Oracle® Fusion Middleware

WebCenter Sites: Installing and Configuring Supporting Software

11*g* Release 1 (11.1.1.8.0)

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Oracle Fusion Middleware WebCenter Sites: Installing and Configuring Supporting Software, 11*g* Release 1 (11.1.1.8.0)

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Preface

This guide contains information about installing and configuring supported databases, application servers, web servers, and other software used by the Oracle WebCenter Sites product family. This guide also contains procedures for integrating WebCenter Sites and its applications with LDAP and authentication applications.

Audience

This guide is intended for installation engineers with experience installing and configuring enterprise-level software, including databases, database drivers, application servers, web servers, and LDAP servers.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at
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Related Documents

For more information, see the following documents:

- *Oracle WebCenter Sites Certification Matrix*
- *Oracle WebCenter Sites Release Notes*
- *Oracle Fusion Middleware WebCenter Sites Installation Guide*

Graphics in This Guide

Graphics in this guide are screen captures of dialog boxes and similar windows that you will interact with during the installation or configuration process. The graphics are presented to help you follow the installation and configuration processes. They are not intended to be sources of information such as parameter values, options to select, and product version numbers.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.
Monospace bold	Monospace bold type indicates a command.

Part I

Creating and Configuring a Database

Oracle WebCenter Sites requires access to a supported database configured specifically for WebCenter Sites. Instructions for creating and configuring supported databases are available in this part.

Part I contains the following chapters:

- Chapter 1, "Creating and Configuring an Oracle 11g Database"
- Chapter 2, "Creating and Configuring an IBM DB2 Database"
- Chapter 3, "Creating and Configuring a Microsoft SQL Server Database"

In practice, permissions can be restricted for the user that WebCenter Sites will use to access a database. However, the following rights must exist: ability to create, modify, and delete tables and indexes.

If you need instructions on installing a supported database, refer to the product documentation. For instructions on creating and configuring a supported database refer to the chapters listed above. (Note that database configuration is identical across different application servers.)

1

Creating and Configuring an Oracle 11*g* Database

Use this chapter to set up an Oracle 11*g* database for your WebCenter Sites installation.

This chapter contains the following sections:

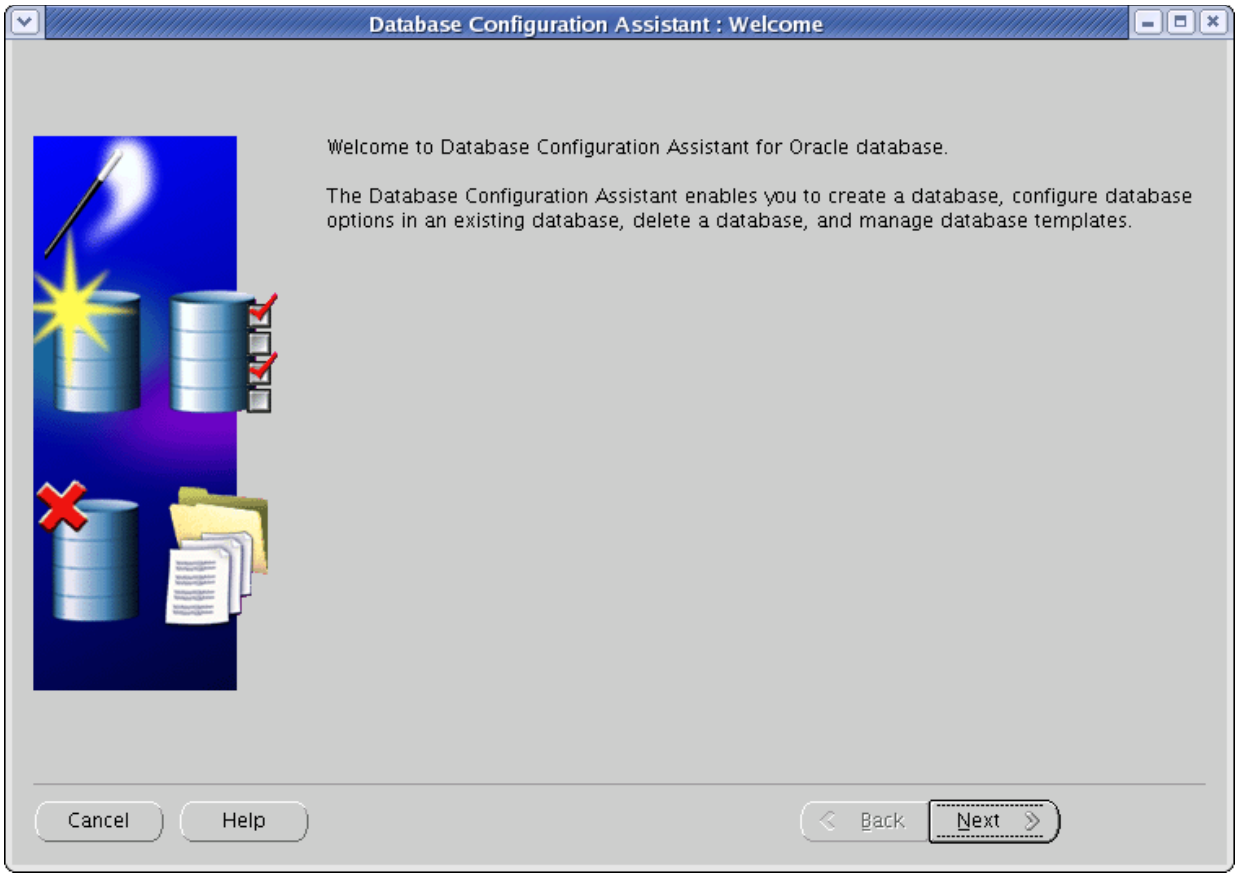
1.1 Creating an Oracle 11*g* Database

1. Launch the Oracle Database Configuration Assistant by executing the following command:

   ```
   <ora_home>/bin/dbca
   ```

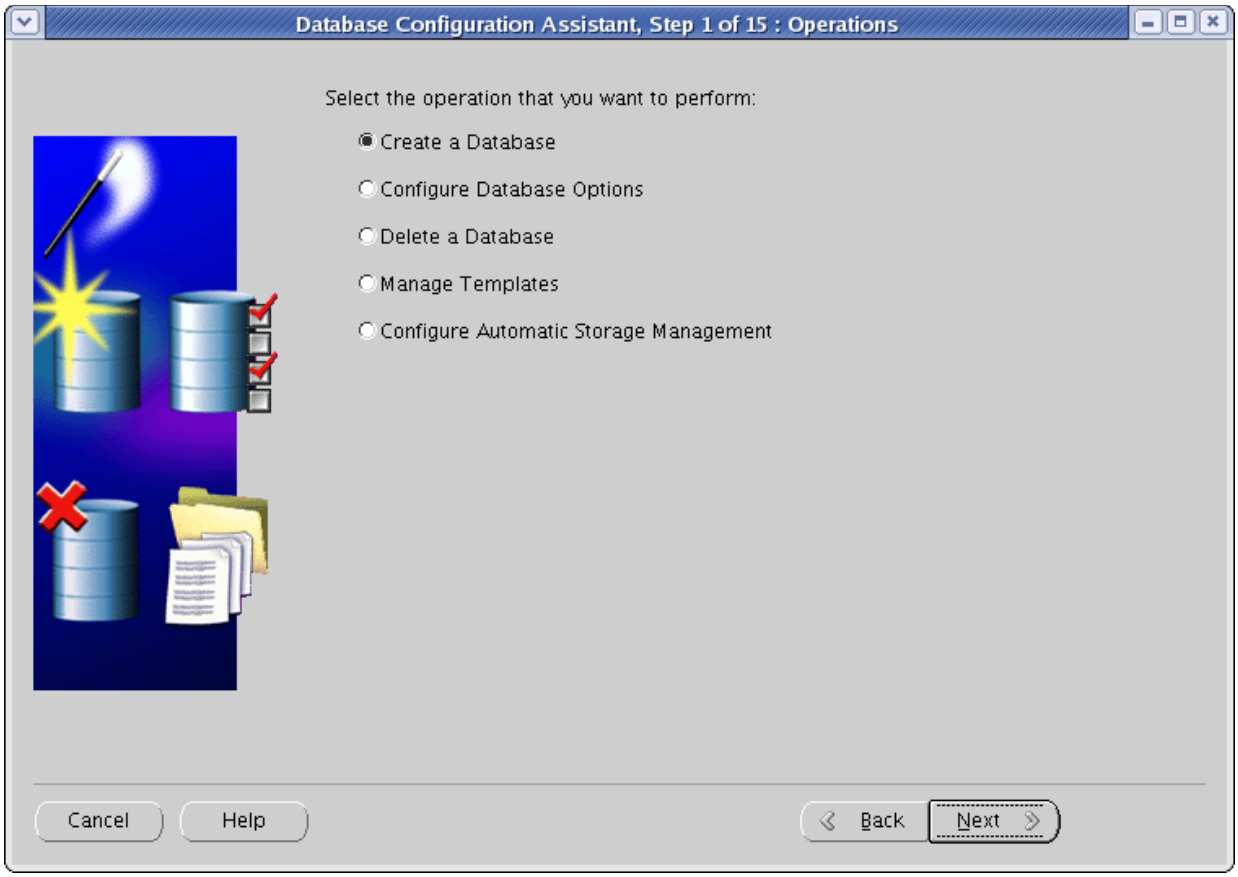
2. In the "Welcome" screen (Figure 1–1), click **Next**.

Figure 1–1 Database Configuration Assistant: Welcome



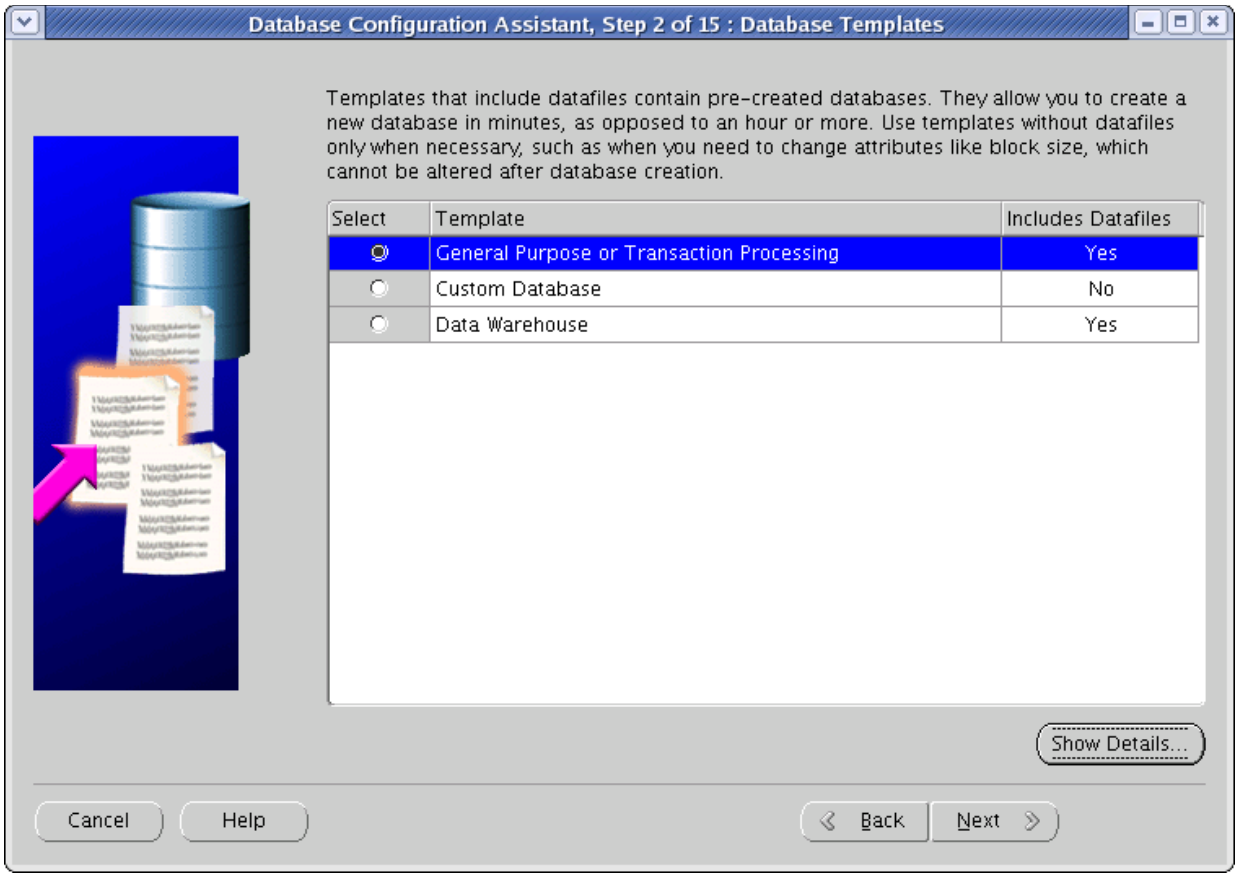
3. In the "Operations" screen (Figure 1–2), select **Create a Database** and click **Next**.

Figure 1–2 Operations



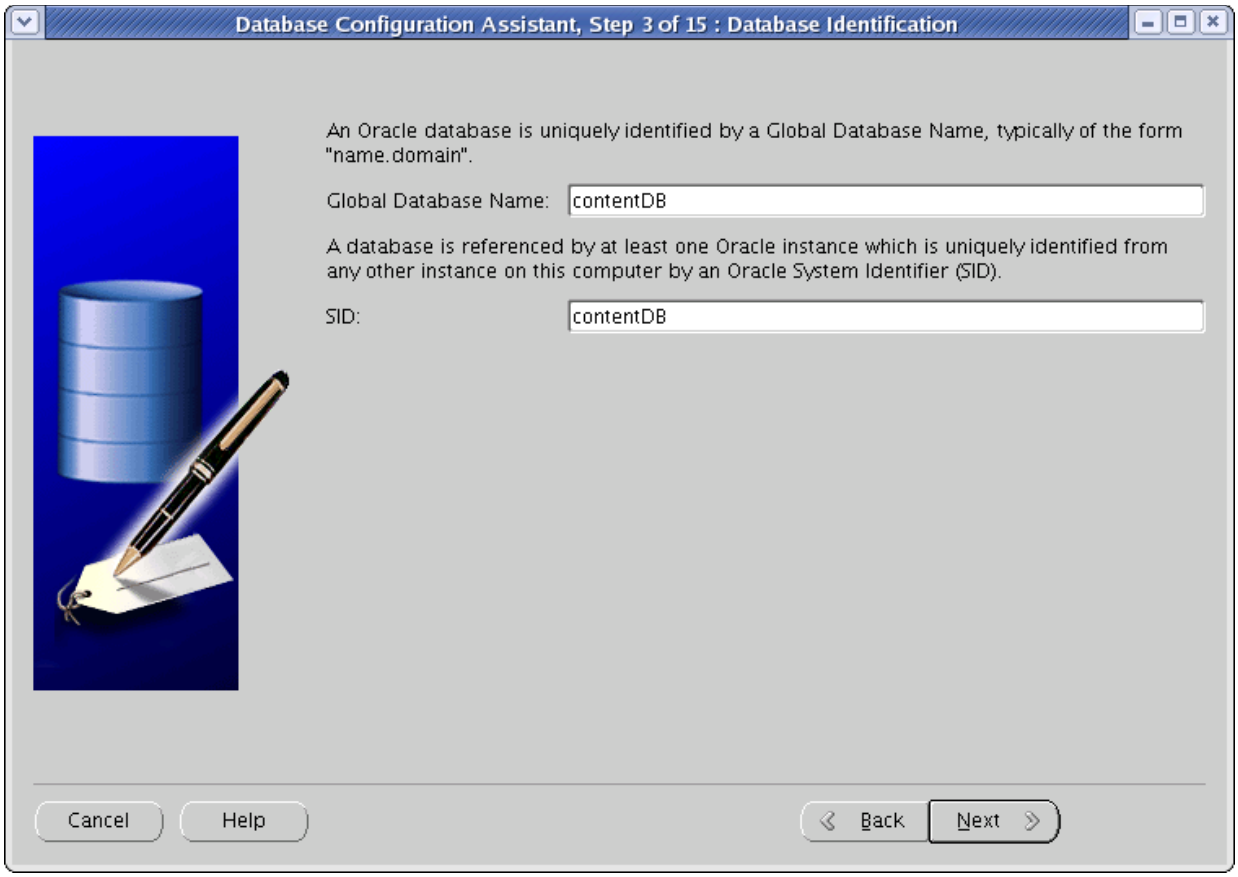
4. In the "Database Templates" screen (Figure 1–3), select **General Purpose or Transaction Processing** and click **Next**.

Figure 1–3 Database Templates



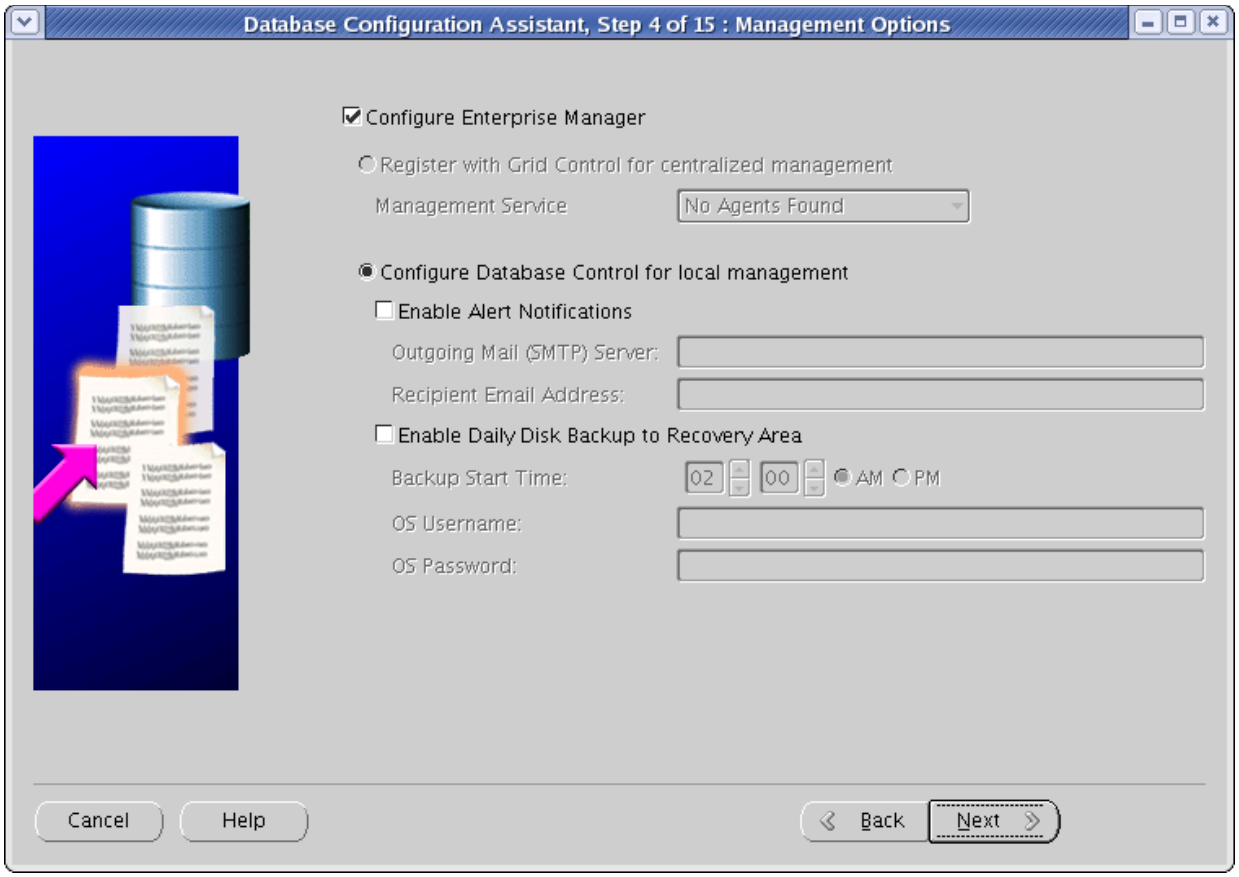
5. In the "Database Identification" screen (Figure 1–4), enter the global database name and the SID. (Oracle recommends using the same value for both; in our example, we are using `contentDB`.) When you are finished, click **Next**.

Figure 1–4 Database Identification



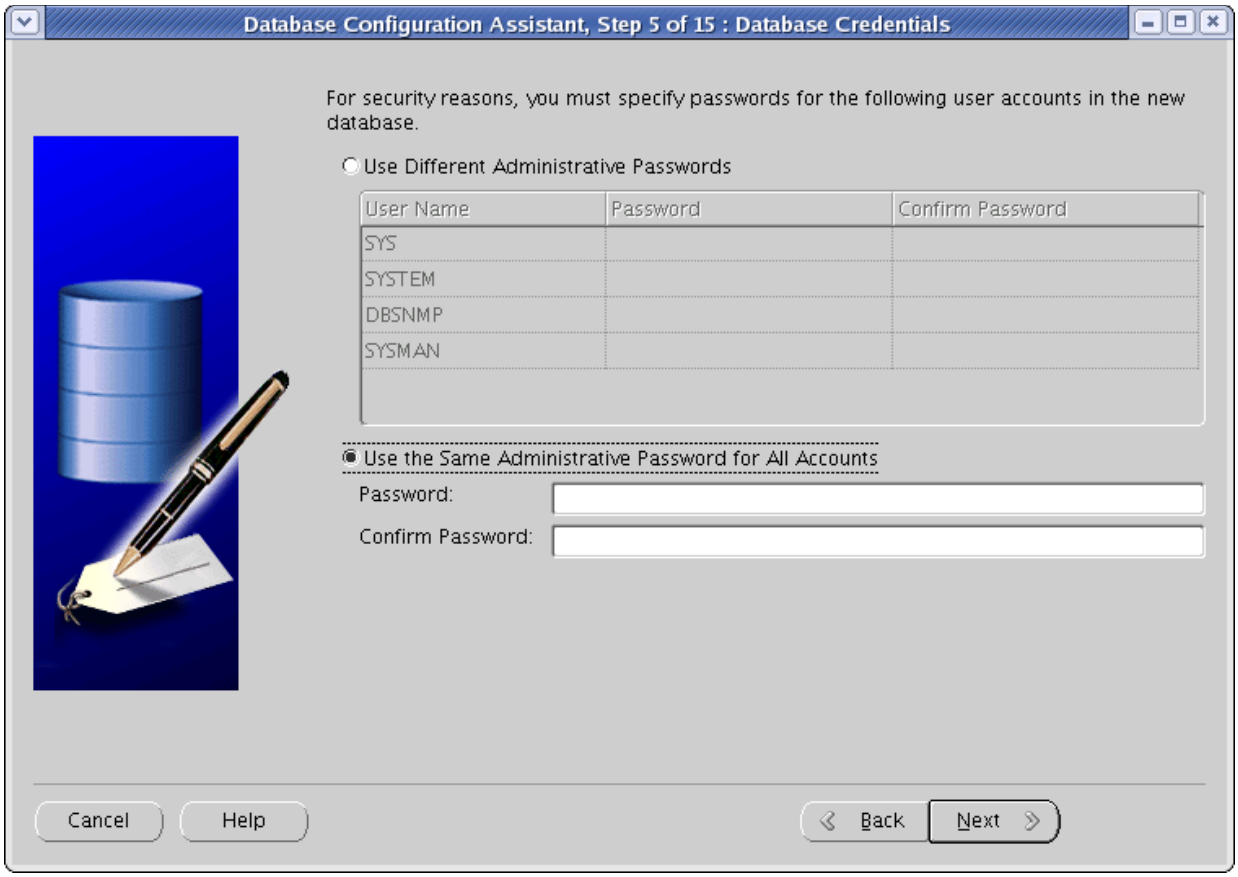
6. In the "Management Options" screen (Figure 1–5), select the **Configure Enterprise Manager** check box. Select other options as desired. When you are finished, click **Next.**

Figure 1–5 Management Options



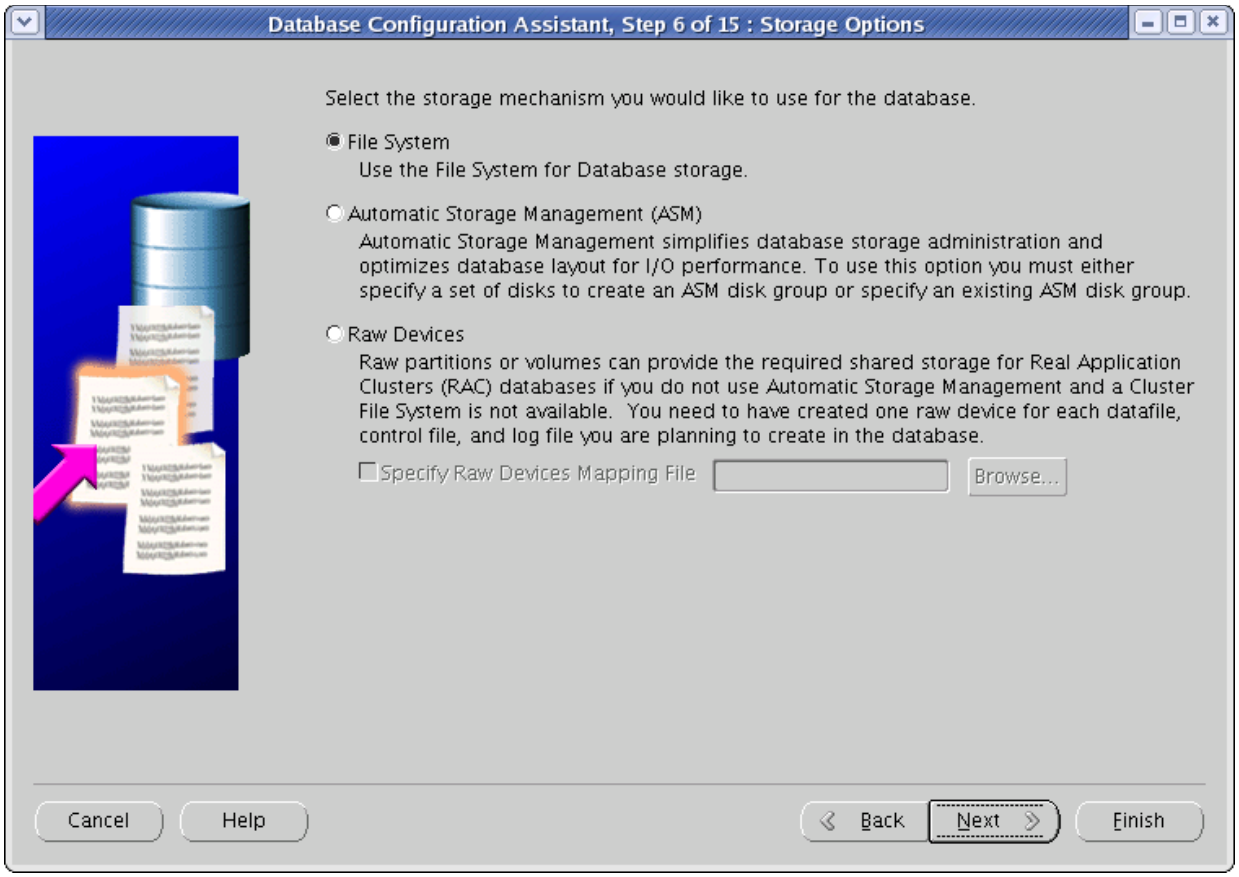
7. In the "Database Credentials" screen (Figure 1–6), do one of the following:
   - If you are installing a production system, select **Use Different Administrative Passwords**, enter a unique password for each database user shown in the table, and click **Next**.
   - If you are installing a non-production system, select **Use the Same Administrative Password for All Accounts**, enter and re-enter a password, and click **Next**.

Figure 1–6 Database Credentials



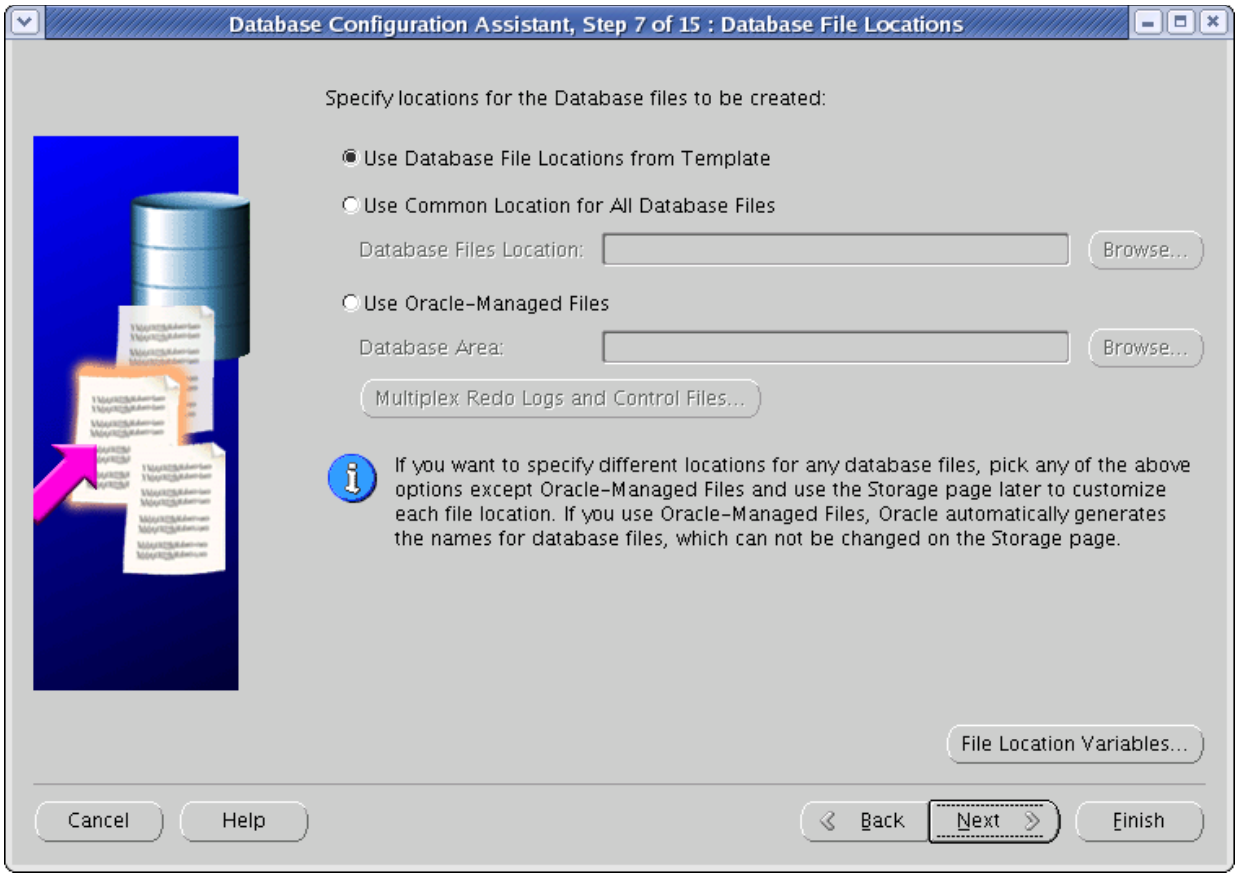
8. In the "Storage Options" screen (Figure 1–7), select **File System** and click **Next**.

Figure 1–7 Storage Options



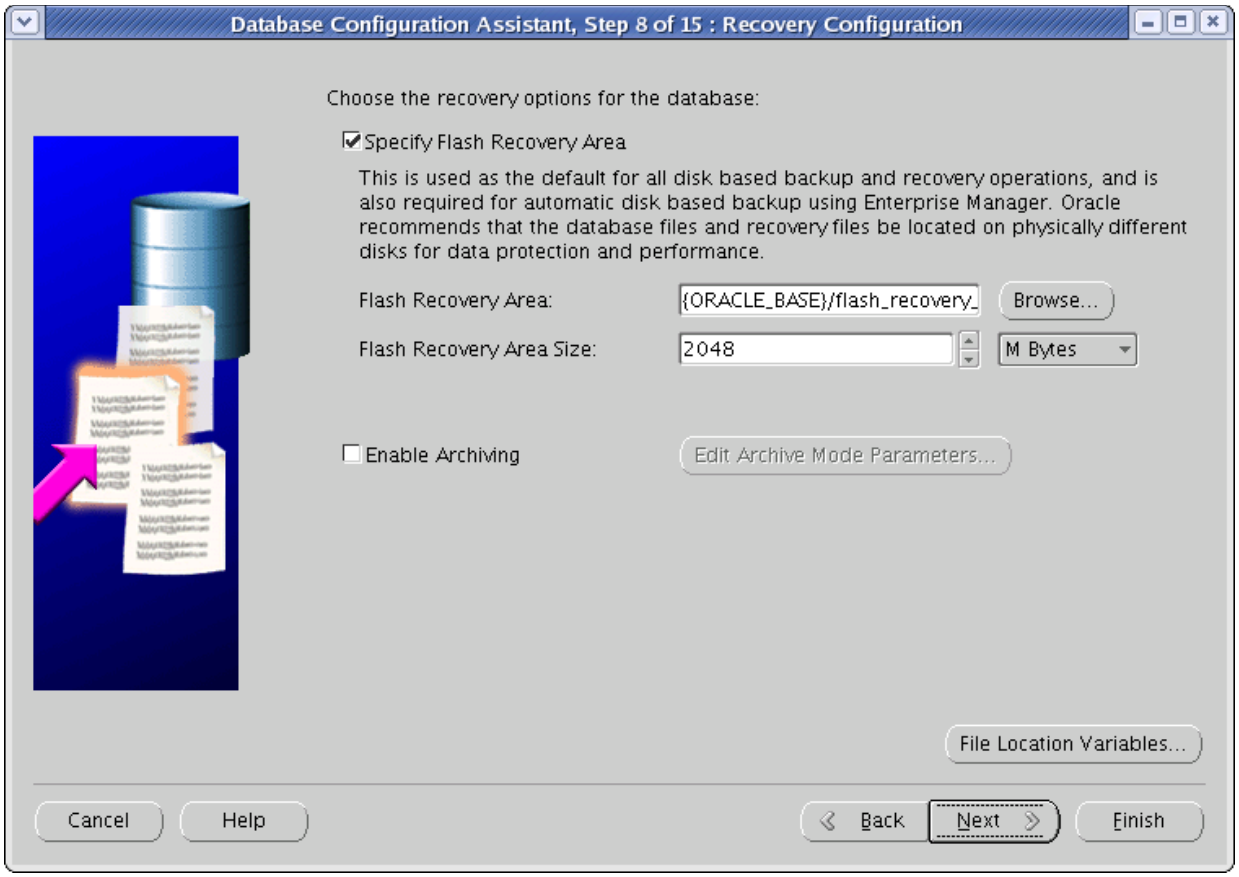
9. In the "Database File Locations" screen (Figure 1–8), select **Use Database File Locations from Template** (unless you want to use custom file names and locations) and click **Next**.

Figure 1–8 Database Configuration Assistant: Database File Locations



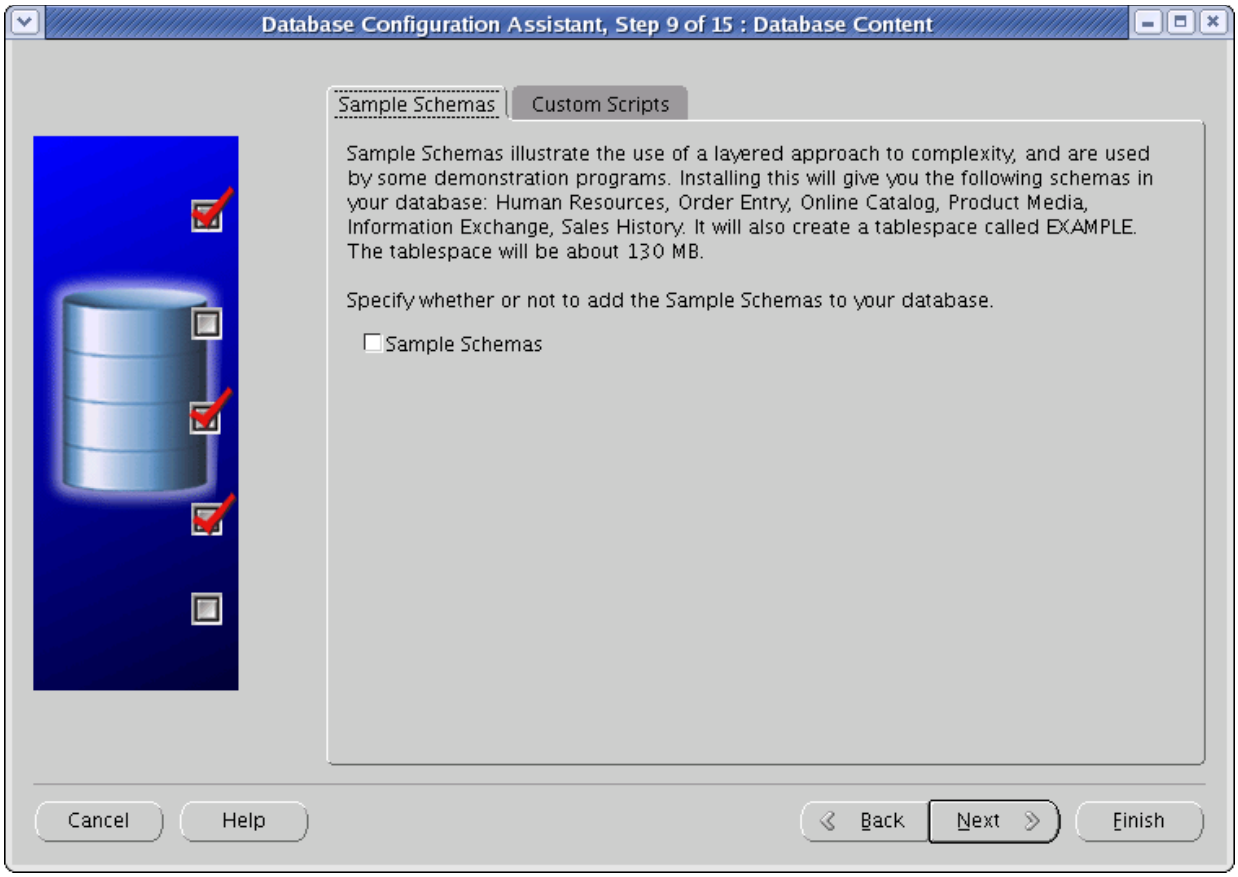
10. In the "Recovery Configuration" screen (Figure 1–9), leave the default values and click **Next**.

Figure 1–9 Recovery Configuration



11. In the "Database Content" screen (Figure 1–10), click **Next**.

Figure 1–10 Database Content

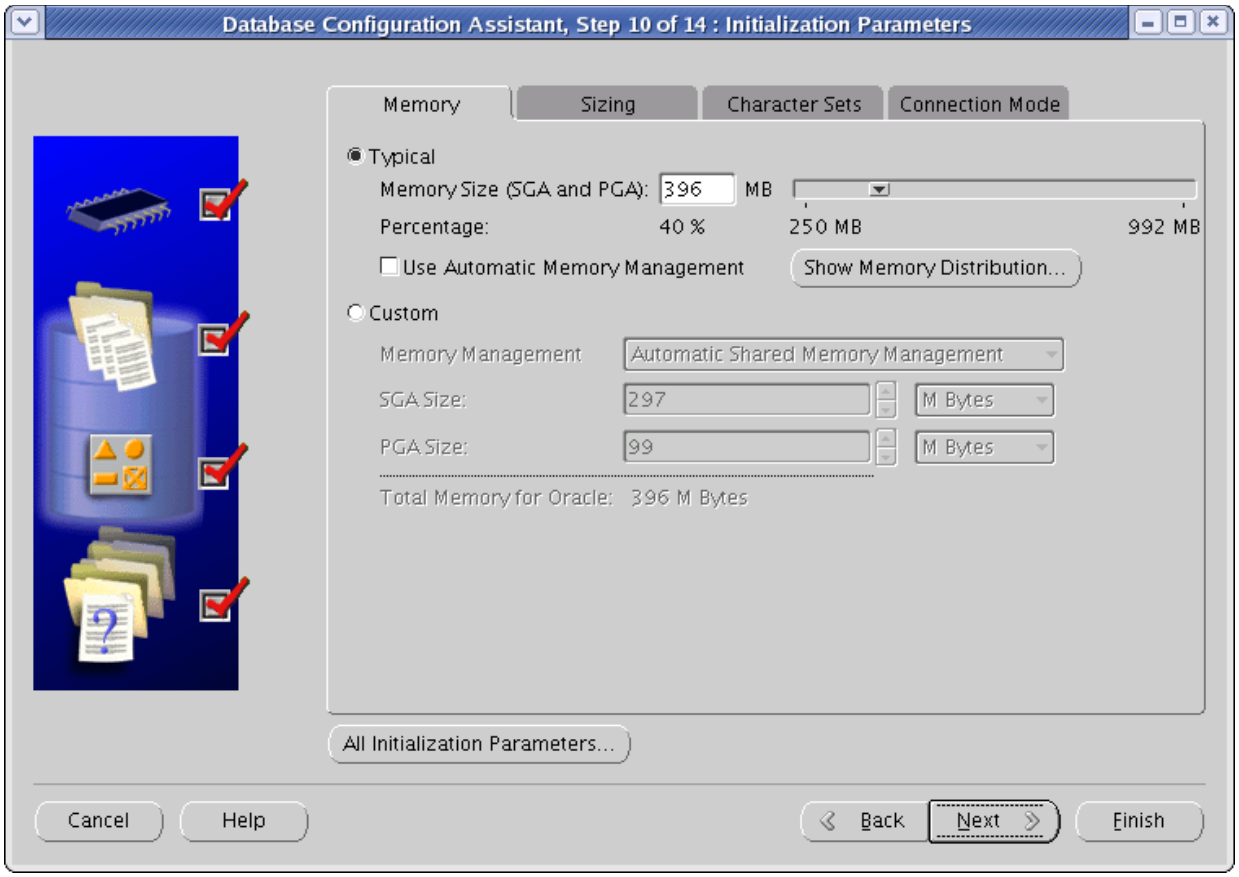


12. In the "Initialization Parameters" screen, do the following:

    a. In the **Memory** tab (Figure 1–11), set the preferred memory size for your database:

        * For the development system, set the preferred memory size to 512MB.
        * For the production system, the value you enter depends on the size and contents of your database.

Figure 1–11 Initialization Parameters - Memory

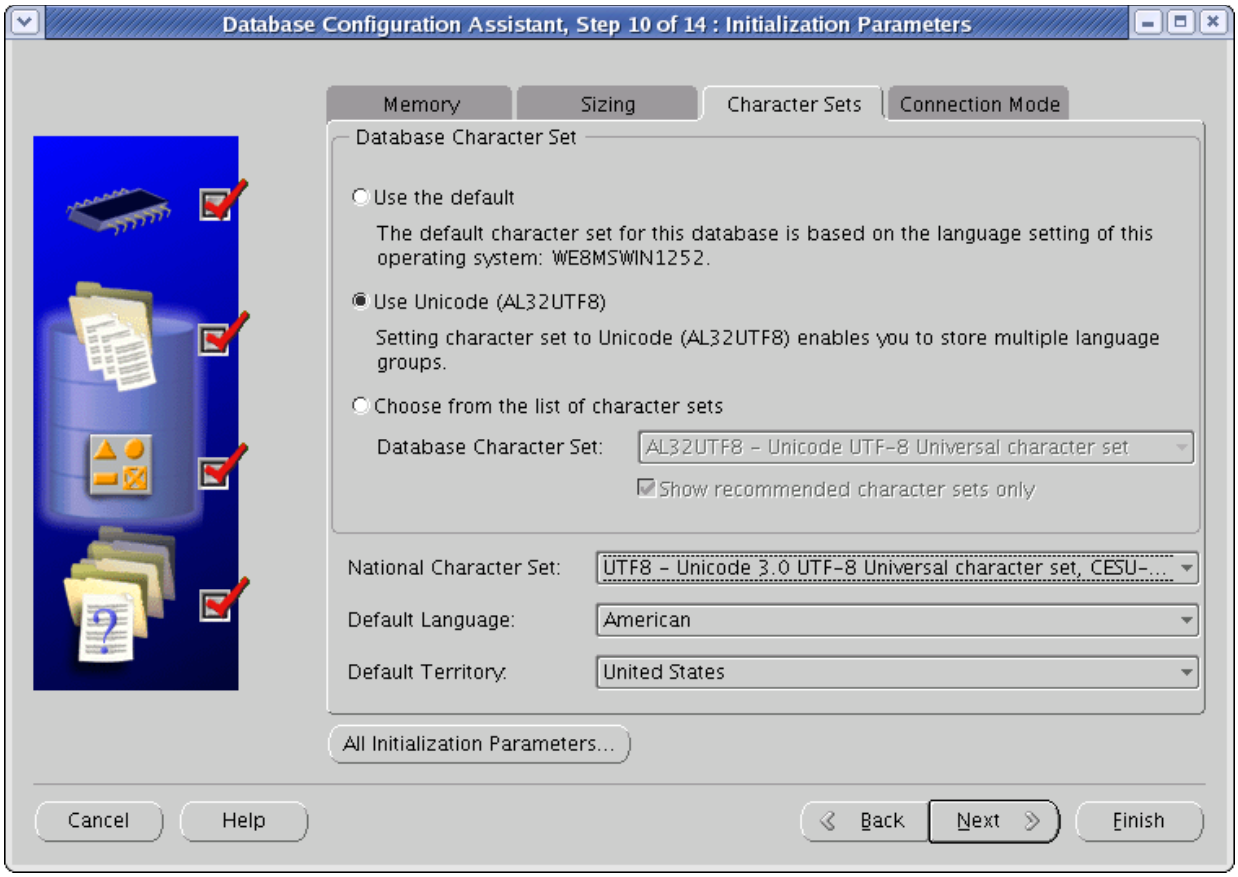


b. In the **Character Sets** tab (Figure 1–12), do the following:

Select the **Use Unicode (AL32UTF8)** radio button.

In the "**National Character Set**" drop-down list, select **UTF-8 - Unicode 3.0 UTF-8 Universal Character Set**.

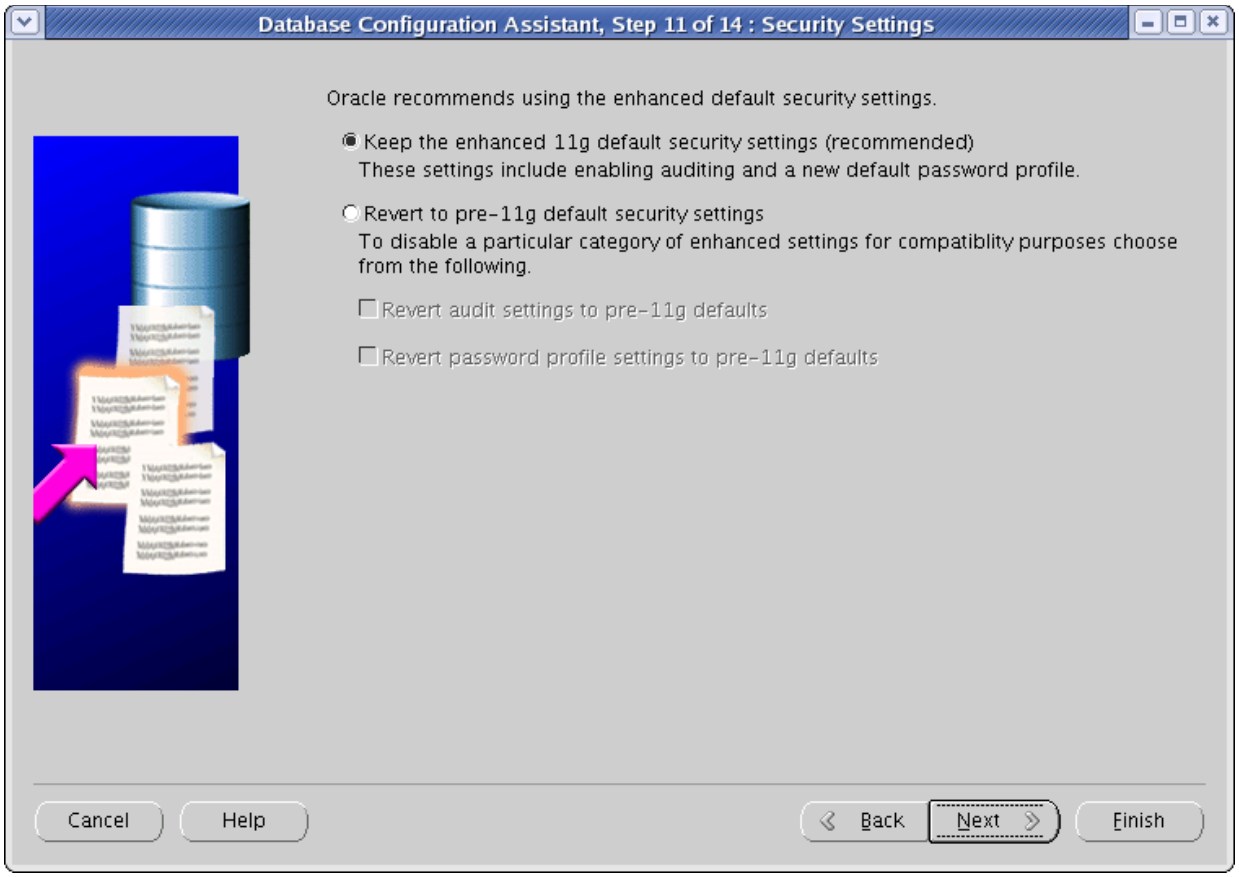
Figure 1–12 Initialization Parameters - Character Sets



c. Click **Next**.

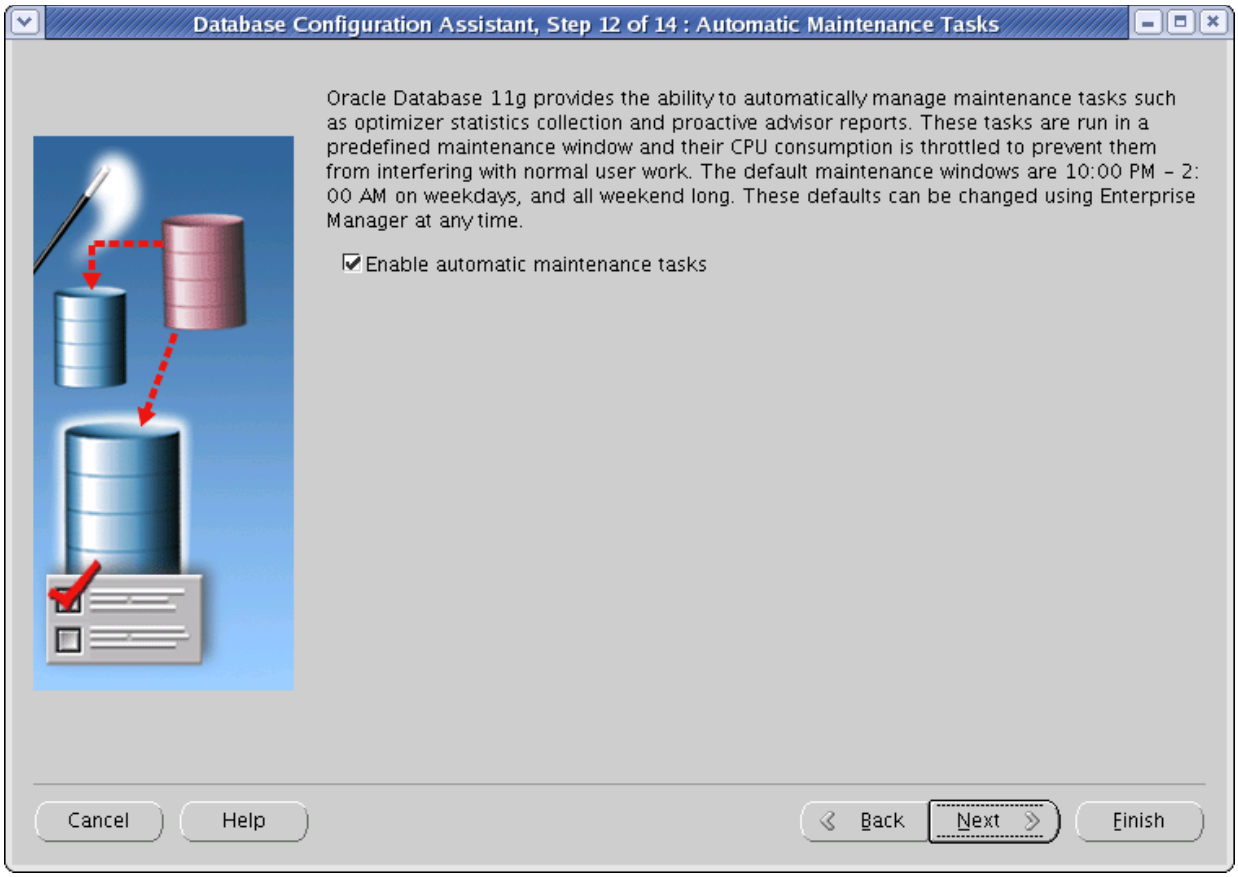
13. In the "Security Settings" screen (Figure 1–13), click **Next**.

Figure 1–13 Security Settings



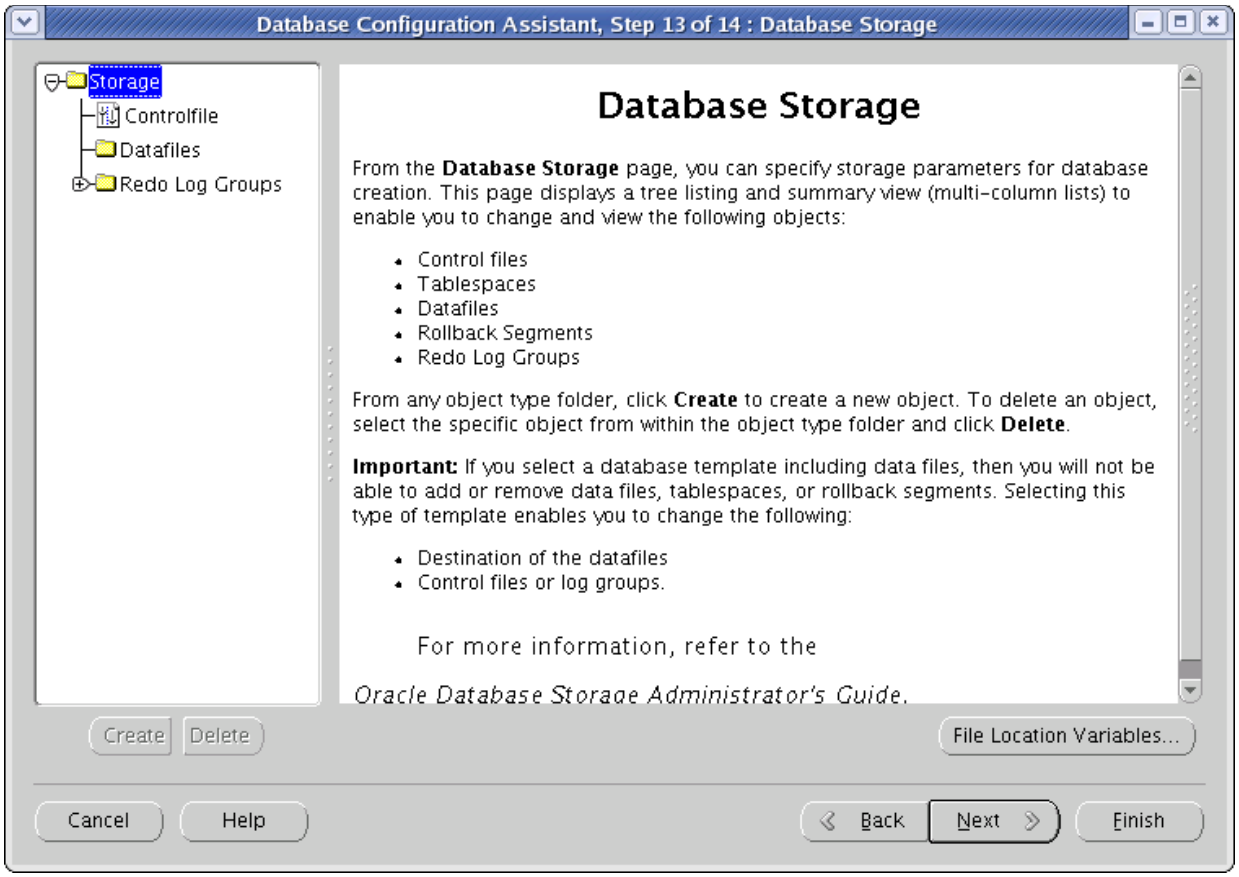
14. In the "Automatic Maintenance Tasks" screen (Figure 1–14), click **Next**.

Figure 1–14 Automatic Maintenance



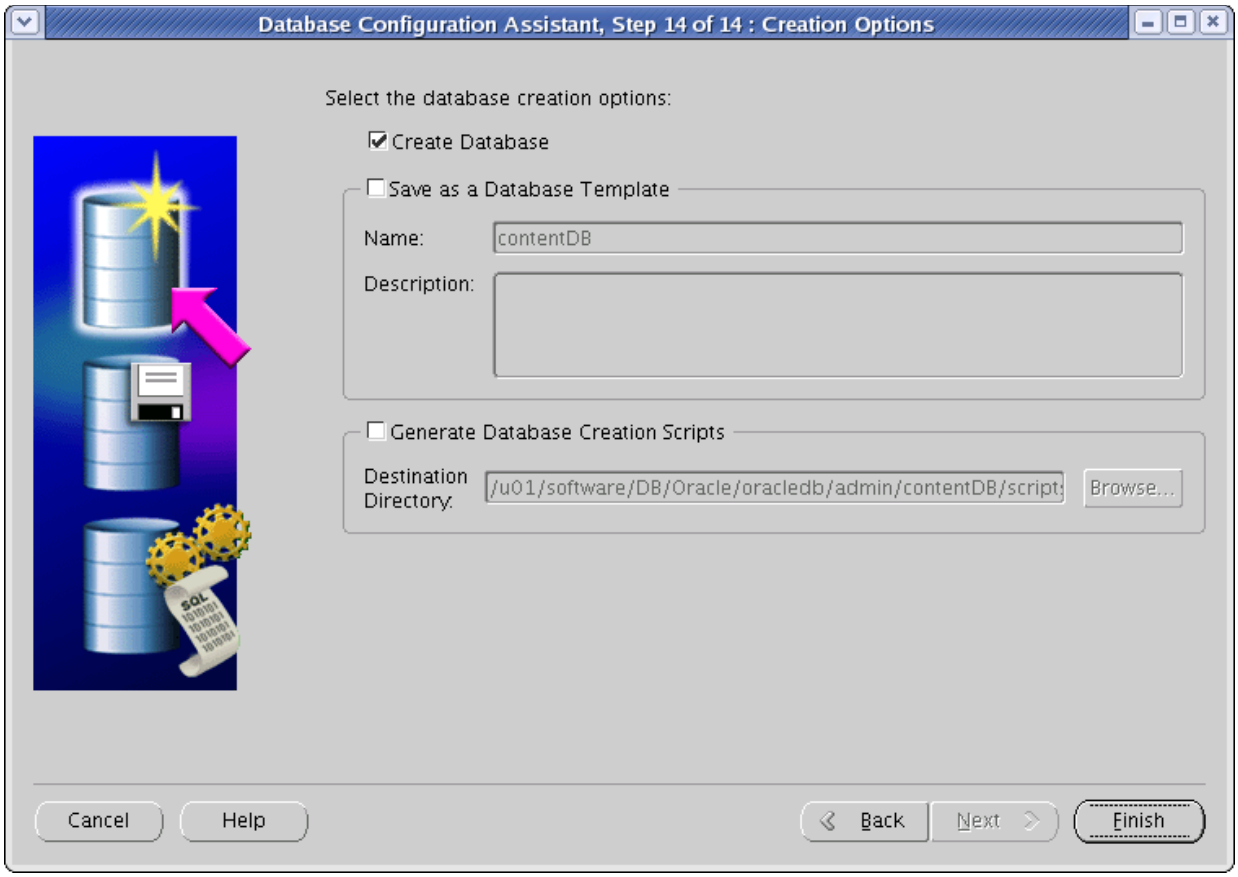
15. In the "Database Storage" screen (Figure 1–15), review the selected file locations. (If you need to make changes, click **File Location Variables**.) Click **Next**.

Figure 1–15 Database Storage



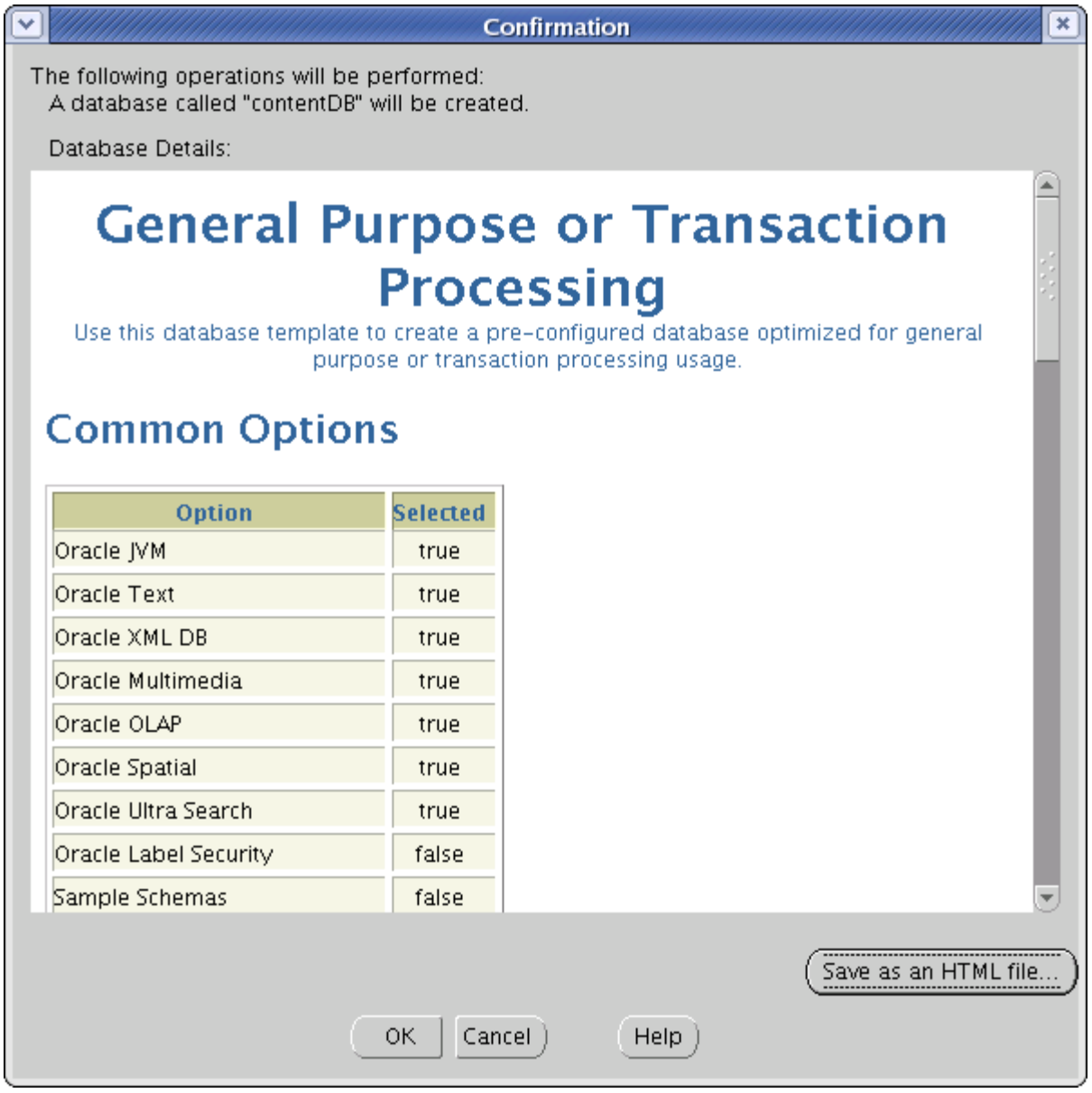
16. In the "Creation Options" screen (Figure 1–16), click **Finish**.

Figure 1–16 Creation Options



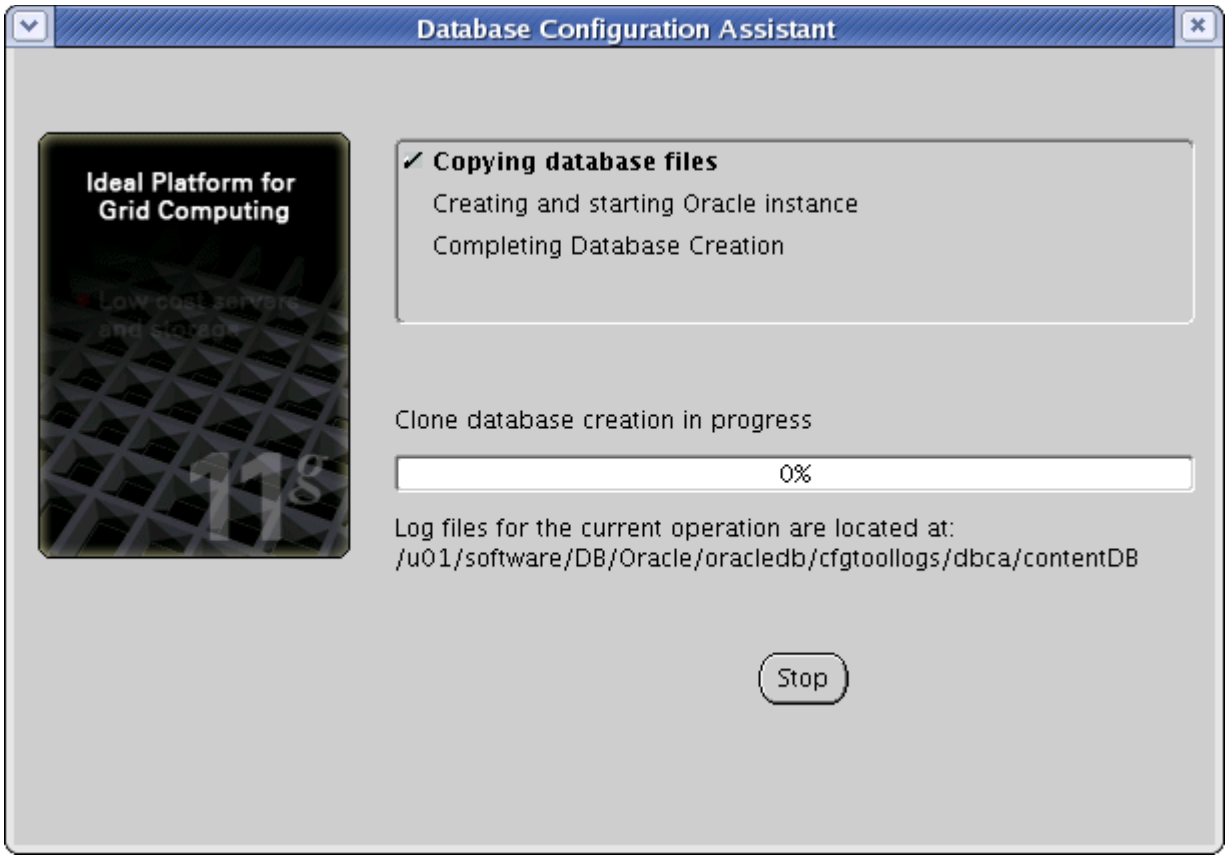
17. In the "Confirmation" screen (Figure 1–17), review the selected options, then click **OK**.

Figure 1–17 Confirmation Screen



18. Allow the database creation tasks to complete (Figure 1–18). If any one of the tasks fails, remedy the problem before continuing.

Figure 1–18 Database Configuration Assistant



19. At the summary screen (Figure 1–19), make a record of the database SID and the database control URL, then click **Exit**.

Figure 1–19 Database Creation Complete

1.2 Creating a New User for WebCenter Sites

Note: Before you begin, determine the Console Server port:

1. Open the `emoms.properties` file in a text editor. The file is located in:
   `<ora_home>/<servername>_<SID>/sysman/config/`
2. Find the line,
   `oracle.sysman.emSDK.svlt.ConsoleServerPort`
   and make a record of the port number value at the end of the line.

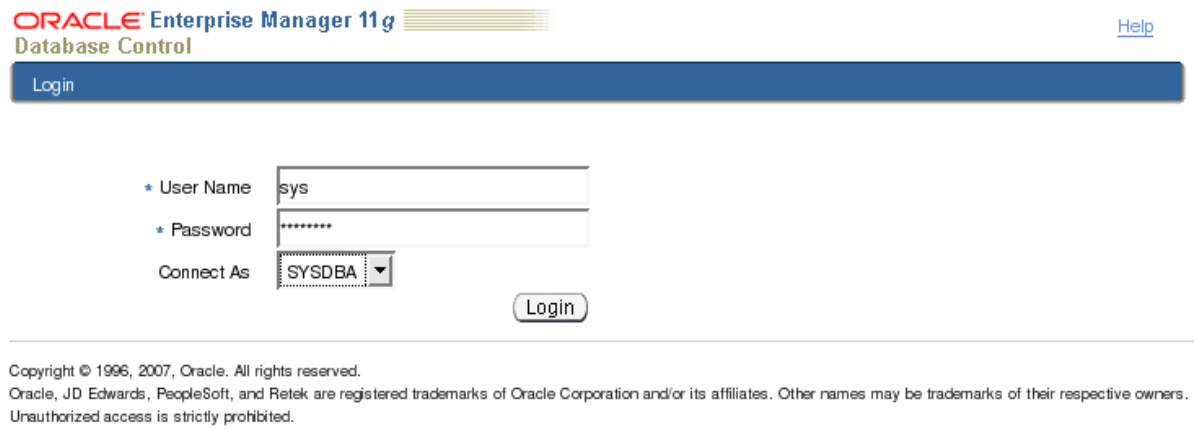
1. Log in to the Oracle Enterprise Manager console:
   a. Execute the following command: `emctl status dbconsole`
   The command should return an output similar to the following:

```
Oracle Enterprise Manager 11g Database Control Release 11.1.0.6.0
Copyright (c) 1996, 2007 Oracle Corporation.  All rights reserved.
https://localhost.localdomain:1158/em/console/aboutApplication
Oracle Enterprise Manager 11g is running.
------------------------------------------------------------------
Logs are generated in directory
/u01/software/DB/Oracle/oracledb/product/11.1.0/db_1/localhost.localdomain_
vmorcldb/sysman/log
```

b. Open a browser and go to the URL highlighted in bold in step a above. If you see a "Security Mismatch" error, ignore it (the error appears if you are using a self-signed certificate).

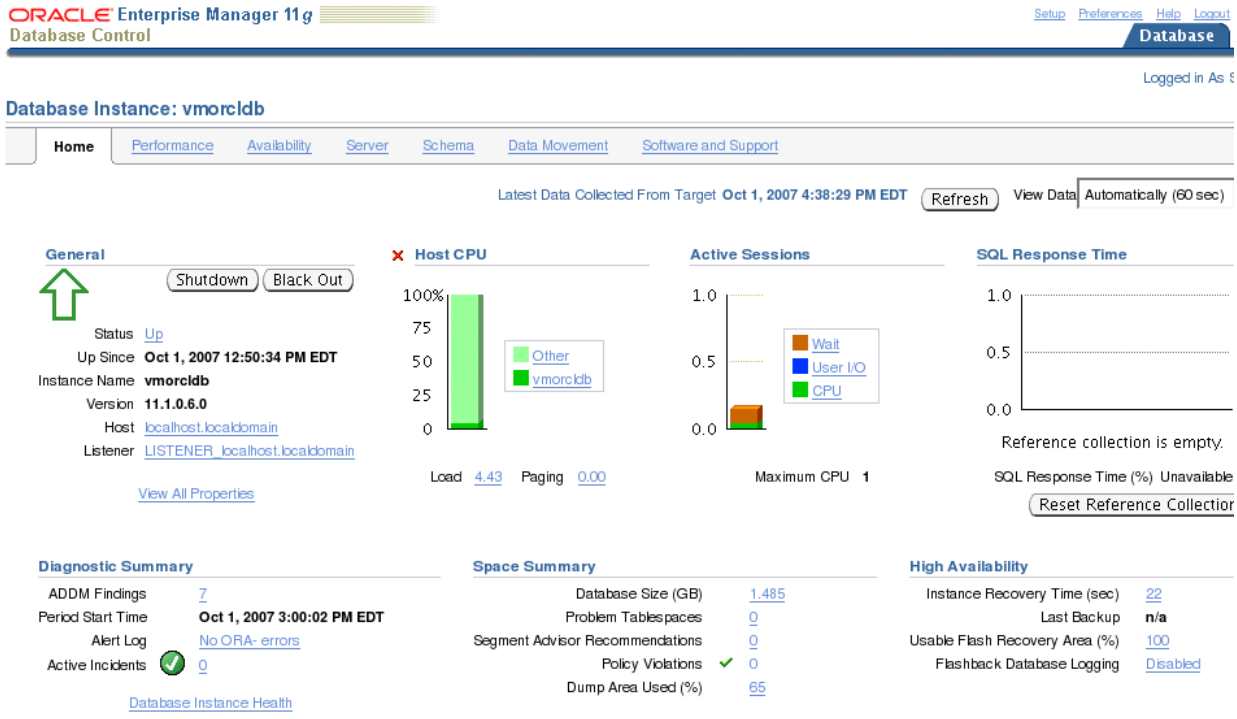
c. Log in as the `sys` user (you specified a password for this user in step 7 on page 1-6 connecting as **SYSDBA** (Figure 1–20).

Figure 1–20 Enterprise Manager - Login



2. In the tab bar (Figure 1–21), click **Server**.

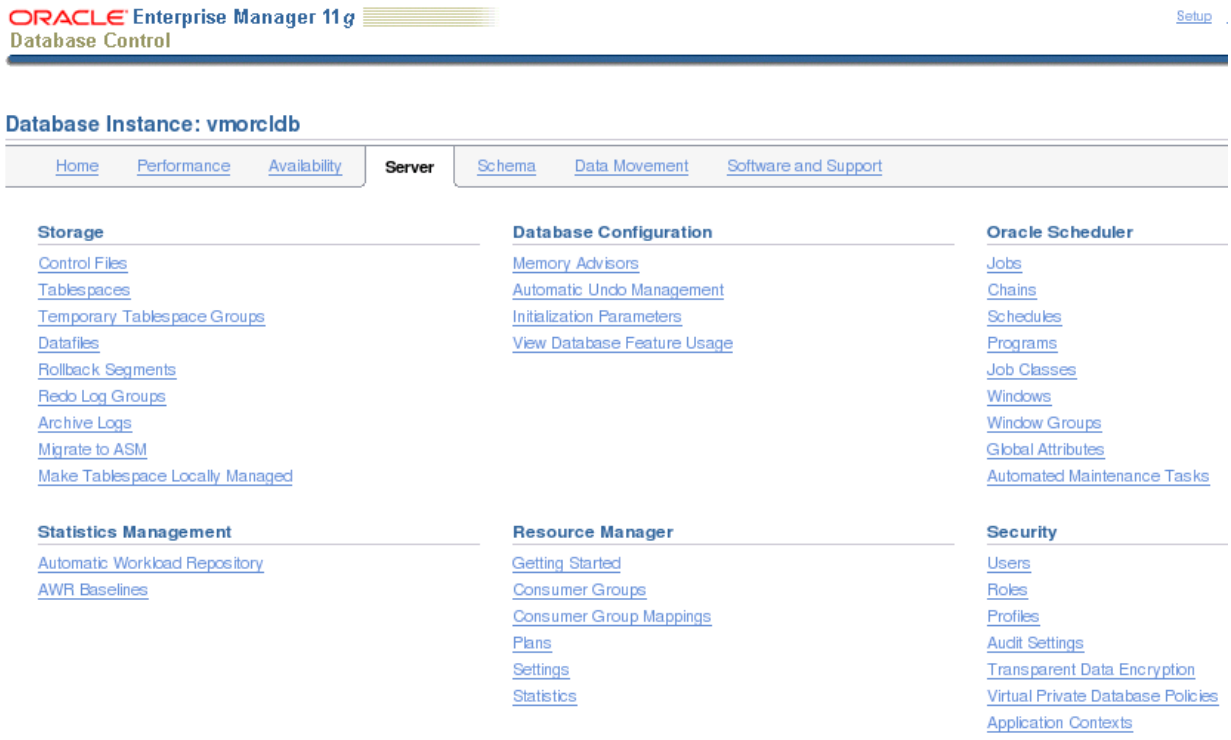
Figure 1–21 Enterprise Manager Tabs



3. Create the new user (Figure 1–22). Do the following:

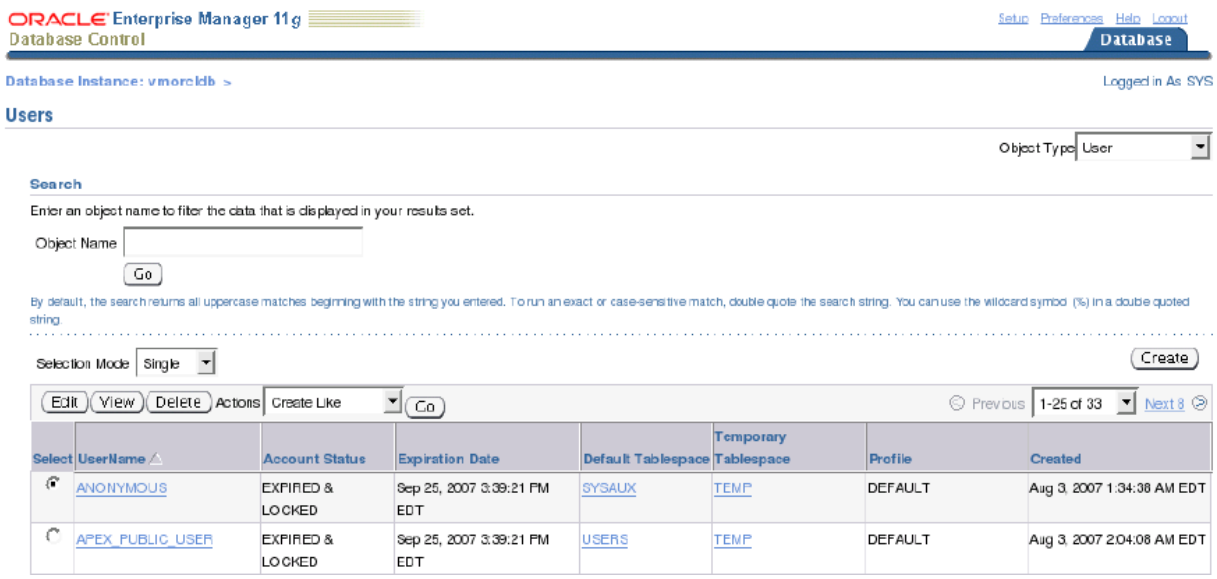
a. In the "Security" section of the page, click **Users**.

Figure 1–22 Server Tab



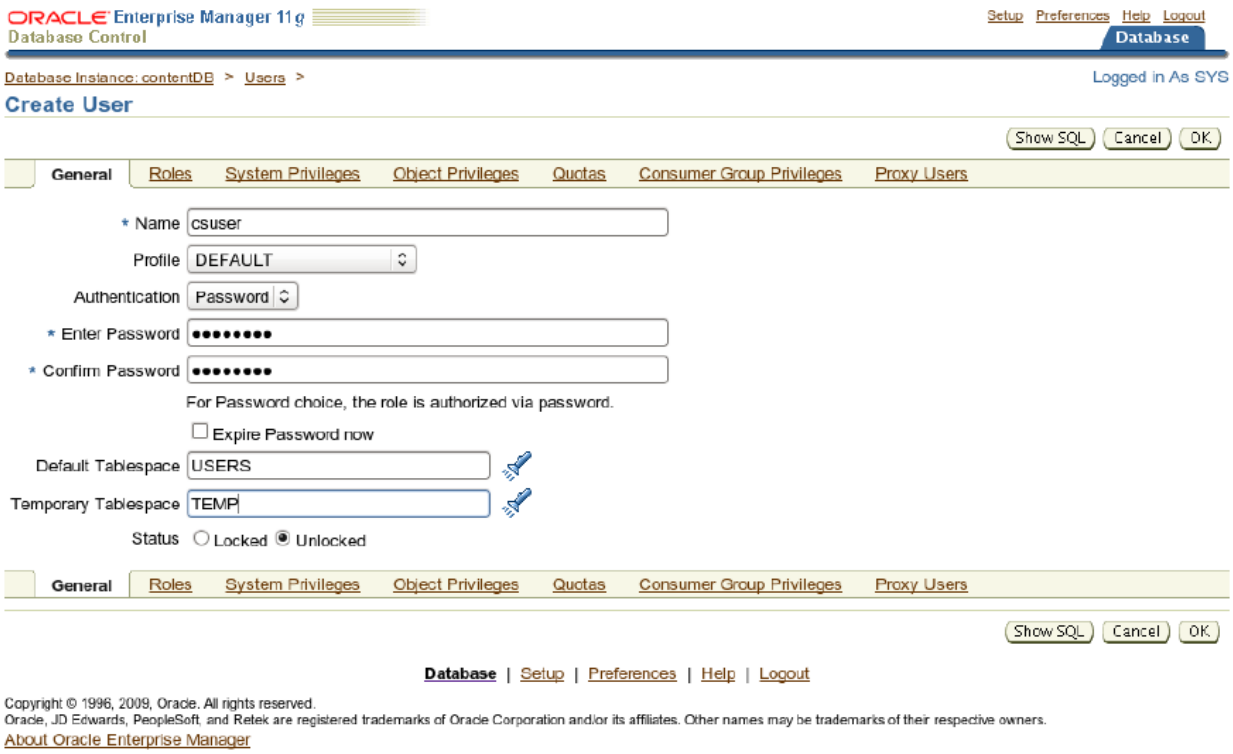
b. Click **Create** near the top right corner of the user list (Figure 1–23).

Figure 1–23 Users



c. In the "Create User" form (Figure 1–24), fill in all required fields (marked with an asterisk). Fill in all other fields as necessary.

Figure 1–24 General Tab



4. Select the default and temporary tablespaces for the new user (Figure 1–25). Do the following:

Note: The actual tablespace may differ depending on your installation. For more information about the tablespace for your installation, see your database administrator.

---

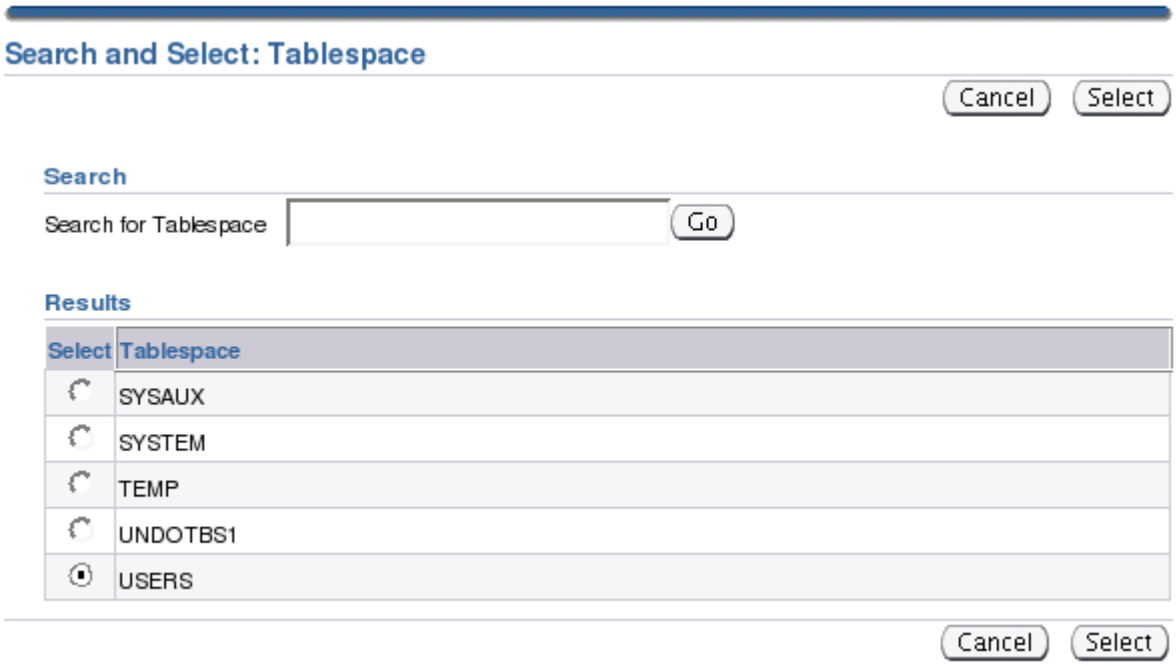
a. Select the default tablespace:

In the "Create User" form, click the **flashlight** button next to the **Default Tablespace** field.

In the form that appears, select the **USERS** radio button.

Click **Select**.

Figure 1–25 Search and Select: Tablespace



b. Select the temporary tablespace:

In the "Create User" form, click the **flashlight** button next to the **Temporary Tablespace** field.

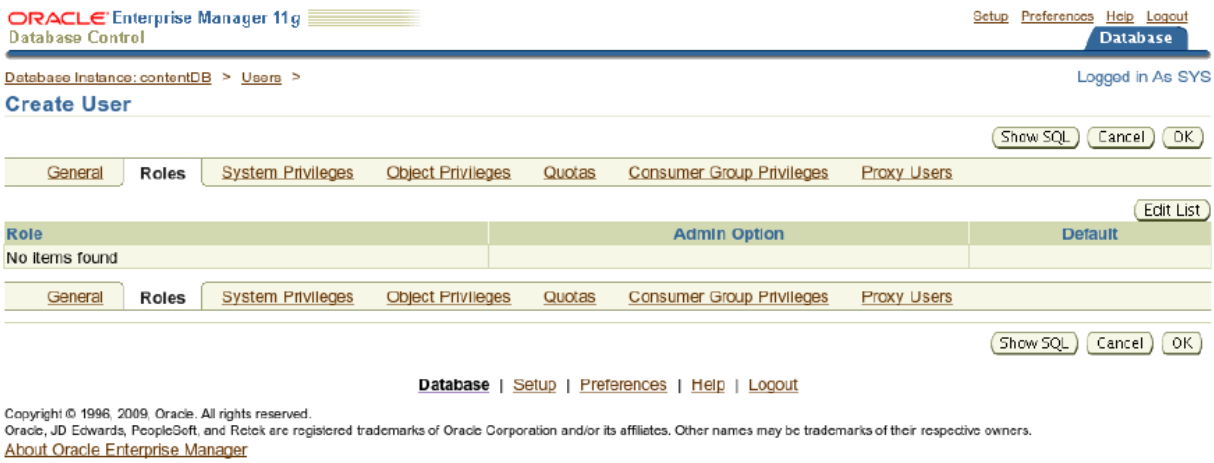
In the form that appears, select the **TEMP** radio button.

Click **Select**.

5. Assign roles to the new user (Figure 1–26), as required.

a. In the tab bar, click **Roles**.

Figure 1–26 Roles Tab



b. Click **Edit List** at the top right corner of the list of roles.

c. In the "Available Roles" list, select the required roles and click **Move**.

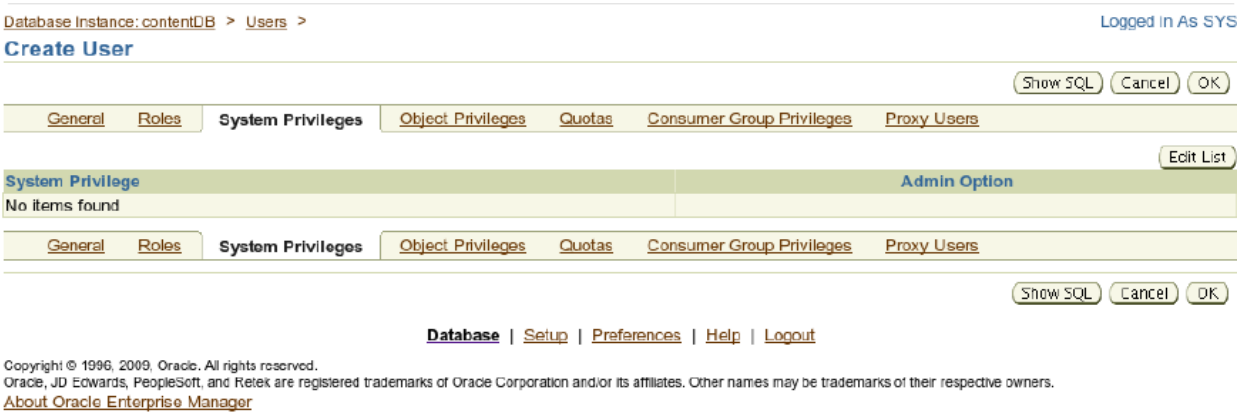
The roles appear in the "Selected Roles" list.

d. Click **OK**.

6. Assign system privileges to the new user. Do the following:

a. In the tab bar (Figure 1–27), click **System Privileges**.

Figure 1–27 System Privileges Tab

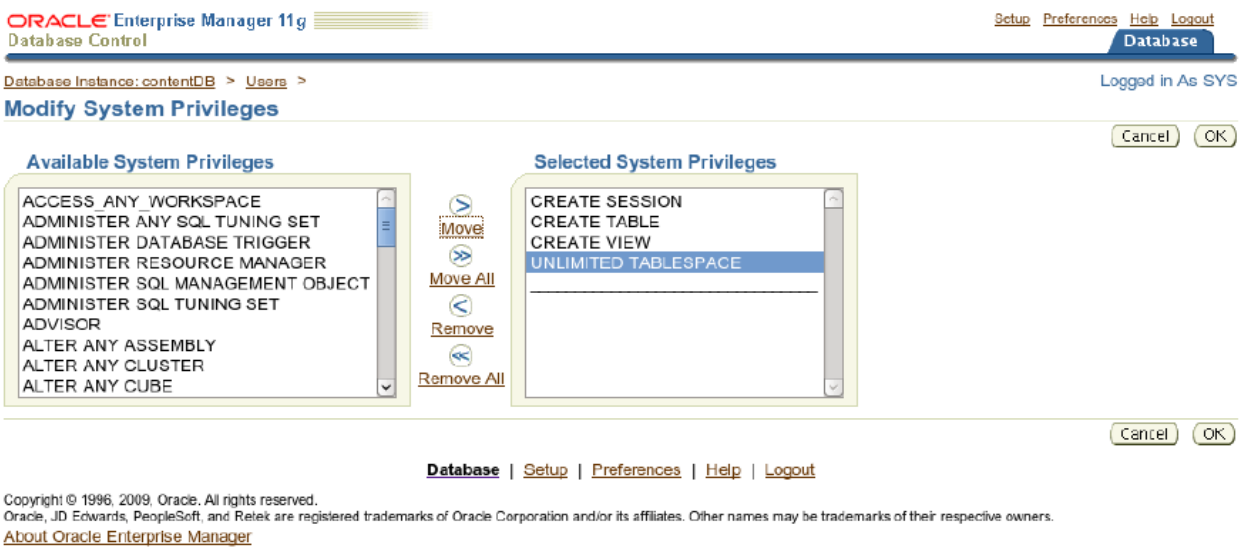


b. Click **Edit List** at the top right corner of the list of privileges.

c. In the "Available System Privileges" list, select **CREATE SESSION, CREATE TABLE, CREATE VIEW**, and **UNLIMITED TABLESPACE**, then click **Move**.

The privileges are moved to the "Selected System Privileges" list.

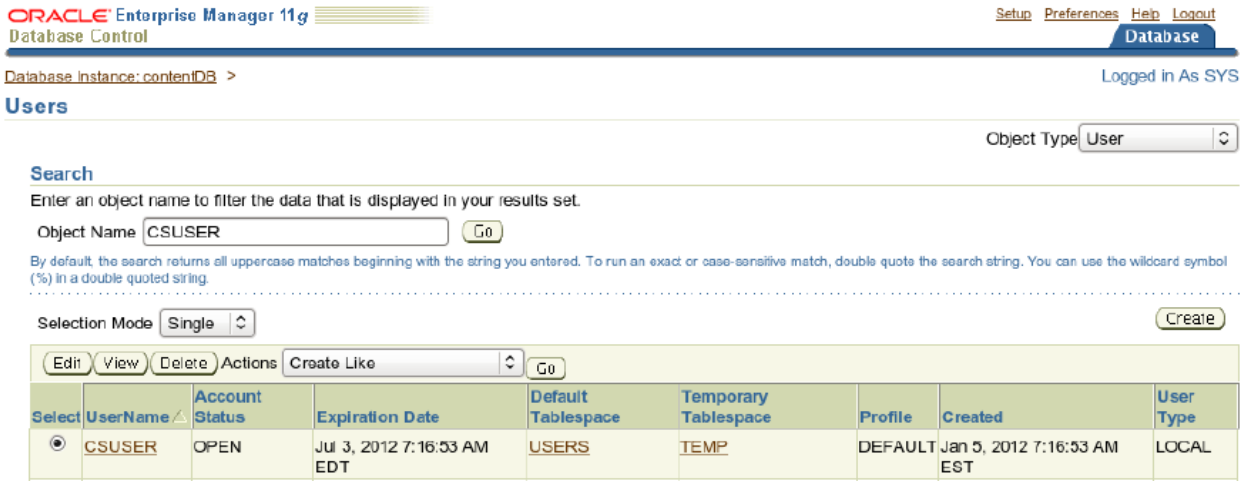
Figure 1–28 System Privileges - Unlimited Tabspace



d. Click **OK** (Figure 1–28).

A message confirming the creation of the new user is displayed (Figure 1–29). The user appears in the list of users.

Figure 1–29 Users



Note: While creating the directory, do not select "Any Dictionary or DBA role" as it would lead in creating more one schema.

1.3 Next Step

You are now ready to create and configure the data source. For instructions, refer to the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

2

Creating and Configuring an IBM DB2 Database

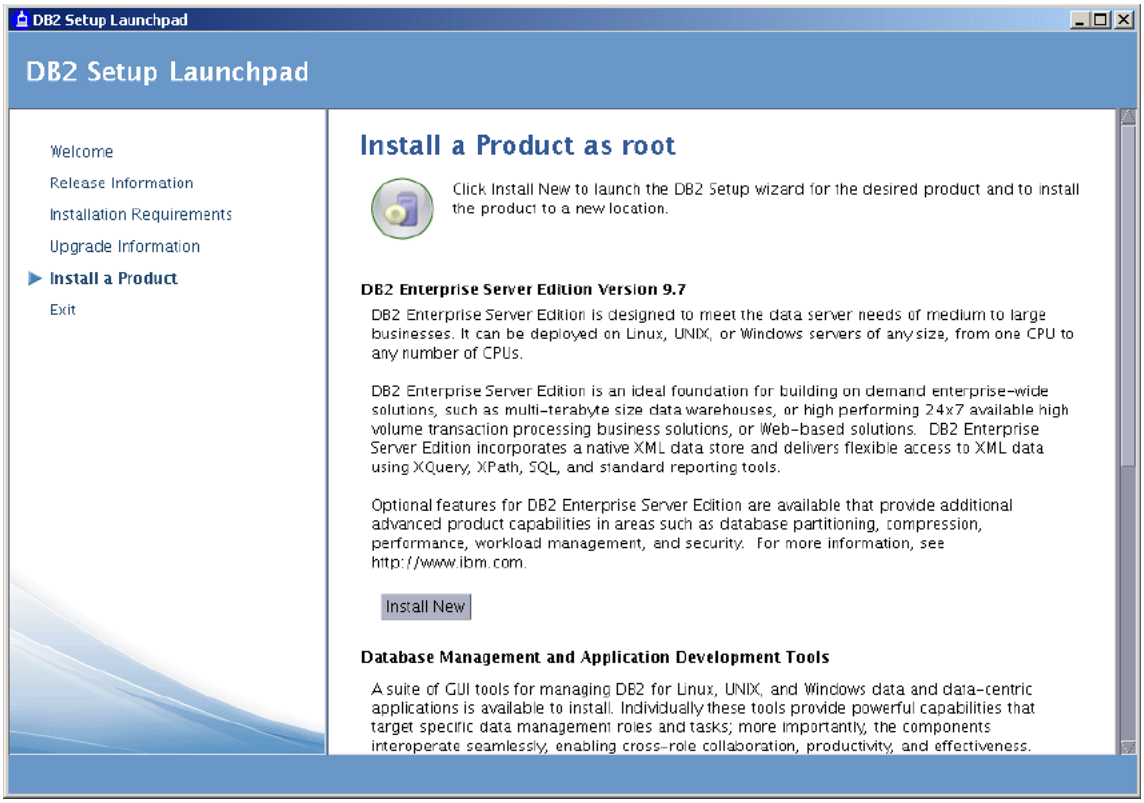
Use this chapter to set up a supported IBM DB2 database for your WebCenter Sites installation.

This chapter contains the following sections:

2.1 Installing DB2

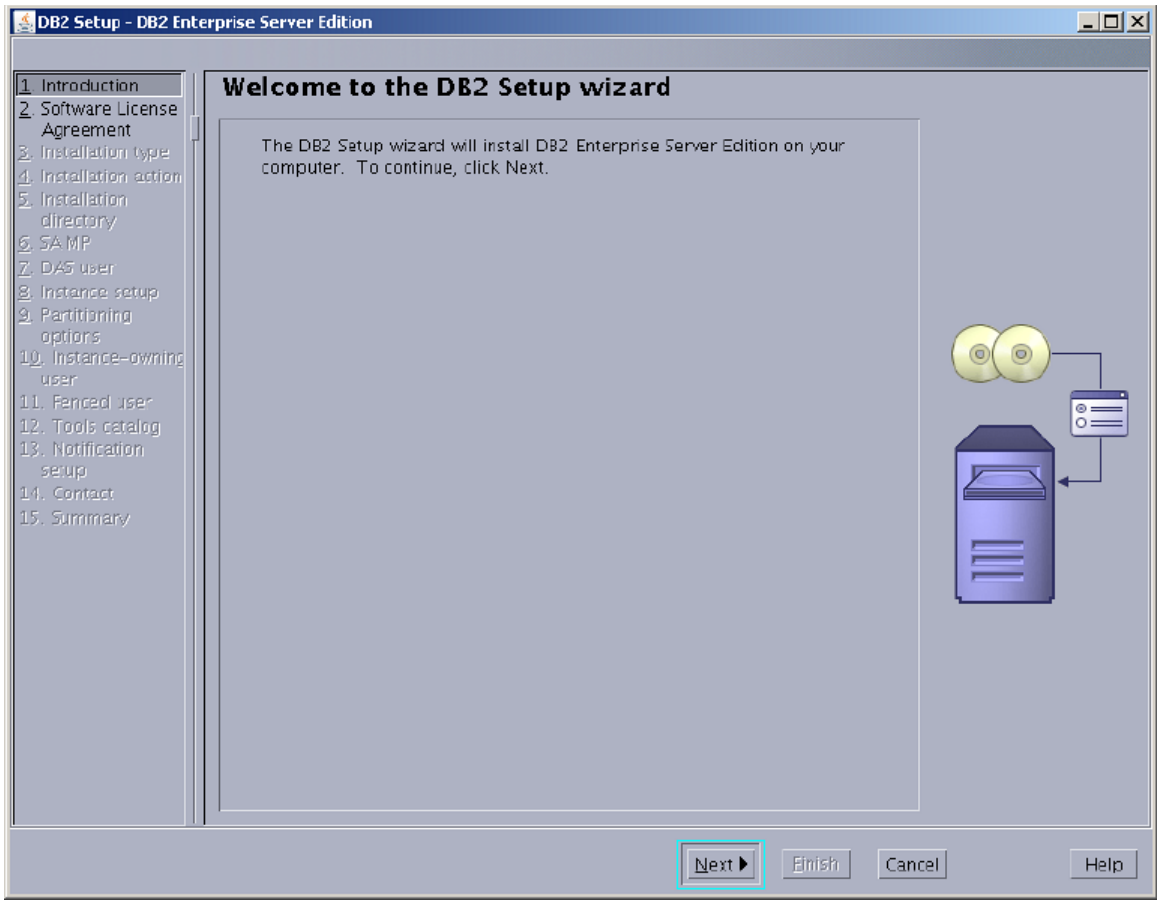
1. Uncompress the correct installation file for your distribution.
2. Run `./db2setup`
3. In the "Information Management Software" screen, select **Install a Product**.
4. Under "DB2 Enterprise Server Edition," (Figure 2–1) select **Install New**.

Figure 2–1 DB2 Setup Launchpad



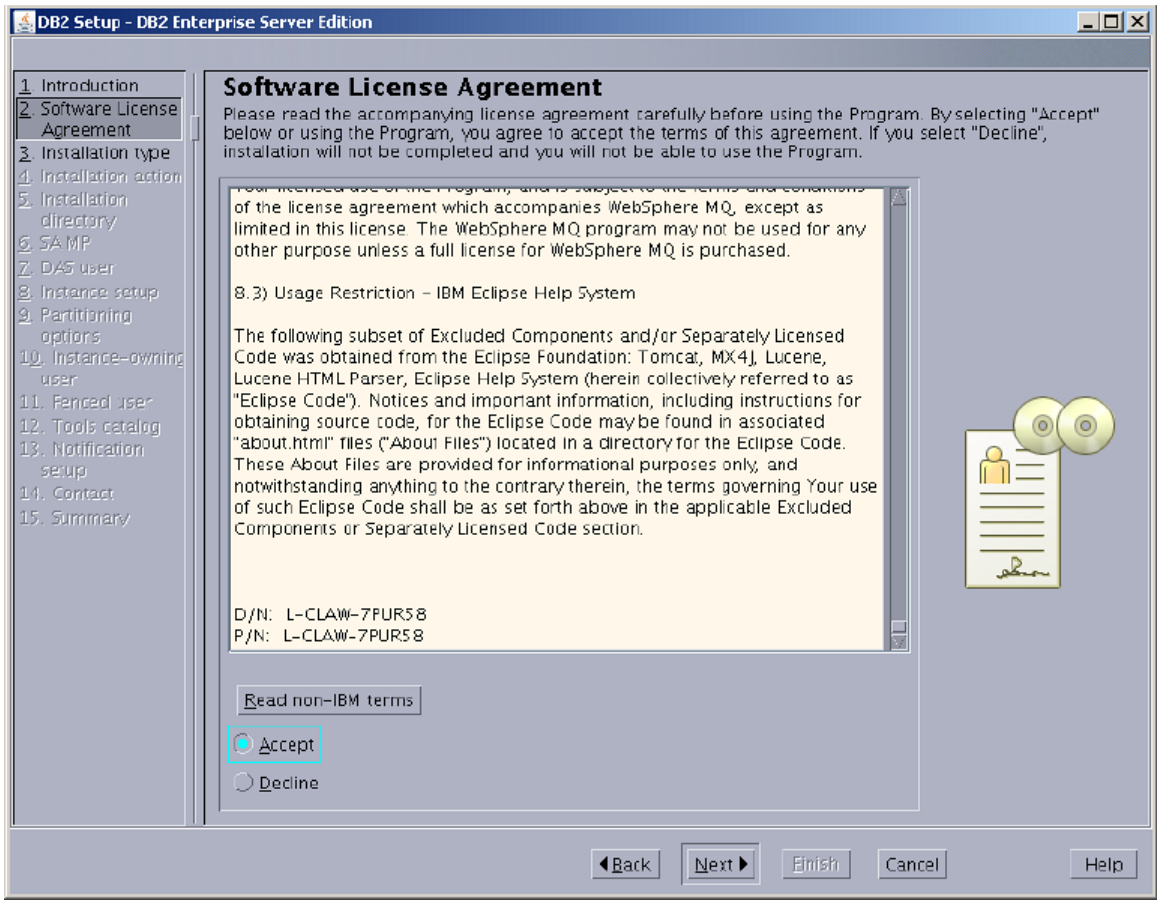
5. In the "Welcome to the DB2 Setup Wizard," (Figure 2–2), click **Next**.

Figure 2–2 DB2 Setup Wizard - Welcome



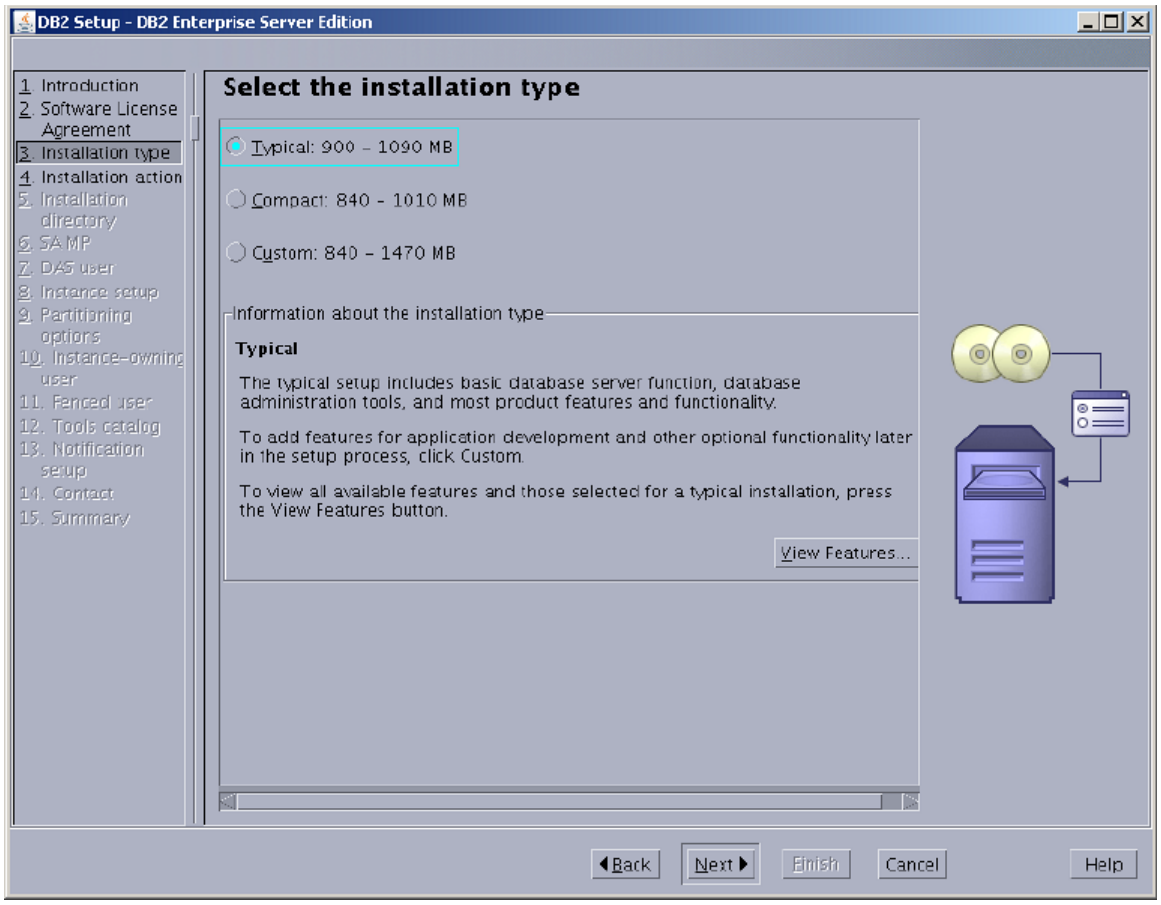
6. In the "Software License Agreement" screen (Figure 2–3), click **Accept**, then click **Next**.

Figure 2–3 Software License Agreement



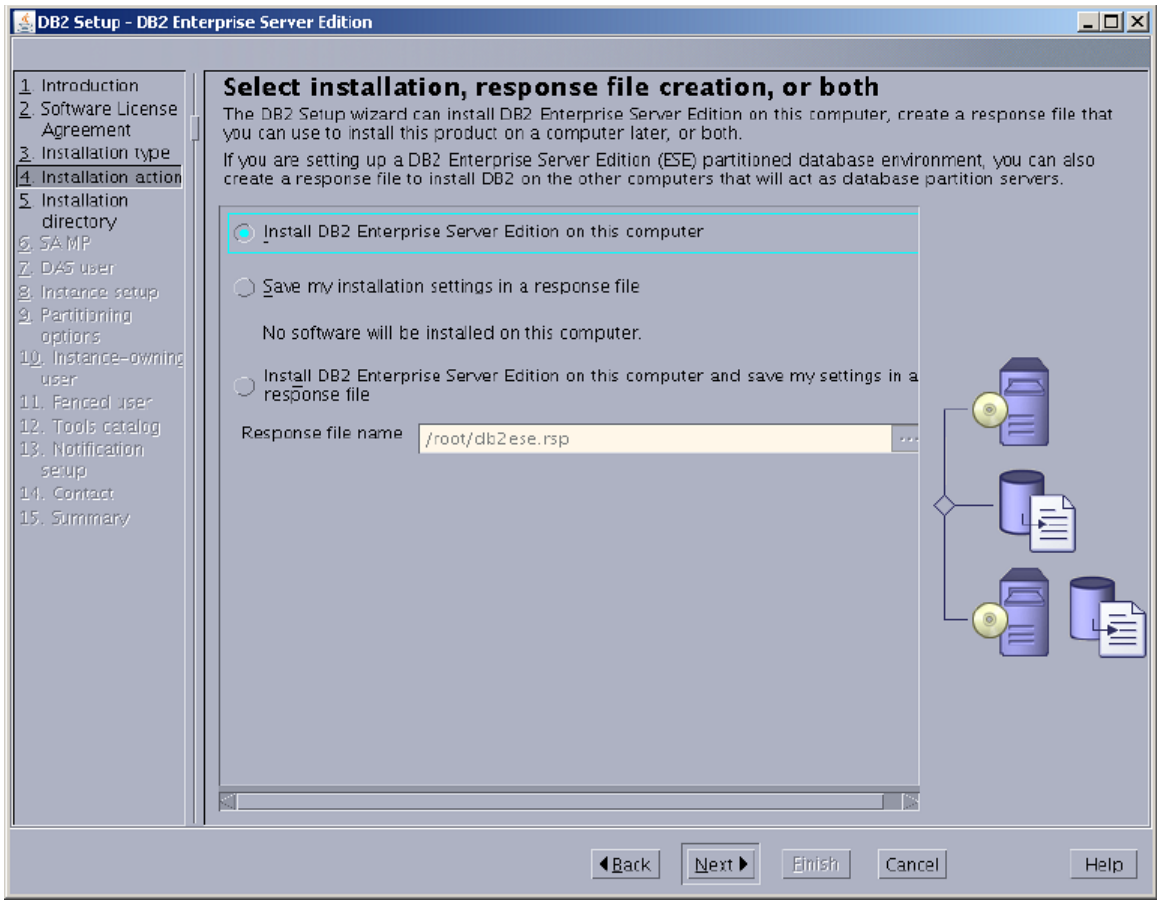
7. In "Select the Installation Type," (Figure 2–4) select **Typical** and click **Next**.

Figure 2–4 Installation Type



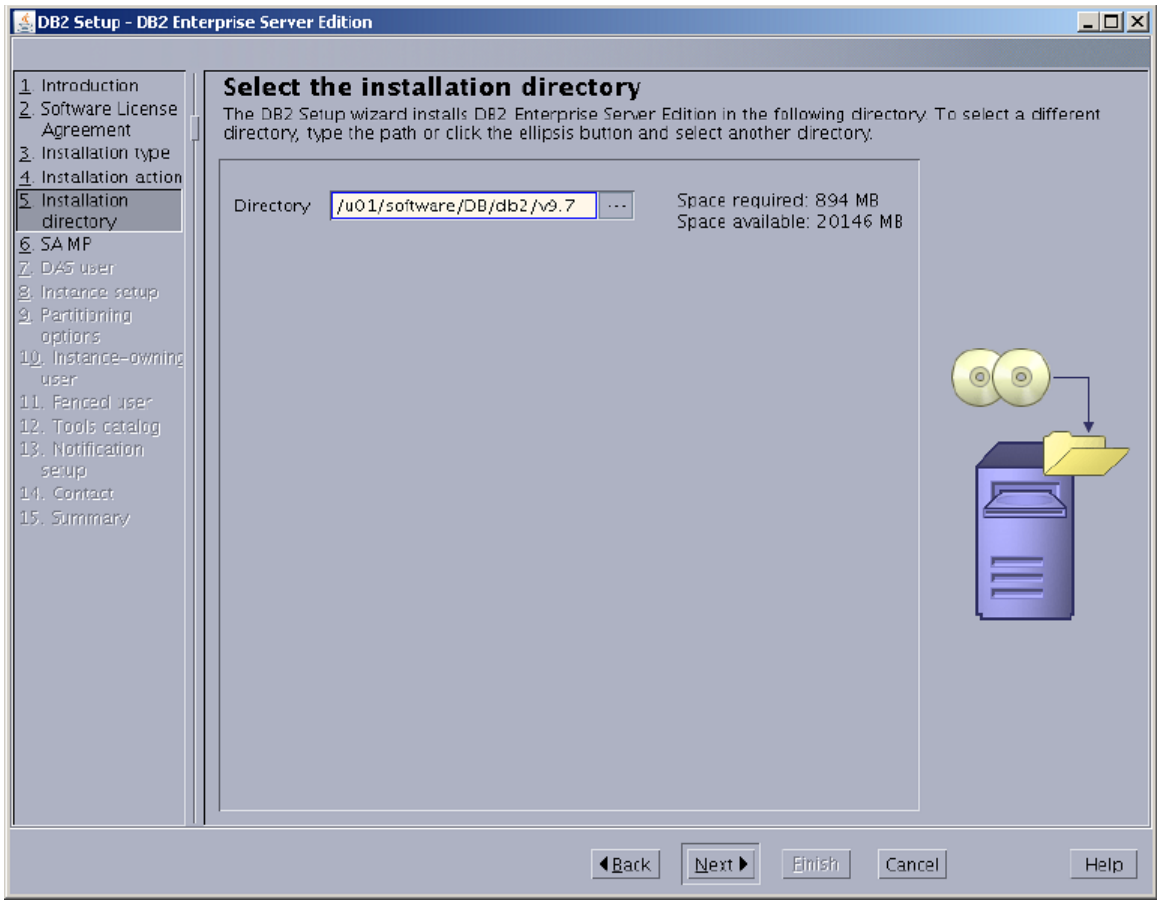
8. In "Select installation, response file creation, or both," (Figure 2–5) select **Install DB2 Enterprise Server Edition on this Computer** and click **Next**.

Figure 2–5 Installation And/Or Response File Creation



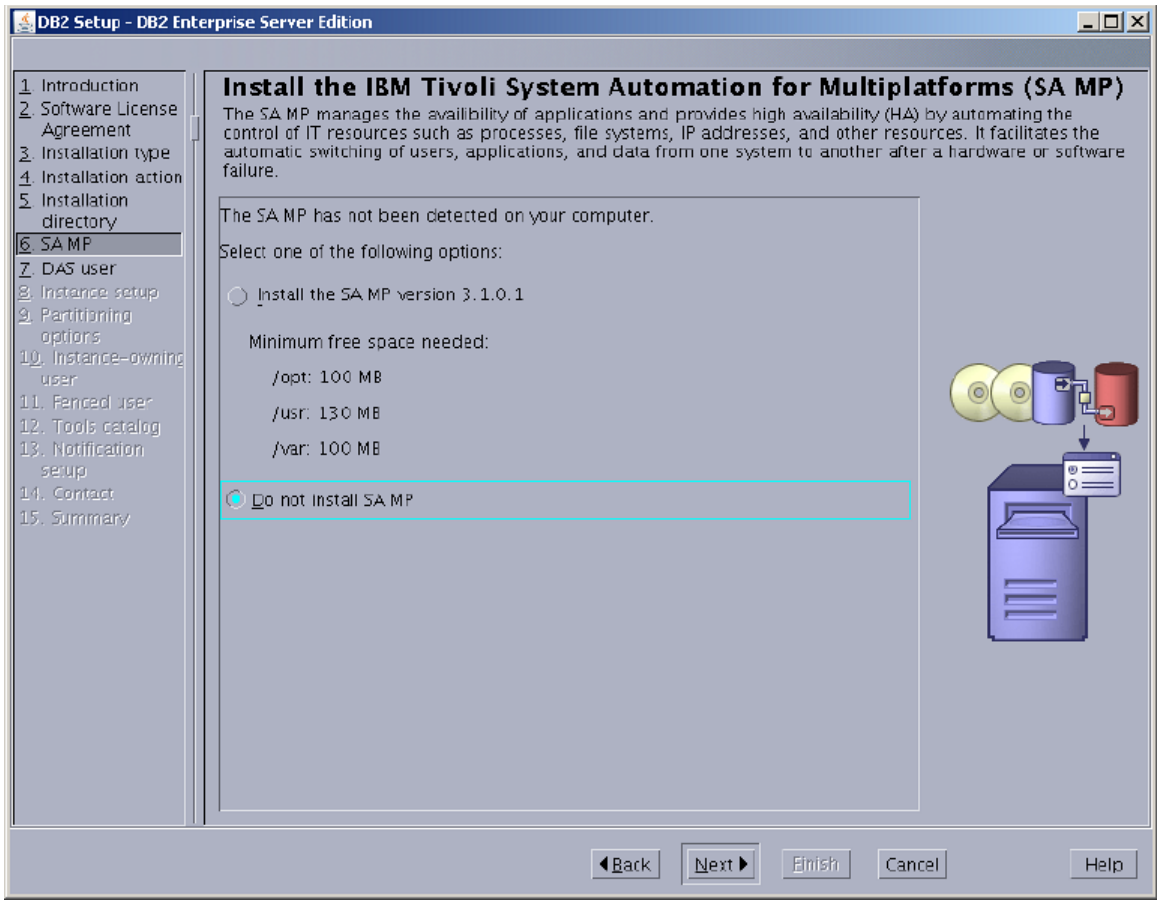
9. In "Select the installation directory," (Figure 2–6) either enter a directory or use the default and click **Next**.

Figure 2–6 Installation Directory



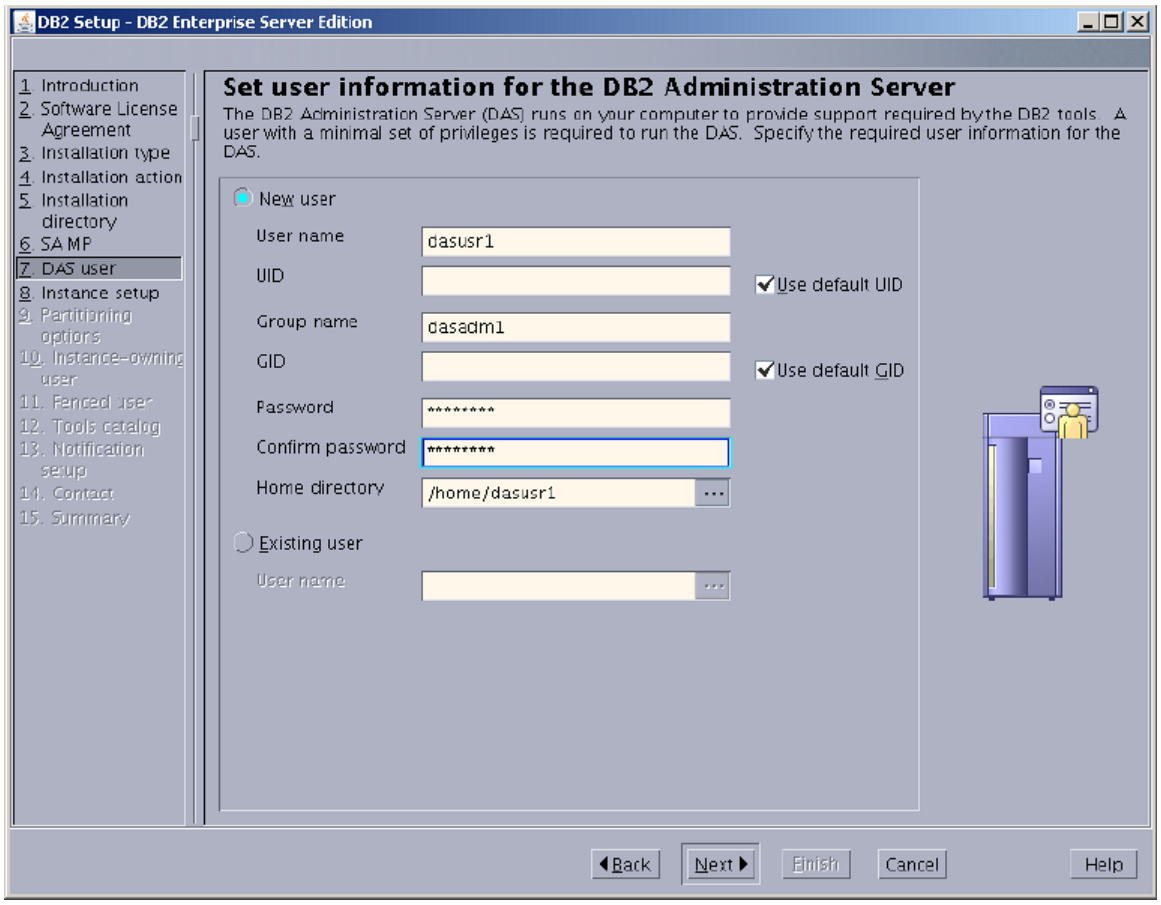
10. In "Install the IBM Tivoli System Automation for Multiplatforms (SA MP)," (Figure 2–7) select **Do not install SA MP**, unless "SA MP" is required by your environment.

Figure 2–7 IBM Tivoli Automation for Multiplatforms (SA MP)



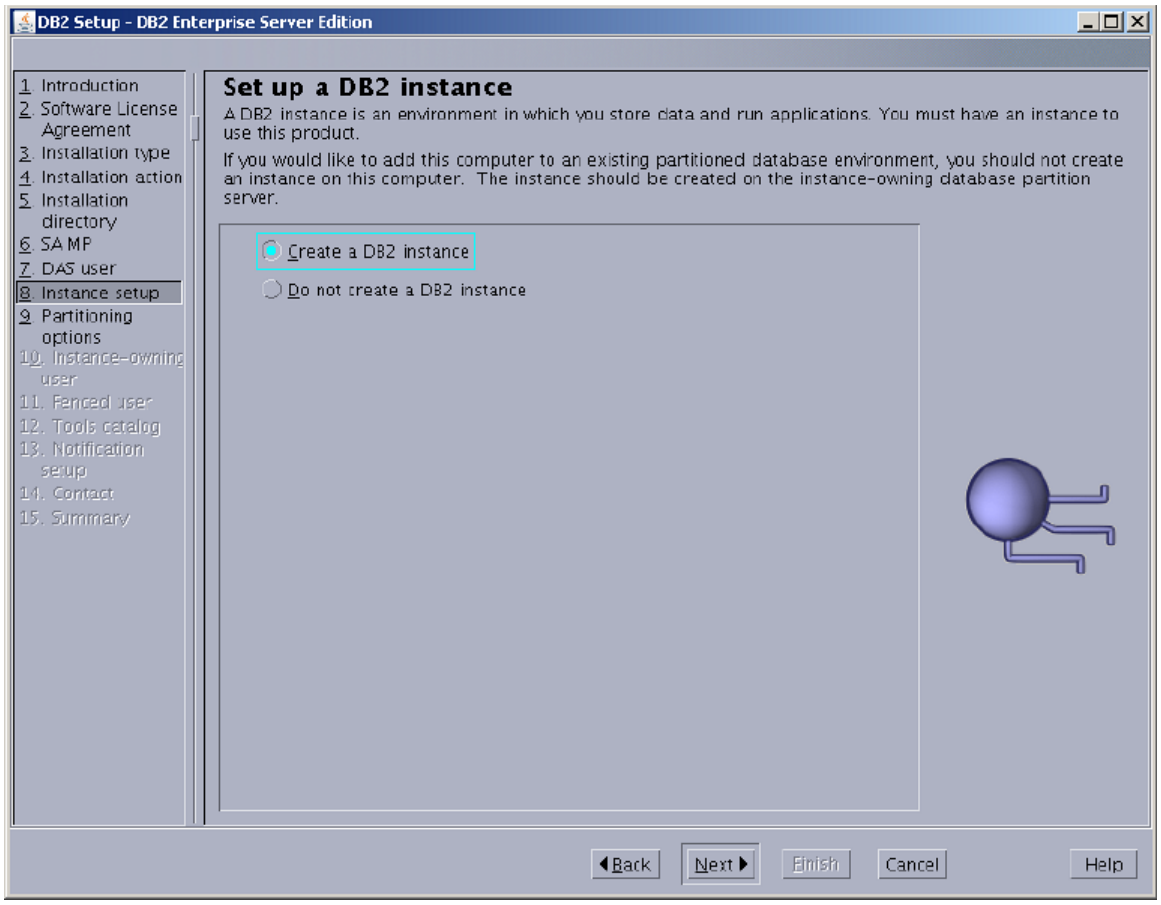
11. In "Set user information for the DB2 Administration Server" (Figure 2–8):
    a. Keep the defaults, unless a previous attempt to install DB2 failed.
    b. Enter a password.
    c. Click **Next**.

Figure 2–8 User information for the DB2 Administration Server



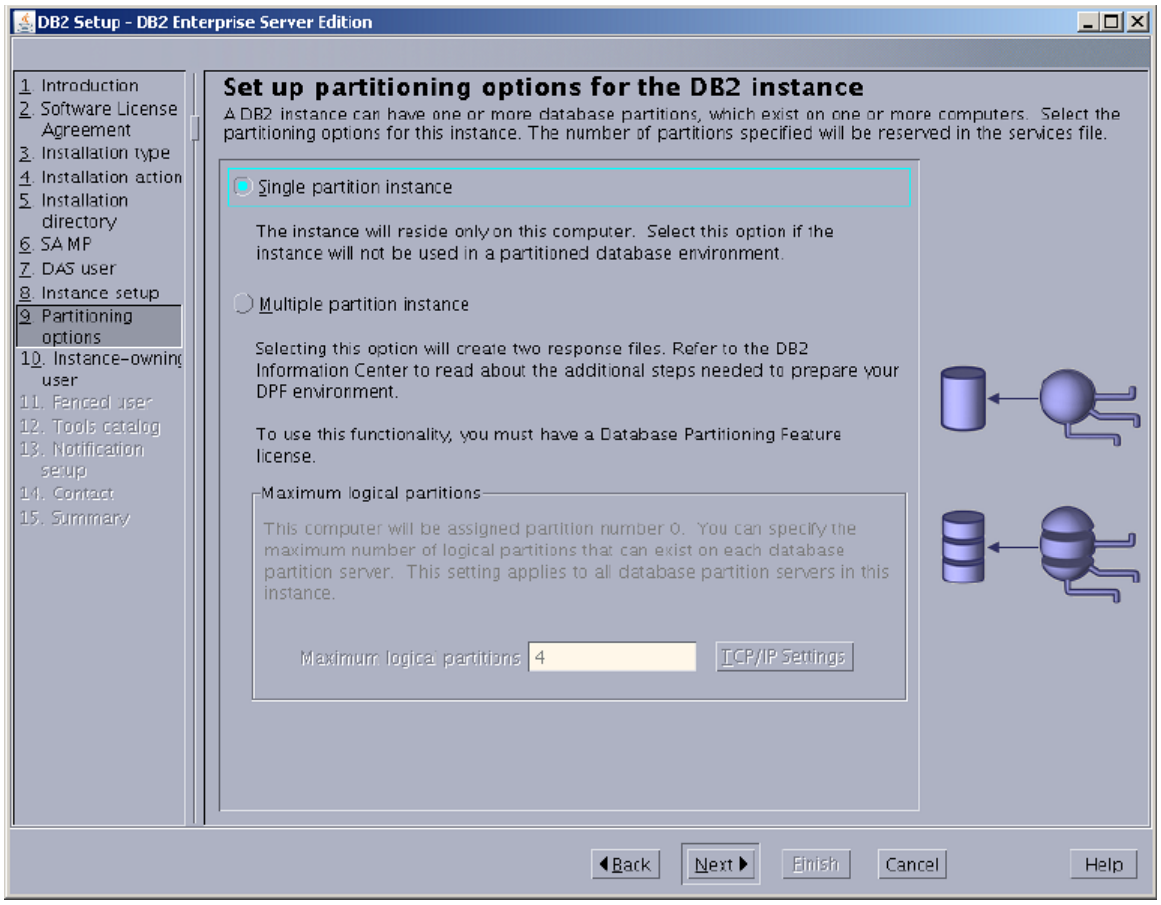
12. In "Set up a DB2 instance," (Figure 2–9) select **Create a DB2 instance** and click **Next**.

Figure 2–9 DB2 Instance Setup



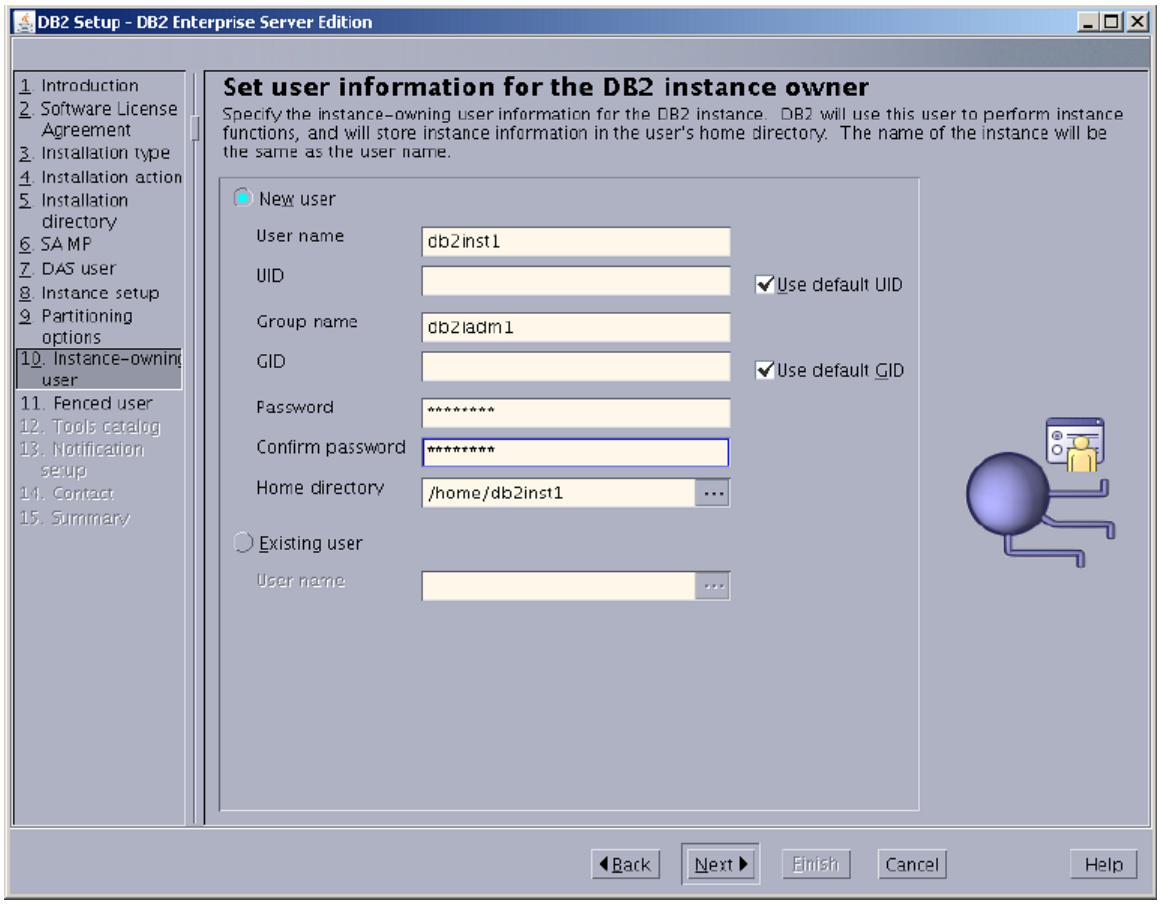
13. In "Set up partitioning options for the DB2 instance," (Figure 2–10) select **Single partition instance** and click **Next**.

Figure 2–10 Partitioning Options for the DB2 Instance



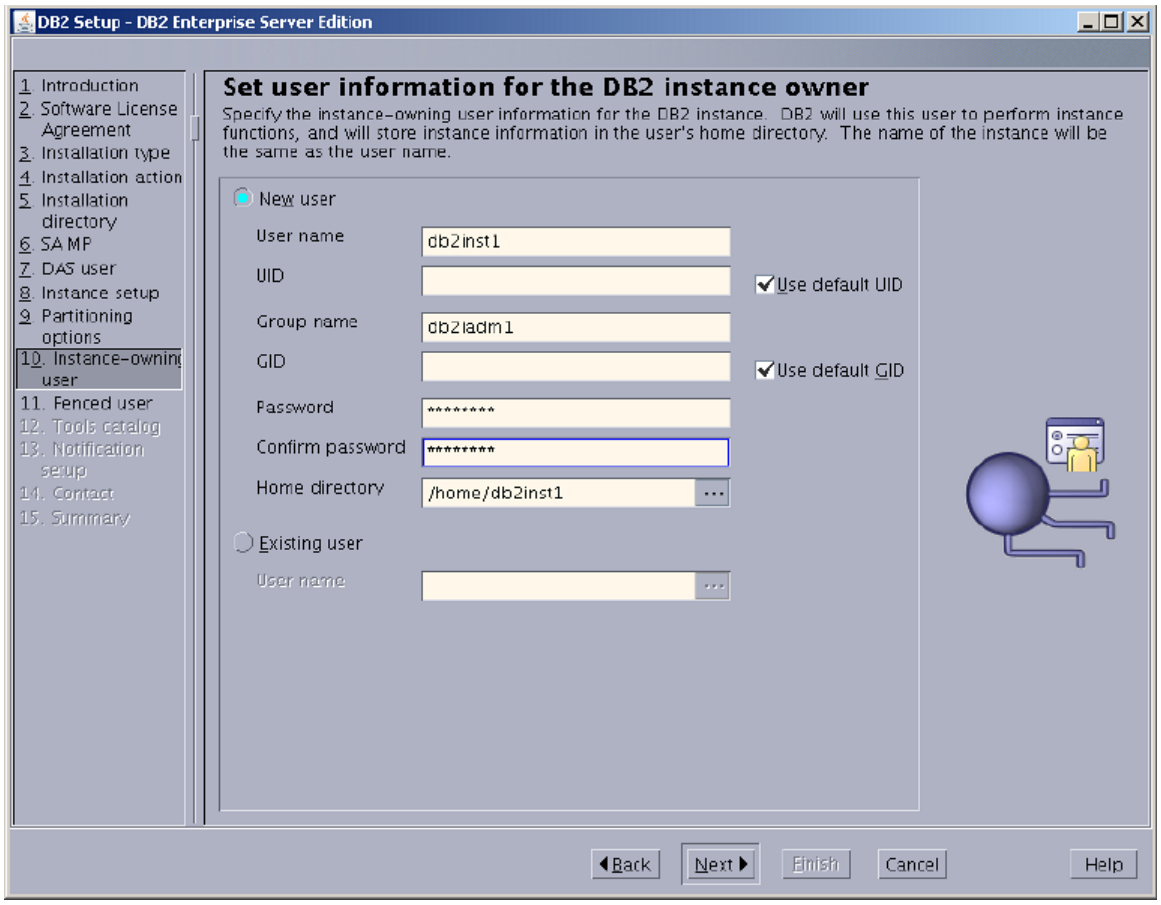
14. In "Set user information for the DB2 instance owner" (Figure 2–11):
    a. Keep the defaults, unless a previous attempt to install DB2 failed.
    b. Enter a password.
    c. Click **Next.**

Figure 2–11 User Information for the DB2 Instance Owner



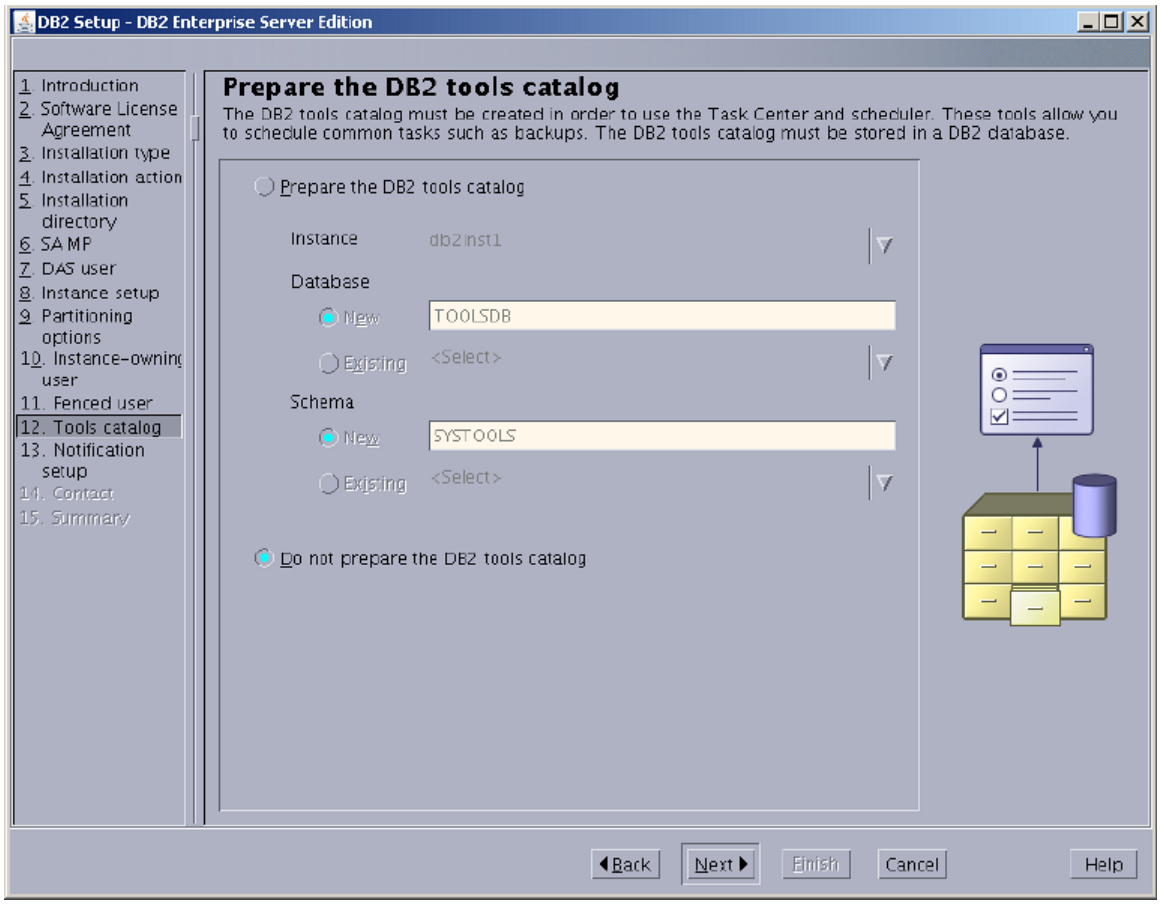
15. In "Set user information for the fenced user" (Figure 2–12):
    a. Keep the defaults, unless a previous attempt to install DB2 failed.
    b. Enter a password.
    c. Click **Next**.

