



Database and Middleware Automation

Software Version: 10.60.000.000

Linux, Solaris, AIX, and HP-UX

Workflows for Oracle WebLogic

Document Release Date: July 2018

Software Release Date: August 2018



Hewlett Packard
Enterprise

Legal Notices

Warranty

The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

The information contained herein is subject to change without notice.

Restricted Rights Legend

Confidential computer software. Valid license from Hewlett Packard Enterprise required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Copyright Notice

© 2012-2015 Hewlett Packard Enterprise Development LP

Trademark Notices

Adobe™ is a trademark of Adobe Systems Incorporated.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

UNIX® is a registered trademark of The Open Group.

This product includes an interface of the 'zlib' general purpose compression library, which is Copyright © 1995-2002 Jean-loup Gailly and Mark Adler.

Documentation Updates

To check for recent updates or to verify that you are using the most recent edition of a document, go to: <https://softwaresupport.hpe.com/>.

This site requires that you register for an HP Passport and to sign in. To register for an HP Passport ID, click **Register** on the HPE Software Support site or click **Create an Account** on the HP Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HPE sales representative for details.

Support

Visit the HPE Software Support site at: <https://softwaresupport.hpe.com/>.

Most of the support areas require that you register as an HP Passport user and to sign in. Many also require a support contract. To register for an HP Passport ID, click **Register** on the HPE Support site or click **Create an Account** on the HP Passport login page.

To find more information about access levels, go to: <https://softwaresupport.hpe.com/web/softwaresupport/access-levels>.

HPE Software Solutions Now accesses the HPSW Solution and Integration Portal website. This site enables you to explore HPE Product Solutions to meet your business needs, includes a full list of Integrations between HPE Products, as well as a listing of ITIL Processes. The URL for this website is <https://softwaresupport.hpe.com/km/KM01702731>.

About this PDF Version of Online Help

This document is a PDF version of the online help. This PDF file is provided so you can easily print multiple topics from the help information or read the online help in PDF format. Because this content was originally created to be viewed as online help in a web browser, some topics may not be formatted properly. Some interactive topics may not be present in this PDF version. Those topics can be successfully printed from within the online help.

Contents

Oracle WebLogic	5
WebLogic - Provision Weblogic Software	6
Prerequisites for this Workflow	8
How this Workflow Works	9
How to Run this Workflow	14
Sample Scenario	17
Parameters for WebLogic - Provision Weblogic Software	21
WebLogic - Provision Weblogic Domain and Admin Server	23
Prerequisites for this Workflow	25
How this Workflow Works	26
How to Run this Workflow	29
Sample Scenario	32
Parameters for WebLogic - Provision Weblogic Domain and Admin Server	36
WebLogic - Provision Advanced Domain and Admin Server	39
Prerequisites for this Workflow	40
How this Workflow Works	41
How to Run this Workflow	45
Sample Scenario	48
Parameters for WebLogic - Provision Advanced Domain and Admin Server	50
WebLogic - Provision Weblogic Managed Servers	52
Prerequisites for this Workflow	54
How this Workflow Works	55
How to Run this Workflow	58
Sample Scenario	62
Parameters for WebLogic - Provision Weblogic Managed Servers	68
Provision WebLogic Cluster	71
Prerequisites for this Workflow	73
How this Workflow Works	74
How to Run this Workflow	77
Sample Scenario	79
Parameters for Provision WebLogic Cluster	81
Increase WebLogic Domain Span	82
Prerequisites for this Workflow	84
How this Workflow Works	85
How to Run this Workflow	87
Sample Scenario	90

Parameters for Increase WebLogic Domain Span	91
WebLogic - Create Trust and Identity Keystore	93
Prerequisites for this Workflow	94
How this Workflow Works	95
How to Run this Workflow	97
Sample Scenario	100
Parameters for WebLogic - Create Trust and Identity Keystore	102
WebLogic - Code Release	103
Prerequisites for this Workflow	104
How this Workflow Works	104
How to run this workflow	108
Sample Scenario	112
Parameters for WebLogic - Code Release	114
WebLogic - Create and Configure Datasource	116
Prerequisites for this Workflow	117
How this Workflow Works	118
How to Run this Workflow	123
Sample Scenario	126
Parameters for WebLogic - Create and Configure Datasource	134
WebLogic - Patch WebLogic Domain v3	136
Prerequisites for this Workflow	137
How this Workflow Works	138
How to Run this Workflow	142
Sample Scenario	145
Parameters for WebLogic - Patch WebLogic Domain V3	147
WebLogic - Rollback Patch	149
Prerequisites for this Workflow	150
How this Workflow Works	151
How to Run this Workflow	155
Sample Scenario	158
Parameters for WebLogic - Rollback Patch	160
Send documentation feedback	162

Oracle WebLogic

This section includes the following topics:

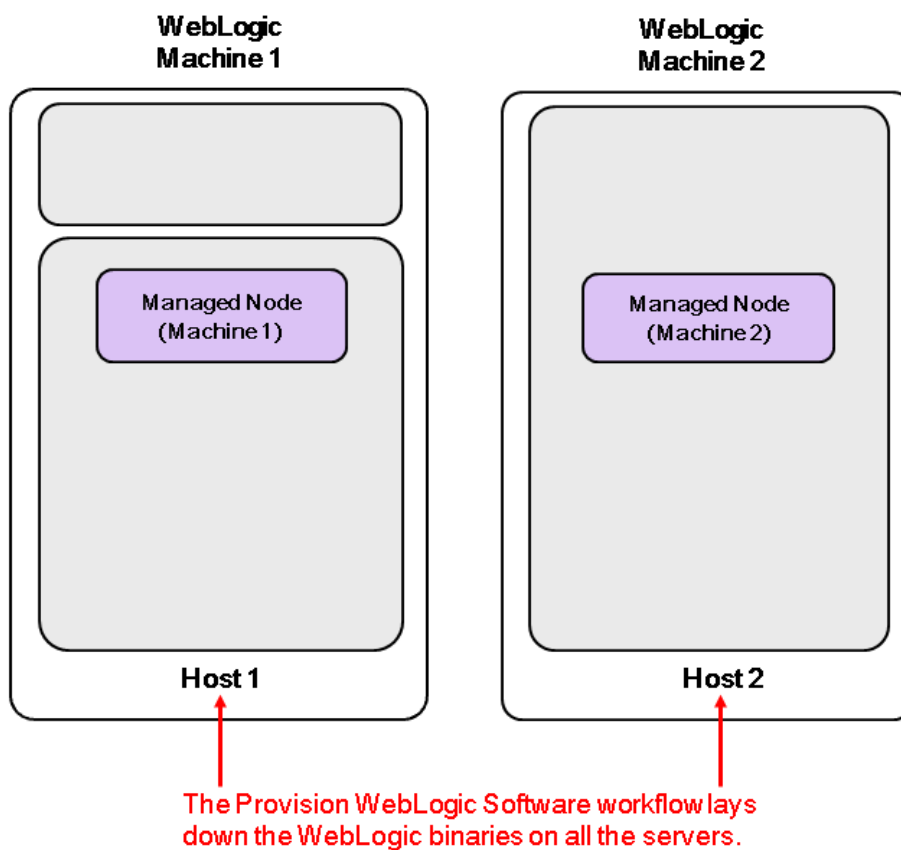
Workflow type	Workflow name
Provisioning	"WebLogic - Provision Weblogic Software" on the next page
	"WebLogic - Provision Weblogic Domain and Admin Server" on page 23
	"WebLogic - Provision Advanced Domain and Admin Server" on page 39
	"WebLogic - Provision Weblogic Managed Servers" on page 52
	"Provision WebLogic Cluster" on page 71
	"Increase WebLogic Domain Span" on page 82
	"WebLogic - Create Trust and Identity Keystore" on page 93
Release Management	"WebLogic - Code Release" on page 103
Configuring	" WebLogic - Create and Configure Datasource" on page 116
Patching	"WebLogic - Patch WebLogic Domain v3" on page 136
	"WebLogic - Rollback Patch" on page 149

WebLogic - Provision Weblogic Software

This workflow installs a new instance of Oracle WebLogic Server version 11g or 12c onto the target host server (or servers) in silent mode with a response file. Either the native installer (the OS-specific package installer) or generic installer is used.

This workflow supports WebLogic 11g and 12c with either the native installer or the generic installer. The end user specifies whether or not to start the Node Manager. The workflow modifies the Node Manager property file to enable and configure custom SSL connectivity.

The following reference architecture diagram gives an example of what this workflow does:



To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and a high-level process flow
"How to Run this Workflow"	Instructions for running this workflow in your environment
"Sample Scenario"	Examples of typical parameter values for this workflow
Parameters	List of input parameters for this workflow

Note: The documentation for this workflow refers to the workflow and its steps by their base names. The names in the DMA user interface may have a version appended, for example, v2.

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the "[WebLogic - Provision Weblogic Software](#)" workflow:

- The latest DMA solution packs require the latest DMA platform. To use the latest solution packs, update the DMA platform. DMA10.60.000.000 solution packs are supported on DMA10.60.000.000 (and later).
- You have installed the Application Server Provisioning Solution Pack.
- You have a support contract and have downloaded the appropriate WebLogic 11g and 12c software to software repository or to the target machine.
- If the generic installer is to be used, you must already have a JDK (Java development kit)—supported by the version of WebLogic 11g and 12c you are installing—installed on the target machine.

Memory

A minimum of 1 GB RAM, although Oracle recommends 2 GB of RAM.

Hard disk drive

A complete installation (including SDKs) requires approximately 3.9 GB of disk space. This includes temporary disk space that is needed during installation. Depending on the components you choose to install, and the installer that you are using, less disk space may be needed.

Processor

1-GHz (or faster) CPU

For more information about prerequisites for WebLogic 11g and 12c, refer to the [WebLogic Product Documentation](#).

How this Workflow Works

The following information describes how the "[WebLogic - Provision Weblogic Software](#)" workflow works:

Overview show

The workflow does the following:

- Prepares to provision the WebLogic 11g and 12c software on all target machines by setting up the command to be used in subsequent steps, validating input parameters, verifying that the operating system is supported, and determining that enough temporary storage space is available.
- Checks the existence of the binary executable file, downloads it from the software repository if it doesn't exist, then changes the file ownership and permissions so that it can be executed.
- Creates the response file that is required to drive the WebLogic 11g and 12c installation.
- Depending on the Java Home parameter:

If the Java Home parameter is specified, the workflow uses the generic package installer—the JDK utility located at Java Home—to lay down the WebLogic 11g and 12c binaries onto the target host server using silent mode and the specified response file.

If the Java Home parameter is not specified, the workflow uses the OS-specific package installer to lay down the WebLogic 11g and 12c binaries onto the target host server using silent mode and the specified response file.

- *Optional:* Starts the WebLogic 11g and 12c Node Manager process on the target host servers.
- *Optional:* Configures the Custom SSL configurations for the WebLogic 11g and 12c Node Manager. Stops and restarts the WebLogic 11g and 12c Node Manager to apply the SSL configuration changes.
- Cleans up any files that were downloaded—for either workflow success or failure.

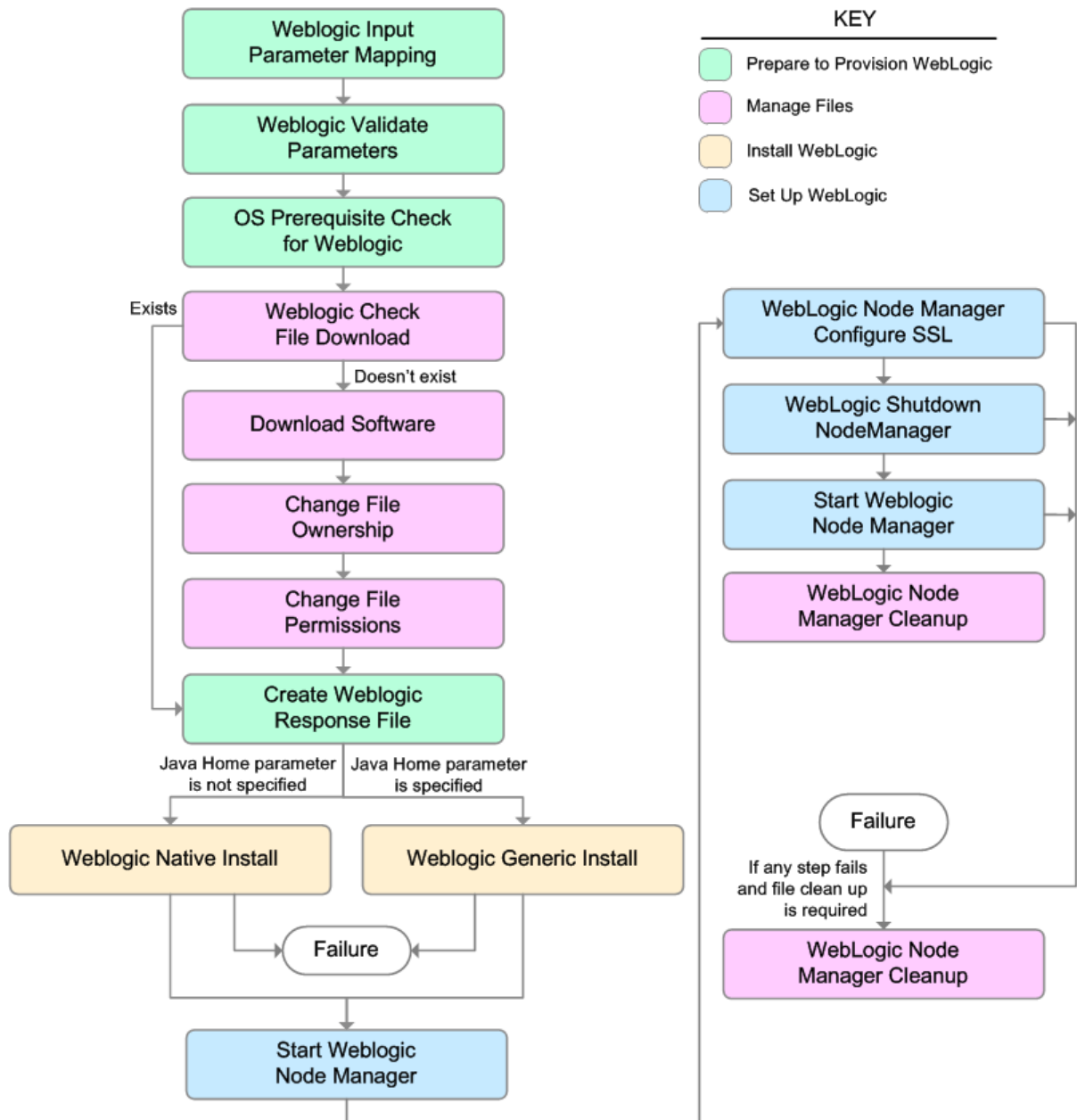
Validation Checks Performed show

Much of the validation centers on the input parameters:

- Required parameters have values specified.
- The Binary Archive file or path is valid.
- The Java Home, Staging Directory, NM Log File are valid.
- The Node Manager Service, Setup Custom SSL Stores, and Start Node Manager parameters are either true or false.
- The Node Manager Port is either null or a valid integer.
- The Binary Archive and Java Home are valid install files.
- If Setup Custom SSL Stores is true, the following parameters are specified: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom PrivateKey PassPhrase, Custom TrustStore Path, and Private Key Alias.
- The WebLogic User and WebLogic Group exist and the WebLogic User is part of the specified WebLogic Group.

Steps Executed show

The WebLogic - Provision Weblogic Software workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.



Steps Used in WebLogic - Provision Weblogic Software

Workflow Step	Description
Weblogic Input Parameter Mapping	This step performs the following actions to facilitate the execution of subsequent steps in the workflow: <ol style="list-style-type: none"> 1. Sets the Call Wrapper parameter to its default value. The Call Wrapper is the command that executes a step as a specific user. 2. Allows certain parameters—that may or may not be required depending on what type of action you want to perform—to be hidden or exposed.
Weblogic Validate Parameters	This step prepares and validates the input parameters required to install WebLogic 11g and 12c.
OS Prerequisite Check for Weblogic	This step first determines whether the operating system kernel on the target server is a supported version, and then it determines if adequate temporary space is available to extract the contents of the installation binaries and install WebLogic 11g and 12c.
Weblogic Check File Download	This step checks for the existence of a file on the target machine before downloading that file from the software repository. For each file in the specified File List, it: <ol style="list-style-type: none"> 1. Determines whether the file is in the expected location on the target machine. 2. If the file is not in the expected location, adds that file to a list of files that need to be downloaded.
Download Software	This step downloads a list of files to a specified location on the target server.
Change File Ownership	This step changes the ownership of a comma-delimited list of files to the specified user and group.
Change File Permissions	This step changes the permissions settings for one or more specified files or directories.
Create Weblogic Response File	This step creates the response file required to drive the installation of WebLogic 11g and 12c and determines whether the generic or native installer will be used.
Weblogic Native Install	This step starts the installation of WebLogic 11g and 12c using the native installer—OS-package specific—with silent mode and the specified response file.
Weblogic Generic Install	This step starts the installation of WebLogic 11g and 12c using the generic installer—JDK utility—with silent mode and the specified response file.
Start Weblogic Node Manager	This step checks if Start Node Manager is set to true. If so, it starts the WebLogic 11g and 12c Node Manager process on the target server. Then the step verifies that the Node Manager started.
WebLogic Node Manager Configure	This step updates the <code>nodemanager.properties</code> file with the SSL configurations and changes the Node Manager log file location.

Steps Used in WebLogic - Provision Weblogic Software, continued

Workflow Step	Description
SSL	
WebLogic Shutdown NodeManager	This step stops the WebLogic 11g and 12c Node Manager on a given machine or server.
Start Weblogic Node Manager	This step checks if Start Node Manager is set to true. If so, it starts the WebLogic 11g and 12c Node Manager process on the target server. Then the step verifies that the Node Manager started.
WebLogic Node Manager Cleanup	This step removes all temporary downloaded files and archives.

For parameter descriptions and defaults, see ["Parameters for WebLogic - Provision Weblogic Software"](#).

How to Run this Workflow

The following instructions show you how to customize and run the ["WebLogic - Provision Weblogic Software"](#) workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in ["Parameters for WebLogic - Provision Weblogic Software"](#).

Note: Before following this procedure, review the ["Prerequisites for this Workflow"](#) on page 8, and ensure that all requirements are satisfied.

To use the WebLogic - Provision Weblogic Software workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters:

Input Parameters for Weblogic Validate Parameters

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that will contain this installation. For example: /opt/oracle/weblogic
Binary Archive	no default	required	Fully qualified path to the WebLogic Package Installer. Not required if Java Binary Archive is provided.
Component Paths	see description	required	The components and/or subcomponents that you want to install on your system. To install multiple components, separate the components with a bar character. Default is: WebLogic Server/Core Application Server WebLogic Server/Administration Console WebLogic Server/Configuration Wizard and Upgrade Framework WebLogic Server/Web 2.0 HTTP Pub-Sub Server WebLogic Server/WebLogic JDBC Drivers WebLogic Server/Third Party JDBC Drivers WebLogic Server/WebLogic Server Clients WebLogic Server/WebLogic Web Server Plugins WebLogic Server/UDDI and Xquery Support WebLogic Server/Server Examples Note: If you specify WebLogic Server, you will install all of the above.

Input Parameters for Weblogic Validate Parameters, continued

Parameter Name	Default Value	Required	Description
Java Home	no default	required if generic installer is used	Fully qualified path to the JAVA_HOME—JDK utility—that will be used for the generic install. For example: /opt/oracle/jdk1.6.0_35
Log File	no default	required	The fully qualified path where a verbose log file will be generated during installation. For example: /var/tmp/weblogic_log.txt
Setup Custom SSL Stores	no default	required	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false. If Setup Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom PrivateKey PassPhrase, Custom TrustStore Path, and Private Key Alias.
Staging Directory	no default	required	Fully qualified path to a temporary directory that the installer will use to uncompress the binary into.
Start Node Manager	true	required	Determines whether to start the WebLogic 11g and 12c Node Manager. Valid values are true and false.
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1
Weblogic Group	see description	optional	Group ID used to install the WebLogic 11g and 12c software. The default is the group ID of root.
Weblogic User	root	optional	User ID used to install the WebLogic 11g and 12c software.

Note: This is the minimum set of parameters required to run this workflow. You may need to expose additional parameters depending on your objectives.

See ["Parameters for WebLogic - Provision Weblogic Software"](#) for detailed descriptions of all input parameters for this workflow, including default values.

3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment.
4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment.
6. On the Parameters tab, specify values for the required parameters listed in step 2 and any

additional parameters that you have exposed. You do not need to specify values for those parameters whose default values are appropriate for your environment.

7. On the Targets tab, specify one or more targets for this deployment.

Note: The target for this deployment should be set to all the servers that are involved in your WebLogic 11g and 12c installation.

8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during the workflow execution, the error will be logged, and the workflow terminates in the FAILURE state.

Optional: If you want to further verify the results:

View the `{BEAHOME}/logs/log.txt` file. This file is created after the installation and contains specific information about what was installed.

Sample Scenario

This topic shows you typical parameter values for different use cases for the "[WebLogic - Provision Weblogic Software](#)" workflow.

Scenario 1: Use the native installer and install WebLogic 11g and 12c as a non-root user

If you want to use the native—OS-specific—package installer to lay down the WebLogic 11g and 12c binaries onto the target host server, do not set the Java Home parameter.

Set Setup Custom SSL Stores to false.

Input Parameters for Weblogic Validate Parameters

Parameter Name	Example Value	Description
BEA Home	see description	Fully qualified path to the middleware home directory that will contain this installation. For example: <code>/opt/oracle/weblogic</code>
Binary Archive	<code>wls_1035_linux.bin</code>	Fully qualified path to the WebLogic Package Installer. Not required if Java Binary Archive is provided.
Component Paths	WebLogic Server (this installs everything under it)	The components and/or subcomponents that you want to install on your system. To install multiple components, separate the components with a bar character. Default is: WebLogic Server/Core Application Server WebLogic Server/Administration Console WebLogic Server/Configuration Wizard and Upgrade Framework WebLogic Server/Web 2.0 HTTP Pub-Sub Server WebLogic Server/WebLogic JDBC Drivers WebLogic Server/Third Party JDBC Drivers WebLogic Server/WebLogic Server Clients WebLogic Server/WebLogic Web Server Plugins WebLogic Server/UDDI and Xquery Support WebLogic Server/Server Examples Note: If you specify WebLogic Server, you will install all of the above.
Java Home		Fully qualified path to the JAVA_HOME—JDK utility—that will be used for the generic install. For example: <code>/opt/oracle/jdk1.6.0_35</code>
Log File		The fully qualified path where a verbose log file will be generated during installation. For example: <code>/var/tmp/weblogic_log.txt</code>
Setup Custom SSL Stores	false	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false.

Input Parameters for Weblogic Validate Parameters, continued

Parameter Name	Example Value	Description
		If Setup Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom PrivateKey PassPhrase, Custom TrustStore Path, and Private Key Alias.
Staging Directory	/tmp/	Fully qualified path to a temporary directory that the installer will use to uncompress the binary into.
Start Node Manager	true	Determines whether to start the WebLogic 11g and 12c Node Manager. Valid values are true and false.
WLS Install Home	see description	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1
Weblogic Group	wlsgp	Group ID used to install the WebLogic 11g and 12c software. The default is the group ID of root.
Weblogic User	wlsuser	User ID used to install the WebLogic 11g and 12c software.

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "[Parameters for WebLogic - Provision Weblogic Software](#)").

Scenario 2: Use the generic installer, configure SSL with a custom keystore and truststore, and install WebLogic 11g and 12c as a non-root user

If you want to use the generic package installer to lay down the WebLogic 11g and 12c binaries onto the target host server, set the Java Home parameter to the JDK utility location.

Use this case to set up SSL to have the Node Manager communicate via SSL. Set Setup Custom SSL Stores to true. Also provide values for the following parameters: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom PrivateKey PassPhrase, Custom TrustStore Path, and Private Key Alias.

Input Parameters for Weblogic Validate Parameters

Parameter Name	Example Value	Description
BEA Home	see description	Fully qualified path to the middleware home directory that will contain this installation. For example: /opt/oracle/weblogic
Binary Archive	wls_1035_linux.bin	Fully qualified path to the WebLogic Package Installer. Not required if Java Binary Archive is provided.
Component Paths	WebLogic Server (this installs everything under it)	The components and/or subcomponents that you want to install on your system. To install multiple components, separate the components with a bar character. Default is: WebLogic Server/Core Application Server WebLogic Server/Administration Console WebLogic Server/Configuration Wizard and Upgrade Framework WebLogic Server/Web 2.0 HTTP Pub-Sub Server WebLogic Server/WebLogic JDBC Drivers WebLogic Server/Third Party JDBC Drivers WebLogic Server/WebLogic Server Clients WebLogic Server/WebLogic Web Server Plugins WebLogic Server/UDDI and Xquery Support WebLogic Server/Server Examples Note: If you specify WebLogic Server, you will install all of the above.
Custom KeyStore PassPhrase	password	Password for the custom keystore.
Custom KeyStore Path	/opt/WebLogic/keystore	Fully qualified path to the custom keystore file.
Custom KeyStore Type	JKS	The type of the Identity keystore.
Custom PrivateKey PassPhrase	password	Password used to retrieve the private key for the WebLogic 11g and 12c Server from the Identity keystore.

