October 2009
This document describes how to use the Configuration Wizard to create, update, and extend WebLogic Server domains.
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This preface describes the document accessibility features and conventions used in this guide—*Oracle Fusion Middleware Creating Domains Using the Configuration Wizard*.

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**Conventions**

The following text conventions are used in this document:
<table>
<thead>
<tr>
<th>Convention</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>boldface</strong></td>
<td>Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.</td>
</tr>
<tr>
<td><em>italic</em></td>
<td>Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.</td>
</tr>
<tr>
<td><strong>monospace</strong></td>
<td>Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.</td>
</tr>
</tbody>
</table>
This guide provides information about configuring WebLogic Server domains by using the Configuration Wizard.

1.1 Introduction to Domains

A domain is the basic administrative unit of WebLogic Server. It consists of one or more WebLogic Server instances, and logically related resources and services that are managed, collectively, as one unit.

*Figure 1–1  WebLogic Domain Structure*

As shown in Figure 1–1, the basic domain infrastructure consists of one administration server and optional managed servers and clusters.

The components of a domain are described in Table 1–1.
In addition to infrastructure components, a domain defines the basic network configuration for the server instances that it contains. Specifically, a domain defines application deployments, supported application services (such as database and messaging services), security options, and physical host machines.

Domain configuration information is stored in the configuration directories under the domain directory.

Common Domain Configurations
You might find it useful to configure multiple domains based on specific criteria, such as system administrator responsibilities, the logical classification of applications, the geographical locations of servers, or size. The following table outlines the most common domain configurations.

Table 1–2  Common Domain Configurations

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain with managed</td>
<td>In typical production environments, several managed servers can host applications, and an administration server performs management operations.</td>
</tr>
</tbody>
</table>
Overview of the Configuration Wizard

1.2 Overview of the Configuration Wizard

Before you can develop and run a WebLogic application, you must first create a domain. The Configuration Wizard (illustrated in Figure 1–2), simplifies the process of creating and extending a domain.

To create or extend a domain by using the Configuration Wizard, you simply select the product components to be included in the domain (or choose a template that best meets your requirements), and provide basic configuration information. The Configuration Wizard then creates or extends the domain by using the settings from templates.

For more information about templates, see Section 1.3, "About Domain and Extension Templates."

Table 1–2 (Cont.) Common Domain Configurations

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain with managed servers and clusters</td>
<td>In production environments that require increased performance, throughput, or availability for an application, several managed servers might be grouped in a cluster. In such a case, the domain consists of one or more clusters with the applications they host, additional managed servers (if necessary), and an administration server to perform management operations.</td>
</tr>
<tr>
<td>Standalone server domain</td>
<td>In development or test environments, a single application server might be deployed independently without managed servers. In such a case, you can have a domain consisting of a single administration server that also hosts the applications you want to test or develop.</td>
</tr>
</tbody>
</table>

Note: In production environments, it is recommended that you deploy applications only on managed servers; the administration server should be reserved for management tasks.

1.2 Overview of the Configuration Wizard

Before you can develop and run a WebLogic application, you must first create a domain. The Configuration Wizard (illustrated in Figure 1–2), simplifies the process of creating and extending a domain.

To create or extend a domain by using the Configuration Wizard, you simply select the product components to be included in the domain (or choose a template that best meets your requirements), and provide basic configuration information. The Configuration Wizard then creates or extends the domain by using the settings from templates.

For more information about templates, see Section 1.3, "About Domain and Extension Templates."

Figure 1–2 Configuration Wizard
After you create a domain by using the Configuration Wizard, you can start a WebLogic Server instance to run in the domain for developing, testing, and deploying applications.

Note: The Domain Template Builder tool simplifies the process of creating templates by guiding you through the process of creating custom domain and extension templates. You can use these templates for creating and extending domains by using the Configuration Wizard or the WebLogic Scripting Tool (WLST). For information about the Domain Template Builder, see Oracle Fusion Middleware Creating Domain Templates Using the Domain Template Builder. For information about WLST, see Oracle Fusion Middleware Oracle WebLogic Scripting Tool.

Modes of Operation
The Configuration Wizard can be used offline only; that is, when there is no server running. It supports the following modes of operation:

- Graphical mode: An interactive, GUI-based mode
- Console mode: An interactive, text-based mode

Note: For a scripted, silent-mode method, you can use WLST. For more information, see Oracle Fusion Middleware Oracle WebLogic Scripting Tool.

Output of the Configuration Wizard
A domain created using the Configuration Wizard has the following directories:

- autodeploy: This directory provides a location from which you can deploy applications quickly on a development server. When the WebLogic Server instance is running in development mode, it automatically deploys any applications or modules that you place in this directory.
- bin: This directory contains scripts to start and stop the administration server, and, optionally, managed servers.
- config: This directory contains the following:
  - A domain-specific configuration file, config.xml, which specifies the name of the domain and the configuration parameter settings for each server instance, cluster, resource, and service in the domain.
  - Subdirectories that contain the configuration for various system modules: deployments, diagnostics, jdbc, jms, lib, nodemanager, and security. These subdirectories contain configuration files that are incorporated, by reference, into the config.xml file.

Note: Depending on your configuration, some subdirectories might not exist.

- console-ext—This directory contains console extensions used by the administration server.
1.3 About Domain and Extension Templates

In the context of the Configuration Wizard, the term **template** refers to a Java Archive (JAR) file, which contains the files and scripts required to create or extend a domain. The types of templates that can be used by the Configuration Wizard to create or extend domains include:

- **Domain template**: This type of template defines the full set of resources within a domain, including infrastructure components, applications, services, security options, and general environment and operating system options. You can create this type of template from an existing domain by using the Domain Template Builder tool or the `pack` command. Subsequently, you can create a domain based on the template by using the Configuration Wizard.

  The product distribution includes a base WebLogic Server domain template. This template defines the core set of resources within a domain, including an administration server and basic configuration information, infrastructure components, and general environment and operating system options. It does not include sample applications. You can use this template to create a basic WebLogic Server domain, which you can then extend with applications and services, or additional product components.

- **Extension template**: Whereas a Domain template can create a self-sufficient domain, you use an Extension template to add functionality to an existing domain. In the Configuration Wizard, before selecting the extension template to use, you must select the domain you want to update.

- **Managed server template**: This type of template defines the subset (within a domain) of resources that are required to create a managed server domain on a remote machine. This type of template can be created by using the `pack` command.

The product installation includes a set of predefined domain and extension templates. This set includes the base WebLogic Server domain template and various extension templates that allow you to add component features and samples to the base domain. For more information about these templates and how they relate to each other, see *Oracle WebLogic Server Domain Template Reference*. 
1.4 Creating a Domain

The Configuration Wizard guides you through the process of creating a domain for your target environment by selecting the product components to include in your domain, or by using domain templates. If required, you can also customize the domain to suit your environment by adding and configuring managed servers, clusters, and machine definitions, or customizing predefined JDBC data sources, and JMS file store directories.

You might want to customize your domain in the following circumstances:

- To create a multiserver or clustered domain when using the default settings. All the predefined templates delivered with the product create single-server domains.
- To use a database that is different from the default database in the domain or extension template. In this case, you must customize the JDBC settings to point to the appropriate database.
- To customize the listen port and the SSL port.
- To create a test environment by using a domain template that you received, and to modify the domain configuration to work in the test environment based on your requirement.

Figure 1–3 summarizes the steps for creating a domain by using the Configuration Wizard. The steps indicated in boxes with dashed lines are relevant only when you create domains that contain specific products, such as those that use RCU and those that require JDBC data sources.
1.5 Extending a Domain

You can extend an existing domain by adding predefined applications and services, or additional product components.

