# Oracle® Fusion Middleware Creating Domain Templates Using the Domain Template Builder





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## Contents

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Audience	V
Documentation Accessibility	٧
Diversity and Inclusion	٧
Related Documents	٧
Conventions	V
Introduction	
Overview of the Domain Template Builder	1-1
About Domain and Extension Templates	1-2
Additional Tools for Creating Templates	1-3
Using the Domain Template Builder to Create Domain Templates	
Starting the Domain Template Builder	2-1
Creating Domain Templates Using the Domain Template Builder	2-2
Creating Extension Templates by Using the Domain Template Builder	
Starting the Domain Template Builder	3-1
Creating an Extension Template Using the Domain Template Builder	3-2
Domain Template Builder Screens	
Template Type	4-1
Creating a Domain Template From an Existing Domain	4-2
Creating an Extension Template From an Existing Domain	4-2
Creating a Domain Template From an Existing Template	4-3
Creating an Extension Template From an Existing Template	4-3
Template Information	4-4
Services Selection	4-4
Topology Selection	1 1
	4-4
Template Summary	4-4



Configuration Progress		
End of Configuration		



4-5 4-5

#### **Preface**

This preface describes the audience, document accessibility features, diversity and inclusion, related documents, and conventions used in this guide.

- Audience
- Documentation Accessibility
- · Diversity and Inclusion
- Related Documents
- Conventions

#### **Audience**

This document is intended for administrators of Oracle Fusion Middleware, who are assigned the task of installing and configuring Oracle Fusion Middleware software.

## **Documentation Accessibility**

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#### **Related Documents**

You can access the documents referenced in this guide on the Oracle Technology Network at <a href="http://www.oracle.com/technology">http://www.oracle.com/technology</a>:

Creating WebLogic Domains Using the Configuration Wizard



- Creating Templates and Domains Using the Pack and Unpack Commands
- Domain Template Reference
- WLST Command Reference for WebLogic Server
- Understanding the WebLogic Scripting Tool

## 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.		



#### Introduction

You can create templates in WebLogic Server by using the Domain Template Builder. The Domain Template Builder is a standalone Java application that guides you through the process.

This chapter contains the following sections:

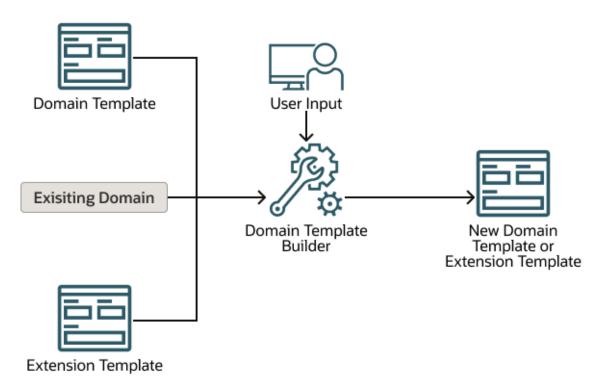
- Overview of the Domain Template Builder
  - The Domain Template Builder helps you create domain and extension templates. You can then use these domain or extension templates to build or extend WebLogic domains.
- About Domain and Extension Templates
   In the context of the Domain Template Builder, the term template refers to a Java Archive (JAR) file. A template JAR contains the files and scripts that are used to create or extend a WebLogic domain.
- Additional Tools for Creating Templates
   In addition to the Domain Template Builder, you can use other tools such as the pack command and WLST to create domain and extension templates.

#### Overview of the Domain Template Builder

The Domain Template Builder helps you create domain and extension templates. You can then use these domain or extension templates to build or extend WebLogic domains.

The domain and extension templates contain the key attributes and files required to build or extend a WebLogic domain. Figure 1-1 illustrates the process to create templates.

Figure 1-1 Domain Template Builder



You can use the Domain Template Builder to create templates off-line, in graphical mode. The Domain Template Builder is not supported in console mode. Therefore, the console attached to the system on which you are using the Domain Template Builder must support Java-based GUIs. All consoles for Windows systems support Java-based GUIs; only some UNIX-based consoles support Java-based GUIs.

