Oracle® Fusion Middleware

Creating Domains Using the Configuration Wizard

12*c* Release 1 (12.1.1)

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This document describes how to use the Configuration Wizard to create, update, and extend WebLogic domains.

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Preface

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:

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

1

Introduction

This chapter introduces WebLogic domains, provides an overview of the Configuration Wizard, and introduces templates. It also describes additional ways for creating domains.

It includes the following sections:

- Section 1.1, "Introduction to WebLogic Domains"
- Section 1.2, "Overview of the Configuration Wizard"
- Section 1.3, "About Domain and Extension Templates"
- Section 1.4, "Additional Tools for Creating, Extending, and Managing WebLogic Domains"

1.1 Introduction to WebLogic Domains

A WebLogic 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
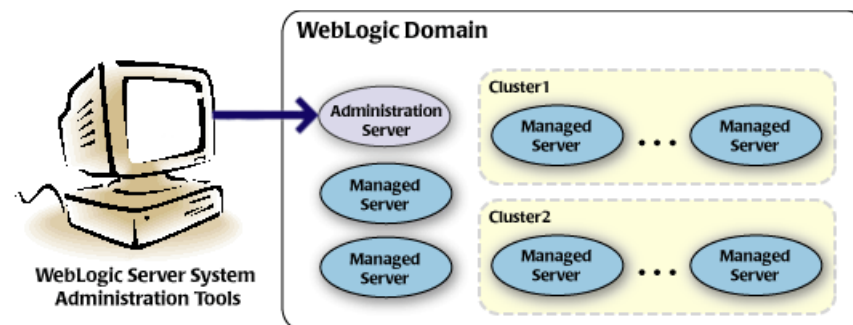
As shown in Figure 1–1, the basic domain infrastructure consists of one Administration Server and optional Managed Servers and clusters.

The components of a WebLogic domain are described in Table 1–1.

Table 1–1   WebLogic Domain Infrastructure Components

Component	Description
Administration Server	A domain includes one WebLogic Server instance that is configured as an Administration Server. All changes to configuration and deployment of applications are done through the Administration Server.
	The Administration Server provides a central point for managing the domain and providing access to the WebLogic Server administration tools. These tools include the following:
	■ WebLogic Server Administration Console: Graphical user interface to the Administration Server.
	■ WebLogic Server Node Manager: A Java program that lets you start and stop server instances—both Administration Servers and Managed Servers—remotely, and to monitor and automatically restart them after an unexpected failure.
	Note that the Node Manager is installed on all the machines that host any server instance – both the Administration Server and Managed Servers.
	For more information about the WebLogic Server administration tools, see "Summary of System Administration Tools and APIs" in *Understanding Oracle WebLogic Server*.
Managed Servers	All other WebLogic Server instances in a domain are called Managed Servers. Managed Servers host application components and resources, which are also deployed and managed as part of the domain. In a domain with only a single WebLogic Server instance, that single server works as both the Administration Server and the Managed Server.
Clusters	A domain may also include WebLogic Server clusters, which are groups of Managed Server instances that work together to provide scalability and high availability for applications. Clusters can improve performance and provide failover when a server instance becomes unavailable. The servers within a cluster can either run on the same machine or reside in different machines. To the client, a cluster appears as a single WebLogic Server instance.

> **Note:**   All Managed Servers in a domain must run the same version of WebLogic Server. The Administration Server can run either the same version as the Managed Servers in the domain, or a later service pack.

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 WebLogic Domain Configurations

You might find it useful to configure multiple WebLogic 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 WebLogic Domain Configurations

Configuration	Description
Domain with Managed Servers	In typical production environments, several Managed Servers can host applications, and an Administration Server performs management operations.
Domain with Managed Servers and clusters	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 WebLogic 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.
Standalone server domain	In development or test environments, a single application server might be deployed independently without Managed Servers. In such a case, you can have a WebLogic domain consisting of a single Administration Server that also hosts the applications you want to test or develop.

> **Note:**   In production environments, Oracle recommends that you deploy applications only on Managed Servers, and that you reserve the Administration Server for management tasks.

For more information about WebLogic domains, see "Understanding Oracle WebLogic Server Domains" in *Understanding Domain Configuration for Oracle WebLogic Server*

1.2 Overview of the Configuration Wizard

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

To create or extend a WebLogic domain by using the Configuration Wizard, you simply select the product components (product templates) 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 adding the resources defined in the selected product templates.

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

Figure 1–2 Configuration Wizard
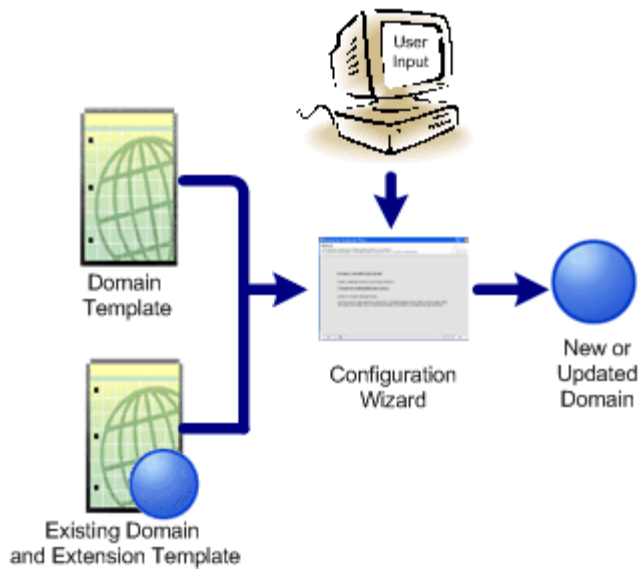
After you use the Configuration Wizard to create a WebLogic domain, you can start a WebLogic Server instance in the domain to develop, test, and deploy applications.

> **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 select these templates to create and extend domains either by using the Configuration Wizard or the WebLogic Scripting Tool (WLST). For information about the Domain Template Builder, see *Creating Domain Templates Using the Domain Template Builder*. For information about creating domains using WLST, see "Creating Domains Using WLST Offline" in *Oracle WebLogic Scripting Tool*.

1.2.1 Modes of Operation

You can use the Configuration Wizard can only 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 WebLogic Scripting Tool*.

1.2.2 Output of the Configuration Wizard

A WebLogic domain that was 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:
  - A domain-specific configuration file, `config.xml`, that specifies the name of the WebLogic 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 may not exist.

- `console-ext`—This directory contains console extensions used by the Administration Server.
- `init-info`: This directory contains files used by the Configuration Wizard to support creation and extension of the WebLogic domain.
- `lib`: This directory contains the domain library. When the server starts, any `jar` files that you place in this directory are dynamically added to the end of the server classpath.
- `security`: This directory contains common security files for all the servers in the domain.
- `servers`: This directory contains a subdirectory for each server in the domain. These server subdirectories, in turn, contain subdirectories that hold directories and files specific to each server in a WebLogic domain, such as `bin`, `cache`, `data`, `logs`, `security`, and `tmp`.
- `user_staged_config`: If the domain is configured to be user-staged, that is, the administrator is responsible for staging (copying) the configuration information to the Managed Servers, this directory provides an alternative to the `config` directory.

If the template used to create a WebLogic domain includes applications, the application files are located, by default, in `user_projects/applications/domain_name`.

For more information, see "Domain Configuration Files" in *Understanding Domain Configuration for Oracle WebLogic 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 WebLogic domain. The types of templates that the Configuration Wizard uses to create or extend WebLogic domains include:

- **Domain template**: This type of template defines the full set of resources within a WebLogic 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 WebLogic domain by using the Domain Template Builder tool or the `pack` command. Subsequently, you can

create a WebLogic domain based on the template by using the Configuration Wizard.

The product distribution includes a base WebLogic domain template. A domain template defines the core set of resources within a domain, including

– An Administration Server and basic configuration information

– Infrastructure components

– General environment and operating system requirements.

A domain template does not include sample applications. You can use a domain template to create a basic WebLogic 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 WebLogic 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 WebLogic domain you want to extend.

■ **Managed Server template**: This type of template defines the subset of resources, within a WebLogic domain, that are required to create a Managed Server domain on a remote machine. You can create this type of template by using the `pack` command.

The WebLogic Server product installation includes a set of predefined domain and extension templates. This set includes the base WebLogic 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 Additional Tools for Creating, Extending, and Managing WebLogic Domains

In addition to the Configuration Wizard, 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 (for example, the WebLogic Server Administration Console).

Table 1–3   Additional Tools for Creating, Extending, and Managing WebLogic Domains

To do this	Use the following tools
Create a WebLogic domain or extend an existing domain	■ WebLogic Scripting Tool (WLST) WLST is a command-line scripting interface that you can use to interact with and configure WebLogic Server instances and domains. When WLST is offline, it enables you to create a WebLogic 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 WebLogic Scripting Tool*. ■ `unpack` command You can use this command to create a WebLogic 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 *Creating Templates and Domains Using the Pack and Unpack Commands*.

Table 1–3   (Cont.) Additional Tools for Creating, Extending, and Managing WebLogic

To do this	Use the following tools
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. For more information, see "Summary of System Administration Tools and APIs" in *Understanding Oracle WebLogic Server*.
Manage and monitor the health and status of the domain	■ WebLogic Diagnostics Framework (WLDF) For more information, see *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 *Managing Server Startup and Shutdown for Oracle WebLogic Server* and *Node Manager Administrator's Guide for Oracle WebLogic Server*.

2

Creating a WebLogic Domain

This chapter describes how to create a new WebLogic domain by using the Configuration Wizard in graphical mode. It also how to start the domain and the Administration Server.

It includes the following sections:

- Section 2.1, "Before You Begin"
- Section 2.2, "Domain Creation Process"
- Section 2.3, "Starting the Configuration Wizard in Graphical Mode"
- Section 2.4, "Creating a WebLogic Domain in Graphical Mode"
- Section 2.5, "Starting the Administration Server"

2.1 Before You Begin

Prior to running the Configuration Wizard to create a domain on a UNIX or Linux operating system, if you have not already done so, set the `CONFIG_JVM_ARGS` environment variable to the following value:

```
-Djava.security.egd=file:/dev/./urandom
```

This decreases the amount of time it takes for the Configuration Wizard to create or update a domain.

2.2 Domain Creation Process

The Configuration Wizard guides you through the process of creating a WebLogic domain for your target environment by selecting the product components to include in your domain, or by selecting domain template JAR files. If necessary, 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 multi-server or clustered domain when using the default settings. All the predefined WebLogic Server templates (those delivered with WebLogic Server) 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 requirements.

Figure 2–1 summarizes the Configuring Wizard steps for creating a WebLogic domain. The steps indicated in boxes with dashed lines are relevant only when you create WebLogic domains that contain specific products, such as those that use RCU and those that require JDBC data sources.

Figure 2–1   Creating a WebLogic Domain
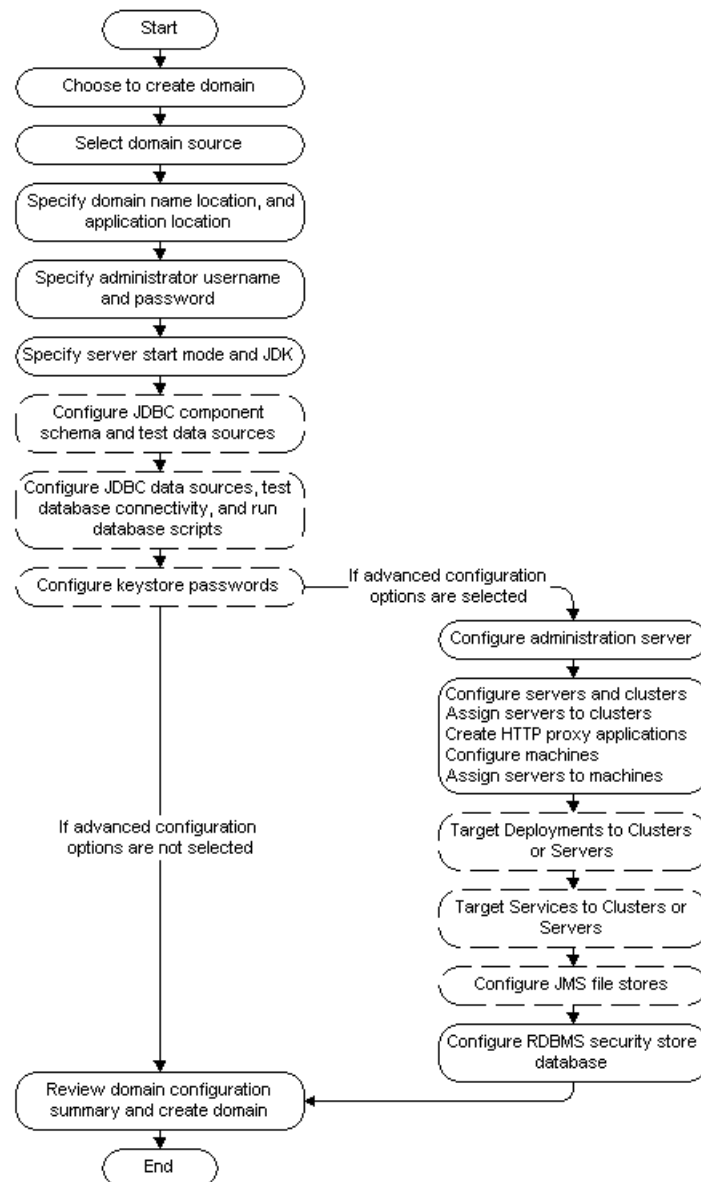
2.3 Starting the Configuration Wizard in Graphical Mode

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 UNIX systems:

  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 following directory:

     On Windows: *WLHOME*\common\bin

     On UNIX: *WLHOME*/common/bin

     where *WLHOME* is the directory in which WebLogic Server is installed.

  4. Execute the following command:

     On Windows: config.cmd

     On UNIX: sh config.sh

     > **Note:** When you run the config.cmd or config.sh command, the following error message might be displayed to indicate that the default cache directory is not valid:
     >
     > *sys-package-mgr*: can't create package cache dir
     >
     > You can change the cache directory by including the -Dpython.cachedir=*valid_directory* option in the command line.

The Welcome screen is displayed.

2.4 Creating a WebLogic Domain in Graphical Mode

To create a new WebLogic Domain by using the Configuration Wizard in graphical mode, start the Configuration Wizard as described in Section 2.3, "Starting the Configuration Wizard in Graphical Mode."

> **Note:** In situations where you cannot run the Configuration Wizard in GUI mode, Oracle recommends that you use a WLST script to create or extend a domain. For more information, see "Creating and Using a Domain Template (Offline)" in *Oracle WebLogic Scripting Tool*.

The Configuration Wizard displays a sequence of screens, in the order listed in Table 2–1. For more information on each screen, refer to the related section in Chapter 4, "Configuration Wizard Screens," or click the link in the **Screen** column.