To extend a domain by using the Configuration Wizard, select the domain to extend and then select the additional product component. Alternatively, you can extend an existing domain by specifying an extension template to include additional applications and services. You can also customize the JDBC connections and change the JMS file store. The Configuration Wizard uses your input to update the configuration files, such as config.xml, and all other generated components in the domain directory, as required.

Figure 1–4 summarizes the steps for extending a domain by using the Configuration Wizard. The steps indicated in boxes with dashed lines are relevant only when you
extend domains to include specific products, such as those that use RCU and those that require JDBC data sources.

**Figure 1–4  Extending a Domain**

1.6 Additional Tools for Creating, Extending, and Managing Domains

You can create and extend domains by using the Configuration Wizard. In addition, you can use the tools listed in Table 1–3 to create, extend, and manage domains. You can also perform run-time configuration by using the consoles of the product components.
**Table 1–3 Additional Tools for Creating, Extending, and Managing Domains**

<table>
<thead>
<tr>
<th>To do this</th>
<th>Use the following tools</th>
</tr>
</thead>
</table>
| Create a domain or extend an existing domain                              | - WebLogic Scripting Tool (WLST)  
  WLST is a command-line scripting interface, which you can use to interact with and configure WebLogic Server instances and domains. When WLST is offline, it enables you to create a domain or update an existing domain without connecting to a running WebLogic Server, supporting the same functionality as the Configuration Wizard.  
  For more information, see Oracle Fusion Middleware Oracle WebLogic Scripting Tool.  
  - unpack command  
  You can use this command to create a domain from the command line, by using a template that is compatible with your current installation. You cannot use unpack to extend an existing domain.  
  For more information, see Oracle Fusion Middleware Creating Templates and Domains Using the Pack and Unpack Commands.                                                                                                                                                                                                                   |
| Add applications and services, or modify existing settings               | - WebLogic Server administration console  
  For more information, see the WebLogic Server Administration Console Online Help.  
  - Other system administration tools, such as WLST, JMX, and Ant.                                                                                                                                                                                                                                                                                  |
| Manage and monitor the health and status of the domain                   | - WebLogic diagnostic framework  
  For more information, see Oracle Fusion Middleware Configuring and Using the Diagnostics Framework for Oracle WebLogic Server.  
  - WebLogic Server administration console  
  For more information, see the WebLogic Server Administration Console Online Help.  
  - WebLogic Server Node Manager  
  For more information, see Oracle Fusion Middleware Managing Server Startup and Shutdown for Oracle WebLogic Server.                                                                                                                                                                                                                   |
This section describes how to start the Configuration Wizard in graphical and console modes.

- Section 2.1, "Starting the Configuration Wizard in Graphical Mode"
- Section 2.2, "Starting the Configuration Wizard in Console Mode"

2.1 Starting the Configuration Wizard in Graphical Mode

The console for the machine on which the product installation resides must support Java-based GUIs. All Windows-based consoles support Java-based GUIs; only a subset of UNIX-based consoles support Java-based GUIs.

---

**Note:** If you attempt to start the Configuration Wizard in graphical mode on a system that cannot support graphical display, the Configuration Wizard automatically starts in console mode.

---

You can start the Configuration Wizard in graphical mode from either the Windows **Start** menu or from the command line.

- To start the Configuration Wizard in graphical mode on a Windows platform, choose **Start > Programs > Oracle WebLogic > WebLogic Server > Tools > Configuration Wizard**.
- To start the Configuration Wizard in graphical mode from a Windows command prompt or on a UNIX platform:
  1. Log in to the system on which the product is installed.
  2. Open an MS-DOS command prompt window (on Windows) or a command shell (on UNIX).
  3. Go to the \common\bin subdirectory of the product installation directory.
  4. Execute the following command:
     - On Windows: `config.cmd`
     - On UNIX: `sh config.sh`
2.2 Starting the Configuration Wizard in Console Mode

When run in console mode, the Configuration Wizard is executed in a text-based environment.

To start the Configuration Wizard in console mode:

1. Log in to the system on which the product installation resides.
2. Open an MS-DOS command prompt window (on Windows) or a command shell (on UNIX).
3. Go to the \common\bin subdirectory of the product installation directory.
4. Execute the following command:
   - Windows: config.cmd -mode=console
   - UNIX: sh config.sh -mode=console

The command and arguments must be entered in lowercase.

Note: When you run the config.cmd or config.sh command, the following error message might be displayed:

*sys-package-mgr*: can't create package cache dir

This error message indicates that the default cache directory is not valid.

You can change the cache directory by including the -Dpython.cachedir=<valid_directory> option in the command line.

The Welcome text is displayed.

To proceed, respond to the prompts by entering the number associated with your choice, pressing the Enter key. The arrow (->) adjacent to a choice indicates the current selection.

- To accept the current selection, type next (or n) and press the Enter key.
- To close the Configuration Wizard, enter exit (or x) and press the Enter key.
- To review or change earlier selections, enter previous (or p) and press the Enter key.
This chapter describes how to create a WebLogic domain by using the Configuration Wizard in graphical mode.

1. Start the Configuration Wizard as described in Section 2.1, "Starting the Configuration Wizard in Graphical Mode."
   
   The Welcome screen is displayed.

2. Select Create a new WebLogic domain and click Next.
   
   The Select Domain Source screen is displayed.

3. Select one of the following options:
   
   - Generate a domain configured automatically to support the following products:
     
     The WebLogic Server option is selected, by default.
     
     Select the check boxes corresponding to the other products to include in the domain.
   
   - Base this domain on an existing template
     
     Select this option to create a domain by using an existing domain template. For information about domain templates, see Oracle Fusion Middleware Domain Template Reference.
     
     Enter the full path to the template in the Template location field, or click Browse to navigate to the directory containing the required template.

   Click Next.

   The Specify Domain Name and Location screen is displayed.

4. Enter the name of the domain and specify the domain location.
   
   - Domain names must not start with a number. This restriction is intended to prevent potential conflicts with internally-generated JDBC store table names, which must begin with a letter.
   
   - The domain directory can be located anywhere in the system. By default, it resides in MW_HOME\user_projects\domains\domain, where MW_HOME is the directory that contains the product installation, and domain is the name of the domain directory defined by the selected template.

   The Configuration Wizard stores the config.xml file and all other generated components in the domain directory that you specify.

   Click Next.
The Configure Administrator User Name and Password screen is displayed.

5. Configure the username and password for the administrator. The username is used to boot the administration server and connect to it.
   - The user name must not contain commas, tabs, or any of the following characters: < > # | & ? ( ) { }.
   - The password is case sensitive, and must contain at least eight alphanumeric characters, with at least one numeral or one of the following characters:

   ! "#$%&’() * + , - . / ; < = > ? [ \ ] ^ _ ` { | ~

Click Next.

The Configure Server Start Mode and JDK screen is displayed.

6. Select the WebLogic domain startup mode.
   - In development mode, the configuration of security is relatively relaxed, allowing you to autodeploy applications.
   - In production mode, the configuration of security is stringent, requiring a user name and password to deploy applications. Before putting a domain into production, familiarize yourself with securing the production environment. For more information, see Oracle Fusion Middleware Securing a Production Environment for Oracle WebLogic Server.

For information about changing the run-time mode after you have created a domain, see the WebLogic Server Administration Console Online Help.

Table 3–1 provides information to help you select a startup mode that suits your requirements.
7. Select the JDK.