Figure 2–12 User Information for the DB2 Instance Owner



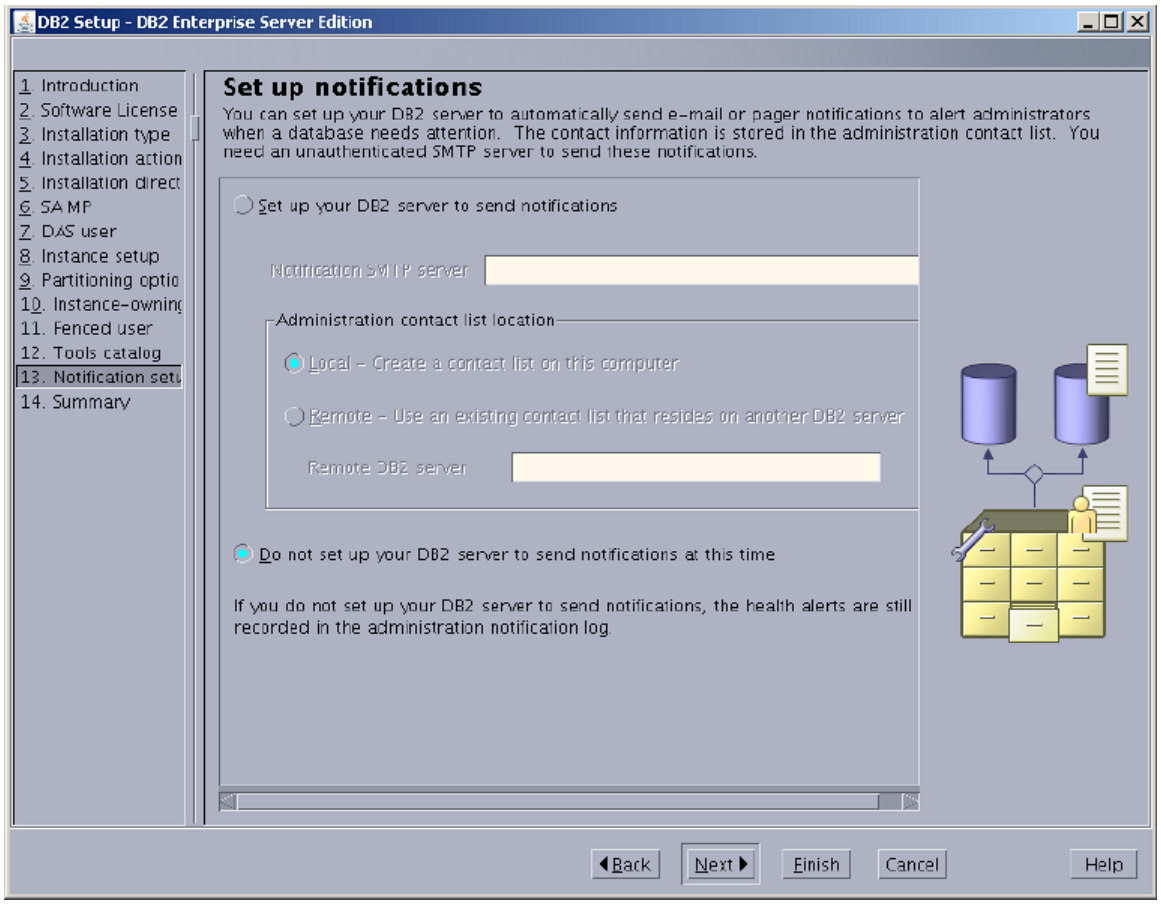
16. In "Prepare the DB2 tools catalog," (Figure 2–13) select **Do not prepare the DB2 tools catalog** and click **Next**.

Figure 2–13 DB2 Tools Catalog



17. In "Set up notifications," (Figure 2–14) do one of the following:

Figure 2–14 Notifications

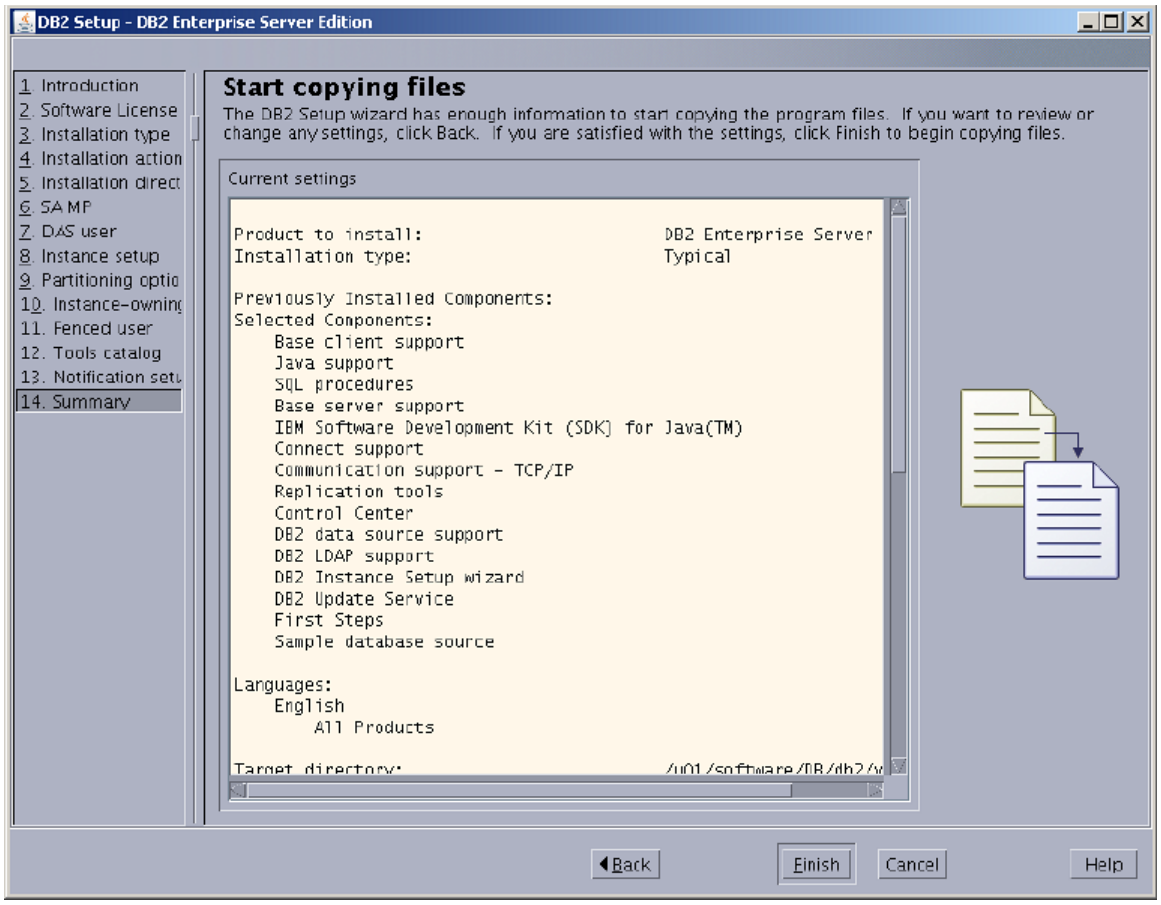


– If your system is a production server, select **Set up your DB2 server to send notifications**, enter a correct address for the local host, and click **Next**.

– If your system is a not a production server, you can select **Do not set up your DB2 server to send notifications at this time**, and click **Next**.

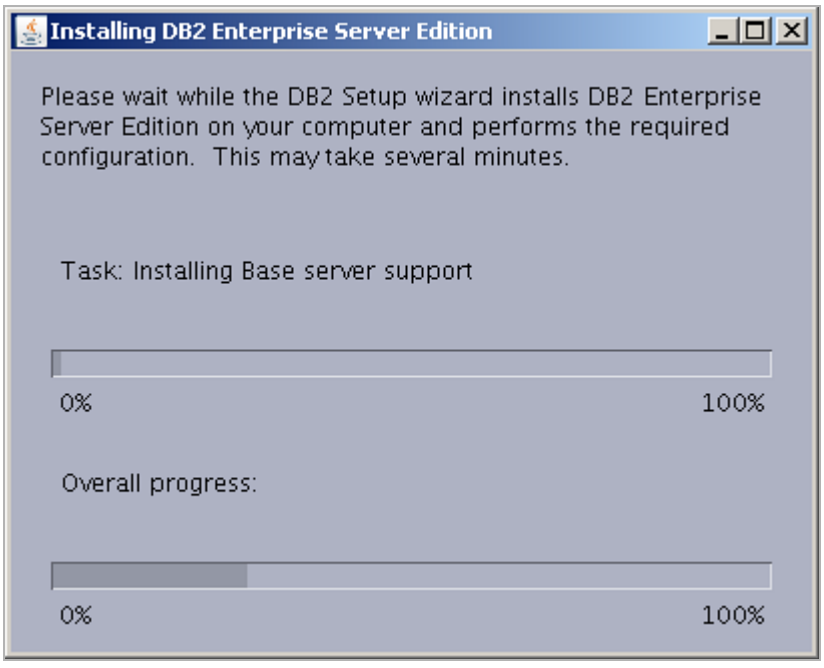
18. In "Start copying files," (Figure 2–15) check that your options are correct and click **Finish**.

Figure 2–15 Files Copy



19. Allow the installation to proceed (Figure 2–16).

Figure 2–16 DB2 Enterprise Server Edition Installation in Progress



20. In "Setup has completed successfully," read the notes, check the log tab, and click **Finish**.

    The installation of DB2 is now complete.

2.2 Creating a New DB2 Database

This section provides instructions for creating a new DB2 database.

- Section 2.2.1, "Creating a New DB2 Database Using a SQL Script"
- Section 2.2.2, "Creating a New DB2 Database Using the 'db2cc' Utility"

2.2.1 Creating a New DB2 Database Using a SQL Script

You can use a SQL script to create aDB2 database (and a user for the new database) for any version of IBM DB2 that is installed on your environment, including IBM DB2 versions 9.7 and 10.1.

> **Note:** If you installed IBM DB2 version 9.7, you have the option of creating a new DB2 database using the `db2cc` utility. For instructions, see Section 2.2.2, "Creating a New DB2 Database Using the 'db2cc' Utility."

To create a new DB2 database using a SQL script

1. Create a user for the new database. For example, to create a user named `csuser` on Linux:

   ```
   useradd -d /home/csuser -m -p welcome1 csuser
   ```

2. Log in with DB2 instance owner credentials. For example, `db2inst1`.

3. Create a file with the following DB2 commands. (For example, create `db.sql` and modify the database name, path, and user variables to match your installation):

   ```
   CREATE DATABASE <DBNAME> AUTOMATIC STORAGE YES ON '<DB2_
   HOME>/Databases/<DBNAME>'
   DBPATH ON '<DB2_HOME>/Databases/<DBNAME>'
   USING CODESET UTF-8 TERRITORY US COLLATE USING SYSTEM PAGESIZE 32768;
   CONNECT TO <DBNAME>;
   GRANT DBADM,CREATETAB,BINDADD,CONNECT,CREATE_NOT_FENCED_ROUTINE,IMPLICIT_
   SCHEMA,LOAD,CREATE_EXTERNAL_ROUTINE,QUIESCE_CONNECT,SECADM ON DATABASE TO USER
   <DBUSER>;
   UPDATE DATABASE CONFIGURATION USING APPLHEAPSZ 1024 DEFERRED;
   UPDATE DATABASE CONFIGURATION USING LOCKTIMEOUT 30 DEFERRED;
   UPDATE DATABASE CONFIGURATION USING APP_CTL_HEAP_SZ 1024 DEFERRED;
   UPDATE DATABASE CONFIGURATION USING LOGFILSIZ 32768 DEFERRED;
   UPDATE DATABASE CONFIGURATION USING LOGSECOND 8 IMMEDIATE ;
   CONNECT RESET;
   ```

4. Create the directory for your database.

   ```
   mkdir -p <DB2_HOME>/Databases/<DBNAME>
   ```

5. Execute the sql script. For example:

   ```
   db2 -tvsf createdb.sql
   ```

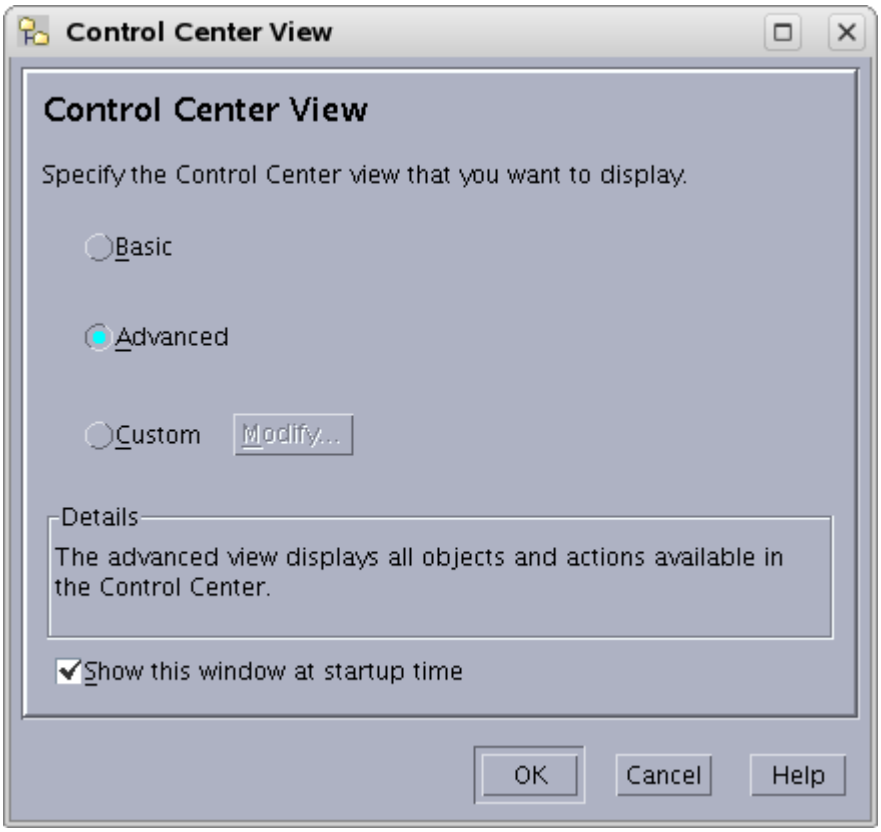
2.2.2 Creating a New DB2 Database Using the 'db2cc' Utility

If you installed IBM DB2 version 9.7, follow the steps in this section to create a new DB2 database using the `db2cc` utility. This section also includes instructions for creating a new database user.

> **Note:** The `db2cc` utility is only available for IBM DB2 version 9.7. For instructions on creating a new database for a later version of IBM DB2 (for example, version 10.1), see Section 2.2.1, "Creating a New DB2 Database Using a SQL Script."

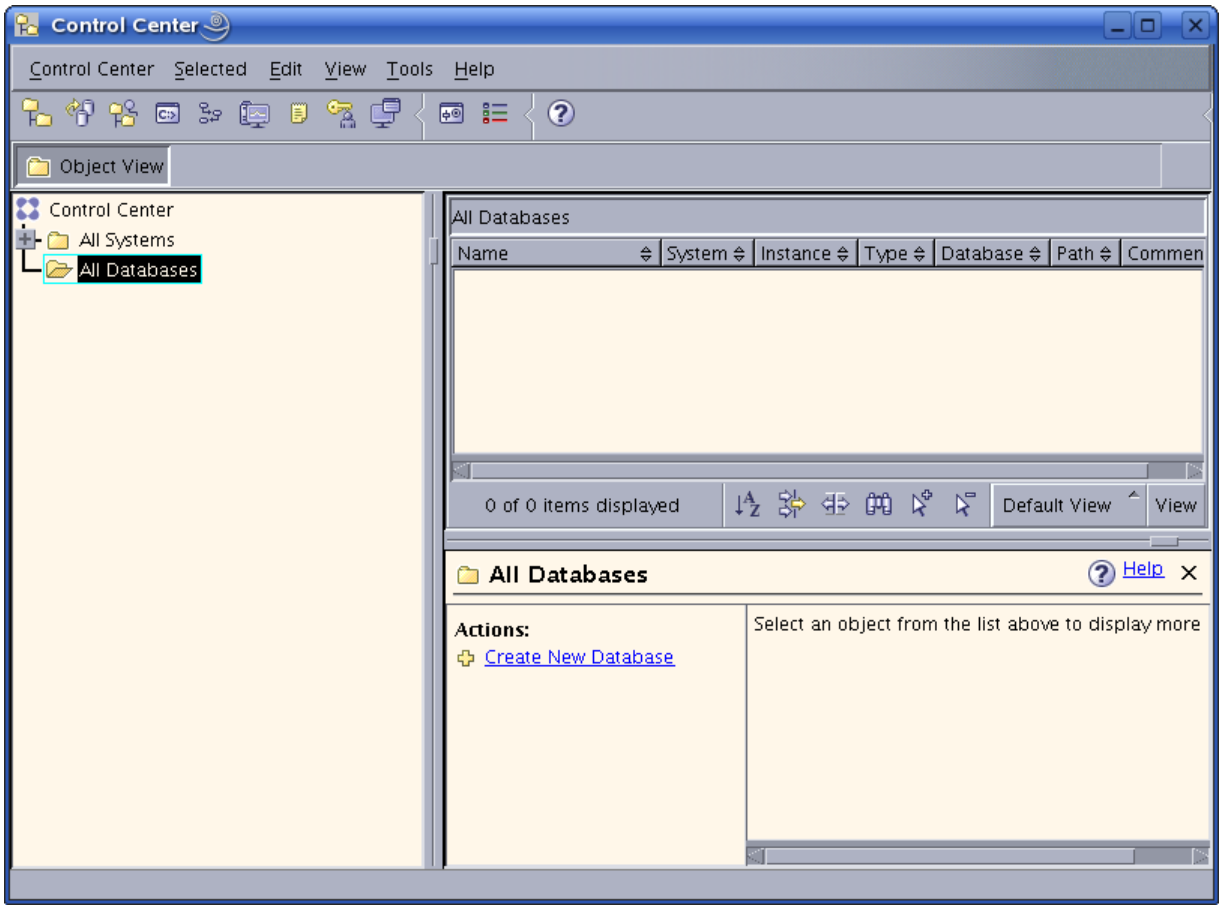
1. Log in as `db2inst1` (or your instance user created during the installation, step 14 on page 2-11).
2. Navigate to: `./sqllib/bin` and run `db2cc`.
3. In the "Control Center View" screen (Figure 2–17), select **Advanced**.

Figure 2–17 Control Center View



4. In the "Control Center," open the application for creating a database (Figure 2–18):
   a. Click the plus sign next to the tree option **All Systems**.

Figure 2–18 Control Center



b. Click the expanded branch **All Databases**. (If you have not created a database previously, this branch is empty.)

c. Right-click the branch **All Databases** and select **Create Database > Standard**.

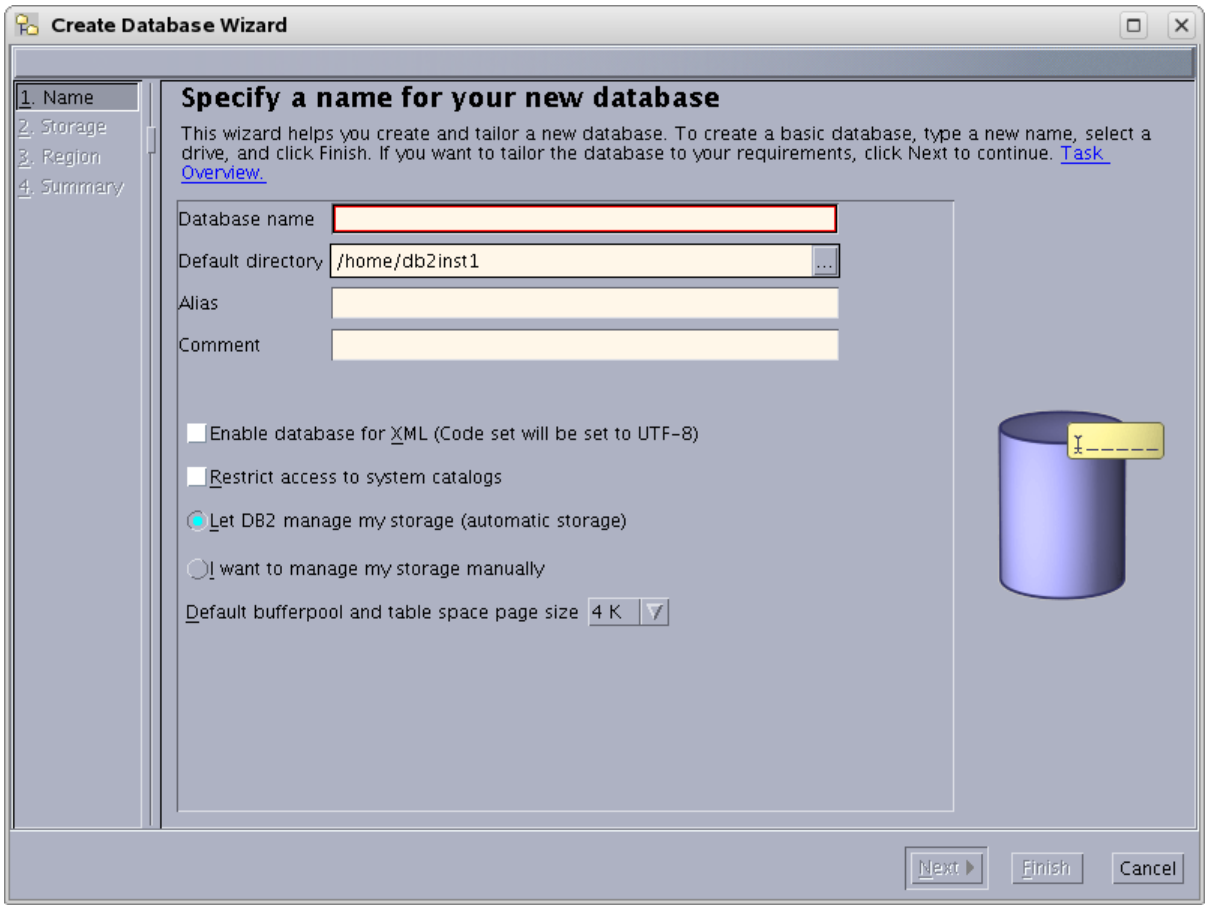
5. In "Specify a name for your new database" (Figure 2–19):

a. Enter a name for this database.

b. Select the check box **Enable database for XML**.

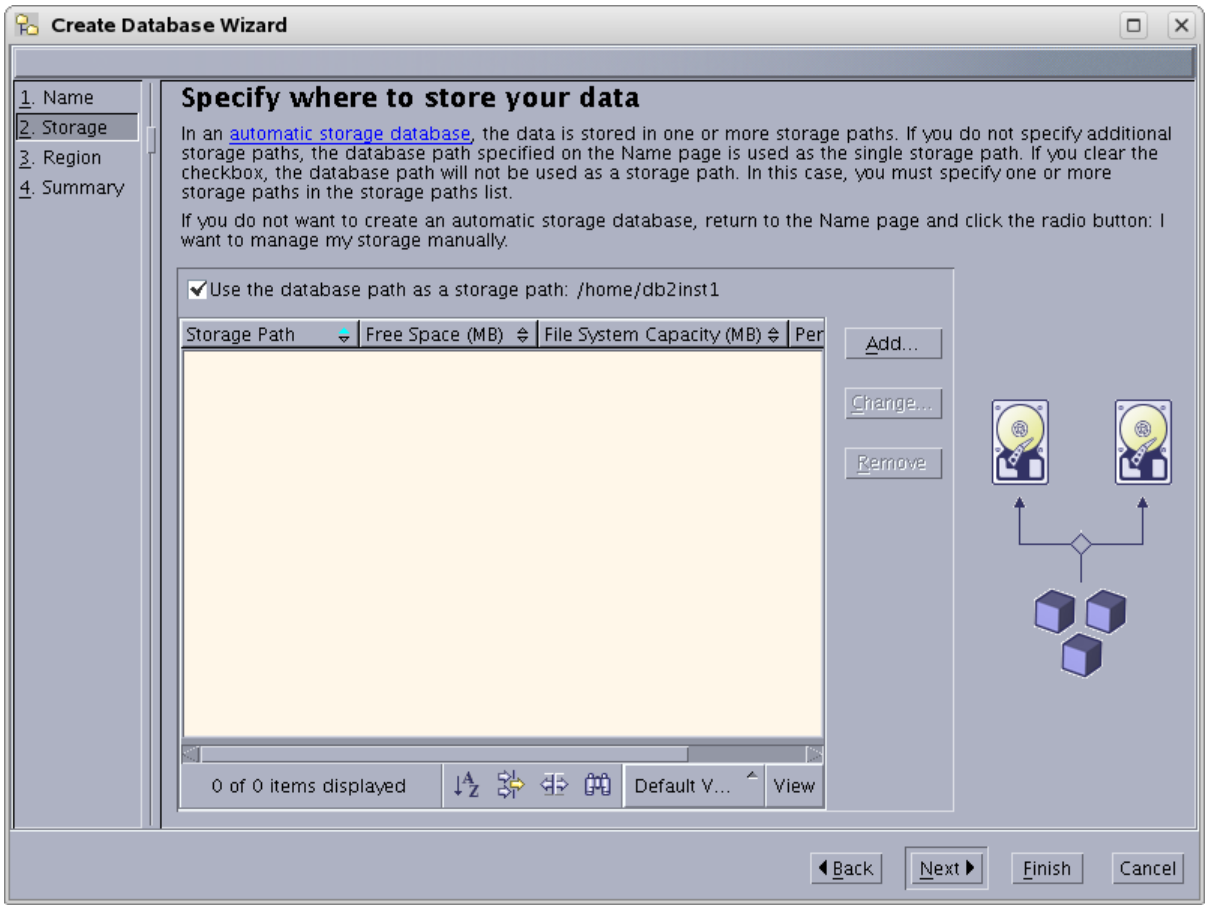
c. In the drop-down "Default bufferpool and table space page size," select **32** and click **Next**.

Figure 2–19 Name for Your New Database



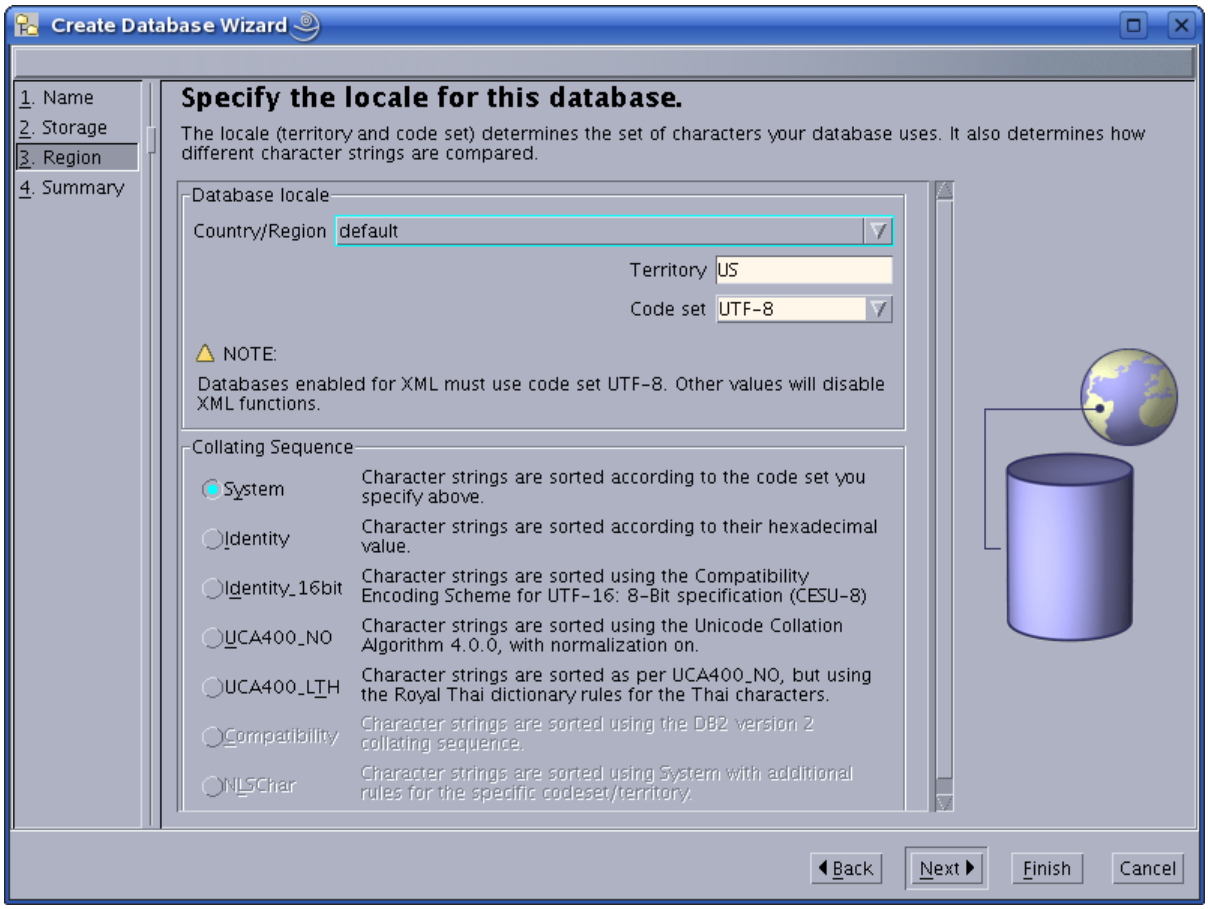
6. In "Specify where to store your data," (Figure 2–20) click **Next** (a value is unnecessary, as we kept the default option of **Let DB2 manage my storage (automatic storage)**, on the previous page).

Figure 2–20 Location for Your Data



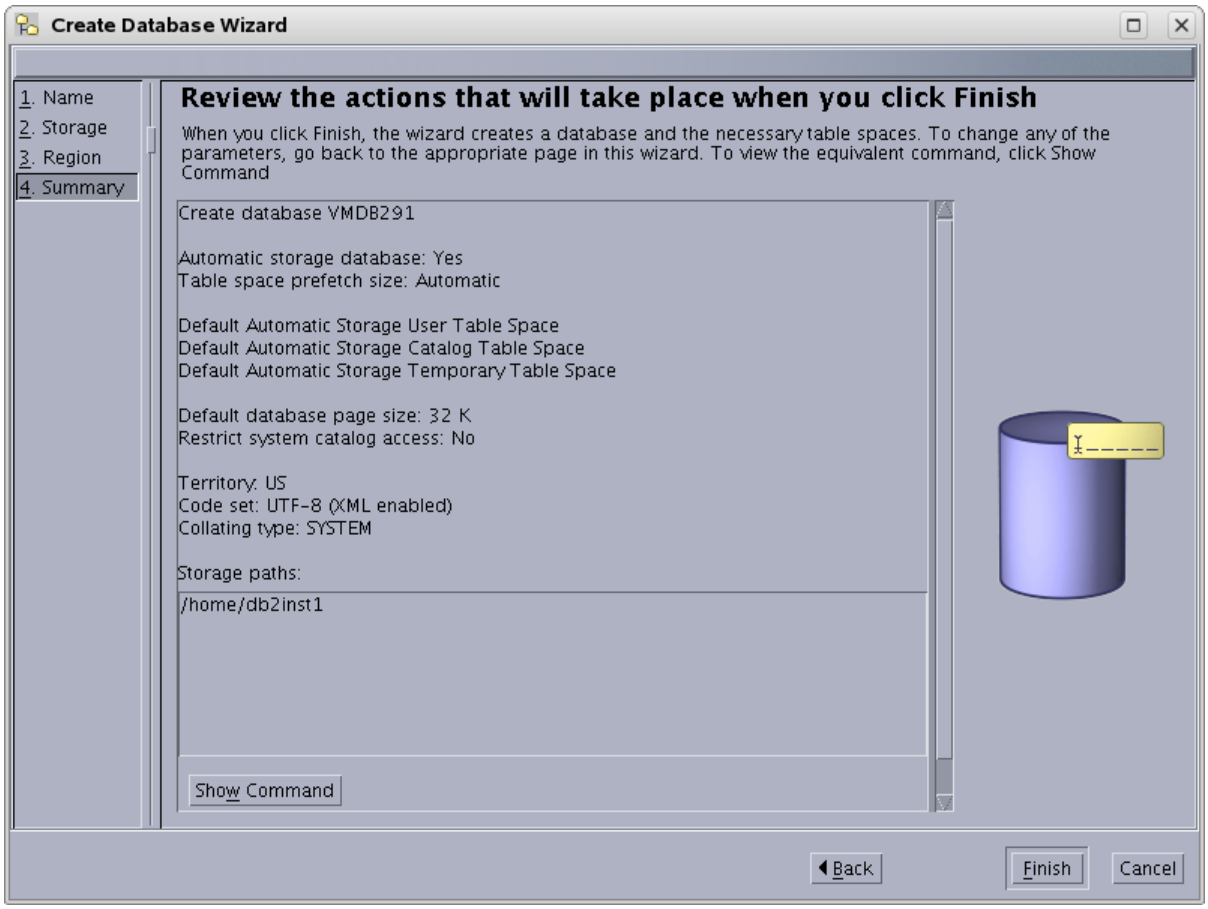
7. In "Specify the locale for this database," (Figure 2–21) ensure that the drop-down "Code set" displays UTF-8 and click **Next**.

Figure 2–21 Database Locale



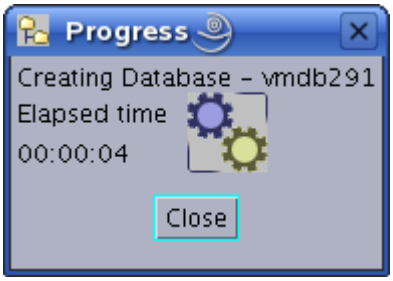
8. In "Review the actions that will take place when you click finish," (Figure 2–22) confirm that everything looks correct and click **Finish**.

Figure 2–22 Review Actions



9. Allow the "Progress" window (Figure 2–23) to complete creating the database. The window will close automatically when the database has been created.

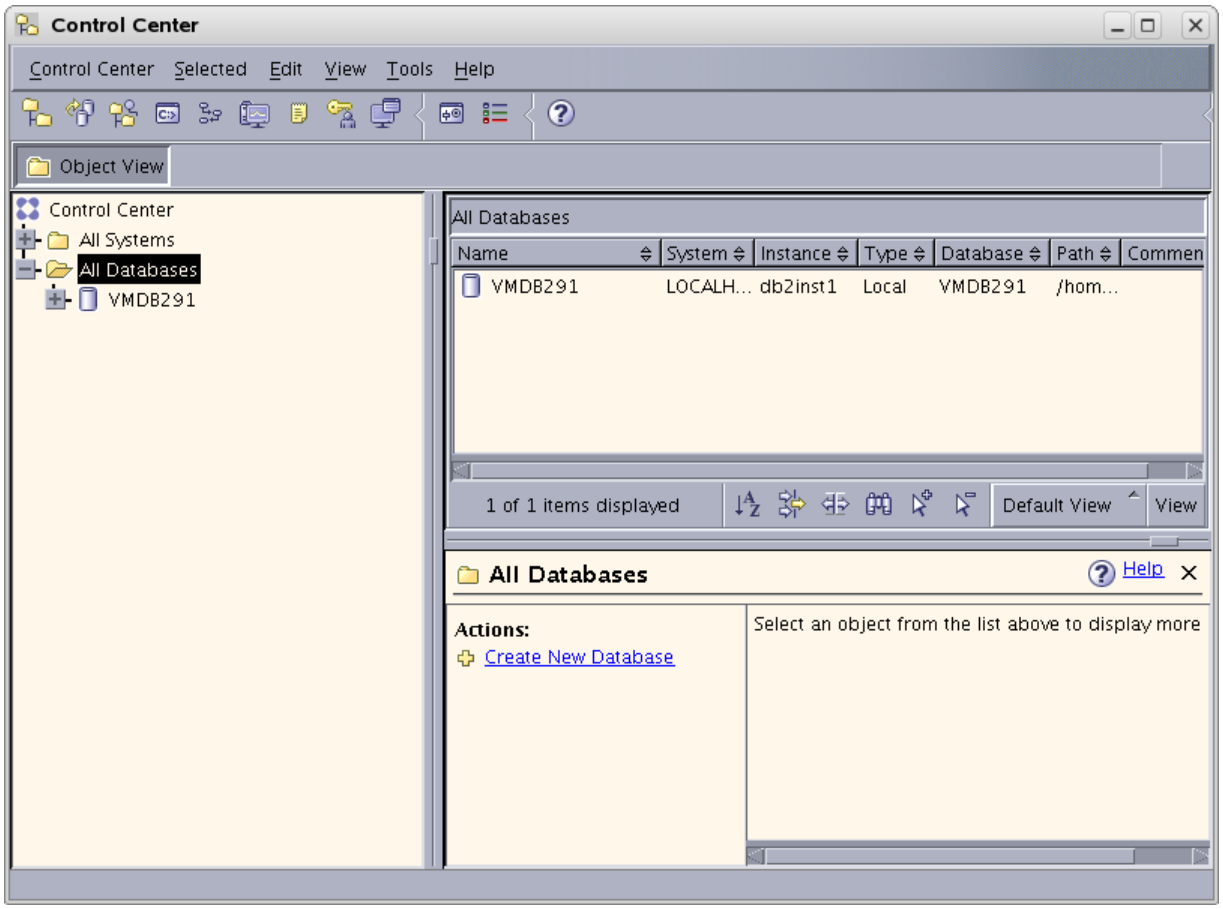
Figure 2–23 Progress Dialog Box



10. The database has now been created and is displayed in the control center.

    Figure 2–24 shows that a single database named `vmdb291` is present in the control center.

Figure 2–24 vmdb291 Database



11. Create a user for the new database

    a. Go to the command line. As the system user, create a new user named `csuser` that will be used to access the database from your Oracle product.

       For example, to create a user named `csuser` on Linux:

       ```
       useradd -d /home/csuser -m -p demo4132 csuser
       ```

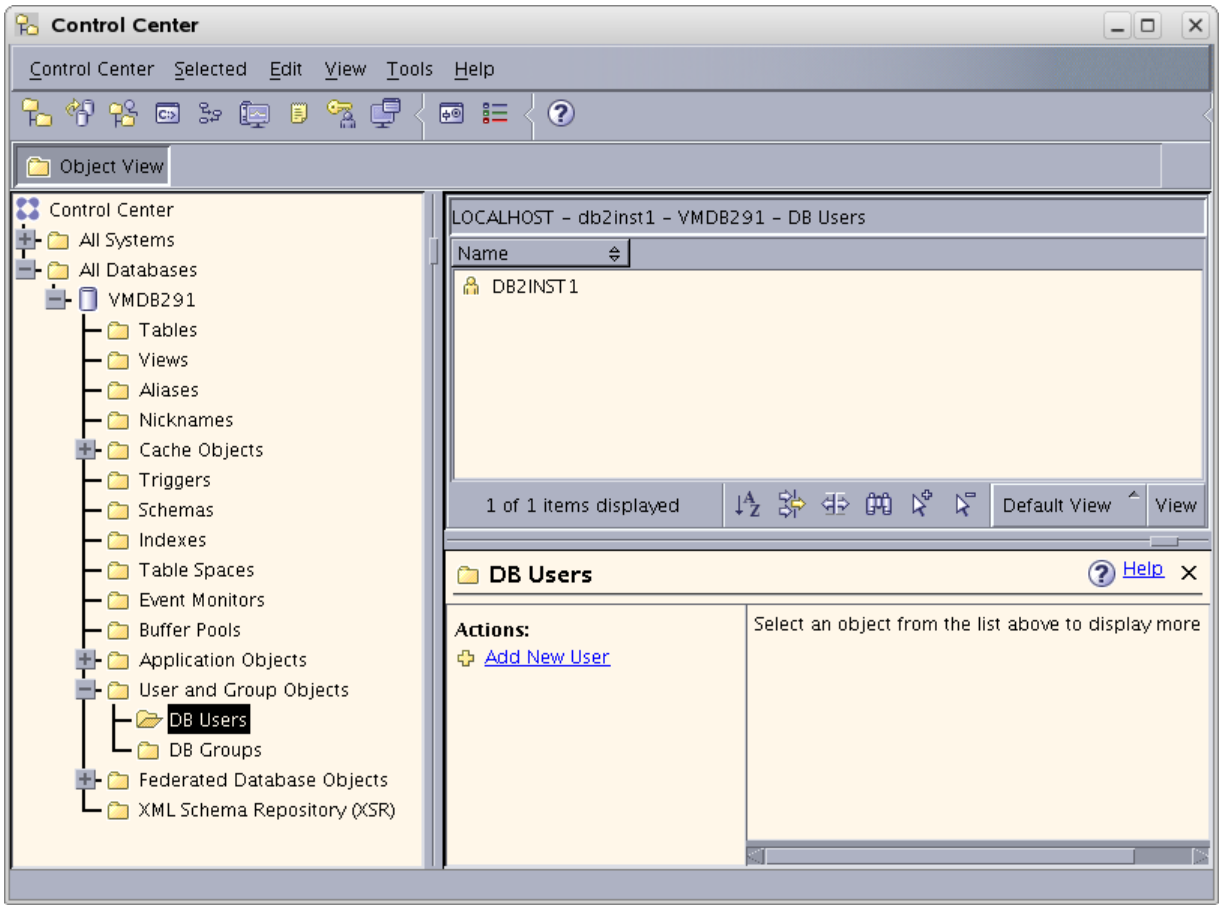
    b. Go back to the "Control Center" and add the user:

       a. Expand the newly created database in the tree by clicking the plus sign, then expanding the branch **User and Group Objects.**

       b. Click **DB Users** to open the right-hand panel.

       c. Right-click the branch **DB Users** (Figure 2–25) and select the **Add** option.

Figure 2–25 DB Users



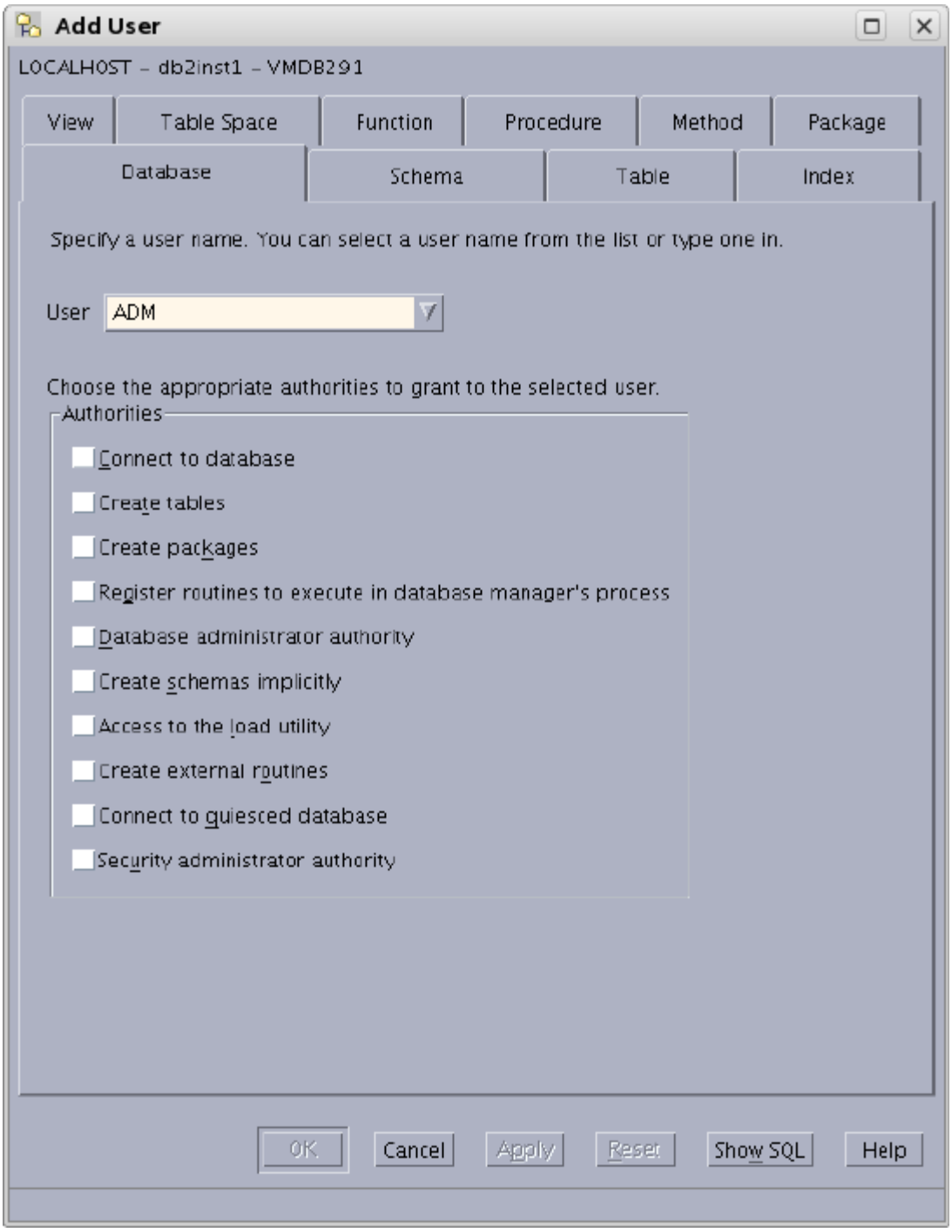
c. In the "Add User" application (Figure 2–26):

a. Select the user that was created in step a on page 2-24.

b. Under "Authorities," select all check boxes.

c. Click **OK**.

Figure 2–26 Add User Dialog Box



2.3 Configuring the Database

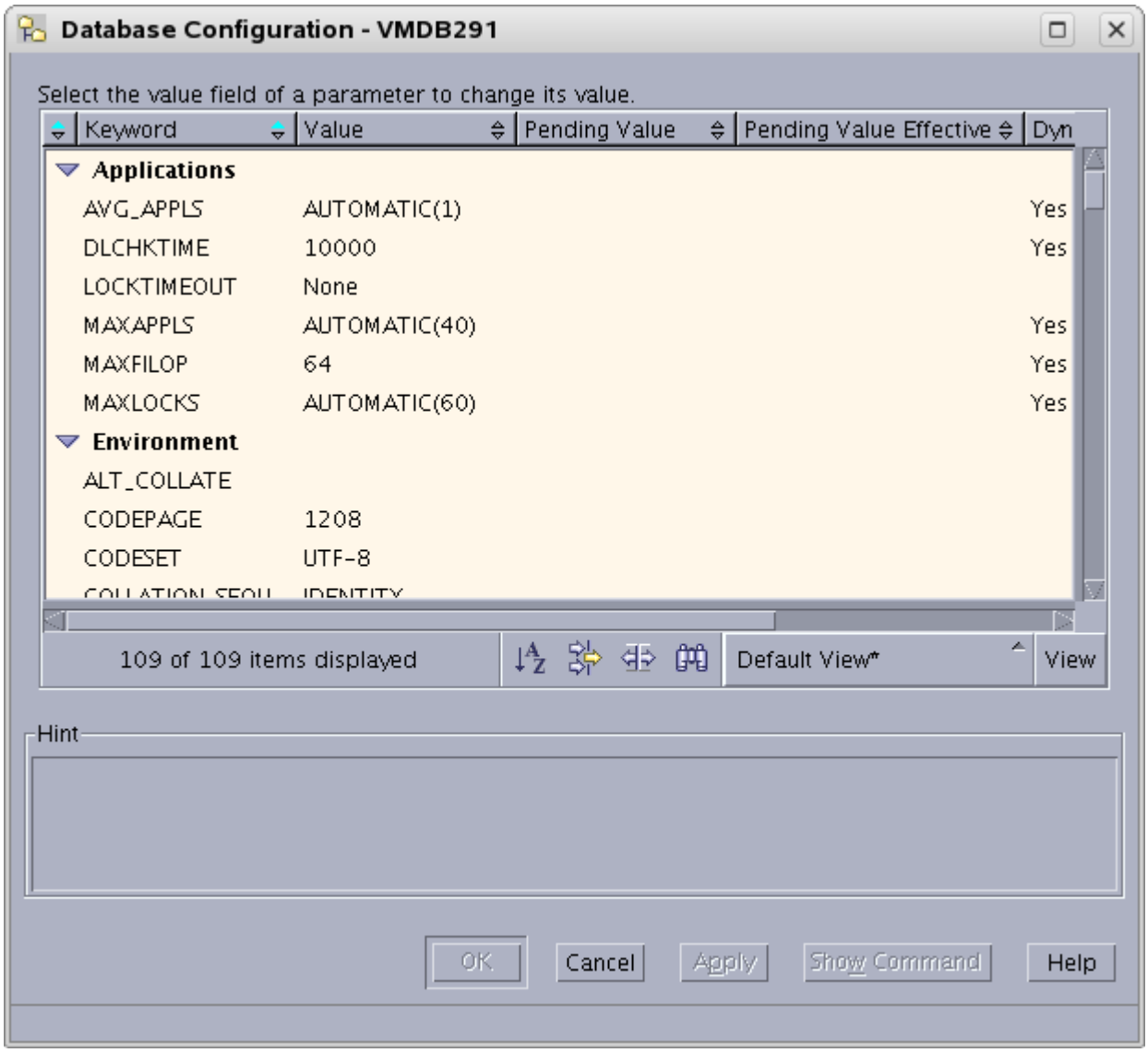
1. Right-click the database that you created (listed in the branch that displays the database icon) and select **Configure Parameters**.
2. In "Database Configuration":
   a. Scroll through the list of options and replace the values of the following parameters with the values shown in Table 2–1.

Table 2–1 Database Configuration - Parameters

Parameter	Value
LOCKTIMEOUT	30
APP_CTL_HEAP_SZ	1024
APPHEAPSZ	1024
LOGFILSIZ	32768 **Note:** 32768 is the recommended value for this parameter. However, for large publishing jobs, this parameter may need further tuning to suit your setup.

b. Click **OK** (Figure 2–27).

Figure 2–27 Database Configuration - VMDB291 Dialog Box

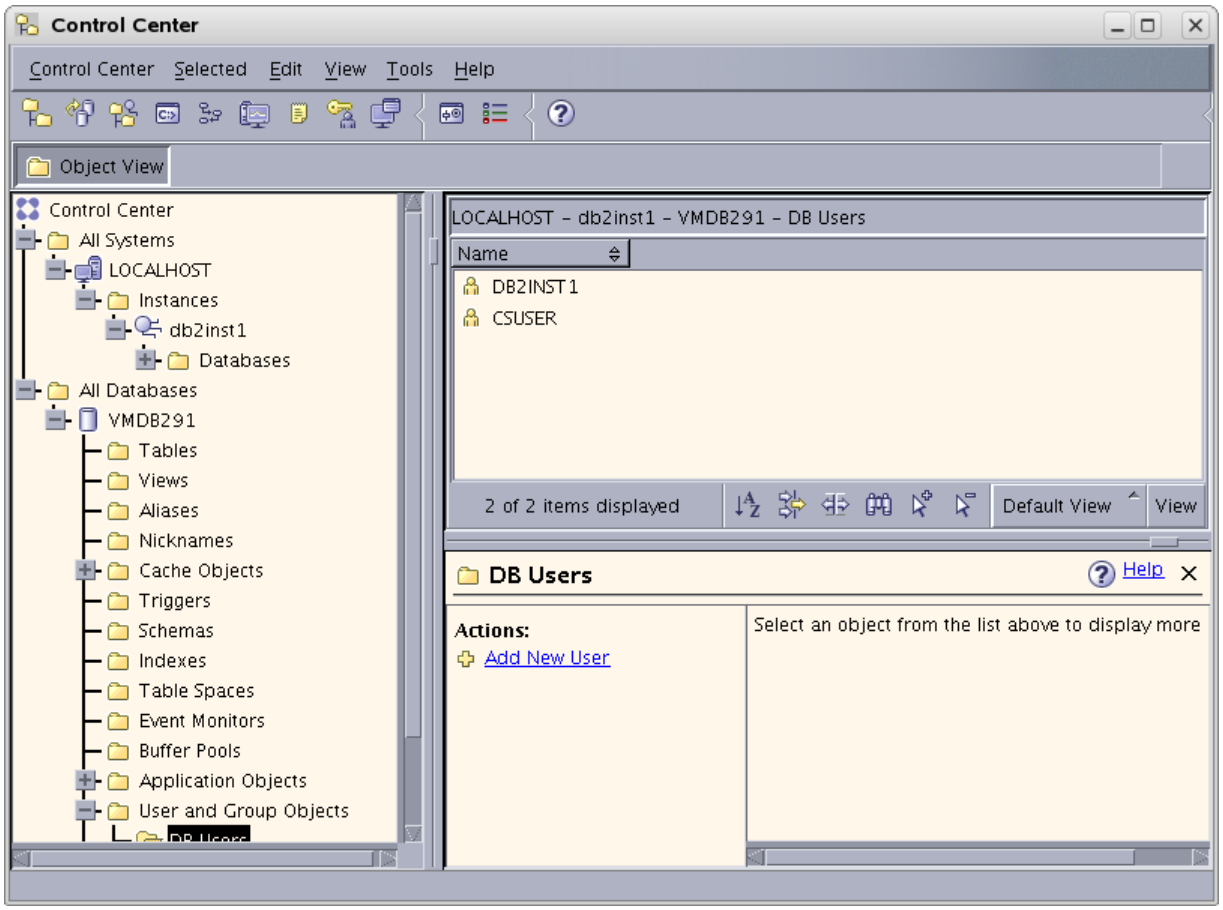


3. Right-click the database that you created (listed in the branch that displays the database icon) and select **Restart**.

A status window flashes. This does not mean that the operation has been completed. Typically, you will need to wait 2 to 3 minutes for the system to restart.

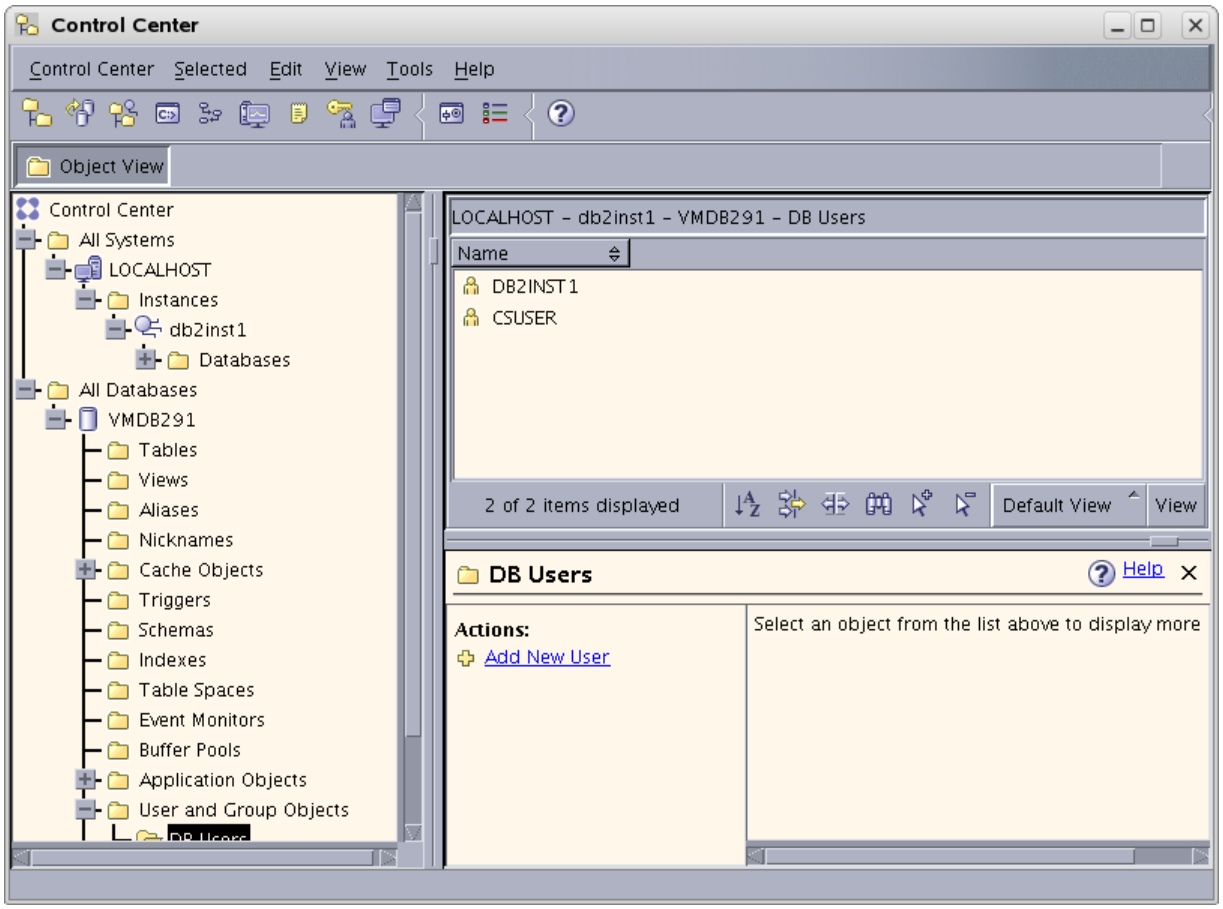
4. Stop the instance:
   a. Expand the following "Control Center" tree branch (Figure 2–28): **All Systems > LOCALHOST > Instances >** `<name_of_your_instance>`
   b. Right-click the instance.
   c. Select **Stop**.

Figure 2–28 Stop an Instance



   d. In the "Confirm stop" dialog box, click **OK**.
   e. Wait for the message that the instance has been stopped.
5. Start the instance:
   a. In the "Control Center" tree (Figure 2–29), expand **All Systems**, **LOCALHOST**, **Instances**, and then expand the `<name_of_your_instance>`.
   b. Right-click the instance.
   c. Select **Start**.

Figure 2–29 Start an Instance



6. Wait for the message that the instance has been started. This does not mean that the operation has been completed. Typically, you will need to wait 2 to 3 minutes for the system to restart.

   Your database is now ready for use with your Oracle software product.

3

Creating and Configuring a Microsoft SQL Server Database

Use this chapter to set up a SQL Server database for your WebCenter Sites installation.

This chapter contains the following section:

3.1 Creating and Configuring a SQL Server 2008 R2 or 2012 Database

1. Use the Windows Account Manager to create a new user account for the WebCenter Sites database user (for example, `csuser`), and assign a password to the account.
2. Open SQL Server Manager Studio.
3. Log in to MS SQL Server:
   a. Enter your user name and password (the default user name is `sa`).
   b. Click **Connect**.
4. Create the database:
   a. In the left-hand tree, expand the **Databases** node.
   b. Right-click the **Databases** node and select **New Database** from the pop-up menu.
   c. In the "New Database" window, enter a name for your database and click **OK**.

      Your newly created database appears under the **Databases** node in the tree.
5. In the tree, expand the node representing your newly created database, then expand the **Security** node underneath it.
6. Click the **Users** tab.
7. Right-click within the white space underneath the list of existing users and select **New User** from the pop-up menu.
8. In the "Database User - New" window, enter the user name of the WebCenter Sites database user (which you created in step 1 of this procedure) into the **User name** and **Login name** fields.
9. In the "Owned Schemas" and "Role Members" areas, select the **db_owner** check box.
10. Click **OK**.

The database is created.

11. After the database has been created, turn on the `READ_COMMITED_SNAPSHOT` as shown below. For more information, refer to the vendor documentation.

```
ALTER DATABASE <your_db_name>
SET ALLOW_SNAPSHOT_ISOLATION ON GO
ALTER DATABASE <your_db_name>
SET READ_COMMITTED_SNAPSHOT ON GO
```

Database configuration is complete.

12. You are now ready to create and configure the data source using the user name and password of the WebCenter Sites database user you created in step 1 of this procedure. For instructions, refer to the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

Part II

Installing an Application Server

Part II contains the following chapters:

4

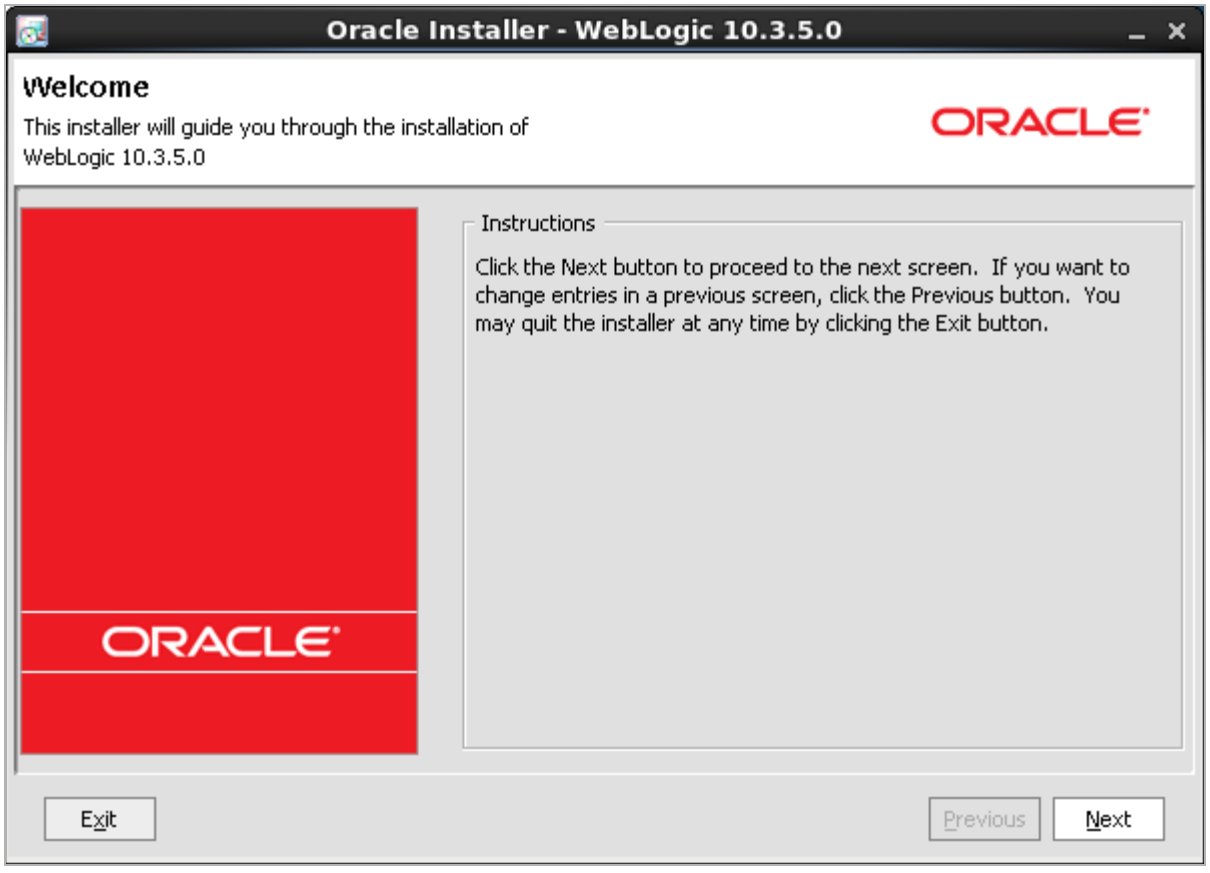
Installing Oracle WebLogic Server

This chapter is not exhaustive, as it covers the installation of Oracle WebLogic Application Server so far as needed to install and run WebCenter Sites. For more extensive documentation on the installation process and best practices, see the *Oracle Fusion Middleware Installation Guide for Oracle WebLogic Server*.

4.1 WebLogic Server Installation Steps

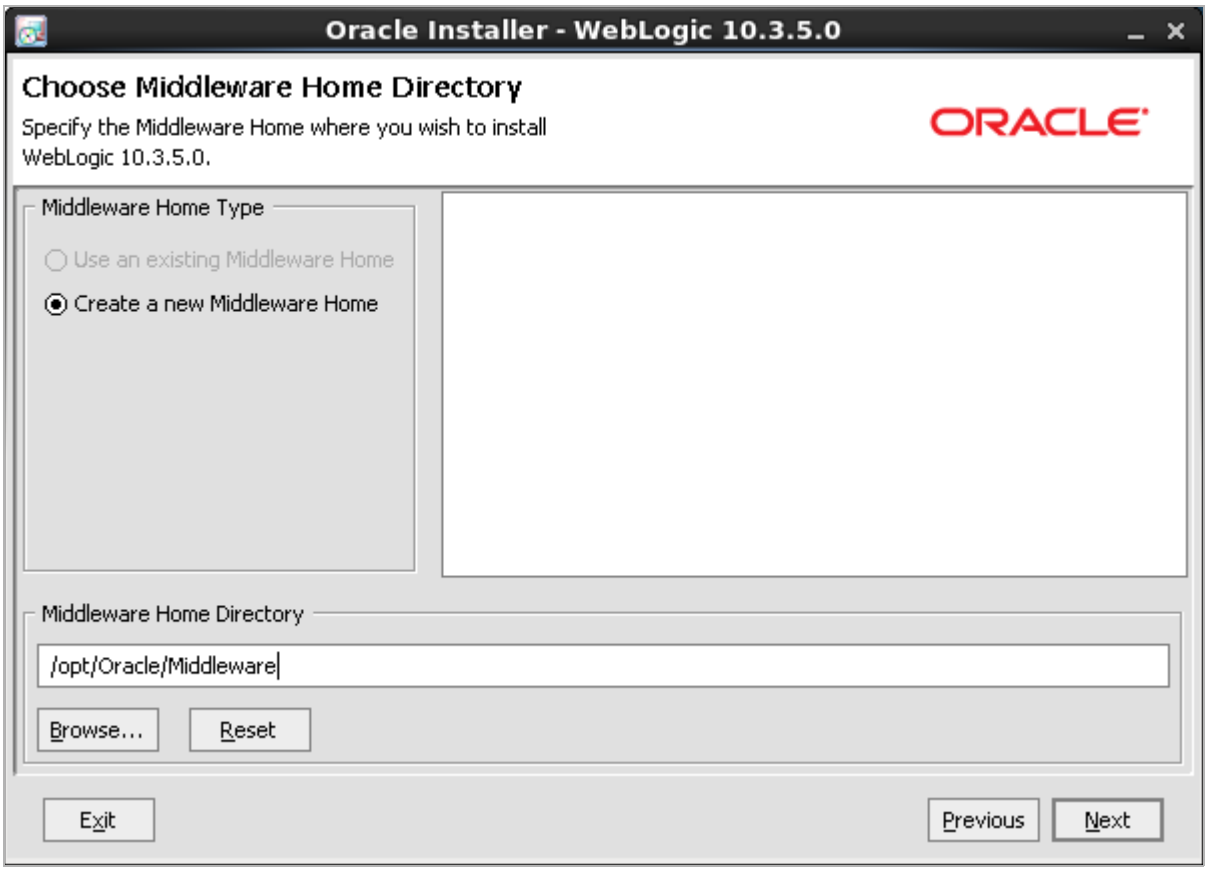
1. Run the WebLogic Server installer (on UNIX, make sure your `DISPLAY` variable is set).
2. In the "Welcome" screen, as shown in Figure 4–1, click **Next**.

Figure 4–1 Welcome Screen



3. Either use an existing WebLogic home directory or select Create a new WebLogic Home and browse for a directory (Figure 4–2). Click **Next**.

Figure 4–2 Middleware Home Directory Location



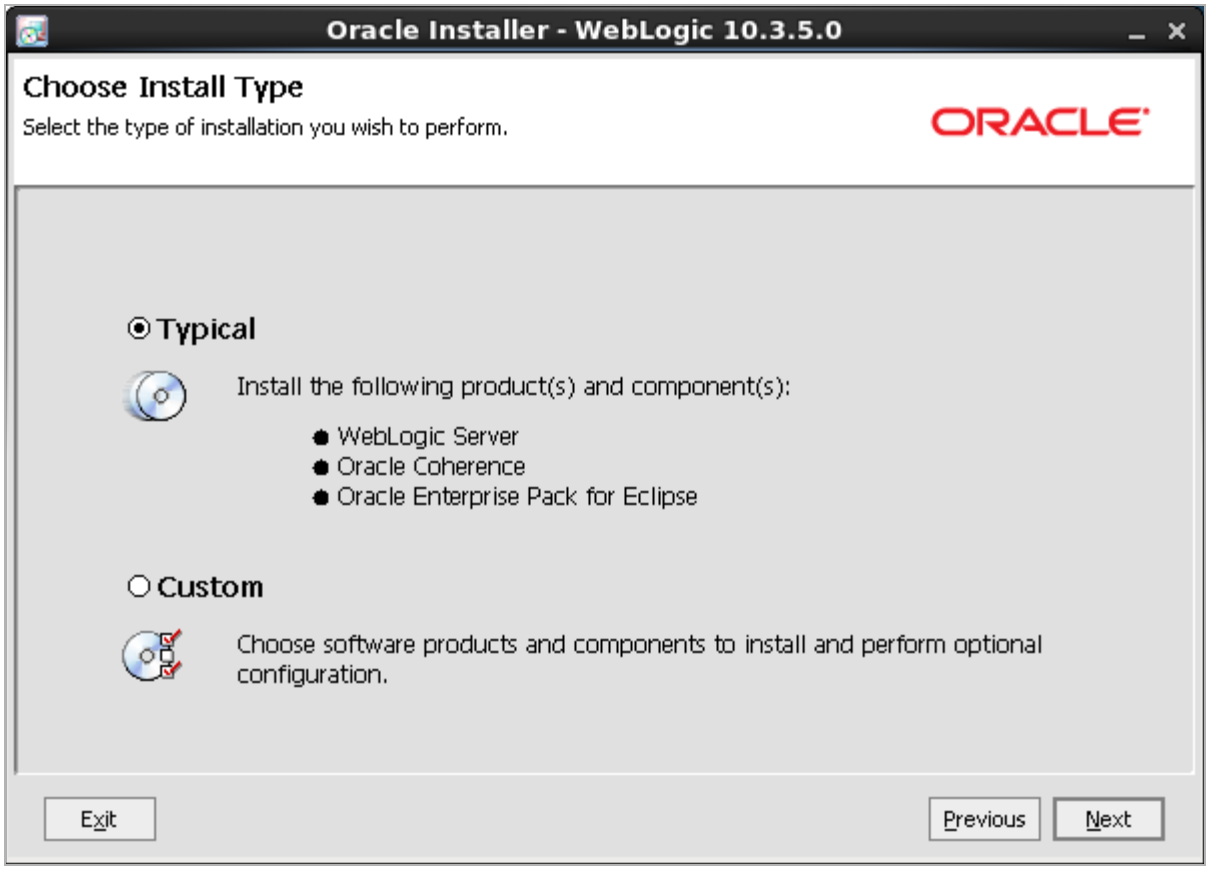
Note: The WebLogic home directory will be referred to throughout this chapter as `<wl_home>`.

4. In the "Register for Security Updates" screen, as shown in Figure 4–3, enter the appropriate information and click **Next**.

Figure 4–3 Security Update Registration

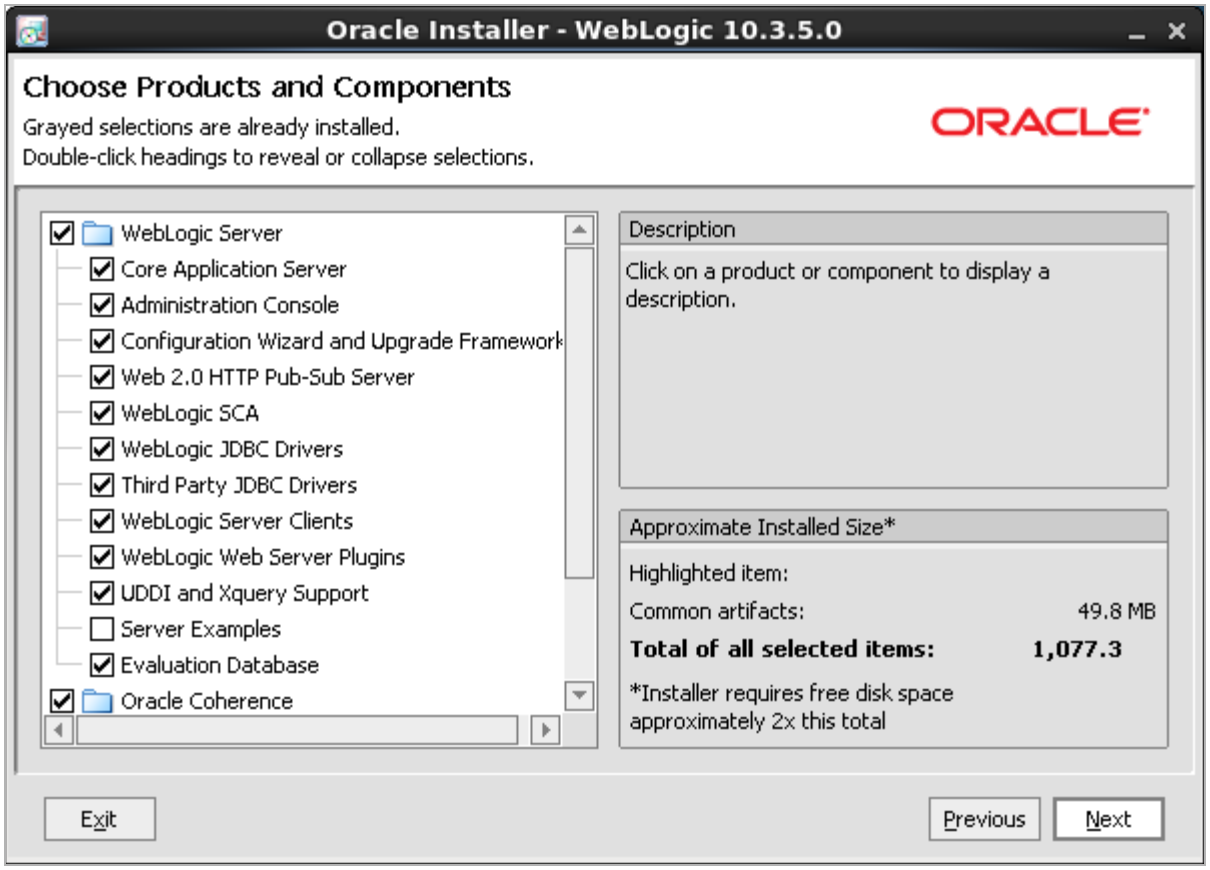
5. Select **Custom Install Type** (Figure 4–4) and click **Next**.

Figure 4–4 Install Type



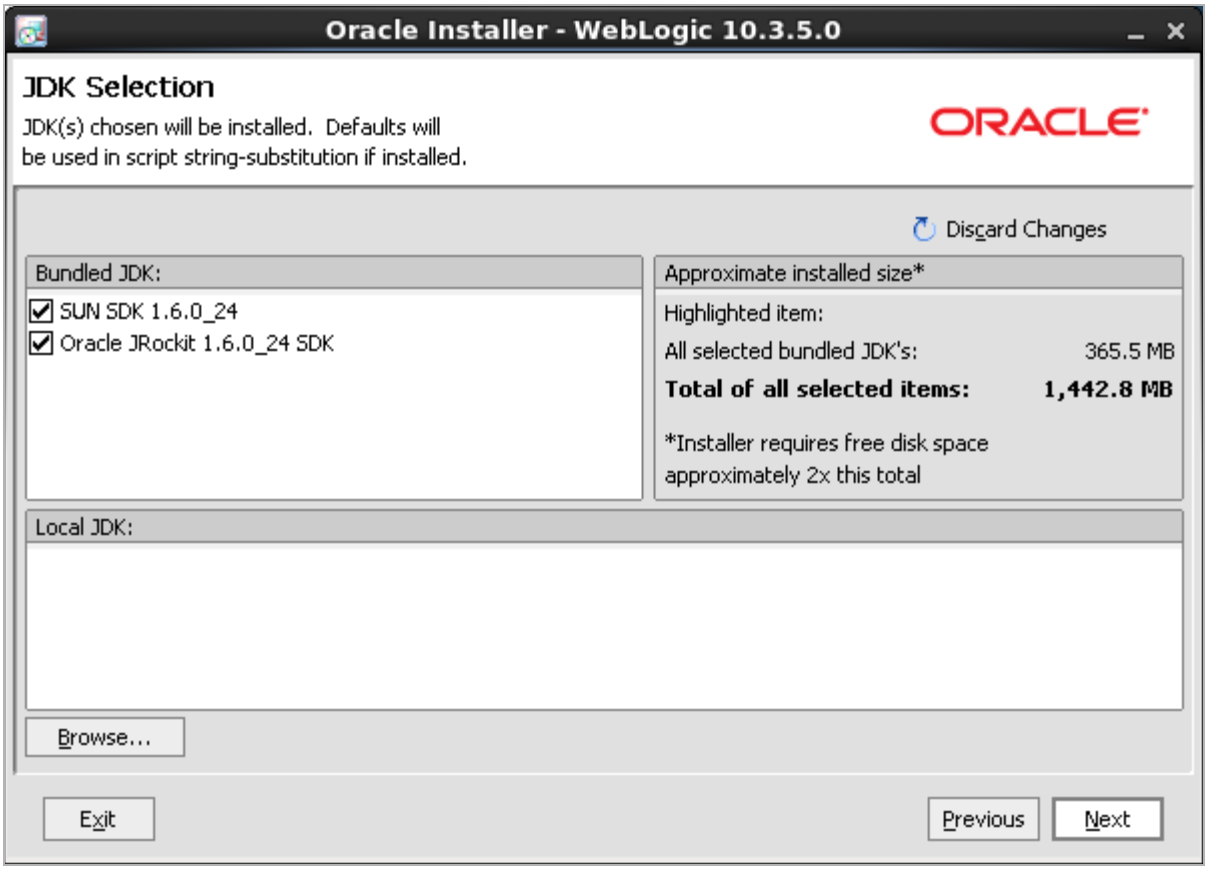
6. In the "Choose Products and Components" screen (Figure 4–5), the required components are selected by default. If you wish to install other components, select their check boxes. Click **Next**.

Figure 4–5 Products and Components for Installation



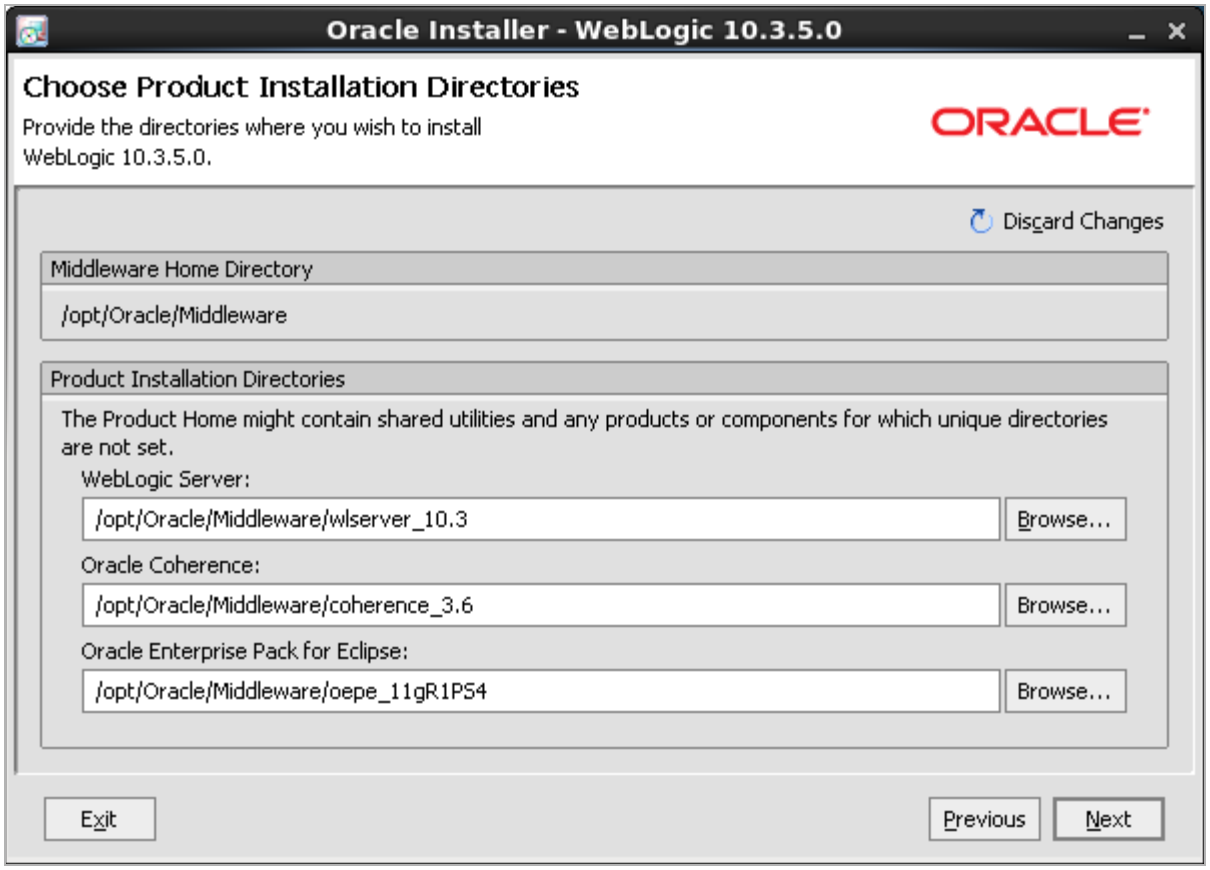
7. In the "JDK Selection" screen (Figure 4–6), select both JDKs and then click **Next**.

Figure 4–6 JDK Selection



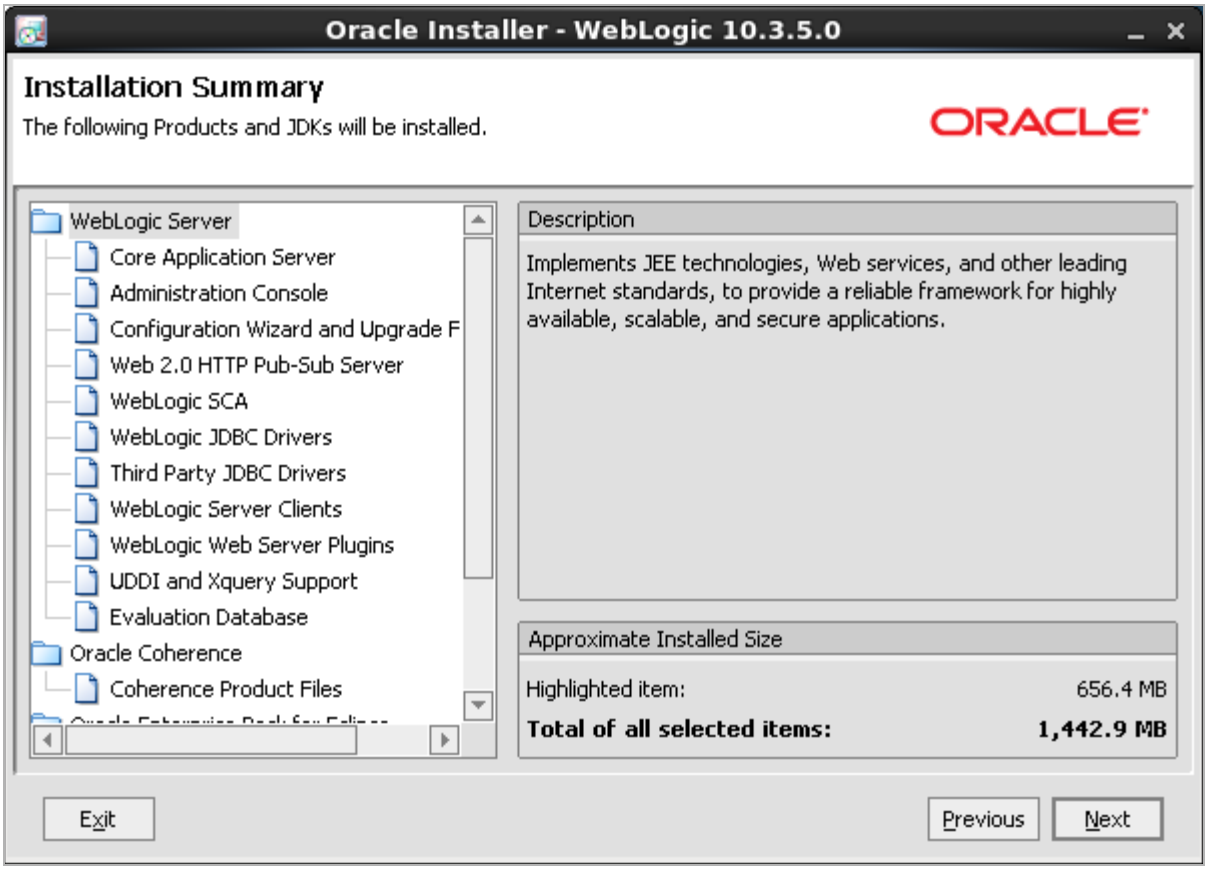
8. In the "Choose Product Installation Directories" screen (Figure 4–7), verify the product installation directories and then click **Next**.

Figure 4–7 Product Installation Directories



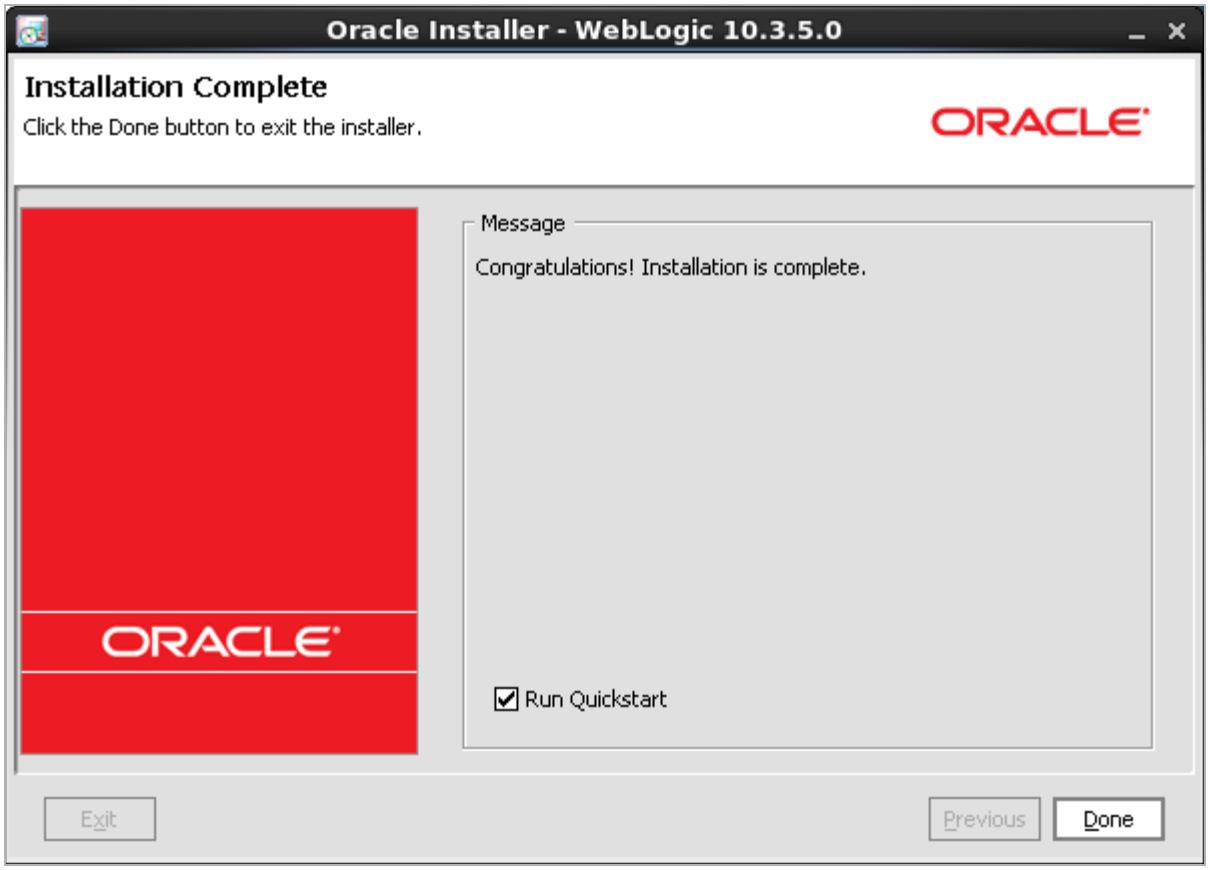
9. In the "Installation Summary" screen (Figure 4–8), click **Next** to start the WebLogic installation.

Figure 4–8 Installation Summary



10. The installation starts. Close the window after completion (Figure 4–9).

Figure 4–9 Installation Complete



11. After you have successfully installed WebLogic Server, you will need to configure WebLogic Server for WebCenter Sites before installing WebCenter Sites. For information about the WebCenter Sites installation process and WebLogic configuration procedures, see the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

5

Installing Apache Tomcat Application Server

Note: In this chapter, we assume that you are using a UNIX based system. Therefore, the commands that are provided in this chapter for your reference are only for UNIX based systems. Commands for Windows based systems may be different.

5.1 Tomcat Installation Steps

To install the Tomcat Application Server

1. Download and install a supported JDK.
2. Decompress the Tomcat archive file:

   ```
   tar xvfz apache-tomcat-<version>.tar.gz
   ```

3. Rename the `apache-tomcat-<version>` directory and move it to a desired location. (The rest of this section refers to the new path of this directory as `<tomcat_home>`.)
4. Create a file named setenv.sh in the <tomcat-home>/bin directory. Add the following lines to the file:

   ```
   CATALINA_HOME=<tomcat_home>
   CATALINA_PID="$CATALINA_HOME"/tomcat.pid
   ```

   Adding `tomcat.pid` ensures that the Tomcat process is killed when the `shutdown.sh` command is executed with the `-force` argument.
5. Set the `JAVA_HOME` variable to the `JDK` folder of the version of Java that will be used. For example:

   ```
   export JAVA_HOME=/opt/jdk1.6.0.39
   ```

6. Start the application server by running the startup command.

   ```
   <tomcat_home>/bin/startup.sh
   ```

7. Access the following URL in a web browser: `http://<hostname>:8080/`

   This brings you to Tomcat's default homepage.
8. Shut down the application server by running the `shutdown` command.

   ```
   <tomcat_home>/bin/shutdown.sh -force
   ```

9. After you have successfully installed Tomcat, you will need to configure Tomcat for WebCenter Sites before installing WebCenter Sites. For information about the

WebCenter Sites installation process and WebLogic configuration procedures, see the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

6

Installing IBM WebSphere Application Server

This chapter describes how to install WebSphere Application Server version 8. It contains the following steps:

- Section 6.1, "Installing IBM Installation Manager"
- Section 6.2, "Installing WebSphere Application Server Using IBM IM"
- Section 6.3, "Updating WebSphere Application Server"

6.1 Installing IBM Installation Manager

This section describes how to install the IBM Installation Manager.

To install the IBM Installation Manager

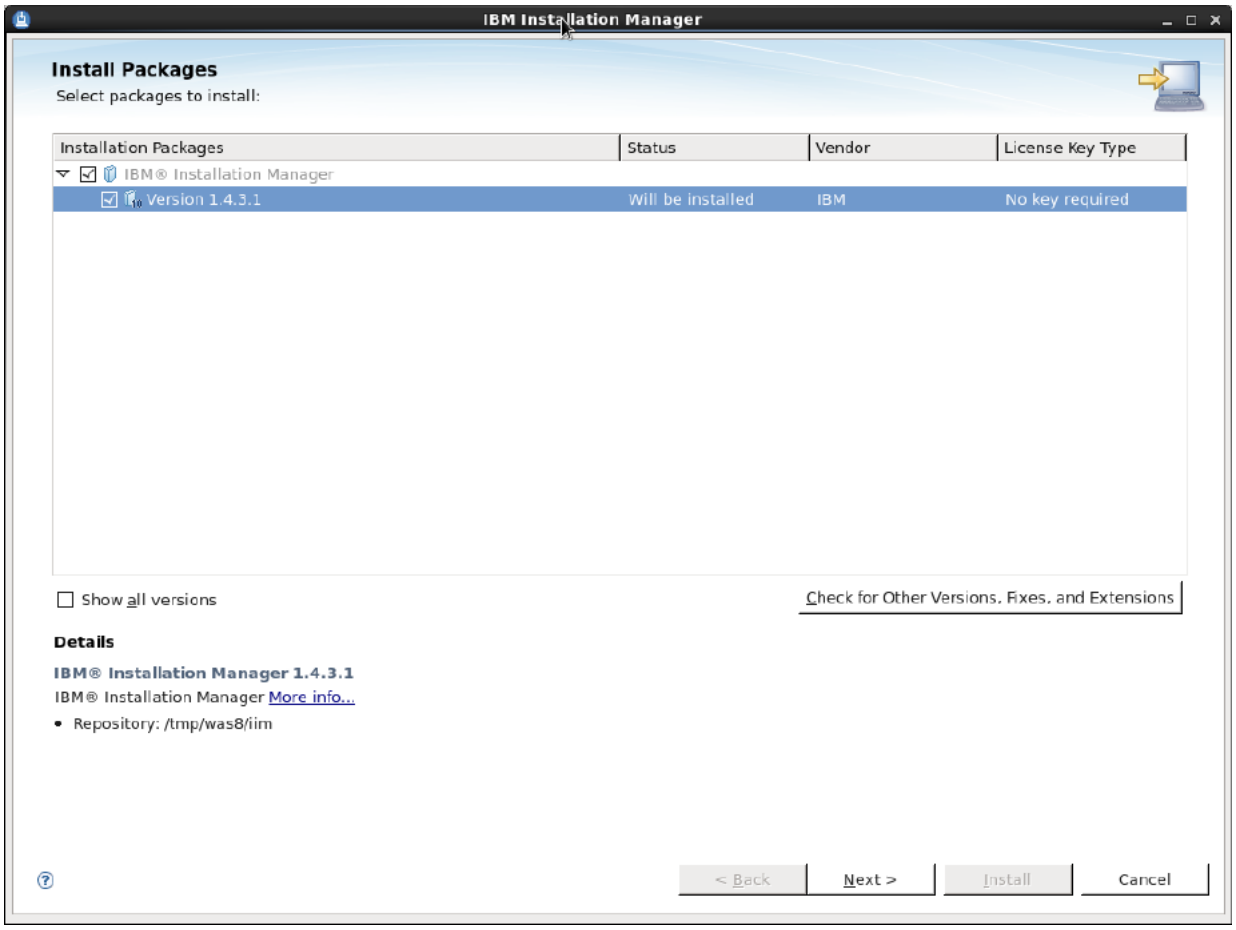
1. Unzip the IBM Installation Manager to a directory and execute the following command:

   ```
   cd <iim_directory> (need to add this to dir list)
   ./install
   ```

   This command starts the installer for the IBM Installation Manager.

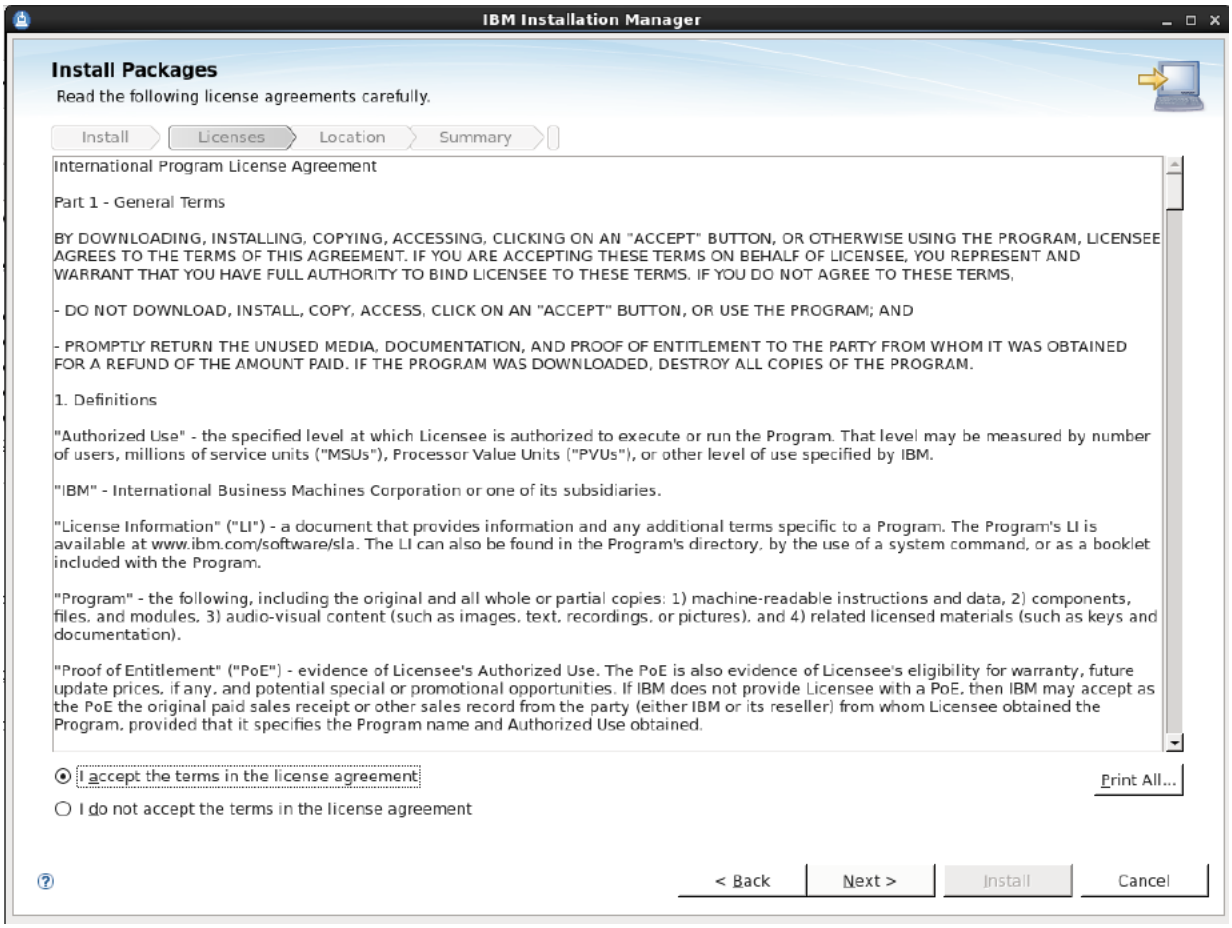
2. In the "Install Packages" screen, select the IBM IM version you wish to install (Figure 6–1).

Figure 6–1 Installation Packages



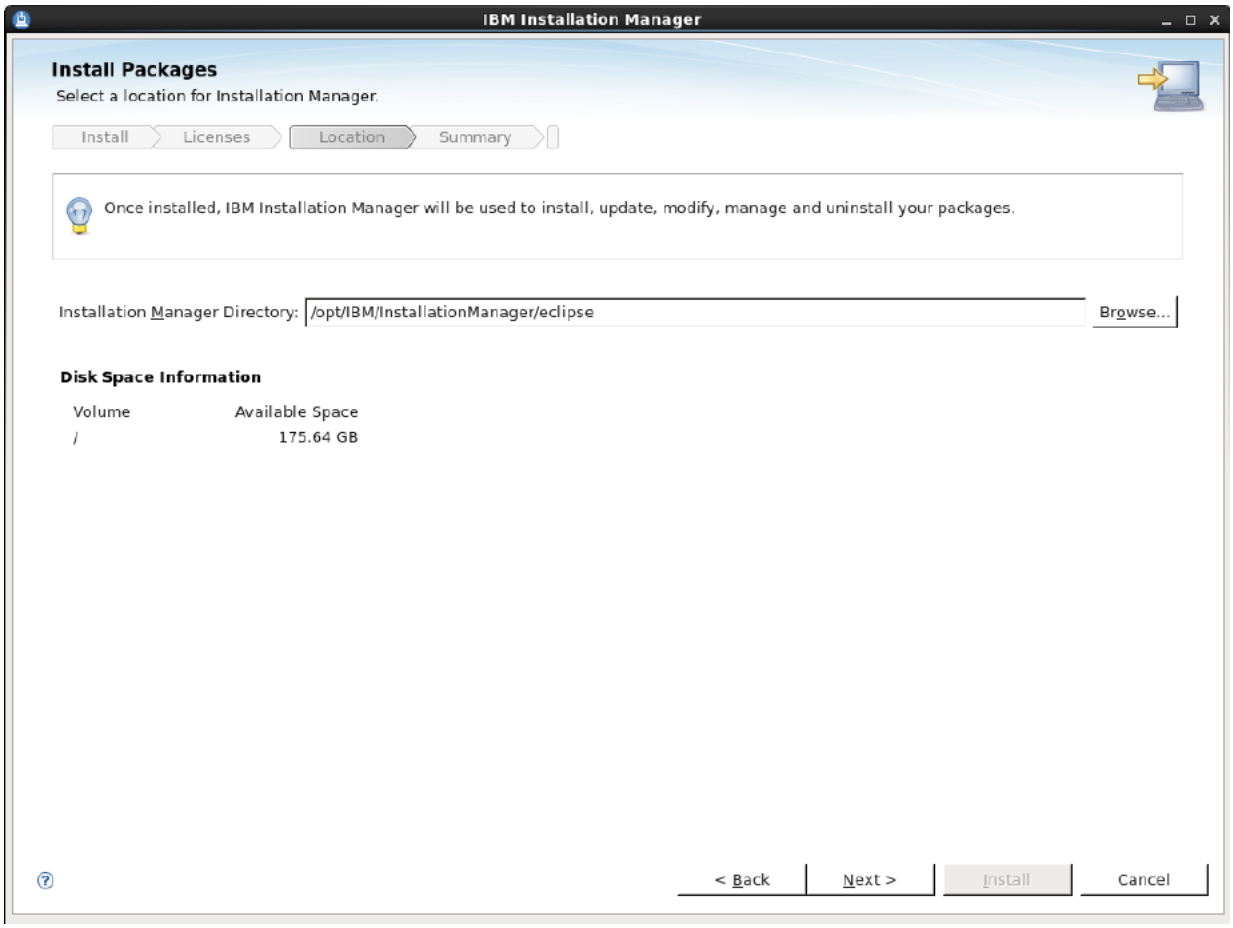
3. Click **Next**.
4. Read and accept the license agreement (Figure 6–2), then click **Next**.

Figure 6–2 License Agreement



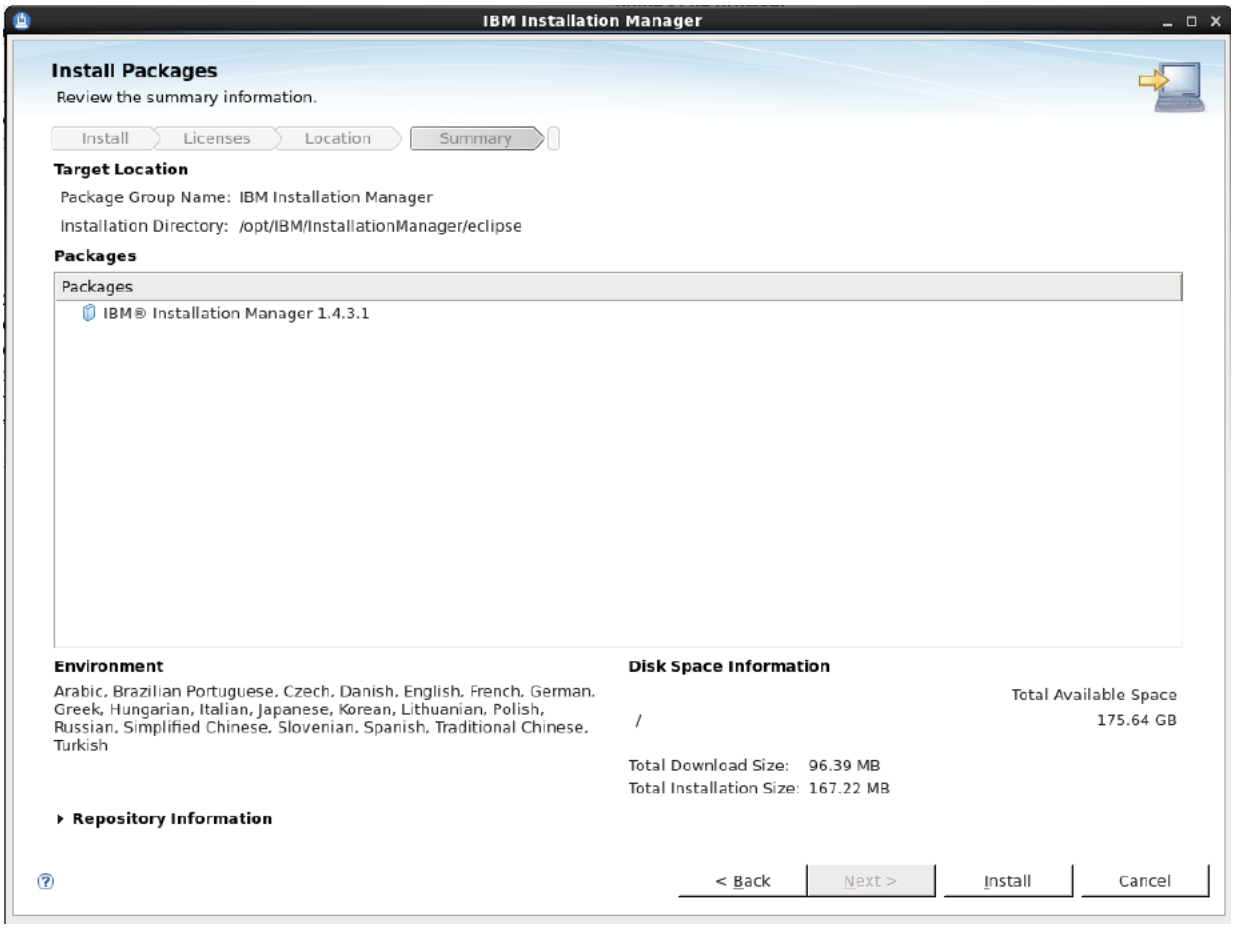
5. Enter the path to the Installation Manager Directory, as shown in Figure 6–3, and click **Next**.

Figure 6–3 Installation Manager Location



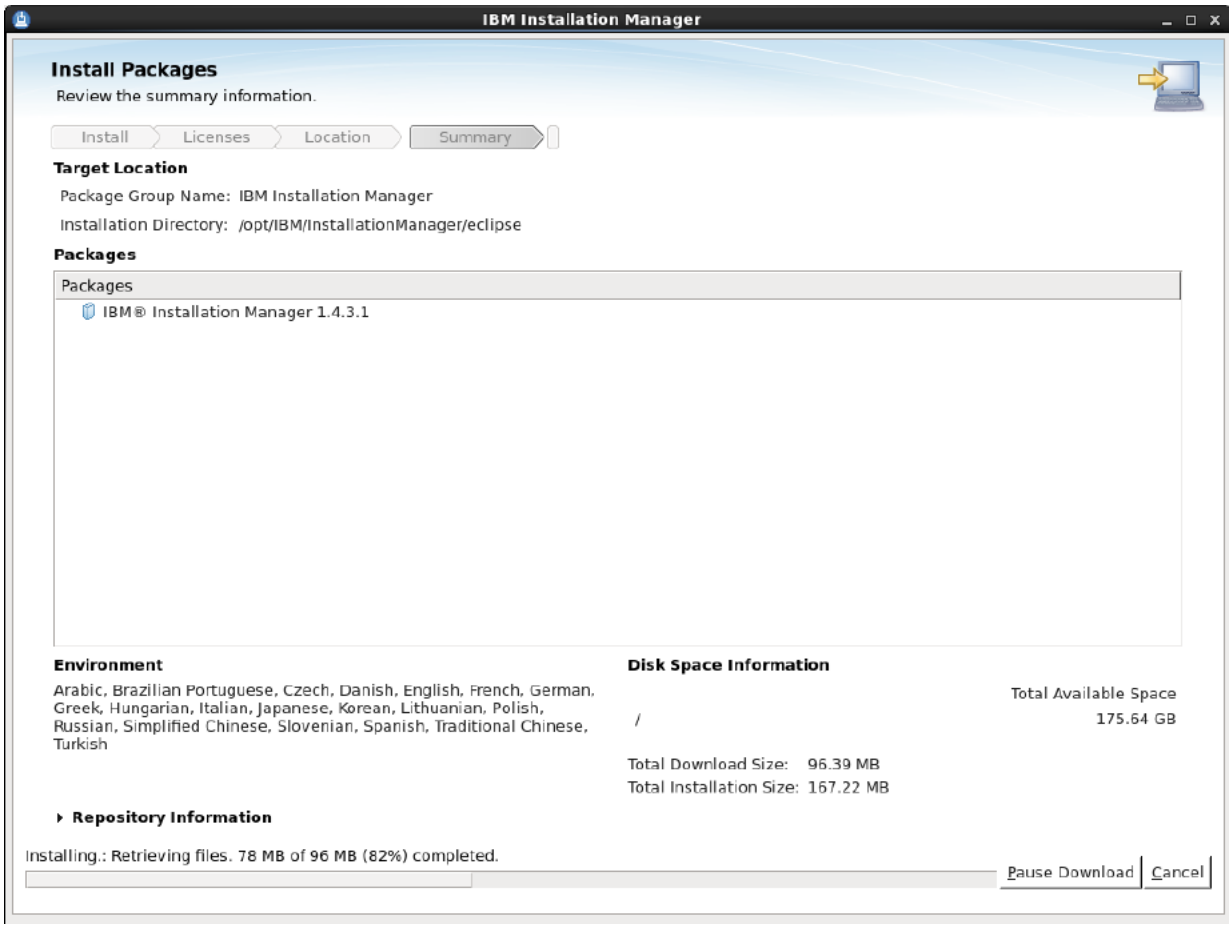
6. Click **Install** to start the installation process (Figure 6–4).

Figure 6–4 Target Location



The installer retrieves the required installation files, as shown in Figure 6–5.

Figure 6–5 Installation Files



7. When the installation completes, restart the Installation Manager. We will now use the IBM Installation Manager to install WebSphere Application Server.

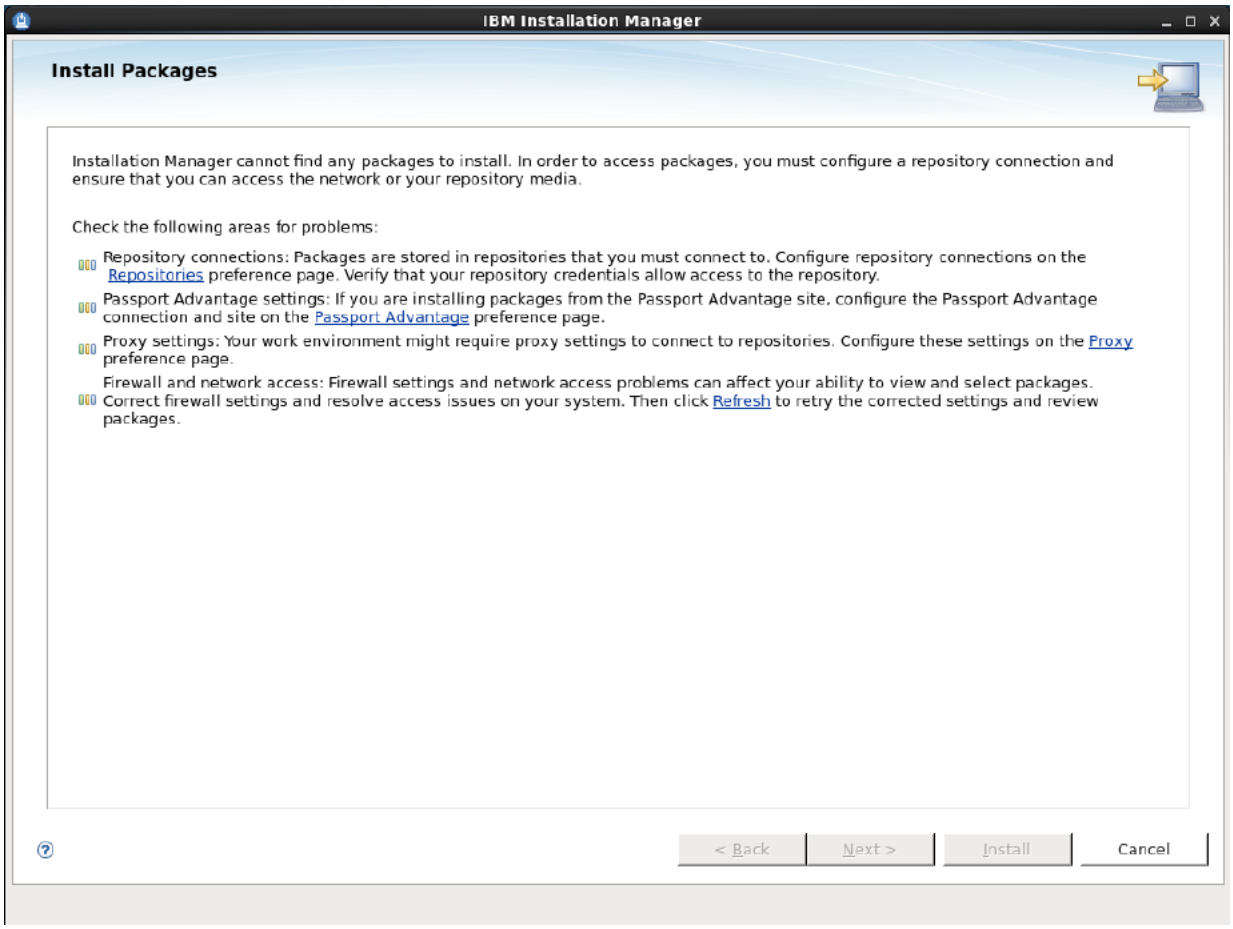
6.2 Installing WebSphere Application Server Using IBM IM

This section assumes you have successfully installed IBM IM.

To install WebSphere Application Server

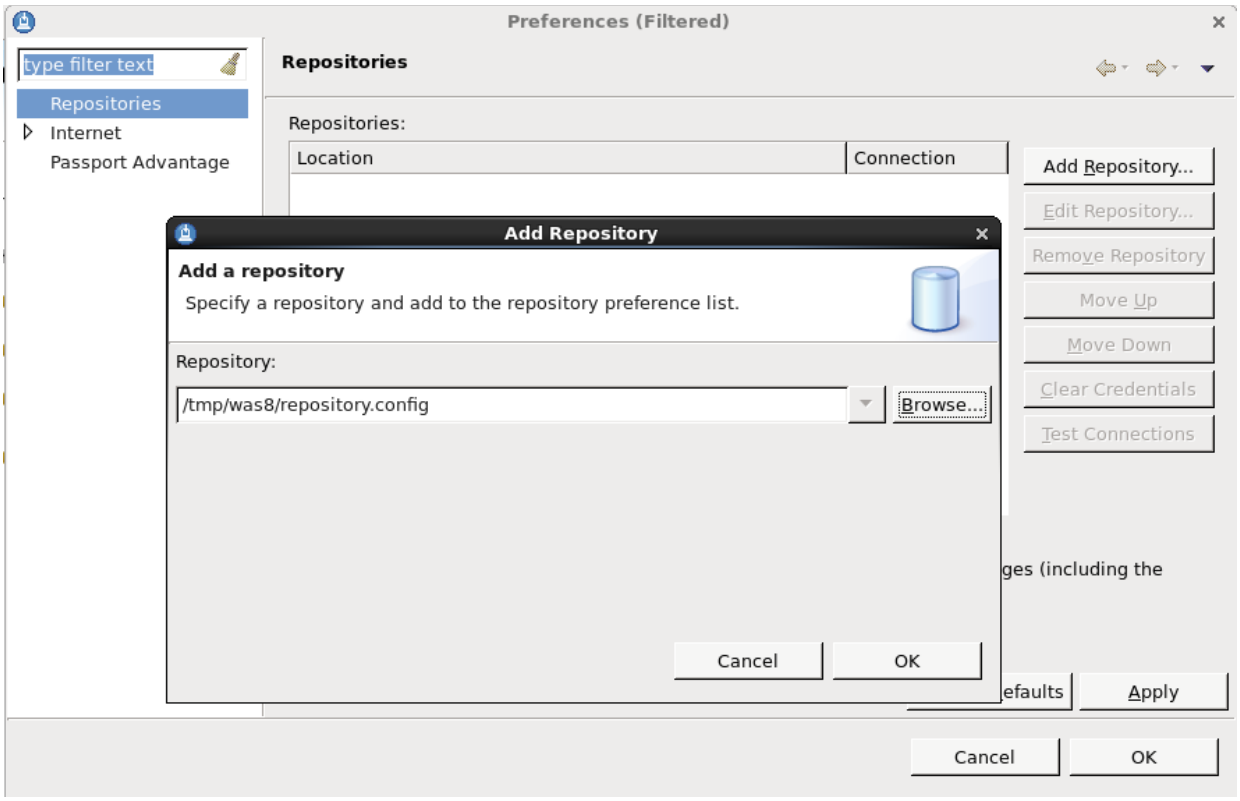
1. Unzip the IBM WAS installation directories to a temporary folder. For example: `/tmp/was8`
2. Change to the IBM IM directory and launch the installer. Once the installer is launched, click **Install**.
3. Click the **Repositories** link and configure the repository for installing the WebSphere Application Server (Figure 6–6).

Figure 6–6 Repositories Link



4. Click **Add Repository...** and browse to the temporary directory where you extracted the WAS8 installer files (`/tmp/was8`) and select the `respositories.config` file (Figure 6–7).

Figure 6–7 Add a Repository Dialog Box

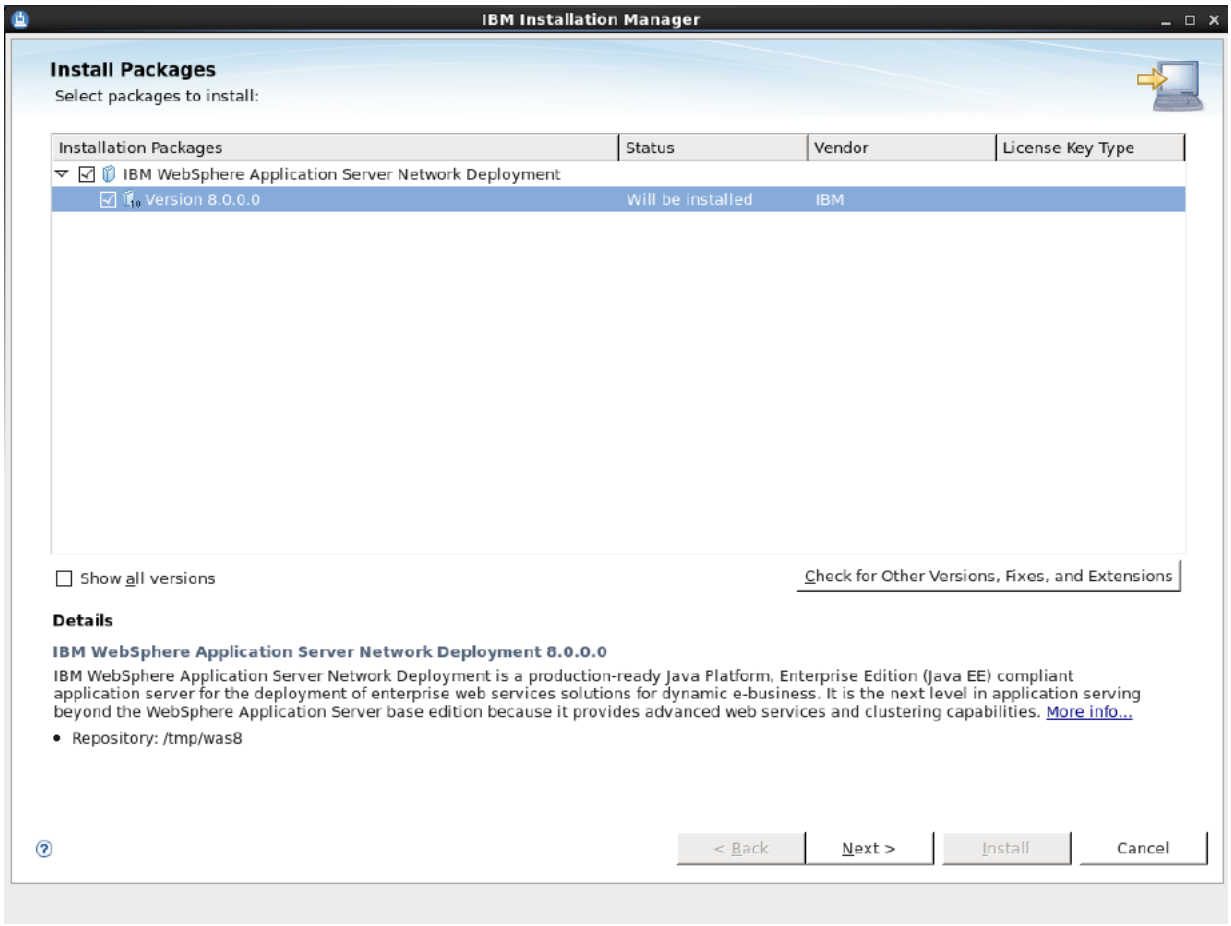


5. Click **OK**.

   IBM IM identifies the version to be installed based on your repository.

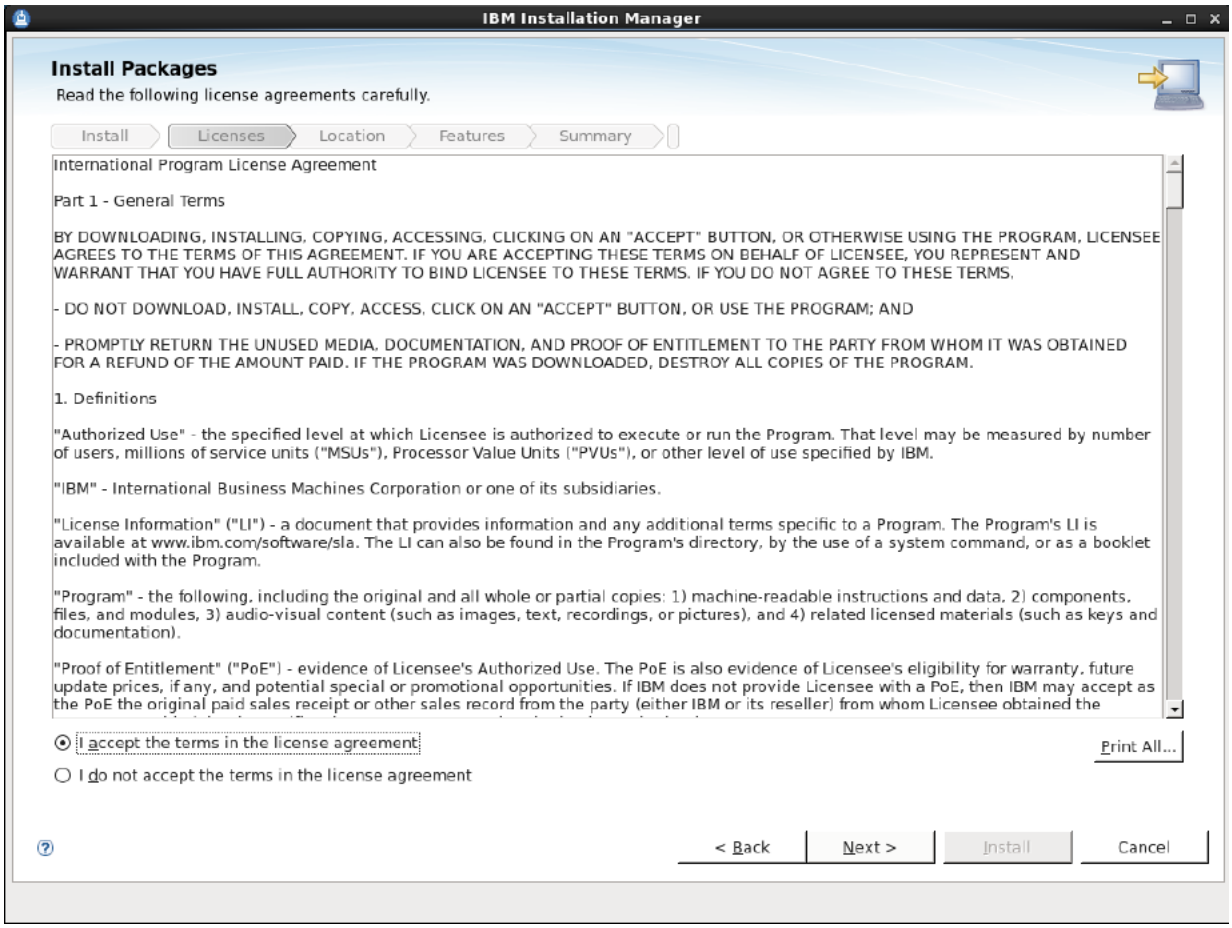
6. Select the appropriate version and click **Next** (Figure 6–8).

Figure 6–8 Version Selection



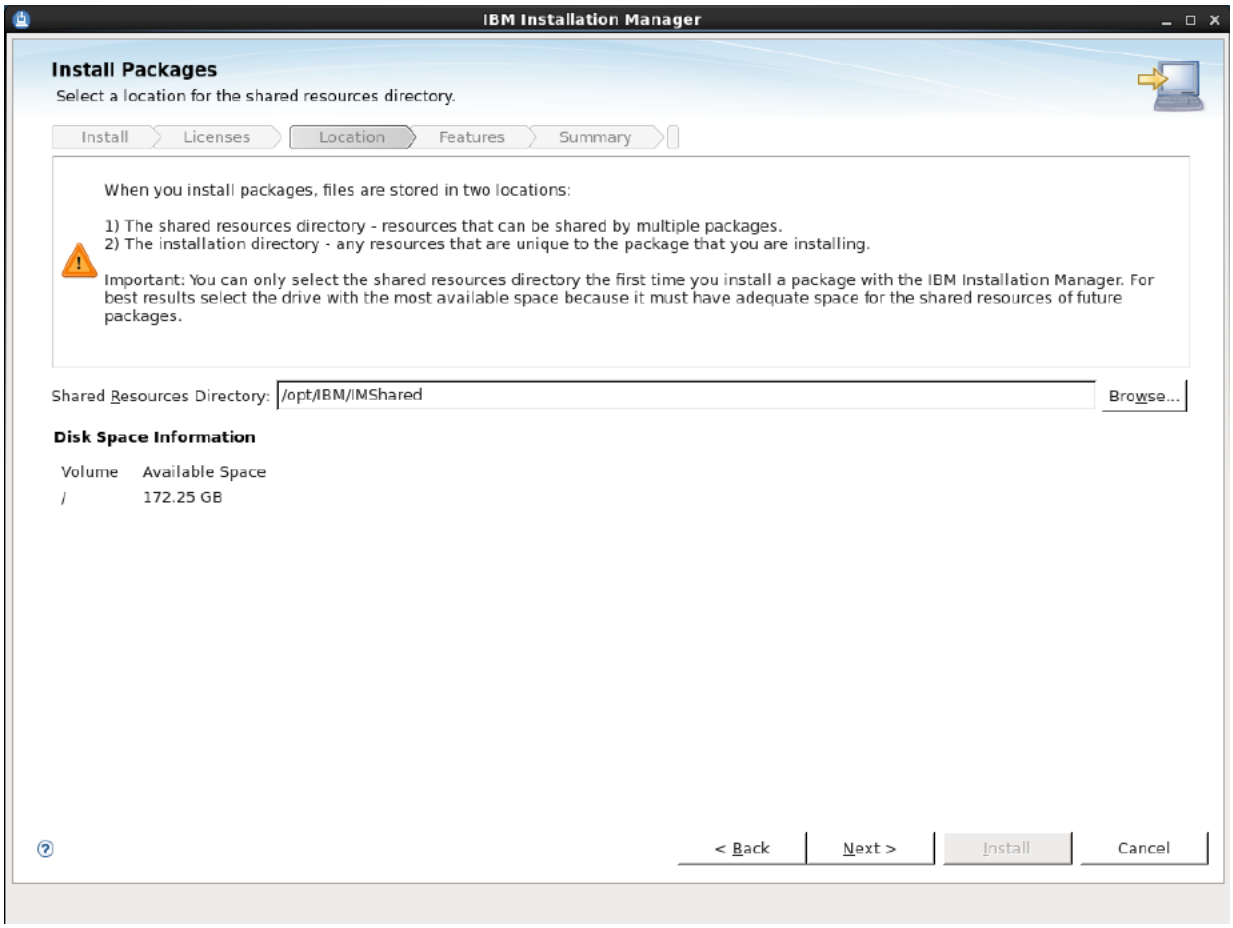
7. Read and then accept the License agreement (Figure 6–9). Click **Next**.

Figure 6–9 License Agreement



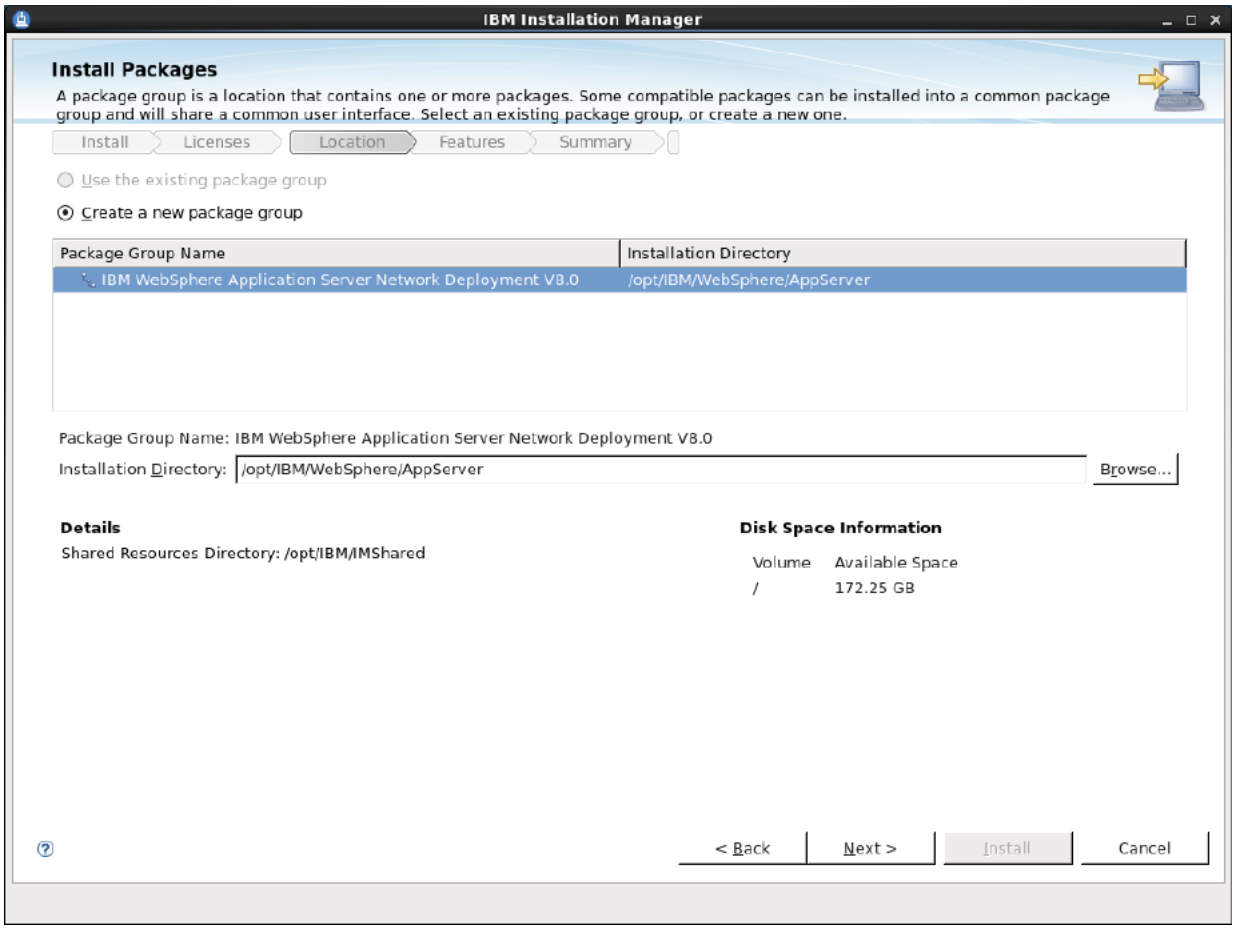
8. In the "Shared Resources Directory" field, click **Browse** and select the directory for shared resources (Figure 6–10). Then click **Next**.

Figure 6–10 Shared Resource Directory



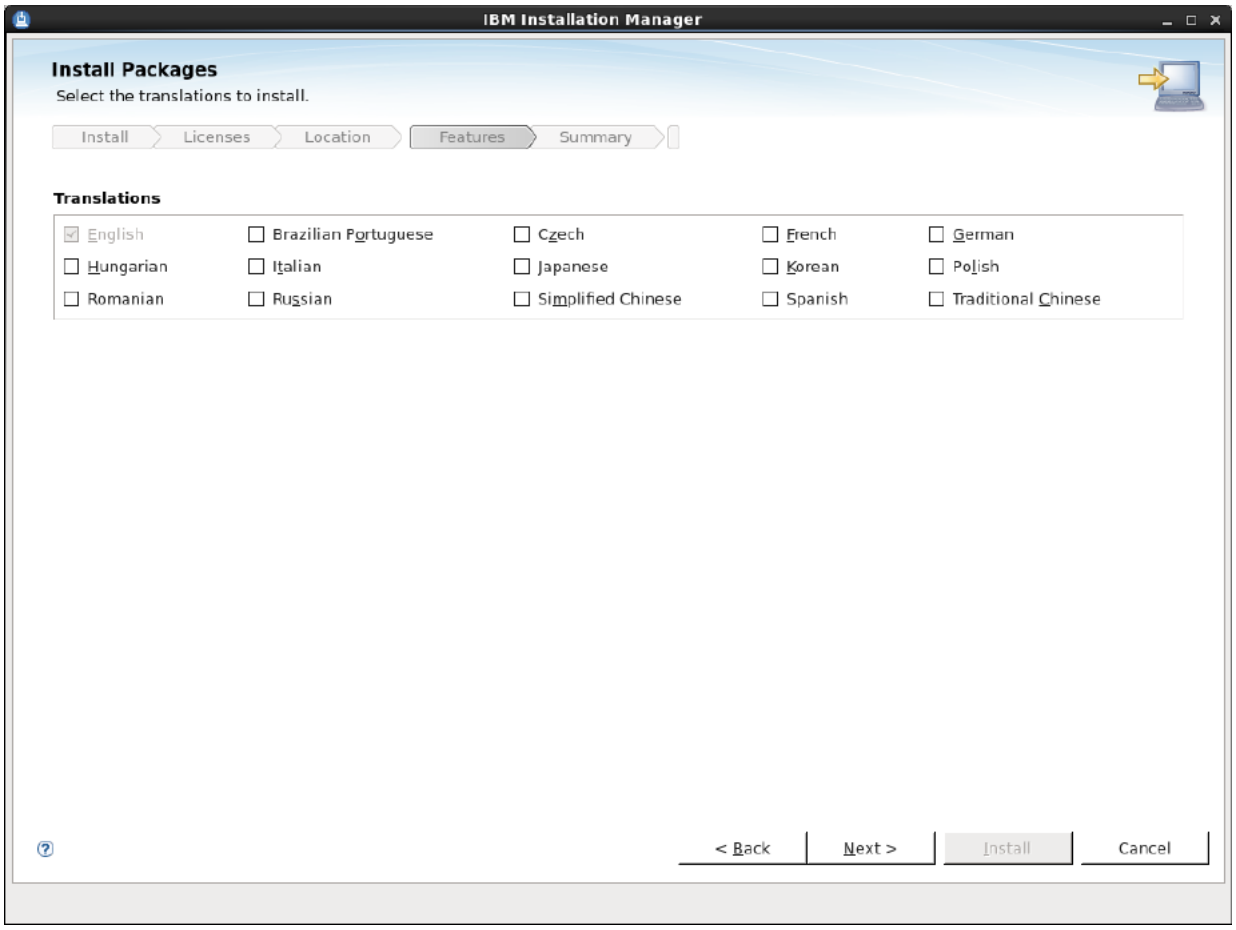
9. In the "Installation Directory" field, click **Browse** and select the WAS8 installation directory (Figure 6–11). Then click **Next**.

Figure 6–11 New Package Group



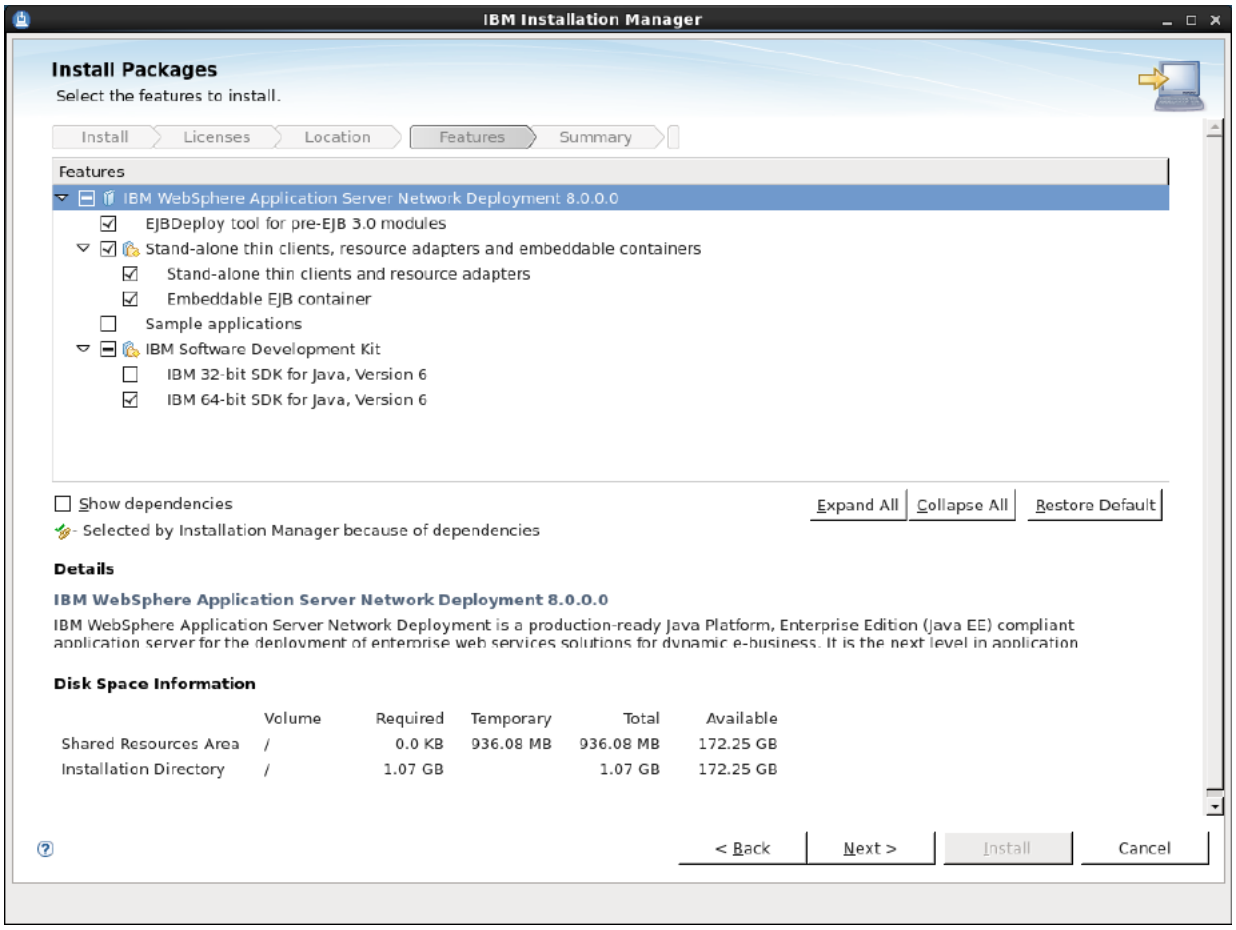
10. Select the translation that you wish to install (Figure 6–12) and then click **Next**.

Figure 6–12 Translations



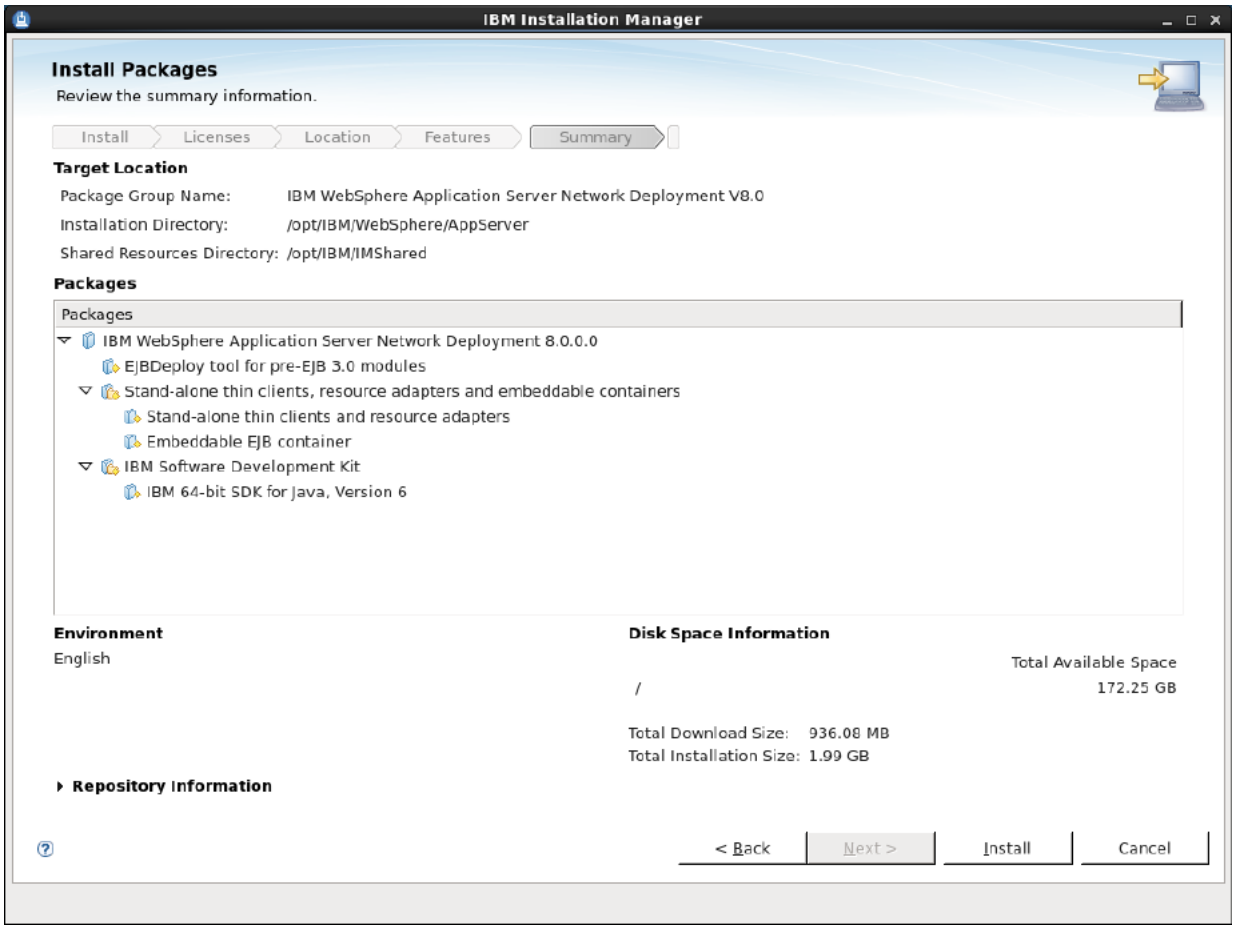
11. Select all applicable packages (Figure 6–13) and then click **Next**.

