

2014

Weblogic Server Administration



Harish

Harish

harishweblogictraining@gmail.com

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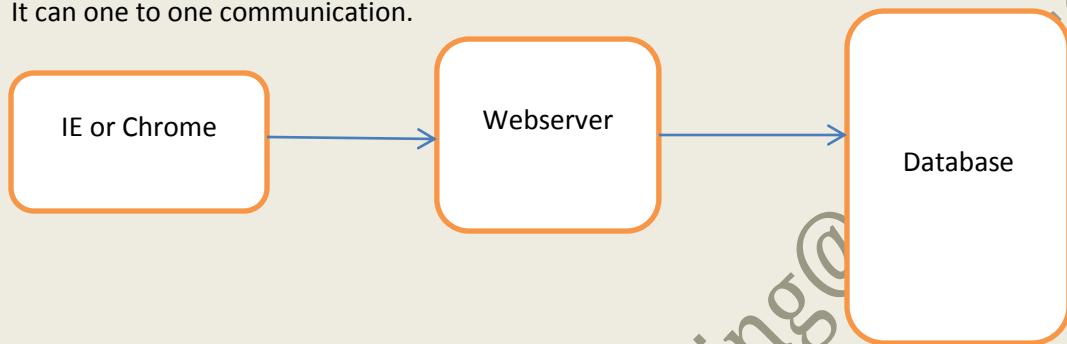
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Why Application servers came into picture

Before 1990's we don't have Application server, we have only webserver was there so that time we use only webserver to do all (ecommerce transactions).

Web server alone provides the online store's functionality. The Web server takes your request, then passes it to a server-side program able to handle the request. The server-side program looks up the pricing information from a database or a flat file. Once retrieved, the server-side program uses the information to formulate the HTML response, and then the Web server sends it back to your Web browser.

It can one to one communication.



For one to one communication we cannot add any service in the Architecture, because of that only Application server came in to picture means if you want to add any third party service you can easily add that service or if you want to unplug you can do it very easily.

The Web server still delegates the response generation to a script. However, you can now put the business logic for the pricing lookup onto an application server. With that change, instead of the script knowing how to look up the data and formulate a response, the script can simply call the application server's lookup service. The script can then use the service's result when the script generates its HTML response.

In this scenario, the application server serves the business logic for looking up a product's pricing information. That functionality doesn't say anything about display or how the client must use the information. Instead, the client and application server send data back and forth. When a client calls the application server's lookup service, the service simply looks up the information and returns it to the client.

By separating the pricing logic from the HTML response-generating code, the pricing logic becomes far more reusable between applications. A second client, such as a cash register, could also call the same service as a clerk checks out a customer. In contrast, in Scenario 1 the pricing lookup service is not reusable because the information is embedded within the HTML page. To summarize, in Scenario 2's model, the Web server handles HTTP requests by replying with an HTML page while the application server serves application logic by processing pricing and availability requests.

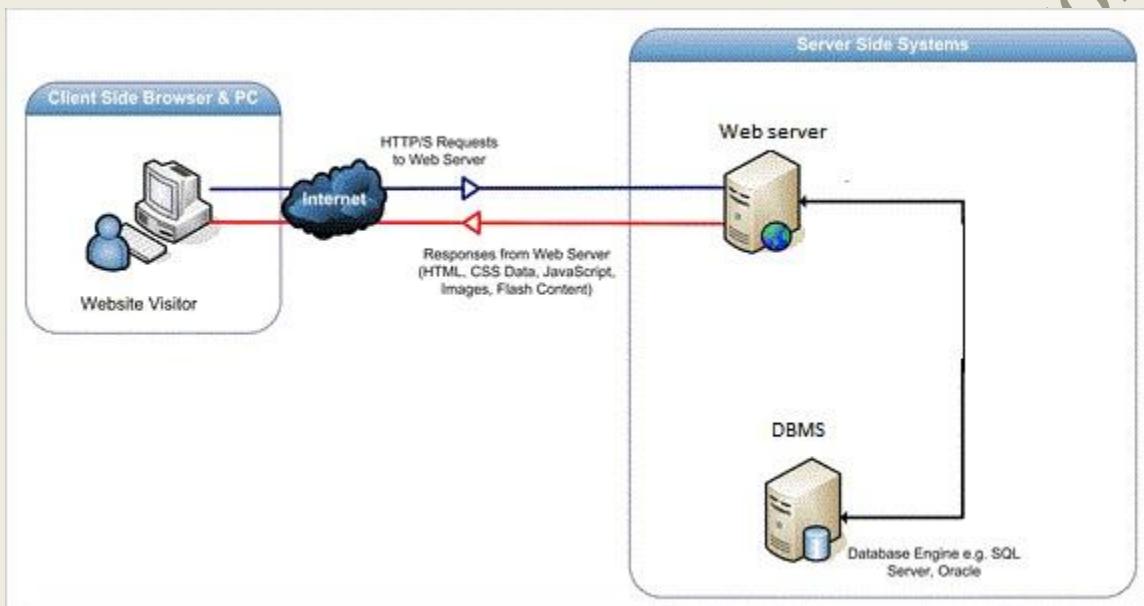
Webserver:

A Web server exclusively handles HTTP/HTTPS requests. It serves content to the web using HTTP/HTTPS protocol.

A webserver you can say it's a computer program or software that serves the webpage(static/dynamic) using http over the world

Web Server is designed to serve HTTP Content.