Your product installation includes a set of predefined domain and extension templates. This set of templates includes the WebLogic Server Base Domain template, and various extension templates that allow you to add product features and samples to the base domain. For more information about the templates that are available for various products, see Fusion Middleware Product Templates in *Domain Template Reference*.

After you create your domain and add new resources and applications to it, you can use the Domain Template Builder to create domain and extension templates. To do so, select the existing domain or template as the source for your new domain or extension templates. When your custom domain templates are complete, you can use them to create domains by using the Configuration Wizard, WLST Offline, or the unpack command. For more information about these tools, see Additional Tools for Creating Templates.

## **About Domain and Extension Templates**

In the context of the Domain Template Builder, the term template refers to a Java Archive (JAR) file. A template JAR contains the files and scripts that are used to create or extend a WebLogic domain.

The Configuration Wizard uses the following types of templates to create or extend domains:

Domain 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 domain by using the Domain Template Builder or the pack command. You can then create a domain based on the template.

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

- Extension template: defines applications and services that can provide additional features, such as applications, or JDBC resources, JMS components, or deployed libraries. This type of template can be used to update an existing WebLogic domain.
- Managed Server template: defines the subset of resources within a domain that are required to create a Managed Server domain on a remote machine. This type of template can be created by using the pack command.

Your product installation includes a set of predefined domain and extension templates. This set includes the WebLogic Server Base 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 the WebLogic Server Templates in *Domain Template Reference*.

#### Additional Tools for Creating Templates

In addition to the Domain Template Builder, you can use other tools such as the pack command and WLST to create domain and extension templates.

Here is a description of the additional tools:

pack

Use this command to create a template archive (JAR) file that contains a snapshot of either an entire WebLogic domain or a subset of a WebLogic domain. You can use a template that contains a subset of a domain to create a Managed Server domain directory hierarchy on a remote machine.

For more information about the pack command, see The Pack Command in *Creating Templates and Domains Using the Pack and Unpack Commands*.

WebLogic Scripting Tool (WLST):

WLST is a command-line scripting interface, which you can use to interact with and configure WebLogic Server instances and domains. When WLST is offline, you can create a WebLogic domain or update an existing WebLogic domain without connecting to a running WebLogic Server—supporting the same functionality as the Configuration Wizard.

For more information about WLST, see Using the WebLogic Scripting Tool in Understanding the WebLogic Scripting Tool and WebLogic Server WLST Online and Offline Command Reference in WLST Command Reference for WebLogic Server.



# Using the Domain Template Builder to Create Domain Templates

You can create a domain template by using the Domain Template Builder in the graphical mode. The template creation process takes you through a sequence of screens for capturing specific information about the template.

This chapter includes the following sections:

- Starting the Domain Template Builder
  - Before you start the Domain Template Builder, ensure that the console for the machine on which the product installation resides supports Java-based GUIs. All Windows-based consoles support Java-based GUIs; only a subset of UNIX-based consoles supports Java-based GUIs.
- Creating Domain Templates Using the Domain Template Builder
   You can use the Domain Template Builder in the graphical mode to create domain
   templates. The process takes you through a sequence of screens where you capture
   specific information about the template that you want to create.

#### Starting the Domain Template Builder

Before you start the Domain Template Builder, ensure that the console for the machine on which the product installation resides supports Java-based GUIs. All Windows-based consoles support Java-based GUIs; only a subset of UNIX-based consoles supports Java-based GUIs.

You can start the Domain Template Builder in graphical mode from the command line.

- 1. Log in to the system on which the product is installed.
- 2. Open a command prompt window (on Windows) or a command shell (on UNIX).
- Go to the following directory, where ORACLE\_HOME is the Oracle home directory that you specified when installing WebLogic Server:

On Windows: ORACLE\_HOME\oracle common\common\bin

On UNIX: ORACLE\_HOME/oracle common/common/bin

4. Execute the following command:

On Windows: config builder.cmd

On UNIX: config builder.sh

#### Note:

When you run the <code>config\_builder.cmd</code> or <code>config\_builder.sh</code> command, the following error message appears 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 Template Type screen is displayed.

## Creating Domain Templates Using the Domain Template Builder

You can use the Domain Template Builder in the graphical mode to create domain templates. The process takes you through a sequence of screens where you capture specific information about the template that you want to create.

Start the Domain Template Builder as described in Starting the Domain Template Builder.