Input Parameters for Weblogic Validate Parameters, continued

Parameter Name	Example Value	Description
Custom TrustStore Path	/opt/WebLogic/truststore	Fully qualified path to the custom truststore file.
Java Home	see description	Fully qualified path to the JAVA_HOME—JDK utility—that will be used for the generic install. For example: /opt/oracle/jdk1.6.0_35
Log File	/tmp/weblogic_log.txt	The fully qualified path where a verbose log file will be generated during installation. For example: /var/tmp/weblogic_log.txt
Private Key Alias	Hostname	The keystore attribute that defines the string alias used to store and retrieve the server's private key.
Setup Custom SSL Stores	true	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false. If Setup Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom PrivateKey PassPhrase, Custom TrustStore Path, and Private Key Alias.
Staging Directory	/tmp/	Fully qualified path to a temporary directory that the installer will use to uncompress the binary into.
Start Node Manager	true	Determines whether to start the WebLogic 11g and 12c Node Manager. Valid values are true and false.
WLS Install Home	see description	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1
Weblogic Group	wlsgrp	Group ID used to install the WebLogic 11g and 12c software. The default is the group ID of root.
Weblogic User	wlsuser	User ID used to install the WebLogic 11g and 12c software.

Note: Some of these parameters are not exposed by default in the deployment.

You need to expose the following parameters: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom PrivateKey PassPhrase, Custom TrustStore Path, Node Manager Service, and Private Key Alias.

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "[Parameters for WebLogic - Provision Weblogic Software](#)").

Parameters for WebLogic - Provision Weblogic Software

The following tables describe the required and optional input parameters for this workflow. Some of these parameters may not be initially visible in a deployment. For some parameters, if you do not specify a value for a parameter, a default value is assigned.

Following is a table for the sole step used by this workflow where parameters are defined:

Parameters Defined in this Step: Weblogic Validate Parameters

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that will contain this installation. For example: /opt/oracle/weblogic
Binary Archive	no default	required	Fully qualified path to the WebLogic Package Installer. Not required if Java Binary Archive is provided.
Component Paths	see description	required	The components and/or subcomponents that you want to install on your system. To install multiple components, separate the components with a bar character. Default is: WebLogic Server/Core Application Server WebLogic Server/Administration Console WebLogic Server/Configuration Wizard and Upgrade Framework WebLogic Server/Web 2.0 HTTP Pub-Sub Server WebLogic Server/WebLogic JDBC Drivers WebLogic Server/Third Party JDBC Drivers WebLogic Server/WebLogic Server Clients WebLogic Server/WebLogic Web Server Plugins WebLogic Server/UDDI and Xquery Support WebLogic Server/Server Examples Note: If you specify WebLogic Server, you will install all of the above.
Custom KeyStore PassPhrase	no default	optional	Password for the custom keystore.
Custom KeyStore Path	no default	optional	Fully qualified path to the custom keystore file.
Custom KeyStore Type	JKS	optional	The type of the Identity keystore.
Custom PrivateKey	no default	optional	Password used to retrieve the private key for the WebLogic 11g and 12c Server from the Identity

Parameters Defined in this Step: Weblogic Validate Parameters, continued

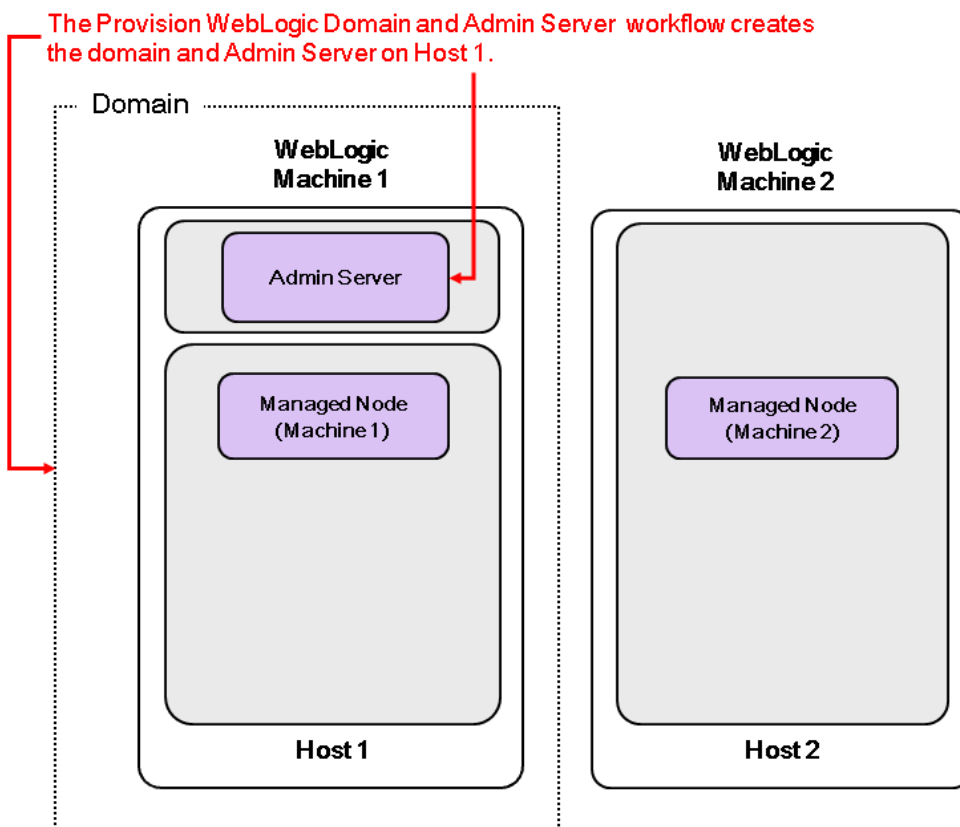
Parameter Name	Default Value	Required	Description
PassPhrase			keystore.
Custom TrustStore Path	no default	optional	Fully qualified path to the custom truststore file.
Java Home	no default	required if generic installer is used	Fully qualified path to the JAVA_HOME—JDK utility—that will be used for the generic install. For example: /opt/oracle/jdk1.6.0_35
Log File	no default	required	The fully qualified path where a verbose log file will be generated during installation. For example: /var/tmp/weblogic_log.txt
NM Log File	no default	optional	The fully qualified path where a Node Manager log file will be generated during installation.
Node Manager Port	5556	optional	Sets the port number under which the Node Manager will run.
Node Manager Service	false	required	Provides the option to set the Node Manager to run as a Windows Service. Valid values are true or false.
Private Key Alias	no default	optional	The keystore attribute that defines the string alias used to store and retrieve the server's private key.
Setup Custom SSL Stores	no default	required	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false. If Setup Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom PrivateKey PassPhrase, Custom TrustStore Path, and Private Key Alias.
Staging Directory	no default	required	Fully qualified path to a temporary directory that the installer will use to uncompress the binary into.
Start Node Manager	true	required	Determines whether to start the WebLogic 11g and 12c Node Manager. Valid values are true and false.
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1
Weblogic Group	see description	optional	Group ID used to install the WebLogic 11g and 12c software. The default is the group ID of root.
Weblogic User	root	optional	User ID used to install the WebLogic 11g and 12c software.

WebLogic - Provision Weblogic Domain and Admin Server

This workflow creates a WebLogic domain and Administration Server from an existing installation of WebLogic 11g or 12c.

After you have the WebLogic 11g or 12c binaries installed, this workflow sets up the process server and creates the domain where the components can be placed.

The following reference architecture diagram gives an example of what this workflow does:



To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and a high-level process flow
"How to Run this Workflow"	Instructions for running this workflow in your environment
"Sample Scenario"	Examples of typical parameter values for this workflow
Parameters	List of input parameters for this workflow.

Note: The documentation for this workflow contains steps that are referred to by their base names. The names in the DMA user interface may have a version appended, for example, v2.

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the "[WebLogic - Provision Weblogic Domain and Admin Server](#)" workflow:

1. The latest DMA solution packs require the latest DMA platform. To use the latest solution packs, update the DMA platform. DMA10.60.000.000 solution packs are supported on DMA10.60.000.000 (and later).
2. You have installed the Application Server Provisioning Solution Pack.

For more information about prerequisites for WebLogic 11g and 12c, refer to the [WebLogic Product Documentation](#).

How this Workflow Works

The following information describes how the "[WebLogic - Provision Weblogic Domain and Administration Server](#)" workflow works:

Overview show

The workflow does the following:

- Prepares to provision the WebLogic 11g and 12c domain and Administration Server by setting up the command to be used in subsequent steps and validating input parameters.
- Creates the domain and Administration Server using the WebLogic Scripting Tool (WLST). To do this the workflow opens a domain template, configures the Administration Server and SSL port, writes the domain, then closes the domain template.
- Starts the WebLogic 11g and 12c Administration Manager process on the target host server.

Validation Checks Performed show

Much of the validation centers on the input parameters:

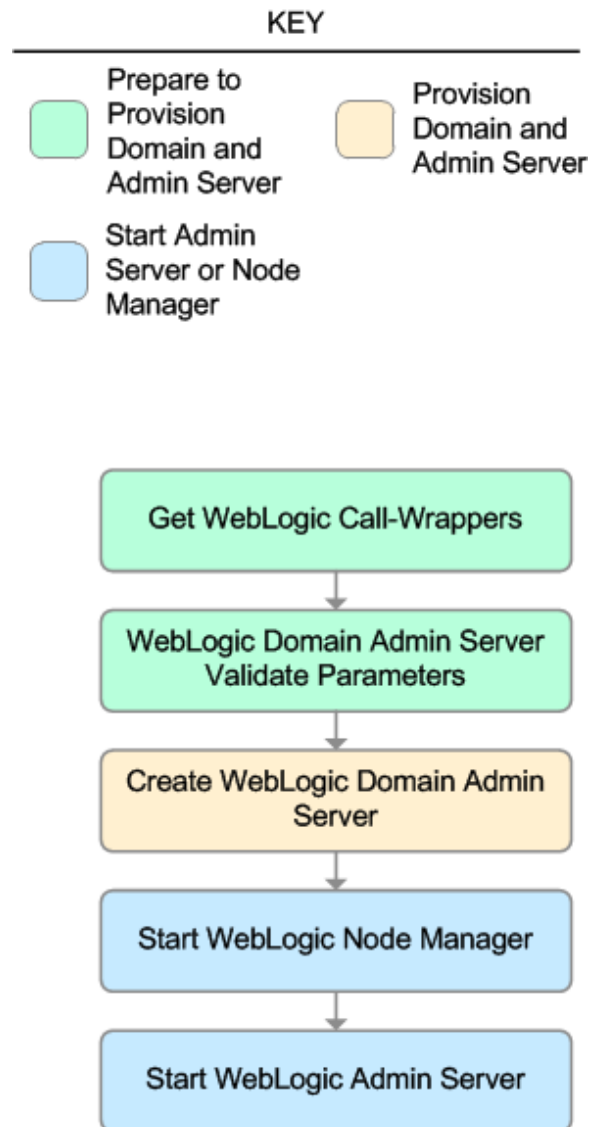
- Verifies that required parameters have values specified.
- Checks that the BEA Home and WLS Install Home files exist.
- Verifies that Admin Server Port and Admin SSL Port are null or valid integers.
- Verifies that Enable SSL, Setup Custom SSL Stores, and Start Node Manager are either true or false.
- Verifies that if Enable SSL is true that Setup Custom SSL Stores is also true.
- Verifies that if Enable SSL is true that Admin SSL Port has a value and if Enable SSL is false that Admin SSL Port does not have a value.
- If Setup Custom SSL Stores is true:

Verifies that the following are specified: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom TrustStore PassPhrase, Custom TrustStore Path.

Verifies that Custom KeyStore Path and Custom TrustStore Path are null or the paths exist.

Steps Executed show

The WebLogic - Provision Weblogic Domain and Admin Server workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.



Steps Used in WebLogic - Provision Weblogic Domain and Admin Server

Workflow Step	Description
Get WebLogic Call-Wrappers	This step creates the commands that subsequent steps will use to execute scripts and WebLogic 11g and 12c Scripting Tool (WLST) operations.
Weblogic Domain Admin Server Validate Parameters	This step prepares and validates the parameters needed to create a WebLogic 11g and 12c domain and Administration Server.
Create Weblogic Domain Admin Server	This step creates a WebLogic 11g and 12c domain and Administration Server. Optionally, the step configures SSL custom keystore and truststore. Optionally, the step enables SSL.
Start Weblogic Node Manager	This step checks if Start Node Manager is set to true. If so, it starts the WebLogic 11g and 12c Node Manager process on the target server. Then the step verifies that the Node Manager started.
Start Weblogic Admin Server	This step starts the WebLogic 11g and 12c Administration Server.

For parameter descriptions and defaults, see ["Parameters for WebLogic - Provision Weblogic Domain and Admin Server"](#).

How to Run this Workflow

The following instructions show you how to customize and run the ["WebLogic - Provision Weblogic Domain and Admin Server"](#) workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in ["Parameters for WebLogic - Provision Weblogic Domain and Admin Server"](#).

Note: Before following this procedure, review the ["Prerequisites for this Workflow"](#) on page 25, and ensure that all requirements are satisfied.

To use the WebLogic - Provision Weblogic Domain and Admin Server workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters:

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: /opt/oracle/weblogic
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1

Input Parameters for Weblogic Domain Admin Server Validate Parameters

Parameter Name	Default Value	Required	Description
Admin Server Name	no default	required	Label or name given to the Administration Server.
Admin Server Port	no default	required	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Domain Path	no default	required	Fully qualified path where the domain and domain configuration will be created. For example: /opt/weblogic/user_projects/domains

Input Parameters for Weblogic Domain Admin Server Validate Parameters, continued

Parameter Name	Default Value	Required	Description
Enable SSL	false	required	Tells the WebLogic 11g and 12c Administration Server to either use (true) or not use (false) the SSL port for communication.
Setup Custom SSL Stores	no default	required	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false. If Setup Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom TrustStore PassPhrase, Custom TrustStore Path, and Private Key Alias.
Start Node Manager	true	required	Determines whether to start the WebLogic 11g and 12c Node Manager. Valid values are true and false.
Weblogic Admin Password	no default	required	The password that will be used to authenticate with the WebLogic 11g and 12c Administration Server.

Tip: To avoid having to re-enter passwords whenever they change, you can create a policy to provide them to the workflow.

Note: See "[Parameters for WebLogic - Provision Weblogic Domain and Admin Server](#)" for detailed descriptions of all input parameters for this workflow, including default values.

3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment.
4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment.
6. On the Parameters tab, specify values for the required parameters listed in step 2 and any additional parameters that you have exposed. You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.

Note: The target for this deployment should be set to the server where the WebLogic 11g and 12c Administration Server will be provisioned.

8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during the workflow execution, the error will be logged, and the workflow terminates in the FAILURE state.

Optional: If you want to further verify the results:

1. View the {DomainPath}/servers/AdminServer/logs/AdminServer.log file.

This file is created when the Admin Server is started up.

2. Look for the following to see if the Admin Server started up cleanly:

Server started in RUNNING mode.

Sample Scenario

This topic shows you typical parameter values for different use cases for the "[WebLogic - Provision Weblogic Domain and Admin Server](#)" workflow.

Scenario 1: Create a Domain and Administration Server without configuring or enabling SSL

Set Setup Custom SSL Stores and Enable SSL to false.

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Example Value	Description
BEA Home	see description	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: /opt/oracle/weblogic
WLS Install Home	see description	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1

Input Parameters for Weblogic Domain Admin Server Validate Parameters

Parameter Name	Example Value	Description
Admin Server Name	myAdminServer	Label or name given to the Administration Server.
Admin Server Port	8001	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Domain Path	see description	Fully qualified path where the domain and domain configuration will be created. For example: /opt/weblogic/user_projects/domains
Enable SSL	false	Tells the WebLogic 11g and 12c Administration Server to either use (true) or not use (false) the SSL port for communication.
Setup Custom SSL Stores	false	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false. If Setup Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom TrustStore PassPhrase, Custom TrustStore Path, and Private Key Alias.
Start Node Manager	true	Determines whether to start the WebLogic 11g and 12c Node Manager. Valid values are true and false.
Weblogic Admin Password	password	The password that will be used to authenticate with the WebLogic 11g and 12c Administration Server.

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "[Parameters for WebLogic - Provision Weblogic Domain and Admin Server](#)").

Scenario 2: Create a Domain and Administration Server and configure and enable SSL

Use this case to set up SSL to have the Node Manager communicate via SSL. Set Setup Custom SSL Stores to true. Also provide values for the following parameters: Custom KeyStore Path, Custom KeyStore PassPhrase, Custom TrustStore Path, Custom TrustStore PassPhrase, and Private Key Alias.

If you want to enable the SSL port for communication set Enable SSL to true and set Admin SSL Port to the port number.

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Example Value	Description
BEA Home	see description	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: /opt/oracle/weblogic
WLS Install Home	see description	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1

Input Parameters for Weblogic Domain Admin Server Validate Parameters

Parameter Name	Example Value	Description
Admin SSL Port	8002	The Secure Sockets Layer (SSL) port on which the WebLogic 11g and 12c Administration Server will run. If Enable SSL is set to true, this parameter must also have a value.
Admin Server Name	myAdminServer	Label or name given to the Administration Server.
Admin Server Port	8001	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Custom KeyStore PassPhrase	password	Password for the custom keystore.
Custom KeyStore Path	/opt/WebLogic/keystore	Fully qualified path to the custom keystore file.
Custom KeyStore Type	JKS	The type of the Identity keystore.
Custom TrustStore PassPhrase	password	Password for the custom truststore.
Custom TrustStore	/opt/WebLogic/truststore	Fully qualified path to the custom truststore file.

Input Parameters for Weblogic Domain Admin Server Validate Parameters, continued

Parameter Name	Example Value	Description
Path		
Domain Path	see description	Fully qualified path where the domain and domain configuration will be created. For example: /opt/weblogic/user_projects/domains
Enable SSL	true	Tells the WebLogic 11g and 12c Administration Server to either use (true) or not use (false) the SSL port for communication.
Private Key Alias	Hostname	The keystore attribute that defines the string alias used to store and retrieve the server's private key.
Setup Custom SSL Stores	true	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false. If Setup Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom TrustStore PassPhrase, Custom TrustStore Path, and Private Key Alias.
Start Node Manager	true	Determines whether to start the WebLogic 11g and 12c Node Manager. Valid values are true and false.
Weblogic Admin Password	password	The password that will be used to authenticate with the WebLogic 11g and 12c Administration Server.

Note: Some of these parameters are not exposed by default in the deployment.

You need to expose the following parameters: Admin SSL Port, Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom TrustStore PassPhrase, and Custom TrustStore Path.

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "[Parameters for WebLogic - Provision Weblogic Domain and Admin Server](#)").

Parameters for WebLogic - Provision Weblogic Domain and Admin Server

The following tables describe the required and optional input parameters for this workflow. Some of these parameters may not be initially visible in a deployment. For some parameters, if you do not specify a value for a parameter, a default value is assigned.

Following are tables for each of the steps used by this workflow where parameters are defined:

Parameters Defined in this Step: Get WebLogic Call-Wrappers

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: <code>/opt/oracle/weblogic</code>
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: <code>/opt/oracle/weblogic/wlserver12.1</code>

Additional Parameters Defined in this Step: Weblogic Domain Admin Server Validate Parameters

Parameter Name	Default Value	Required	Description
Admin SSL Port	no default	optional	The Secure Sockets Layer (SSL) port on which the WebLogic 11g and 12c Administration Server will run. If Enable SSL is set to true, this parameter must also have a value.
Admin Server Hostname	Server.name	required	The WebLogic 11g and 12c Administration Server host name or IP address that the Administration Server will run on. The Administration Server is used to issue administrative commands to the Application Servers.
Admin Server Name	no default	required	Label or name given to the Administration Server.
Admin Server Port	no default	required	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Call Wrapper	see description	required	Command that will execute this step (or subsequent steps) as a specific user. For UNIX targets, the default is: <code>/opt/hp/dma/client/jython.sh</code> running as root For Windows targets, the default is: <code>jython</code> running as Administrator

Additional Parameters Defined in this Step: Weblogic Domain Admin Server Validate Parameters, continued

Parameter Name	Default Value	Required	Description
			Caution: This parameter is derived by the workflow. Under most circumstances, you should not change its mapping or its value.
Custom KeyStore PassPhrase	no default	optional	Password for the custom keystore.
Custom KeyStore Path	no default	optional	Fully qualified path to the custom keystore file.
Custom KeyStore Type	JKS	optional	The type of the Identity keystore.
Custom TrustStore PassPhrase	no default	optional	Password for the custom truststore.
Custom TrustStore Path	no default	optional	Fully qualified path to the custom truststore file.
Domain Path	no default	required	Fully qualified path where the domain and domain configuration will be created. For example: <code>/opt/weblogic/user_projects/domains</code>
Enable SSL	false	required	Tells the WebLogic 11g and 12c Administration Server to either use (true) or not use (false) the SSL port for communication.
Node Manager Port	5556	optional	Sets the port number under which the Node Manager will run.
Private Key Alias	no default	optional	The keystore attribute that defines the string alias used to store and retrieve the server's private key.
Setup Custom SSL Stores	no default	required	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false. If Setup Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore PassPhrase, Custom KeyStore Path, Custom KeyStore Type, Custom TrustStore PassPhrase, Custom TrustStore Path, and Private Key Alias.
Start Node Manager	true	required	Determines whether to start the WebLogic 11g and 12c Node Manager. Valid values are true and false.
WLST Call Wrapper	no default	required	Command that will invoke the WebLogic Scripting Tool (WLST). For example:

Additional Parameters Defined in this Step: Weblogic Domain Admin Server Validate Parameters, continued

Parameter Name	Default Value	Required	Description
			<code>su <user> /opt/oracle/WebLogic/install/common/bin/wlst.sh</code> The fully qualified path will vary depending on where you installed the product. The <user> must have appropriate permissions.
Weblogic Admin Password	no default	required	The password that will be used to authenticate with the WebLogic 11g and 12c Administration Server.

WebLogic - Provision Advanced Domain and Admin Server

This workflow modifies an existing WebLogic 11g and 12c domain and Administration Server, enables the domain-wide administration port, configures logging attributes of the domain and Administration Server, and modifies the WebLogic Scripting Tool (WLST) script to enable connection through the WLST to the domain-wide administration port.

Benefits

This workflow has the following benefits:

- You need to have SSL configured before you run the workflow to enable the domain-wide administration port.
- The domain-wide administration port changes the behavior of the traffic between the Administration Server and the application servers.
- You can put the application servers into stand-by mode, allowing a hot swap.
- The workflow changes the WLST script to configure SSL communication to the domain-wide administration port.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and a high-level process flow
"How to Run this Workflow"	Instructions for running this workflow in your environment
"Sample Scenario"	Examples of typical parameter values for this workflow
Parameters	List of input parameters for this workflow.

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the "[WebLogic - Provision Advanced Domain and Admin Server](#)" workflow:

1. The latest DMA solution packs require the latest DMA platform. To use the latest solution packs, update the DMA platform. DMA10.60.000.000 solution packs are supported on DMA10.60.000.000 (and later).
2. You have installed the Application Server Provisioning Solution Pack.
3. The WebLogic 11g and 12c domain and Administration Server must exist and be configured to use SSL.

For more information about prerequisites for WebLogic 11g and 12c, refer to the [WebLogic Product Documentation](#).

How this Workflow Works

The following information describes how the "[WebLogic - Provision Advanced Domain and Admin Server](#)" workflow works:

Overview show

The workflow does the following:

- Prepares to modify the WebLogic 11g and 12c domain and Administration Server advanced configurations by setting up the command to be used in subsequent steps, gathering and validating input parameters, and validating connection to the Administration Server.
- Uses the existing SSL keystore and truststore configurations and components that were previously created by the "[WebLogic - Create Trust and Identity Keystore](#)" on page 93.
- Modifies an existing WebLogic 11g and 12c domain and Administration Server—created by "[WebLogic - Provision Advanced Domain and Admin Server](#)" on page 39—to enable the domain-wide administration port and configure logging attributes.
- Modifies the WLST script to enable connection through WLST to the domain-wide administration port.
- Stops and restarts the WebLogic 11g and 12c Administration Server so that the changes take effect and then validates that the Administration Server came up successfully.