A Web server handles the HTTP protocol. When the Web server receives an HTTP request, it responds with an HTTP response, such as sending back an HTML page.



IIS : ASP (.NET)

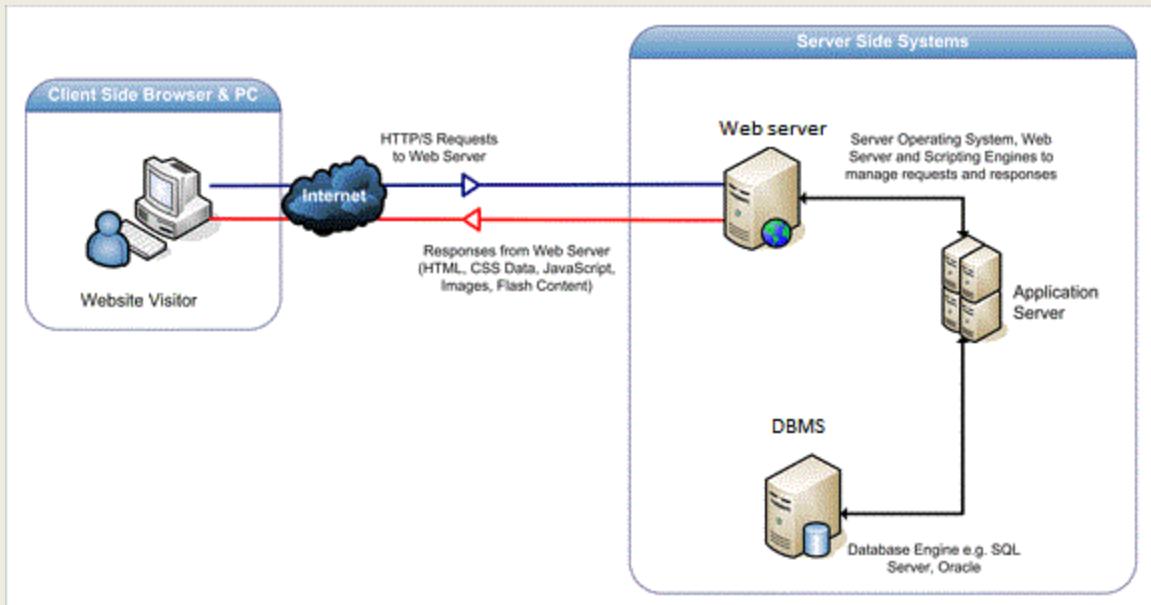
Tomcat: Servlet

Jetty: Servlet

Apache: Php, CGI

Application Server

An application server serves business logic to application programs through any number of protocols, possibly including HTTP. The application program can use this logic just as it would call a method on an object. In most cases, the server exposes this business logic through a component API, such as the EJB (Enterprise JavaBean) component model found on Java EE (Java Platform, Enterprise Edition) application servers.



WAS: EJB

JBoss: EJB

WebLogic Application Server: EJB

Diff b/w Application Server and WebServer

Web-server	Application-server
<ul style="list-style-type: none"> □ □ A webserver you can say it's a computer program or software that serves the webpage(static/dynamic) using http over the world □ □ Web Server is designed to serve HTTP Content. □ □ A Web server handles the HTTP protocol. When the Web server receives an HTTP request, it responds with an HTTP response, such as sending back an HTML page. <p>Ex: Apache</p>	<ul style="list-style-type: none"> □ □ Application server is much more than serving static/dynamic webpages. □ □ It provides better performance tuning option. □ □ It provides more security options. □ □ It provides scalability high availability which webserver doesn't provide. <p>Ex:Weblogic server,wespeare ,jboss</p>

Introduction to weblogic server:

Weblogic server introduced by weblogic in 1995.

BEA systems Acquired Weblogic server in 1998.

Oracle has Acquired Weblogic server in 2008.

WebLogic is a server software application that runs on a **middle tier**, between back-end **databases** and related applications and **browser-based thin clients**. WebLogic is a leading **e-commerce** online **transaction processing (OLTP) platform**, developed to connect users in a distributed computing environment and to facilitate the integration of mainframe applications with distributed corporate data and applications.

WebLogic server is based on Java 2 Platform, Enterprise Edition (J2EE), the standard platform used to create **Java-based multi-tier enterprise applications**. J2EE platform technologies were developed through the efforts of BEA Systems and other vendors in collaboration with the main developer, Sun Microsystems. Because J2EE applications are standardized modules, WebLogic can automate many system-level tasks that would otherwise have demanded programming time.

The main features of WebLogic server include connectors that make it possible for any legacy application on any client to interoperate with server applications, **Enterprise JavaBean (EJB) components**, resource pooling, and connection sharing that make **applications very scalable**. An administration console with a user interface makes management tasks more efficient and features such as Secure Sockets Layer (SSL) support for the encryption of data transmissions, as well as authentication and authorization mechanisms make applications and transactions secure.

