Chapter 1

Installing Oracle Weblogic Server

In this chapter we will move our first steps with Oracle Weblogic Server by learning how to install it using the guided wizard installation or the compacted zip distribution. Once completed the installation, we will create our first Weblogic domain which will be used in the next chapters to deliver Java EE application and services.

Getting Oracle Weblogic Server

Oracle Weblogic products are available at <u>http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html</u>

From the download area, you can access to the Oracle Fusion Middleware software.



These distributions are intended to use **for development only**. If you are a licensed customer you can obtain Oracle Weblogic server at Oracle Software Delivery cloud at (<u>https://edelivery.oracle.com/</u>).

As you can see from the Oracle network site, there are basically three types of distributions of Oracle WLS:

- **Full Installer 32 bit:** this distribution is platform specific and includes Oracle WLS, Oracle Coherence and Oracle Enterprise Pack for Eclipse. It is meant for installation with a 32bit JVM only.
- Generic: this distribution is platform independent and can be used to install Oracle WLS on any supported 32bit or 64bit platform. It ships as a generic archive and includes Oracle WLS and Oracle Coherence.
- **Zip distribution:** this distribution is also platform independent and contains barely Oracle WLS to be extracted from a compressed archive.

And here's a snapshot from Oracle portal where you are going to download Oracle WLS:

The dowr	loads below are provided for evaluators under the OTN Free Developer
License /	greement. Licensed customers should download their software via our Oracle
Software	Delivery Cloud site, which offers different license terms.
0 /	ccept License Agreement 💿 Decline License Agreement
Free (Pracle WebLogic Server 12c (12.1.2)
Free C	Pracle WebLogic Server 12c (12.1.2)
Zip Dist	ribution and Installers for Developers

You need at first to accept the license agreement in order to proceed. Next, you will be prompted to enter Oracle Single Sign-on user name and password (former registration required). Once done with login, download will start.

Installing Oracle WLS using the Platform Installer

The simplest way to install the whole platform bundle is the Full Installer which can be carried out with a simple and intuitive wizard. Once downloaded the installer execute (Windows):

```
oepe-12.1.2.1-kepler-installer-win32.exe
```

On Linux:

```
chmod a+x oepe-12.1.2.1-kepler-installer-linux-gtk.bin
./oepe-12.1.2.1-kepler-installer-linux-gtk.bin
```

The install wizard will start and you will be asked to complete the following steps:

1. Choose Middleware Home Directory

You need at first to specify the **Middleware Home** directory that will serve as the central support directory for all Fusion Middleware products installed on the target system, including WebLogic Server.

If you already have a Middleware Home directory on your system, it is recommended that you select the "**Use an existing Middleware Home**" and then browse that directory. Otherwise, simply

select the '	'Create a new	Middleware	Home" and	enter its name	as shown h	w the following r	victure
Select the	cicute a new	minuale wale	iiome und	cinci no nume	us 5110 will b	y the following p	neture.

Oracle Installer - WebLogic 12.1.1.0			
Choose Middleware Home Directory Specify the Middleware Home where you wish to install WebLogic 12.1.1.0.	ORACLE		
Middleware Home Type O Use an existing Middleware Home O Create a new Middleware Home Middleware Home Directory			
C:\Oracle\Middleware Browse Reset			
Exit	Previous Next		

Click Next to continue.

2. Register for Security Updates

Specify whether you want to register the product installation with My Oracle Support. By registering, Oracle Support notifies you immediately of any security updates that are specific to your installation.

1	🚽 Oracle Installer - WebLogic 12.1.1.0	
	Register for Security Updates Provide your email address for security updates and to initiate configuration manager.	ORACLE [,]
	Email: Use My Oracle Support email address/username I wish to receive security updates via My Oracle Support Support Password:]
	E <u>x</u> it	Previous <u>N</u> ext

Click Next to continue.