Figure 6–13 Application Packages



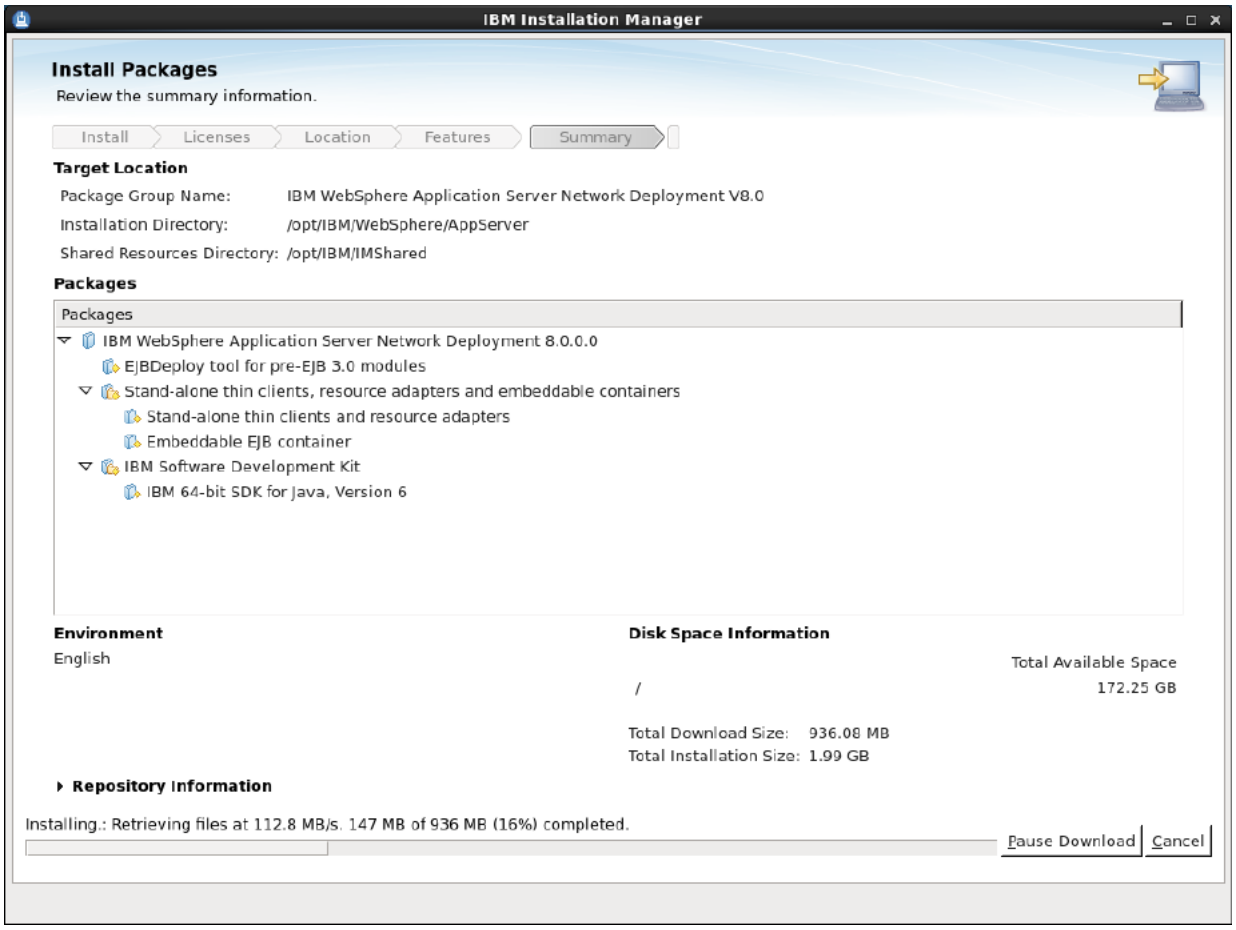
12. Click **Next**, review your selections (Figure 6–14), and then click **Install**.

Figure 6–14 Selection Review



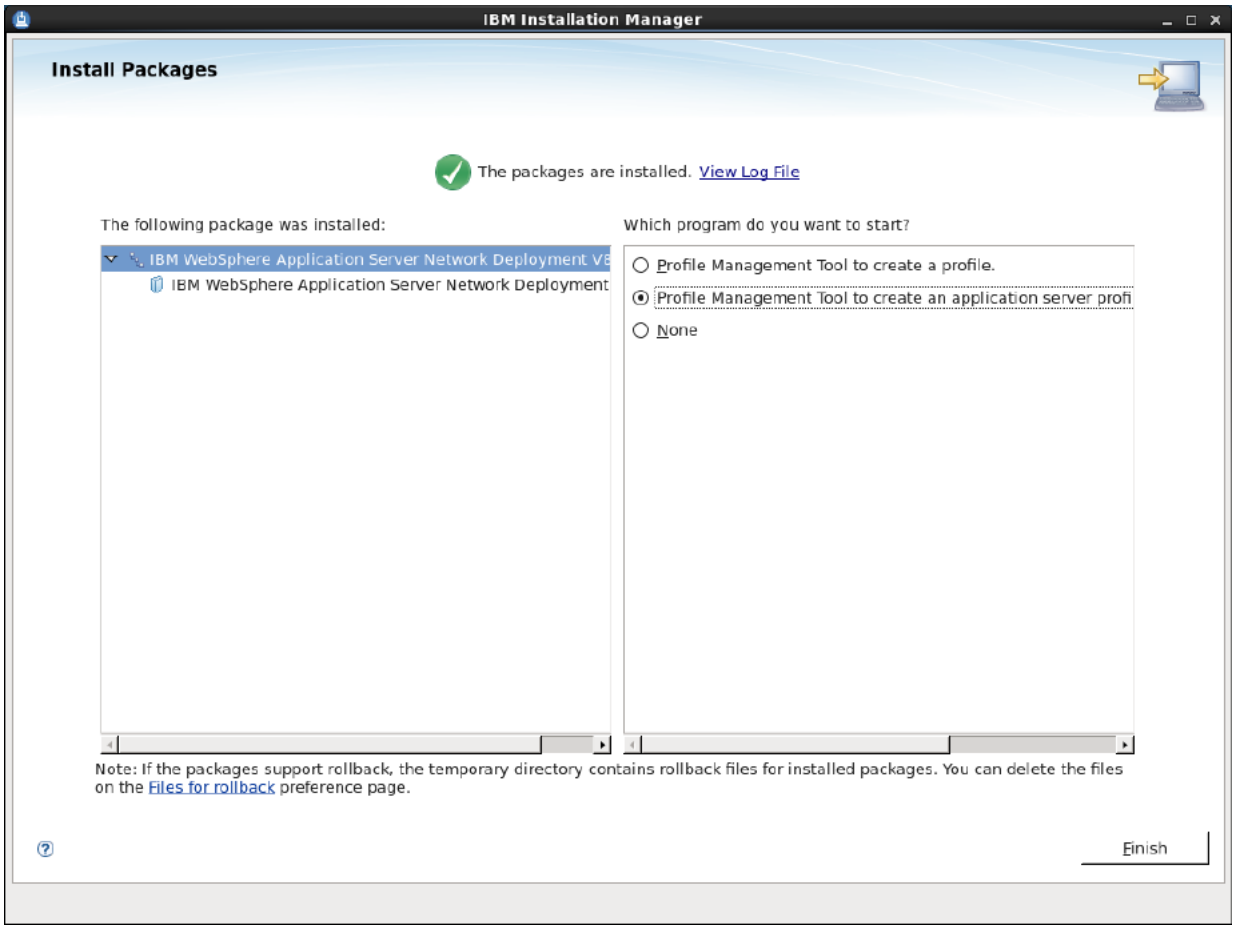
IBM IM starts the installation process (Figure 6–15).

Figure 6–15 Installation in Progress



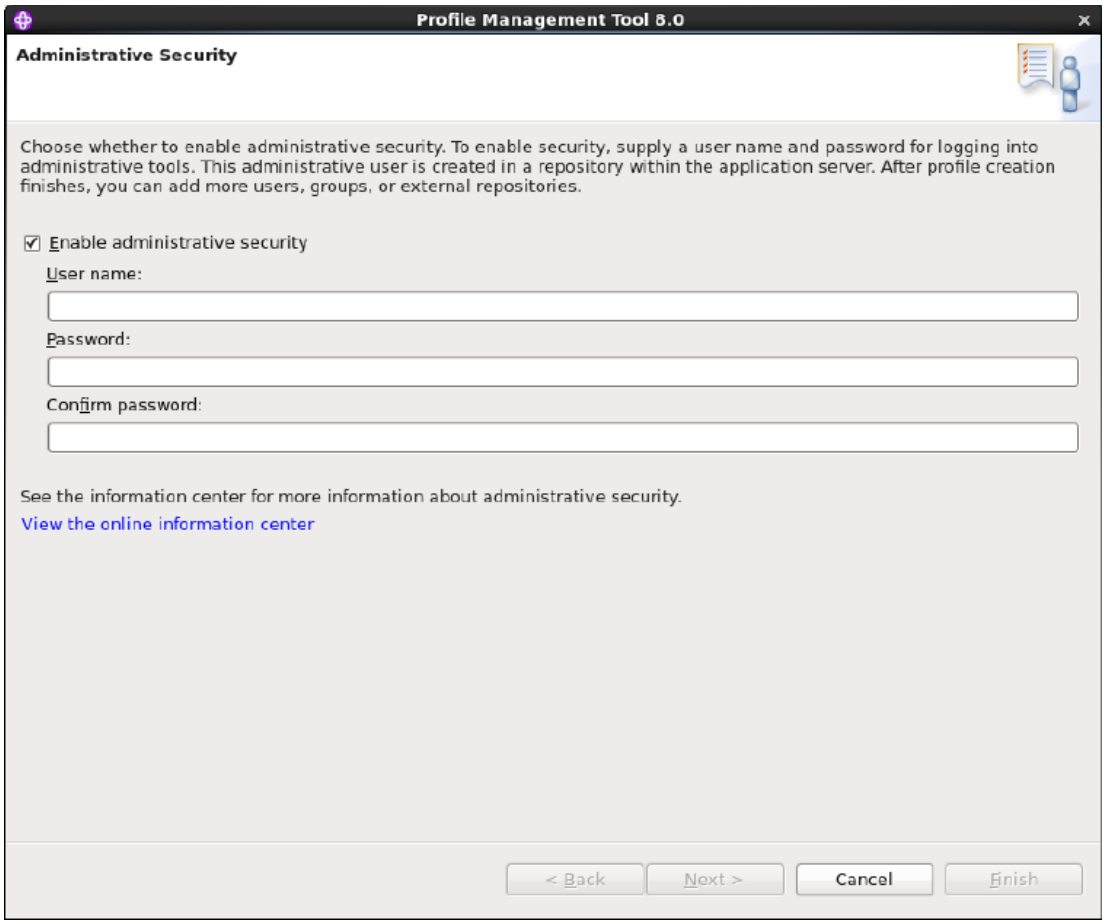
13. When the installation process completes successfully, you are prompted to start the profile management tool to create profiles. Select **Profile Management Tool to create an application server profile** (Figure 6–16) and click **Finish**.

Figure 6–16 Profile Management Tool Selection



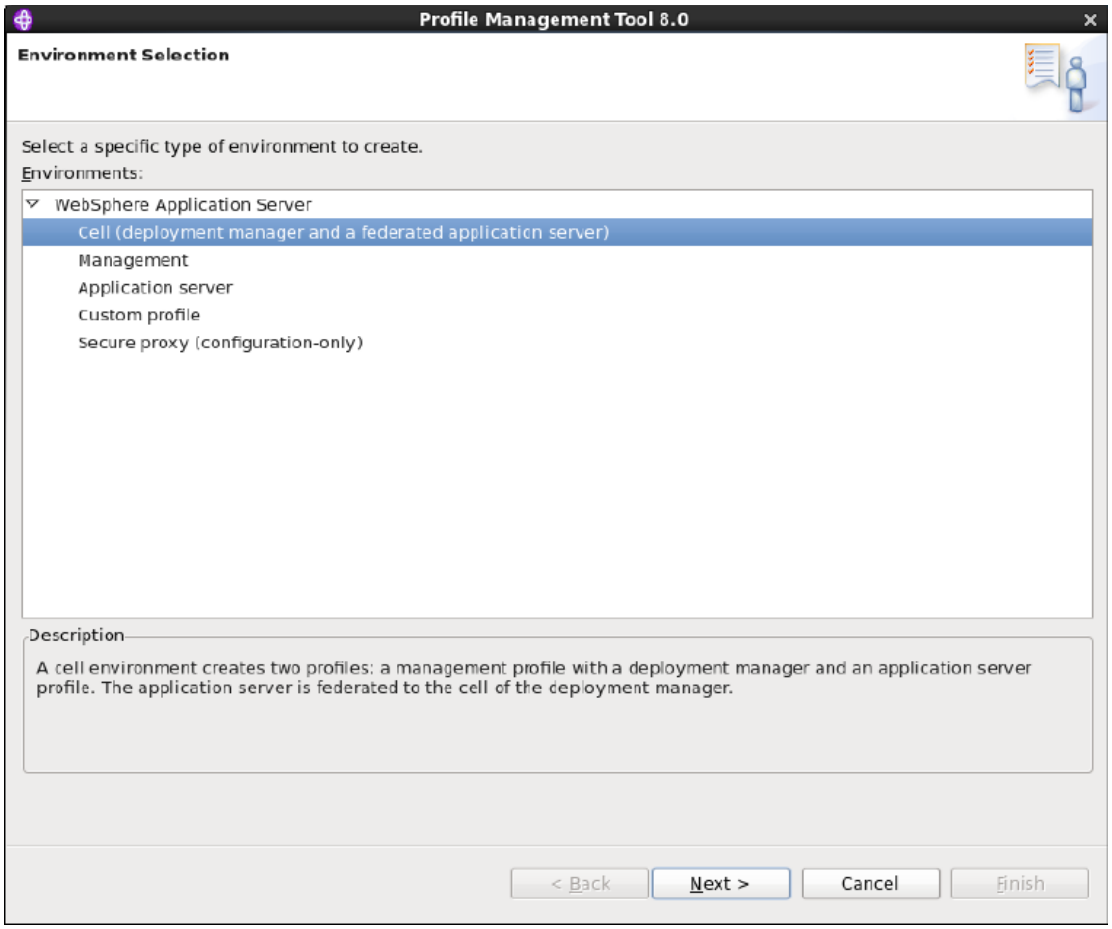
14. Enter the security username and password for the Deployment Manager console (Figure 6–17) and then click **Next**.

Figure 6–17 Administrative Security



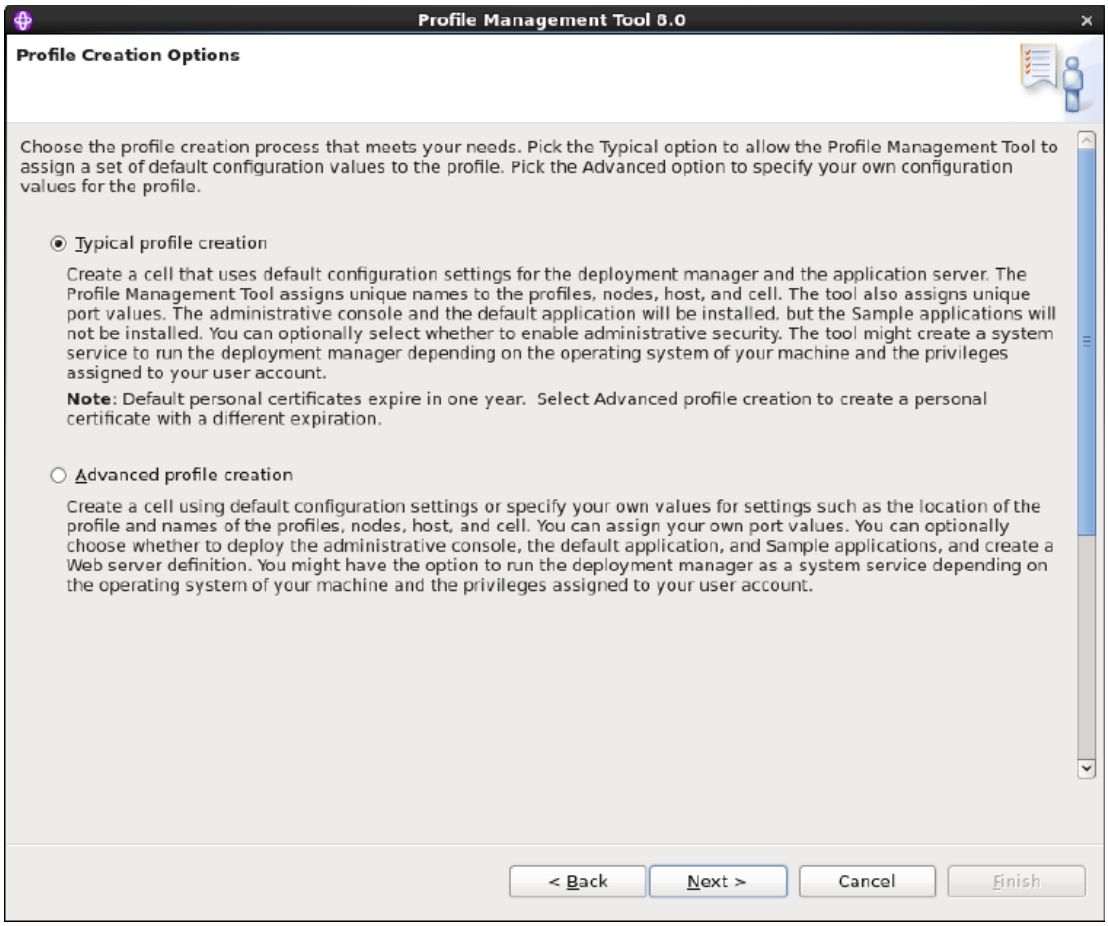
15. Select **Cell (deployment manager and a federated application server)**. The Cell environment creates two profiles – one for the deployment manager and one for the application server (Figure 6–18). Click **Next**.

Figure 6–18 Environment Selection



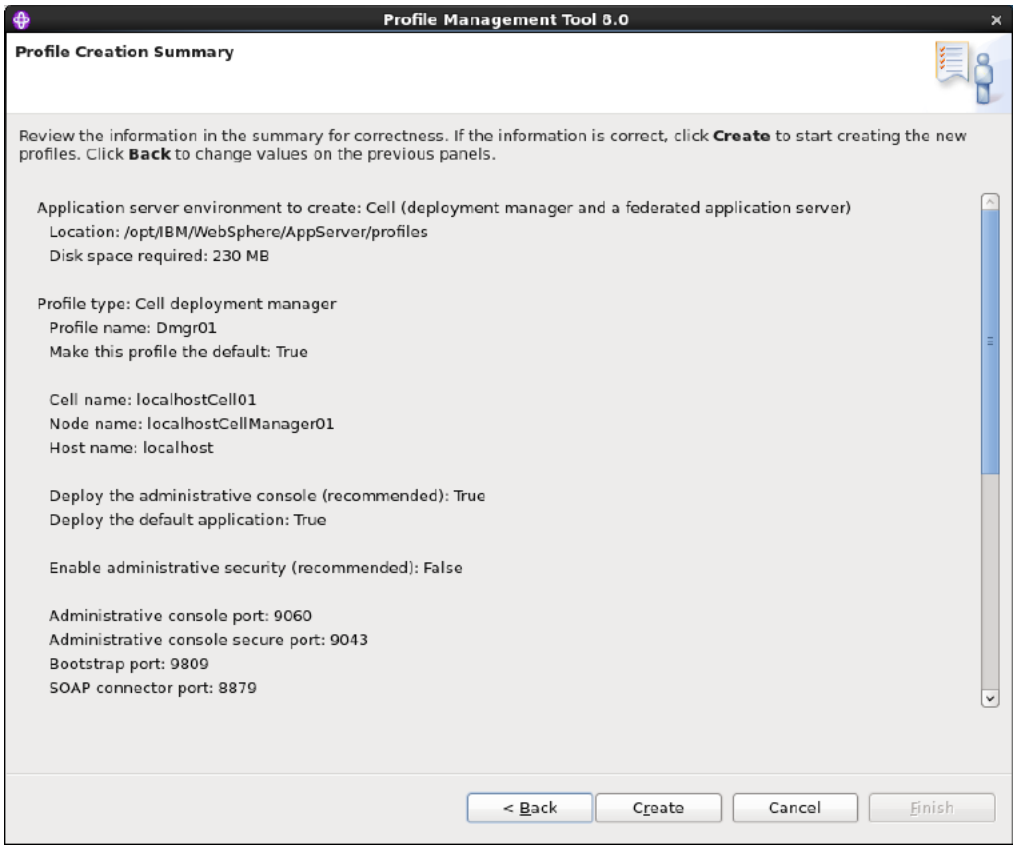
16. In the "Profile Creation Options" screen, select **Typical profile creation** (Figure 6–19) and then click **Next**.

Figure 6–19 Profile Creation Options



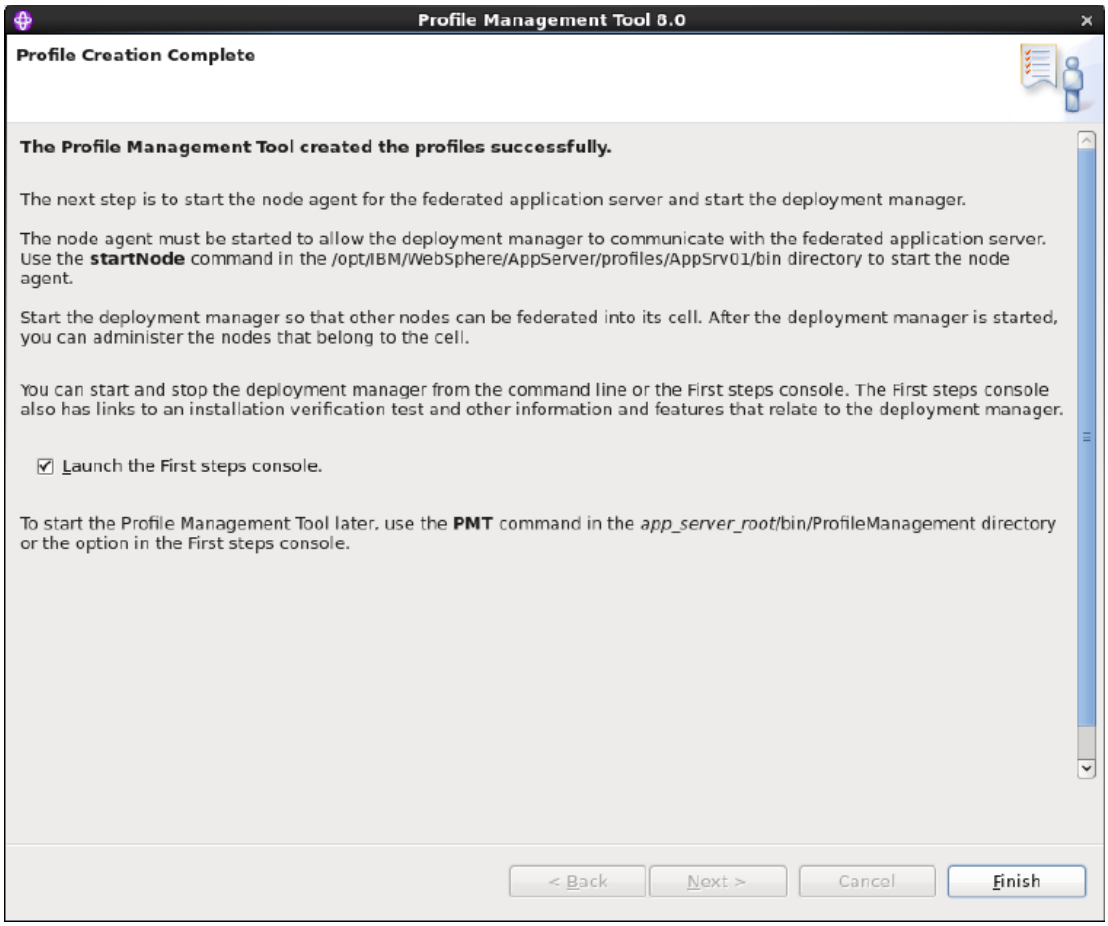
17. Review the information in the "Profile Creation Summary" screen (Figure 6–20), and then click **Create**.

Figure 6–20 Profile Creation Summary



18. When the profile is created successfully (Figure 6–21), click **Finish**.

Figure 6–21 Profile Creation Complete



19. At this point, you have successfully installed WAS8 and created a Cell `env` profile. If you need to update WebSphere to the latest patch release, continue to Section 6.3, "Updating WebSphere Application Server." If updating is unnecessary, you can configure WebSphere for WebCenter Sites, before installing WebCenter Sites. For information about the WebCenter Sites installation process and WebLogic configuration procedures, see the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

6.3 Updating WebSphere Application Server

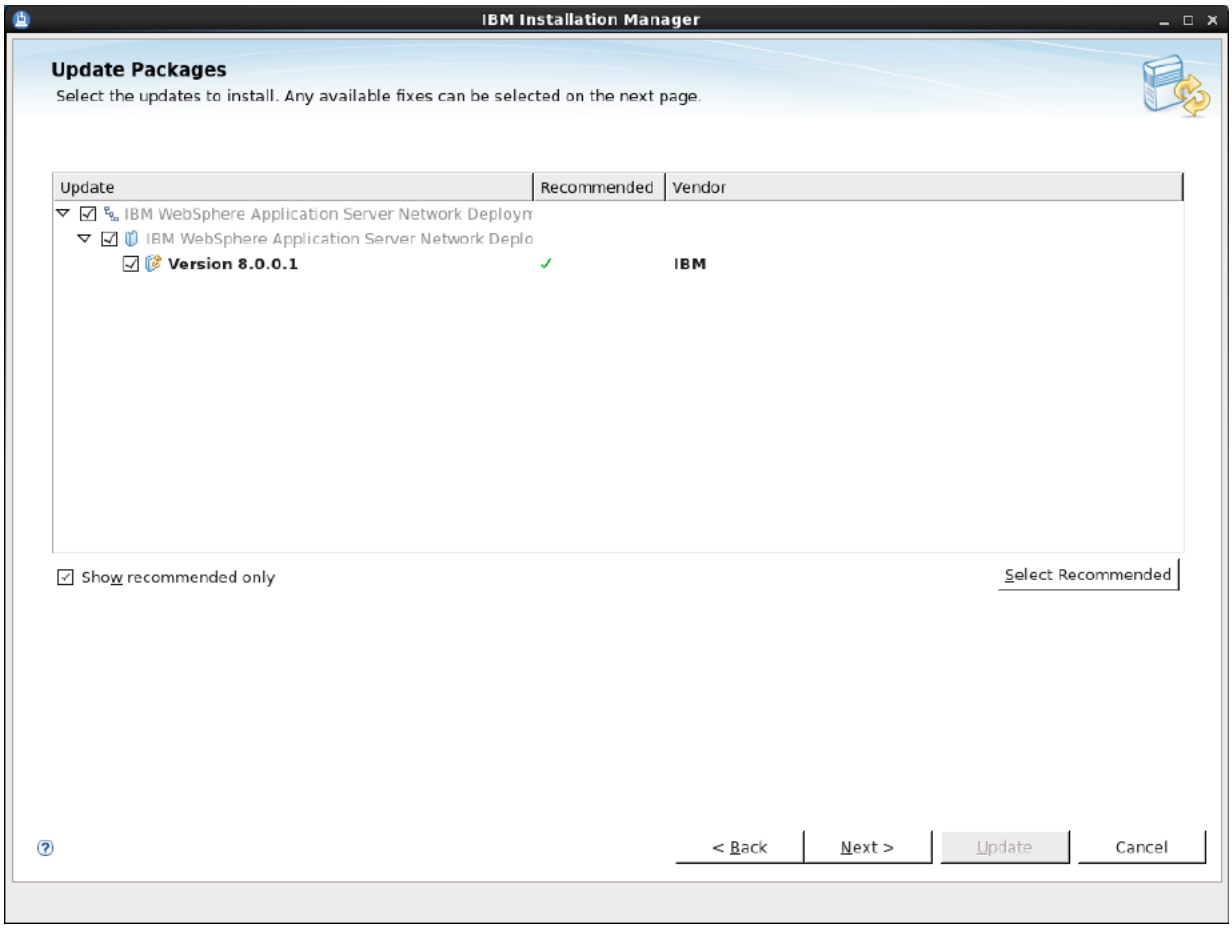
This section assumes you have successfully installed WAS8 and created a Cell `env` profile. This section provides instructions for updating WAS8.

To update WebSphere application server

When upgrading WebSphere, always upgrade the application server and JDK as recommended by IBM. Below are the steps for upgrading the application server. Repeat these steps for the JDK as well.

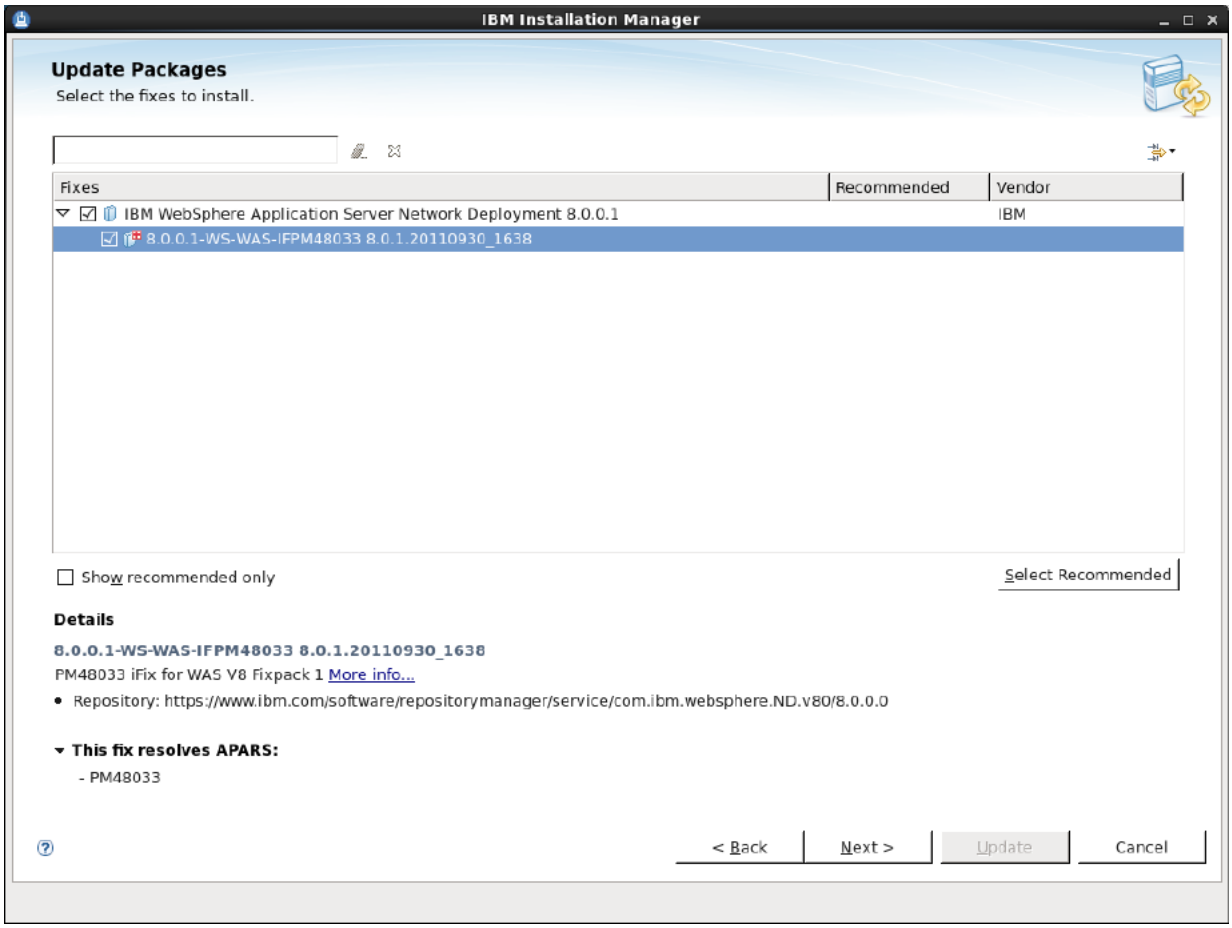
1. Change to the IBM IM directory and launch the installer (Figure 6–22). Once the installer is launched, click **Update**. Select the supported update and then click **Next**.

Figure 6–22 IBM IM Directory



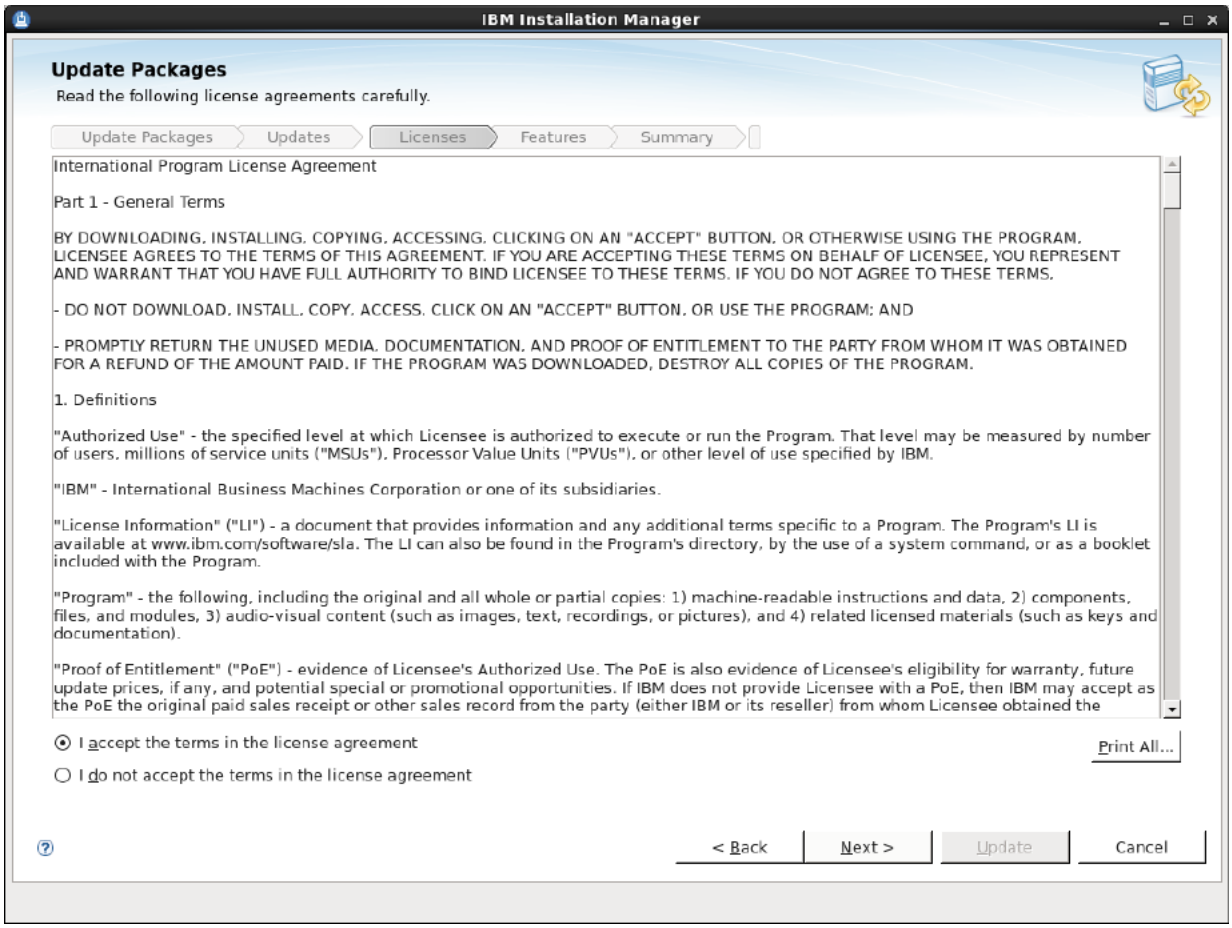
2. Select the fix pack to install (Figure 6–23) and then click **Next**.

Figure 6–23 Fix Pack Selection



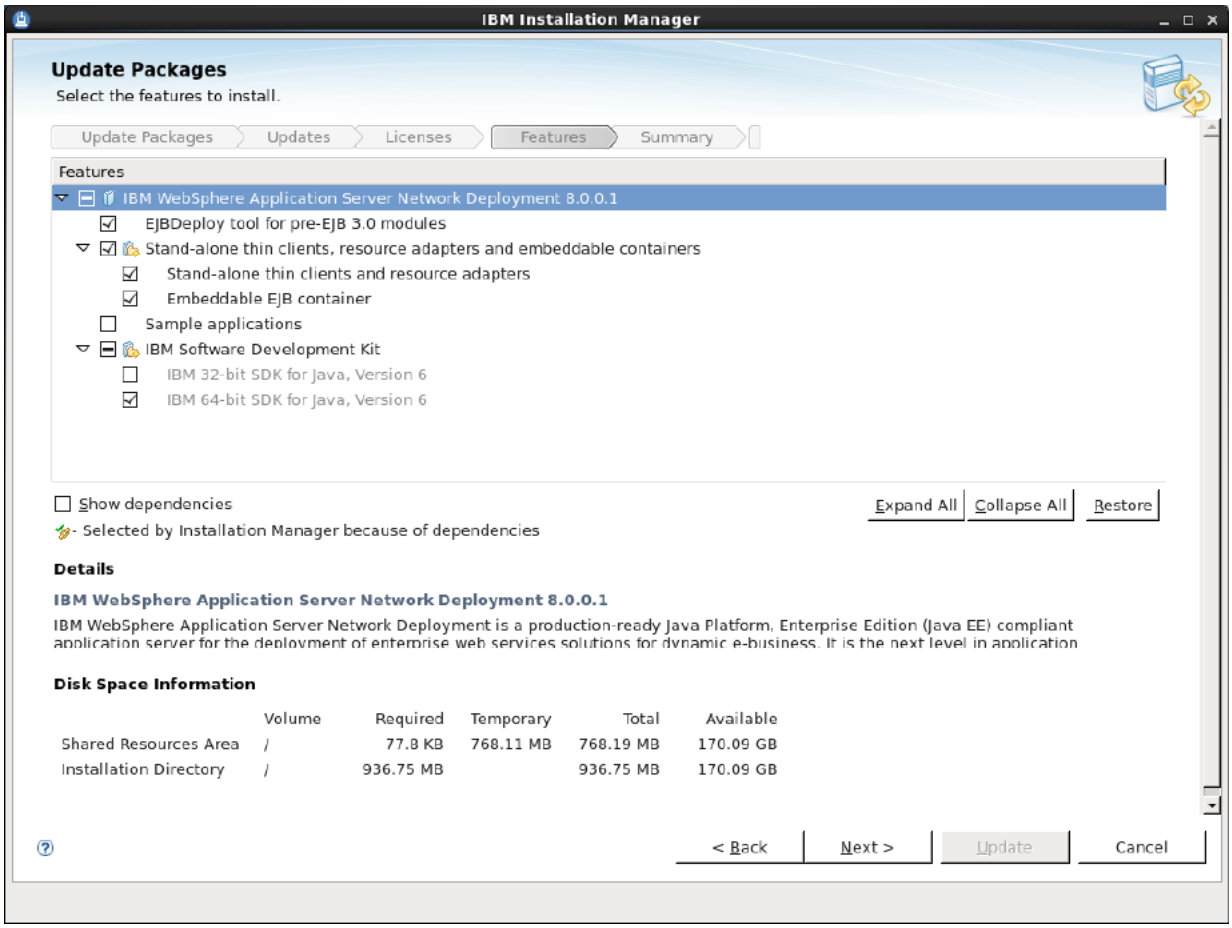
3. Read and accept the License agreement (Figure 6–24) and then click **Next**.

Figure 6–24 License Agreement



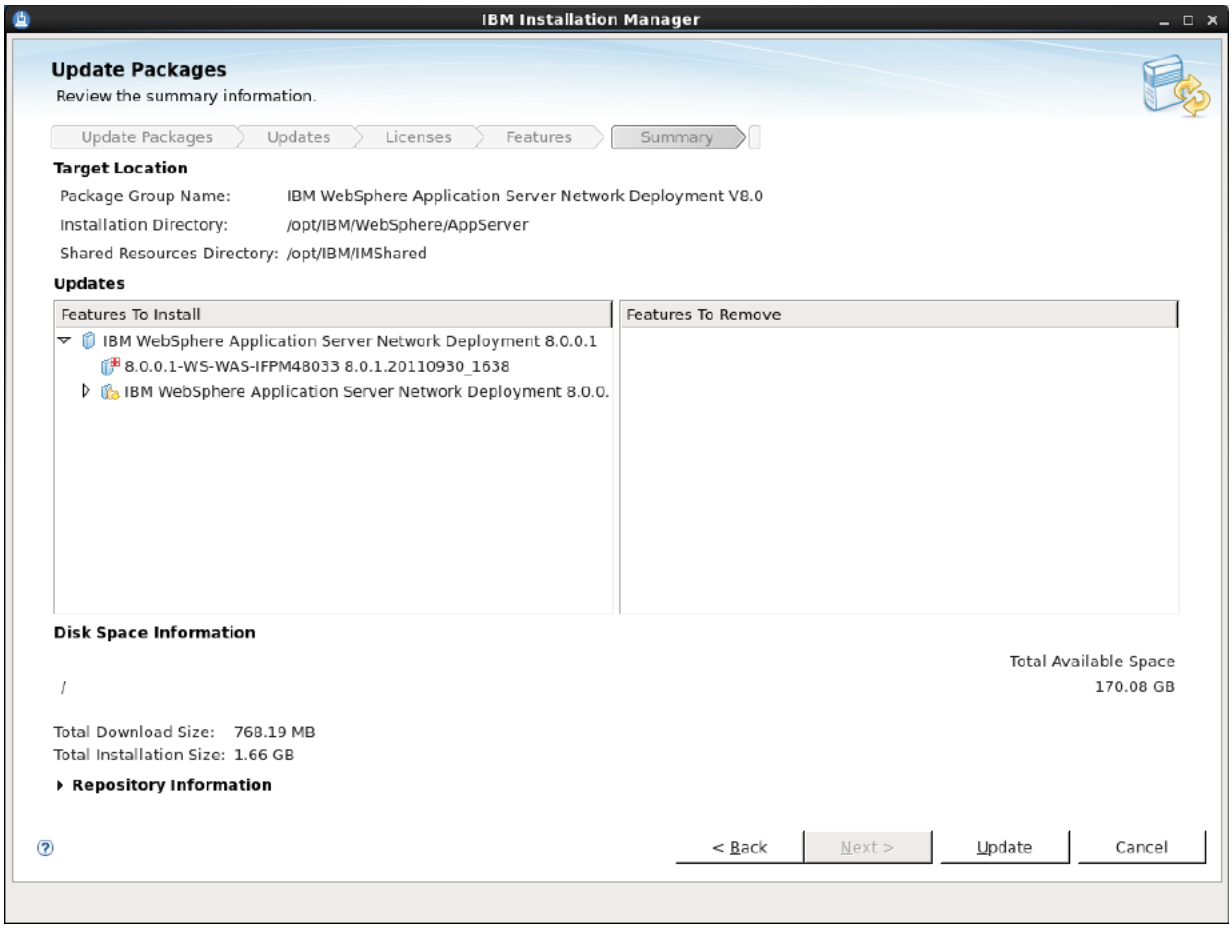
4. Select the features to update (Figure 6–25) and then click **Next**.

Figure 6–25 Features for Update



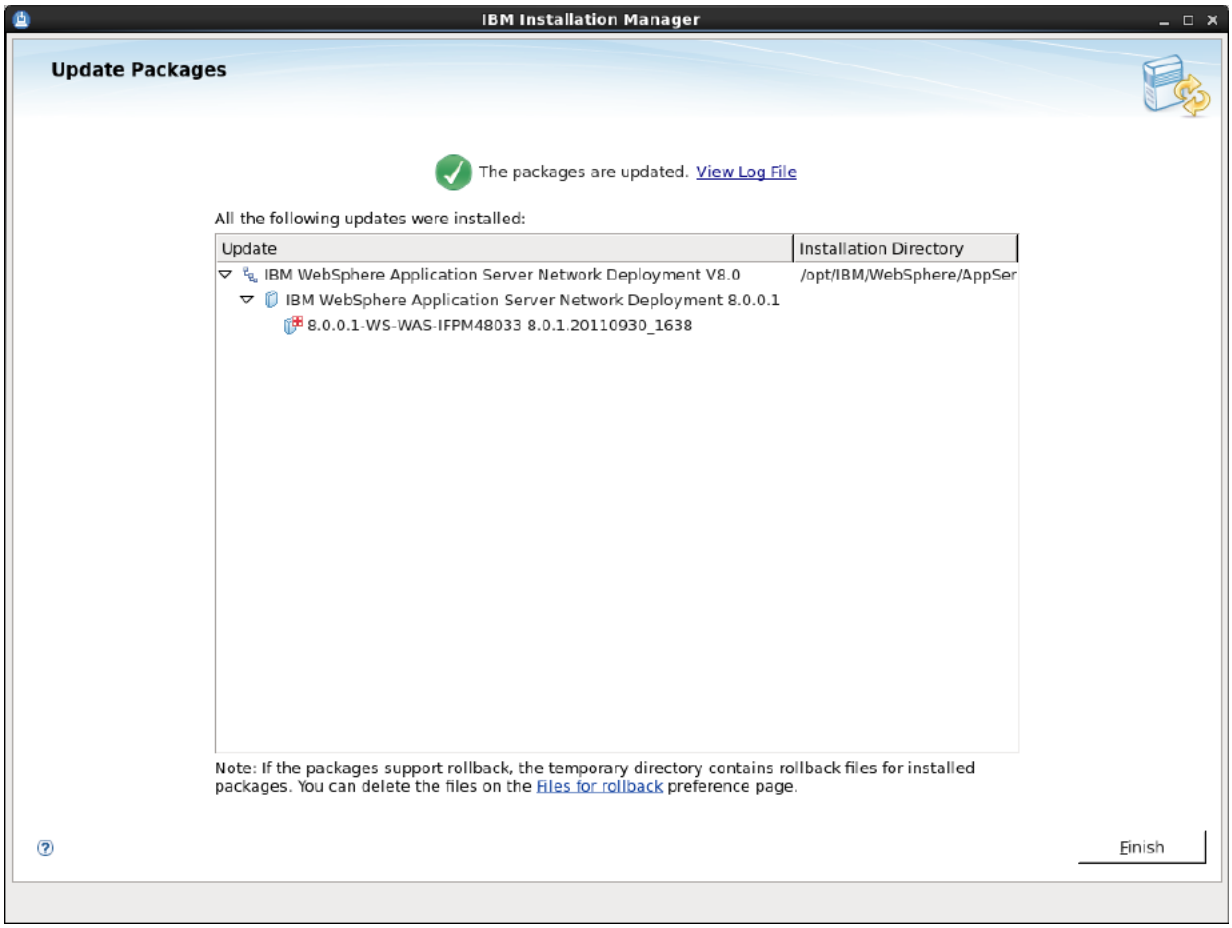
5. Click **Update** to start the update process (Figure 6–26).

Figure 6–26 Update Process



6. When the update process completes successfully (Figure 6–27), click **Finish**.

Figure 6–27 Update Packages



Part III

Installing a Web Server

Part III describes how to install a supported web server. It contains the following chapters:

- Chapter 7, "Installing Oracle HTTP Server 11g"
- Chapter 8, "Installing Apache Web Server"
- Chapter 9, "Installing IBM HTTP Server 8.0 and 8.5"
- Chapter 10, "Installing IBM HTTP Server 7.0"
- Chapter 11, "Installing Microsoft Internet Information Services 8.0 on Windows 2012 Server"
- Chapter 12, "Installing Microsoft Internet Information Services 7.x on Windows 2008 Server"

7

Installing Oracle HTTP Server 11*g*

This chapter provides instructions for installing Oracle HTTP Server and configuring Oracle HTTP Server to use with WebLogic.

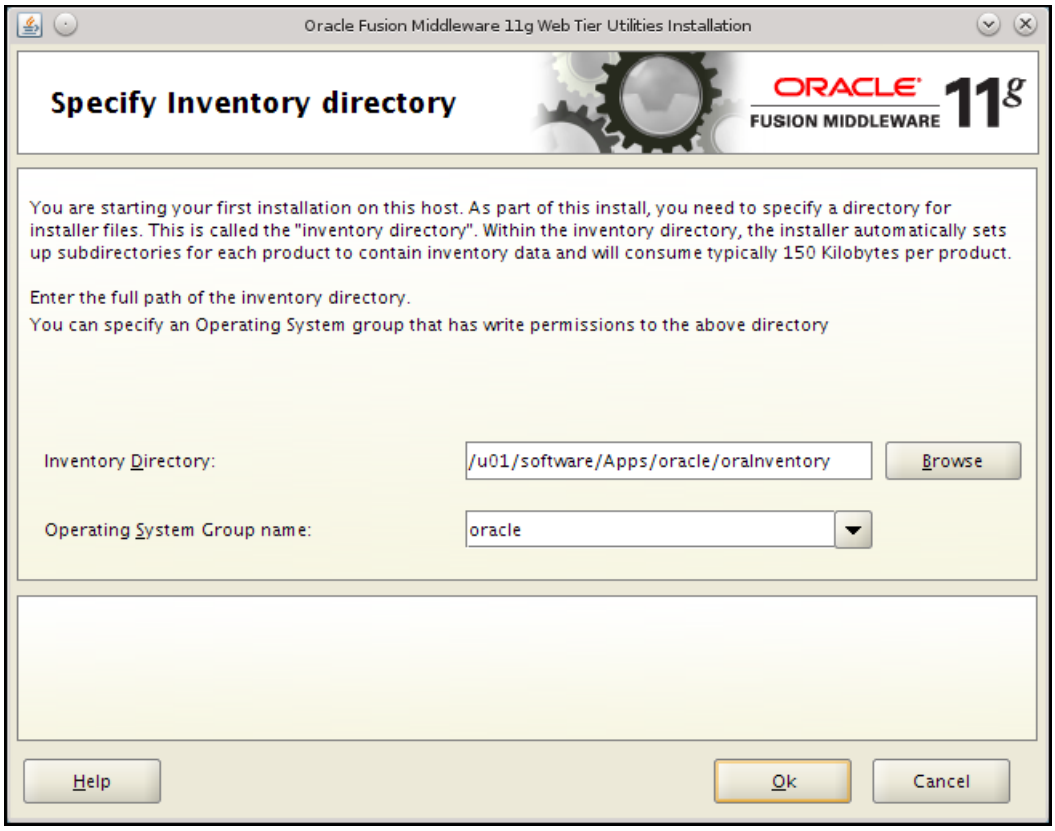
This chapter contains the following section:

7.1 Oracle HTTP Server 11*g* Installation Steps

Follow these steps to install the Oracle HTTP Server:

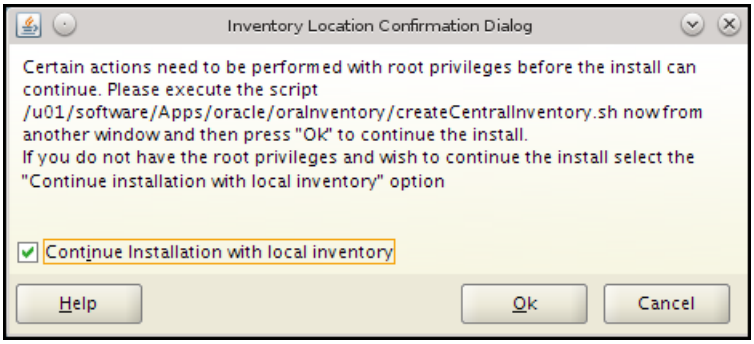
1. Oracle HTTP Server is available as a webserver component in Oracle Web Tier. Download Oracle Web Tier 11*g* from Oracle. The following steps assume you have downloaded the Oracle FMW Web Tier and installed it on a Linux system.
2. Create a non root user and extract the installer contents from the downloaded Oracle Web Tier zip file.
3. Navigate to the extracted directory and execute `runInstaller`. On the first installation it will ask you for the Inventory Directory (Figure 7–1). Select **Browse** and select the correct group name and click **OK**.

Figure 7–1 Specific Inventory Directory



4. In this chapter, we enable the **Continue installation with local inventory** option (Figure 7–2). This may not apply to your installation configuration.

Figure 7–2 Inventory Location Confirmation Dialog

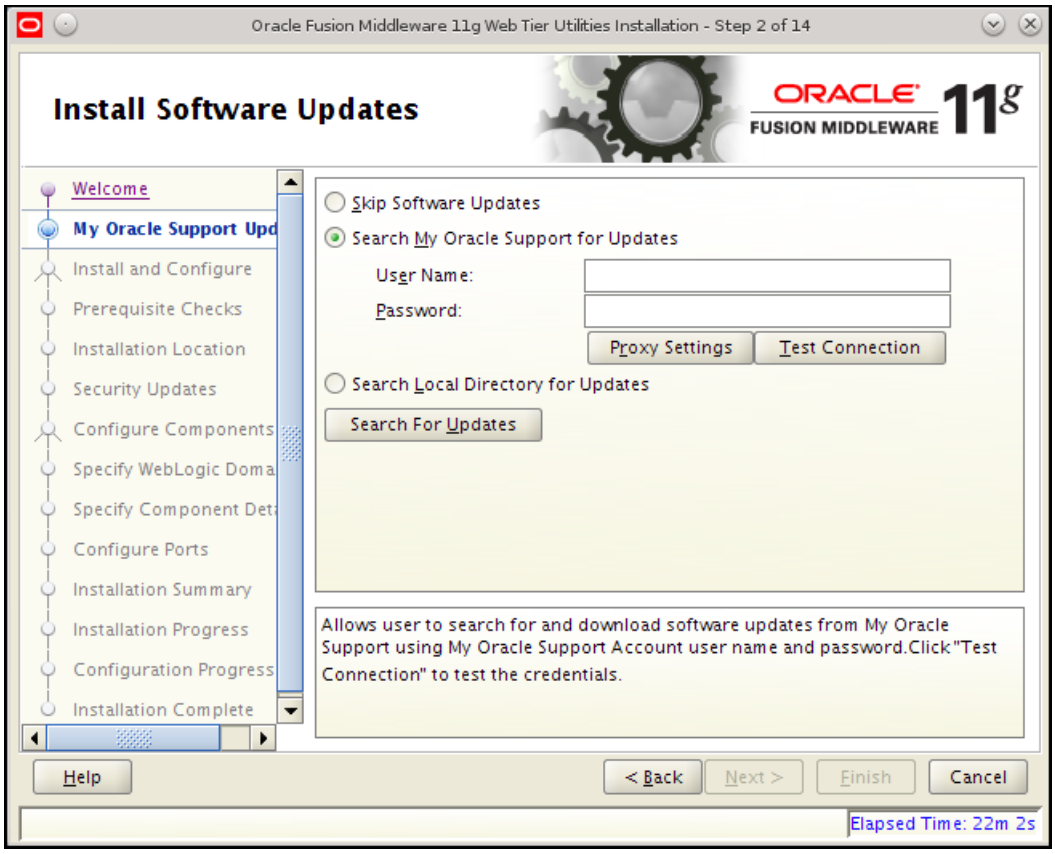


5. On the Welcome screen (Figure 7–3), click **Next**.

Figure 7–3 Welcome Screen

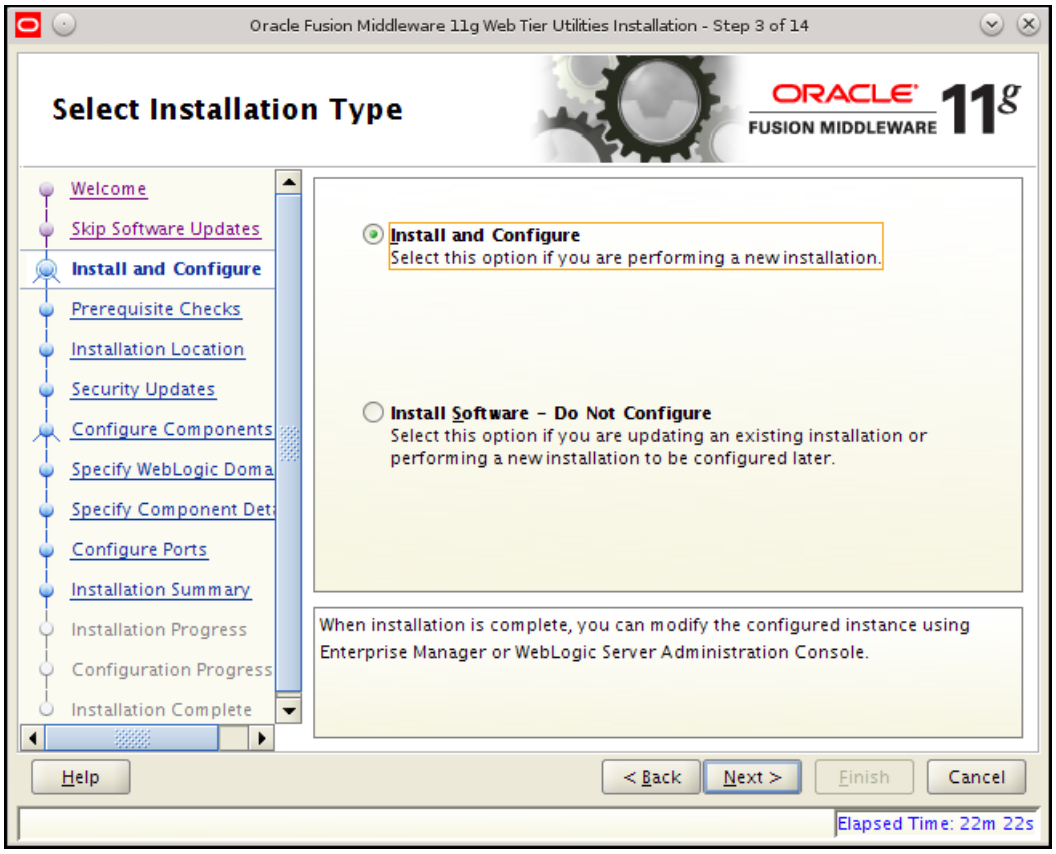
6. If you wish to install software updates enter your credentials (Figure 7–4) and click **Next**.

Figure 7–4 Install Software Updates



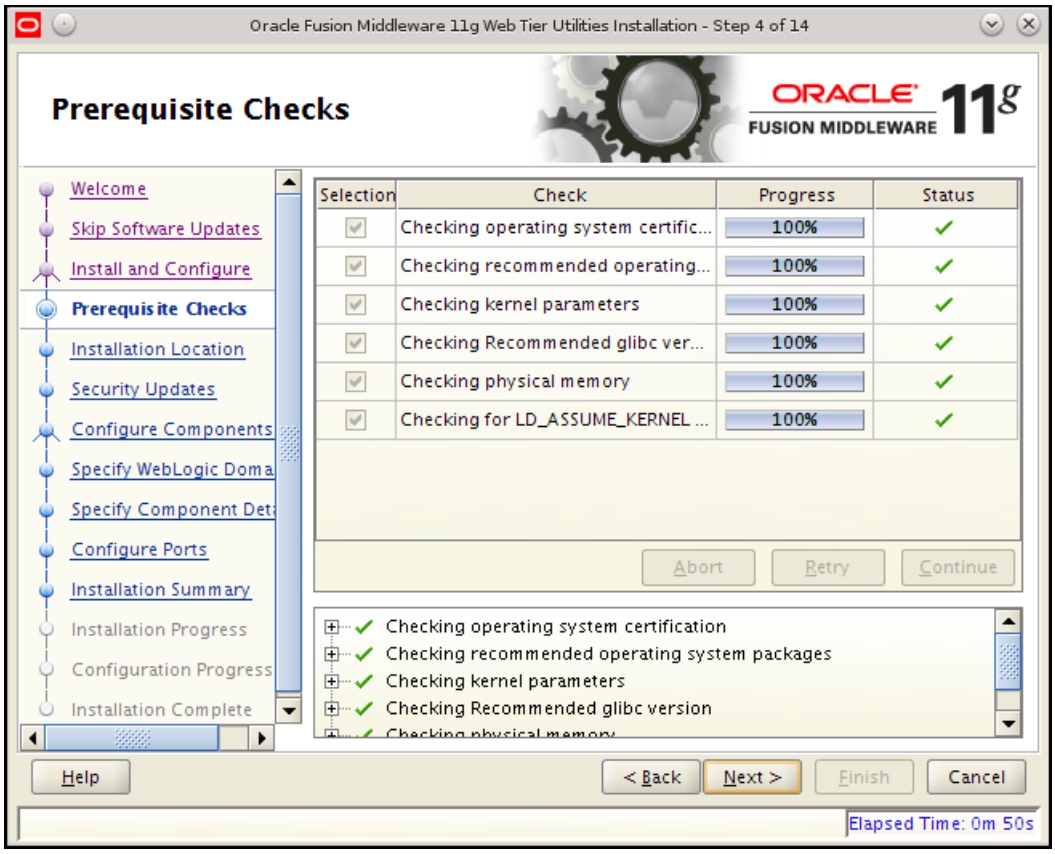
7. On the Select Installation Type step (Figure 7–5), select the **Install and Configure** option and click **Next**.

Figure 7–5 Select Installation Type



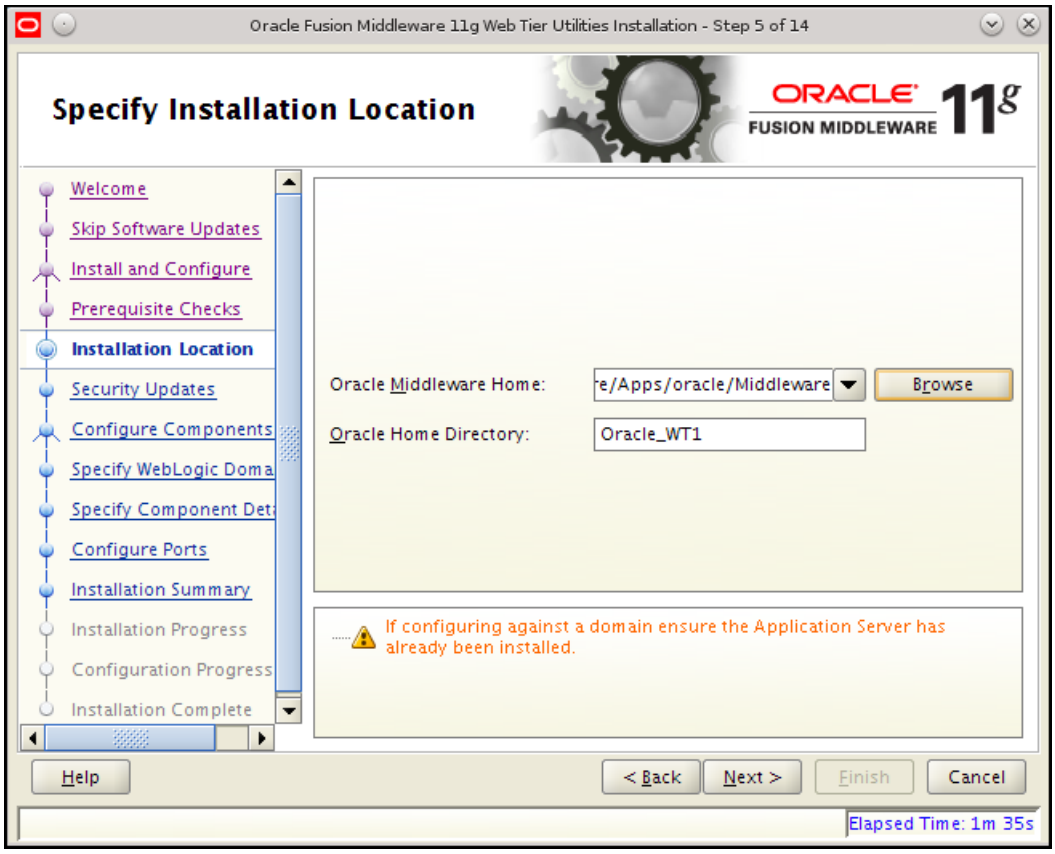
8. On Prerequisite Checks steps (Figure 7–6), be sure you have all the required prerequisites and then click **Next**.

Figure 7–6 Prerequisite Checks



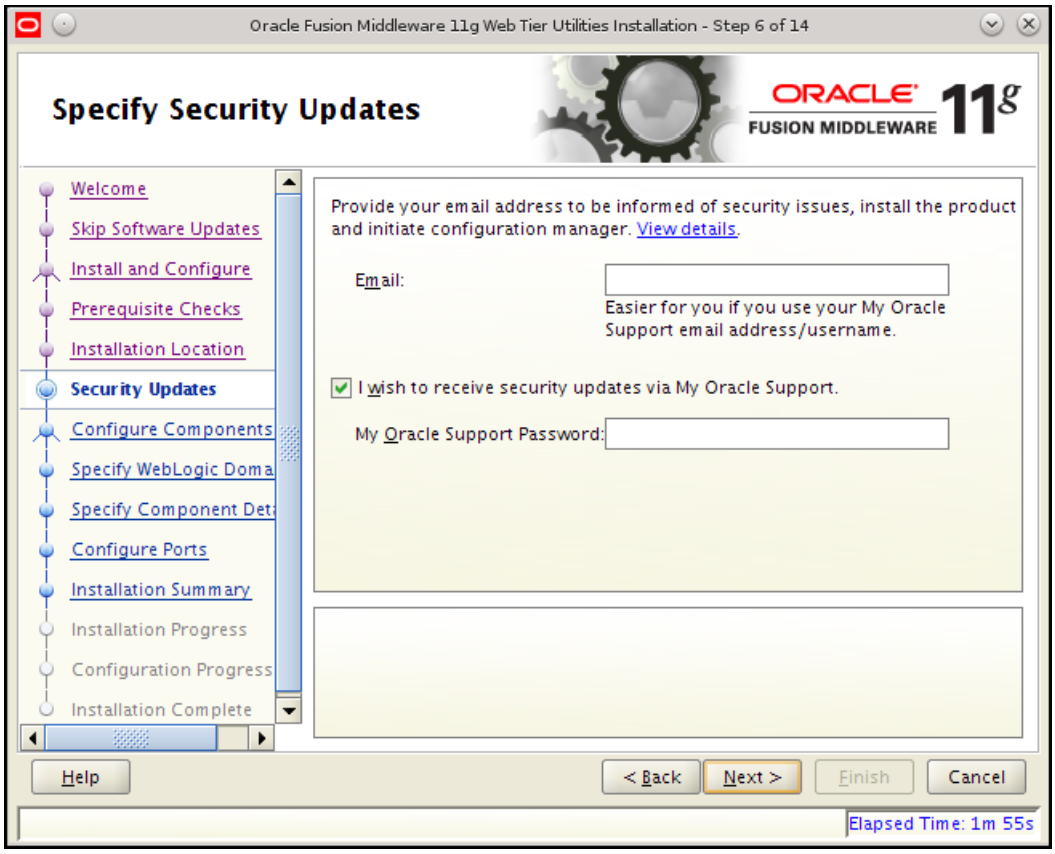
9. In this chapter, we will create a new Middleware home (Figure 7–7). This may not apply to your installation configuration.

Figure 7–7 Specify Installation Location



10. On the Specify Security updates step (Figure 7–8), enter your details to receive security updates.

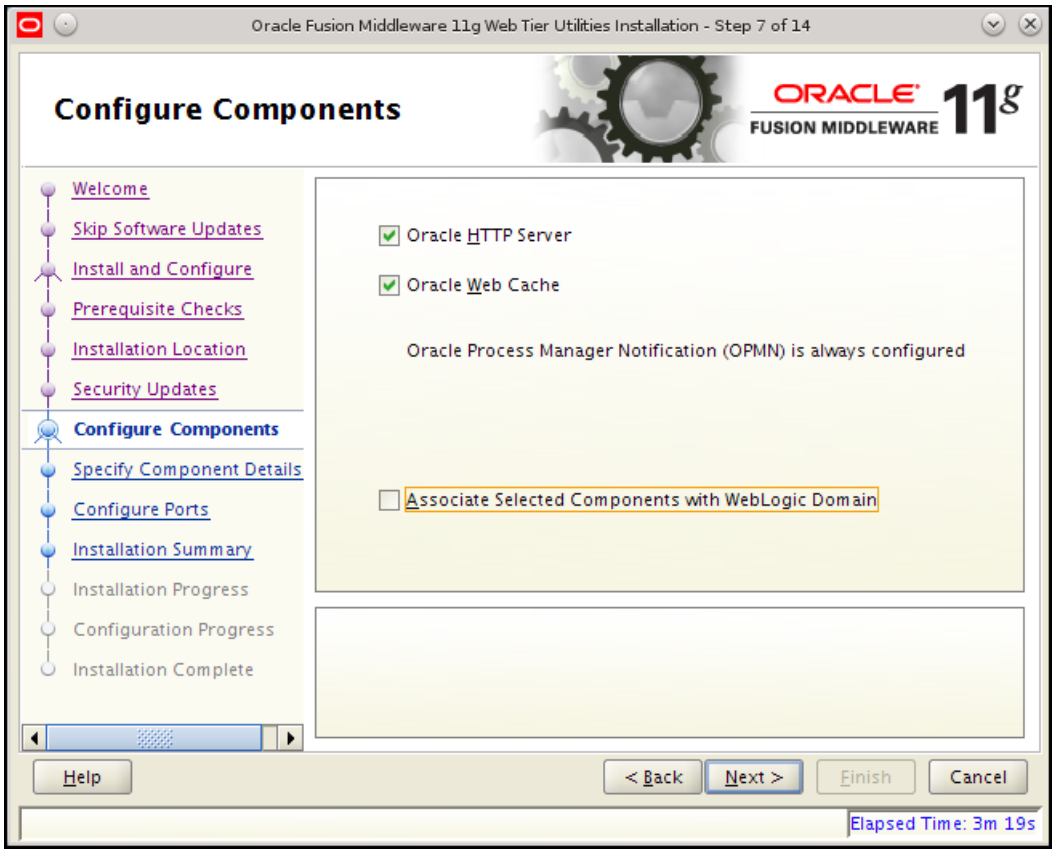
Figure 7–8 Specify Security Updates



11. For this release, we will not associate Oracle HTTP Server with a WebLogic domain. Associating web tier components involves creating a WebLogic domain with JRF. WebCenter Sites version 11.1.1.8.0 will not deploy correctly on a WebLogic domain with JRF and EM components.

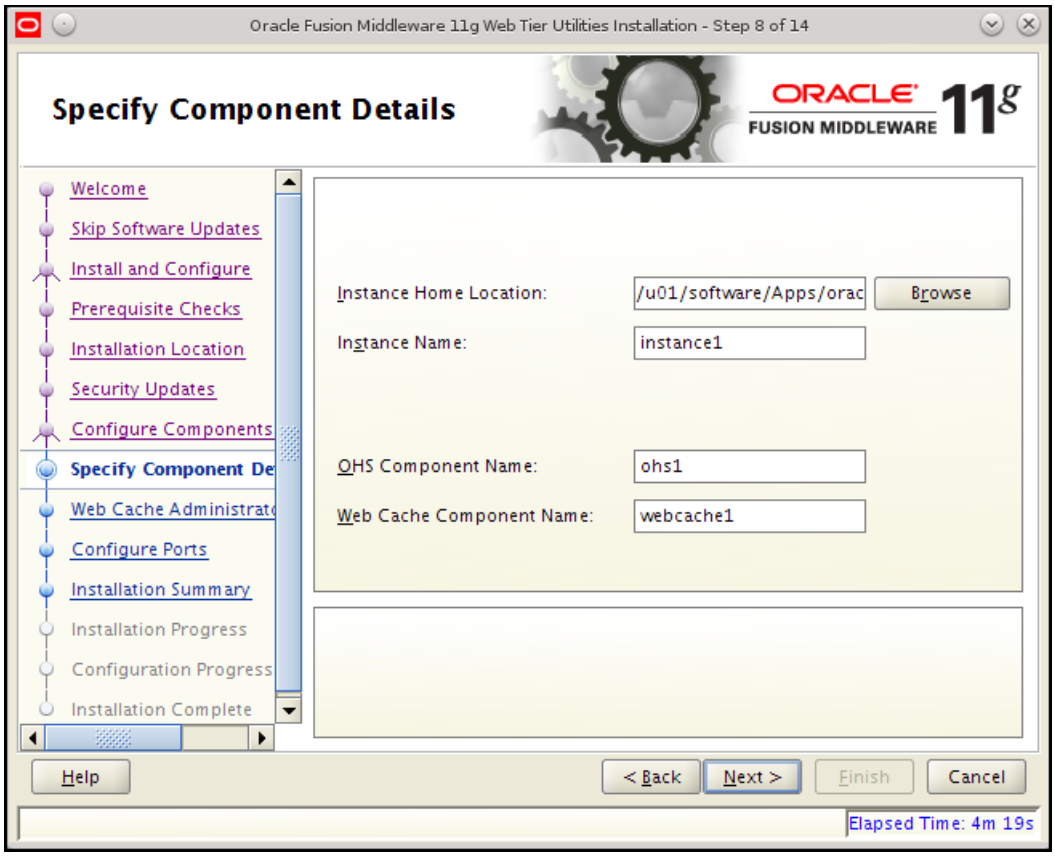
    On the Configure Components step (Figure 7–9), do not enable the **Associate Selected Components with WebLogic Domain** option. Disable this option if it is enabled. click **Next**.

Figure 7–9 Configure Components



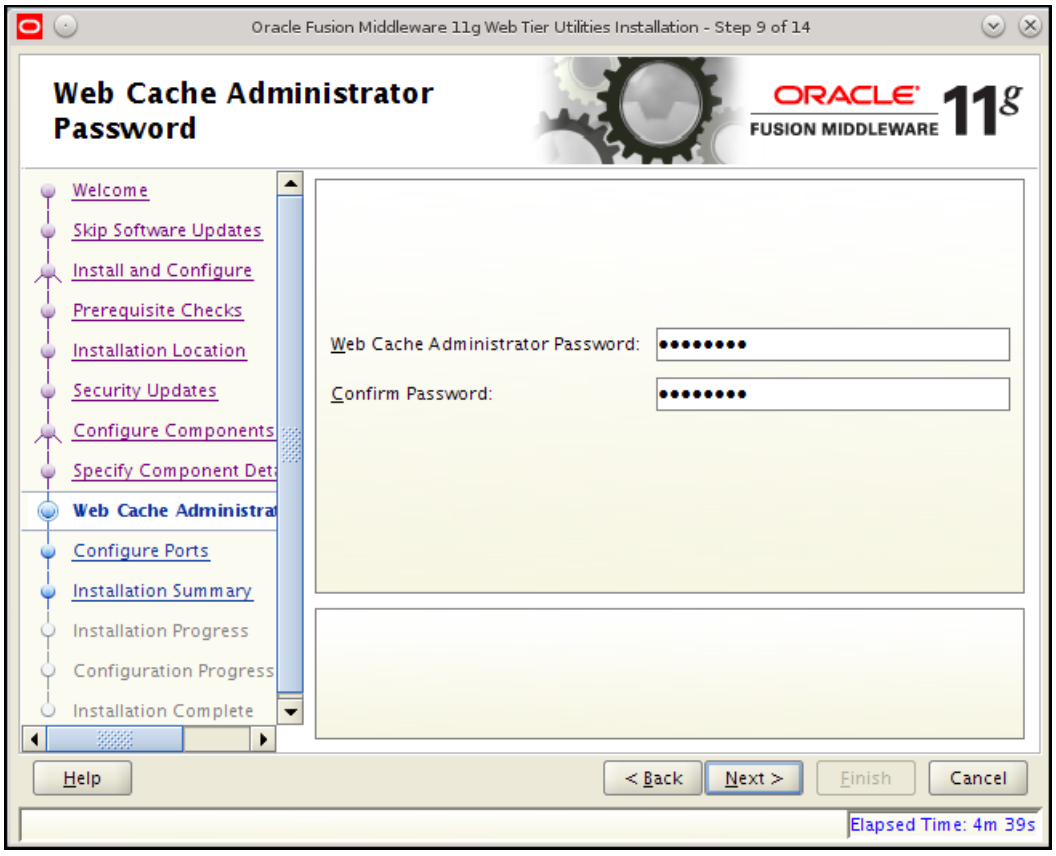
12. On the Specify Component Details step (Figure 7–10), specify your web tier component details and click **Next**.

Figure 7–10 Specify Component Details



13. On the Web Cache Administrator Password step (Figure 7–11), enter the web cache password and click **Next**.

Figure 7–11 Web Cache Administrator Password

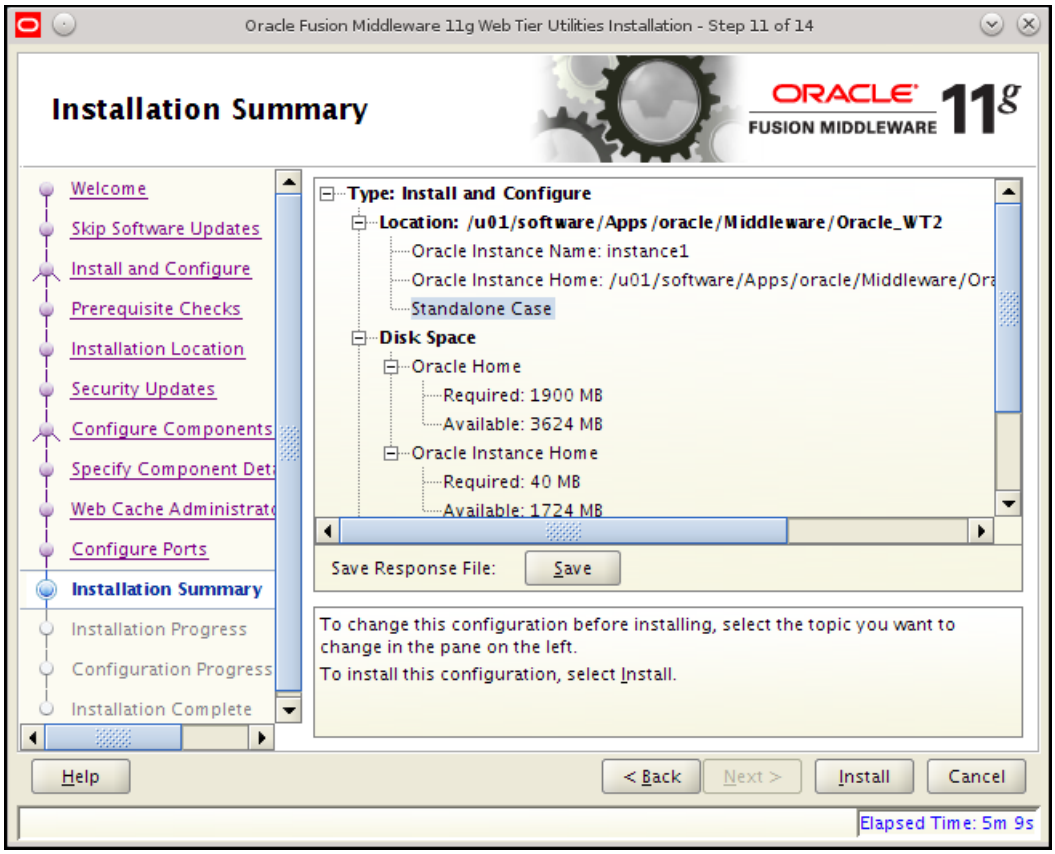


14. Depending on your configuration, select the **Auto Port Configuration** option or the **Specify Ports Using Configuration File** option (Figure 7–12). If you select the **Specify Ports Using Configuration File** option, provide the file name of the configuration file used to specify the ports. Ports can be modified later if needed. Select **Next**.

Figure 7–12 Configure Ports

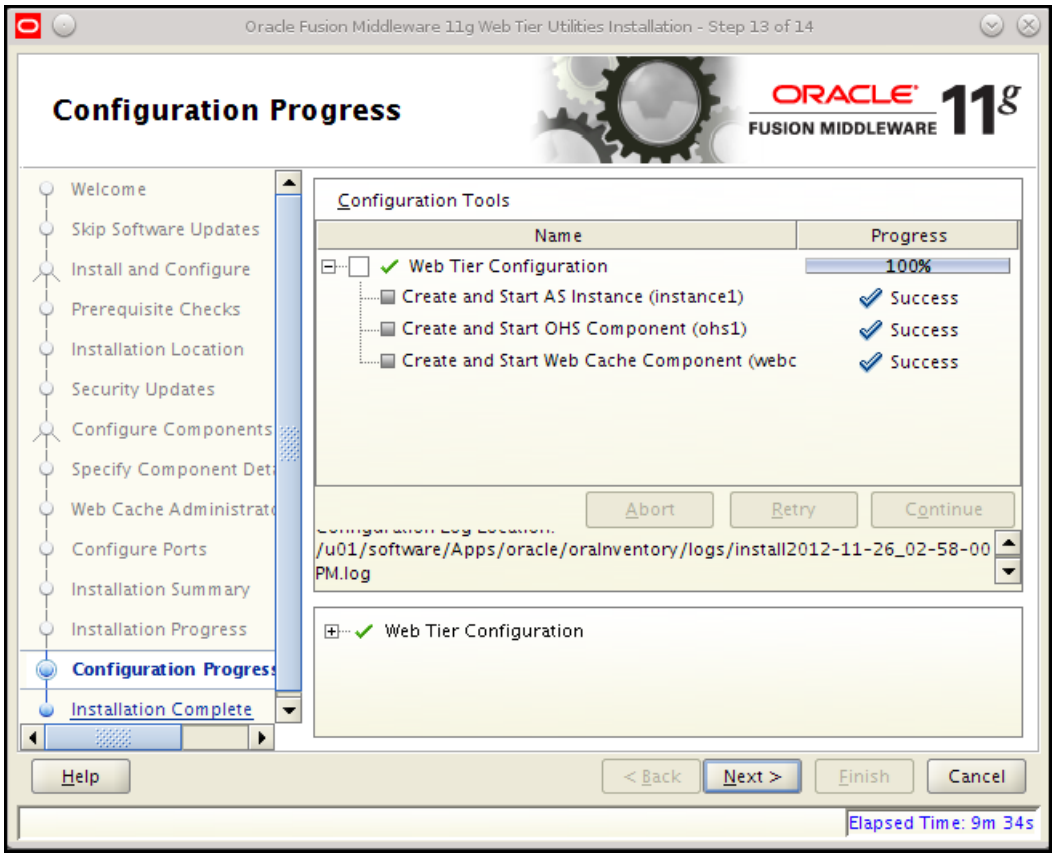
15. On the Installation Summary step (Figure 7–13), verify the installation summary and click **Install**.

Figure 7–13 Installation Summary



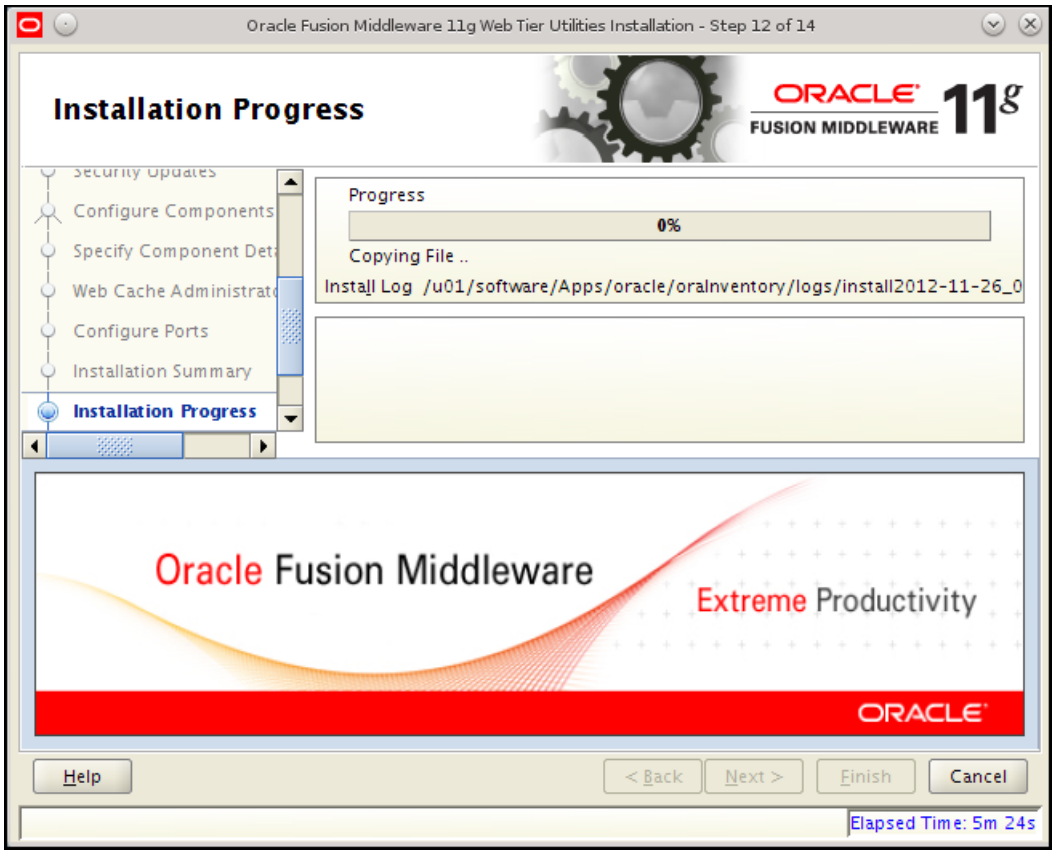
16. On the Configuration Progress step (Figure 7–14), click **Next** when configuration is complete.

Figure 7–14 Configuration Progress



17. The Installation Progress step displays the installation progress (Figure 7–15). The installer will start the web tier components by default.

Figure 7–15 Installation Progress



Starting or Stopping from the Command Line

To start or stop components from the command line:

- Use `cd` to navigate to your instance directory. Under the `/bin` directory execute the `opmnctl` command. To start or stop all components use:

```
./opmnctl stopall
./opmnctl startall
```

- For one component first execute `./opmnctl start` and then use the commands listed below to start or stop specific components:

```
./opmnctl startproc ias-component=<Oracle HTTP Server1>
./opmnctl stopproc ias-component=<Oracle HTTP Server1>
./opmnctl restartproc ias-component=<Oracle HTTP Server1>
```

8

Installing Apache Web Server

This chapter describes how to install Apache HTTP Server systems. You can install Apache HTTP Server on the same machine that will host WebLogic and WebCenter Sites, or you can install and use it on a separate host.

This chapter contains the following sections:

8.1 Is Apache Web Server Already Installed?

1. Apache HTTP Server can come pre-installed on UNIX-based platforms such as Solaris and Linux. Determine whether Apache is installed on the environment(s) on which you plan to run it.

   Note: If Apache Web Server is already installed, ensure the installed version matches the minimum version supported in the *Oracle WebCenter Sites Certification Matrix*. If Apache Web Server exists and is supported, then you can skip the installation of Apache Web Server. However, if the version installed on your environment is out of date, you are required to compile a new version.

2. If Apache is already installed, continue with Section 8.3, "Documenting Your Apache Parameters." If Apache is not installed, continue to Section 8.2, "Installation Options."

8.2 Installation Options

To install Apache Web Server, you can do one of the following:

- Install it from your source medium.
- Download it from the Internet.
- Build it from source; that is, select the modules and compile the Apache executable yourself, as described in this section. For detailed instructions, refer to the

information that the Apache Foundation makes available at http://www.apache.org/.

To build Apache Web Server 2.2 from source

1. Extract, compile, and install Apache 2.2.*x* as follows:
   a. `tar xvfjp httpd-2.2.x.tar.bz2`
   b. `./configure --enable-so --enable-mods-shared="proxy cache ssl all" --prefix=<PATH_TO_APACHE_HOME> --with-included-apr`
   c. `make`
   d. `make install`
2. Set the variable `$APACHE2_HOME` to the directory in which Apache 2.2.*x* was installed.

To build Apache Web Server 2.4.*x* from source

1. Download `APR`, `APR-util` (Apache Portable Runtime), `PCRE` (Perl-Compatible Regular Expressions Library), and Apache HTTP 2.4.*x*.
2. Unpack Apache HTTP 2.4.x. Under the `srclib` directory (located in the root folder), create an `apr`, `apr-util`, and `pcre` directory.
3. Unpack `APR`, `APR-util`, and `PCRE` into their respective directories (created in step 2).
4. Build Apache 2.4.*x*

```
./configure --enable-so --enable-mods-shared="proxy cache ssl all"
--prefix=<APACHE_HTTPD_HOME> --with-included-apr --with-pcre
```

8.3 Documenting Your Apache Parameters

We strongly recommend that you document the details of your Apache installation as mentioned in Table 8–1.

Table 8–1 Apache Parameters

Parameter	Description / Your Value
Web Server Version (WebVersion)	The version of Apache that the host is running. Note that you must use a version that WebCenter Sites supports. **Your Value**:
Web Host Name (WebHost)	The name by which the Apache host machine is known on the network. **Your Value**:
Web Host IP Address (WebIP)	The numeric Internet Protocol address assigned to the Apache host machine. **Your Value**:
Web Server Port (WebPort)	The port number assigned for Apache communications. By default, it has the value 80. **Your Value**:
Apache Root Directory (ApacheRoot)	The top-level directory in which Apache is installed. Immediate subdirectories of ApacheRoot include `bin` and `conf`. **Your Value**:

8.4 Verifying that Apache Runs Properly

In this step, you will start Apache and verify that it is running properly. For verification instructions, see the Apache web site (http://www.apache.org).

8.5 Next Step

Configure Apache to run with WebLogic and WebCenter Sites. For instructions, see the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

9

Installing IBM HTTP Server 8.0 and 8.5

This chapter contains the following sections:

> **Note:** Keep in mind the following:
>
> - This chapter is for WebSphere 8.0 and 8.5. If you are installing on WebSphere 7.0, see Chapter 10, "Installing IBM HTTP Server 7.0."
> - In this chapter, IBM HTTP Server is referred to as "IHS." WebSphere Application Server is referred to as "WAS."

9.1 IBM HTTP Server 8.0 and 8.5 Installation Steps

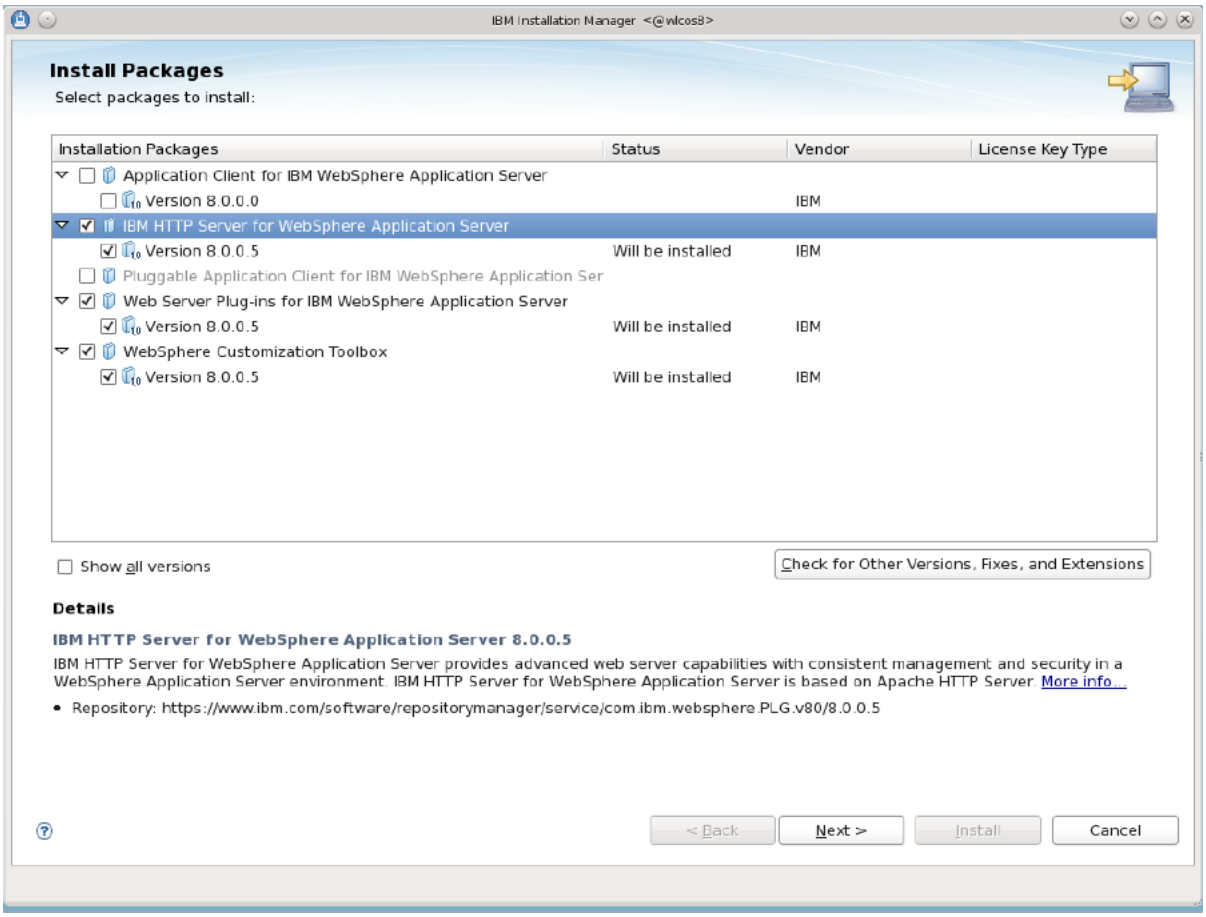
To install the IBM HTTP Server, complete the following steps:

> **Note:** There installation instructions assume you have installed IBM Installation Manager (IIM). If you do not have IIM installed, you must do so.

1. Download the IBM HTTP Server installer files from the IBM website and extract the contents to a folder of your choice. Refer to the *Oracle WebCenter Sites Certification Matrix* for supported versions with WebCenter Sites here: `http://www.oracle.com/technetwork/middleware/webcenter/sites/downloads/index.html`
2. In the IIM, select **File**, then select **Preferences**, then select **Add Repository** to configure an IBM HTTP Server repository.

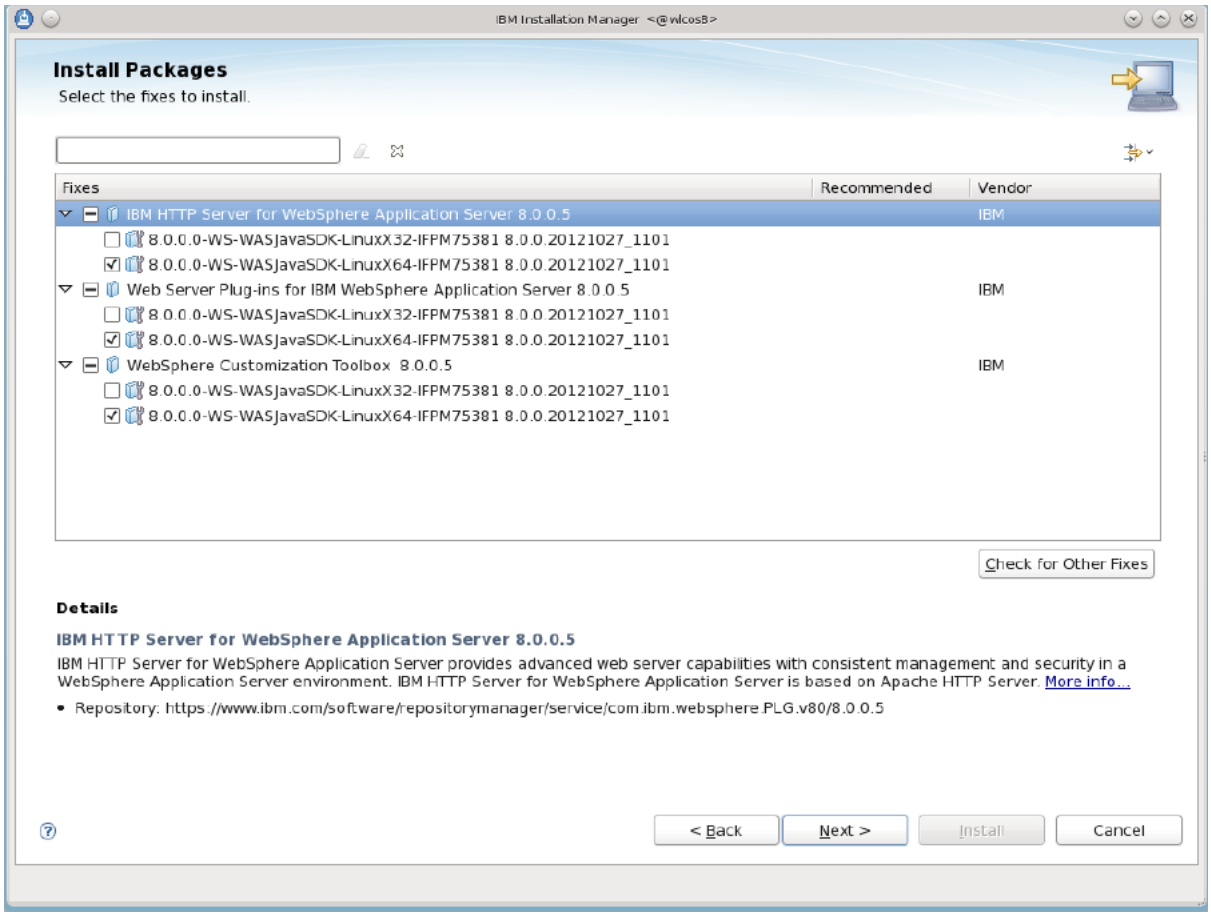
   Test the connection to the new repository.
3. Check for the latest available versions by clicking the **Check for other Versions, Fixes and Extensions** button.
4. From the list of available Install Package items, select **IBM HTTP Server for WebSphere Application Server**, **Web Server Plug-ins for IBM WebSphere Application Server**, and **WebSphere Customization Toolbox**. See Figure 9–1 for details:

Figure 9–1 Install Packages



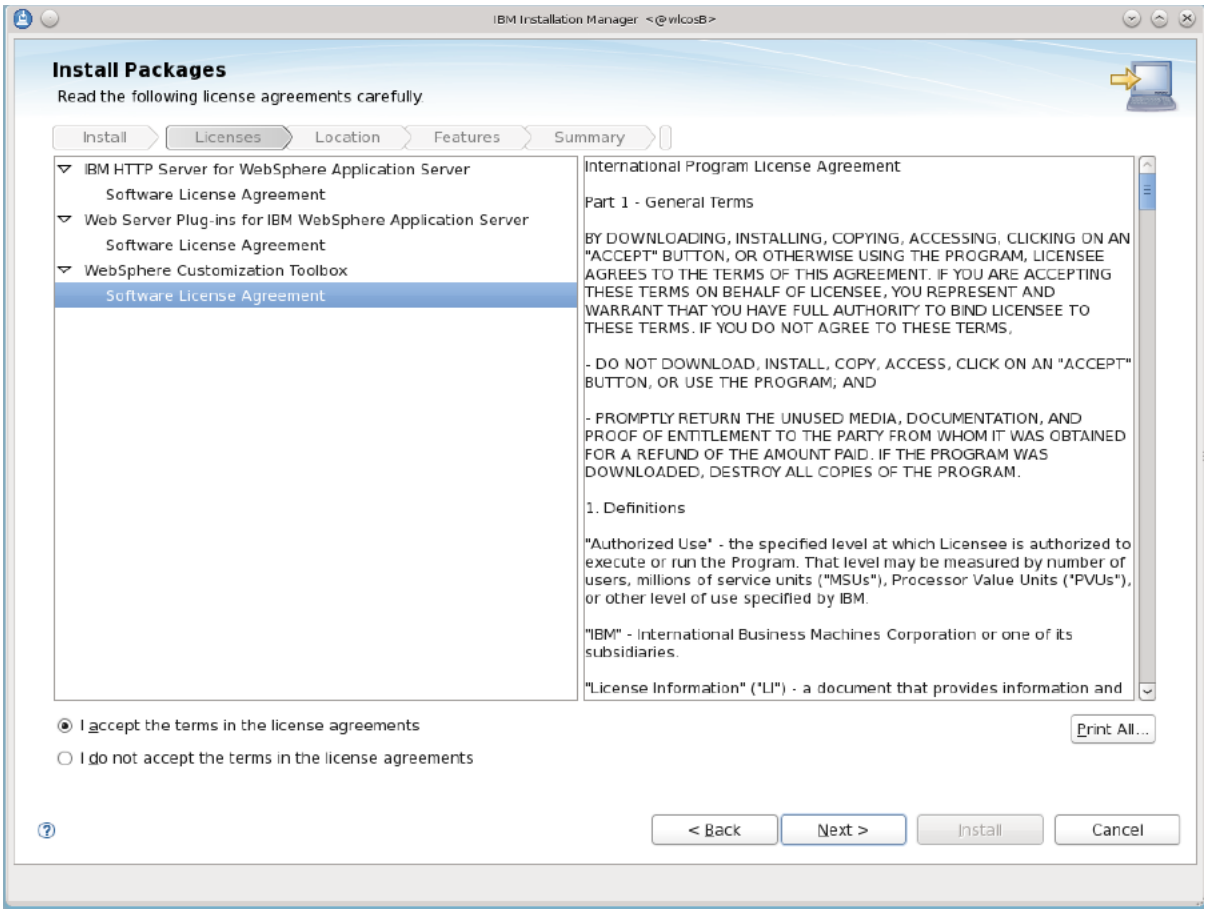
5. Select the appropriate version of the SDK (Figure 9–2), and click **Next**.

Figure 9–2 Selecting SDK for Installation



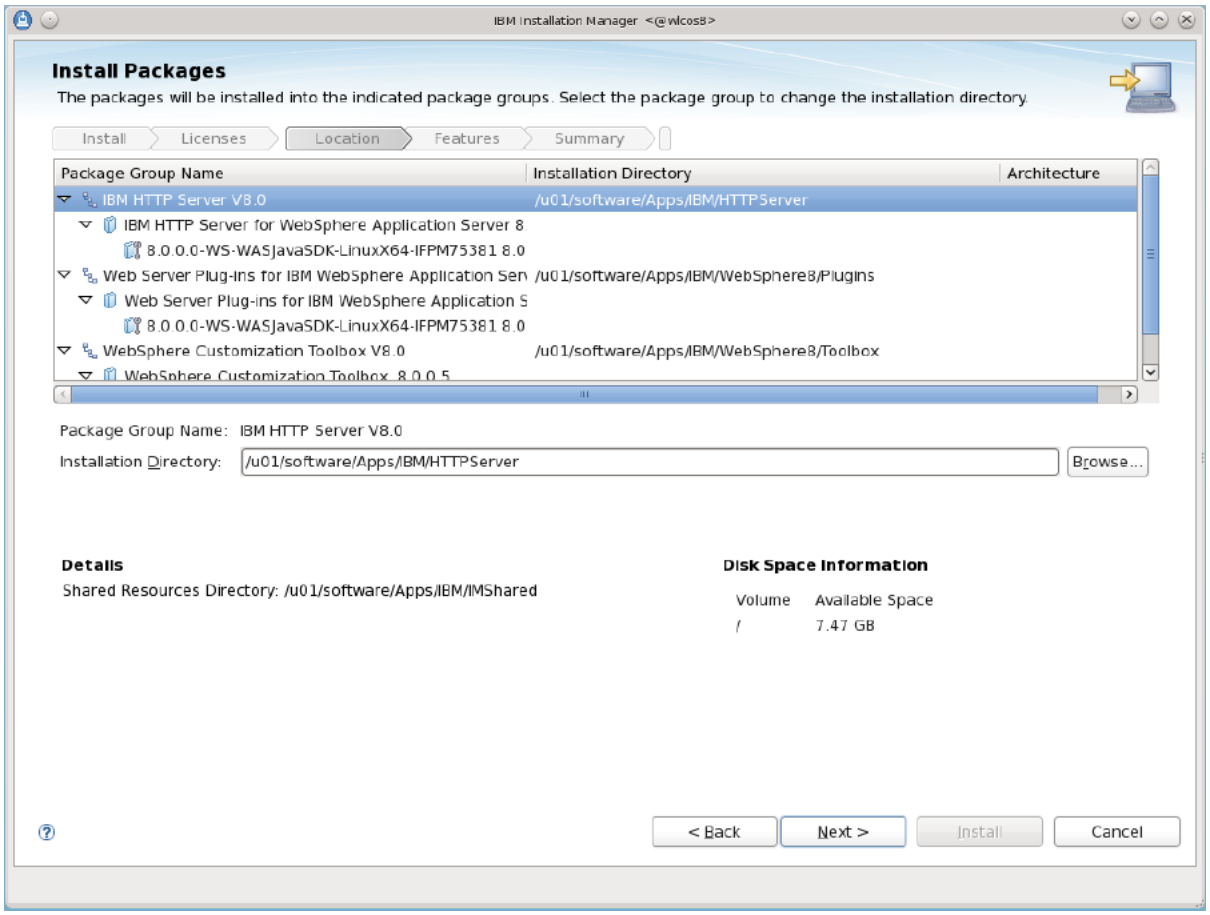
6. Read and accept the license agreement (Figure 9–3). Click **Next**.

Figure 9–3 Installation Agreement



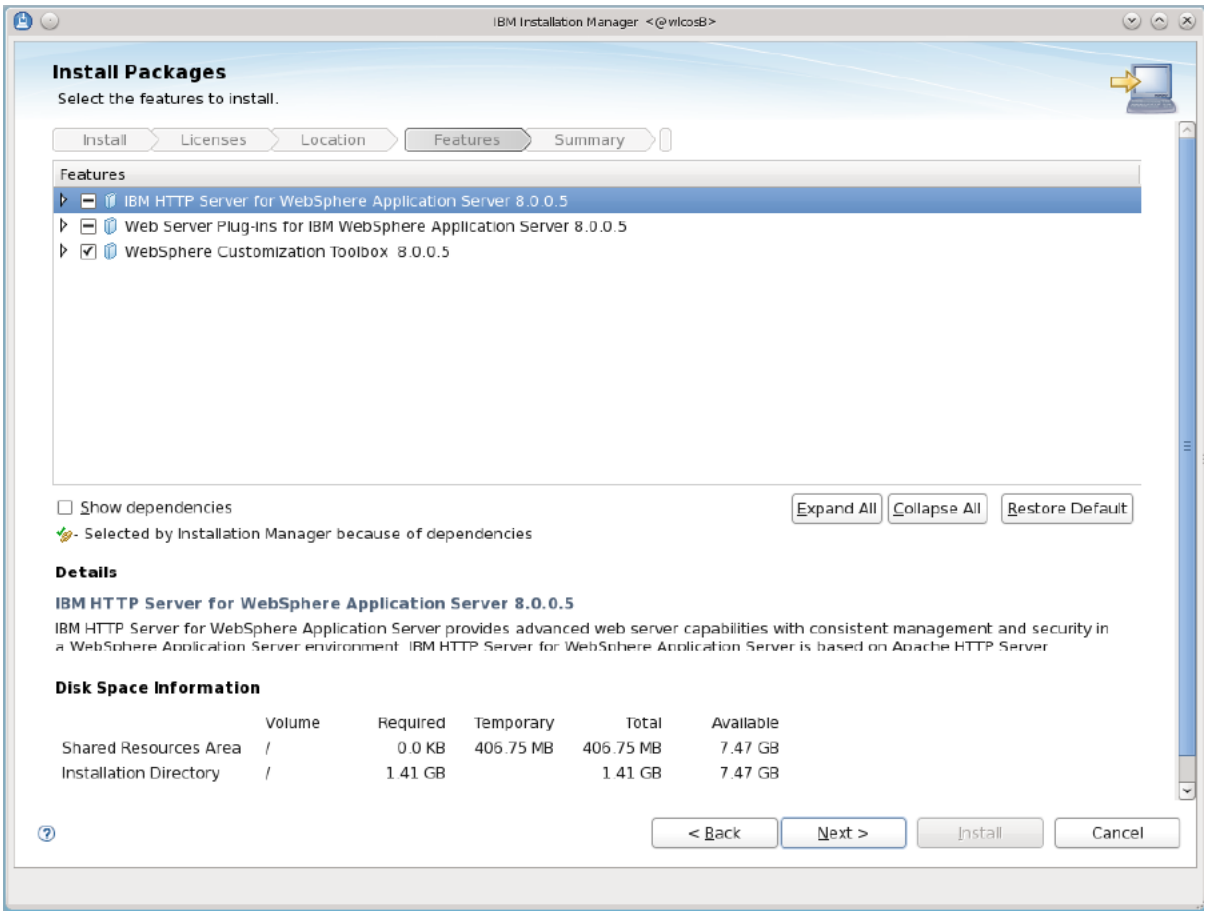
7. If necessary, change the installation directory location (Figure 9–4). Click **Next**.

Figure 9–4 Installation Directory Location



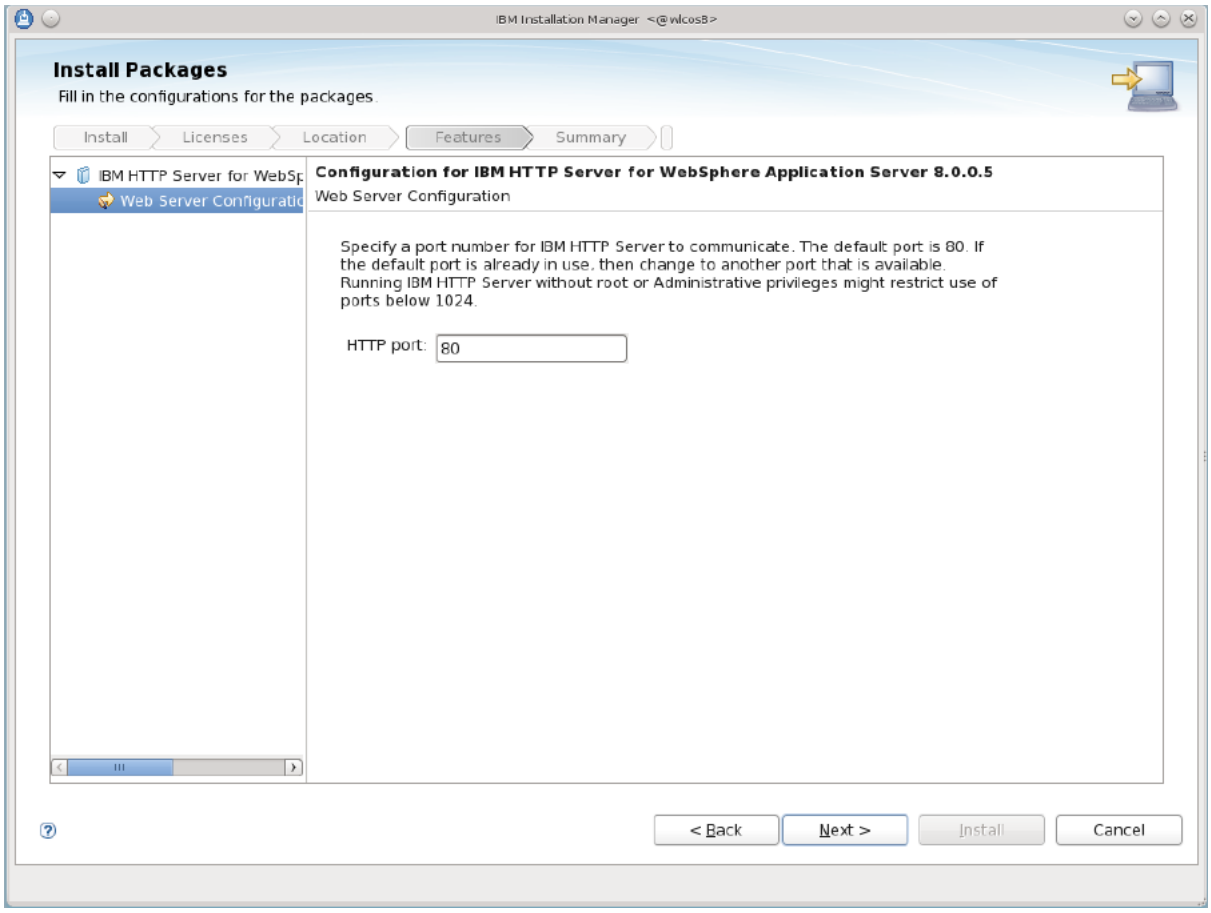
8. Review the features to be installed (Figure 9–5), and click **Next**.

Figure 9–5 Reviewing Installation Packages



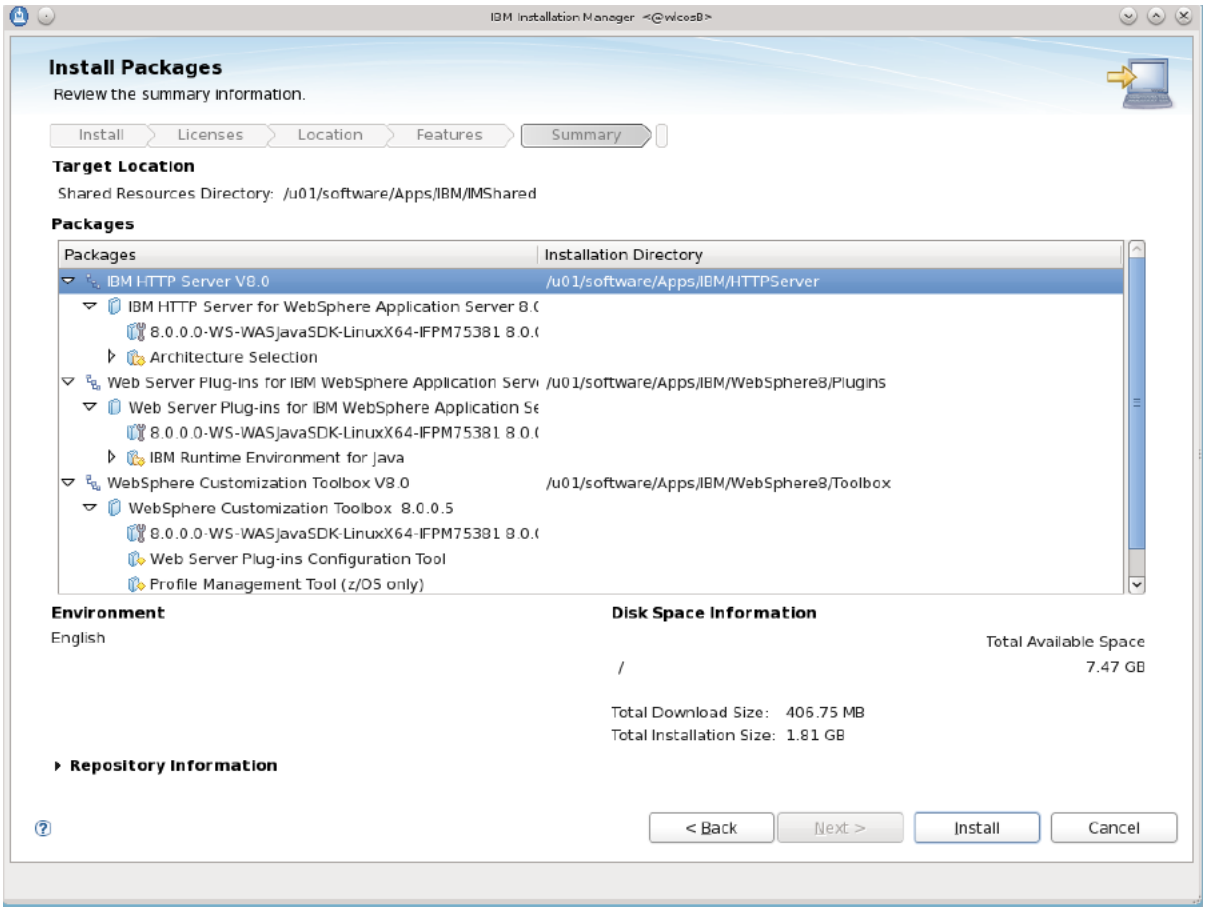
9. Set the port in the **HTTP port** field (Figure 9–6). The default port is 80.

Figure 9–6 Setting the HTTP Port



10. Summary information is displayed (Figure 9–7). Review the summary information, and click **Install**.

Figure 9–7 Final Installation Review



The packages will install. Once complete, move on to Section 9.2, "WebServer Plugin Configuration."

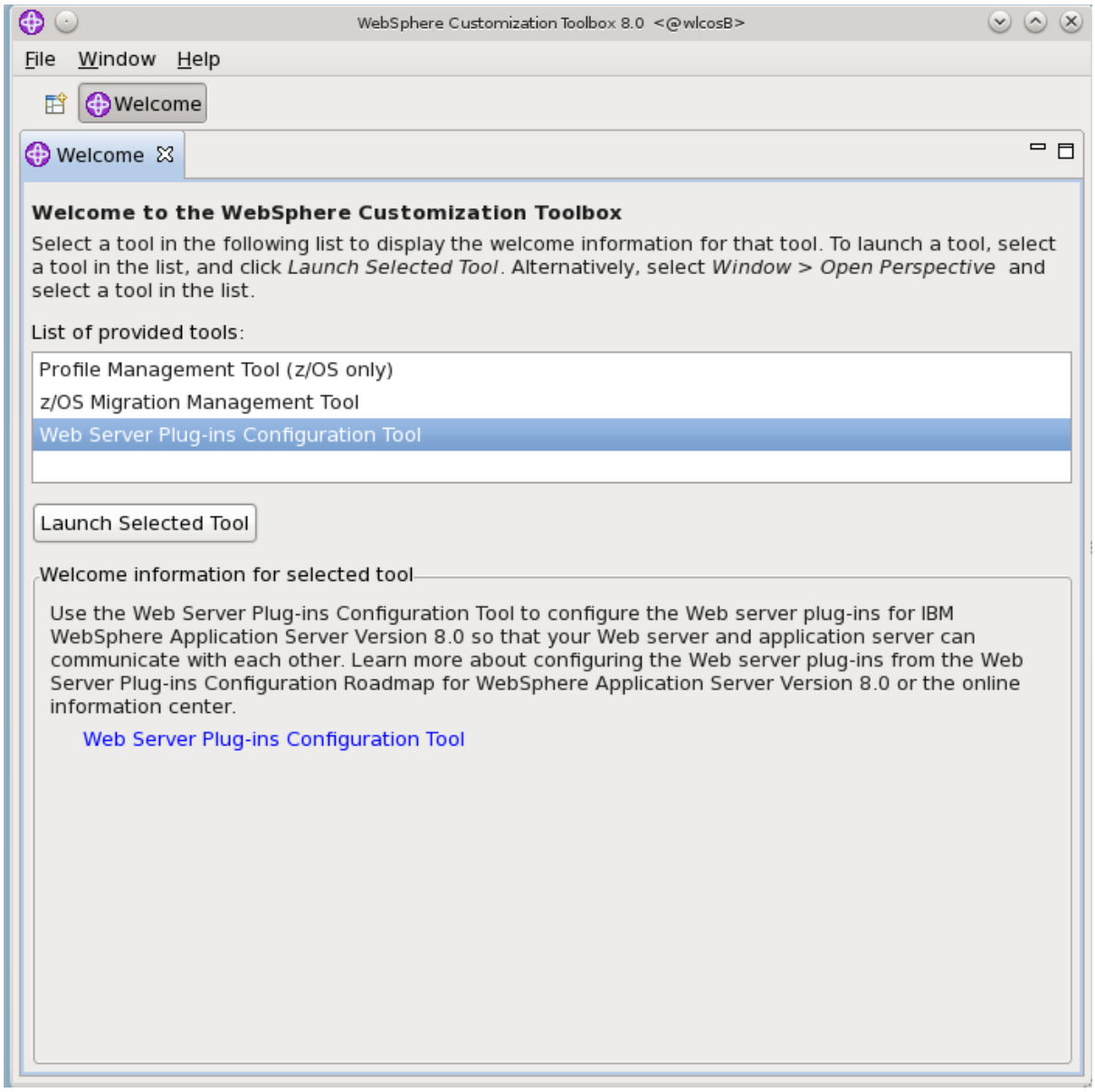
9.2 WebServer Plugin Configuration

Once the IIM has installed the IHS, you can then configure the WebServer plugin.

To configure the WebServer plugin, complete the following steps:

1. Run the WebSphere Customization Toolbox.
2. In the **List of provided tools** listbox (Figure 9–8), select **Web Server Plug-ins Configuration Tool** and click **Launch Selected Tool**.

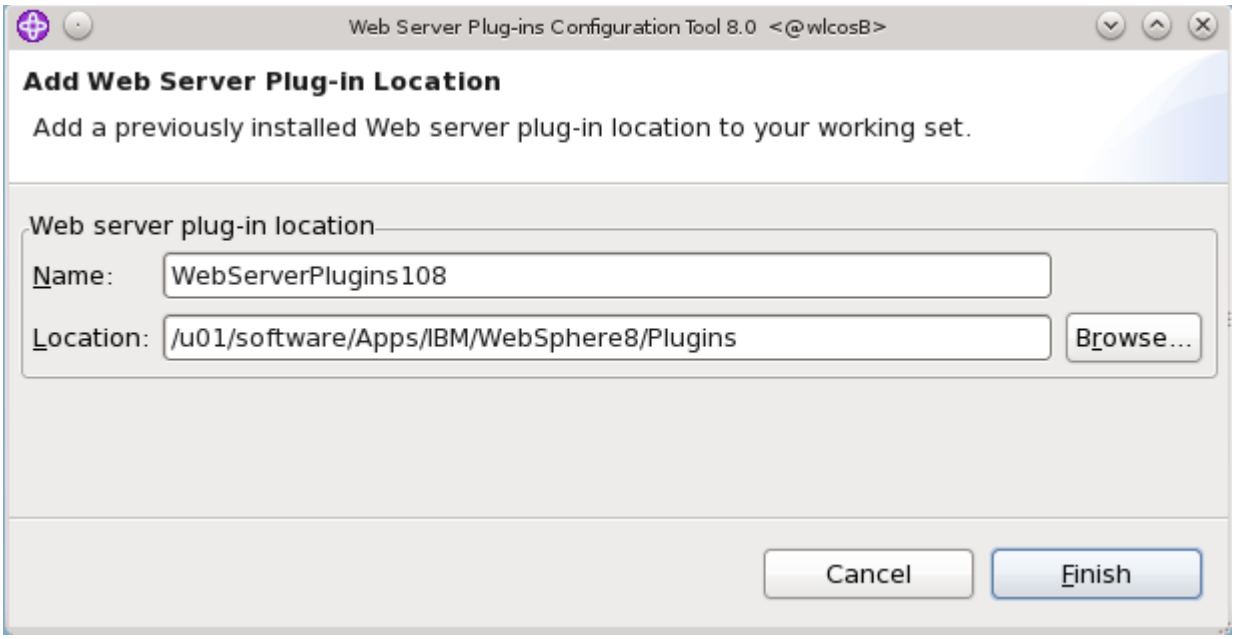
Figure 9–8 Launching Web Server Configuration Tool



This tool will help you configure the Web server plugins.

3. In the Add Web Server Plug-In screen (Figure 9–9), click **Browse**. Select the same plugin location selected in step 7 of Section 9.1, "IBM HTTP Server 8.0 and 8.5 Installation Steps."

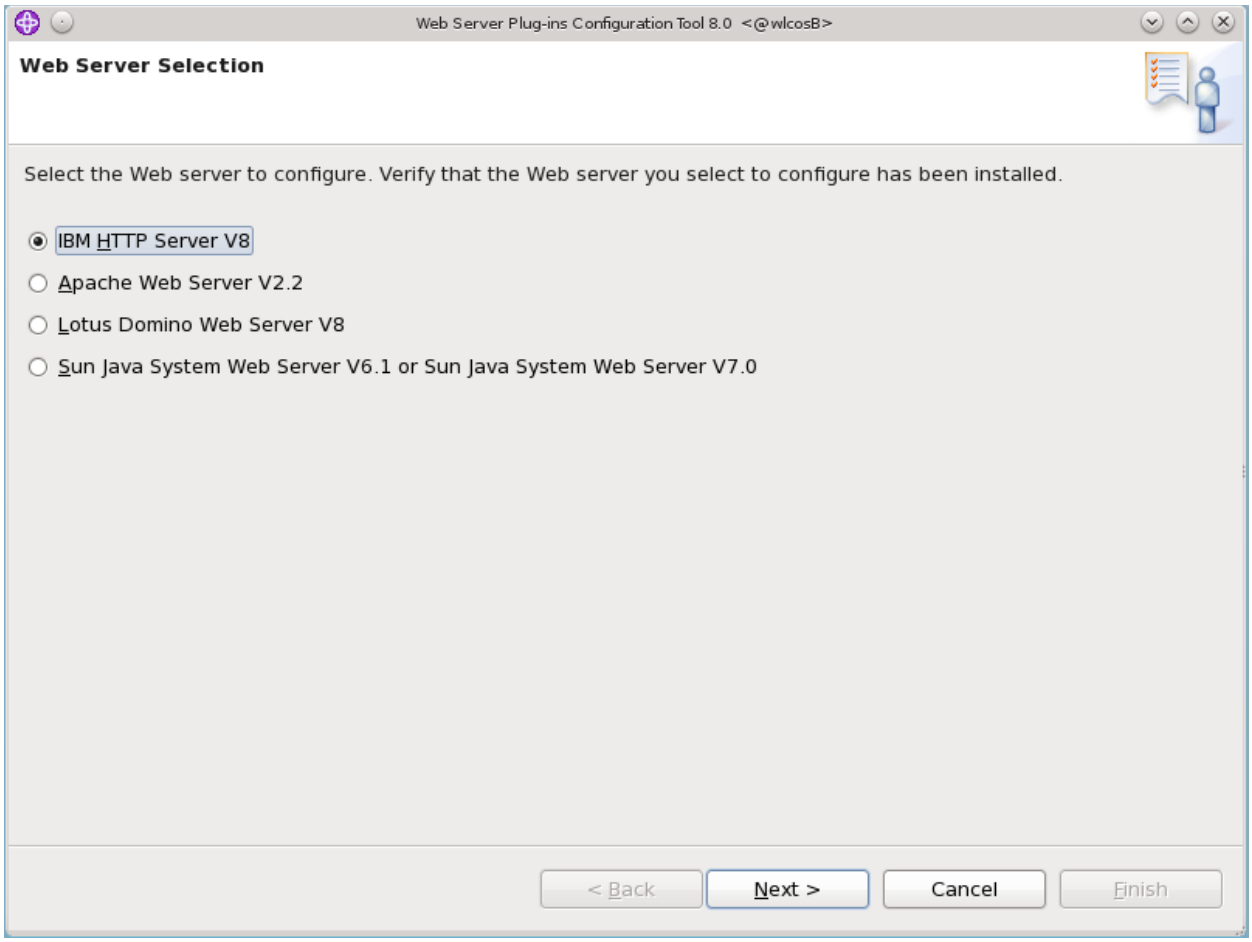
Figure 9–9 Setting the Plug-in Location



Click **Finish**.

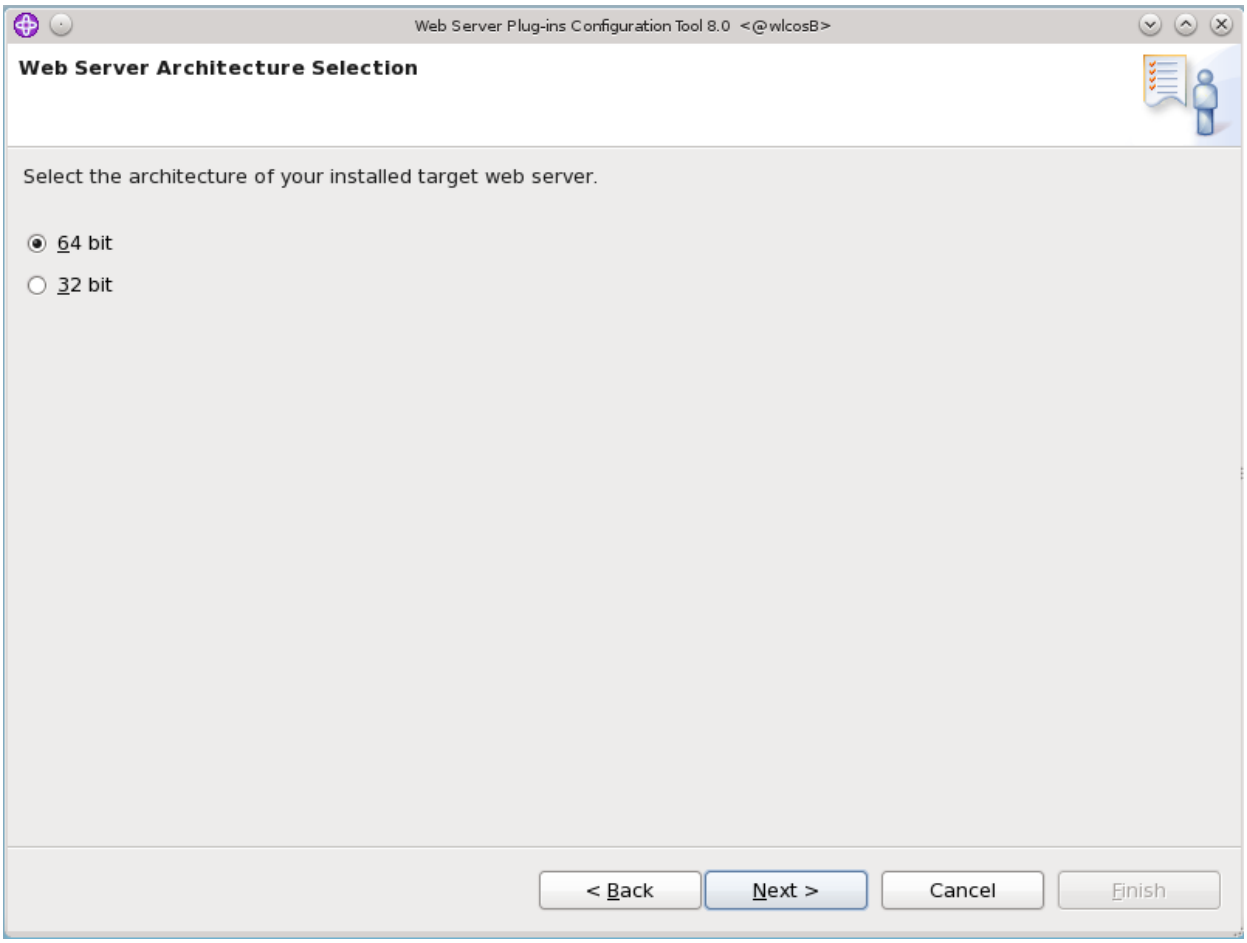
4. On the Web Server Selection screen, select **IBM HTTP Server V8** (Figure 9–10). Click **Next**.

Figure 9–10 Web Server Selection



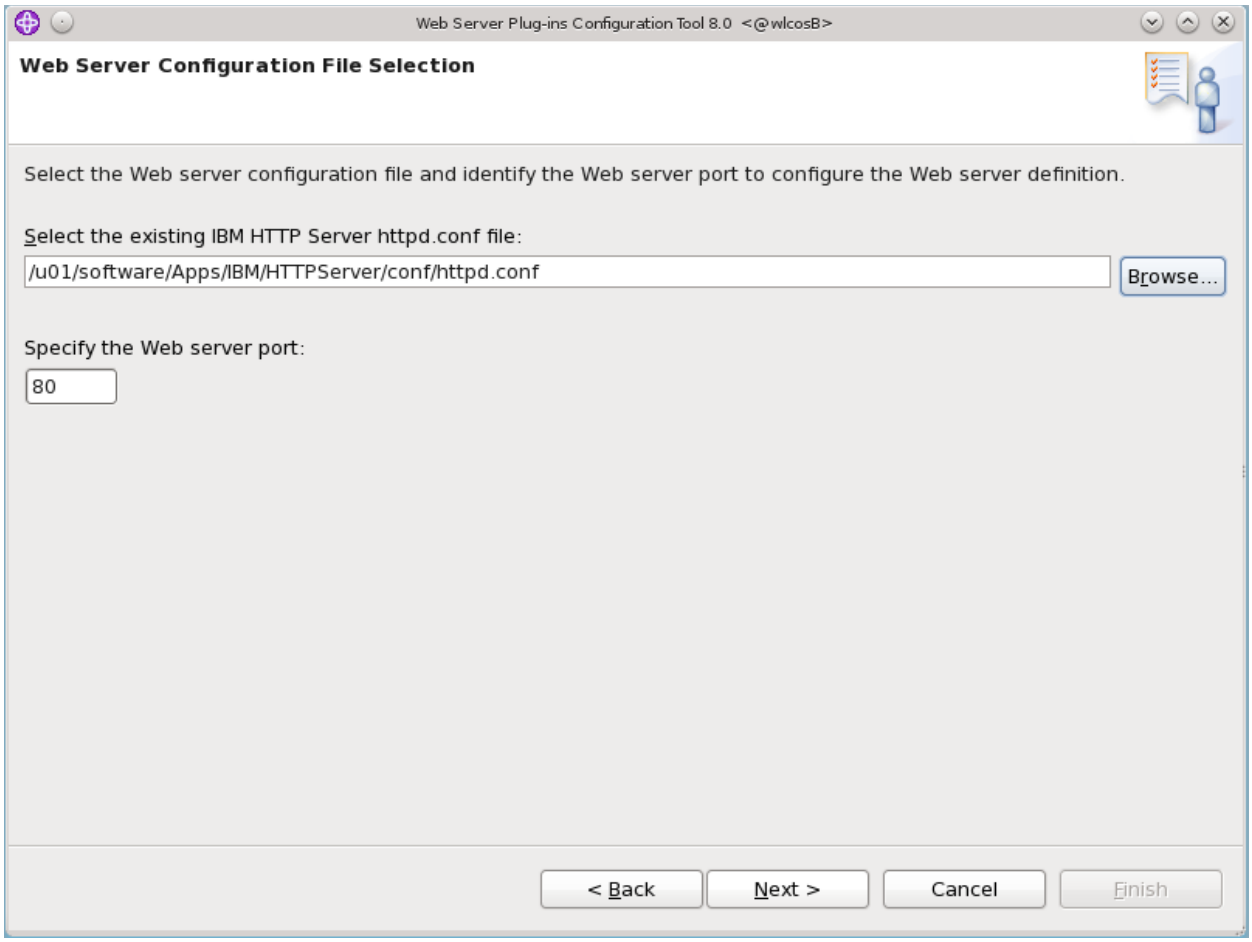
5. Select the architecture (Figure 9–11). Click **Next**.

Figure 9–11 Selecting Architecture



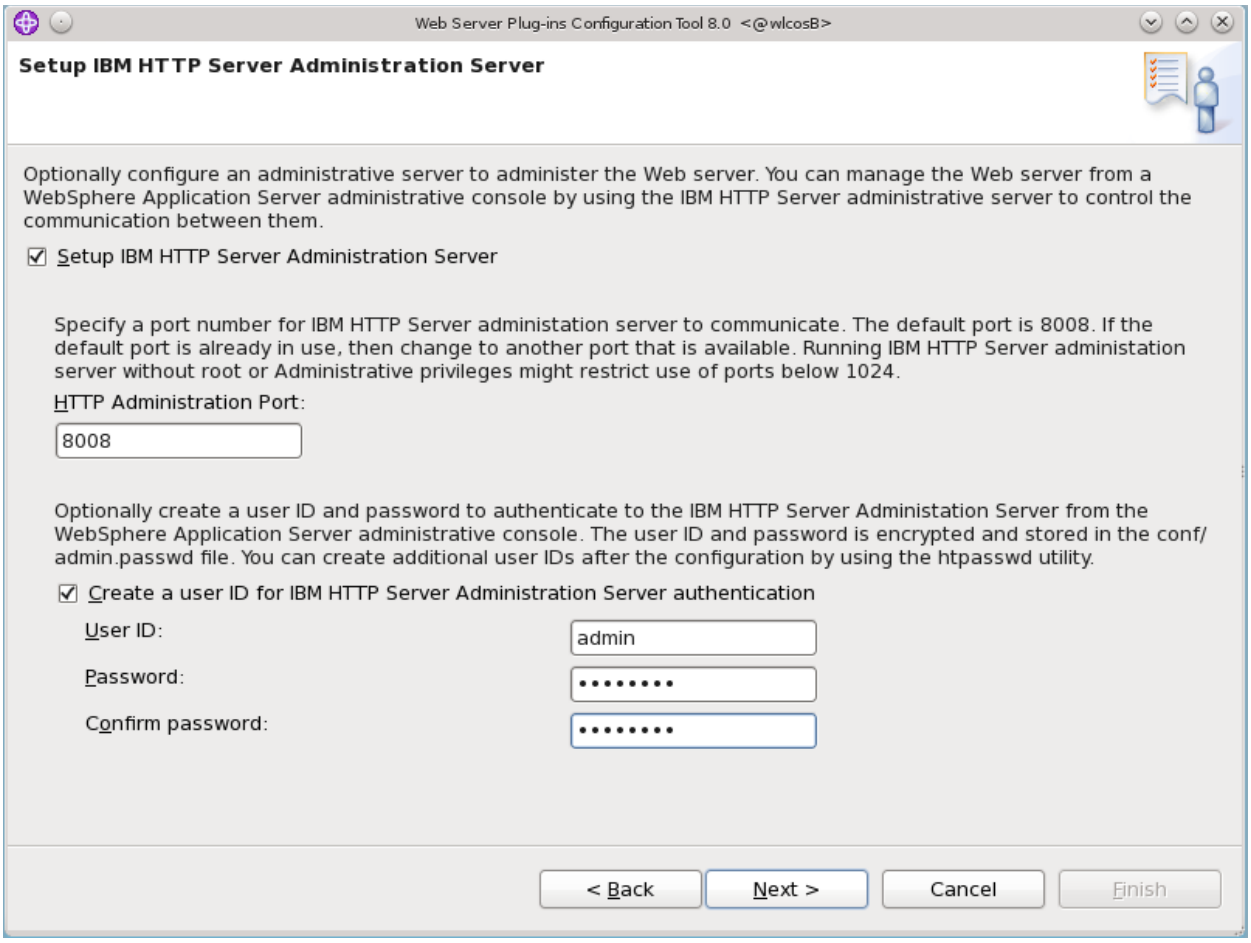
6. In the Web Server Configuration File Selection screen (Figure 9–12), click **Browse**. Browse to the `httpd.conf` file of the IBM HTTP Server that you installed. The configuration tool will make changes to this file and include the plugins needed by WebSphere Application Server.