Diff b/w WLS Versions (8x,9x, 10.x and 12c):

WLS 8.x	WLS 9.x and 10.x	WLS12c
<ul style="list-style-type: none">- In wls 8.x, all the jms details will be present in the same config.xml.- In wls 8.x we don't have concept of JMS modules and Subdeployment.- In wls 8.x, we have queues, topics are separately- In WLS 8.x we don't have LOCK & EDIT feature.- In wls 8.x we don't have update application feature, if you want to redeploy you have to delete and deploy	<ul style="list-style-type: none">- In wls 9.x/10.x it will be partly maintained in config.xml and a separate xml files in domain/config/jms folders for each jms module.- In wls 10.x they are clubbed inside a JMS module.- In wls WL 9&10 we have LOCK & EDIT feature.- From 9.x we have update feature available.- In wls 9.x, server gets into ADMIN mode, if deployment fails.	<ul style="list-style-type: none">- JDK version 7 or higher (1.7) is recommended to install WebLogic 12.1.2.- In wls 12c Dynamic Cluster Support(dynamic cluster for a highly scalable systems).- In wls 12c WebLogic Server adds support for Oracle Database 12c.- JMS enhancements(Supports clustered targeted JMS Servers for providing high availability eliminating the need to configure many JMS resources for every single server)

<ul style="list-style-type: none"> - application. - In 8.x sever never comes-up, if even one of the deployment fails 		<ul style="list-style-type: none"> - In wls 12c to apply patches in WebLogic has changed from the tool from BSU(BEA smart update) to OPATCH.
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Installation Guide

Diff ways we are going to install weblogic server like GUI it's an general way just clicking next -next process and command mode installation and silent mode installation, for silent mode of installation we have to prepare one silent.xml file and we have to execute like below

```
./wls.bin –mode=silent.xml /root/harish/silent.xml
```

In 64bit operating systems we are going use generic.jar weblogic file ,for installing .jar file we use below command.

GUI mode:

```
PATH=$JAVA_HOME/bin:$PATH; export PATH
java -jar wls1036_generic.jar
```

64-Bit Platforms Using a 64-Bit JDK:

```
JAVA_HOME=path_to_64-bit_JDK; export JAVA_HOME
```

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

(UNIX or Linux only) Include the -d64 flag in the installation command when using a 32/64-bit hybrid JDK (such as for the HP-PA, HPIA, and Solaris64 platforms). For example, if installing in graphical mode using the Package installer:

```
java -d64 -jar wlsversion_generic.jar
```

Run the java -version command (or java -d64 -version command on UNIX or Linux platforms using a 32/64-bit hybrid JDK) to ensure that your JAVA_HOME refers to a 64-bit JDK.

If you are using the Sun 64-bit JDK, use the following command to install WebLogic Server:

```
java -Xmx1024m -jar wlsversion_generic.jar
```

Command Mode Installation (in Linux)

Installing Weblogic server in Linux machine

```
root@localhost:~/Desktop/jdk$  
login as: root  
root@192.168.107.141's password:  
Last login: Tue Sep 30 07:14:50 2014 from 192.168.107.1  
[root@localhost ~]# ll  
total 60  
-rw----- 1 root root 885 Sep 30 2014 anaconda-ks.cfg  
drwxr-xr-x 3 root root 4096 Sep 30 07:22 Desktop  
-rw-r--r-- 1 root root 29460 Sep 30 2014 install.log  
-rw-r--r-- 1 root root 3886 Sep 30 2014 install.log.syslog  
[root@localhost ~]# cd Desktop  
[root@localhost Desktop]# ll  
total 8  
drwxrwxrwx 2 root root 4096 Sep 28 06:47 jdk  
[root@localhost Desktop]# cd jdk  
[root@localhost jdk]# ll  
total 5025140  
-rwxr--rw- 1 root root 91590032 Jan 4 2012 jdk-7u2-windows-x64.exe  
-rwxr--rw- 1 root root 21449608 Jan 4 2012 jre-7u2-windows-x64.exe  
-rwxr--rw- 1 root root 1224558867 Jun 2 2013 oepe-indigo-installer-12.1.1.0.1.  
201203120349-12.1.1-linux32.bin  
-rwxr--rw- 1 root root 1214126714 Jun 1 2013 oepe-indigo-installer-12.1.1.0.1.  
201203120349-12.1.1-win32.exe  
-rwxr--rw- 1 root root 445257752 Jul 20 2012 oracle-xe-univ-10.2.0.1-1.0.1386.  
cpio  
-rwxr--rw- 1 root root 1849129 Mar 18 2010 teracopy.exe  
-rwxr--rw- 1 root root 1071117042 Apr 3 2012 wls1035_oepe111172_linux32.bin  
-rwxr--rw- 1 root root 1070681352 Jun 28 2012 wls1035_oepe111172_win32.exe  
[root@localhost jdk]#
```

