

Oracle® WebCenter Sites

Installing on Oracle WebLogic Application Server

11g Release 1 (11.1.1) Bundled Patch 1

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Oracle® WebCenter Sites: Installing on Oracle WebLogic Application Server, 11g Release 1 (11.1.1) Bundled Patch 1

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About This Guide

This guide describes the process of installing Oracle WebCenter Sites on Oracle WebLogic Application Server, connecting to the supported database of your choice. This includes instructions for installing WebCenter Sites in single-member and vertically clustered environments.

Applications discussed in this guide are former FatWire products. Naming conventions are the following:

- *Oracle WebCenter Sites* is the current name of the application previously known as *FatWire Content Server*. In this guide, *Oracle WebCenter Sites* is also called *WebCenter Sites*.
- *Oracle WebCenter Sites: Web Experience Management Framework* is the current name of the environment previously known as *FatWire Web Experience Management Framework*. In this guide, *Oracle WebCenter Sites: Web Experience Management Framework* is also called *Web Experience Management Framework*, or *WEM Framework*.

Audience

This guide is for installation engineers and anyone else who has experience installing and configuring databases, web servers, and application servers.

Related Documents

For more information, see the following documents:

- *Oracle WebCenter Sites: Configuring Supporting Software*
- *Oracle WebCenter Sites: Integrating with LDAP*
- *Oracle WebCenter Sites Administrator's Guide for the WEM Framework*
- *Oracle WebCenter Sites Administrator's Guide*
- *Oracle WebCenter Sites Developer's Guide*

Graphics in This Guide

Many steps in this guide display screen captures of dialog boxes and similar windows that you interact with in order to complete the steps. The screen captures are shown to help you follow the installation process. They are not intended to be sources of specific information, such as parameter values, options to select, or product version number.

Conventions

The following text conventions are used in this guide:

- **Boldface** type indicates graphical user interface elements that you select.
- *Italic* type indicates book titles, emphasis, or variables for which you supply particular values.
- `Monospace` type indicates file names, URLs, sample code, or text that appears on the screen.
- **Monospace bold** type indicates a command.

Third-Party Licenses

Oracle WebCenter Sites and its applications include third-party libraries. For additional information, see *Oracle WebCenter Sites 11gR1 Bundled Patch 1: Third-Party Licenses*.

Chapter 1

Introduction

This chapter provides information that will help you prepare for the WebCenter Sites installation. It contains the following sections:

- [How This Guide is Organized](#)
- [Before You Install Oracle WebCenter Sites](#)
- [Installation Quick Reference](#)
- [Paths and Directories Used in This Guide](#)

How This Guide is Organized

This guide provides instructions for installing WebCenter Sites in single-member and clustered environments. This guide also describes the installation and configuration of WebLogic Server, as required to support WebCenter Sites. This includes configuration of a domain with admin and managed servers, and creation of backend databases. The last chapter in this guide shows you how to install WebCenter Sites.

The content of this guide is organized by function rather than the order in which installation steps are completed. For example, a function such as application deployment is associated with the application server. It is presented in Part II (which covers the application server), even though it is performed later, when WebCenter Sites is installed (Part IV). Each major component of the WebCenter Sites installation is covered in its own part. A summary of the installation steps in the required order is given at the end of this chapter (see “[Installation Quick Reference](#),” on page 9).

This guide does not cover the following topics, as they fall outside the scope of this guide:

- LDAP integration. For information about this topic, see *Oracle WebCenter Sites: Integrating with LDAP*.
- CAS clustering. For information about this topic, see *Oracle WebCenter Sites: Configuring Supporting Software*.
- Oracle Access Manager (OAM) integration. For information about this topic, see *Oracle WebCenter Sites: Configuring Supporting Software*.

Before You Install Oracle WebCenter Sites

- Refer to the *Oracle WebCenter Sites Certification Matrix* to ensure you are installing currently supported third-party products.
- Only selected information regarding the configuration of third-party products is given in this guide. For detailed information and to obtain the latest e-fixes, patches, and service packs, refer to the third-party vendors’ documentation and release notes.
- You can install and deploy WebCenter Sites by running the supplied installer either in GUI or silent install mode. When you run the GUI installer, a graphical interface guides you through the installation process, prompting you to enter information and select options as required. It also provides access to online help. When you install silently, you enter your installation settings into one of the sample `omi.ini` files provided, using comments in the file for guidance. The installer then uses the file to install WebCenter Sites.

- You will run the WebCenter Sites installer on all systems in your environment. There are two system types: content management or development (whose installation processes are identical) and delivery. Content management and development systems run in the same mode but are used for different purposes.

Note

- The system type cannot be changed once you select the type and click **Next** (GUI installation) or start running the silent installer.
 - **The installation process does not install user interfaces on delivery systems**, except for a limited version of the WebCenter Sites Admin interface to enable the management of select features.
 - The names of the systems in your WebCenter Sites environment might differ from the names used in this document. Typically, the content management system is also called “staging,” and the delivery system is also called “production.”
- Remove older versions of the Java Runtime Environment from the CLASSPATH and PATH environment variables.
 - All installations of WebCenter Sites and Satellite Server must use the same JVM time zone. We recommend setting the JVM time zone to UTC (GMT) to help standardize the time stamps of distributed data. For example, if content is published from Los Angeles to New York and both servers run on local time, the content publication times differ by three hours. Setting both servers to UTC (GMT) alleviates the ambiguity. Note that log files will report data in UTC (GMT) time.

Installation Quick Reference

After you install and configure the components that support WebCenter Sites, you will run the WebCenter Sites installer on each development, content management, and delivery system on which you plan to use WebCenter Sites. During the WebCenter Sites installation, you will have the option to install sample sites and sample content.

The steps below summarize the installation and configuration of WebCenter Sites and its supporting software. Keep the steps handy as a quick reference to installation procedures and to chapters that provide detailed instructions.

Complete the steps below for each development, content management, and delivery environment.

I. Set Up the Database

Set up your choice of supported databases by installing the database management system, creating a database for WebCenter Sites, and configuring the database. For instructions, refer to *Oracle WebCenter Sites: Configuring Supporting Software*.

II. Set Up the Application Server

1. Install WebLogic Server. For instructions, see [Chapter 3, “Installing WebLogic Server.”](#)

Note

This chapter also contains commands for starting and stopping the servers that are used in this guide.

2. Create and configure a WebLogic server domain, as shown in [“Creating and Configuring a WebLogic Server Domain,” on page 28](#). This step requires you to:
 - a. Create an admin server for the domain.
 - b. Create a managed server for a production environment and, if you choose to set up a clustered environment, a managed server for each cluster member.
 - c. Name the domain.
3. Set up the environment for deployment and database communications. This step requires you to:
 - a. Set environment variables to ensure that all servers are using the correct JDK. For instructions, see [“Setting Environment Variables,” on page 39](#).
 - b. (Optional) Turn off host name verification for non-production systems. For instructions, see [“\(Optional\) Disabling Host Name Verification,” on page 39](#).
 - c. Enable tunneling on all servers on which WebCenter Sites will be deployed. Tunneling enables you to run commands using the `weblogic.Deployer` utility (which deploys WebCenter Sites.) For instructions, see [“Enabling Tunneling,” on page 41](#).
 - d. Set up the data source. For instructions, see [“Creating and Configuring a Data Source,” on page 43](#).

III. (Optional) Set Up the Web Server

If you plan to integrate WebLogic Server with either the Apache or IIS web server, follow instructions in [Chapter 5, “Installing and Configuring the Web Server.”](#)

IV. Install WebCenter Sites

1. Before running the WebCenter Sites installer, make sure of the following:
 - You have created the directory into which you are installing WebCenter Sites. The directory name and path cannot contain spaces, and the application server must be able to read from and write to the directory.
 - For clustered installations, you have created the following:
 - A managed server. You will install WebCenter Sites on this server.
 - A shared file system directory that all cluster members can read from and write to; the directory name and path cannot contain spaces.
 - You have added the JDK `/bin` directory to the path variable.
 - Your system is capable of displaying the WebCenter Sites installer GUI. The installer will not work in text mode.

2. Install WebCenter Sites as a web application by running the GUI installer or silent installer. For instructions, see [“Installing WebCenter Sites as a Web Application,” on page 65.](#)

Halfway through the installation, you will have to manually deploy the WebCenter Sites application and follow up with the remaining steps to complete the installation. See [“Deploying Web Applications,” on page 48](#) for instructions.

3. Complete the post-installation steps that are appropriate for your system. Refer to [“Post-Installation Steps,” on page 70](#) for complete instructions.
 - a. If you installed WebCenter Sites on Unix, set the permissions for WebCenter Sites binaries by following the steps in [“Setting File Permissions \(Unix Only\),” on page 70.](#)
 - b. WebCenter Sites contains a modified version of the Microsoft XML Parser (`MSXML.jar` in the `WEB-INF/lib` directory). If a different version of the Microsoft XML Parser is referenced in the WebCenter Sites `CLASSPATH` environment variable, you must change the path to refer to the version used by WebCenter Sites; otherwise, WebCenter Sites will fail when parsing. For information, see [“Loading the XML Parser,” on page 70.](#)
 - c. Add the WebCenter Sites binaries directory to your library path variable as explained in [“Adding the WebCenter Sites Binaries Directory to the Library Path Variable,” on page 70.](#)
 - d. Verify the WebCenter Sites installation by logging in to Oracle WebCenter Sites as the general administrator and accessing the WebCenter Sites Admin interface and Contributor interface. For instructions, see [“Verifying the WebCenter Sites Installation,” on page 71.](#)
 - e. If the WebCenter Sites system you installed is a delivery system, switch WebLogic to production mode. For instructions, see [“Switching WebLogic to Production Mode \(Delivery Systems Only\),” on page 75.](#)
 - f. If you wish to replace CAS with Oracle Access Manager (OAM), follow the instructions in *Oracle WebCenter Sites: Configuring Supporting Software*.
 - g. If you need to perform LDAP integration, complete the steps in [“Integrating with LDAP,” on page 76.](#)
 - h. If you are creating a clustered system, follow instructions in [“Setting Up a WebCenter Sites Cluster \(Optional\),” on page 76.](#)
 - i. If you are clustering CAS, follow the instructions in *Oracle WebCenter Sites: Configuring Supporting Software*.
 - j. If you need to redeploy CAS, follow the instructions in *Oracle WebCenter Sites: Configuring Supporting Software*.
4. Once the entire installation is completed and verified, set up WebCenter Sites for its business purpose. For instructions, see the *Oracle WebCenter Sites Administrator’s Guide* and the *Oracle WebCenter Sites Developer’s Guide*.

Paths and Directories Used in This Guide

Name	Description
<domain_home>	Path to the WebLogic domain; the path includes the domain name.
<cs_install_dir>	Path to the directory where WebCenter Sites is installed; the path does not include the name of the WebCenter Sites application.
<wl_home>	Path to the directory where WebLogic is installed; the path includes the name of the directory.
<shared_dir>	Path to the shared folder on the given system; the path includes the name of the shared folder.
<wl_home>/ wlserver_10.x	WebLogic Server directory used throughout this guide.
<wl_home>/ workshop_10.x	WebLogic Workshop directory used throughout this guide.
<deploy_dir>	Path to the directory to which WebCenter Sites is deployed. The path includes the name of the deployment directory.

Part 1

Database

This part contains a short chapter summarizing the databases that WebCenter Sites uses. Instructions on creating and configuring the databases are given in *Oracle WebCenter Sites: Configuring Supporting Software*.

This part contains the following chapter:

- [Chapter 2, “Setting Up a Database”](#)

Chapter 2

Setting Up a Database

WebCenter Sites requires access to a database specifically configured for WebCenter Sites. Refer to the *Oracle WebCenter Sites Certification Matrix* for the list of supported databases (as well as other components).

Before installing any other of WebCenter Sites' supporting software, you must complete the following steps:

1. Install the database management system.
For instructions, refer to the product vendor's documentation.
2. Create and configure a database for WebCenter Sites.
For instructions, consult *Oracle WebCenter Sites: Configuring Supporting Software*. Note that database configuration is identical across different application servers. Refer to the correct chapter to create and configure the database of your choice.

Part 2

Application Server

This part contains information about installing and configuring WebLogic Server.

This part contains the following chapter:

- [Chapter 3, “Installing WebLogic Server”](#)
- [Chapter 4, “Configuring WebLogic Server for Web Installations”](#)

Chapter 3

Installing WebLogic Server

This chapter contains information about installing WebLogic Server to support and deploy your WebCenter Sites web application.

This chapter contains the following sections:

- [Start/Stop Commands](#)
- [Installing WebLogic Server](#)

Start/Stop Commands

This section lists commands that are used in this guide for managing WebLogic Server.

Note

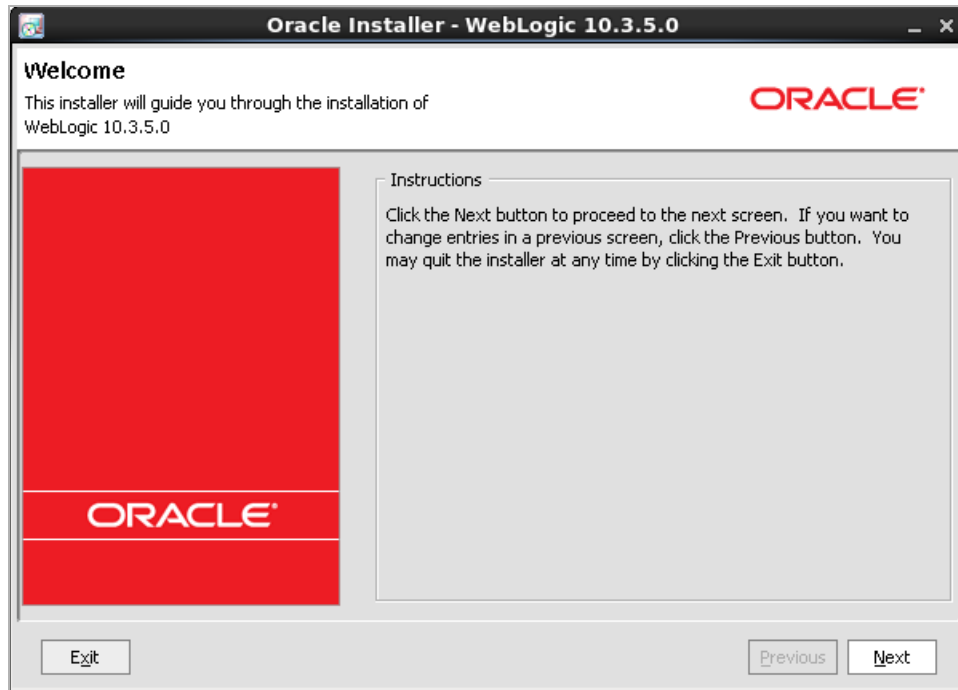
We assume that you are using a UNIX system. For Windows-based installations, the commands end in either `.cmd` or `.bat` extensions.