Figure 9–12 Selecting the httpd.conf File



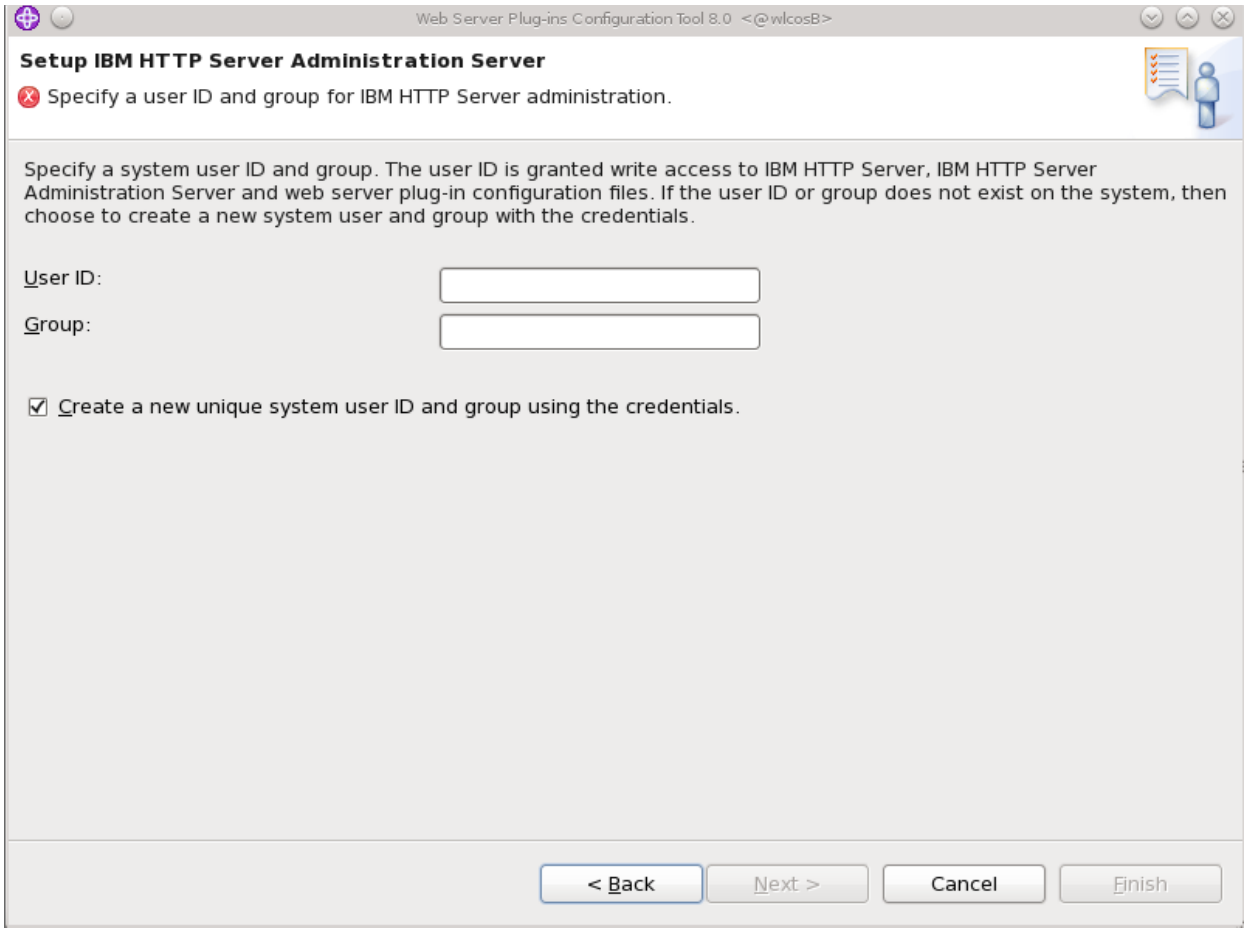
7. Set up the IBM HTTP Server Administration Server by completing the fields (Figure 9–13). Click **Next**.

Figure 9–13 HTTP Server Administration Server Setup



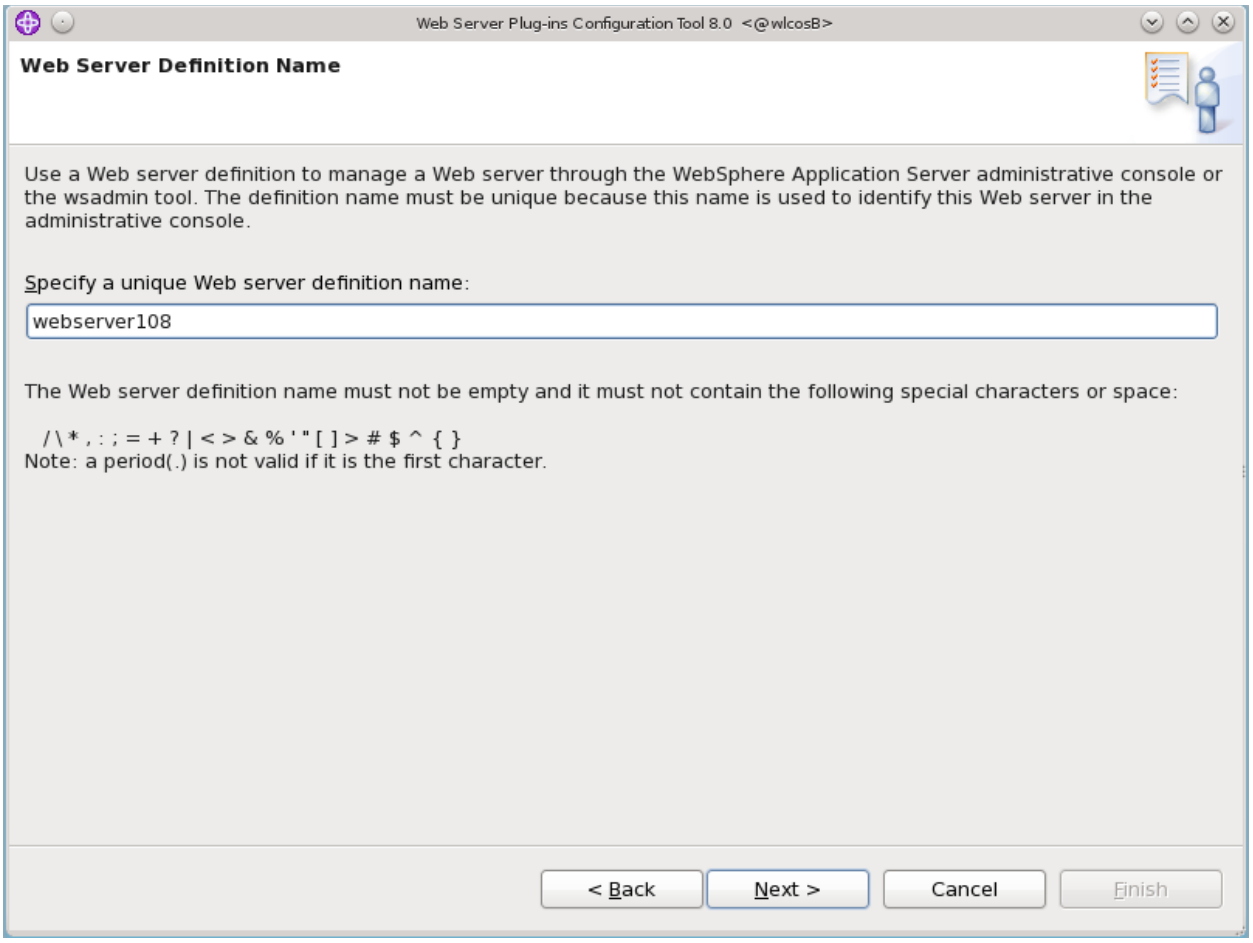
8. Enter the **User ID** and **Group** to access the administration server (Figure 9–14). Click **Next**.

Figure 9–14 Entering User ID and Group for Access



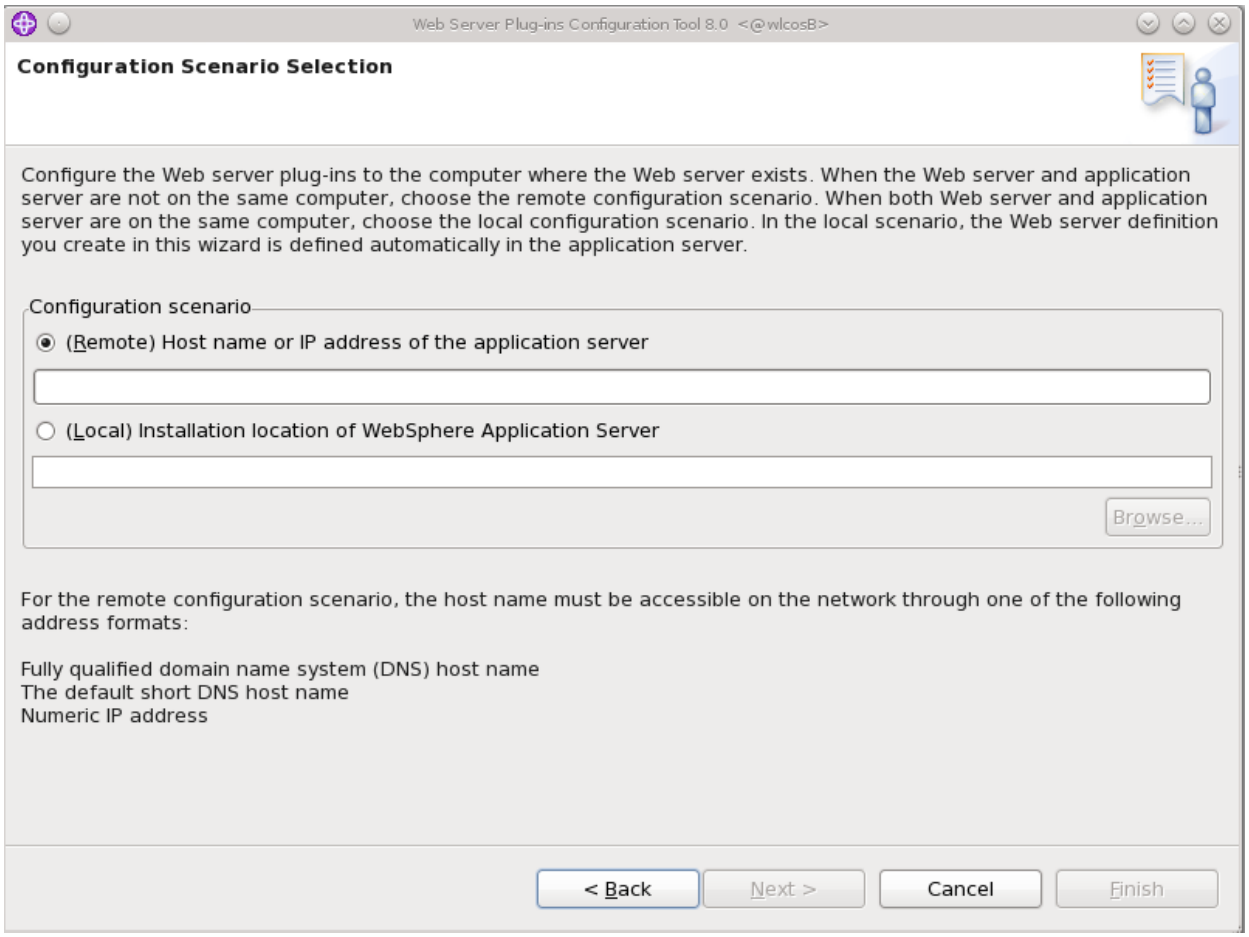
9. Specify a unique web server definition name (Figure 9–15). Click **Next**.

Figure 9–15 Entering a Unique Web Server Definition Name



10. Based on your configuration, select either **Remote** or **Local** installation location (Figure 9–16). For a Remote installation location, enter a host name or IP address. For a Local installation location, click **Browse** and select the installation location.

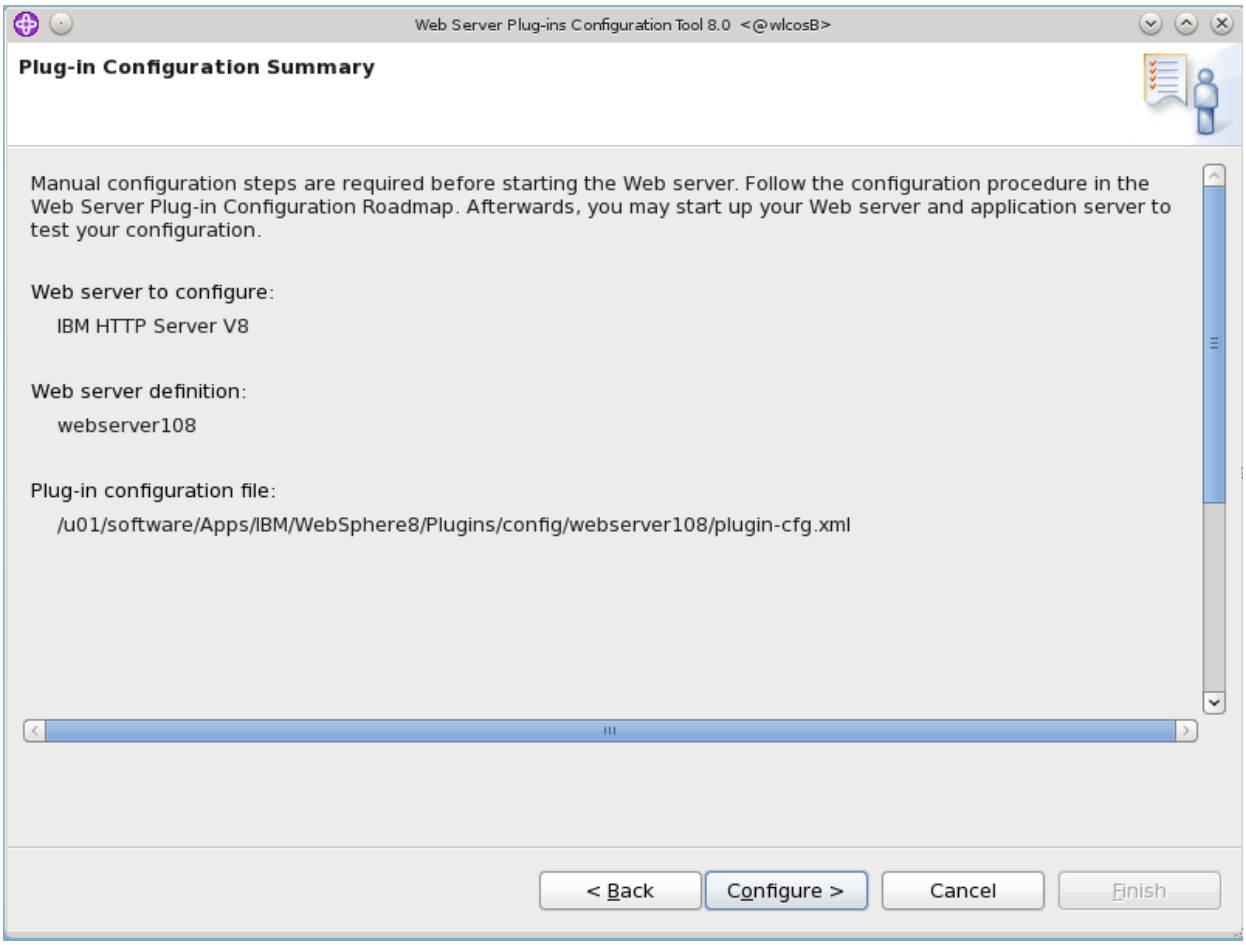
Figure 9–16 Configuring the Location



Click **Next**.

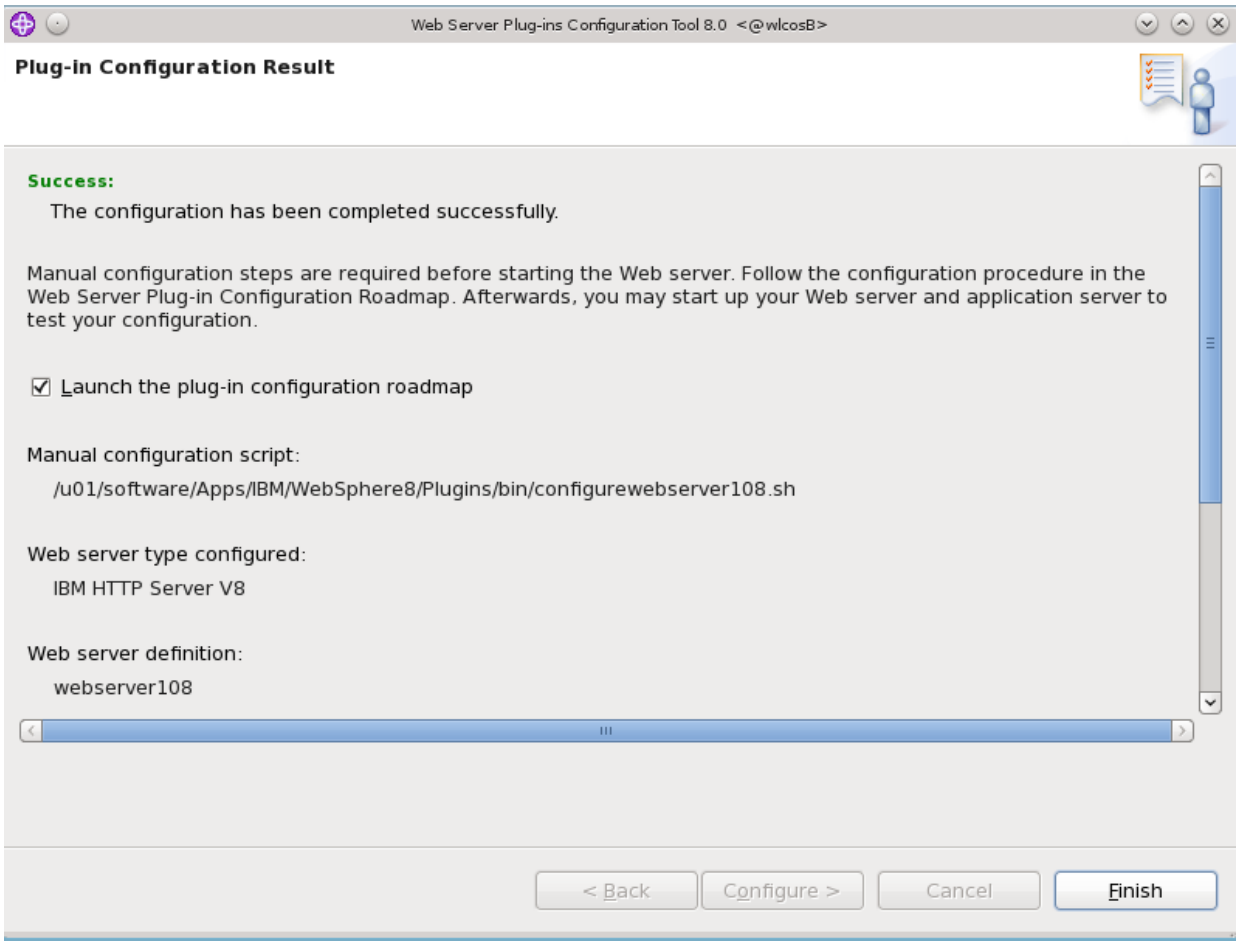
11. Review the Configuration Summary (Figure 9–17). Click **Configure**.

Figure 9–17 Plug-In Configuration Summary



12. If you selected to install a local configuration (Figure 9–18), click **Finish**.

Figure 9–18 Configuration Result



13. If you selected to install a remote configuration, additional steps are needed to complete the configuration. These steps are listed in the configuration roadmap:
    a. Select the **Launch the plug-in configuration roadmap** checkbox (Figure 9–18).
    b. Click **Finish**.

10

Installing IBM HTTP Server 7.0

This chapter contains the following sections:

Note: Keep in mind the following:

- This chapter is for WebSphere 7.0. If you are installing on WebSphere 8.0 or 8.5, see Chapter 9, "Installing IBM HTTP Server 8.0 and 8.5."
- In this chapter, IBM HTTP Server is referred to as "IHS." WebSphere Application Server is referred to as "WAS."

10.1 IBM HTTP Server 7.0 Installation Steps

1. Download the correct file, WebSphere Plugins, for your IBM operating system.
2. Extract the file to a temporary directory.
   - On UNIX: `tar -xvf <file name>`

     For example:

     ```
     gzip -d C87XTML_Plugins.tar.gz
     tar -xvf C87XTML_Plugins.tar
     ```
   - On Windows: `unzip <file name>`

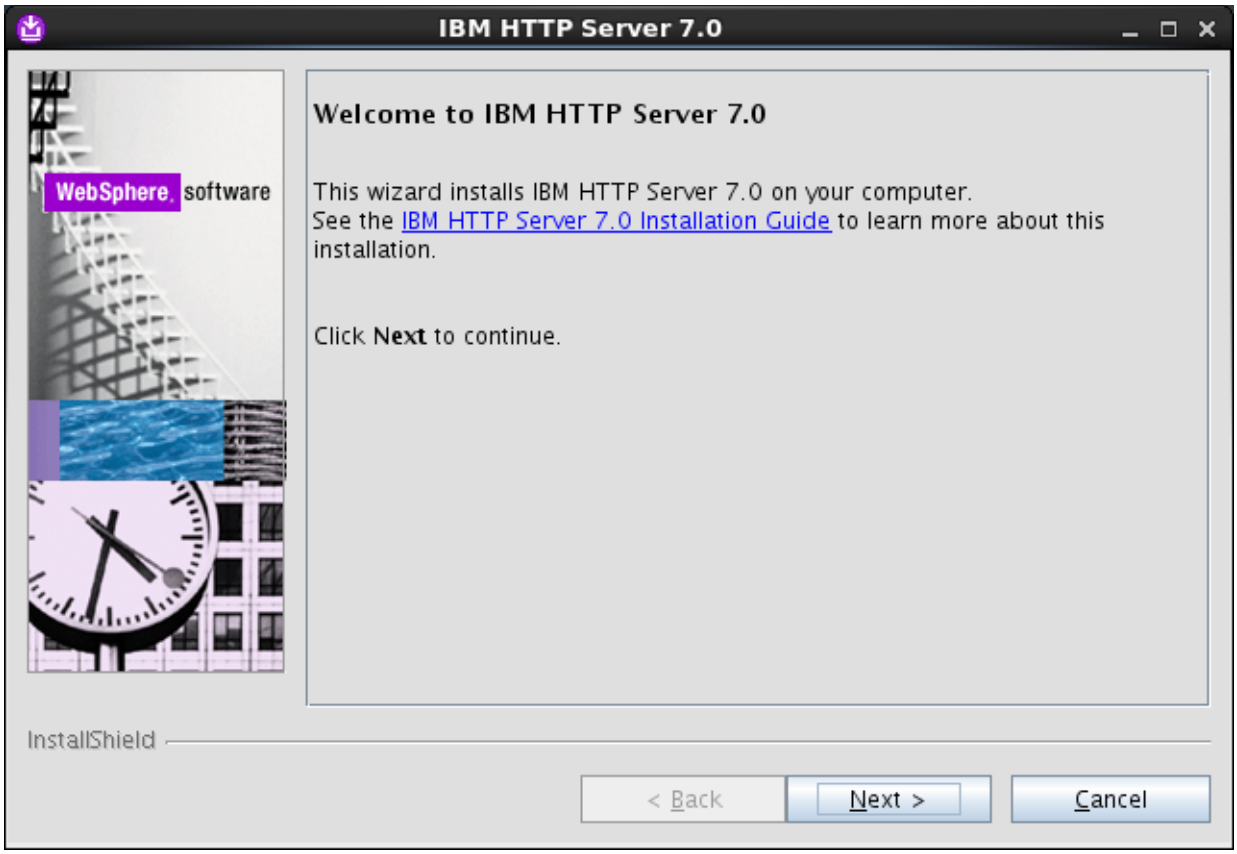
     For example:

     ```
     unzip C87XTML_Plugins.zip
     ```
3. Change the directory to `IHS/`.

   For example:

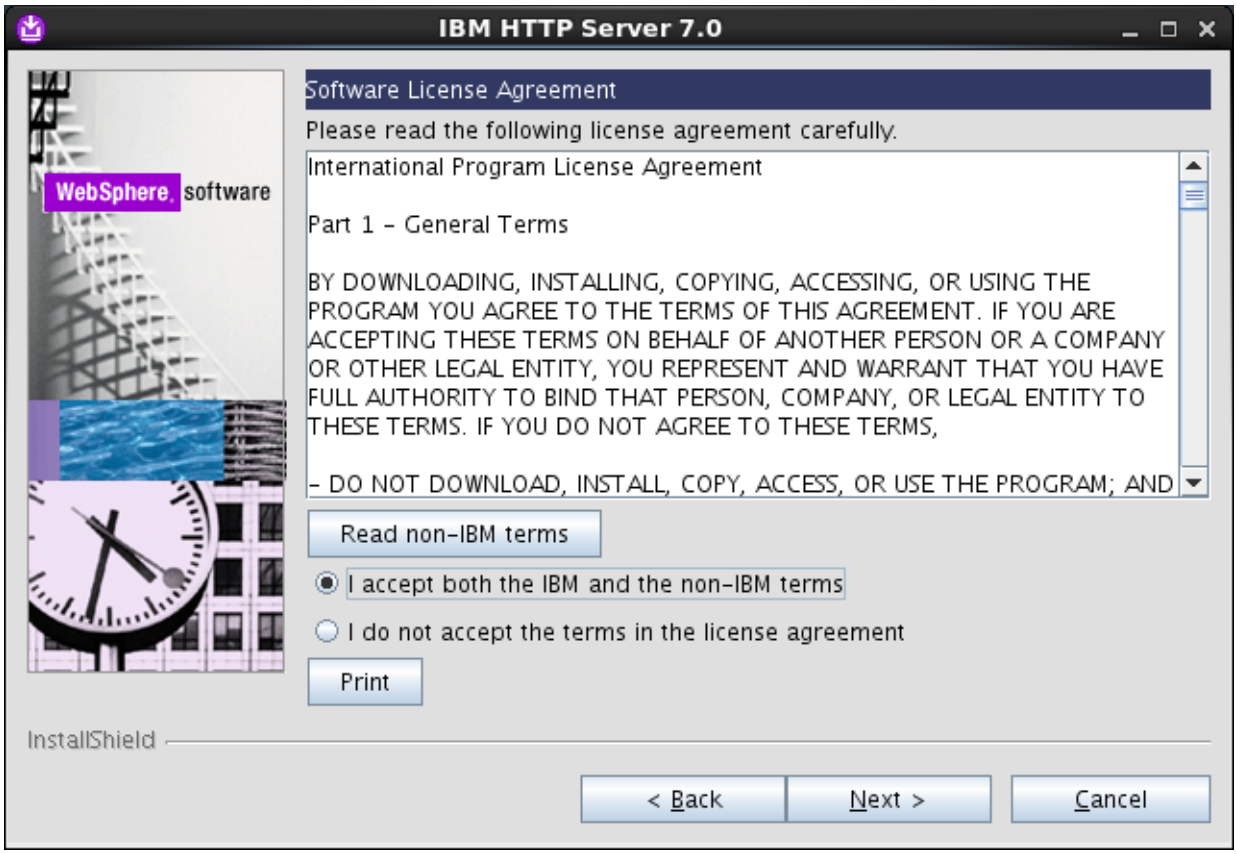
   ```
   cd IHS/
   ```
4. Run the installer:
   - For UNIX: `./install`
   - For Windows: `install.exe`
5. The "GUI" installer appears (Figure 10–1). Click **Next**.

Figure 10–1 IBM HTTP Server - Welcome Screen



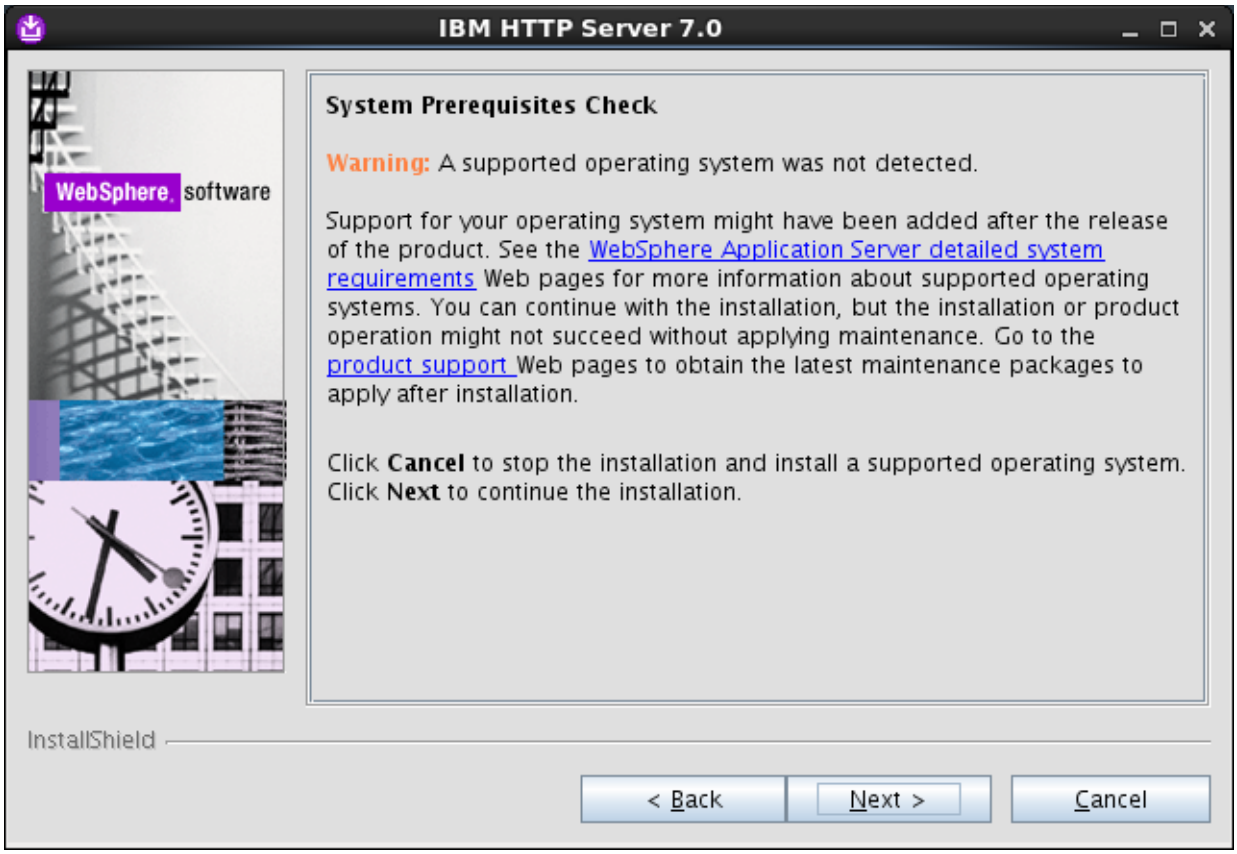
6. Click the radio button **I accept the IBM and non-IBM terms**, to accept the license agreement (Figure 10–2) and click **Next**.

Figure 10–2 Software License Agreement



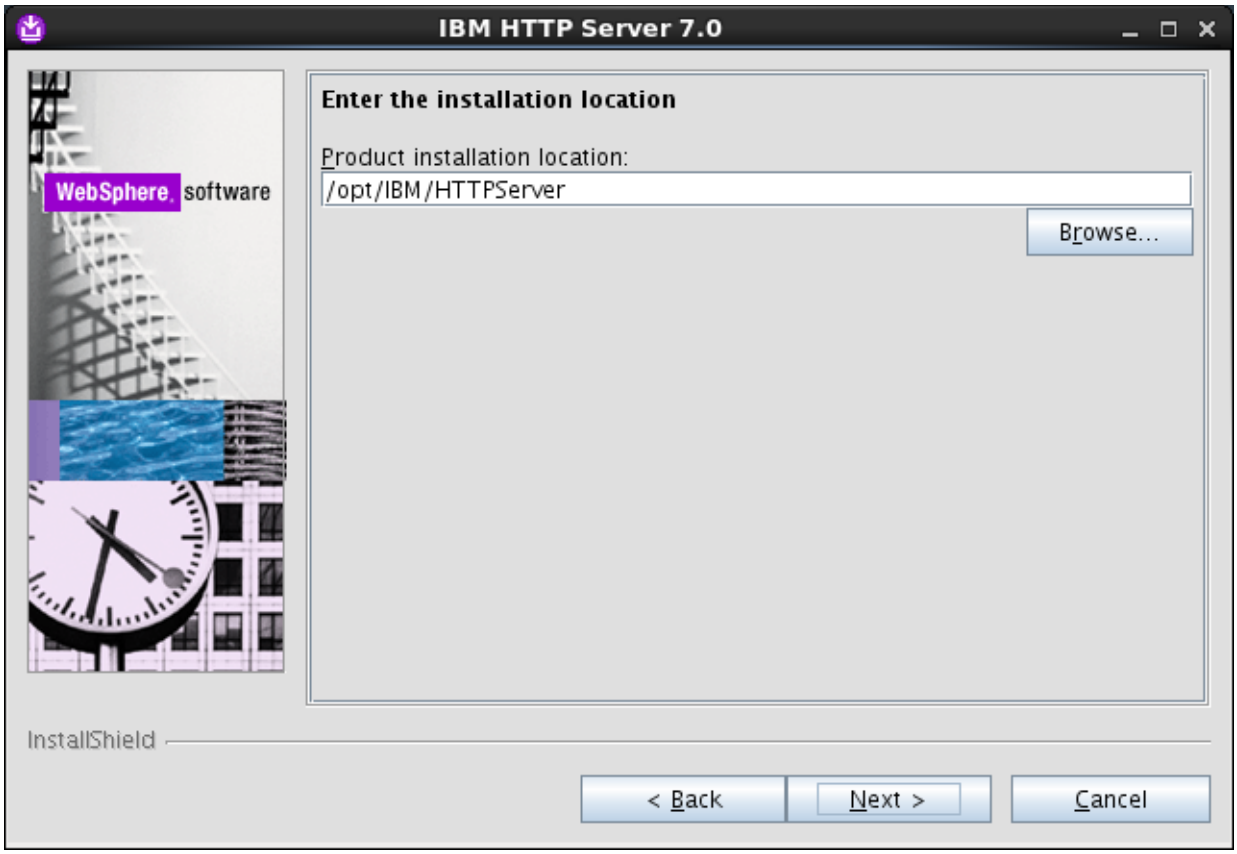
7. In the "System prerequisites check" screen (Figure 10–3) click **Next**.

Figure 10–3 System Prerequisites Check



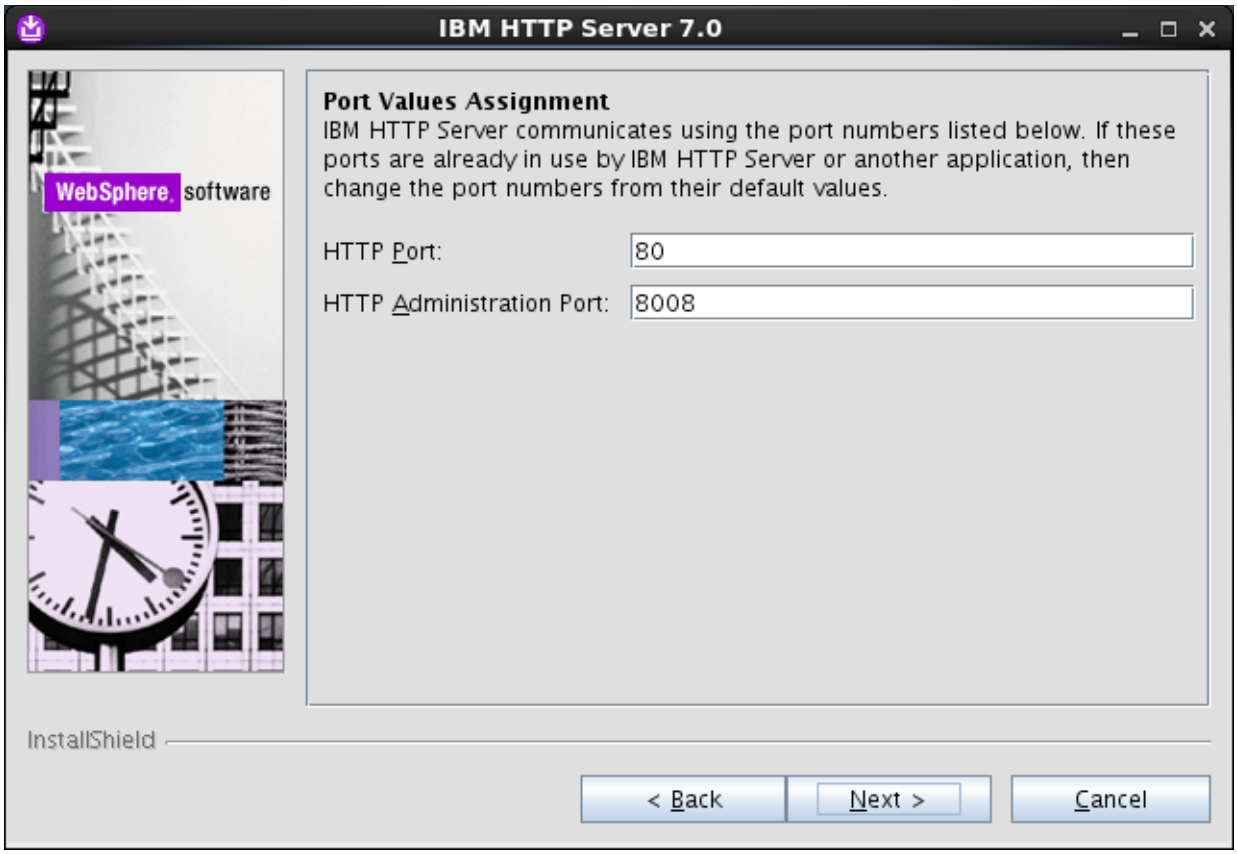
8. In the "Enter the Install location" screen (Figure 10–4), select a location to install IHS 6.1 by using the **Browse** button, then click **Next**.

Figure 10–4 Installation Location



9. In the "Port Values Assignment" screen (Figure 10–5), enter the ports on which you wish to run IHS. Then click **Next**.

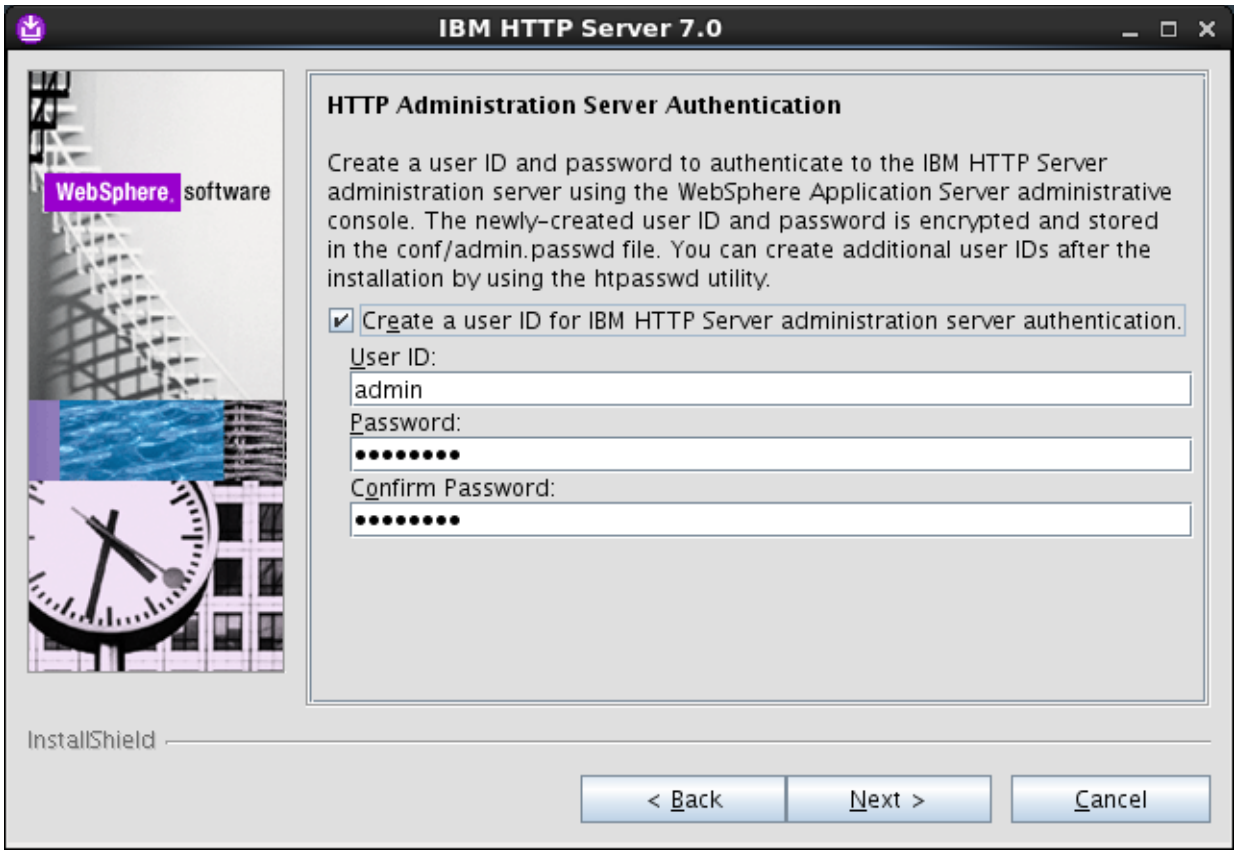
Figure 10–5 Port Values Assignment



Note: We assume throughout this chapter that you are using the default ports: `80` and `8008`. If you have changed them, replace the values given with the ports you have selected.

10. In the "HTTP Administration Server Authentication" (Figure 10–6) screen:
    a. Select **Create a user ID for IBM administration server authentication**.
    b. Fill in the fields:
       – **User ID**: `admin`
       – **Password**: `<enter and confirm>`
    c. Click **Next**.

Figure 10–6 HTTP Administration Server Authentication



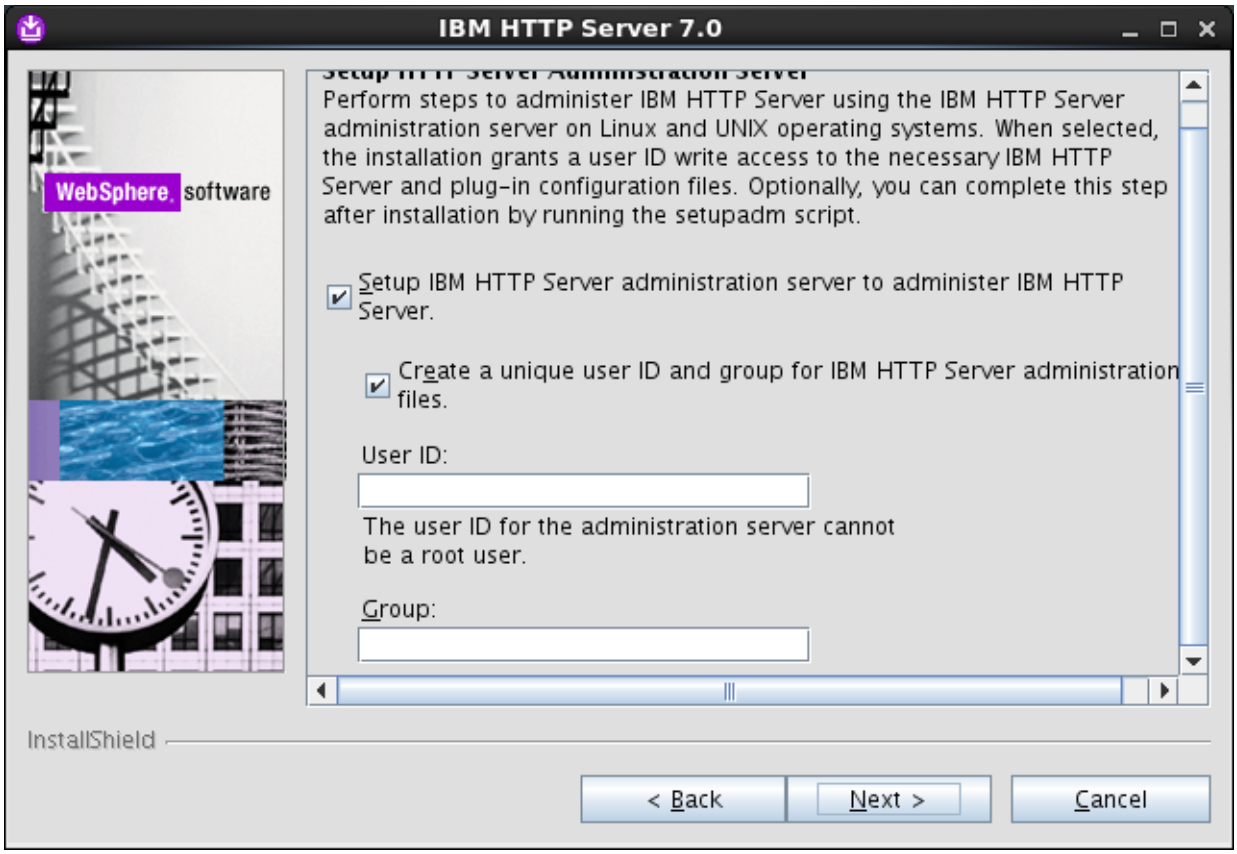
11. In the "Setup HTTP Administration Server" screen:
    a. Select:
        – **Set up IBM HTTP administration server to administer IBM HTTP Server**
        – **Create a unique ID and Group for the IBM HTTP Server administration**
    b. Fill in the fields. For example:
        – **User ID**: `ihs7`
        – **Group**: `ihs7`

Note: Record the unique name for the User ID and Group. They are needed to integrate with WAS. The User ID and Group can be anything you choose; `ihs61` is only an example.

---

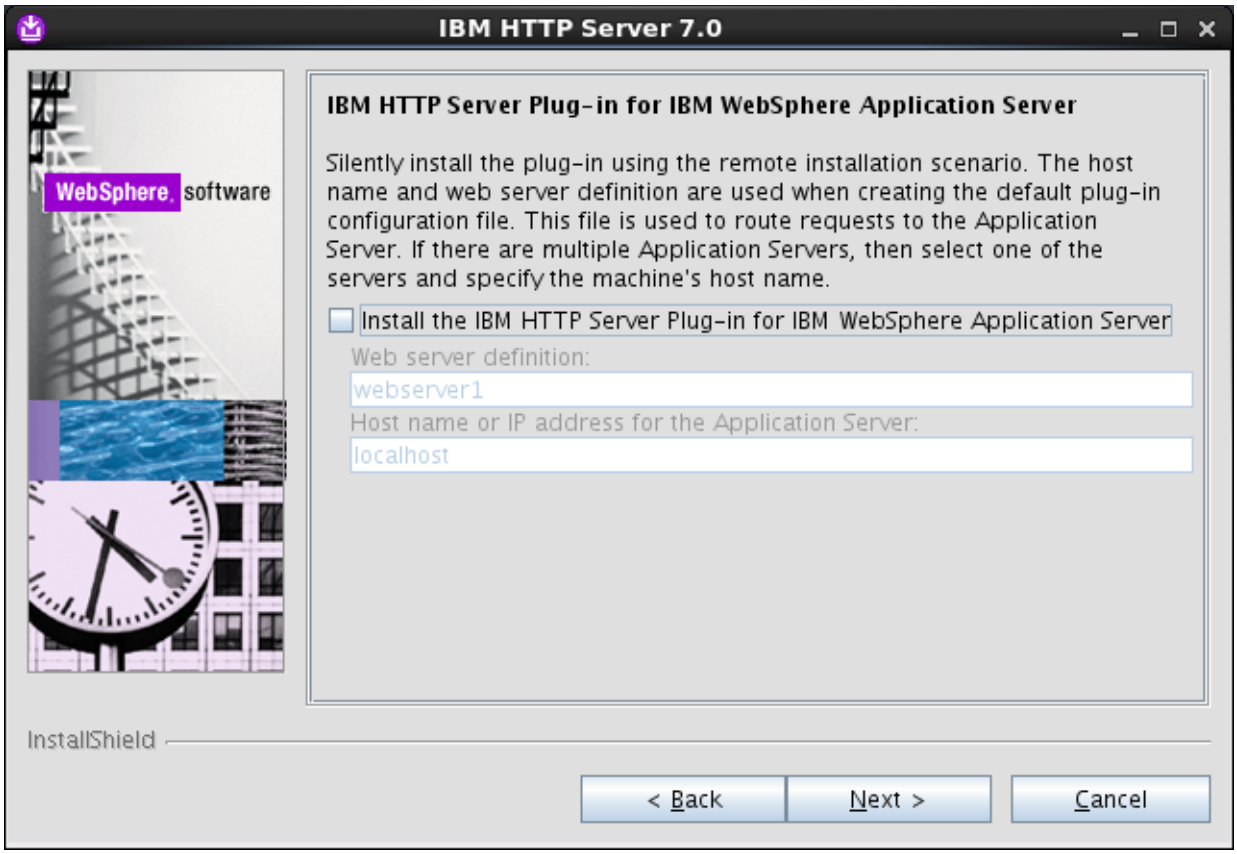
    c. Click **Next** (Figure 10–7).

Figure 10–7 Setup of IBM HTTP Server Administration Server



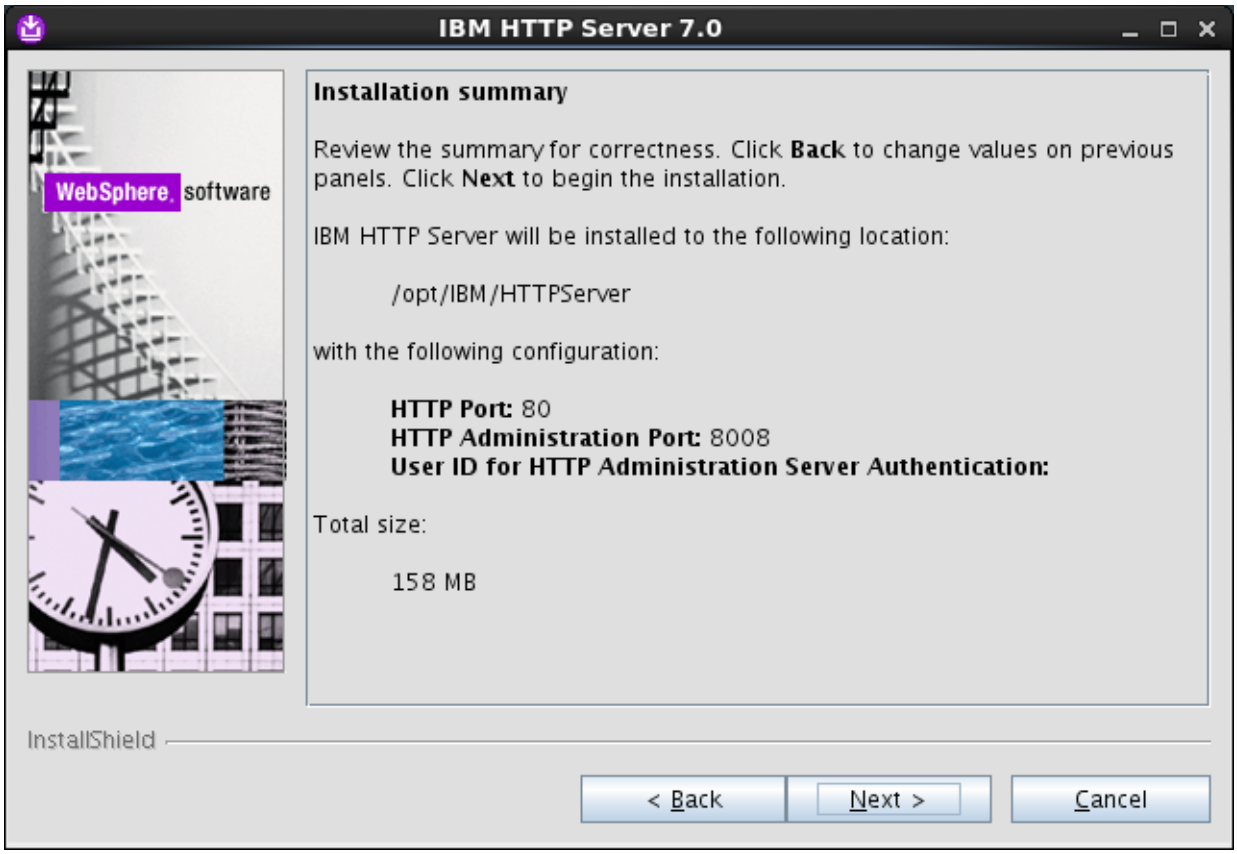
12. In the "IBM HTTP Server Plugin for IBM WebSphere Application Server" screen:
    a. Select **Install the IBM HTTP Server Plug-in for IBM WebSphere Application Server**.
    b. Fill in the fields:
        – **Web server definition**: `webserver1`
        – **Host name**: Enter the hostname on which the application server is found.
    c. Click **Next** (Figure 10–8).

Figure 10–8 IBM HTTP Server Plug - In For IBM WebSphere Application Server



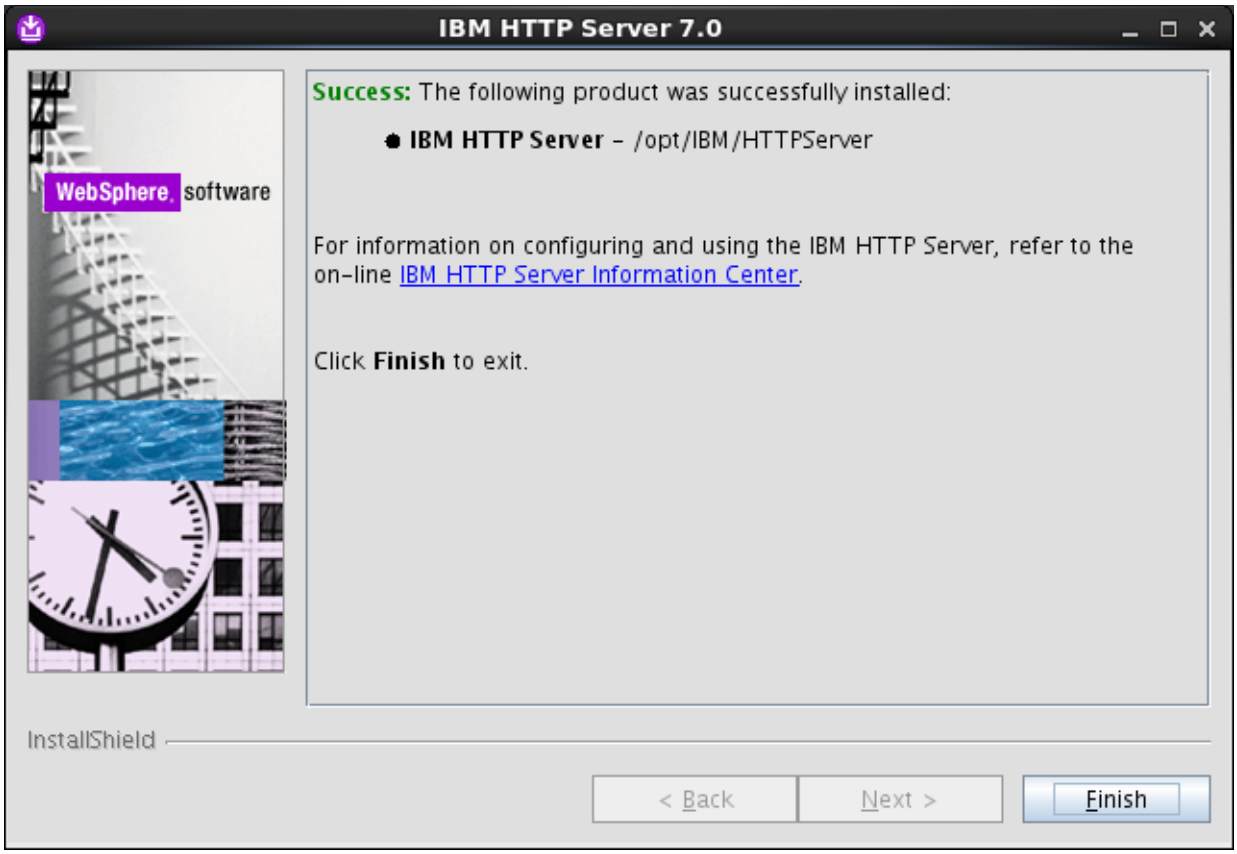
13. In the "Installation summary" screen (Figure 10–9), click **Next**.

Figure 10–9 Installation Summary



14. Allow the installer to finish.
15. When the installation is complete (Figure 10–10), click **Finish**.

Figure 10–10 Installation Successful



Note: Now, you will need to use the update installer to patch IBM HTTP Server to the same version as WebSphere. Information on using the update installer can be found on the IBM site when you download updates.You will need to update both the IHS server and the IHS plugins separately. To do so, you will need the WebSphere and the plugin fixpacks.

10.2 Installing IHS 7.0 with WebSphere Application Server on the Local Server

Note: It is preferable to perform this installation after WebCenter Sites is already installed. Then the plugin, `cfg.xml`, is automatically updated to include WebCenter Sites.

1. Browse to the WAS management console, for example:

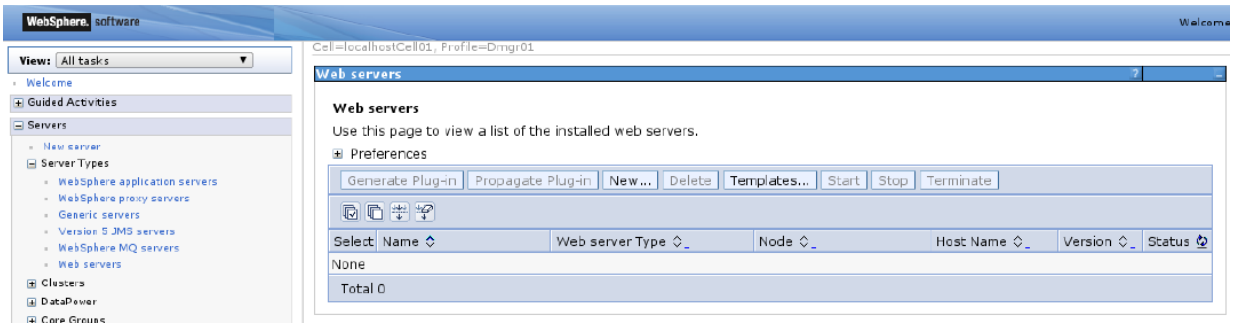
   `http://<DM_host>:<DM_console_port>/ibm/console`

   where `<DM_host>` is the host name or IP address of the Deployment Manager host and `<DM_console_port>` is the port number on which the Deployment Manager console is listening for connections.

2. Log in to the Admin Site.

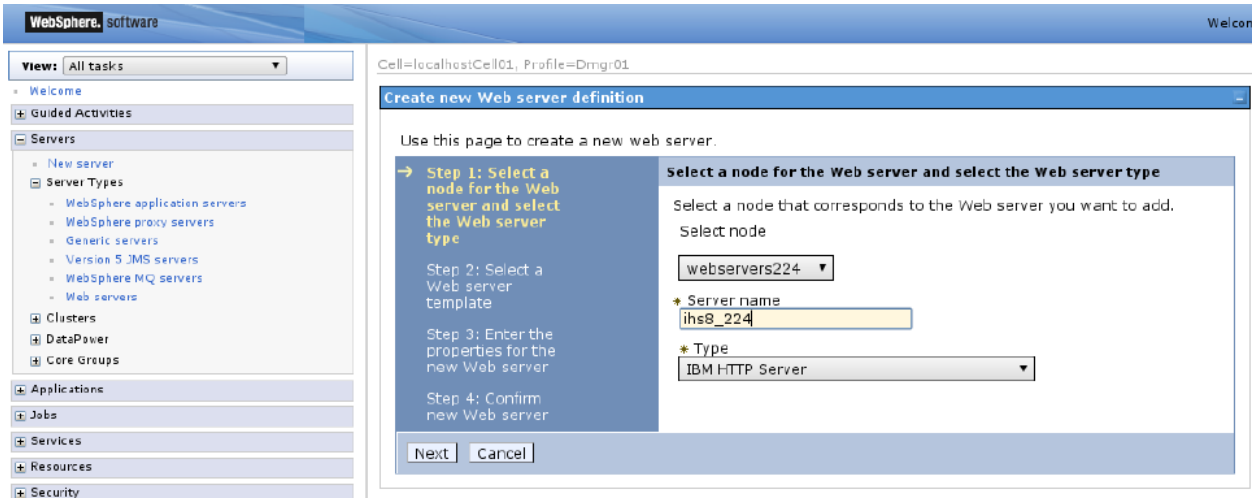
3. Select: **Servers > Web Servers** (Figure 10–11).

Figure 10–11 Web Servers



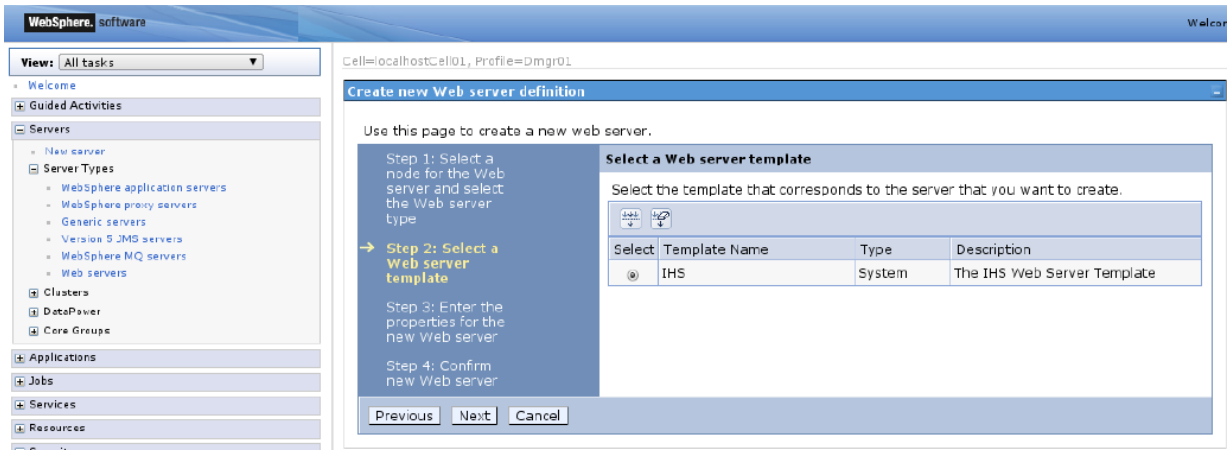
4. Click **New**.
5. To link IHS to WAS:
   a. Fill in the fields:
      - **Select node**: Select the node that you want to federate with (normally this is the node of the application server or cluster on which WebCenter Sites is installed).
      - **Server name**: Enter the unique name for this web server, which was entered when you installed IHS.
      - **Type**: Keep the type as **IBM HTTP Server**.
   b. Click **Next** (Figure 10–12).

Figure 10–12 Web Server Mode and Type



6. In the "Select a Web server template" screen (Figure 10–13) click **Next**.

Figure 10–13 Web Server Template

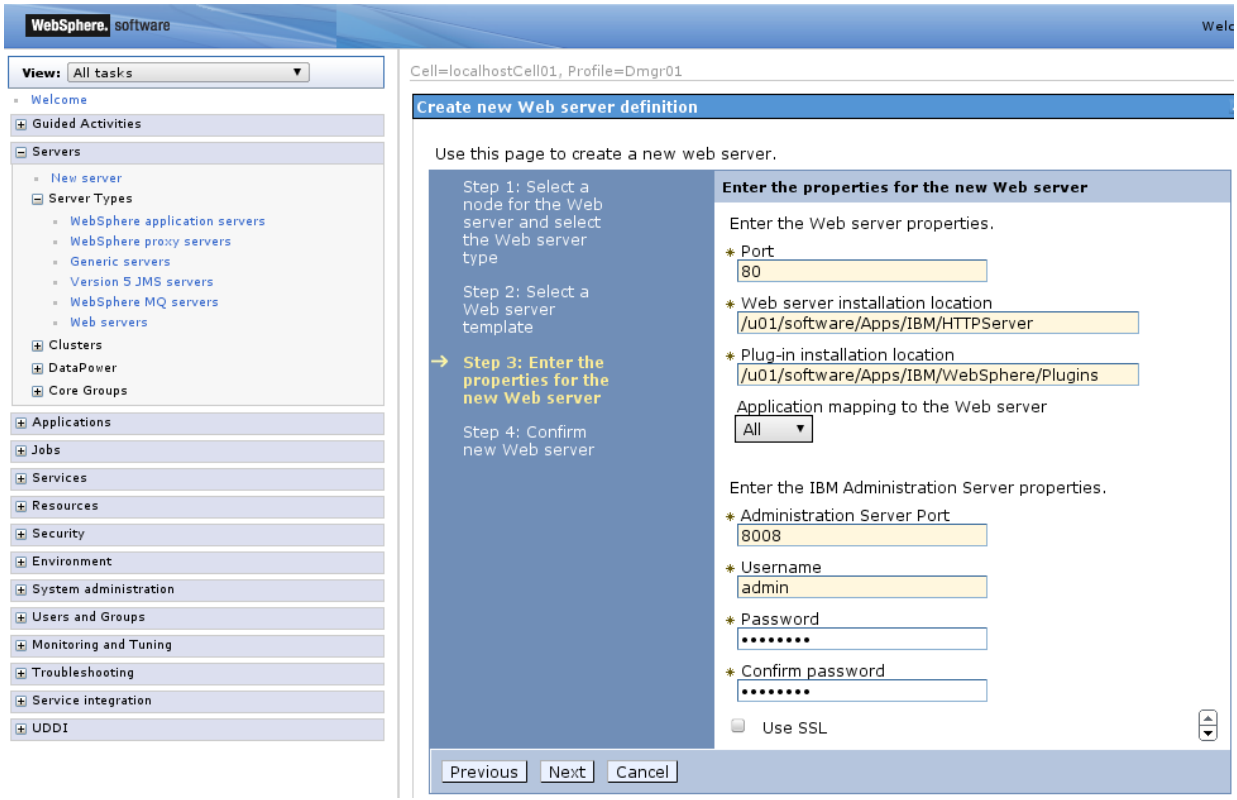


7. On the "Property Page" (Figure 10–14):

   a. Ensure that all entries are correct. The only entries that typically need to be changed are the locations for the IHS server and the Plugin Directory.

   b. Click **Next**.

Figure 10–14 Properties for the New Web Server

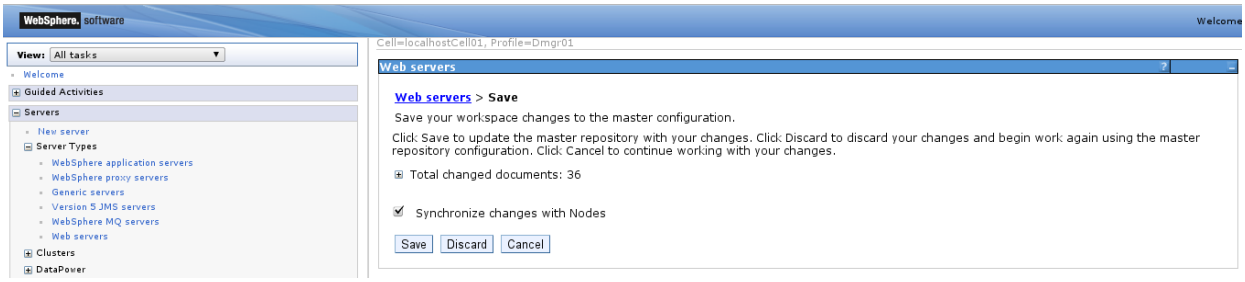


8. Confirm the new Web server (Figure 10–15), then click **Finish**.

Figure 10–15 New Web Server Confirmation

9. Save the changes as requested (Figure 10–16).

Figure 10–16 Save the Changes to the Web Server



10. You can now start and stop the web server from the WAS console, using the Web servers selection.

11

Installing Microsoft Internet Information Services 8.0 on Windows 2012 Server

This chapter explains how to install and test Microsoft's Internet Information Services (IIS) 8.0 on Windows 2012 Server.

This chapter contains the following sections:

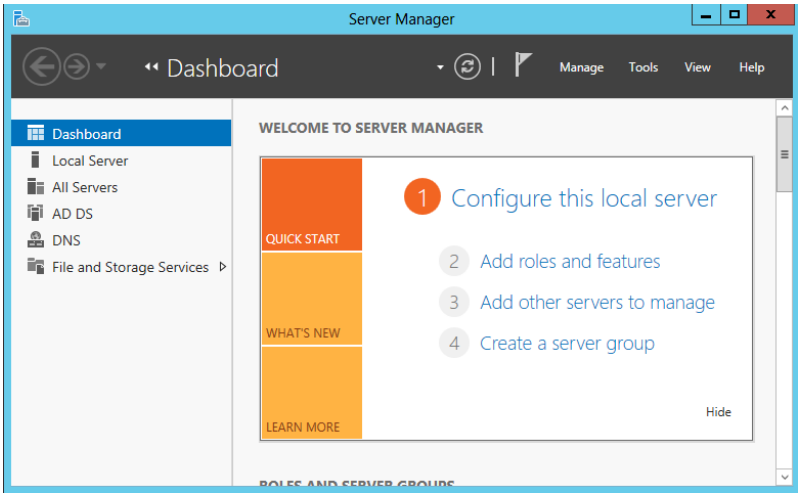
11.1 Installing IIS 8.0

If Internet Information Services is not installed or is only partially installed, follow Microsoft's instruction for installing IIS 8.0 on Windows 2012 Server.

The following is a summary of the instructions:

1. From the "Server Manager," click **Add roles and features** (Figure 11–1).

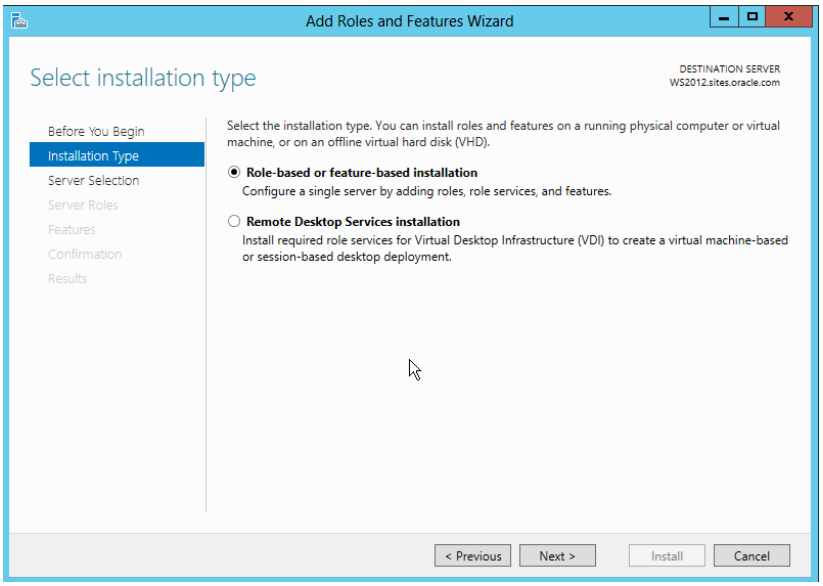
Figure 11–1 Server Manager Dashboard



2. In the "Before You Begin" screen, click **Next**.

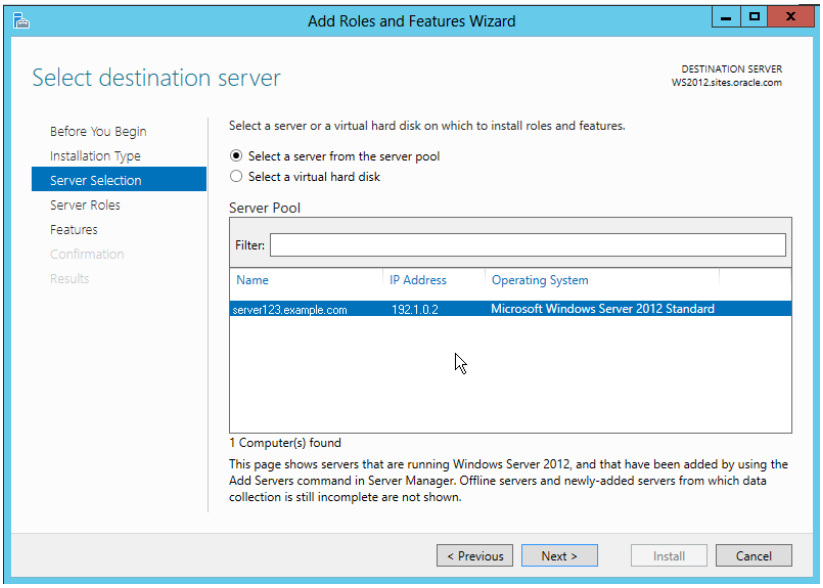
3. In the "Select installation type" screen, select **Role-based or feature-based** installation (Figure 11–2) and then click **Next**.

Figure 11–2 Select Installation Type



4. In the "Select destination server" screen (Figure 11–3), select the destination server where IIS will be installed.

Figure 11–3 Select Destination Server

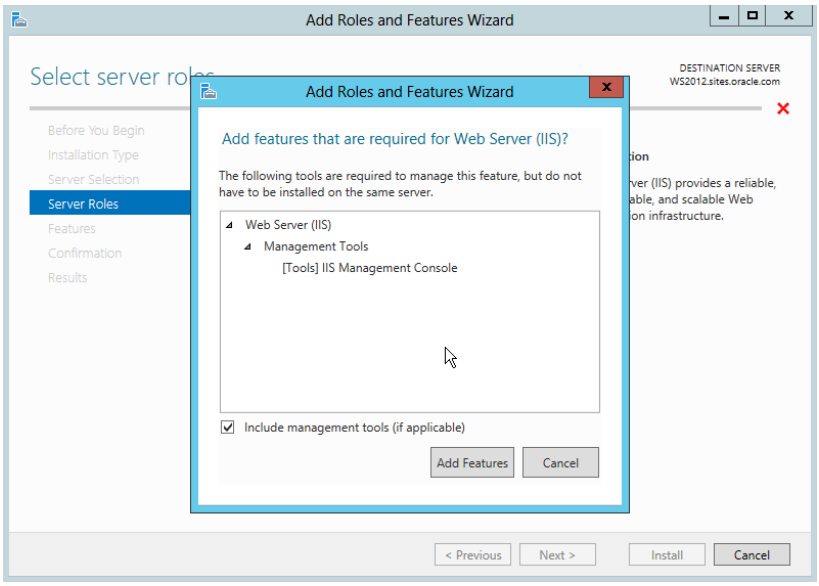


5. In the "Server Roles" section, select **Web Server IIS**.

   The "Add Roles and Features Wizard" window opens.

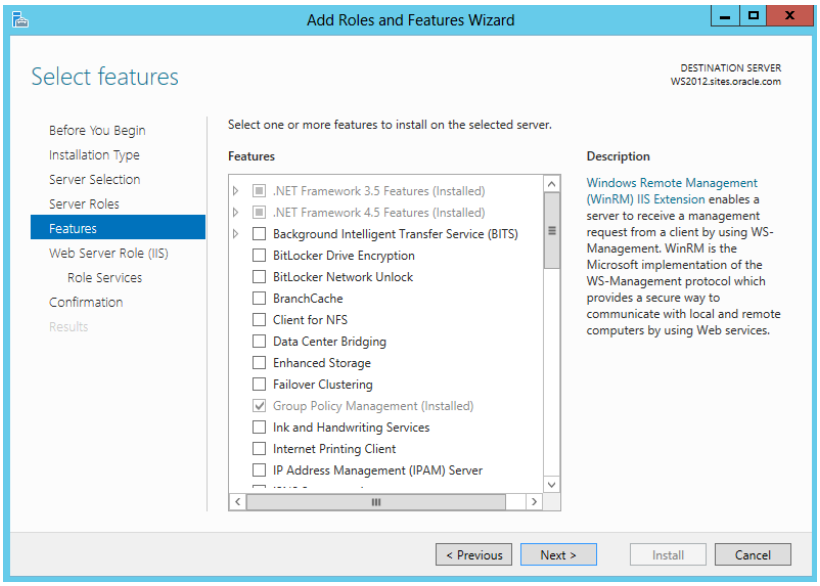
6. In the "Add Roles and Features Wizard" window (Figure 11–4), click **Add Features**.

Figure 11–4 Add Roles and Features Wizard



7. In the "Select features" screen (Figure 11–5), click **Next**.

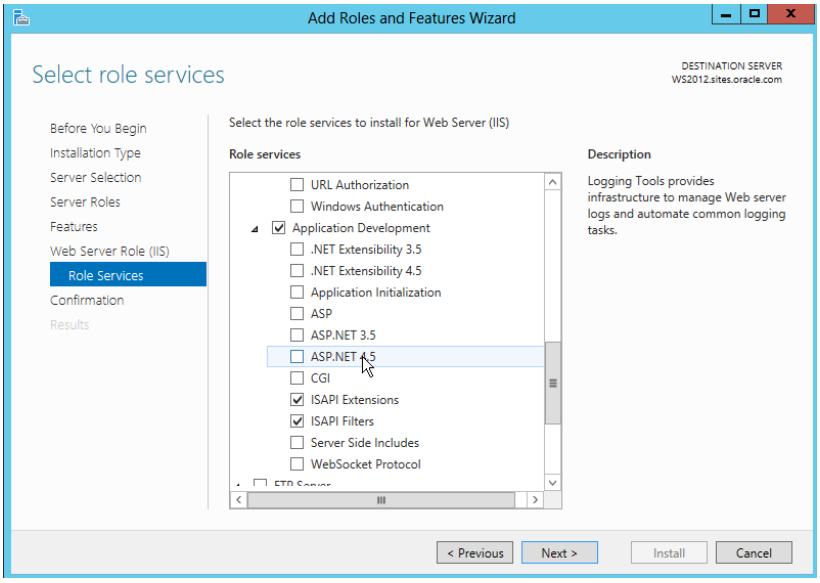
Figure 11–5 Select Features



8. In the "Role Services" screen (Figure 11–6), ensure that the following are selected:
   - Common HTTP Features
     - HTTP Redirection
   - Health and Diagnostics
     - HTTP Logging
   - Application Development
     - ISAPI Extensions
     - ISAPI Filters

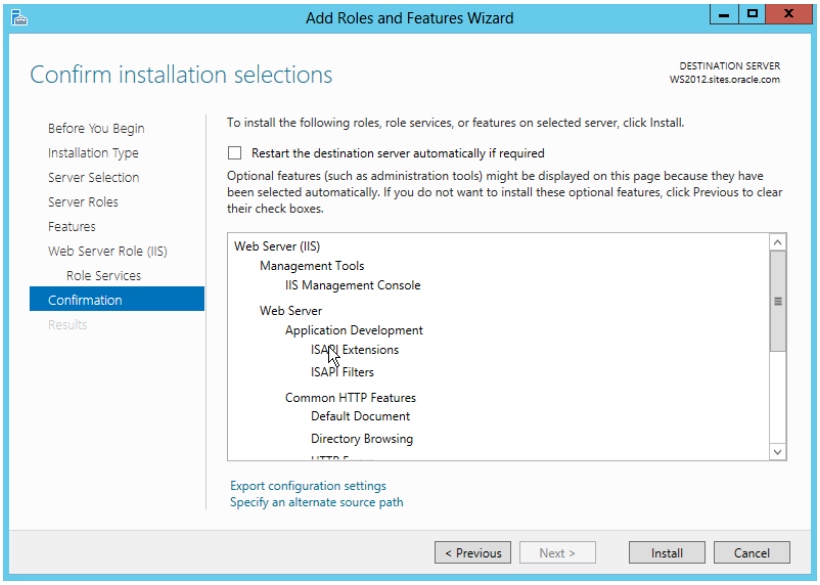
- Management Tools
  - IIS Management Console

Figure 11–6 Select Role Services



9. Confirm you selection (Figure 11–7) and click **Install** to complete the installation.

Figure 11–7 Confirm Installation Selections



11.2 Verifying the Installation

After installing IIS, verify the installation to determine whether IIS is serving pages properly. Test the installed IIS from the server hosting it as well as from another browser on the network.

To verify that IIS is serving pages

1. Start a browser on the host that IIS is running on.
2. From the browser, go to the following URL: `http://localhost/`

   IIS is installed and running if the browser displays the "IIS 8" page (Figure 11–8).

Figure 11–8 IIS 8

11.3 Starting and Configuring IIS 8.0

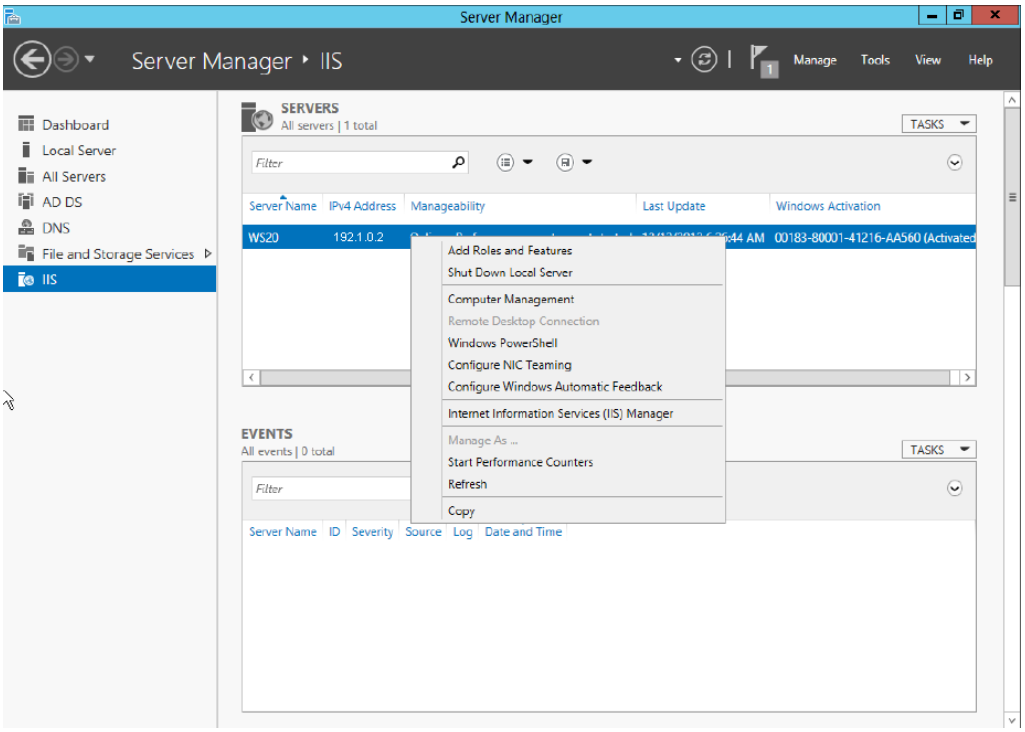
This section contains instructions on the following:

- Section 11.3.1, "Starting and Configuring IIS Manager"
- Section 11.3.2, "Changing the IIS Port"
- Section 11.3.3, "Adding a New ISAPI Filter"

11.3.1 Starting and Configuring IIS Manager

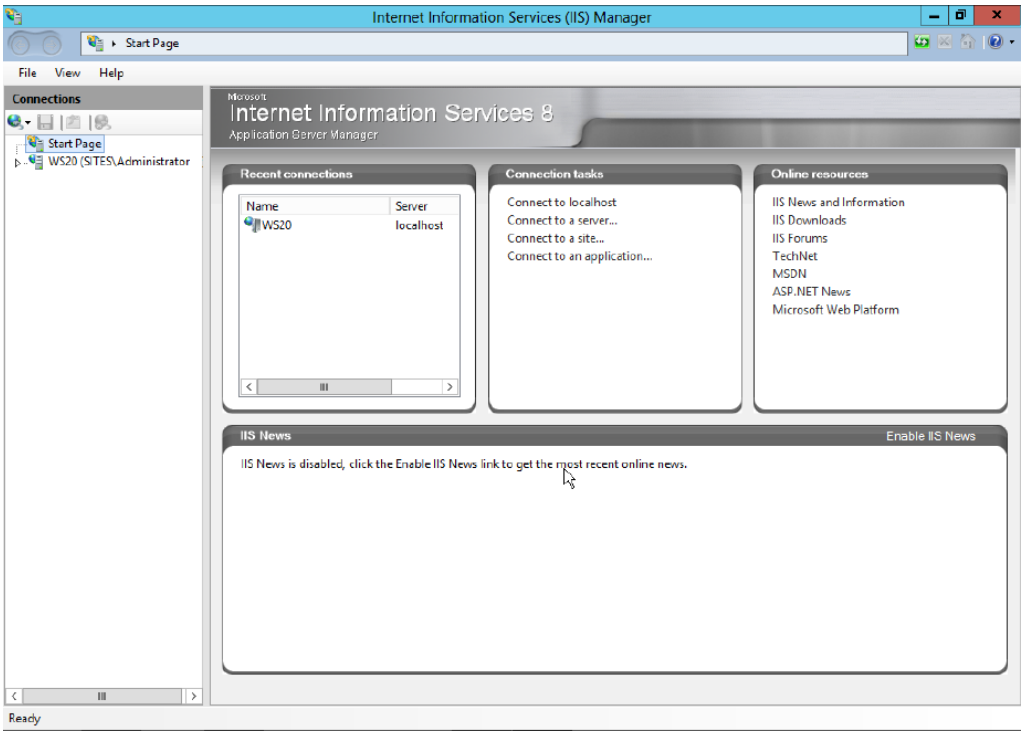
1. From the "Server Manager" dashboard, select your IIS server.
2. Right-click your server's name and then click the **Internet Information Service (IIS) Manager** (Figure 11–9).

Figure 11–9 Server Manager



The IIS Manager opens (Figure 11–10).

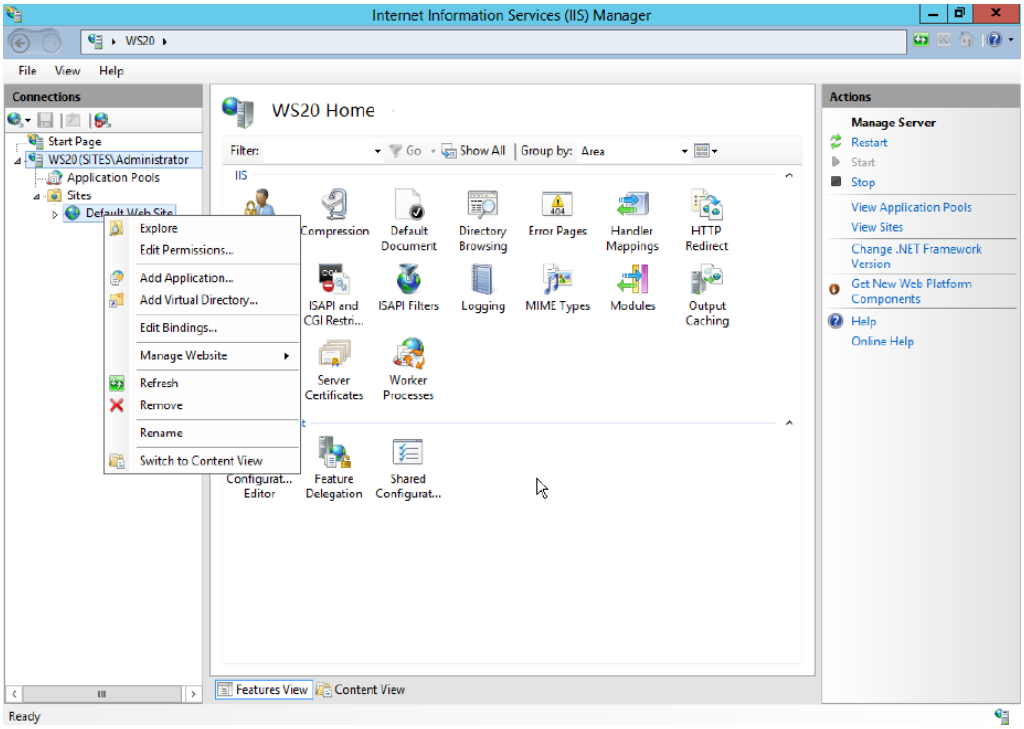
Figure 11–10 Internet Information Services (IIS) Manager



11.3.2 Changing the IIS Port

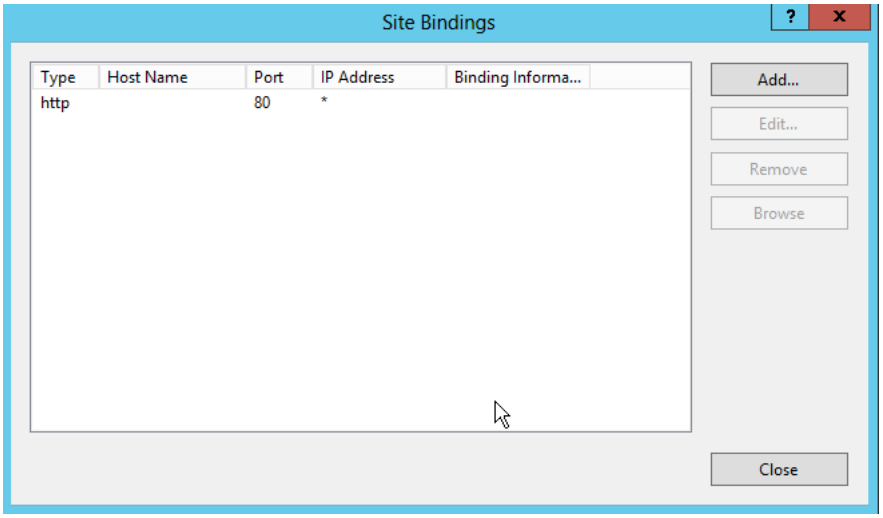
1. Open the "Management Console" and browser to the Default Web Site.
2. Right-click the **Default Web Site** entry (Figure 11–11) and select **Edit Bindings**.

Figure 11–11 Default Web Site Entry



3. In the "Site Bindings" dialog box (Figure 11–12), you can add or change the ports and IP address on the server IIS will bind.

Figure 11–12 Site Bindings

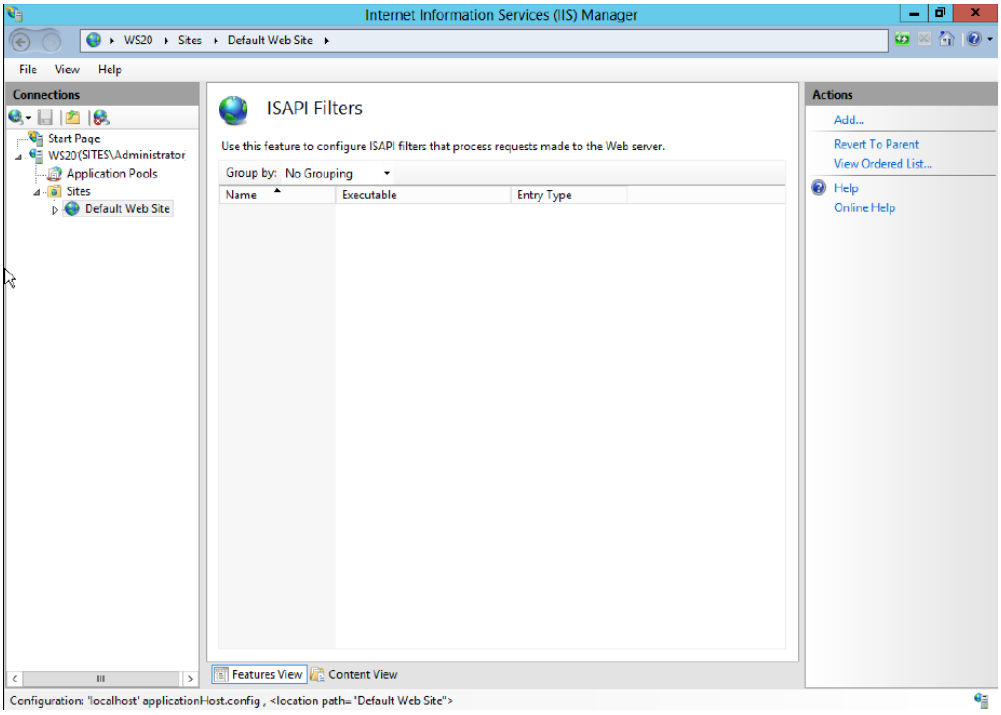


4. After all the desired changes have been made, click **Close**.

11.3.3 Adding a New ISAPI Filter

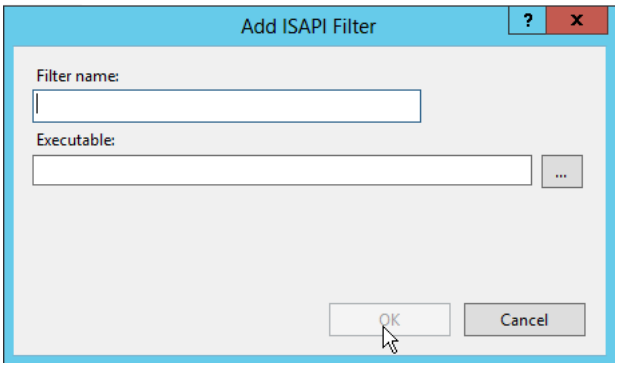
1. Open the "Management Console" and browser to the Default Web Site.
2. In the center list, click **ISAPI Filters** and then click **Add** (Figure 11–13).

Figure 11–13 ISAPI Filters



The "Add ASAPI Filter" dialog box opens (Figure 11–14).

Figure 11–14 Add ISAPI Filter



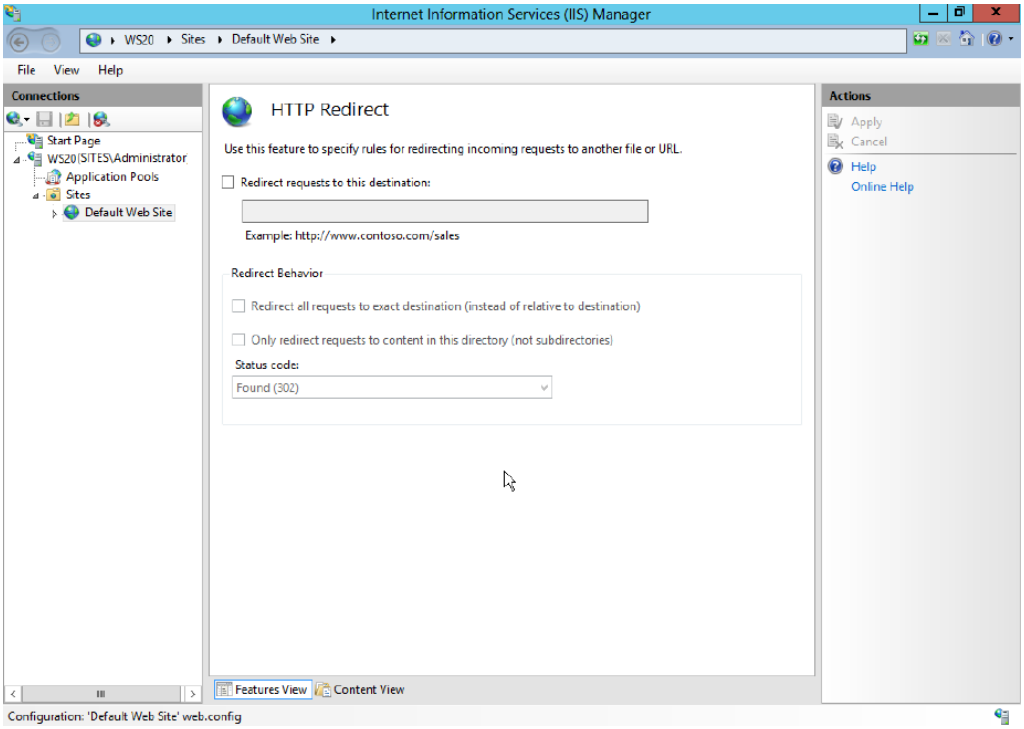
3. In the "Add ISAPI Filter" dialog box, fill in the following fields:
   - **Filter Name** – Enter a filter name.
   - **Executable** – Enter the location of the executable file.

   The new filter is added to the "ISAPI Filters" list.

11.4 Proxing Using IIS 8.0

1. Open the "Management Console" and browser to the Default Web Site.
2. In the center list, click **HTTP Redirect**.
3. In the center panel of the "Internet Information Services (IIS) Manager (Figure 11–15)," do the following:
   a. Select the **Redirect requests to this destination** option.
   b. In the text field (directly under the **Redirect requests to this destination** option), enter the location of the remote server (include the context root for WebCenter Sites or Satellite Server).
   c. Click **Apply**.

Figure 11–15 HTTP Redirect



12

Installing Microsoft Internet Information Services 7.*x* on Windows 2008 Server

This chapter explains how to install and test Microsoft's Internet Information Services (IIS) 7.0/7.5 on Windows 2008 Server.

This chapter contains the following sections:

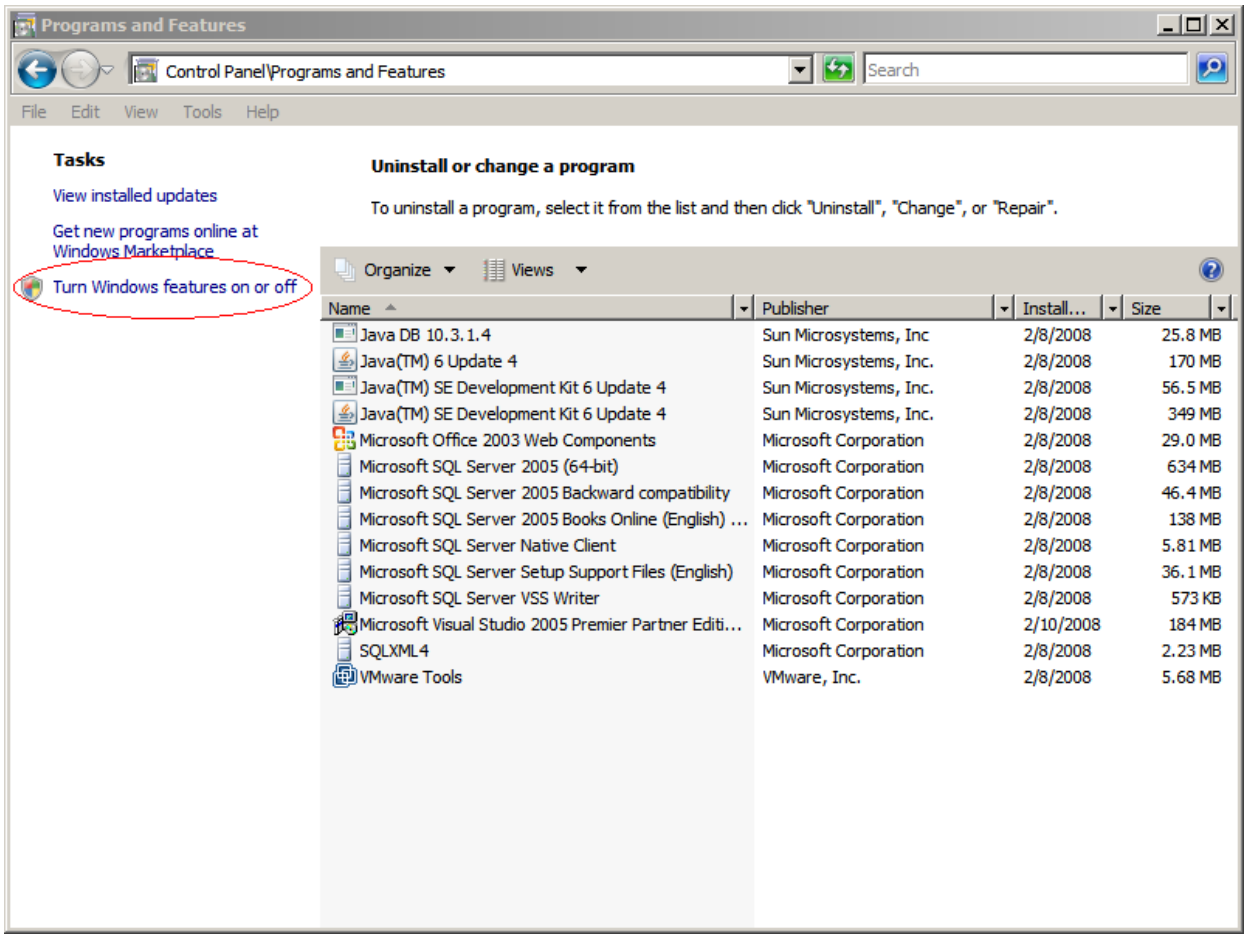
12.1 Installing IIS 7.*x*

If IIS is not installed or is only partially installed, follow Microsoft's instruction for installing either IIS 7.0 on Windows 2008 Server or IIS 7.5 on Windows 2008 R2 Server.

Here is a summary of the instructions:

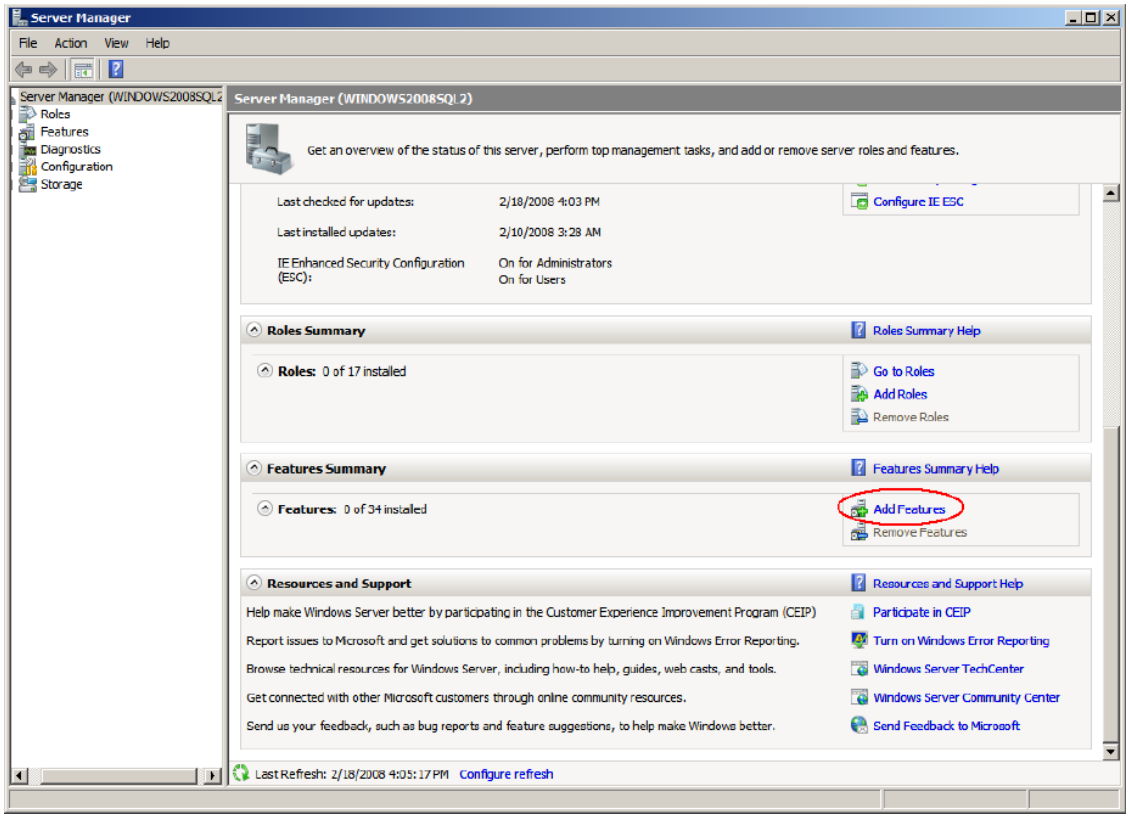
1. Select **Start > Settings > Control Panel**.
2. Select **Programs and Features**
3. Select **Turn Windows features on or off** (Figure 12–1).

Figure 12–1 Turn Windows Features On or Off



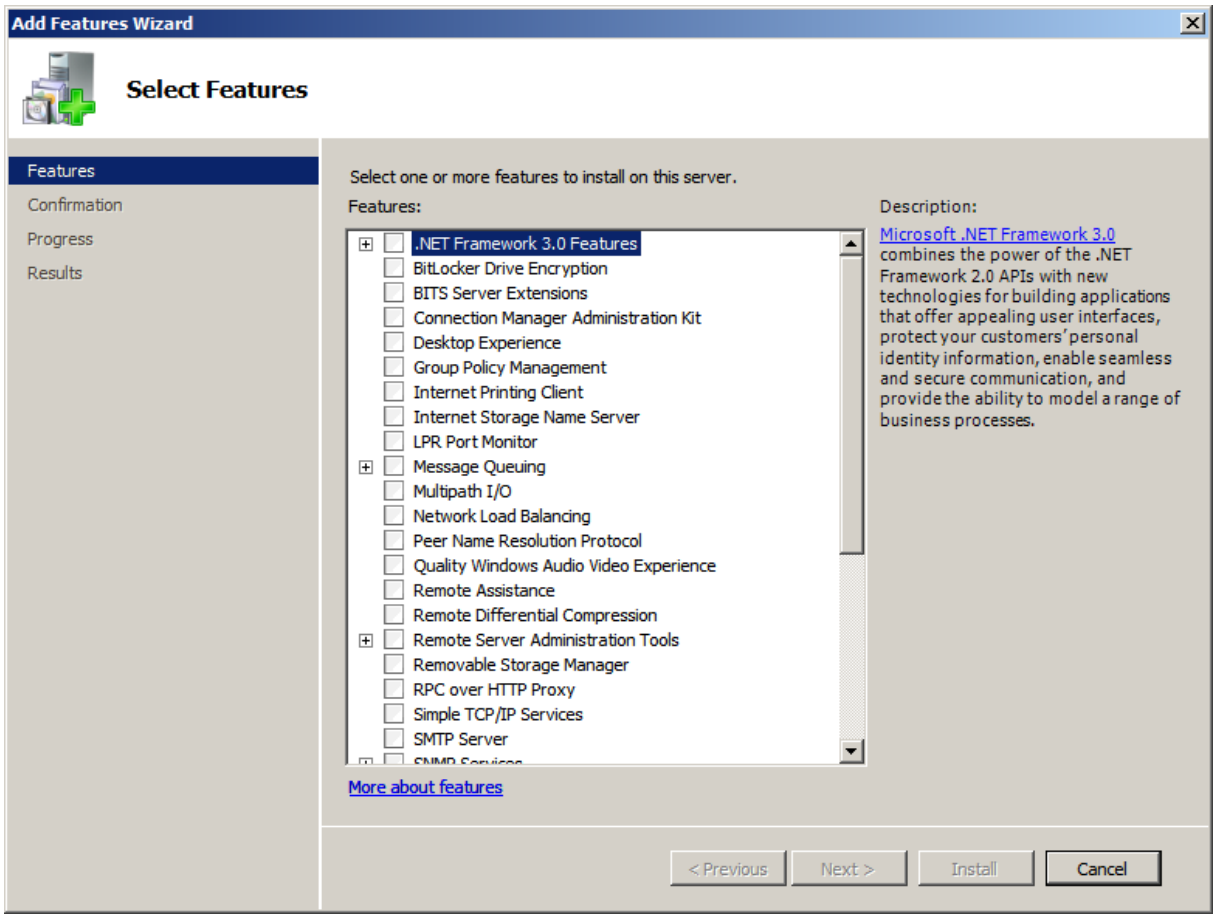
4. In the "Server Manager" window (Figure 12–2), scroll down to the "Features Summary" section and click **Add Features**.

Figure 12–2 Server Manager - Add Features



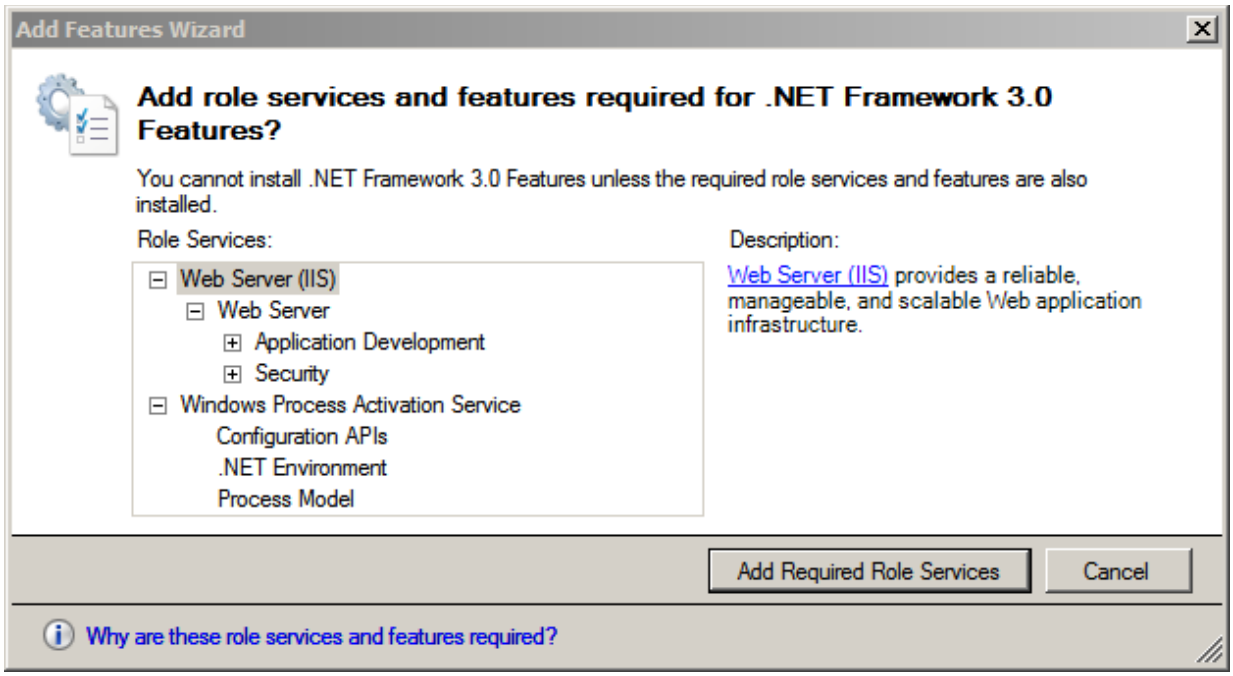
5. In the "Select Features" screen (Figure 12–3), select **.NET Framework 3.0 Features**.

Figure 12–3 Select Features



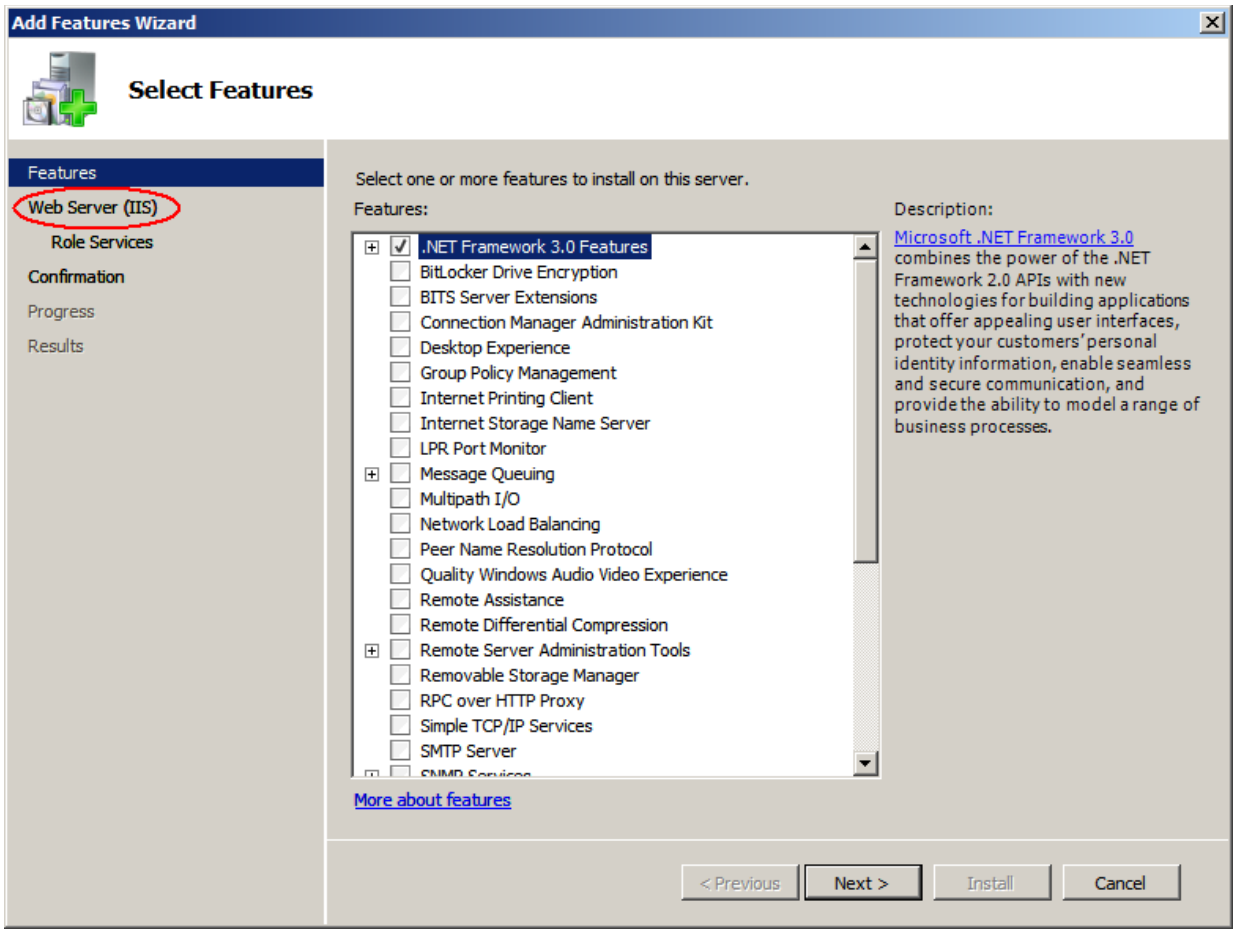
6. In the "Add Features Wizard" dialog box (Figure 12–4), select **Add Required Role Services**.

Figure 12–4 Add Required Role Services Button



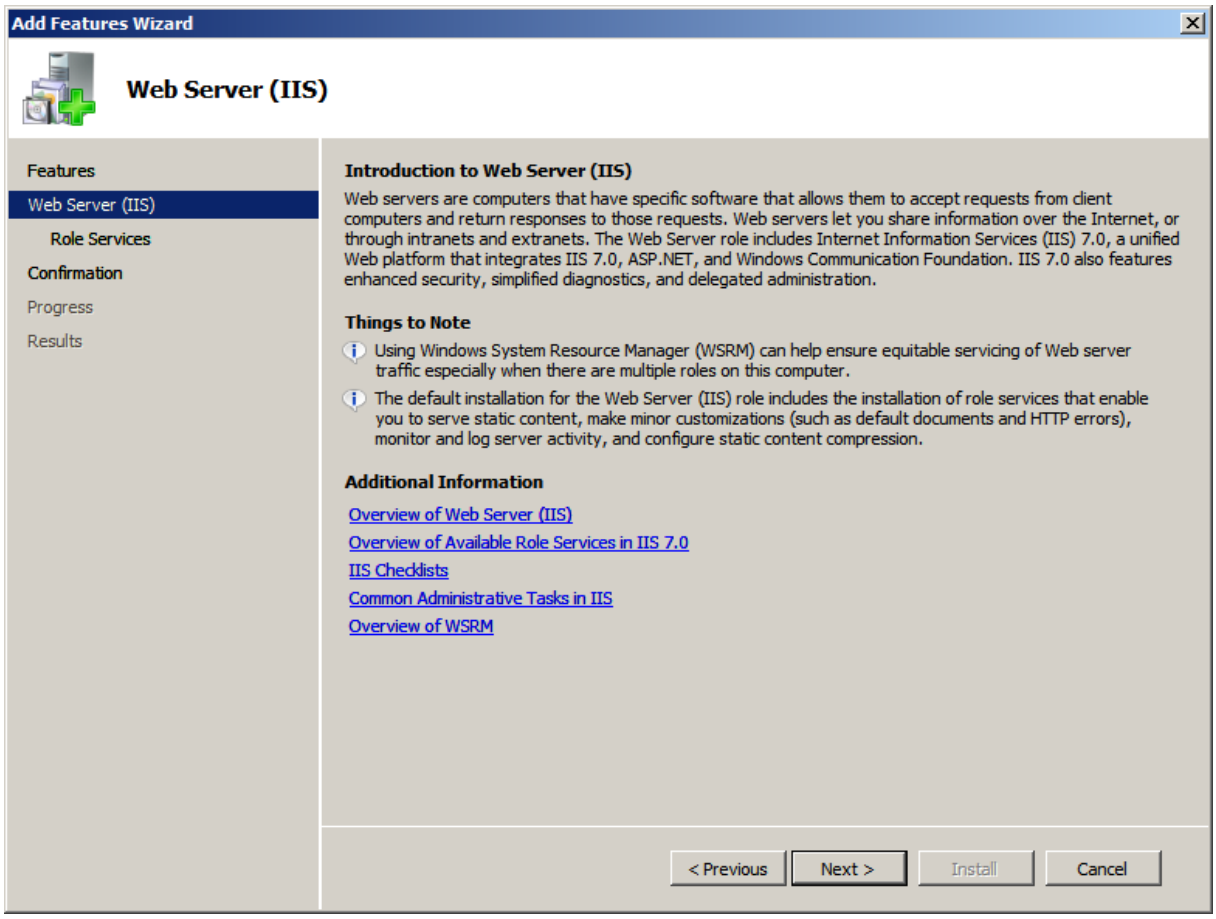
7. The **Web Server (IIS)** option (Figure 12–5) appears in the "Add Features Wizard." Click **Next**.

Figure 12–5 Web Server (IIS)



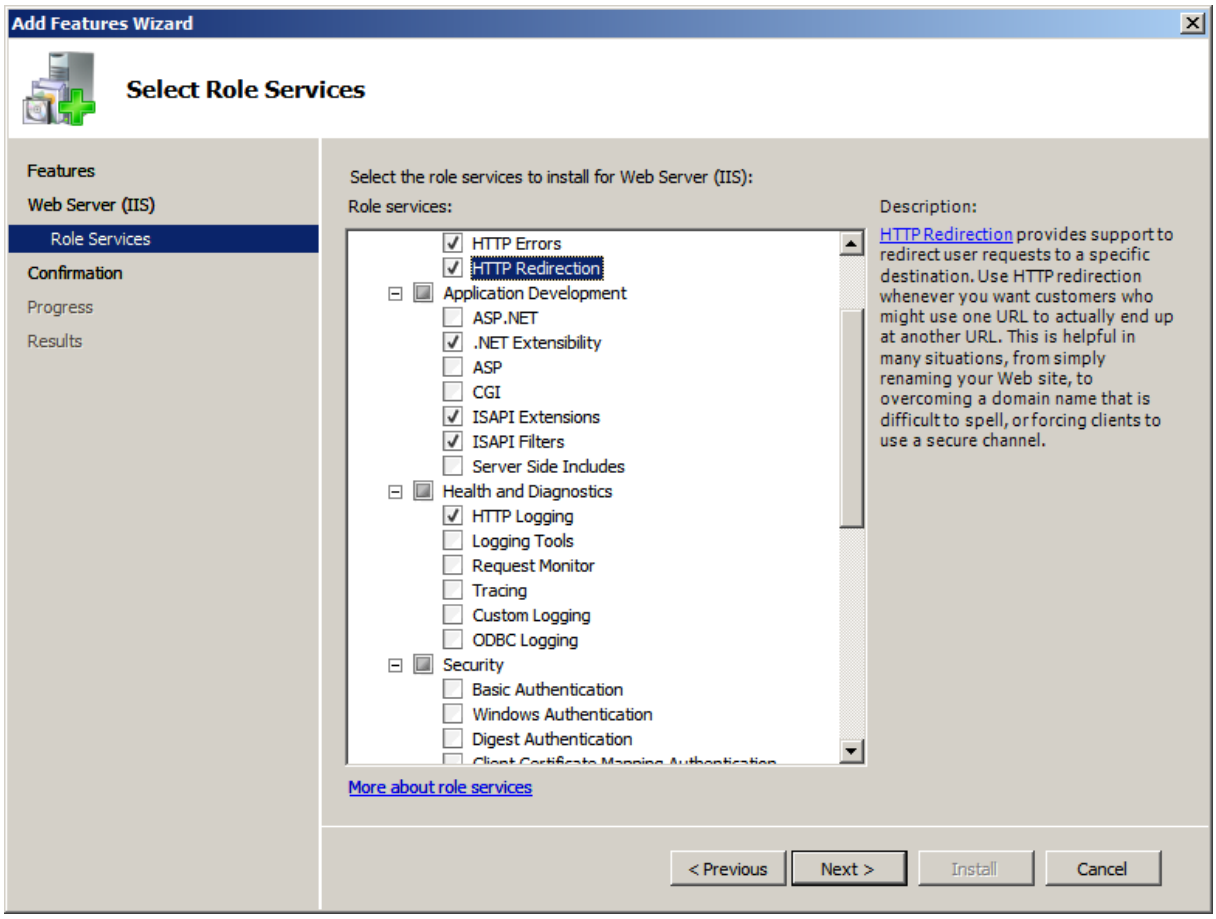
8. In the "Introduction to Web Server (IIS)" screen (Figure 12–6), click **Next**.

Figure 12–6 Introduction to Web Server (IIS)



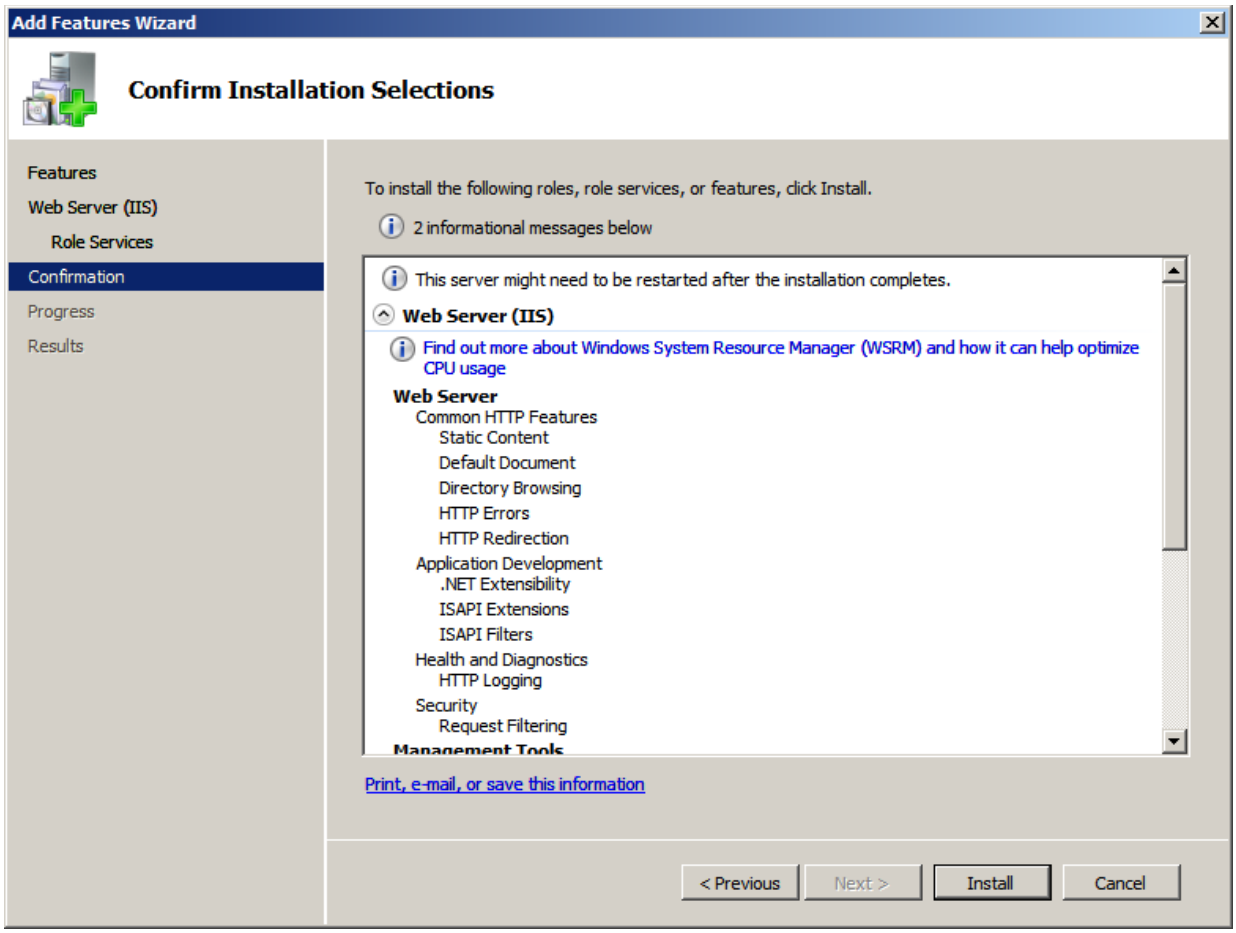
9. In the "Select Role Services" screen:
   a. Select the following:
      - **Common HTTP Features**
      - **ISAPI Extensions**
      - **ISAPI Filters**
      - **HTTP Logging**
      - **Management Tools**
      - Any other roles that are required for your installation, such as **HTTP Redirection**
   b. Click **Next** (Figure 12–7).

Figure 12–7 Select Role Services



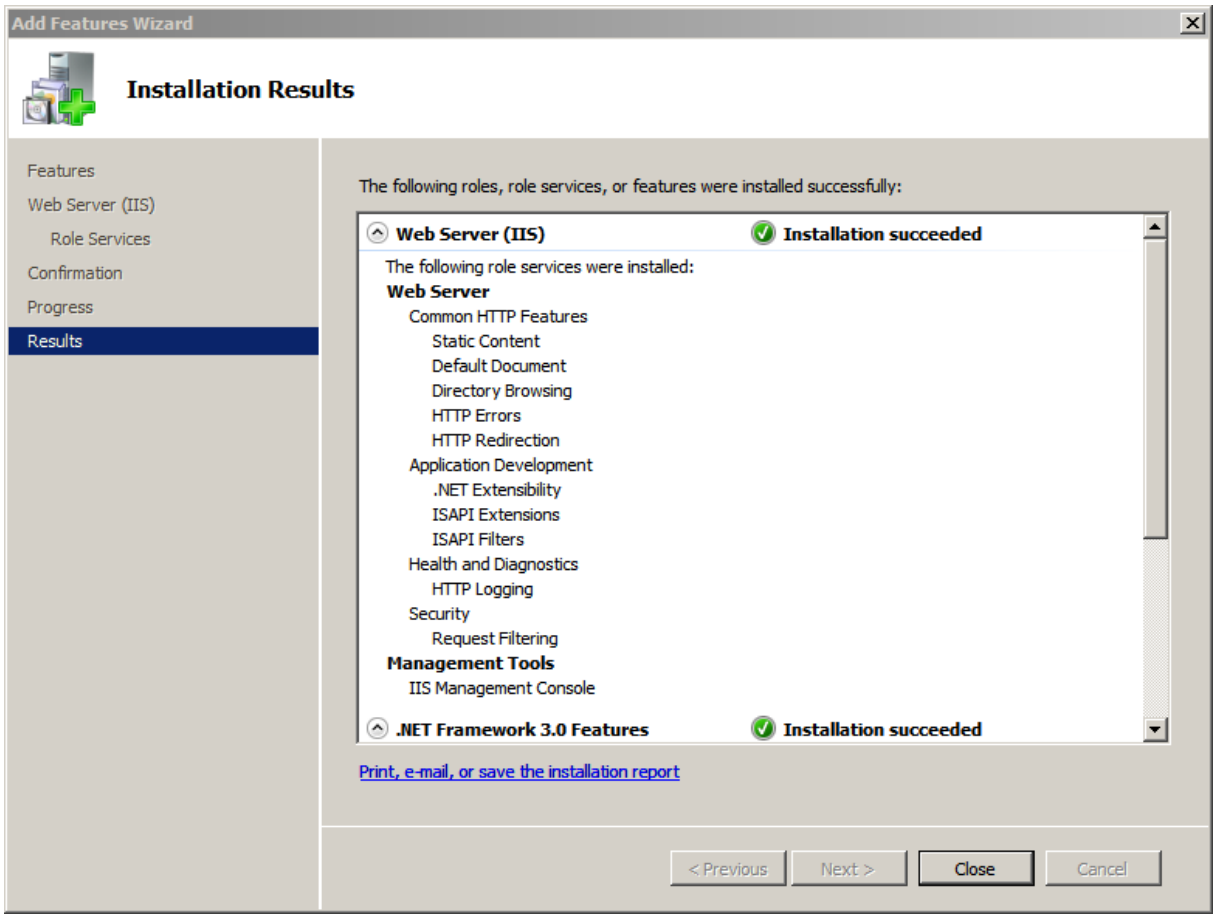
10. In the "Confirm Installation Selections" screen (Figure 12–8), confirm your choices and click **Install**.

Figure 12–8 Confirm Installation Selections



11. Allow the installation to complete, then review the results.
12. Click **Close** (Figure 12–9).

Figure 12–9 Installation Results



13. It is suggested at this point to reboot, but it is not required.

12.2 Verifying the Installation

After installing IIS, you must verify the installation to determine whether it is serving pages properly. Test the installed IIS from the server that is hosting it as well as from another browser on the network.

To verify that IIS is serving pages

1. Start a browser on the host that IIS is running on.
2. From the browser, go to the following URL: `http://localhost/`

   IIS is installed and running if the browser displays the "IIS7" page (Figure 12–10).

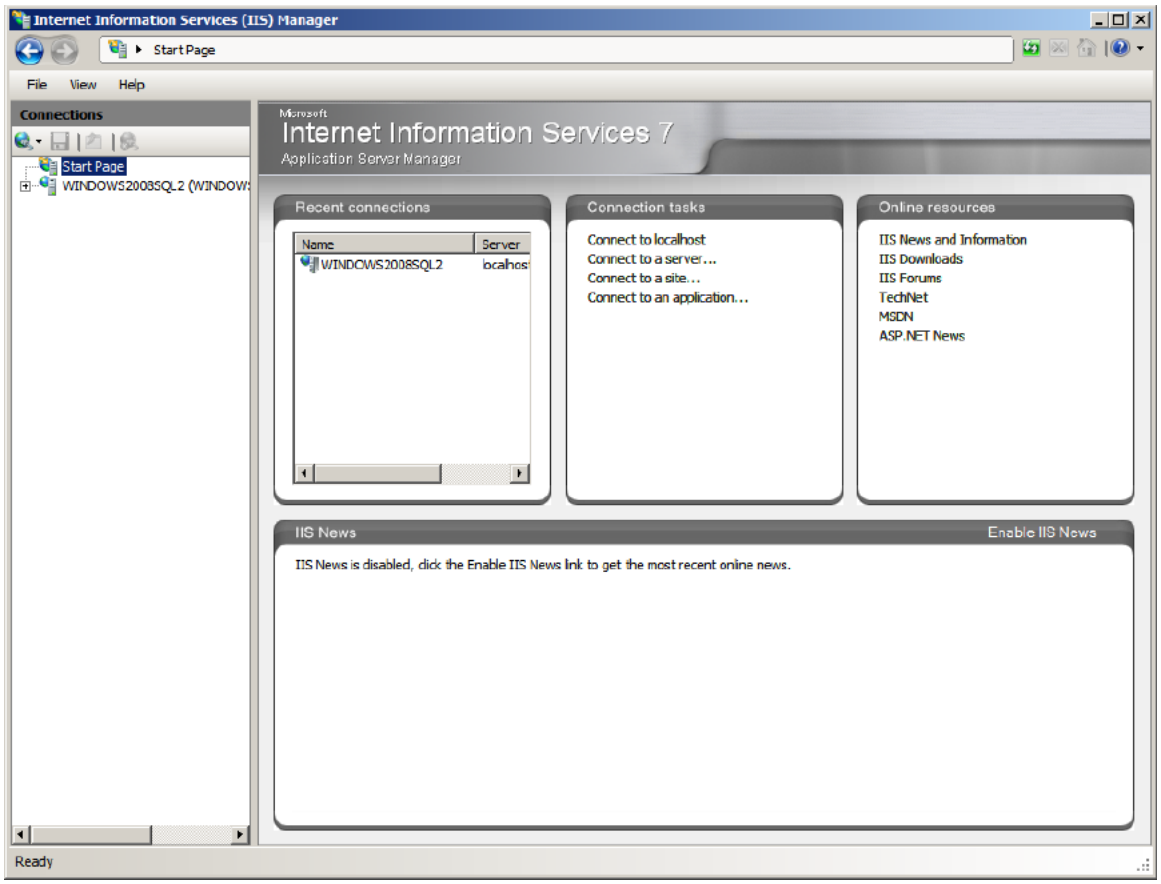
Figure 12–10 IIS7 Page

12.3 Starting and Configuring IIS

12.3.1 IIS Manager

1. Start the management console, which is required before any other actions are taken.
2. Select: **Start > All Programs > Administrative Tools > Internet Information Services (IIS) Manager**
3. When the "Internet Information Services (IIS) Manager" loads:
   a. Expand the left-hand tree that starts with the current system's name (Figure 12–11).

Figure 12–11 Internet Information Services (IIS) Manager

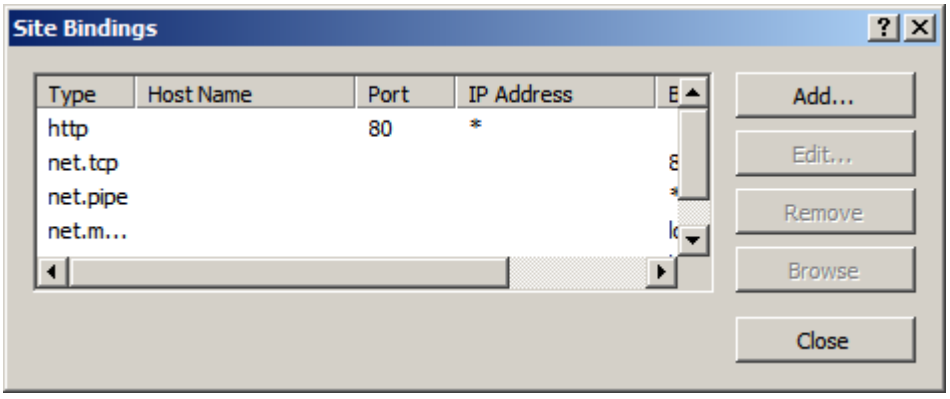


b. In the "Sites Entry" field, select **Default Web Site**.

12.3.2 Changing the IIS Port

1. Open the management console and browser to the **Default Site**
2. Right-click the **Default Web Site** entry and select **Edit Bindings** from the menu.
3. In the "Site Bindings" dialog box (Figure 12–12) you can add or change the ports and IP address on which the Server IIS will bind.

Figure 12–12 Site Bindings

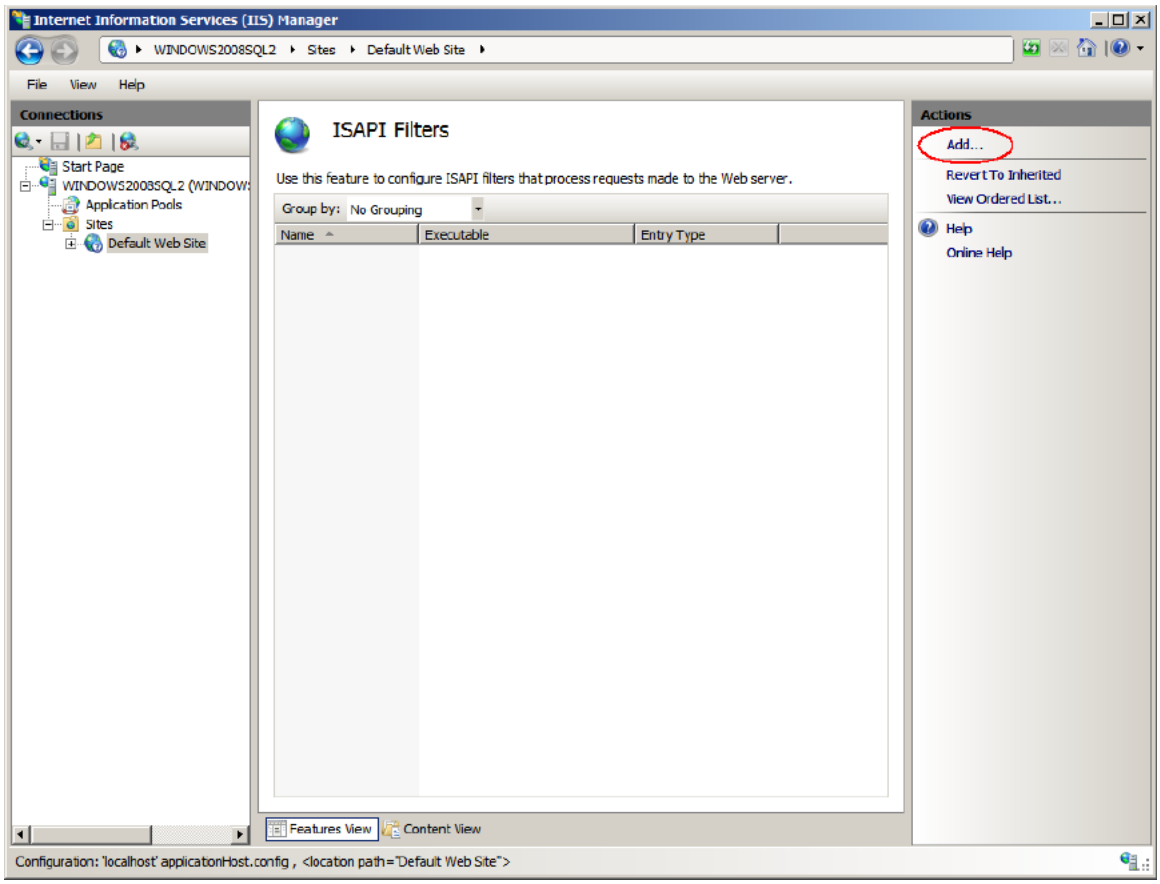


4. Click **Close** after all changes have been made.

12.3.3 Adding a New ISAPI Filter

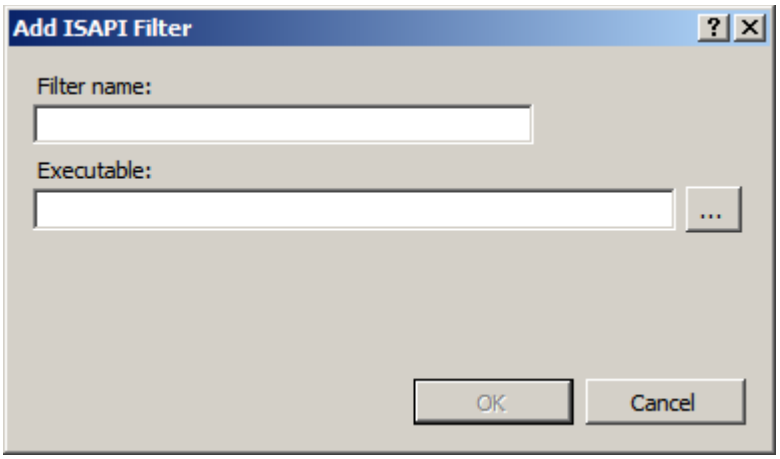
1. Open the management console and browser to the **Default Site**.
2. In the center list, click **ISAPI Filters** and click **Add** (Figure 12–13).

Figure 12–13 ISAPI Filters



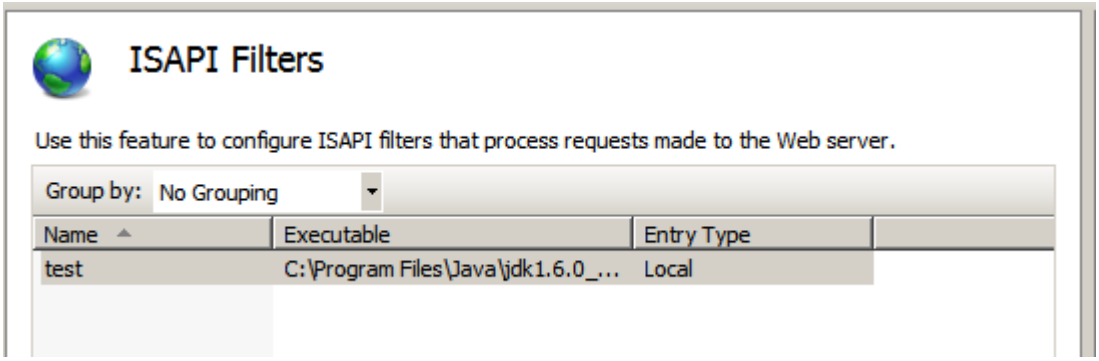
3. The "Add ISAPI Filter" dialog box appears.
   a. Fill in the fields provided:
      – **Filter name:** Enter a filter name.
      – **Executable:** Enter the location of the Executable.
   b. Click **OK** (Figure 12–14).

Figure 12–14 Add ISAPI Filter



The new filter is added to the "ISAPI Filters" list, as shown in Figure 12–15.