Go to the particular directory

To run file you have to use the below format

```
./wls1035_oepe111172_linux32.bin -mode=console
```

```
root@localhost:~/Desktop/jdk$  
login as: root  
root@192.168.107.141's password:  
Last login: Tue Sep 30 07:33:43 2014 from 192.168.107.1  
[root@localhost ~]# LL  
-bash: LL: command not found  
[root@localhost ~]# ll  
total 60  
-rw----- 1 root root 885 Sep 30 2014 anaconda-ks.cfg  
drwxr-xr-x 3 root root 4096 Sep 30 07:22 Desktop  
-rw-r--r-- 1 root root 29460 Sep 30 2014 install.log  
-rw-r--r-- 1 root root 3886 Sep 30 2014 install.log.syslog  
[root@localhost ~]# cd Desktop  
[root@localhost Desktop]# ll  
total 8  
drwxrwxrwx 2 root root 4096 Sep 28 06:47 jdk  
[root@localhost Desktop]# cd jdk  
[root@localhost jdk]# ll  
total 5025140  
-rwxr--rw- 1 root root 91590032 Jan 4 2012 jdk-7u2-windows-x64.exe  
-rwxr--rw- 1 root root 21449608 Jan 4 2012 jre-7u2-windows-x64.exe  
-rwxr--rw- 1 root root 1224558867 Jun 2 2013 oepe-indigo-installer-12.1.1.0.1.201203120349-12.1.1-linux32.bin  
-rwxr--rw- 1 root root 1214126714 Jun 1 2013 oepe-indigo-installer-12.1.1.0.1.201203120349-12.1.1-win32.exe  
-rwxr--rw- 1 root root 445257752 Jul 20 2012 oracle-xe-univ-10.2.0.1-1.0.1386.cpio  
-rwxr--rw- 1 root root 1849129 Mar 18 2010 teracopy.exe  
-rwxr--rw- 1 root root 1071117042 Apr 3 2012 wls1035_oepe111172_linux32.bin  
-rwxr--rw- 1 root root 1070681352 Jun 28 2012 wls1035_oepe111172_win32.exe  
[root@localhost jdk]# ./wls1035_oepe111172_linux32.bin -mode=console -mode=console  
Duplicate command line argument being used: [-mode].  
[root@localhost jdk]# ./wls1035_oepe111172_linux32.bin -mode=console  
Extracting 0%.....
```

Click Next

```
root@localhost:~/Desktop/jdk$ ls
[root@localhost ~]# LL
-bash: LL: command not found
[root@localhost ~]# ll
total 60
-rw----- 1 root root 885 Sep 30 2014 anaconda-ks.cfg
drwxr-xr-x 3 root root 4096 Sep 30 07:22 Desktop
-rw-r--r-- 1 root root 29460 Sep 30 2014 install.log
-rw-r--r-- 1 root root 3886 Sep 30 2014 install.log.syslog
[root@localhost ~]# cd Desktop/
[root@localhost Desktop]# ll
total 8
drwxrwxrwx 2 root root 4096 Sep 28 06:47 jdk
[root@localhost Desktop]# cd jdk/
[root@localhost jdk]# ll
total 5025140
-rwxr--rw- 1 root root 91590032 Jan 4 2012 jdk-7u2-windows-x64.exe
-rwxr--rw- 1 root root 21449608 Jan 4 2012 jre-7u2-windows-x64.exe
-rwxr--rw- 1 root root 1224558887 Jun 2 2013 cepe-indigo-installer-12.1.1.0.1.201203120349-12.1.1-linux32.bin
-rwxr--rw- 1 root root 1214126714 Jun 1 2013 cepe-indigo-installer-12.1.1.0.1.201203120349-12.1.1-win32.exe
-rwxr--rw- 1 root root 445257752 Jul 20 2012 oracle-xe-univ-10.2.0.1-1.0.1386.cpio
-rwxr--rw- 1 root root 1849129 Mar 18 2010 teracopy.exe
-rwxr--rw- 1 root root 1071117042 Apr 3 2012 wlsl035_cepel11172_linux32.bin
-rwxr--rw- 1 root root 1070681352 Jun 28 2012 wlsl035_cepel11172_win32.exe
[root@localhost jdk]# ./wlsl035_cepel11172_linux32.bin -mode=console -mode=console
Duplicate command line argument being used: [-mode].
[root@localhost jdk]# ./wlsl035_cepel11172_linux32.bin -mode=console
Extracting 0%.....100%
----- Oracle Installer - WebLogic 10.3.5.0 -----
Welcome:
-----
This installer will guide you through the installation of WebLogic 10.3.5.0. Type "Next" or enter to proceed to the next prompt. If you want to change data entered previously, type "Previous". You may quit the installer at any time by typing "Exit".
-----
```

Enter [Exit][Next] >  Address: 8:40 PM 9/30/2014

Click Next

```
root@localhost:~/Desktop/jdk$ ls
-rwxr--rw- 1 root root 21449608 Jan 4 2012 jre-7u2-windows-x64.exe
-rwxr--rw- 1 root root 1224558887 Jun 2 2013 cepe-indigo-installer-12.1.1.0.1.201203120349-12.1.1-linux32.bin
-rwxr--rw- 1 root root 1214126714 Jun 1 2013 cepe-indigo-installer-12.1.1.0.1.201203120349-12.1.1-win32.exe
-rwxr--rw- 1 root root 445257752 Jul 20 2012 oracle-xe-univ-10.2.0.1-1.0.1386.cpio
-rwxr--rw- 1 root root 1849129 Mar 18 2010 teracopy.exe
-rwxr--rw- 1 root root 1071117042 Apr 3 2012 wlsl035_cepel11172_linux32.bin
-rwxr--rw- 1 root root 1070681352 Jun 28 2012 wlsl035_cepel11172_win32.exe
[root@localhost jdk]# ./wlsl035_cepel11172_linux32.bin -mode=console -mode=console
Duplicate command line argument being used: [-mode].
[root@localhost jdk]# ./wlsl035_cepel11172_linux32.bin -mode=console
Extracting 0%.....100%
----- Oracle Installer - WebLogic 10.3.5.0 -----
Welcome:
-----
This installer will guide you through the installation of WebLogic 10.3.5.0. Type "Next" or enter to proceed to the next prompt. If you want to change data entered previously, type "Previous". You may quit the installer at any time by typing "Exit".
-----
```