In situations where you cannot run the Domain Template Builder in GUI mode, Oracle recommends that you use a WLST script to create the domain template as described in Creating and Using a Domain Template (Offline) in *Understanding the WebLogic Scripting Tool*.

The Domain Template Builder displays a sequence of screens, in the order listed in Table 2-1. For more information about each screen, refer the related section in Domain Template Builder Screens, or click the link in the **Screen** column.

Table 2-1 summarizes the steps for creating a domain template by using the Domain Template Builder.

Table 2-1 Steps for Creating a Domain Template by Using the Domain Template Builder

Screen	When Does This Screen Appear?	You Perform This Action
Template Type	Always	Choose <b>Create a Domain Template</b> to create a domain template.
		Specify the source for the domain template and the location of the source.
		Specify the destination JAR file for the domain template.
		Click <b>Next</b> to continue.
Template Information	Always	Fill in each template information field.
		Click <b>Next</b> to continue.



Table 2-1 (Cont.) Steps for Creating a Domain Template by Using the Domain Template Builder

Screen	When Does This Screen Appear?	You Perform This Action	
Template Summary	Always	Review the template summary. You can use the <b>View</b> drop-down list to restrict the view to a specific part of the template.	
		Click <b>Back</b> to return to a previous screen if you want to make any changes.	
		Click Create to continue.	
Configuration Progress	Always	Wait for the template to be generated, and then click <b>Next</b> .	
End of Configuration	Always	Click <b>Finish</b> to exit the Domain Template Builder.	



# Creating Extension Templates by Using the Domain Template Builder

You can create an extension template by using the Domain Template Builder. The process is similar to the process of creating a domain template.

The resulting extension template does not configure the Administration Server, administrator username and password, security realm, and Node Manager, or specify Start menu entries. These domain settings are already defined in the domain you are extending.

This chapter includes the following sections:

- Starting the Domain Template Builder
  Before you start the Domain Template Builder, ensure that the console for the machine on
  which the product installation resides supports Java-based GUIs. All Windows-based
  - consoles support Java-based GUIs; only a subset of UNIX-based consoles supports Java-based GUIs.
- Creating an Extension Template Using the Domain Template Builder
   You can use the Domain Template Builder in the graphical mode to create extension
   templates. The process takes you through a sequence of screens where you capture
   specific information about the template that you want to create.

## Starting the Domain Template Builder

Before you start the Domain Template Builder, ensure that the console for the machine on which the product installation resides supports Java-based GUIs. All Windows-based consoles support Java-based GUIs; only a subset of UNIX-based consoles supports Java-based GUIs.

You can start the Domain Template Builder in graphical mode from the command line.

- Log in to the system on which the product is installed.
- 2. Open a command prompt window (on Windows) or a command shell (on UNIX).
- 3. Go to the following directory:

On Windows: ORACLE\_HOME\oracle\_common\common\bin

On UNIX: ORACLE\_HOME/oracle\_common/common/bin

4. Execute the following command:

On Windows: config\_builder.cmd

On UNIX: config\_builder.sh

#### Note:

When you run the <code>config\_builder.cmd</code> or <code>config\_builder.sh</code> command, the following error message appears 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 Template Type screen is displayed.

## Creating an Extension Template Using the Domain Template Builder

You can use the Domain Template Builder in the graphical mode to create extension templates. The process takes you through a sequence of screens where you capture specific information about the template that you want to create.

To create a new extension template using the Domain Template Builder in graphical mode, start the Domain Template Builder as described in Starting the Domain Template Builder. Then, select the **Create Extension Template** option to display the Create Extension Template screen (similar to the Template Type screen).

#### Note:

In situations where you cannot run the Domain Template Builder in GUI mode, Oracle recommends that you use a WLST script to create the extension template. For more information, see Creating and Using a Domain Template (Offline) in *Understanding the WebLogic Scripting Tool*.

The Domain Template Builder 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 Domain Template Builder Screens, or click the link in the **Screen** column.

Table 3-1 Steps for Creating an Extension Template by Using the Domain Template Builder

Screen	Screen Appears	Perform This Action
Template Type	Always	Choose <b>Create Extension Template</b> to create an extension template.
		Specify the source for the extension template and location of the source.
		Specify the destination JAR file for the extension template.
		Click <b>Next</b> to continue.
Template Information	Always	Update each template information field as needed.
		Click <b>Next</b> to continue.