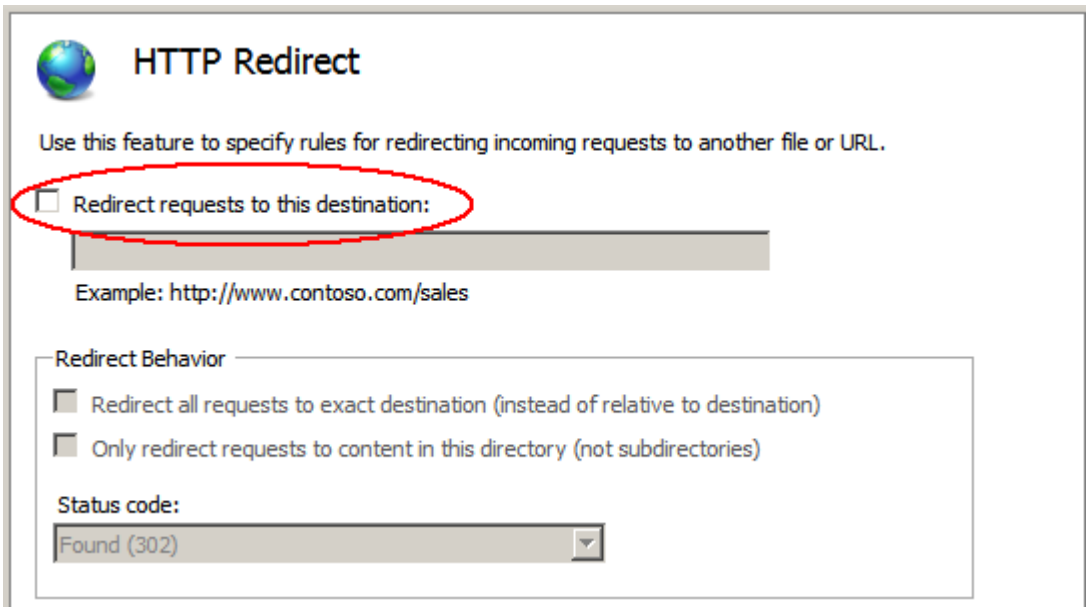
Figure 12–15 New Filter



12.3.4 Proxying Using IIS

1. Open the management console and browse to the Default Site.
2. In the center list, click **HTTP Redirect**.
3. In the center panel of the "Internet Information Services (IIS) Manager":
   a. Select the **Redirect requests to this destination** option (Figure 12–16).

Figure 12–16 HTTP Redirect



b. Enter the location of the remote server in the text field (for WebCenter Sites or Satellite Server include the context root).

c. Click **Apply**.

Part IV

Installing and Configuring an LDAP Server

If you choose to use LDAP, WebCenter Sites must have access to a supported LDAP server specifically configured for WebCenter Sites. This part describes how to install and configure a supported LDAP server for integration with WebCenter Sites.

Note: You must set up a supported LDAP server **before** you run the WebCenter Sites-LDAP integrator.

If you are integrating with LDAP, but no content management sites exist in WebCenter Sites, then upon completion of the LDAP integration procedure, refer to instructions in Section 20.4, "Post-Integration Steps: When CM Sites Have Not Been Created."

Part IV contains the following chapters:

- Chapter 13, "Setting Up Oracle Internet Directory"
- Chapter 14, "Setting Up the Oracle WebLogic 10.3 Embedded LDAP Server"
- Chapter 15, "Setting Up IBM Tivoli Directory Server 6.x"
- Chapter 16, "Installing Microsoft Active Directory 2012"
- Chapter 17, "Installing Microsoft Active Directory 2008"
- Chapter 18, "Setting Up OpenLDAP 2.3.x"

13

Setting Up Oracle Internet Directory

This chapter provides information about setting up the Oracle Internet Directory. This chapter contains the following sections:

13.1 Installing Oracle Internet Directory

Use the documentation that corresponds with the version of Oracle Internet Directory you are installing to guide you through the installation process.

The following components are required to install Oracle Internet Directory:

- Oracle Database 11*g* – Version 11.2.0
- Oracle Fusion Middleware Repository Creation Utility 11g (11.1.1.5.*x*)
- Oracle WebLogic Server (10.3.5) Generic and Coherence
- Oracle Identity Management 11*g* (11.1.1.5.*x*)

13.2 Starting the Required Oracle Internet Directory Components

1. Start the WebLogic Admin Server:

   ```
   <domain_home>/bin/startWebLogic.sh
   ```

   For example:

   ```
   /u01/software/Apps/OraMiddleware/user_
   projects/domains/OIAMDomain/bin/startWebLogic.sh
   ```

2. Start the WebLogic Node Manager:

   ```
   <weblogic_home>/server/bin/startNodeManager.sh
   ```

   For example:

   ```
   /u01/software/Apps/OraMiddleware/wlserver_10.3/server/bin/startNodeManager.sh
   ```

3. View the Enterprise Manager Farm Application

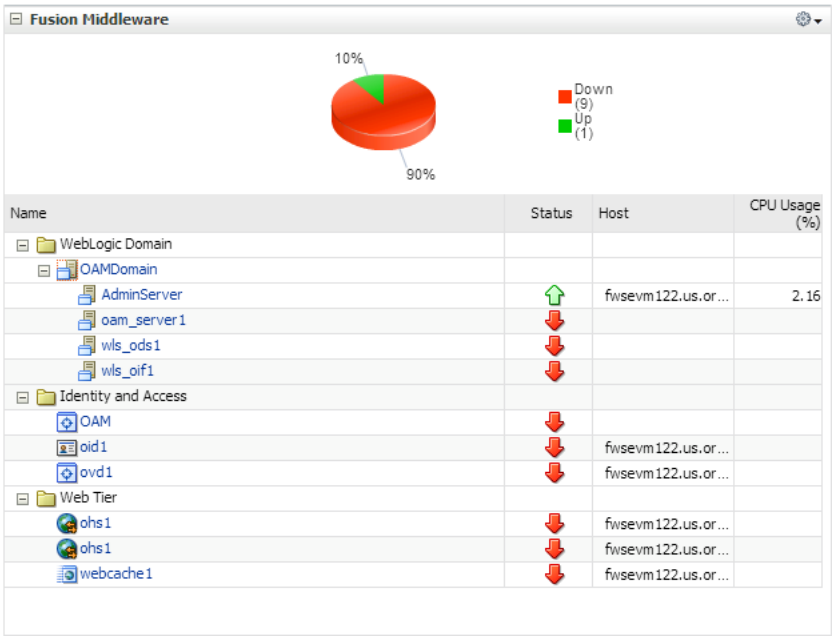
   a. From a browser, go to the following URL:

      ```
      http://<weblogic_admin_host>:<weblogic_admin_port>/em
      ```

   b. Log in using the WebLogic server credentials.

   c. On the right side, under **Fusion Middleware** (Figure 13–1), you can view the status for each of the applications and servers. Currently only AdminServer should be shown as running.

Figure 13–1 Fusion Middleware



   The required applications are: the Oracle Internet Directory server (`oid1`) and the Oracle Directory Services Manager web application (`wls_ods1`) which is used for Oracle Internet Directory administration.

4. Start the Oracle Internet Directory server.

   a. Set the `ORACLE_INSTANCE` environment variable:

      ```
      export ORACLE_INSTANCE=<middleware_home>/asinst_1
      ```

   b. Start the server using the `opmnctl` command:

      ```
      <middleware_home>/Oracle_IDM1/opmn/bin/opmnctl startall
      ```

   c. View the `opmnctl` processes:

      ```
      <middleware_home>/Oracle_IDM1/opmn/bin/opmnctl status
      ```

   d. Stop any unwanted non-oid1 components using the values from the chart output from step 3c on page 13-2.

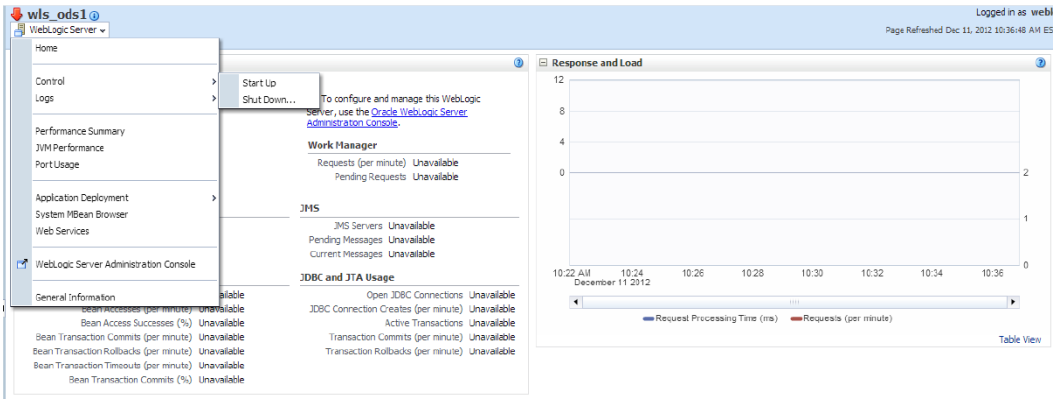
      ```
      <middleware_home>/Oracle_IDM1/opmn/bin/opmnctl stopproc
      ias-compnent=<ias-component_name>
      ```

      In the Enterprise Farm Application you should now see the Oracle Internet Directory server (oid1) as started.

5. Start the Oracle Directory Services Manager web application (Figure 13–2):
   a. From the Farm Application, click **wls_ods1**.
   b. Under **wls_ods1**, click **WebLogic Server**.

      A drop-down menu opens.
   c. In the drop-down menu, select **Control** and then click **Start Up**.

Figure 13–2 Oracle Directory Services Manager



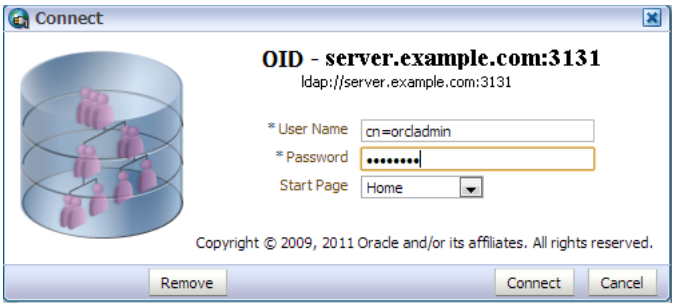
When startup has completed, the status arrow changes to green.

13.3 Using the Oracle Directory Services Manager

1. Access the Oracle Directory Services Manager:
   a. From the Farm Application, click **oid1**.
   b. Under **oid1**, click **Oracle Internet Directory** which becomes a drop-down menu.

      A drop-down menu opens.
   c. In the drop-down menu, point to **Directory Services Manager** and click **Data Browser**.
   d. In the "Connect" screen (Figure 13–3), fill in the following fields and then click **Connect**:
      – In the **User Name** field, enter `cn=orcladmin`.
      – In the **Password** field, enter the password specified during the Oracle Identity Directory installation.
      – In the **Start Page** field, select a start page.

Figure 13–3 Connect



This connection will be saved for later use.

2. View or modify Oracle Internet Directory Data:

   a. In the Oracle Directory Services Manager (Figure 13–4), click the **Data Browser** tab.

   b. Expand `dc=com`, `dc=oracle`, `dc=us`.

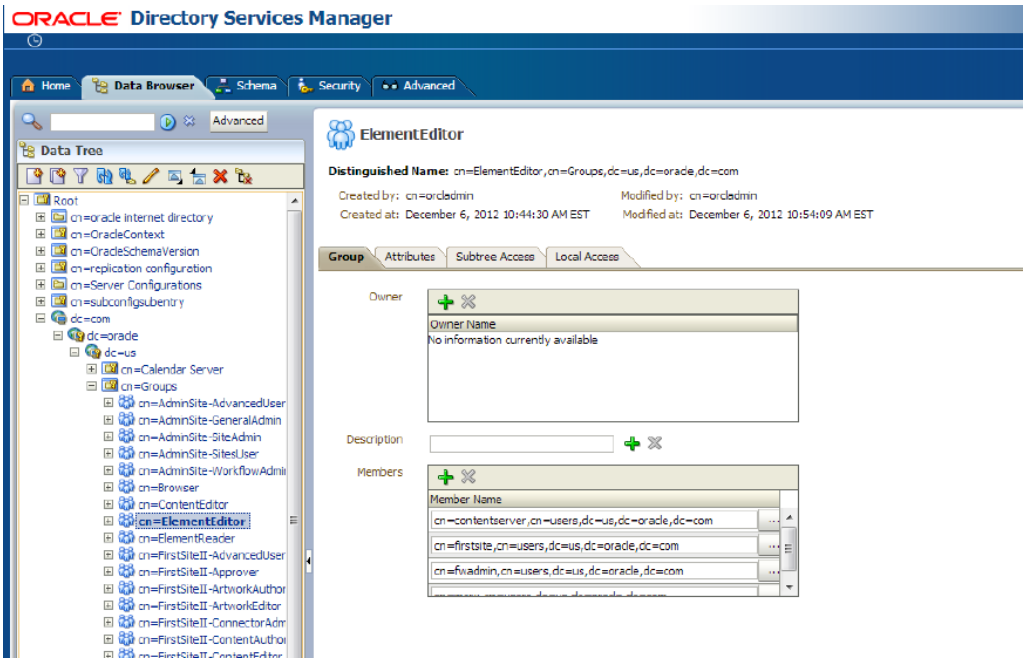
      The roles for WebCenter Sites are stored in `cn=Groups`. The users for WebCenter Sites are stored in `cn=Users`.

   c. (Optional) Add/Remove a role for a user:

      a. Expand **cn=Groups**

      b. Click the role to be added/removed.

Figure 13–4 Oracle Directory Services Manager



To remove a role from a user, select the user's name and click the red **X**, then click **Apply**.

To add a role to a user, click the green **+** next to the desired role, then either enter the full user name, or browse to the name of the desired user.

d. (Optional) Change a user's password (Figure 13–5):

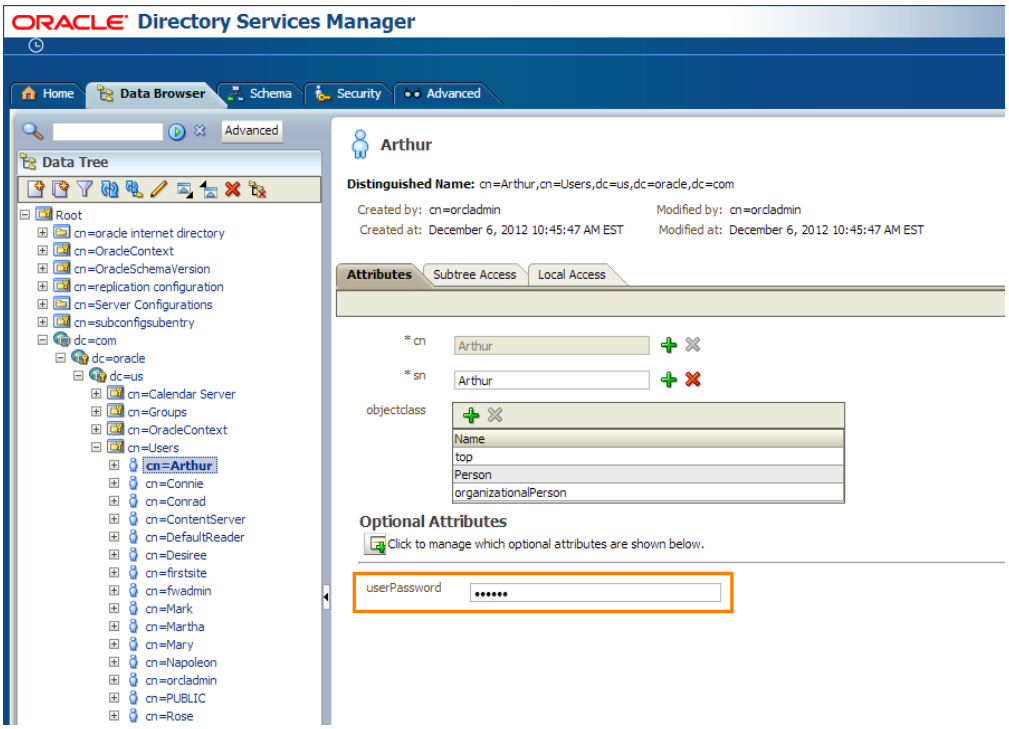
   a. Expand **cn=Users**

   b. Click the name of the user whose password you wish to change.

   c. Click the **Attributes** tab.

   d. In the "userPassword" field, enter the new password for the user and then click **Apply**.

Figure 13–5 Oracle Directory Services Manager



13.4 Configuring Oracle Internet Directory

1. Set the Server Mode:

> **Note:** WebCenter Sites requires an LDAP server that is capable of recording data to enable User/Role modification in the WebCenter Sites Admin interface.

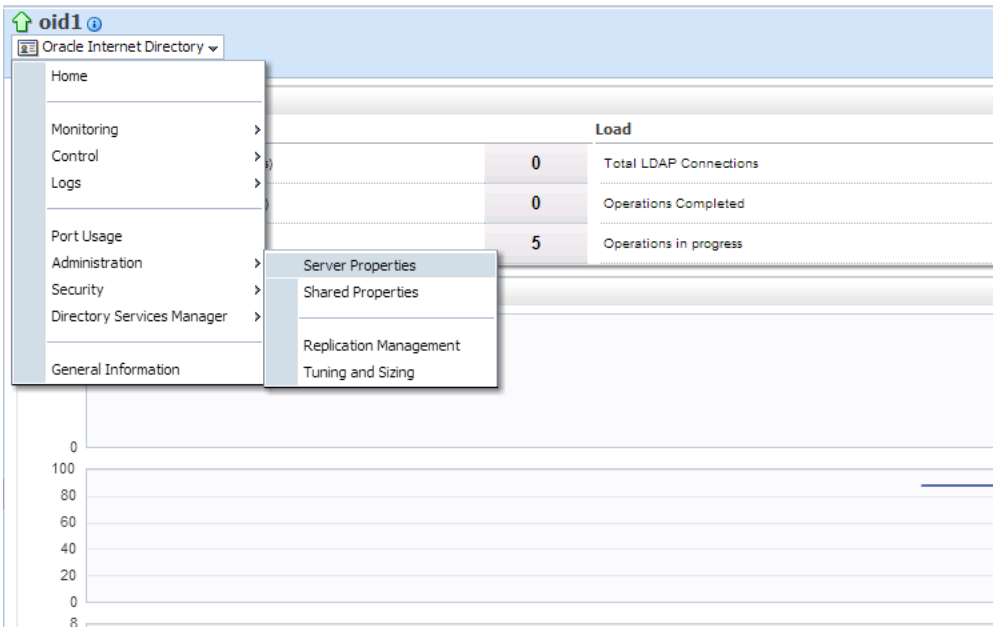
   a. From the Farm Application, click **oid1** (Figure 13–6).

   b. Under **oid1**, click **Oracle Internet Directory**.

      A drop-down menu opens.

   c. In the drop-down menu, select **Administration** and then click **Server Properties**.

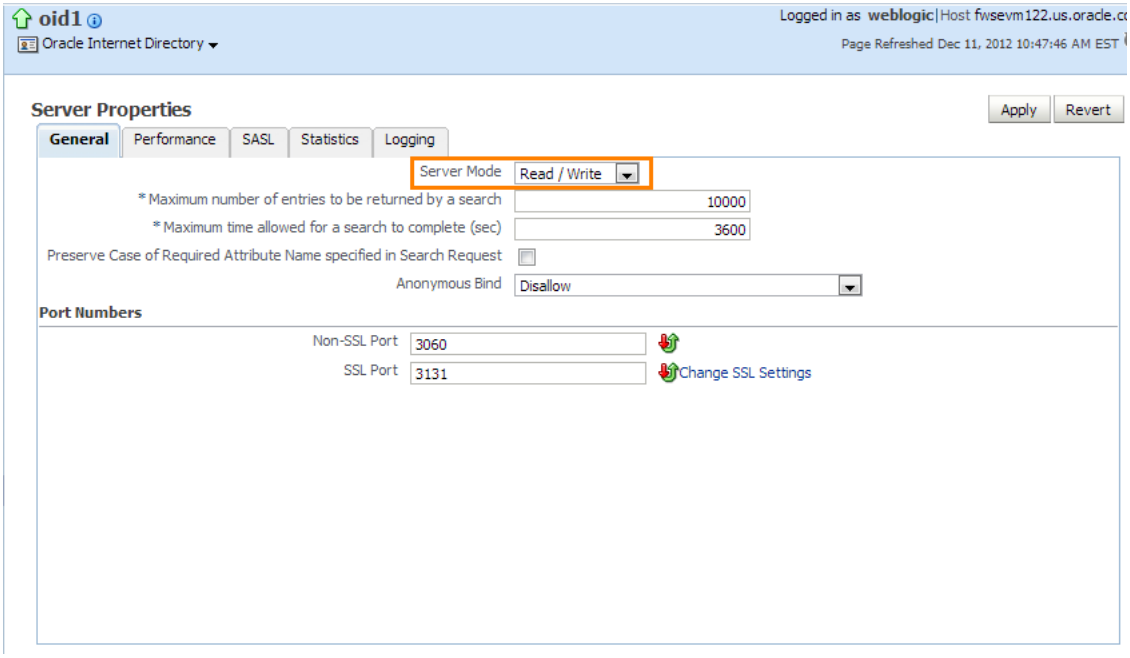
Figure 13–6 Oracle Internet Directory: Server Properties



The "Server Properties" screen opens.

d. In the "Server Mode" field, select **Read/Write** (Figure 13–7) and then click **Apply**.

Figure 13–7 Server Properties



2. Modify the default Password Policy:

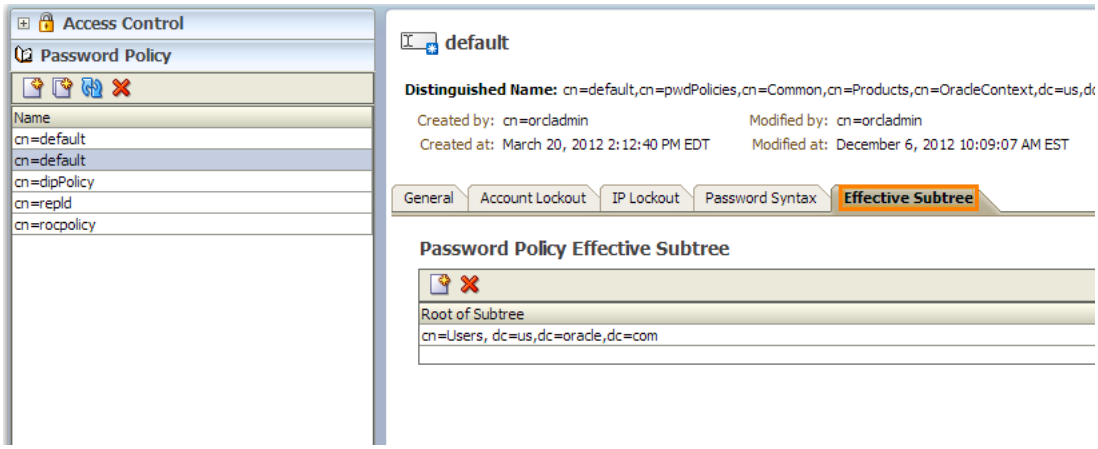
> **Note:** WebCenter Sites requires an LDAP server to allow passwords without numeric characters.

a. In the Oracle Directory Services Manager, click the **Security** tab.

b. In the left navigation pane, click **Password Policy**.

c. Find the policy named **cn=default** with an "Effective Subtree" of `cn=Users, dc=us,dc=oracle,dc=com` by clicking each policy named **cn=default** and then clicking the **Effective Subtree** tab (Figure 13–8).

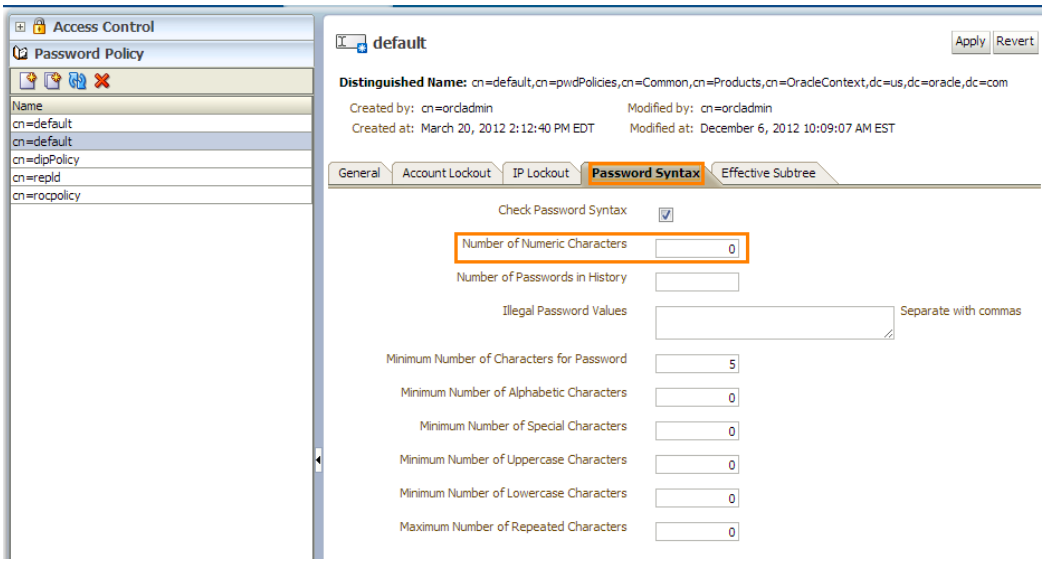
Figure 13–8 Effective Subtree



d. Click the **Password Syntax** tab.

e. In the "Number of Numeric Characters" field, enter `0` (Figure 13–9).

Figure 13–9 Password Syntax



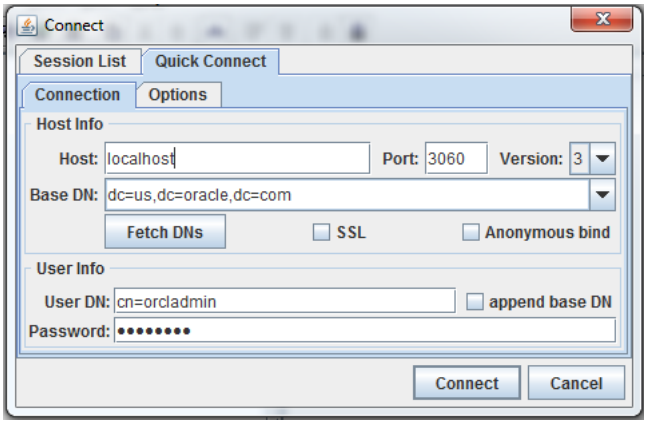
f. Click **Apply**.

13.5 Connecting to Oracle Internet Directory using an LDAP Browser

1. Open the LDAP browser.
2. Select the **Quick Connect** tab.

3. In the "Quick Connect" tab (Figure 13–10), fill in the following information:
   - **Host:** `<oid_host>`
   - **Port:** `<oid_port>` (default is `3060`)
   - **Base DN:** `dc=us,dc=oracle,dc=com`
   - **Anonymous bind:** deselect
   - **User DN:** `cn=orcladmin`
   - **Password:** `<oid_password>`

Figure 13–10 Quick Connect



4. Click **Connect**.

13.6 Adding Users/Roles Using an LDIF File

1. Create an LDIF file:
   a. Open a new file in a text editor.
   b. For each new user add the following:

```
dn: cn=<user>,dc=Users,dc=us,dc=oracle,dc=com
userPassword: <password>
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: <user>
cn: <user>
```

   c. For each new role add the following:

```
dn: cn=<role>,dn=Groups,dc=us,dc=oracle,dc=com
objectClass: top
objectClass: groupofUniqueNames
uniqueMember: cn=<user1>,cn=Users,dc=us,dc=oracle,dc=com
uniqueMember: cn=<user2>,cn=Users,dc=us,dc=oracle,dc=com
…
cn: <role>
```

   d. Save the new LDIF file.
2. Import the LDIF file. Do one of the following:

- If you are using the `ldapadd` command:

  a. Change to the `<oracle_home>/bin` directory:

  ```
  cd <middleware_home>/Oracle_IDM1/bin
  ```

  b. Import the file using the `ldapadd` command:

  ```
  ./ ldapadd -h <oid_host> -p <oid_port> -D "cn=orcladmin" -w <oid_
  password> -f <path to ldif file> -x
  ```

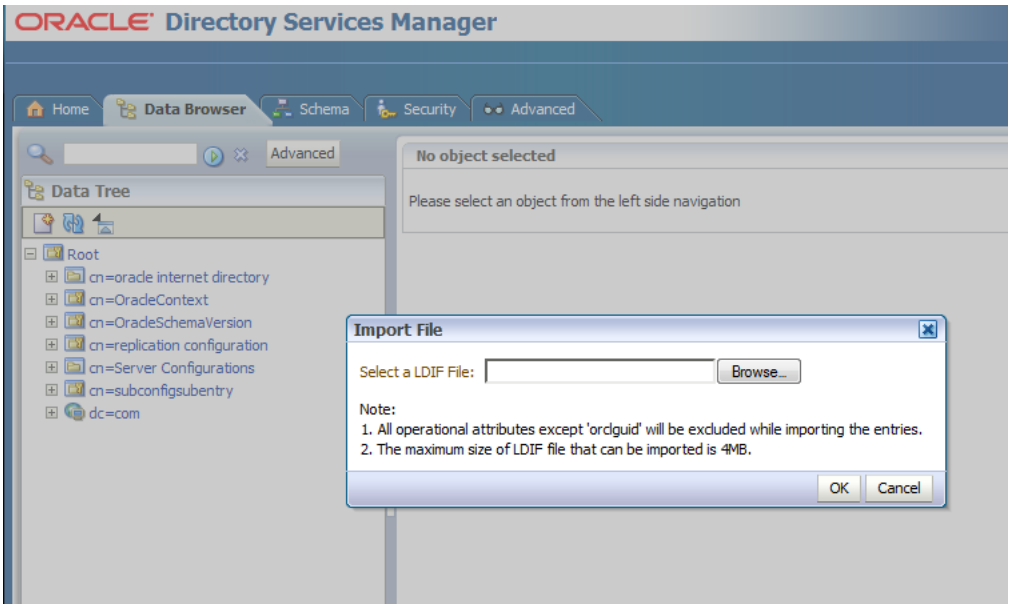
- If you are using the Oracle Directory Services Manager:

  a. Connect to the Oracle Identity Directory using the Directory Services Manager and click the **Data Browser** tab.

  b. Under "Data Tree," select the icon located farthest to the right.

  The "Import File" dialog box opens (Figure 13–11).

Figure 13–11 Import File



c. In the "Import File" dialog box, browse to the LDIF file you created in step 1 on page 13-8 and then click **OK**.

14

Setting Up the Oracle WebLogic 10.3 Embedded LDAP Server

This chapter provides instructions on setting up the currently supported WebLogic Embedded LDAP Server for use with WebCenter Sites.

> **Note:** You must set up WebLogic LDAP **before** you run the WebCenter Sites-LDAP integrator.

This chapter contains the following sections:

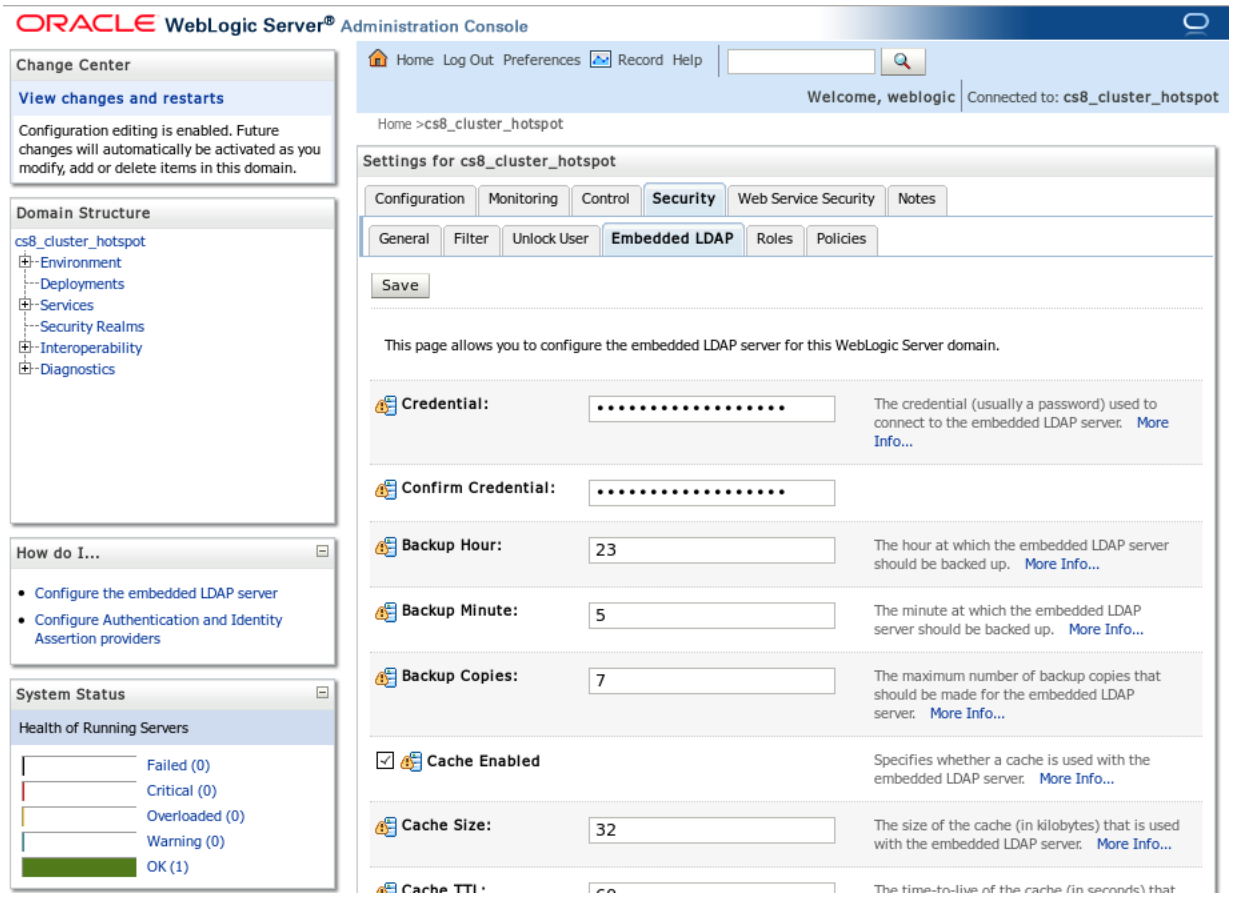
14.1 Enabling the WebLogic Embedded LDAP Server

This section explains how to enable the WebLogic Embedded LDAP Server.

To enable the WebLogic Embedded LDAP Server

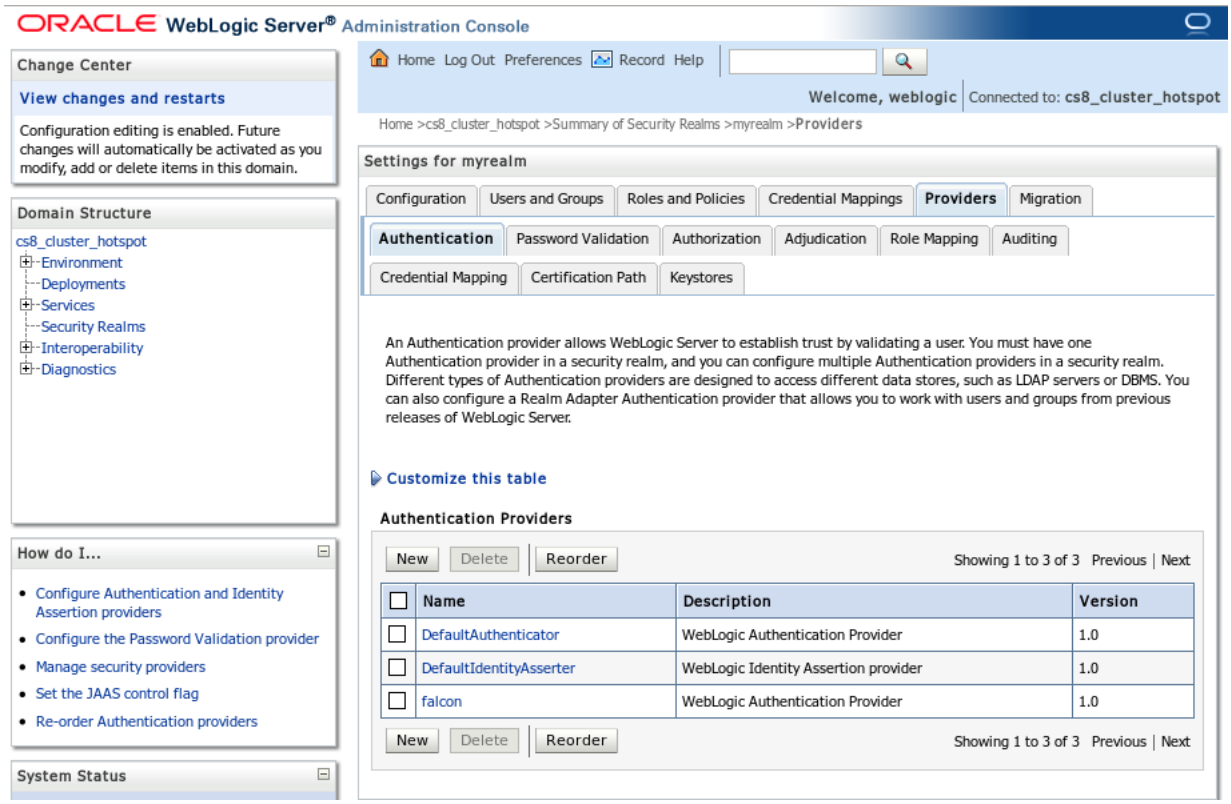
1. Log in to the WebLogic Server Administration Console.
2. In the "Domain Structure" tree at the left, click your WebLogic portal domain.
3. Set the Embedded LDAP password (Figure 14–1):
   a. In the workspace, select the **Security** tab, then select the **Embedded LDAP** sub-tab.
   b. In the "Change Center" pane in the upper left, click **Lock & Edit**.
   c. In the **Credential** field, enter the desired Embedded LDAP password. Re-enter the password in the **Confirm Credential** field for verification.
   d. Click **Save**.

Figure 14–1 Security Tab - Embedded LDAP Sub-Tab



4. Create an Embedded LDAP authentication provider (Figure 14–2):
   a. In the "Domain Structure" tree, click **Security Realms**.
   b. In the workspace, click **myrealm** and select the **Providers** tab.

Figure 14–2 Providers Tab - Authentication Sub-Tab



c. Click **New**.

d. In the **Name** field, enter a name for the authentication provider.

e. In the "Type" drop-down list, select **DefaultAuthenticator**.

f. Click **OK**. The new authentication provider appears in the provider list.

5. In the "Change Center," Click **Activate Changes**.

6. Stop the admin server.

14.2 Modifying User Passwords

This section shows you how to modify user passwords in WebLogic LDAP Server.

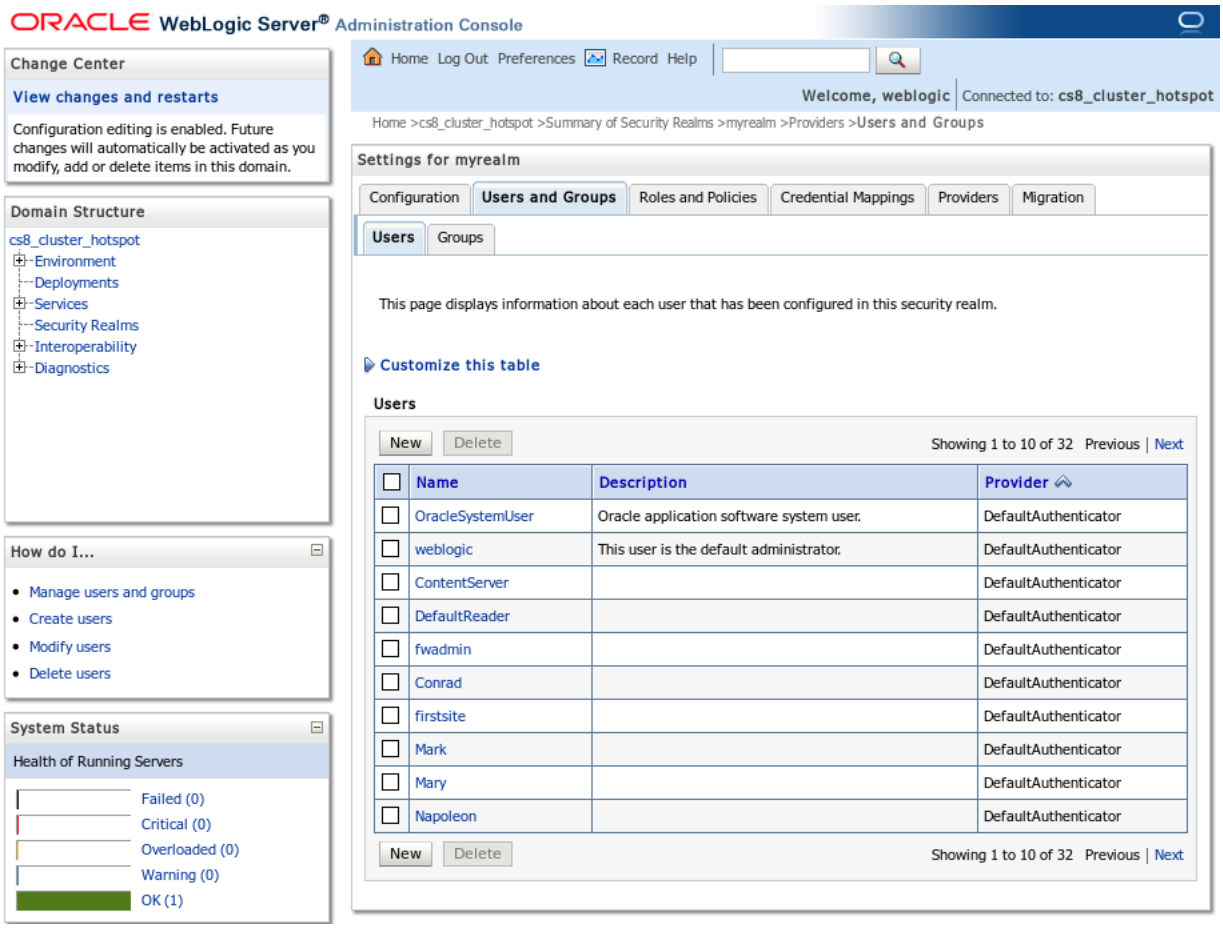
To modify user passwords in WebLogic LDAP Server

1. Log in to the WebLogic Server Administration Console.

2. In the "Domain Structure" tree, click **Security Realms**.

3. In the workspace, click **myrealm** and select the **Users and Groups** tab (Figure 14–3).

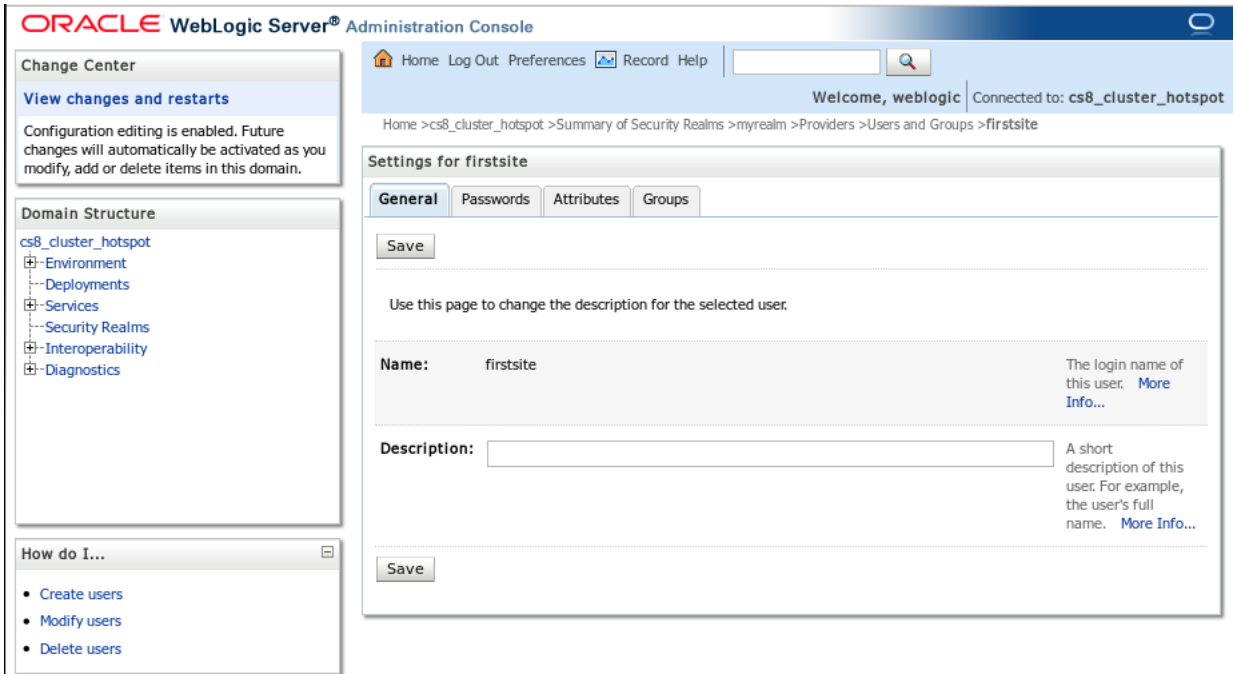
Figure 14–3 Users and Groups Tab - Users Sub-Tab



4. Click the user whose password you want to change.

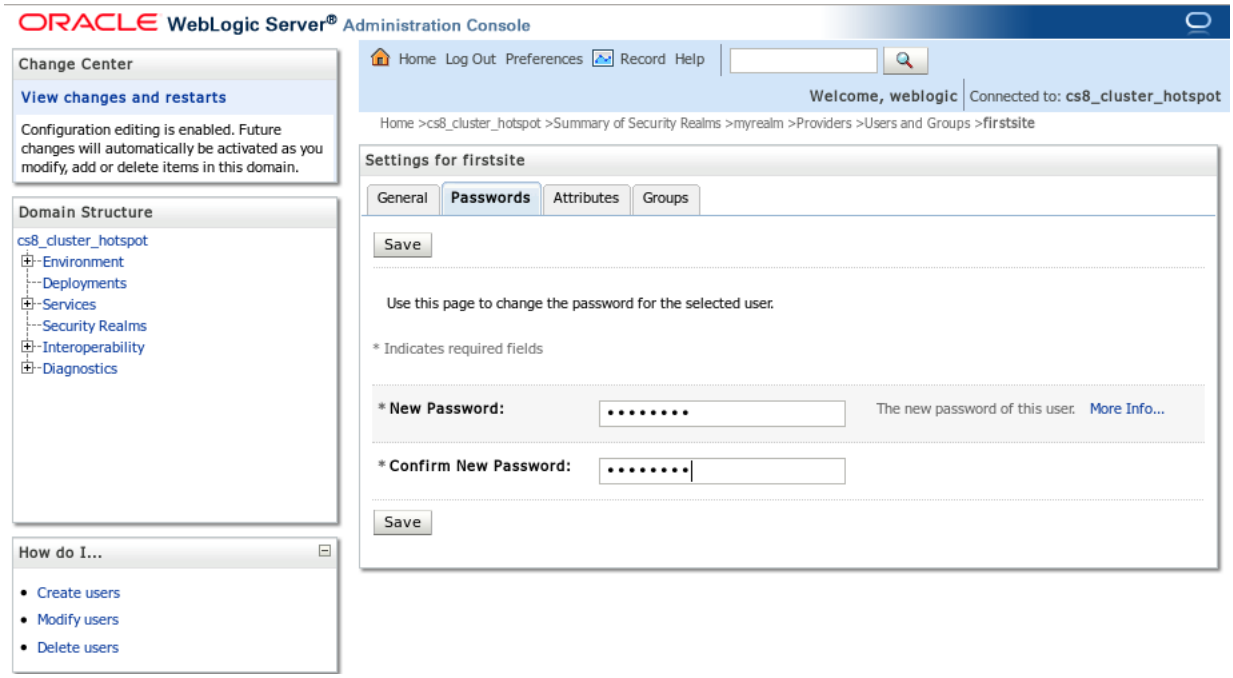
   The workspace displays the "Settings for `<user name>`" screen, as shown in Figure 14–4.

Figure 14–4 General Tab



5. Select the **Passwords** tab and enter the new password into both fields (Figure 14–5).

Figure 14–5 Passwords Tab



6. Click **Save**.

15

Setting Up IBM Tivoli Directory Server 6.x

This chapter contains the following sections:

Note: In this chapter, Tivoli Directory Server is also referred to as "TDS."

15.1 IBM Tivoli Directory Server Commands

Table 15–1 IBM Tivoli Directory Server Commands

Action	Command
Starting an instance	`<LDAP Install directory>/sbin/idsslapd -I <instance name>`
Stopping an instance	`<LDAP Install directory>/bin/ibmdirctl stop -h localhost -D cn=root -w <password for cn=root>`
Checking an instance	`<LDAP Install directory>/bin/ibmdirctl status -h localhost -D cn=root -w <password entered for cn=root>`
Displaying list of instances	`<LDAP Install directory>/sbin/idsilist`
Loading the instance administration tool	`<LDAP Install directory>/sbin/idsxinst`
Loading the configuration tool for an instance	`<LDAP Install directory>/sbin/idsxcfg -I <name of instance>`

15.2 Before Installing IBM Tivoli Directory Server

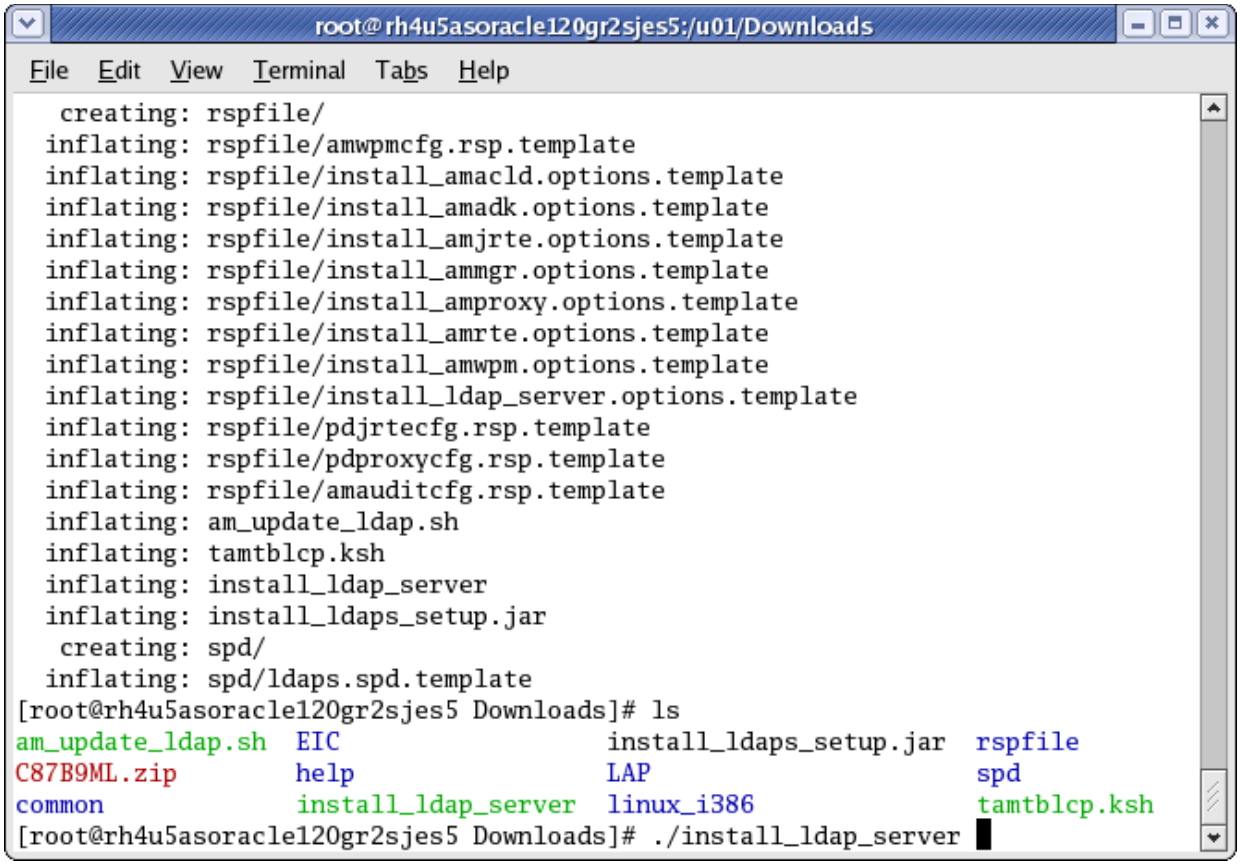
1. Create the following group: `idsldap`
2. Create a user for the LDAP instance and write down the password, for example, `ldapdb2`. This password will be used in step 7 of Section 15.3, "Installing IBM Tivoli Directory Server."
3. Check that `pdksh` is installed.

15.3 Installing IBM Tivoli Directory Server

1. Download the Tivoli Directory Server from IBM.
2. Unzip the archive into a temporary directory.
3. Go to the temporary directory and run (Figure 15–1):

   ```
   ./install_ldap_server.
   ```

Figure 15–1 IBM Tivoli Directory Server Installation

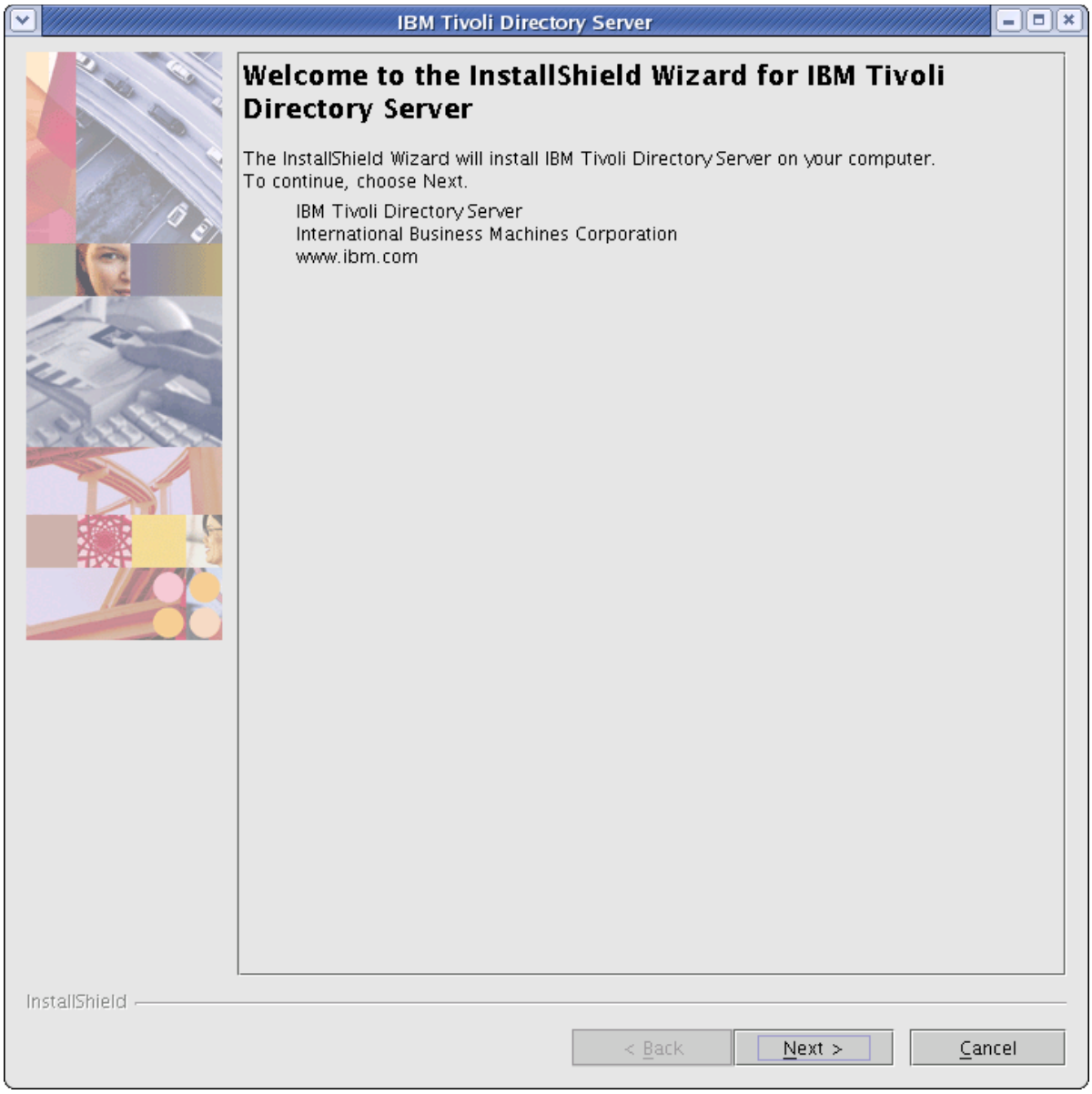


4. When the installation dialog box appears, select your language (Figure 15–2) and click **OK**.

Figure 15–2 IBM Tivoli Directory Server Dialog Box

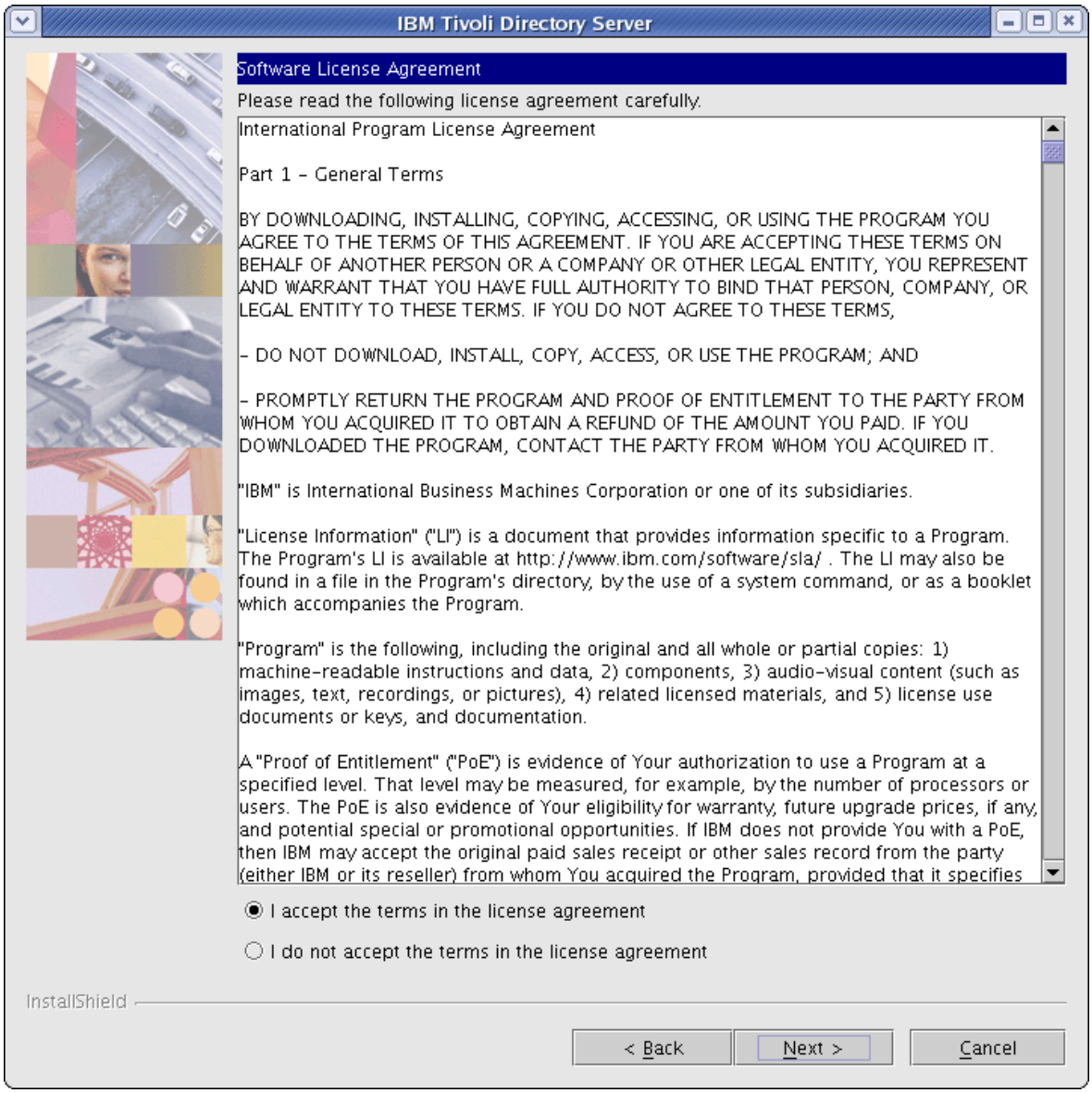
5. Click **Next** (Figure 15–3).

Figure 15–3 IBM Tivoli Directory Server - Welcome



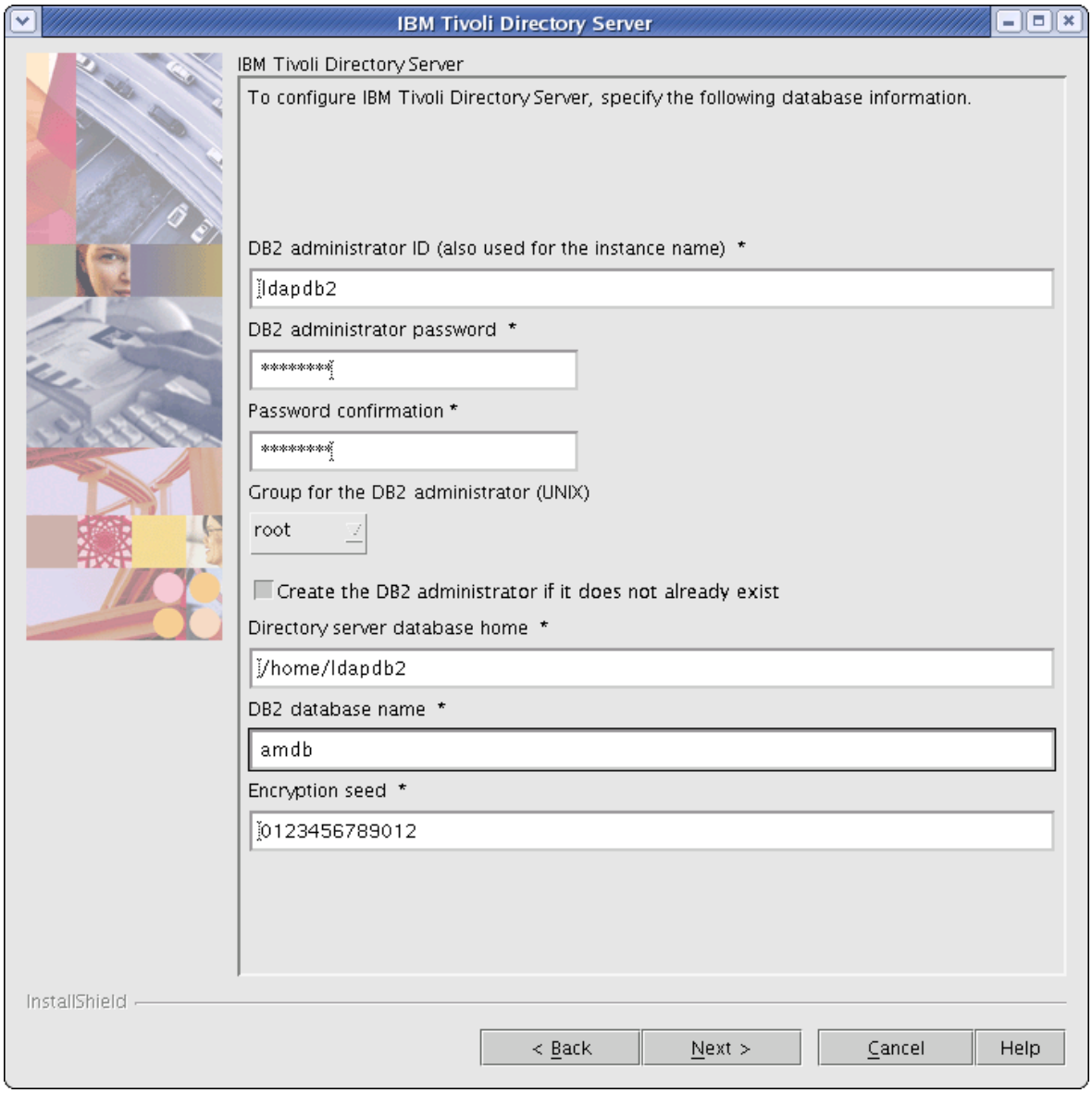
6. On the "License Agreement" screen (Figure 15–4) select **I Accept the terms in this license agreement**, then click **Next**.

Figure 15–4 Software License Agreement



7. On the first configuration screen (Figure 15–5), fill in the fields:
   - **DB2 administrator ID**: Name of the user you created for the LDAP instance.
   - **DB2 administrator password**: Enter the password (`ldapdb2`) given to the LDAP instance user in step 2, Section 15.2, "Before Installing IBM Tivoli Directory Server."
   - Keep the default values for the other fields.
   - Click **Next**.

Figure 15–5 Database information



8. On the second configuration screen (Figure 15–6), fill in the fields:

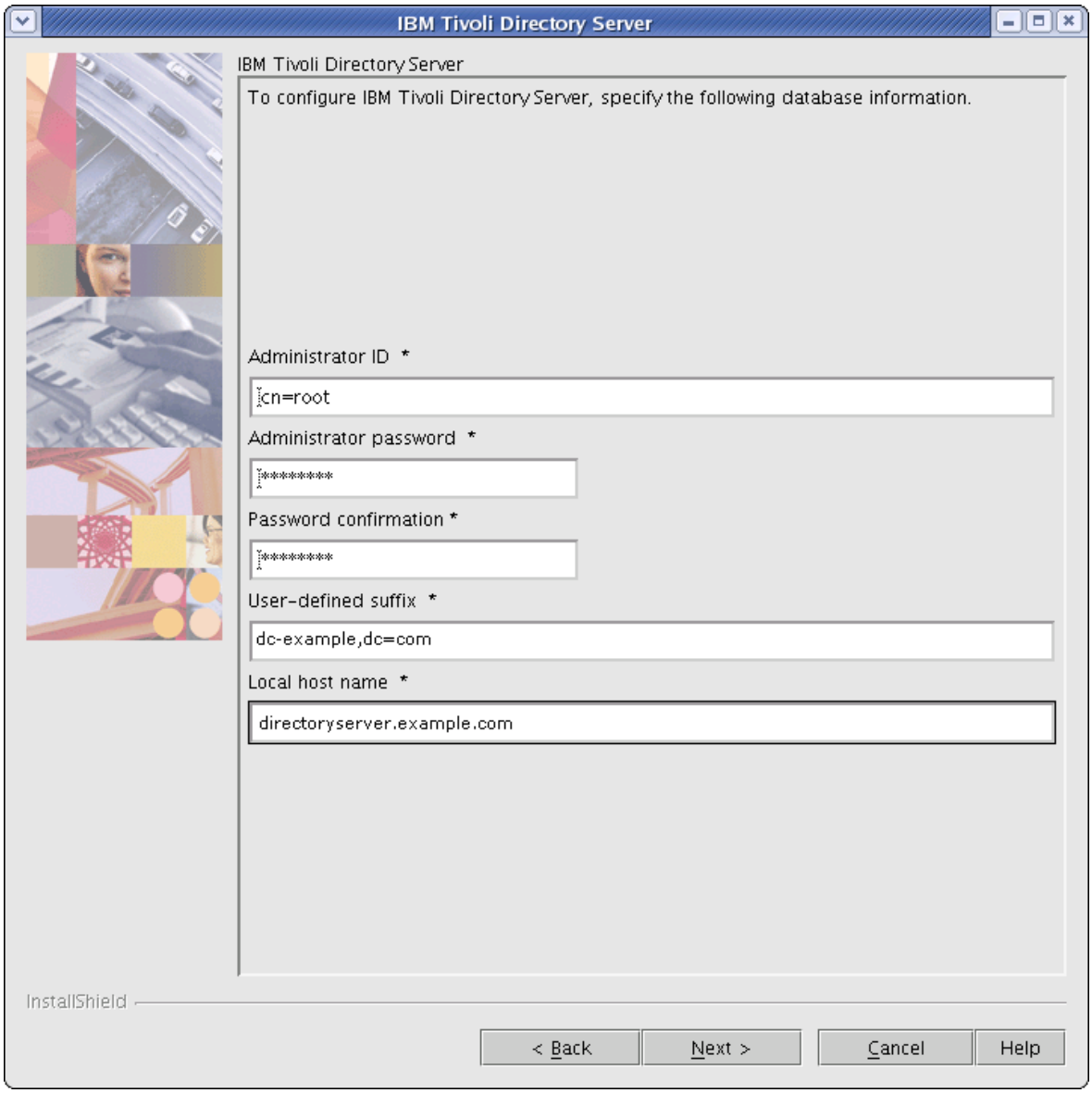
   a. **Administrator password**: Enter a password and remember it. This password will re-occur throughout the configuration and will be referred to as `sn=root`.

   b. **User-defined suffix**: `dc=<domain>,dc=<ext>` For example, if your domain is `example.com`, then the User-defined suffix should read: `dc=example,dc=com`.

   c. Confirm that the **Local hostname** is correct.

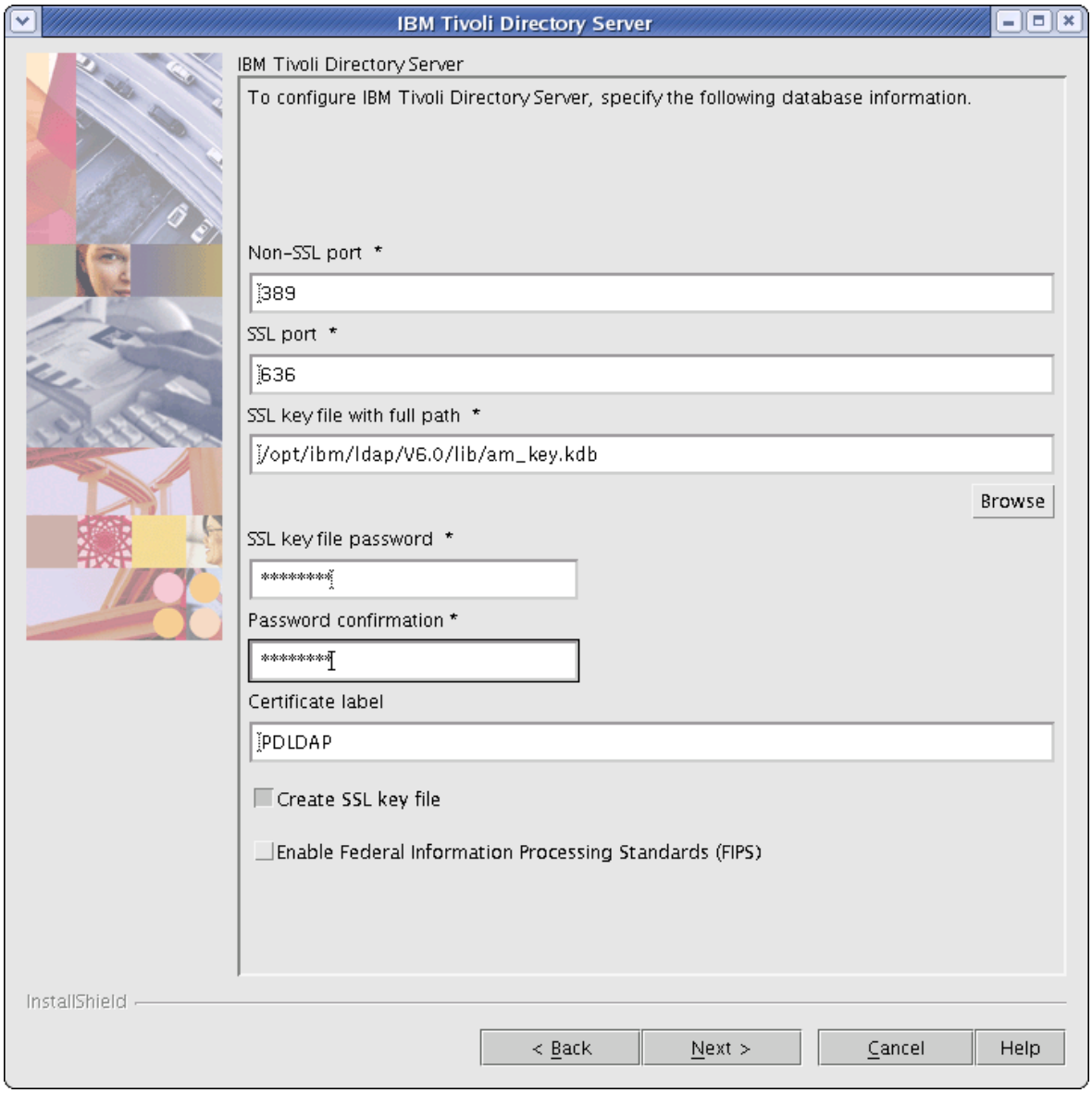
   d. Click **Next**.

Figure 15–6 Database Information Continued



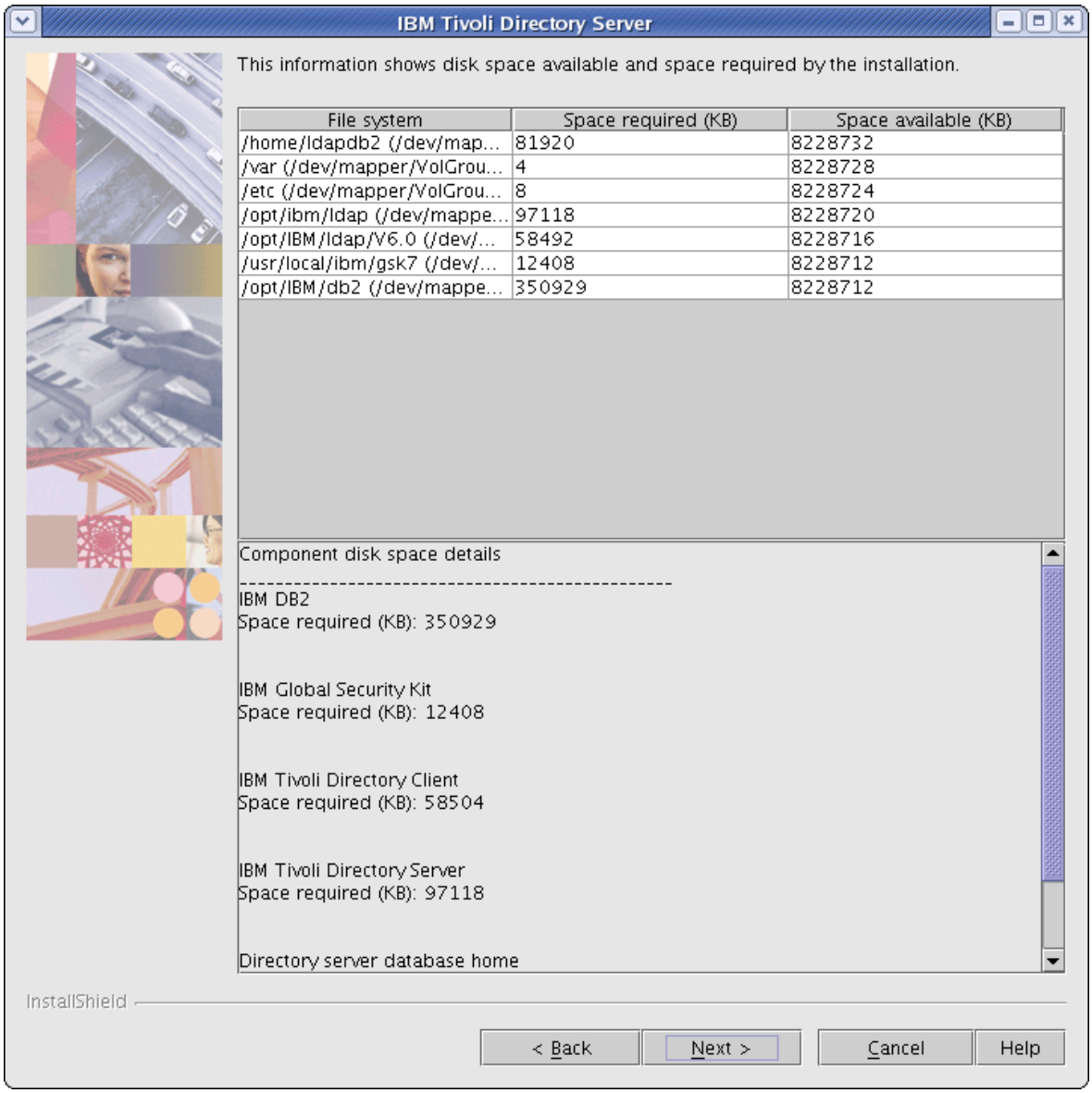
9. On the third configuration page (Figure 15–7):
   a. Fill in the fields:
      - **SSL key file password**: Enter a password for SSL.
      - **Non-SSL port**: Confirm the Non-SSL port value is set to `389`. If the Non-SSL has been changed, use the new value when installing WebCenter Sites.
   b. Click **Next**.

Figure 15–7 Database Information Continued



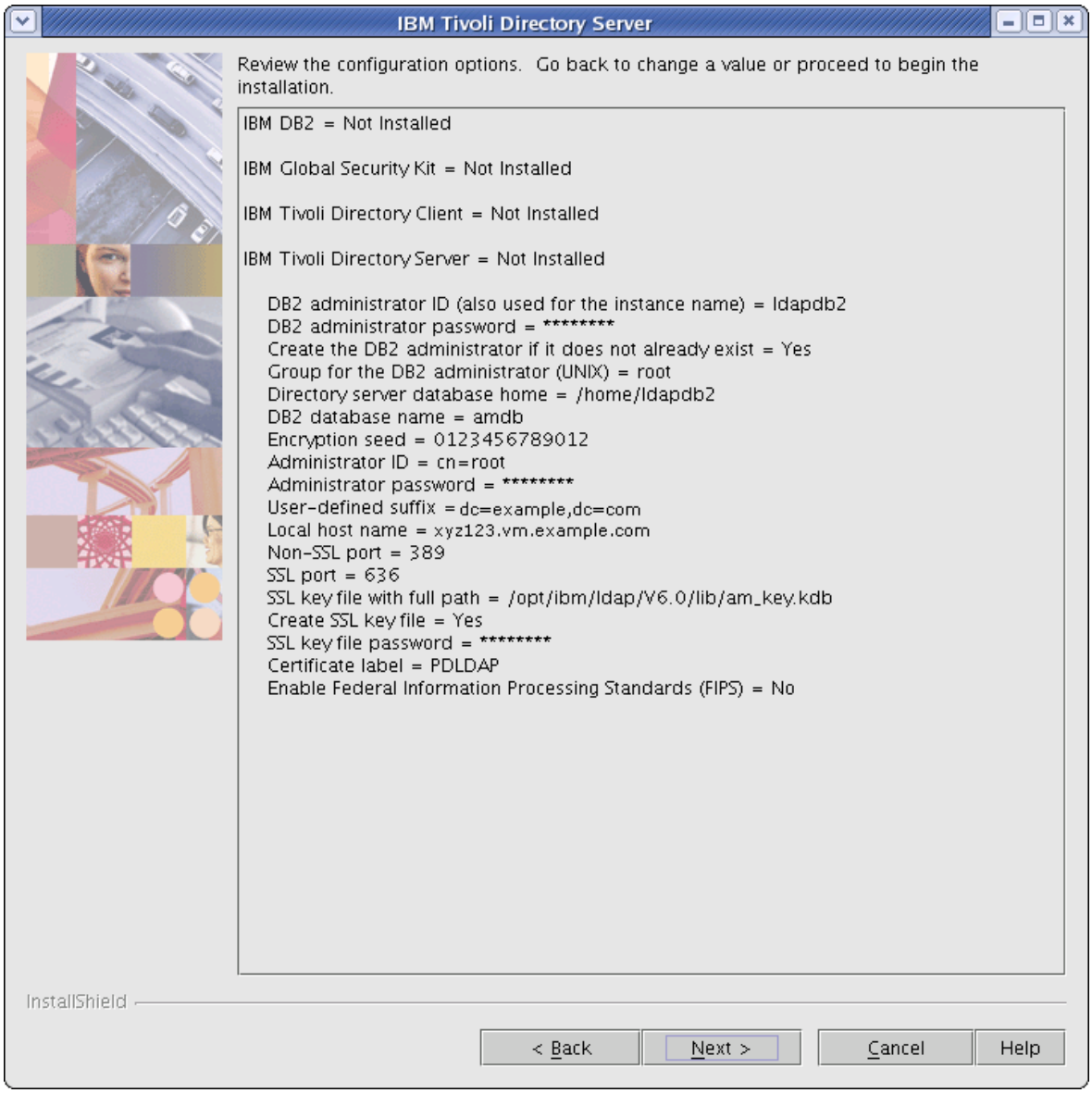
10. Confirm that enough disk space exists for the installation to succeed (Figure 15–8) and click **Next**.

Figure 15–8 Disk Space



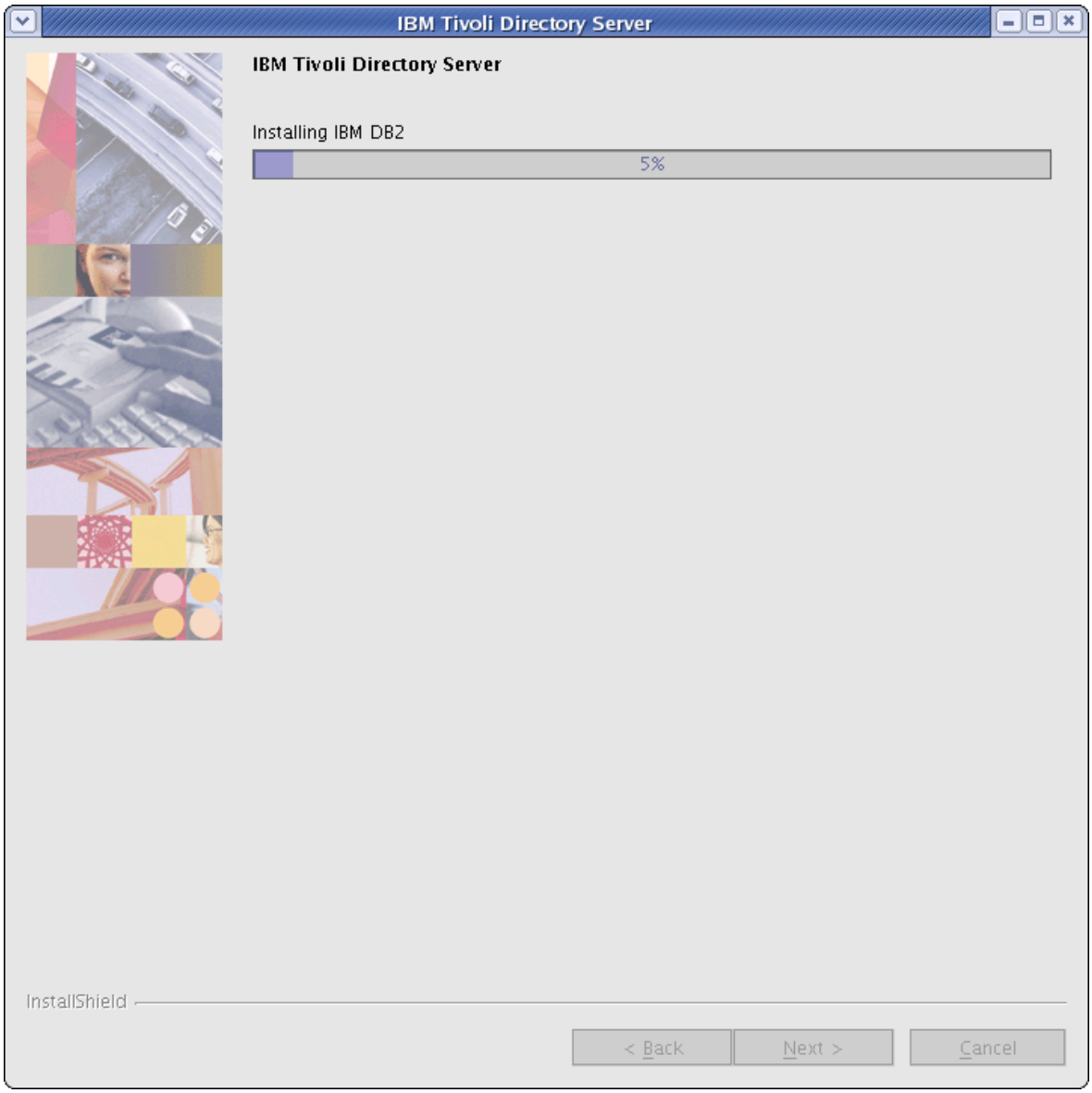
11. Review the summary (Figure 15–9) and click **Next**.

Figure 15–9 Configuration Options Review



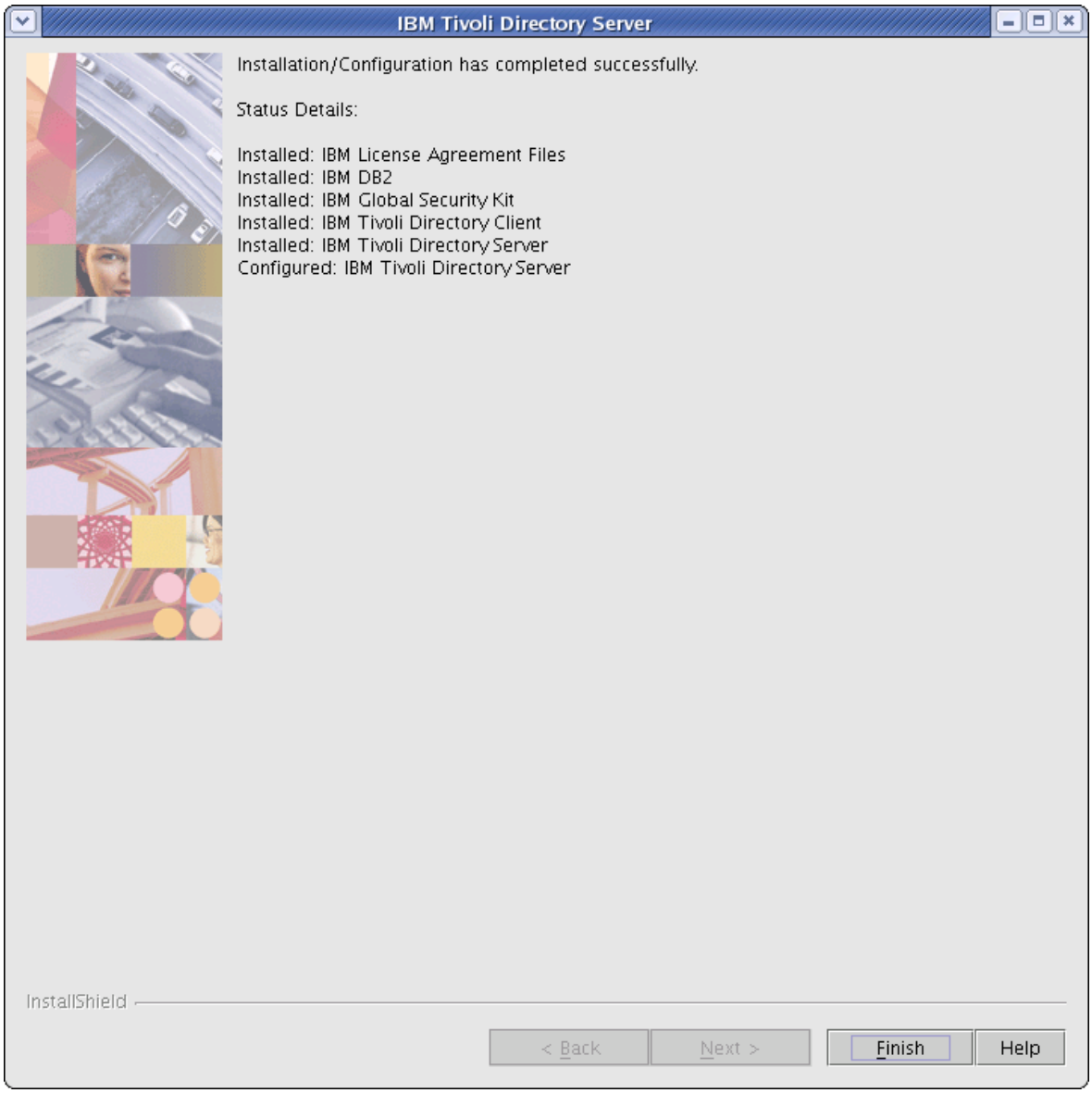
12. Wait for the installer to finish (Figure 15–10).

Figure 15–10 IBM Tivoli Directory Server Installation in Progress



13. Click **Finish**. The installation is now complete (Figure 15–11).

Figure 15–11 IBM Tivoli Directory Server Installation Completed



15.4 Configuring Tivoli Directory Server

Note: Only IBM TDS with `sha` encryption is supported by WebCenter Sites.

1. In a text editor open:

   `/home/<ldap user>/idsslapd-<ldap user>/etc/ibmslapd.conf.`

2. Search for the `ibm-slapdPwEncryption` parameter and change the value to `sha`.
3. Save the change in the text editor.

Completing and Verifying the LDAP Configuration

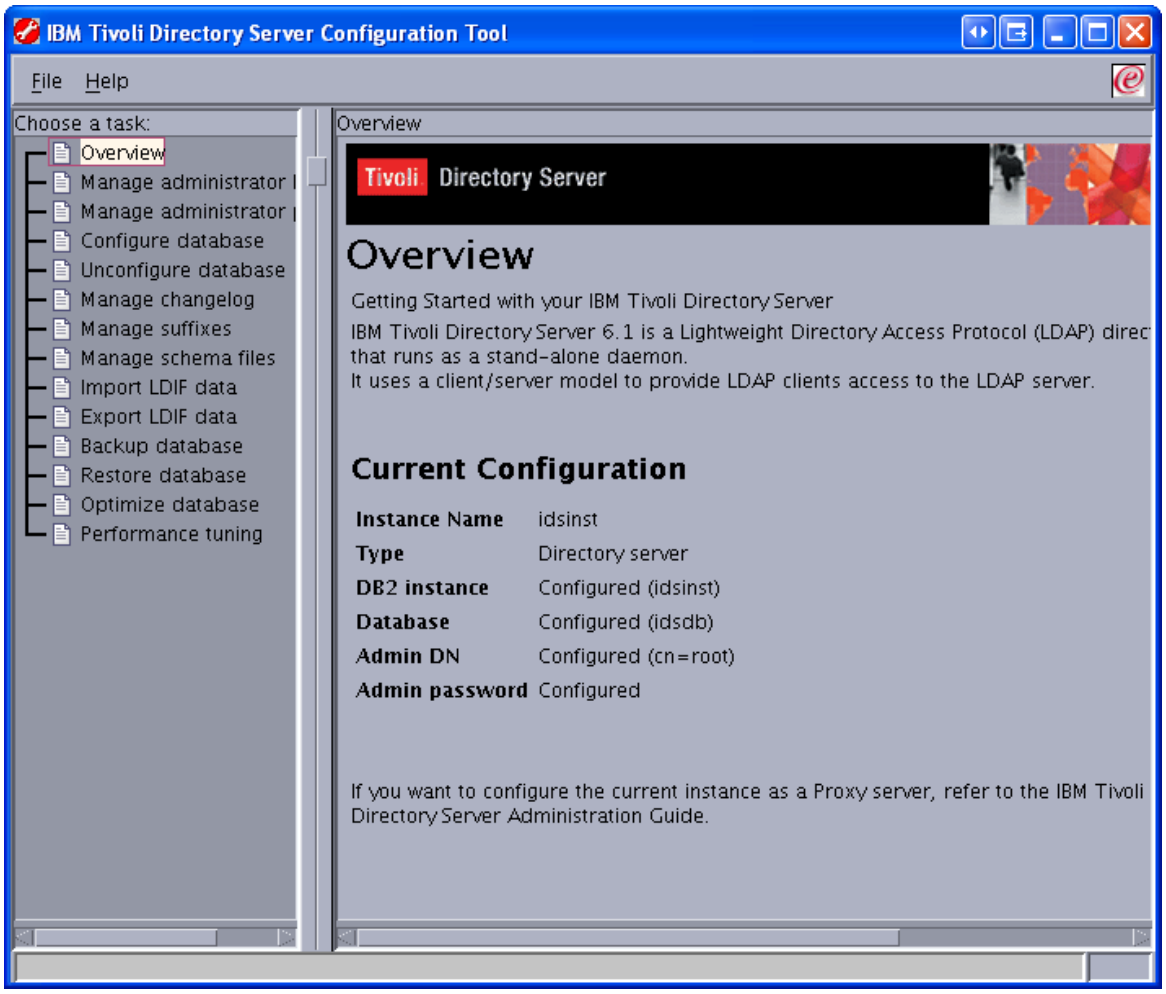
1. Start the IBM TDS instance:

   ```
   <LDAP Install directory>/sbin/idsslapd -I <instance name>
   ```

2. Start the IBM TDS instance configuration tool (your display (Figure 15–12) must be set in order to continue the configuration process):

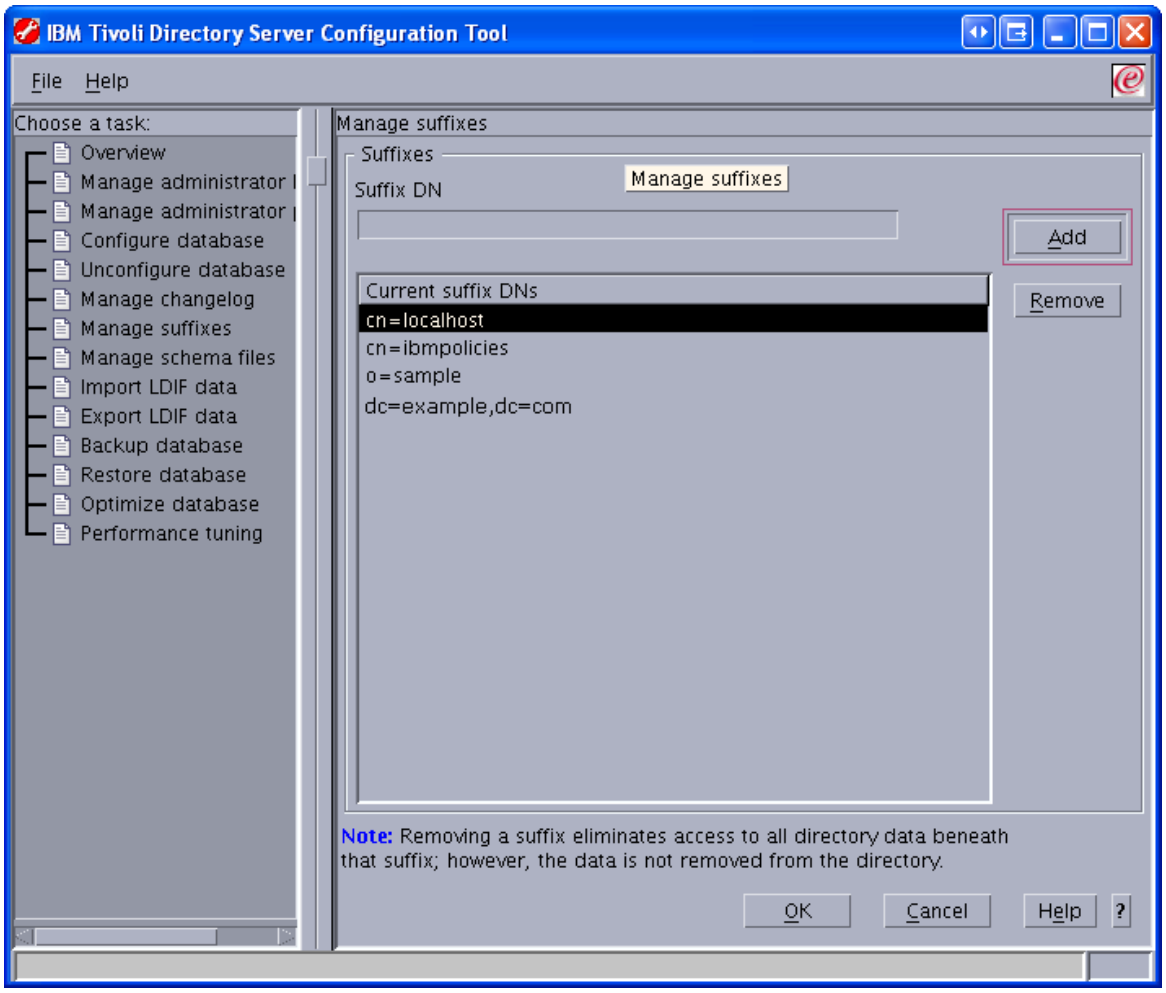
   ```
   <LDAP Install directory>/sbin/idsxcfg -I <name of instance>
   ```

Figure 15–12 IBM Tivoli Directory Server Configuration Tool



3. Select **Manage suffixes** (Figure 15–13).

Figure 15–13 IBM Tivoli Directory Server Configuration Tool - Manage Suffixes



4. Make sure the User-defined suffix that was specified during installation appears in the list, then click **OK**.

Importing an LDIF file (LDAP Browser)

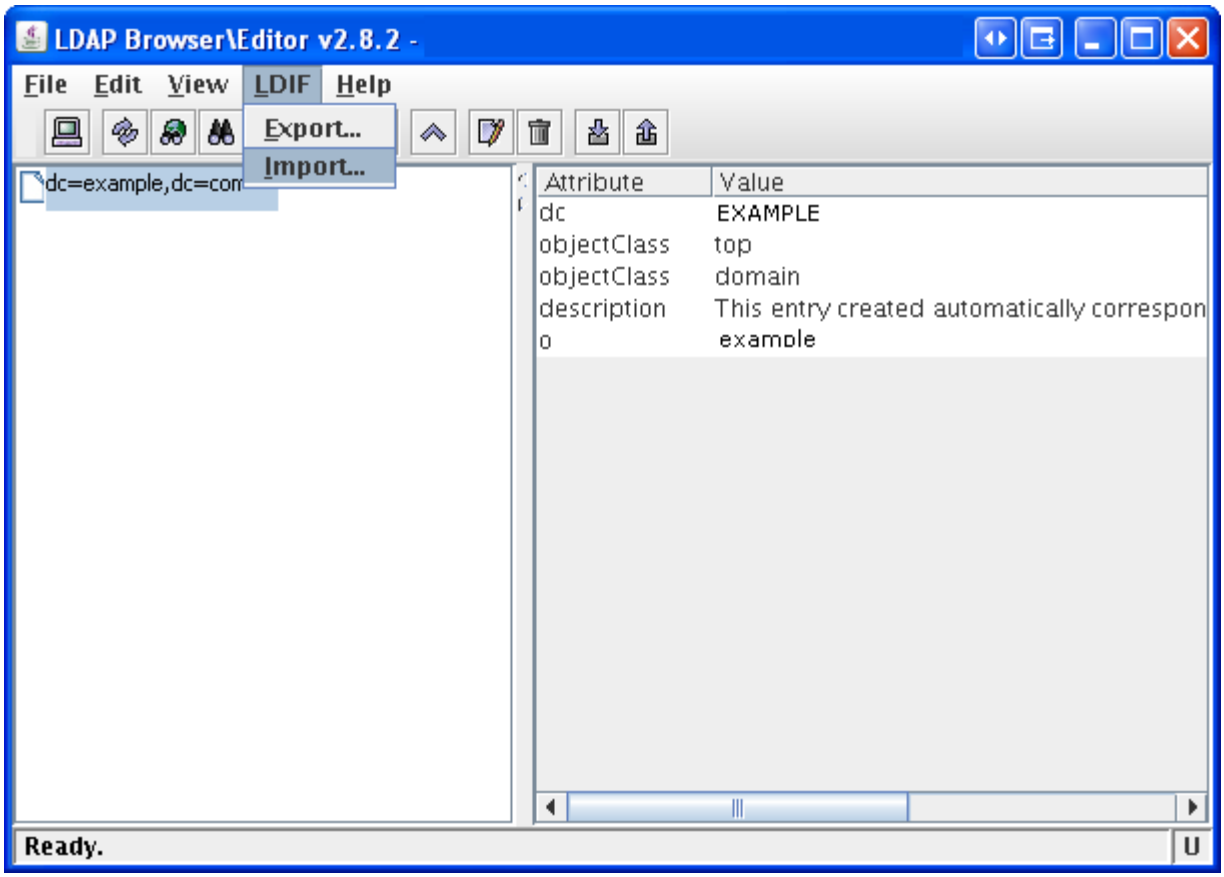
1. Start the IDM TDS instance:

```
<LDAP Install directory>/sbin/idsslapd -I <instance name>
```

2. Connect to IBM TDS using the LDAP browser, for instructions see Section 15.5, "Connecting to IBM TDS Using the LDAP Browser".

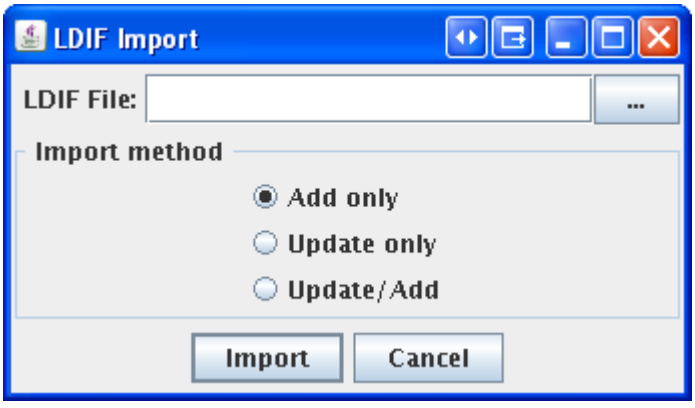
3. Select: `dc=<domain>,dc=<ext>`. Click the **LDIF** menu, and select **Import** (Figure 15–14).

Figure 15–14 LDAP Browser\Editor - Import



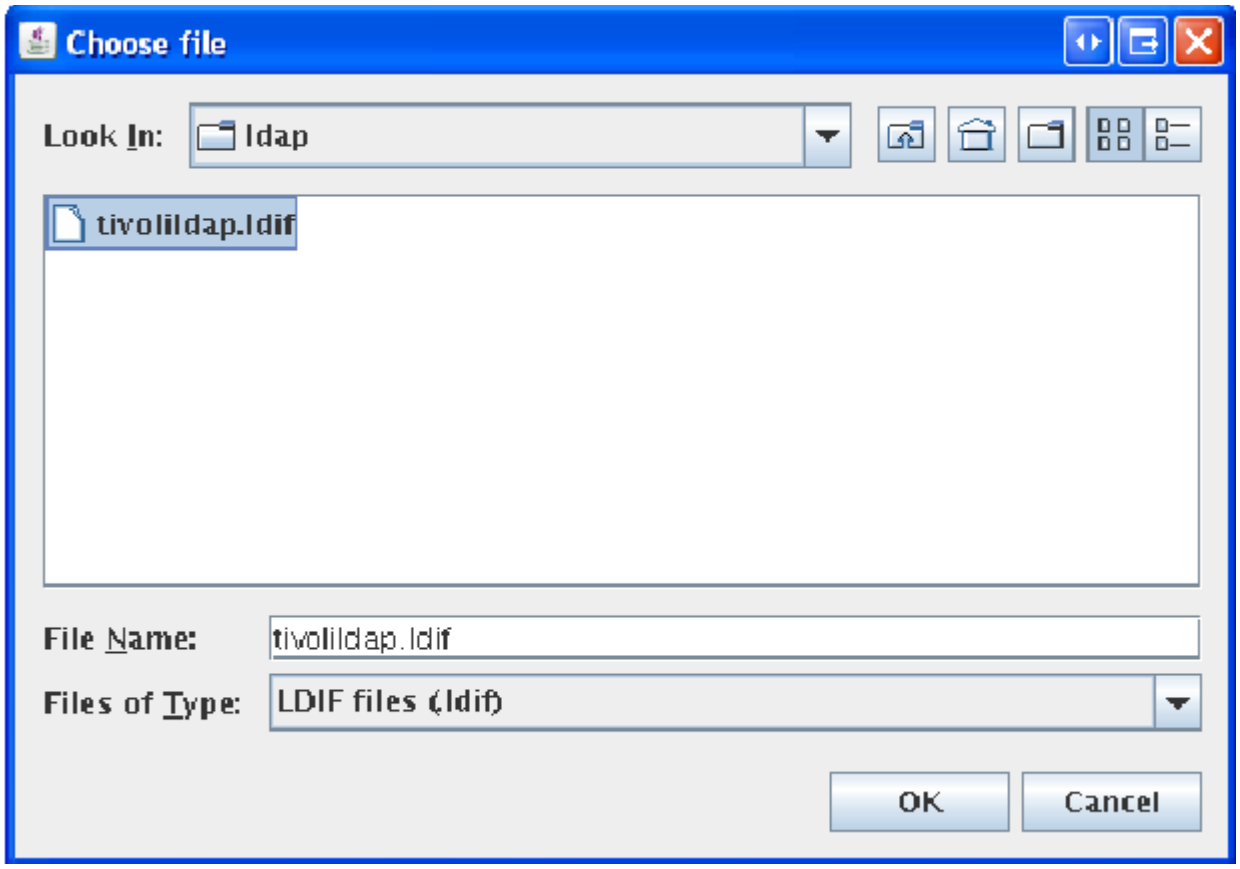
4. Click the **Add only** button (Figure 15–15).

Figure 15–15 LDIF Import



5. Browse to the LDIF file `<cs_install_dir/ldap>/tivolildap.ldif` (Figure 15–16) and click **OK**.

Figure 15–16 tivolildap.ldif



6. Click **Import**.

> **Note:** The root entry will fail to import because it already exists, but all others will import successfully.

7. Click **OK** (Figure 15–17).

Figure 15–17 LDIF Import - Finished

Importing an LDIF file (Configuration Tool)

1. Convert the LDIF file to UNIX format using the `dos2unix` utility.

- **Linux**: `dos2unix <tivolildap.ldif>`
- **Solaris**: `mv tivolildap.ldif > tivolildap2.ldif dos2unix tivoli.ldap2.ldif > tivolildap.ldif`

2. Stop the IBM TDS instance:

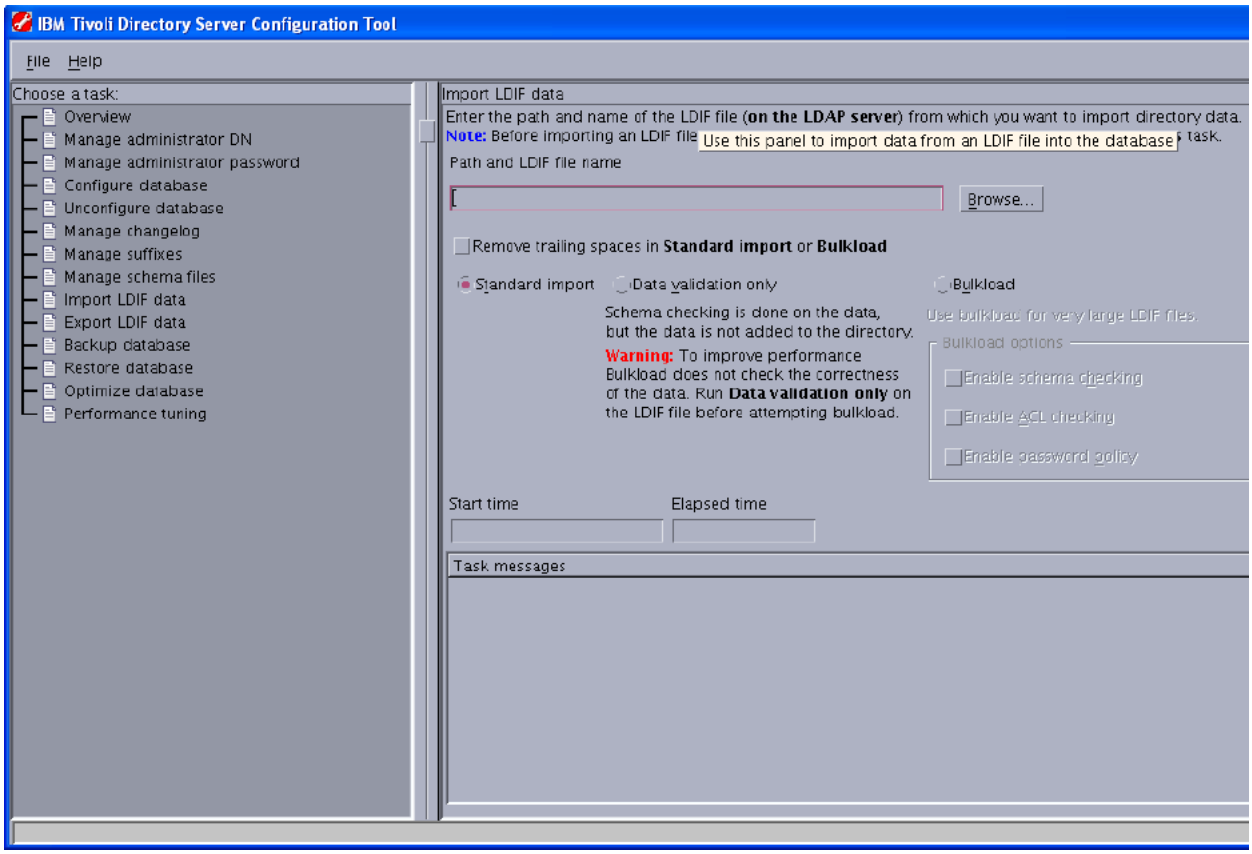
```
<LDAP Install directory>/bin/ibmdirctl stop -h localhost -D cn=root -w
<password for cn=root>
```

3. Start the IBM TDS instance configuration tool (your display must be set in order to continue with the import process):

```
<LDAP Install directory>/sbin/idsxcfg -I <name of instance>
```

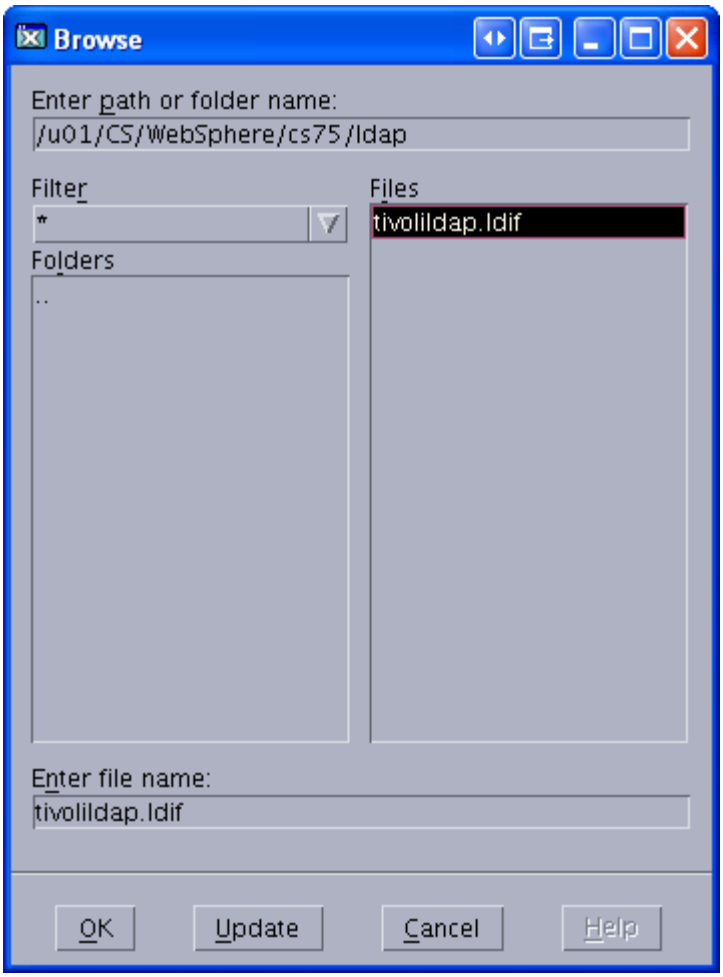
4. Select **Import LDIF data** (Figure 15–18).

Figure 15–18 Path and Name of the LDIF File on the LDAP Server



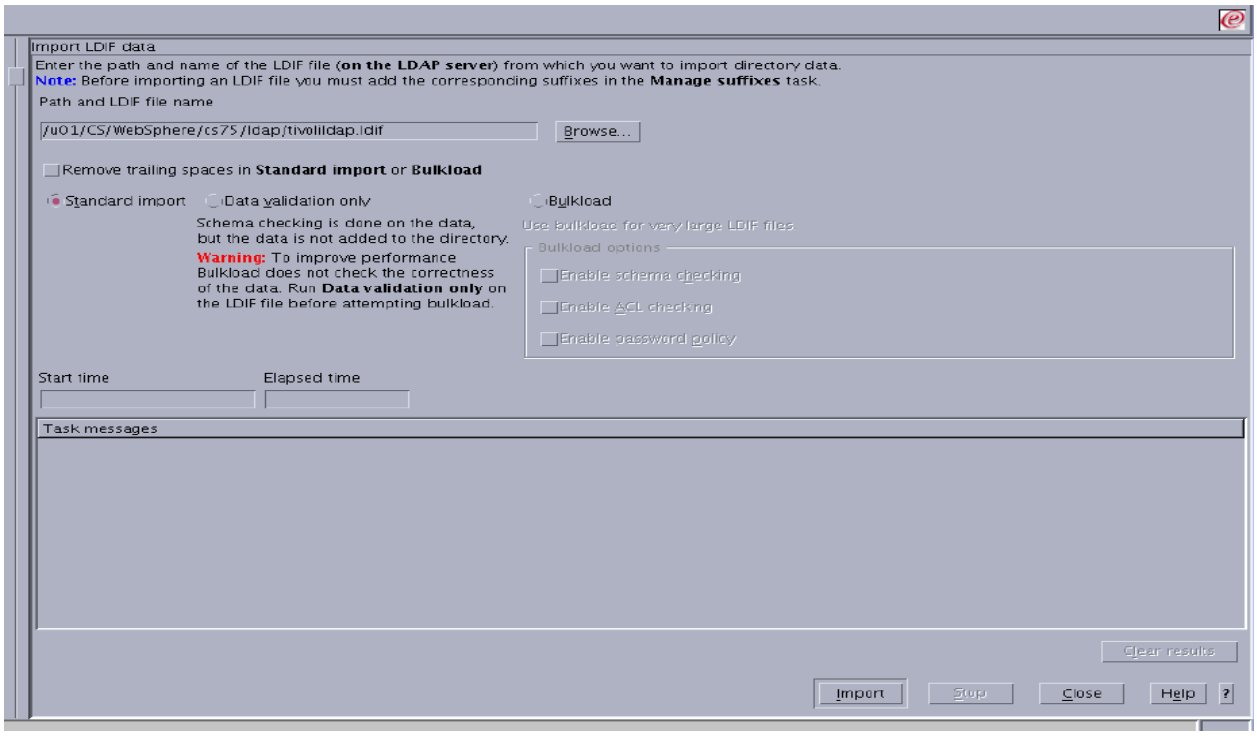
5. Click **Browse**.
6. Browse to the LDIF file (Figure 15–19) you wish to import and click **OK**.

Figure 15–19 Browse Dialog Box



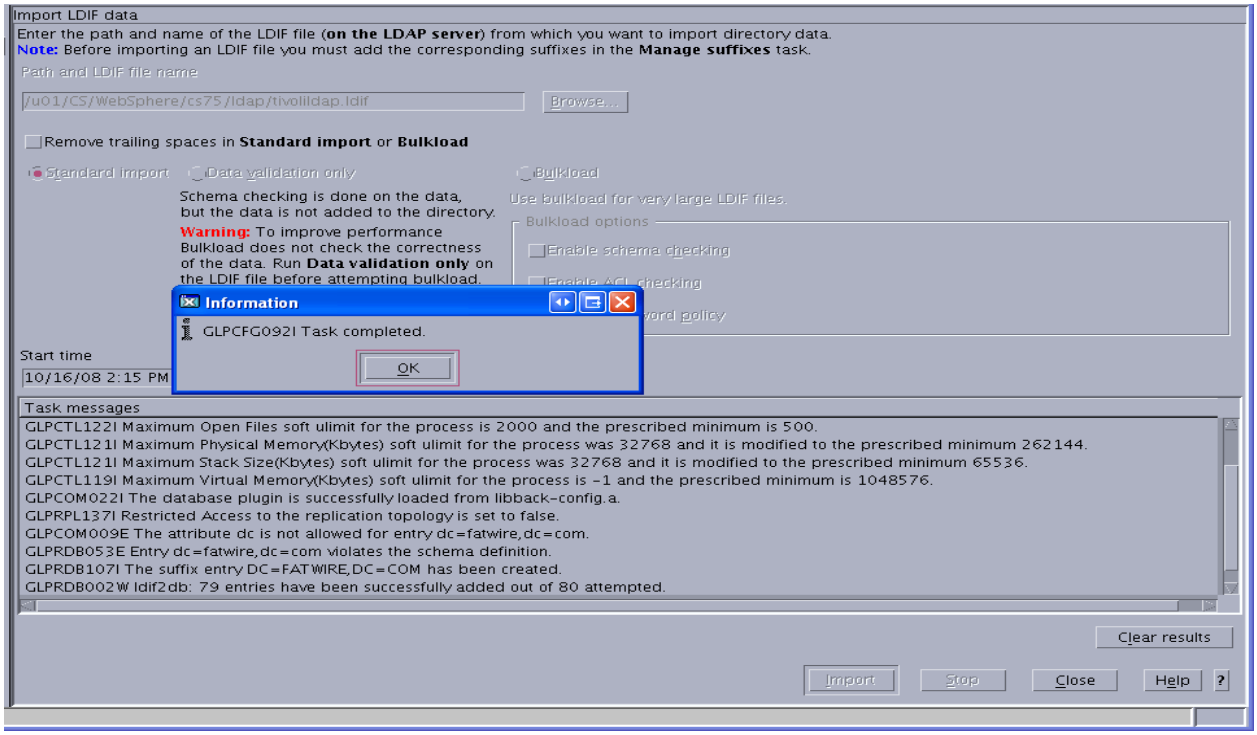
7. Click **Import** (Figure 15–20).

Figure 15–20 Import Button



8. Click **OK** when the import is complete (Figure 15–21).

Figure 15–21 Information Dialog Box



Adding Users and ACLs using an LDIF file

1. Create a blank LDIF file (for example, `addstuff.ldif`).

2. For each user that you wish to add, add the following to the LDIF file:

```
dn: uid=<User_Name>,cn=users,dc=<domain>,dc=<ext>
userPassword: <password>
uid: <User_Name>
objectClass: top
objectClass: person
objectClass: organizationalPerson
objectClass: inetOrgPerson
sn: <User_Name>
cn: <User_Name>
```

3. For each ACL you wish to add, add the following to the LDIF file:

```
dn: cn=<ACL Name>,cn=groups,dc=<domain>,dc=<ext>
objectClass: top
objectClass: groupOfNames
member: uid=<User_Name 1>,cn=users,dc=<domain>,dc=<ext>
member: uid=<User_Name 2>,cn=users,dc=<domain>,dc=<ext>
.
.
.
member: uid=<User_Name n>,cn=users,dc=<domain>,dc=<ext>
```

4. Import the LDIF file by following the steps in Section , "Importing an LDIF file (LDAP Browser)" or Section , "Importing an LDIF file (Configuration Tool)."

15.5 Connecting to IBM TDS Using the LDAP Browser

1. Download and install the LDAP browser.
2. Start the LDAP browser:

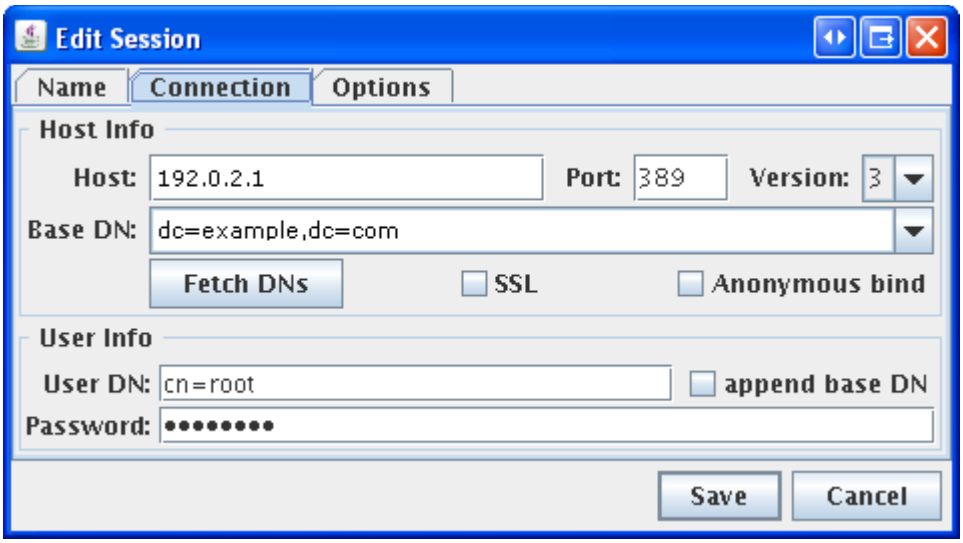
```
./lbe.sh
```

3. Fill in the required fields:
   - **Host**: Enter the IP or hostname of IBM TDS.

     Note: The default port which IBM TDS runs on is `389`.

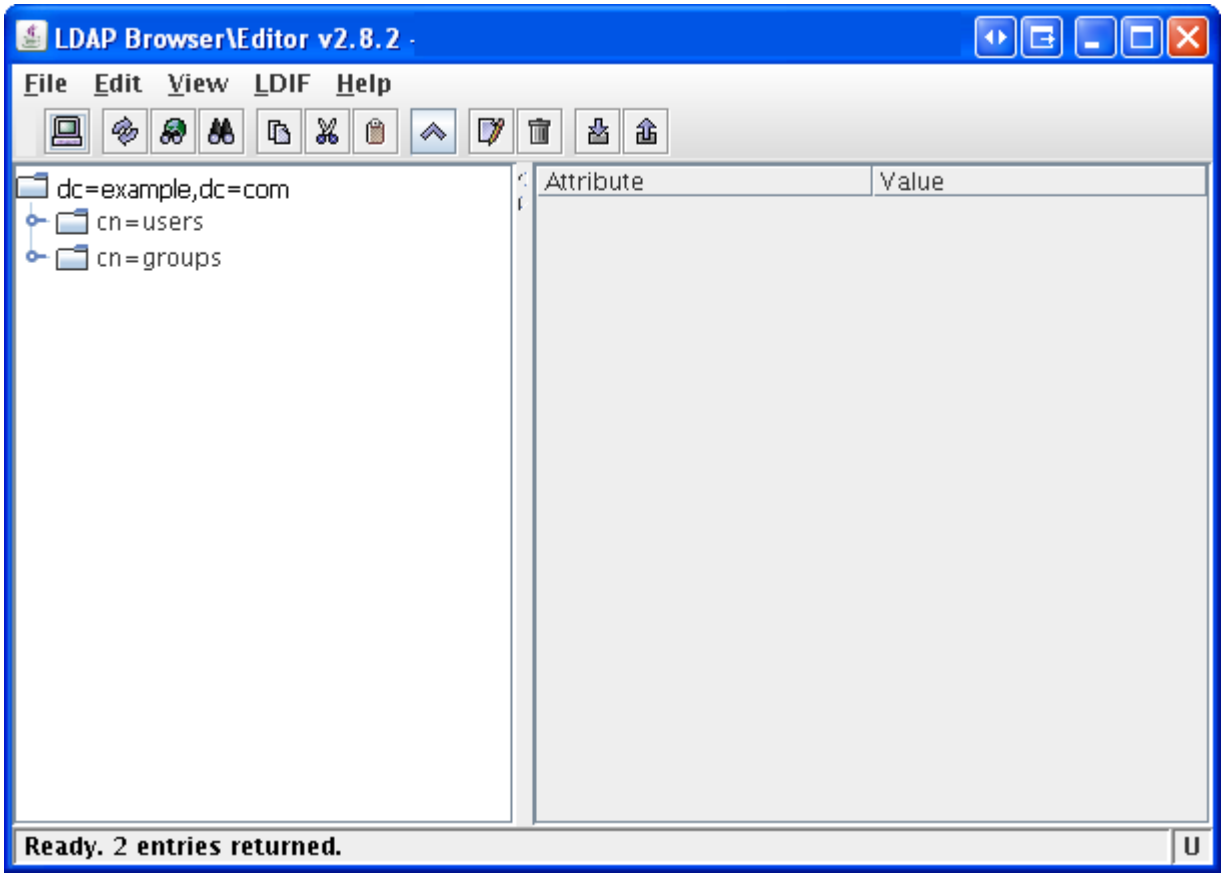
   - **Port**: Enter the port on which IBM TDS is running.
   - **Base DN**: Enter the user-defined suffix that was entered during the installation of IBM TDS (see step 8 for more information about the User-defined suffix).
   - **Anonymous bind**: Deselect the check box
   - **User DN**: Enter `cn=root`
   - **Password**: Enter the password for `cn=root` (Figure 15–22).

Figure 15–22 Edit Session Dialog Box



4. Click **Save** (Figure 15–23).

Figure 15–23 LDAP Browser\Editor



16

Installing Microsoft Active Directory 2012

This chapter provides instructions for configuring the Microsoft Windows Server 2012 system settings, configuring network settings, installing Microsoft Windows Active Directory 2012, checking and changing group policies, and connecting to the Active Directory Server using an LDAP browser.

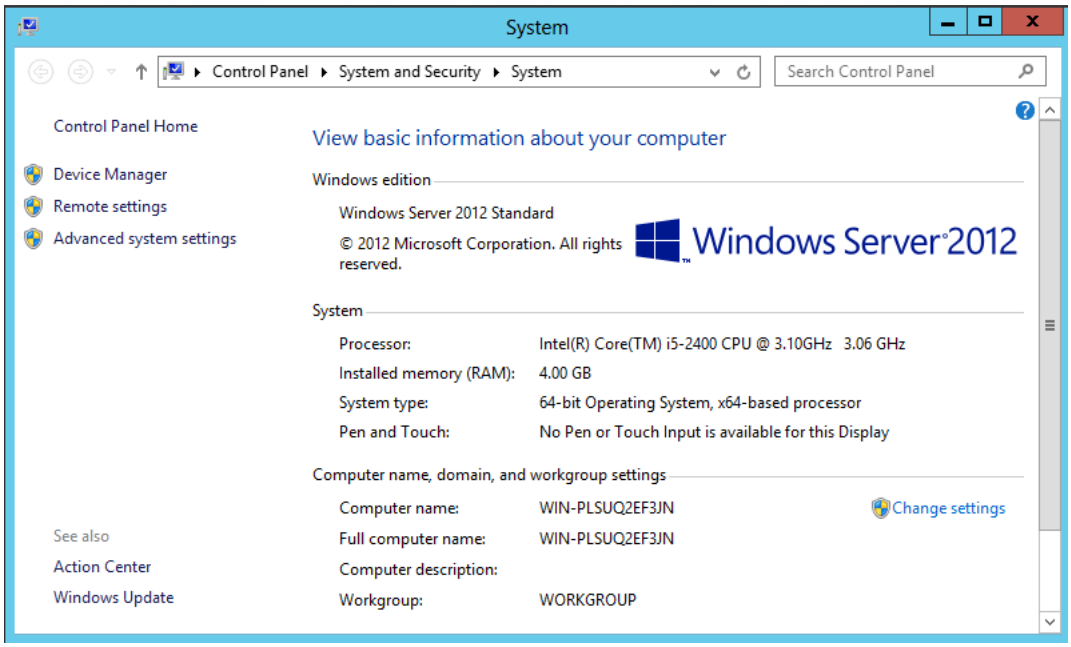
This chapter contains the following sections:

16.1 Configuring OS System Settings

Follow these steps to configure the OS system settings:

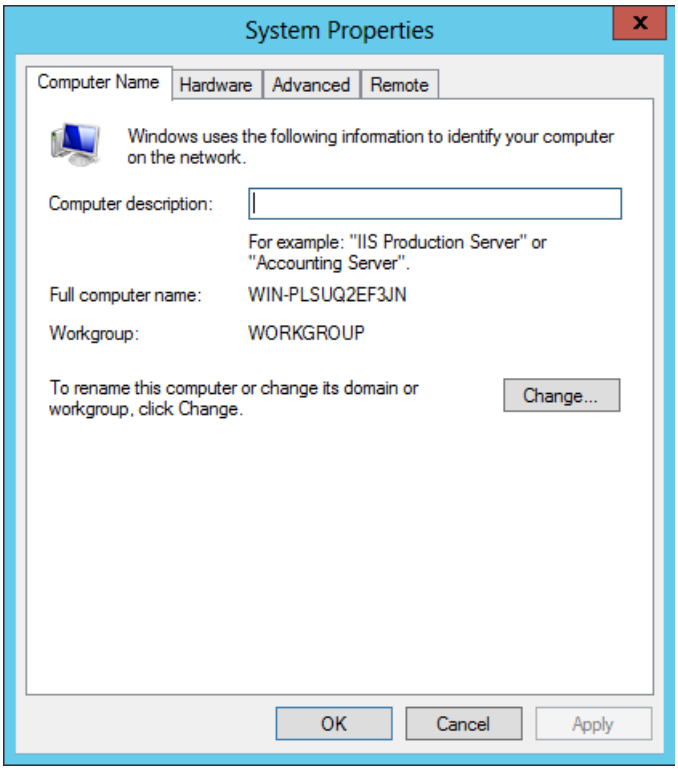
1. Install Windows Server 2012 (any Windows server except Web).
2. When the installation is complete, leave the installation disc in the drive, you will need it to complete the installation of Active Directory Server.
3. Set the computer name and DNS suffix.
4. Open the System Properties dialog (Figure 16–1), and select **Advanced system settings**.

Figure 16–1 Windows Server 2012 Control Panel: System



5. On the System Properties dialog, select the **Computer Name** tab (Figure 16–2) and click **Change**.

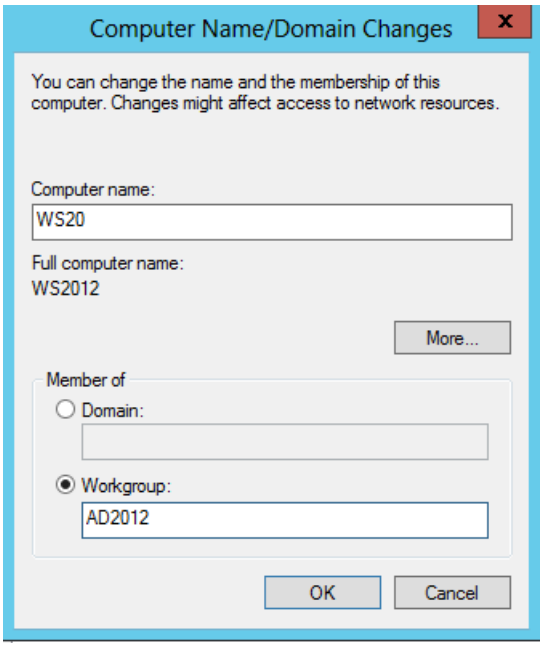
Figure 16–2 System Properties



6. On the Computer Name/Domain Changes dialog (Figure 16–3), complete the following fields:

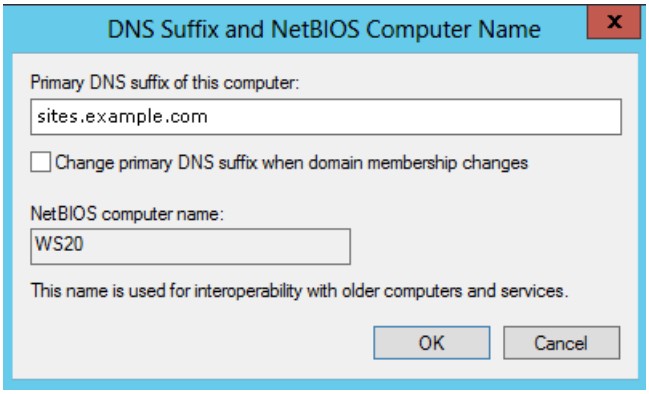
- **Computer name**: Enter the name you wish to designated for your computer. Make a record of this name.
- **Member of**: Select the **Workgroup** option, then enter a unique workgroup name. Make a record of this name.

Figure 16–3 Computer Name/Domain Changes



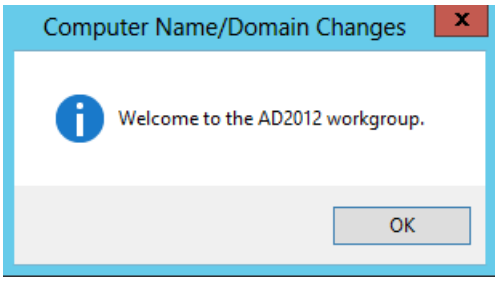
7. Click **More**.
8. On the DNS Suffix and NetBIOS Computer Name dialog (Figure 16–4), complete the following fields:
   - **Primary DNS suffix of this computer**: Enter the DNS suffix of your computer. Make a record of this suffix.
   - **Change Primary DNS Suffix when domain membership changes**: If this option is selected, deselect it.

Figure 16–4 DNS Suffix and NetBIOS Computer Name



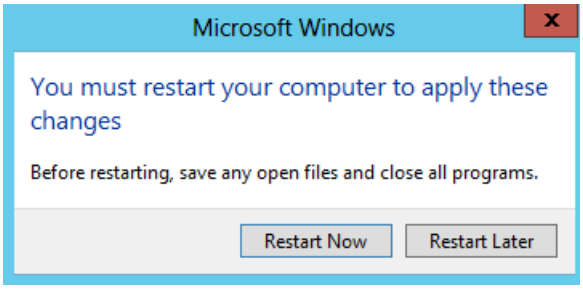
9. Click **OK** to close the dialog.
10. On the Computer Name/Domain Changes dialog (Figure 16–5), click **OK**.

Figure 16–5 Computer Name/Domain Changes



11. On the restart request dialog (Figure 16–6), click **Restart Later.**

Figure 16–6 Restart Dialog

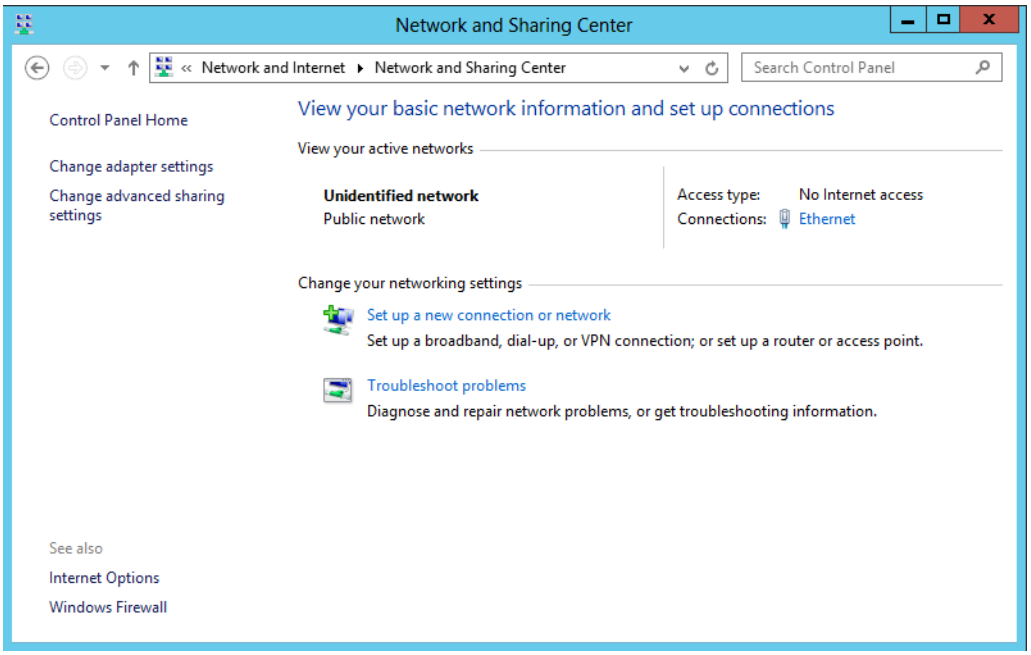


16.2 Configuring the Network Settings

Follow these steps to configure the network settings:

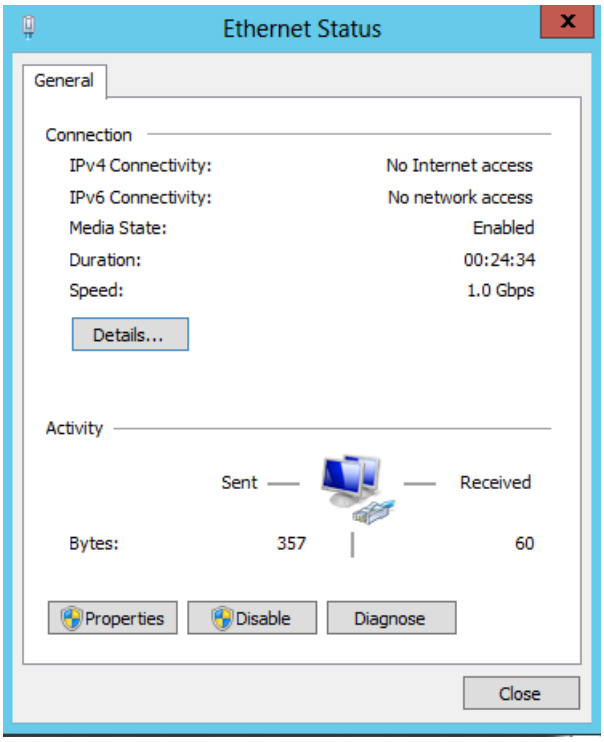
1. Open the Network and Sharing Center dialog (Figure 16–7).

Figure 16–7 Network and Sharing Center



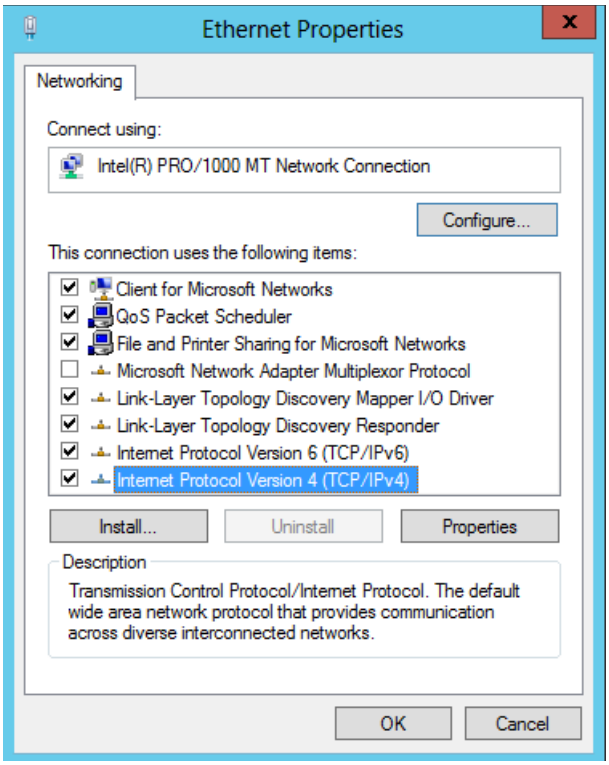
2. Select the Network Connection to edit (if you have more than one `ipconfig` result, make sure to select the correct connection).
3. On the Ethernet Status dialog (Figure 16–8) of your selected network, click **Properties**.

Figure 16–8 Ethernet Status



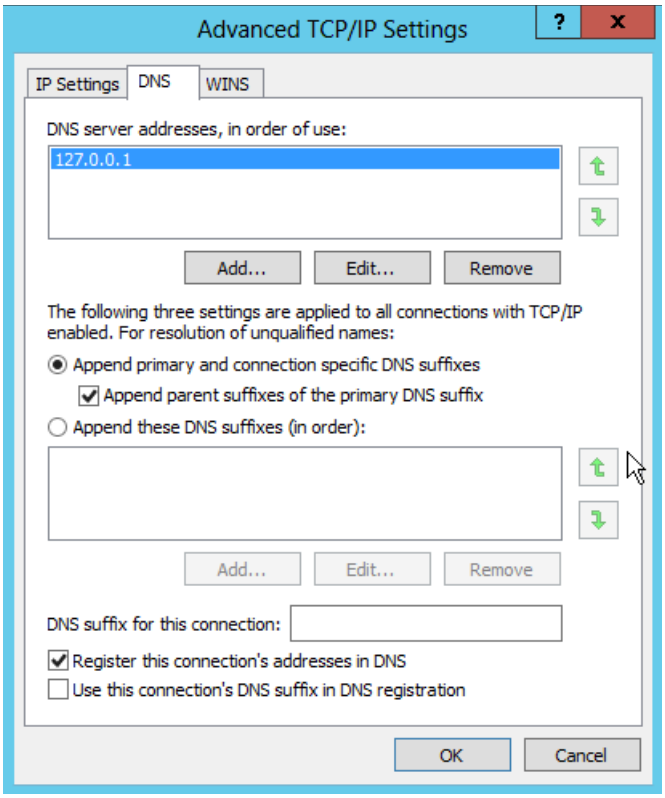
4. On the Ethernet Properties dialog (Figure 16–9), select **Internet Protocol Version 4 (TCP/Iv4)**.