Enter [Exit][Next] > Next  Address: 8:42 PM 9/30/2014

Click 3

```
root@localhost:~/Desktop/jdk5

"Middleware Home" = [Enter new value or use default "/root/Oracle/Middleware"]

Enter new Middleware Home OR [Exit][Previous][Next]> Next

----- Oracle Installer - WebLogic 10.3.5.0 -----
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration manager.

1|Email:[]
2|Support Password:[]
3|Receive Security Update:[Yes]

Enter index number to select OR [Exit][Previous][Next]> 3

----- Oracle Installer - WebLogic 10.3.5.0 -----
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration manager.

"Receive Security Update:" = [Enter new value or use default "Yes"]

Enter [Yes][No]? [ Yes

----- Oracle Installer - WebLogic 10.3.5.0 -----
Address: 8:44 PM 9/30/2014
```

```
root@localhost:~/Desktop/jdk5

** Do you wish to bypass initiation of the configuration manager and
** remain uninformed of critical security issues in your configuration?

Enter [Yes][No]? Yes

----- Oracle Installer - WebLogic 10.3.5.0 -----
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration manager.

1|Email:[]
2|Support Password:[]
3|Receive Security Update:[No]

Enter index number to select OR [Exit][Previous][Next]>

----- Oracle Installer - WebLogic 10.3.5.0 -----
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration manager.

1|Email:[]
2|Support Password:[]
3|Receive Security Update:[No]

Enter index number to select OR [Exit][Previous][Next]> [ Yes

----- Oracle Installer - WebLogic 10.3.5.0 -----
Address: 8:45 PM 9/30/2014
```

```
root@localhost:~/Desktop/jdk
** Do you wish to bypass initiation of the configuration manager and
** remain uninformed of critical security issues in your configuration?

Enter [Yes][No]? Yes

----- Oracle Installer - WebLogic 10.3.5.0 -----
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration manager.

1|Email:[]
2|Support Password:[]
3|Receive Security Update:[No]

Enter index number to select OR [Exit][Previous][Next]>

----- Oracle Installer - WebLogic 10.3.5.0 -----
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration manager.

1|Email:[]
2|Support Password:[]
3|Receive Security Update:[No]

Enter index number to select OR [Exit][Previous][Next]>
```

```
root@localhost:~/Desktop/jdk
----- Oracle Installer - WebLogic 10.3.5.0 -----
Register for Security Updates:
-----
Provide your email address for security updates and to initiate configuration manager.

1|Email:[]
2|Support Password:[]
3|Receive Security Update:[No]

Enter index number to select OR [Exit][Previous][Next]> Next

----- Oracle Installer - WebLogic 10.3.5.0 -----
Choose Install Type:
-----
Select the type of installation you wish to perform.

->1|Typical
| Install the following product(s) and component(s):
| | - WebLogic Server
| | - Oracle Coherence
| | - Oracle Enterprise Pack for Eclipse

2|Custom
| Choose software products and components to install and perform optional configuration.

Enter index number to select OR [Exit][Previous][Next]>
```

```
root@localhost:~/Desktop/jdk
  |__ Common Files [3.1] x
*Estimated size of installation: 1,077.3 MB

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> 2

----- Oracle Installer - WebLogic 10.3.5.0 -----
Choose Products and Components:
-----
Release 10.3.5.0
|__ Weblogic Server [1] x
|  |__ Core Application Server [1.1] x
|  |__ Administration Console [1.2] x
|  |__ Configuration Wizard and Upgrade Framework [1.3] x
|  |__ Web 2.0 HTTP Pub-Sub Server [1.4] x
|  |__ WebLogic SCA [1.5] x
|  |__ WebLogic JDBC Drivers [1.6] x
|  |__ Third Party JDBC Drivers [1.7] x
|  |__ WebLogic Server Clients [1.8] x
|  |__ WebLogic Web Server Plugins [1.9] x
|  |__ UDDI and Xquery Support [1.10] x
|  |__ Server Examples [1.11]
|  |__ Evaluation Database [1.12] x
|__ Oracle Coherence [2]
|  |__ Coherence Product Files [2.1]
|  |__ Coherence Examples [2.2]
|__ Oracle Enterprise Pack for Eclipse [3] x
|  |__ Common Files [3.1] x
*Estimated size of installation: 1,070.1 MB

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> 4
```

```
root@localhost:~/Desktop/jdk
  |__ Common Files [3.1] x
*Estimated size of installation: 1,070.1 MB

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> 3

----- Oracle Installer - WebLogic 10.3.5.0 -----
Choose Products and Components:
-----
Release 10.3.5.0
|__ Weblogic Server [1] x
|  |__ Core Application Server [1.1] x
|  |__ Administration Console [1.2] x
|  |__ Configuration Wizard and Upgrade Framework [1.3] x
|  |__ Web 2.0 HTTP Pub-Sub Server [1.4] x
|  |__ WebLogic SCA [1.5] x
|  |__ WebLogic JDBC Drivers [1.6] x
|  |__ Third Party JDBC Drivers [1.7] x
|  |__ WebLogic Server Clients [1.8] x
|  |__ WebLogic Web Server Plugins [1.9] x
|  |__ UDDI and Xquery Support [1.10] x
|  |__ Server Examples [1.11]
|  |__ Evaluation Database [1.12] x
|__ Oracle Coherence [2]
|  |__ Coherence Product Files [2.1]
|  |__ Coherence Examples [2.2]
|__ Oracle Enterprise Pack for Eclipse [3] x
|  |__ Common Files [3.1] x
*Estimated size of installation: 646.8 MB

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> 4
```

```
root@localhost:~/Desktop/jdk
  |____ Common Files [3.1] x
  *Estimated size of installation: 1,070.1 MB

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> 3

-----
Choose Products and Components:
-----
Release 10.3.5.0
  |____ Weblogic Server [1] x
  |  |____ Core Application Server [1.1] x
  |  |____ Administration Console [1.2] x
  |  |____ Configuration Wizard and Upgrade Framework [1.3] x
  |  |____ Web 2.0 HTTP Pub-Sub Server [1.4] x
  |  |____ WebLogic SCA [1.5] x
  |  |____ WebLogic JDBC Drivers [1.6] x
  |  |____ Third Party JDBC Drivers [1.7] x
  |  |____ WebLogic Server Clients [1.8] x
  |  |____ WebLogic Web Server Plugins [1.9] x
  |  |____ UDDI and Xquery Support [1.10] x
  |  |____ Server Examples [1.11] x
  |  |____ Evaluation Database [1.12] x
  |  |____ Oracle Coherence [2] x
  |  |  |____ Coherence Product Files [2.1] x
  |  |  |____ Coherence Examples [2.2] x
  |  |____ Oracle Enterprise Pack for Eclipse [3] x
  |  |____ Common Files [3.1] x
  *Estimated size of installation: 646.8 MB

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> Next
```