3. Installing Oracle WLS

Now the server installation will start. There are two types of installation you can perform:

- **Typical:** All the software components included in your distribution are installed on your system. Typical installation does not include the Server Examples.
- Custom: You select the software components to be installed. On Windows systems, you also
 have the option to install Oracle WebLogic Server Node Manager as a Windows service. If
 you want to install the Server Examples, you must select this option.

Cal Oracle Installer - WebLogic 12.1.1.0		
Choose Install Type Select the type of installation you wish to perform.	ORACLE	
○ Typical		
 Install the following product(s) and component(s): WebLogic Server Oracle Coherence 		
Choose software products and components to install an configuration.	d perform optional	
Exit	Previous Next	

Click Next to continue.

4. Choose products and Components

This screen displays a tree view of all the components available for installation. Specify the components to be installed by selecting or clearing the appropriate check boxes.

Oracle Installer - WebLogic 12.1.1.0		×
Choose Products and Components Grayed selections are already installed. Double-click headings to reveal or collapse selections.	ORACLE	•
WebLogic Server Core Application Server Administration Console Configuration Wizard and Upgrade Framewerl Web 2.0 HTTP Pub-Sub Server WebLogic SCA WebLogic JDBC Drivers	 Description Click on a product or component to display a description. 	
 Third Party JDBC Drivers WebLogic Server Clients Xquery Support Server Examples Evaluation Database Oracle Coherence Coherence Product Files 	Approximate Installed Size* Highlighted item: Common artifacts: 30,5 ME Total of all selected items: 999,3 ME * Installer requires free disk space approximately 2x this total	3 3
E <u>x</u> it	Previous <u>N</u> ext	

The suggested product installation requires that you install at least the Core Application Server, the Administration Console and Weblogic JDBC Drivers. Click Next to continue.

5. JDK Selection

This screen displays a list of JDKs. Select the JDK that you want to install with the product. You can also browse and select a local JDK (at least 1.6.0_05) installed on your machine.

Oracle Installer - WebLogic 12.1.1.0	
JDK Selection JDK(s) chosen will be installed. Defaults will be used in script string-substitution if installed.	ORACLE'
Bundled JDK:	Approximate installed size*
SUN SDK 1.6.0_29	Highlighted item:
	All selected bundled JDK's: 440,1 MB
	Total of all selected items: 1.439,4 MB
	*Installer requires free disk space approximately 2x this total
Local JDK:	
Browse	
Exit	Previous Next

Click Next to continue.

6. Choose product installation directories

Specify the directories in which you want to install the products (WebLogic Server and Coherence, if applicable).

Oracle Installer - WebLogic 12.1.1.0	- • ×					
Choose Product Installation Directories Provide the directories where you wish to install WebLogic 12.1.1.0.	RACLE.					
Middleware Home Directory						
C:\Oracle\Middleware						
Product Installation Directories						
The Product Home might contain shared utilities and any products or components for which uniq are not set. WebLogic Server:	ue directories					
C:\Oracle\Middleware\wlserver_12.1	Browse					
Oracle Coherence:						
C:\Oracle\Middleware\coherence_3.7	Browse					
Exit Prev	rious <u>N</u> ext					

Click Next to continue and confirm your product installation directories in the next screen.

7. Install WLS as Service

Choose whether you want to install Oracle WLS as service. For example, if you are running the Installer on Windows, in this screen you will be able to configure the WLS Node Manager service as System boot service. The Node Manager is used to monitor, start and stop server instances in a WebLogic domain. If you choose to defer the installation of the Node Manager as a service, you will need to install it manually (See Chapter 2 "*Starting the Node Manager*" for more info about it).

Oracle Installer - WebLogic 12.1.1.0	
Install Windows Service Install Windows Service to make indicated functionality available after machine reboot.	ORACLE
Node Manager Service Install now. This enables remote start and health monitoring of Managed Servers. Node Manager Listen Port: 5556 Image: No Do not install now. See product documentation for post-install registration of Node Manager as a Service.	
Exit	Previous Next

Click Next to continue.