- Start the admin server:
`<domain_home>/startWebLogic.sh`
- Stop the admin server:
`<domain_home>/bin/stopWebLogic.sh`
- Start the node manager:
`<wl_home>/wlserver_10.x/server/bin/startNodeManager.sh`
- Start a managed server:
`<domain_home>/bin/startManagedWebLogic.sh <managed_server_name>
http://<listening_address>:<admin_port>`
- Stop a managed server:
`<domain_home>/bin/stopManagedWebLogic.sh <managed_server_name>
http://<listening_address>:<admin_port>`

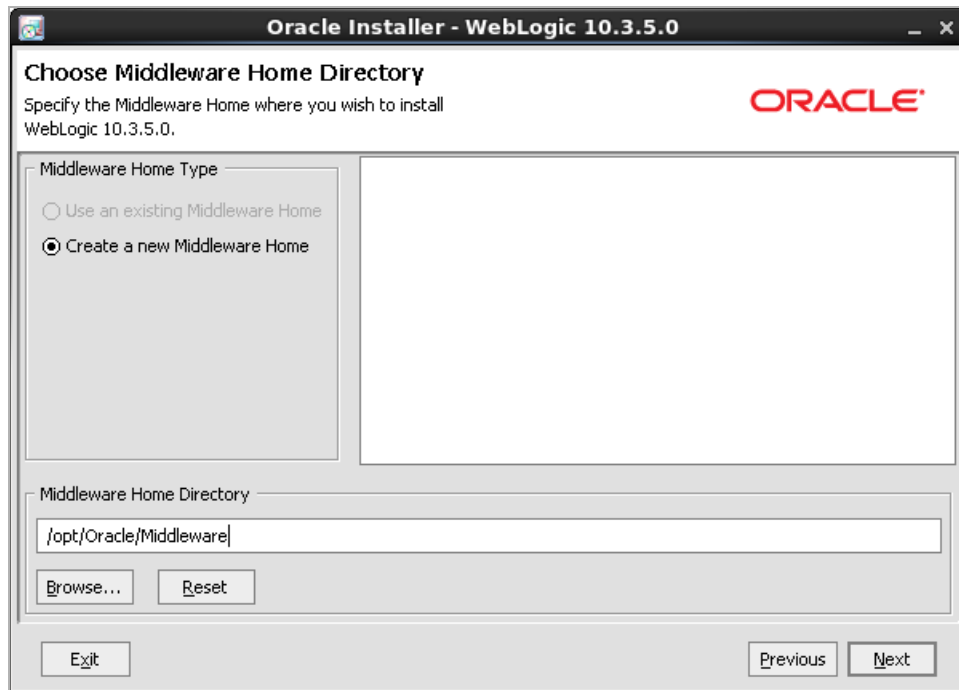
Installing WebLogic Server

This is not an exhaustive section, as it covers the installation of Oracle WebLogic Application Server only so far as needed to install and run WebCenter Sites. For more extensive documentation on the installation process and best practices, see the documentation on the Oracle WebLogic website.

1. Run the WebLogic Server installer (on Unix, make sure your `DISPLAY` variable is set).
2. In the “Welcome” screen, click **Next**.



3. Either use an existing WebLogic home directory or select **Create a new WebLogic Home** and browse for a directory. Click **Next**.



Note

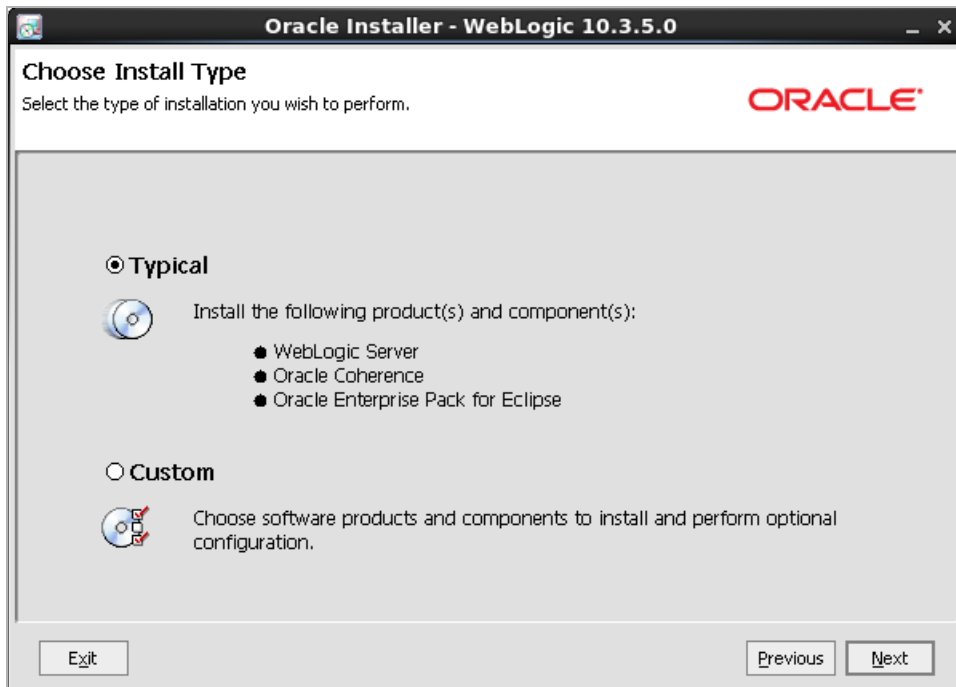
The WebLogic home directory will be referred to throughout this guide as <w1_home>.

4. In the “Register for Security Updates” screen, enter the appropriate information and click **Next**.



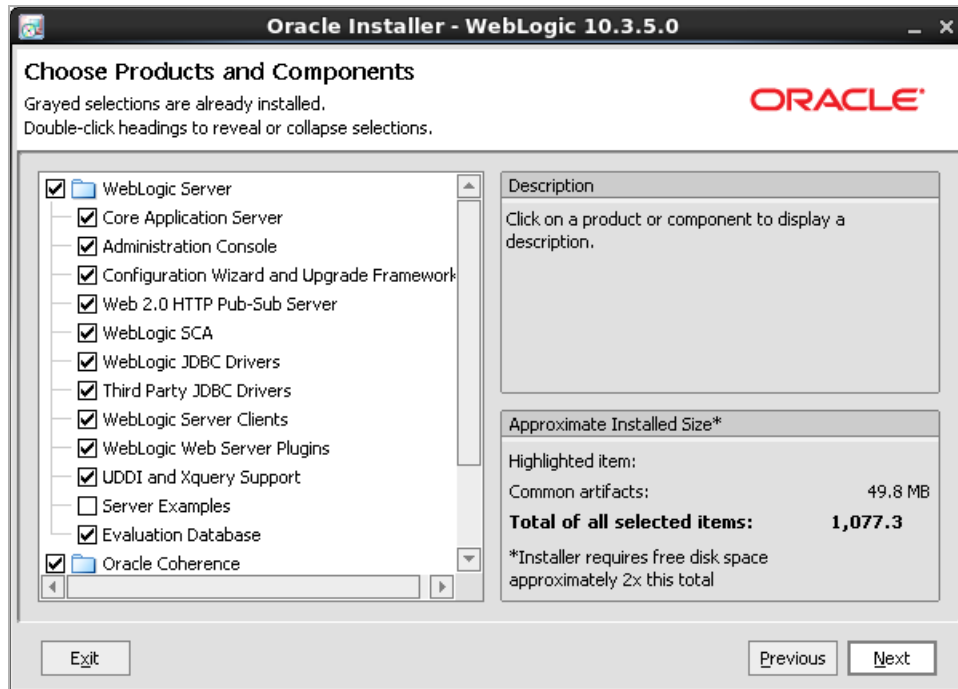
The screenshot shows the "Register for Security Updates" window in the Oracle Installer for WebLogic 10.3.5.0. The window title is "Oracle Installer - WebLogic 10.3.5.0". The main heading is "Register for Security Updates" with the Oracle logo in the top right. Below the heading, it says "Provide your email address for security updates and to initiate configuration manager." There is an "Email:" label followed by a text input field. Below the field is the text "Use My Oracle Support email address/username". A checkbox is checked, with the text "I wish to receive security updates via My Oracle Support". Below this is a "Support Password:" label followed by a text input field. At the bottom of the window, there are three buttons: "Exit", "Previous", and "Next".

5. Select **Typical Install Type** and click **Next**.

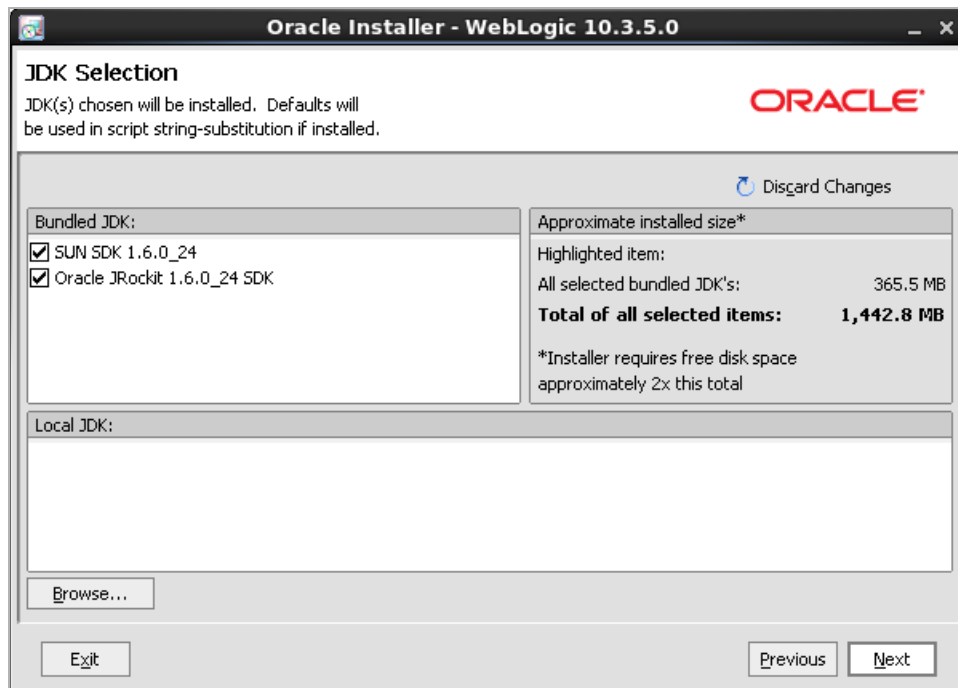


The screenshot shows the "Choose Install Type" window in the Oracle Installer for WebLogic 10.3.5.0. The window title is "Oracle Installer - WebLogic 10.3.5.0". The main heading is "Choose Install Type" with the Oracle logo in the top right. Below the heading, it says "Select the type of installation you wish to perform." There are two radio button options. The first is "Typical", which is selected. It includes a CD icon and the text "Install the following product(s) and component(s):" followed by a list of three items: "WebLogic Server", "Oracle Coherence", and "Oracle Enterprise Pack for Eclipse". The second option is "Custom", which is not selected. It includes a CD icon with a checkmark and the text "Choose software products and components to install and perform optional configuration." At the bottom of the window, there are three buttons: "Exit", "Previous", and "Next".

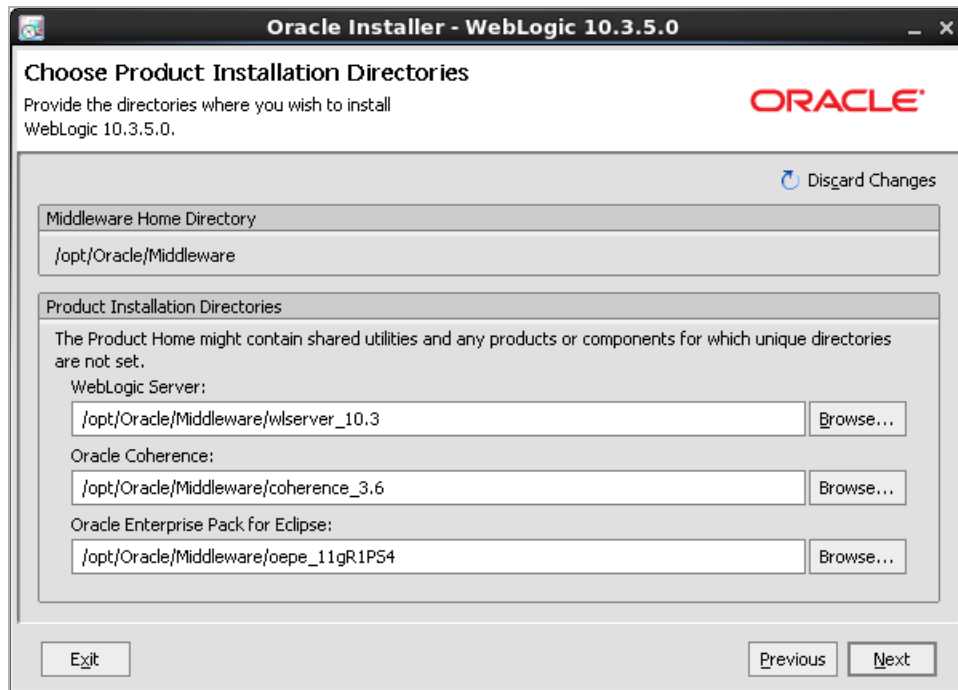
6. In the “Choose Products and Components” screen, the required components are selected by default. If you wish to install other components, select their check boxes. Click **Next**.



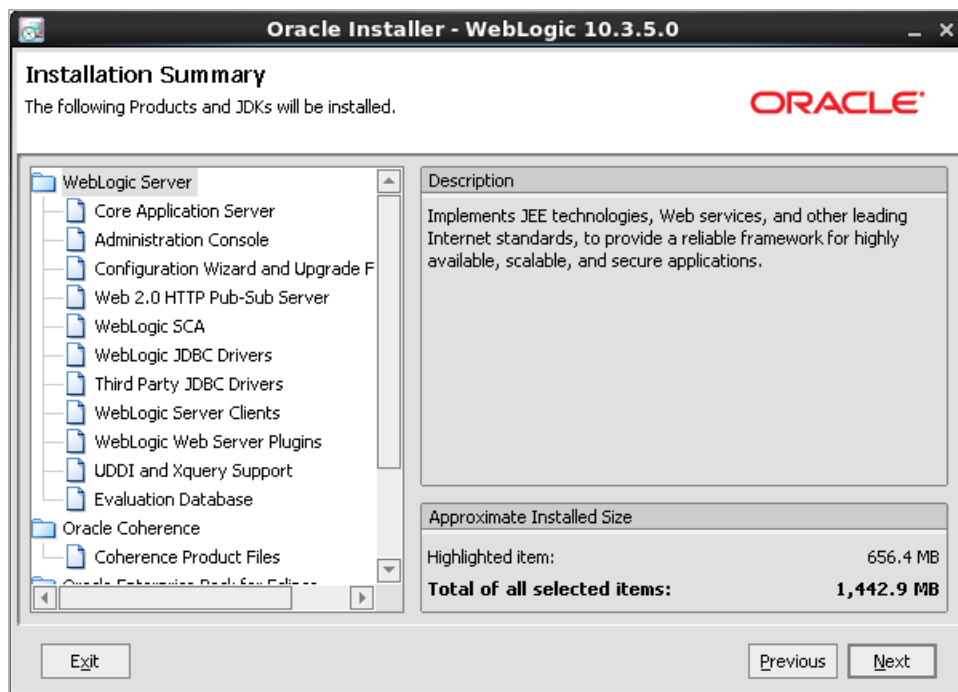
7. In the “JDK Selection” screen, select both JDKs and then click **Next**.