In the **JDK Selection** pane, select the JDK for the startup mode that you selected in the **WebLogic Domain Startup Mode** pane.

The Configuration Wizard presents a list of the JDKs included in the installer. You can choose one of these JDKs or another JDK that you have installed on your system.

**Note:** If you select a JDK that is included in the installer, the Configuration Wizard creates server startup scripts to invoke the JDK. If you select a JDK that is not supplied by JDK, the Configuration Wizard does not configure the startup scripts; you must change the startup scripts manually.

Select only those JDKs that are supported on the platform you are using. For a list of the JDKs that are supported for a specific platform, see Oracle Fusion Middleware Supported System Configurations at [http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html](http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html). The default selection reflects the JDK that best meets the requirements of your environment, based on the platform on which you are installing the domain.

8. After selecting the JDK, click **Next**.
If the domain includes components that require JDBC data sources, the **Configure JDBC Data Source** screen is displayed.

For more information, see Section 5.1, "Configuring JDBC Data Sources."

If the domain includes components (such as SOA) that require the use of the Oracle Fusion Middleware Repository Creation Utility (RCU) to load database schemas, the **Configure JDBC Component Schema** screen is displayed.

For more information, see Section 5.5, "Configuring JDBC Component Schema."

If the domain that you are creating does not include any component that requires JDBC data sources or RCU-loaded database schemas, one of the following screens is displayed next:

- **Configure Keystore Credentials**—this screen is displayed only if the domain includes a product that requires a keystore password. See the next step.

- **Select Optional Configuration**—this screen is displayed next if you have no keystore passwords to configure. Go to step 10 to continue.

9. The **Configure Keystore Credentials** screen displays one set of **Enter Keystore Password/Confirm Password** fields for each product that requires a keystore password to be set. For example, if you installed Oracle Information Rights Manager, there is one set of password fields for each of the following two application keystores:

- Oracle Information Rights Management
- Oracle Enterprise Manager Plugin for IRM

For each set of password fields, enter and confirm the password you want to use for the keystore.

---

**Note:** The keystore password for each product listed on this screen is required in order to use these products. Note the passwords you enter and provide them to anyone who is authorized to use these products.

---

When done, click **Next**. The **Select Optional Configuration** screen is displayed.

10. While creating the domain, you can perform certain advanced configuration tasks, such as modifying settings for the administration server; configuring the distribution of your domain across servers, clusters, and machines; configuring JMS file stores; and configuring RDBMS security store settings.

In the **Select Optional Configuration** screen, select the appropriate check boxes depending on the configuration tasks to perform, and click **Next**. For more information about advanced configuration options, see Chapter 4, "Customizing the Domain Environment."

If you click **Next** without selecting any advanced configuration option, the **Configuration Summary** screen is displayed.

11. Review the configuration settings of your domain before the Configuration Wizard creates the domain.

Select an item in the **Domain Summary** pane on the left and review the associated details in the **Details** pane on the right. You can make limited adjustments by clicking **Previous** to return to a previous screen.
12. After reviewing the domain settings, click Create.

   The Creating Domain screen is displayed. It displays messages indicating the progress of the domain creation process.

   When the process is complete, the new domain is ready for use.

13. To start the administration server immediately, select the Start Admin Server check box. This option is available only for Windows systems.

14. Click Done.

---

**Note:** You can limit the type of information displayed in the Domain Summary pane by selecting a filter from the Summary View drop-down list.
Customizing the Domain Environment

While creating a domain, you can (optionally) perform certain advanced configuration tasks such:

- Modifying settings for the administration server
- Configuring the distribution of your domain across servers, clusters, and machines
- Assigning deployments and servers to clusters or servers
- Configuring JMS file store settings
- Configuring the RDBMS security store

To perform the advanced configuration tasks, you must select the appropriate check boxes in the Select Advanced Configuration screen.

The Configuration Wizard guides you through the following configuration tasks.

- Section 4.1, "Configuring the Administration Server"
- Section 4.2, "Configuring Managed Servers"
- Section 4.3, "Configuring Clusters"
- Section 4.4, "Assigning Managed Servers to Clusters"
- Section 4.5, "Creating HTTP Proxy Applications"
- Section 4.6, "Configuring Machines"
- Section 4.7, "Assigning Servers to Machines"
- Section 4.8, "Targeting Deployments to Clusters or Servers"
- Section 4.9, "Targeting Services to Clusters or Servers"
- Section 4.10, "Configuring JMS File Stores"
- Section 4.11, "Configuring the RDBMS Security Store Database"
- Section 4.12, "Reviewing the Domain Settings and Creating the Domain"

4.1 Configuring the Administration Server

In every domain, one server must be designated as the administration server: the central point from which the whole domain is managed.

You can access the administrator server by using the URL protocol://listen-address:listen-port. The protocol can be any of the following: t3, t3s, http, https.
Table 4–1 describes the fields in the **Configure the Administration Server** screen. Specify the appropriate values, and click **Next** to proceed.

---

**Note:** Fields marked with an asterisk (*) are mandatory fields.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name*</td>
<td>Enter a valid server name: a string of characters.</td>
</tr>
<tr>
<td></td>
<td>Each server instance in the production environment must have a unique name, regardless of the domain or cluster in which it resides, and regardless of whether it is an administration server or a managed server. In addition, the name of the administration server must be unique among all component names within the domain.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> This value is specified for identification purposes only. It is not used as part of the URL for applications that are deployed on the server. The server name is displayed in the WebLogic Server administration console. In addition, if you use WebLogic Server command-line utilities or APIs, you must specify this name to identify the server.</td>
</tr>
<tr>
<td>Listen address</td>
<td>From the drop-down list, select a value for the listen address.</td>
</tr>
<tr>
<td></td>
<td>If you select <strong>localhost</strong> as the listen address for a server instance, remote processes cannot connect to that server instance. Only processes on the machine that hosts the server instance can connect to the server instance. If the server instance must be accessible as localhost (for example, if you create administrative scripts that connect to localhost), and it must also be accessible by remote processes, select <strong>All Local Addresses</strong>. The server instance determines the address of the machine and listens on it.</td>
</tr>
<tr>
<td></td>
<td><strong>For more information, see Section 4.1.1, &quot;Specifying the Listen Address.&quot;</strong></td>
</tr>
<tr>
<td>Listen port</td>
<td>Enter a valid value for the listen port to be used for regular, nonsecure requests (through protocols such as HTTP and T3). The default value is 7001 for the administration server. If you leave this field blank, the default value is used. The valid listen port range is from 1 to 65535.</td>
</tr>
<tr>
<td></td>
<td><strong>For more information, see Section 4.1.2, &quot;Specifying the Listen Port.&quot;</strong></td>
</tr>
<tr>
<td>SSL enabled</td>
<td>Select this check box to enable the SSL listen port. By default, SSL is disabled for all new servers.</td>
</tr>
<tr>
<td>SSL listen port</td>
<td>This field is enabled only if the <strong>SSL enabled</strong> check box is selected.</td>
</tr>
<tr>
<td></td>
<td>Enter a valid value to be used for secure requests (through protocols such as HTTPS and T3S). The default value is 7002. If you leave this field blank, the default value is used.</td>
</tr>
<tr>
<td></td>
<td>The valid listen port range is from 1 to 65535.</td>
</tr>
<tr>
<td></td>
<td><strong>Note:</strong> By default, a server instance uses demonstration certificates to authenticate requests from a secure port. In a production environment, you must configure SSL to use certificates from a certificate authority. For more information, see “Configuring SSL” in Oracle Fusion Middleware Securing Oracle WebLogic Server.</td>
</tr>
<tr>
<td></td>
<td><strong>For more information, see Section 4.1.2, &quot;Specifying the Listen Port.&quot;</strong></td>
</tr>
</tbody>
</table>

### 4.1.1 Specifying the Listen Address

Table 4–2 provides guidelines for specifying the listen address for a server.
4.1.2 Specifying the Listen Port

Note the following guidelines when specifying the listen ports and secure listen port:

- Although you can specify any valid port number, if you specify port 80, you can omit the port number from the HTTP request used to access resources over HTTP. For example, if you define port 80 as the listen port, you can use the URL: http://hostname/myfile.html instead of http://hostname:portnumber/myfile.html.