8. Choose Shortcut Location

Specify the Start menu folder in which you want the Start menu shortcuts to be created

1	😡 Oracle Installer - WebLogic 12.1.1.0	
	Choose Shortcut Location	ORACLE
	Select the Start Menu folder in which you want to create Oracle shortcuts:	
	• " <u>A</u> II Users" Start Menu folder (recommended)	
	For some installations, this setting may limit the automatic creation of server shortcuts for users without administrative privileges. Refer to the documentation for more information.	
	○ <u>L</u> ocal user's Start Menu folder	
	Select this option if you need to ensure that other profiles registered on this machine will not have access to these shortcuts.	
	Exit	Previous <u>N</u> ext

When the installation program has finished copying the specified files to your system, click Next to continue. Once completed, you can move to the next step, that is creating a new WLS domain and start the application server (See recipe "Creating a Weblogic Domain" contained in this chapter).

Running the Installer Program in Console Mode

If you got as little as a terminal you can still execute the Platform Installer in **Console Mode**. To start the installation program in Console Mode, open a terminal window and go to the directory that contains the installation program.

Launch the installation by entering the name of the installation program passing **-mode=console**. For example, to start the WebLogic Server Package installer for Windows in console mode, enter:

| oepe-12.1.2.1-kepler-installer-win32.exe -mode=console

On Linux:

chmod a+x oepe-12.1.2.1-kepler-installer-linux-gtk.bin ./oepe-12.1.2.1-kepler-installer-linux-gtk.bin -mode=console

Where *file_name.bin* is the name of your installation program

Installing the Generic Installer distribution

The generic installer distribution can be used to install Oracle WLS on any supported 32 or 64 bit platform. The installation process is essentially the same as the full installer but you need to be aware of a few things before getting started:

- This distribution does not include a JDK therefore it's your duty to check that you have a correctly installed JDK. You should set as well the JAVA_HOME pointing to the folder where Java is installed and update the System PATH accordingly.
- This distribution can be installed by using a terminal Window.

Here's how to proceed with the installation: Linux users:

```
$ export JAVA_HOME=/home/myhome/myjavahome
```

```
$ export PATH=$JAVA_HOME/bin:$PATH
```

Windows users:

```
set JAVA_HOME=yourJavaInstallPath
```

set PATH=%JAVA_HOME%/bin;%PATH%

Now you can move on with the installation by executing:

|java -jar wls_121200.jar

Once uncompressed the archive, you can follow the same steps depicted in the Full Installer distribution.

Installing the WLS ZIP distribution

Installing Oracle WLS using the zip distribution is not carried out using an Installer Wizard; however, if you have no prejudices about using operating system's shells, this installation can be a real time saver (and disk space saver as well!). As a matter of fact, this distribution is supported on Windows, Linux and Mac OS X systems and contains the necessary artifacts required to setup a basic installation of Oracle WebLogic Server.



An optional supplemental zip (*wls1212_dev_supplemental.zip*) is available as a separate download. The supplemental zip contains samples, evaluation database (Derby) and L10N console help files.

Here are the steps to perform installation of the Zip distribution:

1. Unzip the file

Extract the contents of the zip to a directory. This directory is referred to as MW_HOME (eg: */home/myhome/mywls*).

2. Setup OS variables

Setup JAVA_HOME, MW_HOME and JAVA_VENDOR (Windows users only) variables in the current shell as required for the target platform.