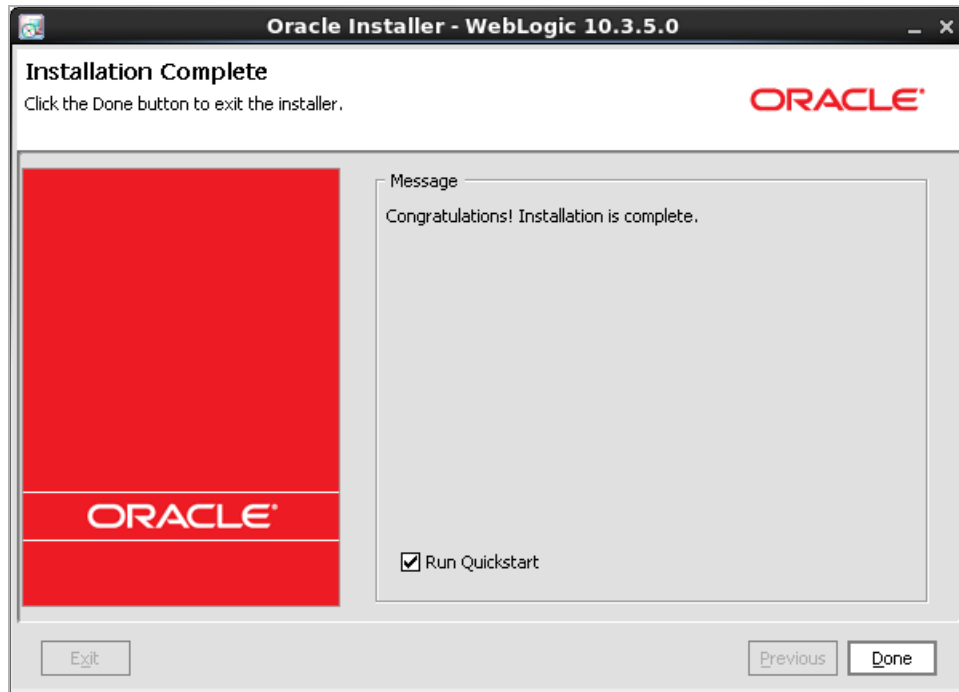
8. In the “Choose Product Installation Directories” screen, verify the product installation directories and then click **Next**.



9. In the “Installation Summary” screen, click **Next** to start the WebLogic installation.



10. The installation starts. Close the window after completion.



11. Continue with [Chapter 4](#), “[Configuring WebLogic Server for Web Installations](#)” to configure a WebLogic domain.

Chapter 4

Configuring WebLogic Server for Web Installations

This chapter contains information about configuring Oracle WebLogic Application Server to support and deploy your WebCenter Sites web application.

This chapter contains the following sections:

- [Creating and Configuring a WebLogic Server Domain](#)
- [Setting Environment Variables](#)
- [\(Optional\) Disabling Host Name Verification](#)
- [Enabling Tunneling](#)
- [Setting the Max PermGen Parameter](#)
- [Setting JAVA_OPTIONS](#)
- [Creating and Configuring a Data Source](#)
- [Deploying Web Applications](#)

Creating and Configuring a WebLogic Server Domain

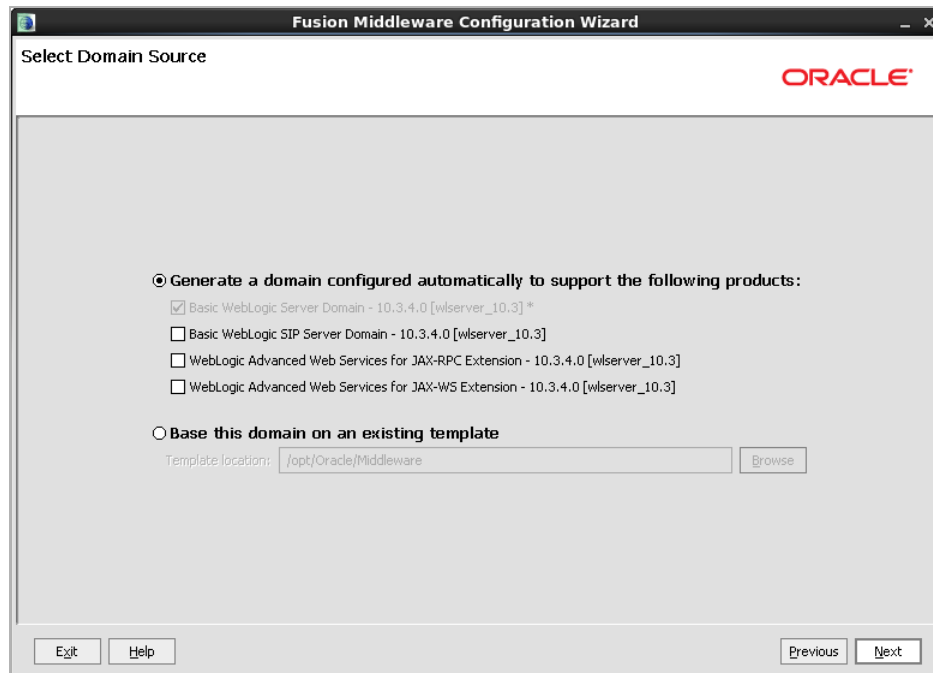
In the steps below, you will be creating a WebLogic domain and configuring the domain by adding an admin server. If you are creating a production system, you will also add a managed server to the domain, and if you are creating a cluster, you will add a managed server for each cluster member.

To create and configure a WebLogic Server domain

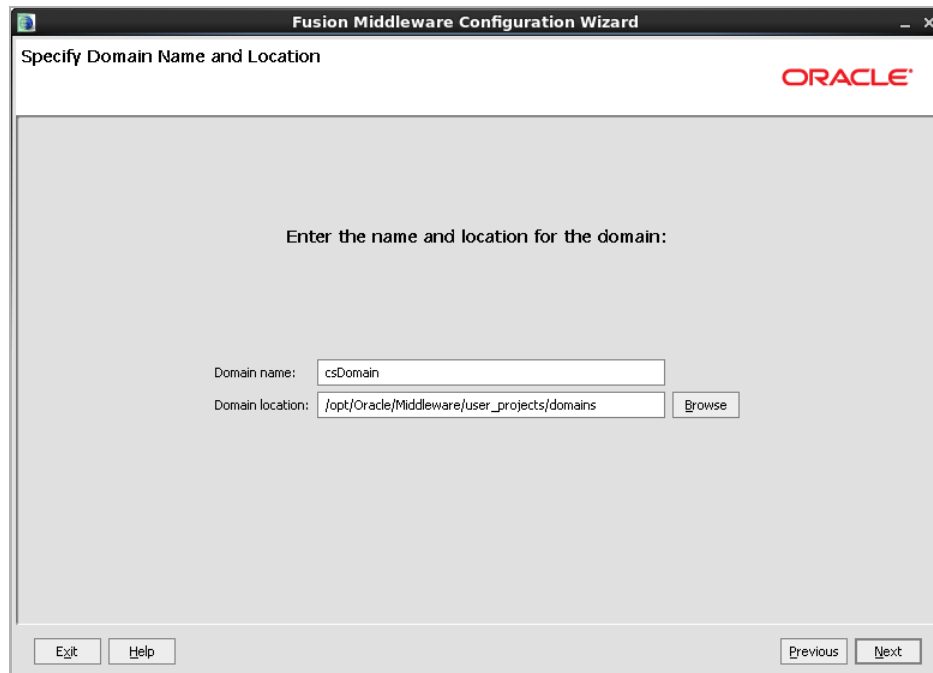
1. Change directories to `<wl_home>/wlserver_10.x/common/bin` and run `config.sh` (`.cmd` for Windows).
2. Create a domain:
 - a. In the “Welcome” screen, select **Create a new WebLogic domain** and click **Next**.



- b. In the “Select Domain Source” screen, select **Generate a domain configured automatically to support Basic WebLogic Server Domain** and click **Next**.



- c. In the “Specify Domain Name and Location” screen, enter the name and path of the WebLogic domain. Click **Next**.



The screenshot shows a window titled "Fusion Middleware Configuration Wizard" with a sub-header "Specify Domain Name and Location" and the Oracle logo in the top right. The main area contains the instruction "Enter the name and location for the domain:". Below this, there are two input fields: "Domain name:" with the text "csDomain" and "Domain location:" with the text "/opt/Oracle/Middleware/user_projects/domains". A "Browse" button is positioned to the right of the domain location field. At the bottom of the window, there are four buttons: "Exit", "Help", "Previous", and "Next".

Note

The path to the domain will be referred to throughout this guide as <domain_home>.

- d. In the “Configure Administrator Username and Password” screen, enter a user name and password for the WebLogic domain. Click **Next**.

The screenshot shows the 'Configure Administrator User Name and Password' screen of the Fusion Middleware Configuration Wizard. The window title is 'Fusion Middleware Configuration Wizard'. The Oracle logo is in the top right corner. Below the title bar, there is a 'Discard Changes' link. The main area contains four input fields: '*Name:' with the value 'weblogic', '*User password:' with '*****', '*Confirm user password:' with '*****|', and 'Description:' with the text 'This user is the default administrator.'. At the bottom, there are buttons for 'Exit', 'Help', 'Previous', and 'Next'.

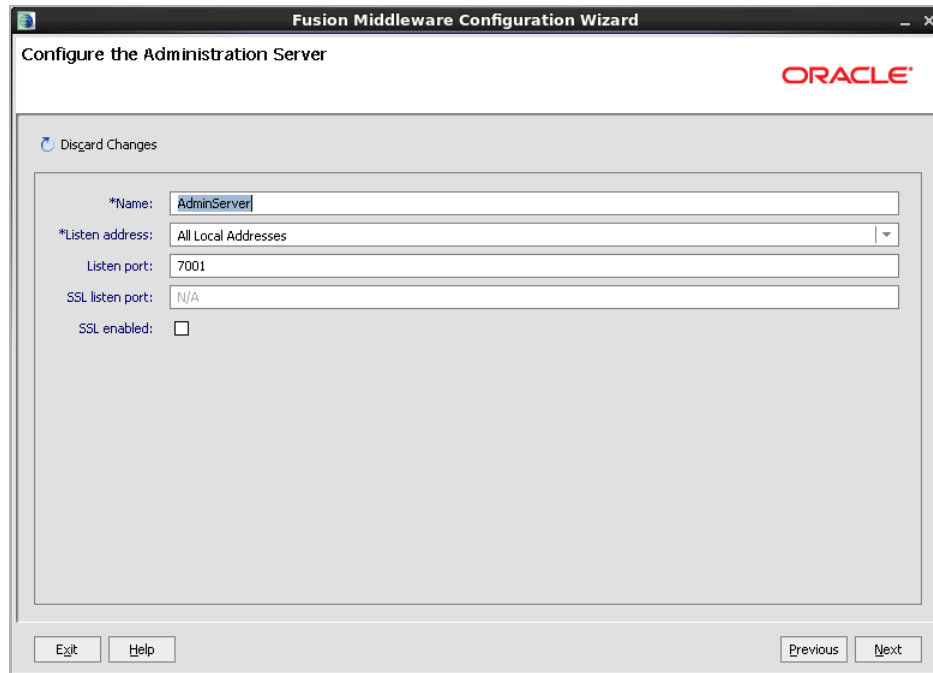
- e. In the “Configure Server Start Mode and JDK” screen, select **Development Mode** and the preferred SDK (in the “WebLogic Supplied JDKs” list box). For production environments, the domain will be changed to **Production Mode** later in this guide ([step E on page 75](#)). Click **Next**.

The screenshot shows the 'Configure Server Start Mode and JDK' screen of the Fusion Middleware Configuration Wizard. The window title is 'Fusion Middleware Configuration Wizard'. The Oracle logo is in the top right corner. Below the title bar, there is a warning message: 'Before putting your domain into production, make sure that the production environment is secure. For more information, see the topic 'Securing a Production Environment' in the WebLogic Server documentation.' The screen is divided into two main sections: 'WebLogic Domain Startup Mode' and 'JDK Selection'. In the 'WebLogic Domain Startup Mode' section, there are two radio buttons: 'Development Mode' (selected) and 'Production Mode'. The 'Development Mode' description states: 'Utilize boot.properties for username and password and poll for applications to deploy. Sun JDK recommended for better startup performance during iterative development.' The 'Production Mode' description states: 'Require the entry of a username and password and do not poll for applications to deploy. WebLogic JRockit JDK recommended for better runtime performance and management.' In the 'JDK Selection' section, there are two radio buttons: 'Available JDKs' (selected) and 'Other JDK'. The 'Available JDKs' section contains a list box with two entries: 'JRockit SDK 1.6.0_24 @ /opt/Oracle/Middleware/jrockit_160' and 'Sun SDK 1.6.0_24 @ /opt/Oracle/Middleware/jdk160_24'. Below the list box is a scroll bar. The 'Other JDK' section has a 'Location:' label and a 'Browse' button. At the bottom, there are buttons for 'Exit', 'Help', 'Previous', and 'Next'.

- f. In the “Select Optional Configuration” screen, select all available options and click **Next**.



3. Configure the admin server:
 - a. Enter the admin server's name, listening address, and port.
 - b. Click **Next**.



The screenshot shows the 'Configure the Administration Server' window of the Fusion Middleware Configuration Wizard. The window title is 'Fusion Middleware Configuration Wizard' and the subtitle is 'Configure the Administration Server'. The Oracle logo is visible in the top right corner. A 'Discard Changes' link is located at the top left. The main configuration area contains the following fields:

- *Name: AdminServer
- *Listen address: All Local Addresses
- Listen port: 7001
- SSL listen port: N/A
- SSL enabled:

At the bottom of the window, there are buttons for 'Exit', 'Help', 'Previous', and 'Next'.

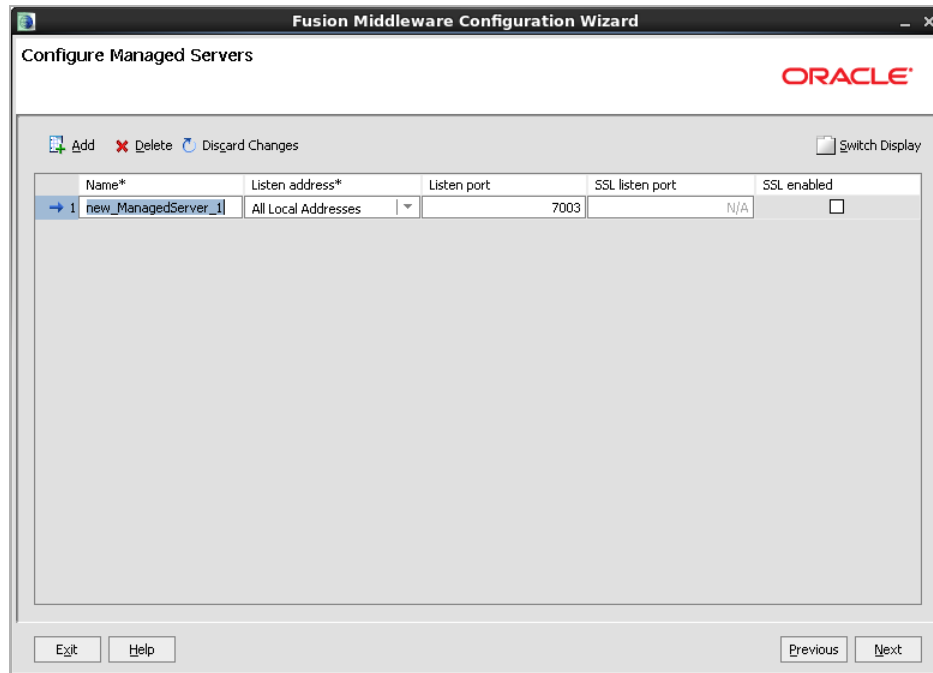
Note

Throughout this guide, the values that you entered will be referred to as `<listening_address>` and `<admin_port>`.