Validation Checks Performed show

Much of the validation centers on the input parameters:

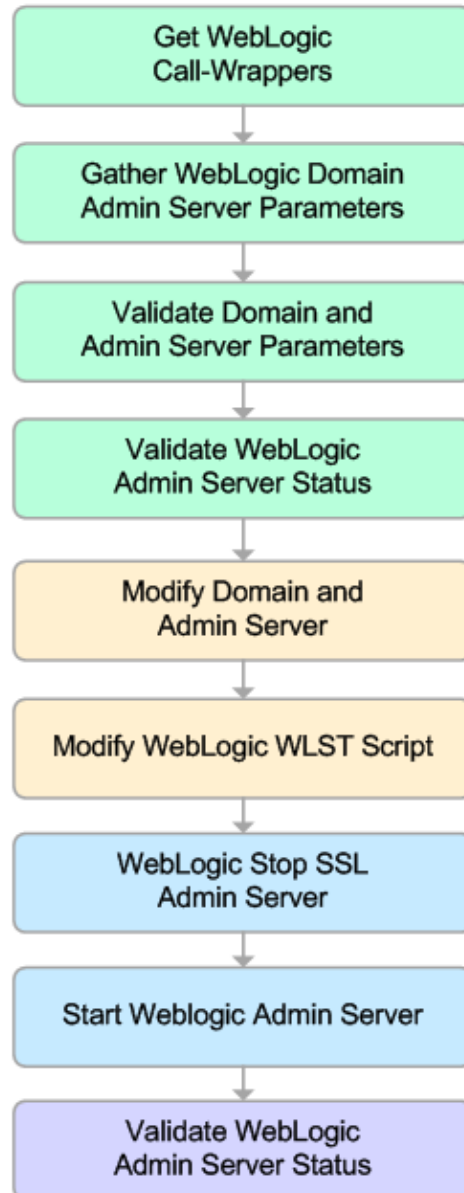
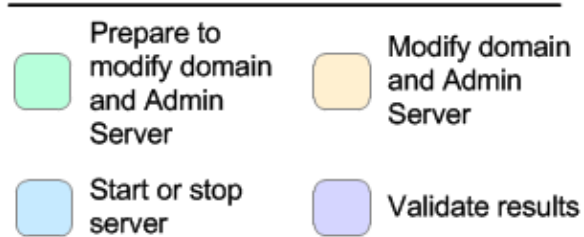
- Verifies that required parameters have values specified.
- Verifies that Admin Server Log Dir, Domain Path, Java Home,, and WLS Install Home are valid paths and exist.
- Verifies that TrustStore File Locations a valid existing path with a valid filename.
- Verifies that Admin Server Port, Admin SSL Port, and Domain Administration Port are valid integers.

The workflow also validates that the Administration Server is up and running before and after making the modifications.

Steps Executed show

The WebLogic - Provision Advanced Domain and Admin Server workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.

KEY



Steps Used in WebLogic - Provision Advanced Domain and Admin Server

Workflow Step	Description
Get WebLogic Call-Wrappers	This step creates the commands that subsequent steps will use to execute scripts and WebLogic 11g and 12c Scripting Tool (WLST) operations.
Gather WebLogic Domain Admin Server Parameters	This step gathers all required parameters to enable the domain-wide administration port, modify logging attributes, and modify the WLST script file.
Validate Domain and Admin Server Parameters	This step validates and prepares all required parameters to enable the domain-wide administration port, modify logging attributes, and modify the WLST script file.
Validate WebLogic Admin Server Status	This step validates that the Administration Server process is up and running.
Modify Domain and Admin Server	This step enables the domain-wide administration port and modifies logging attributes for the Administration Server.
Modify WebLogic WLST Script	This step modifies the WLST script file on the target machine to enable connections to the domain-wide administration port.
WebLogic Stop SSL Admin Server	This step stops the Administration SSL Server on a given machine or server.
Start Weblogic Admin Server	This step starts the WebLogic 11g and 12c Administration Server.
Validate WebLogic Admin Server Status	This step validates that the Administration Server process is up and running.

For parameter descriptions and defaults, see ["Parameters for WebLogic - Provision Advanced Domain and Admin Server"](#).

How to Run this Workflow

The following instructions show you how to customize and run the ["WebLogic - Provision Advanced Domain and Admin Server"](#) workflow in your environment.

Note: Before following this procedure, review the ["Prerequisites for this Workflow"](#) on page 40, and ensure that all requirements are satisfied.

To use the WebLogic - Provision Weblogic Domain and Admin Server workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters:

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: /opt/oracle/weblogic
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1

Input Parameters for Gather WebLogic Domain Admin Server Parameters

Parameter Name	Default Value	Required	Description
Admin SSL Port	no default	required	The Secure Sockets Layer (SSL) port on which the WebLogic 11g and 12c Administration Server will run. If Enable SSL is set to true, this parameter must also have a value.
Admin Server Hostname	Server.name	required	The WebLogic 11g and 12c Administration Server host name or IP address that the Administration Server will run on. The Administration Server is used to issue administrative commands to the Application Servers.
Admin Server Log Dir	no default	required	Log file directory location where the Administration Server logs will be written.
Admin Server Name	no default	required	Label or name given to the Administration Server.
Admin Server Port	no default	required	The non-SSL port on which the WebLogic

Input Parameters for Gather WebLogic Domain Admin Server Parameters, continued

Parameter Name	Default Value	Required	Description
			11g and 12c Administration Server will run.
Domain Administration Port	no default	required	The common secure administration port for this WebLogic 11g and 12c Server domain.
Domain Name	no default	required	Name of the WebLogic 11g and 12c Server domain.
Domain Path	no default	required	Fully qualified path where the domain and domain configuration will be created. For example: /opt/weblogic/user_projects/domains
Java Home	no default	required	Fully qualified path to the JAVA_HOME that the WebLogic 11g and 12c domain uses. For example: /opt/oracle/jdk1.6.0_35
TrustStore File Location	no default	required	Fully qualified file path where the java truststore already exists. For example: /opt/app/ssl/mytruststore.jks
Weblogic Admin Password	no default	required	The password that will be used to authenticate with the WebLogic 11g and 12c Administration Server.
WebLogic Admin User	no default	required	The WebLogic 11g and 12c administrator account that will be used to authenticate with the Administration Server.

Note: See "[Parameters for WebLogic - Provision Advanced Domain and Admin Server](#)" for detailed descriptions of all input parameters for this workflow, including default values.

3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment.
4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment.
6. On the Parameters tab, specify values for the required parameters listed in step 2 and any additional parameters that you have exposed. You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.

Note: The target for this deployment should be set to the server where the WebLogic 11g and 12c Administration Server will be provisioned.

8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during the workflow execution, the error will be logged, and the workflow terminates in the FAILURE state.

Optional: If you want to further verify the results:

The workflow was successful if the Administration Server restarted successfully.

Sample Scenario

It is very straightforward to run the "[WebLogic - Provision Advanced Domain and Admin Server](#)" workflow. This topic shows you typical parameter values to use.

Typical parameters

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Example Value	Description
BEA Home	see description	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: /opt/oracle/weblogic
WLS Install Home	see description	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1

Input Parameters for Gather WebLogic Domain Admin Server Parameters

Parameter Name	Example Value	Description
Admin SSL Port	no default	The Secure Sockets Layer (SSL) port on which the WebLogic Administration Server will run. If Enable SSL is set to true, this parameter must also have a value.
Admin Server Log Dir	Server.name	The WebLogic Administration Server host name or IP address that the Administration Server will run on. The Administration Server is used to issue administrative commands to the Application Servers.
Admin Server Name	no default	Log file directory location where the Administration Server logs will be written.
Admin Server Port	8001	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Domain Administration Port	5555	The common secure administration port for this WebLogic 11g and 12c Server domain.
Domain Name	MyDomain	Name of the WebLogic 11g and 12c Server domain.
Domain Path	see description	Fully qualified path where the domain and domain configuration will be created. For example: /opt/weblogic/user_projects/domains
Java Home	see description	Fully qualified path to the JAVA_HOME that the WebLogic 11g and 12c domain uses. For example: /opt/oracle/jdk1.6.0_35
TrustStore File Location	see description	Fully qualified file path where the java truststore already exists. For example: /opt/app/ssl/mytruststore.jks

Input Parameters for Gather WebLogic Domain Admin Server Parameters, continued

Parameter Name	Example Value	Description
Weblogic Admin Password	password	The password that will be used to authenticate with the WebLogic 11g and 12c Administration Server.
WebLogic Admin User	weblogic	The WebLogic 11g and 12c administrator account that will be used to authenticate with the Administration Server.

Parameters for WebLogic - Provision Advanced Domain and Admin Server

The following tables describe the required and optional input parameters for this workflow. Some of these parameters may not be initially visible in a deployment. For some parameters, if you do not specify a value for a parameter, a default value is assigned.

Following are tables for each of the steps used by this workflow where parameters are defined:

Parameters Defined in this Step: Get WebLogic Call-Wrappers

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: <code>/opt/oracle/weblogic</code>
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: <code>/opt/oracle/weblogic/wlserver12.1</code>

Additional Parameters Defined in this Step: Gather WebLogic Domain Admin Server Parameters

Parameter Name	Default Value	Required	Description
Admin SSL Port	no default	required	The Secure Sockets Layer (SSL) port on which the WebLogic 11g and 12c Administration Server will run. If Enable SSL is set to true, this parameter must also have a value.
Admin Server Hostname	Server.name	required	The WebLogic 11g and 12c Administration Server host name or IP address that the Administration Server will run on. The Administration Server is used to issue administrative commands to the Application Servers.
Admin Server Log Dir	no default	required	Log file directory location where the Administration Server logs will be written.
Admin Server Name	no default	required	Label or name given to the Administration Server.
Admin Server Port	no default	required	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Domain Administration Port	no default	required	The common secure administration port for this WebLogic 11g and 12c Server domain.
Domain Name	no default	required	Name of the WebLogic 11g and 12c Server domain.
Domain Path	no default	required	Fully qualified path where the domain and domain configuration will be created. For example:

Additional Parameters Defined in this Step: Gather WebLogic Domain Admin Server Parameters, continued

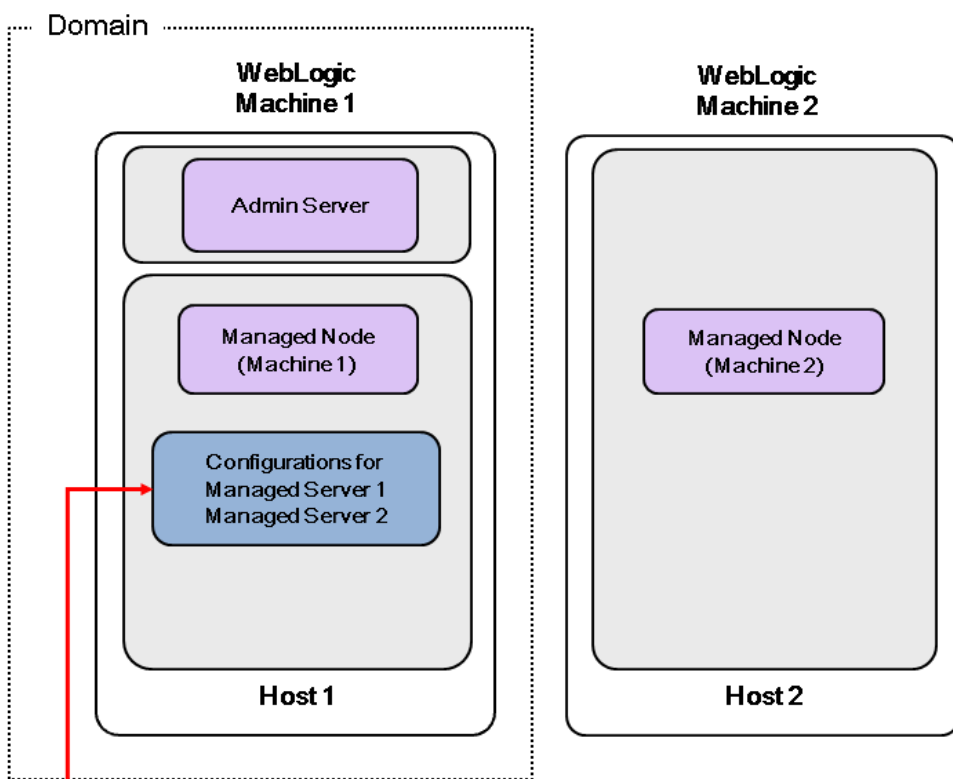
Parameter Name	Default Value	Required	Description
			/opt/weblogic/user_projects/domains
Java Home	no default	required	Fully qualified path to the JAVA_HOME that the WebLogic 11g and 12c domain uses. For example: /opt/oracle/jdk1.6.0_35
TrustStore File Location	no default	required	Fully qualified file path where the java truststore already exists. For example: /opt/app/ssl/mytruststore.jks
Weblogic Admin Password	no default	required	The password that will be used to authenticate with the WebLogic 11g and 12c Administration Server.
WebLogic Admin User	no default	required	The WebLogic 11g and 12c administrator account that will be used to authenticate with the Administration Server.

WebLogic - Provision Weblogic Managed Servers

This workflow creates a configuration for a WebLogic 11g and 12c Managed Server (or servers) from an existing installation and domain of WebLogic 11g and 12c.

You can group application servers together to optimize availability and scalability, or to manage your workload.

The following reference architecture diagram gives an example of what this workflow does:



The Provision WebLogic Managed Servers workflow creates the configurations for all Managed Servers on Host 1.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and a high-level process flow
"How to Run this Workflow"	Instructions for running this workflow in your environment
"Sample Scenario"	Examples of typical parameter values for this workflow
Parameters	List of input parameters for this workflow.

Note: The documentation for this workflow contains steps that are referred to by their base names. The names in the DMA user interface may have a version appended, for example, v2.

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the "[WebLogic - Provision Weblogic Managed Servers](#)" workflow:

1. The latest DMA solution packs require the latest DMA platform. To use the latest solution packs, update the DMA platform. DMA10.60.000.000 solution packs are supported on DMA10.60.000.000 (and later).
2. You have installed the Application Server Provisioning Solution Pack.

For more information about prerequisites for WebLogic 11g and 12c, refer to the [WebLogic Product Documentation](#).

How this Workflow Works

The following information describes how the "[WebLogic - Provision Weblogic Managed Servers](#)" workflow works:

Overview show

The workflow does the following:

- Prepares to provision the WebLogic 11g and 12c Managed Servers by setting up the command to be used in subsequent steps and validating input parameters.
- Creates the configurations for the Managed Servers using the WebLogic Scripting Tool (WLST). To do this, the workflow accesses the domain information, creates the servers, and then updates the domain.
- Stops and restarts the WebLogic 11g and 12c Administration Server and then starts any Managed Servers.

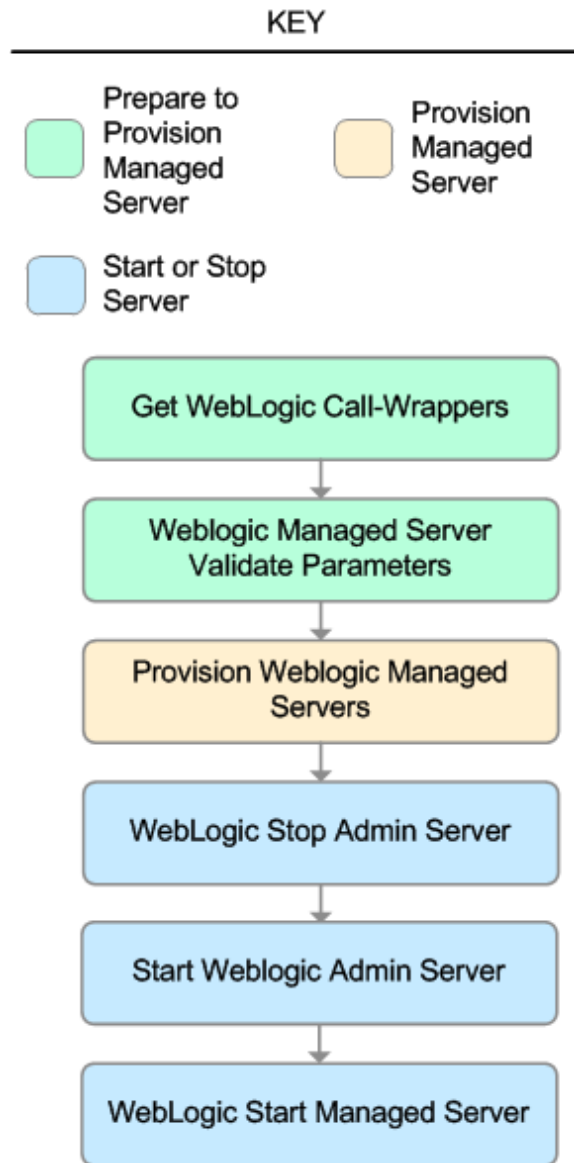
Validation Checks Performed show

Much of the validation centers on the input parameters:

- Verifies that required parameters have values specified.
- Checks that the BEA Home and WLS Install Home files exist.
- Verifies that Enable Managed Server SSL, Setup Server Custom SSL, and Start Managed Servers are either true or false.
- If Setup Server Custom SSL is true, then Custom KeyStore PassPhrase, Custom KeyStore Path, Custom TrustStore PassPhrase, Custom TrustStore Path, and Private Key Alias are specified.
- Verifies that Managed Server Ports, Managed Server SSL Ports, and Managed Server Admin Ports are null or valid integers.
- Verifies that the lists are the same length for Managed Server Hostnames, Managed Server Names, Managed Server Ports, and Managed Server SSL Ports.

Steps Executed show

The WebLogic - Provision Weblogic Managed Servers workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.



Steps Used in WebLogic - Provision Weblogic Managed Servers

Workflow Step	Description
Get WebLogic Call-Wrappers	This step creates the commands that subsequent steps will use to execute scripts and WebLogic 11g and 12c Scripting Tool (WLST) operations.
Weblogic Managed Server Validate Parameters	This step prepares the parameters needed to create a Managed Server in WebLogic 11g and 12c.
Provision Weblogic Managed Servers	This step creates Managed Servers from an existing domain in WebLogic 11g and 12c. Optionally, the step enables SSL for the Managed Servers and configures the SSL port to listen. Optionally, the step configures the custom keystore and truststore. Optionally, if the " WebLogic - Provision Advanced Domain and Admin Server " on page 39 was run before this workflow, the step sets up the optional Domain Administration Port.
WebLogic Stop Admin Server	This step checks if the WebLogic 11g and 12c Administration Server on a given machine or server is running. If it is running, the step stops it.
Start Weblogic Admin Server	This step starts the WebLogic 11g and 12c Administration Server.
WebLogic Start Managed Server	This step connects to WebLogic 11g and 12c via WebLogic 11g and 12c Scripting Tool (WLST) and optionally starts all Managed Servers on a given machine or server.

For parameter descriptions and defaults, see "[Parameters for WebLogic - Provision Weblogic Managed Servers](#)".

How to Run this Workflow

The following instructions show you how to customize and run the ["WebLogic - Provision Weblogic Managed Servers"](#) workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in ["Parameters for WebLogic - Provision Weblogic Managed Servers"](#).

Note: Before following this procedure, review the ["Prerequisites for this Workflow"](#) on page 54, and ensure that all requirements are satisfied.

To use the WebLogic - Provision Weblogic Managed Servers workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters:

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: /opt/oracle/weblogic
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1

Input Parameters for Weblogic Managed Server Validate Parameters

Parameter Name	Default Value	Required	Description
Admin Server Name	no default	required	Label or name given to the Administration Server.
Admin Server Port	no default	required	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Custom KeyStore PassPhrase	no default	optional	Password for the custom keystore.
Custom KeyStore	no default	optional	Fully qualified path to the custom keystore file.

Input Parameters for Weblogic Managed Server Validate Parameters, continued

Parameter Name	Default Value	Required	Description
Path			
Custom TrustStore PassPhrase	no default	optional	Password for the custom truststore.
Custom TrustStore Path	no default	optional	Fully qualified path to the custom truststore file.
Domain Administration Port	no default	required	The common secure administration port for this WebLogic 11g and 12c Server domain.
Domain Path	no default	required	Fully qualified path where the domain and domain configuration will be created. For example: /opt/weblogic/user_projects/domains
Enable Managed Server SSL	no default	required	This parameter determines whether the Managed Server will use or not use the Secure Sockets Layer (SSL) port for communication. Valid values are true or false.
Managed Server Admin Ports	no default	required	The common secure domain-wide administration port that the Administration Server and Managed Server will communicate on.
Managed Server Hostnames	no default	required	Comma-delimited list of host names or IP addresses where each Managed Server will be provisioned. Note: The order of the host names or IP addresses specified must match the order specified in the following parameters: Managed Server Names, Managed Server Ports, and Managed Server SSL Ports.
Managed Server Names	no default	required	Comma-delimited list of the names of the Managed Servers to be provisioned. For example: Appserver1, Appserver2, Appserver3. Note: The order of the server names specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server Ports, and Managed Server SSL Ports.
Managed Server Ports	no default	required	Comma-delimited list of the ports on which the Managed Servers will listen. Note: The order of the ports specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server

Input Parameters for Weblogic Managed Server Validate Parameters, continued

Parameter Name	Default Value	Required	Description
			Names, and Managed Server SSL Ports.
Managed Server SSL Ports	no default	optional	Comma-delimited list of SSL ports on which the Managed Servers will listen. Note: The order of the SSL ports specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server Names, and Managed Server Ports.
Private Key Alias	no default	optional	The keystore attribute that defines the string alias used to store and retrieve the server's private key.
Setup Server Custom SSL Stores	no default	required	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false. If Setup Server Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore Path, Custom KeyStore PassPhrase, Custom TrustStore Path, Custom TrustStore PassPhrase, and Private Key Alias.
Start Managed Servers	true	optional	Specifies whether or not to start up the managed servers once they have been created. Valid values are true and false.
WebLogic User Id	no default	required	The WebLogic 11g and 12c user that will be used to authenticate with the Administration Server.
WebLogic User Password	no default	required	The WebLogic 11g and 12c password that will be used to authenticate with the Administration Server.

Tip: To avoid having to re-enter passwords whenever they change, you can create a policy to provide them to the workflow.

Note: This is the minimum set of parameters required to run this workflow. You may need to expose additional parameters depending on your provisioning objectives.

See "[Parameters for WebLogic - Provision Weblogic Managed Servers](#)" for detailed descriptions of all input parameters for this workflow, including default values.

- In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment.
- Save the changes to the workflow (click **Save** in the lower right corner).

5. Create a new deployment.
6. On the Parameters tab, specify values for the required parameters listed in step 2 and any additional parameters that you have exposed. You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.

Note: The target for this deployment should be set to the server where the WebLogic 11g and 12c Administration Server is provisioned.

8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during the workflow execution, the error will be logged, and the workflow terminates in the FAILURE state.

Optional: If you want to further verify the results:

1. View the `{DomainPath}/servers/{ManagedServerName}/logs/{ManagedServerName}.log` file.
This file is created when the Managed Server is started up.
2. Look for the following to verify that the Managed Server (or servers) started:
Server started in RUNNING mode.

Sample Scenario

This topic shows you typical parameter values for different use cases for the "[WebLogic - Provision Weblogic Managed Servers](#)" workflow.

Scenario 1: Creates three Managed Servers on three separate hosts without configuring or enabling SSL

Set Setup Custom SSL Stores to false. Do not provide values for the following parameters: Custom KeyStore Path, Custom KeyStore PassPhrase, Custom TrustStore Path, Custom TrustStore PassPhrase, and Private Key Alias.

This scenario creates the following configuration of Managed Servers:

Managed Server configuration

Managed Server Name	Managed Server Hostname	Managed Server Port
Appserver1	Host1	8001
Appserver2	Host2	8002
Appserver3	Host3	8003

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Example Value	Description
BEA Home	see description	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: <code>/opt/oracle/weblogic</code>
WLS Install Home	see description	Fully qualified path to the directory where WebLogic Server will be installed. For example: <code>/opt/oracle/weblogic/wlserver12.1</code>

Input Parameters for Weblogic Managed Server Validate Parameters

Parameter Name	Example Value	Description
Admin Server Name	myAdminServer	Label or name given to the Administration Server.
Admin Server Port	8005	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Custom KeyStore PassPhrase		Password for the custom keystore.
Custom		Fully qualified path to the custom keystore file.

Input Parameters for Weblogic Managed Server Validate Parameters, continued

Parameter Name	Example Value	Description
KeyStore Path		
Custom TrustStore PassPhrase		Password for the custom truststore.
Custom TrustStore Path		Fully qualified path to the custom truststore file.
Domain Administration Port	5555	The common secure administration port for this WebLogic 11g and 12c Server domain.
Domain Path	see description	Fully qualified path where the domain and domain configuration will be created. For example: /opt/weblogic/user_projects/domains
Enable Managed Server SSL	false	This parameter determines whether the Managed Server will use or not use the Secure Sockets Layer (SSL) port for communication. Valid values are true or false.
Managed Server Admin Ports	5556	The common secure domain-wide administration port that the Administration Server and Managed Server will communicate on.
Managed Server Hostnames	Host1, Host2, Host3	Comma-delimited list of host names or IP addresses where each Managed Server will be provisioned. Note: The order of the host names or IP addresses specified must match the order specified in the following parameters: Managed Server Names, Managed Server Ports, and Managed Server SSL Ports.
Managed Server Names	AppServer1, AppServer2, AppServer3	Comma-delimited list of the names of the Managed Servers to be provisioned. For example: Appserver1, Appserver2, Appserver3. Note: The order of the server names specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server Ports, and Managed Server SSL Ports.
Managed Server Ports	8001, 8002, 8003	Comma-delimited list of the ports on which the Managed Servers will listen. Note: The order of the ports specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server Names, and Managed Server SSL Ports.
Managed Server SSL		Comma-delimited list of SSL ports on which the Managed Servers will listen.