HarishweblogicTraining

```
root@localhost:~/Desktop/jdk$ Enter 1 to add or >= 2 to toggle selection OR [Exit][Previous][Next]> 2

----- Oracle Installer - WebLogic 10.3.5.0 -----

JDK Selection (Any * indicates Oracle Supplied VM):

JDK(s) chosen will be installed. Defaults will be used in script string-substitution if installed.

1|Add Local Jdk
2|/root/Oracle/Middleware/jdk160_24[ ]*
3|/root/Oracle/Middleware/jrockit_160_24_D1.1.2-4(x)*

*Estimated size of installation: 838.3 MB

Enter 1 to add or >= 2 to toggle selection OR [Exit][Previous][Next]> Next

----- Oracle Installer - WebLogic 10.3.5.0 ----->

Choose Product Installation Directories:

Middleware Home Directory: [/root/Oracle/Middleware]

Product Installation Directories:

"WebLogic Server" = [Enter new value or use default "/root/Oracle/Middleware/wlserver_10.3"]

Enter new WebLogic Server OR [Exit][Previous][Next]> [
```

```
root@localhost:~/Desktop/jdk$ ----- Oracle Installer - WebLogic 10.3.5.0 -----

The following Products and JDKs will be installed:

WebLogic Platform 10.3.5.0
|   Weblogic Server
|   |   Core Application Server
|   |   Administration Console
|   |   Configuration Wizard and Upgrade Framework
|   |   Web 2.0 HTTP Pub-Sub Server
|   |   WebLogic SCA
|   |   WebLogic JDBC Drivers
|   |   Third Party JDBC Drivers
|   |   WebLogic Server Clients
|   |   WebLogic Web Server Plugins
|   |   UDDI and Xquery Support
|   |   Evaluation Database
|   JDKs
|   |   Oracle JRockit 1.6.0_24 SDK

*Estimated size of installation: 838.4 MB

Enter [Exit][Previous][Next]> Next
Sep 30, 2014 8:21:40 AM java.util.prefs.FileSystemPreferences$2 run
INFO: Created user preferences directory.

----- Oracle Installer - WebLogic 10.3.5.0 ----->

Installing files..
0% 25% 50% 75% 100%
[-----|-----|-----|-----|-----]
```

```
root@localhost:~/Desktop/jdk$ Administration Console
| Configuration Wizard and Upgrade Framework
| Web 2.0 HTTP Pub-Sub Server
| WebLogic SCA
| WebLogic JDBC Drivers
| Third Party JDBC Drivers
| WebLogic Server Clients
| WebLogic Web Server Plugins
| UDDI and Xquery Support
| Evaluation Database
| JDKs
| Oracle JRockit 1.6.0_24 SDK

*Estimated size of installation: 838.4 MB

Enter [Exit] [Previous] [Next] > Next
Sep 30, 2014 8:21:40 AM java.util.prefs.FileSystemPreferences$2 run
INFO: Created user preferences directory.

<----- Oracle Installer - WebLogic 10.3.5.0 ----->
Installing files..
0% 25% 50% 75% 100%
[-----|-----|-----|-----]
[*****|*****|*****|*****]

<----- Oracle Installer - WebLogic 10.3.5.0 ----->
Installing JDK....
0% 25% 50% 75% 100%
[-----|-----|-----]
[*****|*****|*****]

8:52 PM
Address 9/30/2014
```

```
root@localhost:~/Desktop/jdk$ [*****|*****|*****|*****]

<----- Oracle Installer - WebLogic 10.3.5.0 ----->
Installing JDK...
0% 25% 50% 75% 100%
[-----|-----|-----]
[*****|*****|*****]

Performing String Substitutions...

<----- Oracle Installer - WebLogic 10.3.5.0 ----->
Configuring OCM...
0% 25% 50% 75% 100%
[-----|-----|-----]
[*****|*****|*****]

Creating Domains...

<----- Oracle Installer - WebLogic 10.3.5.0 ----->
Installation Complete

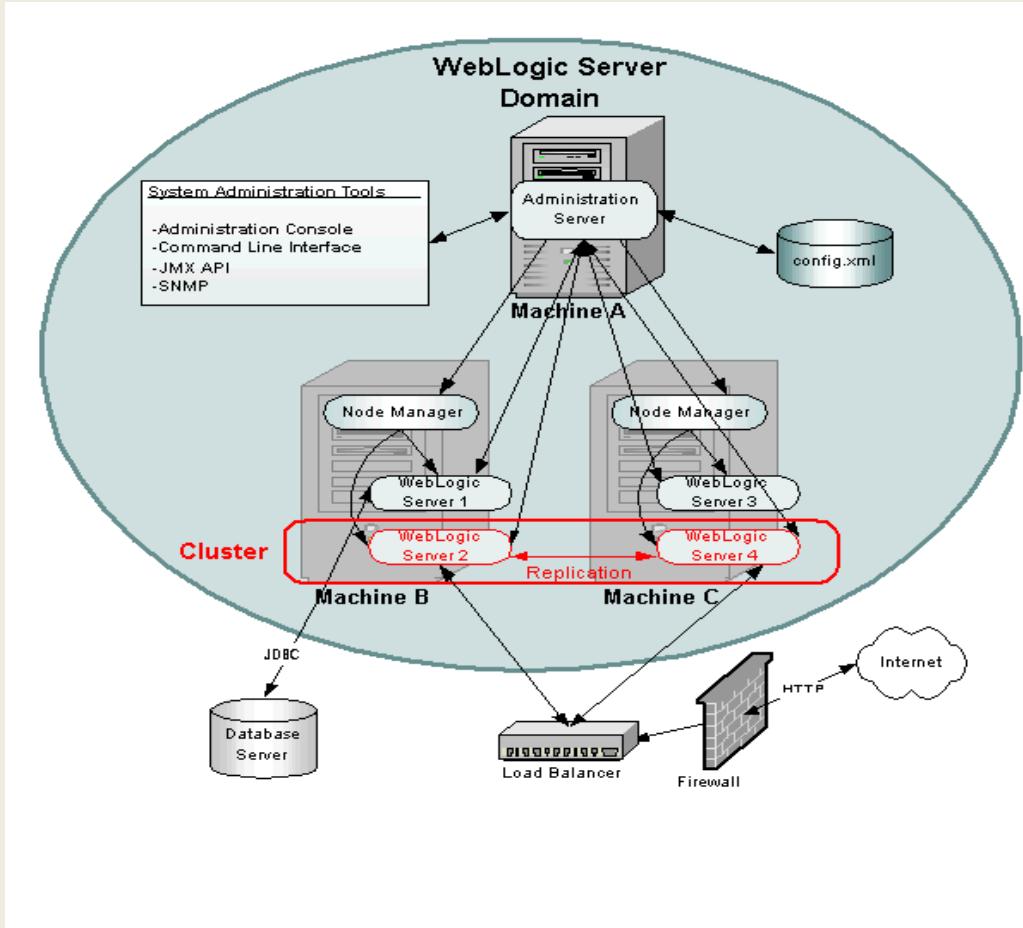
Congratulations! Installation is complete.

Press [Enter] to continue or type [Exit]> [ ]
```