4. Add a managed server:
 - a. Click **Add** and enter a name, listening address, and port.

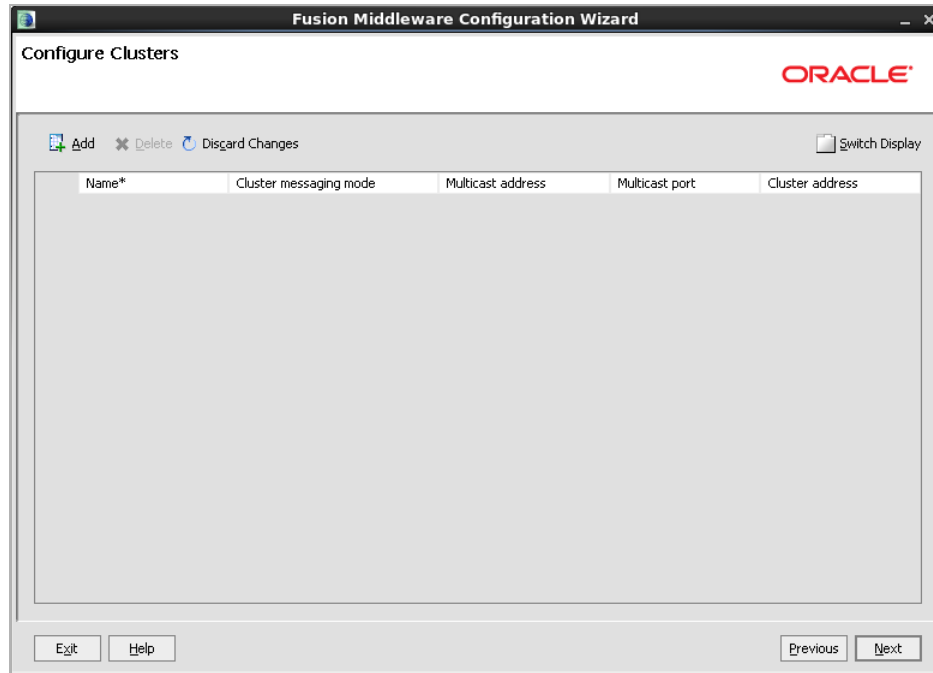
Note

- For a production environment, a managed server is recommended.
- If you are creating a cluster, a managed server is required for each cluster member. Your options are to:
 - Create all the managed servers in this step
 - Create a managed server for the primary cluster member in this step, but postpone creating the remaining managed servers until WebCenter Sites is installed on the primary member. If you choose the latter option, you will need to follow instructions in [“Setting Up a WebCenter Sites Cluster \(Optional\),”](#) on page 76.



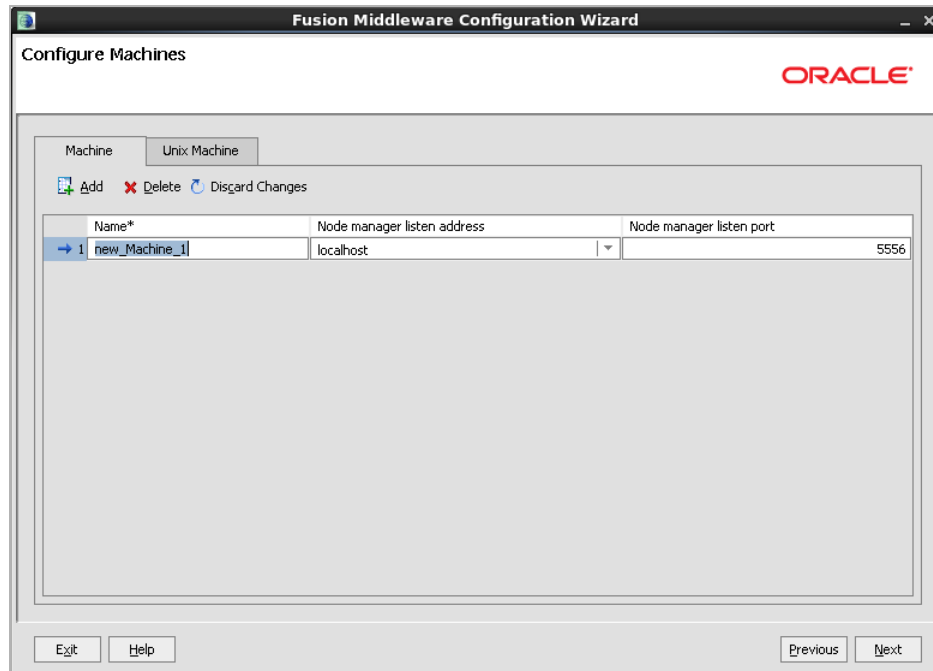
- b. Click **Next**.

5. If you are *not* creating a cluster, click **Next** and skip to [step 6 on page 36](#). Otherwise, create and configure a cluster:
 - a. Create a cluster:
 - 1) Click **Add**.
 - 2) Enter a name for the cluster.
 - 3) In the **Multicast port** field, enter the admin server listening port.
 - 4) Click **Next**.

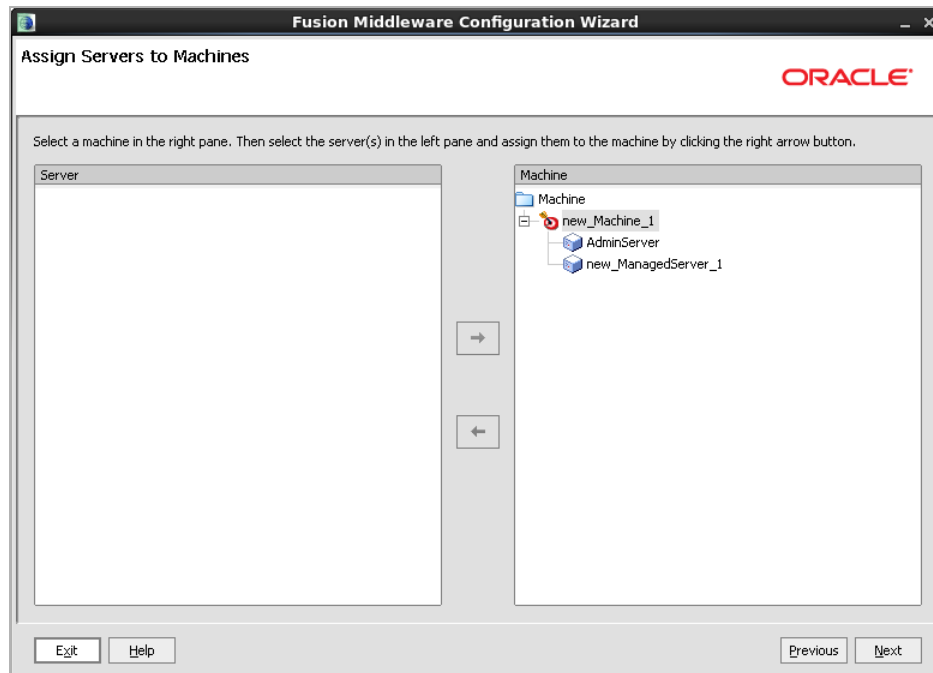


- b. Add the managed server(s) to the cluster (by clicking the managed server(s) and clicking the right arrow). Click **Next**.

6. In the “Configure Machines” screen, configure the node manager:
 - a. Click **Add** and enter a name and listening address. Click **Next**.



- b. In the “Assign Server to Machines” screen, add both the admin and managed servers to the node manager using the right arrow. Click **Next**.



7. In the “Configure RDBMS Security Store Database” screen, click **Next**.

The screenshot shows the 'Configure RDBMS Security Store Database' screen in the Fusion Middleware Configuration Wizard. The window title is 'Fusion Middleware Configuration Wizard'. The Oracle logo is in the top right corner. Below the title bar, there is a 'Discard Changes' button and a 'Test Connection' button. The main area contains the following fields:

- Database Type: RDBMS Security Store is Disabled (dropdown)
- Driver: (dropdown)
- Class Name: (text field)
- DBMS SID: (text field)
- User Name: (text field)
- DBMS Host: (text field)
- User Password: (text field)
- DBMS Port: (text field)
- Confirm User Password: (text field)
- URL: (text field)
- Known Properties: (text field)
- Additional Properties: Optional (text field)

At the bottom, there are buttons for 'Exit', 'Help', 'Previous', and 'Next'.

8. Review the domain configuration and then click **Create**.

The screenshot shows the 'Configuration Summary' screen in the Fusion Middleware Configuration Wizard. The window title is 'Fusion Middleware Configuration Wizard'. The Oracle logo is in the top right corner. Below the title bar, there is a 'Domain Summary' pane on the left and a 'Details' pane on the right. The 'Domain Summary' pane shows a tree view with the following structure:

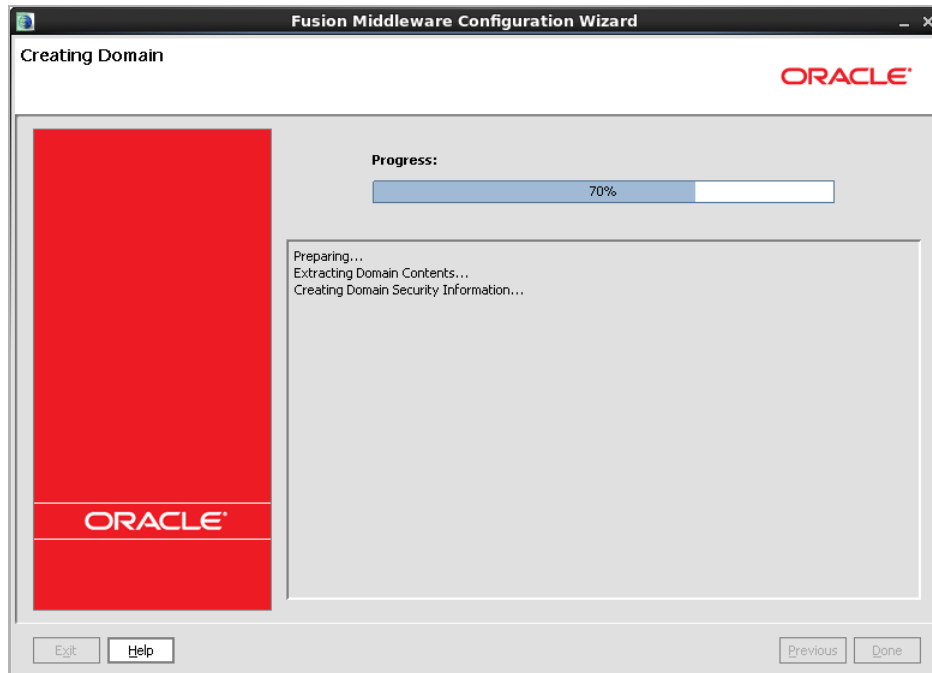
- csDomain (/opt/Oracle/Middleware/user_projects/domain)
 - Server
 - AdminServer
 - new_ManagedServer_1

The 'Details' pane shows the following information:

Attribute	Value
Name	Basic WebLogic Server Domain
Description	Create a basic WebLogic Server domain without installing sample applicat
Author	Oracle Corporation
Location	/opt/Oracle/Middleware/wlserver_10.3/common/templates/domains/wls.j

At the bottom, there are buttons for 'Exit', 'Help', 'Previous', and 'Create'.

9. The domain installation begins. When the installation is complete, click **Done**.



10. Your next steps are the following:
- For all systems (production and otherwise), set the environment variables to ensure that all servers are using the correct JDK. For instructions, go to [“Setting Environment Variables,”](#) on page 39.
 - For non-production environments, disable host name verification. For instructions, go to [“\(Optional\) Disabling Host Name Verification,”](#) on page 39.
 - For all servers on which WebCenter Sites will be deployed, enable tunneling in order to support command-line deployment, using the `weblogic.Deployer` or `weblogic.Admin` utilities. For instructions, go to [“Enabling Tunneling,”](#) on page 41.
 - Set the value of the `Max PermGen` parameter to a minimum value of 192MB. For instructions, see [“Setting the Max PermGen Parameter,”](#) on page 42.

Setting Environment Variables

Setting environment variables ensures that each server is using the right JDK.

To set environment variables

1. Log in to the Administration Console.
2. Set environment variables for your server(s).
 - a. Expand **Environment** in the tree.
 - b. Click **Servers**.
 - c. Click *ServerName*.
 - d. Click the **Configuration** tab.
 - e. Click **Server Start**.
 - f. For “Java Home,” enter the path to the WebLogic JDK (for example, <w1_home>/jdk160_24).
 - g. For “Java Vendor,” enter **Sun**.
 - h. Click **Save**.
3. Click **Accept Changes**.
4. Repeat [steps 2 – 3](#) for each server in the system.
5. The next step is to disable host name verification for non-production environments. Follow instructions in the next section.

(Optional) Disabling Host Name Verification

For non-production environments, you may decide to disable host name verification. This section explains how to do so from both the command line and the administration console.

Note

After host name verification is disabled:

1. Enable tunneling in order to prepare the web application for command-line controlled deployment. For instructions, see [“Enabling Tunneling,” on page 41](#).
2. Create the data source. For instructions, see [“Creating and Configuring a Data Source,” on page 43](#).

Command Line

For both the `startWebLogic.sh` and `startManagedWebLogic.sh` scripts (`.cmd` in Windows) located in `domain_home/bin`, edit the script by inserting the following line after the first large comment block:

```
JAVA_OPTIONS="{JAVA_OPTIONS} -Dweblogic.security.SSL.ignoreHostnameVerification=true"
```

Administration Console

Note

Depending on the way your domain is configured, you may have to use the Change Center's **Lock and Release** to make configuration changes.

1. Start the admin server.
2. Change to the <domain_home> directory and run `startWebLogic.sh` (.cmd for Windows).
3. After the admin server has started, open a web browser and log in to the “WebLogic Server Administration Console” at:
`http://<listening_address>:<admin_port>/console`
4. In the tree at the left of the screen, expand **Environment**.
5. Click **Servers**.
6. For each of the servers listed:
 - a. Click the server name.
 - b. Click the **Configuration** tab.
 - c. Click **SSL**.
 - d. Click **Advanced**.
 - e. In the “Hostname Verification” drop-down menu, select **None**.

The screenshot shows the Oracle WebLogic Server Administration Console interface. The left-hand navigation pane is expanded to show the 'Environment' tree, with 'Servers' selected. The main content area displays the 'Settings for rss' page, with the 'SSL' tab active. The 'Advanced' section is expanded, showing the 'Hostname Verification' dropdown menu set to 'None'. Other visible settings include 'Private Key Location', 'Private Key Alias', 'Private Key Passphrase', 'Certificate Location', and 'Trusted Certificate Authorities'.

- f. Click **Save**.

- Restart if prompted to do so.

Enabling Tunneling

Note

Complete the steps in this section if you intend to deploy WebCenter Sites using the command-line.

In order to run commands using the `weblogic.Deployer` or `weblogic.Admin` utilities, tunneling must be enabled on each server. This section explains how to enable tunneling for any server that will be controlled from the command line.

To enable tunneling

- Log in to the administration console.
- Expand **Environment** on the left hand side.
- Click **Servers**.
- For the admin server and each managed server:
 - Click the server name.
 - Click the **Protocols** tab.
 - Click **General**.
 - Click the **Enable Tunneling** check box.

The screenshot shows the Oracle WebLogic Server Administration Console. The left sidebar displays the 'Domain Structure' tree with 'Environment' expanded to show 'Servers'. The main content area is titled 'Settings for rss' and has tabs for 'Configuration', 'Protocols', 'Logging', 'Debug', 'Monitoring', 'Control', 'Deployments', 'Services', 'Security', and 'Notes'. The 'Protocols' tab is active, and the 'General' sub-tab is selected. A 'Save' button is visible at the top left of the settings area. Below the tabs, there is a descriptive paragraph: 'Use this page to configure connection settings for various communication protocols that this server can use. All settings on this page apply to connections that use the server's default listen port and listen address. If you create network channels for this server, each channel can override these settings.' The settings table includes:

Complete Message Timeout:	60	The maximum number of seconds that this server waits for a complete message to be received. If you configure network channels for this server, each channel can override this message timeout. More Info...
Idle Connection Timeout:	65	The maximum number of seconds that a connection is allowed to be idle before it is closed by the server. The T3 and T3S protocols ignore this attribute. If you configure network channels for this server, each channel can override this idle connection message timeout. More Info...
<input checked="" type="checkbox"/> Enable Tunneling		Specifies whether tunneling for the T3, T3S, HTTP, HTTPS, IIOP, and IIOPS protocols should be enabled for this server. More Info...
Tunneling Client Ping:	45	The interval (in seconds) at which to ping a tunneled client to see if it is still alive. More Info...
Tunneling Client Timeout:	40	The amount of time (in seconds) after which a missing tunneled client is considered dead. More Info...
Maximum Message Size:	10000000	The maximum number of bytes allowed in messages that are received over all supported protocols, unless overridden by a protocol-specific setting or a custom channel setting. More Info...