Table 2–1   Configuration Screens for Creating a New WebLogic Domain

No.	Screen	When Does This Screen Appear?	Perform the Following Action
1	Welcome	Always	Select **Create a new WebLogic domain**. Click **Next** to continue.
2	Select Domain Source	Always	Do one of the following: ■ Select **Generate a domain configured automatically to support the following products**, and then select the check box for each product to include in the domain. ■ Select **Base this domain on an existing template**, and then use the **Browse** button to locate the template on your local drive or network. Click **Next** to continue.
3	Specify Domain Name and Location	Always	Specify the name and directory location of the domain. Click **Next** to continue.
4	Configure Administrator User Name and Password	Always	Specify the username and password for the domain's administrator account. Click **Next** to continue.
5	Configure Server Start Mode and JDK	Always	Select the startup mode to use. Select the JDK(s) to use in the domain. Click **Next** to continue.
6-8	Schema configuration	Only 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	See Section 2.4.1, "Configuring Schemas," for information about these screens.
9-12	Data source configuration	Only if the domain includes components that require JDBC data sources or Oracle RAC multi data sources	See Section 2.4.2, "Configuring Data Sources," for information about these screens.
13	Configure Keystore Credentials	Only if the domain includes a product that requires a keystore password	For each set of password fields, enter and confirm the password you want to use for the keystore. Click **Next** to continue.

Table 2–1 (Cont.) Configuration Screens for Creating a New WebLogic Domain

No.	Screen	When Does This Screen Appear?	Perform the Following Action
14	Select Optional Configuration	Always	Select the check box for each category (if any) for which you want to perform advanced configuration tasks
			The available check boxes depend on the resources that are configured in the selected products or template.
			Click **Next** to continue.
15	Configure Administration Server	Only if you selected **Administration Server** on the Select Optional Configuration screen	Change the settings for the Administration Server as needed.
			Click **Next** to continue.
16	Select JMS Distributed Destination Type	Only if you selected **JMS Distributed Destination** on the Select Optional Configuration screen	For each JMS system resource, select the distributed destination type.
			Click **Next** to continue.
17	Configure Managed Servers	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen	Add, delete, or reconfigure Managed Servers as needed.
			Click **Next** to continue.
18	Configure Clusters	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen	Add, delete, or reconfigure clusters as needed.
			Click **Next** to continue.
19	Assign Servers to Clusters	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen, and your domain includes at least one cluster	Add servers to or remove servers from the clusters in your domain.
			Click **Next** to continue.
20	Create HTTP Proxy Applications	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen, and your domain includes at least one cluster, and at least one Managed Server that is not assigned to a cluster	For each cluster, specify whether or not you want to create an HTTP proxy application for the cluster. If you select the **Create HTTP Proxy** check box for a cluster, select the proxy server to use for that cluster. a
			Click **Next** to continue.
21	Configure Machines	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen.	Add, delete, or reconfigure machines as needed.
			Click **Next** to continue.

Table 2–1   (Cont.) Configuration Screens for Creating a New WebLogic Domain

No.	Screen	When Does This Screen Appear?	Perform the Following Action
22	Assign Servers to Machines	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen, and there is at least one machine configured in the domain	Assign the Administration Server and Managed Servers to the appropriate machines. Click **Next** to continue.
23	Target Deployments to Clusters or Servers	Only if you selected **Deployments and Services** on the Select Optional Configuration screen, and a selected product or template contains J2EE applications or libraries	Select the target server or cluster on which you want to deploy applications or libraries. Select the check box for each application or library you want to deploy on the selected target. Click **Next** to continue.
24	Target Services to Clusters or Servers	Only if you selected **Deployments and Services** on the Select Optional Configuration screen	Select the target server or cluster. Select the check box for each service you want to target to it. Click **Next** to continue.
25	Configure JMS File Stores	Only if you selected **JMS File Store** on the Select Optional Configuration screen	Change the settings for each JMS file store as needed, and select the synchronous write policy for each file store. Click **Next** to continue.
26	Configure RDBMS Security Store Database	Only if you selected **RDMBS Security Store** on the Select Optional Configuration screen	Specify the settings for your Relational Database Management System (RDBMS). Click **Next** to continue.
27	Configuration Summary	Always	Review the configuration for your domain by selecting a Summary View, and then selecting individual items in the list for that view. If the domain is configured as you want it, click **Create** to create the domain. If you need to make changes to the configuration, click **Previous** to return to the appropriate screen for the settings you want to change.
28	Creating Domain	Always	Shows the progress of the domain creation. When the process completes, click **Done**.

2.4.1 Configuring Schemas

The screens described in this section are displayed in the Configuration Wizard only 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. Table 2–2 lists the sequences of schema-related screens. For more information on each screen, refer to the related section in Chapter 4, "Configuration Wizard Screens," or click the link in the **Screen** column.

After configuring the screens in this section, return to row 9 in Table 2–1.

Table 2–2   Schema Configuration Screens

No.	Screen	When Does This Screen Appear?	Perform the Following Action
6	Configure JDBC Component Schema	Only 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 There are two versions of this screen, depending on whether or not the selected templates contain multi data source definitions or GridLink data source definitions.	Configure the schema owner and password for each component schema listed on this screen. Changes to any of the fields on this screen are applied to all selected component schemas in the table. For example, if all of your schemas reside on the same database, select all of the schemas in the table, then specify the appropriate database values for the schemas (DBMS/Service, Host Name, and Port). If, for example, you have a different password for each schema, then you must select each schema individually and specify the password for the selected schema only. Click **Next** to continue.
7a	Configure GridLink RAC Component Schema	Only 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, and you selected the **Configured selected component schemas as GridLink data source schemas** option	Configure the schema owner and password for each component schema listed on this screen. Changes to any of the fields on this screen are applied to all selected component schemas in the table. For example, if all of your schemas reside on the same database, select all of the schemas in the table, then specify the appropriate database values for the schemas (including Service Name, Service Instance, ONS Host, wallet file, and wallet password). If, for example, you have a different password for each schema, then you must select each schema individually and specify the password for the selected schema only. Click **Next** to continue.

Table 2–2 (Cont.) Schema Configuration Screens

No.	Screen	When Does This Screen Appear?	Perform the Following Action
7b	Configure RAC Multi Data Source Schema	Only 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, and you selected the **Configured selected component schemas as RAC multi data source schemas** option	Configure the schema owner and password for each component schema listed on this screen. Changes to any of the fields on this screen are applied to all selected component schemas in the table. For example, if all of your schemas reside on the same database, select all of the schemas in the table, then specify the appropriate database values for the schemas (Service Name, Host Name, Instance Name, and Port). If, for example, you have a different password for each schema, then you must select each schema individually and specify the password for the selected schema only. Click **Next** to continue.
8	Test Component Schema	Only if the domain includes components (such as SOA) that require the use of the Oracle Fusion Middleware Repository Creation Utility (RCU) to load database schema	Test the configurations that you specified for the data sources in the previous screen. Click **Next** to continue.

2.4.2 Configuring Data Sources

The screens described in this section are displayed in the Configuration Wizard only if the domain includes components that require JDBC data sources or Oracle RAC multi data sources. Table 2–3 lists the sequences of schema-related screens. For more information on each screen, refer to the related section in Chapter 4, "Configuration Wizard Screens," or click the link in the **Screen** column.

After configuring the screens described in this section, return to row 13 in Table 2–1.

Table 2–3 Data Source Configuration Screens

No.	Screen	When Does This Screen Appear?	Perform the Following Action
9	Configure JDBC Data Source	Only if the domain includes components that require JDBC data sources	Select a data source to configure, and then do one of the following: ■ Configure the fields for the data source ■ Select the **Configure selected data sources as RAC multi data sources** option Click **Next** to continue.

Table 2–3   (Cont.) Data Source Configuration Screens

No.	Screen	When Does This Screen Appear?	Perform the Following Action
10a	Configure GridLink RAC Data Sources	Only if the domain includes components that require JDBC data sources, and you selected the **Configure selected data sources as GridLink RAC data sources** option for at least on data source on the Configure JDBC Data Source screen	Configure the fields for the Gridlink RAC data source, including the Service Name, Service Instance, ONS Host, wallet file, and wallet password. Click **Next** to continue.
10b	Configure Oracle RAC Multi Data Sources	Only if the domain includes components that require JDBC data sources, and you selected the **Configure selected data sources as RAC multi data sources** option for at least on data source on the Configure JDBC Data Source screen	Configure the fields for the Oracle RAC multi data source, including the Oracle RAC host name, instance name, and port. Click **Next** to continue.
11	Test JDBC Data Sources	Only if the domain includes components that require JDBC data sources	Select the data sources to test, and click **Test Connection**. Wait for the connection test(s) to complete. **Note:** In order to test connections, the database to which you are trying to connect must be running. If you do not want to test connections at this time, deselect all data sources. Click **Next** to continue.
12	Run Database Scripts	Only if the selected products or template includes a set of SQL files organized by database type	Select the data sources for which you want to run the database scripts. Select the database version. Click **Run Scripts**. After running all necessary scripts, click **Next** to continue.

2.5 Starting the Administration Server

When you finish creating your domain, you can start the Administration Server. For more information on the various methods you can use to start the Administration Server, see "Starting and Stopping Servers" in *Managing Server Startup and Shutdown for Oracle WebLogic Server*.

3

Extending WebLogic Domains

This chapter describes how to use the Configuration Wizard to extend a WebLogic domain. It also describes how to update startup scripts on remote servers.

You can add product component functionality or additional applications and services to an existing WebLogic domain by extending it using the Configuration Wizard. For example, if you created a base WebLogic 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 WebLogic domain by using extension templates. Oracle provides various sample extension templates, as well as extension templates for various Fusion Middleware products. You can also create your own extension templates using WLST or the unpack command.

For information about extension templates provided by Oracle, see the *Domain Template Reference*.

This chapter contains the following sections:

- Section 3.1, "Before You Begin."

- Section 3.2, "Domain Extension Process."

- Section 3.3, "Extending a WebLogic Domain in Graphical Mode."

- Section 3.4, "Updating Startup Scripts on Remote Servers."

3.1 Before You Begin

Prior to running the Configuration Wizard to update a domain on a UNIX or Linux operating system, if you have not already done so, set the `CONFIG_JVM_ARGS` environment variable to the following value:

```
-Djava.security.egd=file:/dev/./urandom
```

This decreases the amount of time it takes for the Configuration Wizard to create or update a domain.

3.2 Domain Extension Process

To extend a WebLogic domain, select the domain to extend and then select one or more additional product components. Alternatively, you can extend an existing domain by specifying an extension template JAR file that includes 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 3–1 summarizes the steps for extending a WebLogic 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 3–1   Extending a WebLogic Domain
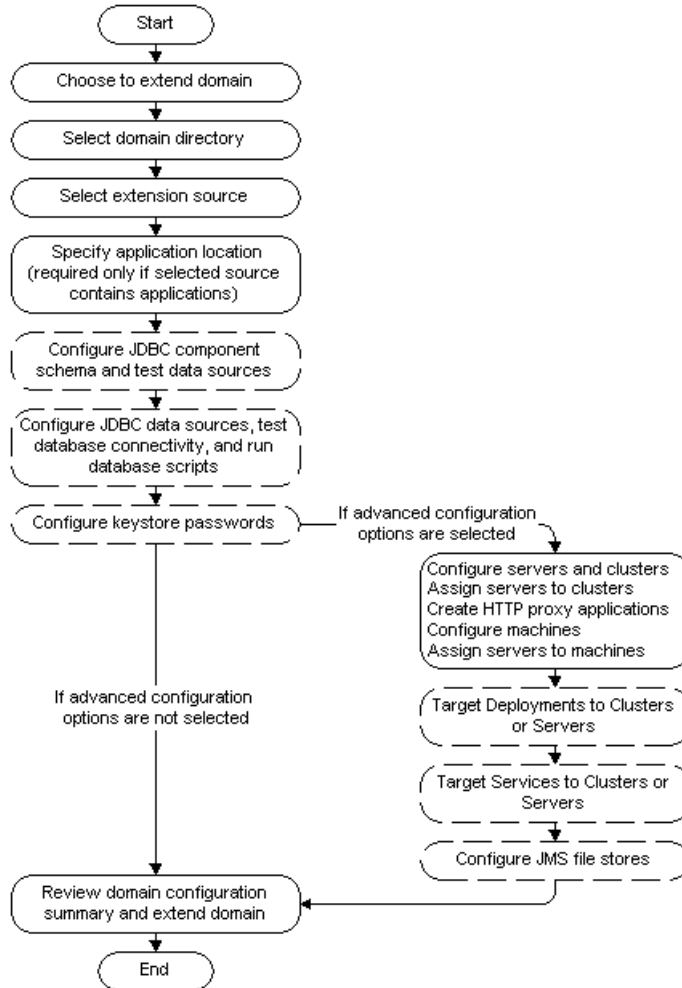
3.3 Extending a WebLogic Domain in Graphical Mode

To extend a new WebLogic Domain by using the Configuration Wizard in graphical mode, start the Configuration Wizard as described in Section 2.3, "Starting the Configuration Wizard in Graphical Mode."

> **Note:**   In situations where you cannot run the Configuration Wizard in GUI mode, Oracle recommends that you use a WLST script to create or extend a domain. For more information, see "Creating and Using a Domain Template (Offline)" in *Oracle WebLogic Scripting Tool*.

The Configuration Wizard displays a sequence of screens, in the order listed in Table 3–1. For more information on each screen, refer to the related section in Chapter 4, "Configuration Wizard Screens," or click the link in the **Screen** column.

Table 3–1   Configuration Screens for Extending an Existing WebLogic Domain

No.	Screen	When Does This Screen Appear?	Perform the Following Action
1	Welcome	Always	Select **Extend an existing WebLogic domain**. Click **Next** to continue.
2	Select a WebLogic Domain Directory	Always	Select a valid domain directory. Click **Next** to continue.
3	Select Extension Source	Always	Do one of the following: ■ Select **Extend domain automatically to support the following added products**, and then select the check box for each new product to include in the domain. ■ Select **Extend my domain using an existing extension template**, and then use the **Browse** button to locate the template on your local drive or network. Click **Next** to continue.
4-6	Schema configuration	Only if the selected products or template includes components (such as SOA) that require the use of the Oracle Fusion Middleware Repository Creation Utility (RCU) to load database schemas	See Section 2.4.1, "Configuring Schemas," for information about these screens.
7-10	Data source configuration	Only if the selected products or template includes components that require JDBC data sources or Oracle RAC multi data sources	See Section 2.4.2, "Configuring Data Sources," for information about these screens.
11	Configure Keystore Credentials	Only if the selected products or template includes a product that requires a keystore password	For each set of password fields, enter and confirm the password you want to use for the keystore. Click **Next** to continue.