Figure 16–9 Ethernet Properties



5. Set the IP address to an unused, static IP address. Set the preferred DNS server to your computer's IP address.
6. Click **Advanced**.
7. On the Advanced TCP/IP Settings dialog (Figure 16–10), select the DNS tab and complete the following tasks:
   - Enable the **Append primary and connection specific DNS suffixes** option.
   - Enable the **Append parent suffixes of the primary DNS suffix** option.

Figure 16–10 Advanced TCP/IP Settings



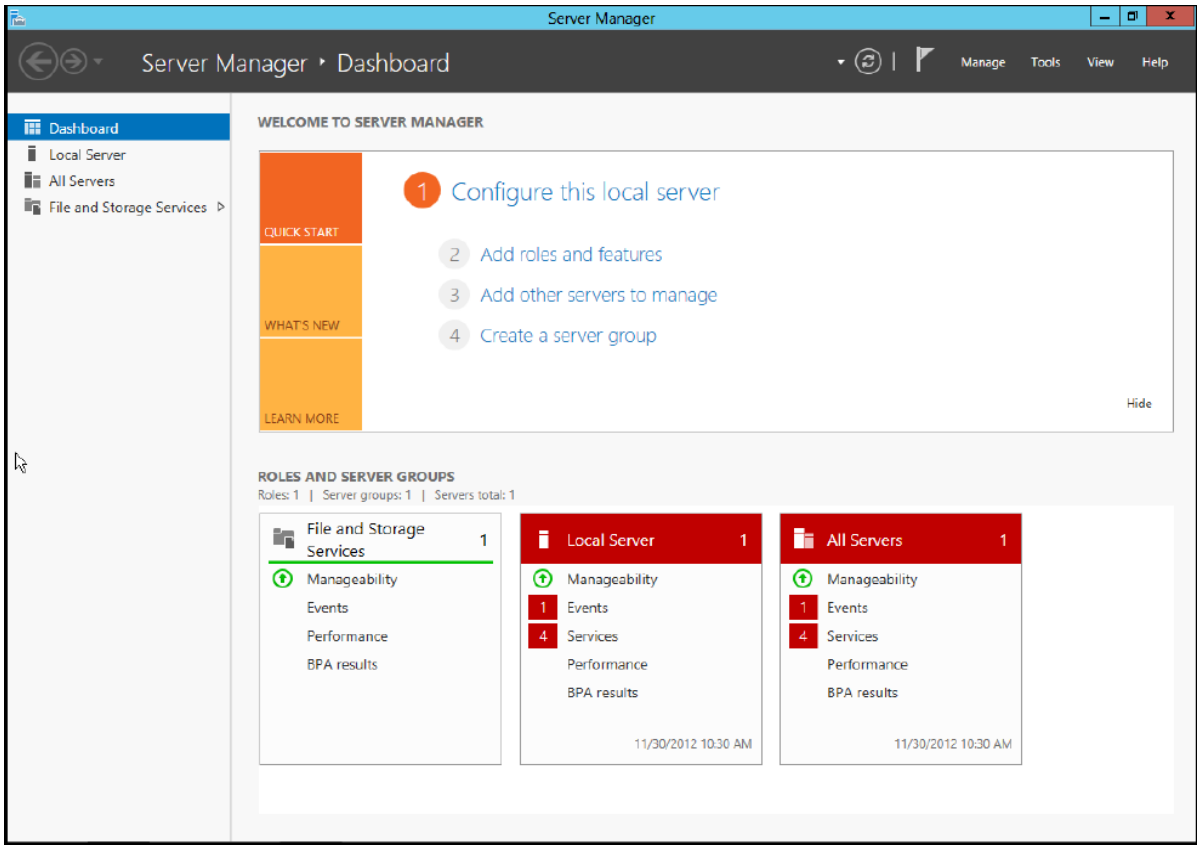
8. Click **OK** to close the Advanced TCP/IP Settings dialog.
9. Click **OK** to close the Ethernet Properties dialog.
10. Close the Network Connections dialog.
11. Restart the machine.

16.3 Installing Active Directory 2012

Follow these steps to install Active Directory 2012.

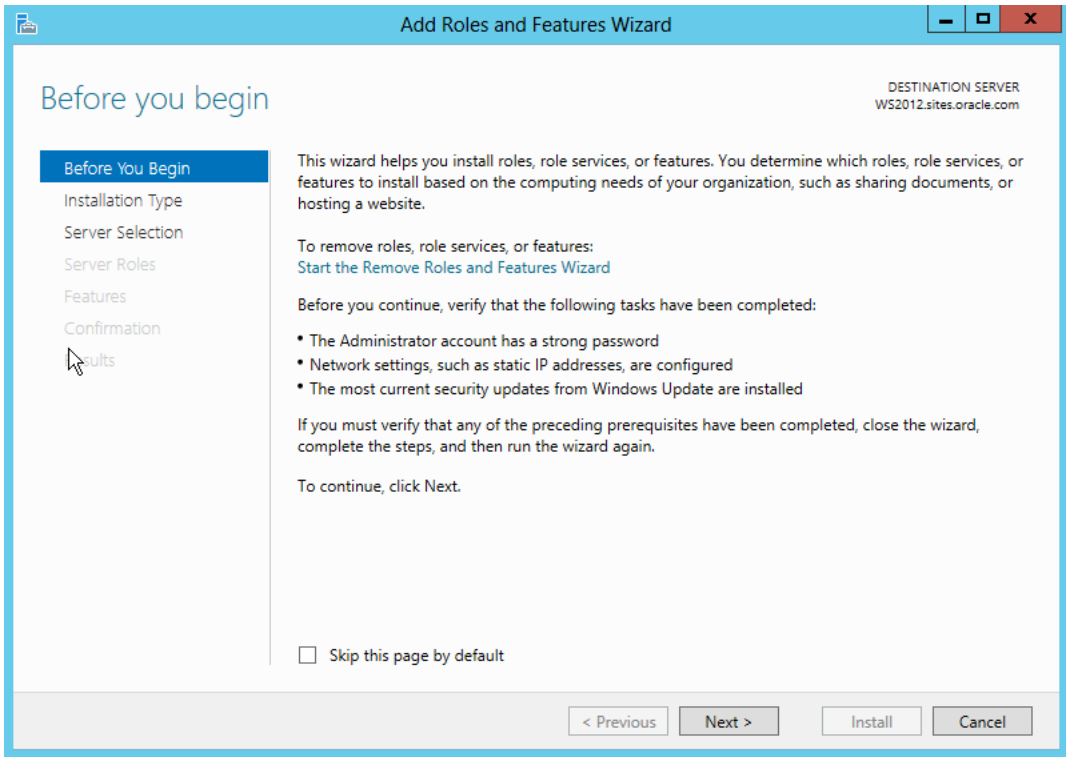
1. From the Server Manager Dashboard (Figure 16–11) click **Add roles and features**.

Figure 16–11 Server Manager Dashboard



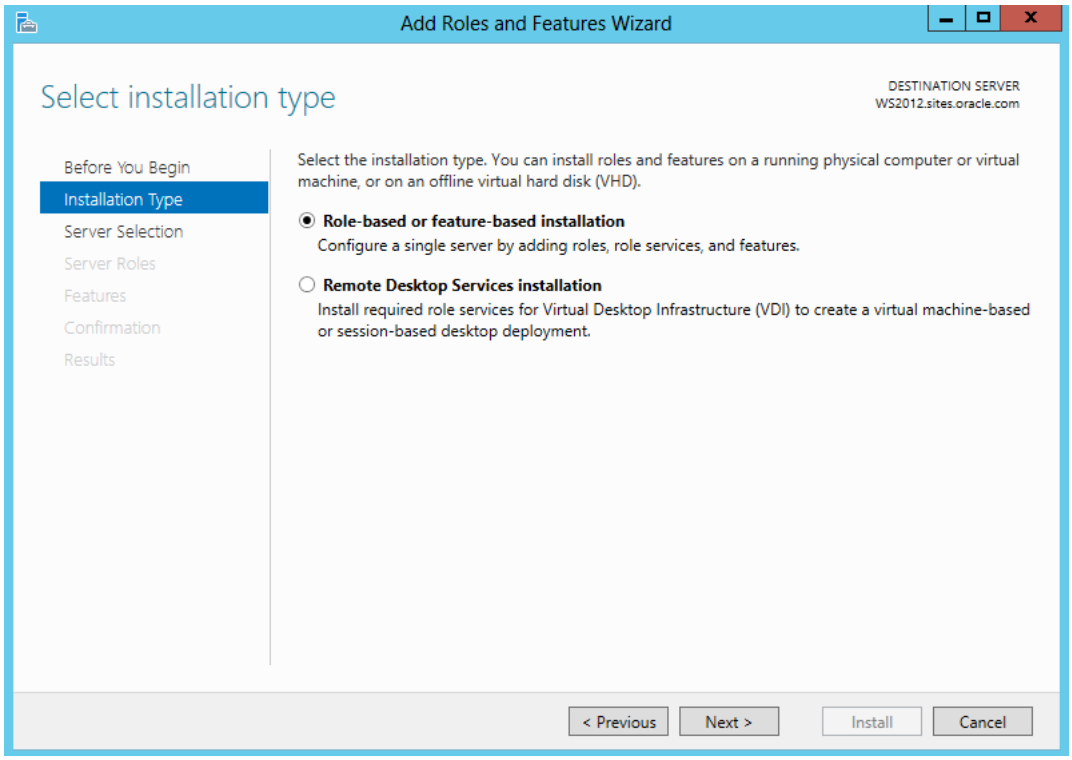
2. On the Add Roles and Features Wizard, read the *Before you begin* information (Figure 16–12) and click **Next**.

Figure 16–12 Add Roles and Features Wizard: Before You Begin



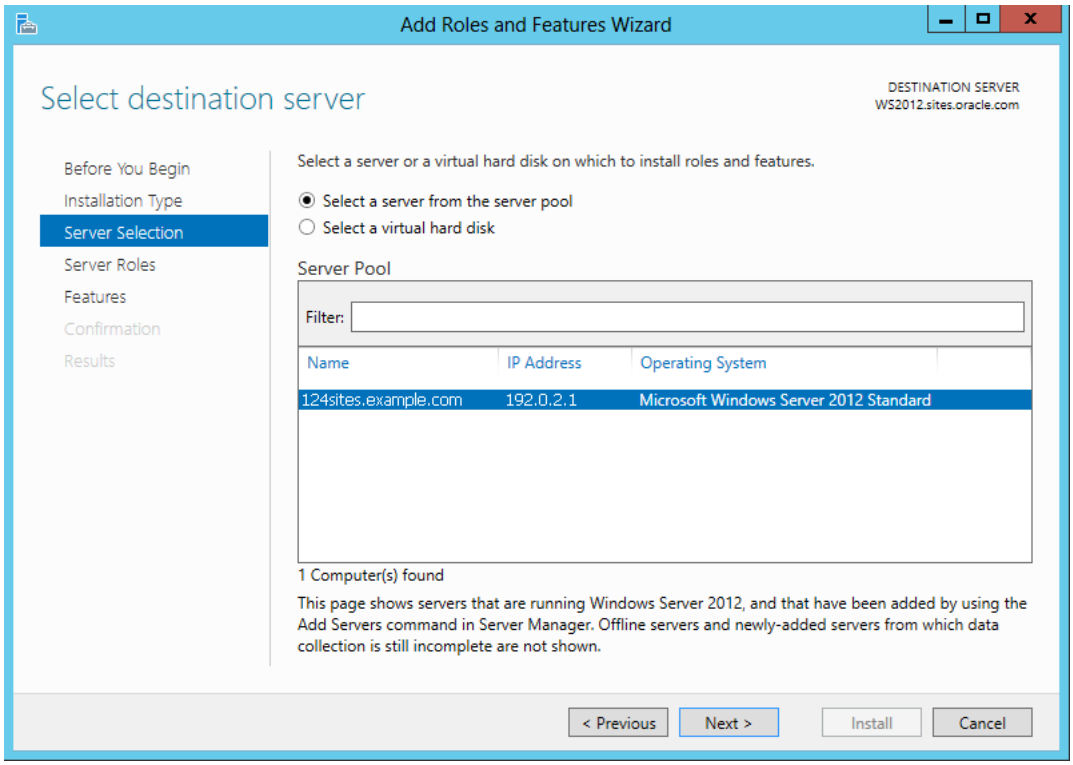
3. On the Select Installation Type step (Figure 16–13), select the role-based or feature-based installation option and click **Next**.

Figure 16–13 Add Roles and Features Wizard: Select Installation Type



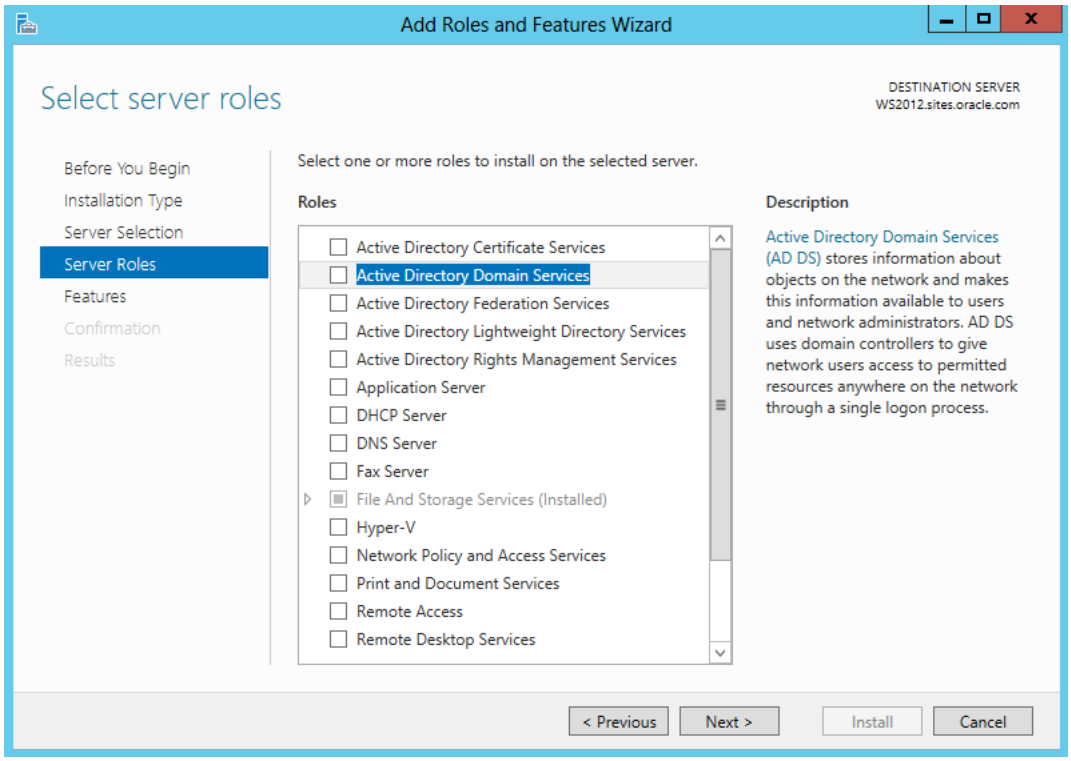
4. On the Select Destination Server step (Figure 16–14), enable the **Select a server from the server pool** option, select your server, and click **Next**.

Figure 16–14 Add Roles and Features Wizard: Select Destination Server



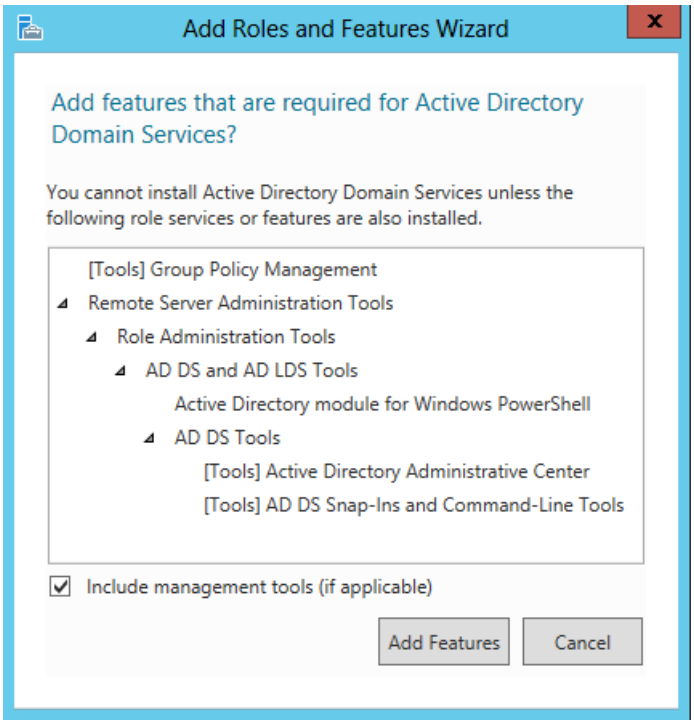
5. On the Select Server Roles step (Figure 16–15), select the **Active Directory Domain Services** option and click **Next**.

Figure 16–15 Add Roles and Features Wizard: Select Server Roles



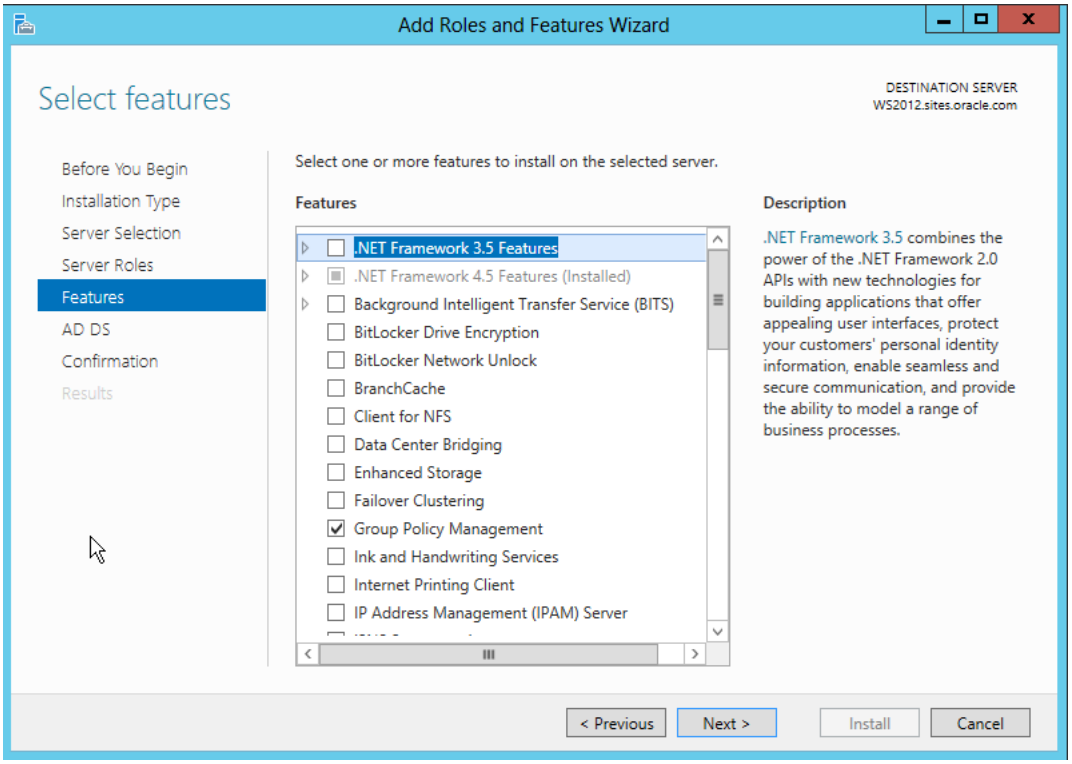
6. On the Add Roles and Features Wizard notice (Figure 16–16), click **Add Features** to install roles, services, and features that are needed by Active Directory Domain Services.

Figure 16–16 Add Roles and Features Wizard: Notice



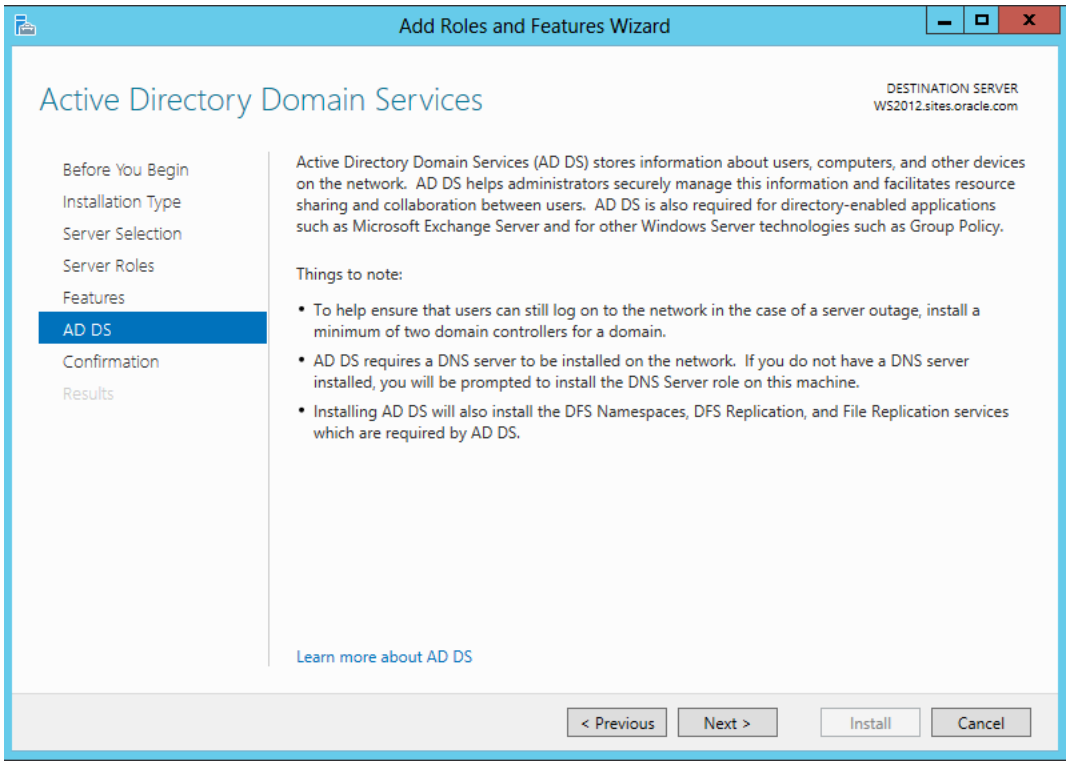
7. On the Select Features step (Figure 16–17), enable the **.NET Framework 3.5 Features** option (if it is not already enabled). Active Directory 2012 requires .NET Framework 3.5 be installed. Click **Next**.

Figure 16–17 Add Roles and Features Wizard: Select Features



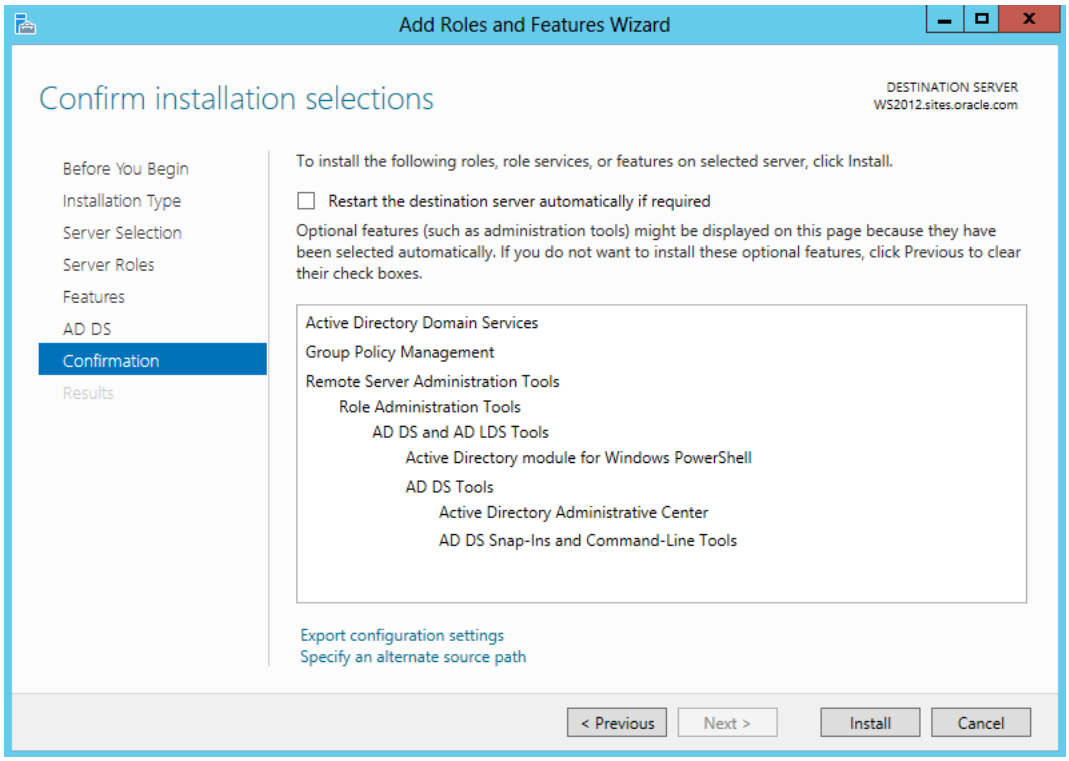
8. On the Active Directory Domain Services step (Figure 16–18), click **Next**.

Figure 16–18 Add Roles and Features Wizard: Active Directory Domain Services



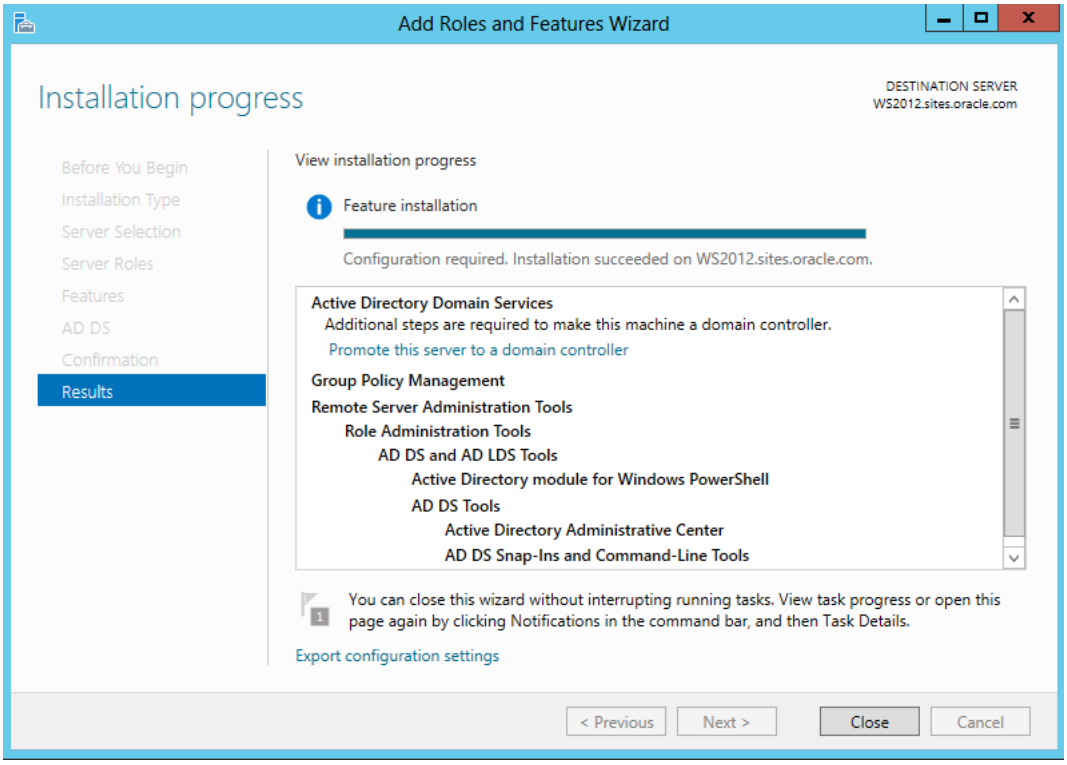
9. On the Confirm Installation Selections step (Figure 16–19), review you selections, and click **Install**

Figure 16–19 Add Roles and Features Wizard: Confirm Installation Selections



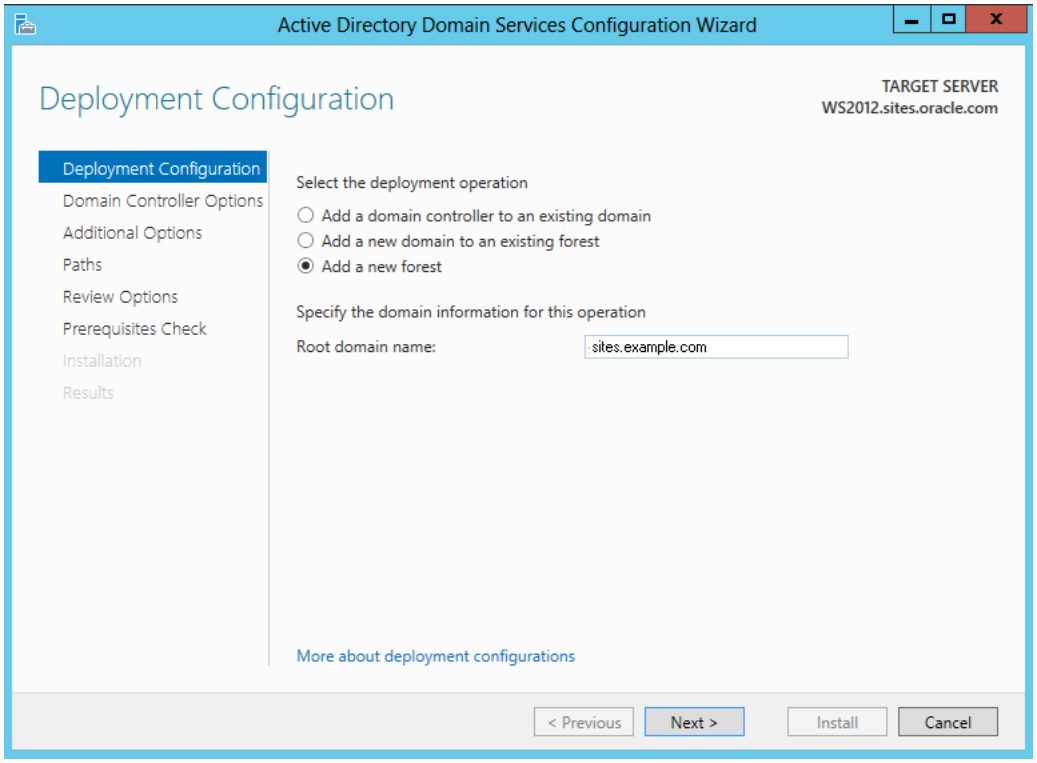
10. Wait for successful completion of the installation (Figure 16–20). Do not close the wizard. On successful completion, click the **Promote this server to a domain controller** link in the wizard. This will open Active Directory Domain Services Configuration Wizard.

Figure 16–20 Add Roles and Features Wizard: Promote This Server to a Domain Controller



11. On the Deployment Configuration screen (Figure 16–21) of the Active Directory Domain Services Configuration Wizard, select the **Add a new forest** option and specify the Root domain name. Click **Next**.

Figure 16–21 Active Directory Domain Services Configuration Wizard: Deployment Configuration (Add a New Forest)

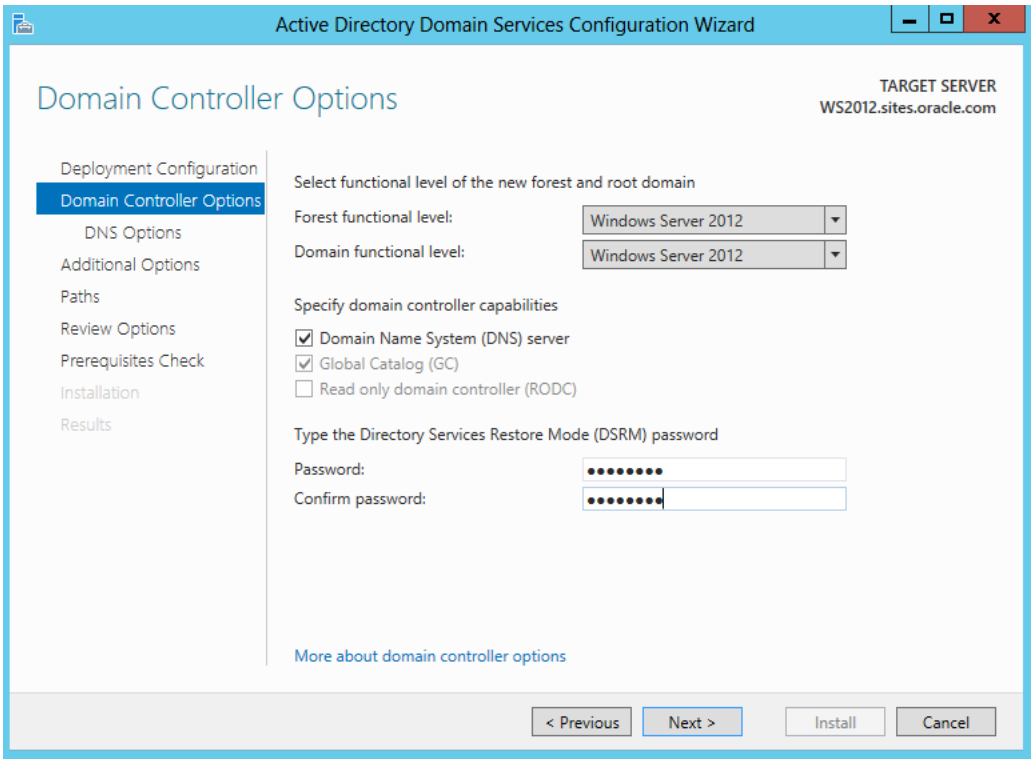


12. On the Domain Controller Options step (Figure 16–22), complete the following tasks:

    - For *Forest functional level*, select **Windows Server 2012**.
    - For *Domain functional level*, select **Windows Server 2012**.
    - For *Specify domain controller capabilities*, enable the **Domain Name System (DNS) Server** option.
    - Provide a DSRM password.
    - Click **Next**.

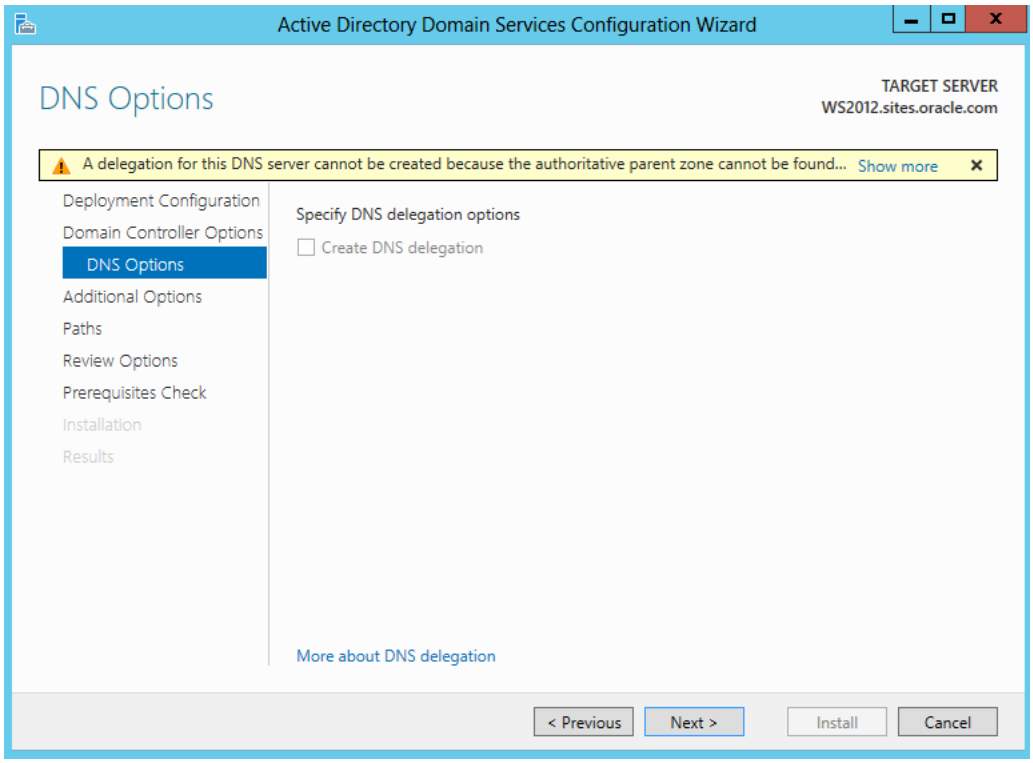
    If you have a DHCP based adapter, it will assign static IP addresses to all physical adapters to continue with the installation. After the installation completes you can change any DHCP adapter back

Figure 16–22 Active Directory Domain Services Configuration Wizard: Domain Controller Options



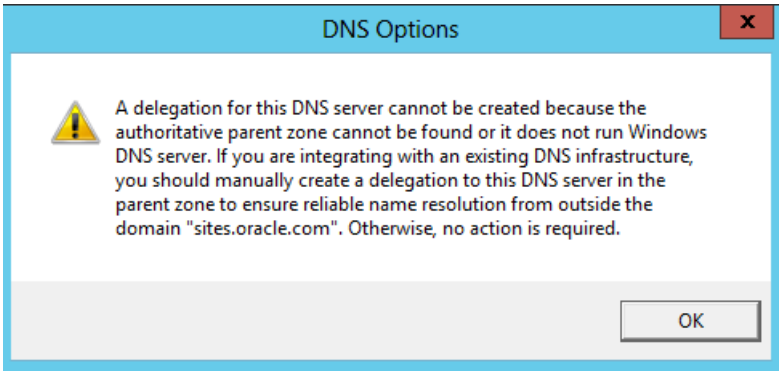
13. On the DNS Options step (Figure 16–23), a warning message will be displayed if the DNS zone you are creating does not have an authoritative parent zone. Click **Next**.

Figure 16–23 Active Directory Domain Services Configuration Wizard: DNS Options



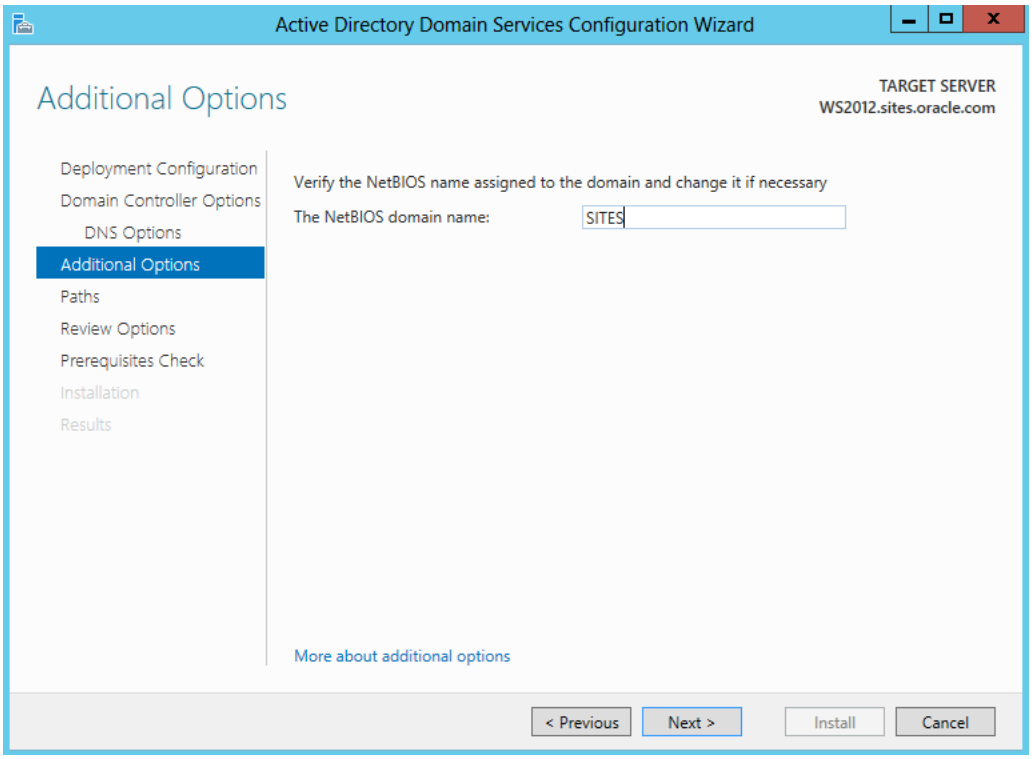
14. On the DNS Options notice (Figure 16–24), click **OK**.

Figure 16–24 DNS Options Notice



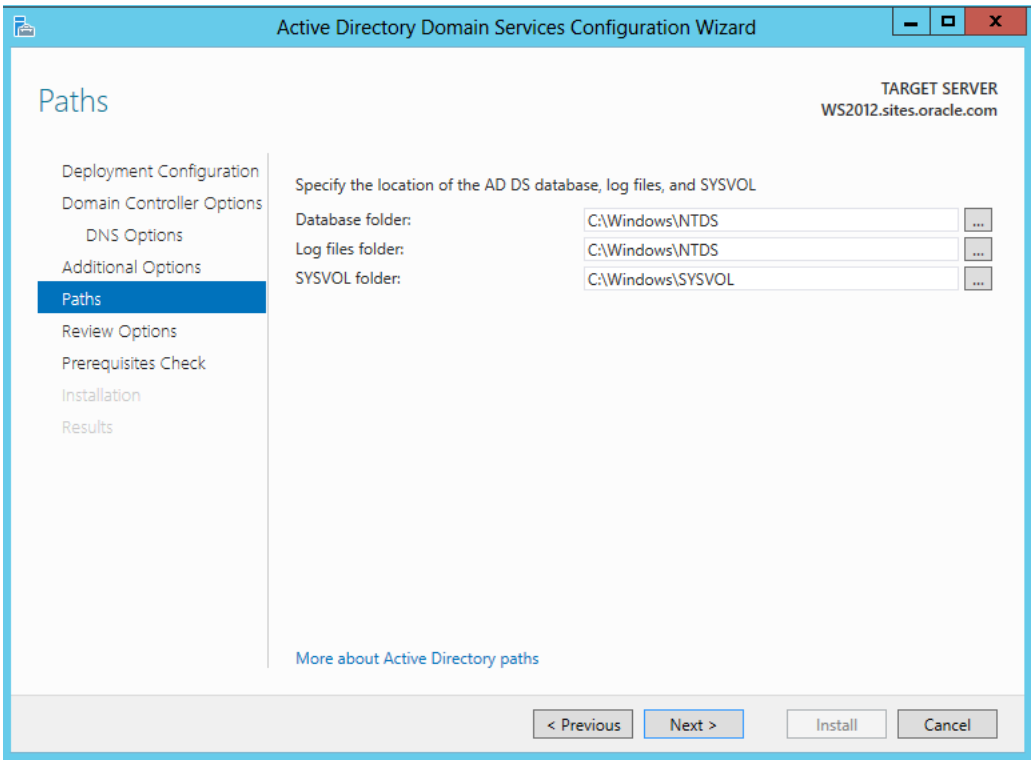
15. Verify the NetBIOS name on the Additional Options step (Figure 16–25).

Figure 16–25 Active Directory Domain Services Configuration Wizard: Additional Options



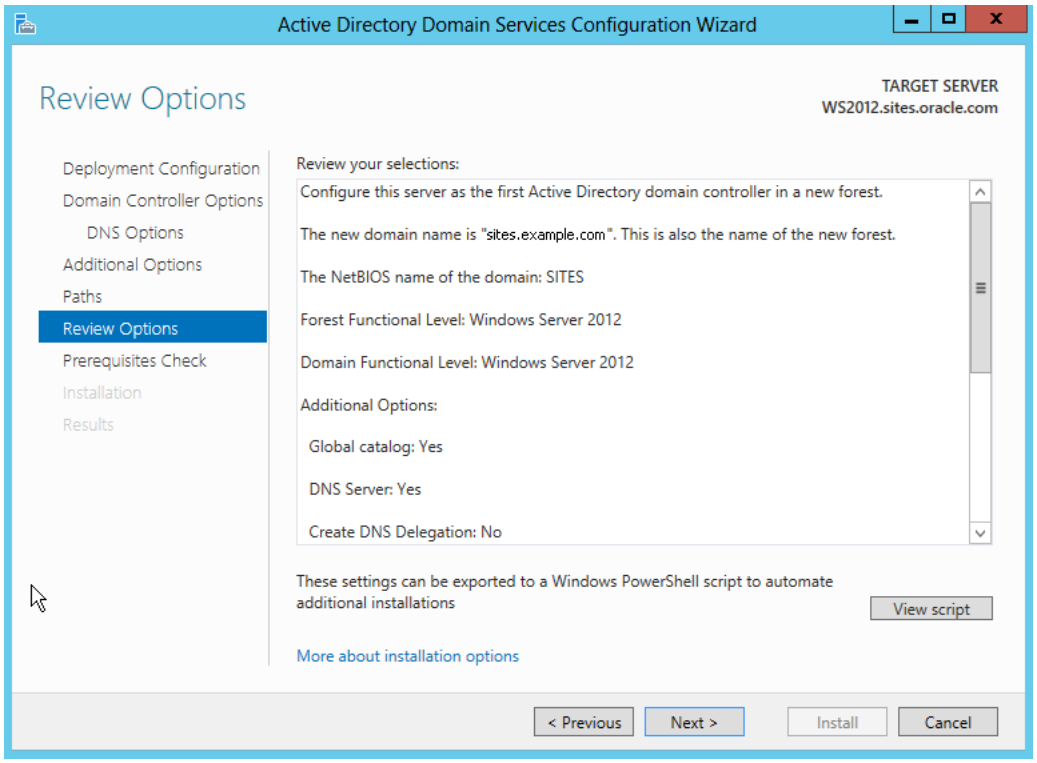
16. On the Paths step (Figure 16–26), accept the defaults and click **Next**.

Figure 16–26 Active Directory Domain Services Configuration Wizard: Paths



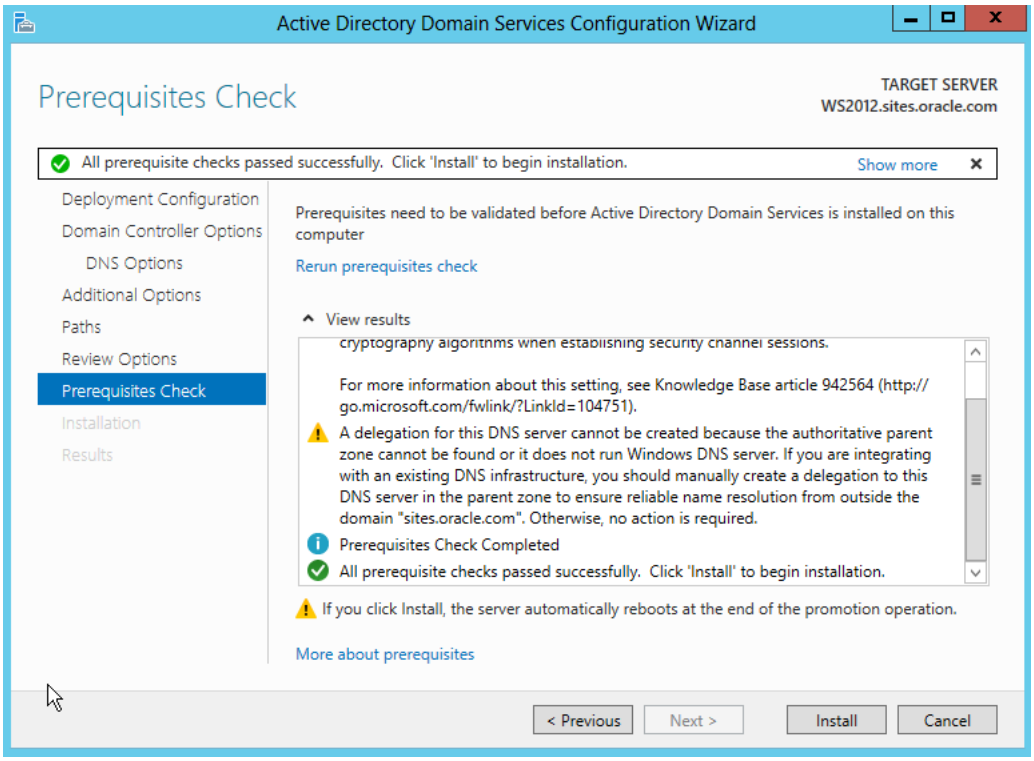
17. On the Review Options step (Figure 16–27), complete the following tasks:
    - Review you settings.
    - Export your setting to script.
    - Click **Next**.

Figure 16–27 Active Directory Domain Services Configuration Wizard: Review Options



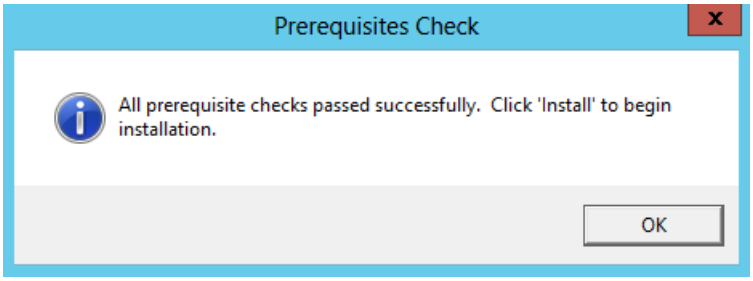
18. Make sure all prerequisite checks (Figure 16–28) pass successfully and review the results. On successful completion of the prerequisite checks, click **Install**.

Figure 16–28 Active Directory Domain Services Configuration Wizard: Prerequisites Check Results



19. On the Prerequisites Check success notice (Figure 16–29), click **OK**.

Figure 16–29 Prerequisites Check Successful Confirmation



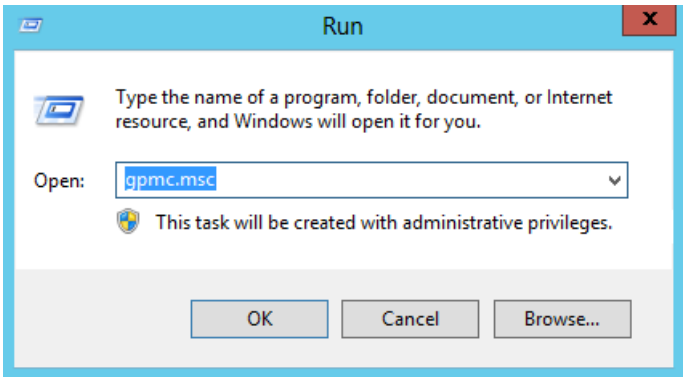
20. After the system has completed installation, then reboot the system.

16.4 Checking Group Policies

Follow these steps to check group policies:

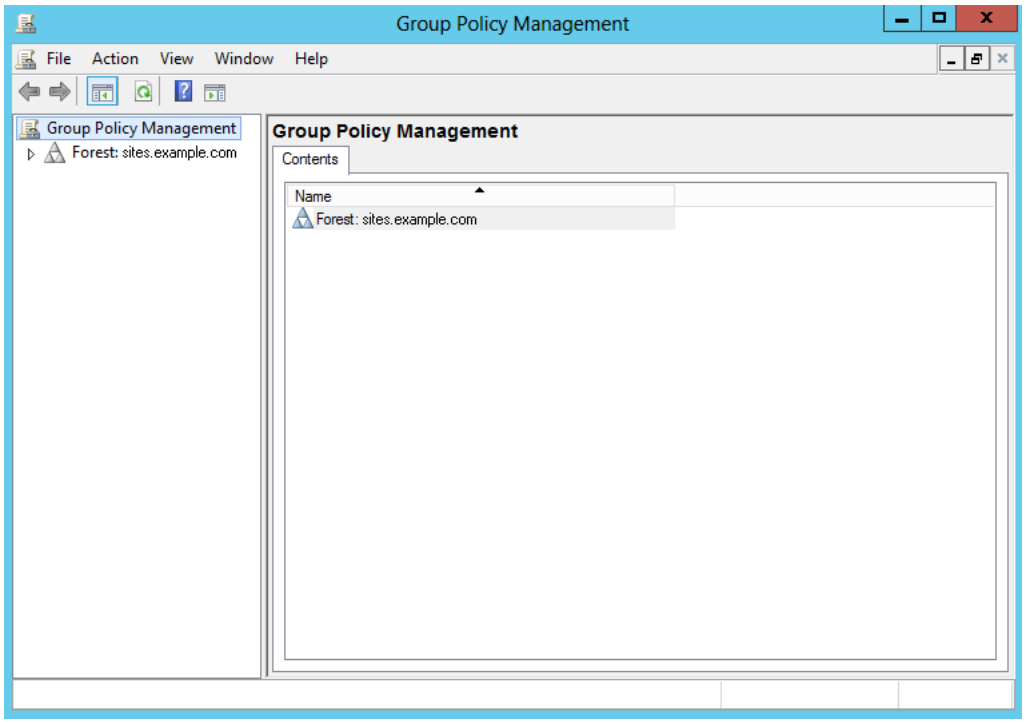
1. Execute `gpmc.msc` from the Run dialog (Figure 16–30).

Figure 16–30 Run Dialog



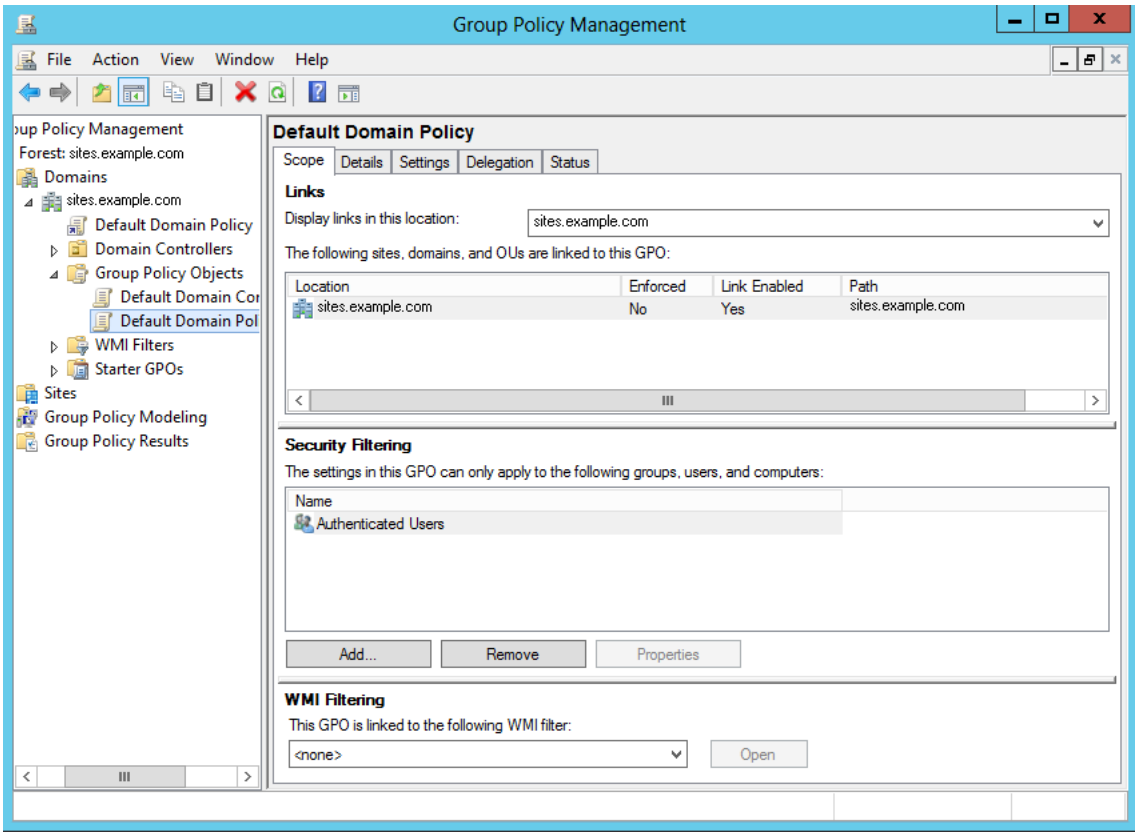
2. The Group Policy Management utility opens (Figure 16–31).

Figure 16–31 Group Policy Management



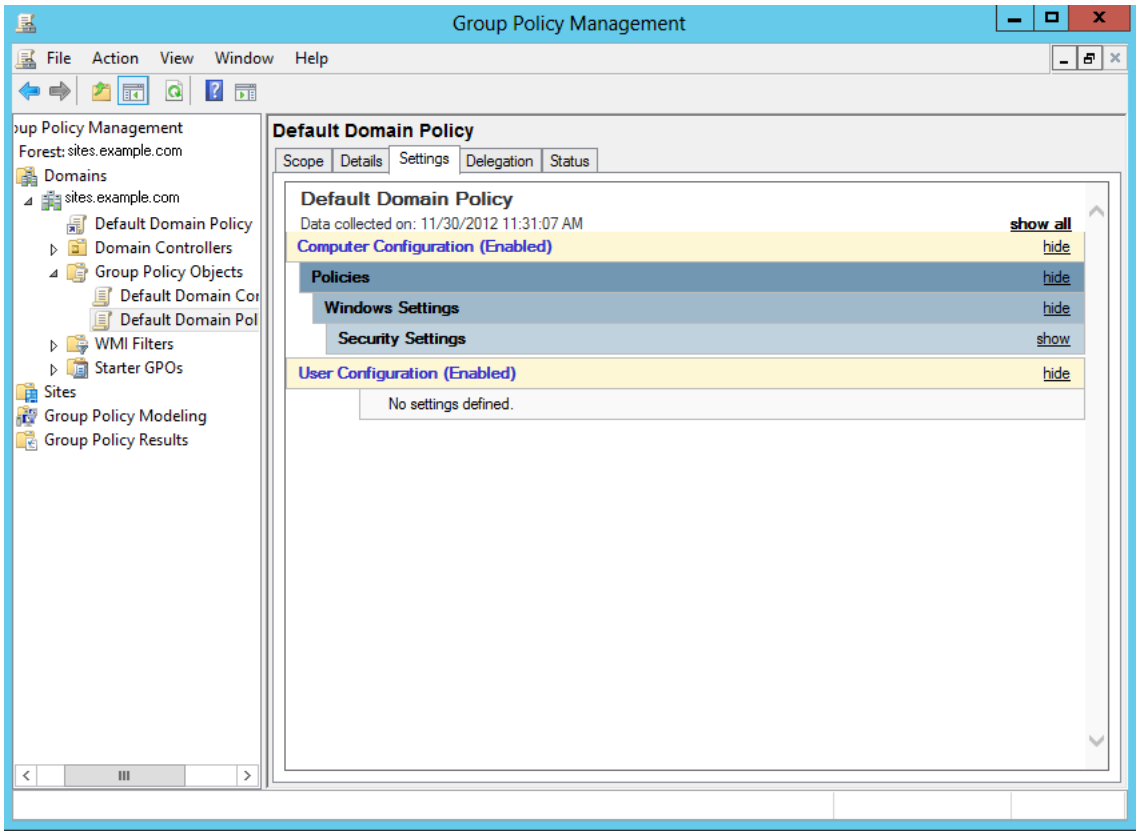
3. Expand the navigation to **Domains**, then your domain, then **Default Domain Policy** (Figure 16–32).

Figure 16–32 Group Policy Management: Default Domain Policy



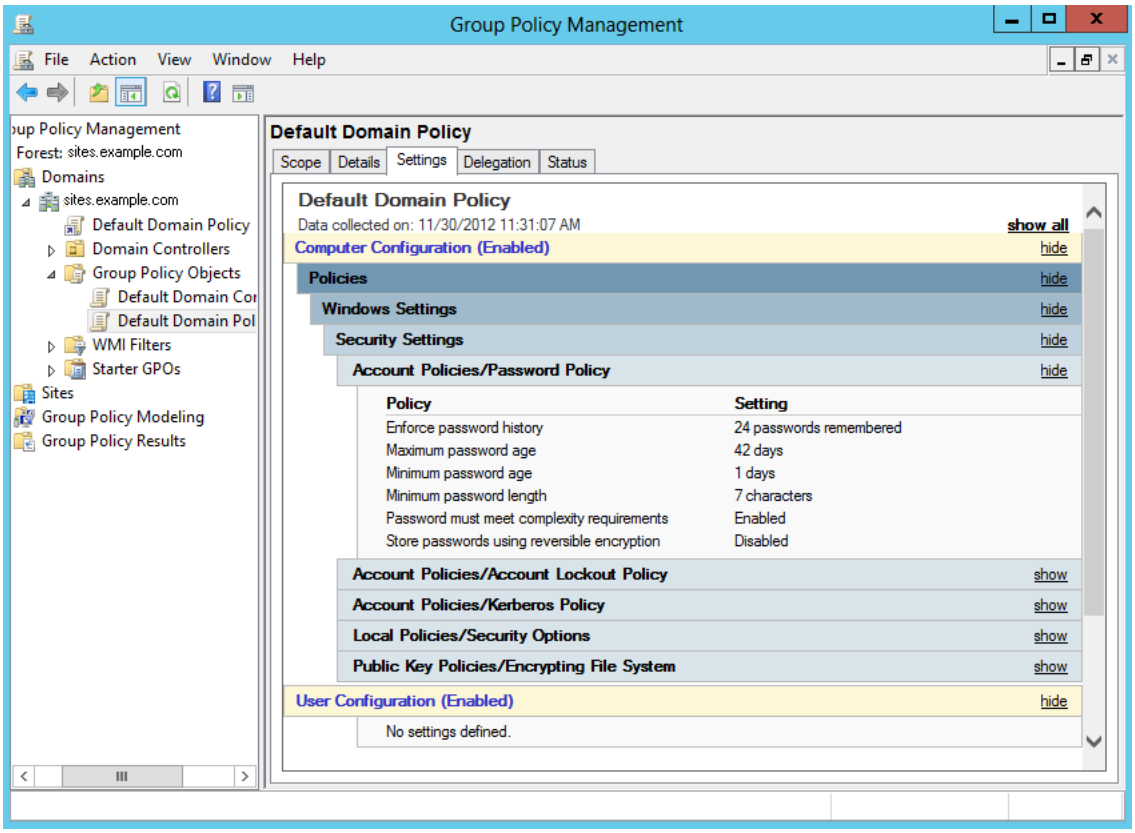
4. Select the **Settings** tab (Figure 16–33).

Figure 16–33 Group Policy Management: Settings Tab



5. Expand the **Security Settings** section (Figure 16–34), then the **Account Policy/Password Policy** section, by clicking **Show**.

Figure 16–34 Group Policy Management: Settings Tab



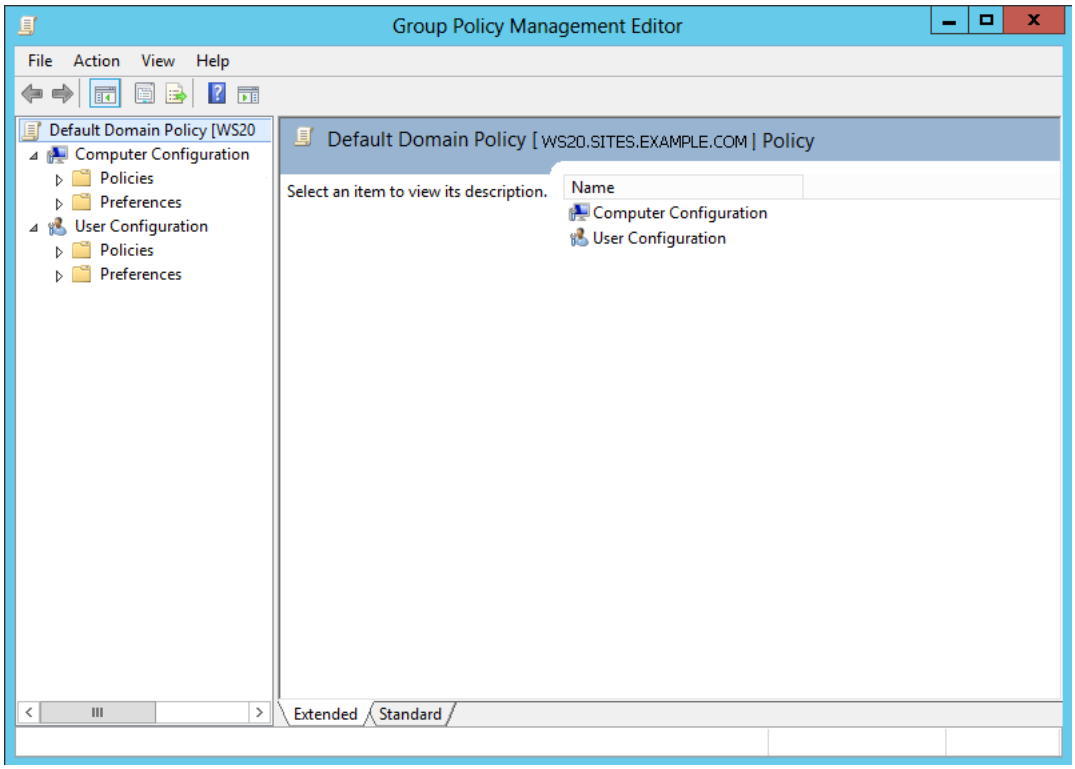
6. Review the Policy list. Set the **Password must meet complexity requirements** to **Disabled**. WebCenter Sites passwords do not meet these requirements.

16.5 Changing Group Policies

Follow these steps to change group policies:

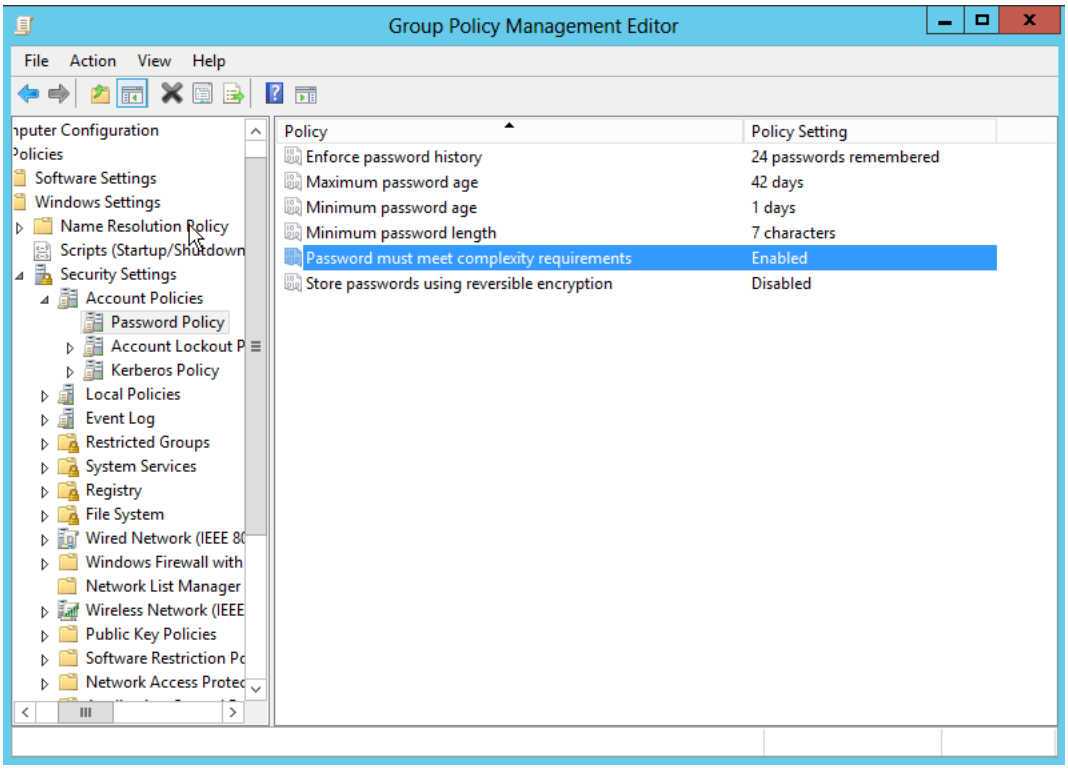
1. From the Group Policy Management utility (Figure 16–35), right-click on **Default Domain Policy** and select **Edit**. This will open the group policy Management Editor.

Figure 16–35 Group Policy Management Editor



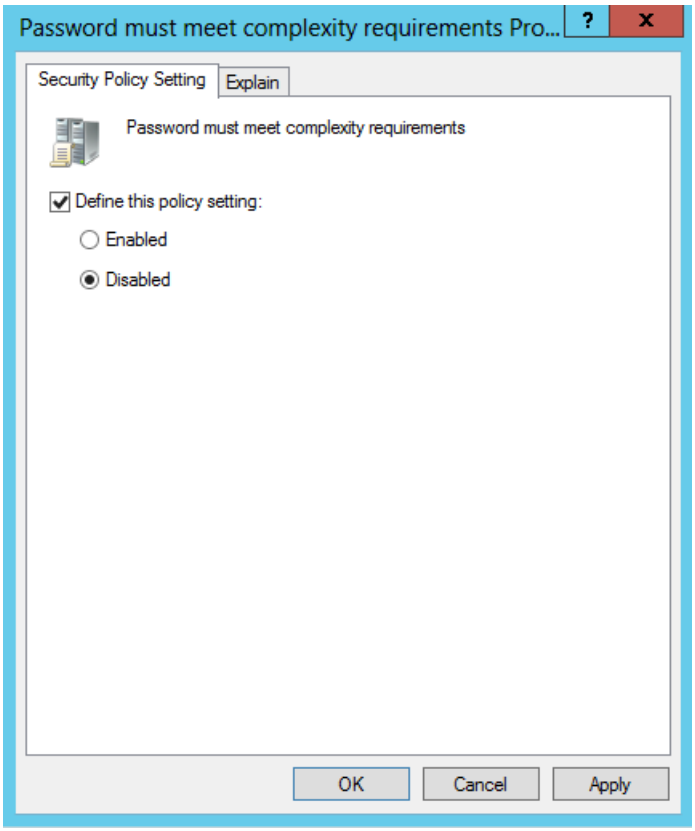
2. Expand the navigation to, **Computer Configuration**, then **Policies**, then **Windows Settings**, then **Security Settings**, then **Account Settings**, and then **Password Policy**.
3. Right-click **Password must meet complexity requirements**, located on the right side of the screen (Figure 16–36), and select **Properties**.

Figure 16–36 Group Policy Management Editor



4. On the Security Policy Setting tab, select the **Disabled** option (Figure 16–37). Click **OK**.

Figure 16–37 Security Policy Setting



5. Click **OK** and close the Group Policy Management Editor and Group Policy Management utility.

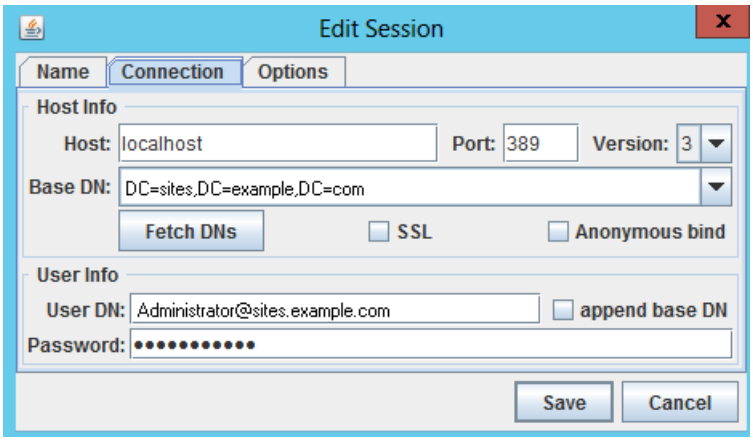
The domain will no longer check for password complexity. WebCenter Sites default passwords can now be used. When WebCenter Sites is installed you can change the settings by clicking **Enabled** on Security Policy Setting to re-engage the security settings.

16.6 Connecting to Active Directory Server Using an LDAP Browser

This section describes how to connect to Active Directory Server using an LDAP browser. Note that you cannot add groups, set passwords, or activate accounts using an LDAP browser.

1. Open the LDAP browser.
2. Select the **Connection** tab.
3. Provide the following information (Figure 16–38):
   - **Host**: localhost (if connecting remotely, enter the actual host name)
   - **Base DN**: `<DNS_suffix>` (the part of the DNS name after the host name)
   - **Anonymous bind**: deselect
   - **User DN**: `administrator@<DNS_suffix>`
   - **Append base DN**: deselect
   - **Password**: `<ADS_password>`

Figure 16–38 Edit Session



4. Click **Save**.
5. Show the default view on the LDAP tree.

17

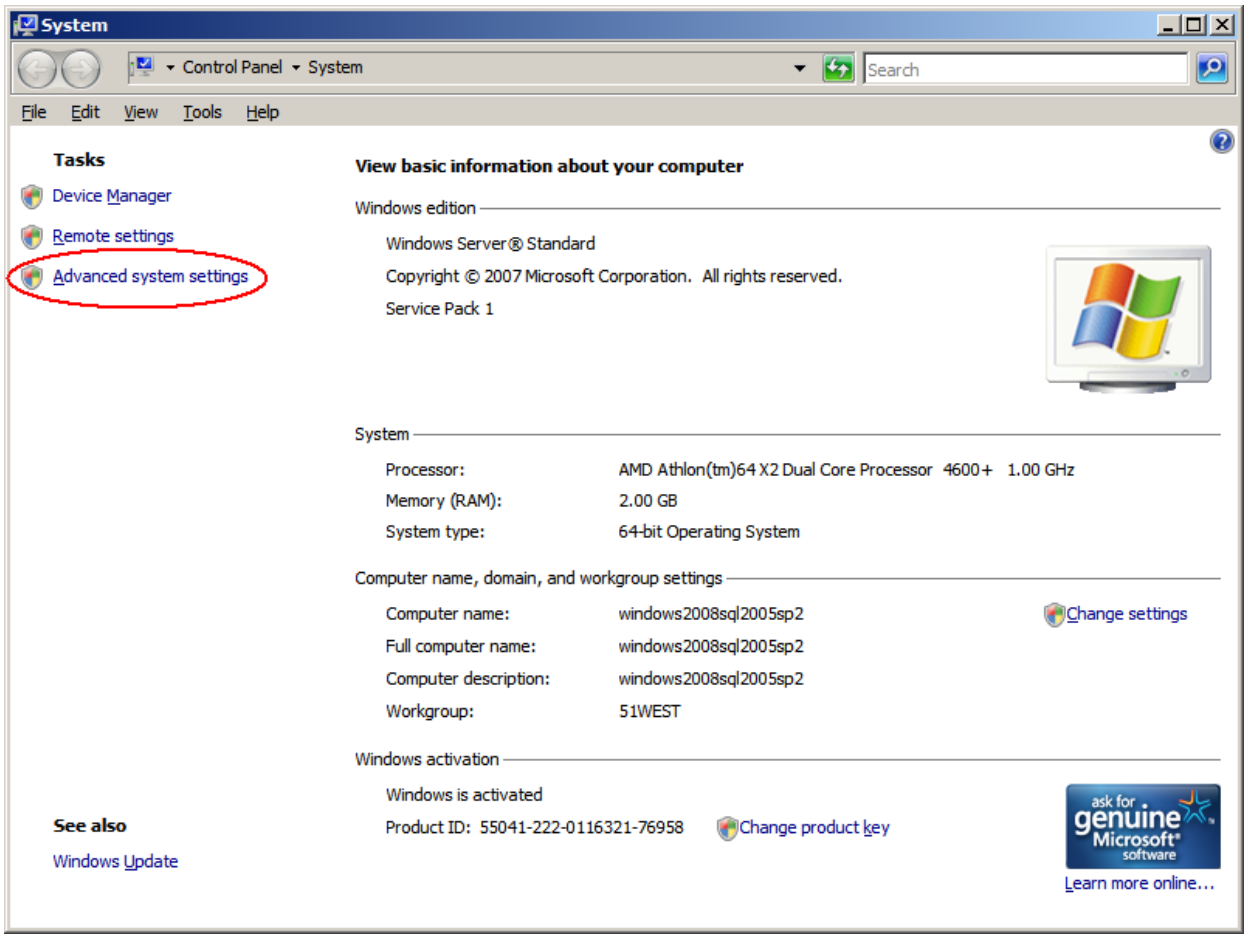
Installing Microsoft Active Directory 2008

This chapter includes the following sections:

17.1 Installing Active Directory 2008

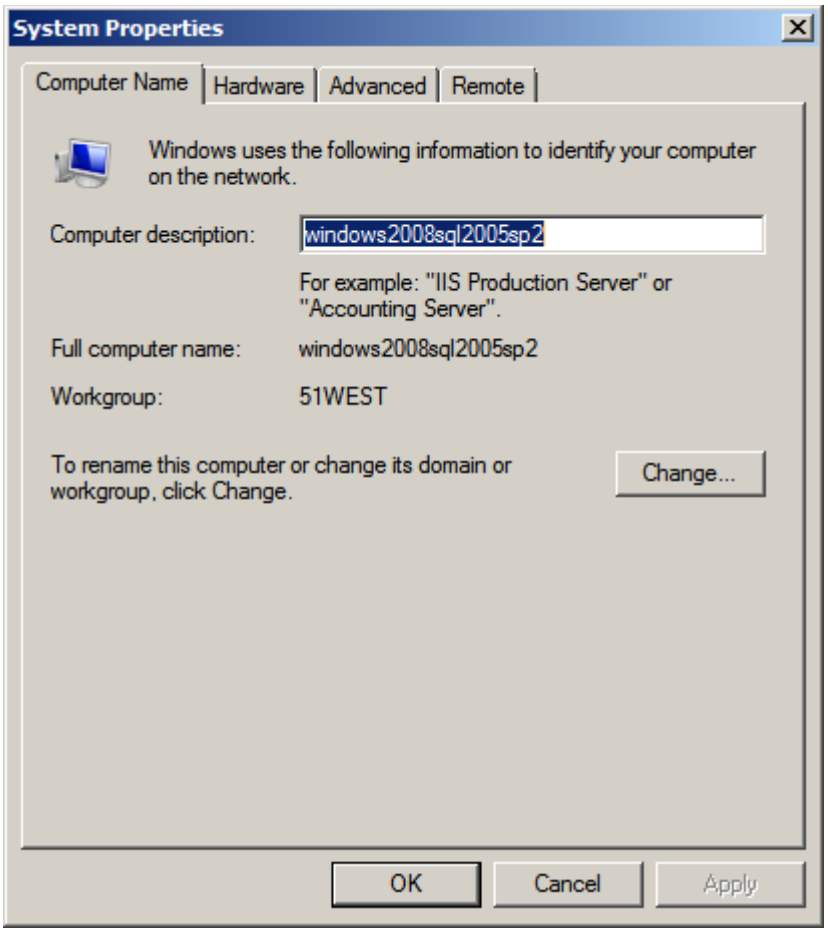
1. Install the Operating System:
   a. Install Windows Server 2008 (any Windows server except Web).
   b. When the installation is complete, leave the installation disc in the drive, you will need it to complete the installation of ADS.
   c. Set the Computer's **Name** and **Suffix**.
2. Open the "System Properties" dialog box. Click **Start**, then right-click the computer icon.
3. In the "System" window select **Advanced system settings** (Figure 17–1).

Figure 17–1 Advanced System Settings



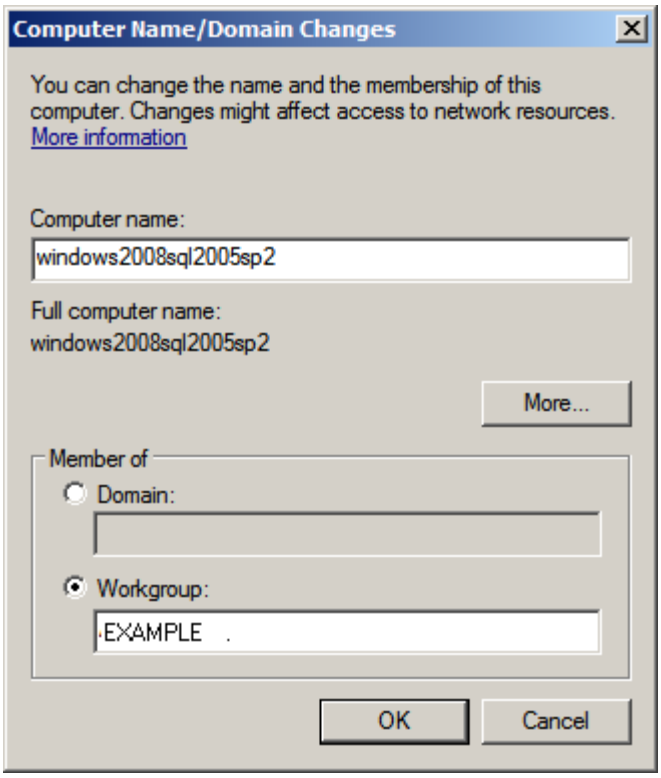
4. Select the **Computer Name** tab (Figure 17–2), click **Change.**

Figure 17–2 System Properties Dialog Box



5. In the pop-up window that appears (Figure 17–3), fill in the following fields:
   - **Computer name**: Enter the name you wish to designated for your computer. (Make a record of this name).
   - **Member of**: Select the **Workgroup** radio button, then enter a unique workgroup name. (Make a record of this name).

Figure 17–3 Computer Name/Domain Changes Dialog Box



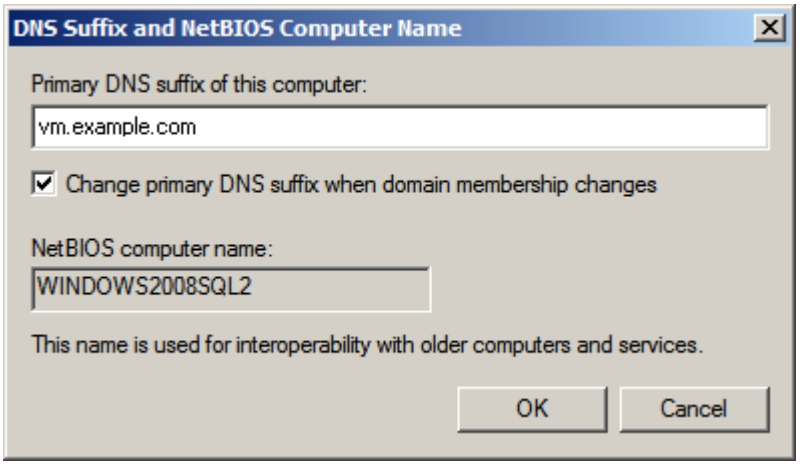
– Click **More...**

– In the "DNS Suffix and NetBIOS Computer Name" dialog box (Figure 17–4), do the following:

  Primary DNS suffix of this computer: Enter the DNS suffix of your computer (Make a record of this suffix).

  Change primary DNS suffix when domain membership changes: If check box is selected, deselect it.

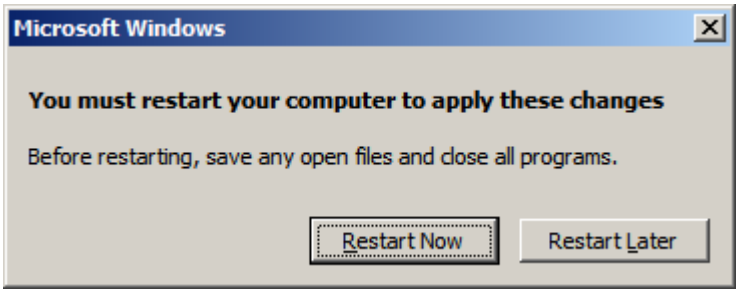
Figure 17–4 DNS Suffix and NetBIOS Computer Name Dialog Box



– Click **OK** to close the dialog box.

6. In the "Computer Name/Domain Changes" dialog box, click **OK**.
7. In the "System Properties" window click **Close**.
8. In the reboot dialog box (Figure 17–5) click **Restart Later**.

Figure 17–5 Microsoft Windows Dialog Box

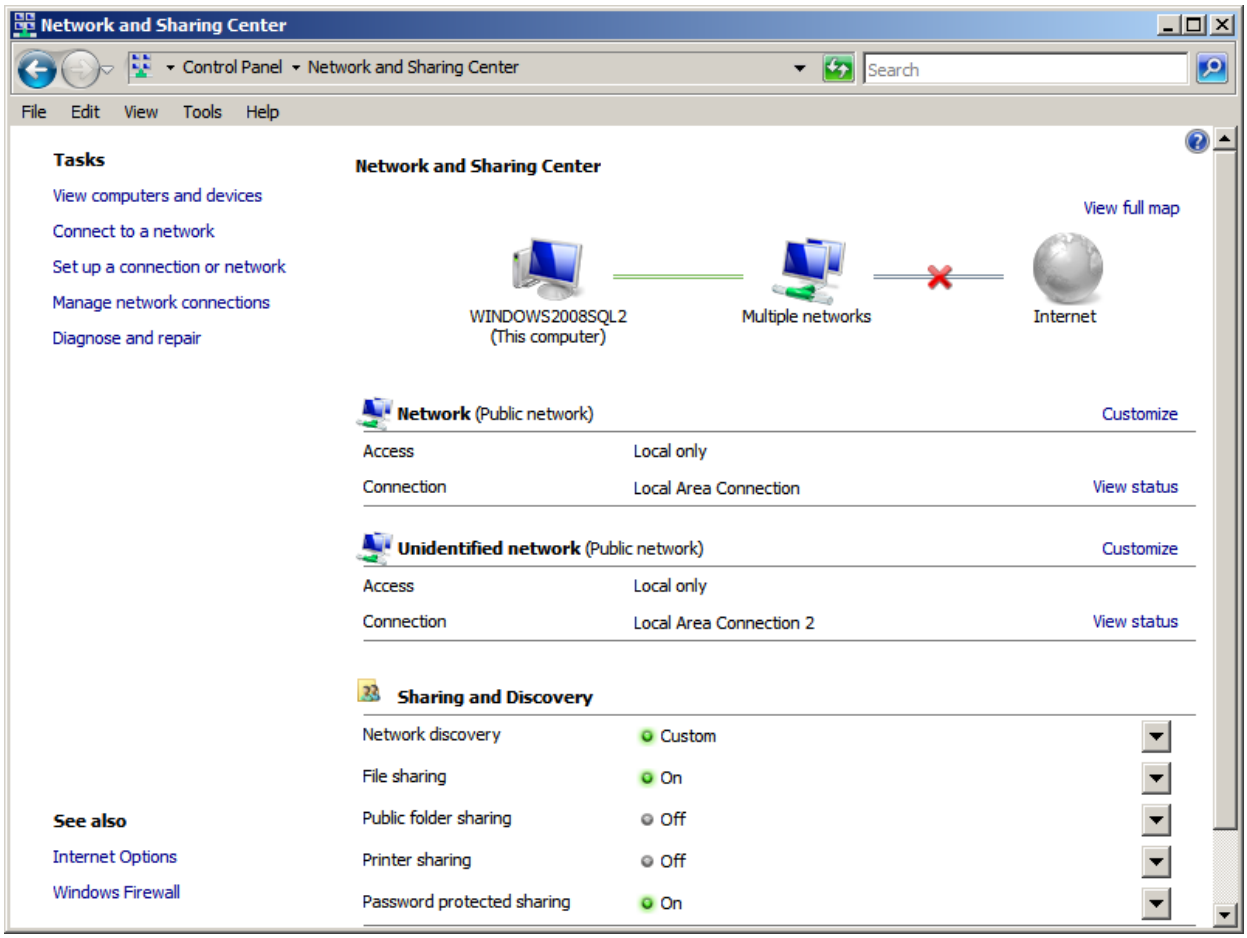


17.2 Configuring the Network Settings

To configure the network settings:

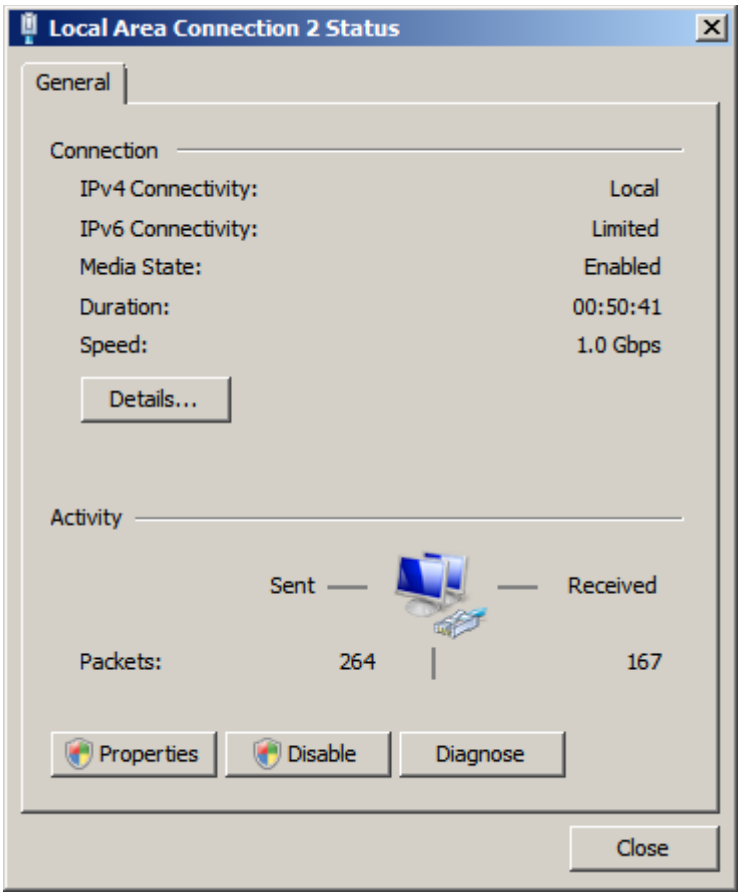
1. Open "Network Properties."
   a. Select **Start > Control Panel**.
   b. Click the **Network and Sharing Center** icon.
   c. Select the Network Connection (Figure 17–6) to edit (if you have more than one `see ipconfig` result, make sure to select the correct one).

Figure 17–6 Network Connection



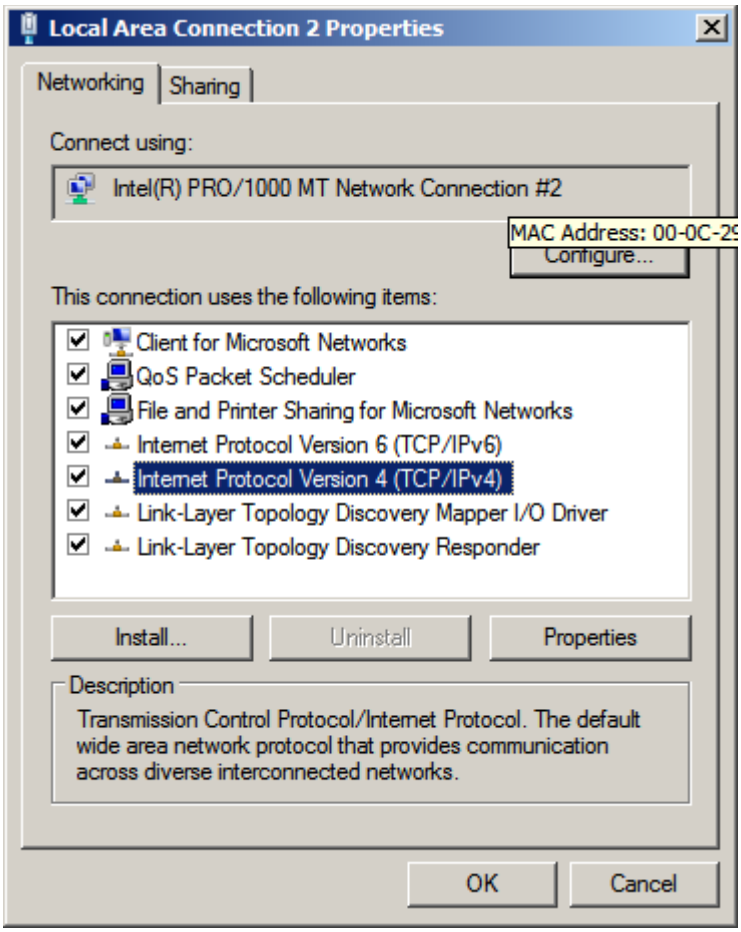
2. Select **View Status**, located next to the network connection you have selected.
3. Click **Properties** (Figure 17–7).

Figure 17–7 Properties Button



4. Select **Internet Protocol Version 4 (TCP/Iv4)** (Figure 17–8).

Figure 17–8 Internet Protocol Version 4 (TCP/Iv4)



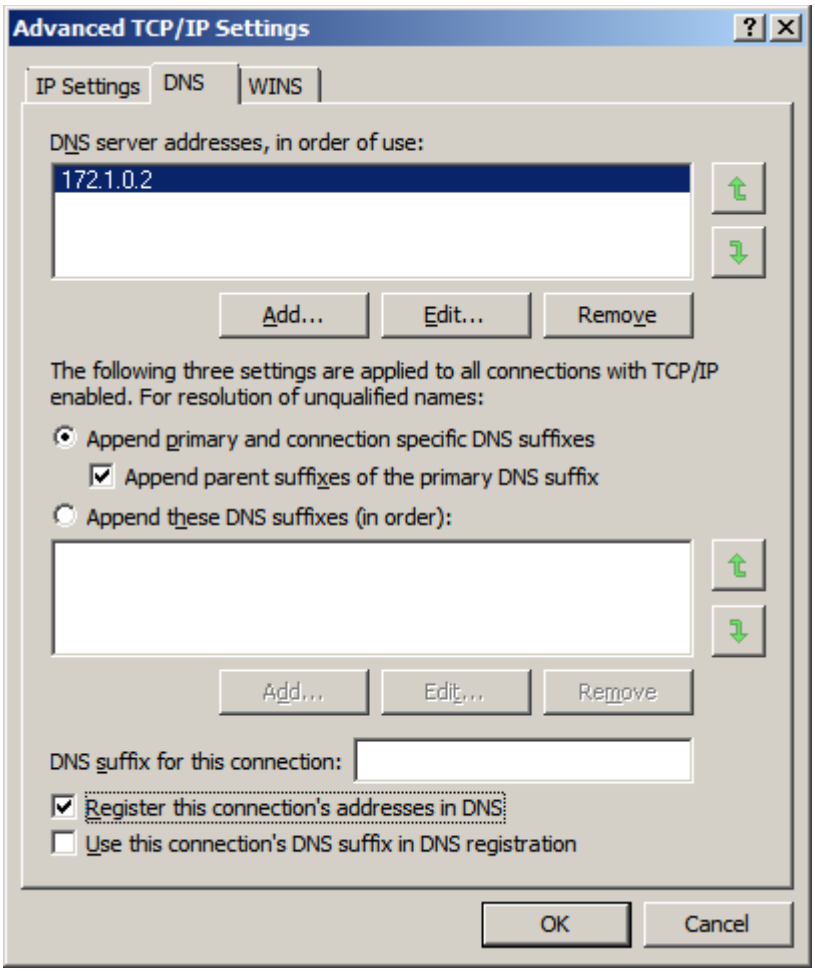
a. Set the IP address to an unused, static IP address.

b. Set the preferred DNS server to your computer's IP address.

c. Click **Advanced**:

- Select the check box **Append primary and connection-specific DNS suffixes** (Figure 17–9).
- Select the check box **Append parent suffixes of the primary DNS suffix** (Figure 17–9).

Figure 17–9 Advanced TCP/IP Settings

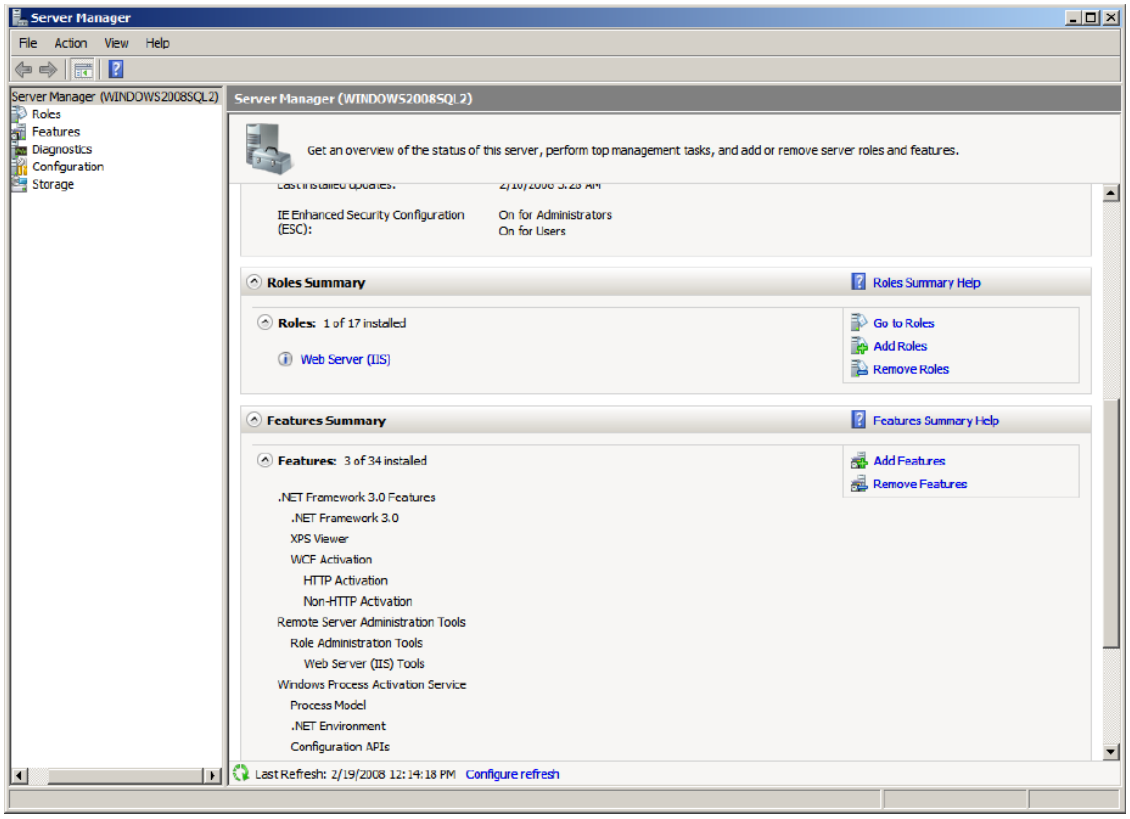


5. Click on until you have exited the properties pane, then click **Close**.
6. Restart the computer.

17.3 Installing Active Directory 2008 Services

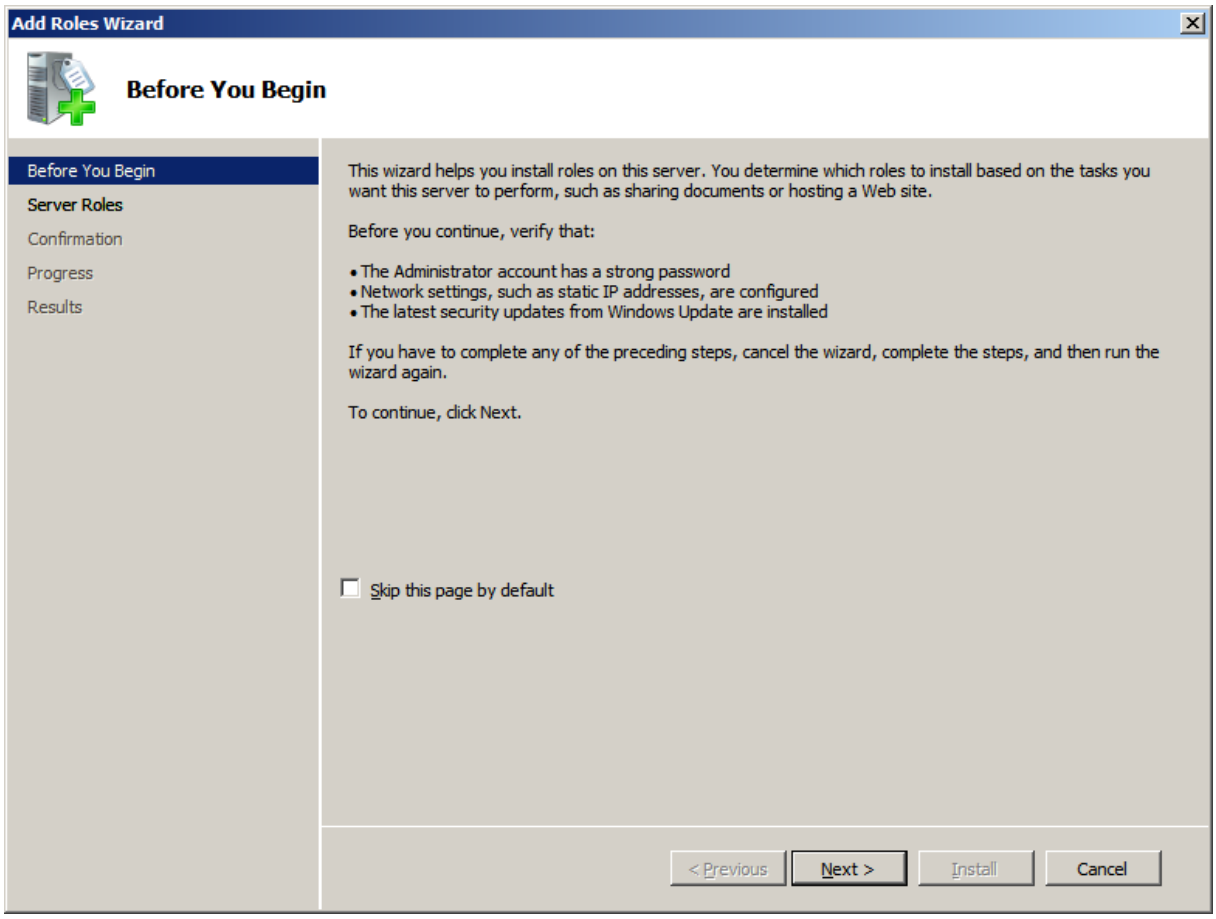
1. Select **Start > Server Manger**.
2. In the "Roles" section (Figure 17–10) click **Add Roles**.

Figure 17–10 Roles Section - Add Roles



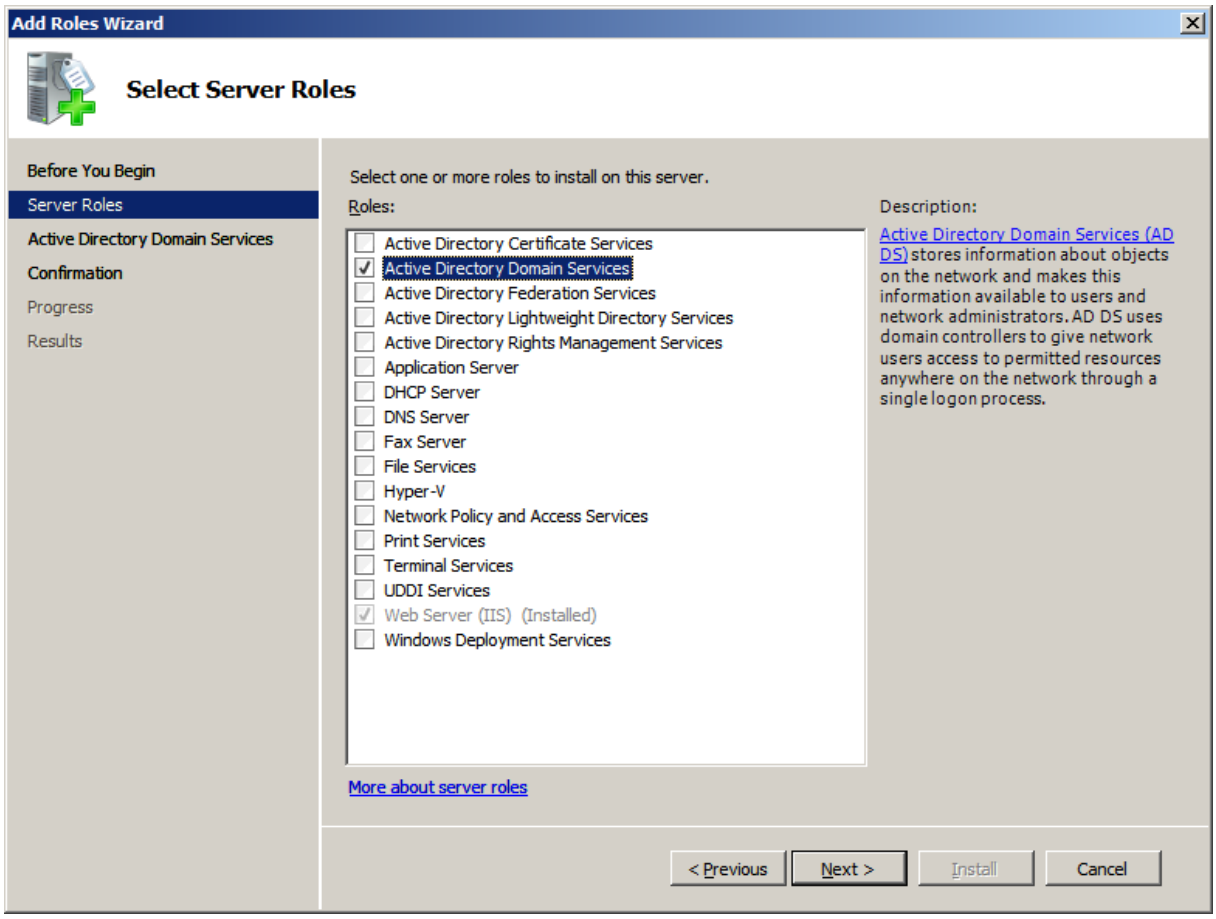
3. In the "Add Roles Wizard" (Figure 17–11) click **Next**.

Figure 17–11 Add Roles Wizard - Before You Begin



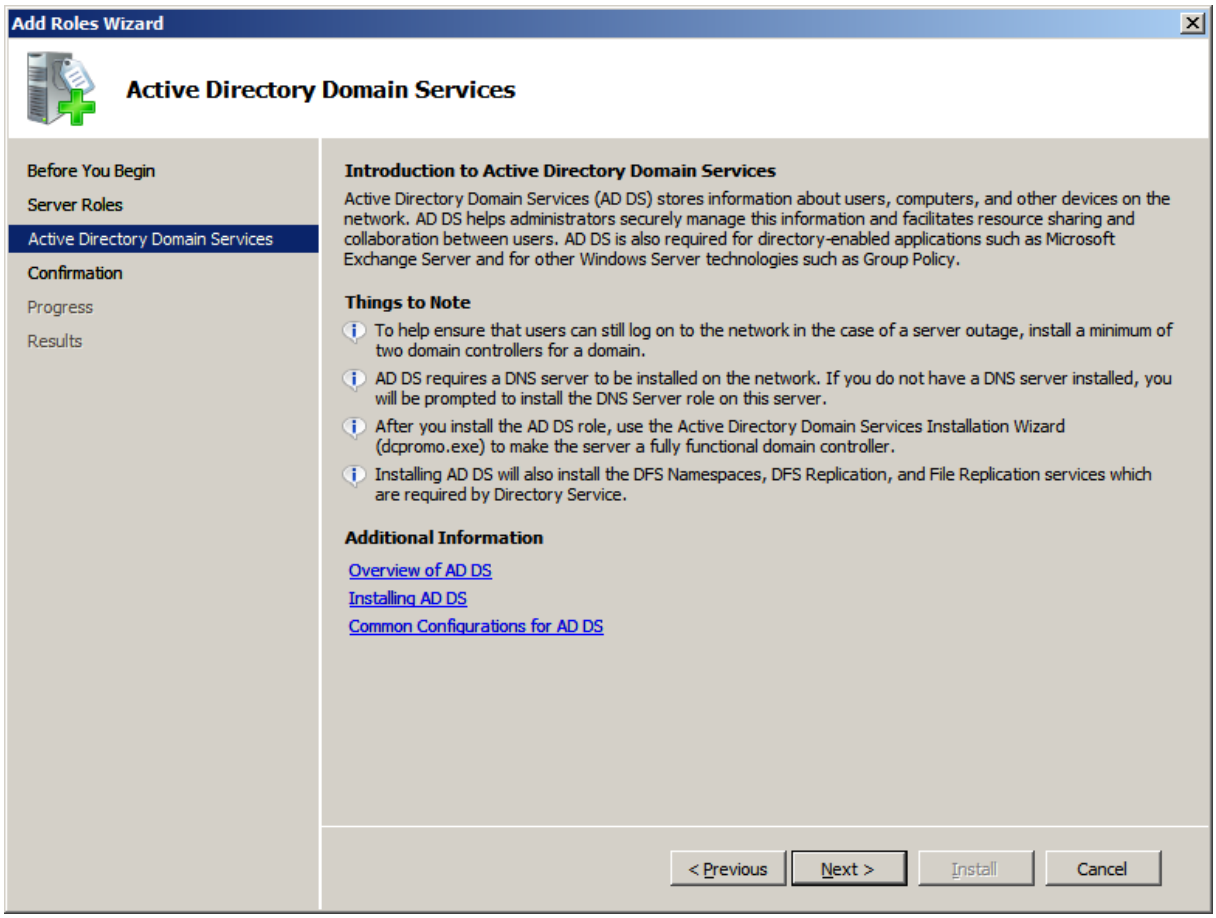
4. Select **Active Directory Domain Services** (Figure 17–12) and click **Next**.

Figure 17–12 Add Roles Wizard - Select Server Roles



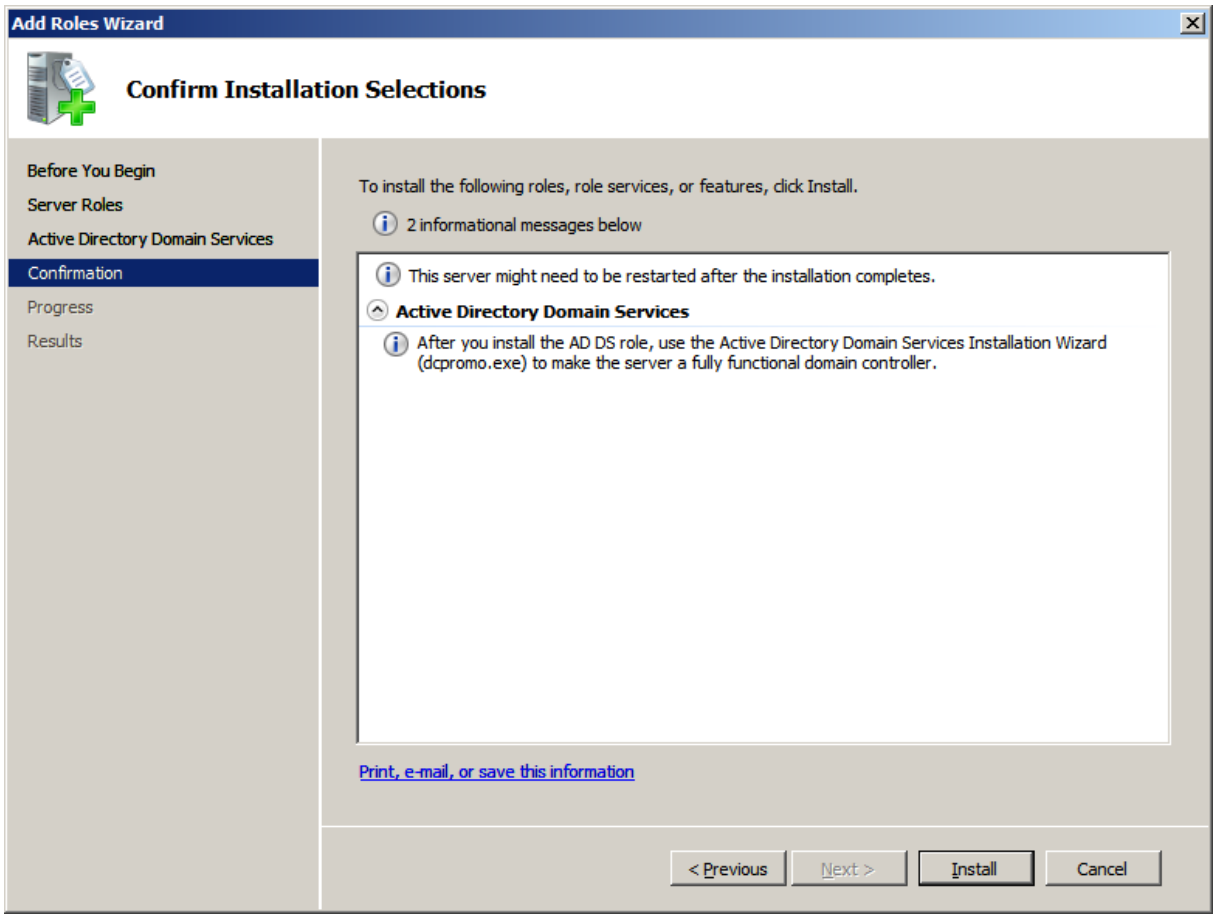
5. Review the list of additional services to be installed along with Active Directory (Figure 17–13) and click **Next**.

Figure 17–13 Add Roles Wizard - Active Directory Domain Services



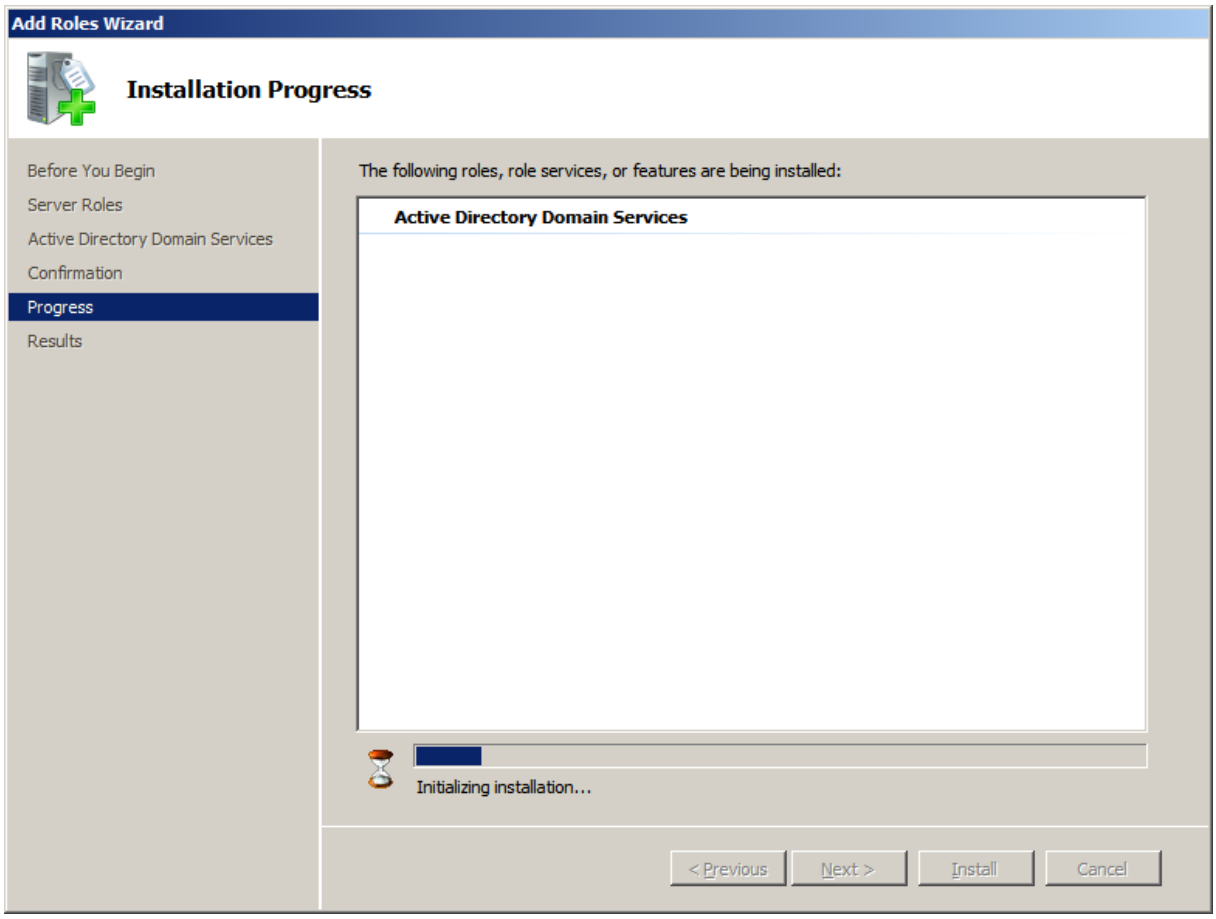
6. Click **Install** to begin installation of "Active Directory 2008" (Figure 17–14).

Figure 17–14 Add Roles Wizard - Confirm Installation Selections



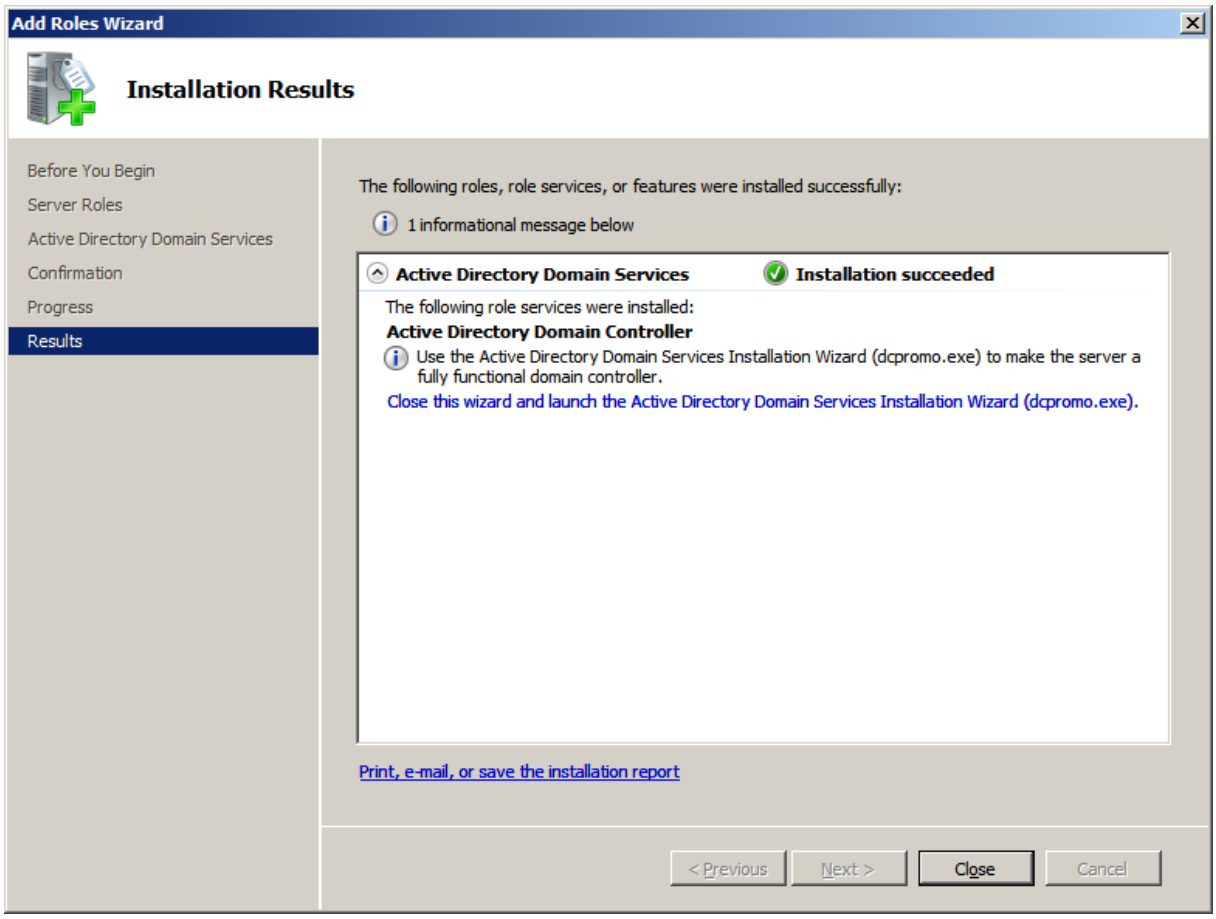
7. Allow the installation to complete (Figure 17–15).

Figure 17–15 Add Roles Wizard - Installation Progress



8. Review the results of the "Add Roles Wizard" page (Figure 17–16). Click: **Close this wizard and launch the Active Directory Domain Services Installation Wizard (dcpromo.exe)**.

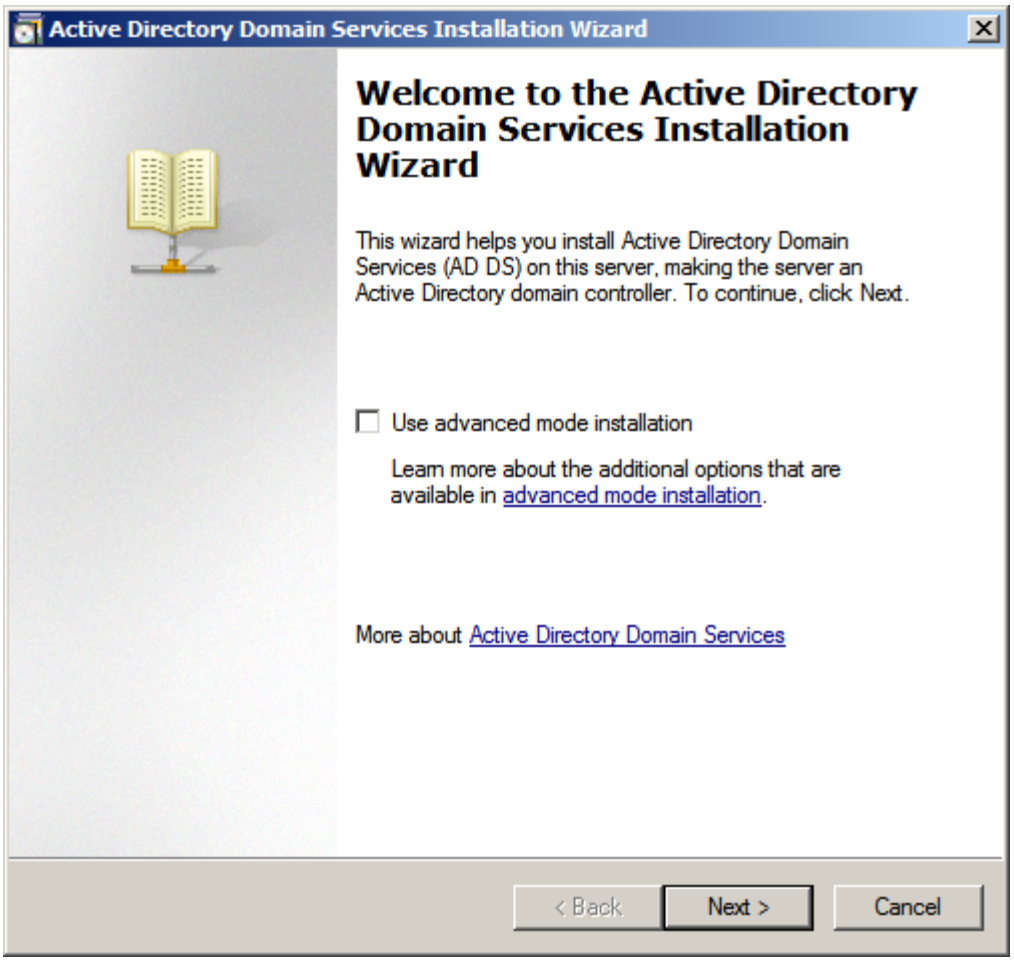
Figure 17–16 Add Roles Wizard - Installation Results



17.4 Installing Active Directory 2008 Installation Wizard

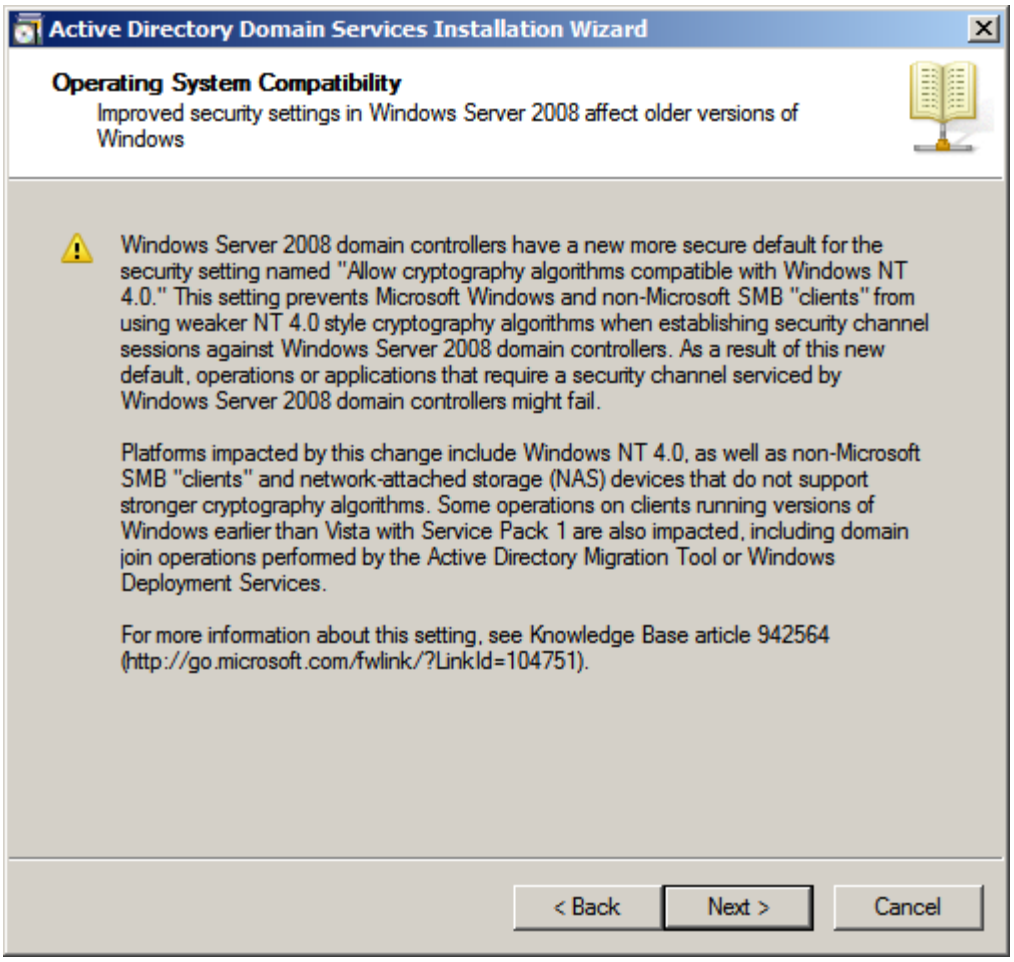
1. In the welcome screen (Figure 17–17) click **Next**.

Figure 17–17 Active Directory Domain Services Installation Wizard - Welcome



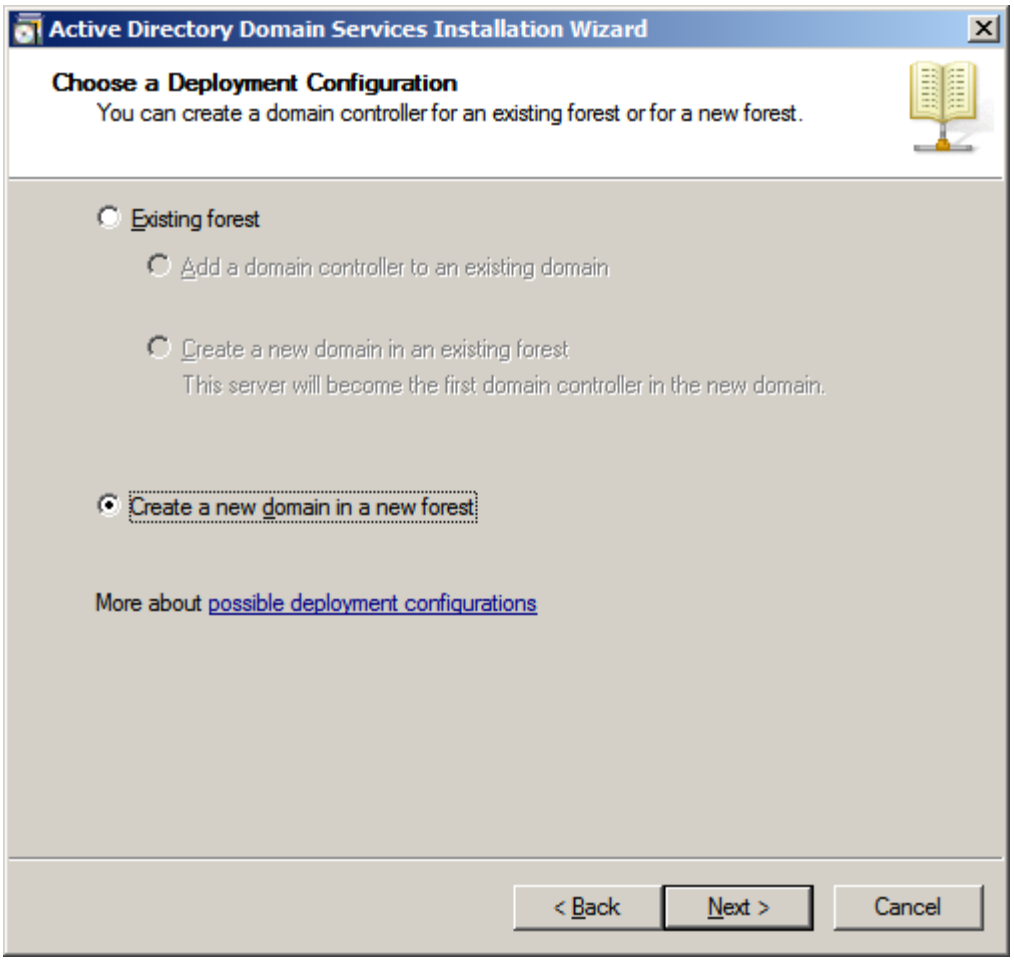
2. In the "Operating System Compitibility" screen (Figure 17–18) click **Next**.

Figure 17–18 Operating System Compatibility



3. In the "Choose a Deployment Configuration" screen (Figure 17–19) select **Create a new Domain in a forest**, then click **Next**.

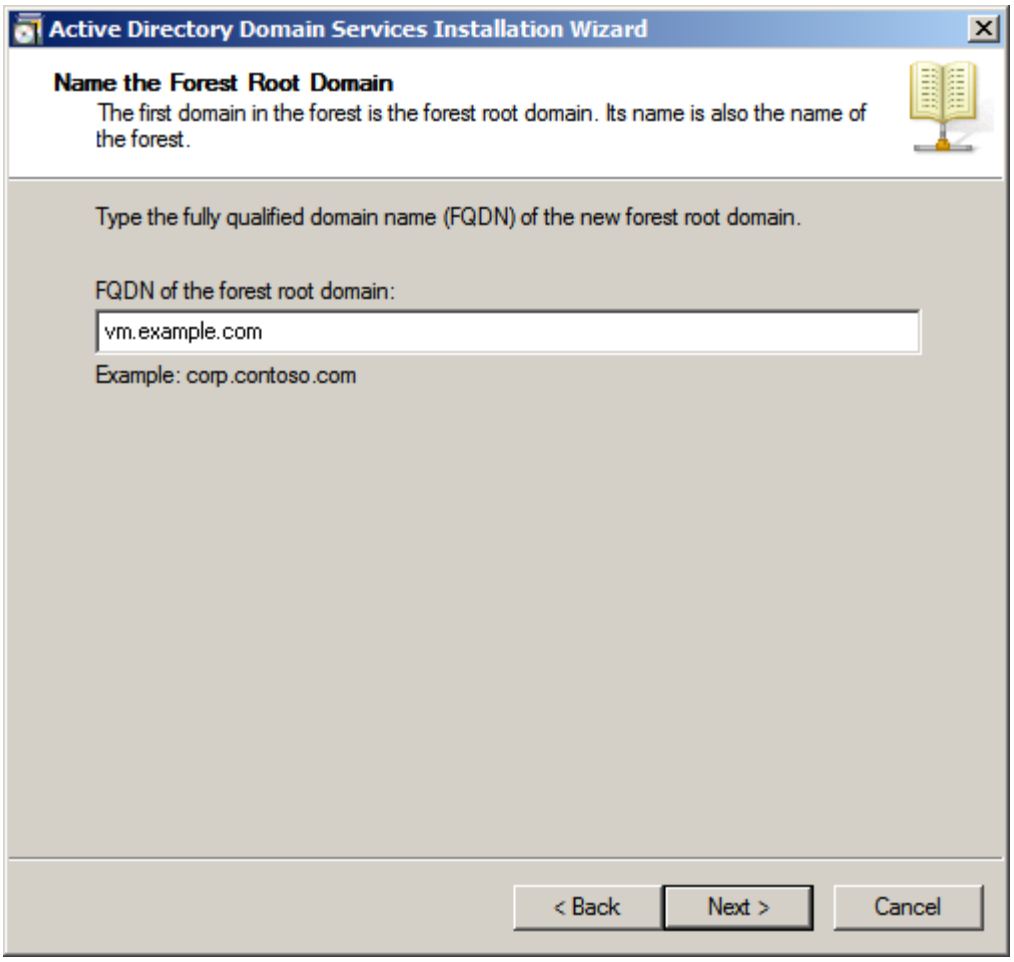
Figure 17–19 Choose a Deployment Configuration



4. Name the "Forest Root Domain" (Figure 17–20):

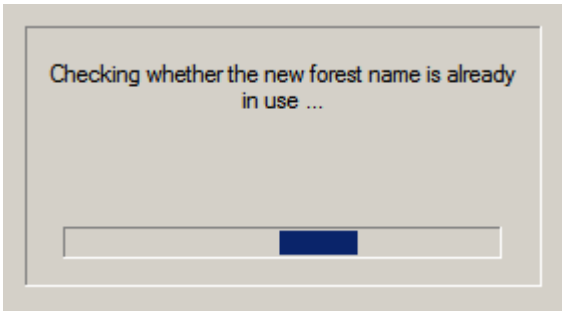
   a. Enter the name of the new forest, which is the DNS root domain that you created previously. Click **Next**.

Figure 17–20 Name the Forest Root Domain



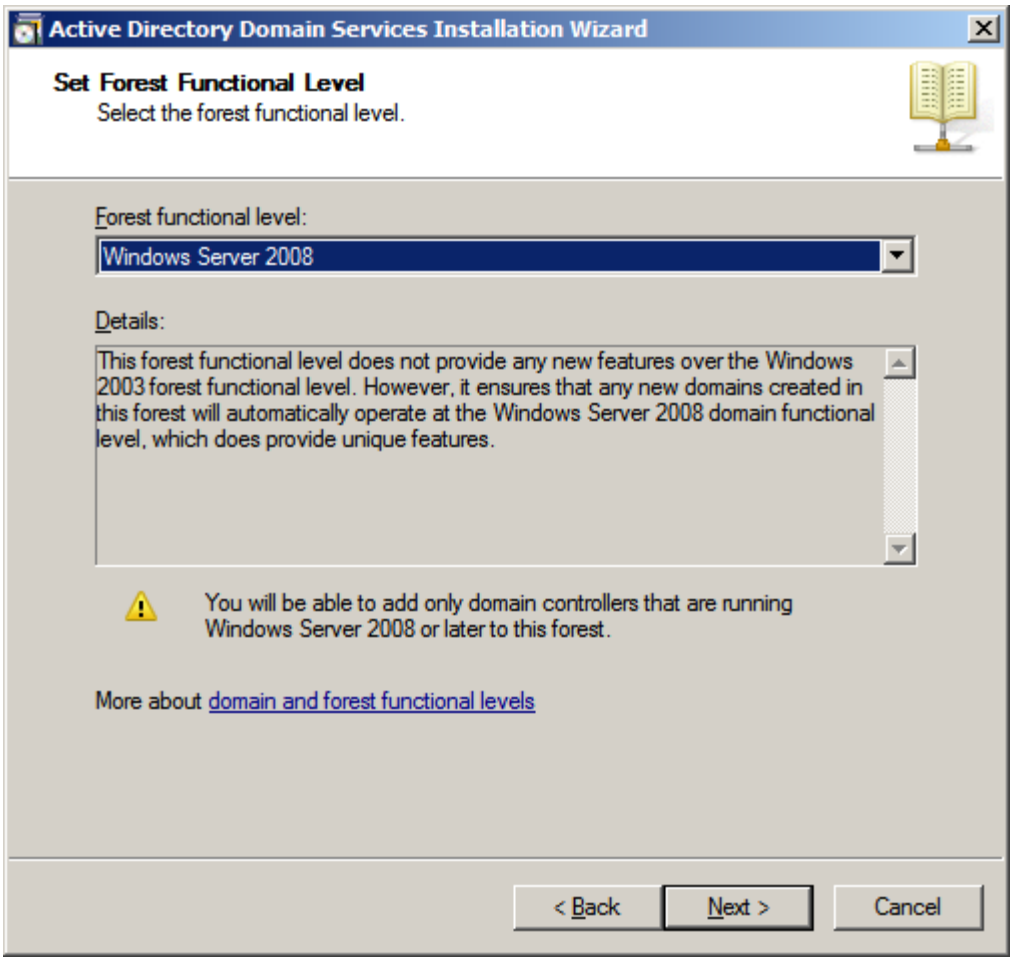
b. Allow the check dialog to complete (Figure 17–21).

Figure 17–21 Checking in Progress



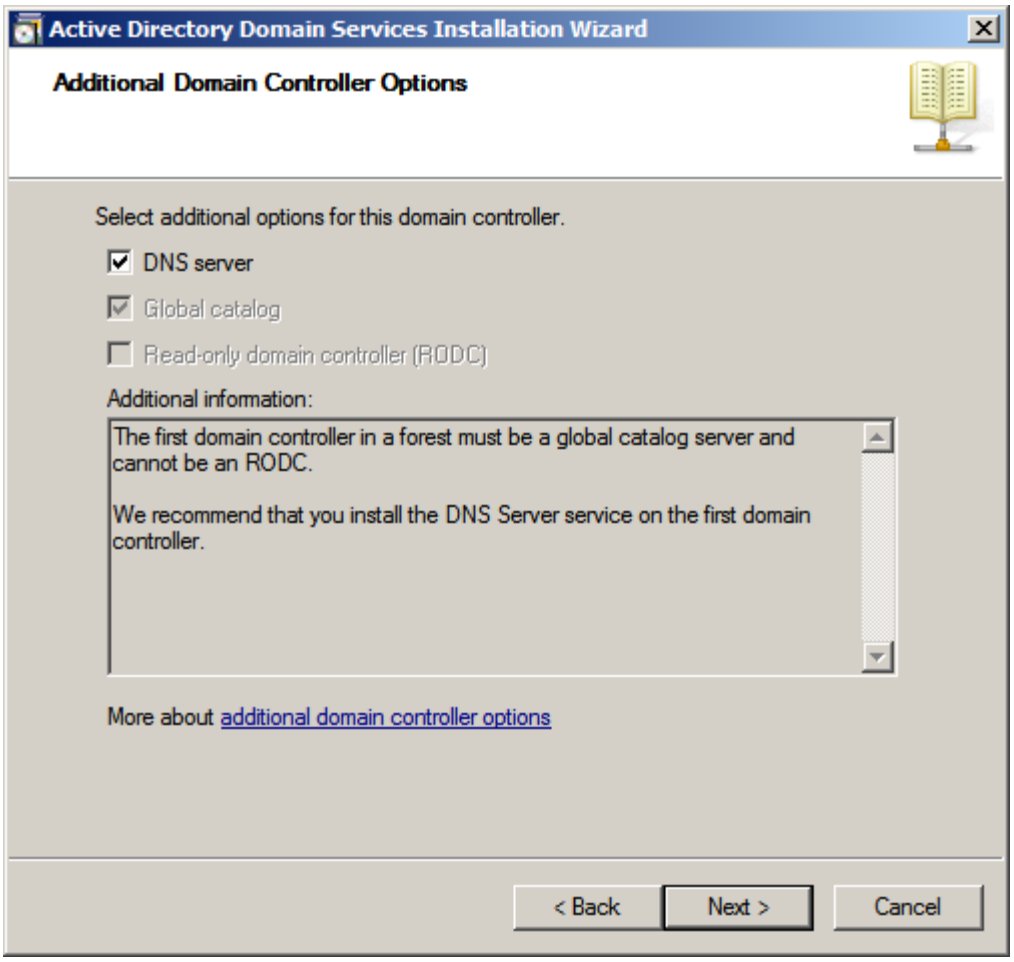
5. In the "Set Forest Functional Level" screen (Figure 17–22), select **Windows Server 2008**, then click **Next**.

