refnum', max(cmds.refnum)
       from keys, cmds

DB21034E  The command was processed as an SQL statement because it was
not a valid Command Line Processor command.  During SQL processing it
returned:

SQL0803N  One or more values in the INSERT statement, UPDATE statement,
or foreign key update caused by a DELETE statement are not valid because
they would produce duplicate rows for a table with a primary key, unique
constraint, or unique index.  SQLSTATE=23505

Error running script 'C:\IBM\NetCommerce3\nc_schema\common\cmds_ofs.v32.sql'
...
...
...
delete from prodatr where paname = 'dummy'

DB20000I  The SQL command completed successfully.

Error running script
'C:\IBM\NetCommerce3\nc_schema\db2\migrate\misc_chsdata_fixes2.v32.db2.sql'

DB20000I  The UPDATE DATABASE CONFIGURATION command completed successfully.

DB21026I  For most configuration parameters, all applications must
disconnect from this database before the changes become effective.
```

You can also ignore the error messages from the following delete and subsequent insert statements if you see them in your log file:

```
delete from statcode where stacntry='Japan'
SQL0100W  No row was found for FETCH, UPDATE or DELETE; or the result of a
query is an empty table.  SQLSTATE=02000

insert into statcode values ('j23', 'Aichi', 'Aichi', 'JAPAN')
DB21034E  The command was processed as an SQL statement because it was not a
valid Command Line Processor command.  During SQL processing it returned:
SQL0803N  One or more values in the INSERT statement, UPDATE statement, or
foreign key update caused by a DELETE statement are not valid because they
would produce duplicate rows for a table with a primary key, unique constraint,
or unique index.  SQLSTATE=23505

...
...
```

Errors other than the ones listed above should be considered to be valid, and your schema migration considered unsuccessful.

Also, if the database schema migration was successful, a confirmation message appears at the end of the migration log. The following is a sample confirmation:

```
update mall set mhdbversion = 'V3.2; DB2'
DB200001 The SQL command completed successfully
```

Note: If running the schema migration script is unsuccessful, be sure to refresh the database to the previous step before running the script again. This script should not be run twice in a row in one migration cycle.

Post-Migration Procedures

Complete the post-migration step immediately after completing your database schema migration.

Increase Your Log Level

To capture more useful information in the event any errors occur, you should increase the log level for the duration of the migration process. You can increase the log level as follows:

- At a shell prompt, traverse to the `/opt/IBMnetc/NetCommerce3/Tools/config` directory.
- Edit the file `config.xml`.
- Replace the line, `<logConfig level="3"` with `<logConfig level="31"`
- Save the file.
- Open a new console window and restart your Web server, WebSphere Application Server, and the WebSphere Commerce Service Provider instance as described in "Appendix B. Starting and Stopping WebSphere Commerce Service Provider Components" on page 205.

Migrating the Publishing Format

You must run the postmigration script to convert the Net.Commerce Hosting Server 3.1.2 format for saving the merchants' edited pages into the new XML format. This script will also migrate some customization changes, and republish all merchant sites with the new publishing methodology.

Prior to running the script, you need to refresh the `timeStamps.xml` file by stopping and restarting certain WebSphere Commerce Service Provider components:

1. Change the permissions of the `/opt/IBMnetc/NetCommerce3/Tools/config` directory:

   `chmod 777 /opt/IBMnetc/NetCommerce3/Tools/config`

2. Search for the file `timeStamps.xml` in the `/opt/IBMnetc/NetCommerce3/Tools/config` directory. If it exists, rename it to a different name, for example, `timeStamps.xml.bak`.

3. Stop the following:

   a. Your WebSphere Commerce Service Provider instance

   b. WebSphere Application Server

   c. Your Web server (Lotus Domino Go Webserver or Netscape Enterprise Server)

4. Open a new console window and restart the following:

   a. Your Web server (Lotus Domino Go Webserver or Netscape Enterprise Server)

   b. Your WebSphere Commerce Service Provider instance

   View the `/opt/IBMnetc/NetCommerce3/Tools/logs/tools.log` file and ensure it does not contain any errors related to loading JDBC. If it does, repeat the above steps to stop and restart your instance, WebSphere Application Server, and your Web server in a new console window.

For information on starting and stopping these components, see "Appendix B. Starting and Stopping WebSphere Commerce Service Provider Components" on page 205.

You should delay running the postmigration script in the next step by up to a minute or so, in order to allow proper loading of the above components. If you receive a log on error while running the postmigration script, it is likely because WebSphere Application Server and your Web server have not completed their startup. To check that they are properly started, point your browser to http://*host_name*/cspsite and click on *Create Store*. If the Create Store page loads correctly, both WebSphere Application Server and your Web server have started up correctly, and you can retry running the postmigration script.

To run the script, log in as user root, then switch to the /opt/IBMnetc/NetCommerce3/ppm32/Postmigration directory at a command prompt:

./postmigration_SUN.sh *nc_admin_user nc_admin_password db_user*

where the variables are defined as follows:

nc_admin_user
> The user ID used to log in to the WebSphere Commerce Service Provider administrator (by default, ncadmin).

nc_admin_password
> The password used to log in to the WebSphere Commerce Service Provider administrator (by default, ncadmin).

db_user
> The DB2 instance user ID for the WebSphere Commerce Service Provider database (for example, db2inst1).

Note that this script assumes that you have installed WebSphere Commerce Service Provider in the default location (that is, /opt/IBMnetc/NetCommerce3).

In order to pick up the changes introduced by the postmigration script, stop and restart the following components in a new console window, as before:
1. Your WebSphere Commerce Service Provider instance
2. WebSphere Application Server
3. Your Web server (Lotus Domino Go Webserver or Netscape Enterprise Server)

You should also backup the /opt/IBMnetc/NetCommerce3/Tools/logs/tools.log file immediately after running the postmigration script so that the file is not overwritten by other migration actions.

Note: Do not run the postmigration script more than once when you are attempting to migrate to Commerce Service Provider 3.2. If you encounter problems in the postmigration step, it is recommended that you fully restore your Net.Commerce Hosting Server 3.1.2 backups and restart the migration process from the beginning. Running the postmigration script more than once could lead to database errors in the log files resulting from the additional postmigration step, and could also lead to improper file names on the resulting HTML directories.

Preparing the Database for the Mass Import Utility

Once you have completed the procedures for migrating from Net.Commerce Hosting Server 3.1.2 to Commerce Service Provider 3.2 , you must complete the following actions using the Mass Import utility included with Commerce Service Provider 3.2. This will enable your merchants to use the new Catalog Import facility to upload mass amounts of data:

1. Ensure that the database schema has been migrated, as described in "Migrating Your Database Schema" on page 188 above.
2. Prepare your database by running the popcgnbr program, supplied with WebSphere Commerce Service Provider, as described below.

To use the Mass Import utility for this version of WebSphere Commerce Service Provider, a new column, called CGNBR in the database table CATEGORY, must be populated with a unique value within each merchant store. The popcgnbr program populates the column CGNBR using the reference number specified in column CGRFNBR and creates a unique index, ui_category, based on columns CGMENBR and CGNBR. This process ensures that the value of CGNBR is unique within each merchant. This value must not exceed 245 characters.

Notes:

1. If you write your own script to insert data into the CATEGORY table, and have run popcgnbr to create the ui_category unique index, you must modify your script to include the new column, CGNBR. The combination of CGNBR and CGMENBR make up a unique index in the table CATEGORY.
2. Once you run the popcgnbr program, you will be able to use the WebSphere Commerce Service Provider version of the Mass Import utility. It is not recommended that you go back and use the previous versions of the Mass Import utility, which uses the old input file. The old input file will drop the index ui_category. If you use a previous version, you will need to run popcgnbr again anytime before you switch to the WebSphere Commerce Service Provider version of the Mass Import utility, in which case, the popcgnbr may fail. If the program fails, you must manually populate column CGBNBR for each category entry.

For a 2–tier configuration, log on to your DB2 instance ID on your WebSphere Commerce Service Provider machine by typing:

```
su - db2inst_ID
```

where *db2inst_ID* is your DB2 instance (for example, db2inst1). Attach to the remote database using the following command:

```
db2 attach to node_name user db_user using db_password
```

where *node_name* is the unique TCP/IP node name for your remote DB2 server machine, *db_user* is your DB2 instance user ID, and *db_password* is the corresponding password for the DB2 instance user ID.

For either a 1–tier or 2–tier configuration, populate the CGNBR column with a unique value. While logged in as your DB2 instance ID on your WebSphere Commerce Service Provider machine, type the following:

```
popcgnbr db_name [db_user] [db_password] [logfile]
```

where *db_name* is the name of your database (for example, mser), *db_user* is your DB2 instance user ID, *db_password* is the corresponding password for the DB2 instance user ID, and *logfile* is the name of your logfile (by default, it is stored in your DB2 instance user ID home directory).

You will see the following message if the command completes successfully:

```
Populating column cgnbr of table category completed.
```

You should also check your log file to ensure that there were no errors.

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

If the program runs successfully, then the CGNBR column is populated with a reference number which is also part of the unique index ui_category for the CATEGORY table. However, if, after migration and prior to running popcgnbr, you have already inserted category entries where the value of column CGNBR is the same as the value assigned by running popcgnbr, the program will fail. To fix the problem, do the following:

1. Manually populate the CGNBR column, within the database table CATEGORY, with a unique value that does not exceed 245 characters. It is recommended that you specify a logical value (for example, use a combination of the category name, the partially qualified category name, and the fully qualified category name). You will need to provide this value as an identifier to the category in the Mass Import input file.

2. Create a unique index based on column CGMENBR and CGNBR, by typing the following command:

   ```
   db2 create unique index ui_category(cgmenbr, cgnbr)
   ```

3. Commit the database.

Reinstalling WebSphere Commerce Service Provider After Migration

If you have successfully completed the steps to migrate from Net.Commerce Hosting Server 3.1.2 to Commerce Service Provider 3.2 including the post-migration step, and then decide to reinstall Commerce Service Provider 3.2, if you need reinstall SPE3.2, after your reinstallation, you have to manually change the content of the file /opt/IBMnetc/NetCommerce3/server/bin/netcprofile. Otherwise, when you start your Web server you will see a JDBC loading problem with an error message similar to:

```
FATAL ERROR - A database error occurred loading the configuration:
Could not load the JDBC Driver: java.sql.SQLException:
DB2 Driver error allocating environment handle, rc = -1.
Contact your system administrator..
com.ibm.commerce.tools.persistence.DBException:
Could not load the JDBC Driver: java.sql.SQLException:
DB2 Driver error allocating environment handle, rc = -1.
Contact your system administrator.
```

To fix this problem, change the following lines in /opt/IBMnetc/NetCommerce3/server/bin/netcprofile to point to the correct level of DB2 for Commerce Service Provider 3.2. Change:

```
# Default Net.Commerce product directory
NETCDIR="/opt/IBMnetc/NetCommerce3"
DB2DIR="/opt/IBMdb2/V5.0"
if [  -f '/opt/IBMdb2/V5.0/lib/libdb2.so.1'  ]
   then
        DB2DIR="opt/IBMdb2/V5.0"
   elif [ -f '/opt/IBMdb2/V6.1/lib/libdb2.so.1'  ]
        then
        DB2DIR="/opt/IBMdb2/V6.1"
fi
JAVADIR="/usr/java"
```

to:

```
# Default Net.Commerce product directory
NETCDIR="/opt/IBMnetc/NetCommerce3"
DB2DIR="/opt/IBMdb2/V6.1"
if [  -f '/opt/IBMdb2/V6.1/lib/libdb2.so.1'  ]
   then
        DB2DIR="opt/IBMdb2/V6.1"
   elif [ -f '/opt/IBMdb2/V5.0/lib/libdb2.so.1'  ]
```

```
        then
            DB2DIR="/opt/IBMdb2/V5.0"
fi
JAVADIR="/usr/java"
```

After making these changes, you can successfully start your Web server,
WebSphere Application Server, and WebSphere Commerce Service Provider
instance.

Completing the Migration

Now that you have essentially completed the migration process, complete the steps
to verify your migration as discussed in "Planning to Verify a Successful
Migration" on page 154.

If you have migrated any unpublished Net.Commerce Hosting Server 3.1.2 stores,
see the procedures described in "What You Need to Tell Your Merchants" on
page 147.

Restore any customized files. These include:
* Custom overridable functions which need to be recompiled.
* Custom Net.Data macros. Some syntax changes need to be made to support the
  new Net.Data version.
* If you used the packaged sample mall directory (`cspmall`) as the root for your
  mall, you need to restore the data contained there, or redirect the Web server to
  its new location in order not to overwrite the new sample mall.
* Inform your merchants when they can make modifications to their stores.
* Manually migrate any non-standard (non-NCHS) stores

You can also consider:
* Adding customized branding to fit the new layout of the product and the new
  banners
* Creating a new store model based on the new 3.2 store model but with a layout
  similar to the 3.1.2 model, in order to preserve more of the 3.1.2 look and feel.

  Some stores that were created in 3.1.2 and migrated over to the 3.2 format may
  have a different look and feel to them. This is due to the store model that
  customizable stores in 3.1.2 used. Some differences include the product display
  of items within a catalog that may have been in a column. In the new format for
  3.2, the formatting for the links is not preserved. In addition, the order in which
  entries appear in the shipping tables has changed.

  The formatting changes are a result of the different store model that is used in
  3.2. Many of the formatting problems can be handled by modifying the layout of
  the new store model. The store model is called `ClassicStoreModel`. Note that
  there are changes to the number of steps in the shopping flow, and some
  information, such as the product description, now shows up on a different page.
* Alter the service level of some stores to be remote since all stores are being
  migrated to advanced.

  All 3.1.2 stores, and in particular, stores with remotely hosted home pages will
  become *Advanced* service level stores after migration. This ensures that they do
  not lose functionality in the Merchant Tool that they may have used previously
  with Net.Commerce Hosting Server 3.1.2, and allows them to access all of the
  new tools if they wish. Note that merchants with remote stores may experience
  some problems after the migration to Commerce Service Provider 3.2. The *Page
  Editor* option in the Store Design section of the Merchant Tool may incorrectly

attempt to edit their remote pages. This is not supported. However, if they did have any local (to the Net.Commerce Hosting Server 3.1.2 server) pages that they edited using the `Home Page Creator` tool, they can still edit these pages. Also, the *View Store* link at the top of their Merchant Tool navigation may not function correctly as it will attempt to view the remote home page as an ordinary generated one.

You may want to alter some of these stores after the migration to be remote stores if you are sure you do not need to use Page Editor. To do this:

– Alter the `melevel` field for that merchant in the merchant table to be `remote`.

– Alter the Home link in the Navigation bar editor. This will also update the link to the store in the new mall.

• Perform any of the merchant's tasks related to the migration for them.

Note: If you encounter difficulties loading the `ncadmin` page (error 500), try deleting and recreating the WebSphere Commerce Service Provider instance to solve the problem.

Once you have verified a successful migration of Net.Commerce Hosting Server 3.1.2 to Commerce Service Provider 3.2, you can uninstall any of the older versions of components such as DB2 V5.0 that were installed with Net.Commerce Hosting Server 3.1.2. See the appendix of the *Net.Commerce Hosting Server 3.1.2 Installing and Getting Started Guide* on how to uninstall these components.

Enabling Sample Stores After Migration

After migration is complete, you may want to access the sample stores provided with Commerce Service Provider 3.2. To enable them on a migrated site, perform the following steps:

1. Find out the reference number for your sample stores, the **Everything Green** store and the **Services Store**. They will be the newest stores in `ncadmin`.

   a. Logon to `ncadmin` by pointing your Web browser to `http://`*host_name*`/ncadmin` (default user and password is `ncadmin`).

   b. From **Site manager**, click **Store Records**, then click on the **Search** button.

   c. Write down the store numbers of **Everything Green** and **Services Store**.

2. Edit the file `/opt/IBMnetc/NetCommerce3/CHS/source/<`*ref no*`>/settings.xml` for both of the sample stores.

   Find the following lines:

   ```
   <task refno="9043"   file="cat_category.d2w" />
   <task refno="9042"   file="cat_product.d2w" />
   ```

   and change them to:

   ```
   <task refno="9053"   file="cat_category.d2w" />
   <task refno="9052"   file="cat_product.d2w" />
   ```

3. Logon as the DB2 instance user (`su -` *db2instance*) and connect to the database. Run the following commands:

   ```
   db2 connect to database_name
   db2 update macros set marfnbr = 9053 where marfnbr = 9043
   db2 update macros set marfnbr = 9052 where marfnbr = 9042
   ```

   Ensure you use these values exactly as above. Using different values will have unexpected results.

Now stop and restart your Web server, WebSphere Application Server, and your WebSphere Commerce Service Provider instance. Your sample stores should now

function properly.

Part 6. Appendixes

Appendix A. Configuring Product Advisor

This chapter describes how to configure Product Advisor with WebSphere Application Server 2.0.3.1.

> **Important**
>
> Once created as a *Custom Store*, WebSphere Commerce Service Provider stores can be further customized by Internet Service Providers (ISP) as required. Please ensure that proper software licensing is arranged through your ISP Marketing/Sales Contact prior to integrating advanced functions into WebSphere Commerce Service Provider stores.
>
> For example, Product Advisor function could be added to a WebSphere Commerce Service Provider site by anyone with direct access to the server (inside the fire wall) or store functions could be linked to back end systems such as for order management or tax calculations. Note that customization of this nature is not recommended on shared servers, as direct access to the site and the additional function introduces site security and system stability exposures that need to be addressed. In particular, careful consideration of the tools needed to maintain these extensions is required, as such custom tools may be operating outside of the security mechanisms in place for the multi-merchants WebSphere Commerce Service Provider tools.

Product Advisor administration tools must be used on a local area network. They do not work through a fire wall because the JDBC communication requires a socket connection.

Enabling Product Advisor with DB2 and Domino Go Webserver

If you are using DB2 and Domino Go Webserver, enable Product Advisor by doing the following:

1. Open the /etc/rc2.d/S88nc3_mserverd file.
2. Add the db2jstrt command to the file, by changing the following:

   ```
   su - db2inst1 -c "db2start;
      /opt/IBMnetc/NetCommerce3/bin/srvrctrl -i
      /opt/IBMnetc/NetCommerce3/instance/instance_name/config/srvrctrl.conf&"
   ```

   to the following:

   ```
   su - db2inst1 -c "db2start; db2jstrt 16560;
      /opt/IBMnetc/NetCommerce3/bin/srvrctrl -i
      /opt/IBMnetc/NetCommerce3/instance/instance_name/config/srvrctrl.conf&"
   ```

   Note that this should appear on one line; it appears on multiple lines here for presentation purposes only.
3. From the /etc/rc2.d directory, apply the changes by typing the following command to run the S88nc3_mserverd file:

   ```
   ./S88nc3_mserverd stop
   ps -ef | grep srvrctrl
   kill process_ID
   ./S88nc3_mserverd start
   ```

where *process_ID* is the name of the process you want to end.

4. To use Product Advisor while logged in as your DB2 instance ID, start the JDBC daemon by typing

   ```
   db2jstrt port_num
   ```

   where *port_num* is the port number on the IC_JDBC_NETURL directive in the `commerce.conf` file in the `/opt/IBMnetc/NetCommerce3/instance/instance_name/config` directory (16560, by default). You may want to add the fully qualified version of this command (`/export/home/db2_instance_ID/sqllib/bin/db2jstrt`) to your `/etc/rc.db2` file before the `exit` command. By fully qualifying the command, IDs other than db2inst1 can run the command.

Notes:

1. After switching to a different database, you need to restart the Net.Commerce instance, as well as the Web server.

2. After you manually stop the Web server as documented in "Starting and Stopping Domino Go Webserver" on page 206, you must ensure that all of the java processes are stopped. To determine this, use the `ps -ef | grep java` command. If they are still running, manually kill the java processes.

3. When the Web server is restarted as documented in "Starting and Stopping Domino Go Webserver" on page 206, it may take some time for the WebSphere Application Server to load. If you receive an error message that says that Product Advisor cannot read the configuration file, close the browser and try it again.

Configuring Product Advisor with WebSphere for DB2

If you are using Oracle as your database, you do not need to complete the steps within this section. Refer to "Configuring Product Advisor with WebSphere for Oracle" on page 203 instead.

If you are using either Domino Go Webserver or Netscape Enterprise Server as your Web server, and DB2 Universal Database is your database, follow the instructions in this section to configure Product Advisor.

To configure Product Advisor with IBM WebSphere Application Server 2.0.3.1 Standard Edition, do the following:

1. Update the `.profile` as follows:
   - Add:

     ```
     DB2INSTANCE=db2_instance
     export DB2INSTANCE
     ```
   - Add `/opt/IBMdb2/V6.1/lib` to the `LD_LIBRARY_PATH` and `LIBPATH` environment variables.

2. Open the WebSphere Application Server Administration page (using port number 9527 for Domino Go Webserver and port number 9528 for Netscape Enterprise Server), and log in using the administration user ID and password. The default administration ID is `admin` and the default password is `admin`.

3. Highlight **Setup** and click **Java Engine**. The Java Engine form appears.

4. Click the **Paths** tab. There should be exactly one statement in the **Application Server Classpath** field about `db2java.zip`. If you are using DB2 Universal Database 5.2 , the statement should be `/opt/IBMdb2/V5.2/java/db2java.zip`. If you are using DB2 Universal Database 6.1.0.6, this statement should be `/opt/IBMdb2/V6.1/java/db2java.zip`.

If you have upgraded DB2 Universal Database, make sure that the appropriate statement is found in the **Application Server Classpath**.

5. If you make any updates to the configuration, stop and restart your Web server. Refer to "Starting and Stopping Domino Go Webserver" on page 206.

Configuring Product Advisor with WebSphere for Oracle

If you are using Domino Go Webserver or Netscape Enterprise Server as your Web server, and Oracle as your database, follow the instructions in this section to configure Product Advisor.

If you are using DB2 Universal Database as your database, you do not need to complete the steps within this section. Refer to "Configuring Product Advisor with WebSphere for DB2" on page 202 instead.

To configure Product Advisor with IBM WebSphere Application Server 2.0.3.1 Standard Edition:

1. The `classes111.zip` file is located in the directory where you installed Oracle (for example, *oracle8/u01/app/oracle/prodcut/8.05|8.06/jdbc/lib*). Copy the `classes111.zip` file to the following directory:

   `/opt/IBMnetc/NetCommerce3/html/`*locale*`/ncadmin/ictmgr`

2. Open the WebSphere Application Server Administration page (using port number 9527), and log in using the administration user ID and password.

3. Highlight **Setup** and click **Java Engine**. The Java Engine form appears.

4. Click the **Paths** tab. In the **Application Server Classpath** field, type the following, if the information does not already exist:

   `/opt/IBMnetc/NetCommerce3/html/`*locale*`/ncadmin/ictmgr/classes111.zip`

5. Click **Save**.

6. Stop the Web server.

7. Restart the Web server.

8. Specify the maximum number of cursors by doing the following:

   a. Open the file `inito805.ora` or `inito806.ora`, depending on whether you are using Oracle 8.0.5 or Oracle 8.0.6. The file is located in the `/oracle8/u01/app/oracle/product/8.05|8.06/dbs` directory.

   b. Go to the end of the file and add the following line:

      `open_cursors = 1000`

   c. Save the file.

   d. Restart the Oracle instance.

Appendix B. Starting and Stopping WebSphere Commerce Service Provider Components

This appendix explains how to start and stop each product that is provided as part of the WebSphere Commerce Service Provider package, as well as the optional Web server, Domino Web Server. Use this information if you need to restart any component.

Starting and Stopping WebSphere Commerce Service Provider

To start WebSphere Commerce Service Provider in the *background*:

1. Ensure that your database management system is started. If you are using DB2, refer to "Starting and Stopping DB2" on page 208. If you are using Oracle, refer to Oracle's documentation.
2. Do one of the following:
   - Start WebSphere Commerce Service Provider using the Configuration Manager:
     a. While logged on as user ID `root`, switch to the `/opt/IBMnetc/NetCommerce3/server/bin` directory and type `./start_admin_server`
     b. Open your Web browser and go to `http://`*host_name*`:4444`
     c. When prompted, enter your Configuration Manager user ID and password. If you have not yet changed them, your user ID is `webadmin` and your password is `webibm`.
     d. From the list of instances, select the instance you want to start and click **Start**.
   - Start WebSphere Commerce Service Provider from a shell prompt:
     a. Log on as your DB2 instance ID.
     b. Switch to the `/opt/IBMnetc/NetCommerce3/bin` directory and type the following on one line:

        ```
        srvrctrl -i installation_path/instance/instance_name/
           config/srvrctrl.conf
        ```

        where *installation_path* is the path where WebSphere Commerce Service Provider is installed, and *instance_name* is the name for the WebSphere Commerce Service Provider instance.

To stop WebSphere Commerce Service Provider, do one of the following:

- To stop WebSphere Commerce Service Provider using the Configuration Manager:
  1. While logged on as user ID `root`, switch to the `/opt/IBMnetc/NetCommerce3/server/bin` directory and type `./start_admin_server`
  2. Open your Web browser and go to `http://`*host_name*`:4444`
  3. When prompted, enter your Configuration Manager user ID and password. If you have not yet changed them, your user ID is `webadmin`, and your password is `webibm`.
  4. From the list of instances, select the instance you want to stop and click **Stop**.

- Stop WebSphere Commerce Service Provider from a shell prompt, while logged on as either user ID `root`, or as your DB2 instance ID (for DB2) or the Instance Owner ID (for Oracle):

  1. Type the following command:

     ```
     ps -ef|grep srvrctrl
     ```

     Look for processes running from the `/opt/IBMnetc/NetCommerce3/bin` directory. The process names listed may include: `server`, `back_server`, and `srvrctrl`. If you are using Payment Server, its processes will also be listed.

  2. Record the process IDs for each WebSphere Commerce Service Provider process.

  3.

     Note: Run this command for the `srvrctrl` process first.
     Type the following command for each process:

     ```
     kill process_id
     ```

     where *process_id* is the process ID that you noted in the previous step.

Starting and Stopping Domino Go Webserver

Prior to starting Domino Go Webserver:

- Ensure that the value of the DB2INSTANCE environment variable is set to the DB2 instance that you created in step 9 on page 15 by performing the following steps:

  1. Log in as the root user ID.
  2. Run the root profile by entering:

     ```
     . /.profile
     ```

  3. Enter the following command and ensure that the value of DB2INSTANCE is set correctly to the DB2 instance that you created in step 9 on page 15:

     ```
     env | grep DB2INSTANCE
     ```

     If it is not set, set it manually.

- In addition, ensure that WebSphere process is not started by typing:

  ```
  ps -ef | grep java
  ```

  The WebSphere Application Server process of interest should contain a string similar to the following:

  ```
  /bin/../java/bin/../bin/../bin/sparc/native_threads/java . . .
  ```

  If you see this WebSphere Application Server process, kill the process by issuing the following command:

  ```
  kill process_ID
  ```

  where *process_ID* is the process ID number listed.

To start Domino Go Webserver, while logged on as user ID `root`, type `/usr/sbin/httpd`.

To stop Domino Go Webserver, while logged on as user ID `root`:

1. Determine whether Domino Go Webserver is running, by typing the following command:

```
ps -ef|grep httpd
```

Note the process ID for the /usr/sbin/httpd process.
2. Type the following command:

```
kill process_id
```

where *process_id* is the process ID that you noted in the previous step.

Starting and Stopping Netscape Enterprise Server

To start Netscape Enterprise Server enter the following command:

```
. /.profile
```

Then start Netscape Enterprise Server according to Netscape Enterprise Server documentation.

Stop Netscape Enterprise Server according to Netscape Enterprise Server documentation and then stop WebSphere Application Server as documented in "Starting and Stopping WebSphere Application Server".

Starting and Stopping WebSphere Application Server

The WebSphere Application Server starts automatically when you start your Web server. You need to configure the Enterprise Java Services (EJS) before starting the Web server. To configure EJS:
1. As user root, go to the shell in which you will start the Web server.
2. . /.profile
3. Start the Web server.

If you are running WebSphere Application Server with Lotus Domino Go Webserver, WebSphere Application Server stops automatically when you shut down Lotus Domino Go Webserver.

WebSphere Application Server with Netscape Enterprise Server

If you are running WebSphere Application Server with Netscape Enterprise Server, WebSphere Application Server does not stop automatically when you shut down your Web server. You have to stop WebSphere Application Server manually. These instructions are provided below.

To stop WebSphere Application Server manually or in stand-alone mode, do the following while logged in as user ID root:
1. Shut down the Netscape Enterprise Server in accordance with instructions from Netscape.
2. Type ps -ef|grep java to find the Java process for the Application Server out of process engine. The process of interest will contain the following:

```
/bin/../java/bin/../bin/../bin/sparc/native_threads/java . . .
```
3. Type the following command:

```
kill process_id
```

where *process_id* is the process ID that you noted in the previous step.

Starting and Stopping DB2

To start DB2:

1. Log on as your DB2 instance ID.
2. Type `db2start`.

To stop DB2:

1. Stop WebSphere Commerce Service Provider according to the instructions in "Starting and Stopping WebSphere Commerce Service Provider" on page 205.
2. While logged on as your DB2 instance ID, type `db2stop`. If any applications are connected to DB2, use the following command instead:

   `db2stop force`

Starting and Stopping Payment Server

By default, if WebSphere Commerce Service Provider and Payment Server 1.2.20.3 are installed on the same machine, Payment Server starts automatically when you start WebSphere Commerce Service Provider, and it stops automatically when you stop WebSphere Commerce Service Provider. If Payment Server and WebSphere Commerce Service Provider are installed on separate machines, Payment Server does not start automatically when you start WebSphere Commerce Service Provider, but it does stop automatically when you stop WebSphere Commerce Service Provider.

Note that after you install Payment Server in this configuration, you must allow it to start automatically at least once so the database can be automatically prepared.

After you have allowed it to start automatically once, if you want to prevent it from starting automatically:

- Open the file `/opt/IBMnetc/NetCommerce3/instance/`*instance_name*`/config/srvrctrl.conf` (where *instance_name* is the name for the WebSphere Commerce Service Provider instance)
- Remove `pay_etill` from the list of names on the CONTROL_POOL_CONFIG directive, along with its path name and the preceding comma.
- Then, to start Payment Server manually, do the following:

  1. While logged on as the DB2 instance ID, switch to the `/opt/IBMnetc/NetCommerce3/instance/`*instance_name*`/bin` directory, where *instance_name* is the name of your WebSphere Commerce Service Provider instance.
  2. Type the following:

     `./ETill`

Note: During installation, the `.payment` file is created in the current directory. This file contains the database password and can be accessed if you have logged on with the DB2 instance ID. The certificate password, which you entered on the Payment tab when you configured WebSphere Commerce Service Provider, is stored in the WebSphere Commerce Service Provider database table, ETSETCFG. As long as the `.payment` file exists, the DB2 instance ID user can start Payment Server by typing the command above while in the specified directory.

To stop Payment Server manually, whether Payment Server is running on the same machine as WebSphere Commerce Service Provider or on a separate machine, bring the Payment Server window into focus and press `Ctrl+C` on your keyboard. You can only stop Payment Server this way if you started it from the command line. Otherwise, the process will be running in the background, not in a window.

You can also start and stop WebSphere Commerce Service Provider using the Configuration Manager interface, if Payment Server is running on the same machine as the WebSphere Commerce Service Provider server. On the first Configuration Manager window, select the name of the Payment Server instance you wish to start or stop, and click either **Start** or **Stop**. Each Payment Server instance is associated with each WebSphere Commerce Service Provider instance.

Starting and Stopping the Synchronization Daemon

If you are using the Advanced Caching option, you have to enable the Synchronization Daemon. Please refer to the online help for information about enabling and configuring the Synchronization Daemon.

To start the Synchronization Daemon from a shell prompt, type:

`ms_synchd -i server-config-file`

where *server-config-file* is the full path to the `ncommerce.conf` file.

To stop the Synchronization Daemon from a shell prompt:
1. Type `ps -ef|grep ms_synchd` to find the Synchronization Daemon process.
2. Use the UNIX kill command to shut down the process.

Starting and Stopping DB2 Text Extender

To start DB2 Extenders, log onto your DB2 instance ID and type `txstart`.

To stop DB2 Extenders, log onto your DB2 instance ID and type `txstop`.

If you have uninstalled DB2 and have removed the DB2 instance ID, stop Text Extender as follows:
- Note the Text Extender process:

  `ps -ef | grep db2tx`
- Note the process ID.
- Use the UNIX kill command to shut down the process.

Appendix C. Uninstalling WebSphere Commerce Service Provider Components

If you encounter problems installing WebSphere Commerce Service Provider, you may want to uninstall one or more components and start again. This appendix explains how to uninstall each component of WebSphere Commerce Service Provider.

> **Important Note on Back Ups**
>
> Prior to uninstalling WebSphere Commerce Service Provider components, you should review the information contained in this section. In particular, back up any files for all the components that you want to uninstall before you actually begin uninstalling.

Uninstalling Net.Data

To uninstall Net.Data:

1. Log on as user ID `root`.
2. Start the administration tool by typing `/bin/admintool&`. The Admintool: Users window appears.
3. Select **Software** from the **Browse** menu.
4. From the list of packages on the Admintool: Software window, select all entries that refer to **Net.Data**.
5. Select **Delete** from the **Edit** menu.
6. On the Admintool: Warning window, click **Delete**.
7. On the Admintool: Delete Software window, respond *y* to the confirmation messages to delete the packages that you selected.
8. After all packages are deleted, press Enter. The Admintool: Delete Software window closes.
9. On the Admintool: Software window (which should still be open), select **Exit** from the **File** menu to exit the Admintool program.
10. Switch to the `/opt` directory and remove the `IBMNetData` directory if it exists.

Note: If you reinstall Net.Data after installing WebSphere Commerce Service Provider, ensure that you back up your `db2www.ini` file (located in the `/opt/GoServer/usr/internet/server_root/pub` directory) before reinstalling Net.Data. (Net.Data installs its own version of this file.) Once you have completed reinstalling Net.Data, you can replace the Net.Data version of the file with your backup version of the file.

Uninstalling WebSphere Commerce Service Provider

Before you uninstall WebSphere Commerce Service Provider, save any customized macros and WebSphere Commerce Service Provider related data in a directory other than `/opt/IBMnetc/NetCommerce3`; otherwise, they may be deleted.

To uninstall WebSphere Commerce Service Provider:

1. Log on as user ID `root`.

2. If you plan to reinstall WebSphere Commerce Service Provider once you have uninstalled it, ensure that you back up the */NetCommerce_Install*/CHS/source and */NetCommerce_Install*/macro/*locale* directories, where *NetCommerce_Install* is the WebSphere Commerce Service Provider install directory, and *locale* is the country code. This macro directory contains macros for stores that you have previously created.

3. Stop your WebSphere Commerce Service Provider instance as described in "Starting and Stopping WebSphere Commerce Service Provider" on page 205, if it is running.

4. From a shell prompt, stop the Administration server by switching to the /opt/IBMnetc/NetCommerce3/server/bin directory and typing:

   ./stop_admin_server

5. Stop your Web server. For Domino Go Webserver, see "Starting and Stopping Domino Go Webserver" on page 206. For Netscape Enterprise Server, stop both secure and non-secure servers in accordance with instructions from Netscape.

6. Stop WebSphere and ensure that no java processes are running as described in "Starting and Stopping WebSphere Application Server" on page 207.

7. Start the administration tool by typing /bin/admintool&.

8. On the Admintool: Users window, from the **Browse** menu, select **Software**.

9. On the Admintool: Software window, from the list of packages, select **Websphere Server Provider edition**.

10. From the **Edit** menu, select **Delete**.

11. On the Admintool: Warning window, click **Delete**.

12. On the Admintool: Delete Software window, respond y to the confirmation messages to delete the package that you selected.

13. After the package is deleted, press **Enter**. The Admintool: Delete Software window closes.

14. On the Admintool: Software window (which should still be open), select **Exit** from the **File** menu to exit the Admintool program.

15. Switch to the /opt directory and remove the IBMnetc directory, if it exists.

16. If present, delete the following files from the /etc directory:
    - rc.netc
    - rc.netc.old

Notes:

1. If you have created any soft links to WebSphere Commerce Service Provider, you must search for and delete these links after uninstalling WebSphere Commerce Service Provider. The uninstall process will not automatically remove the soft links.

2. If you are uninstalling your Webserver, but intend to reinstall it, you should backup the db2www.ini file from the document root directory before uninstalling the Webserver. You will then need to restore the file to the new document root location after you have reinstalled the Webserver. This will prevent instance recreation problems.

Uninstalling Domino Go Webserver

Important: If you uninstall Domino Go Webserver, you must also uninstall WebSphere Application Server. If you reinstall Domino Go Webserver and WebSphere Application Server, you must install Domino Go Webserver *before* reinstalling WebSphere Application Server. The reason is that WebSphere modifies your Web server's configuration file. If you install Domino Go Webserver after installing WebSphere Application Server, your instance will not be configured properly.

Also, if you reinstall Domino Go Webserver and WebSphere Application Server, you will need to recreate their instance before you can access WebSphere Commerce Service Provider Administrator.

If you reinstall Domino Go Webserver, you have to manually enable SSL. You also have to delete the WebSphere Commerce Service Provider instance, and then recreate it after you reinstall Domino Go Webserver *before* you can access WebSphere Commerce Service Provider Administrator.

If you have created stores with the *Create Store* wizard, ensure that you back up the `index.html` file for any stores created with *Create Store* *before* you uninstall Domino Go Webserver.

In addition, back up the configuration file, `/etc/httpd.conf`.

To uninstall Domino Go Webserver:

1. Record all the settings for your WebSphere Commerce Service Provider instance. Launch Configuration Manager:
   - On your Windows machine, open your Web browser and go to `http://host_name:4444`.
   - When prompted, enter your Configuration Manager user ID and password. If you have not yet changed them, your user ID is `webadmin`, and your password is `webibm`.
   - Highlight your instance and click **Settings**. Make note of these settings.
2. Stop and then delete your WebSphere Commerce Service Provider instance. Highlight your instance and click on **Delete**.
3. If you plan to uninstall WebSphere Commerce Service Provider, uninstall WebSphere Commerce Service Provider *first* by following the steps in "Uninstalling WebSphere Commerce Service Provider" on page 211.
4. If you have created stores using *Create Store*, and you would like to access them after uninstalling or reinstalling Domino Go Webserver, back up the store files in the `/opt/GoServer/usr/internet/server_root/pub/`*store_name* directory. You should also back up the files in the `/opt/GoServer/usr/internet/server_root/pub/servicestore` directory as it contains files for the sample store at the `cspsite`.
5. If you plan to reinstall Domino Go Webserver, back up the `db2www.ini` file from the document root, located in the `/opt/GoServer/usr/internet/server_root/pub` directory. Ensure that you restore the file to the document root *after* you reinstall Domino Go Webserver.
6. If you plan to reinstall WebSphere Application Server, backup the file `bootstrap.properties` from the `/opt/WebSphere/AppServer/properties`

directory to the /home directory. Ensure that you restore the file to the /opt/WebSphere/AppServer/properties directory after you reinstall WebSphere Application Server.

7. Log on as user ID root.

8. Stop your WebSphere Commerce Service Provider instance if it is running.

9. If the WebSphere Commerce Service Provider Administrator is running, stop it as well:

```
cd /opt/IBMnetc/NetCommerce3/server/bin
./stop_admin_server
```

10. Determine whether Domino Go Webserver is running by typing the following command:

```
ps -ef|grep httpd
```

Note the process ID for the /usr/sbin/httpd process.

11. Type the following command:

```
kill process_id
```

where *process_id* is the process ID that you noted in the previous step.

12. Ensure WebSphere Application Server is stopped, as described in "Starting and Stopping WebSphere Application Server" on page 207.

13. Start the administration tool by typing /bin/admintool&

14. On the Admintool: Users window, from the **Browse** pull-down menu, select **Software**.

15. On the Admintool: Software window, from the list of packages, select the following:

    - **Lotus Domino Go Webserver**
    - One of the following:
      - **gskru301** — North American version of Domino Go Webserver
      - **gskre301** — Export version of Domino Go Webserver
    - One of the following (only one should appear in the list):
      - **Lotus Domino Go Webserver — North American Edition**
      - **Lotus Domino Go Webserver — International English Edition**

16. From the **Edit** menu, select **Delete**. The Admintool: Warning window appears.

17. Click **Delete**.

18. On the Admintool: Delete Software window, respond y to the confirmation messages to delete the packages that you selected.

19. After all packages are deleted, press Enter. The Admintool: Delete Software window closes.

20. On the Admintool: Software window (which should still be open), select **Exit** from the **File** menu to exit the Admintool program.

21. Switch to the /opt directory and delete the GoServer directory.

22. Delete the following files from the /etc directory:

    - httpd.conf and httpd.conf.* files
    - servlet.conf and servlet.conf.* files

23. Uninstall WebSphere Application Server, as described in "Uninstalling WebSphere Application Server 2.02" on page 215.

Reinstalling Domino Go Webserver and WebSphere Application Server

To reinstall Domino Go Webserver and WebSphere Application Server:

1. Reinstall Domino Go Webserver from the Domino Go Webserver 4.6.2.61 CD, *not* the WebSphere Commerce Service Provider CD. Ensure that you also restore the files which you backed up in steps 4 on page 213 and 5 on page 213 above.

2. Reinstall WebSphere Application Server from the WebSphere Application Server 2.02 CD.

3. Log in as user ID `root`.

4. Switch to the `/opt/IBMnetc/NetCommerce3/server/bin` directory.

5. Type the following command:

   `./start_admin_server`

6. From your Windows machine, open your browser and enter the following Web address:

   `http://host_name:4444`

   where *host_name* is the host name of your WebSphere Commerce Service Provider machine.

7. When prompted, enter your Configuration Manager user ID and password. If you have not yet changed them, your user ID is `webadmin`, and your password is `webibm`.

8. Recreate your WebSphere Commerce Service Provider instance as documented in "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47.

9. Follow the steps in "Chapter 16. Enabling SSL for Production on Domino Go Webserver" on page 81.

Uninstalling WebSphere Application Server 2.02

To uninstall WebSphere Application Server, do the following:

1. Stop WebSphere Application Server 2.02, as described in "Starting and Stopping WebSphere Application Server" on page 207.

2. If you have created or customized any files in the `/opt/WebSphere/AppServer` directory or its subdirectories, and you wish to retain them, back them up to a different directory.

3. If you plan to reinstall WebSphere Application Server, backup the file `bootstrap.properties` from the `/opt/WebSphere/AppServer/properties` directory to the `/home` directory. Ensure that you restore the file to the `/opt/WebSphere/AppServer/properties` directory after you reinstall WebSphere Application Server.

4. Change to the `/opt/WebSphere/AppServer` directory.

5. While logged on to user ID `root`, type `./uninstall.sh` and press Enter.

6. When prompted, select **Remove All Components**.

7. If the `/opt/WebSphere` directory still exists, remove it by typing the following:

   ```
   cd /opt
   rm -r WebSphere
   ```

Note: When a version of Application Server is installed, it copies your Web server configuration file as a backup file and then modifies the original configuration file. The modified file becomes the active configuration file

when you use your Web server. When you uninstall Application Server, it does not restore your previous configuration file, which remains the backup file. Therefore, any changes and customizations you made to your Web server configuration file before installing Application Server (whether this is your first installation of Application Server or a subsequent installation of Application Server) reside in the backup configuration file. To make these settings active again, you must transfer them from the backup file into the active Web server configuration file.

Uninstalling DB2 Universal Database 6.1.0.6

Attention: When you uninstall DB2, you are deleting all the information in the database. For more detailed information about uninstalling DB2, refer to the *DB2 Universal Database for UNIX Quick Beginnings Guide*.

The instructions for uninstalling DB2 UDB version 5 are different than the instructions for uninstalling DB2 Universal Database 6.1.0.6. Ensure you follow the instructions for the version of DB2 UDB that you are using.

Note: You do not usually need to uninstall DB2 before upgrading your level of DB2.

To uninstall DB2 Universal Database 6.1.0.6, do the following:
1. Log on as user ID root.
2. Stop your WebSphere Commerce Service Provider instance if it is running.
3. From a shell prompt, stop the WebSphere Commerce Service Provider Administrator by switching to the /opt/IBMnetc/NetCommerce3/server/bin and typing:

   ./stop_admin_server
4. Stop your Web server. For Domino Go Webserver, see "Starting and Stopping Domino Go Webserver" on page 206. For Netscape Enterprise Server stop both secure and non-secure servers in accordance with instructions from Netscape.
5. Stop WebSphere and ensure that no Java processes are running as described in "Starting and Stopping WebSphere Application Server" on page 207.
6. Shut down the WebSphere Commerce Service Provider server normally. See "Starting and Stopping WebSphere Commerce Service Provider" on page 205 for information.
7. If required, back up your DB2 databases. Refer to your DB2 documentation for guidance on this step.
8. Once you have backed up your databases, do the following:
   a. List all databases by typing the following command at a shell prompt:

      db2 list db directory
   b. Drop your DB2 databases, by typing the following commands:

      db2 force application all
      db2 drop db *db_name*
      db2 uncatalog db *db_alias*

      where *db_name* is your WebSphere Commerce Service Provider database, for example, mser and *db_alias* is rmser.
   c. Stop the database manager using the db2stop command.
9. You must stop all DB2 instances before you remove DB2. To stop a DB2 instance, do the following:

a. To obtain a list of all the DB2 instances on your system, enter the following command:

```
/opt/IBMdb2/V6.1/bin/db2ilist
```

b. Log in as the instance owner.

c. Run the following script:

```
. instance_home/sqllib/db2profile
```

where *instance_home* is the home directory of the instance owner ID.

Note: If you are running a C shell, run the following script instead:

```
source instance_home/sqllib/db2cshrc
```

d. Repeat steps 9b and 9c for each instance.

10. You can optionally remove some or all of the DB2 Version 6 instances on your system. Once an instance is removed, all the DB2 databases owned by the instance, if any, will not be usable. Remove DB2 instances *only if* you are not planning to use DB2 Version 6 products, or if you do not want to migrate existing instances to a later version of DB2.

To remove an instance, do the following:

a. Back up files in the *instance_home*/sqllib directory, if needed, where *instance_home* is the home directory of the instance owner.

b. Log on as a user ID with root authority.

c. Remove the instance by typing:

```
/opt/IBMdb2/V6.1/instance/db2idrop instance_name
```

where *instance_name* is the login name of the instance.

The db2idrop command removes the instance entry from the list of instances and removes the *instance_home*/sqllib directory, where *instance_home* is the home directory of the instance.

d. Optionally, as a user with root authority, remove the instance owner's user ID and group (if used only for that instance). Also remove the fenced user ID and group. Do not remove these if you are planning to recreate the instance.

This step is optional since the instance owner and the instance owner group may be used for other purposes.

11. Ensure that all DB2 processes are stopped before removing DB2. Issue the following command from a DB2 command window:

```
/opt/IBMdb2/V6.1/bin/db2 db2stop force
```

12. To uninstall DB2:

a. Log in as a user with root authority.

b. Run the following command from the DB2 Universal Database 6.1.0.6 CD:

```
./ db2_deinstall -n
```

Note: If you plan to reinstall DB2 Universal Database 6.1.0.6, ensure that you install DB2 from the DB2 Universal Database 6.1.0.6 CD, *not* the WebSphere Commerce Service Provider CD.

13. If it exists, remove the /opt/IBMdb2 directory by typing the following command:

```
cd /opt
rm -r IBMdb2
```

14. If it exists, remove the /export/home/*db2_instance_user* and the /export/home/db2fenc1 directories (as created in "Chapter 2. Installing DB2 UDB" on page 13) by typing the following command:

```
cd /export/home
rm -r db2_instance_user
rm -r db2fenc1
```

The default user for *db2_instance_user* is db2inst1.

Notes:

1. Once you have uninstalled DB2 Universal Database 6.1.0.6, you may receive an error message indicating that the DB2 Client Application Enabler package (db2cliv61) could not be deleted as follows:

```
Removal of <db2cliv61> failed
```

If you receive this error message, manually remove the following two directories:

```
cd /var
rm -r db2
cd /var/sadm/pkg
rm -r db2cliv61
```

2. If you plan to reinstall DB2 Universal Database 6.1.0.6, you will need to install DB2 and create an instance. For DB2 installation instructions, refer to "Chapter 2. Installing DB2 UDB" on page 13.

Uninstalling DB2 Universal Database 5.2

Attention: When you uninstall DB2, you are deleting all the information in the database. For more detailed information about uninstalling DB2, refer to the *DB2 Universal Database for UNIX Quick Beginnings Guide*.

The instructions for uninstalling DB2 UDB version 5 are different from the instructions for uninstalling DB2 Universal Database 5.2. Ensure you follow the instructions for the version of DB2 UDB that you are using. DB2 must be uninstalled in a specific order. Before removing a package, all its dependent packages must be removed first.

Note: You do not usually need to uninstall DB2 before upgrading your level of DB2.

To uninstall DB2 Universal Database version 5, do the following:

1. Log on as user ID root.
2. From a shell prompt, stop the WebSphere Commerce Service Provider Administration server by switching to the /opt/IBMnetc/NetCommerce3/server/bin and typing:

```
./stop_admin_server
```

3. Shut down the WebSphere Commerce Service Provider server normally. See "Starting and Stopping WebSphere Commerce Service Provider" on page 205 for information.
4. If required, back up your DB2 databases. Refer to your DB2 documentation for guidance on this step.
5. Switch to your DB2 instance ID by typing the following command at a shell prompt:

```
su - db2inst_ID
```

where *db2inst_ID* is your DB2 instance ID.

6. Once you have backed up your databases, do the following:

   a. List all databases by typing the following command at a shell prompt:

      ```
      db2 list db directory
      ```

   b. Drop your DB2 databases, by typing the following commands:

      ```
      db2 force application all
      db2 drop db db_name
      db2 uncatalog db db_name
      ```

   c. Stop the database instances using the `db2stop` command.

7. Type `exit` to return to user ID `root`.

8. Switch to the `/opt/IBMdb2/V5.0/instance` directory:

   a. List the your DB2 instances:

      ```
      ./db2ilist
      ```

   b. While logged on as a user ID with `root` authority, drop each DB2 instance listed:

      ```
      ./db2idrop instance_ID
      ```

      where *instance_ID* is the database instance ID.

9. Delete the home directory of all DB2 instance user IDs.

10. Start the administration tool by typing `/bin/admintool&`.

11. Delete the groups and users that were created for DB2. Close the administration tool when you are finished.

12. From a shell prompt, type:

    ```
    pkginfo | grep db2 | grep 50
    ```

    Record the package names which are listed. These are the packages you will delete in the next step.

13. Remove all packages listed in the previous step, using the `pkgrm` command.

Important

Before removing a package, all its dependent packages must be removed first. You *must* remove packages in the order listed below.

Remove the DB2 packages in the following order:

a. db2wkgp50

b. db2cnvt50

c. db2cnvc50

d. db2cnvk50

e. db2cnvj50

f. db2cucs50

g. db2smpl50

h. db2repl50

i. db2das50

j. db2cipx50

k. db2cdrd50

l. db2csna50

m. db2crte50

n. db2engn50

    o. db2rte50

    p. db2jdbc50

    q. db2odbc50

    r. db2cliv50

14. Switch to the /opt directory and remove the IBMdb2 directory if it exists.

Uninstalling Payment Server

1. Switch (su) to user ID root.

2. At the shell prompt, type the following:

   pkgrm IBMPS

3. At the prompt "Do you want to remove this package," enter y.

4. Close all Admintool windows.

5. Switch to the /opt directory and remove the IBM_Payment_Server sub-directory.

Uninstalling DB2 Text Extenders

To uninstall DB2 Text Extenders, do the following:

1. Log on as user ID root.

2. If DB2 Text Extenders is running, stop it according to the instructions in "Starting and Stopping DB2 Text Extender" on page 209.

3. Start the administration tool by typing /bin/admintool&. The Admintool: Users window appears.

4. Select **Software** from the **Browse** menu.

5. On the Admintool: Software window, from the list of packages, select all entries which refer to **DB2 Text Extenders** and **DB2 Extenders**.

6. Select **Delete** from the **Edit** menu.

7. On the Admintool: Warning window, click **Delete**.

8. The Admintool: Delete Software window, respond y to the confirmation messages to delete the packages that you selected.

9. After all packages are deleted, press Enter. The Admintool: Delete Software window closes.

10. On the Admintool: Software window (which should still be open), select **Exit** from the **File** menu to exit the Admintool program.

11. Switch to the /opt directory and remove the IBMdb2tx directory if it exists.

12. Remove the *db2_instance_home*/dmb directory, and remove the reference to the .dmbprofile file in the .profile file for the DB2 instance user ID.

13. Remove the group, smadmin.

Uninstalling Netscape Enterprise Server

Important: If you uninstall Netscape Enterprise Server, you must also uninstall WebSphere Application Server. If you reinstall Netscape Enterprise Server and WebSphere Application Server, you must install Netscape Enterprise Server *before* reinstalling WebSphere Application Server. The reason is that WebSphere modifies your Web server's configuration file (port 80 only on Netscape Enterprise Server). If you install Netscape Enterprise Server after installing WebSphere Application Server, your instance will not be configured properly.

Also, if you reinstall Netscape Enterprise Server and WebSphere Application Server, you will need to recreate their instance before you can access WebSphere Commerce Service Provider Administrator.

If you have created stores with the Store Creator, ensure that you back up the index.html file for any stores created with Store Creator *before* you uninstall Netscape Enterprise Server.

To uninstall Netscape Enterprise Server, do the following:

1. Stop all Netscape Enterprise Server servers (ports 80 and 443).
2. Determine if the WebSphere Application Server process is running by typing:

   ```
   ps -ef | grep java
   ```

   The WebSphere Application Server process of interest should contain a string similar to the following:

   ```
   /bin/../java/bin/../bin/../bin/sparc/native_threads/java . . .
   ```

   If you see the above WebSphere Application Server process, kill the process by issuing the following command:

   ```
   kill process_ID
   ```

   where *process_ID* is the process ID number listed.
3. Stop the Netscape Enterprise Server Administration server.
4. If you have created stores using the Store Creator wizard, and you would like to access them *after* uninstalling or reinstalling Netscape Enterprise Server, back up the store files in the /usr/netscape/suitespot/docs/*store_name* directory.
5. If you plan to reinstall Netscape Enterprise Server, back up the db2wwww.ini file from the document root. Ensure that you restore the file to the document root *after* you reinstall Netscape Enterprise Server.
6. Uninstall Netscape Enterprise Server according to Netscape's instructions.
7. Uninstall WebSphere Application Server, as described in "Uninstalling WebSphere Application Server 2.02" on page 215.
8. Reinstall Netscape Enterprise Server according to Netscape's instructions and restore the backed up files from steps 4 and 5 above.
9. Reinstall WebSphere Application Server, as described in "Chapter 7. Installing JDK 1.1.7 and WebSphere Application Server 2.0.3.1 Standard Edition" on page 31.
10. Apply changes to port 80 server on the Netscape Enterprise Server Administration page.
11. Log in as user ID root.
12. Switch to the /opt/IBMnetc/NetCommerce3/server/bin directory.
13. Type the following command:

    ```
    ./start_admin_server
    ```
14. From your Windows machine, open your browser and enter the following Web address:

    ```
    http://host_name:4444
    ```

    where *host_name* is the fully-qualified name of your WebSphere Commerce Service Provider machine.

15. When prompted, enter your Configuration Manager user ID and password. If you have not yet changed them, your user ID is `webadmin`, and your password is `webibm`.

Appendix D. Troubleshooting

This appendix lists some of the problems you may encounter while installing and configuring WebSphere Commerce Service Provider, and provides possible causes and solutions.

Note: If you need to examine a log file that is very large and difficult to find information in, you should start your search for the error from the bottom of the file. You can also delete the log file, and then reproduce the error so that it is easier to find in the log.

Configuration Manager

This section describes problems that involve Configuration Manager.

1. The Configuration Manager hangs after creating an instance and fails to return to the main Configuration Manager window.

   This problem occurs after you click **OK** at the prompt which indicates the instance has been created. The database for this instance may be at a back-level of WebSphere Commerce Service Provider.

   To check the database level, while logged in as the DB2 instance, type the following:

   ```
   db2 connect to db_name
   db2 select mhdbversion from mall
   ```

   where *db_name* is the name of the database. This should return the version number of the database. The response should reference v3.2;DB2. If the response references a back-level of the database, do the following:

   a. Use Configuration Manager to delete the instance.
   b. From the DB2 instance, connect to the database by typing the following:

      ```
      db2 connect to db_name
      ```

      where *db_name* is the name of the database.
   c. Use Configuration Manager to recreate the instance.
   d. Check the database level on the new instance to confirm it is at the 3.2 level.

WebSphere Commerce Service Provider Administrator

This section describes problems that involve the Administrator.

- Unable to access the Administrator.

  The possible causes are:

  1. If you are using Domino Go Webserver or Domino Web Server as your Web server, you may not have enabled SSL for testing purposes. To check if SSL for testing is enabled, do the following:

     a. On your Windows machine, open your Web browser.
     b. Enter the following Web address:

        ```
        https://host_name
        ```

where *host_name* is your fully-qualified WebSphere Commerce Service Provider machine name.

Notes:

1) Ensure that you enter `https` and *not* `http`.

2) If you have modified your Web server, you may need to type the name of your Web server's front page after the host name.

c. If you are able to view your Web server's home page, SSL for testing is properly enabled. Review the remaining possible causes listed below to determine a cause for not being able to access the Administrator.

d. If you are unable to view your Web server's home page, enable SSL for testing by doing the following:

1) If you are using Domino Go Webserver, follow the instructions in "Chapter 16. Enabling SSL for Production on Domino Go Webserver" on page 81.

e. After enabling SSL for testing, attempt to access the Administrator again. If you are still unable to access the Administrator, review the remaining possible causes listed below to determine a cause for not being able to access the Administrator.

2. If you are using Netscape Enterprise Server as your Web server, you may receive the following error message when attempting to access the Administrator:

```
The requested object does not exist on this server.
The link you followed is either outdated, inaccurate or
the server has been instructed not to let you have access.
```

You may not have applied recent changes to your Netscape Enterprise Server configuration files, `obj.conf`. To determine if changes to the configuration files have not been applied, and to apply the changes:

a. On your Windows machine, open your Web browser.

b. Enter the Web address for your Netscape Enterprise Server Administration port. (For example, `http://`*host_name*`:11111`.)

c. Click your secure server port (port 443). If changes have not been made to the configuration file for this server, a dialog box appears, prompting you to apply the changes to the configuration file. Follow instructions on the dialog box to apply the changes to the file, and stop and restart the server.

d. Repeat step 2c for your non-secure server port.

e. If you are unable to restart your Web server port or ports, refer to "Appendix B. Starting and Stopping WebSphere Commerce Service Provider Components" on page 205.

f. Attempt to access the Administrator again. If you are still unable to access the Administrator, review the remaining possible causes listed below to determine a cause for not being able to access the Administrator.

3. If you receive the following error when trying to access the Administrator:

```
The Mall/Store is currently experiencing problems. Please try again later.
Server not responding (CMN0302E)
A server could not be reached to server this request. Please try again.
```

Your WebSphere Commerce Service Provider instance may not be started. To start your instance, do the following:

a. Access the Configuration Manager by doing the following:

1) Switch to the /opt/IBMnetc/NetCommerce3/server/bin directory and type the following command:

   ```
   ./start_admin_server
   ```

2) From the Windows machine running the required software, access the Configuration Manager by doing the following:

   a) Open your Web browser and go to http://*host_name*:4444.

   b) When prompted, enter your Configuration Manager user ID and password. If you have not yet changed them, your user ID is webadmin and your password is webibm.

b. If there is an instance listed on the main Configuration Manager window, highlight the instance and click **Start**.

c. If there are no instances listed on the main Configuration Manager window, you must create an instance by following the steps in "Chapter 11. Configuring a WebSphere Commerce Service Provider Instance" on page 47.

d. If you are able to access the Administrator login page, but you are unable to log on with the default user ID and password (which are both ncadmin), you may have to recreate the default user ID and password. To recreate the Administrator ID and password, refer to "Determining the Encrypted WebSphere Commerce Service Provider Administrator Password" on page 73 and "Changing the WebSphere Commerce Service Provider Administrator Password" on page 74.

- Unable to log into Administrator.

  If the database creation scripts are used from a command line, the administrator will not be able to login with the NCAdmin password if the NCAdmin_password was not included in double quotes. These scripts are: schema.cmd, demomall.cmd, grocery.cmd, bus2bus.cmd, tutorial.cmd and remote_schema.cmd.

  If an NCAdmin password login fails, do the following to correct the problem:

  1. While logged in as the DB2 instance, connect to the database by typing db2 connect to *db_name*.

  2. Verify that the SHOPPER table NCAdmin password matches the nc3_crypt Encrypted string (HEX) by typing the following command:

     ```
     db2 select shlpswd from shopper where shlogid='ncadmin'
     ```

  3. Type the following command:

     ```
     nc3_crypt -e ncadmin (Encrypted string (ASCII))
     ```

  Output from command:

  ```
  IBM*
      Licensed Materials - Property of IBM
      5697-A16
      (C) Copyrights by IBM and by other(s) 1978, 1996. All Rights Reserved.
      * Trademark of International Business Machines Corp.
      Encrypted string (ASCII): KDRiGCv9hAM=
      Encrypted string (hex): 4B44526947437639684414D3D
  ```

  This procedure should produce the same results as above except for the padding. If this is not the case, perform a DB2 update to correct the problem. For example, type the following on one line:

  ```
  DB2 update SHOPPER set SHLPSWD=x'4B44526947437639684414D3D'
        where SHLOGID='ncadmin'
  ```

  Please note that the value of SHLPSWD should be the Encrypted string (ASCII).

- Receiving Authorization Failure (CMN0962E) when accessing the Administrator.

When accessing the Administrator, the fully qualified Web address should be specified including the domain. For example, `www.ibm.com` is fully qualified.

- When accessing an Administrator page that contains Java, the Netscape browser crashes with a Dr. Watson error.

  This error usually occurs when the video mode is set to VGA with 16 colors. Increase the video mode setting to SVGA and retry.

- If you are using Oracle, have installed WebSphere Commerce Service Provider components, and successfully created a Basic Store, and you receive the following message when you attempt to open the store using the Administrator:

  ```
  Error 500

  Service handler performed no action; contact the server administrator.
  ```

  you will need to create two soft links for the ODBC driver files as documented in the steps in "Configuring the ODBC Driver" on page 24.

DB2 Universal Database

This section describes problems that involve DB2.

- DB2 installation hangs when creating the instance.

  If you are installing DB2 for the first time, and the Solaris kernel parameters have not been set correctly, the DB2 install will hang when it attempts to create the instance.

  To recover from this error, you must completely uninstall DB2 by following the instructions in "Uninstalling DB2 Universal Database 6.1.0.6" on page 216. After uninstalling DB2, ensure that your Solaris kernel parameters are set correctly, according to the instructions in step "Updating Solaris Kernel Configuration Parameters for DB2" on page 4 in Chapter 1. Preinstallation Requirements. You must reboot your machine after updating the kernel parameters. When your machine reboots, install DB2 by following the instructions in "Chapter 2. Installing DB2 UDB" on page 13.

- DB2 installation fails.

  If you have uninstalled DB2 and are attempting to reinstall it, and you are encountering difficulties, you may not have completely uninstalled all DB2 files. If DB2 is not completely uninstalled according to the instructions in "Uninstalling DB2 Universal Database 6.1.0.6" on page 216, you will not be able to reinstall DB2 correctly. Note the following common errors in uninstalling DB2:

  - If you did not uninstall the DB2 packages in the order specified in "Uninstalling DB2 Universal Database 6.1.0.6" on page 216, not all files may have been deleted. Before you remove a package, you must remove its dependent packages first.

  - If you did not drop the instance before uninstalling DB2, the `db2_var` directory may not have been removed. This directory must be removed before attempting to reinstall DB2.

  Check your system for any DB2 files or directories and remove them before reinstalling DB2.

- Miscellaneous DB2 errors: For example, unable to start instances or receiving an error message when logging in.

  WebSphere Commerce Service Provider requires the DB2 instance ID to be running in the Korn shell. If you are not using the Korn shell, the WebSphere Commerce Service Provider environment will not be set correctly and this may manifest itself in a variety of symptoms.

For example, if you are using the Bourne shell, when you log in you may receive an error message similar to the following:

```
-sh:identifier: is not an identifier
```

where *identifier* is an environment variable (for example, NLSPATH).

Use Admintool to change the default shell for your DB2 instance ID to the Korn shell.

- Unable to start DB2.

  Check to see that you have enough swap space available on your system. If your system does not meet the swap space requirements indicated in step "Prerequisite Hardware" on page 3 of Chapter 1. Preinstallation Requirements, DB2 will be unable to start.

- Unable to start a DB2 instance, with the following message in the control*pid* error log:

```
STATUS CMN0001S: Opening database 'mser' for 'db2inst1' using password 'shhh!'
ERROR  CMN0006E: Database SQL State 08001' : '[IBM][CLI Driver] SQL1032N
No start database manager command was issued.
SQLSTATE=57019'.
ERROR  CMN0001E: The database returned the error code -1006.
```

  Check that DB2 has been started by referring to the procedures in "Starting and Stopping DB2" on page 208..

- Error message: `Could not open NC3_MSG.CAT`

  This error message may indicate that some of your environment variables are not set correctly. To correct this, do the following:

  1. While logged in as your DB2 instance ID, type `locale` to determine the setting for the locale environment variable.

  2. Ensure that the `LANG` and `NLSPATH` environment variables are set as follows:

```
LANG=en_US
NLSPATH=/usr/lib/locale/%L/%N;/usr/lib/locale/%L/%N.cat
```

Netscape Enterprise Server

This section describes problems that involve Netscape Enterprise Server.

- Netscape Enterprise Server non-secure server port (port 80) fails to restart.

  The possible cause is that WebSphere processes were not stopped when the Web server was stopped. To stop any Web server processes that are running, do the following:

  1. From a shell prompt, type the following:

```
ps -ef|grep java
```

  2. Check the response for any WebSphere processes.

  3. Kill any WebSphere processes by typing the following command:

```
kill process_ID
```

  where *process_ID* is the process ID of the WebSphere process or processes you wish to terminate. Once you have killed the WebSphere processes, attempt to start the Netscape Enterprise Server server port again.

Product Advisor

If you are experiencing problems using Product Advisor and WebSphere, there are tests that you can run to help determine the error. Refer to the *Configuration Checklist for the Product Advisor* section of the WebSphere Commerce Service Provider online help for more information about troubleshooting Product Advisor problems.

- If you receive a `Cannot read configuration file` error when you try to load Product Advisor.

  After restarting the Web server, close your browser and try again after a short time. When a Web server is restarted, it takes a couple of minutes for WebSphere to load.

- Problems loading Product Advisor

  After Product Advisor loads, if the category product tree is not displayed correctly (for example, only the first line appears), your environment variables may not be properly set. To set them, do the following:

  1. Stop your Web server.
  2. Switch to the `/opt/IBMnetc/NetCommerce3/server/bin` directory and type the following command:

     `. netcprofile`
  3. Restart your Web server.
  4. Open your browser and enter the following Web address:

     `http://host_name/servlet/icmviewer/?DEBUG`

     Where *host_name* is the name of the WebSphere Commerce Service Provider machine.

     You should get the following display:

     ```
     Trace mode

     PROGRAM VERSION=IBM Product Advisor Rendering Engine 2.0
     SERVLET_PATH=servlet/icviewer
     QUERY_STRING=DEBUG
     COOKIE_STRING=awMember=john smith; awMemberEmail=js@email.com
     ACCEPT-LANGUAGE=en
     REQUEST_METHOD=GET
     CONTENT_LENGTH=0
     PATH_INFO=/
     PATH_TRANSLATED=C:/WWW/HTML/
     HOST_NAME=host_name
     CONFIG_FILE=ncommerce.ini
     DOCUMENT_ROOT=C:/WWW/HTML
     CONFIG_FILENAME=C:/WWW/HTML/ncommerce.ini
     ```

     If you do not get this display, check the servlets directory. It should contain the `icpart32.jar` and `icpavf32.jar` files. If it does not, copy the files from the *install_path*\html\en_US\ncadmin\ictmgr directory (where *install_path* is the name of your WebSphere Commerce Service Provider installation path) to the `WebSphere\AppServer\servlets` directory.
  5. If you receive a `Cannot read configuration file` error when you try to load Product Advisor after restarting the Web server, close your browser and try again after a short time. When a Web server is restarted, it takes a couple of minutes for WebSphere to load.

Payment Server

This section describes problems that involve Payment Server.

- You are experiencing difficulties with Payment Server and interoperability with a VISA-operated payment gateway.

  Payment Server PTF 1.2.8 (U300072) is the minimum level required for interoperability with a VISA-operated payment gateway. However, all Payment Server PTFs are cumulative. Therefore any Payment Server PTF later than 1.2.8 could be applied. Please contact your IBM Representative for information on the latest Payment Server PTF.

- When making a purchase with a wallet, the wallet displays a communication failure error. The following error message appears in the Payment Server error log:

  ```
  Fri Nov 20 16:11:32 EST 1998 CEPSET0323: IBM Payment Server SET
     transaction failed composing a PInitRes message with return
     code 1016 for merchant 2066, order number 358.
  ```

  This error message could indicate a mismatch between Acquirer/Brand configuration data and certificate data. To find the source, shut down the Payment Server by shutting down the WebSphere Commerce Service Provider server. Run `eecertreq` and view the Common Name field in the payment gateway certificate. The Payment Server expects `<AcquirerBIN>:<AcquirerBusinessID>` in the **Common Name** field. If the Acquirer Business ID contained in the Payment Gateway Certificate does not match the Acquirer Business ID you specified in the Brand Configuration form, correct it and restart the Payment Server.

  This problem may be caused by an acquirer who has sent you only the Business ID part of the AcquirerBusinessID, which in fact is made up of a Business ID and a sequence number.

Miscellaneous

This section describes miscellaneous problems.

- If you are using DB2 with WebSphere Commerce Service Provider, and you receive the following DB2 error message:

  ```
  Database migration failed. Reason code 3.
  ```

  you need to increase your database log space. To increase the log space, run the following command from a DB2 command window:

  ```
  db2 update db cgf for db_name using primary logprimary 9
  ```

  where *db_name* is the name of the database. If the command does not return successfully, increase 9 by a higher number. Readjust the number until the command is successful.

- SSL key verification fails after a Net.Commerce Hosting Server 3.1.2 migration

  If you SSL key verification fails and your browser times out while you are trying to log into the Administrator, do the following:

  - Ensure that you perform all Net.Commerce Hosting Server 3.1.2 migrations steps.
  - Ensure that you have created an SSL key.
  - Ensure that your WebSphere Commerce Service Provider instance is using the correct database.

If all of the above tasks are complete and successful, then delete your WebSphere Commerce Service Provider instance and recreate it. The new instance should use the existing migrated database.

- Loading JDBC error received when starting your Web server and you have DB2 UDB V5.0 installed.

  You have DB2 UDB V5.0 installed on your system, and after installing Commerce Service Provider 3.2 you see a JDBC loading problem with an error message similar to:

```
FATAL ERROR - A database error occurred loading the configuration:
Could not load the JDBC Driver: java.sql.SQLException:
DB2 Driver error allocating environment handle, rc = -1.
Contact your system administrator..
com.ibm.commerce.tools.persistence.DBException:
Could not load the JDBC Driver: java.sql.SQLException:
DB2 Driver error allocating environment handle, rc = -1.
Contact your system administrator.
```

  To fix this problem, change the following lines in /opt/IBMnetc/NetCommerce3/server/bin/netcprofile to point to the correct level of DB2 for Commerce Service Provider 3.2. Change:

```
# Default Net.Commerce product directory
NETCDIR="/opt/IBMnetc/NetCommerce3"
DB2DIR="/opt/IBMdb2/V5.0"
if [  -f '/opt/IBMdb2/V5.0/lib/libdb2.so.1'  ]
   then
        DB2DIR="opt/IBMdb2/V5.0"
   elif [ -f '/opt/IBMdb2/V6.1/lib/libdb2.so.1'  ]
        then
        DB2DIR="/opt/IBMdb2/V6.1"
fi
JAVADIR="/usr/java"
```

  to:

```
# Default Net.Commerce product directory
NETCDIR="/opt/IBMnetc/NetCommerce3"
DB2DIR="/opt/IBMdb2/V6.1"
if [  -f '/opt/IBMdb2/V6.1/lib/libdb2.so.1'  ]
   then
        DB2DIR="opt/IBMdb2/V6.1"
   elif [ -f '/opt/IBMdb2/V5.0/lib/libdb2.so.1'  ]
        then
        DB2DIR="/opt/IBMdb2/V5.0"
fi
JAVADIR="/usr/java"
```

  After making these changes, you can successfully start your Web server, WebSphere Application Server, and WebSphere Commerce Service Provider instance.

- If you are using Oracle, and you have completed your installation and configuration of WebSphere Commerce Service Provider, including the creation of an instance, and you receive a Check Access Failed error message when you attempt to create a store, stop and then restart your Web server (either Domino Go Webserver or Netscape Enterprise Server) and WebSphere Application Server. For information on starting and stopping WebSphere Commerce Service Provider components, refer to "Appendix B. Starting and Stopping WebSphere Commerce Service Provider Components" on page 205.

Appendix E. Where to Find More Information

More information about the WebSphere Commerce Service Provider 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 Service Provider Information

The following are the sources of WebSphere Commerce Service Provider information:

- WebSphere Commerce Service Provider online help
- WebSphere Commerce Service Provider printable document files
- Net.Commerce Web site

Using the Online Help

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

`http://host_name/nchshelp/index.htm`

Locating the Printable Documentation

Some of the online information is also available on your system in printable formats in the `/opt/IBMnetc/NetCommerce3/books/locale` directory.

If you do not install the Printable Documentation component, you can access the printable documents from the `/Docs` directory of the WebSphere Commerce Service Provider CD.

Viewing the WebSphere Commerce Service Provider Web site

WebSphere Commerce Service Provider product information is available at our product Web site. To access it, type the following Web address on your browser:

`http://www.ibm.com/software/webservers/commerce/servers`

New and updated documentation may also be available from the *Library* section of this site.

Domino Go Webserver Information

Domino Go Webserver information is available at `http://www.software.ibm.com/webservers/dgw/`. The documents are in HTML format, PDF format, or both. This site also has a link to download Adobe Acrobat Reader, which you can use to view and print the PDF files.

Net.Data Information

Net.Data documentation is available in HTML, PDF, and Postscript format from the Net.Data Web site. To access it, type the following on your browser:

`http://www.ibm.com/software/data/net.data/library.html`

Payment Server Information

IBM Payment Server documents will be available on your system, in PDF format, after you install Payment Server. You can find `eTillAdmin.pdf`, *IBM Payment Server for AIX, Windows NT and Solaris - Administrator's Guide, Version 1.2,* and `eTillProg.pdf`, *IBM Payment Server for AIX, Windows NT and Solaris - Programmer's Guide and Reference, Version 1.2,* under the `Payment Server` root directory. By default, this directory is `/opt/IBM_Payment_Server`. Payment Server information is also available from the WebSphere site:

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

WebSphere Application Server

WebSphere Application Server information is available at the WebSphere Application Server Web site. To access this page, type the following on your browser:

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

DB2 Information

If you installed the DB2 documentation, the HTML documentation files are available under the `/doc/`*lang*`/html` subdirectory, where *lang* 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, which you can access by doing the following:

1. Using a browser, open the following page on the machine on which you installed DB2:

   `file:`*instance_homedir*`/sqllib/doc/`*locale*`/html/index.htm`

   where *instance_homedir* is your instance home directory and *locale* is your two character locale code.

2. This page contains descriptions and links to DB2 information. Select the *DB2 Quick Beginnings for UNIX* book, and refer to the **DB2 Information — Hardcopy and Online** section.

Additional DB2 information is available at `http://www.ibm.com/db2`.

Solaris Operating Environment Information

For information about any Solaris operating environment command, type the following on a shell prompt:

`man `*command*

where *command* is the command about which you want more information.

Other IBM Publications

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

Appendix F. Program Specifications and Specified Operating Environment

This version of WebSphere Commerce Service Provider supports the following operating environments:

- Solaris 2.6
- Solaris 2.7

WebSphere Commerce Service Provider 3.2 includes the following components:

WebSphere Commerce Service Provider Administrator
> The Administrator consists of tools for creating and maintaining an electronic commerce site or store. This includes the Site Manager tool described below.

Site Manager
> A collection of easy-to-use online forms that help define and manage high-level functions related to Internet malls and stores.

Sample Site, Mall, and Stores
> Sample stores included with the product have end-to-end shopping flows with predefined catalog templates, registration, shopping carts, order forms, checkout, and payment components. The sample stores can be customized to meet individual needs. See "Part 4. Getting Started" on page 121 for more information.

Product Advisor
> A catalog tool provided with WebSphere Commerce Service Provider that helps sellers create intelligent catalog searches to guide their customers' product selection. You can also create customized catalogs catering to certain shopping preferences and buying styles. Support is provided for parametric searching of the catalog, sales assistance, or product comparison, to assist shoppers in making product selections.

Tutorials
> WebSphere Commerce Service Provider includes two tutorials to help you understand the way in which various Net.Commerce components work together. You can walk through the process of using the base Net.Commerce product to set up a mall step by step, with hands-on guidance and detailed explanation of each step. Note that these tutorials apply specifically to Net.Commerce rather than to WebSphere Commerce Service Provider itself.

The following products are bundled with, and supported by, WebSphere Commerce Service Provider 3.2:

DB2 Universal Database 6.1.0.6
> DB2 Universal Database is a full-featured relational database used by WebSphere Commerce Service Provider as a repository for all of the information about the site. This includes product and category data, pointers to graphical elements for the pages, order status, address information, and many other types of data.

DB2 Text Extender 6.1.1
> DB2 Text Extender is an optional component for DB2 that provides

additional search capabilities to your site. Using Text Extenders adds the ability to support numerous search types by your customers including searching for synonyms, inexact matches and words in close proximity, as well as boolean and wild card searches.

Domino Go Webserver 4.6.2.61

Domino Go Webserver is a Web server that provides extensive management capabilities; support for Java deployment; proxy server services; and security features including support for SSL 3, such as client and server authentication, and data encryption.

Payment Server 1.2.20.3

IBM Payment Server provides real-time Internet payment processing for merchants who are using a variety of methods, including SET (Secure Electronic Transactions), and Merchant Originated Payment.

WebSphere Application Server 2.0.3.1

IBM WebSphere Application Server is a Java-based application environment for building, deploying, and managing Internet and intranet Web applications.

Net.Data 6.1

A DB2 scripting language used to access data in a relational database.

Netscape Navigator 4.61

A popular Web browser.

WebSphere Commerce Service Provider 3.2 also supports the following:

- Oracle 8.05 (requires Merant ODBC 3.5)
- Netscape Enterprise Server 3.6.1
- JDK/JRE 1.1.7

Glossary

A

acquiring institution. The financial institution that receives payment from the customer's financial institution and forwards it to the merchant.

Administrator. A series of interfaces that enables merchants to create and manage malls and stores.

applet. A small program that is embedded in Web pages to produce animation and other special effects.

C

cache. A special-purpose buffer storage that is used to hold a copy of data that may be frequently accessed. Use of a cache reduces access time, but may increase memory requirements.

Caching utility. A utility that enables the user to cache certain frequently used pages.

catalog. A collection of Web pages that contains information about goods or services that are offered for sale by a single store.

category. A division that groups objects with similar properties. Categories are used to organize products or services offered by an online store. For example, a clothing store might include categories arranged by life-style (casual or formal), gender (men or women) or age (children or adults). Categories can be further divided into subcategories.

certificate. In secure communications, a digital document that binds an encryption key to the identity of the certificate owner, so that the certificate owner can be authenticated. A certificate is issued by a certifying authority (CA). See also *certifying authority (CA)*.

certifying authority (CA). In secure communications, a trusted third party (such as VeriSign, Inc.), or a designated internal authority who issues certificates. See also *certificate*.

CGI. See *Common Gateway Interface*.

Common Gateway Interface (CGI). A program that enables two-way communication between a Web server and a daemon.

Configuration Manager. The program used to manage the configuration of a WebSphere Commerce Service Provider system.

D

DATABASE 2™. An IBM relational database management system.

DB2. See *DATABASE 2*.

DB2 Universal Database. See *DATABASE 2*.

DB2 Text Extender. A product that enhances the search capabilities of DB2 by providing extensions to SQL. These extensions work with a search engine to retrieve information from the DB2 database.

Distinguished Name. In secure communications, the name and address of the person and organization to whom a certificate has been issued. See also *certificate*.

Domino Go Webserver. The Web server provided with WebSphere Commerce Service Provider.

H

HTML. See *Hypertext Markup Language*.

Hypertext Markup Language (HTML). A notation for identifying the components of a document to format it for display on the Web. HTML formats the text, determines input areas on forms, and creates navigational links.

I

IP address. The unique 32-bit address that specifies the location of each device or workstation in the Internet. For example, 9.41.41.103 is an IP address.

K

key. In secure communications, an algorithmic pattern that is used by a sender to encrypt messages and by a recipient to decrypt messages. See also *key pair* and *key ring*.

key pair. In secure communications, a key pair consists of a public key and a private key. The sender uses the public key to encrypt the message, and the recipient uses the private key to decrypt the message. See also *private key* and *public key*.

key ring. In secure communications, a file that contains public keys, private keys, trusted roots, and certificates. See also *certificate, public key, private key*.

M

mall. A collection of electronic stores that are jointly managed by the same administrator.

Mass Import utility. A utility that lets a user quickly import product information from a text file into the WebSphere Commerce Service Provider database, rather than completing forms in WebSphere Commerce Service Provider Administrator one by one.

merchant. An individual or company that uses WebSphere Commerce Service Provider to sell goods or services over the Web.

merchant key. A 16-digit hexadecimal number that the Configuration Manager uses to encrypt passwords.

N

Net.Data. The language used in WebSphere Commerce Service Provider macros.

Netscape Enterprise Server. A Web server that can be used with WebSphere Commerce Service Provider instead of Domino Go Webserver.

O

overridable function. Program code that implements a task.

P

private key. In secure communications, an algorithmic pattern used to decrypt messages that were encrypted by the corresponding public key. You keep your private key on your own system in a key ring, protected by a password. See also *key ring* and *public key*.

Product Advisor. A component of the WebSphere Commerce Service Provider, used to create intelligent catalogs.

production server. The server on which you make your WebSphere Commerce Service Provider site available to shoppers. See also *staging server*.

public key. In secure communications, an algorithmic pattern used to encrypt messages that the corresponding private key can decrypt. You make your public key available to everyone that needs it. See also *key ring* and *private key*.

S

Secure Electronic Transaction (SET). SET is a protocol that ensures secure transmission of sensitive information such as data about shoppers, orders, and payment methods.

secure server. A server that uses secure protocols to protect the confidentiality of information that is transmitted and received over the Web. Domino Go Webserver is an example of a secure server.

Secure Sockets Layer (SSL). Secure Sockets Layer allows the client to authenticate the server and all data and requests to be encrypted. The Web address of a secure server that is protected by SSL begins with `https` (rather than `http`). See also *authentication*.

server. A computer that provides shared services to other computers over a network. For example, a file server, a print server, or a mail server.

SET. See *Secure Electronic Transaction*.

shopper. An individual who accesses an electronic store to browse catalogs and make purchases.

shopping cart. A collection of goods or services that a shopper selects from an electronic catalog.

site. A virtual location manifested by the existence of a single instance of WebSphere Commerce Service Provider.

site administrator. An individual with the authority to update the information that is associated with a site.

Site Manager. A collection of data entry forms used to populate the WebSphere Commerce Service Provider database with mall and site information and to maintain this information. Site Manager is a component of WebSphere Commerce Service Provider Administrator.

SKU number. Stock keeping Unit number. An alphanumeric identifier for each item of merchandise. It can include variables for department, class, vendor, style, color, size, and location.

SSL. See *Secure Sockets Layer*.

store. A set of Web pages and macros that allow shoppers to purchase goods and services over the Web. A store may be part of a mall or may exist independently of any other online store.

store administrator. An individual with the authority to update the information that is associated with a store.

Structured Query Language (SQL). A computer language that is used to manipulate relational databases.

T

TCP/IP. See *Transmission Control Protocol/Internet Protocol*.

**Transmission Control Protocol/Internet Protocol
(TCP/IP).** A set of communication protocols that
supports peer-to-peer connectivity functions for both
local and wide area networks.

V

VeriSign. A certifying authority (trusted third party)
that can provide a secure certificate.

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