Table 3–1   (Cont.) Configuration Screens for Extending an Existing WebLogic Domain

No.	Screen	When Does This Screen Appear?	Perform the Following Action
12	Select Optional Configuration	Always	Select the check box for each category (if any) for which you want to perform advanced configuration tasks
			The available check boxes depend on the resources that are configured in the selected products or template.
			Note: When extending a domain, the you cannot change the Administration Server or RDBMS security store configurations. Therefore, these options are not available.
			Click **Next** to continue.
13	Select JMS Distributed Destination Type	Only if you selected **JMS Distributed Destination** on the Select Optional Configuration screen	For each JMS system resource, select the distributed destination type.
			Click **Next** to continue.
14	Configure Managed Servers	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen	Add, delete, or reconfigure Managed Servers as needed.
			Click **Next** to continue.
15	Configure Clusters	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen	Add, delete, or reconfigure clusters as needed.
			Click **Next** to continue.
16	Assign Servers to Clusters	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen, and your domain includes at least one cluster	Add servers to or remove servers from the clusters in your domain.
			Click **Next** to continue.
17	Create HTTP Proxy Applications	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen, and your domain includes at least one cluster, and at least one Managed Server that is not assigned to a cluster	For each cluster, specify whether or not you want to create an HTTP proxy application for the cluster. If you select the **Create HTTP Proxy** check box for a cluster, select the proxy server to use for that cluster. a
			Click **Next** to continue.
18	Configure Machines	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen.	Add, delete, or reconfigure machines as needed.
			Click **Next** to continue.

Table 3–1 (Cont.) Configuration Screens for Extending an Existing WebLogic Domain

No.	Screen	When Does This Screen Appear?	Perform the Following Action
19	Assign Servers to Machines	Only if you selected **Managed Servers, Clusters, and Machines** on the Select Optional Configuration screen, and there is at least on machine configured in the domain	Assign the Administration Server and Managed Servers to the appropriate machines. Click **Next** to continue.
20	Target Deployments to Clusters or Servers	Only if you selected **Deployments and Services** on the Select Optional Configuration screen, and a selected product or template contains J2EE applications or libraries	Select the target server or cluster on which you want to deploy applications or libraries. Select the check box for each application or library you want to deploy on the selected target. Click **Next** to continue.
21	Target Services to Clusters or Servers	Only if you selected **Deployments and Services** on the Select Optional Configuration screen	Select the target server or cluster. Select the check box for each service you want to target to it. Click **Next** to continue.
22	Configure JMS File Stores	Only if you selected **JMS File Store** on the Select Optional Configuration screen	Change the settings for each JMS file store as needed, and select the synchronous write policy for each file store. Click **Next** to continue.
24	Configuration Summary	Always	Review the configuration for your domain by selecting a Summary View, and then selecting individual items in the list for that view. If the domain is configured as you want it, click **Extend** to extend the domain. If you need to make changes to the configuration, click **Previous** to return to the appropriate screen for the settings you want to change.
25	Extending Domain	Always	Shows the progress of the domain creation. When the process completes, click **Done**.

3.4 Updating Startup Scripts on Remote Servers

When you extend a WebLogic 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 using the `unpack` command to unpack the Managed Server template.

For more information about the `pack` and `unpack` commands, see *Creating Templates and Domains Using the Pack and Unpack Commands*.

4

Configuration Wizard Screens

This chapter contains screen shots and descriptions for all of the Fusion Middleware Configuration Wizard screens.

- Welcome

- Select a WebLogic Domain Directory

- Select Domain Source

- Select Extension Source

- Specify Domain Name and Location

- Configure Administrator User Name and Password

- Configure Server Start Mode and JDK

- Configure JDBC Component Schema

- Configure GridLink RAC Component Schema

- Configure RAC Multi Data Source Schema

- Test Component Schema

- Configure JDBC Data Source

- Configure GridLink RAC Data Sources

- Configure Oracle RAC Multi Data Sources

- Test JDBC Data Sources

- Run Database Scripts

- Configure Keystore Credentials

- Select Optional Configuration

- Configure Administration Server

- Select JMS Distributed Destination Type

- Configure Managed Servers

- Configure Clusters

- Assign Servers to Clusters

- Create HTTP Proxy Applications

- Configure Machines

- Assign Servers to Machines

- [Target Deployments to Clusters or Servers](#)

- [Target Services to Clusters or Servers](#)

- [Configure JMS File Stores](#)

- [Configure RDBMS Security Store Database](#)

- [Configuration Summary](#)

- [Creating Domain](#)

4.1 Welcome
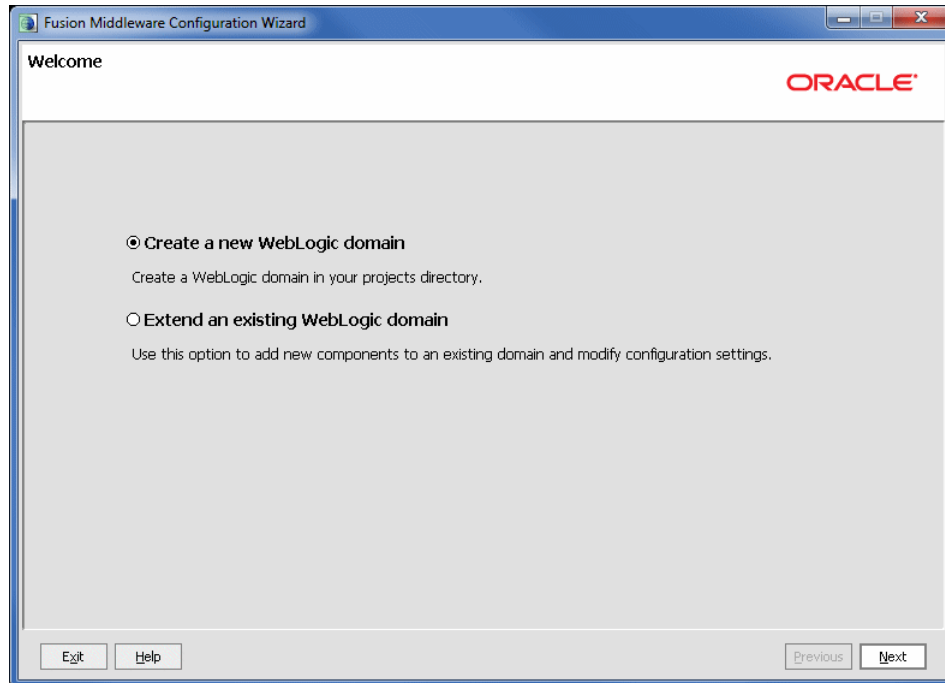
The Welcome screen displays when you start the Configuration Wizard.

Select one of the following options:

- **Create a new WebLogic domain**—Select this option if you want to create a new domain. Typically, the new domain will be based on the WebLogic Server Basic Domain, which includes an Administration Server and the default security realm `myrealm`. You may, however, choose to use your own domain template to create the domain; your domain template must contain at least an Administration Server.

  If you select this option, the Select Domain Source screen is displayed next.

- **Extend an existing WebLogic domain**—Select this option if you already have a WebLogic domain, and you want to add resources to that domain.

  If you select this option, the Select a WebLogic Domain Directory screen appears next.
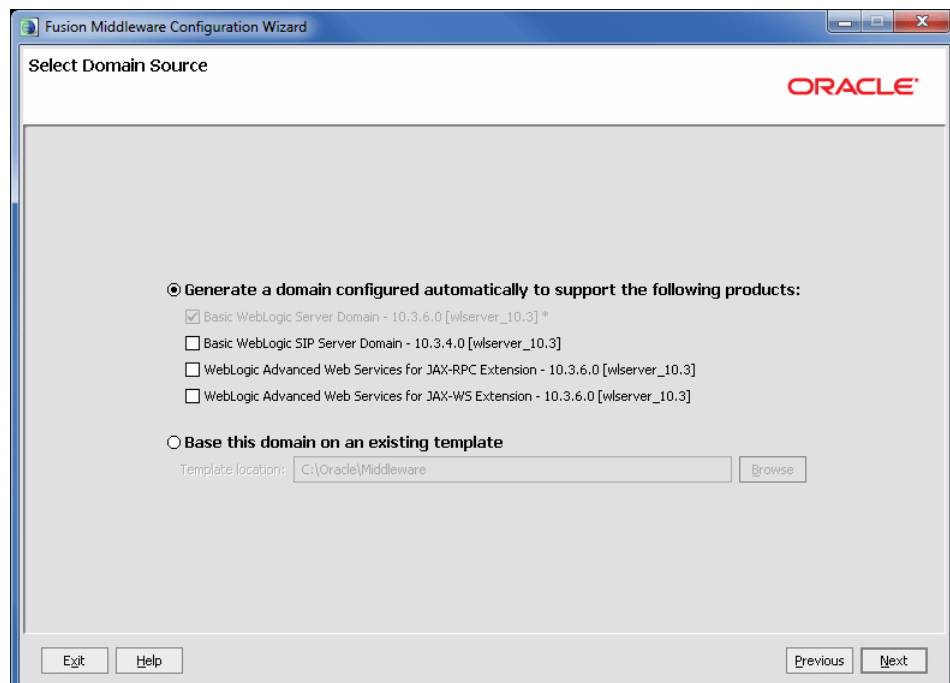
4.2 Select a WebLogic Domain Directory
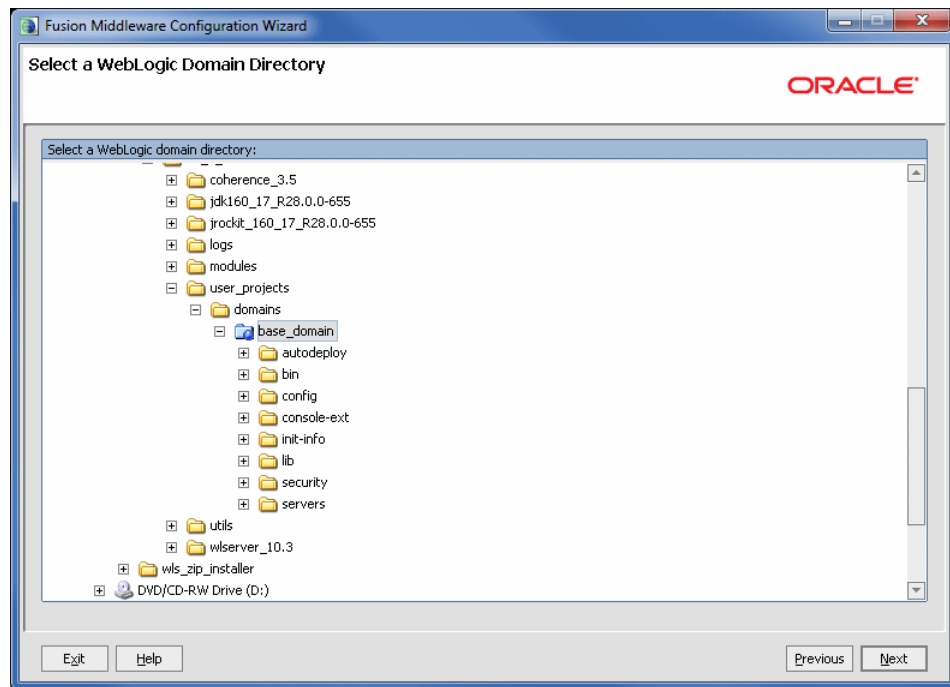
Use the navigation tree to select a valid domain directory. A domain directory contains a `config` directory, which contains a `config.xml` file. In the navigation tree, these directories are indicated by a blue folder icon:

4.3 Select Domain Source

Choose whether to generate a domain that is configured automatically to support selected products, or to create a domain based on an existing domain template. Each product in the displayed list is associated with a single domain or extension template (a JAR file) which configures the domain resources needed for that product.

Select one of the following options:

- **Generate a domain configured automatically to support the following products**— By default, the **Basic WebLogic Server Domain** option is selected and cannot be cleared. Select the check boxes that correspond to the other products that you want to include in the domain. If you select a product that is dependent on resources provided by another product or products in the list, those products are also selected automatically.

  The list of products (templates) differs based on the Fusion Middleware product installation you are configuring. The example shown here is for a standalone WebLogic Server environment. If you installed other Fusion Middleware products, such as SOA or WebCenter, products that you can include in those domains are also listed here.

  For information about the various WebLogic Server products (templates) that may be listed on this screen, see the Domain Template Reference.

  > **Note:** When you click **Next**, if any of the selected products require resources provided by another product that is not selected, a warning dialog box is displayed. Return to the Select Domain Source screen to select the dependency product before proceeding.

- **Base this domain on an existing template**—Select this option if you want to create a domain by using an existing domain template. Enter the full path to the template JAR file in the **Template location** field, or click **Browse** to navigate to the directory containing the required template. The template you select must define at least an Administration Server.

  Typically, you either select one of the following domain templates provided with WebLogic Server, or select a custom domain template that you created:

  – Basic WebLogic Server Domain

    WL_HOME\common\templates\domains\wls.jar

  – WebLogic Server Starter Domain

    WL_HOME\common\templates\domains\wls_starter.jar

  > **Note:** When you click **Next**, if the selected template requires resources provided by another template, a warning dialog box is displayed. You must create the domain using the required template first. After doing so, extend the domain using the template you initially selected.

4.4 Select Extension Source
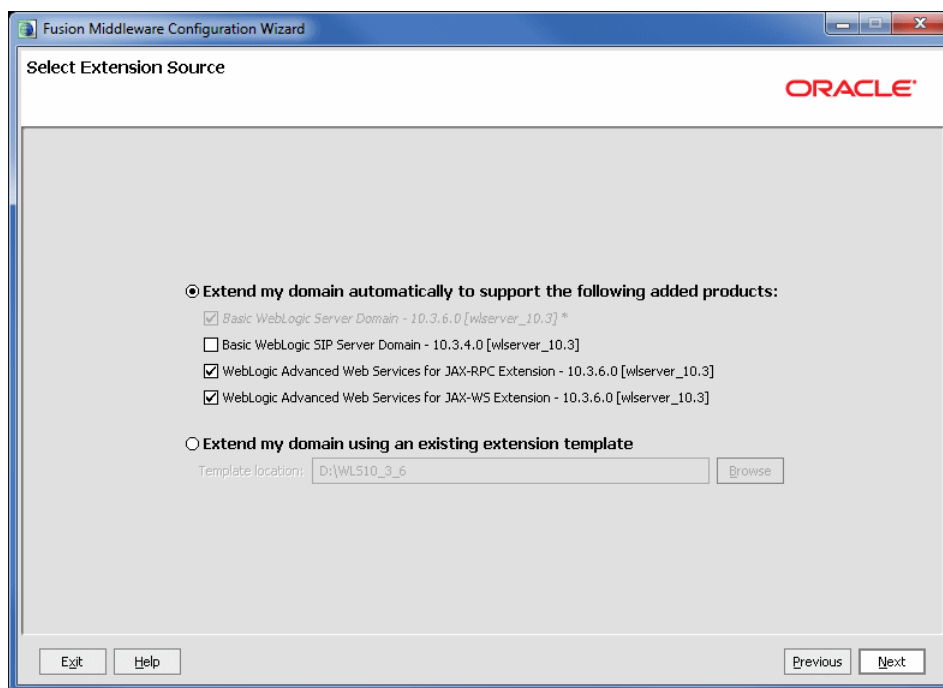
Choose whether to extend the domain by selecting one of the listed products, or by browsing to an extension template.

- **Extend my domain automatically to support the following added products**—Select the check boxes for the products to add to your WebLogic domain. The products already included in your domain are indicated by grayed-out check boxes.