A 'Save' button is located at the bottom left of the settings area. At the bottom of the console, the version information is displayed: 'WebLogic Server Version: 10.3.5.0. Copyright © 1996-2010, Oracle and/or its affiliates. All rights reserved. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners.'

- e. Click **Save**.
5. Click **Activate Changes**.
6. The next step is to create a data source. Follow instructions in the next section.

Setting the Max PermGen Parameter

The Max PermGen parameter must be set to a minimum value of 192MB. To do so, edit the `setDomainEnv.sh` (.cmd for Windows) file located in the `<domain_home>/bin` directory. Depending on the version of Java you are using, change this parameter to one of the following:

- `MEM_PERM_SIZE_32BIT="-XX:PermSize=<desired_permgen_size>"` or
- `MEM_PERM_SIZE_64BIT="-XX:PermSize=<desired_permgen_size>"`

Setting JAVA_OPTIONS

Edit `<domain_home>/bin/startWebLogic.sh` and add `JAVA_OPTIONS` for the following:

- Specify the location of the Cache directory. For example, after the comment block, add the following line:
`-Djava.io.tmpdir=<domain_home>/servers/<managed_server_name>/tmp`
- Specify UTF file encoding by adding the following line:
`-Dfile.encoding=UTF-8`
- Enable Ehcache shutdown hook by adding the following line:
`-Dnet.sf.ehcache.enableShutdownHook=true`
- Specify IPv4 stack by adding the following line:
`-Djava.net.preferIPv4Stack=true`

After making the above changes, your `JAVA_OPTIONS` should look similar to the following:

```
JAVA_OPTIONS="-Djava.io.tmpdir=<path_to_jav_io_temp_dir>  
-Dfile.encoding=UTF-8  
-Dnet.sf.ehcache.enableShutdownHook=true  
-Djava.net.preferIPv4Stack=true ${JAVA_OPTIONS}"
```

Setting CLASSPATH and PRE_CLASSPATH

Edit `<domain_home>/bin/startWebLogic.sh` and add `<cs_install_dir>/bin` to the CLASSPATH. For example:

```
CLASSPATH="<cs_install_dir>/bin:$CLASSPATH"
```

Note

If the classpath and library path are not set properly, the CAS web application will not start and the **System Tools** node in the **Admin** tab of the WebCenter Sites Admin interface will have reduced functionality.

For the WebCenter Sites Contributor interface to load properly, edit the `setDomainEnv.sh` file under the `<domain_home>/bin` directory and add the `commons-lang-2.4.jar` file, used by WebCenter Sites, to the PRE_CLASSPATH as follows:

```
PRE_CLASSPATH="<webapplication_stage_directory>/  
<webcenter_sites_webapplication>/WEB-INF/lib/commons-lang-  
2.4.jar:$PRE_CLASSPATH"
```

Creating and Configuring a Data Source

This section explains how to create a data source for any of the supported databases using the WebLogic Server Administration Console. This section assumes the admin server has already been started. Two basic steps then need to be completed:

- A. [Create the Data Source](#)
- B. [Configure the Connection Pool Size](#)

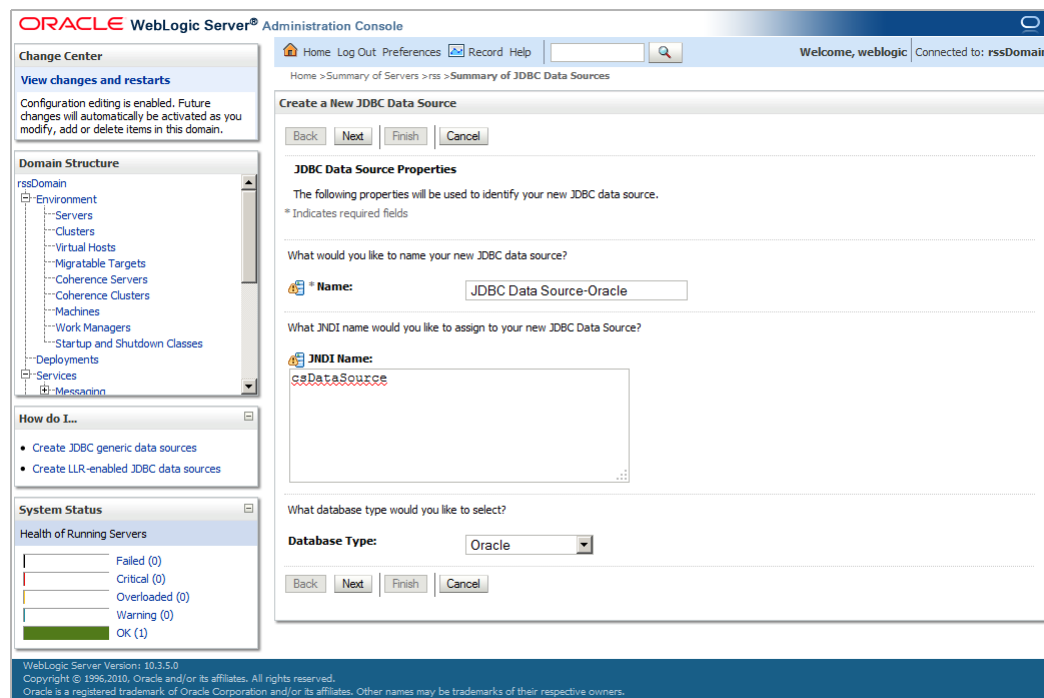
Note

If you are using an Oracle database and require text attributes greater than 2000 characters, you will have to set `cc.bigtext` to CLOB. You will set `cc.bigtext` to CLOB when you run the WebCenter Sites installer (as explained in [“Installation Options,”](#) on page 64.)

A. Create the Data Source

1. Log in to the WebLogic Server Administration Console.
2. In the tree at the left:
 - a. Expand **Services**.
 - b. Click **Data Sources**.
3. Click **New**.
4. In the “Create a New JDBC Data Source” screen, enter the following values:
 - a. A name for the data source.
 - b. `<datasource_name>` for the JNDI name.

- c. A database type/driver pair. The recommended choices are:
- MS SQL Server/Oracle's MS SQL Server Driver (Type 4) versions: 7.0 and higher
 - Oracle / Oracle's Driver (Thin) for Instance connections; versions: 9.0.1 and higher
 - IBM DB2 Driver (Type 4) for JDBC and SQLJ; versions 8.x and higher. Add the location of `db2jcc.jar` and `db2cc_license_cu.jar` to the `PRE_CLASSPATH` by editing the `setDomainEnv.sh` file, located in the `<domain_home>/bin` directory.



Note

The `db2jcc4.jar` file is not supported. Installation will fail if `db2jcc4.jar` is used.

5. Click **Next**.
6. Click **Next** in the screen that follows.

7. For “Connection Properties,” enter the database name, host name for the database server, port, user name, and password. Click **Next**.

The screenshot displays the Oracle WebLogic Server Administration Console interface. The main window title is "ORACLE WebLogic Server® Administration Console". The breadcrumb navigation shows "Home > Summary of Servers > rss > Summary of JDBC Data Sources". The user is logged in as "weblogic" and is connected to the "rssDomain".

The "Create a New JDBC Data Source" wizard is in progress, showing the "Connection Properties" step. The wizard includes the following fields and values:

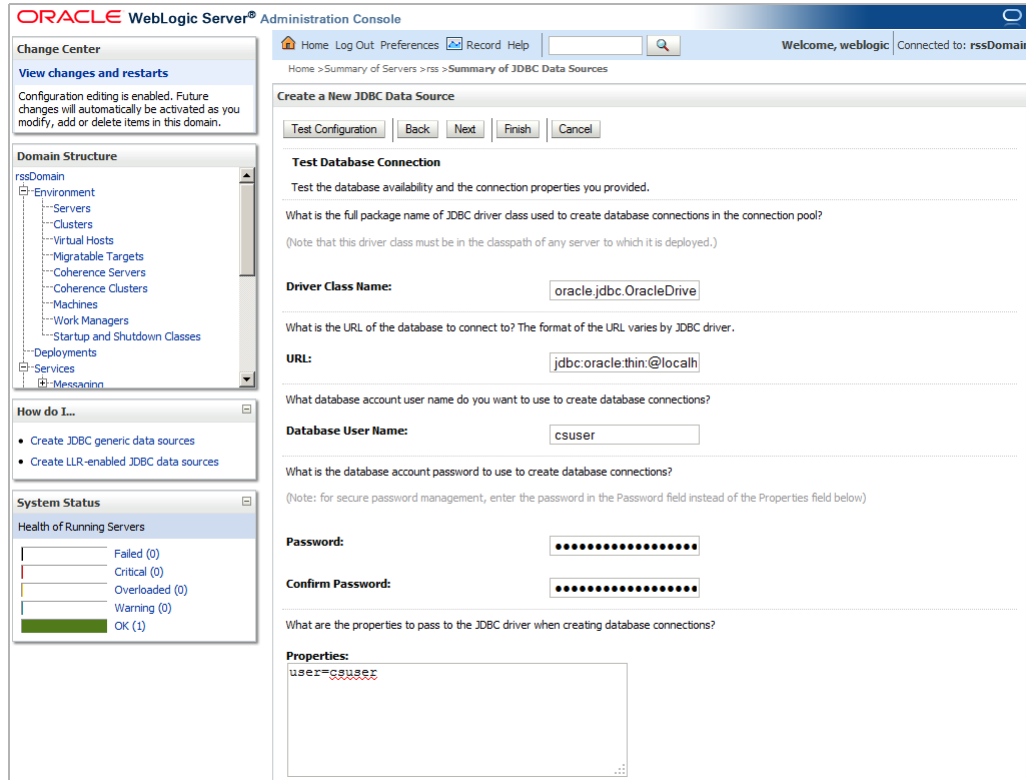
- Database Name:** weblogic
- Host Name:** localhost
- Port:** 1521
- Database User Name:** csuser
- Password:** (masked with dots)
- Confirm Password:** (masked with dots)

The left sidebar contains several sections:

- Change Center:** View changes and restarts. Configuration editing is enabled.
- Domain Structure:** A tree view showing the domain hierarchy: rssDomain > Environment > Servers > Clusters > Virtual Hosts > Migratable Targets > Coherence Servers > Coherence Clusters > Machines > Work Managers > Startup and Shutdown Classes > Deployments > Services > Messaging.
- How do I...:** Links to "Create JDBC generic data sources" and "Create LLR-enabled JDBC data sources".
- System Status:** Health of Running Servers: Failed (0), Critical (0), Overloaded (0), Warning (0), OK (1).

At the bottom of the console, the version information is displayed: "WebLogic Server Version: 10.3.5.0. Copyright © 1996-2010, Oracle and/or its affiliates. All rights reserved. Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners."

8. Verify that the data source information is correct, and click **Test Configuration**. This will test your data source. If the test fails, review your data source information, and try again. When the test succeeds, click **Next**.



9. Select the server that applies to your installation and then click **Finish**.
10. Click **Activate Changes**.

B. Configure the Connection Pool Size

The default values allow a connection pool to contain only up to 15 physical connections. This value needs to be increased.

1. In the left-hand tree:
 - a. Expand **Services**.
 - b. Click **Data Sources**.
2. Click on the newly created data source.
3. In the **Configuration** tab click **Connection Pool**.

4. For “Initial Capacity,” enter **10** and for “Maximum Capacity,” enter **100**.

The screenshot shows the Oracle WebLogic Server Administration Console interface. The main content area is titled "Settings for JDBC Data Source-Oracle" and has several tabs: Configuration, Targets, Monitoring, Control, Security, and Notes. The "Configuration" tab is active, and within it, the "Connection Pool" sub-tab is selected. The "General" sub-tab is also active, showing various configuration fields. The "URL" field is set to "jdbc:oracle:thin:@localhost:1521:weblogic". The "Driver Class Name" field is set to "oracle.jdbc.OracleDriver". The "Properties" field is set to "use=cache". The "System Properties" field is empty. The "Password" and "Confirm Password" fields are masked with dots. The "Initial Capacity" field is set to "10" and the "Maximum Capacity" field is set to "100". The "Capacity Increment" field is set to "1". The "Statement Cache Type" field is set to "LRU".

5. Click **Save**.
6. Click **Accept Changes**.
7. Your next step is one of the following:
 - If you wish to integrate with the Apache or IIS web server, follow instructions in [Chapter 5, “Installing and Configuring the Web Server.”](#)
 - To install WebCenter Sites, follow instructions in [Chapter 6, “Installing and Configuring Oracle WebCenter Sites.”](#)

Deploying Web Applications

This section shows you how to deploy a web application on WebLogic Server using either the command line (`weblogic.Deployer`) or the Administration Console. You will refer to the steps below halfway through the WebCenter Sites and CAS installations ([Chapter 6](#)).

Note

The WebCenter Sites installer includes the installation of CAS. By default, CAS will be installed on the primary cluster member.

Deploying Web Applications Using Command Line

This section provides information about deploying a web application on WebLogic using the command line.

A. Set Up the Environment for `weblogic.Deployer`

Note

The `weblogic.Deployer` command set requires its environment to be configured. This environment must not be used for installing WebCenter Sites.

1. Set the `JAVA_HOME` environment variable to the WebLogic JDK located in `<wl_home>`.
2. Finish setting up the environment by sourcing the `setWLSEnv.sh/cmd` script found in `<wl_home>/wlserver_10.x/server/bin`. This is done on Unix with `. setWLSEnv.sh` or `source setWLSEnv.sh`.

B. Deploy the Web Application

Note

Before deploying the WebCenter Sites web application, ensure that `priority=1` is the first property in the `commons-logging.properties` file in `WEB-INF/classes`.

1. Start the admin server.
2. If you are deploying in a production environment, start the node manager and the managed server.

3. Deploy the web application.

Note

The deployment name takes the name of the directory that the application was deployed to, or the name that the application was given during the WebCenter Sites installation:

```
java weblogic.Deployer -adminurl http://
  <listening_address>:<admin_port> -user <domain_login>
  -password <domain_password> -name <deployment_name> -
  targets AdminServer -nostage -deploy
  <deployment_dir>/<deployment_name>
```

Example of deployment_dir:

```
/opt/Oracle/Middleware/user_projects/domains/csDomain/
applications
```

Example of deployment_name:

```
ContentServer
```

4. When the application has been deployed, it will start automatically. You can stop, start, or undeploy the application with the following commands:

- Stop the application:

```
java weblogic.Deployer -adminurl http://
  <listening_address>:<admin_port> -user <domain_login> -
  password <domain_password> -name <deployment_name> -stop
```

- Start the application:

```
java weblogic.Deployer -adminurl http://
  <listening_address>:<admin_port> -user <domain_login> -
  password <domain_password> -start -name <deployment_name>
```

- Undeploy the application:

```
java weblogic.Deployer -adminurl http://
  <listening_address>:<admin_port> -user <domain_login> -
  password <domain_password> -name <deployment_name> -
  undeploy
```

Deploying Web Applications Using the Administration Console

This section provides instructions for deploying a web application on WebLogic using the Admin Console.

1. Log in to the Admin interface.
2. In the “Domain Structure” panel, click **Deployments**.
3. Click the **Install** button. If necessary, change the current location to the path specified in the “Manual Deployment” screen of the WebCenter Sites installer. For more information about this screen, see [step 4 on page 65](#).