Input Parameters for Weblogic Managed Server Validate Parameters, continued

Parameter Name	Example Value	Description
Ports		Note: The order of the SSL ports specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server Names, and Managed Server Ports.
Setup Server Custom SSL Stores	false	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false. If Setup Server Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore Path, Custom KeyStore PassPhrase, Custom TrustStore Path, Custom TrustStore PassPhrase, and Private Key Alias.
Start Managed Servers	true	Specifies whether or not to start up the managed servers once they have been created. Valid values are true and false.
WebLogic User Id	weblogic01	The WebLogic 11g and 12c user that will be used to authenticate with the Administration Server.
WebLogic User Password	weblogic01	The WebLogic 11g and 12c password that will be used to authenticate with the Administration Server.

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "[Parameters for WebLogic - Provision Weblogic Managed Servers](#)").

Scenario 2: Create four Managed Servers on two hosts and configure and enable SSL

Use this case to set up SSL to have the Node Manager communicate via SSL. Set Setup Custom SSL Stores to true. Also provide values for the following parameters: Custom KeyStore Path, Custom KeyStore PassPhrase, Custom TrustStore Path, Custom TrustStore PassPhrase, and Private Key Alias.

This scenario creates the following configuration of Managed Servers:

Managed Server configuration

Managed Server Name	Managed Server Hostname	Managed Server Port	Managed Server SSL Port
Appserver1	Host1	8001	8881
Appserver2	Host1	8002	8882
Appserver3	Host2	8001	8881
Appserver4	Host2	8002	8882

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Example Value	Description
BEA Home	see description	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: /opt/oracle/weblogic
WLS Install Home	see description	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1

Input Parameters for Weblogic Managed Server Validate Parameters

Parameter Name	Example Value	Description
Admin Server Name	myAdminServer	Label or name given to the Administration Server.
Admin Server Port	8005	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Custom KeyStore PassPhrase	password	Password for the custom keystore.
Custom KeyStore Path	/opt/WebLogic/keystore	Fully qualified path to the custom keystore file.
Custom TrustStore PassPhrase	password	Password for the custom truststore.

Input Parameters for Weblogic Managed Server Validate Parameters, continued

Parameter Name	Example Value	Description
Custom TrustStore Path	/opt/WebLogic/truststore	Fully qualified path to the custom truststore file.
Domain Administration Port	5555	The common secure administration port for this WebLogic 11g and 12c Server domain.
Domain Path	see description	Fully qualified path where the domain and domain configuration will be created. For example: /opt/weblogic/user_projects/domains
Enable Managed Server SSL	true	This parameter determines whether the Managed Server will use or not use the Secure Sockets Layer (SSL) port for communication. Valid values are true or false.
Managed Server Admin Ports	5556	The common secure domain-wide administration port that the Administration Server and Managed Server will communicate on.
Managed Server Hostnames	Host1, Host2, Host1, Host2	Comma-delimited list of host names or IP addresses where each Managed Server will be provisioned. Note: The order of the host names or IP addresses specified must match the order specified in the following parameters: Managed Server Names, Managed Server Ports, and Managed Server SSL Ports.
Managed Server Names	Appserver1, Appserver2, Appserver3, Appserver4	Comma-delimited list of the names of the Managed Servers to be provisioned. For example: Appserver1, Appserver2, Appserver3. Note: The order of the server names specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server Ports, and Managed Server SSL Ports.
Managed Server Ports	8001, 8002, 8001, 8002	Comma-delimited list of the ports on which the Managed Servers will listen. Note: The order of the ports specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server Names, and Managed Server SSL Ports.
Managed Server SSL Ports	8881,8882,8881, 8882	Comma-delimited list of SSL ports on which the Managed Servers will listen. Note: The order of the SSL ports specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server Names, and Managed Server Ports.

Input Parameters for Weblogic Managed Server Validate Parameters, continued

Parameter Name	Example Value	Description
Private Key Alias	Hostname	The keystore attribute that defines the string alias used to store and retrieve the server's private key.
Setup Server Custom SSL Stores	true	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false. If Setup Server Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore Path, Custom KeyStore PassPhrase, Custom TrustStore Path, Custom TrustStore PassPhrase, and Private Key Alias.
Start Managed Servers	true	Specifies whether or not to start up the managed servers once they have been created. Valid values are true and false.
WebLogic User Id	weblogic01	The WebLogic 11g and 12c user that will be used to authenticate with the Administration Server.
WebLogic User Password	weblogic01	The WebLogic 11g and 12c password that will be used to authenticate with the Administration Server.

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "[Parameters for WebLogic - Provision Weblogic Managed Servers](#)").

Parameters for WebLogic - Provision Weblogic Managed Servers

The following tables describe the required and optional input parameters for this workflow. Some of these parameters may not be initially visible in a deployment. For some parameters, if you do not specify a value for a parameter, a default value is assigned.

Following are tables for each of the steps used by this workflow where parameters are defined:

Parameters Defined in this Step: Get WebLogic Call-Wrappers

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: <code>/opt/oracle/weblogic</code>
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: <code>/opt/oracle/weblogic/wlserver12.1</code>

Additional Parameters Defined in this Step: Weblogic Managed Server Validate Parameters

Parameter Name	Default Value	Required	Description
Admin Server Hostname	Server.name	required	The WebLogic 11g and 12c Administration Server host name or IP address that the Administration Server will run on. The Administration Server is used to issue administrative commands to the Application Servers.
Admin Server Name	no default	required	Label or name given to the Administration Server.
Admin Server Port	no default	required	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Custom KeyStore PassPhrase	no default	optional	Password for the custom keystore.
Custom KeyStore Path	no default	optional	Fully qualified path to the custom keystore file.
Custom TrustStore PassPhrase	no default	optional	Password for the custom truststore.
Custom TrustStore Path	no default	optional	Fully qualified path to the custom truststore file.
Domain	no default	required	The common secure administration port for this

Additional Parameters Defined in this Step: Weblogic Managed Server Validate Parameters, continued

Parameter Name	Default Value	Required	Description
Administration Port			WebLogic 11g and 12c Server domain.
Domain Path	no default	required	Fully qualified path where the domain and domain configuration will be created. For example: /opt/weblogic/user_projects/domains
Enable Managed Server SSL	no default	required	This parameter determines whether the Managed Server will use or not use the Secure Sockets Layer (SSL) port for communication. Valid values are true or false.
Managed Server Admin Ports	no default	required	The common secure domain-wide administration port that the Administration Server and Managed Server will communicate on.
Managed Server Hostnames	no default	required	Comma-delimited list of host names or IP addresses where each Managed Server will be provisioned. Note: The order of the host names or IP addresses specified must match the order specified in the following parameters: Managed Server Names, Managed Server Ports, and Managed Server SSL Ports.
Managed Server Names	no default	required	Comma-delimited list of the names of the Managed Servers to be provisioned. For example: Appserver1, Appserver2, Appserver3. Note: The order of the server names specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server Ports, and Managed Server SSL Ports.
Managed Server Ports	no default	required	Comma-delimited list of the ports on which the Managed Servers will listen. Note: The order of the ports specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server Names, and Managed Server SSL Ports.
Managed Server SSL Ports	no default	optional	Comma-delimited list of SSL ports on which the Managed Servers will listen. Note: The order of the SSL ports specified must match the order specified in the following parameters: Managed Server Hostnames, Managed Server Names, and Managed Server Ports.
Private Key	no default	optional	The keystore attribute that defines the string alias used

Additional Parameters Defined in this Step: Weblogic Managed Server Validate Parameters, continued

Parameter Name	Default Value	Required	Description
Alias			to store and retrieve the server's private key.
Setup Server Custom SSL Stores	no default	required	Determines whether you want to run Secure Socket Layer (SSL) with the demo SSL certificates or with your own custom keystore and truststore. Valid values are true or false. If Setup Server Custom SSL Stores is true, the following parameters must also be specified: Custom KeyStore Path, Custom KeyStore PassPhrase, Custom TrustStore Path, Custom TrustStore PassPhrase, and Private Key Alias.
Start Managed Servers	true	optional	Specifies whether or not to start up the managed servers once they have been created. Valid values are true and false.
WLST Call Wrapper	no default	required	Command that will invoke the WebLogic Scripting Tool (WLST). For example: <code>su <user> /opt/oracle/WebLogic/install/common/bin/wlst.sh</code> The fully qualified path will vary depending on where you installed the product. The <user> must have appropriate permissions.
WebLogic User Id	no default	required	The WebLogic 11g and 12c user that will be used to authenticate with the Administration Server.
WebLogic User Password	no default	required	The WebLogic 11g and 12c password that will be used to authenticate with the Administration Server.

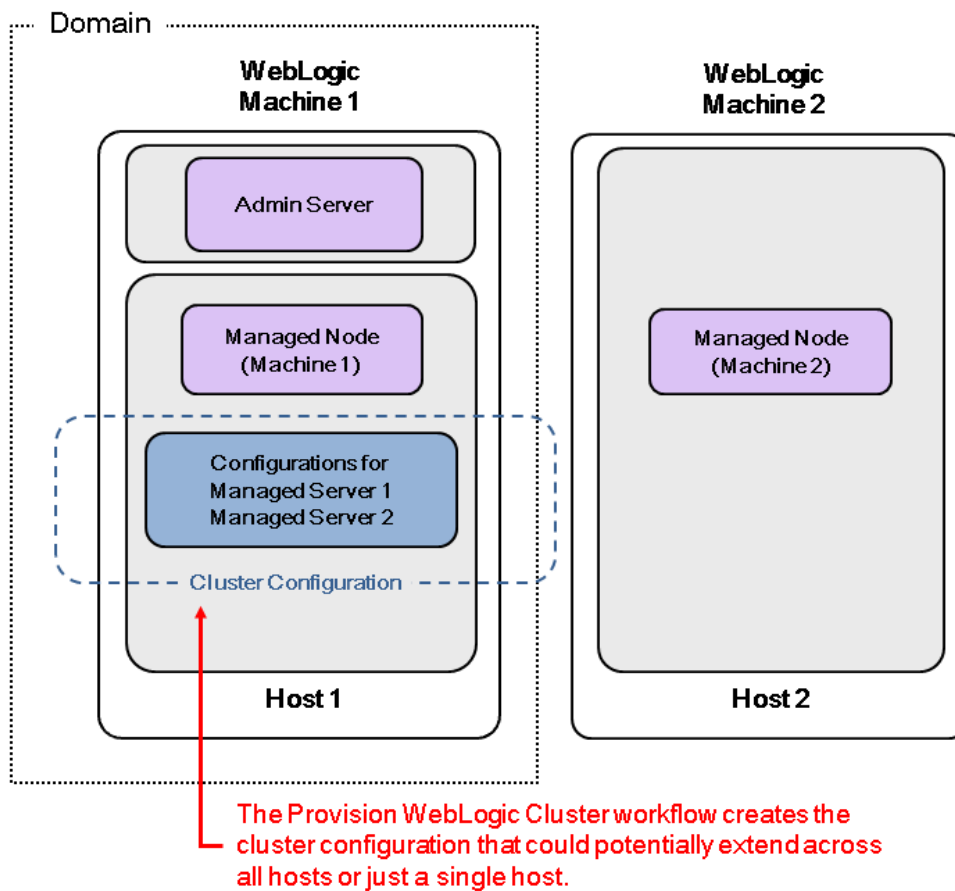
Provision WebLogic Cluster

This workflow creates a WebLogic 11g and 12c cluster configuration from an existing installation and domain of WebLogic 11g and 12c and adds the existing Managed Servers to the cluster configuration.

This workflow is optional. Use it only if you want to organize your Managed Servers into a cluster. Clusters allow your WebLogic 11g and 12c environment to be highly-available and load-balanced.

Your cluster can span the Managed Servers on a single machine (a vertical cluster) or across multiple machines (a horizontal cluster).

The following reference architecture diagram gives an example of what this workflow does:



Before you can run this workflow you need to have an operational WebLogic 11g or 12c environment.

Note: If you do not plan to expand the domain, you should manually start the cluster after running this workflow.

You can specify input parameters to select either multicast or unicast cluster messaging mode for your cluster.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and a high-level process flow
"How to Run this Workflow"	Instructions for running this workflow in your environment
"Sample Scenario"	Examples of typical parameter values for this workflow
Parameters	List of input parameters for this workflow.

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the ["Provision WebLogic Cluster"](#) workflow:

1. The latest DMA solution packs require the latest DMA platform. To use the latest solution packs, update the DMA platform. DMA10.60.000.000 solution packs are supported on DMA10.60.000.000 (and later).
2. You have installed the Application Server Provisioning Solution Pack.

For more information about prerequisites for WebLogic 11g and 12c, refer to the [WebLogic Product Documentation](#).

How this Workflow Works

The following information describes how the "Provision WebLogic Cluster" workflow works:

Overview show

The workflow does the following:

- Prepares to provision the WebLogic 11g and 12c cluster by setting up the command to be used in subsequent steps and validating input parameters.
- Creates the cluster configuration using the WebLogic Scripting Tool (WLST): accesses the domain information, creates the cluster, sets the cluster messaging mode to either multicast or unicast, assigns the Managed Server (or servers) to the cluster, then updates the domain.
- Stops and restarts the WebLogic 11g and 12c Administration Server.

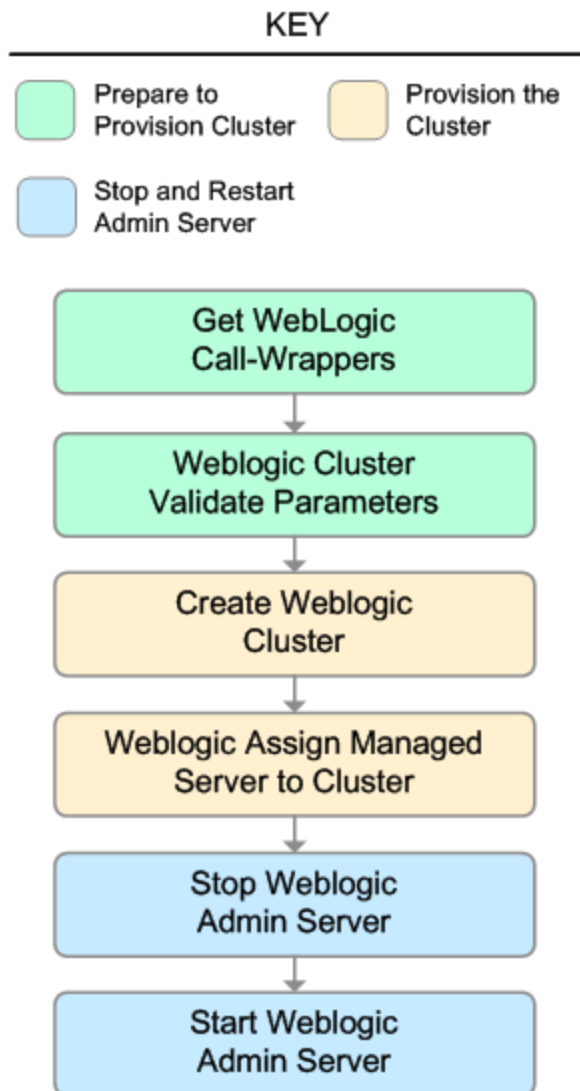
Validation Checks Performed show

Much of the validation centers on the input parameters:

- Checks that the BEA Home and WLS Install Home files exist.
- Verifies that Multicast Port is null or a valid integer.
- If either Multicast Address or Multicast Port are null then the cluster messaging mode will be set to unicast. Otherwise it will be set to multicast.

Steps Executed show

The Provision WebLogic Cluster workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.



Steps Used in Provision WebLogic Cluster

Workflow Step	Description
Get WebLogic Call-Wrappers	This step creates the commands that subsequent steps will use to execute scripts and WebLogic 11g and 12c Scripting Tool (WLST) operations.
Weblogic Cluster Validate Parameters	This step prepares the parameters needed to create a cluster and add Managed Servers to the cluster on WebLogic 11g and 12c.
Create Weblogic Cluster	This step creates a cluster from an existing domain and installation of WebLogic 11g and 12c.
Weblogic Assign Managed Server to Cluster	This step adds Managed Servers to an existing cluster on WebLogic 11g and 12c.
WebLogic Stop Admin Server	This step checks if the WebLogic 11g and 12c Administration Server on a given machine or server is running. If it is running, the step stops it.
Start Weblogic Admin Server	This step starts the WebLogic 11g and 12c Administration Server.

For parameter descriptions and defaults, see ["Parameters for Provision WebLogic Cluster" on page 81](#).

How to Run this Workflow

The following instructions show you how to customize and run the ["Provision WebLogic Cluster"](#) workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in ["Parameters for Provision WebLogic Cluster" on page 81](#).

Note: Before following this procedure, review the ["Prerequisites for this Workflow" on page 73](#), and ensure that all requirements are satisfied.

To use the Provision WebLogic Cluster workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters:

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: /opt/oracle/weblogic
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1

Input Parameters for Weblogic Cluster Validate Parameters

Parameter Name	Default Value	Required	Description
Cluster Name	no default	required	The name of the new cluster. For example: ClusterAppServer.
Domain Path	no default	required	Fully qualified path where the domain and domain configuration will be created. For example: /opt/weblogic/user_projects/domains
Managed Servers	no default	required	Comma-delimited list of the names of the Managed Server (or servers) that will be added to the new cluster. For example: AppServer1, AppServer2.

Input Parameters for Weblogic Cluster Validate Parameters, continued

Parameter Name	Default Value	Required	Description
Multicast Address	no default	required	The multicast address that will be used by cluster members to communicate with each other. Specify this ONLY if you intend to use multicast for cluster communication.
Multicast Port	no default	required	The multicast port (between 1 and 65535) that will be used by cluster members to communicate with each other. Specify this ONLY if you intend to use multicast for cluster communication.

Note: See "[Parameters for Provision WebLogic Cluster](#)" on page 81 for detailed descriptions of all input parameters for this workflow, including default values.

- In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment.
- Save the changes to the workflow (click **Save** in the lower right corner).
- Create a new deployment.
- On the Parameters tab, specify values for the required parameters listed in step 2 and any additional parameters that you have exposed. You do not need to specify values for those parameters whose default values are appropriate for your environment.
- On the Targets tab, specify one or more targets for this deployment.

Note: The target for this deployment should be set to the server where the WebLogic 11g and 12c Administration Server is provisioned.

- Save the deployment (click **Save** in the lower right corner).
- Run the workflow using this deployment.

Note: If you do not plan to expand the domain, you should manually start the cluster after running this workflow.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during the workflow execution, the error will be logged, and the workflow terminates in the FAILURE state.

Sample Scenario

This topic shows you typical parameter values for different use cases for the ["Provision WebLogic Cluster"](#) workflow.

Scenario 1: To use multicast

If you intend to use multicast for cluster communication, set both Multicast Address and Multicast Port to appropriate values.

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Example Value	Description
BEA Home	no default	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: <code>/opt/oracle/weblogic</code>
WLS Install Home	no default	Fully qualified path to the directory where WebLogic Server will be installed. For example: <code>/opt/oracle/weblogic/wlserver12.1</code>

Input Parameters for Weblogic Cluster Validate Parameters

Parameter Name	Example Value	Description
Cluster Name	see description	The name of the new cluster. For example: ClusterAppServer.
Domain Path	see description	Fully qualified path where the domain and domain configuration will be created. For example: <code>/opt/weblogic/user_projects/domains</code>
Managed Servers	see description	Comma-delimited list of the names of the Managed Server (or servers) that will be added to the new cluster. For example: AppServer1, AppServer2.
Multicast Address	237.0.0.101	The multicast address that will be used by cluster members to communicate with each other. Specify this ONLY if you intend to use multicast for cluster communication.
Multicast Port	9200	The multicast port (between 1 and 65535) that will be used by cluster members to communicate with each other. Specify this ONLY if you intend to use multicast for cluster communication.

Be sure that the default values for all remaining input parameters are appropriate for your environment (see ["Parameters for Provision WebLogic Cluster"](#) on page 81).

Scenario 2: To use unicast

If you intend to use unicast for cluster communication, do not set either Multicast Address or Multicast Port .

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Example Value	Description
BEA Home	no default	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: /opt/oracle/weblogic
WLS Install Home	no default	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1

Input Parameters for Weblogic Cluster Validate Parameters

Parameter Name	Example Value	Description
Cluster Name	see description	The name of the new cluster. For example: ClusterAppServer.
Domain Path	see description	Fully qualified path where the domain and domain configuration will be created. For example: /opt/weblogic/user_projects/domains
Managed Servers	see description	Comma-delimited list of the names of the Managed Server (or servers) that will be added to the new cluster. For example: AppServer1, AppServer2.
Multicast Address		The multicast address that will be used by cluster members to communicate with each other. Specify this ONLY if you intend to use multicast for cluster communication.
Multicast Port		The multicast port (between 1 and 65535) that will be used by cluster members to communicate with each other. Specify this ONLY if you intend to use multicast for cluster communication.

Be sure that the default values for all remaining input parameters are appropriate for your environment (see ["Parameters for Provision WebLogic Cluster"](#) on the next page).

Parameters for Provision WebLogic Cluster

The following tables describe the required and optional input parameters for this workflow. Some of these parameters may not be initially visible in a deployment. For some parameters, if you do not specify a value for a parameter, a default value is assigned.

Following are tables for each of the steps used by this workflow where parameters are defined:

Parameters Defined in this Step: Get WebLogic Call-Wrappers

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: <code>/opt/oracle/weblogic</code>
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: <code>/opt/oracle/weblogic/wlserver12.1</code>

Additional Parameters Defined in this Step: Weblogic Cluster Validate Parameters

Parameter Name	Default Value	Required	Description
Cluster Name	no default	required	The name of the new cluster. For example: ClusterAppServer.
Domain Path	no default	required	Fully qualified path where the domain and domain configuration will be created. For example: <code>/opt/weblogic/user_projects/domains</code>
Managed Servers	no default	required	Comma-delimited list of the names of the Managed Server (or servers) that will be added to the new cluster. For example: AppServer1, AppServer2.
Multicast Address	no default	optional	The multicast address that will be used by cluster members to communicate with each other. Specify this ONLY if you intend to use multicast for cluster communication.
Multicast Port	no default	optional	The multicast port (between 1 and 65535) that will be used by cluster members to communicate with each other. Specify this ONLY if you intend to use multicast for cluster communication.
WLST Call Wrapper	no default	required	Command that will invoke the WebLogic Scripting Tool (WLST). For example: <code>su <user> /opt/oracle/WebLogic/install/common/bin/wlst.sh</code> The fully qualified path will vary depending on where you installed the product. The <user> must have appropriate permissions.

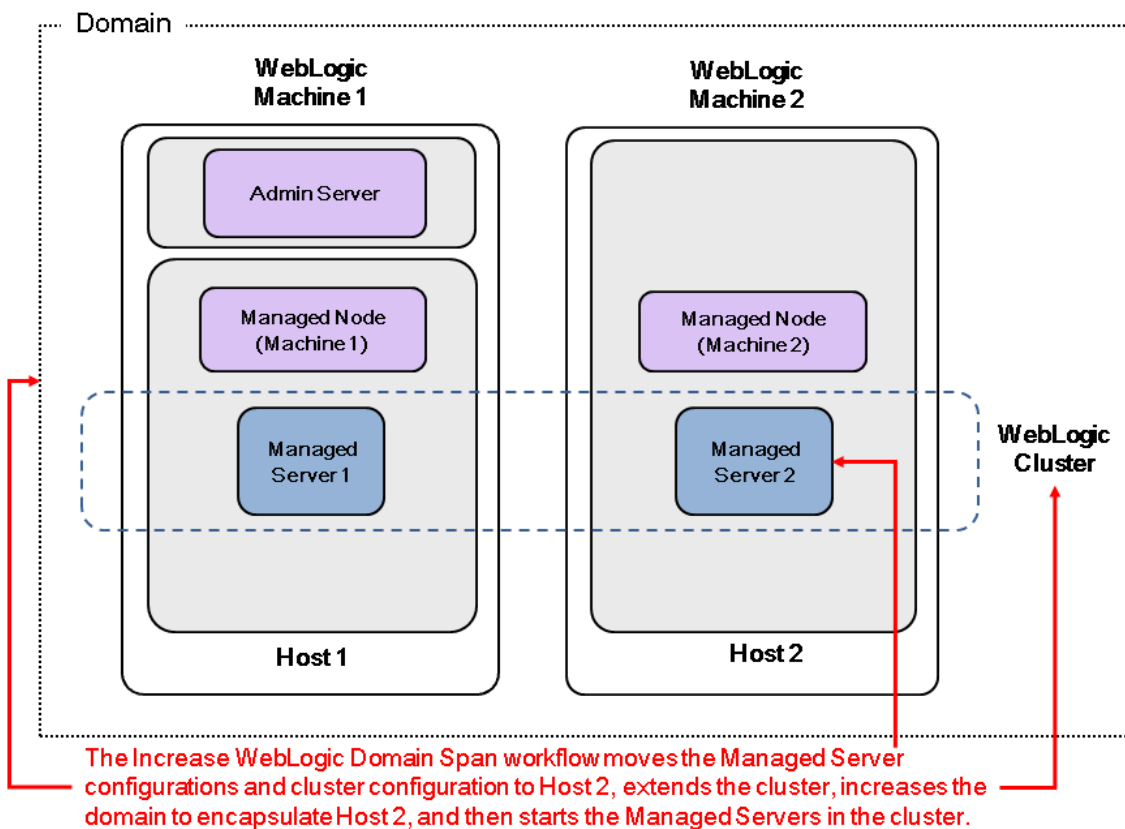
Increase WebLogic Domain Span

This workflow increases the span of a WebLogic 11g and 12c domain by adding other hosts to that domain. To accomplish this it moves the Managed Server configurations and cluster configuration to the other hosts, extends the cluster, starts the Managed Servers, and starts the cluster.