  For information about the various WebLogic Server products (templates) that may be listed on this screen, see the *Domain Template Reference*.

- **Extend my domain using an existing extension template**—Specify the path to the extension template in the **Template location** field.

Note: When you click **Next**, if the selected template requires resources provided by another template, a warning dialog box is displayed. You must create the domain using the required template first. After doing so, extend the domain using the template you initially selected.

4.5 Specify Domain Name and Location
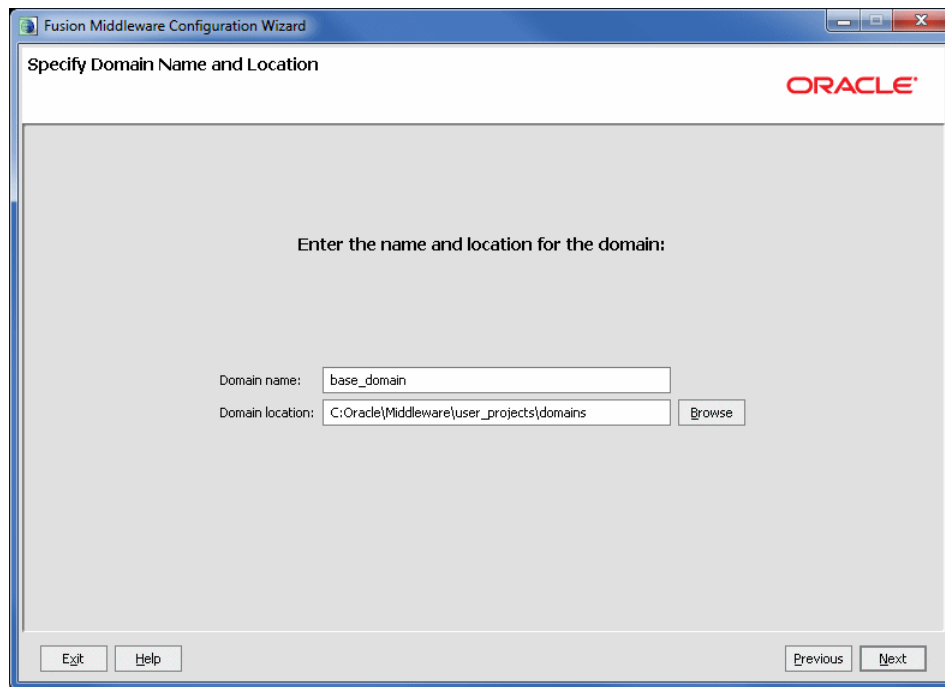
Specify the following items:

- **Domain name**—The name of the domain. The Configuration Wizard stores the `config.xml` file and all other generated components for the domain in this directory, under the specified Domain directory. For example, if you enter `mydomain`, your domain files are stored (by default) in *MW_HOME*`\user_projects\domains\mydomain`.

  > **Note:** The domain name must not start with a number. This restriction is intended to prevent potential issues with internally generated JDBC store table names, which must start with an alphabetic character.

  The domain name is also listed on the Windows Start menu. For example, if your domain name is `mydomain`, and the Domain directory is `user_projects`, you can access commands for the domain by selecting **Oracle WebLogic > user_projects > mydomain** from the Windows **Start** menu.

- **Domain location**—The location in which your domain directory will be stored. The default is *MW_HOME*`\user_projects\domains`. The domain location can be anywhere on your local drive or network. It does not have to located in *MW_HOME*.

  On Windows, you must include the drive letter in this path.

  > **Note:** Oracle recommends that you create all domains for your environment outside of the Middleware home directory. This makes it easier for you to remove an existing installation or install a newer version of WebLogic Server without having to recreate your domains or applications.

- **Application location**—This field is displayed only if you selected a domain template or product that contains applications. This is the location in which your applications will reside. The default is *MW_HOME*\user_ projects\applications.

  On Windows, you must include the drive letter in this path.

4.6 Configure Administrator User Name and Password

Use this screen to define the default WebLogic Administrator account for the domain. This account is used to boot and connect to the domain's Administration Server.

- **Name**—The login username for the WebLogic Administrator account.

  The username must *not* contain commas, tabs, or any of the following characters:

  `< > # | & ? ( ) { }`

- **User Password**—The password for the WebLogic Administrator account. The password must be at least eight characters, and must contain at least one numeric character or at least one of the following characters:

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

- **Confirm User Password**—Type the same password in the **Confirm User Password** field. An error is displayed if the two entries do not match.

- **Description**—Accept the default description or type your preferred description for the Administrator account in this field.

4.7 Configure Server Start Mode and JDK
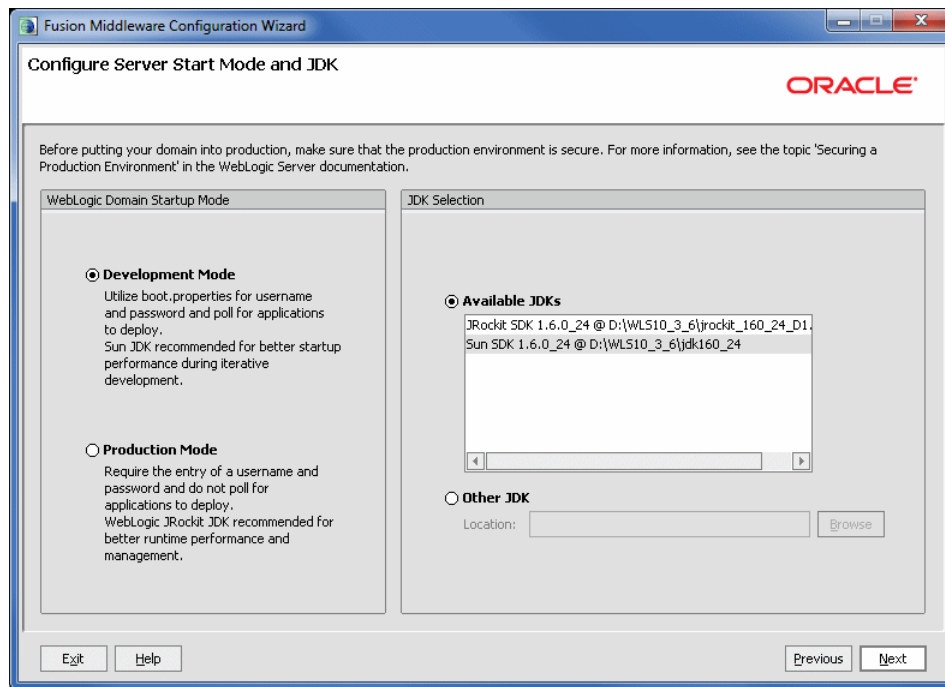
On this screen, specify whether you want to run WebLogic in Production mode or Development mode. You also specify the location of the JDK(s) to use in this domain.

In the WebLogic Domain Startup Mode pane, select one of the following options:

- **Development Mode**—In this mode, the security configuration is relatively relaxed, allowing you to auto-deploy applications.

- **Production Mode**—In this mode, the security configuration is relatively stringent, requiring a username and password to deploy applications. Before putting a domain into production, familiarize yourself with procedures for securing a production environment. For more information, see "Ensuring the Security of Your Production Environment" in *Securing a Production Environment for Oracle WebLogic Server*.

For information about changing the run-time mode after you have created a WebLogic domain, see "Change to Production Mode" in the *WebLogic Server Administration Console Online Help*.

The following table provides more details on the differences between development mode and production mode:

Table 4–1   Differences Between Development and Production Mode

Feature	Development Mode	Production Mode
SSL	You can use the demonstration digital certificates and the demonstration keystores provided by the WebLogic Server security services. With these certificates, you can design your application to work within environments secured by SSL. For more information, see "Configuring SSL" in *Securing Oracle WebLogic Server*.	You must not use the demonstration digital certificates and the demonstration keystores. If you do so, a warning message is displayed.
Deploying applications	WebLogic Server instances can deploy and update applications that reside in the domain_name/autodeploy directory automatically. Oracle recommends that you use this method only in a single-server development environment. For more information, see "Deploying Applications and Modules with weblogic.deployer" in *Deploying Applications to Oracle WebLogic Server*.	The auto-deployment feature is disabled. You must use the WebLogic Server Administration Console, the weblogic.deployer tool, or the WebLogic Scripting Tool.
Log file rotation	By default, when you start the WebLogic Server instance, the server automatically renames (rotates) its local server log file as SERVER-NAME.log.n. For the remainder of the server session, messages accumulate in the log file until the file grows to a size of 500 kilobytes. For more information, see "Rotate Log Files" in the *WebLogic Server Administration Console Online Help*. The default value of the Limit number of retained files setting in Logging Configuration is true. This limits the number of log files that the server instance creates to store old messages.	The server rotates the local log file after the size of the file reaches 5000 kilobytes. When the server is configured for production mode, by default, all versions of the log files are kept. Administrators may want to customize the number of log files that are retained. The default value of Limit number of retained files setting in Logging Configuration is false. The server creates new log files indefinitely, and you must clean up those files as you require.
JDBC system resource	The default capacity is 15 connections.	The default capacity is 25 connections.
boot.properties	A boot.properties file is created.	A boot.properties file is *not* created.

The **JDK Selection** pane lists all JDKs that are available for use in the domain. Select one of the following options:

- **Available JDKs**—Select this option to use the listed JDKs in this domain. These are the JDKs that were included with the WebLogic Server installer.

- **Other JDK**—Select this option to use a different JDK than the ones in the available list. Use the **Browse** button to navigate to the directory where the JDK resides.

> **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 the installer, the Configuration Wizard does not configure the startup scripts; you must change the startup scripts manually. For more information about startup scripts, see *Performance and Tuning for Oracle WebLogic Server*.

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. The default selection reflects the JDK that best meets the requirements of your environment, based on the platform on which you are installing the WebLogic domain.

4.8 Configure 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 WebLogic domain for such components by using the Configuration Wizard, you can configure the JDBC component schema settings, such as 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.

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

To convert one or more schemas to GridLink RAC schemas, select the check boxes adjacent to the name of the those schemas, and select the **Convert to GridLink** option. Click **Next** when done. When you click **Next**, the Configure GridLink RAC Component Schema screen is displayed.

To convert one or more of the schemas to Oracle RAC multi data source schemas, select the check boxes adjacent to the name of the those schemas, and select the **Convert to RAC multi data source** option. Click **Next** when done. When you click **Next**, the Configure RAC Multi Data Source Schema screen is displayed.

> **Note:** When you select multiple component 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 component schemas. If you change the values in such fields, the new values are applied uniformly across the selected component schemas.
>
> 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.

- **Vendor**—Select the database vendor.

- **Driver**—Select the JDBC driver to use to connect to the database. The list includes common JDBC drivers for the selected database vendor.

- **Schema Owner**—Enter the username for connecting to the database.

- **Schema Password**—Enter the password for the specified schema owner.

- **DBMS/Service**—Enter a database DBMS name, or service name if you selected a service type driver.

- **Host Name**—Enter the name of the server hosting the database.

- **Port**—Enter the port number to be used to connect to the server that hosts the database.

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

4.9 Configure GridLink RAC Component Schema

Use this screen to configure the component schemas that are included in your WebLogic domain as GridLink RAC data sources. A GridLink data source is a single data source that represents a service that responds to Fast Application Notification (FAN) events.

The component schemas that you opted to configure as GridLink RAC data sources in the Configure JDBC Component Schema screen of the wizard are listed in the lower half of the screen.

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

> **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.

- **Driver**—Some or all of the following drivers are listed:
  - Oracle Driver (Thin) for GridLink Connections

    This is the GridLink Type 4 non-XA driver.

  - Oracle Driver (Thin XA) for GridLink Connections

    This is the GridLink Type 4 XA driver.

  Select the driver that is appropriate for your configuration.

- **Service Name**—Enter a database Oracle RAC service name.

- **Username**—Enter the username for connecting to the database.

- **Password**—Enter the password for the specified username.

- **Enable FAN**—When selected, the data source will register for and process FAN notifications.

- **Enable SSL**—When selected, SSL is enabled, and you must specify a wallet file, wallet password, and at least one Oracle Notification Service (ONS) host/port.

- **Wallet File**—If SSL is enabled, specify the full path to the wallet file that contains the credentials for ONS/SSL. A wallet file is an Oracle credential file that stores keys and certificates.

- **Wallet Password**—Specify the password for the wallet file. The password will be encrypted in the module configuration file.

- **Service Listener**—Enter the name of the GridLink database Service Listener. You must configure the Service Listener for at least one database instance.

- **Port**—This is the listen port for the database service listener. It defaults to 1521 and typically does not need to be changed.

- **Protocol**—Click in this field and select the protocol to use for communication between WebLogic Server and the database service listener.

- **ONS Host**—Specify the Oracle Notification Service (ONS) host name. If SSL is enabled, you must specify at least one ONS host and port.

- **Port**—Specify the listen port to use on the ONS host.

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

To add another row to the **Service Listener** table, click anywhere in the table, and then click **Add**.

To add another row to the **ONS Host** table, click anywhere in the table, and then click **Add**.

To delete a row from the **Service Listener** table, click anywhere in the row, and then click **Delete**.

To delete a row from the **ONS Host** table, click anywhere in the row, and then click **Delete**.

For more information about GridLink data sources, see "Using Gridlink Data Sources" in *Configuring and Managing JDBC Data Sources for Oracle WebLogic Server*.

4.10 Configure RAC Multi Data Source Schema

Use this screen to configure the component schemas that are included in the WebLogic domain as Oracle RAC multi data sources.

The component schemas that you opted to configure as Oracle RAC multi data sources in the Configure JDBC Component Schema screen of the wizard are listed in the lower half of the screen.

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

> **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.

- **Driver**—Select the JDBC driver to use to connect to the database.

- **Service Name**—Enter a database Oracle RAC service name.

- **Username**—Enter the username for connecting to the database.

- **Password**—Enter the password for the specified username.

- **Host Name**—Enter the name of the server hosting the Oracle RAC database instances.

- **Instance Name**—Enter the name of each Oracle database instance.

- **Port**—Enter the port numbers to be used to connect to the server that hosts the database.

> **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**. 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.