- On some operating systems, port 80 can be accessed only by processes run under a privileged user or group ID. In this case, you can assign the server instance to a UNIX machine on which a post-bind UID or GID is defined.

### Table 4–2 Specifying Listen Address

<table>
<thead>
<tr>
<th>Listen Address</th>
<th>Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Local Addresses or a DNS name</td>
<td>On multi-homed Windows machines, a server instance binds to all available IP addresses.</td>
</tr>
<tr>
<td>An IP address or a DNS name</td>
<td>- To connect to the server instance, processes can specify either the IP address or the corresponding DNS name.</td>
</tr>
<tr>
<td></td>
<td>- Processes that specify localhost fail to connect.</td>
</tr>
<tr>
<td></td>
<td>- You must update existing processes that use localhost to connect to the server instance.</td>
</tr>
<tr>
<td></td>
<td>- For connections that specify the IP address for the listen address and a secured port for the listen port, host name verification must be disabled.</td>
</tr>
<tr>
<td><strong>Note:</strong></td>
<td>To resolve a DNS name to an IP address, WebLogic Server must be able to contact an appropriate DNS server or obtain the IP address mapping locally. Therefore, if you specify a DNS name for the listen address, you must either leave a port open long enough for the WebLogic Server instance to connect to a DNS server and cache its mapping or you must specify the IP address mapping in a local file. If you specify an IP address for the listen address and then a client request specifies a DNS name, WebLogic Server attempts to resolve the DNS name, but if it cannot access DNS name mapping, the request fails.</td>
</tr>
<tr>
<td>localhost</td>
<td>- Processes must specify localhost to connect to the server instance.</td>
</tr>
<tr>
<td></td>
<td>- Only processes that reside on the machine that hosts the server instance (local processes) can connect to the server instance.</td>
</tr>
</tbody>
</table>

4.2 Configuring Managed Servers

In production environments, enterprise applications are hosted, typically, on one or more managed servers, in addition to the administration server.

You can add and delete managed servers in the **Configure Managed Servers** screen of the Configuration Wizard.

---

**Note:** You can create managed servers on remote machines by using the **pack** and **unpack** commands. For more information, see Oracle Fusion Middleware Creating Templates and Domains Using the Pack and Unpack Commands.

1. Review the current managed server configurations. Default values may vary based on the domain source you selected earlier.
2. Add or delete managed servers, or change the settings for existing managed servers, as required for your domain.

The columns in this screen are identical to the fields in the **Configure the Administration Server** screen. For more information, see Section 4.1, "Configuring the Administration Server."

3. After configuring the managed servers, click **Next** in the wizard to proceed.

### 4.3 Configuring Clusters

A cluster is a group of WebLogic Server instances that work together to provide scalability and high-availability for applications. By creating clusters, you can group managed servers such that they operate as a single unit for hosting applications and resources.

You can add, configure, and delete clusters in the **Configure Clusters** screen of the Configuration Wizard. This screen is displayed only if the domain contains at least one managed server.

1. Review the current cluster configuration. Default values may vary, based on the domain source you selected earlier.

**Note:** The wizard provides two views: a concise tabular view of all the clusters, and an individual view of each cluster with each cluster represented by a tab. To toggle the view mode between table and tab views, click **Switch Display**.

2. Add or delete clusters, or change the settings for existing clusters, as required for your domain.

**Note:** Fields marked with an asterisk (*) are mandatory fields.

<table>
<thead>
<tr>
<th>Field</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name*</td>
<td>Enter a valid name for the cluster: a string of characters. The name of the cluster must be unique among all component names within the domain. The default value in this field is <code>new_Cluster_n</code>, where <code>n</code> is a numeric value that is used to differentiate among all the default cluster names; the value of <code>n</code> for the first cluster is 1. The value is incremented by 1 for each cluster that you add.</td>
</tr>
<tr>
<td>Cluster messaging mode</td>
<td>Select the cluster message mode: unicast or multicast.</td>
</tr>
</tbody>
</table>
Assigning Managed Servers to Clusters

3. After configuring the clusters, click **Next**.

For more information, see *Oracle Fusion Middleware Using Clusters for Oracle WebLogic Server*.

### 4.4 Assigning Managed Servers to Clusters

You can assign the available managed servers to clusters within the domain in the **Assign Servers to Clusters** screen.

This screen is displayed only if you have defined at least one cluster.

1. In the **Cluster** pane, select the cluster to which you want to assign a managed server.

2. Assign managed servers to the selected cluster in one of the following ways:

   - Double-click the name of the managed server in the **Server** pane.
   - Select the managed server and click the right arrow.
   - Shift+click to select multiple managed servers; then, click the right arrow.

   The name of the managed server is removed from the **Server** pane and added below the name of the target cluster in the **Cluster** pane.

   **Note:** Only managed servers are listed in the **Server** pane. The administration server is not listed because it cannot be assigned to a cluster.

3. Repeat steps 1 and 2 for each managed server to assign to a cluster.
4. Review the cluster assignments.
   
   If necessary, you can remove a managed server from a cluster in one of the following ways:
   
   ■ Double-click the name of the managed server in the Cluster pane.
   ■ Select the managed server and click the left arrow.
   
   The name of the managed server is removed from the Cluster pane and restored to the Server pane.

5. Click Next.

### 4.5 Creating HTTP Proxy Applications

An HTTP proxy application acts as an intermediary for HTTP requests.

In the Create HTTP Proxy Applications screen of the Configuration Wizard, you can create an HTTP proxy application for each cluster, and specify the managed server on which the proxy application must be deployed.

This screen is displayed only if both of the following statements are true:

■ At least one managed server is assigned to a cluster.
■ At least one managed server is not assigned to any cluster.

**To create HTTP proxy applications:**

1. Select the Create HTTP Proxy check box against the cluster for which you want to create the HTTP proxy application.

   A list of the managed servers that are not assigned to any cluster is displayed in the Proxy Server list.

2. From the Proxy Server list, select a managed server on which the proxy application must be deployed.

   A proxy application named OracleProxy4_clustername_servername is created and deployed in the managed server.

3. Repeat steps 1 through 3 for each cluster for which you want to create HTTP proxy applications.

4. Click Next in the wizard to proceed.

### 4.6 Configuring Machines

In a domain, the machine definitions identify physical units of hardware and are used to associate computers with the WebLogic Server instances that they host.

You might want to create machine definitions in situations such as the following:

■ The administration server uses the machine definition, with the node manager application, to start remote servers.

■ WebLogic Server uses configured machine names when determining the server in a cluster that is best able to handle certain tasks, such as HTTP session replication. WebLogic Server then delegates those tasks to the identified server.
You can create machine definitions in the **Configure Machines** screen of the Configuration Wizard.