The basic process is to pack up the domain into a template file, send that file to the remote machines, and then unpack it into the correct locations.

This workflow is optional. Use it only if your domain spans more than one machine.

The following reference architecture diagram gives an example of what this workflow does:



Before you can run this workflow you need to have an operational WebLogic 11g or 12c with a horizontal cluster.

Note: Before running this workflow set up the SSH keys between the original domain's machine and the target machine (or machines).

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and a high-level process flow
"How to Run this Workflow"	Instructions for running this workflow in your environment
"Sample Scenario"	Examples of typical parameter values for this workflow
Parameters	List of input parameters for this workflow.

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the ["Increase WebLogic Domain Span"](#) workflow:

1. The latest DMA solution packs require the latest DMA platform. To use the latest solution packs, update the DMA platform. DMA 10.30 solution packs are supported on DMA 10.30 (and later).
2. You have installed the Application Server Provisioning Solution Pack.
3. SSH keys are set up between the original domain's machine and the target machine (or machines). These shared keys set up Trust IDs to log in without a password.

For more information about prerequisites for WebLogic 11g and 12c, refer to the [WebLogic Product Documentation](#).

How this Workflow Works

The following information describes how the "Increase WebLogic Domain Span" workflow works:

Overview show

The workflow does the following:

- Sets up the command to be used to increase the WebLogic 11g and 12c domain span.
- Uses the pack utility to pack up the domain into a template file, sends that file to the remote machine (or machines), then uses the unpack utility to unpack it into the correct location.

In more detail, this workflow uses the internal tool in WebLogic 11g and 12c to jar up the configurations for the Managed Servers and the cluster configuration into an archive file. Then it pushes via Secure Copy (SCP) and moves the JAR file to the other machines. Finally, it uses the same utility to unjar the archive file onto the other machines.

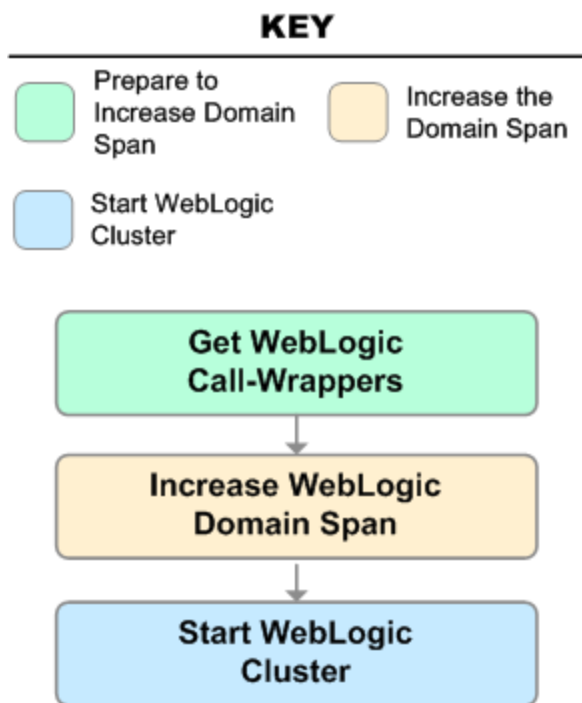
- Starts up the cluster in the WebLogic 11g and 12c domain.

Validation Checks Performed show

This workflow checks that the BEA Home and WLS Install Home files exist.

Steps Executed show

The "Increase WebLogic Domain Span" workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.

**Steps Used in Increase WebLogic Domain Span**

Workflow Step	Description
Get WebLogic Call-Wrappers	This step creates the commands that subsequent steps will use to execute scripts and WebLogic 11g and 12c Scripting Tool (WLST) operations.
Increase WebLogic Domain Span	This step uses the pack and unpack utilities within the WebLogic 11g and 12c product to pack up the domain configuration and unpack it on a remote target machine (or machines).
Start WebLogic Cluster	This step starts up the cluster in the WebLogic 11g and 12c domain.

For parameter descriptions and defaults, see "[Parameters for Increase WebLogic Domain Span](#)" on [page 91](#).

How to Run this Workflow

The following instructions show you how to customize and run the ["Increase WebLogic Domain Span"](#) workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in ["Parameters for Increase WebLogic Domain Span" on page 91](#).

Note: Before following this procedure, review the ["Prerequisites for this Workflow" on page 84](#), and ensure that all requirements are satisfied.

To use the Increase WebLogic Domain Span workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters:

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: <code>/opt/oracle/weblogic</code>
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: <code>/opt/oracle/weblogic/wlserver12.1</code>

Input Parameters for Increase WebLogic Domain Span

Parameter Name	Default Value	Required	Description
Local Domain Path	no default	required	Path to the local domain. If the specified path is a relative path, it is assumed to be relative to BEA Home. For example: <code>/opt/oracle/weblogic/user_projects/domains/base_domain</code> where <code>/opt/oracle/weblogic</code> is the BEA Home.
Local Template Path	no default	required	Path to the local template directory or the path to a template file. If the specified path is a relative path, it is assumed to be relative to BEA Home. For example:

Input Parameters for Increase WebLogic Domain Span, continued

Parameter Name	Default Value	Required	Description
			/opt/oracle/weblogic/user_projects/domains/base_domain.jar where /opt/oracle/weblogic is the BEA Home.
Remote Addresses	no default	required	Comma-delimited list of hosts (DNS addresses or IP addresses) that the domain will span.

Input Parameters for Start WebLogic Cluster

Parameter Name	Default Value	Required	Description
Admin Server Port	no default	optional	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Cluster Name	no default	required	The name of the new cluster. For example: ClusterAppServer.
Weblogic Admin Password	no default	required	The password that will be used to authenticate with the WebLogic 11g and 12c Administration Server.
WebLogic Admin User	weblogic	required	The WebLogic 11g and 12c administrator account that will be used to authenticate with the Administration Server.

Note: This is the minimum set of parameters required to run this workflow. You may need to expose additional parameters depending on your objectives.

See "[Parameters for Increase WebLogic Domain Span](#)" on page 91 for detailed descriptions of all input parameters for this workflow, including default values.

3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment.
4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment.
6. On the Parameters tab, specify values for the required parameters listed in step 2 and any additional parameters that you have exposed. You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.

Note: The target for this deployment should be set to the server where the WebLogic 11g and 12c Administration Server is provisioned.

The workflow pushes the configuration over to other hosts based on your input parameters.

8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during the workflow execution, the error will be logged, and the workflow terminates in the FAILURE state.

Optional: If you want to further verify the results:

1. View the `{BEAHOME}/logs/log.txt` file.
This file is created after the installation is complete.
2. Look for specific information about what was installed.

Sample Scenario

It is very straightforward to run the ["Increase WebLogic Domain Span"](#) workflow. This topic shows you typical parameter values to use.

Typical parameters:

Input Parameters for Get WebLogic Call-Wrappers

Parameter Name	Example Value	Description
BEA Home	see description	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: /opt/oracle/weblogic
WLS Install Home	see description	Fully qualified path to the directory where WebLogic Server will be installed. For example: /opt/oracle/weblogic/wlserver12.1

Input Parameters for Increase WebLogic Domain Span

Parameter Name	Example Value	Description
Local Domain Path	see description	Path to the local domain. If the specified path is a relative path, it is assumed to be relative to BEA Home. For example: /opt/oracle/weblogic/user_projects/domains/base_domain where /opt/oracle/weblogic is the BEA Home.
Local Template Path	see description	Path to the local template directory or the path to a template file. If the specified path is a relative path, it is assumed to be relative to BEA Home. For example: /opt/oracle/weblogic/user_projects/domains/base_domain.jar where /opt/oracle/weblogic is the BEA Home.
Remote Addresses	server. company.com	Comma-delimited list of hosts (DNS addresses or IP addresses) that the domain will span.

Input Parameters for Start WebLogic Cluster

Parameter Name	Example Value	Description
Admin Server Port	8001	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Cluster Name	see description	The name of the new cluster. For example: ClusterAppServer.

Be sure that the default values for all remaining input parameters are appropriate for your environment (see ["Parameters for Increase WebLogic Domain Span"](#) on the next page).

Parameters for Increase WebLogic Domain Span

The following tables describe the required and optional input parameters for this workflow. Some of these parameters may not be initially visible in a deployment. For some parameters, if you do not specify a value for a parameter, a default value is assigned.

Following are tables for each of the steps used by this workflow where parameters are defined:

Parameters Defined in this Step: Get WebLogic Call-Wrappers

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the middleware home directory that contains the WebLogic 11g and 12c installation. For example: <code>/opt/oracle/weblogic</code>
WLS Install Home	no default	required	Fully qualified path to the directory where WebLogic Server will be installed. For example: <code>/opt/oracle/weblogic/wlserver12.1</code>

Additional Parameters Defined in this Step: Increase WebLogic Domain Span

Parameter Name	Default Value	Required	Description
Local Domain Path	no default	required	Path to the local domain. If the specified path is a relative path, it is assumed to be relative to BEA Home. For example: <code>/opt/oracle/weblogic/user_projects/domains/base_domain</code> where <code>/opt/oracle/weblogic</code> is the BEA Home.
Local Template Path	no default	required	Path to the local template directory or the path to a template file. If the specified path is a relative path, it is assumed to be relative to BEA Home. For example: <code>/opt/oracle/weblogic/user_projects/domains/base_domain.jar</code> where <code>/opt/oracle/weblogic</code> is the BEA Home.
Remote Addresses	no default	required	Comma-delimited list of hosts (DNS addresses or IP addresses) that the domain will span.
Remote Domain Path	no default	optional	Path where the domain will be placed on the remote machine. If the specified path is a relative path, it is assumed to be relative to BEA Home.
Remote Template Path	no default	optional	Path to the remote template directory or the path to a template file. If the specified path is a relative path, it is assumed to be relative to BEA Home. This parameter defaults to Local Template Path.

Additional Parameters Defined in this Step: Start WebLogic Cluster

Parameter Name	Default Value	Required	Description
Admin Server Port	no default	optional	The non-SSL port on which the WebLogic 11g and 12c Administration Server will run.
Cluster Name	no default	required	The name of the new cluster. For example: ClusterAppServer.
WLST Call Wrapper	no default	required	<p>Command that will invoke the WebLogic Scripting Tool (WLST). For example:</p> <pre>su <user> /opt/oracle/WebLogic/install/common/bin/wlst.sh</pre> <p>The fully qualified path will vary depending on where you installed the product. The <user> must have appropriate permissions.</p>
Weblogic Admin Password	no default	required	The password that will be used to authenticate with the WebLogic 11g and 12c Administration Server.
WebLogic Admin User	weblogic	required	The WebLogic 11g and 12c administrator account that will be used to authenticate with the Administration Server.

WebLogic - Create Trust and Identity Keystore

This workflow uses the Java keytool to create a Java keystore, generate a key pair, and export the public key. Then the workflow creates a truststore and imports the public key into the newly created truststore. Finally, the workflow creates a certificate request that can be manually sent to a trusted Certificate Authority (CA) to be signed. After the signed certificate is received from the CA, you can manually import it into the existing truststore.

Tip: This workflow is not exclusive to WebLogic 11g and 12c. The workflow uses a generic Java keytool, allowing it to create the keystore and truststore for application servers, such as IBM WebSphere Application Server Network Deployment.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and a high-level process flow
"How to Run this Workflow"	Instructions for running this workflow in your environment
"Sample Scenario"	Examples of typical parameter values for this workflow
Parameters	List of input parameters for this workflow

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the "[WebLogic - Create Trust and Identity Keystore](#)" workflow:

- The latest DMA solution packs require the latest DMA platform. To use the latest solution packs, update the DMA platform. DMA 10.40 solution packs are supported on DMA 10.40 (and later).
- You have installed the Application Server Provisioning Solution Pack.
- This workflow is supported on the following Java installations: Java 1.6.x and Java 1.7.x

For more information about prerequisites for WebLogic 11g and 12c, refer to the [WebLogic Product Documentation](#).

How this Workflow Works

The following information describes how the "WebLogic - Create Trust and Identity Keystore" workflow works:

Overview show

The workflow does the following:

- Creates the Java keystore.
- Exports the public key out of the keystore and imports it into the truststore. Creates another file with the trusted certificates.
- Creates a certificate request that you can manually send to a Certificate Authority (CA).

Note: Most users wait to receive the signed certificate request back from the CA, but you can use a public certificate in the meantime.

- *Optional:* Imports the root CA certificate and the Intermediate Certificate into the truststore.

Note: If you do not import certificate when you run this workflow, you can also import it manually later.

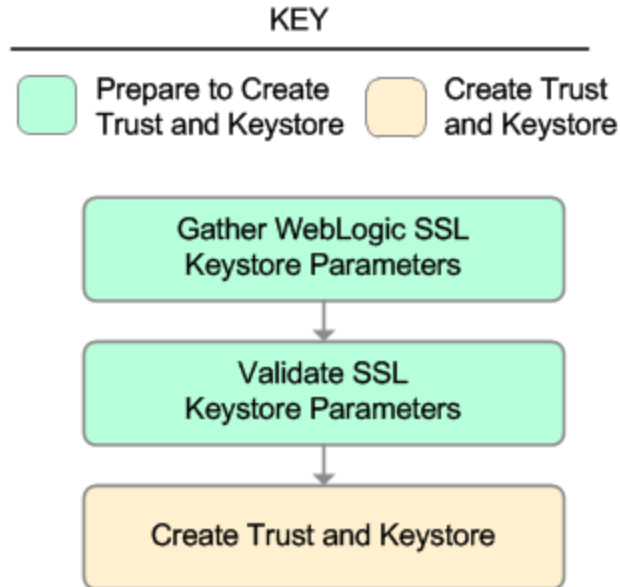
Validation Checks Performed show

Much of the validation centers on the input parameters:

- Required parameters have values specified.
- The Java Home version is 1.6 or greater.
- If Intermediate CA Alias is specified, Intermediate CA File Location is a valid existing path with a valid filename. If Intermediate CA File Location is specified, Intermediate CA Alias is specified.
- Certificate Location is a valid path.
- KeyStore Location Directory, Root CA File Location, and TrustStore Location are valid paths with valid filenames.
- KeySize and Validity are integers.

Steps Executed show

The WebLogic - Create Trust and Identity Keystore workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.



Steps Used in WebLogic - Create Trust and Identity Keystore

Workflow Step	Description
Gather WebLogic SSL Keystore Parameters	This step gathers all required parameters to create the SSL keystore, truststore, key pairs, exports/imports public key, to import the root CA and intermediate CA, and to create the certificate request.
Validate SSL Keystore Parameters	This step validates and prepares the parameters to create the SSL keystore, truststore, key pairs, exports/imports public key, to import the root CA and intermediate CA, and to create the certificate request.
Create Trust and Keystore	This step creates the SSL keystore, truststore, key pairs, and exports/imports public key. The step imports the root CA and intermediate CA. The step creates the certificate request.

For parameter descriptions and defaults, see ["Parameters for WebLogic - Create Trust and Identity Keystore"](#).

How to Run this Workflow

The following instructions show you how to customize and run the ["WebLogic - Create Trust and Identity Keystore"](#) workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment.

Note: Before following this procedure, review the ["Prerequisites for this Workflow"](#) on page 94, and ensure that all requirements are satisfied.

To use the WebLogic - Create Trust and Identity Keystore workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters:

Input Parameters for Gather WebLogic SSL Keystore Parameters

Parameter Name	Default Value	Required	Description
Cert Location	no default	required	Fully qualified directory path where the certificate and certificate request will be created. For example: /opt/app/ssl/
Dname Suffix	no default	required	The suffix of the Distinguished Name (DN) that will uniquely identify an entity in an X.509 certificate. The CN will be generated from the server name. For example: OU=Software, O=HP, L=Fort Collins, ST=Colorado, C=US
Intermediate CA Alias	no default	optional	Name or label to uniquely identify the Intermediate CA in the truststore. For example: intermediateca
Intermediate CA File Location	no default	optional	Fully qualified file path where the Intermediate CA is located. For example: /opt/app/ssl/intermediateca.crt
Java Home	no default	required	Fully qualified path to the JAVA_HOME that the keytool uses to create the SSL configuration. For example: /opt/app/jdk1.6.0_35
KeySize	2048	required	Key size or length (in bits) that will be used when creating the Java keystore. For example: 2048

Input Parameters for Gather WebLogic SSL Keystore Parameters, continued

Parameter Name	Default Value	Required	Description
KeyStore Location	no default	required	Fully qualified directory path where the Java keystore will be created. For example: /opt/app/ssl
KeyStore Passphrase	no default	required	Keystore password used to create the keystore and export certificate.
PrivateKey Passphrase	no default	required	Password used to protect the private key in the keystore.
Root CA Alias	no default	required	Name or label to uniquely identify the Root CA in the truststore. For example: rootca
Root CA File Location	no default	required	Fully qualified file path where the Root CA is located. For example: /opt/app/ssl/rootca.crt
TrustStore Location	no default	required	Fully qualified directory path where the Java truststore will be created. For example: /opt/app/ssl
Validity	no default	required	The number of days that the certificate is valid. For example: 365

Note: This is the minimum set of parameters required to run this workflow. You may need to expose additional parameters depending on your objectives.

See "[Parameters for WebLogic - Create Trust and Identity Keystore](#)" on page 102 for detailed descriptions of all input parameters for this workflow, including default values.

3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment.
4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment.
6. On the Parameters tab, specify values for the required parameters listed in step 2 and any additional parameters that you have exposed. You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.

Note: The target for this deployment should be set to all the servers that are involved in your WebLogic 11g and 12c installation.

8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during the workflow execution, the error will be logged, and the workflow terminates in the FAILURE state.

Optional: If you want to further verify the results:

Make sure that the keystore, truststore, public key, and certificate request exist.

To do after running this workflow:

Submit the certificate signing request to your CA. The CA will provide instructions for submitting this request.

In response to your request, the CA will send you a digitally signed server certificate via email. Your CA may also send you the root certificate and any intermediate certificates required. Your CA will provide instructions for importing the root and any intermediate certificates into the keystore.

Sample Scenario

It is very straightforward to run the "[WebLogic - Create Trust and Identity Keystore](#)" workflow. This topic shows you typical parameter values to use.

Typical parameters

Input Parameters for Gather WebLogic SSL Keystore Parameters

Parameter Name	Example Value	Description
Cert Location	see description	Fully qualified directory path where the certificate and certificate request will be created. For example: /opt/app/ssl/
Dname Suffix	see description	The suffix of the Distinguished Name (DN) that will uniquely identify an entity in an X.509 certificate. The CN will be generated from the server name. For example: OU=Software, O=HP, L=Fort Collins, ST=Colorado, C=US
Intermediate CA Alias	intermediateca	Name or label to uniquely identify the Intermediate CA in the truststore. For example: intermediateca
Intermediate CA File Location	see description	Fully qualified file path where the Intermediate CA is located. For example: /opt/app/ssl/intermediateca.crt
Java Home	see description	Fully qualified path to the JAVA_HOME that the keytool uses to create the SSL configuration. For example: /opt/app/jdk1.6.0_35
KeySize	2048	Key size or length (in bits) that will be used when creating the Java keystore. For example: 2048
KeyStore Location	/opt/app/ssl	Fully qualified directory path where the Java keystore will be created. For example: /opt/app/ssl
KeyStore Passphrase	kspassword	Keystore password used to create the keystore and export certificate.
PrivateKey Passphrase	pkpassword	Password used to protect the private key in the keystore.
Root CA Alias	rootca	Name or label to uniquely identify the Root CA in the truststore. For example: rootca
Root CA File Location	see description	Fully qualified file path where the Root CA is located. For example: /opt/app/ssl/rootca.crt

Input Parameters for Gather WebLogic SSL Keystore Parameters, continued

Parameter Name	Example Value	Description
TrustStore Location	/opt/app/ssl	Fully qualified directory path where the Java truststore will be created. For example: /opt/app/ssl
Validity	365	The number of days that the certificate is valid. For example: 365

Be sure that the default values for all remaining input parameters are appropriate for your environment (see "[Parameters for WebLogic - Create Trust and Identity Keystore](#)").

Parameters for WebLogic - Create Trust and Identity Keystore

The following tables describe the required and optional input parameters for this workflow. Some of these parameters may not be initially visible in a deployment. For some parameters, if you do not specify a value for a parameter, a default value is assigned.

Following is a table for the sole step used by this workflow where parameters are defined:

Parameters Defined in this Step: Gather WebLogic SSL Keystore Parameters

Parameter Name	Default Value	Required	Description
Cert Location	no default	required	Fully qualified directory path where the certificate and certificate request will be created. For example: /opt/app/ssl/
Dname Suffix	no default	required	The suffix of the Distinguished Name (DN) that will uniquely identify an entity in an X.509 certificate. The CN will be generated from the server name. For example: OU=Software, O=HP, L=Fort Collins, ST=Colorado, C=US
Intermediate CA Alias	no default	optional	Name or label to uniquely identify the Intermediate CA in the truststore. For example: intermediateca
Intermediate CA File Location	no default	optional	Fully qualified file path where the Intermediate CA is located. For example: /opt/app/ssl/intermediateca.crt
Java Home	no default	required	Fully qualified path to the JAVA_HOME that the keytool uses to create the SSL configuration. For example: /opt/app/jdk1.6.0_35
KeySize	2048	required	Key size or length (in bits) that will be used when creating the Java keystore. For example: 2048
KeyStore Location	no default	required	Fully qualified directory path where the Java keystore will be created. For example: /opt/app/ssl
KeyStore Passphrase	no default	required	Keystore password used to create the keystore and export certificate.
PrivateKey Passphrase	no default	required	Password used to protect the private key in the keystore.
Root CA Alias	no default	required	Name or label to uniquely identify the Root CA in the truststore.

Parameters Defined in this Step: Gather WebLogic SSL Keystore Parameters, continued

Parameter Name	Default Value	Required	Description
			For example: rootca
Root CA File Location	no default	required	Fully qualified file path where the Root CA is located. For example: /opt/app/ssl/rootca.crt
TrustStore Location	no default	required	Fully qualified directory path where the Java truststore will be created. For example: /opt/app/ssl
Validity	no default	required	The number of days that the certificate is valid. For example: 365

WebLogic - Code Release

This workflow automates application deployments in Oracle WebLogic Server. In addition to deployment automation, this workflow can update JVM Generic Arguments and JVM System Properties on the Web Server, and also provides install options for application deployments.

Some install options are provided as parameters for the workflow, or, users can specify install options within a file for each of the applications to be deployed (Note that user-specified parameter values take the highest precedence). This workflow provides application deployment verification by providing the URLs. For successful application deployments, verifications and a list of the applications are maintained in the history file. In cases of unsuccessful application deployments, the workflow rolls back the deployment and restores the last successfully deployed application (if any).

The supported applications are of type :

- .war files
- .ear files

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and a high-level process flow
"How to run this workflow"	Instructions for running this workflow in your environment
"Sample Scenario"	Examples of typical parameter values for this workflow
Parameters	List of input parameters for this workflow

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the WebSphere - Code Release workflow.

Product Platform

This workflow is available to automate application deployments for WebLogic Server 11g and 12C.

Dependencies

- You must have a working WebLogic Application Server on a standalone setup (Provisioning the WebLogic Software and Creating the Domain and Admin Server.)
- You must run the Discover WebLogic workflow before you run this workflow. The Discover WebLogic workflow audits the server's physical environment for WebLogic cells, clusters, and application servers and then stores the configuration information in the DMA environment.

For more information about prerequisites for WebLogic, refer to the WebLogic [Product Documentation](#).

How this Workflow Works

The following information describes how the WebLogic - Code Release workflow works:

Overview

This workflow does the following things in the order shown:

1. Initially, the workflow inputs all parameters, set defaults for optional parameters, and validates all parameters. If input files do not exist in the specified locations, they are downloaded from the software repository. The workflow performs a checksum to verify that the archive files should be deployed in the Application Server on a standalone setup.
2. Next, the workflow creates the installation options and the call wrapper that will be used to execute commands within a WebLogic environment. The workflow updates the setting and then creates a backup. The workflow deploys the specified Application Archive files in the Application Server on a standalone setup.
3. If the application deployment succeeds, the workflow tests the URLs for the web servers and copies the application archives.
4. If the application deployment fails, the workflow rolls back the deployment and restores the last successfully deployed application (if any).
5. Finally, the workflow cleans up downloaded files based on the Cleanup on Success and Cleanup on Failure parameters.