4. Select **cs (open directory)**, then click **Next**.

The screenshot shows the Oracle WebLogic Server Administration Console. The main window is titled "Install Application Assistant" and is part of the "Summary of Deployments" page. The left sidebar contains navigation panels for "Change Center", "Domain Structure", "How do I...", and "System Status". The "Domain Structure" panel shows a tree view with "csDomain" selected. The main content area has a "Path:" field with the value "D:\opt\Oracle\Middleware\user_projects\domains\csDomain\CS". Below this, the "Current Location:" section shows a file tree with folders "bin", "config", "CS (open directory)", and "servers". The "CS (open directory)" folder is selected and highlighted with a red box. At the bottom of the main content area, there are "Back", "Next", "Finish", and "Cancel" buttons.

5. Select the **Install this deployment as an application** option, then click **Next**.

The screenshot shows the Oracle WebLogic Server Administration Console. The main window is titled "Install Application Assistant" and is part of the "Summary of Deployments" page. The left sidebar contains navigation panels for "Change Center", "Domain Structure", "How do I...", and "System Status". The main content area has a "Choose targeting style" section with two radio button options: "Install this deployment as an application" (selected and highlighted with a red box) and "Install this deployment as a library". Below the "Install this deployment as an application" option, there is a description: "The application and its components will be targeted to the same locations. This is the most common usage." At the bottom of the main content area, there are "Back", "Next", "Finish", and "Cancel" buttons.

6. In the “Source accessibility” section, select **I will make the deployment accessible from the following location**.

The screenshot shows the Oracle WebLogic Server Administration Console interface. The main window is titled "Install Application Assistant" and contains several sections:

- Optional Settings:** A section where you can modify settings or accept defaults.
- General:** A section for naming the deployment. The "Name" field is set to "CS".
- Security:** A section for selecting a security model. The "DD Only" option is selected.
- Source accessibility:** A section for selecting how source files should be made accessible. The option "I will make the deployment accessible from the following location" is selected and highlighted with a red box.

The "Location" field is set to "D:\opt\Oracle\Middleware\user_projects\domains\csDomé".

7. Click **Next** and then **Finish**.
8. Similar to deploying the WebCenter Sites application, if you wish to deploy the CAS application, perform [steps 1 – 7](#) of this procedure (replacing the values for the WebCenter Sites application with values for the CAS application).

Part 3

Web Server

This part shows you how to install and configure the Apache and IIS web servers. Both are optional components in a WebCenter Sites installation.

This part contains the following chapter:

- [Chapter 5, “Installing and Configuring the Web Server”](#)

Chapter 5

Installing and Configuring the Web Server

This chapter provides guidelines for integrating WebLogic Server with your choice of either the Apache web server or the IIS web server. Note that integrating with a web server is optional.

This chapter contains the following sections:

- [Installing and Configuring the Apache 2.2.x Plug-in](#)
- [Installing and Configuring IIS Plug-in for IIS 7.0 and Higher](#)

Installing and Configuring the Apache 2.2.x Plug-in

This section explains how to install Apache 2.2.x and then integrate it with the WebLogic Server Application Server. To integrate Apache 2.2.x with WebLogic you will be using the `mod_wl_22.so` plug-in.

To install and configure Apache

1. Install Apache 2.2.x HTTP server.
2. Make sure that `mod_so.c` is enabled. Run `<apache_home>/bin/apachectl -l`. If `mod_so.c` is not in the list that is printed, you must rebuild your Apache with the `-enable-module=so` option.
3. Integrate WebLogic with Apache Web Server by copying the `mod_wl_22.so` file from `<wl_home>/wlserver_10.x/server/plugin/<os_type>/<os_version>` to `<apache_home>/modules`.
4. Edit the `http.conf` file which is located in the `<apache_home>/conf` directory.
 - a. Add the following to the `LoadModules` section:

```
LoadModule weblogic_module modules/mod_wl_22.so
```
 - b. Before “Section 3” of the `httpd.conf` file, add the following lines:
 - For a non-clustered environment:

```
<IfModule mod_weblogic.c>
  WebLogicHost <listening_address>
  WebLogicPort <listen_port>
</IfModule>
```
 - For a clustered environment:

```
<IfModule mod_weblogic.c>
  WebLogicCluster <listening_address1>:<listen_port1>,
  <listening_address2>:<listen_port2>
</IfModule>
```
 - c. After the last `Location` tag, add the following, for example:

```
<Location /cs>
  SetHandler weblogic-handler
</Location>
<Location /cas>
  SetHandler weblogic-handler
</Location>
```
5. Verify the syntax of the `<Apache_home>/conf/httpd.conf` file with the following command:

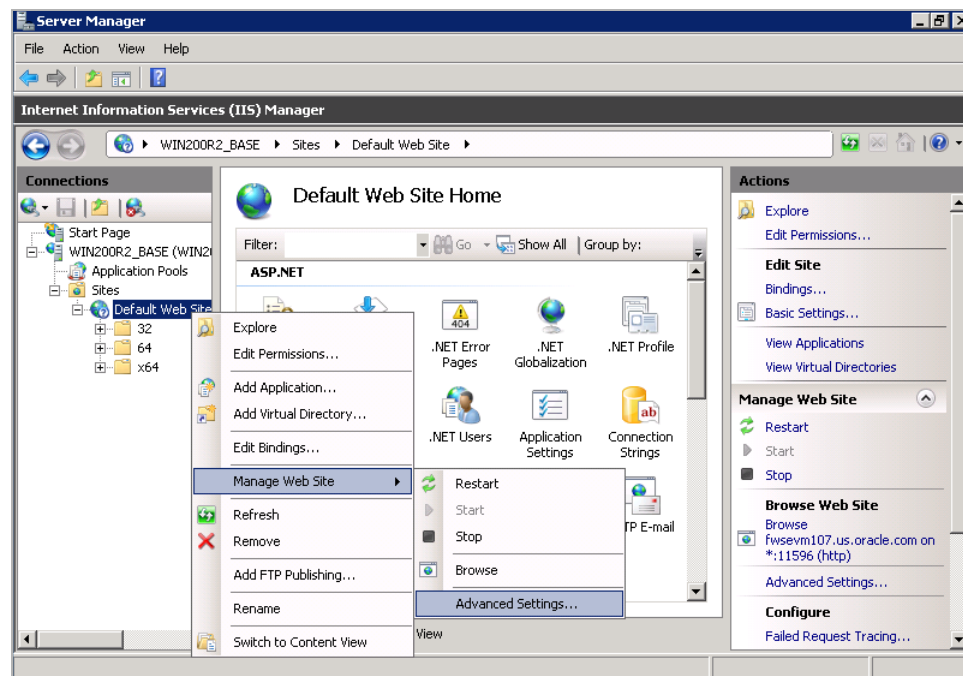
```
<Apache_home>/bin/apachectl -t
```
6. You are now ready to install WebCenter Sites. For instructions, go to [Chapter 6, “Installing and Configuring Oracle WebCenter Sites.”](#)

Installing and Configuring IIS Plug-in for IIS 7.0 and Higher

This section provides instructions for installing and configuring the IIS plug-in for IIS versions 7.0 and higher.

To install and configure the IIS plug-in for IIS 7.0 and higher

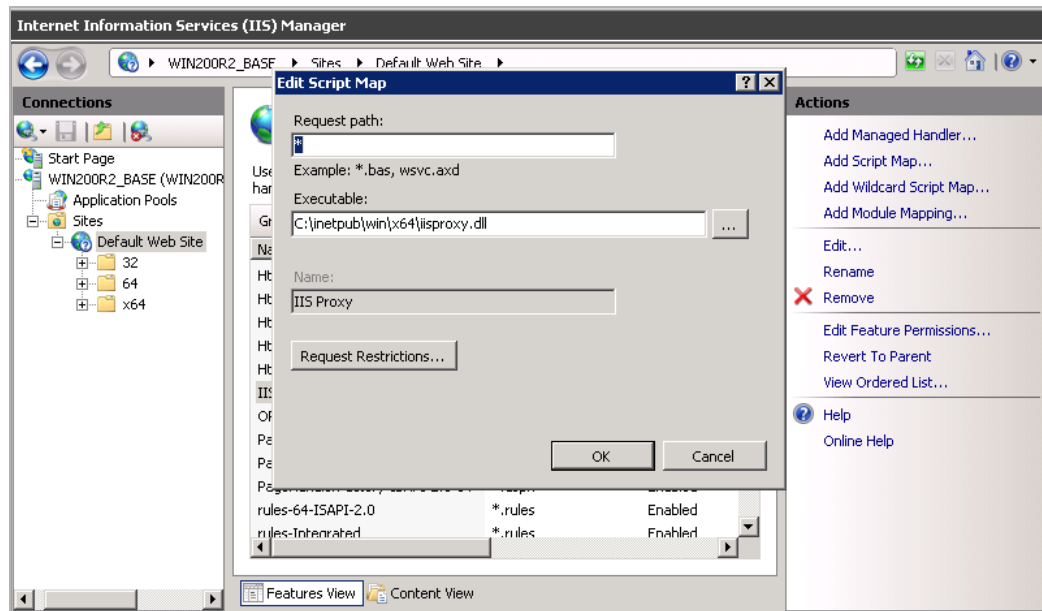
1. If IIS 7.0/7.5 is not installed on your machine, refer to *Oracle WebCenter Sites: Configuring Supporting Software*.
2. Go to the <WL_Home>/wlserver_10.3/server/plugin/ directory and copy the correct OS version and type plugin folder to the server where you installed IIS (referred to as the <IIS_plugin_dir> directory). For example:
C:\inetpub\win\x64.
3. Access the IIS Manager. In the “Connections” navigation pane, expand *root server* > *Sites*.
 - a. Right-click the **Default Web Site** node and select **Manage Web Site > Advanced Settings**.



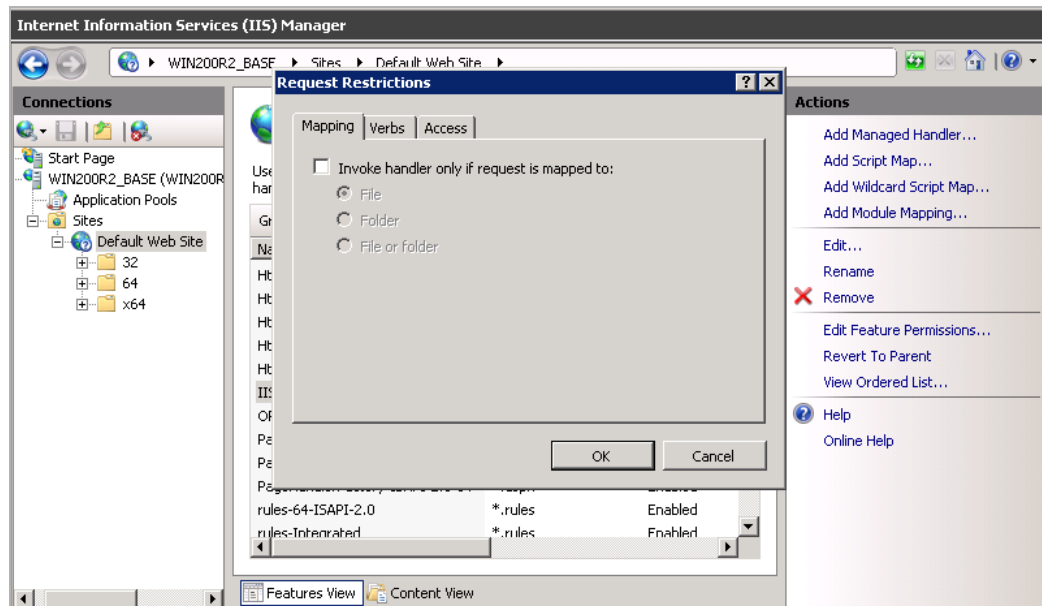
- b. In the “Advanced Settings” window, change the value of the “Physical Path” field to the <IIS_plugin_dir> directory (from [step 2](#)). For example, C:\inetpub\win\x64. Then, click **OK**.
4. In the “Default Web Site Home” screen, double-click **ISAPI Filters**.
 - a. Right-click anywhere in the ISAPI Filters screen and click **Add** from the context menu.
The “Add ISAPI Filter” window opens.

- b. Populate the following fields with the appropriate information for your system. For example:
 - **Filter name:** wlforward
 - **Executable:** C:\inetpub\win\x64\iisforward.dll
 - c. Click **OK**.
5. Click **Default Web Site** to return to the “Default Web Site Home” screen. In the “Default Web Site Home” screen, double-click **Handler Mappings**.
 - a. In the “Handler Mappings” screen, right-click anywhere and select **Add Script Map** from the context menu.

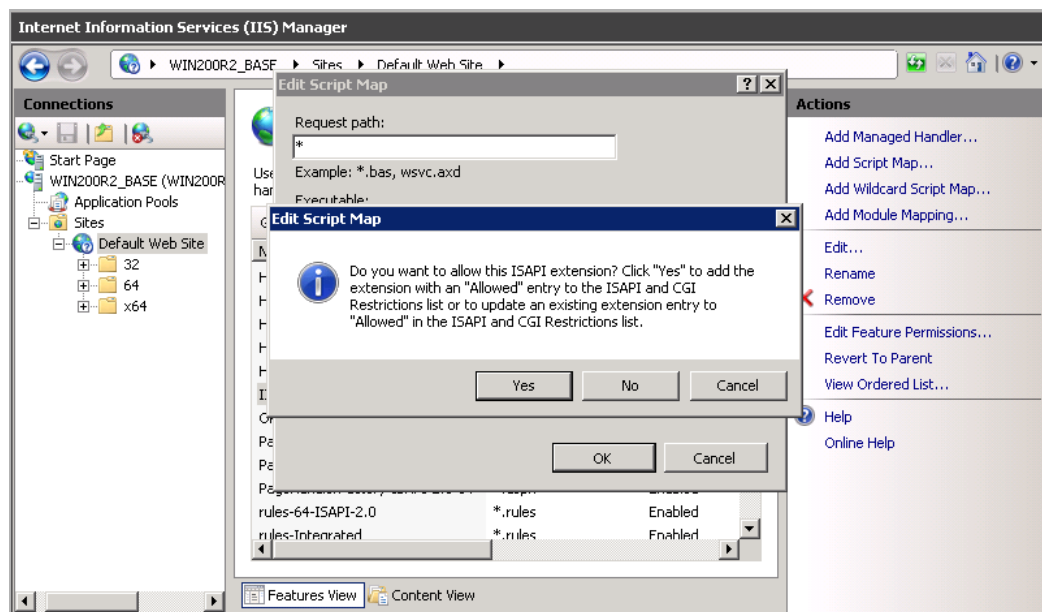
The “Add Script Map” window opens.
 - b. Fill in the following fields with the appropriate information for your system. For example:
 - **Requested Path:** *
 - **Executable:** C:\inetpub\win\x64\iisproxy.dll
 - **Name:** IISProxy



- c. Click **Requested Restrictions**. In the “Request Restrictions” window, uncheck the **Invoker handler** mapping option (if checked).