Linux:

```
$ export JAVA_HOME=/home/myhome/myjavahome
```

```
$ export MW_HOME=/home/myhome/mywls
```

Windows:

```
set JAVA_HOME=C:\home\myhome\myjavahome
```

```
set MW_HOME=C:\home\myhome\mywls
```

```
set JAVA_VENDOR=[Sun|Oracle]
```

3. Run the installation script

Launch the installation configuration script in the *MW_HOME*. This step is required to be run only once. If you move the installation to another location/machine, you need to rerun this step. On a Linux machine execute:

\$. ./configure.sh

On a Windows platform execute instead:

configure.cmd

Now the configure command will start unpacking the archived distribution as you can see from the following snapshot:

WLS - 662 m	nore files to	unpack			C	
06/03/2012 06/03/2012 06/03/2012 06/03/2012 06/03/2012 06/03/2012 06/03/2012 06/03/2012 06/03/2012 06/03/2012 06/03/2012	$\begin{array}{c} 22.41\\ 22.41\\ 22.41\\ 22.41\\ 22.52\\ 22.41\\ 22$	<dir> <dir> <dir></dir></dir></dir>	3.830 3.587 3.189 133 1.554 6.488 1.138	configure.cmd configure.sh configure.xml domain-registry.xml modules osarch.xml patch_wls1211 README.txt registry.template utils		
23/02/2012	10.35 7 Fi 6 Di	<dir> le(s) r(s) 68.</dir>	19 777.054	wlserver .919 bytes .208 bytes free		
C:\wls1211_ ********* WebLogic S	dev>conf ********* erver 12	igure.cmd ********* c (12.1.1	******* .0> Zip	***************** Configuration		
MW_HOME: JAVA_HOME: ********	C:\wls1 C:\Java	211_dev \jdk1.6.0 ******	_31 ******	*****		
783 jar fil Please wait —	es are b , title	eing unpa bar will	cked. show pr	ogress		~

It might take a while to complete but then you are done with the application server installation.

4. Set the WLS environment variables

Now execute the *setWLSEnv* script which is located in the *bin* folder of your server distribution. This will set a proper environment configuration for executing Oracle WLS shell commands: Linux

```
$ . $MW_HOME/wlserver/server/bin/setWLSEnv.sh
```

Windows

```
| %MW_HOME%\wlserver\server\bin\setWLSEnv.cmd
```

Once completed, you can move to the next step, that is creating a new WLS domain and start WLS.

Creating a Weblogic domain

The first thing we will learn is how to create a WLS domain.

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

The **Administration Server** provides a central point for managing the domain and providing access to the WebLogic Server administration tools. A domain primarily includes **Managed Servers** which host application components and resources that are managed as part of the domain.



A domain may also include Weblogic Server **Clusters**, which are groups of Managed Server instances that work together to provide scalability and high availability for applications. (Clustering is discussed in detail in Chapter 9 of this book).

There are several ways to create a WebLogic domain: the recommended way is using the **Fusion Middleware Configuration Wizard** to create a domain based on or more domain templates. The first step to take is to run the domain configuration script which can be found in the *\$MW_HOME/wlserver/common/bin*

On Linux:

\$ config.sh

On Windows:

config.cmd

After executing the configuration script, the following screen will be your first step to complete:

Fusion Middleware Configuration Wizard	
Welcome	ORACLE
 Create a new WebLogic domain Create a WebLogic domain in your projects directory. Extend an existing WebLogic domain Use this option to add new components to an existing domain and modify configuration settings. 	
	Previous Next

Select "**Create a new WebLogic domain**" and click **Next** to continue. In the next step you have the option to create from scratch a new domain or use an existing template as model.

Fusion Middleware Configuration Wizard	
Select Domain Source	ORACLE
Generate a domain configured automatically to support the following pro	ducts:
Basic WebLogic Server Domain - 12.1.1.0 [wlserver] *	
Basic WebLogic SIP Server Domain - 12.1.1.0 [wlserver]	
WebLogic Advanced Web Services for JAX-RPC Extension - 12.1.1.0 [wlserver]	
WebLogic Advanced Web Services for JAX-WS Extension - 12.1.1.0 [wlserver]	
O Base this domain on an existing template	
Template location: C:\Oracle\Middleware	Browse
Exit Help	Previous Next

Actually also a brand new domain uses, behind the scenes, a template. (The base template, *wls.jar* that ships with your WebLogic software, is located in the folder *\$MW_HOME/wlserver/common/templates/domains*).