1. Select the **Machine** tab (for Windows) and **Unix Machine** tab (for UNIX).
2. Review the current list of configurations, and add or change settings as required for your domain.
   - To add a machine, click **Add**.
   - To delete a machine, select the machine in the list and click **Delete**.

Table 4–4 describes the configuration settings that you can define. Default values may vary based on the domain source that you selected earlier.

---

**Note:** Fields marked with an asterisk (*) are mandatory fields.

---

### Table 4–4: Configure Machine

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name*</td>
<td>Enter a valid machine name: a string of characters.</td>
</tr>
<tr>
<td></td>
<td>The machine name is used to identify the machine within the WebLogic Server domain; it does not have to match the network name for the machine.</td>
</tr>
<tr>
<td></td>
<td>The name must be unique among all component names within the domain.</td>
</tr>
<tr>
<td></td>
<td>The default value in this field is <code>new_[Unix]Machine_n</code>, where <code>n</code> is a numeric value that is used to differentiate among all default machine names; the value of <code>n</code> for the first machine is 1. The value is incremented by 1 for each machine that you add.</td>
</tr>
<tr>
<td>Node manager listen address</td>
<td>Select a value from the drop-down list for the listen address used by node manager to listen for connection requests. By default, the IP addresses defined for the local system and localhost are shown in the drop-down list. The default value is localhost.</td>
</tr>
<tr>
<td></td>
<td>If you specify an IP address for a machine that hosts the administration server and you need to access the WebLogic Server Node Manager, you must disable host name verification.</td>
</tr>
<tr>
<td></td>
<td>For more information, see &quot;Using Host Name Verification&quot; in <em>Oracle Fusion Middleware Securing Oracle WebLogic Server</em>.</td>
</tr>
<tr>
<td>Node manager listen port</td>
<td>Enter a valid value for the listen port used by Node Manager to listen for connection requests.</td>
</tr>
<tr>
<td></td>
<td>The valid node manager listen port range is from 1 to 65535.</td>
</tr>
<tr>
<td></td>
<td>The default value is 5556.</td>
</tr>
<tr>
<td>Post bind GID enabled</td>
<td>This field is displayed only in the <strong>Unix Machine</strong> tab.</td>
</tr>
<tr>
<td></td>
<td>Select this check box to enable a server running on this machine to bind to a UNIX group ID (GID) after it finishes all privileged startup actions. By default, this check box is not selected.</td>
</tr>
</tbody>
</table>
Assigning Servers to Machines

After configuring servers and defining machines, you can assign WebLogic Server instances to machines in the Assign Servers to Machines screen. This screen is displayed only if you have defined at least one machine.

1. In the Machine pane, select the Windows or UNIX machine to which you want to assign a WebLogic Server instance.

2. Assign WebLogic Server instances to the selected machine in one of the following ways:
   - Double-click the WebLogic Server instance in the Server pane.
   - Select the appropriate WebLogic Server instance in the Server pane and click the right arrow.
   - Shift+click to select multiple servers in the Server pane; then, click the right arrow.

   The name of the WebLogic Server instance is removed from the Server pane and added, below the name of the target machine, in the Machine pane.

3. Repeat steps 1 and 2 for each WebLogic Server instance to assign to a machine.

4. Review the machine assignments.

   If necessary, you can remove a WebLogic Server instance from a machine in one of the following ways:
   - Double-click the name of the appropriate WebLogic Server instance in the Machine pane.
   - Select the appropriate WebLogic Server instance in the Machine pane and click the left arrow.

   The name of the WebLogic Server instance is removed from the Machine pane and restored to the Server pane.

### Table 4–4 (Cont.) Configure Machine

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post bind GID enabled</td>
<td>This field is displayed only in the Unix Machine tab. Enter a valid UNIX group ID (GID) that a server running on this machine will run under after it finishes all privileged startup actions. Otherwise, the server continues to run under the group from which it was started. For this setting to take effect, you must select the Post bind GID enabled check box.</td>
</tr>
<tr>
<td>Post bind UID enabled</td>
<td>This field is displayed only in the Unix Machine tab. Select this check box to enable a server running on this machine to bind to a UNIX user ID (UID) after it finishes all privileged startup actions. By default, this check box is not selected.</td>
</tr>
<tr>
<td>Post bind UID</td>
<td>This field is displayed only in the Unix Machine tab. Enter a valid UNIX user ID (UID) that a server running on this machine will run under after it finishes all privileged startup actions. Otherwise, the server continues to run under the account from which it was started. For this setting to take effect, you must select the Post bind UID enabled check box.</td>
</tr>
</tbody>
</table>

3. After updating the settings, click Next.

The Assign Servers to Machines screen is displayed.

4.7 Assigning Servers to Machines

After configuring servers and defining machines, you can assign WebLogic Server instances to machines in the Assign Servers to Machines screen.

This screen is displayed only if you have defined at least one machine.

1. In the Machine pane, select the Windows or UNIX machine to which you want to assign a WebLogic Server instance.

2. Assign WebLogic Server instances to the selected machine in one of the following ways:
   - Double-click the WebLogic Server instance in the Server pane.
   - Select the appropriate WebLogic Server instance in the Server pane and click the right arrow.
   - Shift+click to select multiple servers in the Server pane; then, click the right arrow.

   The name of the WebLogic Server instance is removed from the Server pane and added, below the name of the target machine, in the Machine pane.

3. Repeat steps 1 and 2 for each WebLogic Server instance to assign to a machine.

4. Review the machine assignments.

   If necessary, you can remove a WebLogic Server instance from a machine in one of the following ways:
   - Double-click the name of the appropriate WebLogic Server instance in the Machine pane.
   - Select the appropriate WebLogic Server instance in the Machine pane and click the left arrow.

   The name of the WebLogic Server instance is removed from the Machine pane and restored to the Server pane.
5. Click Next.

4.8 Targeting Deployments to Clusters or Servers

The **Target Deployments to Clusters or Servers** screen of the Configuration Wizard is displayed only if the selected template contains J2EE applications or libraries.

In this screen you can target applications and libraries for deployment on servers or clusters.

Applications and libraries associated with the product for which you are configuring the domain (for example, SOA) are targeted automatically to the managed server created for that product or to the cluster to which that managed server is assigned. In this screen, you can target applications and libraries to additional servers and clusters.

---

**Note:** When you extend a domain, if you delete a managed server or cluster to which applications are currently targeted, the Configuration Wizard automatically retargets those applications as follows:

- If the applications were originally targeted solely to the managed server or cluster that you are now deleting (that is, after you delete the managed server or cluster, the applications would become untargeted in the modified domain), then the Configuration Wizard automatically retargets the applications to all eligible targets.

An eligible target is any cluster or managed server that is not defined in the configuration groups specification (config-groups.xml file) of an included template. Servers or clusters that are specified in config-groups.xml are essentially owned by the template and, therefore, are not eligible for automatic targeting.

- If the applications were originally targeted to multiple targets (including managed servers, clusters, and the administration server), and one of the targeted managed servers or clusters is deleted, then, in the extended domain, the Configuration Wizard leaves the remaining target associations intact and does not attempt to retarget the applications.

---

1. In the **Target** pane, select the cluster or server on which you want to deploy applications or libraries.

The name of the selected target is displayed as the title of the right pane.

2. In the right pane, select the check boxes corresponding to the applications or libraries to deploy on the selected target.

The applications and libraries displayed here vary, depending on the products that you selected in the **Select Domain Source** screen, earlier in the wizard.

---

**Note:** When you select a managed server in the **Target** pane, some of the check boxes in the right pane might be disabled, indicating applications and libraries that are already targeted at the cluster that contains the selected managed server.