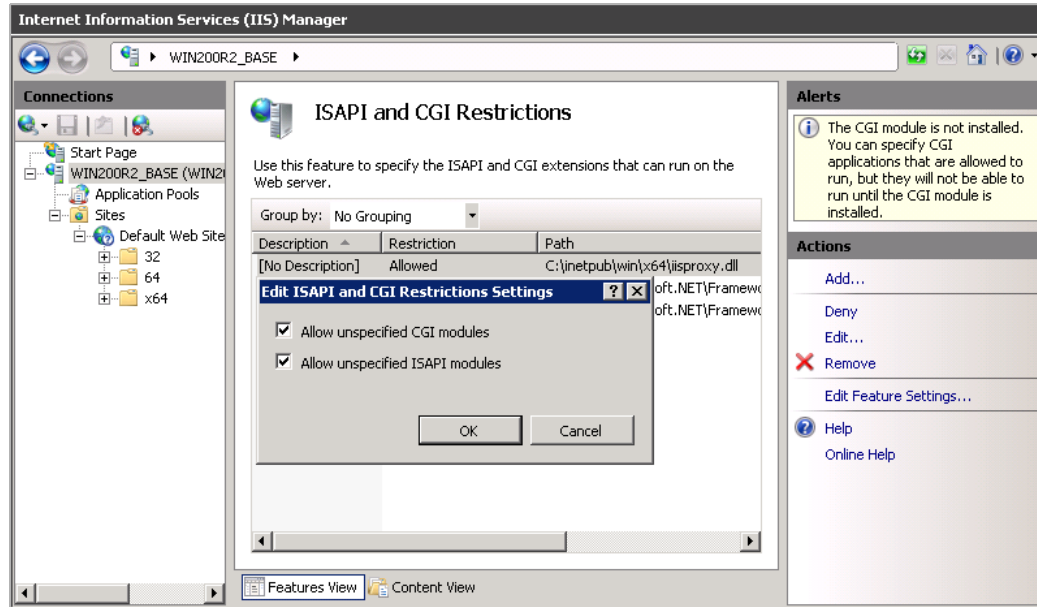


- d. Click **Yes**.



6. Click the **root server** node to access the “IIS Home” screen, then double-click **ISAPI and CGI Restrictions**.
- In the “ISAPI and CGI Restrictions” screen, right-click anywhere and select **Edit Feature Settings** from the context menu.

- b. In the “Edit ISAPI and CGI Restrictions Settings” window, check both the **Allow unspecified CGI modules** option and the **Allow unspecified ISAPI modules** option.



- c. Click **OK**.
7. In the “Physical Path” folder (<IIS_plugin_dir> directory, from [step 2](#)), create a file named `iisproxy.ini` and populate it with the appropriate information for your system.
- For a non-clustered environment, use the following example:


```
WebLogicHost=<hostname>
WebLogicPort=<port>
ConnectRetrySecs=5
WLForwardPath=/<cs_context_root>,/<cas_context_root>
```
 - For a clustered environment, use the following example:


```
WebLogicCluster=<member1_hostname>:<member1_port>,
<member2_hostname>:<member2_port>,<membern_hostname>:
<membern_port>
ConnectRetrySecs=5
ConnectTimeoutSecs=25
WLForwardPath=/<cs_context_root>,/<cas_context_root>
```
- For detailed information about these parameters, refer to the vendor documentation.
8. Start your IIS Server and Default Web Site.

Part 4

Oracle WebCenter Sites

This part shows you how to install WebCenter Sites. It contains the following chapter:

- [Chapter 6, “Installing and Configuring Oracle WebCenter Sites”](#)

Chapter 6

Installing and Configuring Oracle WebCenter Sites

This chapter provides guidelines for installing WebCenter Sites on WebLogic Server, connecting to the supported database of your choice.

This chapter contains the following sections:

- [Overview for Installing WebCenter Sites](#)
- [Installing WebCenter Sites as a Web Application](#)
- [Post-Installation Steps](#)
- [Setting Up a WebCenter Sites Cluster \(Optional\)](#)
- [Setting Up WebCenter Sites for Its Business Purpose](#)

Overview for Installing WebCenter Sites

After completing [Steps I – IV.1](#) in the “[Installation Quick Reference](#),” on [page 9](#), you will install WebCenter Sites using the provided installer. The installation process consists of two stages:

- In the first stage, the installer gathers necessary configuration information and installs the file structure. At the end of the first stage, the installer displays the “Installation Actions” window prompting you to deploy the WebCenter Sites application. In a silent installation, these steps are displayed on the command-line. These steps include the deployment of the WebCenter Sites application.

If the first stage fails, the installer allows you to go back and modify your configuration options (except the database type), and retry the installation.

Note

If you need to change the type of database you have specified during the installation, you must delete the installed WebCenter Sites file structure and restart the WebCenter Sites installation.

- In the second stage, the installer populates the database with the tables and data required for WebCenter Sites to function. If the second stage fails, you must drop the database tables, undeploy the WebCenter Sites application, delete the WebCenter Sites file structure, and re-install WebCenter Sites.

Installation Options

This section explains the ways you can install WebCenter Sites on the WebLogic application server:

- Running the GUI installer

When you run the GUI installer, a graphical interface guides you through the installation process, prompting you to enter information and select options as required. It also provides access to online help.

- Installing Silently

When you install silently, you enter your installation settings into one of the sample `omi.ini` files provided, using comments in the file for guidance. The installer uses the settings in the file to install and deploy WebCenter Sites.

For instructions on installing WebCenter Sites as a web application, see ““[Installing WebCenter Sites as a Web Application](#),” on [page 65](#).”

Installing WebCenter Sites as a Web Application

Note

The WebCenter Sites installer includes the installation of CAS. By default, CAS will be installed on the primary server.

- [Running the GUI Installer](#)
- [Installing Silently](#)

Running the GUI Installer

To install WebCenter Sites using the GUI installer

1. Make sure you have completed [Steps I – IVIV.1](#) in the “[Installation Quick Reference](#),” on page 9.
2. Extract the WebCenter Sites installer archive into a temporary directory.
3. Change to the temporary directory containing the installer files.
4. Execute the installer script:
 - On Windows: **csInstall.bat**
 - On Unix: **csInstall.sh**

The installer provides online help at each screen. Read the online help for detailed explanations of the options that are presented in each screen. If you encounter problems during the installation process, consult the online help for possible causes and solutions.

5. In the “Enter CAS Deployment information” screen, do one of the following:
 - For networks with firewalls, fill in the fields as follows:
 - **Enter Server HostName** – Enter the hostname/IP address of the CAS server, as referred to by the external network. If you are clustering CAS, enter the hostname/IP address of the externally facing load balancer.
 - **Enter Server PortNumber** – Enter the port number of the CAS server, as referred to by the external network. If you are clustering CAS, enter the port number of the externally facing load balancer.
 - **Enter Server HostName of internally accessible CAS** – Enter the hostname/IP address of the CAS server, as referred to by the internal network. If you are clustering CAS, enter the hostname/IP address of the load balancer, as referred to by the internal network.
 - **Enter Server PortNumber of internally accessible CAS** – Enter the port number of the CAS server, as referred to by the internal network. If you are clustering CAS, enter the hostname/IP address of the load balancer, as referred to by the internal network.
 - **Enter Server HostName where CAS is actually deployed** – Enter the hostname of the machine where CAS will be deployed.

- For networks without firewalls, fill in the fields as follows:
 - **Enter Server HostName** – Enter the hostname/IP address of the CAS server. If you are clustering CAS, enter the hostname/IP address of the load balancer.
 - **Enter Server PortNumber** – Enter the port number of the CAS server. If you are clustering CAS, enter the port number of the load balancer.
 - **Enter Server HostName of internally accessible CAS** – Enter the hostname/IP address of the CAS server. If you are clustering CAS, enter the hostname/IP address of the load balancer.
 - **Enter Server PortNumber of internally accessible CAS** – Enter the port number of the CAS server. If you are clustering CAS, enter the port number of the load balancer.
 - **Enter Server HostName where CAS is actually installed** – Enter the hostname of the machine where CAS will be deployed.

6. Halfway through the installation, the installer displays the “Installation Actions” window, which lists the steps you must perform to complete the installation. Do the following:
 - a. Deploy the WebCenter Sites and CAS applications. For instructions, see [“Deploying Web Applications,”](#) on page 48.
 - b. Before continuing with the installation process, do the following:
 - 1) To ensure that Ehcache functions properly, edit the `cas-cache.xml`, `cs-cache.xml`, `ss-cache.xml`, and `linked-cache.xml` files (located in the WebCenter Sites deployed directory in the `WEB-INF/classes` folder). The following fields must be unique for each cache type:
 - `multicastGroupAddress`
 - `multicastGroupPort`

- `timeToLive`

Note

When setting up a cluster, ensure that each corresponding file has identical values across cluster members. Edit the `timeToLive` field to control the propagation of multicast packets. The following is a list of possible options:

- 1- (multicast packets restricted to the same subnet)
- 32- (multicast packets restricted to the same site)
- 64- (multicast packets restricted to the same region)
- 128- (multicast packets restricted to the same continent)
- 255- (multicast packets are unrestricted)

- 2) Edit the `jbossTicketCacheReplicationConfig.xml` file, located under the `<cs_install>/bin` directory. Ensure that the following fields have unique values:

- `mcast addr`
- `mcast port`

Note

When setting up a CAS cluster, ensure that each cluster member has identical values for the following fields:

- `ClusterName`
- `mcast addr`
- `mcast port`
- `ip_ttl` (set this value to 1 or 32 depending on your network)

For more details on setting up a CAS cluster, see *Oracle WebCenter Sites: Configuring Supporting Software*.

- 3) If you are using an Oracle database and require text attributes greater than 2000 characters, set the `cc.bigtext` property to CLOB:
 - 1) Open the Property Editor by clicking the **Property Editor** button.
 - 2) In the Property Editor, open the `futuretense.ini` file.
 - 3) Click the **Database** tab.
 - 4) Locate the `cc.bigtext` property and set its value to CLOB.
 - 5) Save your changes and close the Property Editor.
7. Complete the listed installation steps.
8. When the installation completes successfully, continue with “[Post-Installation Steps](#),” on page 70.

Installing Silently

To install WebCenter Sites silently

1. Make sure you have completed [Steps I – IVIV.1](#) in the “[Installation Quick Reference](#),” on page 9.
2. Extract the WebCenter Sites installer archive into a temporary directory.
3. The `Misc/silentinstaller` folder of the temporary directory contains sample `omii.ini` files that you can use for your silent installation. Refer to the comments in the file for guidance.
 - If you are installing a web installation of a content management or development system, use the `bea_omii.ini` file. Make the following changes:
 - Set `CSInstallbManual` to `true`.
 - Uncomment `CSManualDeployPath` and set the path to the directory where the installer will deploy the WebCenter Sites application.
 - If you are installing a web installation of a delivery system, use the `delivery_omii.ini` file. Add the following properties:


```
CSInstallWLDomainPath=<path to WebLogic domain>
CSInstallbManual=true
CSManualDeployPath=<path to directory where installer
will deploy WebCenter Sites>
```

 - a. Edit the file for your type of installation by verifying the default values and entering additional values as required.
 - b. Save the `omii.ini` file and copy it to a folder outside `<cs_install_dir>`.
4. If you are installing a delivery system, you must set unique passwords for the `fwadmin` and `ContentServer/SatelliteServer` users:
 - a. Open the `cscore.xml` file in the `ContentServer` folder of the temporary directory.
 - b. Set passwords in the following section:


```
<IF COND="Variables.bShowInstallTypeDialog=false">
  <THEN>
    <DIALOGACTION>
      <SETVARIABLE NAME="passwordVar" VALUE=" "/>
      <SETVARIABLE NAME="passwordAdminVar" VALUE=" "/>
    </DIALOGACTION>
  </THEN>
</IF>
```

 - 1) Set the password for the `fwadmin` user in the `VALUE` field following `NAME="passwordVar"`.
 - 2) Set the password for the `ContentServer/SatteliteServer` user in the `VALUE` field following `NAME="passwordAdminVar"`.
 - c. Save and close the file.

5. Edit the `install.ini` file in the root folder of the temporary directory:
 - a. Set the `nodisplay` property to `true`.
 - b. Uncomment the `loadfile` property and set it to the path and name of the `omii.ini` file from [step b](#).

Note

Verify that you have correctly specified the file system path. For example, for Windows:

```
CSInstallDirectory=C\:/csinstall
```

- or -

```
c:\\install
```

- c. Save and close the file.
6. Change to the temporary directory containing the installer files.
7. Execute the installer script:
 - On Windows: **`csInstall.bat -silent`**
 - On Unix: **`csInstall.sh -silent`**
8. To complete the installation, refer to [steps 6 – 8](#) starting on [page 66](#).
9. When the installation completes successfully, continue with “[Post-Installation Steps](#),” [on page 70](#).

Post-Installation Steps

When the WebCenter Sites installation process completes successfully, perform the following steps:

- A. [Setting File Permissions \(Unix Only\)](#)
- B. [Loading the XML Parser](#)
- C. [Adding the WebCenter Sites Binaries Directory to the Library Path Variable](#)
- D. [Verifying the WebCenter Sites Installation](#)
- E. [Switching WebLogic to Production Mode \(Delivery Systems Only\)](#)
- F. [Integrating Oracle Access Manager \(OAM\) with WebCenter Sites \(Optional\)](#)
- G. [Integrating with LDAP](#)

A. Setting File Permissions (Unix Only)

If you installed WebCenter Sites on Unix, you must grant the “executable” permission to all files in the `<cs_install_dir>/bin` directory. To do so, perform the following steps:

1. Change to the `<cs_install_dir>/bin` directory.
2. Run the following command: **chmod +x ***
3. Restart the corresponding WebLogic server.

B. Loading the XML Parser

WebCenter Sites contains a modified version of the Microsoft XML Parser (`MSXML.jar` in the `WEB-INF/lib` directory). If a different version of the Parser is referenced in the `CLASSPATH` environment variable, you must change the path to refer to the version used by WebCenter Sites; otherwise, WebCenter Sites will fail when parsing XML.

C. Adding the WebCenter Sites Binaries Directory to the Library Path Variable

Note

If the classpath and library path are not set properly, the **System Tools** node in the **Admin** tab of the WebCenter Sites Admin interface will have reduced functionality and CAS will not start.

In order for the ContentServer component to function in WebCenter Sites, you must add the WebCenter Sites binaries directory, `<cs_install_dir>/bin`, to your library path variable as follows:

- For HP-UX:
Add `<cs_install_dir>/bin` to `SHLIB_PATH`.
- For Linux and Solaris:
Add `<cs_install_dir>/bin` to `LD_LIBRARY_PATH`.
- For AIX:

Add `<cs_install_dir>/bin` to `LIBPATH`.

- For Windows:

Add `<cs_install_dir>\bin` to your system's `PATH` variable.

For AIX and Solaris based systems, you will have to manually copy the correct library file from the `sigar/bin/<os_type>` folder, located under the Installer folder (into which you extracted the WebCenter Sites installer), to the `<cs_install_dir>/bin` directory. Then, remove the incorrect version from the `<cs_install_dir>/bin` directory.

For example, for AIX 64 bit, copy the `libsigar-ppc64-aix-5.so` from `<Installer>/sigar/bin/AIX64/` to the `<cs_install>/bin` directory and delete the `libsigar-ppc-aix-5.so` from the `<cs_install>/bin` directory.

Note

In the WebCenter Sites log file, the following message indicates that the correct libraries are not found in the library path:

“UnsatisfiedLinkError caught: Content Server is unable to gather/display system information. Ensure that `java.library.path` (or `LD_LIBRARY_PATH`) is pointed to `CSInstallDirectory/bin`”

In such cases, set `-Djava.library.path=<cs_install_dir>/bin` for the application server.

The default WebCenter Sites log file (`sites.log`) is created during the installation process in the `<cs_install_dir>/logs` directory.

D. Verifying the WebCenter Sites Installation

Verify the installation by logging in to Oracle WebCenter Sites as a general administrator and accessing the WebCenter Sites Admin, Contributor, and WEM Admin interfaces. In the process, you will verify that single sign-on functions (by accessing a different application without logging out and back in to WebCenter Sites).

To access the WebCenter Sites interfaces

1. Point your browser to the following URL:

`http://<server>:<port>/<context>/login`

where `<server>` is the host name or IP address of the server running WebCenter Sites, `<port>` is the port number of the WebCenter Sites application, and `<context>` is the name of the WebCenter Sites application that was deployed on the server.