Since we still have not created any template click Next to continue with defaults. In the next screen, you can fill in the name and location for your domain, as shown by the following screenshot:

Fusion Middleware Configuration Wizard			
Specify Domain Name and Location			ORACLE [.]
En	ter the name and location for the domain:		
Domain name:	base_domain		
Domain location:	C:Oracle\Middleware\user_projects\domains	Browse	
Exit Help			Previous Next



The default installation will suggest a *base_domain* folder under the Middleware home folder. For production environment it is recommended that you create domains outside the *MW_HOME*.

In the next screen you have to fill in the administrator's username and password, as shown here:

💽 Fi	usion Middleware Configur	ation Wizard	
Cor	nfigure Administrato	User Name and Password	ORACLE
	*Name: *User password: *Confirm user password: Description:	weblogic This user is the default administrator.	
	E <u>x</u> it <u>H</u> elp		Previous Next

Click Next to continue. In the following screen you have to configure the **WLS Domain startup mode** and select a **JDK** among the available ones (Oracle JDK or Weblogic JRockit)

Fusion Middleware Configuration Wizard	
Configure Server Start Mode and JDK	ORACLE
WebLogic Domain Startup Mode	JDK Selection
Development Mode Utilize boot.properties for username and password and poll for applications to deploy. Sun JDK recommended for better startup performance during iterative development.	Available JDKs JRockit SDK 1.6.0_24 @ D:\WL510_3_6\jrockit_160_24_D1. Sun SDK 1.6.0_24 @ D:\WL510_3_6\jdk160_24
Production Mode Require the entry of a username and password and do not poll for applications to deploy. WebLogic JRockit JDK recommended for better runtime performance and management.	Other JDK Location: Browse
	Previous <u>N</u> ext

The choice between Development mode and Production mode appears obvious: you will select Development mode for faster application development and Production mode for higher performances in production.

Production Mode Vs Development Mode

Besides the evident different purpose of the two server modes there are also some important differences between them that you must be aware of:

Automatic deployment: When running Development mode the automatic deployment of an application is enabled. So it's enough to drop an application in the domain's autodeploy folder to get it deployed by Oracle WLS. In Production Mode, by default, this is switched off.

Stricter security policy: In Development mode there is a lower level of security: a file called *boot.properties,* which contains the encrypted administrator username and password, is automatically generated. This does not happen in Production Mode, which uses a stricter level of security.

Debugging: In Development the debugFlag which is used to start the WebLogic Workshop Debugger is enabled, while in Production mode is disabled.

In order to enable/disable the Production mode you can set the variable **PRODUCTION_MODE** in the script *setDomainEnv.sh/ setDomainEnv.cmd*. For example, on the Windows script:

set PRODUCTION_MODE=true.

In the next step you can optionally define the configuration of servers and Java EE resources for your servers. Since we will use next chapters' recipes to configure every aspect of the configuration we will leave these options blank:

Fusion Middleware Configuration Wizard	
Select Optional Configuration	ORACLE
Administration Server	
Modify Settings	
JMS Distributed Destination	
Select JMS Distributed Destination Type	
Managed Servers, Clusters and Mac	hines
Add or Delete Modify Settings	
Deployments and Services	
Target to Servers or Clusters	
🗆 JMS File Store	
Modify Settings	
RDBMS Security Store	
Modify Settings	
Exit Help	Previous

The final screen will recap the selected configuration options. Click on Create to complete Domain installation.

Creating a domain using the Unix shell

On Unix-like systems, there is usually no graphical environment available. You can still run the domain creation GUI by exporting the GUI to your local desktop with an XClient, such as XVNC; however, if you don't mind using the terminal, just give the option mode=console and you will get a text-based representation of your GUI installation.

./config.sh mode=console

Creating a domain template

Creating a new domain is a time consuming task which can be automated by creating a domain template.