After you select applications and libraries, the names of the targeted clusters and servers are displayed in the **Target** column in the right pane.
3. Repeat steps 1 and 2 for the other clusters and servers, as required.

4. After making the required selections, click **Next**.

### 4.9 Targeting Services to Clusters or Servers

The **Target Services to Clusters or Servers** screen of the Configuration Wizard is displayed only if the selected template contains J2EE services.

Services that are associated with the product for which you are configuring the domain (for example, SOA) are targeted automatically, to the managed server created for that product or to the cluster to which that managed server is assigned. In this screen, you can target services to additional servers and clusters.

**Note:** When you extend a domain, if you delete a managed server or cluster to which services are currently targeted, the Configuration Wizard automatically retargets those services as follows:

- If the services were originally targeted solely to the managed server or cluster that you are now deleting (that is, after you delete the managed server or cluster, the services would become untargeted in the modified domain), then the Configuration Wizard automatically retargets the services to all eligible targets.

  An eligible target is any cluster or managed server that is not defined in the configuration groups specification (`config-groups.xml` file) of an included template. Servers or clusters that are specified in `config-groups.xml` are essentially owned by the template and, therefore, are not eligible for automatic targeting.

- If the services were originally targeted to multiple targets (including managed servers, clusters, and the administration server), and one of the targeted managed servers or clusters is deleted, then, in the extended domain, the Configuration Wizard leaves the remaining target associations intact and does not attempt to retarget the services.

1. In the **Target** pane, select the cluster or server on which you want to deploy services.

   The name of the selected target is displayed as the title of the right pane.

2. In the right pane, select the check boxes corresponding to the services to deploy on the selected target.

   The services displayed here vary, depending on the products that you selected in the **Select Domain Source** screen earlier in the wizard.

**Note:** When you select a managed server in the **Target** pane, some of the check boxes in the right pane might be disabled, indicating services that are already targeted at the cluster that contains the selected managed server.

After you select services, the names of the targeted clusters and servers are displayed in the **Target** column in the right pane.

3. Repeat steps 1 and 2 for the other clusters and servers, as required.
4. After making the required selections, click Next.

4.10 Configuring JMS File Stores

A JMS file store is a disk-based file in which persistent messages can be saved.

You can modify the JMS file stores that are configured in your domain, in the Configure JMS File Stores screen, which is displayed only if the selected template contains JMS.

1. Review the current list of JMS file stores. Default values may vary based on the domain source that you selected earlier.

Note: The wizard provides two display modes: a concise tabular view of all the defined components, and an individual view in which each component is represented by a tab. To toggle the view mode between table and tab views, click Switch Display.

2. Modify the settings, as required for your domain.

Table 4–5 describes the fields of the Configure JMS File Stores screen.

Note: Fields marked with an asterisk (*) are mandatory fields.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name*</td>
<td>Enter a name for the JMS file store. The name must be a string of characters. The name of the JMS file store must be unique among all component names within the domain.</td>
</tr>
<tr>
<td>Directory</td>
<td>Enter the path of the directory (in your system) in which the JMS file store resides.</td>
</tr>
</tbody>
</table>
3. After updating the settings, click Next.

The Configure RDBMS Security Store Database screen is displayed.

4.11 Configuring the RDBMS Security Store Database

You can define RDBMS security store settings in the Configure RDBMS Security Store Database screen of the Configuration Wizard.

Table 4–6 describes the fields in the Configure RDBMS Security Store Database screen.

---

### Table 4–6 Configure RDBMS Security Store Database

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Synchronous write policy</td>
<td>From the drop-down list, select one of the following synchronous write policies to determine how the file store writes data to the disk:</td>
</tr>
<tr>
<td></td>
<td>■ Cache-Flush: Transactions cannot be completed until all their write operations have been flushed to the disk.</td>
</tr>
<tr>
<td></td>
<td>■ Direct-Write: Write operations are performed directly to the disk. This policy is supported on Solaris and Windows. If this policy is active on an unsupported platform, the file store switches automatically to the cache-flush policy.</td>
</tr>
<tr>
<td></td>
<td>■ Disabled: Transactions are complete as soon as the writes are cached in memory. When this policy is active, completion of transactions does not depend on waiting for writes to reach the disk. This setting affects performance, scalability, and reliability.</td>
</tr>
<tr>
<td></td>
<td>Note: The use of the direct-write policy is reliable in Solaris systems, but Windows systems may leave transaction data in the on-disk cache without writing it to disk immediately. This is considered unreliable, because a power failure can cause loss of on-disk cache data, possibly resulting in lost or duplicate messages. For reliable writes using the direct-write policy on Windows, either disable all write caching for the disk (enabled by default), or use a disk with a battery-backed cache. Some file systems, however, do not allow this value to be changed (for example, a RAID system that has a reliable cache).</td>
</tr>
<tr>
<td></td>
<td>Note: If the JMS file store is used exclusively for paging nonpersistent messages to the disk, the synchronous write policy is ignored.</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Database Type</td>
<td>From the drop-down list, select the type of database to use as the RDBMS security store.</td>
</tr>
<tr>
<td>*Driver</td>
<td>Select the driver to use for the database. The list of available drivers varies, depending on the database type that you select.</td>
</tr>
<tr>
<td>*Class Name</td>
<td>No action is required. The class name is displayed automatically, based on the driver that you select.</td>
</tr>
<tr>
<td>*DBMS SID</td>
<td>Enter the SID of the database.</td>
</tr>
</tbody>
</table>

---
After specifying the RDBMS security store settings, click **Next**.

**Note:** You can test the connection to the database by clicking **Test Connection**. Before starting the server, you must load the necessary SQL scripts for the RDBMS security store. If you use an RDBMS security store in a clustered domain, it is recommended that you use it with JMS configuration (JNDI name and JMS topic). For more information, see the WebLogic Server Administration Console Online Help.

The **Configuration Summary** screen is displayed.

### 4.12 Reviewing the Domain Settings and Creating the Domain

In the **Configuration Summary** screen, you review the detailed configuration settings of your domain before the Configuration Wizard creates it.

1. Select an item in the **Domain Summary** pane on the left and review the associated details in the **Details** pane on the right. You can make limited adjustments by clicking **Previous** to return to a previous screen.

   **Note:** You can limit the type of information displayed in the Domain Summary pane by selecting a filter from the **Summary View** drop-down list.

2. After reviewing the domain settings, click **Create**.

   The **Creating Domain** screen is displayed. It displays messages indicating the progress of the domain creation process.
When the process is complete, the new domain is ready for use.

3. To start the server immediately, select the **Start Admin Server** check box and click **Done**. This option is available only in Windows systems.

4. Click **Done**.
5

Customizing JDBC Data Sources and Component Schema

When you are creating or extending a domain using the Configuration Wizard, you can change the JDBC data source and JDBC component schema settings if they are defined in the domain or template that you selected as the source for the domain that you are creating or extending.

The following topics describe the steps required to change the JDBC settings in your domain:

- Section 5.1, "Configuring JDBC Data Sources"
- Section 5.2, "Configuring RAC Multi Data Source"
- Section 5.3, "Testing JDBC Data Sources"
- Section 5.4, "Running Database Scripts"
- Section 5.5, "Configuring JDBC Component Schema"
- Section 5.6, "Configuring RAC Multi Data Source Component Schema"
- Section 5.7, "Testing the Component Schema"

5.1 Configuring JDBC Data Sources

A JDBC data source contains a pool of database connections that are created when the data source instance is created—when it is deployed or targeted, or at server startup. Applications look up a data source on the JNDI tree, and then request a connection. When the applications no longer need the connections, they return the connections to the connection pool in the data source.