4.11 Test Component Schema
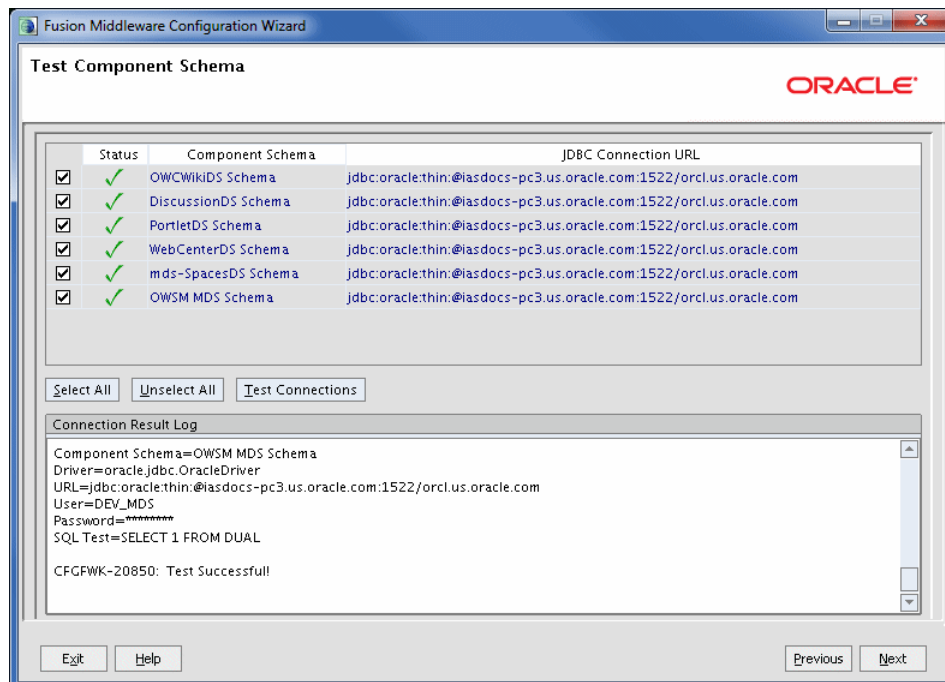
Use this screen to test the configurations that you specified for the data sources in the previous screen.

Select the check boxes adjacent to the names of the schemas to test, and then click **Test Connections**.

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** section.

4.12 Configure JDBC Data Source

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.

Use this screen to configure the JDBC data sources defined in your domain source.

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

To convert one or more schemas to GridLink RAC schemas, select the check boxes adjacent to the name of the those schemas, and select the **Convert to GridLink** option. Click **Next** when done. When you click **Next**, the Configure GridLink RAC Data Sources screen is displayed.

To convert one or more of the data sources to Oracle RAC multi data sources, select the check box adjacent to the name of the required schema, and select the **Convert to RAC multi data source** option. When you click **Next**, the Configure Oracle RAC Multi Data Sources screen is displayed.

Select the data source(s) for which you want to specify settings by selecting the check box adjacent to each data source name.

> **Notes:**   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 change the values in such fields, the new values are applied uniformly across the selected data sources.
>
> 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.

- **Vendor**—Select the database vendor.
- **Driver**—Select the JDBC driver to use to connect to the database. The list includes common JDBC drivers for the selected database vendor.
- **Username**—Enter the username for connecting to the database.
- **Password**—Enter the password for the specified username.
- **DBMS/Service**—Enter a DBMS SID or service name. The value that you enter depends on the driver that you selected.
  - If the name of the Oracle driver that you selected contains the words "for Instance connections," you must enter the SID.
  - If the name of the Oracle driver contains the words "for Service connections," you must enter the service name.
  - For information about configuring a DataDirect driver, see the DataDirect documentation.
- **Host Name**—Enter the name of the server hosting the database.
- **Port**—Enter the port number to be used to connect to the server.

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

4.13 Configure GridLink RAC Data Sources

Use this screen to configure the data sources that are included in your WebLogic domain as GridLink RAC data sources. A GridLink data source is a single data source that represents a service that responds to Fast Application Notification (FAN) events.

The data sources that you opted to configure as GridLink RAC data sources in the Configure JDBC Data Source screen of the wizard are listed in the lower half of the screen.

In the schema list in the lower half of the screen, select the data sources to configure as GridLink RAC data sources by selecting the check box adjacent to each data source name.

> **Note:** When you select multiple data sources, 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 data sources. If you go ahead and change the values in such fields, the new values are applied uniformly across the selected data sources.

- **Driver**—Some or all of the following drivers are listed:
  - Oracle Driver (Thin) for GridLink Connections

    This is the GridLink Type 4 non-XA driver.
  - Oracle Driver (Thin XA) for GridLink Connections

    This is the GridLink Type 4 XA driver.

  Select the driver that is appropriate for your configuration.
- **Service Name**—Enter a database Oracle RAC service name.
- **Username**—Enter the username for connecting to the database.

- **Password**—Enter the password for the specified username.

- **Enable FAN**—When selected, the data source will register for and process FAN notifications.

- **Enable SSL**—When selected, SSL is enabled, and you must specify a wallet file, wallet password, and at least one Oracle Notification Service (ONS) host/port.

- **Wallet File**—If SSL is enabled, specify the full path to the wallet file that contains the credentials for ONS/SSL. A wallet file is an Oracle credential file that stores keys and certificates.

- **Wallet Password**—Specify the password for the wallet file. The password will be encrypted in the module configuration file.

- **Service Listener**—Enter the name of the GridLink database Service Listener. You must configure the Service Listener for at least one database instance.

- **Port**—This is the listen port for the database service listener. It defaults to 1521 and typically does not need to be changed.

- **Protocol**—Click in this field and select the protocol to use for communication between WebLogic Server and the database service listener.

- **ONS Host**—Specify the Oracle Notification Service (ONS) host name. If SSL is enabled, you must specify at least one ONS host and port.

- **Port**—Specify the listen port to use on the ONS host.

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

To add another row to the **Service Listener** table, click anywhere in the table, and then click **Add**.

To add another row to the **ONS Host** table, click anywhere in the table, and then click **Add**.

To delete a row from the **Service Listener** table, click anywhere in the row, and then click **Delete**.

To delete a row from the **ONS Host** table, click anywhere in the row, and then click **Delete**.

For more information about GridLink data sources, see "Using Gridlink Data Sources" in *Configuring and Managing JDBC Data Sources for Oracle WebLogic Server*.

4.14 Configure Oracle RAC Multi Data Sources

Use this screen to configure the data sources (that are included in the domain) as an Oracle RAC data sources.

The data sources that you opted to configure as Oracle RAC data sources on the Configure JDBC Data Source screen are listed in the lower half of the screen.

Select the data source(s) for which you want to specify settings by selecting the check box adjacent to each 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 change the values in such fields, the new values are applied uniformly across the selected data sources.

- **Driver**—Select the JDBC driver to use to connect to the database.

- **Service Name**—Enter an Oracle RAC database service name.

- **Username**—Enter the username for connecting to the database.

- **Password**—Enter the password for the specified username.

- **Host Name**—Enter the name of the server hosting the Oracle RAC database instances.

- **Instance Name**—Enter the name of each Oracle database instance.

- **Port**—Enter the port numbers to be used to connect to the server that hosts the database.

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

4.15 Test JDBC Data Sources
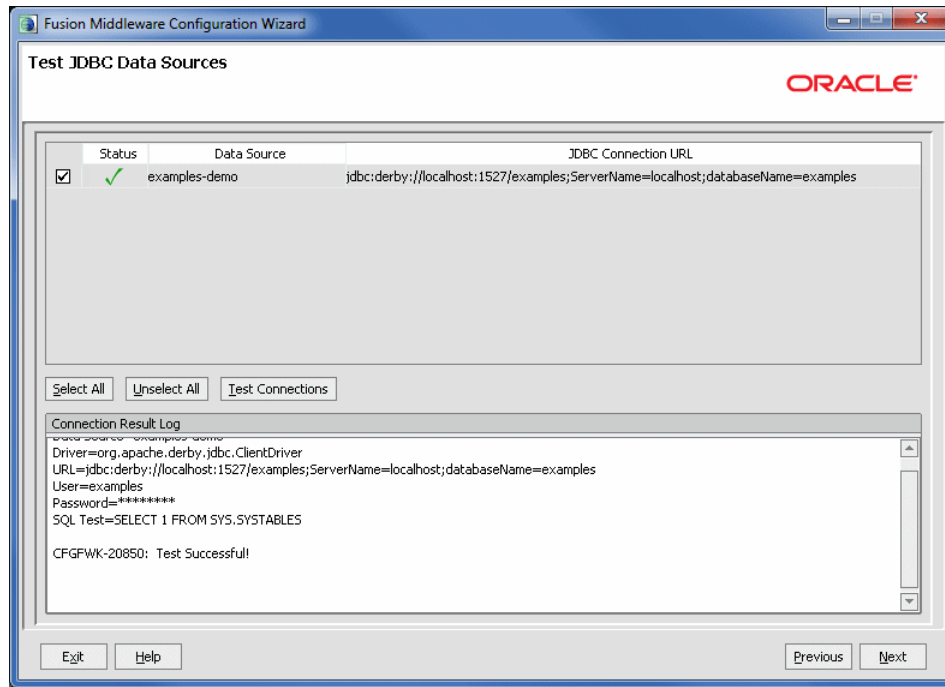
Use this screen to test the data source connections you configured on the Configure JDBC Data Source and Configure Oracle RAC Multi Data Sources screens.

> **Notes:** In order to test the database connections, the database to which you are connecting must be running.
>
> If you do not want to test the connections at this time, do not select any data sources. Click **Next** to continue.

Select the check box for each data source you want to test, and then click **Test Connections**.

The wizard tests the configuration for each selected 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** section.

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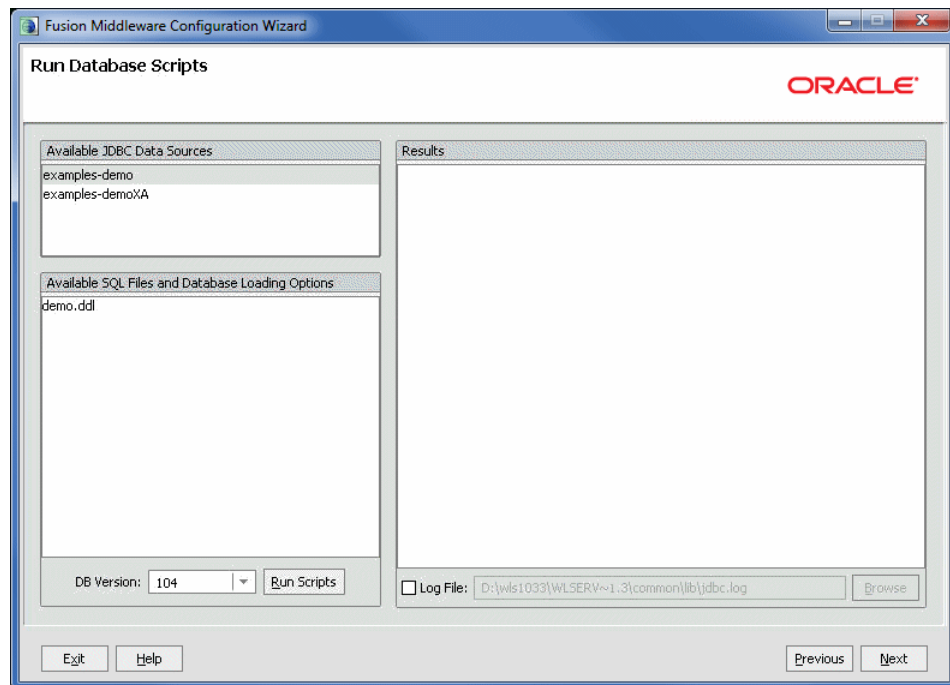
A domain template might contain a set of SQL files organized by database type. If the domain template contains SQL files, you can run them while creating the WebLogic domain, in the Run Database Scripts screen. Database content for each of the data sources defined in your WebLogic domain is set up by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

> **Note:**   No databases are defined in the WebLogic Server Base Domain (`wls.jar`) template. If you selected only the WebLogic Server Base Domain template as the basis for the WebLogic domain, the Configure JDBC Data Sources and the Run Database Scripts screens are not displayed.

1. In the Available JDBC Data Sources section, 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 section.

2. Select the database version from the **DB Version** drop-down list.

3. Click **Run Scripts**.

    All the scripts displayed in the Available SQL Files and Database Loading Options section for the selected data source are executed, and the results are displayed in the Results section. 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**.

4.17 Configure Keystore Credentials

This screen displays one set of **Enter Keystore Password**/**Confirm Password** fields for each product that requires a keystore password to be set.

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 to use these products. Note the passwords you enter and provide them to anyone who is authorized to use these products.

4.18 Select Optional Configuration
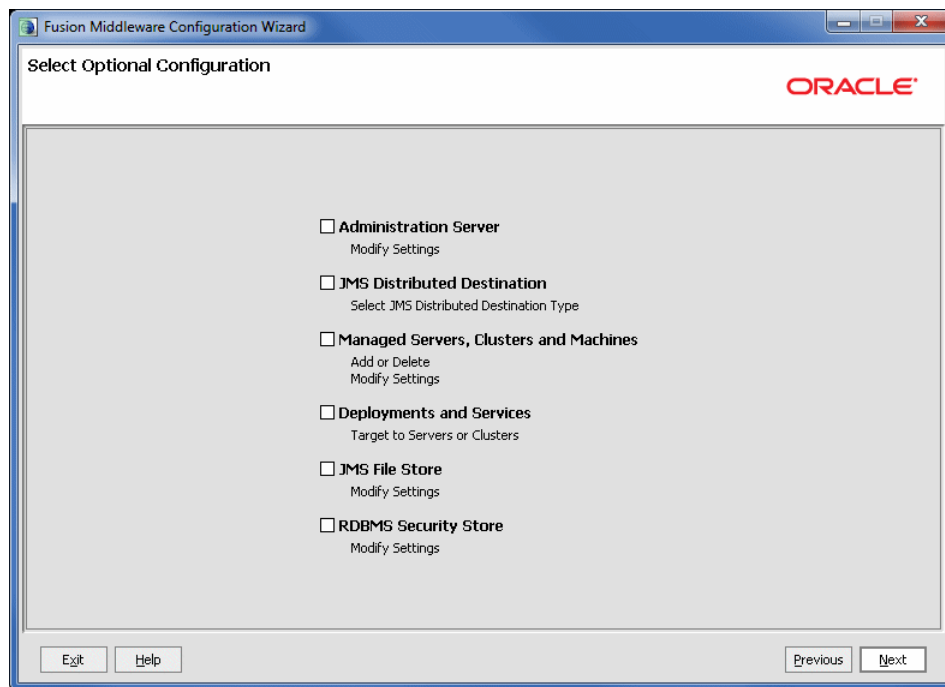
Select all categories (if any) for which you want to perform advanced configuration. For each category you select, the appropriate configuration screen is displayed to allow you to perform advanced configuration. If you do not select any items on this screen, the Configuration Summary screen is displayed next.

> **Notes:** The categories that are listed on this screen depend on the resources defined in the templates you selected for the domain.
>
> The **Administration Server** and **RDBMS Security Store** options are not available when you are extending a domain.

- **Administration Server**—Select this option to modify Administration Server settings such as server name, listen address, listen port, and SSL settings. See Section 4.19, "Configure Administration Server."

- **JMS Distributed Destination**—By default, JMS distributed destinations are automatically converted to Weighted Distributed Destinations (WDD). Select this

option to change a JMS distributed destination to a Unified Distributed Destination (UDD). See Section 4.20, "Select JMS Distributed Destination Type."

- **Managed Servers, Clusters, and Machines**—Select this option to
  - Add Managed Servers, clusters, or machines to the domain
  - Delete an existing Managed Server, cluster, or machine
  - Add Managed Servers to an existing cluster
  - Modify the settings for an existing Managed Server, cluster, or machine.