Write exit .

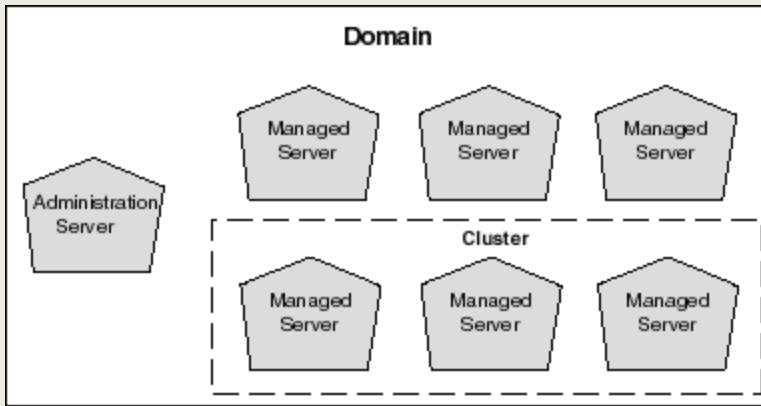
Silent Mode Installation

History of Weblogic Domain:



Weblogic server Domain:

A WebLogic Server administration **domain** is a logically related group of Java components. A domain includes a special WebLogic Server instance called the **Administration Server**, which is the central point from which you configure and manage all resources in the domain. Usually, you configure a domain to include additional WebLogic Server instances called *managed servers*. You deploy Java components, such as Web applications, EJBs, and Web services, and other resources to the managed servers and use the Administration Server for configuration and management purposes only.