In the Configure JDBC Data Sources screen, you can configure the JDBC data sources defined in your domain source.

---

**Note:** No databases are defined in the wls.jar template; so, if you selected the WebLogic Server template as the basis for the domain, the Configure JDBC Data Sources window and the Run Database Scripts screens are not displayed.

---

The JDBC data sources associated with the products for which you are creating the domain are listed in the lower half of the screen.
Configuring JDBC Data Sources

Note: To configure one or more of the data sources as RAC multi data sources, select the check box adjacent to the name of the required schema, and select the Configure selected data sources as RAC multi data sources in the next panel check box; then, click the Next button.

1. Select the data source for which you want to specify settings by selecting the check box adjacent to the data source name.

Note: When you select multiple data sources, the text "Varies among data sources" might be displayed in certain fields, indicating that the current values of those fields are different across the selected data sources. If you go ahead and change the values in such fields, the new values are applied uniformly across the selected data sources.

2. Review the current configuration settings and modify them as required. Table 5–1 describes the fields of the Configure JDBC Data Sources screen.

Note: The default values of data source parameters such as vendor, driver, host name, and port number depend on the values that are specified in the application templates.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor</td>
<td>Select the database vendor.</td>
</tr>
<tr>
<td>Driver</td>
<td>Select the JDBC driver to use to connect to the database. The list includes common JDBC drivers for the selected database vendor.</td>
</tr>
<tr>
<td>Username</td>
<td>Enter the account login name for connecting to the database.</td>
</tr>
<tr>
<td>Password</td>
<td>Enter the login password for the specified username.</td>
</tr>
<tr>
<td>DBMS/Service</td>
<td>Enter a DBMS SID or service name. The value that you must enter depends on the driver that you select.</td>
</tr>
<tr>
<td></td>
<td>- If the name of the Oracle driver that you selected contains the words &quot;for Instance connections,&quot; you must enter the SID.</td>
</tr>
<tr>
<td></td>
<td>- If the name of the Oracle driver contains the words &quot;for Service connections,&quot; you must enter the service name.</td>
</tr>
<tr>
<td></td>
<td>- For information about configuring DataDirect’s driver, see the DataDirect documentation.</td>
</tr>
<tr>
<td>Host Name</td>
<td>Enter the name of the server hosting the database.</td>
</tr>
<tr>
<td>Port</td>
<td>Enter the port number to be used to connect to the server.</td>
</tr>
</tbody>
</table>

The values that you specify are displayed in the appropriate columns in the data source list, for the selected data source.

3. After updating the settings, do one of the following:
   - To test the data source connections to the specified databases, click Test Connections. The Test Data Source Connections screen is displayed. For more information, see Section 5.3, "Testing JDBC Data Sources."
If you do not want to test the connections to the database, click Next.

5.2 Configuring RAC Multi Data Source

In this screen of the Configuration Wizard, you configure the data sources (that are included in the domain) as RAC data sources.

The data sources that you opted to configure as RAC data sources in the previous screen of the wizard (Configure JDBC Data Sources) are listed in the lower half of the screen.

1. Select the data source for which you want to specify data source settings by selecting the check box adjacent to the data source name.

   **Note:** When you select multiple data sources, the text "Varies among data sources" might be displayed in certain fields, indicating that the current values of those fields are different across the selected data sources. If you go ahead and change the values in such fields, the new values are applied uniformly across the selected data sources.

2. Specify the settings for the RAC data sources.

   Table 5–2 describes the fields in this screen.

   **Table 5–2 Configure JDBC Data Sources**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver</td>
<td>Select the JDBC driver to use to connect to the database.</td>
</tr>
<tr>
<td>Service Name</td>
<td>Enter a database Oracle RAC service name.</td>
</tr>
<tr>
<td>Username</td>
<td>Enter the account login name for connecting to the database.</td>
</tr>
<tr>
<td>Password</td>
<td>Enter the login password for the specified username.</td>
</tr>
<tr>
<td>Host Name</td>
<td>Enter the name of the server hosting the RAC database instances.</td>
</tr>
<tr>
<td>Instance Name</td>
<td>Enter the name of each Oracle database instance.</td>
</tr>
<tr>
<td>Port</td>
<td>Enter the port numbers to be used to connect to the server that hosts the database.</td>
</tr>
</tbody>
</table>

   **Note:** You must specify the host name, instance name, and port number of at least one database instance.

To add a database instance, click Add, and then specify the host name, instance name, and port.

The values that you specify are displayed in the appropriate columns in the data source list, for the selected data source.

3. After making the required selections and entries, click the Next button in the wizard to test the connections to the data sources.
5.3 Testing JDBC Data Sources

In the Test JDBC Data Sources screen, you can test the configurations that you specified for the data sources in the previous screen.

1. Select the check boxes adjacent to the names of the data sources to test.
2. Click Test Connections for the connection to test.

The wizard tests the configuration for each data source, by attempting to connect to a URL that is constructed by using the driver, host, port, and other information that you specified while configuring the data source.

The result of the test is indicated in the Status column. Details are displayed in the Connection Result Log pane.

3. After testing the connections, click the Next button in the wizard.

5.4 Running Database Scripts

A domain template might contain a set of SQL files organized by database type. If the domain template contains SQL files, you can run them while creating the domain, in the Run Database Scripts window. Database content for each of the data sources defined in your domain is set up by using pre-existing SQL or database loading files.

---

**Note:** No databases are defined in the wls.jar template; so, if you selected the WebLogic Server template as the basis for the domain, the Configure JDBC Data Sources window and the Run Database Scripts screens are not displayed.

---

1. In the Available JDBC Data Sources pane, select the data source for which you want to run the scripts. The scripts that can be executed are displayed in the Available SQL Files and Database Loading Options.
2. Select the database version from the DB Version drop-down menu.
3. Click Run Scripts.

All the scripts displayed in the Available SQL Files and Database Loading Options pane for the selected data source are executed, and the results are displayed in the Results pane. To capture test output in a log file, select the Log File check box and specify the location of the log file.

4. Repeat steps 1 through 3 for each data source for which you want to execute SQL scripts.
5. Click Next.

5.5 Configuring JDBC Component Schema

For some Fusion Middleware components (for example, SOA and Web Center Spaces), JDBC data sources might be defined as part of the component's database schema, which are loaded (during installation) by using the Repository Creation Utility (RCU).

When you create a domain for such components by using the Configuration Wizard, you can configure the JDBC component schema settings: database driver, schema owner, password, and so on.

The JDBC component schemas associated with the products for which you are creating the domain (for example, SOA) are listed in the lower half of the screen.
1. Select the schemas for which you want to specify data source settings, by selecting the check box adjacent to the schema names.

2. Review the current configuration settings and modify them as required.

3. The following table describes the fields in this screen.

   **Note:** The default values of component schema parameters such as vendor, driver, host name, and port number depend on the values that are specified in the application templates.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor</td>
<td>Select the database vendor.</td>
</tr>
<tr>
<td>Driver</td>
<td>Select the JDBC driver to use to connect to the database. The list includes</td>
</tr>
<tr>
<td></td>
<td>common JDBC drivers for the selected database vendor.</td>
</tr>
<tr>
<td>Schema Owner</td>
<td>Enter the account login name for connecting to the database.</td>
</tr>
<tr>
<td>Schema Password</td>
<td>Enter the login password for the specified schema owner.</td>
</tr>
<tr>
<td>DBMS/Service</td>
<td>Enter a database DBMS name, or service name if you selected a service</td>
</tr>
<tr>
<td></td>
<td>type driver.</td>
</tr>
<tr>
<td>Host Name</td>
<td>Enter the name of the server hosting the database.</td>
</tr>
<tr>
<td>Port</td>
<td>Enter the port number to be used to connect to the server that hosts the</td>
</tr>
<tr>
<td></td>
<td>database.</td>
</tr>
</tbody>
</table>

   The values that you specify are displayed in the appropriate columns in the schema list, for the selected schemas.