The term template refers to a **Java Archive (JAR)** file that contains the files and scripts required to create or extend a domain.

There are basically two types of templates that you can create:

- Domain template: defines the full set of resources within a domain including infrastructure components, applications, services, security options, general environment and operating system options.
- **Extension template**: defines the applications and services that you can add to an existing domain, including product component functionality and resources such as JDBC or JMS.

In the following section we will show how to create a Domain Template

Creating a Domain Template

To create a new Oracle WebLogic Server domain template you can use the **Domain Template Builder**. Follow these steps in order to launch it:

- 1. From the terminal window, navigate to the location of the **Domain Template Builder tool**. It is found under *<MIDDLEWARE_HOME>/wlserver/common/bin*.
- 2. Run the tool by entering the following command (config_builder.bat for Windows users):

\$./config_builder.sh

The Domain Template wizard will start. In the "Create a New Template" window of the builder, select "**Create a Domain Template**" as shown by the following snapshot:

Fusion Middleware Domain Template Builder	
Create a New Template Choose to create a new domain template or a new extension template. The Domain Template Builder guides you through the process.	ORACLE
 Create a Domain Template Create a domain template to use later with the Configuration Wizard to create new WebLogic dom domain template provides pre-configured settings for creating a new WebLogic domain, including d and messaging components, applications, services, security, and general environment options. Create an Extension Template Create an extension template to use later with the Configuration Wizard to update existing WebLo domains. An extension template provides pre-configured settings for adding applications and service existing WebLogic domains. 	ains. A atabase gic ss to
E⊠it	Previous <u>N</u> ext

Click Next to continue. In the "Select a Template Domain Source" window, activate the **"Select a Domain"** upper tab.

Eusion Middleware Domain Template Builder	
Select a Template Domain Source Select an existing WebLogic domain or an existing domain template to use as the source from which to acquire resources and services to create a new domain template.	ORACLE
Select a Template Select a Domain Select a WebLogic domain directory:	
Weblogic Weblogic Weblogic Des D	
E <u>x</u> it	Previous Next

Then, navigate to the domain folder that you want to create a template from. In the above screenshot we are creating a template from the **base_domain** domain that we have formerly created.



Note: By choosing the **Select a Template** tab instead, you can create a template by extending an existing one template which needs to be selected from your file system as well.

Once selected the domain, click Next. In the following screen, select the name for the domain and optionally enter a description for it:

Fusion Midd	eware Domain Template Builder	
Describe the Enter descriptive	e Template information about the template you are creating.	ORACLE
*Name:	base_domain	
*Version:	12.1.1.0	
Author:	Oracle Corporation	
Category:		
Description:		
E <u>x</u> it		Previous Next
Click Next. I	Now enter a name and a location for the template JAR file :	
Fusion Midd	eware Domain Template Builder	

Specify Template Jar Name and Loca	tion		ORACLE
Enter the	e name and location for the domain templa	te:	
Template jar name:	base_domain_12.1.1.0		
Template location:	c:\Weblogic\user_templates	Browse	
E⊻it			Previous Next

In the next screen you can customize your template by adding files which will be included in the domain when you are creating it from this template:

Fusion Middleware Domain Template Builder			
Add Files Adding files to your template is optional. SQL scripts can be added on the next panel			ORACLE
File System View Conrigure.xmi domain-registry.xml README.txt registry.template registry.xml user_projects domains wilserver Show File Types: *	<u>A</u> dd → Remove ¥	Current Template View Commain Contents> Commain Root Directory> Commain Root Directory> Commain Root Directory>	
Exit		[Previous Next

Click Next. In the next GUI you can optionally add SQL scripts which can be used to bootstrap

your domain.