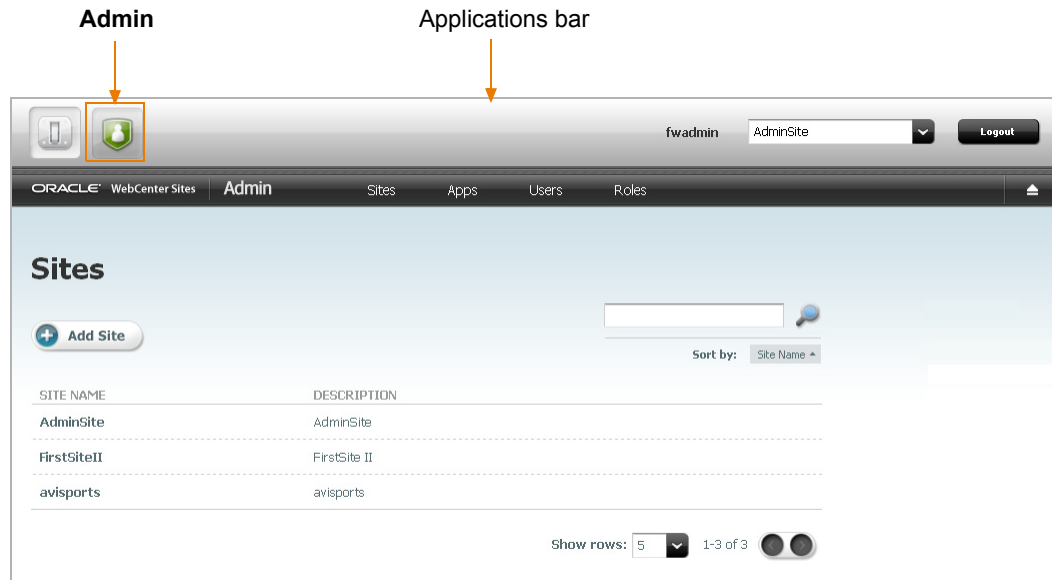
The WebCenter Sites login form is displayed.

2. Enter the following credentials:
 - User name: **fwadmin**
 - Password: **xceladmin**
3. Click **Login**.
4. Access the WEM Admin interface. In the “Site” drop-down, select **AdminSite** and the icon for the **WEM Admin** interface.

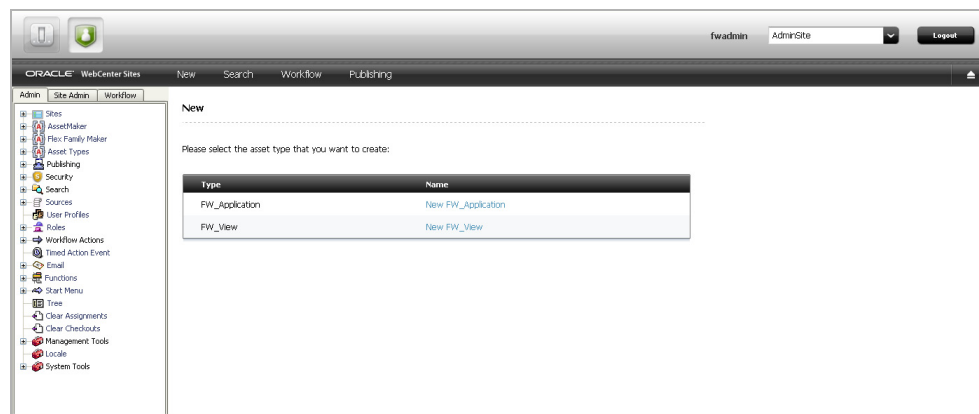
The WEM Admin interface (on AdminSite) is displayed:

SITE NAME	DESCRIPTION
AdminSite	AdminSite
FirstSiteII	FirstSite II
avisports	avisports

- Switch to the WebCenter Sites Admin interface by navigating to the applications bar and selecting the icon for the WebCenter Sites **Admin** interface:



The WebCenter Sites Admin interface (on AdminSite) is displayed. Only system administration functionality is available.



- Switch to the WebCenter Sites Contributor interface:

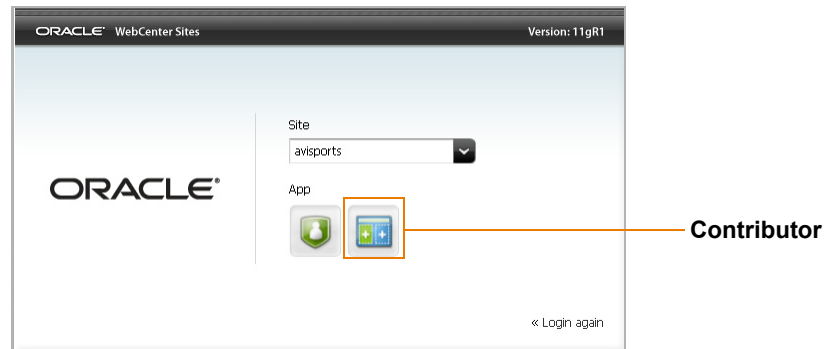
Note

The WebCenter Sites Contributor interface is not associated with AdminSite. If the avisports and FirstSite II sample sites are installed, you can switch to either one of these sample sites to access the Contributor interface. If no sample sites are installed, you will have to access the WEM Admin interface (see [step 4 on page 72](#)), create a site, create users, and then assign the users to the site. The Contributor interface is automatically assigned to the site. (For instructions, see the *Oracle WebCenter Sites Administrator's Guide for the Web Experience Management Framework*.) Then continue with this step.

- a. Navigate to the applications bar. In the site selection drop-down menu, select a site other than AdminSite.

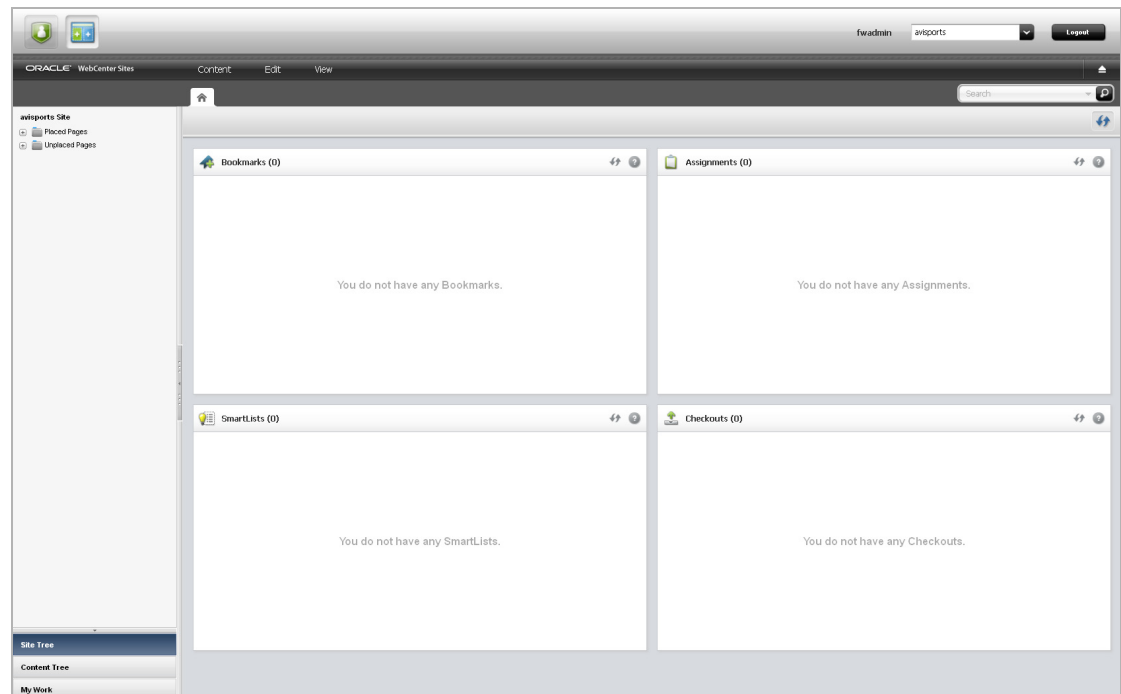


- b. Since this is the first time you are accessing the selected site, the following screen is displayed. Select the icon for the **Contributor** interface.



(Upon subsequent access, WebCenter Sites opens the application you last accessed for the site you selected.)

The Contributor interface on the site to which you are logged in is displayed:



WebCenter Sites is now ready to be configured. Follow the steps in the rest of this chapter.

E. Switching WebLogic to Production Mode (Delivery Systems Only)

If you created a delivery system, switch WebLogic to production mode:

1. Log in to the WebLogic Administration Console.
2. Click the domain name in the tree.
3. Click the **General** tab.
4. Select the check box next to **Production Mode**.
5. Click **Save**.
6. Click **Accept Changes**.
7. Restart all servers.

Note

If you need to turn off production mode, set the environment for `weblogic.deployer` as shown in the previous section “[Set Up the Environment for weblogic.Deployer](#),” on page 48 (assuming you open a new window), then run the following command:

```
java weblogic.Admin -url :<admin_listen_port>/" href="http://
/:<admin_listen_port>"http://
<listening_address>:<admin_listen_port>
-username weblogic -password demo4132 SET -type Domain
-property ProductionModeEnabled false
```

8. After restarting all servers you may see the following error:

```
<BEA-090782><Server is Running in Production Mode and Native
Library(terminalio) to read the password securely from
commandline is not found.>
```

If you receive this error, do the following:

- a. Modify your WebLogic start scripts. The scripts are:

- `<domain_home>/bin/startWebLogic.sh`
- `<domain_name>/bin/startManagedWebLogic.sh`

(If using Windows, the files will have `.cmd` extensions instead of `.sh`.)

Add the following (as a single line) to each script:

```
JAVA_OPTIONS="${JAVA_OPTIONS}
-Dweblogic.management.allowPasswordEcho=true"
```

- b. Restart all servers.

F. Integrating Oracle Access Manager (OAM) with WebCenter Sites (Optional)

If you wish to replace CAS with Oracle Access Manager (OAM), refer to the instructions in *Oracle WebCenter Sites: Configuring Supporting Software*.

G. Integrating with LDAP

LDAP integration is optional for web installations.

If you need to perform LDAP integration, do the following:

1. Set up a supported LDAP server of your choice. For instructions, see *Oracle WebCenter Sites: Configuring Supporting Software*.
2. Run the LDAP integration program included on the WebCenter Sites CD.

For more information, see *Oracle WebCenter Sites: Integrating with LDAP*.

Note

If you have configured LDAP for the primary cluster member, make sure to run the `configuredLDAP.sh` for all secondary cluster members.

Setting Up a WebCenter Sites Cluster (Optional)

If you plan to install a vertical cluster, complete the following steps:

- A. [Adding a Managed Server](#)
- B. [Creating Additional Cluster Members](#)
- C. [Creating and Configuring a Cluster](#)
- D. [Setting Up a CAS Cluster \(Optional\)](#)
- E. [Redeploying CAS \(Optional\)](#)

Before starting the steps in this section, make sure of the following:

- You have a full WebCenter Sites installation on a managed server.
- You are installing a vertical cluster (WebLogic managed servers are installed on the same machine).

A. Adding a Managed Server

If you do not have a managed server in addition to the managed server that was used in the previous section, you must create one for each of the remaining cluster members. Otherwise, skip to the next step, “[B. Creating Additional Cluster Members](#).”

To add a managed server

1. Log into the “WebLogic Administration Console.”
2. Expand **Environment**.
3. Click **Servers**.
4. Click **New**.
5. Enter a name for the new managed server. Enter the listening address, which is the same as the admin server. Enter the listening port, a port different from the admin server and other managed servers. Select **No, this is a stand-alone server**, and click **Next**.
6. Click **Finish**.

7. Click **Accept Changes**.
8. Click **Servers**.
9. Click on the managed server you just created.
10. On the **Configuration** tab, click **General**.
11. From the **Machine** drop-down menu, select the node manager that was created during the domain configuration.
12. Click **Save**.
13. Start the new managed server.
14. Repeat this procedure for each additional managed server.

B. Creating Additional Cluster Members

1. After adding the managed server(s), create the cluster members by repeating the steps in the following sections for each member:
 - a. [“Overview for Installing WebCenter Sites,” on page 64](#)
 - b. [“Post-Installation Steps,” on page 70](#)When this has been done, you should have at least a primary cluster member and a secondary cluster member.
2. The managed servers now need to be placed in a cluster. For instructions, continue with the next section.

C. Creating and Configuring a Cluster

If you did not create and configure a cluster when creating the domain, you will need to do so now. In this section, you will place the managed servers (hosting WebCenter Sites) into the cluster.

To create and configure a cluster

1. Create a cluster:
 - a. Log in to the administration console.
 - b. Expand **Environment**.
 - c. Click **Clusters**.
 - d. Click **New**.
 - e. Enter a name for the cluster. Leave the default multicast address. Enter the Admin Port for **Multicast port**. Click **OK**.
2. Add servers to the cluster:
 - a. While logged in to the administration console, click **Servers**.
 - b. For each managed server that will be a cluster member:
 - 1) Click on the server name.
 - 2) On the **Configuration** tab, select the cluster created previously in this section for the **Cluster** drop-down menu.
 - 3) Click **Save**.

3. Configure file locking and cluster parameters:
 - a. Stop the applications running on the cluster members.
 - b. Create a `sync` directory under `<shared_dir>`.
 - c. For each application on a cluster member:

Edit the `<cs_install_dir>/futuretense.ini` file. Set `ft.sync` to a value that is the same for all cluster members. Set `ft.usedisksync` to the path of the created `sync` directory.
4. Copy all the files from `<cs_install_dir>/bin` to `<wl_home>/wlserver_10.x/server/native/<os_type>/<os_version>`
5. For example, on Linux, copy the files to: `<wl_home>/wlserver_10.3/server/native/linux/i686/`

Note

On Linux: Add the destination path to the `PATH` statement. To do so, edit the two scripts `<domain_home>/bin/startWebLogic.sh` and `<wl_home>/wlserver_10.3/server/bin/startNodeManager.sh` by adding the following lines after the first comment block:

```
LD_LIBRARY_PATH="$LD_LIBRARY_PATH:<wl_home>/
  wlserver_10.3/server/native/linux/i686"
PATH="$LD_LIBRARY_PATH:$PATH"
export LD_LIBRARY_PATH
export PATH
```

6. For each cluster member, add the following inside the `<weblogic-web-app>` tag in the `weblogic.xml` file (located in the `WEB-INF` folder in the WebCenter Sites deployment directory):


```
<session-descriptor>
  <persistent-store-type>replicated</persistent-store-type>
</session-descriptor>
```
7. Start the applications on the cluster members. For login information, see “[Verifying the WebCenter Sites Installation](#),” on page 71.
8. If you are setting up a CAS cluster, continue to the next section “[Setting Up a CAS Cluster \(Optional\)](#).” Otherwise, continue to “[Setting Up WebCenter Sites for Its Business Purpose](#),” on page 79.

D. Setting Up a CAS Cluster (Optional)

The installer is configured to deploy CAS only on the primary WebCenter Sites cluster member. In cases where CAS is deployed on a separate server, you will have to manually deploy CAS. Additionally, you must configure and deploy secondary CAS cluster members manually. For instructions, see *Oracle WebCenter Sites: Configuring Supporting Software*.

E. Redeploying CAS (Optional)

There may be cases where you will have to manually redeploy CAS on another server. For instructions on redeploying CAS, see *Oracle WebCenter Sites: Configuring Supporting Software*.

Setting Up WebCenter Sites for Its Business Purpose

Once you have completed your WebCenter Sites installation, you are ready to configure it for business use. For instructions, see the *Oracle WebCenter Sites Administrator's Guide* and the *Oracle WebCenter Sites Developer's Guide*. The guides explain how to create and enable a content management environment including the data model, content management sites, site users, publishing functions, and client interfaces.