Validation Checks Performed

The workflow performs the following checks on the input parameters:

Enable Security	Must be true or false
If Enable Security is true	WebLogic Admin Username and Password must be specified
WebLogic Admin Username	Cannot contain the following characters / \ * , : ; = + ? < > & % ' " [] # \$ ^ { } and also cannot begin with a dash (-), period (.), or space ()
WebLogic Admin Password	Cannot begin with a dash (-) and cannot contain a space ()
Code Release Staging Location Code Release History Location	Must be valid absolute paths Cannot have the same values
Application Archive File List Md5 Checksum	There must be a checksum for each Application Archive file The Application Archive files must be type .ear or .war and have valid absolute paths Checksums must be valid hexadecimal numbers

The WebLogic - Code Release workflow also checks the environment for the following:

- The WebLogic container type is APPLICATION_SERVER
- The WebLogic Home exists

Steps Used in the WebLogic - Code Release Workflow

Workflow Step	Description
Gather Parameters for WebLogic Code Release	This step gathers mandatory input parameters (user-provided) used to deploy a list of application archives in a Oracle Weblogic Application Server on a standalone setup.
Gather Advanced Parameters for WebLogic Code Release	This step gathers the advanced input parameters (user-provided) used to deploy an application archive for a WebLogic Application Server. Input parameters specified in this step are optional. Appropriate default values are specified.
Validate Parameters for WebLogic Code Release	This step validates the basic and advanced parameters provided by the user, and checks the prerequisites for deploying a list of application archives for an Oracle WebLogic Application Server on a standalone setup.
Check File Download	<p>This step checks for the existence of a file before downloading from the Expert Engine. Specifically, it:</p> <ul style="list-style-type: none"> • Checks to ensure that the file is in the expected location. • If file is not in the expected location, generates a list of files for file download. <p>Note: The Target Directory parameter is set to the directory of the first file in the list not found.</p>
Download Software	This step downloads a list of files to a specified location on the target server.
Validate Checksum for Archive File	This step verifies the checksum for the archive files and archive setting file (if any) to ensure that the file has not changed and that the correct archives are deployed in the Application Server.
Create Install Options File for Application Archives	This step creates a setting file that includes the install options for the list of application archive files being deployed by the application server.
Get WebLogic Call Wrappers	This step creates the necessary call wrapper to call <code>wlst</code> to execute certain operations within a given Weblogic environment.
Update JVM Settings for WebLogic Code Release	This step updates the JVM setting of the Oracle WebLogic Application server. It also performs a backup of the Oracle WebLogic profile configuration.
Deploy Application Archive for WebLogic Code Release	This step deploys the list of application archives in the Oracle WebLogic Application Server on the specified target servers.
If the application deployment succeeds, the following steps are executed	
Verify URLs of Web Server Applications	This step verifies that the URLs are working, and looks for return status code values of 200 for success.
Copy Application	This step copies the list of files from the staging location to the history location.

Steps Used in the WebLogic - Code Release Workflow, continued

Workflow Step	Description
Archives to History	
Cleanup Downloaded Files	For workflow success—and if Cleanup on Success is set to True (default)—this step removes all downloaded files and archives. Dependencies: Run as file/directory owner.
If the application deployment fails, the following steps are executed	
Rollback JVM Settings for WebLogic Code Release	This step restores a backup of the Oracle WebLogic profile configuration.
Undeploy Application Archives for WebLogic Code Release	This step uninstalls the list of application archives from an Oracle WebLogic Application Server on a standalone setup.
Deploy Application Archives for WebLogic Code Release	This step deploys the list of application archives in the Oracle WebLogic Application Server on the specified target servers.
Cleanup Downloaded Files	For workflow failure—and if Cleanup on Failure is set to True (default)—this step removes all downloaded files and archives. Dependencies: Run as file/directory owner.

How to run this workflow

The following instructions show you how to customize and run the WebLogic - Code Release workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. For details about specific parameter values, see ["Parameters for WebLogic - Code Release" on page 114](#).

Note: Before following this procedure, review the ["Prerequisites for this Workflow" on page 104](#), and ensure that all requirements are satisfied.

Before you run this workflow, you can perform the following optional advance configuration to deploy applications WebLogic application servers.

Create a configuration file on the target machine or the SA Server. The file should contain the advanced parameters for all the application servers being deployed. If no configuration file is provided, the target

will be defaulted to admin server of the domain. The options that are to be used in this file are listed in the table below.

For example, if you want to deploy example1.war, example2.war, and example3.war onto the managed servers named MS-1, MS-2, and MS-3. The format of the configuration file as an input to the flow must be as the following:

```
example1.war = {
  -appName MyfirstwarFile
  -targets MS-1
  -upload false
}
example2.war = {
  -appName example2
  -targets MS-2,MS-1
  -createPlan false
}
example3.war = {
  Application Name=example3
  Targets=Cluster-1,MS-1,AdminServer
  -altDD None
  -altWlsDD None
  -archiveVersion None
  -upload false
}
```

The options in this file should be in the following format:

Format 1	Format 2	Description
Application Name	-appName	Name of the application or standalone Java Enterprise Edition (Java EE) module that is to be deployed.
Targets	-targets	(Optional) Comma-separated list of the targets. Each target may be qualified with a Java EE module name.
Stage Mode	-stageMode	(Optional) Staging mode for the applications you are deploying. Valid values are stage, nostage, and external_stage.
Plan Path	-planPath	Optional. Name of the deployment plan file. The filename can be absolute or relative to the application directory. This argument defaults to the plan/plan.xml file in the application directory, if one

Format 1	Format 2	Description
		exists.
Alternative Deployment Descriptor	-altDD	Location of the alternate application deployment descriptor on the Administration Server.
Alternative WebLogic Deployment Descriptor	-altWlsDD	Location of the alternate WebLogic application deployment descriptor on the Administration Server.
Archive Version	-archiveVersion	Archive version number
Block	-block	Boolean value specifying whether WLST should block user interaction until the command completes. This option defaults to true.
Cluster Deployment Timeout	-clusterDeploymentTimeout	Time, in milliseconds, granted for a cluster deployment task on this application.
Create Plan	-createPlan	Boolean value indicating that user would like to create a default plan. This option defaults to false.
Default Submodule Targets	-defaultSubmoduleTargets	Boolean value indicating that targeting for qualifying JMS submodules should be derived by the system
Force Undeploy Timeout	-forceUndeployTimeout	Force undeployment timeout value.
Graceful Ignore Sessions	-gracefulIgnoreSessions	Boolean value specifying whether the graceful production to admin mode operation should ignore pending HTTP sessions. This option defaults to false and only applies if gracefulProductionToAdmin is set to true.
Graceful Production To Admin	-gracefulProductionToAdmin	Boolean value specifying whether the production to Admin mode operation should be graceful. This option defaults to false.
Implementation Version	-libImplVersion	Implementation version of the library, if it is not present in the manifest.
Library Module	-libraryModule	Boolean value specifying whether the module is a library module. This option defaults to false.
Specification Version	-libSpecVersion	Specification version of the library, if it is not present in the manifest
Plan Version Number	-planVersion	Plan version number
Retire Gracefully	-retireGracefully	Retirement policy to gracefully retire an

Format 1	Format 2	Description
		application only after it has completed all in-flight work. This policy is only meaningful for stop and redeploy operations and is mutually exclusive to the retire timeout policy.
Retire Timeout	-retireTimeout	Time (in seconds) WLST waits before retiring an application that has been replaced with a newer version. This option default to -1, which specifies graceful timeout.
Security Model	-securityModel	Security model. Valid values include:DDOnly, CustomRoles, CustomRolesAndPolicies, andAdvanced.
Security Validation Enabled	-securityValidationEnabled	Boolean value specifying whether security validation is enabled.
Sub Module Targets	-subModuleTargets	Submodule level targets for JMS modules. For example,submod@mod-jms.xml@target submoduleName@target.
Timeout	-timeout	Time (in milliseconds) that WLST waits for the deployment process to complete before canceling the operation. A value of 0 indicates that the operation will not time out. This argument defaults to 300,000 ms (or 5 minutes).
Version Identifier	-versionIdentifier	Version identifier
Upload	-upload	Boolean value specifying whether the application files are uploaded to the WebLogic Server Administration Server's upload directory prior to deployment. Use this option when the Administration Server cannot access the application files through the file system. This option defaults to false.

You can select any advanced option from either list1 or list2.

If you select an option from list 1, the value has to be separated by an '=' sign, for example: Application Name=example3.

If you select an option from list 2, the value has to be separated by a space character, for example: - appName example.

Sample Scenario

This topic shows you typical parameter values for different use cases for the WebLogic – Code Release workflow. For a complete list of all parameters used in this workflow, including default values, see ["Parameters for WebLogic - Code Release" on page 114](#).

Scenario: Install an application archive (for example `stockanalysis.war`) on a running Oracle WebLogic Application Server on a standalone setup

In this scenario we will deploy the `stockanalysis.war` file on a running Oracle WebLogic Application Server. We will install the application using the default installation options. If the application archive files are not present in the Code Release Staging Location, then they will be downloaded from the SA Repository.

In addition to the default options, this flow also provides advanced parameters to specify:

- JVM System properties
- JVM Memory arguments
- Archive Setting File
- Domain path

Parameters Defined in this Step: Gather Parameters for WebLogic- Code Release

Parameter Name	Example Value	Description
Admin Password	Weblogic123	The WebLogic Administrator password.
Admin Server Hostname	myserver.com	The WebLogic Admin Server Hostname or IP address.
Admin Server Port	7001	The port number of the Admin WebLogic Server.
Admin Username	Weblogic	The Admin Username for logging into the WebLogic Server.
Application Archive File List	stockanalysis.war	Comma-separated list of the Application Archive files to be deployed. Example: xxx.war or yyy.ear
BEA Home	/opt/oracle/WebLogic	Fully qualified path of the product installation directory in which WebLogic Server is installed
Code Release History	/opt/oracle/weblogic/history	Fully qualified path name of the location where the application

Parameters Defined in this Step: Gather Parameters for WebLogic- Code Release , continued

Parameter Name	Example Value	Description
Location		archive will be saved (for history purposes) on the target machine. This location cannot be the same as the Code Release Staging Location.
Code Release Staging Location	/tmp/	Fully qualified path name of the location where the application archive will be saved on the target machine. This location cannot be the same as the Code Release History Location.
Md5 Checksum	477e994e9d457ad2214a3d36b1bb16b	Comma-separated list of the MD5 Checksum of the Application Archive files to be deployed. Please provide the Checksum for the Archive File if listed.
Test URLs	http://<server:port>/stockanalysis/<xyx.html>	Comma-separated list of URLs used to test whether or not the list of applications deployed successfully. Example: http://mytestdb.com, http://yourtest.com
WLS Install Home	/opt/oracle/WebLogic/wlserver_10.30	Fully qualified path to the Middleware Home directory that will contain this installation. For instance /opt/oracle/WebLogic/wlserver_10.30

Parameters Defined in this Step: Gather Advanced Parameters for WebLogic - Code Release

Parameter Name	Value	Description
Archive Setting File	archive.setting	The file containing the install options for all the archive file.
Domain Path	/opt/oracle/weblogic/domains/mydomain	Fully qualified path of the domain under which the Admin server resides. Example: /opt/oracle/weblogic/user_projects/domains/mydomain_name/
JVM Memory Arguments	-Xms256m -Xmx512m	Specifies the JVM memory arguments. Provide values as standard JVM settings with a space as delimiter. Example: -Xms256m -Xmx512m

Parameters Defined in this Step: Gather Advanced Parameters for WebLogic - Code Release , continued

Parameter Name	Value	Description
JVM System Properties	stockanalysis_home, /opt/stockanalysis/bin, Home path for the stock analysis	Specifies the JVM System Properties. Provide string in the following format: DPropertyName=PropertyValue

Parameters for WebLogic - Code Release

The following tables describe the required and optional input parameters for this workflow. For most parameters, if you do not specify a value for a parameter, a default value is assigned.

Parameters Defined in this Step: Gather Parameters for WebLogic - Code Release

Parameter Name	Default Value	Required	Description
Admin Password	no default	required	The Administrator password for logging into the WebLogic Server.
Admin Server Hostname	no default	required	The Admin Server Hostname.
Admin Server Port	7001	required	The port number of the Admin WebLogic Server
Admin Username	no default	required	The Admin Username for logging into the WebLogic Server.
Application Archive File List	no default	required	Comma separated list of Application Archives to be deployed.
BEA Home	no default	required	Fully qualified path to the product installation directory in which to install WebLogic Server. For instance /opt/oracle/WebLogic.
Code Release History Location	no default	required	Fully qualified path name of the location where the application archive will be saved (for history purposes) on the target machine. This location cannot be the same as the Code Release Staging Location.
Code Release Staging Location	no default	required	Fully qualified path name of the location where the application archive will be saved on the target machine. This location cannot be the same as the Code Release History Location.
Md5 Checksum	no default	required	Comma-separated list of the MD5 Checksum of the Application Archive files to be deployed. Please provide the Checksum for the Archive File if listed.
Test URLs	no default	required	Comma-separated list of URLs used to test whether or not the list of applications deployed successfully.

Parameters Defined in this Step: Gather Parameters for WebLogic - Code Release , continued

Parameter Name	Default Value	Required	Description
			Example: http://mytestdb.com, http://yourtest.com
WLS Install Home	no default	required	Fully qualified path to the Middleware Home directory that will contain this installation. For instance /opt/oracle/WebLogic/wlserver_10.30

Parameters Defined in this Step: Gather Advanced Parameters for WebLogic - Code Release

Parameter Name	Default Value	Required	Description
Archive Setting File	no default	optional	The file containing the install options for all the archive file.
Cleanup on Failure	True	optional	Determines whether or not to remove downloaded and extracted files. This parameter also cleans up the installed directory upon failure of the workflow.
Cleanup on Success	True	optional	Determines whether or not to remove downloaded and extracted files. This parameter also cleans up the installed directory upon successful execution of the workflow.
Domain Path	no default	optional	Fully qualified path of the domain under which the Admin server resides. Example: /opt/oracle/weblogic/user_projects/domains/mydomain_name/
JVM Memory Arguments	no default	optional	Specifies the JVM memory arguments. Provide values as standard JVM settings with a space as delimiter. Example: -Xms256m -Xmx512m
JVM System Properties	no default	optional	Specifies the JVM System Properties. Provide string in the following format: DPropertyName=PropertyValue

WebLogic - Create and Configure Datasource

The purpose of this workflow is to create a generic datasource in a Weblogic Application Server . A datasource can be created using drivers installed with the WebLogic server or with the drivers installed in the WebLogic domain by the user.

Note: The third party drivers should be installed on all servers (clusters) on which the datasource will be deployed.

To install third party JDBC Drivers, refer to Oracle WebLogic Server documentation.

Datasources—backend connections to an existing database—allow pooling of connections to the database for fast access, reuse by application components, and abstraction of the database connection information by WebLogic.

Supported vendors

The supported WebLogic application versions are:

- WebLogic application server 11g and 12c.

See [WebLogic Product Documentation](#) to find additional information about WebLogic Server Datasources.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and a high-level process flow
"How to Run this Workflow"	Instructions for running this workflow in your environment
"Sample Scenario"	Examples of typical parameter values for this workflow
Parameters	List of input parameters for this workflow

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the WebLogic - Create and Configure Datasource workflow.

Product Platform

This workflow is available for WebLogic 11g and 12c

Dependencies

This workflow has the following dependencies:

- You must have a working WebLogic server version 11g or 12c.
- You must have a domain and an admin server provisioned to run this workflow.
- The database pertaining to the datasource connection must be running, else the deployment of the datasource will fail. The user then has to manually deploy the datasource on the target.
- The datasource uses non-SSL port and WLST to create and deploy a datasource.

For more information about prerequisites for WebLogic, refer to the [WebLogic Product Documentation](#).

How this Workflow Works

The following information describes how WebLogic - Create and Configure Datasource workflow works:

Overview

This workflow does the following things in the order shown:

1. Before creating the WebLogic data source, the workflow prepares and validates all parameters and creates the call wrapper that will be used to execute commands within a WebLogic Application server.
2. Next the workflow uses WLST (WebLogic Scripting Tool) as the core call wrapper and creates the configuration xml for the datasource and deploys it on the servers or clusters in that domain.
3. Finally, the workflow verifies that the connection to the data source was successful.

Validation Checks Performed

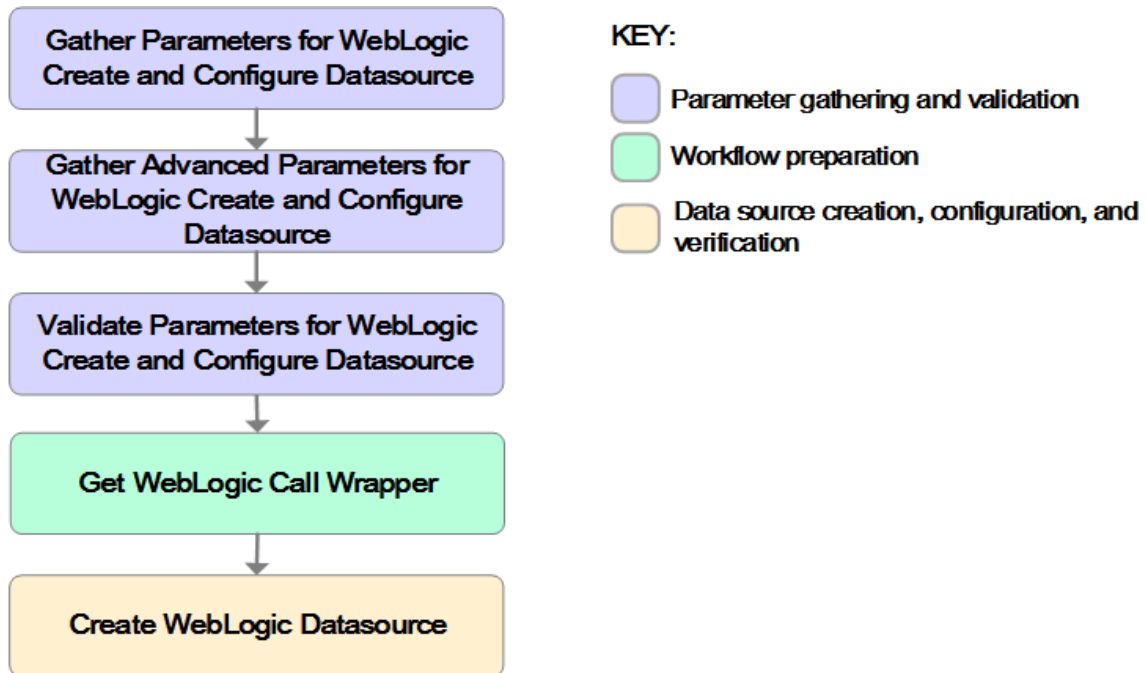
The workflow then performs the following checks on the input parameters:

BEA Home	The WebLogic software installation must exist.
Admin Password Admin Server Host Name Admin Server Port Admin User	Must be specified.
Database Name Database Port Database Server Name	Should be specified when the data source JDBC Connection String be constructed by the workflow.
Database User Database Password	Required to validate the jdbc connection when deploying the data source.
Datasource JNDI	Must be specified. Can be one or more. Comma separated list of JNDI Names.
Datasource Type	Can only be one of the following: Oracle Sybase SQL Server DB2 Informix Other
DS Max Capacity	Must be specified and can be only numeric.
JDBC Connection String JDBC Driver Class JDBC Connection Properties	Required when the Datasource Type is "Other" JDBC Driver Class must be installed on every server to which the data source is deployed. JDBC Connection Properties can be of the form a=b,c=d,e=f,... etc.
XA Datasource Clean Up On Failure	Can only be True or False.
Cluster List Server List	Optional Can take one or more values Comma separated list of values

WLS Install Home	The WebLogic server home must exist.
------------------	--------------------------------------

Steps Executed

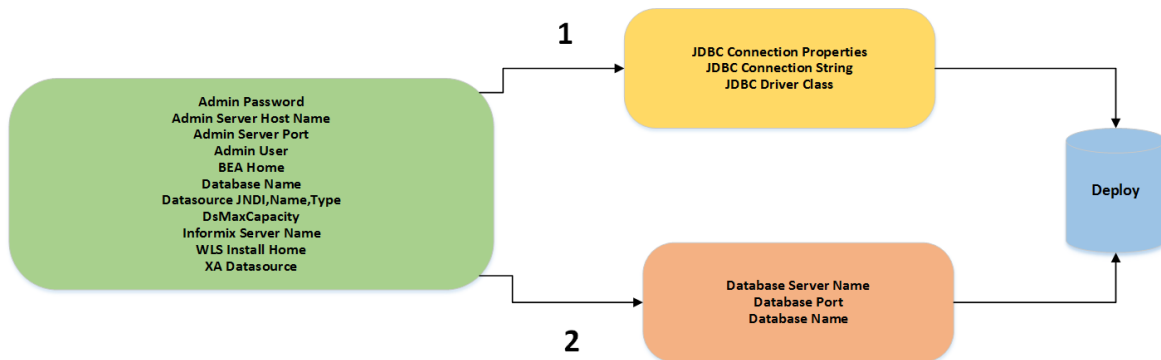
The WebLogic - Create and Configure Datasource workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.



Steps Used in the WebLogic - Create and Configure Datasource Workflow

Workflow Step	Description
Gather Parameters for Weblogic Create and Configure Datasource	This step performs the following actions to facilitate the execution of subsequent steps in the workflow: Prepares the parameters needed to create a datasource in Weblogic Application Server . Return Code: 0 = Step ran successfully 1 = Step failed.
Gather Advanced Parameters for Weblogic Create and Configure Datasource	This step prepares the parameters needed to create a Datasource in Weblogic Application Server . Return Code: 0 = Step ran successfully 1 = Step failed.
Validate Parameters for Weblogic Create and Configure Datasource	This step prepares the parameters needed to create a Datasource in Weblogic Application Server . Return Code: 0 = Step ran successfully 1 = Step failed.
Get WebLogic Call Wrappers	This step creates the necessary call wrapper to call list to execute certain operations within a given Weblogic environment. Return Code: 0 = Step ran successfully 1 = Step failed.
Create Weblogic DataSource	Creates a generic datasource in a weblogic application server. Return Code: 0 = Step ran successfully 1 = Step failed.

For parameter descriptions and defaults, see ["Parameters for WebLogic - Create and Configure Datasource" on page 134](#)



Path 2: This is used to create a datasource with the JDBC drivers which are part of the standard WebLogic installation. The JDBC connection string is constructed from the user given values to the three parameters as shown.
 Path 1: This is used to create a datasource with the third party JDBC drivers which are installed by the user in their WebLogic environment.

How to Run this Workflow

The following instructions show you how to customize and run the WebLogic - Create and Configure Datasource workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. You can also expose additional parameters in the workflow, if necessary, to accomplish more advanced scenarios. Any parameters not explicitly specified in the deployment will have the default values listed in ["Parameters for WebLogic - Create and Configure Datasource" on page 134](#)

Note: Before following this procedure, review the ["Prerequisites for this Workflow" on page 117](#), and ensure that all requirements are satisfied.

To use the WebLogic - Create and Configure Datasource workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters: show

Gather Parameters for WebLogic - Create and Configure Datasource Parameters

Parameter Name	Default Value	Required	Description
Admin Password	No default	Required	This password will be used to authenticate the Weblogic Admin Server.
Admin Server Host Name	No default	Required	This is the hostname or IP address that the Weblogic Admin Server will run on.
Admin Server Port	No default	Required	This will be the non SSL port that the WebLogic Admin Server will run on.
Admin User	None	Yes	This is the WebLogic administrator username used to connect to the Admin Server.
BEA Home	None	Yes	Fully qualified path to the product installation directory in which WebLogic Server is placed for Ex. /opt/oracle/weblogic
Database Name	None	Yes	This will be the database instance name that will be used in the connection string. Example: For MS SQL it will be "ServerName\InstanceName".
Database Password	None	Yes	This is the database password that the connection will use to authenticate the database.
Database Port	None	Yes	This is the port that the database is listening on.
Database Server Name	None	Yes	This is the hostname or IP address that the database is installed on.