  See Section 4.21, "Configure Managed Servers," through Section 4.26, "Assign Servers to Machines."

- **Deployments and Services**—Select this option to customize how application deployments and services are targeted to servers and clusters. See Section 4.27, "Target Deployments to Clusters or Servers," and Section 4.28, "Target Services to Clusters or Servers."

- **JMS File Stores**—Select this option to change the settings for your JMS file stores. You can change the name, directory, and synchronous write policy for each file store. See Section 4.29, "Configure JMS File Stores."

- **RDBMS Security Store**—Select this option to configure an external relational database management system (RDBMS) as a data store for various security providers. See Section 4.30, "Configure RDBMS Security Store Database."

4.19 Configure Administration Server

The Administration Server is the central point from which you manage your domain. You can access the Administration Server by using the URL *protocol*://*listen-address*:*listen-port*. This is the network channel for the Administration Server. Note that the network channel for each Administration Server must be unique. The *protocol* can be any of the following: `t3`, `t3s`, `http`, `https`.

From this screen, you can configure or change the following Administration Server settings. Required fields are indicated by an asterisk (*).

- **Name**—The default name is `AdminServer`. Valid server names are a string of characters (alphabetic and numeric).

  Each server instance in a 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 WebLogic domain.

  This value is specified only for identification purposes. 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.

- **Listen address**—From the drop-down list, select a value for the listen address.

  For more information, see Section 4.19.1, "Specifying the Listen Address."

- **Listen port**—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.

  For more information, see Section 4.19.2, "Specifying the Listen Port."

- **SSL enabled**—Select this check box to enable the SSL listen port. By default, SSL is disabled for all new servers.

- **SSL listen port**—This field is enabled only if you selected the SSL enabled check box.

  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. The valid listen port range is from 1 to 65535.

  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 *Securing Oracle WebLogic Server*.

4.19.1 Specifying the Listen Address

This section provides guidelines for specifying the listen address for the Administration Server. These guidelines also apply to all Managed Servers.

If you select **localhost** 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 **All Local Addresses**. The server instance determines the address of the machine and listens on it.

Table 4–2 describes the behavior of each listen address type.

Table 4–2   Specifying the Listen Address

Listen Address Type	Behavior
All Local Addresses or a DNS name	On multi-homed Windows machines, a server instance binds to all available IP addresses.
An IP address or a DNS name	■ To connect to the server instance, processes can specify either the IP address or the corresponding DNS name. ■ Processes that specify localhost fail to connect. ■ You must update existing processes that use localhost to connect to the server instance. ■ 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. **Note**: 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 a client request then specifies a DNS name, WebLogic Server attempts to resolve the DNS name. If it cannot access DNS name mapping, the request fails.
localhost	■ Processes must specify localhost to connect to the server instance. ■ Only processes that reside on the machine that hosts the server instance (local processes) can connect to the server instance.

4.19.2 Specifying the Listen Port

Note the following guidelines when specifying the listen port for the Administration Server. These guidelines also apply to Managed Servers.

■ 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.

4.20 Select JMS Distributed Destination Type
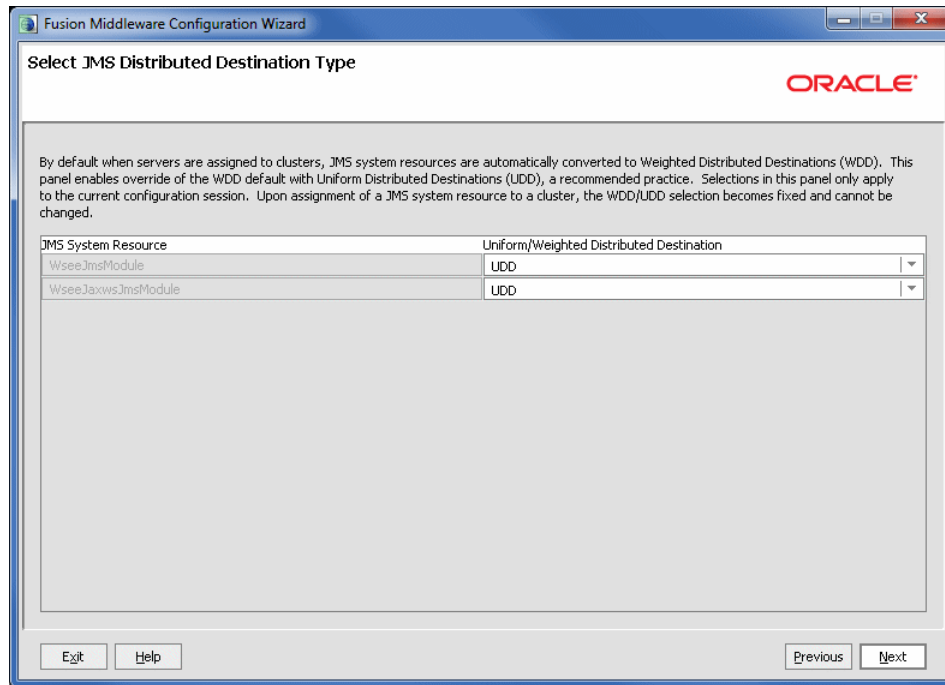
By default, for backward compatibility, JMS distributed destinations are automatically converted to Weighted Distributed Destination (WDD). To change a JMS distributed destination to use Uniform Distributed Destination (UDD) behavior, select UDD from the drop-down list. Oracle recommends using the UDD setting.

> **Note:**   When you change JMS system resource behavior, the setting applies only to the current session unless the JMS system resource is assigned to a cluster. Once the JMS system resource is assigned to a cluster, the setting becomes fixed and cannot be changed.

For more information about UDD and WDD, see "Types of Distributed Destinations" in *Programming JMS for Oracle WebLogic Server*.

4.21 Configure Managed Servers
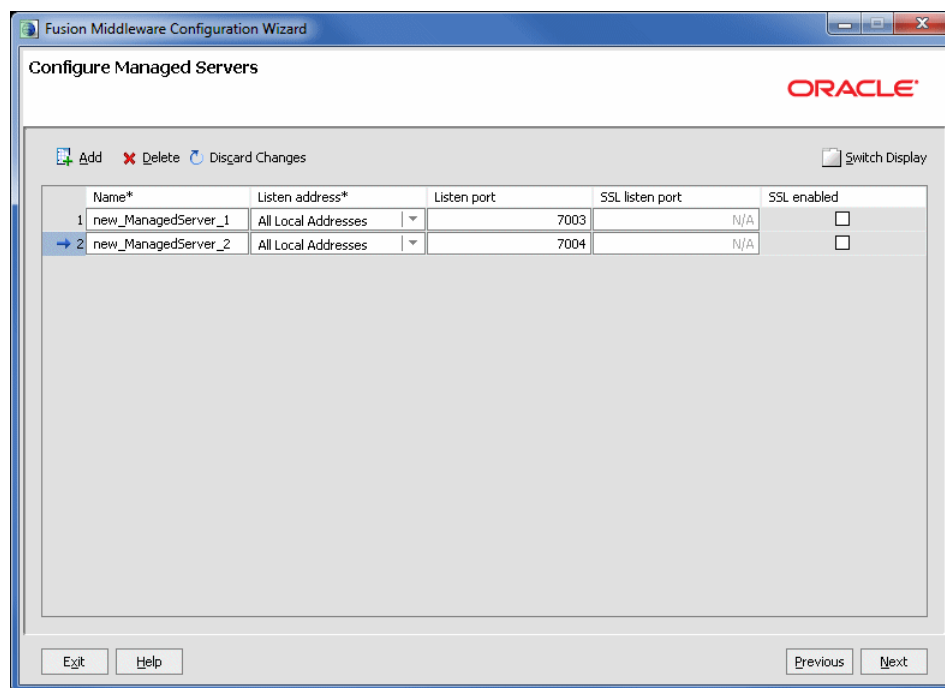
From this screen, you can add or delete Managed Servers. You can also change the settings for an existing Managed Server. Required fields are indicated by an asterisk (*).

> **Note:** You can create Managed Servers on remote machines by using the `pack` and `unpack` commands. For more information, see "Creating and Starting a Managed Server on a Remote Machine" in *Creating Templates and Domains Using the Pack and Unpack Commands*.

- **Name**—Valid server names are a string of characters (alphabetic and numeric). The name must be unique in the domain.

- **Listen address**—From the drop-down list, select a value for the listen address. See Section 4.19.1, "Specifying the Listen Address" for information about the available values.

- **Listen port**—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 the next available listen port. If you leave this field blank, the default value is used. The valid listen port range is from 1 to 65535.

  For more information, see Section 4.19.2, "Specifying the Listen Port."

- **SSL enabled**—Select this check box to enable the SSL listen port. By default, SSL is disabled for all new servers.

- **SSL listen port**—This field is enabled only if you selected the SSL enabled check box.

  Enter a valid value to be used for secure requests (through protocols such as HTTPS and T3S). The default value is the next available listen port. If you leave

this field blank, the default value is used. The valid listen port range is from 1 to 65535.

To delete a server, select the server and click **Delete**. You can delete only one server at a time.

To add a server, click **Add** and configure the settings for the new server. The default name for a new server is `new_ManagedServer_n`, where *n* starts at `1` and increments for each new server you add.

To switch the display from the default tabular format to a tabbed format (with one tab for each server), click **Switch Display**. Click **Switch Display** again to return to tabular format.

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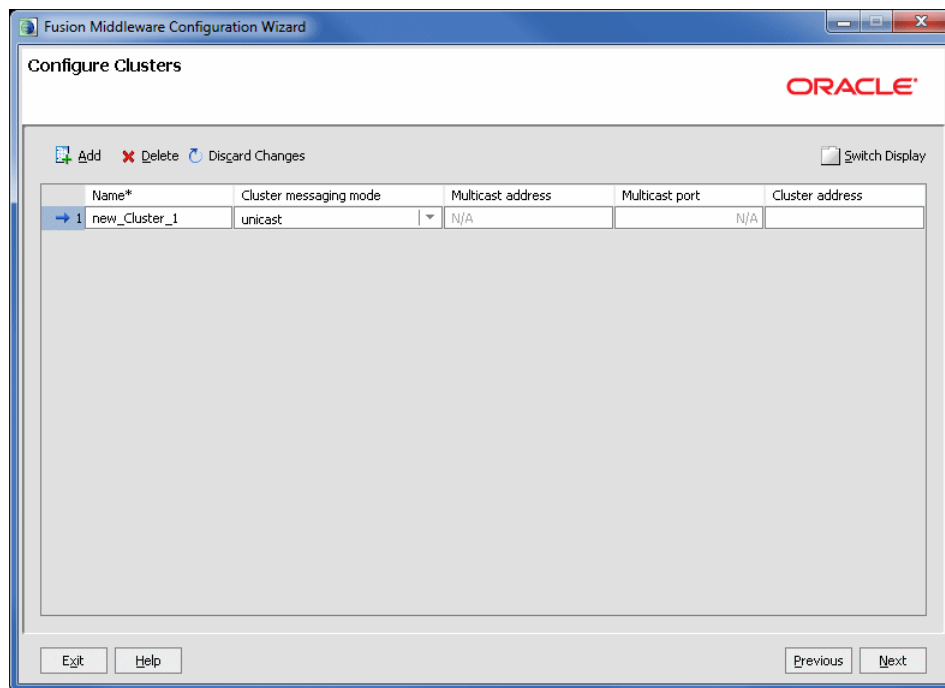
A cluster is a group of WebLogic Server instances that work together to provide scalability and high-availability for applications. By creating clusters, you can group Managed Servers such that they operate as a single unit for hosting applications and resources.

Use this screen to add or delete clusters. You can also change the settings for an existing cluster. Required fields are indicated by an asterisk (*).

- **Name**—Enter a valid name. The name of the cluster must be unique among all component names within the WebLogic domain.

- **Cluster messaging mode**—Select whether the messaging mode is unicast or multicast.

- **Multicast address**—If you selected **multicast** as the cluster message mode, enter the multicast address for the cluster. This address is used by cluster members to communicate with each other. The default value is 239.192.0.0.

  The valid multicast address range is 224.0.0.1 to 239.255.255.255.

- **Multicast port**—If you selected **multicast** as the cluster message mode, enter the multicast port for the cluster. The multicast port is used by cluster members to communicate with each other. The default value is 7001.

  Valid values for multicast ports are from 1 to 65535.

- **Cluster address**—Enter the addresses for identifying the Managed Servers in the cluster. A cluster address can be one of the following:

  - Comma-separated list of IP addresses or DNS names and ports (for example: dns_name:port, dns_name:port)

  - DNS name that maps to multiple IP addresses

  - localhost, DNS name, or IP address if the listen address of all Managed Servers is listening to the same address with unique port numbers

  The cluster address is used in entity and stateless EJBs to construct the host name portion of URLs. If the cluster address is not set, EJB handles may not work properly.

To delete a cluster, select the server and click **Delete**. When you delete a cluster, you do not delete the servers assigned to it; the servers are merely removed from the cluster and can then be added to another cluster. You can delete only one cluster at a time.

To add a cluster, click **Add** and configure the settings for the new server. The default name for a new cluster is new_Cluster_n, where *n* starts at 1 and increments for each new cluster you add. To change the default, type the desired name in the **Name** column.

To switch the display from the default tabular format to a tabbed format (with one tab for each cluster), click **Switch Display**. Click **Switch Display** again to return to tabular format.

For more information about clusters, see "Setting Up WebLogic Clusters" in *Using Clusters for Oracle WebLogic Server*.

4.23 Assign Servers to Clusters
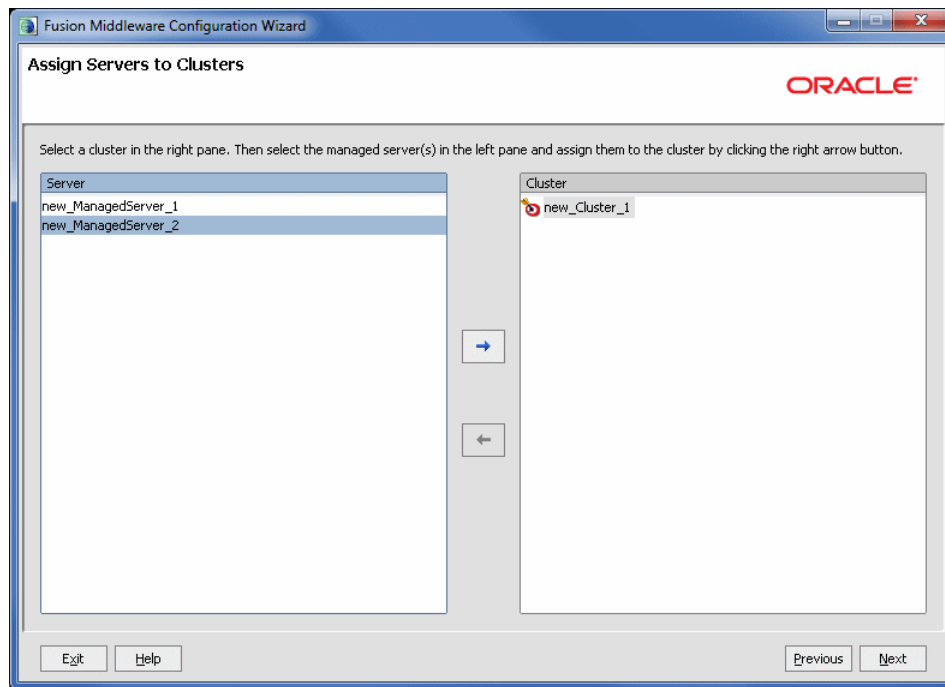
Use this screen to assign Managed Servers to clusters.