Table 3-1 (Cont.) Steps for Creating an Extension Template by Using the Domain Template Builder

Screen	Screen Appears	Perform This Action	
Services Selection	Only if you create an extension template	Select the custom applications and services that you want to include in the extension template.	
		Click <b>Next</b> to continue.	
Topology Selection	Only if you create an extension template and the selected source (domain or template) has topology information	From the topology elements listed for the configuration, select the elements you want to include in the extension template.	
Template Summary	Always	Review the template summary. You can use the <b>View</b> drop-down list to restrict the view to a specific part of the template.	
		If necessary, click <b>Prev</b> to return to a previous screen and make any changes that are needed.	
		Click Create to continue.	
Configuration Progress	Always	Wait for the template to be generated, then click <b>Next</b> .	
End of Configuration	Always	Click <b>Finish</b> to exit the Domain Template Builder.	



## Domain Template Builder Screens

The Domain Template Builder helps you create domain and extension templates. During the process, it takes you through a sequence of screens where you capture specific information about the domain or extension template.

#### Template Type

In the Template Type screen, first specify whether you want to create a domain template or an extension template, and then specify the source and destination for the new template.

#### Template Information

Use the Template Information screen to provide basic information about the template. The information you specify here is stored in the template-info.xml file that is generated for the domain or extension template. It is also stored in the config.xml file for the domain.

#### Services Selection

The Services Selection screen is available only if you are creating an extension template. You can use this screen to review the custom applications and services in the configuration, and then select the ones you want to include in the extension template.

#### Topology Selection

The Topology Selection screen is available only if you are creating an extension template. You can use this screen to review the topology elements in the configuration and select the elements you want to include in the extension template.

#### Template Summary

The Template Summary screen provides a summary of the settings for the new template. Review the information before you proceed to create the template.

#### Configuration Progress

The Configuration Progress screen displays status messages during the template creation process.

#### End of Configuration

The End of Configuration screen displays the final configuration message, depending on the success or failure of the template creation process.

## Template Type

In the Template Type screen, first specify whether you want to create a domain template or an extension template, and then specify the source and destination for the new template.

Option	Description	
Create Domain Template	Select this option to create a new domain template that defines the full set of resources within a WebLogic domain. The resources include infrastructure components, applications, services, security options, and general environment and operating system parameters.	
	You can use the template that you create as the basis for creating a WebLogic domain, by specifying the template in the Configuration Wizard, WebLogic Scripting Tool (WLST), or the unpack command.	
Create Extension Template	Select this option to create a template that defines applications and services that can be used to extend existing WebLogic domains.	
	You can import applications and services stored in extension templates into an existing WebLogic domain by using the Configuration Wizard.	
	For information about the Configuration Wizard, see Updating WebLogic Domains in <i>Creating WebLogic Domains Using the Configuration Wizard</i> .	

- Creating a Domain Template From an Existing Domain
- Creating an Extension Template From an Existing Domain
- Creating a Domain Template From an Existing Template
- Creating an Extension Template From an Existing Template

#### Creating a Domain Template From an Existing Domain

To create a domain template from an existing domain directory:

- Select Create Domain Template.
- 2. Select Use Domain as a Source.
- 3. Enter the full path of the source domain directory in the **Source Location** field, or use the **Browse** button to navigate to the domain directory (for example, C:\domains\mydomain).
- 4. In the **Template Location** field, enter the full path and JAR file name for the new template, or use the **Browse** button to navigate to an existing directory. Ensure that you include the JAR file name. For example, C:\templates\domains\mynewtemplate.jar.
- Click Next.

#### Creating an Extension Template From an Existing Domain

To create an extension template from an existing domain directory:

- 1. Select Create Extension Template.
- Select Use Domain as a Source.
- 3. Enter the full path of the source domain directory in the **Source Location** field, or use the **Browse** button to navigate to the domain directory (for example, C:\domains\mydomain).
- 4. In the **Template Location** field, enter the full path and JAR file name for the new template, or use the **Browse** button to navigate to an existing directory. Ensure that you include the JAR file name. For example, C:\templates\domains\mynewtemplate.jar.