Figure 17–22 Set Forest Functional Level



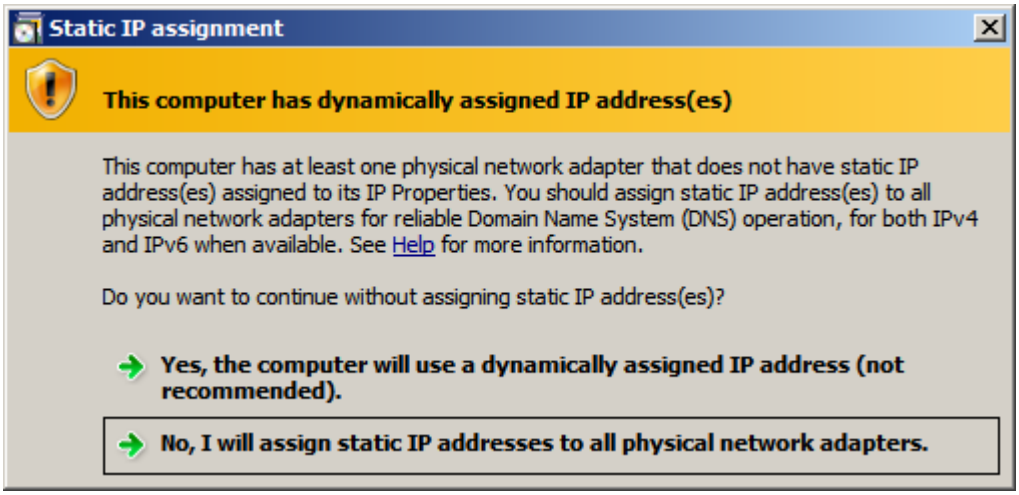
6. In the "Additional Domain Controller Options" screen (Figure 17–23), ensure that **DNS Server** is selected, then click **Next**.

Figure 17–23 Additional Domain Controller Options



If you have a DHCP based adapter you will see the following pop-up message (Figure 17–24):

Figure 17–24 Static IP Assignment



Select **No, I will assign static IP addresses to all physical adapters** to continue with the installation. After the installation completes you can change any DHCP adapter back.

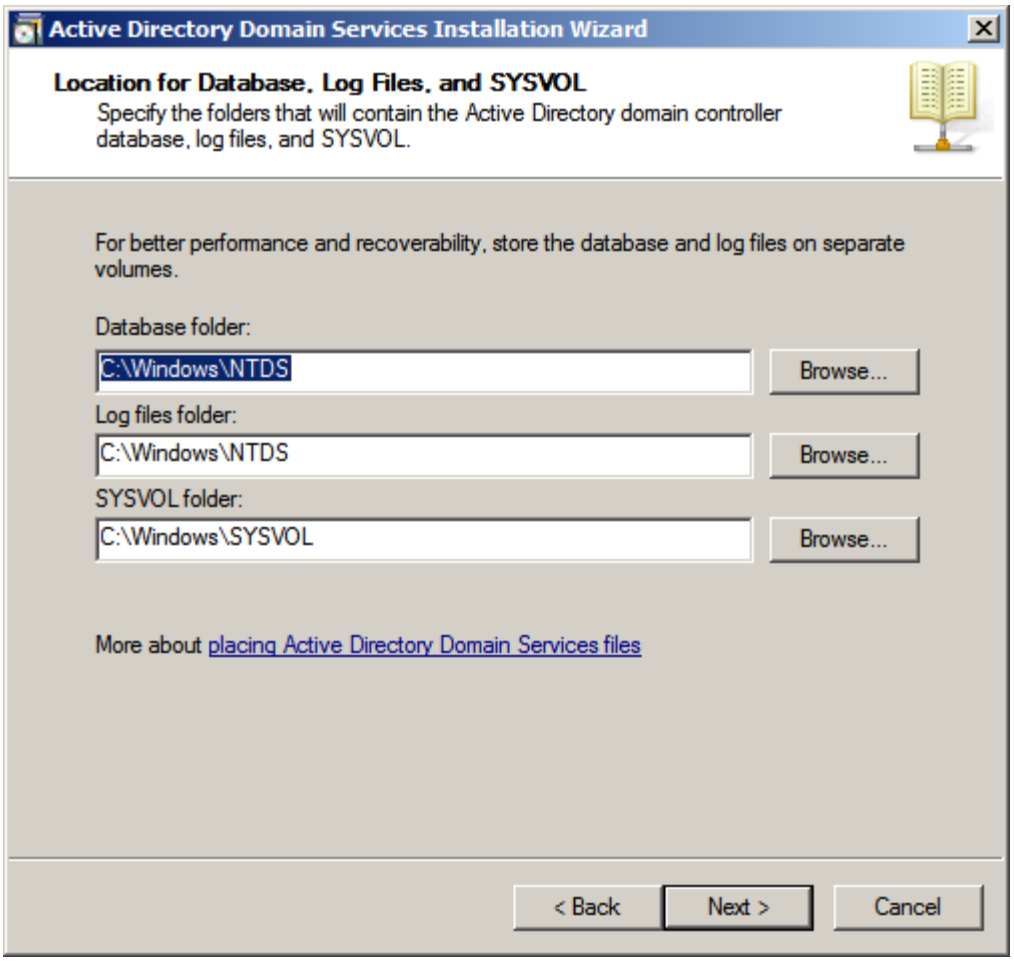
7. If the DNS zone you are creating does not have an authoritative parent zone, the following pop-up message may be displayed (Figure 17–25):

Figure 17–25 Active Directory Domain Services Installation Wizard

Select **Yes** to continue with the installation.

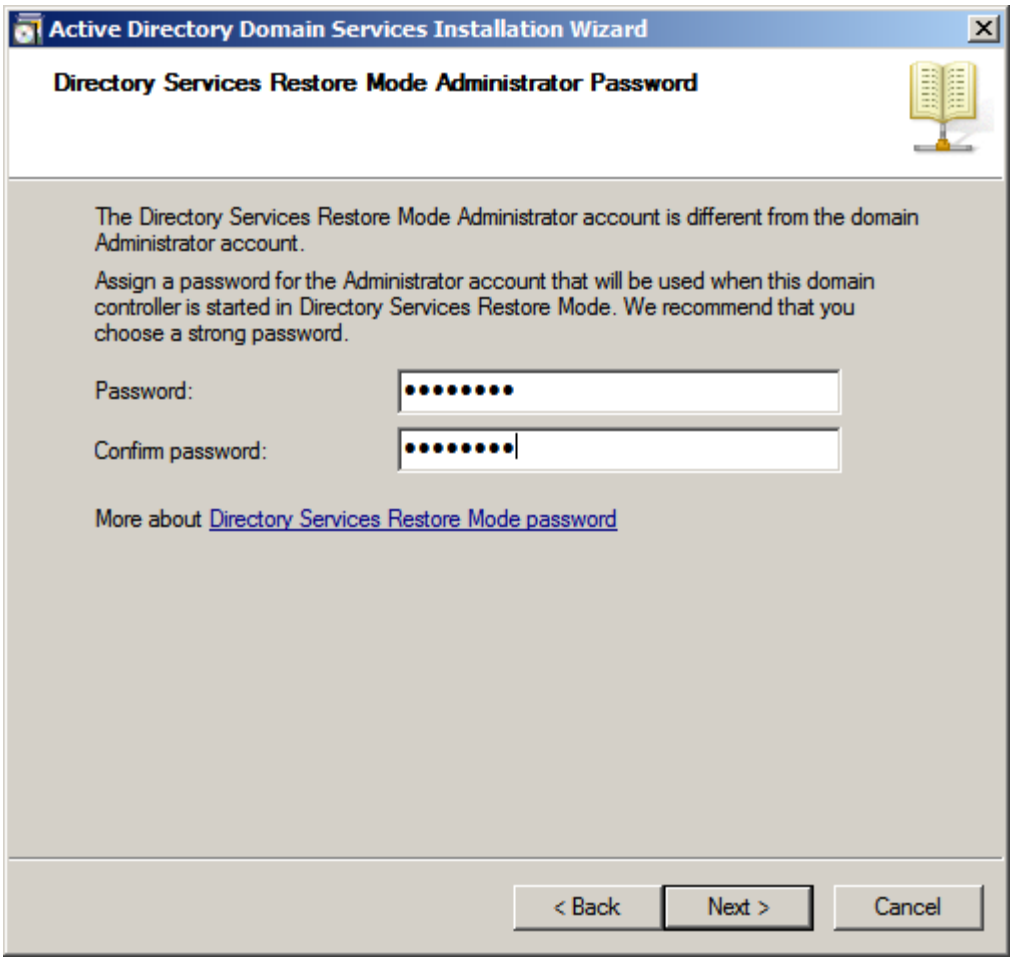
8. In the "Location for Database, Log Files, and SYSVOL" screen (Figure 17–26) select the default in the **Database folder** field or change it as required by your system, then click **Next**.

Figure 17–26 Location for Database, Log Files, and SYSVOL



9. In the "Directory Services Restore Mode Administrator Password" screen (Figure 17–27), enter a password and make a record of it.

Figure 17–27 Directory Services Restore Mode Administrator Password



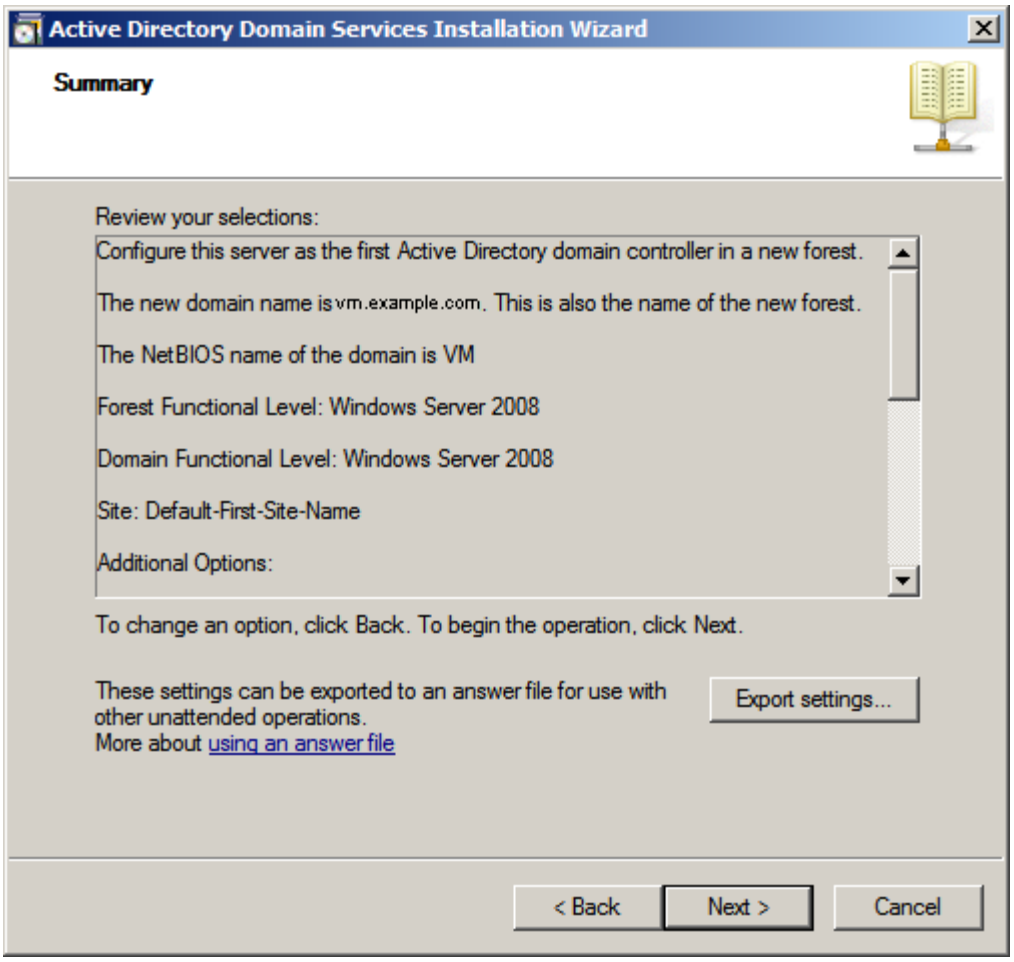
10. In the "Summary" screen (Figure 17–28):

a. Review your settings.

b. Export your settings.

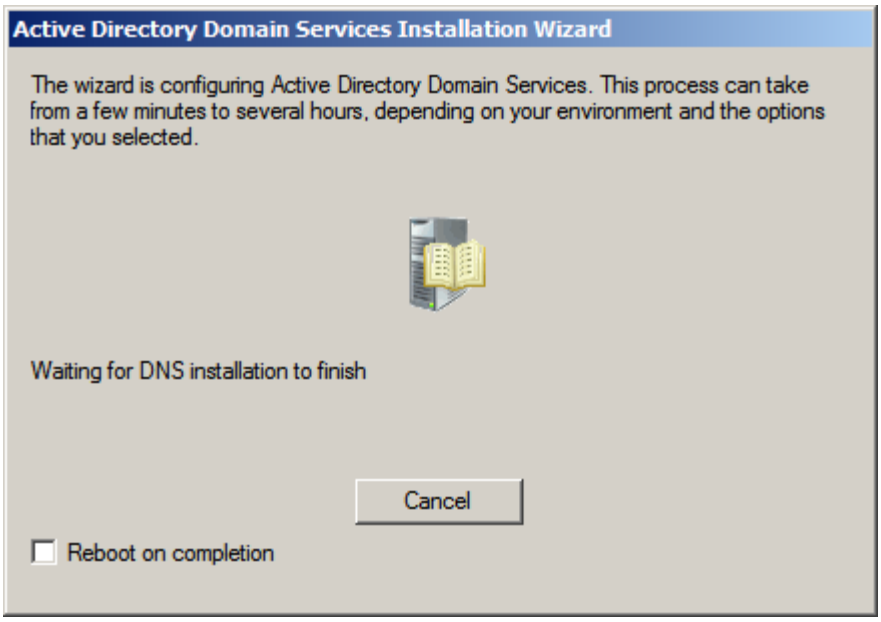
c. Click **Next**.

Figure 17–28 Summary



11. Wait for the installation to complete (Figure 17–29).

Figure 17–29 Waiting for DNS Installation to Finish



12. In the Active Directory Domain Services Installation Wizard (Figure 17–30), click **Finish** to complete the installation.

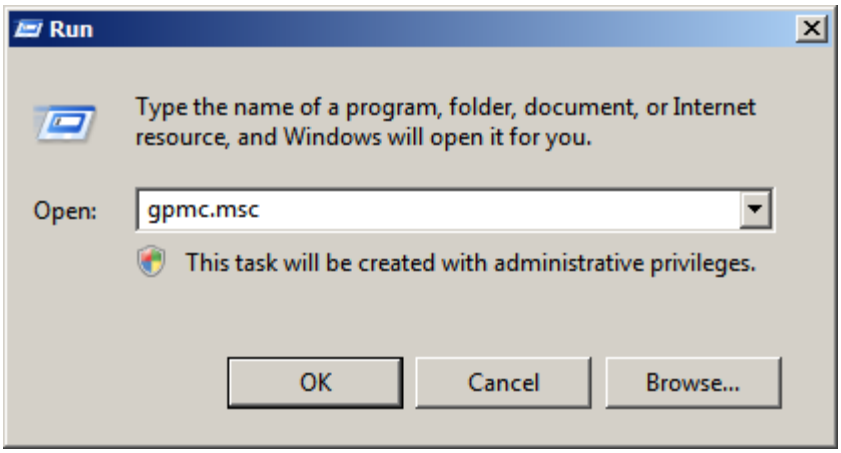
Figure 17–30 Completing the Active Directory Domain Services Installation Wizard

13. Reboot the System.

17.5 Checking Group Policies

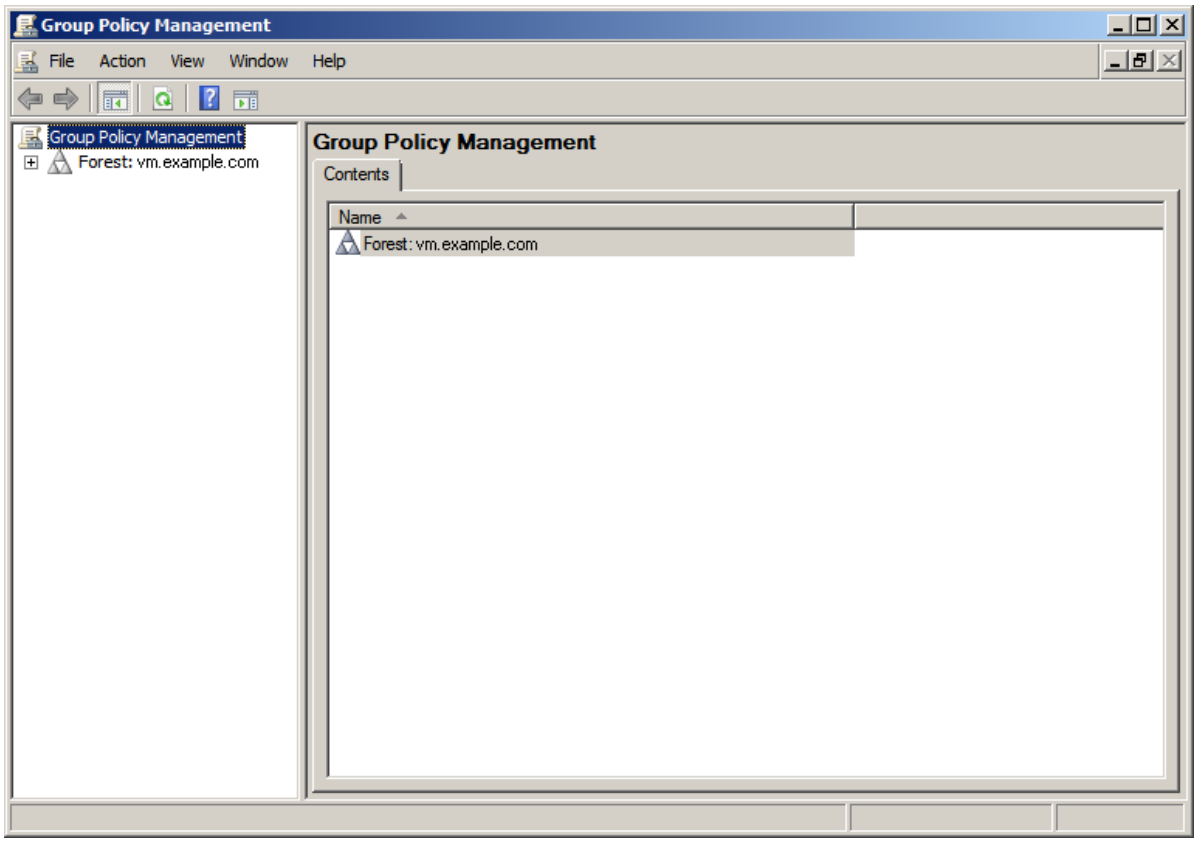
1. Select **Start > Run**.
   a. Enter `gpmc.msc` in the available field.
   b. Click **OK** (Figure 17–31).

Figure 17–31 Run Dialog Box



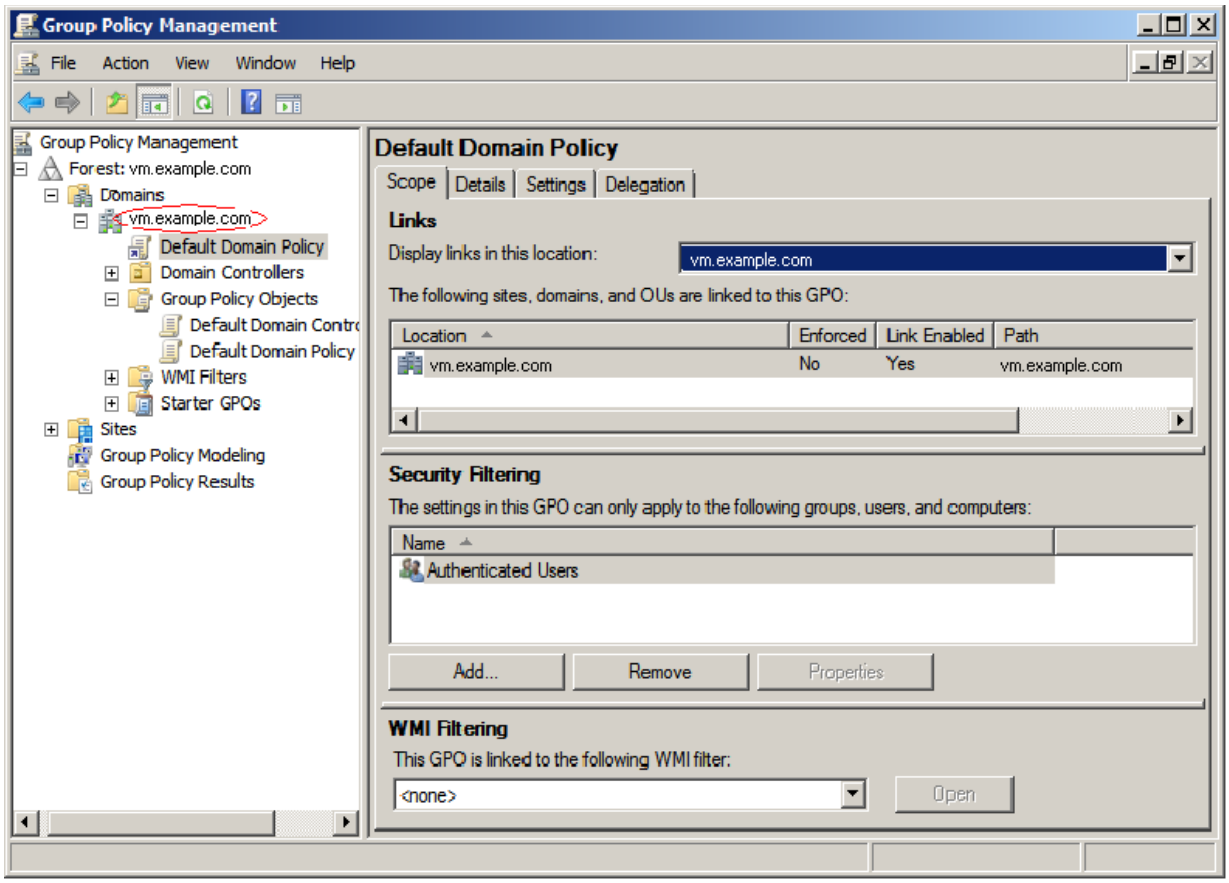
2. "Group Policy Management" opens (Figure 17–32).

Figure 17–32 Group Policy Management



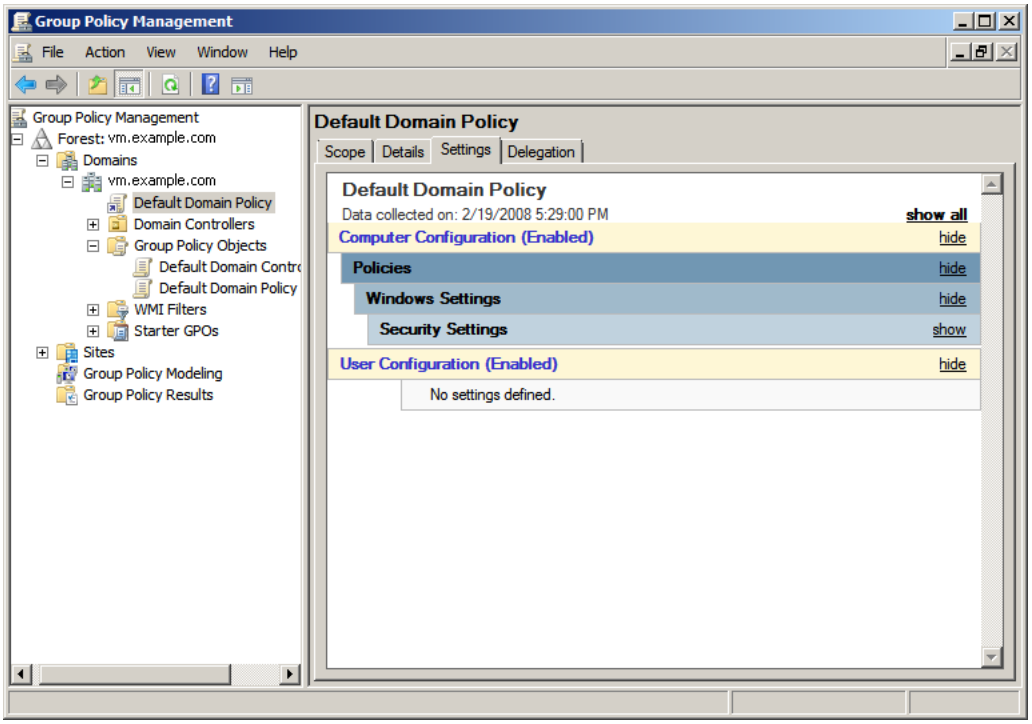
a. Expand the tree **Domains >** `<your domain name>`, then select **Default Domain Policy**, located in the left panel of the "Group Policy Management" screen (Figure 17–33).

Figure 17–33 Domains: vm.example.com



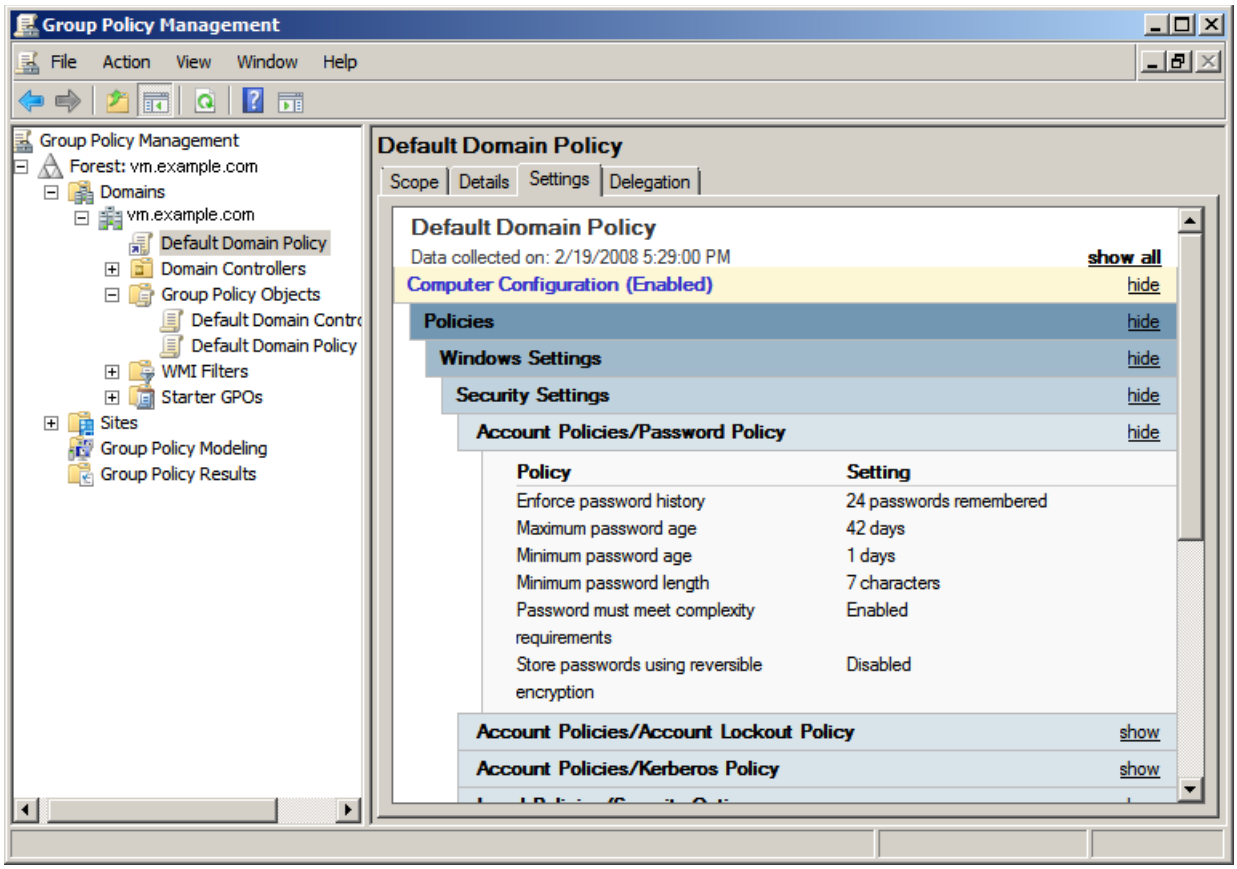
b. Select the **Settings** tab (Figure 17–34).

Figure 17–34 Group Policy Management - Settings Tab



c. Expand **Security > Account Policy/Password Policy** section (Figure 17–35), by clicking **show**.

Figure 17–35 Security > Account Policy/Password Policy

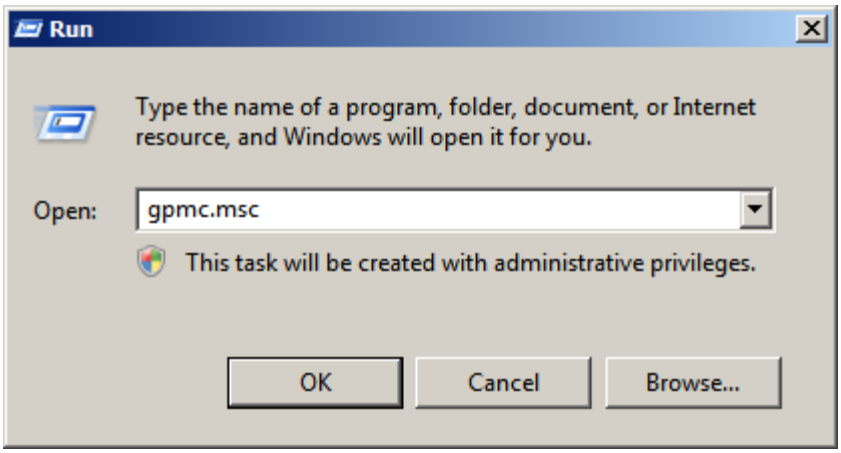


3. Review the "Policy" list. The option **Password must meet complexity requirements** is set to true by default. Change this option to **Disabled** (default WebCenter Sites passwords do not meet these requirements).

17.6 Changing Group Policies

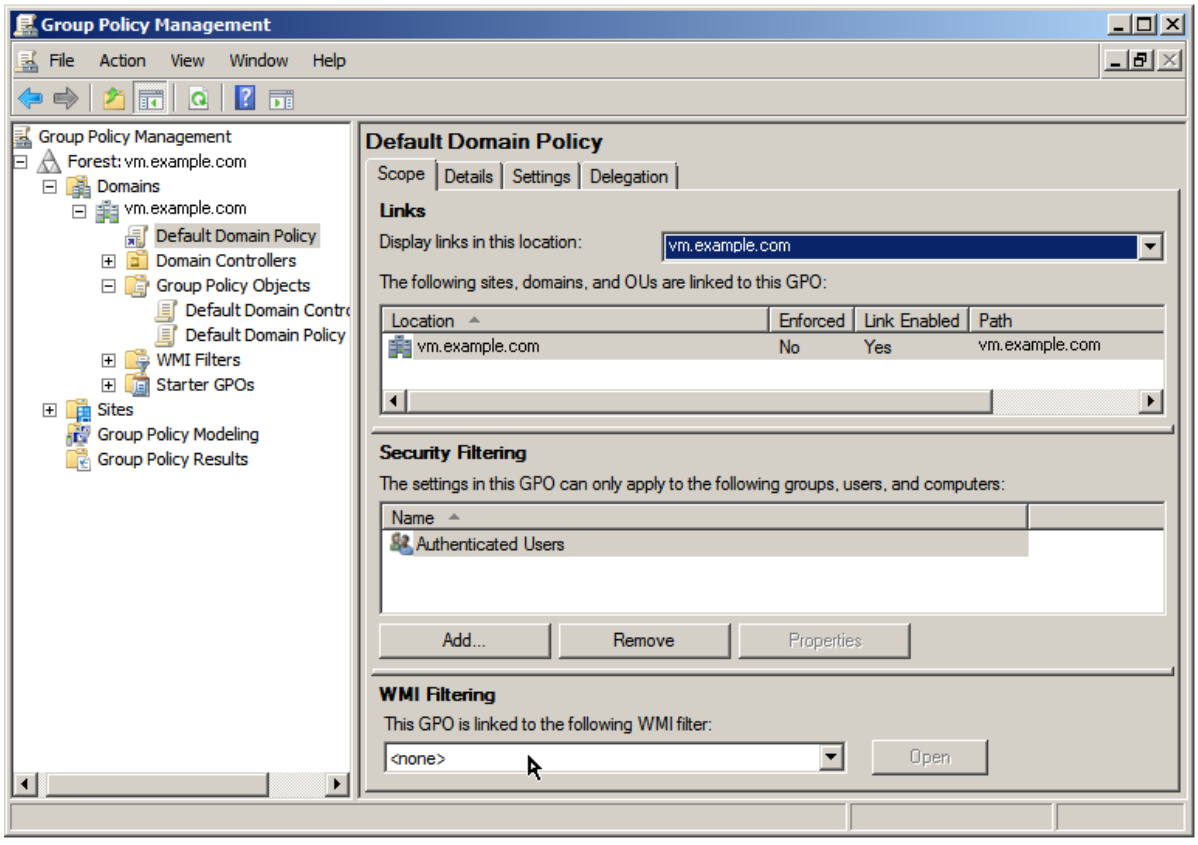
1. Select **Start > Run**.
   a. Enter: `gpmc.msc` in the field provided.
   b. Click **OK** (Figure 17–36).

Figure 17–36 Run Dialog Box



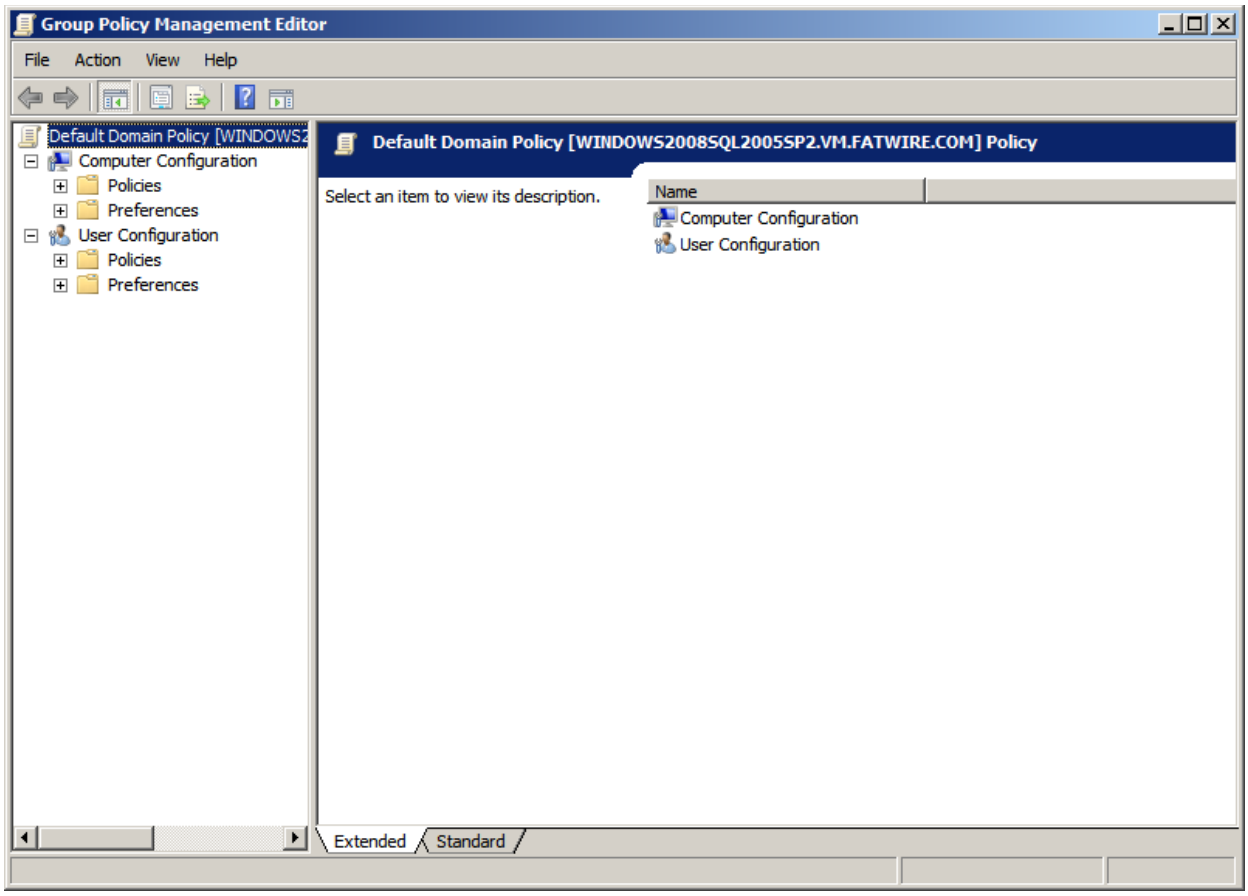
2. In the "Group Policy Management" screen, expand the tree **Domains >** *name of your domain*. Select the **Default Domain Policy**, located on the right of the screen (Figure 17–37), then select **edit**.

Figure 17–37 Default Domain Policy



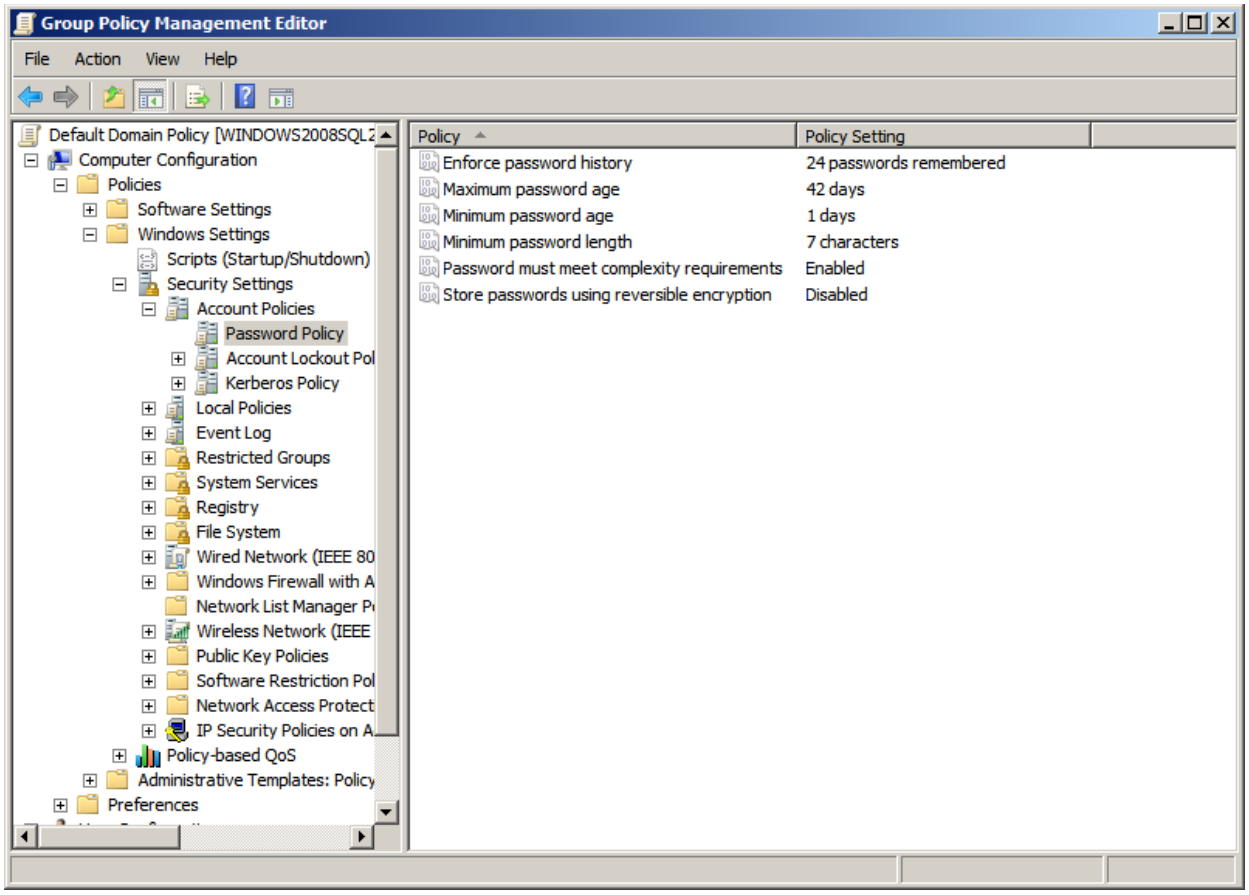
3. The "Group Policy Management Editor" window opens (Figure 17–38).

Figure 17–38 Group Policy Management Editor



a. In the left hand tree expand: **Computer Configuration > Policies > Windows Settings > Security Settings > Account Settings > Password Policy** (Figure 17–39).

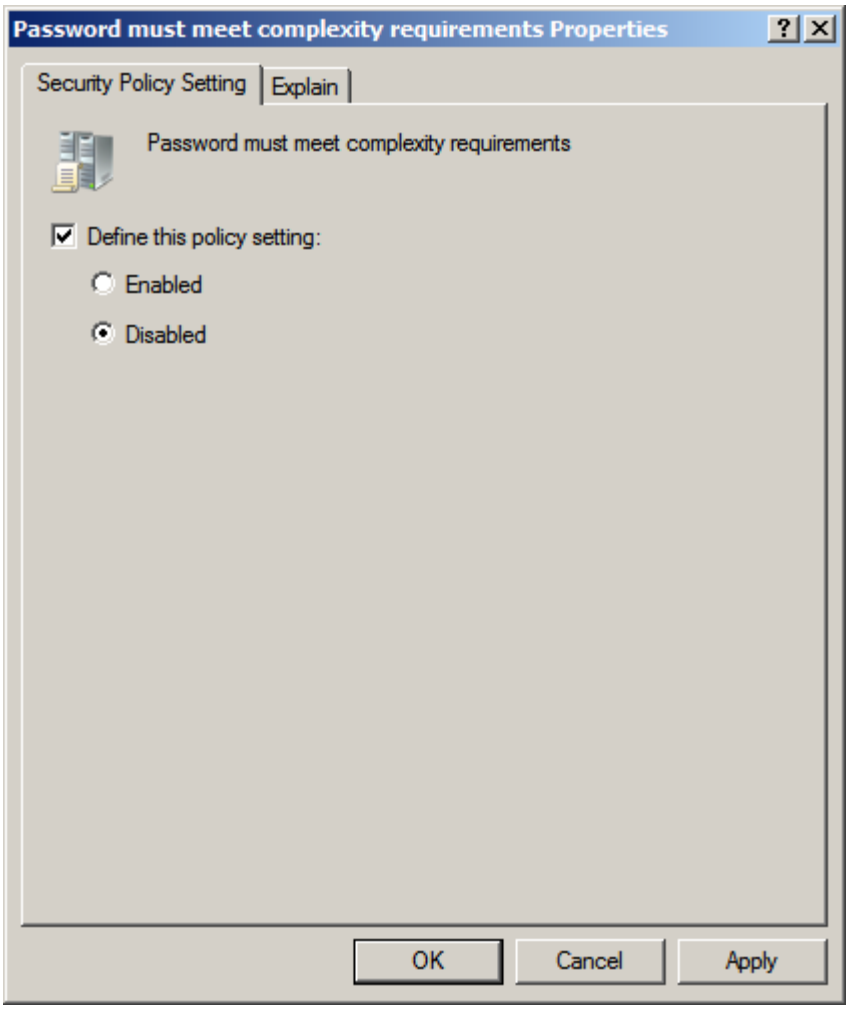
Figure 17–39 Security Settings Expanded



b. Right-click **Password must meet complexity requirements**, located on the right side of the screen, then select **Properties**.

c. In the "Password must meet complexity requirements Properties" dialog box (Figure 17–40) select the radio button **Disabled**, then click **OK**.

Figure 17–40 Password Must Meet Complexity Requirements Properties Dialog Box



d. Close the "Group Policy Management Editor" and "Group Policy Management" windows.

4. The domain will no longer check for password complexity. WebCenter Sites default passwords can now be used.

   When WebCenter Sites is installed you can reverse step 2 by clicking **Enabled** to re-engage the security settings.

17.7 Connecting to ADS Using an LDAP Browser

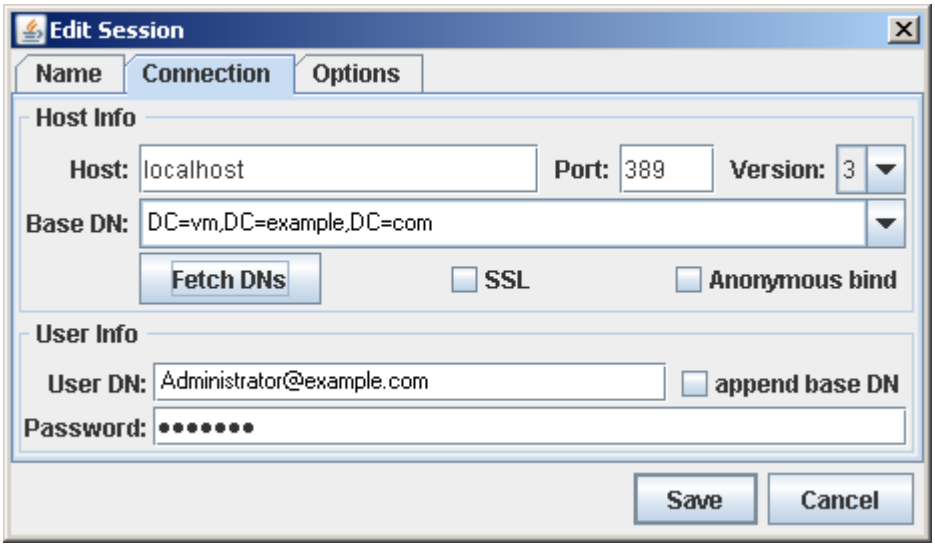
This section shows you how to connect to Active Directory Server using an LDAP browser.

Note: You cannot add groups, set passwords, or activate accounts using an LDAP browser.

1. Open the LDAP browser.
2. Select the **Quick Connect** tab.
3. Fill out the following information (Figure 17–41):

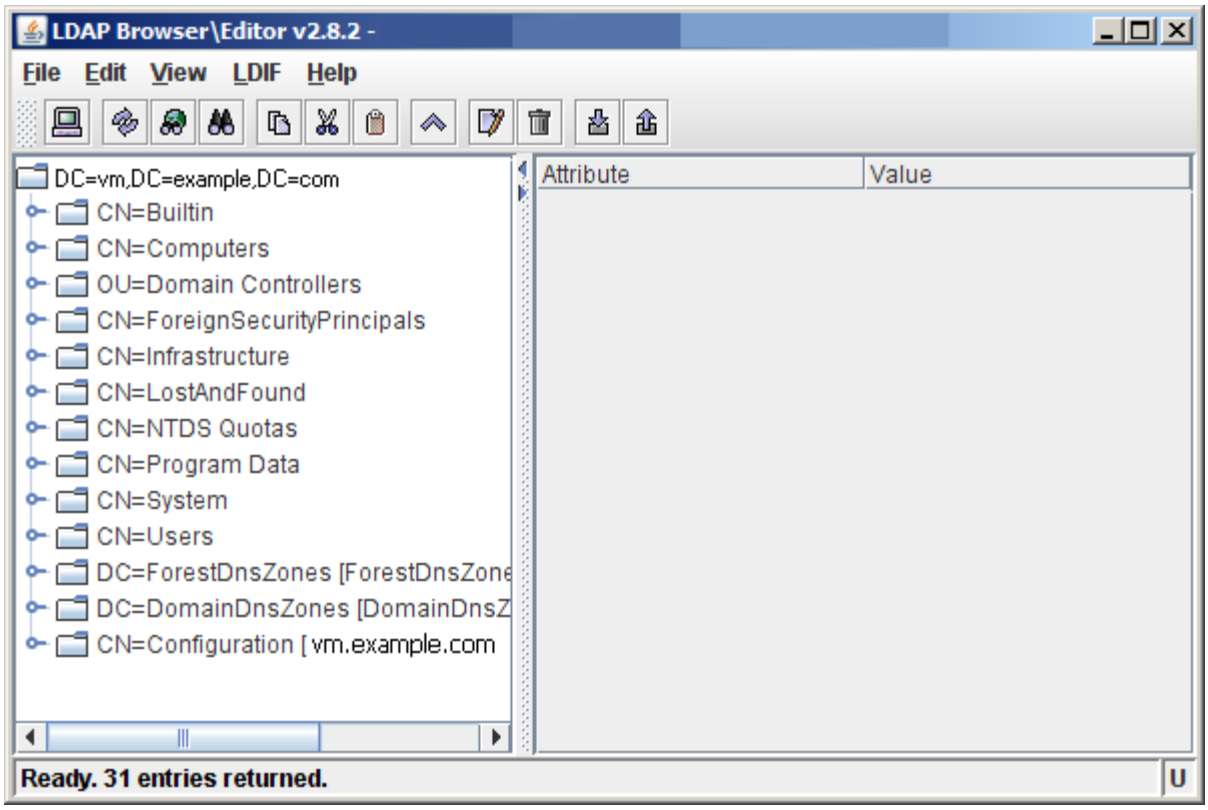
- **Host:** `localhost` (if connecting remotely, enter the actual host name)
- **Base DN:** `<DNS_suffix>` (the part of the DNS name after the host name)
- **Anonymous bind:** deselect
- **User DN:** `administrator@<DNS_suffix>`
- **Append base DN:** deselect
- **Password:** `<ADS_password>` (you created this password in step 9)

Figure 17–41 Edit Session - Connection



4. Click **Connect**.
5. Show the default view on the LDAP tree (Figure 17–42).

Figure 17–42 LDAP Browser\Editor



18

Setting Up OpenLDAP 2.3.*x*

This chapter explains how to set up OpenLDAP for use with WebCenter Sites.

> **Note:** You must set OpenLDAP **before** you run the WebCenter Sites-LDAP integrator.

It contains the following sections:

- Section 18.1, "OpenLDAP Commands"
- Section 18.2, "Installing OpenLDAP"
- Section 18.3, "Configuring OpenLDAP"
- Section 18.4, "Adding WebCenter Sites Schema to OpenLDAP"
- Section 18.5, "Modifying User Passwords"

18.1 OpenLDAP Commands

This section contains the most commonly used OpenLDAP commands. Use it as a reference when configuring OpenLDAP for use with WebCenter Sites.

18.1.1 Starting OpenLDAP

> **Note:** This section assumes that the `slapd` daemon is located in `/usr/local/libexec`. Depending on your installation, the daemon might be located elsewhere. In such cases, substitute the correct path in the commands listed in this section.

- To start OpenLDAP normally, use the following command:

  ```
  /usr/local/libexec/slapd
  ```

- To start OpenLDAP with full debugging (useful when diagnosing configuration issues and installing WebCenter Sites), use the following command:

  ```
  /usr/local/libexec/slapd -h 'ldap:///' -d 0x5001
  ```

18.1.2 Searching an OpenLDAP Server

To search an OpenLDAP Server, do the following:

1. Execute the following command:

```
ldapsearch -x -D "cn=Manager,dc=<domain>,dc=<extension>" -W
-b '' -s base '(objectClass=*)' namingContexts
```

where <domain> and <extension> are the values you specified in step a on page 18-6.

2. When prompted for a password, enter the Root DN user password you specified in step d on page 18-7.

   A typical response from the ldapsearch command looks as follows:

```
Enter LDAP Password:
# extended LDIF
#
# LDAPv3
# base <> with scope baseObject
# filter: (objectClass=*)
# requesting: namingContexts
#

#
dn:
namingContexts: dc=example,dc=com
# search result
search: 2
result: 0 Success

# numResponses: 2
# numEntries: 1
```

18.1.3 Adding an LDIF File to an OpenLDAP Server

To add a well-formed LDIF file to your OpenLDAP Server, use the ldapadd command:

```
ldapadd -D 'cn=Manager,dc=<domain>,dc=<extension>'
-w <root_dn_password> -f <LDIF_file_name>
```

where:

- <domain> and <extension> are the values you specified in step a on page 18-6.
- <root_dn_password> is the Root DN user password you specified in step d on page 18-7.
- <LDIF_file_name> is the name of the LDIF file you are adding.

18.2 Installing OpenLDAP

This section explains how to install OpenLDAP.

Note: OpenLDAP is bundled with most Linux distributions. If OpenLDAP is already installed on your system, skip this section.

To install Open LDAP

1. Download the OpenLDAP tgz archive from the OpenLDAP web site:

   http://www.openldap.org/

   For example: openldap-stable-20070110.tgz

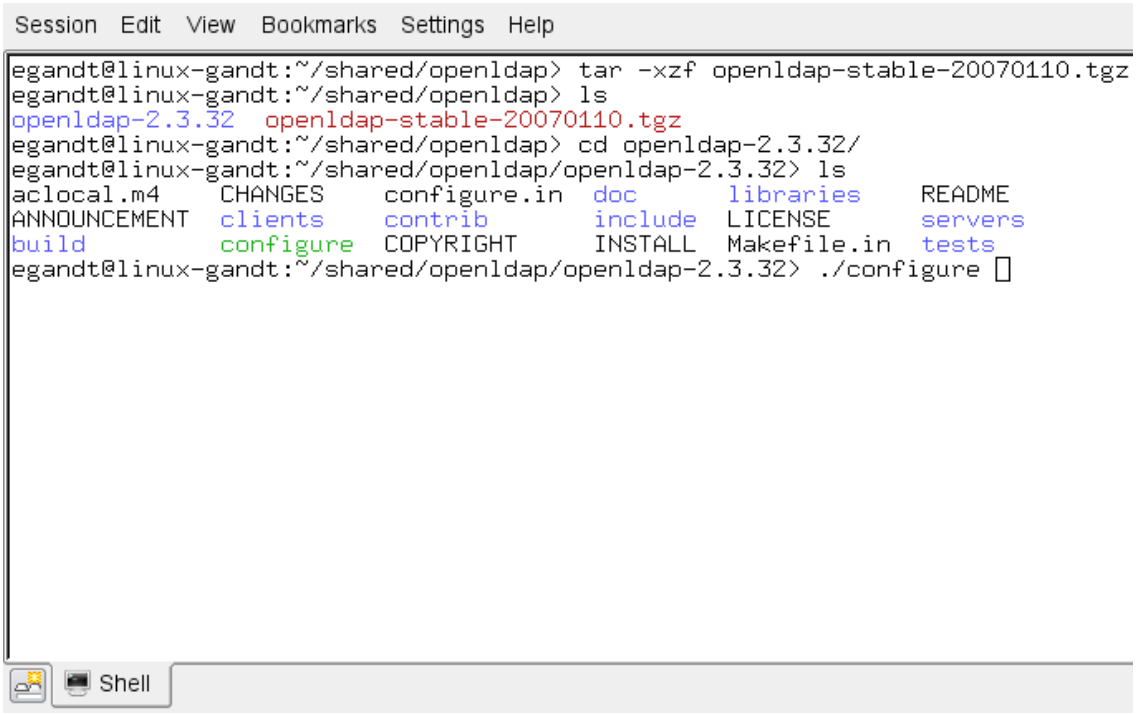
2. Decompress the archive (Figure 18–1):
   - If you are using GNU, use the following command:

     ```
     tar-xvzf openldap-stable-20070110.tgz
     ```

   - If you are not using GNU, use the following command:

     ```
     gzip -d openldap-stable-20070110.tgz ; tar -xvf
     openldap-stable-20070110.tar
     ```

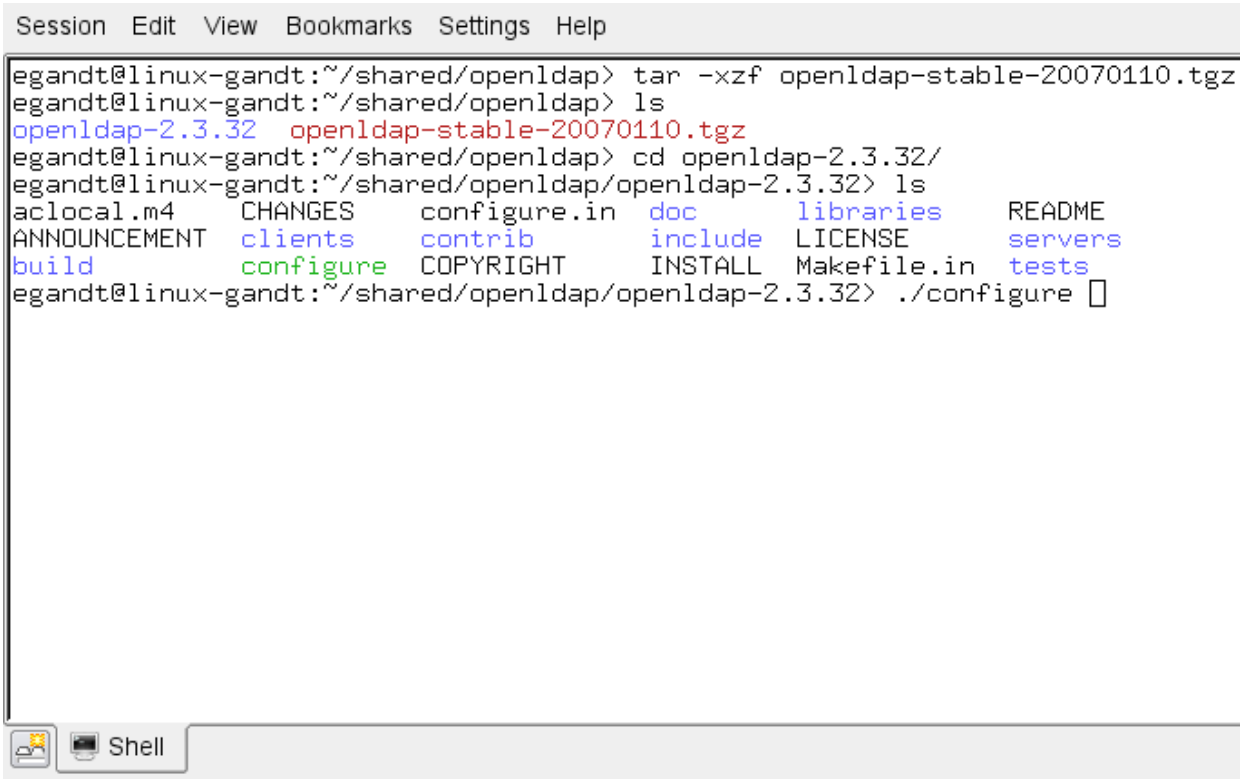
Figure 18–1 Archive Decompression



3. Change to the directory containing the OpenLDAP source (Figure 18–2). For example:

   ```
   cd openldap-2.3.32
   ```

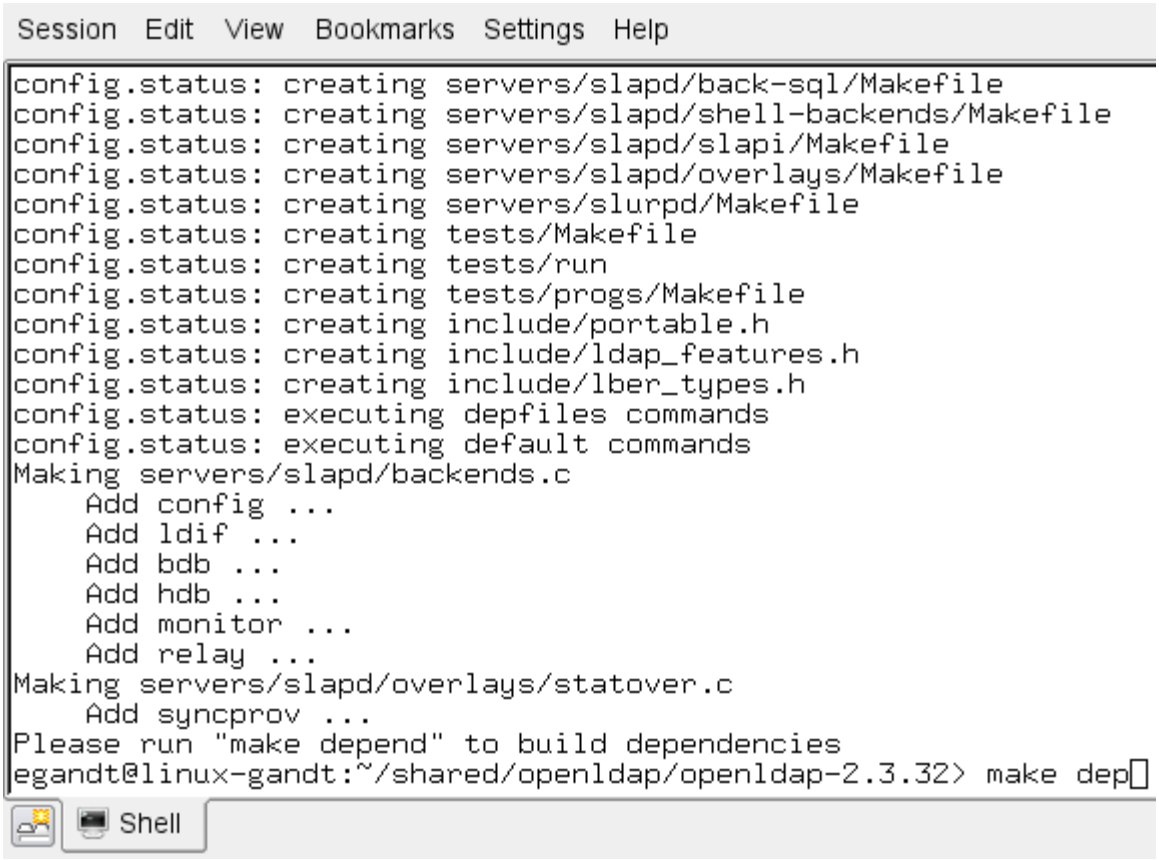
Figure 18–2 Directory Change



4. Configure the OpenLDAP source (Figure 18–3) as follows:

```
./configure --enable-crypt --with-tls
```

Figure 18–3 OpenLDAP Source Configuration



The suggested options are:

- `--enable-crypt` – enables password encryption
- `--with-tls` – enables TLS/SSL support

> **Note:** If you want to customize OpenLDAP for your system, run `./configure --help` for a complete list of configuration options.

5. Compile OpenLDAP dependencies: `make depend`
6. Compile OpenLDAP: `make`
7. Install OpenLDAP: `make install`

> **Note:** By default, OpenLDAP is installed in `/usr/local`.

18.3 Configuring OpenLDAP

This section shows you how to configure your OpenLDAP installation.

1. Edit the `ldap.conf` file as follows:

Note: If you installed OpenLDAP manually by following the steps in the previous section, `ldap.conf` is located in `/usr/local/etc`.

a. Specify your Base DN. Locate the following line (or create it if it does not exist):

```
BASE dc=<domain>,dc=<extension>
```

where `<domain>` and `<extension>` are, respectively, the domain and TLD of your LDAP server.

The Base DN for OpenLDAP should always be two dc's in length. For example, if your full domain is `vm.example.com`, your Base DN would be `example.com`, and your `BASE` line would look as follows:

```
BASE dc=example,dc=com
```

b. Specify your URI(s). Locate the following line (or create it if it does not exist):

```
URI ldap://<hostanme_or_IP> ldap://<hostanme_or_IP>
```

Enter the host names and/or IP addresses on which on which OpenLDAP is to listen for connections. Separate the entries with spaces. For example:

```
URI ldap://127.0.0.1 ldap://localhost ldap://172.19.1.2
```

2. Edit the `sldapd.conf` file as follows:

Note: If you installed OpenLDAP manually by following the steps in the previous section, `sldapd.conf` is located in `/usr/local/etc`.

a. Locate the following section:

```
access to *
   by self write
   by users read
and replace it with:
access to *
   by dn="cn=Manager,dc=<domain>,dc=<extension>" write
by self write
by users read
by anonymous auth
```

where `<domain>` and `<extension>` are the values you specified in step 1a on page 18-6.

b. Specify your suffix. Locate the following line (or create it if it does not exist):

```
suffix dc=<domain>,dc=<extension>
```

where `<domain>` and `<extension>` are the values you specified in step 1a on page 18-6.

c. Specify your Root DN user. (The Root DN user is used to access the LDAP Server.) Locate the following line (or create it if it does not exist):

```
rootdn cn=<user_name>,dc=<domain>,dc=<domain>
```

Enter `Manager` as the user name and replace `<domain>` and `<extension>` with the values you specified in step 1a on page 18-6.

d. Specify a password for the Root DN user. Locate the following line (or create it if it does not exist):

```
rootpw<password>
```

Note: The password can be either encrypted or unencrypted. (Encrypted passwords start with `{SSHA}`). If you wish to use an encrypted password, do the following:

- Generate an encrypted password (hash) using the `slappasswd` command. The command generates a valid encrypted password (hash) and prints it to the terminal.
- Perform step e below.

---

e. (Optional) If you chose to use an encrypted password in the previous step, set the password type to SHA. Locate the following line (or create it if it does not exist):

```
password-hash {SSHA}
```

This sets the password type to SHA (the default). You can set other password types; see the OpenLDAP documentation for more information.

3. Edit the `core.schema` file as follows:

Note: If you installed OpenLDAP manually by following the steps in the previous section, `core.schema` is located in `/usr/local/etc/schema`.

---

a. Locate the following section:

```
objectclass ( 2.5.6.17 NAME 'groupOfUniqueNames'   DESC 'RFC2256: a group
of unique names (DN and Unique Identifier)'SUP top STRUCTURAL MAY (
businessCategory $ seeAlso $ owner $ ou $ o $ description $ uniqueMember)
MUST ( uniqueMember $ cn ))
```

b. Comment the section out by placing a # character at the beginning of each line. Then insert the following modified section after it:

```
objectclass ( 2.5.6.17 NAME 'groupOfUniqueNames'   DESC 'RFC2256: a group
of unique names (DN and Unique Identifier)'SUP top STRUCTURALMAY (
businessCategory $ seeAlso $ owner $ ou $ o $ description $ uniqueMember)
MUST ( cn ))
```

The difference between the original and modified sections is the last line:

`MUST ( uniqueMember $ cn )` becomes `MUST ( cn )`

OpenLDAP is now configured.

18.4 Adding WebCenter Sites Schema to OpenLDAP

This section shows you how to add WebCenter Sites schema to your OpenLDAP server.

Note: If you are copying the contents of the sample LDIF file below, make sure to insert an empty line between `dn` sections and at the end of the file.

To configure OpenLDAP for WebCenter Sites

1. Create an LDIF file named `pre_cs_openldap.ldif` with the following contents:

```
dn: dc=<domain>,dc=<extension>
objectClass: dcObject
objectClass: organization
dc: example
description: OpenLDAP pre_cs_setup
o: Example Software

# LDAP Manager Role
dn: cn=Manager,dc=<domain>,dc=<extension>
objectclass: organizationalRole
cn: Manager

# add the organizational Unit People
dn: ou=People,dc=<domain>,dc=<extension>
objectClass: organizationalUnit
objectClass: top
ou: People

# add the organizational Unit Group
dn: ou=Groups,dc=<domain>,dc=<extension>
objectClass: organizationalUnit
objectClass: top
ou: Groups
```

   where `<domain>` and `<extension>` are the values you specified in step a on page 18-6.

   The file will create a new organization (`example`) containing two sub-organizations (`Groups` and `People`) and the `Manager` user. The `Manager` user will be used to access the LDAP server.

2. Add the `pre_cs_openldap.ldif` file to your OpenLDAP server. Execute the following command:

```
ldapadd -D 'cn=Manager,dc=<domain>,dc=<extension>'
-w <root_dn_password> -f pre_cs_openldap.ldif
```

   where:

   – `<domain>` and `<extension>` are the values you specified in step a on page 18-6.

   – `<root_dn_password>` is the Root DN user password you specified in step d on page 18-7.

3. Test your OpenLDAP server. Execute the following command:

```
ldapsearch -x -b 'ou=Groups,dc=<domain>,dc=<extension>'
'(objectclass=*)'
```

   where `<domain>` and `<extension>` are the values you specified in step a on page 18-6.

   An example response from the `ldapsearch` command looks as follows:

```
# extended LDIF
#
# LDAPv3
# base <ou=Groups,dc=example,dc=com> with scope subtree
# filter: (objectclass=*)
# requesting: ALL
#

# search result
search: 2
result: 0 Success

# numResponses: 1
```

If the `pre_cs_openldap.ldif` file was successfully inserted into the LDAP server, the `result:` line indicates `success`, at which point you are ready to run the WebCenter Sites LDAP integrator. For instructions, see Part V, "Integrating Oracle WebCenter Sites with LDAP."

18.5 Modifying User Passwords

When you ran the WebCenter Sites LDAP integrator, all WebCenter Sites users (except `fwadmin`, `ContentServer`, and `DefaultReader`) were assigned the password which you entered in the "WebCenter Sites Configuration" screen. For security reasons, you might want to manually assign unique passwords to those users.

> **Note:** If you chose to use encrypted passwords when you configured OpenLDAP, you must change the passwords for all users on your WebCenter Sites system, or your WebCenter Sites installation will not function properly. This is because the WebCenter Sites-LDAP integrator writes user passwords into OpenLDAP as plaintext, but OpenLDAP expects password hashes.

The following table shows the passwords you must assign to your WebCenter Sites users:

User	Password
`DefaultReader`	`SomeReader`
`ContentServer`	The password you supplied during WebCenter Sites installation
`fwadmin`	The password you supplied during WebCenter Sites installation
All other users on your WebCenter Sites system	The password you supplied during WebCenter Sites-LDAP integration

This section covers the following methods for changing passwords in OpenLDAP:

- Section 18.5.1, "Modifying User Passwords Using an LDAP Browser"
- Section 18.5.2, "Modifying User Passwords Using the ldapmodify Command"

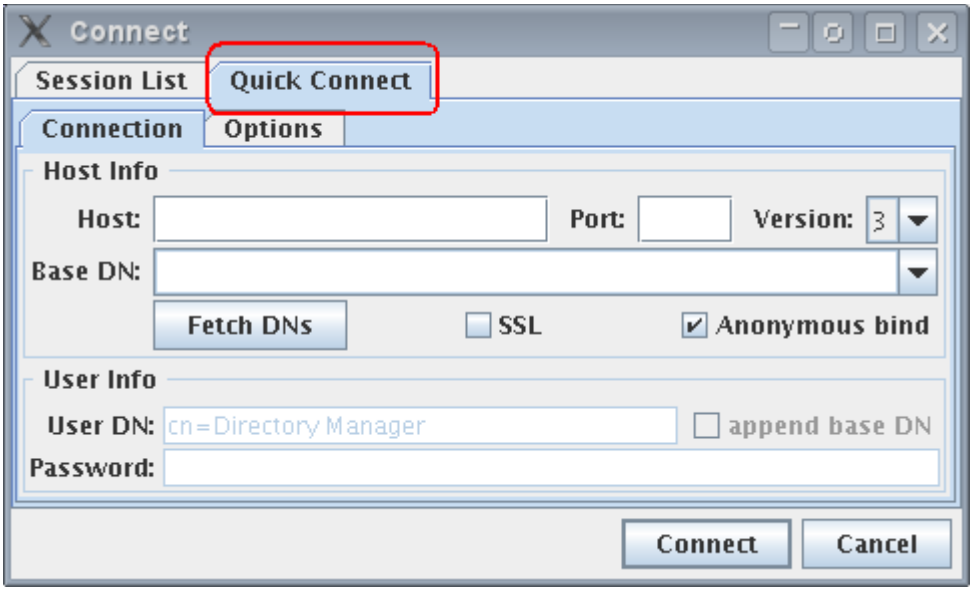
18.5.1 Modifying User Passwords Using an LDAP Browser

This section shows you how to modify user passwords using the free LDAP Browser/Editor program available at `http://www-unix.mcs.anl.gov/~gawor/ldap/`.

To modify user passwords in OpenLDAP using an LDAP browser

1. Download and install the LDAP browser.
2. Start the LDAP browser: `./lbe.sh`
3. Click the **Quick Connect** tab (Figure 18–4).

Figure 18–4 Quick Connect Tab

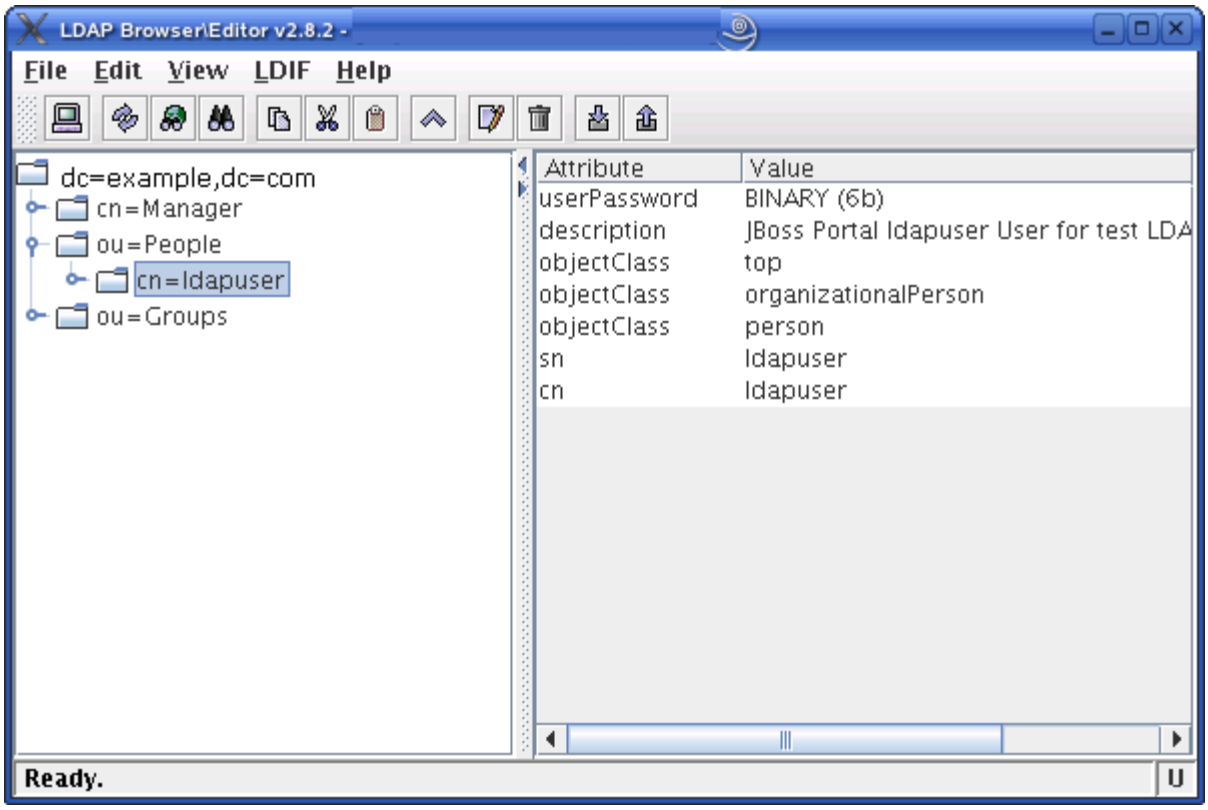


4. Fill out the fields as follows:

Field	Value
Hostname	The host name of your OpenLDAP server.
Port	**389**
Version	**3**
Base DN	The Base DN you specified in step a.
Anonymous bind	**Yes** (select check box)
User DN	`cn=Manager`
Append base DN	**Yes** (select check box)
Password	The Root DN user password you specified in step d on page 18-7.

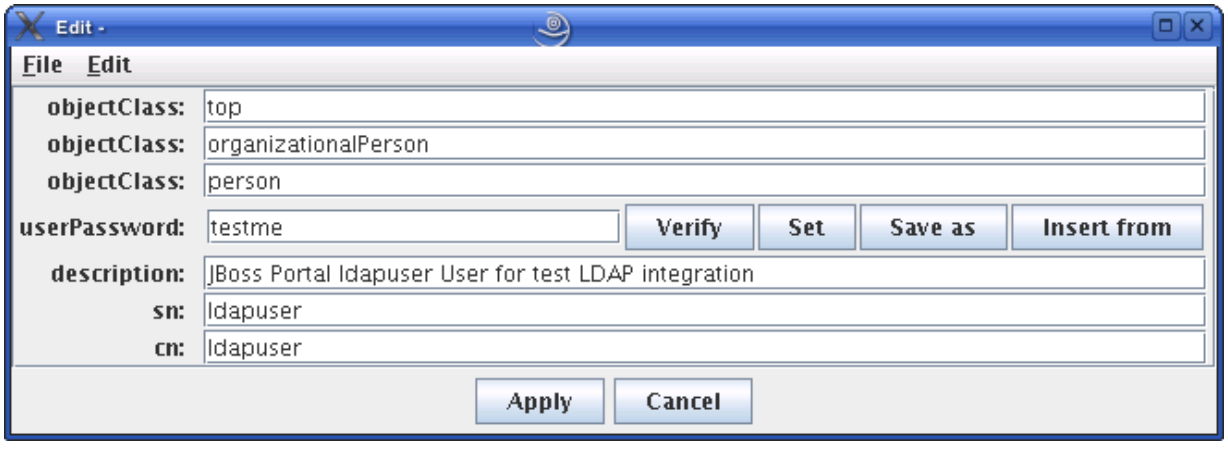
5. Click **Connect**.
6. In the left-hand tree, expand the **ou=People** node (Figure 18–5).

Figure 18–5 ou-People Expanded



7. Double-click the user whose password you want to change and press **Ctrl-E**.
8. The plaintext password written by the WebCenter Sites-LDAP integrator appears in the **userPassword** field (Figure 18–6). Click **Set**.

Figure 18–6 Edit Dialog Box



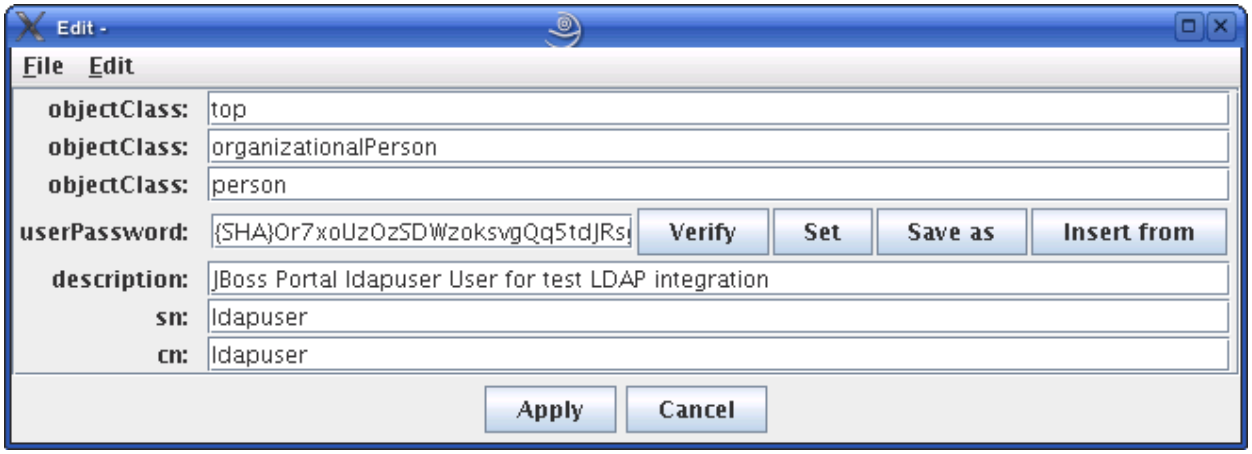
9. In the pop-up window, enter the user's password (Figure 18–7) and click **Set**.

Figure 18–7 Generate Password Dialog Box

The password appears in its encrypted form.

10. Click **Apply** to save the new password (Figure 18–8).

Figure 18–8 Edit Dialog Box



11. Repeat steps 7–10 on page 18-12 for each user whose password you want to change. When you are finished, test your integration by logging in to WebCenter Sites.

18.5.2 Modifying User Passwords Using the ldapmodify Command

The `ldapmodify` command provides you with an interface in which you can enter valid LDIF statements to make changes to the configuration of your OpenLDAP server. This section shows you how to use the `ldapmodify` and `sldappasswd` commands to change the passwords of LDAP users.

To modify user passwords in OpenLDAP using the ldapmodify command

1. Generate an encrypted password for each user. Run the `sldappasswd` command and enter the plaintext password which you want to encrypt. The command outputs the encrypted password (hash) to the terminal. For example:

   ```
   {SSHA}ydUT5RCpBAU80P0PW8gaHnsmYmLlmUL8
   ```

   Note: If you are generating hashes for a large number of users, it is a good idea to store the hashes in a file, so that you can easily retrieve them in step 3 on page 18-13. When you finish this procedure, make sure that you destroy the file in which the hashes are stored.

2. Execute the `ldapmodify` command as follows:

   ```
   ldapmodify -D 'cn=Manager,dc=<domain>,dc=<extension>'
   ```

`-w <root_dn_password>`
where:

- `<domain>` and `<extension>` are the values you specified in step a on page 18-6.
- `<root_dn_password>` is the Root DN user password you specified in step d on page 18-7.

When the command returns a blank line, you are ready to input LDIF statements.

3. Change the user's password. Issue the following commands:
   a. `dn:cn=<user_name>,ou=People,dc=<domain>,dc=<extension>`

      where `user_name` is the user name of the user whose password you want to change, and `<domain>` and `<extension>` are the values you specified in step a on page 18-6.
   b. `changetype:modify`
   c. `replace:userPassword`
   d. `userpassword:<password_hash>`

      where `<password_hash>` is the hash generated by the `sldappasswd` command in step 1 on page 18-12 of this procedure.
   e. Press **Ctrl+D**.
   f. Repeat steps a–e on page 18-13 for each user whose password you want to change. When you are finished, press **Ctrl+C** to terminate the `ldapmodify` command.

Part V

Integrating Oracle WebCenter Sites with LDAP

Part V contains the following chapters:

- Chapter 19, "Overview of the Oracle WebCenter Sites-LDAP Integration"
- Chapter 20, "Integrating Oracle WebCenter Sites with Flat Schema LDAP Servers"
- Chapter 21, "Integrating Oracle WebCenter Sites with Hierarchical Schema LDAP Servers"
- Chapter 22, "Reference: Sample LDIF for Hierarchical Schema LDAP"

19

Overview of the Oracle WebCenter Sites-LDAP Integration

This chapter provides an overview of your options to integrate Oracle WebCenter Sites with an LDAP server.

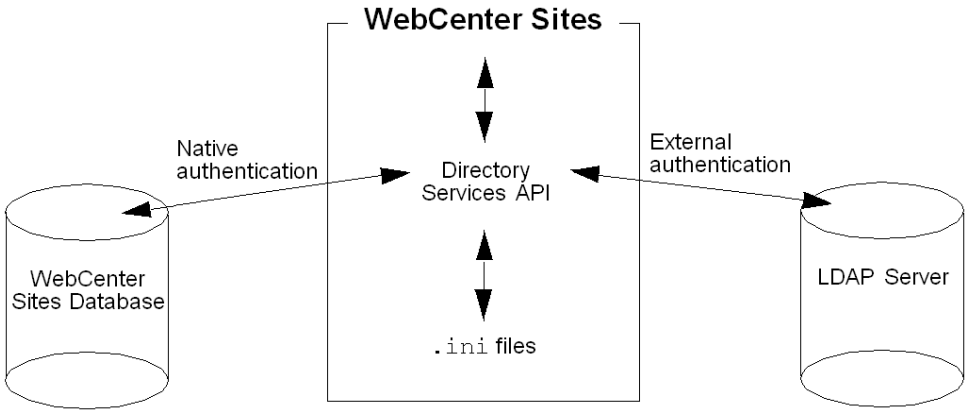
This chapter contains the following sections:

19.1 Introduction

WebCenter Sites connects to an authentication system through the Directory Services API. This API provides out-of-the-box support for two types of authentication systems, as shown in Figure 19–1.

- The native authentication system, which validates WebCenter Sites users against the WebCenter Sites user management tables `SystemUsers` and `SystemUserAttrs`.
- External directory server (LDAP server), which must be integrated with WebCenter Sites in order to validate WebCenter Sites users against the users that are listed in the directory server's database.

Figure 19–1 Two Types of Authentication



Note: External user managers can also be integrated with WebCenter Sites, but must be customized to authenticate and/or authorize users.

19.2 LDAP Integration Options

The following types of external directory servers can be integrated with WebCenter Sites:

- Flat schema LDAP, which provides authentication and authorization services for web applications. LDAP schema is automatically configured when you run the WebCenter Sites-LDAP integrator (included with WebCenter Sites). The integrator requires you to first install a supported LDAP server (listed in the *Oracle WebCenter Sites Certification Matrix* available here: `http://www.oracle.com/technetwork/middleware/webcenter/sites/downloads/index.html`).
- Hierarchical schema LDAP, which provides authentication and authorization services for web applications and requires manual integration with WebCenter Sites.

Both integration options involve connecting the LDAP server to the Directory Services API by setting connection properties in the WebCenter Sites `futuretense.ini`, `futuretense_xcel.ini`, and `dir.ini` files. Integration is complete when the WebCenter Sites user data is written to the LDAP server. Which type of data must be written depends on LDAP schema:

- Flat schema LDAP requires authentication and authorization to be managed in the LDAP server, which means that WebCenter Sites users, ACLs, roles, and sites must be written to LDAP. Users include user accounts, user profiles, and user attributes.
- Hierarchical schema LDAP requires only authentication to be managed in the LDAP server, which means that only users and ACLs must be written to LDAP. (Again, users include user accounts, user profiles, and user attributes.)

  Writing roles and sites is optional. Choosing this option requires you to create a site organizational unit in the LDAP server by subordinating the WebCenter Sites roles to their relevant sites.

The following table summarizes LDAP schema and integration requirements.

Integration Type/Method	Flat Schema LDAP - Authentication	Flat Schema LDAP - Authorization	Hierarchal Schema LDAP - Authentication	Hierarchal Schema LDAP - Authorization
WebCenter Sites Web Application	Required	Required	Required	Optional
Method	Integrator writes WebCenter Sites users and ACLs to LDAP	Use integrator or manually write WebCenter Sites roles and sites to LDAP	Integrate manually	Integrate manually

- For procedures on integrating with flat schema LDAP, see Chapter 20, "Integrating Oracle WebCenter Sites with Flat Schema LDAP Servers."
- For procedures on integrating with hierarchical schema LDAP, see Chapter 21, "Integrating Oracle WebCenter Sites with Hierarchical Schema LDAP Servers."

20

Integrating Oracle WebCenter Sites with Flat Schema LDAP Servers

This chapter provides instructions for using Oracle's integrator to automatically integrate WebCenter Sites with a supported LDAP server. The integrator configures a flat schema for authentication and authorization services for the WebCenter Sites web application.

This chapter contains the following sections:

20.1 WebCenter Sites-LDAP Integrator

Oracle's LDAP integrator requires a fully functional WebCenter Sites web application and a pre-installed, supported LDAP server.

The integrator works by first prompting you for parameters relating to your WebCenter Sites installation and LDAP server. When you provide the requested information and click **Install**, the integrator uses your inputs to perform the following steps:

1. The integrator sets LDAP connection properties in the WebCenter Sites `futuretense.ini`, `futuretense_xcel.ini`, and `dir.ini` files in order to:
   - Establish communication between the LDAP server and the WebCenter Sites Directory Services API.
   - Enable the LDAP server to recognize the user that WebCenter Sites will invoke to query the LDAP server.
   - Configure a flat schema.
   - Modify the LDAP database to use WebCenter Sites ACLs in LDAP format.

   For a listing of the LDAP connection properties that are set by the integrator, see Chapter 21, "Integrating Oracle WebCenter Sites with Hierarchical Schema LDAP Servers." (Note that the properties for flat and hierarchical schema are identical; only the values differ.)

2. In its final steps, the integrator does one of the following, depending on the option you selected:
   - If you selected the **Automatic** option, the integrator loads the LDAP server with the WebCenter Sites information — users, ACLs, roles, and sites to which the roles apply.
   - If you selected **Manual**, the LDAP integrator requires an LDAP user with write permissions to manually write users, ACLs, and roles (including their relevant sites) to the LDAP server, either directly or via an `ldif` file. This information is written once the integrator completes its process.
3. Regardless of which option you selected (**Automatic** or **Manual**), you will have to complete the integration by resetting (in the LDAP server) the passwords of WebCenter Sites users.

20.2 Running the WebCenter Sites-LDAP Integrator

To integrate with flat schema LDAP, complete the steps in the following sections:

- Section 20.2.1, "Prerequisites"
- Section 20.2.2, "Integration Steps"

20.2.1 Prerequisites

Before integrating WebCenter Sites with LDAP, prepare your system:

1. The LDAP integrator can run only on a WebCenter Sites full product release. Perform LDAP integration before any hot-fixes or patches are installed.
2. Make sure WebCenter Sites is installed on one of the supported platforms and is fully functional. Currently supported platforms are listed in the *Oracle WebCenter Sites Certification Matrix* here: `http://www.oracle.com/technetwork/middleware/webcenter/sites/downloads/index.html`.

   For WebCenter Sites installation instructions and verification tests, refer to the *Oracle Fusion Middleware WebCenter Sites Installation Guide.*
3. Back up the entire WebCenter Sites system. If the integration fails, you can recover the `ldif` file and import it manually to restore the WebCenter Sites users and permissions.
4. Make sure the LDAP server is ready for integration:
   a. If a supported LDAP server is not installed, install it now. (For the list of currently supported LDAP servers, refer to the *Oracle WebCenter Sites Certification Matrix* available here: `http://www.oracle.com/technetwork/middleware/webcenter/sites/downloads/index.html`.)
   b. Note the following parameters. You will supply values for them during the integration process:
      - LDAP host name (or IP address)
      - LDAP port number
      - People parent DN
      - Group parent DN

- Base DN, if you are using Sun JES Directory Server

c. Determine whether the user connecting to LDAP will be the same user that is logged in to WebCenter Sites. If the connecting user is *not* a WebCenter Sites user, you will need to provide a user name and password.

5. During the integration process, you will be prompted to select either the **Automatic** or **Manual** integration option.
   - If you have write permissions to the LDAP server, select **Automatic**. The integrator will write the WebCenter Sites users, ACLs, roles, and sites to the LDAP server.
   - If you do not have write permissions to the LDAP server, you will select **Manual** and continue to run the integrator. When the integrator completes its process, an LDAP user with write permissions must be available to complete the integration.

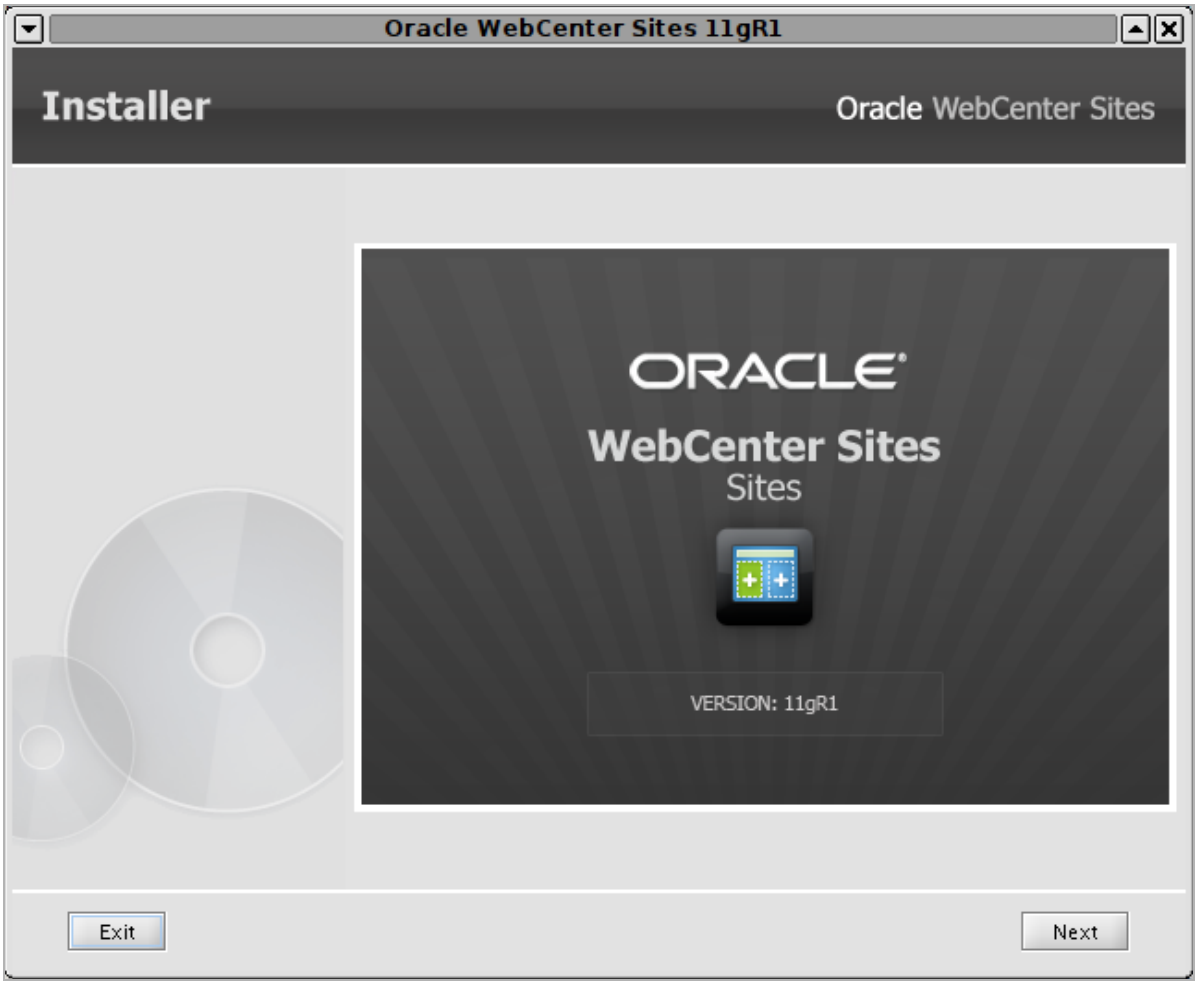
20.2.2 Integration Steps

In this section you will run the WebCenter Sites-LDAP integrator (included on the WebCenter Sites CD) to integrate WebCenter Sites with a supported LDAP server of your choice.

To integrate WebCenter Sites with LDAP

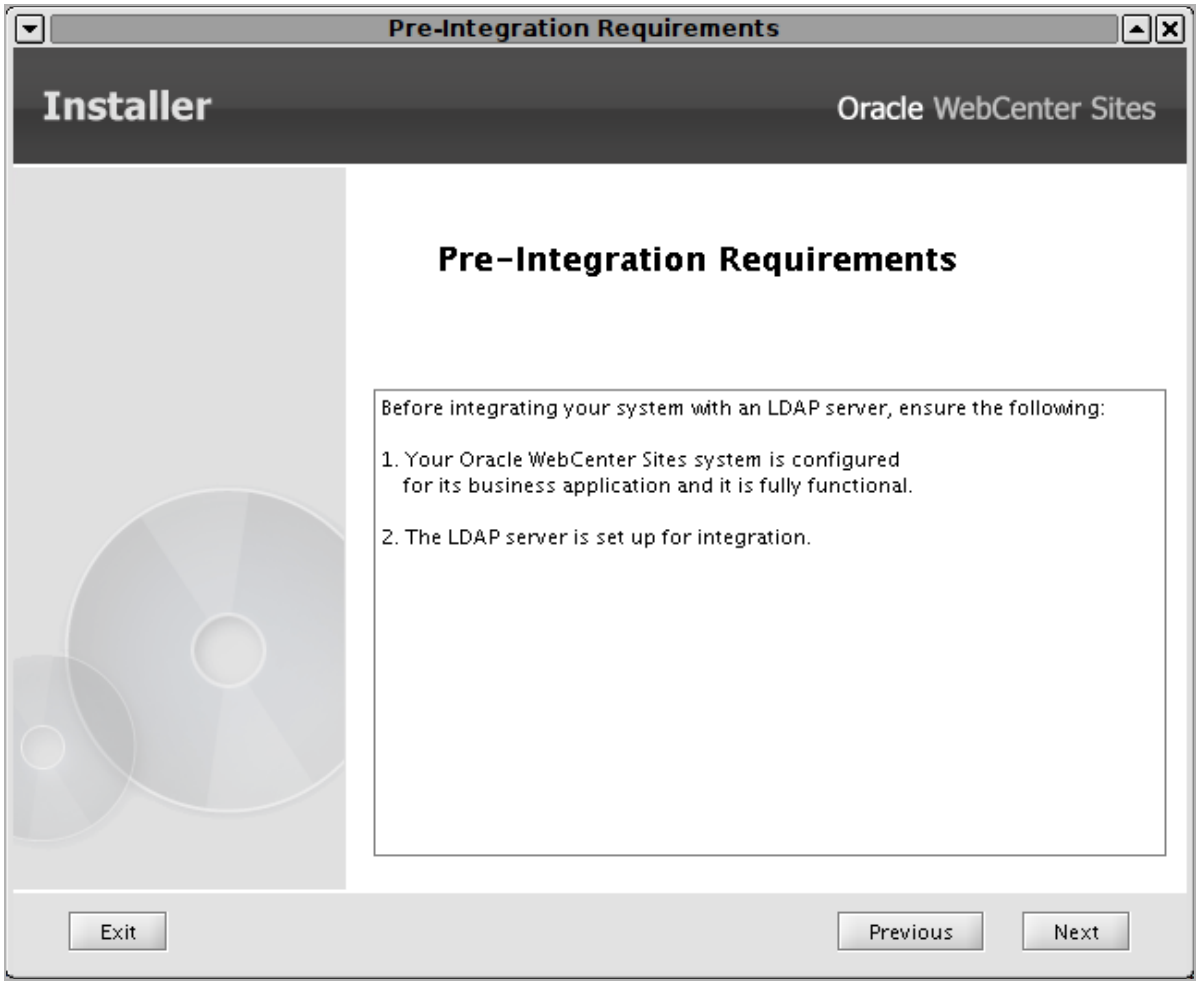
1. If you have not already done so, decompress the WebCenter Sites installation archive to a temporary directory and change to that directory.
2. Run the WebCenter Sites integrator (Figure 20–1) by executing the following command:
   - On Windows: `configureLDAP.bat`
   - On Unix: `./configureLDAP.sh`

Figure 20–1 WebCenter Sites Integrator



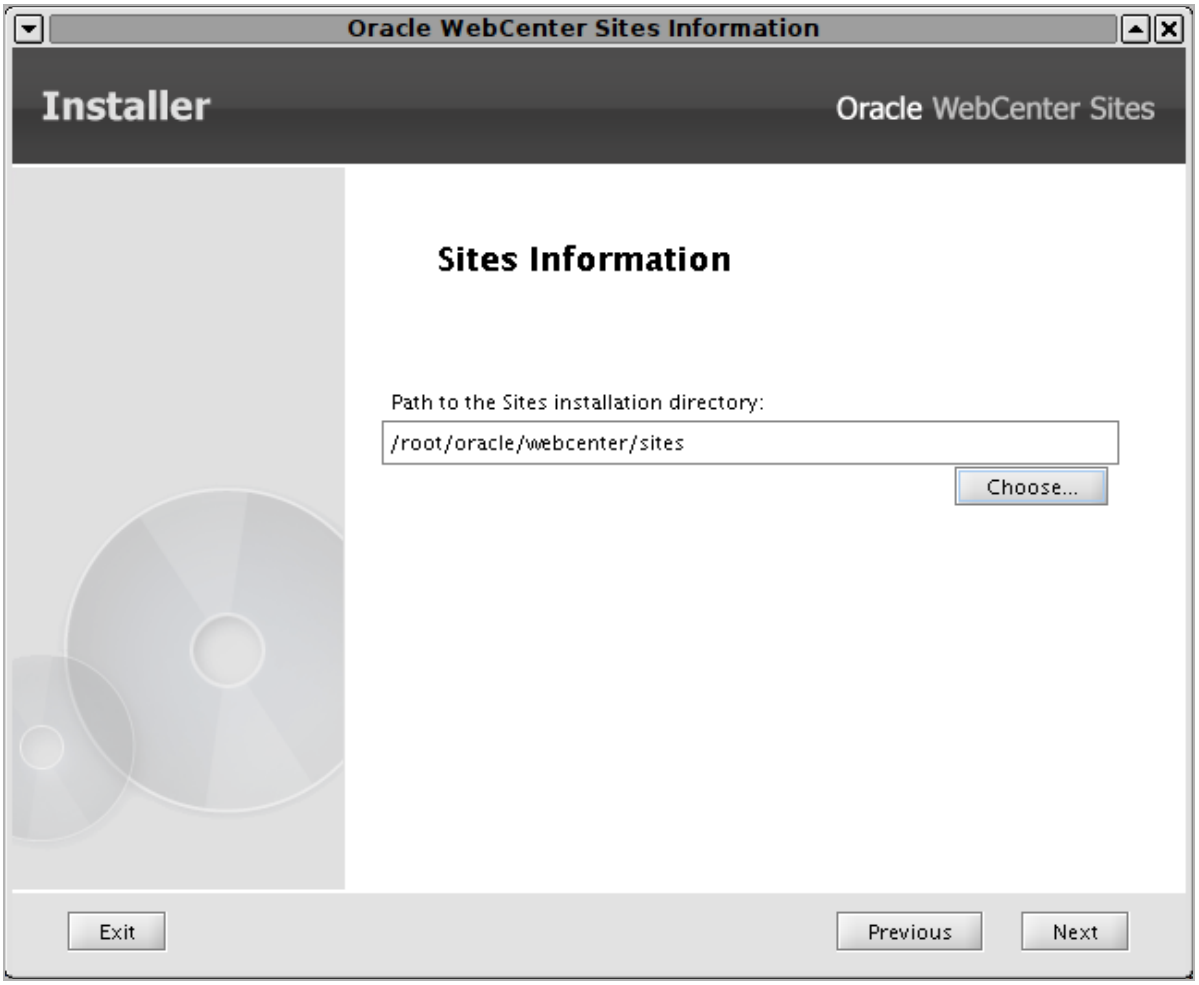
3. In the "Pre-Installation Requirements" screen (Figure 20–2), make sure you have satisfied the requirements shown, then click **Next**.

Figure 20–2 Pre-Integration Requirements



4. In the "Sites Information" screen (Figure 20–3), enter the location of the directory in which WebCenter Sites has been installed.

Figure 20–3 Sites Information

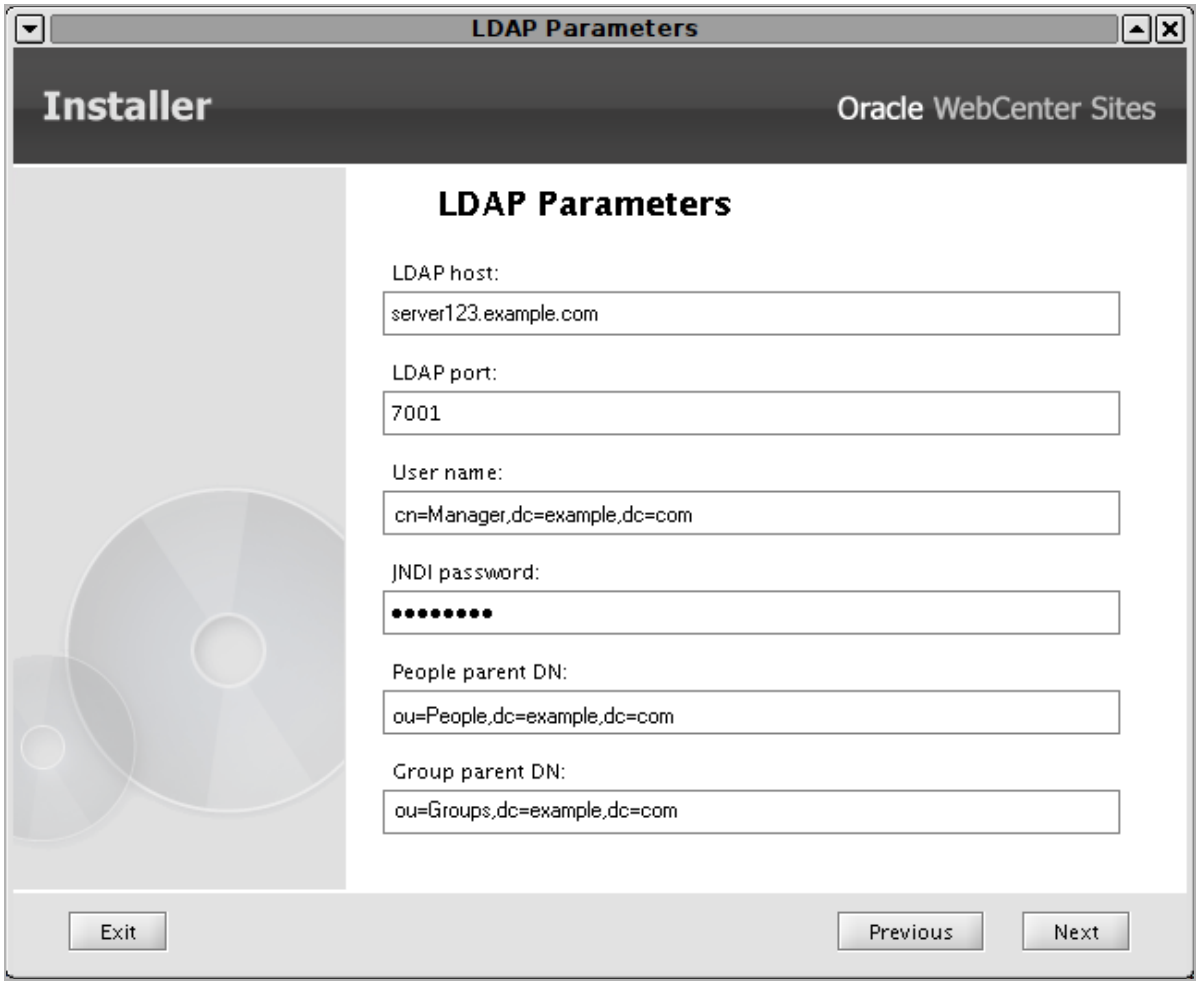


5. In the "LDAP Server" screen (Figure 20–4), do the following:
   a. Select the LDAP server you are using.
   b. Specify whether you are integrating with a standalone instance of WebCenter Sites, or a member of a WebCenter Sites cluster.
   c. Click **Next**.

Figure 20–4 LDAP Server

6. In the "LDAP Parameters" screen (Figure 20–5), enter the following information.

Figure 20–5 LDAP Parameters



a. **LDAP Host** — host name or IP address of your LDAP server.

b. **LDAP Port** — port number on which your LDAP server is listening for connections. The default port, `389`, is displayed in the field. Do **not** change this default value unless you are creating a specialized integration.

c. **User name** — name of the LDAP user used to access your LDAP server. (This field does not appear if you selected **WebLogic Embedded LDAP** in step 5.)

   The value you enter determines whether WebCenter Sites accesses the LDAP server through a WebCenter Sites user or an independent user. Do one of the following:

   – Leave this field blank if you want the LDAP user to be the same user that is logged into WebCenter Sites. The integrator will set the value of the `jndi.connectAsUser` property (in `dir.ini`) to `true`.

   – Enter a value if you want the LDAP user to be a user that you specified within your LDAP server. Your value must be a fully qualified, fully distinguished LDAP user name. The integrator will assign the user name to the `jndi.login` property (in `dir.ini`). It will also set `jndi.connectasUser` to `false`.

     Valid entry: `cn=<username>,dc=<domain>,dc=<extension>`

     Example: `cn=Manager,dc=example,dc=com`

d. **JNDI Password** — password of the LDAP user who will access the LDAP server. Enter a value only if you provided a user name in the preceding field.

Note: If you selected **WebLogic Embedded LDAP** in step 5, enter the password you provided when you enabled the WebLogic Embedded LDAP Server.

The integrator will assign this password in an encrypted form to the `jndi.password` property (in `dir.ini`).

e. **People parent DN** — DN of the **People** parent node in your LDAP server. WebCenter Sites users will be stored under this node. (This field does not appear if you selected **WebLogic Embedded LDAP** in step 5.)

Valid entry: `ou=People,dc=<domain>,dc=<extension>`

Example: `ou=People,dc=example,dc=com`

f. **Group parent DN** — DN of the **Groups** parent node in your LDAP server. WebCenter Sites ACLs will be stored under this node. (This field does not appear if you selected **WebLogic Embedded LDAP** in step 5.)

Valid entry: `ou=Groups,dc=<domain>,dc=<extension>`

Example: `ou=Groups,dc=example,dc=com`

g. Click **Next**.

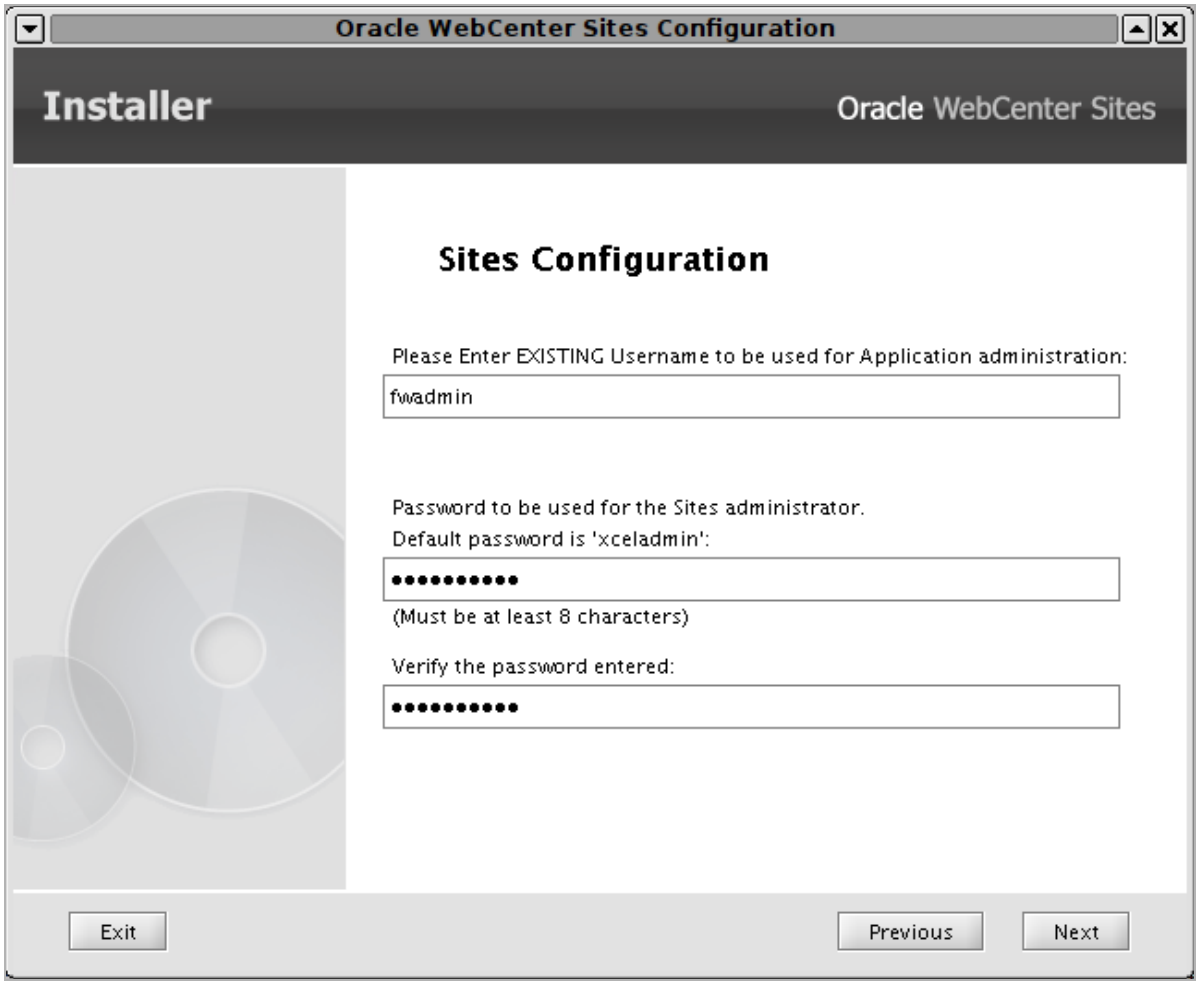
7. In the "Existing Sites Password" screen (Figure 20–6), enter the user name and password for your installation's WebCenter Sites System Administrator account. (The default values are `ContentServer/password`.) Re-enter the password for verification, then click **Next**.

Figure 20–6 Existing Oracle WebCenter Sites Password

> **Note:** Make sure the information you enter here exactly matches the information used in your WebCenter Sites system. If you enter incorrect information, your WebCenter Sites system will not function properly.

8. In the "Sites Configuration" screen (Figure 20–7), enter the user name and password of your installation's WebCenter Sites Application Administrator account. (The default values are `fwadmin/xceladmin`). Re-enter the password for verification, then click **Next**.

Figure 20–7 Sites Configuration



Note: Make sure the information you enter here exactly matches the information used in your WebCenter Sites system. If you enter incorrect information, your WebCenter Sites system will not function properly.

9. In the next "Sites Configuration" screen (Figure 20–8), enter the password that will be assigned to all users on your WebCenter Sites system (except the WebCenter Sites System Administrator, WebCenter Sites Application Administrator, and `DefaultReader` accounts).

Figure 20–8 Sites Configuration

Note: For added security, WebCenter Sites passwords are one-way encrypted, which means they cannot be decrypted and duplicated in the LDAP server.

The password that you provide in this screen is a dummy password that will be assigned to all WebCenter Sites users (except the WebCenter Sites System Administrator, WebCenter Sites Application Administrator, and `DefaultReader`). At the end of the integration process, the users' original passwords must be re-assigned to them. Special instructions also apply to OpenLDAP with encrypted passwords. (Instructions for re-assigning passwords are given in Section 20.3, "Completing the Integration.")

Re-enter the password for verification, then click **Next**.

10. In the "LDAP Integration Option" screen (Figure 20–9), do one of the following and click **Next**:

    – If you have write permissions to the LDAP server, select **Automatic**.

      The integrator will write WebCenter Sites users, ACLs, roles, and sites to the LDAP server. (All users will be assigned the password you specified in step 9.)

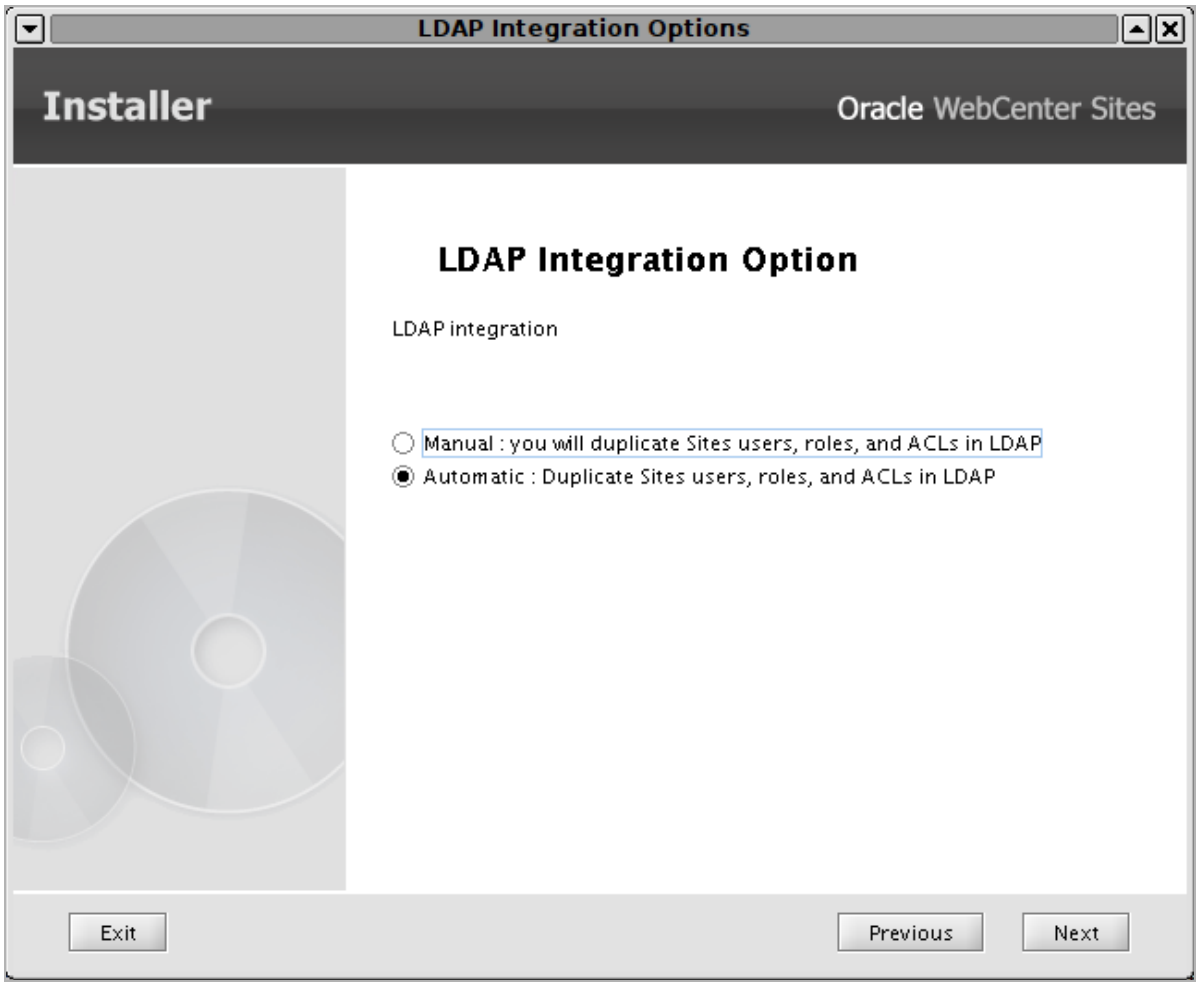
– If you do not have write permissions to the LDAP server, select **Manual**.

Note: If you chose the **WebLogic** option and the WebCenter Sites application is not running on the same domain as the LDAP server, select **Manual**.

When the integrator completes its task, an LDAP user with write permissions will have to write the WebCenter Sites users, ACLs, roles, and sites to the LDAP server, either directly or via an `ldif` file.

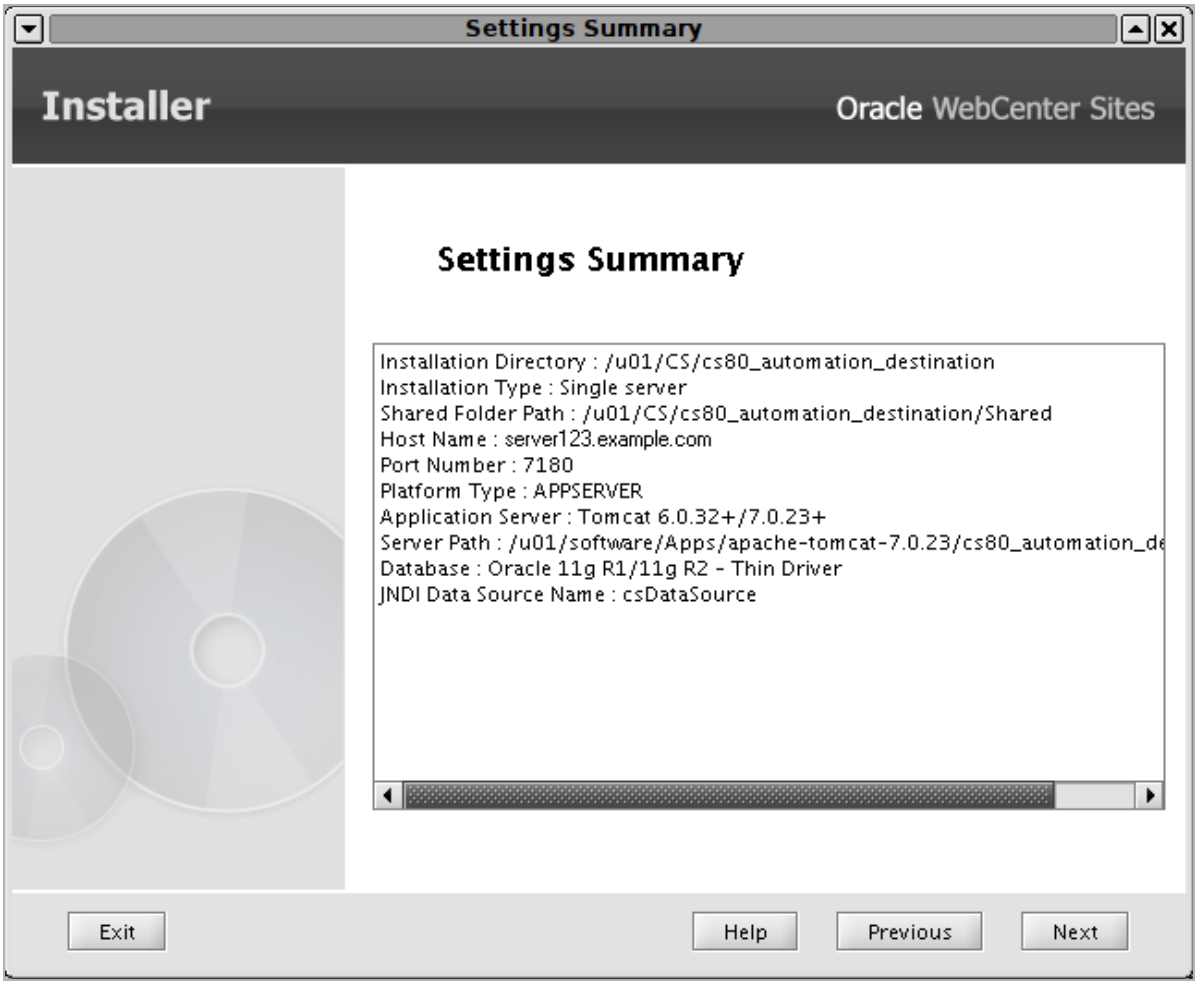
Note: If you chose the **WebLogic** or **OpenLDAP** option, the integrator will create an `ldif` file in the `<cs_install_dir>/ldif` directory.

Figure 20–9 LDAP Integration Options



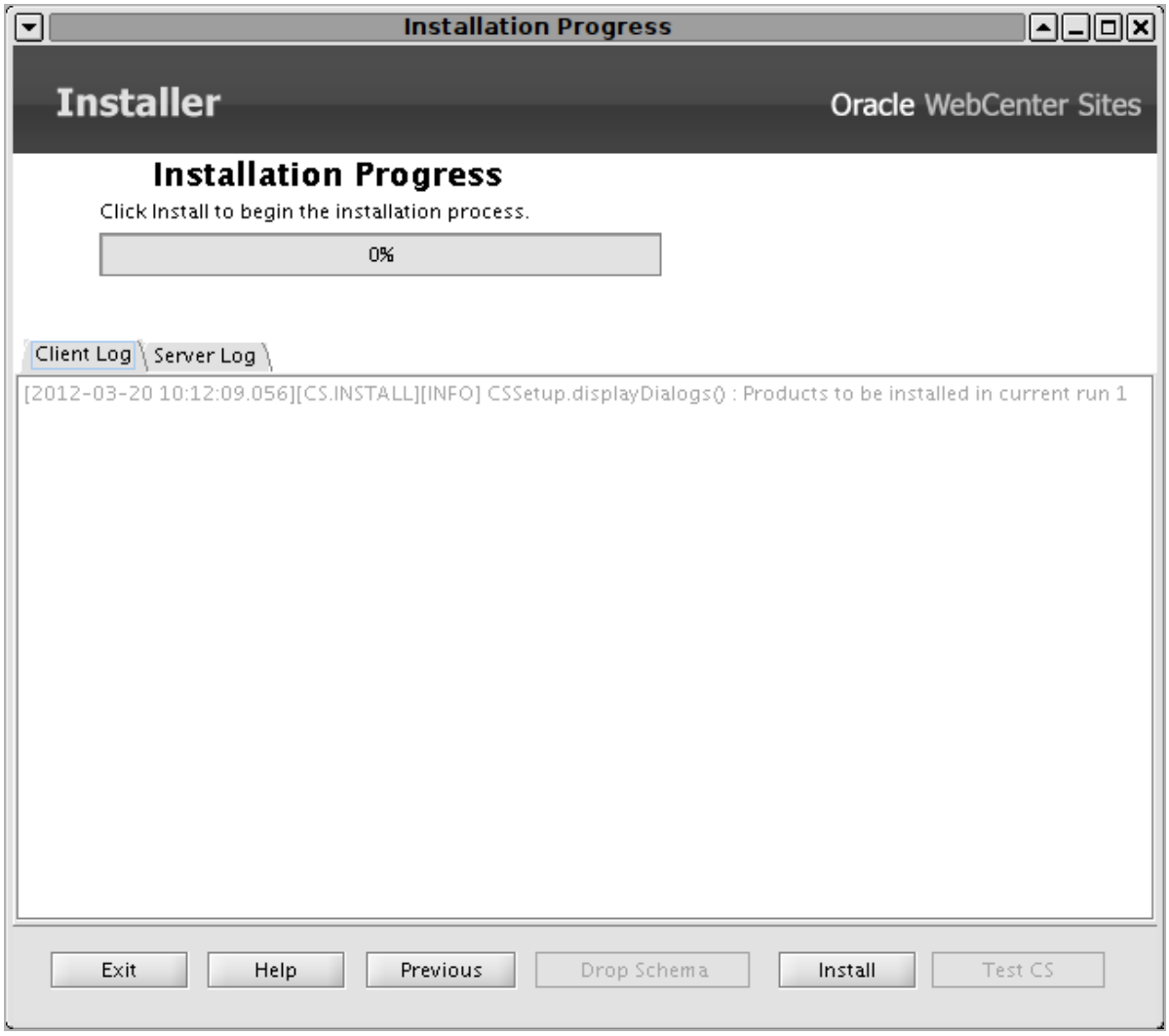
11. In the "Settings Summary" screen (Figure 20–10), review the choices you have made. If you need to make changes, click the **Back** button to return to the appropriate screen. Otherwise, click **Next** to proceed with the integration.

Figure 20–10 Settings Summary



12. In the "Installation Progress" screen (Figure 20–11), click **Install** and wait for the integration process to complete.

Figure 20–11 Installation Progress



When the "Successful" pop-up dialog appears, the integrator's process is complete.

13. Test your LDAP integration by logging in to WebCenter Sites, then continue with the next step.

20.3 Completing the Integration

> **Note:** To complete the steps in this section, you must have write permissions to the LDAP server.

If you chose the **Manual** integration option in the previous section, you will now load the LDAP server with WebCenter Sites users, ACLs, roles, and sites. Regardless of your choice, you will also reset the passwords of WebCenter Sites users.

To complete the WebCenter Sites-LDAP integration

1. If the LDAP integrator's **Automatic** option was chosen (in step 10), skip to step 3. Otherwise, continue with the next step.

2. If the LDAP integrator's **Manual** option was chosen (in step 10), load the LDAP server with WebCenter Sites users, ACLs, roles, and sites, using one of the following options:

   – Import an `ldif` file.

   Note: If you are integrating with WebLogic or OpenLDAP, an `ldif` file was created in the `<cs_install_dir>/ldif` directory by the integrator. If you chose the **WebLogic** option, and the WebCenter Sites application is not running on the same domain as the LDAP server, edit the `ldif` file and replace any instances of your CS WebLogic domain (`Variables.CSInstallAdminDomainName`) with your LDAP server domain.

   For any other LDAP server, you must create your own `ldif` file.

   When integrating WebCenter Sites with Active Directory LDAP provider, the integration script generates a `.vbs` file as well. After importing the LDIF file on the Active Directory Server, run the VBS script to set roles/ACLs and passwords.

   – Write users, ACLs, roles, and sites directly to the LDAP server. For information about which users, ACLs, roles, and sites to write, see the following steps in Chapter 21, "Integrating Oracle WebCenter Sites with Hierarchical Schema LDAP Servers":

     – Section 21.1.3, "Step 3. Check the mail Attribute"

     – Section 21.1.4, "Step 4. Create LDAP User Groups (WebCenter Sites ACLs)"

     – Section 21.1.5, "Step 5. Create Required Users and Assign Them to LDAP Groups"

     – Section 21.1.6, "Step 6. Create Sites and Roles in the LDAP Server"

3. In the LDAP server, reset the passwords for all WebCenter Sites users as follows:

   – **All LDAP servers:** Set the users' passwords to their original values, **except for** the WebCenter Sites System Administrator, WebCenter Sites Application Administrator, and `DefaultReader` accounts.

     If you do not change the passwords users will not be able to log in to WebCenter Sites with their originally assigned passwords.

   – **OpenLDAP with encrypted passwords:** If you are using OpenLDAP *and* have configured it to use encrypted passwords, you **must** change the passwords for all WebCenter Sites users **including** passwords for the WebCenter Sites System Administrator, WebCenter Sites Application Administrator, and `DefaultReader` accounts.

     This step is required because the LDAP integrator writes user passwords to the LDAP directory as plaintext, whereas OpenLDAP expects password hashes when password type is configured as `SSHA`. If you fail to complete this step, your WebCenter Sites system will not function properly.

   For instructions on changing user passwords on supported LDAP servers, see Section 18.5, "Modifying User Passwords."

20.4 Post-Integration Steps: When CM Sites Have Not Been Created

If CM sites were not created on the given system, then after integrating WebCenter Sites with LDAP you will be unable to log in. The solution is to manually create the following new group entries in your LDAP server and assign `fwadmin` to each of these groups:

```
Management Site-SiteAdmin
Management Site-GeneralAdmin
Management Site-WorkflowAdmin
Management Site-AdvancedUser
```

In addition, create the `SitesUser` group only for installations running in content management mode. This group enables the `fwadmin` user to access the WebCenter Sites Contributor interface:

```
Management Site-SitesUser
```

Example 20–1 Example LDIF

```
dn: cn=Management Site-SiteAdmin,ou=Groups,dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com

dn: cn=Management Site-GeneralAdmin,ou=Groups,dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com

dn: cn=Management Site-WorkflowAdmin,ou=Groups,dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com

dn: cn=Management Site-AdvancedUser,ou=Groups,dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com

dn: cn=Management Site-SitesUser,ou=Groups,dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
```

20.5 Testing the Integration

Test your LDAP-integrated system by opening a browser and entering the following URL:

```
http://<servername"://CatalogManager?ftcmd=login&username=ContentServer&password="
target="_
blank"http://<servername>:<port>/<context>/CatalogManager?ftcmd=login&username=Con
tentServer&password=<password>
```

where

`<servername>` is the name of the machine that is hosting the WebCenter Sites system

<port> is the port number of that server

<username> is user-defined (WebCenter Sites, in this example)

<password> is user-defined (password, in this example)

- If your browser displays a "Login Successful" message, you have integrated your LDAP plug-in correctly.
- If you do not see the "Login Successful" message, verify that you created the ContentServer user in the LDAP server, and that all properties are set to the correct values.

21

Integrating Oracle WebCenter Sites with Hierarchical Schema LDAP Servers

This chapter provides instructions for integrating WebCenter Sites with hierarchical schema LDAP servers.

This chapter contains the following section:

21.1 Integration Steps

To integrate with hierarchical schema LDAP, you will complete the following steps:

> **Note:** In hierarchical schema LDAP, management of users and ACLs is required. Management of sites and roles is optional.

21.1.1 Step 1. Configure the WebCenter Sites LDAP Connection Properties

In this step, you will configure several properties in the WebCenter Sites `.ini` files to establish communication with LDAP. The files are:

- `futuretense.ini`
- `dir.ini`
- `futuretense_xcel.ini` (optional, if you wish to manage sites and roles directly in the LDAP server).

21.1.1.1 A. Start the Property Editor

Execute the following scripts at the MS DOS prompt or in a UNIX shell:

- Windows: `propeditor.bat`, which is usually located in `<cs_install_dir/>`
- Unix: `propeditor.sh`, which is usually located in `<$HOME/cs_install_dir>`

If you need detailed instructions on starting the Property Editor or you would like more information on the properties to be modified, see the *Oracle Fusion Middleware WebCenter Sites Property Files Reference*.

21.1.1.2 B. Configure Properties in futuretense.ini

1. Open `futuretense.ini` in the Property Editor.
2. Select the **Authentication** tab.
3. Set the following properties as shown in the table below:

Property (In futuretense.ini)	Value
`cs.manageproperty`	`dir.ini`
`cs.manageUser`	`com.openmarket.directory.jndi.auth.JNDILogin`

4. Select **File > Save** to save the values.
5. Select **File > Close**.

21.1.1.3 C. Configure Properties in dir.ini

1. Open `dir.ini` in the Property Editor.
2. Select the **Attribute Names** tab and set the values for OpenLDAP properties as given in the following table:

Property (in dir.ini)	Value
`cn`	`cn`
`loginattribute`	`cn`
`password`	`userPassword`
`uniquemember`	`uniquemember`
`username`	`uid`

3. Select the **Global Data** tab and set the values for OpenLDAP properties as given in the following table:

Property (in dir.ini)	Value
`groupparent`	`ou=groups,dc=companyname,dc=com`
`peopleparent`	`cn=People,dc=companyname,dc=com`

4. Select the **Interface Implementations** tab and specify the following values for the following properties:

Property (in dir.ini)	Value
className.IDir	com.openmarket.directory.jndi.JNDIDir
className.IName	com.openmarket.directory.jndi.NameWrapper
className.IUserDir	com.openmarket.directory.jndi.LDAPUserDir

5. Select the **JNDI SPI Env** tab and specify the following values for the following properties:

Property (in dir.ini)	Value
jndi.baseurl	ldap://<servername:port>
jndi.connectAsUser	If WebCenter Sites can query the LDAP server for information as the user who is logged in to the WebCenter Sites interface and is making the query, set this property to true. (The same user must be defined in the LDAP server.) If WebCenter Sites must query the LDAP server as a specific user other than the user who is logged in to the WebCenter Sites interface, set this property to false. Then specify a valid user name/password combination with the jndi.login and jndi.password properties. OpenLDAP value: false
jndi.custom	(leave this value blank)
jndi.login	If the jndi.connectAsUser property is set to false, specify the fully qualified, fully distinguished name of the user account that WebCenter Sites will use to query the LDAP server. (The same user must be defined in the LDAP server.) OpenLDAP: cn=Manager,dc=companyname,dc=com **Note:** jndi.connectAsUser determines how a WebCenter Sites user is connected to the LDAP server, and therefore defines the LDAP user to be either administrative or non-administrative. ■ If jndi.connectAsUser=true, then WebCenter Sites defines the LDAP user to be the same one that is logged in to WebCenter Sites and connects that user to the LDAP server. For example, jndi.connectAsUser=true connects a WebCenter Sites administrator to LDAP as an administrator of the LDAP system. ■ If jndi.connectAsUser=false, then WebCenter Sites defines the LDAP user to be the one that is specified in the jndi.login property (in dir.ini) and connects that user to the LDAP server.
jndi.password	If the jndi.connectAsUser property is set to false, specify the password for the user account that WebCenter Sites will use to query the LDAP server. This value is encrypted.

6. Select the **Schema Defaults** tab and specify the following values for OpenLDAP (beginning with "OpenLDAP" in the Value column) and other properties as given in the following table:

Property (in dir.ini)	Value
defaultGroupAttrs	OpenLDAP: objectclass\=top&objectclass\=groupOfUniqueNames

Property (in dir.ini)	Value
defaultPeopleAttrs	OpenLDAP: objectclass\=top&objectclass\=Person&objectclass\=organizationalPerson
objectclassGroup	OpenLDAP: groupOfUniqueNames
objectclassPerson	OpenLDAP: organizationalPerson
requiredGroupAttrs	(leave this value blank)
requiredPeopleAttrs	Specify all the required user attributes for this LDAP server. For example: sn=Last Name&cn=Full Name

7. Select **File > Save**.
8. Select **File > Close**.

21.1.1.4 D. Configure Properties in futuretense_xcel.ini

> **Note:** If you do not wish to manage sites or roles in the LDAP server, skip the steps in this section.

1. Open futuretense_xcel.ini in the Property Editor.
2. Select the **Xcelerate** tab.
3. Set values for the following properties:

Property (in futuretense_xcel.ini)	Value
xcelerate.usermanagerclass	The value depends on the type of deployment you are using. Example value: com.openmarket.xcelerate.user.UserManager
xcelerate.rolemanagerclass	Example value: com.openmarket.xcelerate.roles.RoleManager

4. Select the **User Management** tab.
5. Set values for the following properties:

Property (in futuretense_xcel.ini)	Value
xcelerate.sitesroot	Example value:ou=sites.dc=<domainname>.dc=com
xcelerate.sitenameattr	Example value: ou
xcelerate.displayablenameattr	The name of the user attribute describing the display name, if different from the login name.

6. Select **File > Save**.
7. Select **File > Close**.
8. Stop and restart the application server for your changes to take effect.

21.1.2 Step 2. Configure the LDAP Server

1. Configure the LDAP server to recognize the user that is specified in the `jndi.connectAsUser` and `jndi.login` properties (given in the table in step 5 of Section 21.1.1.3, "C. Configure Properties in dir.ini").
2. Assign the same user correct permissions to connect to LDAP, to look up groups, to look up user attributes, and so on.

> **Note:** Assign permissions judiciously. Once WebCenter Sites is LDAP-integrated, any WebCenter Sites administrator who connects to the LDAP server as a user with write permissions can still manage ACLs, users, sites, and roles from the WebCenter Sites interface. Some of the operations will propagate to the LDAP server, while other operations might result in errors.
>
> For information about management operations in the WebCenter Sites interface and their effect on the LDAP server, see the appendix "Managing Users, Sites, and Roles in LDAP-Integrated Sites Systems" in the *Oracle Fusion Middleware WebCenter Sites Administrator's Guide*.

21.1.3 Step 3. Check the mail Attribute

Each WebCenter Sites user must have a mail attribute (an attribute that stores an e-mail address). Before proceeding, check that the LDAP server's user entries have a `mail` attribute. For information about the WebCenter Sites `mail` attribute, see the *Oracle Fusion Middleware WebCenter Sites Administrator's Guide*.

21.1.4 Step 4. Create LDAP User Groups (WebCenter Sites ACLs)

Use the tools provided by your LDAP server to create groups that correspond to WebCenter Sites ACLs. The required ACLs are listed in this section.

> **Note:** **Using ldif.** You can create groups in the LDAP server by writing an `ldif` file that contains the groups specified in this step, and the user and group memberships in Section 21.1.5, "Step 5. Create Required Users and Assign Them to LDAP Groups." You can then import the `ldif` file into your user directory.
>
> The method for importing the `ldif` file varies for each directory, but the structure of the file is standardized among LDAP servers. For a sample `ldif` file, see Chapter 22, "Reference: Sample LDIF for Hierarchical Schema LDAP."
>
> **Naming conventions.** In the steps that follow, you will be duplicating WebCenter Sites users and ACLs (optionally, sites and roles) in the LDAP server. All names must be duplicated *exactly*, including case, spaces, and special characters.

21.1.4.1 Default ACLs

The following list names the WebCenter Sites system default ACLs. You must create groups in the LDAP server whose names exactly match the ACL names below. For information about the access privileges that are granted by these ACLs, see the "System Defaults" appendix in the *Oracle Fusion Middleware WebCenter Sites Administrator's Guide*.

- Browser
- ContentEditor
- ElementEditor
- ElementReader
- PageEditor
- PageReader
- RemoteClient
- SiteGod
- TableEditor
- UserEditor
- UserReader
- Visitor
- VisitorAdmin
- xceladmin
- xceleditor
- xcelpublish

21.1.4.2 Web Services ACLs

If you are using web services, create an LDAP group for each of the following ACLs. A group name must *exactly* match the ACL name:

- WSAdmin
- WSEditor
- WSUser

For information about the access privileges granted by these ACLs (groups), see the "System Defaults" appendix in the *Oracle Fusion Middleware WebCenter Sites Administrator's Guide*.

21.1.4.3 Custom ACLs

If any custom ACLs have been created in WebCenter Sites since its installation, duplicate the ACLs as groups in the LDAP server. Group names must *exactly* match the names of the ACLs.

21.1.5 Step 5. Create Required Users and Assign Them to LDAP Groups

In this step, you will duplicate the following users and their group memberships in the LDAP server:

- Section 21.1.5.1, "WebCenter Sites Default Users"
- Section 21.1.5.3, "Sample Site Users"
- Section 21.1.5.2, "Custom Users"

21.1.5.1 WebCenter Sites Default Users

1. Table 21–1 lists default users of the WebCenter Sites application. Duplicate the default users in the LDAP server, making sure to name them *exactly* as shown in

Table 21–1.