Gather Parameters for WebLogic - Create and Configure Datasource Parameters , continued

Parameter Name	Default Value	Required	Description
Database User	None	Yes	This is the database user that the connection will use to authenticate the database.
Datasource JNDI	None	Yes	This will be the comma separated list of JNDI Names, which will be used for datasource creation.
Datasource Name	None	Yes	Unique name that will identify the datasource in the WebLogic domain.
Datasource Type	None	Yes	Type of the database on which the datasource will be deployed. The options are "Sybase," "Oracle," "SQLserver," "DB2," "Informix," "Other".
DsMaxCapacity	None	Yes	The maximum number of connection pool threads for the datasource.
Informix Server Name	None	No	Required when the workflow is used to create an Informix datasource.
JDBC Connection Properties	None	No	If the Datasource Type is "other", then this value will be used to initialize the JDBC Connection properties of the Datasource, It can take values of the form a=b,c=d,e=f etc
JDBC Connection String	None	No	If the Datasource Type is "other", then this value will be used to initialize the JDBC Connection String of the datasource.
JDBC Driver Class	None	No	If the Datasource Type is "other," then this value will be used to initialize the JDBC Driver Class of the Datasource.
WLS Install Home	None	Yes	Fully qualified path to the Middleware Home directory that will contain this installation. For instance /opt/oracle/WebLogic/wlserver_12.1.
XA Datasource	False	Yes	"True" refers that the current datasource is of type XA which supports two phase commit. "False" refers to Non- Xa with single phase commit.

Gather Advanced Parameters for WebLogic Create and Configure Datasource

Parameter Name	Default Value	Required	Description
Clean Up On Failure	True	Yes	Specifies if the datasource is to be removed upon failure.
Cluster List	None	No	Comma separated list of cluster names on which datasource will be deployed. If Server_list is empty as well, then the datasource will be created and deployed on all managed servers.

Gather Advanced Parameters for WebLogic Create and Configure Datasource, continued

Parameter Name	Default Value	Required	Description
Current Target Only	False	No	If True , datasource will be created and deployed only on the current target on which this code is running. Else, it will be False.
Server List	No default	Optional	Comma seperated list of servers names on which the datasource will be be deployed. If Cluster_list is empty as well, then the datasource will be created and deployed on all managed servers.

Tip: To avoid having to re-enter passwords whenever they change, you can create a policy to provide them to the workflow.

Note: This is the minimum set of parameters required to run this workflow. You may need to expose additional parameters depending on your configuration management objectives.

See "[Parameters for WebLogic - Create and Configure Datasource](#)" on page 134 for detailed descriptions of all input parameters for this workflow, including default values.

3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment.
4. Save the changes to the workflow.
5. Create a new deployment.
6. On the Parameters tab, specify values for the required parameters listed in step 2 and any additional parameters that you have exposed. You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.
8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state.

Optional: If you want to further verify the results:

Use the WebLogic user interface to check that the data source is connected.

Sample Scenario

This topic shows you typical parameter values for different use cases for the WebLogic - Create and Configure Datasource workflow. For a complete list of all parameters used in this workflow, including default values, see ["Parameters for WebLogic - Create and Configure Datasource" on page 134](#).

The sample scenarios assume that Web Service URL has the value of DMA.URL. This is the default value mapped from the DMA metadata.

Tip: To avoid having to re-enter passwords whenever they change, you can create a policy to provide them to the workflow.

Scenario 1: To create an Oracle data source using connection pool data source

This use case will create an Oracle data source using connection pool data source. This example does not enable security.

Gather Parameters for WebLogic - Create and Configure Datasource

Parameter Name	Example Value	Description
Admin Password	weblogic123	This password will be used to authenticate the WebLogic Admin Server.
Admin Server Host Name	myweblogic.mycompany.mydomain.com (Can be hostname or IP)	This is the hostname or IP address that the WebLogic Admin Server will run on.
Admin Server Port	7001	This will be the non-SSL port that the WebLogic Admin Server will run on.
Admin User	WebLogic	This is the WebLogic administrator username used to connect to the Admin Server.
BEA Home	/opt/oracle/weblogic	Fully qualified path to the product installation directory in which the WebLogic server is placed. For instance /opt/oracle/webLogic
Database Name	test	This will be the database instance name that will be used in the connection string.
Database Password	dbpass123	This is the database password that the connection will use to authenticate with the database.
Database Port	1521	This is the port that the database is listening on.
Database Server Name	mydatabase.mycompany.mydomain.com (Can be hostname or IP)	This the hostname or IP address that the database is installed on.

Gather Parameters for WebLogic - Create and Configure Datasource, continued

Parameter Name	Example Value	Description
Database User	dma	This is the database user that the connection will use to authenticate the database.
Datasource JNDI	orcl_jndi_name1 (can be "orcl_jndi_1,orcl_jndi_2,....")	This will be comma separated list of values that will be used as JNDI names bound with the datasource.
Datasource Name	ds_oracl	A unique name that identifies this datasource in the WebLogic domain.
Datasource Type	Oracle	This parameter sets the type of datasource that will be created. Options are "Sybase", "Oracle", "SQLserver", "DB2", "Informix", "Other"
DsMaxCapacity	12	The maximum number of connection pool threads for the datasource.
Informix Server Name	No value	Required when the workflow is used to create a informix datasource.
JDBC Connection Properties	No value	If the Datasource Type is "other," then this value will be used to initialize the JDBC Connection properties of the Datasource. It can take values of the form a=b, c=d, e=f etc
JDBC Connection String	No value	If the Datasource Type is "other," then this value will be used to initialize the JDBC Connection String of the Datasource.
JDBC Driver Class	No value	If the Datasource Type is "other," then this value will be used to initialize the JDBC Driver Class of the Datasource.
WLS Install Home	/opt/oracle/weblogic/wlserver12.1/	Fully qualified path to the Middleware Home directory that will contain this installation. For instance /opt/oracle/WebLogic/wlserver_10.3.
XA Datasource	True	"True" refers that the current datasource is of type XA which supports Two phase commit. "False" refers to Non- Xa with single phase commit.

Gather Advance Parameters for WebLogic Create and Configure Datasource

Parameter Name	Example Value	Description
Clean Up On Failure	True	Specifies if the datasource should be removed upon failure.

Gather Advance Parameters for WebLogic Create and Configure Datasource, continued

Parameter Name	Example Value	Description
Cluster List	Cluster-1,Cluster-2	Comma separated list of cluster names on which datasource will be deployed. If Server_list is empty as well then the datasource will be created and deployed on all managed servers.
Current Target Only	False	If True, the datasource will be created and deployed only on current target on which this code is running and False otherwise.
Server List	Server-2,Server100	Comma separated list of servers names on which datasource will be deployed. If Cluster_list is empty as well, then the datasource will be created and deployed on all the managed servers.

Scenario 2: To create an SQL Server data source using connection pool data source

This use case will create an SQL Server data source using connection pool data source and does not enable security.

Input Parameters for WebLogic - Create and Configure Datasource Parameters

Parameter Name	Example Value	Description
Admin Password	weblogic123	This will be the password that will be used to authenticate the Weblogic Admin Server.
Admin Server Host Name	myweblogic.mycompany.mydomain.com (Can be hostname or IP)	This is the hostname or IP address that the WebLogic Admin Server will run on.
Admin Server Port	7001	This will be the non-SSL port that the WebLogic Admin Server will run on.
Admin User	WebLogic	This is the WebLogic administrator username used to connect to the Admin Server.
BEA Home	/opt/oracle/weblogic	Fully qualified path to the product installation directory in which WebLogic Server is placed. For instance /opt/oracle/WebLogic
Database Name	test	This will be the database instance name that will be used in the connection string.
Database Password	dbpass123	This is the database password that the connection will use to authenticate the database.
Database Port	1402	This is the port that the database is listening on.
Database Server Name	mydatabase.mycompany.mydomain.com (Can be hostname or IP)	This the hostname or IP address that the database is installed on.
Database User	dma	This is the database user that the connection will use to authenticate the database.
Datasource JNDI	sql_jndi_name1 (Can be like "sql_jndi_1,sql_jndi_2,....")	These will be comma separated list of values that will be used as JNDI Names bound with the datasource.
Datasource Name	ds_sql	A unique name that identifies this data source in the WebLogic domain.
Datasource Type	sql server	This parameter sets the type of datasource that will be created. Options are "Sybase", "Oracle", "SQLServer", "DB2", "Informix", "Other"

Input Parameters for WebLogic - Create and Configure Datasource Parameters , continued

Parameter Name	Example Value	Description
DsMaxCapacity	12	The maximum number of connection pool threads for the datasource.
Informix Server Name	No value	Required when the workflow is used to create an informix datasource.
JDBC Connection Properties	No value	If the Datasource Type is "other," then this value will be used to initialize the JDBC Connection properties of the datasource. It can take values of the form a=b, c=d, e=f, etc.
JDBC Connection String	No value	If the Datasource Type is "other," then this value will be used to initialize the JDBC Connection String of the Datasource.
JDBC Driver Class	No value	If the Datasource Type is "other", then this value will be used to initialize the JDBC Driver Class of the Datasource.
WLS Install Home	/opt/oracle/weblogic/wlserver12.1/	Fully qualified path to the Middleware Home directory that will contain this installation. For instance /opt/oracle/WebLogic/wlserver_10.3.
XA Datasource	True	"True" refers that the current datasource is of type XA which supports two phase commit. "False" refers to Non- Xa with single phase commit.

Gather Advance Parameters for WebLogic Create and Configure Datasource

Parameter Name	Example Value	Description
Clean Up On Failure	True	Specifies if the datasource be removed upon failure.
Cluster List	Clusterds1	Comma separated list of cluster names on which the datasource will be deployed. If Server_list is empty as well, then the datasource will be created and deployed on all managed servers.
Current Target Only	False	If True , datasource will be created and deployed only on current target on which this code is running and False otherwise
Server List	Server-2, Server 100	Comma separated list of servers names on which datasource will be be deployed. if Cluster_list is empty as well then the datasource will be created and deployed on all managed servers.

Scenario 3: To create a datasource for "Other" database**Input Parameters for WebLogic - Create and Configure Datasource Parameters**

Parameter Name	Example Value	Description
Admin Password	weblogic123	This will be the password that will be used to authenticate the Weblogic Admin Server.
Admin Server Host Name	myweblogic.mycompany.mydomain.com (Can be hostname or IP)	This is the hostname or IP address that the Weblogic Admin Server will run on.
Admin Server Port	7001	This will be the non ssl port that the Weblogic Admin Server will run on.
Admin User	WebLogic	This is the WebLogic administrator username used to connect to the Admin Server
BEA Home	/opt/oracle/weblogic	Fully qualified path to the product installation directory in which WebLogic Server is placed. For instance /opt/oracle/WebLogic.
Database Name	No value	This will be the database instance name that will be used in the connection string
Database Password	dbpass123	This is the database password that the connection will use to authenticate the database.
Database Port	No value	This is the port that the database is listening on.
Database Server Name	No value	This the host name or IP address that the database is installed on.
Database User	DMA	This is the database user that the connection will use to authenticate with the database.
Datasource JNDI	orcl_jndi_name1 (can be "orcl_jndi_1,orcl_jndi_2,....")	This will be comma separated list of values that will be used as JNDI Names bound with the datasource.
Datasource Name	ds_oracl	A unique name that identifies this data source in the WebLogic domain.
Datasource Type	Oracle	This parameter sets the type

Input Parameters for WebLogic - Create and Configure Datasource Parameters, continued

Parameter Name	Example Value	Description
		of datasource that will be created. Options are "Sybase", "Oracle," "SQL Server", "DB2", "Informix", "Other"
DsMaxCapacity	12	The maximum number of connection pool threads for the datasource.
Informix Server Name	No value	Required when the workflow is used to create an Informix datasource.
JDBC Connection Properties	user=dma,portNumber=50000,databaseName=test	If the Datasource Type is "other" , then this value will be used to initialize the JDBC Connection properties of the Datasource. It can take values of the form a=b,c=d,e=f, etc.
JDBC Connection String	jdbc:weblogic:db2://mydbserver.mycompany.com:50000 <<have this in one line>>	If the Datasource Type is "other," then this value will be used to initialize the JDBC Connection String of the Datasource.
JDBC Driver Class	weblogic.jdbcx.db2.DB2DataSource	If the Datasource Type is "other," then this value will be used to initialize the JDBC Driver Class of the Datasource.
WLS Install Home	/opt/oracle/weblogic/wlserver12.1/	Fully qualified path to the Middleware Home directory that will contain this installation. For instance /opt/oracle/WebLogic/wlserver_10.3
XA Datasource	True	"True" refers that the current datasource is of type XA which supports two phase commit. "False" refers to non-Xa with single phase commit.

Gather Advance Parameters for WebLogic Create and Configure Datasource

Parameter Name	Example Value	Description
Clean Up On Failure	True	Specifies if the datasource can be removed upon failure.
Cluster List	Cluster-1,Cluster-	Comma separated list of cluster names on which datasource will be be deployed. If Server_list is empty as well, then the datasource will be

Gather Advance Parameters for WebLogic Create and Configure Datasource, continued

Parameter Name	Example Value	Description
	2	created and deployed on all managed servers.
Current Target Only	False	If True, datasource will be created and deployed only on current target on which this code is running and False otherwise.
Server List	Server-2, Server100	Comma separated list of servers names on which datasource will be be deployed. if Cluster_list is empty as well, then the datasource will be created and deployed on all managed servers.

Parameters for WebLogic - Create and Configure Datasource

The following tables describe the required and optional input parameters for this workflow. Most of these parameters are not initially visible in a deployment. For most parameters, if you do not specify a value for a parameter, a default value is assigned.

Parameters Defined in this Step: Validate WebLogic - Create and Configure Datasource

Parameter Name	Default Value	Required	Description
Admin Password	None	Yes	This is the password for the WebLogic Application Server.
Admin Server Host Name	None	Yes	This is the hostname or IP of the Weblogic Admin Server.
Admin Server Port	None	Yes	This is the non SSI port that the WebLogic server will run on.
Admin User	None	Yes	This is the WebLogic administrator username used to connect to the Admin Server.
BEA Home	None	Yes	Fully qualified path to the product installation directory in which WebLogic Server is placed for Ex. /opt/oracle/weblogic
Database Name	None	Yes	This will be the database instance name that will be used in the connection string. Example: For MS SQL it will be "ServerName\InstanceName".
Database Password	None	Yes	This is the database password that the connection will use to authenticate the database.
Database Port	None	Yes	This is the port that the database is listening on.
Database Server Name	None	Yes	This is the hostname or IP address that the database is installed on.
Database User	None	Yes	This is the database user that the connection will use to authenticate the database.
Datasource JNDI	None	Yes	This will be the comma separated list of JNDI Names, which will be used for datasource creation.
Datasource Name	None	Yes	Unique name that will identify the datasource in the WebLogic domain.
Datasource Type	None	Yes	Type of the database on which the datasource will be deployed. The options are "Sybase," "Oracle," "SQLserver," "DB2," "Informix," "Other".
DsMaxCapacity	None	Yes	The maximum number of connection pool threads for the datasource.
Informix Server	None	No	Required when the workflow is used to create an Informix

Parameters Defined in this Step: Validate WebLogic - Create and Configure Datasource , continued

Parameter Name	Default Value	Required	Description
Name			datasource.
JDBC Connection Properties	None	No	If the Datasource Type is "other", then this value will be used to initialize the JDBC Connection properties of the Datasource,It can take values of the form a=b,c=d,e=f etc
JDBC Connection String	None	No	If the Datasource Type is "other", then this value will be used to initialize the JDBC Connection String of the datasource.
JDBC Driver Class	None	No	If the Datasource Type is "other," then this value will be used to initialize the JDBC Driver Class of the Datasource.
WLS Install Home	None	Yes	Fully qualified path to the Middleware Home directory that will contain this installation. For instance /opt/oracle/WebLogic/wlserver_12.1.
XA Datasource	False	Yes	"True" refers that the current datasource is of type XA which supports two phase commit. "False" refers to Non-Xa with single phase commit.
Clean Up On Failure	True	Yes	Specifies if the datasource is to be removed upon failure.
Cluster List	None	No	Comma separated list of cluster names on which datasource will be be deployed. If Server_list is empty as well, then the datasource will be created and deployed on all managed servers.
Current Target Only	False	No	If True , datasource will be created and deployed only on the current target on which this code is running. Else, it will be False.
Server List	None	No	Comma separated list of servers names on which the datasource will be be deployed. If Cluster_list is empty as well, then the datasource will be created and deployed on all managed servers.

WebLogic - Patch WebLogic Domain v3

This workflow applies one or more patches to the specified WebLogic 11g or 12c domain. It also supports patching the Java that is used by WebLogic domains.

The workflow uses the Oracle Smart Update (*bsu*) or *OPatch* utility to apply the patches. This workflow uses *WLST* to connect to admin server to stop the Managed Servers and the Admin Server.

Oracle releases WebLogic 11g and 12c patches approximately every five months. The patches can be applied to minor releases or major releases. You must identify which patches are necessary for your domain.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and a high-level process flow
"How to Run this Workflow"	Instructions for running this workflow in your environment
"Sample Scenario"	Examples of typical parameter values for this workflow
"Parameters for WebLogic - Patch WebLogic Domain V3" on page 147	List of input parameters for this workflow

Note: The documentation for this workflow contains steps that are referred to by their base names. The names in the DMA user interface may have a version appended, for example, v2.

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the "[WebLogic - Patch WebLogic Domain v3](#)" workflow:

- The latest DMA solution packs require the latest DMA platform. To use the latest solution packs, update the DMA platform. DMA10.60.000.000 solution packs are supported on DMA10.60.000.000 (and later).
- You have installed the Application Server Patching Solution Pack.
- You have provisioned a WebLogic 11g and 12c domain. You can do this by running workflows found in the DMA Application Server Provisioning Solution Pack:
 - Provision Weblogic Software
 - Provision Weblogic Domain and Administration Server
 - Provision Weblogic Managed Servers
 - *Optional:* Provision Weblogic Cluster
 - *Optional:* Increase WebLogic Domain Span
- *Optional:* You have started the following WebLogic 11g and 12c components:
 - Managed Server
 - Administration Server
 - Managed Nodes
- You have an Oracle support contract that enables you to access the appropriate patch ZIP files.
- You have run the WebLogic Discovery workflow and made sure that all metadata is up to date.
- You have verified that the patches to be installed are appropriate for your version of WebLogic 11g or 12c.
- You have added a link to the Java folder and added the link in the **setDomain.sh** file.

For more information about prerequisites for WebLogic 11g and 12c patching, refer to the [WebLogic Product Documentation](#).

How this Workflow Works

The following information describes how the "[WebLogic - Patch WebLogic Domain v3](#)" workflow works:

Overview show

The WebLogic - Patch WebLogic Domain workflow first prepares to apply the patch. It determines what user owns the WebLogic 11g or 12c installation. It creates the commands that will be used to execute subsequent steps, gathers and validates the necessary input parameters, and creates additional utility parameters.

The workflow then makes sure that all necessary files exist, have valid specifications, and are in the expected locations. It downloads any required files from the software repository and extracts the contents of the archive files. It collects the patch identifiers from the patch files.

The workflow then prepares the environment. It analyzes the WebLogic domain environment using the DMA REST API to read the metadata for each target. Just before applying the patches, the workflow shuts down or stops the following servers and processes if they are running: the Managed Server (or servers), the Node Manager, and the Administration Server. A server is stopped only if it is local and remote servers of a weblogic domain will not be stopped

Next, the workflow applies the patches. To do this, it utilizes the Oracle Smart Update (*bsu*) command line utility to apply each of the patches to the specified WebLogic domain. On the Console page, the workflow reports whether each patch succeeded or failed. It collects the patch identifiers of the patches that were successfully installed. Then it updates the WebLogic domain environment using the DMA REST API with the newly retrieved patch identifier metadata.

The workflow ends cleanly. It returns all WebLogic 11g or 12c components to the state they were in when the workflow started. If required, it restarts the WebLogic 11g and 12c Administration Server and the Node Manager, and then starts the WebLogic 11g and 12c Managed Server (or servers).

This workflow also supports patching the Java that is used by WebLogic domains. A symbolic link to the Java parent directory must be provided and specified in the `setDomain.sh` file. The Java binaries will be extracted in this folder.

Validation Checks Performed show

This workflow performs the following validation checks on the input parameters:

Parameter	Validation Checks
BEA Home	The fully qualified paths to the directory must exist.
Patch File List	Checks whether the patch ZIP files exist. If they do not exist, they will be downloaded from the software repository. Multiple files must be separated by commas. Any white space is ignored.
WLS Install Home	The fully qualified path to the directory must exist.

Steps Executed show

The WebLogic - Patch WebLogic Domain V3 workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.

Workflow Steps show

Steps Used in WebLogic - Patch WebLogic Domain

Workflow Step	Description
Gather Parameters for WebLogic Patch WebLogic Domain V2	This Step Gathers the minimum required parameter values for Patching a WebLogic Server Installation.
Gather Advanced Parameters for WebLogic Patch WebLogic Domain V3	This Step Gathers the Advanced parameter values for Patching a WebLogic Server Installation.
WebLogic Patching Parameter Validation V4	This step gathers and validates the parameters required to apply patches to a WebLogic 11g or 12c domain.
Check File Download	This step checks for the existence of a file on the target server before downloading that file from the software repository. For each file in the list, this step does the following things: <ol style="list-style-type: none"> 1. Determines whether the file is in the expected location on the target machine. 2. If the file is not in the expected location, adds that file to a list of files that need to be downloaded.
Download Software	This step automates the transfer of files from the HP SA Software Library to individual managed servers for use in downstream workflow steps. Verifies checksum of each file transferred.
WebLogic Extract Patch Files	This step first checks to ensure that the archive file exists. Then, it extracts the archive to the specified directory. Then, it copies the JAR files and XML files to the following directory: <code>{bea_home}/utils/bsu/cache_dir/{patch_id}</code>
Cleanup Downloaded Files v2	This step removes all downloaded files and archives.
Gather WebLogic Environment Data V4	This step makes calls via the DMA REST API to obtain structural information about the WebLogic domain.
WebLogic - Stop Servers	This step stops the all the Server associated with a WebLogic Server Installation.
WebLogic Shutdown NodeManager V3	This step stops the Node Manager on the target server if it is running.
WebLogic Verify All Java Processes Stopped	This step validates that all Java processes on a given machine have been stopped.
WebLogic Extract Java Binary Files	This step extracts the Java JDK or JRE file into the Java home of the Weblogic installation.

Steps Used in WebLogic - Patch WebLogic Domain, continued

Workflow Step	Description
Restart WebLogic Admin Server V3	This step starts the Admin Server on a given machine or server.
WebLogic Patch Server V3	This step utilizes the Oracle Smart Update (<i>bsu</i>) command line utility to apply the patches to the specified WebLogic domain.
Restart WebLogic Node Manager V2	This step starts the WebLogic Node Manager on a given machine or server.
Update WebLogic Environment Data V3	This step makes calls via the DMA REST API to get metadata to update the patch names that have been updated.
Restart WebLogic Admin Server V3	This step starts the Admin Server on a give machine or server.
WebLogic Start Managed Server V3	This Steps starts the Managed Servers that were stopped before applying patches, using WLST or StartScripts.
Restart WebLogic Node Manager V2	This step starts the node manager on a given machine or server.
WebLogic Restore Java Binary Files	This step restores the Java Home of the WebLogic installation if the Java patching fails.
Cleanup Downloaded Files v2	This step removes all downloaded files and archives.
WebLogic Start Managed Server V3	This step starts the Managed Servers that were stopped before applying patches, using WLST or StartScripts.
Restart WebLogic Admin Server V3	This step starts the Admin Server on a give machine or server.
Cleanup Downloaded Files v2	This step removes all downloaded files and archives.

For parameter descriptions and defaults, see ["Parameters for WebLogic - Patch WebLogic Domain V3"](#) on page 147.

How to Run this Workflow

The following instructions show you how to customize and run the ["WebLogic - Patch WebLogic Domain v3"](#) workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. Any parameters not explicitly specified in the deployment will have the default values listed in ["Parameters for WebLogic - Patch WebLogic Domain V3"](#) on page 147.

Note: Before following this procedure, review the ["Prerequisites for this Workflow"](#) on page 137, and ensure that all requirements are satisfied.

To use the WebLogic - Patch WebLogic Domain V3 workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters:

Input Parameters for Gather Parameters for WebLogic Patch WebLogic Domain V2

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the product installation directory where the WebLogic 11g or 12c server is installed. For example: /opt/oracle/WebLogic
Patch File List	no default	required	Required: Comma separated list of patches to install.
WLS Install Home	no default	required	Fully qualified path to the home directory that contains the WebLogic 11g or 12c installation . For example: /opt/oracle/WebLogic/wlserver_10.3
WebLogic Staging Location	no default	required	The location where the patch files will be downloaded and extracted, if not found.

Input Parameters for Gather Advanced Parameters for WebLogic Patch WebLogic Domain V3

Parameter Name	Default Value	Required	Description
Call Wrapper	no default	required	The call wrapper for the step. For example, /usr/bin/java
Cleanuup	no default	optional	Specifies if the patch files should be removed after the patch workflow ends.