> **Note:** Only Managed Servers are displayed in the **Server** list box. The Administration Server is not listed because it cannot be assigned to a cluster.

To assign one or more servers to a cluster:

1. In the **Cluster** list box, 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** list box.

    ■ 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** list box and added below the name of the target cluster in the **Cluster** list box.

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** list box.

    ■ Select the Managed Server and click the left arrow.

    The name of the Managed Server is removed from the **Cluster** list box and restored to the **Server** list box.

4.24 Create HTTP Proxy Applications
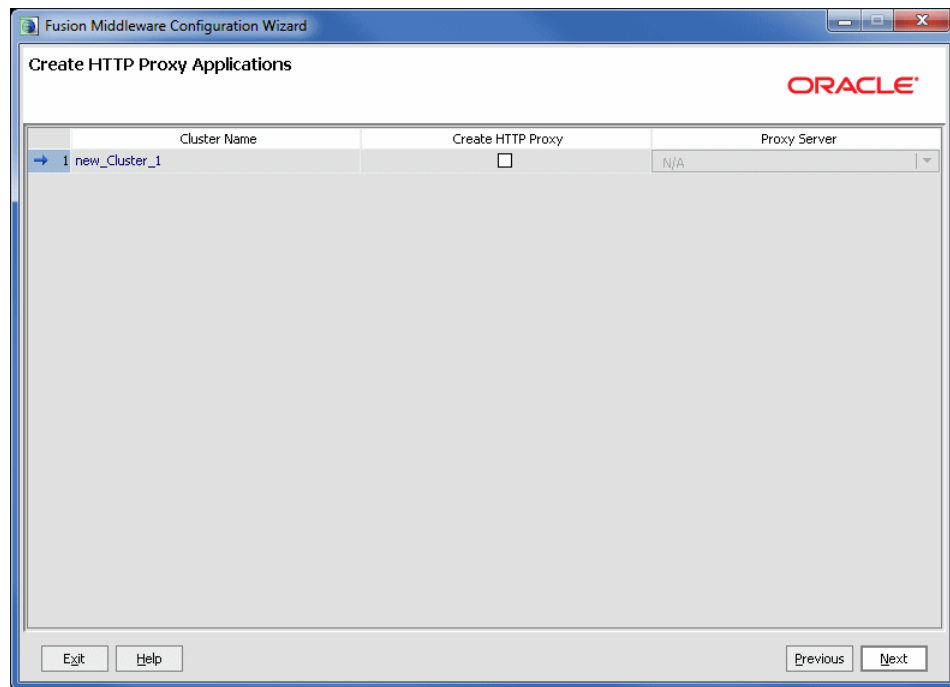
An HTTP proxy application acts as an intermediary for HTTP requests.

Use this screen to 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 next to 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 and 2 for each cluster for which you want to create HTTP proxy applications.

4.25 Configure Machines
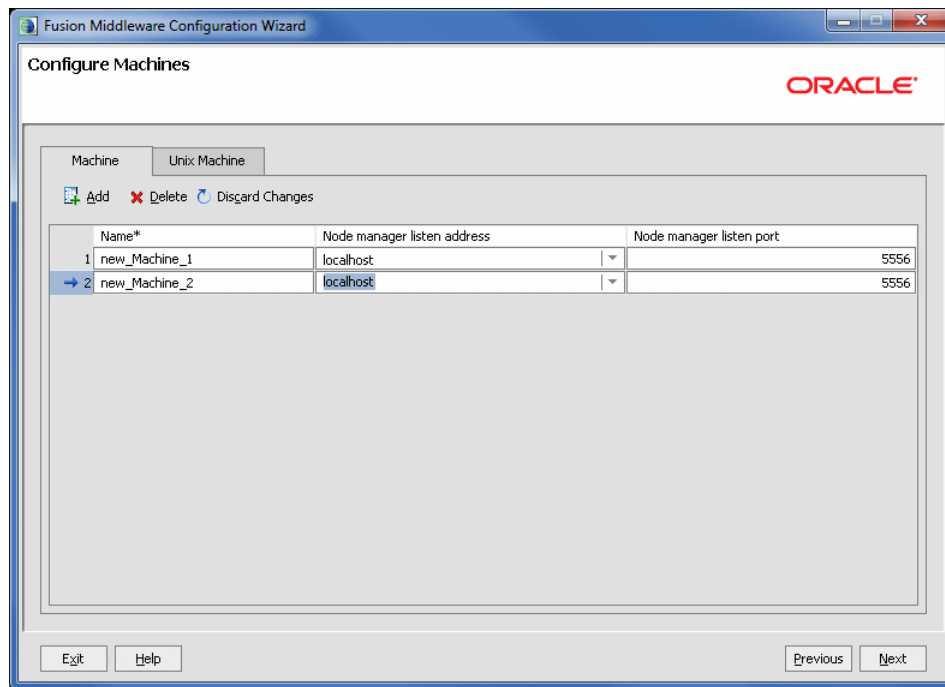
In a WebLogic domain, the machine definitions identify physical units of hardware and are associated with the WebLogic Server instances that they host.

Use this screen to add or delete machines, or to modify the settings for an existing machine. Each machine has the following configuration settings. Required fields are marked with an asterisk (*).

- **Name**—Enter a valid machine name. The machine name is used to identify the machine within the WebLogic domain; it does not have to match the network name for the machine. The name must be unique among all component names within the domain.

- **Node manager listen address**—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.

  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.

  For more information, see "Using Host Name Verification" in *Securing Oracle WebLogic Server*.

- **Node manager listen port**—Enter a valid value for the listen port used by Node Manager to listen for connection requests.

  The valid Node Manager listen port range is from 1 to 65535. The default value is 5556.

- **Post bind GID enabled**—(UNIX machines only) 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.

- **Post bind GID**—(UNIX machines only) Enter the UNIX group ID (GID) under which a server on this machine will run 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.

- **Post bind UID enabled**—(UNIX machines only) 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.

- **Post bind UID**—(UNIX machines only) Enter the UNIX user ID (UID) under which a server on this machine will run 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.

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.

> **Note:** You must configure machines for each product installation that runs a Node Manager process. The machine configuration must include values for the listen address and port number parameters.

Select the **Machine** tab (for Windows) or the **UNIX Machine** tab (for UNIX).

Click **Add** to add a new machine. The default name for a new machine is `new_[Unix]Machine_n`, where *n* starts at 1 and increments by 1 for each machine that you add.

Click **Delete** to delete an existing machine.

4.26 Assign Servers to Machines
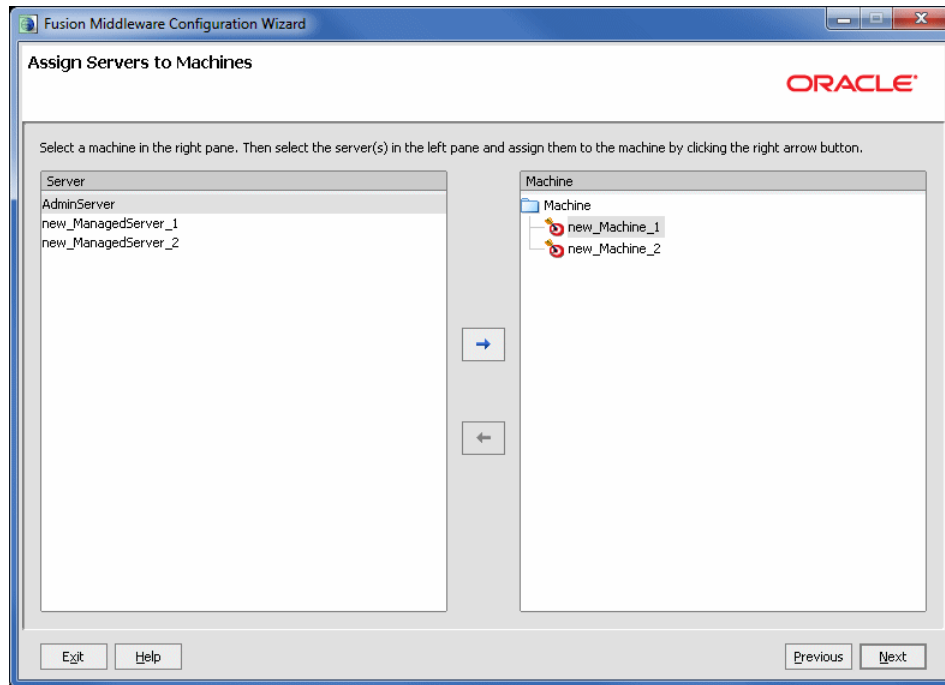
Use this screen to assign WebLogic Server instances to each of the machines you defined.

1. In the **Machine** list box, 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** list box.

   ■ Select the appropriate WebLogic Server instance in the **Server** list box and click the right arrow.

   ■ Shift+click to select multiple servers in the **Server** list box; then, click the right arrow.

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

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** list box.

   ■ Select the appropriate WebLogic Server instance in the **Machine** list box and click the left arrow.

   The name of the WebLogic Server instance is removed from the **Machine** list box and restored to the **Server** list box.

4.27 Target Deployments to Clusters or Servers
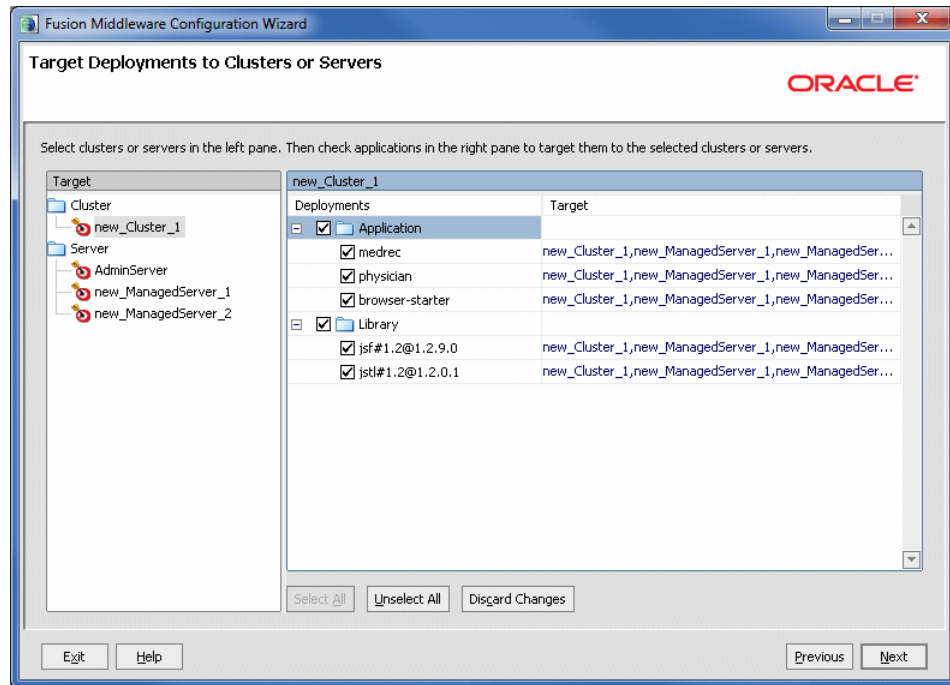
Use this screen to target applications for deployment on servers or clusters.

Applications 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 to additional servers and clusters.

To target an application deployment to a cluster or server:

1. In the Target list box, select the cluster or server on which you want to deploy applications.

    The name of the selected target is displayed as the title of the list box on the right.

2. In the *target_name* list box, select the check boxes corresponding to the applications to deploy on the selected target.

    The applications 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 list box, some of the check boxes in the *target_name* list box might be disabled, indicating applications that are already targeted at the cluster that contains the selected Managed Server.

    After you select applications, the names of the targeted clusters and servers are displayed in the Target column in the *target_name* list box.

3. Repeat steps 1 and 2 for the other clusters and servers, as required.

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

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.

4.28 Target Services to Clusters or Servers
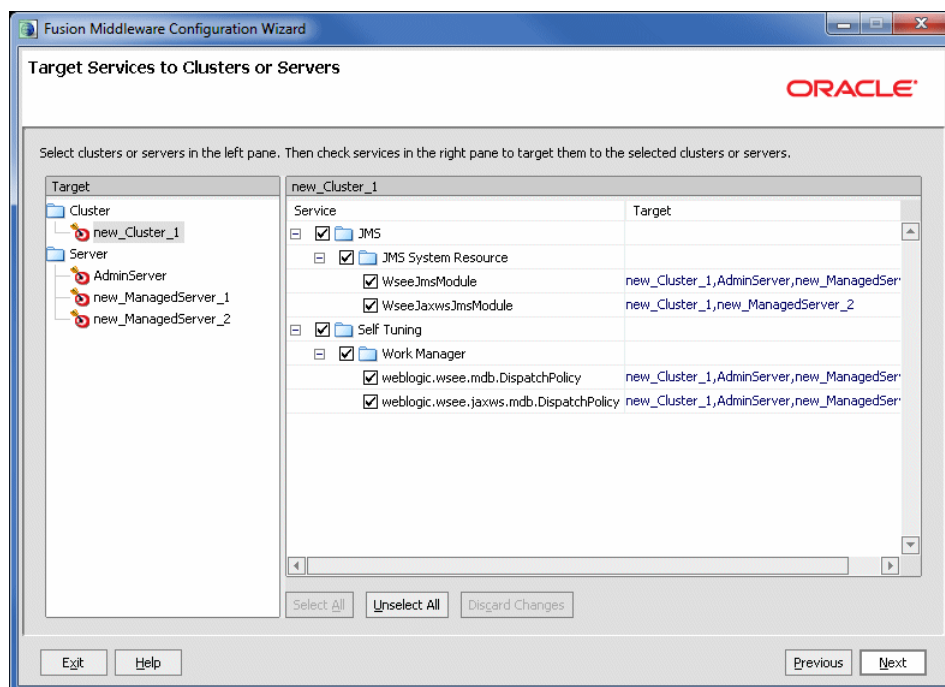
Use this screen to target services to the appropriate Managed Servers or clusters.

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.

To target services to Managed Servers or clusters:

1. In the **Target** list box, 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 list box on the right.

2. In the *target_name* list box, 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 list box, some of the check boxes in the *target_name* list box 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 *target_name* list box.

3. Repeat steps 1 and 2 for the other clusters and servers, as required.

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

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.