2. Make the duplicated users members of the groups shown in Table 21–1.

Table 21–1 WebCenter Sites Default Users

Default User	Group Memberships (ACLs)
ContentServer (user that is created in the database during the WebCenter Sites installation)	Browser, ContentEditor, ElementEditor, ElementReader, PageEditor, PageReader, SiteGod, TableEditor, UserEditor, UserReader
fwadmin	Browser, ElementEditor, PageEditor, RemoteClient, TableEditor, UserEditor, UserReader, Visitor, VisitorAdmin, xceladmin, xceleditor
DefaultReader	Browser, Visitor

21.1.5.2 Custom Users

1. Duplicate in the LDAP server all of the WebCenter Sites active custom users (all users who are assigned to active WebCenter Sites CM sites). Name the users exactly as they are named in WebCenter Sites.
2. Assign each custom user to the LDAP groups (created in Section 21.1.4.3, "Custom ACLs") that correspond to the user's ACLs in WebCenter Sites.

21.1.5.3 Sample Site Users

If you installed sample sites, create the associated sample users in the LDAP server. (Procedures are identical to those for custom users.) For information about sample users and sample sites, see the *Oracle Fusion Middleware WebCenter Sites Administrator's Guide*.

21.1.6 Step 6. Create Sites and Roles in the LDAP Server

Note: If you are using a hybrid integration, the `UserPublication` table specifies which Roles are assigned to the user for each site. However, this table still contains all the pre-integrated data. To be able to log in, at least one user is required with the correct `UserPublication` table records for LDAP. For instance, for the `fwadmin` user, you must update the username to the LDAP `dn`.

Originally the username in the `UserPublication` table is stored as something like `userid=1230987654321,ou=People`, where `1230987654321` is the Id of the user in the `SystemUsers` table. The following records are required:

- `Id = {unique number}`
- `username = "cn=fwadmin,ou=People,dc=fatwire,dc=com"` (user's `dn`)
- `acl = {the role to be assigned. For example, GeneralAdmin}`
- `pubid = {the Id of the site for which this user is assigned this Role}`

In the absence of the above records, the user can log in, but a message is displayed that the user does not have access to any sites.

Once you have one user configured, you can use that user to assign roles to other users through the interface (as long as the user has the required Roles).

If you plan to use LDAP attribute mapping to manage sites and roles in your LDAP server, you will need to hierarchically order the sites and roles, as shown by the example in Figure 21–1 (system-defined roles are listed in Table 21–2). Continue with the steps in this section.

Figure 21–1 LDAP Hierarchies

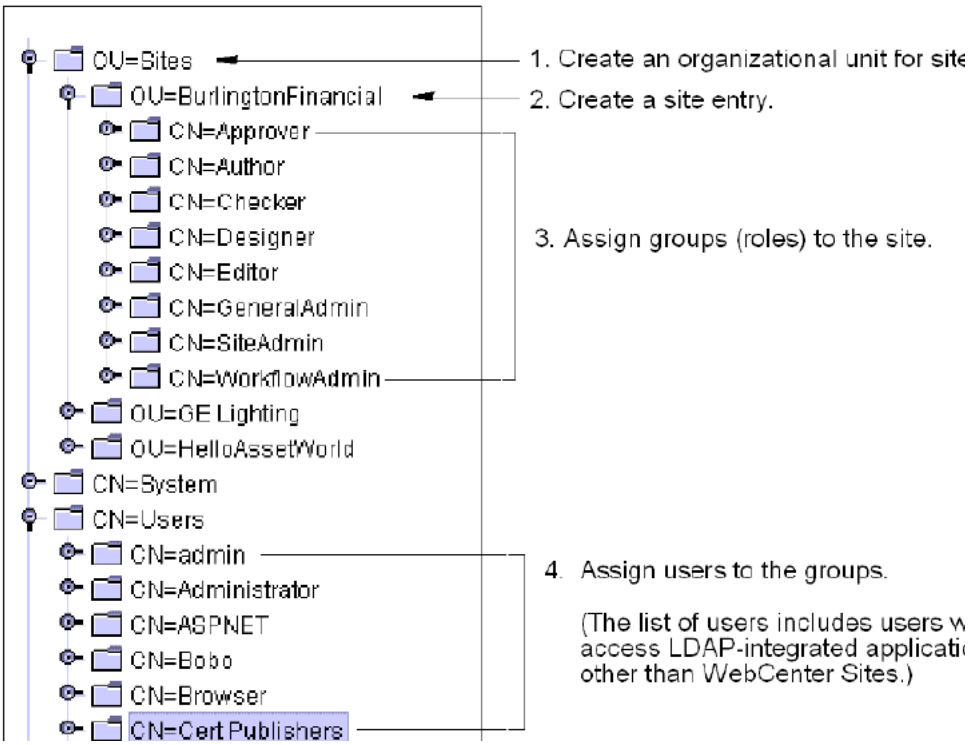


Table 21–2 System Defined Roles

Role	Description
GeneralAdmin	Default system role for global WebCenter Sites administrators. Required for users who need access to the **Admin** tab (and all other possible functions) in the tree. **Note**: A user with the GeneralAdmin role must also have the `xceladmin` ACL in order to use any of the functions in the **Admin** tab.
SiteAdmin	Default system role for site administrators. Required for users who are administrators of selected sites and therefore need access to the **Site Admin** tab (which displays a subset of the functions in the **Admin** tab). Assign the SiteAdmin role to users who will manage, but not create, other site users. **Note**: A site user with the SiteAdmin role must also have the `xceladmin` ACL in order to use functions on the **Site Admin** tab.
WorkflowAdmin	Default system role for workflow administrators. Required for users who need access to the **Workflow** tab in the tree. **Note**: A user with the WorkflowAdmin role must also have the `xceladmin` ACL in order to use functions on the **Workflow** tab.
AdvancedUser	Grants WebCenter Sites users access to the WebCenter Sites Admin interface.
SitesUser	Grants WebCenter Sites users access to the WebCenter Sites Contributor interface.

To create a hierarchical schema, complete the following steps in the LDAP server:

1. Create an organizational unit for sites. For an example, see step 1 in Figure 21–1.
2. Create a site entry under the site's organizational unit:

   Complete this step by duplicating the names of active WebCenter Sites CM sites e*xactly* as they are named in the WebCenter Sites interface (**Admin** tab). For an example, see step 2 in Figure 21–1.

   Note: If the sites you plan to use do not yet exist in WebCenter Sites, you can first create them in the LDAP server, then duplicate them (*with identical names, including case*) in WebCenter Sites.

3. Assign groups to each site:

   Complete this step for each site by *exactly* duplicating the names of the WebCenter Sites roles that are assigned to the site. For an example, see step 3 in Figure 21–1.

   When creating a group for a system default role, name the group to exactly match the role names listed here:

   - `GeneralAdmin` (**always assign this group to a site**)
   - `SiteAdmin`
   - `WorkFlowAdmin`
   - `AdvancedUser`
   - `SitesUser`

   Note: If the roles you plan to use do not yet exist in WebCenter Sites, you can first create them as groups in the LDAP server, then duplicate them as roles (*with identical names, including case*) in WebCenter Sites. For the list of system-defined roles, see Table 21–2.

4. Assign users to the groups. Name the users exactly as they are named in WebCenter Sites. For an example, see step 4 in Figure 21–1.

   Note: If you are completing the flat schema manual integration process (Chapter 20), reset WebCenter Sites users' passwords. For instructions, see step 3 in Section 20.3, "Completing the Integration."

21.1.7 Step 7. If You Completed Step 6

1. If in the previous step you created sites and roles in the LDAP server, but they do not exist in the WebCenter Sites database, create the same sites and roles in WebCenter Sites. Name them exactly as in the LDAP server. For instructions on creating sites and roles in the WebCenter Sites database, see the *Oracle Fusion Middleware WebCenter Sites Administrator's Guide*.
2. Assign the users to their relevant sites. For instructions, see "Granting Users Access to a Site" in the *Oracle Fusion Middleware WebCenter Sites Administrator's Guide*.

21.1.8 Step 8. Post-Integration Steps When CM Sites Have Not Been Created

If CM sites were not created on the given system, then after integrating WebCenter Sites with LDAP you will be unable to log in. The solution is to manually create the following new group entries in your LDAP server and assign `fwadmin` to each of these groups:

```
Management Site-SiteAdmin
Management Site-GeneralAdmin
Management Site-WorkflowAdmin
```

In addition, create the `SitesUser` group only for installations running in content management mode. This group enables the `fwadmin` user to access the WebCenter Sites Contributor interface:

```
Management Site-SitesUser
```

See Example 21–1.

Example 21–1 Example LDIF

```
dn: cn=Management Site-SiteAdmin,ou=Groups,dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com

dn: cn=Management Site-GeneralAdmin,ou=Groups,dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com

dn: cn=Management Site-WorkflowAdmin,ou=Groups,dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com

dn: cn=Management Site-SitesUser,ou=Groups,dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
```

21.2 Testing the Integration

Test your LDAP-integrated system by opening a browser and entering the following URL:

```
http://<servername"://CatalogManager?ftcmd=login&username=ContentServer&password="
target="_
blank"http://<servername>:<port>/<context>/CatalogManager?ftcmd=login&username=Con
tentServer&password=<password
```

where

`<servername>` is the name of the machine hosting the WebCenter Sites system

`<port>` is the port number of that server

`<username>` is user-defined (`ContentServer`, in this example)

`<password>` is user-defined (`password`, in this example)

- If the browser displays a "`Login Successful`" message, you have integrated your LDAP plug-in correctly.
- If you do not see the "`Login Successful`" message, verify that you created the `ContentServer` user in the LDAP server, and that all properties are set to the correct values.

22

Reference: Sample LDIF for Hierarchical Schema LDAP

This chapter contains a sample `ldif` file for LDAP servers with hierarchical schema.

22.1 Sample ldif File

The sample `ldif` file below defines users and groups for WebCenter Sites sample sites HelloAsetWorld, Burlington Financial, and GE Lighting. The file re-creates the system default users, sample site users, their ACLs, and their roles.

> **Note:** The structure of the sample file below applies to any LDAP server using a hierarchical schema.

```
dn: dc=fatwire,dc=com
dc: fatwire
objectClass: dcObject
objectClass: organization
description: OpenLDAP test pre_cs_setup
o: Fatwire Software

dn: cn=Manager, dc=fatwire,dc=com
objectClass: organizationalRole
cn: Manager

dn: ou=People, dc=fatwire,dc=com
ou: People
objectClass: organizationalUnit
objectClass: top

dn: ou=Groups, dc=fatwire,dc=com
ou: Groups
objectClass: organizationalUnit
objectClass: top

```

```
dn: cn=fwadmin_mine,ou=People, dc=fatwire,dc=com
telephoneNumber: (123) 123-4567
userPassword:: e1NTSEF9endxNDRoUStuUlNrOU84clJuTU5RSzBxTFlPdEN3azQ=
objectClass: organizationalPerson
objectClass: top
description: admin user mine
sn: fwadmin_nime
cn: fwadmin_mine

dn: cn=newgroupOfUniqueNames,ou=Groups, dc=fatwire,dc=com
objectClass: groupOfUniqueNames
objectClass: top
uniqueMember: cn=fwadmin_mine,ou=People,dc=fatwire,dc=com
cn: newgroupOfUniqueNames

dn: cn=Browser,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=ContentServer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=DefaultReader,ou=People,dc=fatwire,dc=com
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Bobo,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Flo,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Joe,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Moe,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
uniqueMember: cn=mirroruser,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_pricer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_analyst,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_expert,ou=People,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkContentUser,ou=Groups,dc=fatwire,dc=com
```

```
64. uniqueMember:
    cn=BurlingtonFinancial-SparkContentUser,ou=Groups,dc=fatwire,dc=com
65. uniqueMember: cn=GE Lighting-SparkContentUser,ou=Groups,dc=fatwire,dc=com
66. uniqueMember: cn=Spark-SparkContentUser,ou=Groups,dc=fatwire,dc=com
67. uniqueMember: cn=HelloAssetWorld-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
68. uniqueMember:
    cn=BurlingtonFinancial-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
69. uniqueMember: cn=GE Lighting-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
70. uniqueMember: cn=Spark-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
71. uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
72. uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
73. uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
74. uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
75. uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
76. uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
77. uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
78. uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
79. uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
80. uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
81. cn: Browser
82.
83. dn: cn=SiteGod,ou=Groups, dc=fatwire,dc=com
84. objectClass: top
85. objectClass: groupOfUniqueNames
86. uniqueMember: cn=ContentServer,ou=People,dc=fatwire,dc=com
87. cn: SiteGod
88.
89. dn: cn=ElementReader,ou=Groups, dc=fatwire,dc=com
90. objectClass: top
91. objectClass: groupOfUniqueNames
92. uniqueMember: cn=ContentServer,ou=People,dc=fatwire,dc=com
93. uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
94. uniqueMember: cn=Bobo,ou=People,dc=fatwire,dc=com
95. uniqueMember: cn=Flo,ou=People,dc=fatwire,dc=com
96. uniqueMember: cn=Joe,ou=People,dc=fatwire,dc=com
97. uniqueMember: cn=Moe,ou=People,dc=fatwire,dc=com
98. uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
99. uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
100. uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
101. uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
102. uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
103. uniqueMember: cn=user_pricer,ou=People,dc=fatwire,dc=com
```

```
uniqueMember: cn=user_analyst,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_expert,ou=People,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember:
cn=BurlingtonFinancial-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember:
cn=BurlingtonFinancial-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
cn: ElementReader

dn: cn=ElementEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=ContentServer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
uniqueMember: cn=mirroruser,ou=People,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
cn: ElementEditor

dn: cn=PageReader,ou=Groups, dc=fatwire,dc=com
objectClass: top
```

```
144. objectClass: groupOfUniqueNames
145. uniqueMember: cn=ContentServer,ou=People,dc=fatwire,dc=com
146. uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
147. uniqueMember: cn=Bobo,ou=People,dc=fatwire,dc=com
148. uniqueMember: cn=Flo,ou=People,dc=fatwire,dc=com
149. uniqueMember: cn=Joe,ou=People,dc=fatwire,dc=com
150. uniqueMember: cn=Moe,ou=People,dc=fatwire,dc=com
151. uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
152. uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
153. uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
154. uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
155. uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
156. uniqueMember: cn=user_pricer,ou=People,dc=fatwire,dc=com
157. uniqueMember: cn=user_analyst,ou=People,dc=fatwire,dc=com
158. uniqueMember: cn=user_expert,ou=People,dc=fatwire,dc=com
159. uniqueMember: cn=HelloAssetWorld-SparkContentUser,ou=Groups,dc=fatwire,dc=com
160. uniqueMember:
     cn=BurlingtonFinancial-SparkContentUser,ou=Groups,dc=fatwire,dc=com
161. uniqueMember: cn=GE Lighting-SparkContentUser,ou=Groups,dc=fatwire,dc=com
162. uniqueMember: cn=Spark-SparkContentUser,ou=Groups,dc=fatwire,dc=com
163. uniqueMember: cn=HelloAssetWorld-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
164. uniqueMember:
     cn=BurlingtonFinancial-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
165. uniqueMember: cn=GE Lighting-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
166. uniqueMember: cn=Spark-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
167. uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
168. uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
169. uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
170. uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
171. uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
172. uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
173. uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
174. uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
175. uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
176. uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
177. cn: PageReader
178.
179. dn: cn=PageEditor,ou=Groups, dc=fatwire,dc=com
180. objectClass: top
181. objectClass: groupOfUniqueNames
182. uniqueMember: cn=ContentServer,ou=People,dc=fatwire,dc=com
183. uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
```

184. uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
185. uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
186. uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
187. uniqueMember: cn=mirroruser,ou=People,dc=fatwire,dc=com
188. uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
189. uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
190. uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
191. uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
192. uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
193. cn: PageEditor
194.
195. dn: cn=UserReader,ou=Groups, dc=fatwire,dc=com
196. objectClass: top
197. objectClass: groupOfUniqueNames
198. uniqueMember: cn=ContentServer,ou=People,dc=fatwire,dc=com
199. uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
200. uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
201. uniqueMember: cn=Bobo,ou=People,dc=fatwire,dc=com
202. uniqueMember: cn=Flo,ou=People,dc=fatwire,dc=com
203. uniqueMember: cn=Joe,ou=People,dc=fatwire,dc=com
204. uniqueMember: cn=Moe,ou=People,dc=fatwire,dc=com
205. uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
206. uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
207. uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
208. uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
209. uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
210. uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
211. uniqueMember: cn=mirroruser,ou=People,dc=fatwire,dc=com
212. uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
213. uniqueMember: cn=user_pricer,ou=People,dc=fatwire,dc=com
214. uniqueMember: cn=user_analyst,ou=People,dc=fatwire,dc=com
215. uniqueMember: cn=user_expert,ou=People,dc=fatwire,dc=com
216. uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
217. uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
218. uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
219. uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
220. uniqueMember: cn=HelloAssetWorld-SparkContentUser,ou=Groups,dc=fatwire,dc=com
221. uniqueMember:
    cn=BurlingtonFinancial-SparkContentUser,ou=Groups,dc=fatwire,dc=com
222. uniqueMember: cn=GE Lighting-SparkContentUser,ou=Groups,dc=fatwire,dc=com
223. uniqueMember: cn=Spark-SparkContentUser,ou=Groups,dc=fatwire,dc=com
224. uniqueMember: cn=HelloAssetWorld-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com

```
uniqueMember:
cn=BurlingtonFinancial-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
cn: UserReader

dn: cn=UserEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=ContentServer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Bobo,ou=People,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
cn: UserEditor

dn: cn=TableEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=ContentServer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=mirroruser,ou=People,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
```

```
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
cn: TableEditor

dn: cn=ContentServer,ou=People, dc=fatwire,dc=com
userPassword:: cGFzc3dvcmQ=
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: ContentServer
cn: ContentServer

dn: cn=DefaultReader,ou=People, dc=fatwire,dc=com
userPassword:: U29tZVJlYWRlcg==
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: DefaultReader
cn: DefaultReader

dn: cn=xceleditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Bobo,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Flo,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Joe,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Moe,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
```

```
uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
uniqueMember: cn=mirroruser,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_pricer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_analyst,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_expert,ou=People,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember:
cn=BurlingtonFinancial-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember:
cn=BurlingtonFinancial-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
cn: xcelleditor

dn: cn=xceladmin,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Bobo,ou=People,dc=fatwire,dc=com
uniqueMember: cn=mirroruser,ou=People,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
```

```
uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
cn: xceladmin

dn: cn=xcelpublish,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Bobo,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Flo,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Joe,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Moe,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
uniqueMember: cn=mirroruser,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_pricer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_analyst,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_expert,ou=People,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember:
cn=BurlingtonFinancial-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember:
cn=BurlingtonFinancial-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
cn: xcelpublish
```

```
388.
389. dn: cn=Visitor,ou=Groups, dc=fatwire,dc=com
390. objectClass: top
391. objectClass: groupOfUniqueNames
392. uniqueMember: cn=DefaultReader,ou=People,dc=fatwire,dc=com
393. uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
394. uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
395. uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
396. uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
397. uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
398. uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
399. uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
400. uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
401. uniqueMember: cn=user_pricer,ou=People,dc=fatwire,dc=com
402. uniqueMember: cn=mirroruser,ou=People,dc=fatwire,dc=com
403. uniqueMember: cn=user_analyst,ou=People,dc=fatwire,dc=com
404. uniqueMember: cn=user_expert,ou=People,dc=fatwire,dc=com
405. uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
406. uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
407. uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
408. uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
409. uniqueMember: cn=HelloAssetWorld-SparkContentUser,ou=Groups,dc=fatwire,dc=com
410. uniqueMember: cn=BurlingtonFinancial-SparkContentUser,ou=Groups,dc=fatwire,dc
     =com
411. uniqueMember: cn=GE Lighting-SparkContentUser,ou=Groups,dc=fatwire,dc=com
412. uniqueMember: cn=Spark-SparkContentUser,ou=Groups,dc=fatwire,dc=com
413. uniqueMember: cn=HelloAssetWorld-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
414. uniqueMember:
     cn=BurlingtonFinancial-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
415. uniqueMember: cn=GE Lighting-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
416. uniqueMember: cn=Spark-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
417. uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
418. uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
419. uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
420. uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
421. uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
422. uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
423. uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
424. uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
425. uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
426. uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
427. cn: Visitor
```

```
428.
429. dn: cn=VisitorAdmin,ou=Groups, dc=fatwire,dc=com
430. objectClass: top
431. objectClass: groupOfUniqueNames
432. uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
433. uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
434. uniqueMember: cn=mirroruser,ou=People,dc=fatwire,dc=com
435. uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
436. uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
437. uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
438. uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
439. uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
440. cn: VisitorAdmin
441.
442. dn: cn=RemoteClient,ou=Groups, dc=fatwire,dc=com
443. objectClass: top
444. objectClass: groupOfUniqueNames
445. uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
446. uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
447. uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
448. uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
449. uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
450. uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
451. uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
452. uniqueMember: cn=user_pricer,ou=People,dc=fatwire,dc=com
453. uniqueMember: cn=user_analyst,ou=People,dc=fatwire,dc=com
454. uniqueMember: cn=user_expert,ou=People,dc=fatwire,dc=com
455. uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
456. uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
457. uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
458. uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
459. uniqueMember: cn=HelloAssetWorld-SparkContentUser,ou=Groups,dc=fatwire,dc=com
460. uniqueMember:
     cn=BurlingtonFinancial-SparkContentUser,ou=Groups,dc=fatwire,dc=com
461. uniqueMember: cn=GE Lighting-SparkContentUser,ou=Groups,dc=fatwire,dc=com
462. uniqueMember: cn=Spark-SparkContentUser,ou=Groups,dc=fatwire,dc=com
463. uniqueMember: cn=HelloAssetWorld-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
464. uniqueMember:
     cn=BurlingtonFinancial-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
465. uniqueMember: cn=GE Lighting-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
466. uniqueMember: cn=Spark-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
467. uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
```

```
468. uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
469. uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
470. uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
471. uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
472. uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
473. uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
474. uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
475. uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
476. uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
477. cn: RemoteClient
478.
479. dn: cn=WSUser,ou=Groups, dc=fatwire,dc=com
480. objectClass: top
481. objectClass: groupOfUniqueNames
482. uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
483. uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
484. uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
485. uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
486. uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
487. uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
488. uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
489. uniqueMember: cn=user_pricer,ou=People,dc=fatwire,dc=com
490. uniqueMember: cn=user_analyst,ou=People,dc=fatwire,dc=com
491. uniqueMember: cn=user_expert,ou=People,dc=fatwire,dc=com
492. uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
493. uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
494. uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
495. uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
496. uniqueMember: cn=HelloAssetWorld-SparkContentUser,ou=Groups,dc=fatwire,dc=com
497. uniqueMember:
     cn=BurlingtonFinancial-SparkContentUser,ou=Groups,dc=fatwire,dc=com
498. uniqueMember: cn=GE Lighting-SparkContentUser,ou=Groups,dc=fatwire,dc=com
499. uniqueMember: cn=Spark-SparkContentUser,ou=Groups,dc=fatwire,dc=com
500. uniqueMember: cn=HelloAssetWorld-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
501. uniqueMember:
     cn=BurlingtonFinancial-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
502. uniqueMember: cn=GE Lighting-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
503. uniqueMember: cn=Spark-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
504. uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
505. uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
506. uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
507. uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
```

```
uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
cn: WSUser

dn: cn=WSEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_pricer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_analyst,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_expert,ou=People,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember:
cn=BurlingtonFinancial-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkContentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember:
cn=BurlingtonFinancial-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkDocumentUser,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
```

```
uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
cn: WSEditor

dn: cn=WSAdmin,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
uniqueMember: cn=HelloAssetWorld-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=BurlingtonFinancial-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=GE Lighting-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=Spark-SparkAdmin,ou=Groups,dc=fatwire,dc=com
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
cn: WSAdmin

dn: cn=fwadmin,ou=People, dc=fatwire,dc=com
userPassword:: eGNlbGFkbWlu
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: fwadmin
cn: fwadmin

dn: cn=Analyzer,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
cn: Analyzer

dn: cn=HelloAssetWorld-HelloAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=Joe,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Moe,ou=People,dc=fatwire,dc=com
cn: HelloAssetWorld-HelloAuthor

dn: cn=HelloAssetWorld-HelloDesigner,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
cn: HelloAssetWorld-HelloDesigner
```

```
590.
591. dn: cn=HelloAssetWorld-HelloEditor,ou=Groups, dc=fatwire,dc=com
592. objectClass: top
593. objectClass: groupOfUniqueNames
594. uniqueMember: cn=Flo,ou=People,dc=fatwire,dc=com
595. cn: HelloAssetWorld-HelloEditor
596.
597. dn: cn=Coco,ou=People, dc=fatwire,dc=com
598. userPassword:: aGVsbG8=
599. objectClass: top
600. objectClass: person
601. objectClass: organizationalPerson
602. sn: Coco
603. cn: Coco
604.
605. dn: cn=HelloAssetWorld-GeneralAdmin,ou=Groups, dc=fatwire,dc=com
606. objectClass: top
607. objectClass: groupOfUniqueNames
608. uniqueMember: cn=Coco,ou=People,dc=fatwire,dc=com
609. uniqueMember: cn=Bobo,ou=People,dc=fatwire,dc=com
610. uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
611. cn: HelloAssetWorld-GeneralAdmin
612.
613. dn: cn=Bobo,ou=People, dc=fatwire,dc=com
614. userPassword:: aGVsbG8=
615. objectClass: top
616. objectClass: person
617. objectClass: organizationalPerson
618. sn: Bobo
619. cn: Bobo
620.
621. dn: cn=HelloAssetWorld-WorkflowAdmin,ou=Groups, dc=fatwire,dc=com
622. objectClass: top
623. objectClass: groupOfUniqueNames
624. uniqueMember: cn=Bobo,ou=People,dc=fatwire,dc=com
625. uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
626. cn: HelloAssetWorld-WorkflowAdmin
627.
628. dn: cn=Flo,ou=People, dc=fatwire,dc=com
629. userPassword:: aGVsbG8=
630. objectClass: top
631. objectClass: person
```

```
objectClass: organizationalPerson
sn: Flo
cn: Flo

dn: cn=Joe,ou=People, dc=fatwire,dc=com
userPassword:: aGVsbG8=
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: Joe
cn: Joe

dn: cn=Moe,ou=People, dc=fatwire,dc=com
userPassword:: aGVsbG8=
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: Moe
cn: Moe

dn: cn=HelloAssetWorld-Designer,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-Designer

dn: cn=HelloAssetWorld-Author,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-Author

dn: cn=HelloAssetWorld-Editor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-Editor

dn: cn=HelloAssetWorld-Approver,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-Approver

dn: cn=HelloAssetWorld-Checker,ou=Groups, dc=fatwire,dc=com
objectClass: top
```

```
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-Checker

dn: cn=user_designer,ou=People, dc=fatwire,dc=com
userPassword:: dXNlcg==
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: user_designer
cn: user_designer

dn: cn=BurlingtonFinancial-Designer,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
cn: BurlingtonFinancial-Designer

dn: cn=user_author,ou=People, dc=fatwire,dc=com
userPassword:: dXNlcg==
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: user_author
cn: user_author

dn: cn=BurlingtonFinancial-Author,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
cn: BurlingtonFinancial-Author

dn: cn=user_approver,ou=People, dc=fatwire,dc=com
userPassword:: dXNlcg==
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: user_approver
cn: user_approver

dn: cn=BurlingtonFinancial-Approver,ou=Groups, dc=fatwire,dc=com
```

```
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
cn: BurlingtonFinancial-Approver

dn: cn=user_checker,ou=People, dc=fatwire,dc=com
userPassword:: dXNlcg==
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: user_checker
cn: user_checker

dn: cn=BurlingtonFinancial-Checker,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
cn: BurlingtonFinancial-Checker

dn: cn=user_editor,ou=People, dc=fatwire,dc=com
userPassword:: dXNlcg==
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: user_editor
cn: user_editor

dn: cn=BurlingtonFinancial-Editor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
cn: BurlingtonFinancial-Editor

dn: cn=BurlingtonFinancial-SiteAdmin,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
cn: BurlingtonFinancial-SiteAdmin

```

```
dn: cn=BurlingtonFinancial-WorkflowAdmin,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
cn: BurlingtonFinancial-WorkflowAdmin

dn: cn=BurlingtonFinancial-GeneralAdmin,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
cn: BurlingtonFinancial-GeneralAdmin

dn: cn=editor,ou=People, dc=fatwire,dc=com
userPassword:: eGNlbGVkaXRvcg==
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: editor
cn: editor

dn: cn=mirroruser,ou=People, dc=fatwire,dc=com
userPassword:: bWlycm9ydXNlcg==
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: mirroruser
cn: mirroruser

dn: cn=GE Lighting-Designer,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_designer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
cn: GE Lighting-Designer

dn: cn=GE Lighting-SiteAdmin,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
cn: GE Lighting-SiteAdmin
```

```
800.
801. dn: cn=GE Lighting-WorkflowAdmin,ou=Groups, dc=fatwire,dc=com
802. objectClass: top
803. objectClass: groupOfUniqueNames
804. uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
805. cn: GE Lighting-WorkflowAdmin
806.
807. dn: cn=GE Lighting-GeneralAdmin,ou=Groups, dc=fatwire,dc=com
808. objectClass: top
809. objectClass: groupOfUniqueNames
810. uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
811. cn: GE Lighting-GeneralAdmin
812.
813. dn: cn=GE Lighting-Checker,ou=Groups, dc=fatwire,dc=com
814. objectClass: top
815. objectClass: groupOfUniqueNames
816. uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
817. uniqueMember: cn=user_checker,ou=People,dc=fatwire,dc=com
818. cn: GE Lighting-Checker
819.
820. dn: cn=GE Lighting-Editor,ou=Groups, dc=fatwire,dc=com
821. objectClass: top
822. objectClass: groupOfUniqueNames
823. uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
824. uniqueMember: cn=user_editor,ou=People,dc=fatwire,dc=com
825. cn: GE Lighting-Editor
826.
827. dn: cn=GE Lighting-Author,ou=Groups, dc=fatwire,dc=com
828. objectClass: top
829. objectClass: groupOfUniqueNames
830. uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
831. uniqueMember: cn=user_author,ou=People,dc=fatwire,dc=com
832. cn: GE Lighting-Author
833.
834. dn: cn=GE Lighting-Approver,ou=Groups, dc=fatwire,dc=com
835. objectClass: top
836. objectClass: groupOfUniqueNames
837. uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
838. uniqueMember: cn=user_approver,ou=People,dc=fatwire,dc=com
839. cn: GE Lighting-Approver
840.
841. dn: cn=HelloAssetWorld-Pricer,ou=Groups, dc=fatwire,dc=com
```

```
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-Pricer

dn: cn=BurlingtonFinancial-Pricer,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-Pricer

dn: cn=GE Lighting-Pricer,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=user_pricer,ou=People,dc=fatwire,dc=com
uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
cn: GE Lighting-Pricer

dn: cn=user_marketer,ou=People, dc=fatwire,dc=com
userPassword:: dXNlcg==
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: user_marketer
cn: user_marketer

dn: cn=user_pricer,ou=People, dc=fatwire,dc=com
userPassword:: dXNlcg==
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: user_pricer
cn: user_pricer

dn: cn=HelloAssetWorld-Marketer,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-Marketer

dn: cn=BurlingtonFinancial-Marketer,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
cn: BurlingtonFinancial-Marketer
```

```
884.
885. dn: cn=GE Lighting-Marketer,ou=Groups, dc=fatwire,dc=com
886. objectClass: top
887. objectClass: groupOfUniqueNames
888. uniqueMember: cn=editor,ou=People,dc=fatwire,dc=com
889. uniqueMember: cn=user_marketer,ou=People,dc=fatwire,dc=com
890. cn: GE Lighting-Marketer
891.
892. dn: cn=HelloAssetWorld-Analyst,ou=Groups, dc=fatwire,dc=com
893. objectClass: top
894. objectClass: groupOfUniqueNames
895. cn: HelloAssetWorld-Analyst
896.
897. dn: cn=BurlingtonFinancial-Analyst,ou=Groups, dc=fatwire,dc=com
898. objectClass: top
899. objectClass: groupOfUniqueNames
900. uniqueMember: cn=user_analyst,ou=People,dc=fatwire,dc=com
901. cn: BurlingtonFinancial-Analyst
902.
903. dn: cn=GE Lighting-Analyst,ou=Groups, dc=fatwire,dc=com
904. objectClass: top
905. objectClass: groupOfUniqueNames
906. cn: GE Lighting-Analyst
907.
908. dn: cn=HelloAssetWorld-Expert,ou=Groups, dc=fatwire,dc=com
909. objectClass: top
910. objectClass: groupOfUniqueNames
911. cn: HelloAssetWorld-Expert
912.
913. dn: cn=BurlingtonFinancial-Expert,ou=Groups, dc=fatwire,dc=com
914. objectClass: top
915. objectClass: groupOfUniqueNames
916. uniqueMember: cn=user_expert,ou=People,dc=fatwire,dc=com
917. cn: BurlingtonFinancial-Expert
918.
919. dn: cn=GE Lighting-Expert,ou=Groups, dc=fatwire,dc=com
920. objectClass: top
921. objectClass: groupOfUniqueNames
922. cn: GE Lighting-Expert
923.
924. dn: cn=user_analyst,ou=People, dc=fatwire,dc=com
925. userPassword:: dXNlcg==
```

```
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: user_analyst
cn: user_analyst

dn: cn=user_expert,ou=People, dc=fatwire,dc=com
userPassword:: dXNlcg==
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: user_expert
cn: user_expert

dn: cn=HelloAssetWorld-SparkAdmin,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-SparkAdmin

dn: cn=BurlingtonFinancial-SparkAdmin,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-SparkAdmin

dn: cn=GE Lighting-SparkAdmin,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: GE Lighting-SparkAdmin

dn: cn=Spark-SparkAdmin,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
cn: Spark-SparkAdmin

dn: cn=HelloAssetWorld-SparkContentUser,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-SparkContentUser

dn: cn=BurlingtonFinancial-SparkContentUser,ou=Groups, dc=fatwire,dc=com
objectClass: top
```

```
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-SparkContentUser

dn: cn=GE Lighting-SparkContentUser,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: GE Lighting-SparkContentUser

dn: cn=Spark-SparkContentUser,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
cn: Spark-SparkContentUser

dn: cn=HelloAssetWorld-SparkDocumentUser,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-SparkDocumentUser

dn: cn=BurlingtonFinancial-SparkDocumentUser,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-SparkDocumentUser

dn: cn=GE Lighting-SparkDocumentUser,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: GE Lighting-SparkDocumentUser

dn: cn=Spark-SparkDocumentUser,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
cn: Spark-SparkDocumentUser

dn: cn=Spark-WorkflowAdmin,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
cn: Spark-WorkflowAdmin

dn: cn=Spark-SiteAdmin,ou=Groups, dc=fatwire,dc=com
```

```
1010.objectClass: top
1011.objectClass: groupOfUniqueNames
1012.uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
1013.cn: Spark-SiteAdmin
1014.
1015.dn: cn=Spark-GeneralAdmin,ou=Groups, dc=fatwire,dc=com
1016.objectClass: top
1017.objectClass: groupOfUniqueNames
1018.uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
1019.cn: Spark-GeneralAdmin
1020.
1021.dn: cn=ContentEditor,ou=Groups, dc=fatwire,dc=com
1022.objectClass: top
1023.objectClass: groupOfUniqueNames
1024.uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
1025.uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
1026.uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
1027.uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
1028.uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
1029.uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
1030.uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
1031.uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
1032.uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
1033.uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
1034.cn: ContentEditor
1035.
1036.dn: cn=firstsite,ou=People, dc=fatwire,dc=com
1037.userPassword:: Zmlyc3RzaXRl
1038.objectClass: top
1039.objectClass: person
1040.objectClass: organizationalPerson
1041.sn: firstsite
1042.cn: firstsite
1043.
1044.dn: cn=FirstSiteII-Approver,ou=Groups, dc=fatwire,dc=com
1045.objectClass: top
1046.objectClass: groupOfUniqueNames
1047.uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
1048.uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
1049.cn: FirstSiteII-Approver
1050.
1051.dn: cn=FirstSiteII-Designer,ou=Groups, dc=fatwire,dc=com
```

```
1052.objectClass: top
1053.objectClass: groupOfUniqueNames
1054.uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
1055.uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
1056.cn: FirstSiteII-Designer
1057.
1058.dn: cn=FirstSiteII-WorkflowAdmin,ou=Groups, dc=fatwire,dc=com
1059.objectClass: top
1060.objectClass: groupOfUniqueNames
1061.uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
1062.uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
1063.cn: FirstSiteII-WorkflowAdmin
1064.
1065.dn: cn=FirstSiteII-SiteAdmin,ou=Groups, dc=fatwire,dc=com
1066.objectClass: top
1067.objectClass: groupOfUniqueNames
1068.uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
1069.uniqueMember: cn=Napoleon,ou=People,dc=fatwire,dc=com
1070.cn: FirstSiteII-SiteAdmin
1071.
1072.dn: cn=FirstSiteII-GeneralAdmin,ou=Groups, dc=fatwire,dc=com
1073.objectClass: top
1074.objectClass: groupOfUniqueNames
1075.uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
1076.uniqueMember: cn=fwadmin,ou=People,dc=fatwire,dc=com
1077.cn: FirstSiteII-GeneralAdmin
1078.
1079.dn: cn=HelloAssetWorld-MarketingAuthor,ou=Groups, dc=fatwire,dc=com
1080.objectClass: top
1081.objectClass: groupOfUniqueNames
1082.cn: HelloAssetWorld-MarketingAuthor
1083.
1084.dn: cn=BurlingtonFinancial-MarketingAuthor,ou=Groups, dc=fatwire,dc=com
1085.objectClass: top
1086.objectClass: groupOfUniqueNames
1087.cn: BurlingtonFinancial-MarketingAuthor
1088.
1089.dn: cn=GE Lighting-MarketingAuthor,ou=Groups, dc=fatwire,dc=com
1090.objectClass: top
1091.objectClass: groupOfUniqueNames
1092.cn: GE Lighting-MarketingAuthor
1093.
```

```
dn: cn=Spark-MarketingAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: Spark-MarketingAuthor

dn: cn=FirstSiteII-MarketingAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
cn: FirstSiteII-MarketingAuthor

dn: cn=HelloAssetWorld-MarketingEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-MarketingEditor

dn: cn=BurlingtonFinancial-MarketingEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-MarketingEditor

dn: cn=GE Lighting-MarketingEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: GE Lighting-MarketingEditor

dn: cn=Spark-MarketingEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: Spark-MarketingEditor

dn: cn=FirstSiteII-MarketingEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
cn: FirstSiteII-MarketingEditor

dn: cn=HelloAssetWorld-ArtworkAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
```

```
cn: HelloAssetWorld-ArtworkAuthor

dn: cn=BurlingtonFinancial-ArtworkAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-ArtworkAuthor

dn: cn=GE Lighting-ArtworkAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: GE Lighting-ArtworkAuthor

dn: cn=Spark-ArtworkAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: Spark-ArtworkAuthor

dn: cn=FirstSiteII-ArtworkAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Desiree,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Arthur,ou=People,dc=fatwire,dc=com
cn: FirstSiteII-ArtworkAuthor

dn: cn=HelloAssetWorld-ArtworkEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-ArtworkEditor

dn: cn=BurlingtonFinancial-ArtworkEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-ArtworkEditor

dn: cn=GE Lighting-ArtworkEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: GE Lighting-ArtworkEditor

dn: cn=Spark-ArtworkEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
```

```
1178.objectClass: groupOfUniqueNames
1179.cn: Spark-ArtworkEditor
1180.
1181.dn: cn=FirstSiteII-ArtworkEditor,ou=Groups, dc=fatwire,dc=com
1182.objectClass: top
1183.objectClass: groupOfUniqueNames
1184.uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
1185.uniqueMember: cn=Martha,ou=People,dc=fatwire,dc=com
1186.cn: FirstSiteII-ArtworkEditor
1187.
1188.dn: cn=HelloAssetWorld-ContentAuthor,ou=Groups, dc=fatwire,dc=com
1189.objectClass: top
1190.objectClass: groupOfUniqueNames
1191.cn: HelloAssetWorld-ContentAuthor
1192.
1193.dn: cn=BurlingtonFinancial-ContentAuthor,ou=Groups, dc=fatwire,dc=com
1194.objectClass: top
1195.objectClass: groupOfUniqueNames
1196.cn: BurlingtonFinancial-ContentAuthor
1197.
1198.dn: cn=GE Lighting-ContentAuthor,ou=Groups, dc=fatwire,dc=com
1199.objectClass: top
1200.objectClass: groupOfUniqueNames
1201.cn: GE Lighting-ContentAuthor
1202.
1203.dn: cn=Spark-ContentAuthor,ou=Groups, dc=fatwire,dc=com
1204.objectClass: top
1205.objectClass: groupOfUniqueNames
1206.cn: Spark-ContentAuthor
1207.
1208.dn: cn=FirstSiteII-ContentAuthor,ou=Groups, dc=fatwire,dc=com
1209.objectClass: top
1210.objectClass: groupOfUniqueNames
1211.uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
1212.uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
1213.cn: FirstSiteII-ContentAuthor
1214.
1215.dn: cn=HelloAssetWorld-ContentEditor,ou=Groups, dc=fatwire,dc=com
1216.objectClass: top
1217.objectClass: groupOfUniqueNames
1218.cn: HelloAssetWorld-ContentEditor
1219.
```

```
dn: cn=BurlingtonFinancial-ContentEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-ContentEditor

dn: cn=GE Lighting-ContentEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: GE Lighting-ContentEditor

dn: cn=Spark-ContentEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: Spark-ContentEditor

dn: cn=FirstSiteII-ContentEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
cn: FirstSiteII-ContentEditor

dn: cn=HelloAssetWorld-ProductAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-ProductAuthor

dn: cn=BurlingtonFinancial-ProductAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-ProductAuthor

dn: cn=GE Lighting-ProductAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: GE Lighting-ProductAuthor

dn: cn=Spark-ProductAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: Spark-ProductAuthor

```

```
dn: cn=FirstSiteII-ProductAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mark,ou=People,dc=fatwire,dc=com
cn: FirstSiteII-ProductAuthor

dn: cn=HelloAssetWorld-ProductEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-ProductEditor

dn: cn=BurlingtonFinancial-ProductEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-ProductEditor

dn: cn=GE Lighting-ProductEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: GE Lighting-ProductEditor

dn: cn=Spark-ProductEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: Spark-ProductEditor

dn: cn=FirstSiteII-ProductEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Rose,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Mary,ou=People,dc=fatwire,dc=com
cn: FirstSiteII-ProductEditor

dn: cn=HelloAssetWorld-DocumentAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-DocumentAuthor

dn: cn=BurlingtonFinancial-DocumentAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
```

```
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-DocumentAuthor

dn: cn=GE Lighting-DocumentAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: GE Lighting-DocumentAuthor

dn: cn=Spark-DocumentAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: Spark-DocumentAuthor

dn: cn=FirstSiteII-DocumentAuthor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
uniqueMember: cn=Conrad,ou=People,dc=fatwire,dc=com
cn: FirstSiteII-DocumentAuthor

dn: cn=HelloAssetWorld-DocumentEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: HelloAssetWorld-DocumentEditor

dn: cn=BurlingtonFinancial-DocumentEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: BurlingtonFinancial-DocumentEditor

dn: cn=GE Lighting-DocumentEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: GE Lighting-DocumentEditor

dn: cn=Spark-DocumentEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
objectClass: groupOfUniqueNames
cn: Spark-DocumentEditor

dn: cn=FirstSiteII-DocumentEditor,ou=Groups, dc=fatwire,dc=com
objectClass: top
```

```
1346.objectClass: groupOfUniqueNames
1347.uniqueMember: cn=firstsite,ou=People,dc=fatwire,dc=com
1348.uniqueMember: cn=Connie,ou=People,dc=fatwire,dc=com
1349.cn: FirstSiteII-DocumentEditor
1350.
1351.dn: cn=Connie,ou=People, dc=fatwire,dc=com
1352.userPassword:: Zmlyc3RzaXRl
1353.objectClass: top
1354.objectClass: person
1355.objectClass: organizationalPerson
1356.sn: Connie
1357.cn: Connie
1358.
1359.dn: cn=Conrad,ou=People, dc=fatwire,dc=com
1360.userPassword:: Zmlyc3RzaXRl
1361.objectClass: top
1362.objectClass: person
1363.objectClass: organizationalPerson
1364.sn: Conrad
1365.cn: Conrad
1366.
1367.dn: cn=Desiree,ou=People, dc=fatwire,dc=com
1368.userPassword:: Zmlyc3RzaXRl
1369.objectClass: top
1370.objectClass: person
1371.objectClass: organizationalPerson
1372.sn: Desiree
1373.cn: Desiree
1374.
1375.dn: cn=Napoleon,ou=People, dc=fatwire,dc=com
1376.userPassword:: Zmlyc3RzaXRl
1377.objectClass: top
1378.objectClass: person
1379.objectClass: organizationalPerson
1380.sn: Napoleon
1381.cn: Napoleon
1382.
1383.dn: cn=Arthur,ou=People, dc=fatwire,dc=com
1384.userPassword:: Zmlyc3RzaXRl
1385.objectClass: top
1386.objectClass: person
1387.objectClass: organizationalPerson
```

```
sn: Arthur
cn: Arthur

dn: cn=Martha,ou=People, dc=fatwire,dc=com
userPassword:: Zmlyc3RzaXRl
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: Martha
cn: Martha

dn: cn=Rose,ou=People, dc=fatwire,dc=com
userPassword:: Zmlyc3RzaXRl
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: Rose
cn: Rose

dn: cn=Mark,ou=People, dc=fatwire,dc=com
userPassword:: Zmlyc3RzaXRl
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: Mark
cn: Mark

dn: cn=Mary,ou=People, dc=fatwire,dc=com
userPassword:: Zmlyc3RzaXRl
objectClass: top
objectClass: person
objectClass: organizationalPerson
sn: Mary
cn: Mary
```

Part VI

Installing and Configuring Authentication Services

WebCenter Sites can be integrated with supported applications that provide authentication services and single sign-on.

Part VI contains the following chapters:

- Chapter 23, "Integrating Oracle Access Manager with Oracle WebCenter Sites"
- Chapter 24, "Enabling Community-Gadgets to Communicate with OAM-Integrated WebCenter Sites"
- Chapter 25, "Integrating Oracle Access Manager with Oracle WebCenter Sites: Site Capture"

23

Integrating Oracle Access Manager with Oracle WebCenter Sites

Use this chapter to integrate Oracle Access Manager (OAM) with Oracle WebCenter Sites installations.

This chapter contains the following sections:

23.1 Overview

This section contains the following topics:

23.1.1 Integration Components

Integration with Oracle Access Manager requires replacement of the Single Sign-On (SSO) authentication plug-in classes for the WebCenter Sites application, and the addition of a token authority servlet for REST client authentication. Optionally the WebCenter Sites challenge (login) page can be deployed.

> **Note:** When integrated with WebCenter Sites systems running in content management (development) mode, Oracle Access Manager, is used for browser and REST authentication. On production systems (running in delivery mode), OAM is used for management authentication, but not for website visitors.

Each component is described more fully in the following:

1. SSO authentication plug-in classes are delivered in the `wem-sso-api-oam-11.1.1.8.0.jar` that is included with the WebCenter Sites product. There are three primary classes included in this JAR that must be configured to load with the WebCenter Sites application when it starts.

a. `OAMFilter` provides recognition of an authenticated user (either by WebLogic Server (WLS) perimeter security or REST credential token) before allowing access to a protected resource.

b. `OAMProvider` contains the JAVA API which is used by REST client programs to obtain an authenticated credential before requesting a resource from the WebCenter Sites application. It also contains methods used internally to authenticate REST credentials by `OAMFilter`.

c. `OAMListener` is a session filter that monitors the creation and termination of HTTP sessions to facilitate cleanup of session related cached information.

2. The token authority servlet is delivered in the `oamtoken.war` file. It is an OAM AccessGate that will either authenticate a user against the OAM server or check, upon request, that an OAM authenticated session is still valid.

3. The WebCenter Sites challenge page is optional and is delivered in the `oamlogin.war` file. The servlet within `oamlogin.war` provides a custom branded challenge request when OAM must obtain credentials to authenticate a user. It is included to provide a replacement of the standard WebCenter Sites branded login page that is installed with the Central Authentication Service (CAS). This page is called directly by OAM and must be specifically configured within the OAM Authentication Scheme used to protect WebCenter Sites resources.

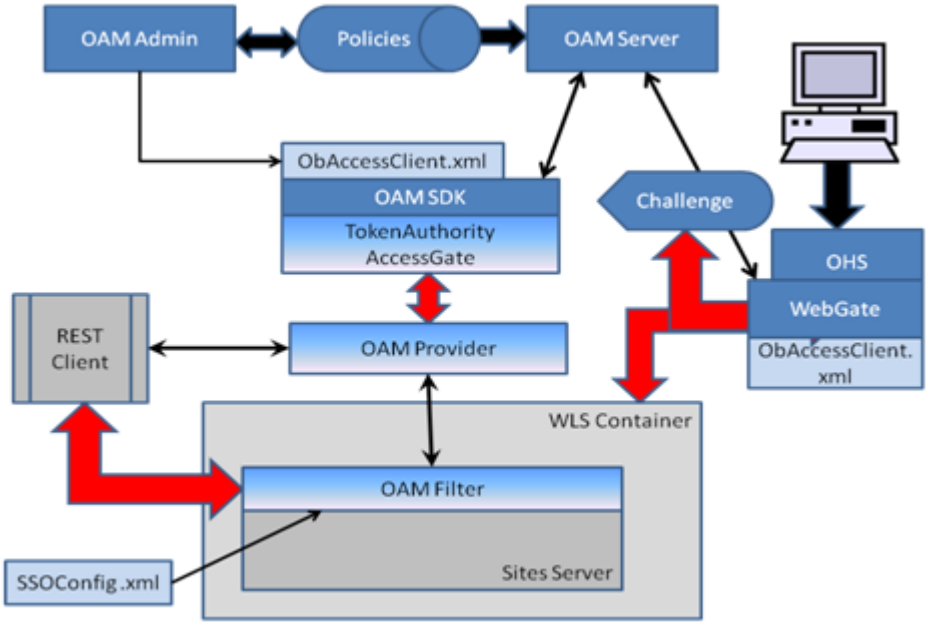
Installation of these components and the configuration of the Oracle Access Manager must be done to complete an operational OAM integration with WebCenter Sites.

Much of OAM integration regards the configuration of the elements of OAM itself. OAM configuration is done mainly within the OAM Administrative console, as well as across several WebCenter Sites server configuration files, and the Oracle HTTP Server (OHS) configuration files. The Host Identifiers, URL Resources, Domain policies, and OAM Agents must be properly configured to achieve proper operation. The WebCenter Sites challenge screen is supplied as an independent HTTP Servlet. You have the choice to use the WebCenter Sites challenge screen, the default OAM challenge screen, or a custom challenge screen through the Authentication Scheme attached to the configured policies.Control over all policies for authentication and authorization through the OAM Administrator console provides extensive configuration capabilities.

23.1.2 Flow for Browser Requests

OAM Integration components and process flow for logging in to and out of WebCenter Sites is shown in Figure 23–1. The core integration revolves around the `OAMFilter` and `OAMProvider` classes. These classes are injected into the WebCenter Sites Web application by Spring initialization to replace CAS equivalents which are not necessary with OAM. There are no internal changes to the WebCenter Sites application to accommodate this integration.

Figure 23–1 OAM Flowchart



23.1.2.1 Login Processing

All browser access is directed through the standard OHS WebGate and uses perimeter security provided by the WLS container. The WebGate functions as a reverse proxy, checking protection policies through Access Manager. It issues the challenge/login form when necessary. A request is never passed directly to the WLS container but always passes through the WebGate to ensure authentication and authorization are satisfied. When a valid request is received from the WebGate, the WLS container presents an identity assertion to the OAM filter. This assertion will identify the authenticated user and cause the information for that user to be fetched from the WebCenter Sites `SystemUsers` table. User information consists of the user ID, name, and ACL needed to prepare the proper internal assertion for reference within the WebCenter Sites application. The user name in the WebCenter Sites `SystemUsers` table and in the Oracle Internet Directory (or LDAP directory) must match exactly for authentication to work properly. Although OAM includes authorization protection as well as authentication, WebCenter Sites uses only OAM authentication and does not rely on full OAM authorization.

When the `OAMFilter` receives control, the request has already been authenticated by the WebGate and an OAM Identity Assertion created by WLS perimeter security. This assertion provides the authenticated user's name which is used to find that user information in the WebCenter Sites `SystemUsers` table. The information thus obtained is used to create an internal assertion used within the WebCenter Sites application.

After an OAM Identity Assertion has been converted into an internal Assertion, the internal Assertion is added to the HTTP Session object. This allows subsequent requests to access URLs (resources) directly for the lifetime of the application session. However, the WebGate provides overriding protection based upon the OAM security policies in effect. If the OAM user session (different from HTTP session) expires, then the user will be required to re-authenticate.

The creation of OAM Identity Assertions is required by default. However, there is a possibility of an OAM Identity Assertion invoking a performance penalty. By default,

the OAMFilter expects to see OAM Assertions to counter the possibility of a browser accessing WebCenter Sites directly from the Internet. This requirement can be avoided by a simple configuration change and the establishment of a trust relationship between the WebLogic Server and the OHS WebGate. This trust relationship is created by defining a connection filter in WebLogic that only accepts requests from a trusted source (the OHS server).

23.1.2.2 SSO and Logoff

The WebGate manages the OAM cookies which govern SSO. This is transparent to the WebCenter Sites OAM Filter and provides a seamless integration with other Oracle applications.

When WebCenter Sites logoff is requested, the standard OAM logoff facility is invoked by the OAM logoff URL which includes an end_URL parameter. The end_URL parameter establishes the next page that must appear after OAM finishes all logoff activities. OAM removes the SSO cookies, terminates the OAM session, and calls the registered logout success URL. The logout success URL is recognized by the OAM Filter to invalidate the HTTP session. After OAM logout has completed all its work it redirects the browser back to the WebCenter Sites welcome URL, specified through the end_URL parameter. This triggers a new challenge for the user to supply login credentials. The Logout URL settings are defined in the OHS WebGate configuration and the end_URL is defined in the SSOConfig.xml file.

23.1.3 REST Service Flow

REST processing follows a slightly different flow. This is also illustrated in Figure 23–1. The REST client uses the OAM Provider API to obtain a service ticket from the Token Authority. This ticket is required as a parameter in the REST request to grant access to a resource on the WebCenter Sites server. The TokenAuthority functions as an OAM Access Gate. It will authenticate the user against the policies defined for the REST endpoint URL. When a proper user name and password has passed authentication, the REST client is issued a service ticket to be used when requesting the resource. The TokenAuthority is an HTTP Servlet and it is recommended it be secured through SSL. The TokenAuthority performs three services:

- Request – Takes a user name/password combination and endpoint URL (as the resource) and authenticate through the OAM SDK. The result is an OAM UserSession for the request. The associated session token is extracted from the UserSession and retained in a cache keyed by UUID. The UUID is returned to the requestor to be used as the service request ticket associated with the OAM Session.
- Validate – Given a request ticket, the associated session token is retrieved from the cache and the authenticated user name is returned. The OAM UserSession is checked to make sure it remains valid. If the session is no longer valid or indicates that the user associated with the ticket is no longer logged in then a 'not authorized' 403 status is returned.
- Invalidate – Given a request ticket, the associated session token is retrieved from the cache, removed, and then converted into an OAM UserSession object which is immediately terminated. This invalidates the OAM session and occurs after a request ticket has been used.

When the OAM Filter receives a REST request it must always be accompanied by a parameter that supplies a request ticket. This ticket is validated through the OAM Provider (the SSO Provider calls the Token Authority) before access to the resource is granted. A normal ticket request is for one time only and its maximum lifetime is dictated by the OAM session timeout. For a valid ticket, the OAM user session is

invalidated immediately and access to the resource is allowed only once. A multi-ticket is handled in a similar manner but the ticket is cached locally so it may be reused by the REST client for a finite amount of time.

The published REST API remains the same. REST client programming is not affected by this integration and works exactly as it did with the CAS provider. Internally, the API dynamically instantiates the required classes based on which authentication provider is being used. Remote REST client programs are written in JAVA and require the `wem-sso-api-oam-11.1.1.8.0.jar` for compilation and execution.

The REST client goes directly to the WebCenter Sites server directly as shown in Figure 23–1. The client has the choice of two possible endpoints. It can go directly to the WebCenter Sites application as shown in the figure or pass through the OHS WebGate. A policy is defined for the latter case which allows this endpoint to be used. The decision of which endpoint to use is a choice dependent upon performance and/or security concerns.

23.2 OAM Integration Prerequisites

Installing OAM Components

Before you set up Oracle Access Manager integration, the Oracle components needed to support the environment must be installed and working properly. If you already have OAM installed and running at the support level specified in the *Oracle WebCenter Sites Certification Matrix* and in this document then you can disregard this section and skip to Section 23.3, "Integrating OAM with Oracle WebCenter Sites." Otherwise, continue with the steps below.

Note: Choose the list of system components below that corresponds with the version of OAM that will be installed. Install the system components in the order given. The steps as listed are not comprehensive steps, and should be treated as guidelines.

Ensure that the proper versions are being used. The Oracle installer for each package requires that particular versions of related components are installed on the system. If version requirements are not observed then the installer will not allow a specific installation to continue. Each listed package includes one or more links to additional documentation.

All components listed can be downloaded from the Oracle Software Delivery Cloud site.

OAM 11.1.1.5.0 Components

1. Oracle Database 11.2.0

   See Section 23.2.1, "Oracle Database 11g - Version 11.2.0."

2. Oracle Fusion Middleware Repository Creation Utility 11.1.1.5.0

   See Section 23.2.2, "Oracle Fusion Middleware Repository Creation Utility."

3. Oracle WebLogic Server 10.3.5 Generic and Coherence

   See Section 23.2.3, "Oracle WebLogic Server Generic and Coherence."

4. Oracle Identity and Access Management 11.1.1.5.0

   See Section 23.2.4, "Oracle Identity Management and Access Management."

5. Oracle Fusion Middleware Web Tier Utilities 11.1.1.2.0

   Oracle Fusion Middleware Web Tier Utilities Patch Set 11.1.1.5.0

   See Section 23.2.5, "Oracle Fusion Middleware Web Tier Utilities."

6. Oracle Access Manager OHS WebGates 11.1.1.5.0

   See Section 23.2.6, "Oracle Access Manager OHS WebGates."

OAM 11.1.1.7.0 Components

1. Oracle Database 11.2.0

   See Section 23.2.1, "Oracle Database 11g - Version 11.2.0."

2. Oracle Fusion Middleware Repository Creation Utility 11.1.1.7.0

   See Section 23.2.2, "Oracle Fusion Middleware Repository Creation Utility."

3. Oracle WebLogic Server 10.3.6 Generic and Coherence

   See Section 23.2.3, "Oracle WebLogic Server Generic and Coherence."

4. Oracle Identity and Access Management 11.1.1.7.0

   See Section 23.2.4, "Oracle Identity Management and Access Management."

5. Oracle Fusion Middleware Web Tier Utilities 11.1.1.7.0

   See Section 23.2.5, "Oracle Fusion Middleware Web Tier Utilities."

6. Oracle Access Manager OHS WebGates 11.1.1.7.0

   See Section 23.2.6, "Oracle Access Manager OHS WebGates."

OAM 11.1.2.1.0 Components

1. Oracle Database 11.2.0

   See Section 23.2.1, "Oracle Database 11g - Version 11.2.0."

2. Oracle Fusion Middleware Repository Creation Utility 11.1.2.1.0

   See Section 23.2.2, "Oracle Fusion Middleware Repository Creation Utility."

3. Oracle WebLogic Server 10.3.6 Generic and Coherence

   See Section 23.2.3, "Oracle WebLogic Server Generic and Coherence."

4. Oracle Identity and Access Management 11.1.2.1.0

   See Section 23.2.4, "Oracle Identity Management and Access Management."

5. Oracle Fusion Middleware Web Tier Utilities 11.1.1.6.0

   See Section 23.2.5, "Oracle Fusion Middleware Web Tier Utilities."

6. Oracle Access Manager OHS WebGates 11.1.2.1.0

   See Section 23.2.6, "Oracle Access Manager OHS WebGates."

23.2.1 Oracle Database 11*g* - Version 11.2.0

1. Install Oracle Database 11*g* - Version 11.2.0.

   `http://docs.oracle.com/cd/E11882_01/install.112/e24321/toc.htm`

2. Create and configure an Oracle 11*g* database. For specific instructions, see Chapter 1, "Creating and Configuring an Oracle 11g Database."

3. Increase the maximum processes and open cursors allowed for the newly created database by running the following commands in sqlplus and restarting the database:

```
alter system set processes=500 scope=spfile;
alter system set open_cursors=800 scope=both;
```

23.2.2 Oracle Fusion Middleware Repository Creation Utility

1. Create Schemas using the Repository Creation Utility.

   http://docs.oracle.com/cd/E28280_01/doc.1111/e14259/rcu.htm#CHDHHDHE

2. On the Select Components screen, expand **Identity Management** and select **Oracle Access Manager**.
3. Select all components.

23.2.3 Oracle WebLogic Server Generic and Coherence

Install WebLogic Server.

10.3.5

http://docs.oracle.com/cd/E21764_01/doc.1111/e14142/guimode.htm#BABHJJEG

10.3.6

http://docs.oracle.com/cd/E28280_01/doc.1111/e14142/guimode.htm#BABHJJEG

23.2.4 Oracle Identity Management and Access Management

1. Install Oracle Identity Management and Access Management
   - **11.1.1.5.0**: http://docs.oracle.com/cd/E23943_01/install.1111/e12002/common.htm#BABIADBF
   - **11.1.1.7.0**: http://docs.oracle.com/cd/E28280_01/doc.1111/e36891/install.htm#CIHBBHGG
   - **11.1.2.1.0**: http://docs.oracle.com/cd/E37115_01/install.1112/e27301/install.htm#BALIADBF
2. Create a domain.
   a. Run `<IAM_HOME>/common/bin/config.sh`

      For example:

      `/u01/software/Apps/OraMiddleware/Oracle_IDM1/common/bin/config.sh`

   b. Select **Create a new WebLogic domain**.
   c. Select the following products based on the release:

      OAM 11.1.1.5.0:

      – Basic WebLogic Server Domain – `10.3.4.0 [wlserver_10.3]*`
      – Oracle Enterprise Manager – `11.1.1.0 [oracle_common]`
      – Oracle Access Manager with Database Policy Store – `11.1.1.3.0 [Oracle_IDM2]`
      – Oracle JRF – `11.1.1.0 [oracle_common]`

OAM 11.1.1.7.0:

- Basic WebLogic Server Domain – `10.3.6.0 [wlserver_10.3]*`
- Oracle Identity Manager – `11.1.1.2.0 [Oracle_IDM1]`
- Oracle SOA Suite – `11.1.1.0 [Oracle_SOA1]`
- Oracle Enterprise Manager – `11.1.1.0 [oracle_common]`
- Oracle Access Manager with Database Policy Store – `11.1.1.3.0 [Oracle_IDM2]`

OAM 11.1.2.1.0:

- Basic WebLogic Server Domain – `10.3.6.0 [wlserver_10.3]*`
- Oracle Identity Manager – `11.1.2.0.0 [Oracle_IDM1]`
- Oracle SOA Suite – `11.1.1.0 [Oracle_SOA1]`
- Oracle Access Management – `11.1.2.0.0 [Oracle_IDM1]`
- Oracle Enterprise Manager – `11.1.1.0 [oracle_common]`

Note: Before integrating Oracle Access Manager ensure that Oracle SOA Suite is already installed.

---

d. Configure the JDBC Component Schema:

- Select all Component Schema
- Enter the information for the database created in Section 23.2.1, "Oracle Database 11g - Version 11.2.0"
- Enter a Schema password

e. Optional Configuration:

- Select Administration Server to configure the port of the AdminServer.
- Select Managed Server, Clusters and Machines to modify the ports of the Managed Servers and add them to a Node Manager.

3. Configure the Database Security Store (11.1.2.1.0 Only)

Run the following command:

```
<MW_HOME>/oracle_common/common/bin/wlst.sh
<IAM_HOME>/common/tools/configureSecurityStore.py -d <DOMAIN_HOME> -m
create -c IAM -p <OPSS_SCHEMA_PASSWORD> -u <OPSS_SCHEMA_NAME>
```

For example:

```
/u01/software/Apps/OraMiddleware/oracle_common/common/bin/wlst.sh
/u01/software/Apps/OraMiddleware/Oracle_
IDM1/common/tools/configureSecurityStore.py -d
/u01/software/Apps/OraMiddleware/user_projects/domains/OAMDomain -m
create -c IAM -p test1234 -u DEV_IAS_OPSS
```

4. Start the Admin Server and OAM Managed Server

a. Run the following command to start the Admin Server:

```
<DOMAIN_HOME>/bin/startWebLogic.sh
```

For example:

```
/u01/software/Apps/OraMiddleware/user_
projects/domains/OAMDomain/bin/startWebLogic.sh
```

b. Run the following command to start the OAM Managed Server:

```
<DOMAIN_HOME/bin/startManagedWebLogic.sh oam_server1 http://<ADMIN_
HOST>:<ADMIN_PORT>
```

For example:

```
/u01/software/Apps/OraMiddleware/user_
projects/domains/OAMDomain/bin/startManagedWebLogic.sh oam_server1
http://localhost:7001
```

23.2.5 Oracle Fusion Middleware Web Tier Utilities

1. Install Oracle Fusion Middleware Web Tier Utilities
   - **11.1.1.2.0** (Will install Patch Set also): http://docs.oracle.com/cd/E21764_01/install.1111/e14260/install.htm#WTINS101
   - **11.1.1.7.0**: http://docs.oracle.com/cd/E28280_01/install.1111/e14260/config.htm#WTINS313
   - **11.1.1.6.0**: http://docs.oracle.com/cd/E23943_01/install.1111/e14260/config.htm#WTINS313

   Select **Install Software - Do Not Configure**.
2. Install Oracle Fusion Middleware Web Tier Utilities Patch Set (11.1.1.5.0 Only)

   http://docs.oracle.com/cd/E14571_01/doc.1111/e16793/patch_set_installer.htm#PATCH246
3. Configure Oracle Fusion Middleware Web Tier Utilities

   Note: Repeat the following steps for each Sites environment (for example - management, delivery, and so forth) that will be integrated with OAM.

   a. Run `<WEB_TIER_HOME>/bin/config.sh`

   For example:

   ```
   u01/software/Apps/OraMiddleware/Oracle_WT1/bin/config.sh
   ```

   b. On the Configure Components screen, select **Oracle HTTP Server** and **Associate Selected Components with WebLogic Domain**.

   c. On the Specify WebLogic Domain screen, select the domain created in step 2 of Section 23.2.4, "Oracle Identity Management and Access Management."

23.2.6 Oracle Access Manager OHS WebGates

1. Install Oracle Access Manager OHS WebGates
   - **11.1.1.5.0**: http://docs.oracle.com/cd/E21764_01/install.1111/e12002/webgate.htm#CACGIGBB

- **11.1.1.7.0**: http://docs.oracle.com/cd/E28280_01/doc.1111/e38584/webgate_ohs.htm#CACJIABJ
- **11.1.1.2.1**: http://docs.oracle.com/cd/E37115_01/install.1112/e38922/webgate_ohs.htm#CACJIABJ

2. Complete the post-installation steps.

Note: Repeat the following steps for each OHS instance you configured in step 3 of Section 23.2.5, "Oracle Fusion Middleware Web Tier Utilities."

Example values for the parameters:

`<WEBGATE_HOME>`

Example:

`/u01/software/Apps/OraMiddleware/Oracle_OAMWebGate1`

`<WEBGATE_INSTANCE_DIR>`

Example:

`/u01/software/Apps/OraMiddleware/Oracle_WT1/instances/instance1/config/OHS/ohs1`

`<OHS_ORACLE_HOME>`

Example:

`/u01/software/Apps/OraMiddleware/Oracle_WT1`

a. Deploy a Webgate instance:

```
cd <WEBGATE_HOME>/webgate/ohs/tools/deployWebGate
./deployWebgateInstance.sh -w <WEBGATE_INSTANCE_DIR> -oh <WEBGATE_HOME>
```

b. Modify the OHS configuration files:

```
export LD_LIBRARY_PATH=$LD_LIBRARY_PATH:<OHS_ORACLE_HOME>/lib
cd <WEBGATE_HOME>/webgate/ohs/tools/setup/InstallTools
./EditHttpConf -w <WEBGATE_INSTANCE_DIR> -oh <WEBGATE_HOME>
```

23.3 Integrating OAM with Oracle WebCenter Sites

This section includes the following topics:

- Section 23.3.1, "Before You Start"
- Section 23.3.2, "Integration Steps"
- Section 23.3.3, "Allowing Anonymous Access to External Users"

23.3.1 Before You Start

There are some important considerations regarding the integration of WebCenter Sites with OAM authentication:

- Up to this point, this chapter has described the required software and related components needed to integrate OAM with Oracle WebCenter Sites. If you have

not reviewed the chapter, and have not ensured that the required components are installed and properly set up, then review the document.

- WebCenter Sites must be installed and working properly with the default CAS.

  Note: If you plan on using an LDAP Server to store roles for WebCenter Sites, this configuration should be done before OAM Integration.

  You may want to use the same LDAP Server for WebCenter Sites and OAM if user duplication is an issue.

- The Oracle Access Manager Administration Console (OAMCONSOLE) application is required to perform a majority of the setup activities. Ensure you have permission to use this facility.

The integration procedure is a set of manual steps to be completed as described in the rest of this chapter.

23.3.2 Integration Steps

For a Sites delivery environment, use a separate OHS instance and perform the steps below, creating and configuring an additional WebGate, host identifier, authentication scheme, and application domain.

To integrate OAM, complete the following:

1. Define WebCenter Sites users in the OAM User Identity Store.

   Note: OAM is used for authentication only and does not rely on OAM authorization. While Oracle Internet Directory, Oracle Directory Server, and others can be used as user identity stores, Oracle WebLogic Embedded LDAP is the default, and is the user identity store used throughout the rest of this chapter. User names must match the user names located in the WebCenter Sites SystemUsers table.

   OAM provides enforcement of authentication and authorization policies. WebCenter Sites uses only the authentication policies to protect resources. WebCenter Sites uses its own authorization policies.

   User names in Oracle WebLogic Embedded LDAP must match the user names located in the WebCenter Sites `SystemUsers` table. The steps for adding users to WebLogic Embedded LDAP are as follows:

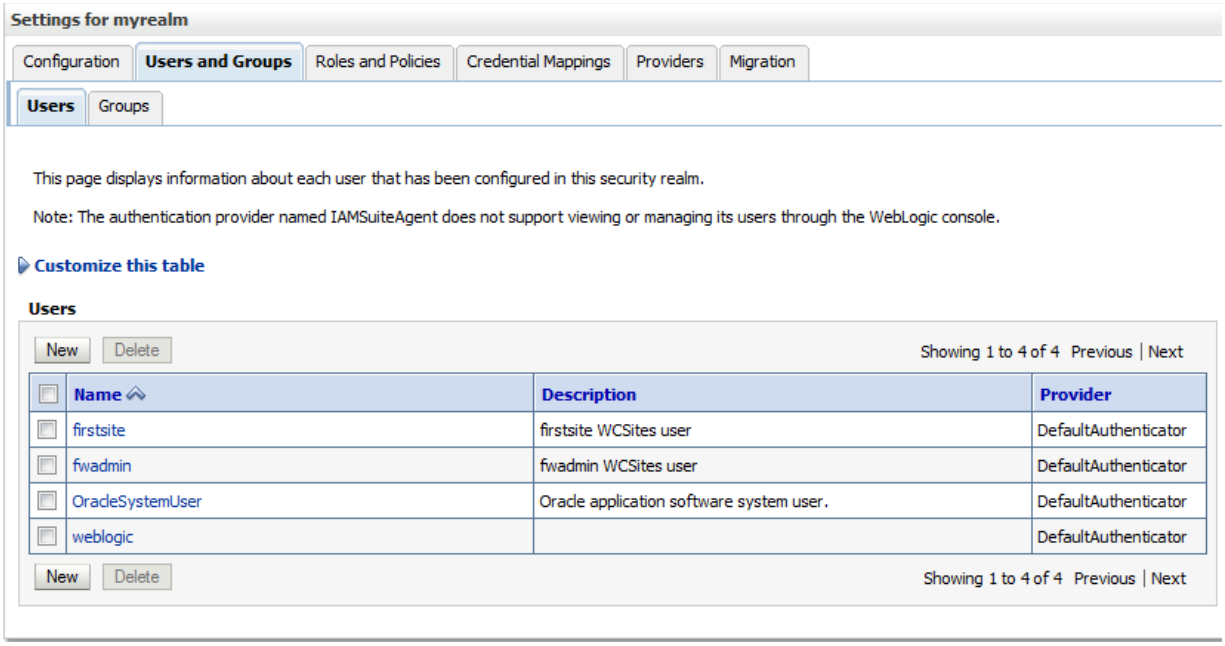
   a. Log in to WebLogic Admin Console.

   b. Click **Security Realms**.

   c. Click **myrealm**.

   d. Select the **Users and Groups** tab (Figure 23–2).

Figure 23–2 Settings for myrealm - Users and Groups Tab



e. For each user to be added (Figure 23–3), complete the following steps:

a. Click **New**.

b. Enter the user name.

c. Enter a description for the user.

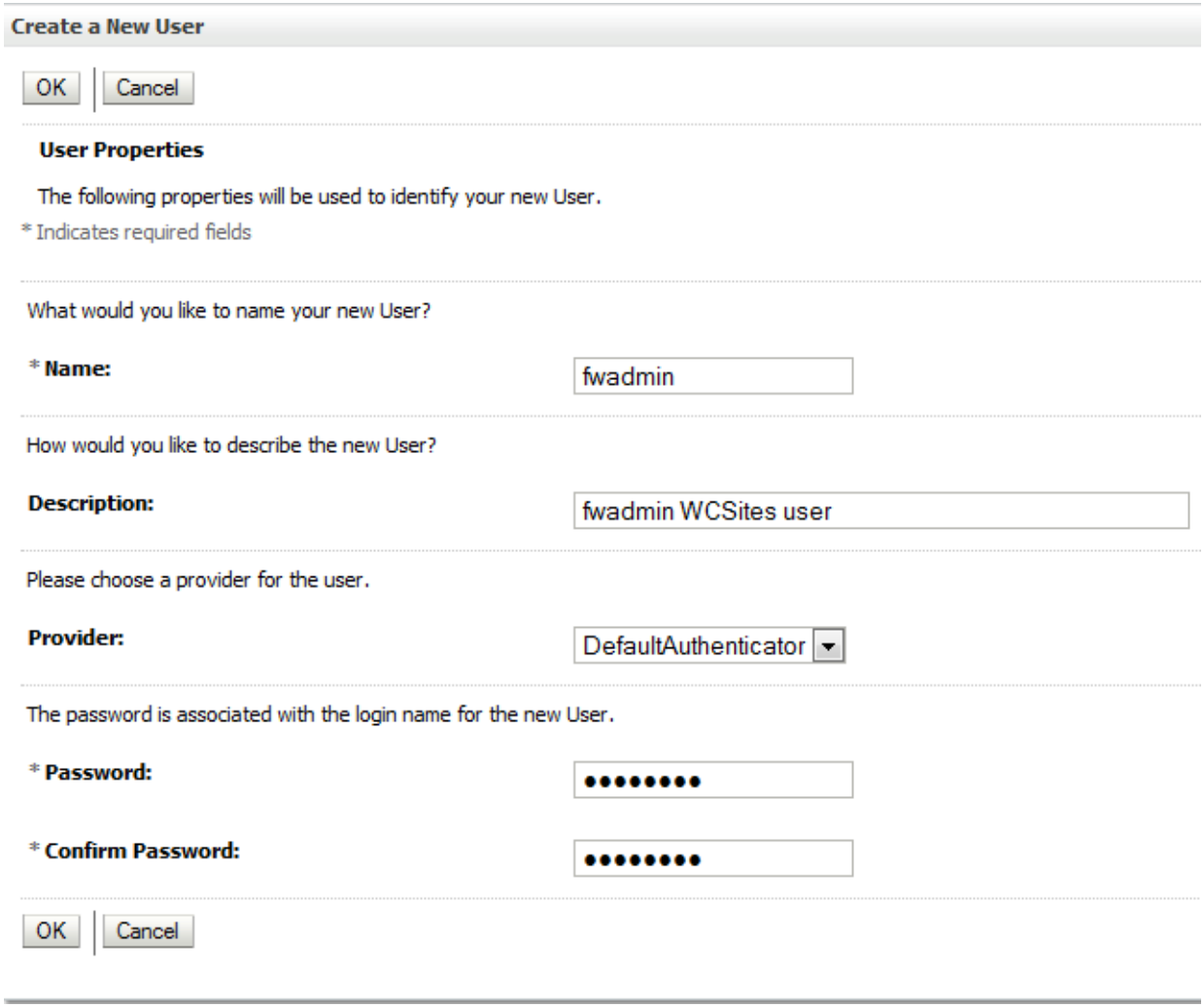
d. Select **DefaultAuthenticator** for Provider.

e. Enter a password for the user.

f. Re-enter the password for the user.

g. Click **OK**.

Figure 23–3 Create a New User Screen

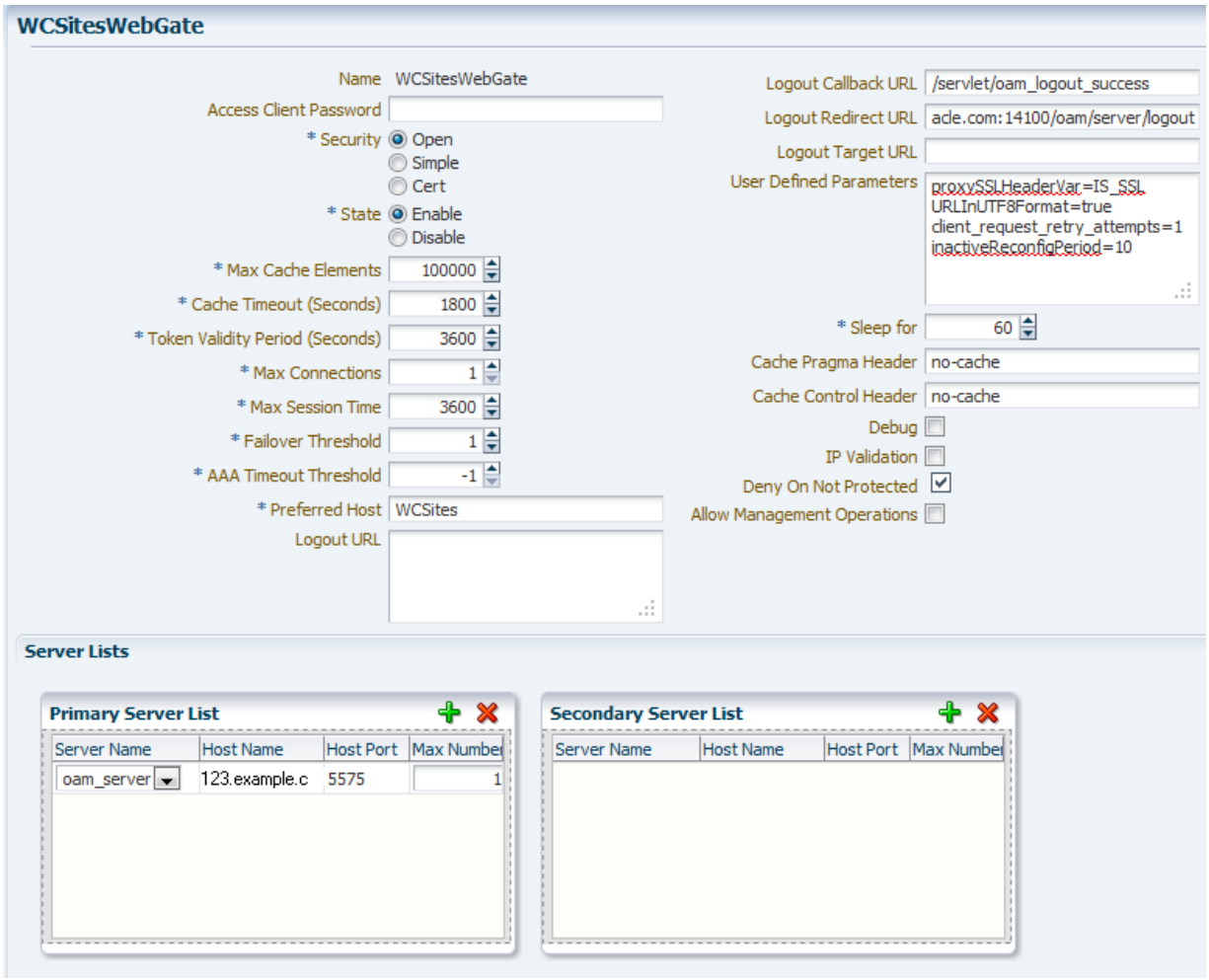


2. Create an OAM WebGate Agent for deployment on OHS (Figure 23–4).
   a. Log in to the OAM Console application.

      `http://<oam_server_host>:<weblogic_admin_port>/oamconsole`

   b. Select the **System Configuration** tab.
   c. Under SSO Agents, click **New OAM 11g Webgate**.
   d. For Name, enter a name for the WebGate. This guide will use `WCSitesWebGate`.
   e. For Preferred Host, enter a name for the Host Identifier to be created, and click Apply. The guide will use `WCSites`.
   f. For Logout Callback URL, enter `/<sites_context_root>/oam_logout_success` and click **Apply**.

Figure 23–4 WCSitesWebGate



> **Note:** With the WCSitesWebGate creation, the WCSites host identifier and the WCSitesWebGate application domain will also be created.

3. Configure the host identifier for WebCenter Sites.
   a. Click the **Policy Configuration** tab and click the **Refresh** icon. Under **Host Identifiers**, you should see WCSites.
   b. Double-click **WCSites**.
   c. For Description, enter `This is the host identifier for WebCenter Sites.`
   d. On the operations panel, click the **Add** (+) icon. For **Host Name**, enter the OHS server hostname. For **Port**, enter the OHS server port.

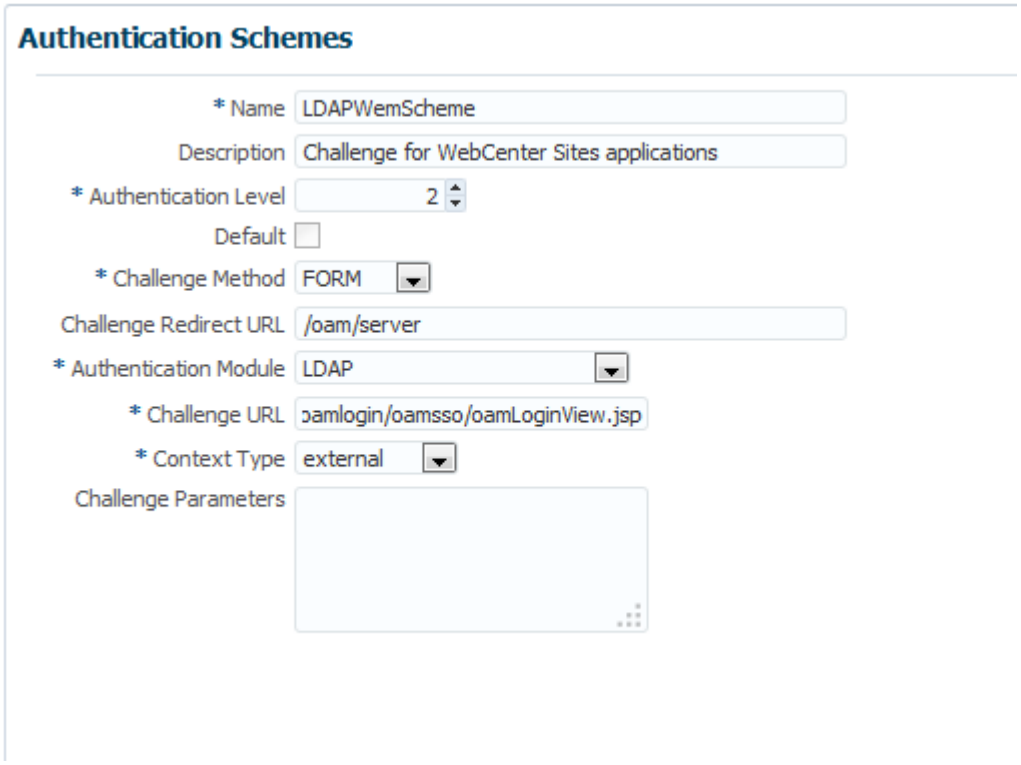
      If you are using multiple hosts in a load balancing arrangement, repeat this step for each OHS instance.
   e. Click **Apply**.
4. Create an authentication scheme that redirects to the WebCenter Sites challenge page.

Note: This step is optional and can be skipped if using the default OAM login form or another custom login form.

a. Click **Authentication Schemes**, and then click the **Create** icon.

The Authentication Schemes form is displayed.

Figure 23–5 Authentication Schemes form



b. For **Name**, enter a name for the authentication scheme to be created. This guide will use `LDAPWemScheme`

c. For **Description**, enter `Challenge for WebCenter Sites applications`

d. For **Authentication Level**, enter `2`

e. For **Challenge Method**, select `FORM`

f. For **Challenge Redirect URL**, enter `/oam/server`

g. For **Authentication Module**, select `LDAP`

h. For **Challenge URL**, use the host and port that will be used to access the oamlogin application after it is deployed. Enter `http://<oamlogin_server_host>:<oamlogin_port>/oamlogin/oamsso/oamLoginView.jsp`

i. For **Context Type**, select `external`

j. Click **Apply**.

5. In steps 5-6, you will be configuring the WCSitesWebGate application domain created during WebGate creation. The Protected Resource Policy authentication policy forces a challenge for any of its resources that are accessed without

authentication. The policy allows all resources to be passed by the WebGate to the WebCenter Sites application so authorization can be handled.

Configure the Protected Resource Policy

a. Open the Protected Resource Policy

   For 11.1.1.x.0:

   Expand **Application Domains**.

   Expand **WCSitesWebGate**.

   Expand **Authentication Policies**.

   Double-click **Protected Resource Policy**.

   For 11.1.2.1.0:

   Click **Application Domains** and click the **Open** icon.

   Click **Search**.

   Click **WCSitesWebGate**.

   Click the **Authentication Policies** tab.

   Click **Protected Resource Policy**.

b. For **Authentication Scheme**, select `LDAPWemScheme`, the authentication scheme previously created.

c. Click the **Responses** tab.

d. Select the **Identity Assertion** checkbox.

   When an Authentication policy is satisfied, it can create responses. The responses are required by the WebCenter Sites HTTP filter to recognize LDAP attributes and provide information about the authenticated user. In the following steps, you will create these responses.

e. Click the **Add** (+) icon.

f. For **Name**, enter `FATGATE_POLICY`

g. For **Type**, select `Header`

h. For **Value**, enter `protected`.

i. Click the **Add** (+) icon.

j. For **Name**, enter `FATGATE_EMAIL`.

k. For **Type**, select `Header`

l. For **Value**, enter `$user.attr.mail`

m. Click **Apply**.

6. Create resource definitions for the WebCenter Sites application domain.

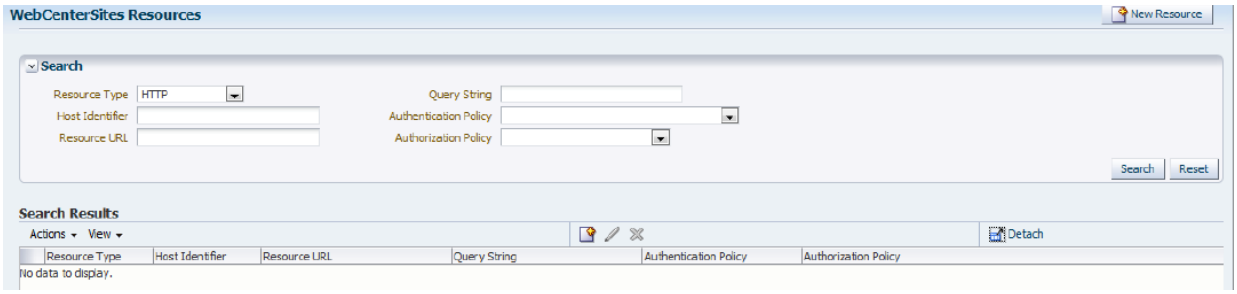
   a. Open Resources

      For OAM 11.1.1.x.0, double-click **Resources**.

      For OAM 11.1.2.1.0, click the **Resources** tab.

      This panel will display only the resources that match the search criteria. Each time a new resource is added, the **Search** button must be clicked for the resource to appear in the **Search Results** list.

Figure 23–6 Resources - New Resource



b. Click **New Resource** to open the **Create Resource** panel.

c. For **Resource Type**, select `HTTP`

d. For **Host Identifier**, select `WCSites`, the host identifier configured in step 3.

e. Enter a **Resource URL**.

f. Select a **Protection Level**.

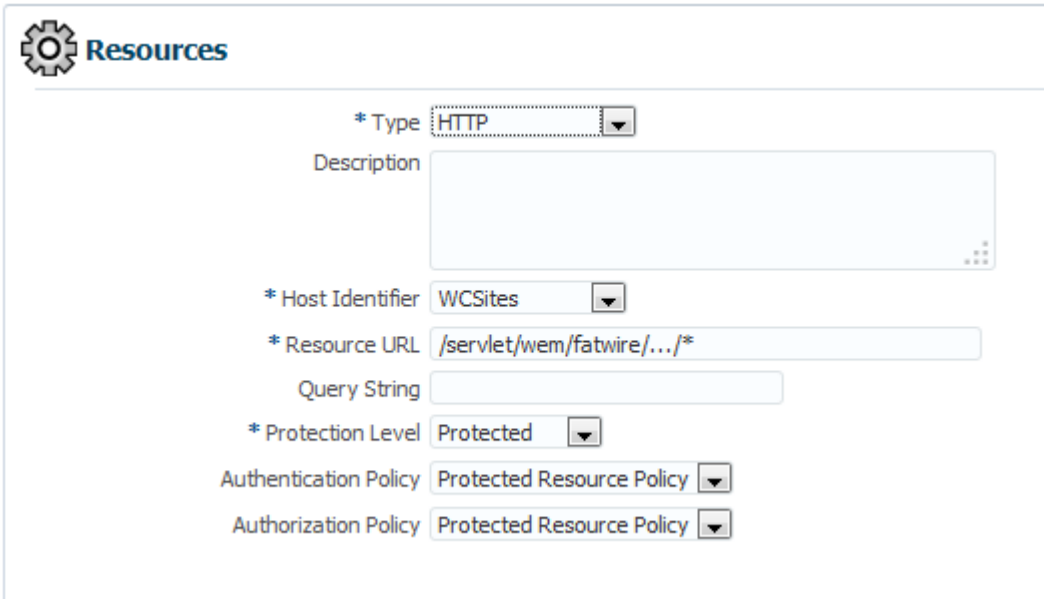
If selecting `Excluded`, skip steps g and h.

g. For **Authentication Policy**, if selecting `Protected` in step f, select `Protected Resource Policy`

h. For **Authorization Policy**, if selecting `Protected` in step f, select `Protected Resource Policy`

i. Click **Apply**.

Figure 23–7 Resources



j. Repeat steps b through i using the list of resources in Table 23–1.

Note: Any resources with a policy are Protected. The remaining resources are Excluded.

Table 23–1 Resources

Resource URL	Protection Level	Authentication	Authorization
/index.html	Excluded	NA	NA
/oamlogin/oamsso/…/*	Excluded	NA	NA
/<sites_context_root> (OAM 11.1.1.x.0 only)	Excluded	NA	NA
/<sites_context_root>/…/* (OAM 11.1.1.x.0 only)	Excluded	NA	NA
/<sites_context_root>/** (OAM 11.1.2.1.0 only)	Excluded	NA	NA
/ (OAM 11.1.1.x.0 only)	Protected	Protected	Protected
/…/* (OAM 11.1.1.x.0 only)	Protected	Protected	Protected
/** (OAM 11.1.2.1.0 only)	Protected	Protected	Protected
/oamlogin/test	Protected	Protected	Protected
/<sites_context_root>/wem/fatwire/…/*	Protected	Protected	Protected
/<sites_context_root>/faces/jspx/…/*	Protected	Protected	Protected
/<sites_context_root>/Satellite/…/*	Protected	Protected	Protected
/<sites_context_root>/ContentServer/…/*	Protected	Protected	Protected
/<sites_context_root>/Xcelerate/LoginPage.html	Protected	Protected	Protected

k. After all resources are added, compare the list of defined resources with Table 23–1 to ensure all policies are properly defined. Make sure all trailing /…/ contain three periods. Make sure each Resource URL is entered in the exact case. The WebCenter Sites application will not work properly if these policies are not entered correctly.

7. Modify the `mod_wl_ohs.conf` OHS plugin configuration file:

> **Note:** Make sure the OHS server is shutdown.

```
export ORACLE_INSTANCE=<ohs_oracle_home>
```

For example:

```
export ORACLE_INSTANCE=/u01/software/Apps/OraMiddleware/Oracle_WT1

<ohs_oracle_home>/bin/opmnctl stopproc ias-component=ohs1
```

This file is located in the WebGate instance directory.

For example:

```
/u01/software/Apps/OraMiddleware/Oracle_
WT1/instances/instance1/config/OHS/ohs1/mod_wl_ohs.conf
```

Consider this template for modification:

```
# NOTE : This is a template to configure mod_weblogic.

LoadModule weblogic_module   "${ORACLE_HOME}/ohs/modules/mod_wl_ohs.so"

# This empty block is needed to save mod_wl related configuration from EM to
# this file when changes are made at the Base Virtual Host Level
<IfModule weblogic_module>
#      WebLogicHost <WEBLOGIC_HOST>
#      WebLogicPort <WEBLOGIC_PORT>
#      Debug ON
#      WLLogFile /tmp/weblogic.log
#      MatchExpression *.jsp
</IfModule>

<IfModule weblogic_module>
   <Location /oamlogin>
      SetHandler weblogic-handler
      WebLogicHost {oamlogin_server_host}
      WebLogicPort {oamlogin_port}
   </Location>
</IfModule>

<IfModule weblogic_module>
   <Location /{sites_context_root}>
      SetHandler weblogic-handler
      WebLogicHost {sites_server_host}
      WebLogicPort {sites_port}
   </Location>
</IfModule>

# <Location /weblogic>
#      SetHandler weblogic-handler
#      PathTrim /weblogic
#      ErrorPage  http:/WEBLOGIC_HOME:WEBLOGIC_PORT/
#  </Location>
```

Note: Make sure there is an include statement in the `http.conf` files for the `mod_wl_ohs.conf` file.

For example:

```
include "/u01/software/Apps/OraMiddleware/Oracle_
WT1/instances/instance1/config/OHS/ohs1/mod_wl_ohs.conf"
```

---

8. Copy the WebGate configuration files (`ObAccessClient.xml` and `cwallet.sso`) to the WebGate instance:

```
cp <oam_domain_home>/output/<webgate_name>/* <webgate_instance_
dir>/webgate/config
```

For example:

```
cp /u01/software/Apps/OraMiddleware/user_
projects/domains/OAMDomain/output/WCSitesWebGate/*
```

```
/u01/software/Apps/OraMiddleware/Oracle_
WT1/instances/instance1/config/OHS/ohs1/webgate/config
```

9. Start the OHS server:

   ```
   export ORACLE_INSTANCE=<ohs_oracle_home>
   ```

   For example:

   ```
   export ORACLE_INSTANCE=/u01/software/Apps/OraMiddleware/Oracle_WT1
   <ohs_oracle_home>/bin/opmnctl startproc ias-component=ohs1
   ```

10. Deploy the `oamtoken.war` file:

    a. Create a directory where the `oamtoken.war` file will be deployed from, and explode the `oamtoken.war` file into the directory from the `wem` directory of the WebCenter Sites installer.

       For example:

       ```
       mkdir /u01/software/Apps/OraMiddleware/user_
       projects/domains/OAMSitesDomain/applications/oamtoken
       cd /u01/software/Apps/OraMiddleware/user_
       projects/domains/OAMSitesDomain/applications/oamtoken
       jar -xvf /u01/installation_files/Sites/wem/oamtoken.war
       ```

    b. Modify the `oamtoken.xml` file located in the `WEB-INF/classes` directory of the exploded oamtoken web application.

       For OAM 11.1.1.5.0, set the value of `compatibilityMode` to `10G`.

       For OAM 11.1.1.7.0 and 11.1.2.1.0, set the value of `compatibilityMode` to `11G`.

    c. Copy the WebGate configuration files (`ObAccessClient.xml` and `cwallet.sso`) created in step 2 to the `WEB-INF/oblix/lib` directory of the exploded oamtoken web application.

       Overwrite any existing file.

       The WebGate configuration files are located in the `<oam_domain_home>/output/<webgate_name>` directory on the system where OAM is deployed.

       For OAM 11.1.1.5.0, skip steps d through f.

    d. Copy the `jps-config.xml` file from the config directory of the exploded oamtoken web application to `<oamtoken_domain_home>/config`.

    e. Modify the file copied in step d, changing the value of the location parameter to the path of the directory where the `cwallet.sso` file is located.

       For example:

       ```
       ../applications/oamtoken/WEB-INF/oblix/lib
       ```

    f. Modify the `weblogic.policy` file located in the `<weblogic_home>/server/lib` directory on the host where oamtoken will be deployed.

       Add the following lines after the beginning commented section of the file, setting the file value to the path of `WEB-INF/lib/*` in the exploded oamtoken web application:

       ```
       // grant permission for oamtoken
       grant codebase "file:<path_to_exploded_oamtoken_app>/WEB-INF/lib/*" {
           permission
       ```

```
oracle.security.jps.service.credstore.CredentialAccessPermission
    "context=SYSTEM,mapName=OAMAgent,keyName=*", "read";
};
```

g. Deploy the exploded oamtoken web application.

Note: On WebLogic, make the deployment accessible from the current location.

The servlet contained in the oamtoken web application may be called with visible username and password credentials. It is recommended to deploy the application as a secured web application user SSL.

---

11. Deploy the `oamlogin.war` file. This web application contains the WebCenter Sites challenge page.

Note: This step is optional and can be skipped if using the default OAM login form or another custom login form

---

a. Create a directory where the `oamlogin.war` file will be deployed from, and explode the `oamlogin.war` file into the directory from the `wem` directory of the WebCenter Sites installer.

For example:

```
mkdir /u01/software/Apps/OraMiddleware/user_
projects/domains/OAMSitesDomain/applications/oamlogin
cd /u01/software/Apps/OraMiddleware/user_
projects/domains/OAMSitesDomain/applications/oamlogin
jar -xvf /u01/installation_files/Sites/wem/oamlogin.war
```

b. Create a file named `wemsites_settings.properties` in the `WEB-INF/classes` directory of the exploded oamlogin web application, using the code below. Replace the variables with the correct values for your environment:

```
oamredirect=http://<oam_server_host>:<oam_port>/oam/server/auth_cred_submit
oamlogout=http://<oam_server_host>:<oam_port>/oam/server/logout
forgotpassword=<email_account>@<email_domain>
```

If the oamredirect property is not configured correctly, the username and password will fail to authenticate.

c. Deploy the exploded oamlogin web application. On WebLogic, make the deployment accessible from the current location.

12. Modify the `SSOConfig.xml` file of the WebCenter Sites deployment. This file controls which authentication classes are loaded and the properties that are required by those classes.

1. Shutdown the Sites server.

2. Back up the `SSOConfig.xml` file, located in the `WEB-INF/classes` directory of the deployed WebCenter Sites application.

For example:

```
/u01/software/Apps/OraMiddleware/user_
projects/domains/OAMSitesDomain/applications/Sites/WEB-INF/classes/SSOConfi
g.xml
```

Modify SSOConfig.xml to look like the following:

Note: In the file below, you will set the following properties: serviceUrl, ticketUrl, signoutURL, dbUsername, dbPassword, and trustConfigured.

The signoutUrl property specifies the URL to be used when invoking WebCenter Sites logout. It includes the encoded URL where the browser will return after all logout processing has been completed by OAM.

For Sites management, use the following value for end_url:

```
http%3A%2F%2F{ohs_server_host}%3A{ohs_port}%2F{sites_context_
root}%2Fwem%2Ffatwire%2Fwem%2FWelcome
```

For Sites delivery, use the following value for end_url:

```
http%3A%2F%2F{ohs_server_host}%3A{ohs_port}%2F{sites_context_
root}%2FXcelerate%2FLoginPage.html
```

For the dbUsername and dbPassword properties, you can enter the credentials of the WebCenter Sites general administrator (by default, fwadmin / xceladmin). The values for these properties will be encrypted on startup of the WebCenter Sites application.

If a trust relationship is established between the WebLogic Server and the OHS WebGate, you can set the ssofilter bean's trustConfigured property to true to eliminate the requirement for an OAM Identity Assertion with every request.

```
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:context="http://www.springframework.org/schema/context"
    xsi:schemaLocation="
        http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/spring-beans-2.5.xsd
        http://www.springframework.org/schema/context
http://www.springframework.org/schema/context/spring-context-2.5.xsd">

  <!-- Single Sign On provider -->
  <bean id="ssoprovider" class="com.fatwire.wem.sso.oam.OAMProvider">
    <property name="config" ref="ssoconfig" />
  </bean>
  <!-- OAM IdentityResolver bean -->
  <bean id="oamIdentity"
class="com.fatwire.auth.identity.LocalUsernameResolver" />

  <!-- Single Sign On filter -->
  <bean id="ssofilter" class="com.fatwire.wem.sso.oam.filter.OAMFilter">
    <property name="config" ref="ssoconfig" />
    <property name="provider" ref="ssoprovider" />
    <property name="identityResolver" ref="oamIdentity" />
    <property name="trustConfigured" value="false" />
  </bean>

  <!-- Single Sign On listener -->
  <bean id="ssolistener" class="com.fatwire.wem.sso.oam.listener.OAMListener">
  </bean>
```

```
  <!-- Single Sign On configuration -->
  <bean id="ssoconfig" class="com.fatwire.wem.sso.oam.conf.OAMConfig">
    <!-- URL prefix for REST service endpoint -->
    <property name="serviceUrl" value="http://{ohs_server_host}:{ohs_
port}/{sites_context_root}/REST" />
    <!-- URL prefix for Token Service servlet -->
    <property name="ticketUrl" value="http://{oamtoken_server_host}:{oamtoken_
port}/oamtoken" />
    <!-- URL to be called when WEM logout is required. -->
    <property name="signoutUrl" value="http://{oam_server_host}:{oam_
port}/oam/server/logout?end_url={end_url}" />
    <!-- Do not proxy tickets, tt's the last server in the call chain -->
    <property name="proxyTickets" value="false" />
    <!-- Database Credentials needed by user lookup in OAMFilter -->
    <property name="dbUsername" value="{sites_admin_user} " />
    <property name="dbPassword" value="{sites_admin_password}" />
    <!-- Your application protected resources (relative to applicationUrl) -->
    <property name="protectedMappingIncludes">
      <list>
                <value>wem/fatwire/**</value>
                <value>/faces/jspx/**</value>
<value>/ContentServer?[pagename=OpenMarket/Xcelerate/UIFramework/LoginPage|Open
Market/Xcelerate/UIFramework/ShowMainFrames|fatwire/getAllUserGroups|fatwire/ge
tAllSecurityConfigs|rest/asset,#]</value>

<value>Satellite?[pagename=fatwire/insitetemplating/request|OpenMarket/Xcelerat
e/ControlPanel/Request|OpenMarket/Xcelerate/ControlPanel/EditPanel|fatwire/wem/
ui/Ping|fatwire/wem/sso/validateMultiticket|OpenMarket/Xcelerate/UIFramework/Sh
owPreviewFrames,#]</value>

<value>Xcelerate/LoginPage.html</value>
      </list>
    </property>
    <property name="protectedMappingStatelessIncludes">
      <list>
                <value>/REST/**</value>
      </list>
    </property>
    <!-- Your application protected resources excludes (relative to
applicationUrl) -->
    <property name="protectedMappingExcludes">
      <list>
                <value>/wem/fatwire/wem/ui/SysLocStrSvc</value>
      </list>
    </property>
  </bean>

</beans>
```

13. Configuration is now complete and OAM will authenticate users of the WebCenter Sites content management and development installations.

    You may now start the remaining servers.

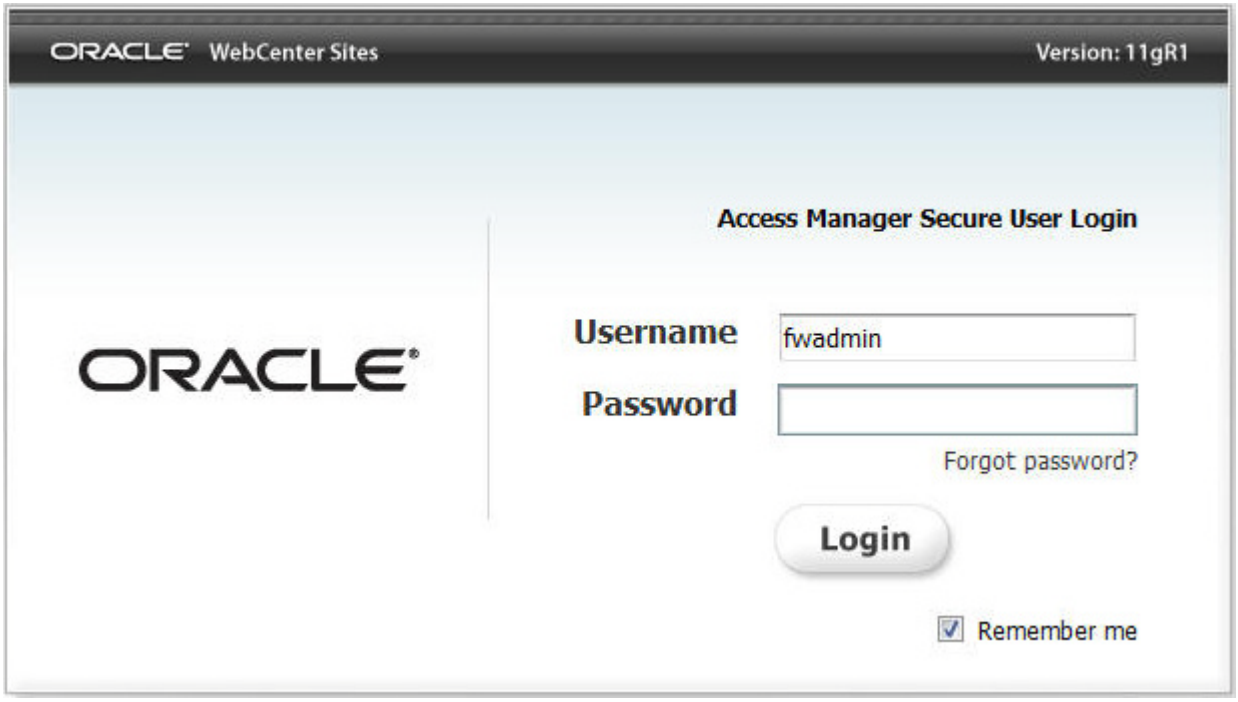
14. This step is optional and can be performed only if you have deployed the `oamlogin.war` file.

    a. Enter the following URL on any browser:

    ```
    http(s)://<ohs_server_host>:<ohs_port>/oamlogin/test
    ```

If the system is operating properly you should see the WebCenter Sites challenge form (Figure 23–8).

Figure 23–8 Access Manager Secure User Login Form



b. Enter the user name and password and then click Login. Remember that the password is defined in LDAP and not the WebCenter Sites database.

c. When the system is working properly a test page will appear that displays all the information provided by the WebGate. This includes the Responses specified in the policies you have created. Refresh this page and it will redisplay updated information.

d. Click Logoff on the test form. The standard OAM logoff acknowledgement form opens.

e. Re-enter the URL to display the custom challenge form.

Carefully review the configuration to ensure the expected results.

23.3.3 Allowing Anonymous Access to External Users

An anonymous user is required to provide access to external users to view pages stored on a management system. For example, to access a development site located on an OAM-integrated management server for testing purposes.

1. Add a user called `Anonymous` to the WebCenter Sites `SystemUsers` table.
2. Modify OAM authentication policy to remove `/<context>/Satellite/*` resource from that policy.
3. Recycle Oracle Http Server (OHS) to apply this change.
4. In the `/cs/WEB-INF/classes` folder, modify the `satellite.properties` file to set `port=` and `host=` to OHS location. This is necessary as the default `localhost:80` causes errors.

23.4 Integrating OAM with Oracle WebCenter Sites: Satellite Server

Configuring a Satellite Server for Oracle Access Manager integration is a simpler procedure than for WebCenter Sites. The procedure outlined in this section is specific to configuring a single Satellite Server, but the process is the same for additional Satellite Servers.

This section includes the following topics:

23.4.1 Before You Start

Ensure the following actions are complete before integrating Satellite Server:

- Oracle Access Manager is installed and running.
- WebCenter Sites has been successfully integrated with OAM.
- Satellite Server is installed.

23.4.2 Integration Steps

In these steps, you will modify the `SSOConfig.xml` file of the WebCenter Sites SatelliteServer deployment. This file controls which authentication classes are loaded and the various properties that are required by those classes.

1. Shut down the server where SatelliteServer is deployed.
2. Back up the `SSOConfig.xml` file, located in the deployed `WEB-INF/classes` directory of the deployed WebCenter Sites SatelliteServer application.

   For example:

   ```
   /u01/software/Apps/OraMiddleware/user_projects/domains/OAMSitesDomain
       /applications/SatelliteServer/WEB-INF/classes/SSOConfig.xml
   ```

3. Modify `SSOConfig.xml` to look like the file shown below.

   Note: In the file below, you will set the following properties: `serviceUrl`, `ticketUrl`, and `signoutURL`.

   The `signoutUrl` property specifies the URL to be used when invoking WebCenter Sites logout. It includes the encoded URL where the browser will return after all logout processing has been completed by OAM.

   If a trust relationship is established between the WebLogic Server and the OHS WebGate, you can set the `ssofilter` bean's `trustConfigured` property to `true` to eliminate the requirement for an OAM Identity Assertion with every request.

```
<?xml version="1.0" encoding="UTF-8"?>
<beans xmlns="http://www.springframework.org/schema/beans"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xmlns:context="http://www.springframework.org/schema/context"
    xsi:schemaLocation="http://www.springframework.org/schema/beans
http://www.springframework.org/schema/beans/spring-beans-2.5.xsd
        http://www.springframework.org/schema/context
http://www.springframework.org/schema/context/spring-context-2.5.xsd">
```

```
   <!-- Single Sign On provider -->
   <bean id="ssoprovider" class="com.fatwire.wem.sso.oam.OAMProvider">
   <property name="config" ref="ssoconfig" />
  </bean>

  <!-- OAM IdentityResolver bean -->
  <bean id="oamIdentity"
class="com.fatwire.auth.identity.RemoteUsernameResolver id="oamIdentity">
    <property="csServerUrl" value="http://<sites_server_host>:<sites_
port>/<sites_context_root>/custom/customCsResolver.jsp
  </bean>

  <!-- Single Sign On filter -->
  <bean id="ssofilter" class="com.fatwire.wem.sso.oam.filter.OAMFilter">
    <property name="config" ref="ssoconfig" />
    <property name="provider" ref="ssoprovider" />
    <property name="identityResolver" ref="oamIdentity" />
    <property name="trustConfigured" value="false" />
  </bean>

  <!-- Single Sign On listener -->
  <bean id="ssolistener" class="com.fatwire.wem.sso.oam.listener.OAMListener">
  </bean>

  <!-- Single Sign On configuration -->
  <bean id="ssoconfig" class="com.fatwire.wem.sso.oam.conf.OAMConfig">
    <!-- URL prefix for REST service endpoint -->
    <property name="serviceUrl" value="http://{ohs_server_host}:{ohs_
port}/{sites_context_root}/REST" />
    <!-- URL prefix for Token Service servlet -->
    <property name="ticketUrl" value="http://{oamtoken_server_host}:{oamtoken_
port}/oamtoken" />
    <!-- URL to be called when WEM logout is required. -->
    <property name="signoutUrl" value="http://{oam_server_host}:{oam_
port}/oam/server/logout?end_url=http%3A%2F%2F{ohs_server_host}%3A{ohs_
port}%2F{sites_context_root}%2Fwem%2Ffatwire%2Fwem%2FWelcome" />
    <!-- Proxy tickets, tt's the last server in the call chain -->
    <property name="proxyTickets" value="true" />
    <!-- Your application protected resources (relative to applicationUrl) -->
    <property name="protectedMappingIncludes">
      <list>
      </list>
    </property>
    <property name="protectedMappingStatelessIncludes">
      <list>
                <value>/REST/**</value>
      </list>
    </property>
    <!-- Your application protected resources excludes (relative to
applicationUrl) -->
    <property name="protectedMappingExcludes">
      <list>
      </list>
    </property>
  </bean>

</beans>
```

Ensure that the `proxyTickets` parameter is set to `true`. This is required so that Satellite Server will pass authenticated tickets allocated by REST client programs to WebCenter Sites.

The location of the REST endpoint (defined by the `serviceUrl` property) depends on the location of the Satellite Server. When located inside the firewall, it can refer directly to the WebCenter Sites to achieve the highest performance without compromising security. When the Satellite Server is located elsewhere, or exposed directly to the Internet, the endpoint must direct all requests through the OHS to secure and protect WebCenter Sites.

An advanced configuration using OHS in front of Satellite Server is an alternative way of securing the WebCenter Sites configurations. This configuration would access the WebCenter Sites.

24

Enabling Community-Gadgets to Communicate with OAM-Integrated WebCenter Sites

Oracle WebCenter Sites can be integrated with Oracle Access Manager (OAM) instead of CAS to make use of its authentication and single sign-on services. If Community-Gadgets is also installed, it must be enabled to communicate with WebCenter Sites through its OAM, as described in this chapter.

This chapter contains the following sections:

24.1 Before You Start

Before configuring support for communications between Community-Gadgets and OAM-integrated WebCenter Sites, ensure the following:

- WebCenter Sites management and production installations are fully functional. Also, WebCenter Sites is (or will be) successfully integrated with OAM.
- The Community-Gadgets `war/ear` files have been generated, as described in the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

If the above conditions hold, complete the steps in this chapter as follows:

- If the management WebCenter Sites is OAM-integrated, complete the steps in Section 24.2, "Enabling Communication with the OAM-Integrated Management WebCenter Sites." Follow up with Section 24.4, "Next Step."
- If the production WebCenter Sites is OAM-integrated, complete the steps in Section 24.3, "Enabling Communication with the OAM-Integrated Production WebCenter Sites." Follow up with Section 24.4, "Next Step."
- If the management and production WebCenter Sites systems are OAM-integrated, complete the steps in Section 24.2, "Enabling Communication with the OAM-Integrated Management WebCenter Sites" and

  Section 24.3, "Enabling Communication with the OAM-Integrated Production WebCenter Sites." Follow up with Section 24.4, "Next Step."

24.2 Enabling Communication with the OAM-Integrated Management WebCenter Sites

If your management WebCenter Sites is integrated with OAM, complete the steps in this section. This section contains the following topics:

- Section 24.2.1, "Updating the Management OAM-WebCenter Sites Configuration to Support Community-Gadgets"
- Section 24.2.2, "Configuring Community-Gadgets to Use the OAM-Integrated Management WebCenter Sites"

24.2.1 Updating the Management OAM-WebCenter Sites Configuration to Support Community-Gadgets

In this step, you will first add management Community-Gadgets resource definitions to the OAM configuration for the WebCenter Sites management application, and then register the WebLogic managed server (where management Community-Gadgets is deployed) with Oracle HTTP Server.

This section contains the following topics:

- Section 24.2.1.1, "Adding the Management Community-Gadgets Resource Definitions to the OAM-WebCenter Sites Configuration"
- Section 24.2.1.2, "Enabling Identity Assertion for the Authorization Policy"
- Section 24.2.1.3, "Registering the WebLogic Managed Server for the Management Community-Gadgets with Oracle HTTP Server"
- Section 24.2.1.4, "Increasing Maximum Number of Sessions"

24.2.1.1 Adding the Management Community-Gadgets Resource Definitions to the OAM-WebCenter Sites Configuration

Add the management Community-Gadgets resource definitions listed in Table 24–1 to OAM for the WebCenter Sites application domain. For information about how to add resource definitions to OAM, see Section 23.3.2, "Integration Steps."

Note: In the resource definitions (Table 24–1):

- Replace `<sites-context>` with the context root of the WebCenter Sites web application running on the management system.
- Replace `<cg-context>` with the context root of the Community-Gadgets application running on the management system.
- Replace `<shindig-context>` with the context root of the Shindig application running on the management system.

Table 24–1 Management Community-Gadgets Resource Definitions

Resource Definition	Protection Level	Authentication	Authorization
`/<sites-context>/custom/customCsResolver.jsp`	Unprotected	Public	All Allowed
`/<cg-context>/rest/sites/.../*`	Unprotected	Public	All Allowed
`/<cg-context>/rest/.../*`	Protected	Browser	All Allowed

Table 24–1 (Cont.) Management Community-Gadgets Resource Definitions

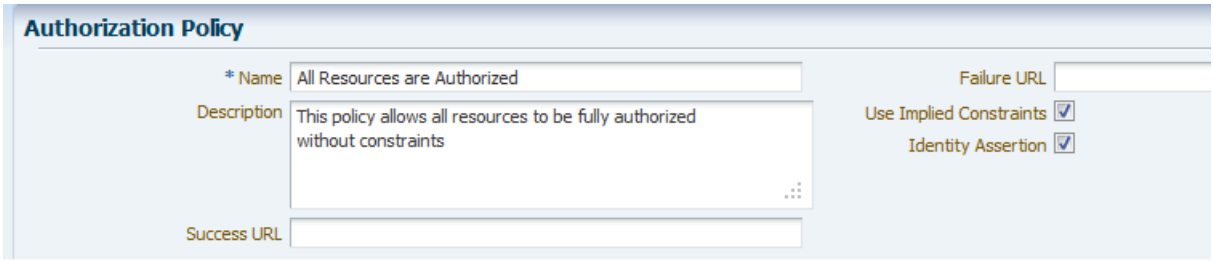
Resource Definition	Protection Level	Authentication	Authorization
/<cg-context>/sso/.../*	Protected	Browser	All Allowed
/<cg-context>/wsdk/.../*	Protected	Browser	All Allowed
/<cg-context>/cachetool/.../*	Protected	Browser	All Allowed
/<cg-context>/admin/registered/.../*	Protected	Browser	All Allowed
/<cg-context>/admin-gadgets/.../*	Protected	Browser	All Allowed
/<cg-context>/wsdk/widget/.../*	Excluded		
/<cg-context>/wsdk/skin/.../*	Excluded		
/<cg-context>/incache/.../*	Excluded		
/<cg-context>/rest/cache/.../*	Excluded		
/<cg-context>/styles/.../*	Excluded		
/<cg-context>/images/.../*	Excluded		
/<cg-context>/wemresources/.../*	Excluded		
/<cg-context>/admin-gadgets/images/.../*	Excluded		
/<cg-context>/admin-gadgets/js/.../*	Excluded		
/<cg-context>/admin-gadgets/styles/.../*	Excluded		
/<shindig-context>/.../*	Excluded		

24.2.1.2 Enabling Identity Assertion for the Authorization Policy

Configure Identity Assertion as follows for the authorization policy that is used for the WebCenter Sites application domain:

- If a trusted environment is not configured between Oracle WebLogic Server and Oracle HTP Server, select the Identity Assertion check box (shown in Figure 24–1).

Figure 24–1 Authorization Policy: Identity Assertion



- If a trusted environment is configured between Oracle WebLogic Server and Oracle HTP Server, leave the Identity Assertion check box deselected.

For information about establishing trust between Oracle WebLogic Server and other entities, see the *Oracle Fusion Middleware Application Security Guide*.

24.2.1.3 Registering the WebLogic Managed Server for the Management Community-Gadgets with Oracle HTTP Server

This step enables Oracle HTTP Server to forward requests to the WebLogic Server managed server instance for the management Community-Gadgets web application.

To register the WebLogic managed server on which the management Community-Gadgets is deployed:

1. Using a text editor, update the `mod_wl_ohs.conf` configuration file that was used during the OAM-WebCenter Sites integration, as follows:
   a. Locate the `mod_wl_ohs.conf` file for the Oracle HTTP Server instance, for example:

      ```
      /u01/software/Apps/OraMiddleware/asinst_1/config/OHS/ohs1/mod_wl_ohs.conf
      ```

   b. Add the following block of code to the `mod_wl_ohs.conf` file:

      ```
      <IfModule weblogic_module>
         <location /{management-community-gadgets-context-root}>
                SetHandler weblogic-handler
                WebLogicHost {hostname|IP of WebLogic server where management
      Community-Gadgets is deployed}
                WebLogicPort {port of WebLogic server where management
      Community-Gadgets is deployed}
      </location>
      </IfModule>

      <IfModule weblogic_module>
          <location /{management-shindig-context-root}>
              SetHandler weblogic-handler
              WebLogicHost {hostname|IP of WebLogic server where management
      Shindig is deployed}
              WebLogicPort {port of WebLogic server where management Shindig is
      deployed}
          </location>
      </IfModule>
      ```

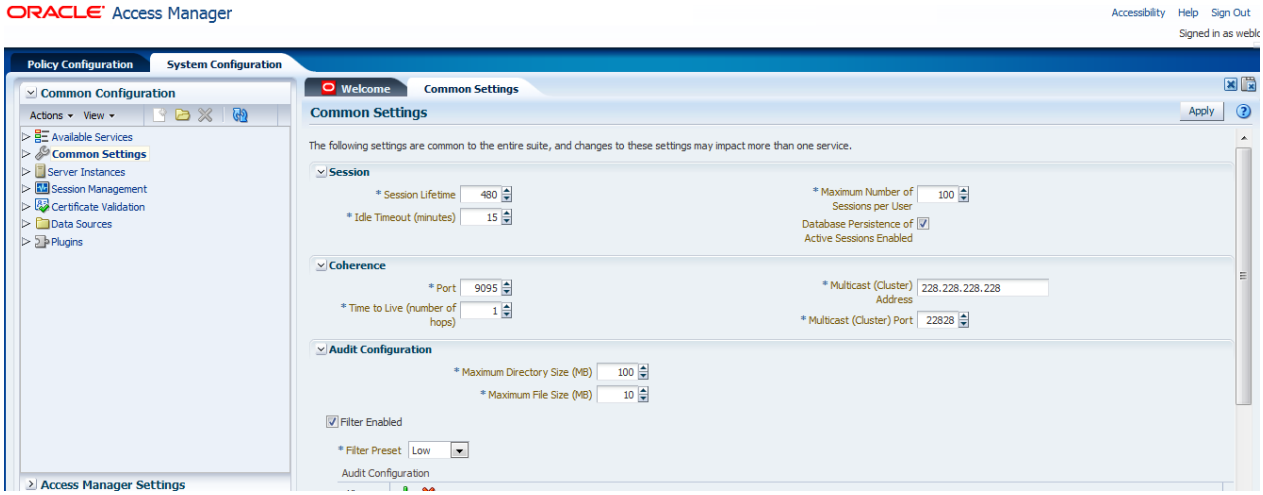
   c. Save the file.
2. Restart Oracle HTTP Server.

24.2.1.4 Increasing Maximum Number of Sessions

To increase the maximum number of sessions:

1. Log in to the OAM console.
2. Under **System Configuration**, click **Common Settings**.
3. For the **Maximum Number of Sessions per User** parameter, click the **Up** arrow to increase the number to `100` (Figure 24–2).

Figure 24–2 Maximum Number of Sessions Per User



24.2.2 Configuring Community-Gadgets to Use the OAM-Integrated Management WebCenter Sites

In this step, you will modify the Community-Gadgets configuration to use the management WebCenter Sites application that is integrated with OAM.

> **Note:** Steps in this section must be completed only on the management Community-Gadgets instance.

This section contains the following topics:

- Section 24.2.2.1, "Configuring wem_sso_config.xml"
- Section 24.2.2.2, "Adding the Oracle HTTP Server Address to Property Files"

24.2.2.1 Configuring wem_sso_config.xml

Community-Gadgets comes with the following SSO files: `wem_sso_config.xml` and `oam_wem_sso_config_sample.xml`. By default, Community-Gadgets uses the `wem_sso_config.xml` file to communicate with WebCenter Sites. Because the default file is set up to support communications with WebCenter Sites through CAS, you will use the `oam_wem_sso_config_sample.xml` file to create the `wem_sso_config.xml` file to support communications through the OAM that is integrated with WebCenter Sites. The files contain the following information:

- The `oam_wem_sso_config_sample.xml` file includes all the required configurations except those specific to environment credentials. Tokens are used in place of environment credentials.
- The `wem_sso_config.xml` file includes all the required WEM SSO and CAS configurations for Community-Gadgets.

To create and configure the `wem_sso_config.xml` file:

1. Go to the `<cg_install_dir>/deploy/management/management_node1` directory, or the directory that was created for your management Community-Gadgets during its installation. For information, see the section "Copying Installer-Generated Configuration Files" of the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

2. Back up the `wem_sso_config.xml` file by saving it as `wem_sso_config.xml.bak`.
3. Rename the `oam_wem_sso_config_sample.xml` file to `wem_sso_config.xml`.
4. In the new `wem_sso_config.xml` file, do the following:
   a. Replace the tokens, which are listed in Table 24–2, with the actual values for OAM.

Table 24–2 Tokens to Be Replaced in wem_sso_config.xml

Token	Description	Example
`{ohs_host}`	Host of Oracle HTTP Server used for proxying requests to WebCenter Sites	`ohs.example.com`
`{ohs_port}`	Port of Oracle HTTP Server used for proxying requests to WebCenter Sites	`7777`
`{sites_context_root}`	Context root of the WebCenter Sites application	`servlet`
`{wl_oamtoken_host}`	Host of the WebLogic managed server on which the `oamtoken` application is deployed	`oamtoken.example.com`
`{wl_oamtoken_port}`	Port of the WebLogic managed server on which the `oamtoken` application is deployed	`8003`
`{wl_oamserver_host}`	Host of the WebLogic managed server on which the OAM application is deployed	`oam.example.com`
`{wl_oamserver_port}`	Port of the WebLogic managed server on which the OAM application is deployed	`14100`
`{username}`	User name with authority to read the WebCenter Sites `SystemUser` table	`fwadmin`
`{password}`	Above user's password	`xceladmin`

Note: In Community-Gadgets, the `wem_sso_config.xml` file is configured to work with OAM-integrated WebCenter Sites. This file is similar (however, not the fully identical) to the `SSOConfig.xml` file in WebCenter Sites. Generally, the values of the `dbUsername` and `dbPassword` properties (presented in `wem_sso_config.xml` file as `{username}` and `{password}` tokens) should be identical in `wem_sso_config.xml` and `SSOConfig.xml`.

   b. If you are configuring a trusted environment between Oracle WebLogic Server and Oracle HTP Server, turn off the check for `OAM_ASSERTION` to improve performance.

      To turn off the check for `OAM_ASSERTION`, locate the `ssofilter` bean and set the value of the `trustConfigured` property to `true`.

   c. Save the file.

24.2.2.2 Adding the Oracle HTTP Server Address to Property Files

Completing this section is required only when WebCenter Sites is integrated with OAM *after* Community-Gadgets is installed. Property files are located in the `<cg_install_dir>/deploy/management/management_node1` directory or in the directory that was created for your management Community-Gadgets during its installation. For information, see the section "Copying Installer-Generated Configuration Files" of the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

1. Update the `setup_cs.properties` file by updating the value of the `widgets.cs.management.attrs.urls` parameters to use `{ohs_host)` and `{ohs_port}`.

   For example:

   ```
   widgets.cs.management.attrs.urls=http://{ohs_host}:{ohs_port}
   ```

2. Update the `setup_cos.properties` file as follows:

   - Update the `widgets.cos.management.attrs.url` parameter to use `{ohs_host}` and `{ohs_port}`

     For example:

     ```
     widgets.cos.management.attrs.url=http://{ohs_host}:{ohs_port}
     ```

   - Update the `widgets.gadgets.opensocial.management.attrs.url` parameter to use `{ohs_host}` and `{ohs_port}`.

     For example:

     ```
     widgets.gadgets.opensocial.management.attrs.url=http://{ohs_host}:{ohs_port}
     ```

24.3 Enabling Communication with the OAM-Integrated Production WebCenter Sites

If your production WebCenter Sites is integrated with OAM, complete the steps in this section. This section contains the following topics:

- Section 24.3.1, "Updating the Production OAM-WebCenter Sites Configuration to Support Community-Gadgets"
- Section 24.3.2, "Configuring Community-Gadgets to Use OAM-Integrated Production WebCenter Sites"

24.3.1 Updating the Production OAM-WebCenter Sites Configuration to Support Community-Gadgets

This section contains the following topics:

- Section 24.3.1.1, "Adding Production Community-Gadgets Resource Definitions to the OAM-WebCenter Sites Configuration"
- Section 24.3.1.2, "Enabling Identity Assertion for the Authorization Policy"
- Section 24.3.1.3, "Registering the WebLogic Managed Server for the Production Community-Gadgets Application with Oracle HTTP Server"

24.3.1.1 Adding Production Community-Gadgets Resource Definitions to the OAM-WebCenter Sites Configuration

Add production Community-Gadgets resource definitions listed in Table 24–3 to OAM for the production WebCenter Sites application domain. For information about how to add resource definitions to OAM, see Section 23.3.2, "Integration Steps."

Note: In the resource definitions (Table 24–3):

- Replace `<sites-context>` with the context root of the WebCenter Sites web application running on the production system.
- Replace `<cg-context>` with the context root of the Community-Gadgets application running on the production system.

Table 24–3 Production Community-Gadgets Resource Definitions

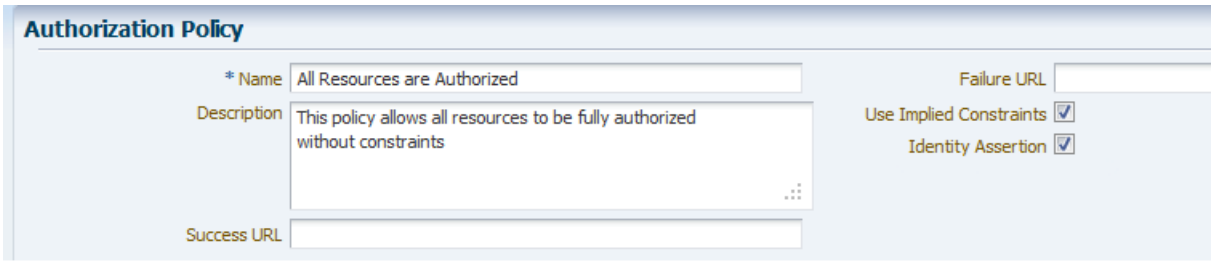
Resource Definition	Protection Level	Authentication	Authorization
`/<sites-context>/custom/customCsResolver.jsp`	Unprotected	Public	All Allowed
`/<cg-context>/cachetool/.../*`	Protected	Browser	All Allowed

24.3.1.2 Enabling Identity Assertion for the Authorization Policy

Configure Identity Assertion as follows for the authorization policy that is used for the WebCenter Sites application domain:

- If a trusted environment is not configured between Oracle WebLogic Server and Oracle HTP Server, select the Identity Assertion check box (shown in Figure 24–3).

Figure 24–3 Authorization Policy: Identity Assertion



- If a trusted environment is configured between Oracle WebLogic Server and Oracle HTP Server, leave the Identity Assertion check box deselected.

For information about establishing trust between Oracle WebLogic Server and other entities, see the *Oracle Fusion Middleware Application Security Guide*.

24.3.1.3 Registering the WebLogic Managed Server for the Production Community-Gadgets Application with Oracle HTTP Server

This step enables Oracle HTTP Server to forward requests to the WebLogic Server managed server instance for the production Community-Gadgets web application.

To register the WebLogic managed server on which production Community-Gadgets is deployed

1. Using a text editor, update the `mod_wl_ohs.conf` configuration file that was used during the OAM-WebCenter Sites content management application integration as follows:

   a. Locate the mod_wl_ohs.conf file for the Oracle HTTP Server instance, for example:

   ```
   /u01/software/Apps/OraMiddleware/asinst_1/config/OHS/ohs1/mod_wl_ohs.conf
   ```

b. Add the following block of code to the `mod_wl_ohs.conf` file:

```
<IfModule weblogic_module>
   <location /{production-community-gadgets-context-root}>
          SetHandler weblogic-handler
          WebLogicHost {hostname|IP of WebLogic server where production
Community-Gadgets is deployed}
          WebLogicPort {port of WebLogic server where production
Community-Gadgets is deployed}
    </location>
</IfModule>
```

c. Save the file.

2. Restart Oracle HTTP Server.

24.3.2 Configuring Community-Gadgets to Use OAM-Integrated Production WebCenter Sites

This section describes how to modify the Community-Gadgets configuration to use the production WebCenter Sites application which is integrated with OAM.

> **Note:** Steps in this section must be completed only on the production Community-Gadgets instance if there is no additional note.

This section includes the following topics:

- Section 24.3.2.1, "Configuring wem_sso_config.xml"
- Section 24.3.2.2, "Adding the Oracle HTTP Server Address to Property Files"

24.3.2.1 Configuring wem_sso_config.xml

Community-Gadgets comes packaged with the `wem_sso_config.xml` and `oam_wem_sso_config_sample.xml` files. By default, Community-Gadgets uses the `wem_sso_config.xml` file to communicate with WebCenter Sites. The default file is configured to support communications with WebCenter Sites through CAS. To support communications through OAM integrated with WebCenter Sites, you will create the `wem_sso_config.xml` file from the `oam_wem_sso_config_sample.xml` file. The files contain the following information:

- The `oam_wem_sso_config_sample.xml` file includes all the required configurations except those specific to environment credentials. Tokens are used in place of environment credentials.
- The `wem_sso_config.xml` file includes all the required WEM SSO and CAS configurations for Community-Gadgets.

To create and configure the `wem_sso_config.xml` file:

1. Go to the `<cg_install_dir>/deploy/production/production_node1` directory, or the directory that was created for your production Community-Gadgets during its installation. For information, see the section "Copying Installer-Generated Configuration Files" of the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.
2. Back up the `wem_sso_config.xml` file by saving it as `wem_sso_config.xml.bak`.
3. Rename the `oam_wem_sso_config_sample.xml` file to `wem_sso_config.xml`.

4. In the new wem_sso_config.xml file, do the following:

   a. Replace the tokens, which are listed in Table 24–4, with actual values for OAM.

Table 24–4 Tokens to Be Replaced in wem_sso_config.xml

Token	Description	Example
{ohs_host}	Host of Oracle HTTP Server used for proxying requests to WebCenter Sites	ohs.example.com
{ohs_port}	Port of Oracle HTTP Server used for proxying requests to WebCenter Sites	9999
{sites_context_root}	Context root of the WebCenter Sites application	servlet
{wl_oamtoken_host}	Host of the WebLogic managed server on which the oamtoken application is deployed	oamtoken.example.com
{wl_oamtoken_port}	Port of the WebLogic managed server on which the oamtoken application is deployed	8005
{wl_oamserver_host}	Host of the WebLogic managed server on which the OAM application is deployed	oam.example.com
{wl_oamserver_port}	Port of the WebLogic managed server on which the OAM application is deployed	14100
{username}	User name with rights to read the WebCenter Sites SystemUser table	fwadmin
{password}	Password for the user name	FW_pAssworD

> **Note:** In Community-Gadgets, the wem_sso_config.xml file is configured to work with OAM-integrated WebCenter Sites. This file is similar (however, not the fully identical) to the SSOConfig.xml file in WebCenter Sites. Generally, the values of the dbUsername and dbPassword properties (presented in wem_sso_config.xml file as {username} and {password} tokens) should be identical in wem_sso_config.xml and SSOConfig.xml.

   b. If you are configuring a trusted environment between Oracle WebLogic Server and Oracle HTP Server, turn off the check for OAM_ASSERTION to improve performance. To turn off the check for OAM_ASSERTION, locate the ssofilter bean and set the value of the trustConfigured property to true.

   c. Save the file.

24.3.2.2 Adding the Oracle HTTP Server Address to Property Files

Perform the procedure described in this section only when WebCenter Sites is integrated with OAM after Community-Gadgets is installed. Property files are located in the <cg_install_dir>/deploy/production/production_node1 directory, or in the directory that was created for your production Community-Gadgets during its installation. For information, see the section "Copying Installer-Generated Configuration Files" of the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

1. In the `setup_cs.properties` file, update the value of the `widgets.cs.production.attrs.urls` parameters to use `{ohs_host}` and `{ohs_port}`.

   For example:

   ```
   widgets.cs.production.attrs.urls=http://{ohs_host}:{ohs_port}
   ```

   Note: Additionally, repeat step 1 for the `setup_cs.properties` file located in the `<cg_install_dir>/deploy/management/management_node1` directory or in the directory which was created for your management Community-Gadgets during its installation. For information, see the section "Copying Installer-Generated Configuration Files" of the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

2. In the `setup_cos.properties` file, update the value of the `widgets.cos.production.attrs.url` parameter to use `{ohs_host}` and `{ohs_port}`.

   For example:

   ```
   widgets.cos.production.attrs.url=http://{ohs_host}:{ohs_port}
   ```

24.4 Next Step

Verify the configurations you have created in this chapter by logging in to the management WebCenter Sites and ensuring that the Community and Gadgets interfaces can be displayed. For instructions, see the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.

25

Integrating Oracle Access Manager with Oracle WebCenter Sites: Site Capture

If your WebCenter Sites installation is not using the Central Authentication Service (CAS) web application for authentication and single sign-on, follow the instructions in this chapter to integrate Oracle Access Manager (OAM) with the WebCenter Sites: Site Capture application.

This chapter contains the following sections:

25.1 Prerequisites

Before integrating Oracle Access Manager (OAM) with the Site Capture application, ensure that you have integrated OAM with WebCenter Sites. For instructions, see Chapter 23, "Integrating Oracle Access Manager with Oracle WebCenter Sites."

25.2 Configuring Oracle Access Manager for Integration with Site Capture

This section contains the following topics:

25.2.1 Adding Resources to Oracle Access Manager

Create the resource definitions listed in Table 25–1 for the WebCenter Sites application domain. These definitions are in addition to the resource definitions that were created during OAM integration with WebCenter Sites.

Table 25–1 Resources

Resource URL	Protection Level	Authentication	Authorization
`/<sites-context>/REST/roles`	Unprotected	Public	All Allowed
`/<sites-context>/custom/customCsResolver.jsp`	Unprotected	Public	All Allowed
`/resources/.../*`	Excluded		

25.2.2 Adjusting the root-context.xml File

The Site Capture application ships with the following files:

- `root-context.xml`
- `oam_root-context.xml`

By default, the Site Capture application uses the `root-context.xml` file. Before deploying the Site Capture installation, you must adjust the `root-context.xml` file.

To adjust the root-context.xml file for the Site Capture application

1. Back up the `root-context.xml` file and then rename the file to `root-context.xml.bak`.
2. Rename `oam_root-context.xml` file to `root-context.xml` file.
3. Replace the tokens in Table 25–2 in the `root-context.xml` file (created in step 2):

Table 25–2 Tokens in the root-context.xml file

Token	Description	Example
`{ohs_host}`	Host of Oracle HTTP Server used for proxying requests to WebCenter Sites	`ohs.example.com`
`{ohs_port}`	Port of Oracle HTTP Server used for proxying requests to WebCenter Sites	`7777`
`{sites_context_root}`	Context root of WebCenter Sites application	`servlet`
`{wl_oamtoken_host}`	Host of the WebLogic managed server where the `oamtoken` application is deployed	`oamtoken.example.com`
`{wl_oamtoken_port}`	Port of WebLogic managed server where the `oamtoken` application is deployed	`8003`
`{wl_oamserver_host}`	Host of the WebLogic managed server where the OAM application is deployed	`oam.example.com`
`{wl_oamserver_port}`	Port of the WebLogic managed server where the OAM application is deployed	`14100`
`{username}`	User name with authority to read the WebCenter Sites `SystemUser` table	`fwadmin`
`{password}`	Above user's password	`xceladmin`

4. Deploy the Site Capture `ROOT.war` file. For instructions, see the section "Deploying Site Capture" in the *Oracle Fusion Middleware WebCenter Sites Installation Guide*.