Input Parameters for Gather Advanced Parameters for WebLogic Patch WebLogic Domain V3, continued

Parameter Name	Default Value	Required	Description
Java JDK File	no default	optional	Name of the Java JDK File, which will be downloaded to the WebLogic Staging Location.
Java JRE File	no default	optional	Name of the Java JRE File, which will be downloaded to the WebLogic Staging Location.
WebLogic User Config File	no default	optional	Used to connect to a WebLogic domain using WLST. If specified, the file path has to be relative to a WebLogic domain path, for example, /connect/userconfigFile. This path will be expanded as /opt/oracle/weblogic/user_projects/domain_temp/connect/userConfigFile and the same value will be used in WLST Connect in multi-domain environment.
WebLogic User Id	no default	optional	WebLogic Admin username for a WebLogic domain. This parameter will be used to connect to WebLogic domain using WLST. The same value will be used in WLST Connect in multi-domain environment.
WebLogic User Password	no default	optional	WebLogic Admin Password for a WebLogic domain. This parameter will be used to connect to WebLogic domain using WLST. The same value will be used in WLST Connect in multi-domain environment.
WebLogic User Key File	no default	optional	Used to connect to a webLogic domain using WLST. If specified, the file path has to be relative to a WebLogic domain path, for example, /connect/userKeyFile. This path will be expanded as /opt/oracle/weblogic/user_projects/domain_temp/connect/userKeyFile and the same value will be used in WLST Connect in multi-domain environment.

Tip: To avoid having to re-enter passwords whenever they change, you can create a policy to provide them to the workflow.

3. Save the changes to the workflow (click **Save** in the lower right corner).
4. Create a new deployment.
5. On the Parameters tab, specify values for the required parameters listed in step 2. You do not need to specify values for those parameters whose default values are appropriate for your environment.
6. On the Targets tab, specify one or more targets for this deployment.

Note: Specify all the targets associated with your WebLogic 11g or 12c domain. The first target specified must be the Administration Server.

7. Save the deployment (click **Save** in the lower right corner).
8. Run the workflow using this deployment.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state.

See the Console page output for error messages that indicate whether problems occurred during the application of the patches. Specifically, look at the WebLogic Patch Server step to see the results of applying each individual patch.

Sample Scenario

It is very straightforward to run the WebLogic - Patch WebLogic Domain workflow. This topic shows you typical parameter values to use.

Input Parameters for Gather Parameters for WebLogic Patch WebLogic Domain V2

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the product installation directory where the WebLogic 11g or 12c server is installed. For example: <code>/opt/oracle/WebLogic</code>
Patch File List	no default	required	Required: Comma separated list of patches to install.
WLS Install Home	no default	required	Fully qualified path to the home directory that contains the WebLogic 11g or 12c installation . For example: <code>/opt/oracle/WebLogic/wlserver_10.3</code>
WebLogic Staging Location	no default	required	The location where the patch files will be downloaded and extracted, if not found.

Input Parameters for Gather Advanced Parameters for WebLogic Patch WebLogic Domain V3

Parameter Name	Default Value	Required	Description
Call Wrapper	no default	required	The call wrapper for the step. For example, <code>/usr/bin/java</code>
Cleanup	no default	optional	Specifies if the patch files should be removed after the patch workflow ends.
Java JDK File	no default	optional	Name of the Java JDK File, which will be downloaded to the WebLogic Staging Location.
Java JRE File	no default	optional	Name of the Java JRE File, which will be downloaded to the WebLogic Staging Location.
WebLogic User Config File	no default	optional	Used to connect to a WebLogic domain using WLST. If specified, the file path has to be relative to a WebLogic domain path, for example, <code>/connect/userconfigFile</code> . This path will be expanded as <code>/opt/oracle/weblogic/user_projects/domain_temp/connect/userconfigFile</code> and the same value will be used in WLST Connect in multi-domain environment.
WebLogic User Id	no default	optional	WebLogic Admin username for a WebLogic domain. This parameter will be used to connect to WebLogic domain using

Input Parameters for Gather Advanced Parameters for WebLogic Patch WebLogic Domain V3, continued

Parameter Name	Default Value	Required	Description
			WLST. The same value will be used in WLST Connect in multi-domain environment.
WebLogic User Password	no default	optional	WebLogic Admin Password for a WebLogic domain. This parameter will be used to connect to WebLogic domain using WLST. The same value will be used in WLST Connect in multi-domain environment.
WebLogic User Key File	no default	optional	Used to connect to a webLogic domain using WLST. If specified, the file path has to be relative to a WebLogic domain path, for example, /connect/userKeyFile. This path will be expanded as /opt/oracle/weblogic/user_projects/domain_temp/connect/userKeyFile and the same value will be used in WLST Connect in multi-domain environment.

Parameters for WebLogic - Patch WebLogic Domain V3

The following tables describe the required and optional input parameters for this workflow.

Parameters defined in this step: Gather Parameters for WebLogic Patch WebLogic Domain V2

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the product installation directory where the WebLogic 11g or 12c server is installed. For example: <code>/opt/oracle/WebLogic</code>
Patch File List	no default	required	Required: Comma separated list of patches to install.
WLS Install Home	no default	required	Fully qualified path to the home directory that contains the WebLogic 11g or 12c installation . For example: <code>/opt/oracle/WebLogic/wlserver_10.3</code>
WebLogic Staging Location	no default	required	The location where the patch files will be downloaded and extracted, if not found.

Parameters defined in this step: Gather Advanced Parameters for WebLogic Patch WebLogic Domain V3

Parameter Name	Default Value	Required	Description
Call Wrapper	no default	required	The call wrapper for the step. For example, <code>/usr/bin/java</code>
Cleanup	no default	optional	Specifies if the patch files should be removed after the patch workflow ends.
Java JDK File	no default	optional	Name of the Java JDK File, which will be downloaded to the WebLogic Staging Location.
Java JRE File	no default	optional	Name of the Java JRE File, which will be downloaded to the WebLogic Staging Location.
WebLogic User Config File	no default	optional	Used to connect to a WebLogic domain using WLST. If specified, the file path has to be relative to a WebLogic domain path, for example, <code>/connect/userconfigFile</code> . This path will be expanded as <code>/opt/oracle/weblogic/user_projects/domain_temp/connect/userConfigFile</code> and the same value will be used in WLST Connect in multi-domain environment.
WebLogic User Id	no default	optional	WebLogic Admin username for a WebLogic domain. This parameter will be used to connect to WebLogic domain using

Parameters defined in this step: Gather Advanced Parameters for WebLogic Patch WebLogic Domain V3, continued

Parameter Name	Default Value	Required	Description
			WLST. The same value will be used in WLST Connect in multi-domain environment.
WebLogic User Password	no default	optional	WebLogic Admin Password for a WebLogic domain. This parameter will be used to connect to WebLogic domain using WLST. The same value will be used in WLST Connect in multi-domain environment.
WebLogic User Key File	no default	optional	Used to connect to a webLogic domain using WLST. If specified, the file path has to be relative to a WebLogic domain path, for example, /connect/userKeyFile. This path will be expanded as /opt/oracle/weblogic/user_projects/domain_temp/connect/userKeyFile and the same value will be used in WLST Connect in multi-domain environment.

WebLogic - Rollback Patch

This workflow removes patch from the specified WebLogic domain.

The workflow uses the Oracle Smart Update (bsu) or OPatch utility to remove the patches.

To use this workflow in your environment, see the following information:

Topic	Information Included
"Prerequisites for this Workflow"	List of prerequisites that must be satisfied before you can run this workflow
"How this Workflow Works"	Information about what the workflow does, including validation checks performed, steps executed, and a high-level process flow
"How to Run this Workflow"	Instructions for running this workflow in your environment
"Sample Scenario"	Examples of typical parameter values for this workflow
Parameters	List of input parameters for this workflow

Note: The documentation for this workflow contains steps that are referred to by their base names. The names in the HPE DMA user interface may have a version appended, for example, v2.

Prerequisites for this Workflow

Be sure that the following prerequisites are satisfied before you run the WebLogic - Rollback Patch workflow:

- This solution requires DMA version 10.40 (or later).
The latest DMA solution packs require the latest DMA platform. To use the latest solution packs, update the DMA platform. DMA 10.40 solution packs are supported on DMA 10.40 (and later).
- You have installed the DMA Application Server Patching Solution Pack.
- You have provisioned a WebLogic domain. You can do this by running workflows found in the DMA Application Server Provisioning Solution Pack:
 - Provision Weblogic Software
 - Provision Weblogic Domain and Administration Server
 - Provision Weblogic Managed Servers
 - *Optional:* Provision Weblogic Cluster
 - *Optional:* Increase WebLogic Domain Span
- *Optional:* You have started the following WebLogic components:
 - Managed Server
 - Administration Server
 - Managed Nodes
- You have an Oracle support contract that enables you to access the appropriate patch ZIP files.
- You have run the WebLogic Discovery workflow and made sure that all metadata is up to date.
- You have verified that the patches to be installed are appropriate for your version of WebLogic.

For more information about prerequisites for WebLogic patching, refer to the [WebLogic Product Documentation](#).

How this Workflow Works

The following information describes how the WebLogic - Rollback Patch workflow works:

Overview show

The WebLogic - Rollback Patch workflow first prepares to rollback the patch. It determines what user owns the WebLogic installation. It creates the commands that will be used to execute subsequent steps, gathers and validates the necessary input parameters, and creates additional utility parameters.

The workflow then makes sure that all necessary files exist, have valid specifications, and are in the expected locations. It downloads any required files from the software repository and extracts the contents of the archive files.

The workflow then prepares the environment. It analyzes the WebLogic domain environment using the DMA REST API to read the metadata for each target. Just before removing the patches, the workflow shuts down or stops the following servers and processes if they are running: the Managed Server (or servers), the Node Manager, and the Administration Server.

Next, the workflow removes the patches. On the console page, the workflow reports whether rollback of patch succeeded or failed.

The workflow ends cleanly. It returns all WebLogic components to the state they were in when the workflow started. If required, it restarts the WebLogic Administration Server and the Node Manager, and then starts the WebLogic Managed Server (or servers).

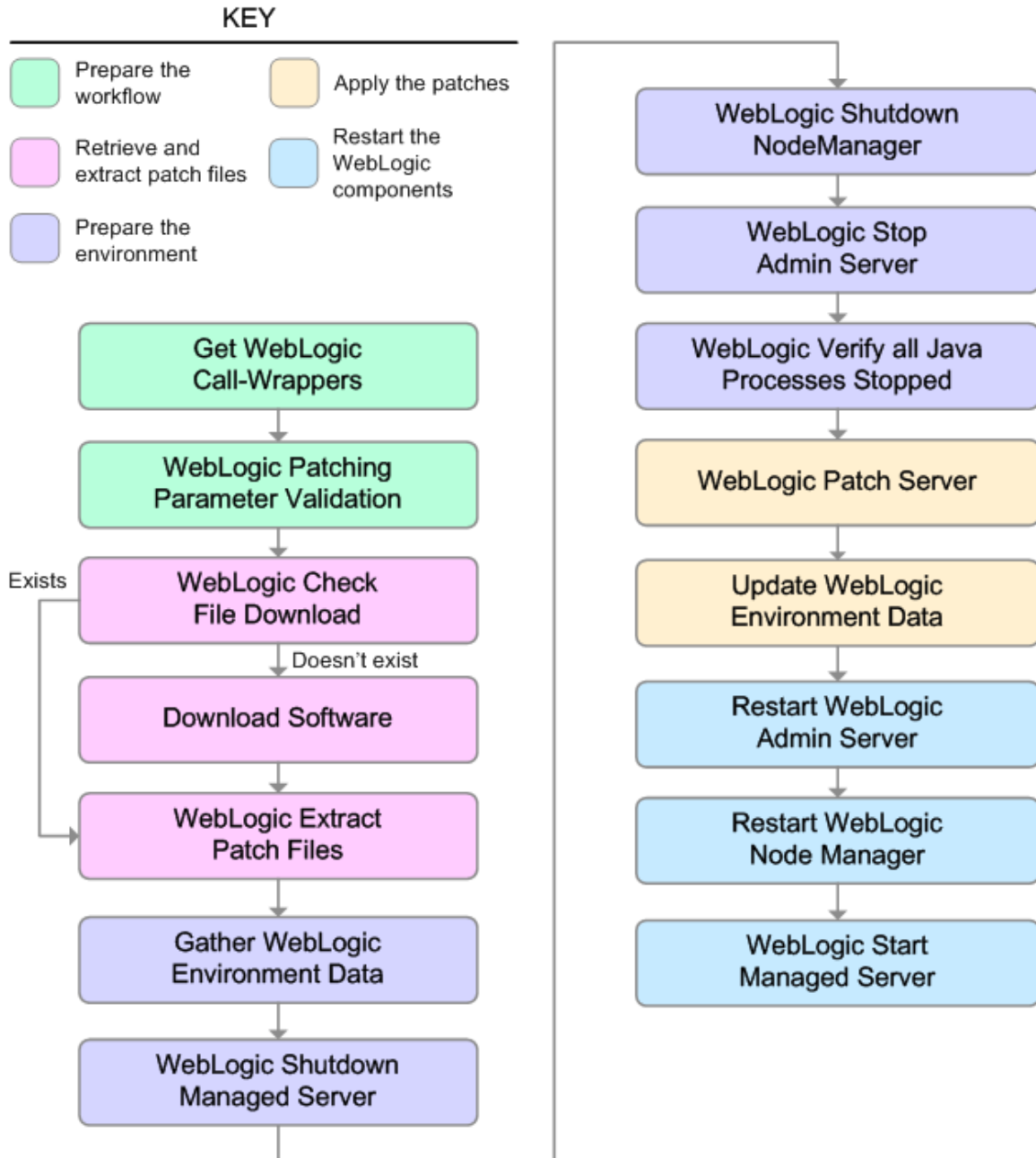
Validation Checks Performed show

This workflow performs the following validation checks on the input parameters:

Parameter	Validation Checks
BEA Home WLS Install Home	The fully qualified paths to the directories must exist.
Patch Rollback List	The patch workflow checks if this patch ID is applied to the given WLS home installation. If False, then the workflow will fail.
WebLogic User Config File / Weblogic User Key File	The pair must exist (although optional , these values must exist as a pair).
WebLogic User Id WebLogic User Password	The pair must exist (although optional , these values must exist as a pair).

Steps Executed show

The WebLogic - Rollback Patch WebLogic Domain workflow includes the following steps. Each step must complete successfully before the next step can start. If a step fails, the workflow reports a failure and all subsequent steps are skipped.



Workflow Steps show

Steps Used in WebLogic - Patch WebLogic Domain

Workflow Step	Description
Gather Parameters for WebLogic Rollback Patch	This step determines what user owns the installation and creates the commands that will be used by the workflow to run subsequent steps. It also sets up some parameters that are used to specify an empty string, a True value, and a False value for input parameters of subsequent steps.
Gather Advanced Parameters for WebLogic Rollback Patch	This step gathers the advanced parameter values for patching a WebLogic server installation.
WebLogic Patching Parameter Validation	This step prepares the parameters needed to apply patches to a WebLogic domain.
Gather WebLogic Environment Data v3	This step makes calls via the DMA REST API to obtain structural information about the WebLogic domain.
WebLogic: Stop Servers	This step stops the all the servers associated with a WebLogic server installation. Stops the managed servers that are local to the machine using WebLogic Scripting Tool (WLST) by connecting to the admin server. Stops the admin server if the admin server is local to the machine.
WebLogic Shutdown NodeManager V3	This step stops the Node Manager on a given machine or server.
WebLogic Verify All Java Processes Stopped	This step validates that all running Java processes on the target server that are associated with the WebLogic server have been stopped.
WebLogic Rollback Patch	This step utilizes the BEA Smart Update (bsu) command line utility or OPatch utility to remove the patches from a given WebLogic domain.
Restart WebLogic Admin Server V3	This step starts the WebLogic Administration Server on a give machine or server.
Update WebLogic Environment Data V3	This step makes calls via the DMA REST API to get metadata to update the patches names that have been updated.
Restart WebLogic Admin Server V3	This step starts the WebLogic Administration Server on a give machine or server.
Restart	This step starts the WebLogic Node Manager on a given machine or server.

Steps Used in WebLogic - Patch WebLogic Domain, continued

Workflow Step	Description
WebLogic Node Manager V2	
WebLogic Start Managed Server V3	This step starts the managed servers that were stopped before applying patches. Starts the managed servers using WLST or StartScripts.

For parameter descriptions and defaults, see ["Parameters for WebLogic - Rollback Patch"](#).

How to Run this Workflow

The following instructions show you how to customize and run the WebLogic - Rollback Patch workflow in your environment.

The workflow provides default values for some parameters. These default values are usually sufficient for a "typical" installation. You can override the defaults by specifying parameter values in the deployment. Any parameters not explicitly specified in the deployment will have the default values listed in "[Parameters for WebLogic - Rollback Patch](#)".

Note: Before following this procedure, review the "[Prerequisites for this Workflow](#)" on page 150, and ensure that all requirements are satisfied.

To use the WebLogic - Patch WebLogic Domain workflow:

1. Create a deployable copy of the workflow.
2. Determine the values that you will specify for the following parameters:

Input Parameters for Gather Parameters for WebLogic Patch WebLogic Domain V2

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the product installation directory where the WebLogic server is installed. For example: <code>/opt/oracle/WebLogic</code>
Patch File List	no default	required	Comma separated list of patches to install. For example: <code>/opt/wlpatch/p14154043_1035_Generic.zip</code>
WLS Install Home	no default	required	Fully qualified path to the home directory that contains the WebLogic installation . For example: <code>/opt/oracle/WebLogic/wlserver_10.3</code>
WebLogic Staging Location	no default	required	This is the location where the patch files will be downloaded if not found and extracted

Input Parameters for Gather Advanced Parameters for WebLogic Patch WebLogic Domain V2

Parameter Name	Default Value	Required	Description
Call Wrapper	no default	required	Fully qualified path to the product installation directory where the WebLogic server is installed. For example: <code>/opt/oracle/WebLogic</code>

Input Parameters for Gather Advanced Parameters for WebLogic Patch WebLogic Domain V2, continued

Parameter Name	Default Value	Required	Description
Cleanup	no default	optional	Specifies if the patch files should be removed after the patch workflow ends.
WebLogic User Config File	no default	optional	This parameter will be used to connect to a webLogic domain using WLST. If Specified, the file path has to be relative to a WebLogic domain path. For example: /connect/userconfigFile will be expanded as /opt/oracle/weblogic/user_projects/domain_temp/connect/userConfigFile The same value will be used in WLST Connect in multi domain environment.
WebLogic User Id	no default	optional	The WebLogic admin username for the a WebLogic domain. This parameter will be used to connect to WebLogic domain using WLST. The same value will be used in WLST Connect in multi-domain environment.
WebLogic User Password	no default	optional	The WebLogic admin password for the a WebLogic domain. This parameter will be used to connect to WebLogic domain using WLST. The same value will be used in WLST Connect in multi-domain environment.
Weblogic User Key File	no default	optional	This parameter will be used to connect to a WebLogic domain using WLST. If specified, the file path has to be relative to a WebLogic domain path. For example: /connect/userKeyFile will be expanded as /opt/oracle/weblogic/user_projects/domain_temp/connect/userKeyFile The same value will be used in WLST Connect in multi-domain environment.

Tip: To avoid having to re-enter passwords whenever they change, you can create a policy to provide them to the workflow.

Note: This is the minimum set of parameters required to run this workflow. You may need to expose additional parameters depending on your patching objectives.

See "[Parameters for WebLogic - Rollback Patch](#)" for detailed descriptions of all input parameters for this workflow, including default values.

3. In the workflow editor, expose any additional parameters that you need. You will specify values for those parameters when you create the deployment.

4. Save the changes to the workflow (click **Save** in the lower right corner).
5. Create a new deployment.
6. On the Parameters tab, specify values for the required parameters listed in step 2. You do not need to specify values for those parameters whose default values are appropriate for your environment.
7. On the Targets tab, specify one or more targets for this deployment.

Note: Specify all the targets associated with your WebLogic domain. The first target specified must be the Administration Server.

8. Save the deployment (click **Save** in the lower right corner).
9. Run the workflow using this deployment.

To verify the results:

The workflow will complete and report SUCCESS on the Console if it has run successfully. If an error occurs during workflow execution, the error is logged, and the workflow terminates in the FAILURE state.

See the Console page output for error messages that indicate whether problems occurred during the application of the patches. Specifically, look at the WebLogic Patch Server step to see the results of applying each individual patch.

Sample Scenario

It is very straightforward to run the WebLogic - Patch WebLogic Domain workflow. This topic shows you typical parameter values to use.

Input Parameters for Gather Parameters for WebLogic Rollback Patch

Parameter Name	Example Value	Description
BEA Home	see description	Fully qualified path to the product installation directory where the WebLogic server is installed. For example: <code>/opt/oracle/WebLogic</code>
Patch Rollback List	see description	Comma separated list of patches to be removed . For example: <code>UH52,8PE3</code>
WLS Install Home	see description	Fully qualified path to the home directory that contains the WebLogic installation . For example: <code>/opt/oracle/WebLogic/wlserver_10.3</code>
WebLogic Staging Location	see description	This is the location where the patch files will be downloaded if not found and extracted

Input Parameters for Gather Advanced Parameters for WebLogic Rollback Patch

Parameter Name	Example Value	Description
Call Wrapper	see description	Fully qualified path to the product installation directory where the WebLogic server is installed. For example: <code>/opt/oracle/WebLogic</code>
Cleanup	see description	Specifies if the patch files should be removed after the patch workflow ends.
WebLogic User Config File	see description	This parameter will be used to connect to a webLogic domain using WLST. If Specified, the file path has to be relative to a WebLogic domain path. For example: <code>/connect/userconfigFile</code> will be expanded as <code>/opt/oracle/weblogic/user_projects/domain_temp/connect/userConfigFile</code> The same value will be used in WLST Connect in multi domain environment.
WebLogic User Id	see description	The WebLogic admin username for the a WebLogic domain. This parameter will be used to connect to WebLogic domain using WLST. The same value will be used in WLST Connect in multi-domain environment.
WebLogic User Password	see description	The WebLogic admin password for the a WebLogic domain. This parameter will be used to connect to WebLogic domain using WLST. The same value will be used in WLST Connect in multi-domain environment.

Input Parameters for Gather Advanced Parameters for WebLogic Rollback Patch, continued

Parameter Name	Example Value	Description
Weblogic User Key File	see description	<p>This parameter will be used to connect to a WebLogic domain using WLST. If specified, the file path has to be relative to a WebLogic domain path. For example:</p> <pre data-bbox="542 443 1214 527">/connect/userKeyFile will be expanded as /opt/oracle/weblogic/user_projects/domain_ temp/connect/userKeyFile</pre> <p>The same value will be used in WLST Connect in multi-domain environment.</p>

Parameters for WebLogic - Rollback Patch

The following tables describe the required and optional input parameters for this workflow.

Parameters Defined in this Step: Gather Parameters for WebLogic Rollback Patch

Parameter Name	Default Value	Required	Description
BEA Home	no default	required	Fully qualified path to the product installation directory where the WebLogic server is installed. For example: /opt/oracle/WebLogic
Patch Rollback List	no default	required	Comma separated list of patches to be removed . For example: UH52,8PE3
WLS Install Home	no default	required	Fully qualified path to the home directory that contains the WebLogic installation . For example: /opt/oracle/WebLogic/wlserver_10.3
WebLogic Staging Location	no default	required	This is the location where the patch files will be downloaded if not found and extracted

Additional Parameters Defined in this Step: Gather Advanced Parameters for WebLogic Rollback Patch

Parameter Name	Default Value	Required	Description
Call Wrapper	no default	required	Fully qualified path to the product installation directory where the WebLogic server is installed. For example: /opt/oracle/WebLogic
Cleanup	no default	optional	Specifies if the patch files should be removed after the patch workflow ends.
WebLogic User Config File	no default	optional	This parameter will be used to connect to a webLogic domain using WLST. If Specified, the file path has to be relative to a WebLogic domain path. For example: /connect/userconfigFile will be expanded as /opt/oracle/weblogic/user_projects/domain_temp/connect/userConfigFile The same value will be used in WLST Connect in multi domain environment.
WebLogic User Id	no default	optional	The WebLogic admin username for the a WebLogic domain. This parameter will be used to connect to WebLogic domain using WLST. The same value will be used in WLST Connect in multi-domain environment.
WebLogic User Password	no default	optional	The WebLogic admin password for the a WebLogic domain. This parameter will be used to connect to WebLogic domain using WLST. The same value will be used in WLST Connect in multi-domain

Additional Parameters Defined in this Step: Gather Advanced Parameters for WebLogic Roll-back Patch, continued

Parameter Name	Default Value	Required	Description
			environment.
Weblogic User Key File	no default	optional	<p>This parameter will be used to connect to a WebLogic domain using WLST. If specified, the file path has to be relative to a WebLogic domain path. For example:</p> <p><code>/connect/userKeyFile</code> will be expanded as <code>/opt/oracle/weblogic/user_projects/domain_temp/connect/userKeyFile</code></p> <p>The same value will be used in WLST Connect in multi-domain environment.</p>

Send documentation feedback

If you have comments about this document, you can [contact the documentation team](#) by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

Feedback on Workflows for Oracle WebLogic (Database and Middleware Automation 10.60.000.000)

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to hpe_dma_docs@hpe.com.

We appreciate your feedback!