4. After making the required selections and entries, click the **Next** button in the wizard to test the component schemas.

### 5.6 Configuring RAC Multi Data Source Component Schema

In this screen of the Configuration Wizard, you configure the component schemas (that are included in the domain) as RAC multi data sources.
The component schemas that you opted to configure as RAC multi data sources in the previous screen of the wizard (Configure JDBC Component Schema) are listed in the lower half of the screen.

1. In the schema list in the lower half of the screen, select the schemas to configure as RAC multi data sources, by selecting the check box adjacent to the schema names.

   Note: When you select multiple data source schemas, the text "Varies among component schemas" might be displayed in certain fields, indicating that the current values of those fields are different across the selected schemas. If you go ahead and change the values in such fields, the new values are applied uniformly across the selected schemas.

2. Specify the settings for the data sources.
   Table 5–2 describes the fields in this screen.

   **Table 5–4  Configure JDBC Data Sources**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver</td>
<td>Select the JDBC driver to use to connect to the database.</td>
</tr>
<tr>
<td>Service Name</td>
<td>Enter a database Oracle RAC service name.</td>
</tr>
<tr>
<td>Username</td>
<td>Enter the account login name for connecting to the database.</td>
</tr>
<tr>
<td>Password</td>
<td>Enter the login password for the specified username.</td>
</tr>
<tr>
<td>Host Name</td>
<td>Enter the name of the server hosting the RAC database instances.</td>
</tr>
<tr>
<td>Instance Name</td>
<td>Enter the name of each Oracle database instance.</td>
</tr>
<tr>
<td>Port</td>
<td>Enter the port numbers to be used to connect to the server that hosts the database.</td>
</tr>
</tbody>
</table>

   Note: You must specify the host name, instance name, and port number of at least one database instance.

   To add a database instance, click Add, and specify the host name, instance name, and port.
   The values that you specify are displayed in the appropriate columns in the schema list, for the selected schemas.

3. After making the required selections and entries, click Next to test the component schemas.

### 5.7 Testing the Component Schema

In the Test Component Schema screen, you can test the configurations that you specified for the data sources in the previous screen.

1. Select the check boxes adjacent to the names of the schemas to test.

2. Click Test Connections for the connection to test.
The wizard tests the configuration for each schema, by attempting to connect to a URL that is constructed by using the driver, host, port, and other information that you specified while configuring the schema.

The result of the test is indicated in the Status column. Details are displayed in the Connection Result Log pane.

3. After testing the connections, click the Next button in the wizard.

5.8 Configuring JMS File Stores

A JMS file store is a disk-based file in which persistent messages can be saved.

You can modify the JMS file stores that are configured in your domain, in the Configure JMS File Stores screen, which is displayed when you click Next in the Run Database Scripts screen. This step is optional.

1. Review the current list of JMS file stores. Default values may vary based on the domain source that you selected earlier.

Note: The wizard provides two display modes: a concise tabular view of all the defined components, and an individual view, in which each component is represented by a tab, and you view a particular component by selecting the corresponding tab. To toggle the display mode between table and tab formats, click Switch Display.

2. Modify the settings as required for your domain.

Table 5–1 describes the fields of the Configure JMS File Stores screen.

Note: Fields marked with an asterisk (*) are mandatory fields.

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name*</td>
<td>Enter a name for the JMS file store. The name must be a string of characters and can include spaces. The name of the JMS file store must be unique among all component names within the domain.</td>
</tr>
<tr>
<td>Directory</td>
<td>Enter the path of the directory (in your system) in which the JMS file store resides.</td>
</tr>
</tbody>
</table>
3. After updating the settings, click **Next**.

   Review the domain settings and proceed with domain creation as described in **Section 4.12, "Reviewing the Domain Settings and Creating the Domain."**

For more information, see *Oracle Fusion Middleware Configuring Server Environments for Oracle WebLogic Server.*
You can add product component functionality or additional applications and services to an existing domain by extending it using the Configuration Wizard. For example, if you created a base WebLogic Server domain and you want to add the Avitek Medical Records Examples functionality, you can extend the domain by using the medrec.jar template.

The Configuration Wizard simplifies the task of extending an existing domain by using extension templates. For more information about domain templates, see Oracle Fusion Middleware Domain Template Reference.

Figure 6–1 shows the steps in the process of extending a domain.
To extend a domain, perform the following steps:

1. Ensure that the servers in the domain that you want to extend are not running.

2. Start the Configuration Wizard as described in Section 2.1, “Starting the Configuration Wizard in Graphical Mode.”

   The **Welcome** screen of the Configuration Wizard prompts you to choose whether you want to create a domain or extend an existing domain by adding product component functionality, applications and services.

3. Select **Extend an existing WebLogic domain** and click **Next**.

   The **Select a WebLogic Domain Directory** screen prompts you to select the existing domain to update with additional applications or services.

4. Use the navigation tree to select a valid domain directory (a directory that contains a `config.xml` file in the `config` directory of the domain), and click **Next**.

   The **Select Extension Source** screen prompts you to select the source from which to extend your domain. You can select products to add to your domain, or extend your domain by using an existing extension template.

5. Choose one of the following options:

   - **Extend my domain automatically to support the following added products:**

     Select the check boxes for the products to add to your domain. The products already included in your domain are indicated by grayed-out check boxes.

   - **Extend my domain using an existing extension template**

     Specify the path to the extension template in the **Template location** field.

     Click **Next**.

     If you opted to extend the domain by using an extension template, and if the template that you specified contains applications, the **Specify Domain Name and Location** screen is displayed.

6. Specify the path to the application in the **Applications location** field, and click **Next**.

---

**Note:** When you extend a domain in which the managed servers are distributed (by using the **pack** and **unpack** commands) to remote machines, the startup scripts on the remote machines are not updated automatically.

To ensure that startup scripts on the remote machines are updated, perform the following steps after extending the domain:

1. Delete the managed server directories on the remote machines.

2. Create a managed server template from the extended domain, by using the **pack** command with the `-managed=true` option.

3. Create managed servers on the remote machines, by unpacking the managed server template.

For more information about the **pack** and **unpack** commands, see Oracle Fusion Middleware Creating Templates and Domains Using the Pack and Unpack Commands.
The remaining steps in the process to extend domains are identical to the steps for creating a domain, except that the wizard does not display the screens to configure the administration server and RDBMS security store database.

7. Perform the advanced configuration tasks (such as configuring servers, clusters, and machines; and targeting deployments and services to clusters or servers), as described in Chapter 4, "Customizing the Domain Environment."

8. Configure the JDBC component schema and JDBC data sources as described in Chapter 5, "Customizing JDBC Data Sources and Component Schema."

9. Finally, in the Configuration Summary screen, review the configuration changes and click Extend.

   The Creating Domain screen displays status messages during the domain extension process. The Configuration Wizard updates the config.xml file and other application-specific components in the domain directory, as defined by the domain template.

10. Click Done.