Eusion Middleware Domain Template Builder	
Add SQL Scripts Select the SQL files you want to include in this template and specify the order of execution by using the up and down arrows.	ORACLE
Database Type and Version Type: Oracle Selected SQL Files: Add SQL File Remove SQL File	Selected Database Scripts JDBC
E <u>x</u> it	Previous Next

Click Next when done. In the following screen enter the template's built-in server name, its listen address and the listen ports:

Fusion Middleware	Domain Template Builder	
Configure the Add Each WebLogic Server do The Administration Serve	Configure the Administration Server Each WebLogic Server domain must have one Administration Server. The Administration Server is used to perform administrative tasks.	
*Name: *Listen address: Listen port: SSL listen port: SSL enabled:	AdminServer All Local Addresses 7001 N/A	· · · · · · · · · · · · · · · · · · ·
Exit		Previous Next
Click Next and e	nter the administration user name and password.	
Fusion Middleware	Domain Template Builder	
Configure Admini Create a user to be assig This user is the default a	strator User Name and Password ned to the Administrator role. dministrator used to start development mode servers.	ORACLE [.]
*	Name: weblogic	
*User pas	sword: **********	
*Confirm user pas		
Descr	ipuon. Inis useris ule del duit duininistrator.	
	Configure additional users, groups, and global roles. $\odot\mathrm{No}~~\bigcirc\mathrm{Yes}$	
E <u>x</u> it		Previous Next

Click Next. In the following GUI you will be able to replace the standard scripts which are part of the template (e.g. start scripts) with your custom scripts.

Fusion Middleware Domain Template Build	er 📃 🗖 🗙			
Prepare Scripts and Files with Replacement Variables Replace specific paths, filenames, and other environment settings with replacement variables. The Configuration Wizard later replaces these variables with exact strings.				
Select File	Instructions			
Comain Contents> Comain Root Directory> Config <pconfig< p=""> <pconfig< p=""> <pcon< td=""><td>The Domain Template Builder automatically updates any standard scripts included in a template, such as start scripts. These files contain a check in the check box. Files that are not checked need replacement variables inserted. To insert replacement variables in files that have not been updated: 1. Open the file in one of the following ways: Double-click the filename, or Select the filename and click edit. With the file displayed in the Edit pane, select a string to be replaced. Right-click to display the replacement variable to replace the string. Repeat as necessary. When finished, click Save to save the file. In the Select File pane, select the check box next to the filename to indicate that the file has been edited. </td></pcon<></pconfig<></pconfig<>	The Domain Template Builder automatically updates any standard scripts included in a template, such as start scripts. These files contain a check in the check box. Files that are not checked need replacement variables inserted. To insert replacement variables in files that have not been updated: 1. Open the file in one of the following ways: Double-click the filename, or Select the filename and click edit. With the file displayed in the Edit pane, select a string to be replaced. Right-click to display the replacement variable to replace the string. Repeat as necessary. When finished, click Save to save the file. In the Select File pane, select the check box next to the filename to indicate that the file has been edited.			
E _Z it	Previous Next			

Click Next and review your template settings before storing it as a JAR file. As last step, check that your template has been actually written in the specified Template Location folder.

Name	Date modified	Туре	Size
🔳 base_domain_12.1.1.0.jar	20/06/2013 13:12	Executable Jar File	54 KB

Creating templates from the command line

Oracle WLS contains two utility scripts (named **pack** and **unpack**) which provide a simple one-step solution that can be used to create a template from the command line. These utilities are located in the *MW_HOME/wlserver/common/bin* folder of your distribution. Here's how to use the **pack** shell to create a domain named **mydomain** into a file named *mydomain.jar*:

pack.sh -domain="/export/home/wlsuser/domains/mydomain" template="/export/home/wlsuser/templates/mydomain.jar" -template_name="WLSDOMAIN" log=/export/home/wlsuser/logs/wlscldompack.log -log_priority=INFO

The corresponding command used to expand your domain is **unpack**:

```
unpack.sh -template=mydomain.jar -domain=domains/mydomain -log=wlscldomunpack.log -
log_priority=INFO
```