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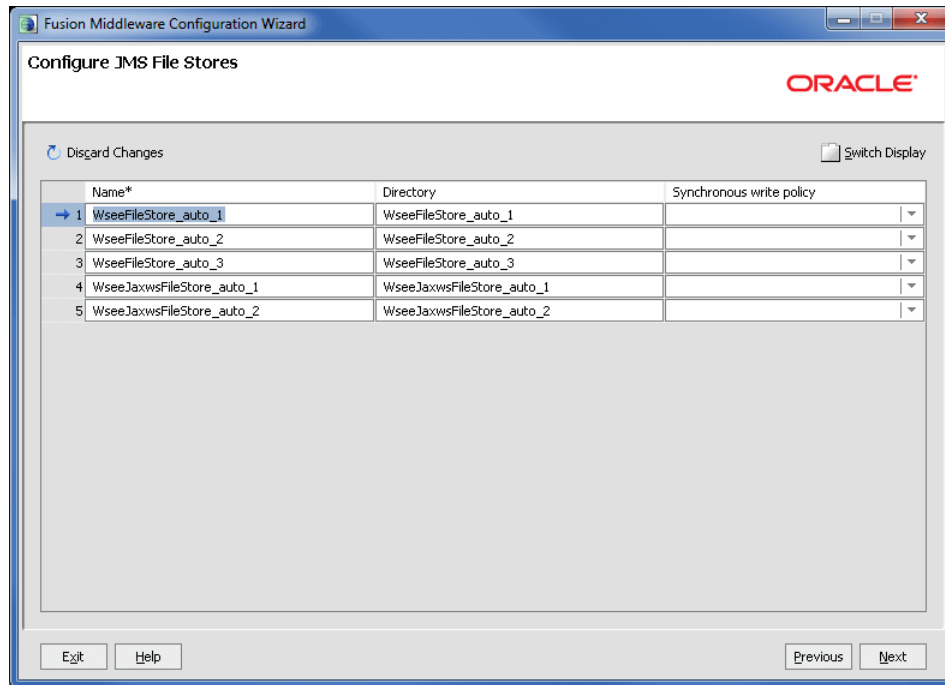
A JMS file store is a disk-based file in which persistent messages can be saved.

Use this screen to modify the JMS file stores that are configured in your domain. It contains the following fields. Required fields are marked with an asterisk (*).

- **Name**—Enter a valid 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.

- **Directory**—Enter the path of the directory (in your system) in which the JMS file store resides.

- **Synchronous write policy**—From the drop-down list, select one of the following synchronous write policies to determine how the file store writes data to the disk:

  - **Cache-Flush**: Transactions cannot be completed until all their write operations have been flushed to the disk.

  - **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.

  - **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.

> **Notes:** 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).
>
> If the JMS file store is used exclusively for paging non-persistent messages to the disk, the synchronous write policy is ignored.

To switch the display from the default tabular format to a tabbed format (with one tab for each server), click **Switch Display**. Click **Switch Display** again to return to tabular format.

4.30 Configure RDBMS Security Store Database

Configure the following RDBMS security store database fields. Required fields are marked with an asterisk (*).

- **Database Type**—From the drop-down list, select the type of database to use as the RDBMS security store.

  For information about supported databases, see *Oracle Fusion Middleware Supported System Configurations* at
  `http://www.oracle.com/technology/software/products/ias/files/fusion_certification.html`.

- **Driver**—Select the driver to use for the database. The list of available drivers varies, depending on the database type that you select.

- **Class Name**—No action is required. The class name is displayed automatically, based on the driver that you select.

- **DBMS SID**—Enter the SID of the database.

- **DBMS Host**—Enter the name of the machine that hosts the database.

- **DBMS Port**—Enter the port to be used to connect to the server. The default port number that is associated with the selected database type is displayed automatically.

- **URL**—No action is required. The URL is displayed automatically based on the driver that you select.

- **User Name**—Enter the login name for connecting to the database.

- **User Password**—Enter the password for accessing the database. The password rules vary, depending on the database. The value is encrypted.

- **Confirm User Password**—Re-enter the password.

- **Known Properties**—No action is required. The known properties of the database are displayed automatically based on the driver that you select.

- **Additional Properties**—Enter additional properties, if any, to be passed to the driver.

4.31 Configuration Summary
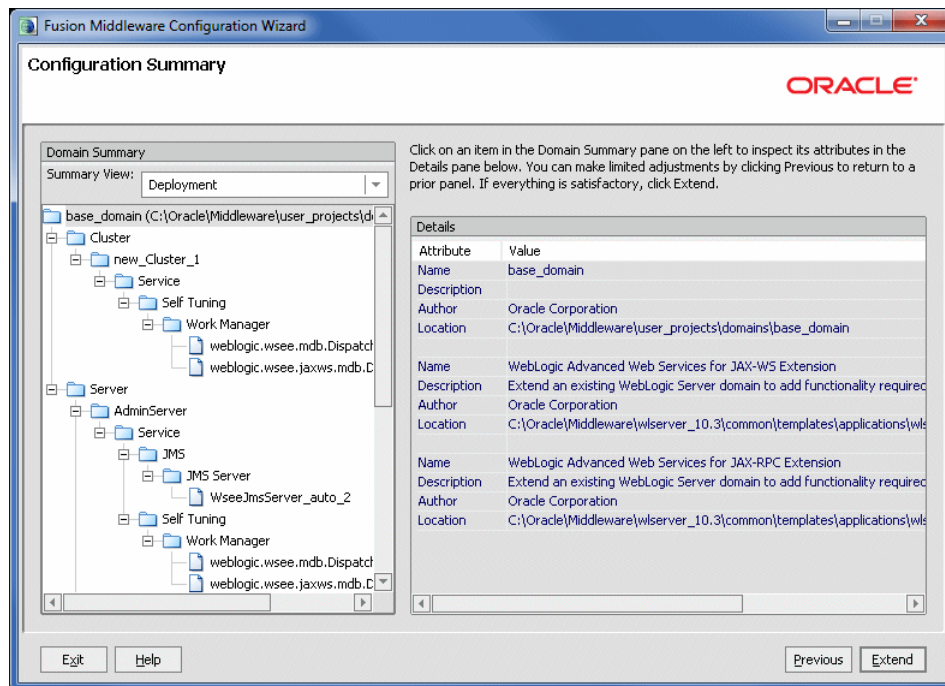
Review the detailed configuration settings of your domain before continuing.

In the **Domain Summary** pane, select an item to display details about that item in the **Details** pane on the right.

You can limit the items that are displayed in the **Domain Summary** pane by selecting a filter option from the **Summary View** drop-down list.

If you need to change the configuration, click **Previous** to return to the appropriate screen.
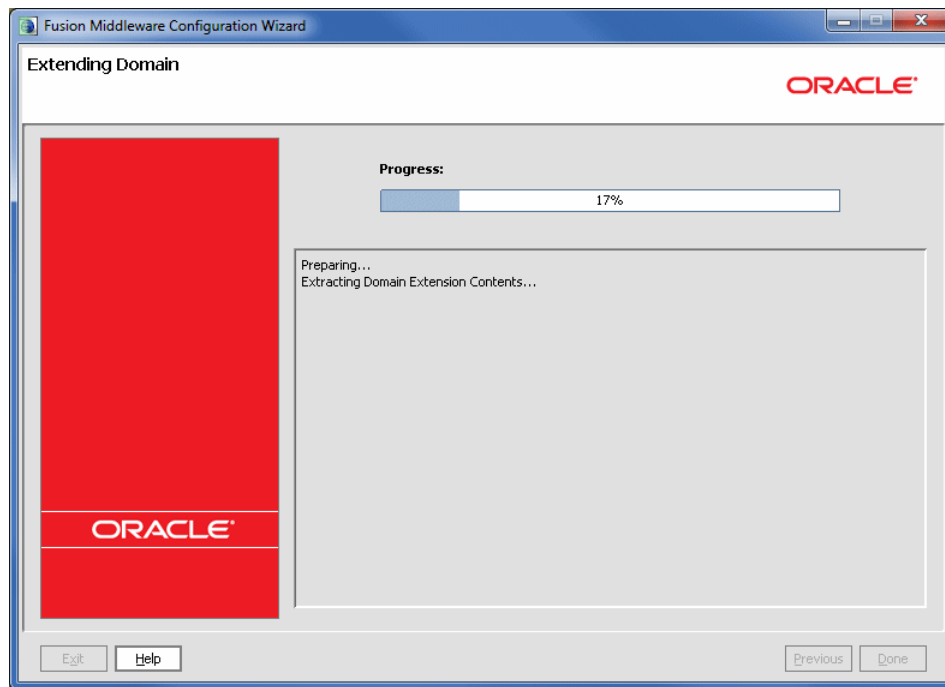
4.32 Creating Domain
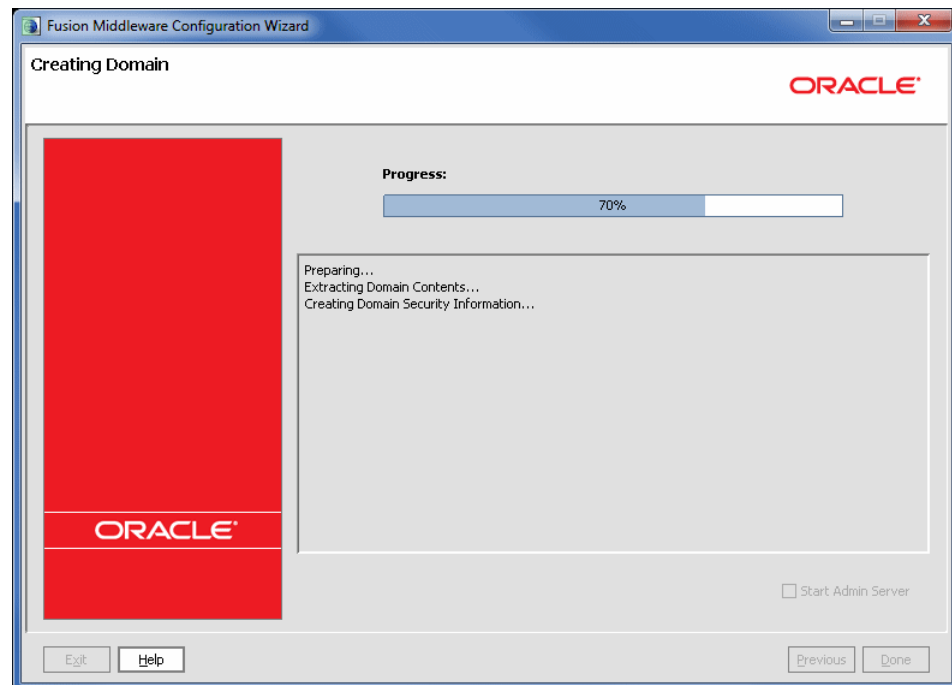
This screen shows the progress of the domain creation.

When the domain creation process completes, click **Done** to close the Configuration Wizard.

On Windows systems, if you want to start the Administration Server after closing the Configuration Wizard, select the **Start Admin Server** check box. This check box is not available on UNIX systems.

4.33 Extending Domain

This screen shows the progress of the domain extension process.

When the domain creation process completes, click **Done** to close the Configuration Wizard.

A

Using Console Mode

This appendix describes how start the Configuration Wizard in console mode. It also describes how to navigate in console mode, as well as perform various actions such as selecting items in a list or table. You can use console mode to create or extend a domain if your environment is not GUI-based.

> **Note:** In situations where you cannot run the Configuration Wizard in GUI mode, Oracle recommends that you use a WLST script to create or extend a domain. For more information, see "Creating and Using a Domain Template (Offline)" in *Oracle WebLogic Scripting Tool*.

This appendix contains the following sections:

- Appendix A.1, "Before You Begin"
- Appendix A.2, "Starting the Configuration Wizard in Console Mode"
- Appendix A.3, "Responding to Console Mode Prompts"

A.1 Before You Begin

Prior to running the Configuration Wizard to create a domain on a UNIX or Linux operating system, if you have not already done so, set the `CONFIG_JVM_ARGS` environment variable as follows:

```
-Djava.security.egd=file:/dev/./urandom
```

This decreases the amount of time it takes for the Configuration Wizard to create or update a domain.

A.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 following directory:

   On Windows: *WLHOME*\common\bin

On UNIX: *WLHOME*/common/bin

where *WLHOME* is the directory in which WebLogic Server is installed.

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 to indicate that the default cache directory is not valid:
>
> `*sys-package-mgr*: can't create package cache dir`
>
> You can change the cache directory by including the `-Dpython.cachedir=<valid_directory>` option in the command line.

The `Welcome` text is displayed.

Respond to each prompt as appropriate. Refer to the next section for general information about how to respond to console mode prompts.

A.3 Responding to Console Mode Prompts

In console mode, you are presented with a series of prompts, tables, and lists which allow you to configure your domain as desired. The various actions you can perform are described as follows:

- The following common key entries are available throughout the Configuration Wizard:

  - To accept a current selection or configuration and continue to the next prompt, enter `next` (or `n`).

  - To close the Configuration Wizard, enter `exit` (or `x`).

  - To return to a previous prompt to review or change a selection, enter `previous` (or `p`).

- If you are prompted to enter a directory path, or the path to a file name, enter the full path. On Windows systems, you must include the drive letter in the path.

- When you are presented with a list of commands, such as `Accept` or `Discard`, you must enter the entire command.

- For some prompts, you select from a list of options by entering the number of the desired option. The selected option is indicated by a check mark.

- In some cases, you must select one or more items in a list by entering the number (such as `1`, `1.1`, or `2.1.1`) shown in square brackets. Enter each number one at a time, exactly as shown in the brackets. A check mark is displayed next to each selected item. You can toggle the check mark on an off for a given item in the list by re-entering the number in brackets.

- For some prompts, you are presented with a list of possible settings. Enter the number for the setting you want to use.

- For some prompts, you are presented with a numbered list of configuration settings. To select the setting you want to change, enter the number for that setting, and then enter the value you want to use.

- If a list of items (such as a list of schemas or data sources) is presented in a table, select the item you want to configure by entering the table row number for that item. Your selection is indicated by an arrow (->).

- If a list of configuration settings is displayed:

  - Select the setting you want to change by entering the appropriate number.

  - Enter the value for the setting.

  - Repeat until all settings are as desired.

  - Enter n to continue to the next prompt.

- If a table of configuration settings is displayed:

  - Select the setting you want to change by entering the appropriate row number.

  - Enter the value for the setting.

  - Repeat until all settings are as desired.

  - Review the settings to ensure they are accurate.

  - Enter Accept to accept the configuration.

  - Enter n to continue to the next prompt.

- For some prompts, you have to enter a number to select an operation (such as Add, Modify, or Delete), which then determines the next sequence of displayed prompts.

- For some prompts, such as selecting the servers to add to a cluster or a machine, you can enter a single value, a range of contiguous values, or both:

  - To select a single item, simply enter the number for the item.

  - To select multiple non-contiguous items, enter each value separated by a comma. For example to select items 1, 3, and 5, enter 1, 3, 5.

  - To select a contiguous range of items, enter the low and high values of the range, separated by a hyphen. For example, to select items 2, 3, and 4, enter 2-4.

  - To select both single items and a range of contiguous items, separate each by a comma. For example to select item 1 and items 3-5, enter 1, 3-5.