5. Click Next.

#### Creating a Domain Template From an Existing Template

To create a domain template from an existing template:

- 1. Select Create Domain Template.
- 2. Select Use Template as a Source.
- 3. Enter the full path of the source domain JAR file in the Source Location field, or use the Browse button to navigate to the domain directory and select the JAR file (for example, C:\domains\mydomain.jar).



Ensure that you do not select a product template when you use a template as the source for creating domain templates. If you select a product template, an error message appears when you click **Next**.

- 4. In the **Template Location** field, enter the full path and JAR file name for the new template, or use the **Browse** button to navigate to an existing directory. Ensure that you include the JAR file name, for example, C:\templates\domains\mynewtemplate.jar.
- 5. Click Next.

#### Creating an Extension Template From an Existing Template

To create an extension template from an existing template:

- Select Create Extension Template.
- 2. Select Use Template as a Source.
- 3. Enter the full path of the source application JAR file in the Select Source Location field, or use the Browse button to navigate to the application directory and select the jar file (for example, C:\applications\myapplication.jar).



Ensure that you do not select a product template when you use a template as the source for creating extension templates. If you select a product template, an error message appears when you click **Next**.

4. In the Select Template Location field, enter the full path and JAR file name for the new template, or use the Browse button to navigate to an existing directory. Ensure that you include the JAR file name. For example,

C:\templates\applications\mynewapplication.jar.

Click Next.



## **Template Information**

Use the Template Information screen to provide basic information about the template. The information you specify here is stored in the template-info.xml file that is generated for the domain or extension template. It is also stored in the config.xml file for the domain.

When you select a domain or a template as the source for the new domain or extension template, information about the selected template is displayed. Review the information and modify, if necessary, and then click **Next**.

Field	Description	
Name Enter a valid name for the template. The name m string of characters, and can include spaces.		
Version	Enter a version number for the template. The version number can be anything you want, as long as it contains four or five digits, for example, 14.1.2.0 or 14.1.2.0.0.	
Author	(Optional) Enter the name of the author of the template.	
Description	(Optional) Enter a detailed description of the template. The description must be a string of characters, and can include spaces.	

#### **Services Selection**

The Services Selection screen is available only if you are creating an extension template. You can use this screen to review the custom applications and services in the configuration, and then select the ones you want to include in the extension template.

By default, the Domain Template Builder includes only the custom applications and services from the WebLogic domain or the template that you specified as the source for the extension template.

Expand each application or service to view its contents. Select an item from the list and review the associated details on the **Description** pane on the right. After reviewing, select the elements you want to include in the extension template, and then click **Next**.

## **Topology Selection**

The Topology Selection screen is available only if you are creating an extension template. You can use this screen to review the topology elements in the configuration and select the elements you want to include in the extension template.

By default, the Domain Template Builder includes all the topology elements from the WebLogic domain or template you specified as the source for the extension template.

Expand each topology element to view its contents. Select an element from the list and review the associated details on the **Description** pane on the right. After reviewing, select the files you want to include in the extension template, and then click **Next**.



## **Template Summary**

The Template Summary screen provides a summary of the settings for the new template. Review the information before you proceed to create the template.

To review the settings for the new template:

1. Select an item in the **Template Summary** pane on the left and review the associated details in the **Details** pane on the right. If you want to change any settings that you defined in previous windows, click **Back** to return to the required configuration window.



You can limit the type of information displayed in the Template Summary screen by using the **View** drop-down list.

2. Click Create.

The Configuration Progress screen is displayed.

#### **Configuration Progress**

The Configuration Progress screen displays status messages during the template creation process.

The Domain Template Builder generates a JAR file that contains all the components required to generate a new WebLogic domain, including the template settings that you have provided.

When the process completes, click Finish.

The files that are included in a template vary, depending on the WebLogic domain or template on which the template is based.

## **End of Configuration**

The End of Configuration screen displays the final configuration message, depending on the success or failure of the template creation process.

- If the template was created successfully, a link to the template JAR file is provided under Template Location.
- If the template was not created successfully, an error message and an error code is displayed. In this case, try to determine the cause of the failure from the message and correct the issue.