Command Mode Installation (Linux)

To create Weblogic domain

Go to below path

/root/Oracle/Middleware/wlserver_10.3/common/bin

Run ./config.sh

```

weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin
drwxr-x--- 2 root root 4096 Sep 30 08:22 bin
drwxr-x--- 2 root root 4096 Sep 30 08:22 deployable-libraries
drwxr-x--- 4 root root 4096 Sep 30 08:22 derby
drwxr-x--- 2 root root 4096 Sep 30 08:22 eval
drwxr-x--- 3 root root 4096 Sep 30 08:22 lib
drwxr-x--- 2 root root 4096 Sep 30 08:21 nodemanager
drwxr-x--- 4 root root 4096 Sep 30 08:22 quickstart
drwxr-x--- 6 root root 4096 Sep 30 08:22 templates
drwxr-x--- 4 root root 4096 Sep 30 08:21 wlst
[root@localhost common]# cd bin
[root@localhost bin]# ll
total 164
-rwxr-x--- 1 root root 22460 Sep 30 08:22 commEnv.sh
-rwxr-x--- 1 root root 2120 Sep 30 08:22 config_builder.sh
-rwxr-x--- 1 root root 2272 Sep 30 08:22 config.sh
-rwxr-x--- 1 root root 2577 Sep 30 08:22 pack.sh
-rwxr-x--- 1 root root 1586 Sep 30 08:22 setPatchEnv.sh
-rwxr-x--- 1 root root 4080 Sep 30 08:22 startDerby.sh
-rwxr-x--- 1 root root 4086 Sep 30 08:22 startManagedWebLogic.sh
-rwxr-x--- 1 root root 1446 Sep 30 08:22 stopDerby.sh
-rwxr-x--- 1 root root 2085 Sep 30 08:22 unpack.sh
-rwxr-x--- 1 root root 3296 Sep 30 08:22 upgrade.sh
-rwxr-x--- 1 root root 31124 Sep 30 08:22 wlscontrol.sh
-rwxr-x--- 1 root root 13740 Sep 30 08:21 wlstconfig.sh
-rwxr-x--- 1 root root 759 Sep 30 08:22 wlst.sh
[root@localhost bin]# ll
total 164
-rwxr-x--- 1 root root 22460 Sep 30 08:22 commEnv.sh
-rwxr-x--- 1 root root 2120 Sep 30 08:22 config_builder.sh
-rwxr-x--- 1 root root 2272 Sep 30 08:22 config.sh
-rwxr-x--- 1 root root 2577 Sep 30 08:22 pack.sh
-rwxr-x--- 1 root root 1586 Sep 30 08:22 setPatchEnv.sh
-rwxr-x--- 1 root root 4080 Sep 30 08:22 startDerby.sh
-rwxr-x--- 1 root root 4086 Sep 30 08:22 startManagedWebLogic.sh
-rwxr-x--- 1 root root 1446 Sep 30 08:22 stopDerby.sh
-rwxr-x--- 1 root root 2085 Sep 30 08:22 unpack.sh
-rwxr-x--- 1 root root 3296 Sep 30 08:22 upgrade.sh
-rwxr-x--- 1 root root 31124 Sep 30 08:22 wlscontrol.sh
-rwxr-x--- 1 root root 13740 Sep 30 08:21 wlstconfig.sh
-rwxr-x--- 1 root root 759 Sep 30 08:22 wlst.sh
[root@localhost bin]# pwd
/root/Oracle/Middleware/wlserver_10.3/common/bin
[root@localhost bin]# ./config.sh -mode=console

```

```
weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin
----- Fusion Middleware Configuration Wizard -----
Welcome:
-----
Choose between creating and extending a domain. Based on your selection, the Configuration Wizard guides you through the steps to generate a new or extend an existing domain.

->1|Create a new WebLogic domain
|   Create a WebLogic domain in your projects directory.

2|Extend an existing WebLogic domain
|   Use this option to add new components to an existing domain and modify configuration settings.

Enter index number to select OR [Exit][Next]> 1

----- Fusion Middleware Configuration Wizard -----
Select Domain Source:
-----
Select the source from which the domain will be created. You can create the domain by selecting from the required components or by selecting from a list of existing domain templates.

->1|Choose Weblogic Platform components
|   You can choose the Weblogic component(s) that you want supported in your domain.

2|Choose custom template
|   Choose this option if you want to use an existing template. This could be a custom created template using the Template Builder.

Enter index number to select OR [Exit][Previous][Next]> 1
```

```
----- Fusion Middleware Configuration Wizard -----
Application Template Selection:
-----

Available Templates
|__ Basic Weblogic Server Domain - 10.3.4.0 [wlserver_10.3]x
|__ Basic Weblogic SIP Server Domain - 10.3.4.0 [wlserver_10.3] [2] x
|__ WebLogic Advanced Web Services for JAX-RPC Extension - 10.3.4.0 [wlserver_10.3] [3] x
|__ WebLogic Advanced Web Services for JAX-WS Extension - 10.3.4.0 [wlserver_10.3] [4] x

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> 3

----- Fusion Middleware Configuration Wizard -----
Application Template Selection:
-----

Available Templates
|__ Basic Weblogic Server Domain - 10.3.4.0 [wlserver_10.3]x
|__ Basic Weblogic SIP Server Domain - 10.3.4.0 [wlserver_10.3] [2] x
|__ WebLogic Advanced Web Services for JAX-RPC Extension - 10.3.4.0 [wlserver_10.3] [3] x
|__ WebLogic Advanced Web Services for JAX-WS Extension - 10.3.4.0 [wlserver_10.3] [4] x

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> 4
```

```
weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> 3

<----- Fusion Middleware Configuration Wizard ----->

Application Template Selection:

Available Templates
|__ Basic WebLogic Server Domain - 10.3.4.0 [wlserver_10.3] x
|__ Basic WebLogic SIP Server Domain - 10.3.4.0 [wlserver_10.3] [2] x
|__ WebLogic Advanced Web Services for JAX-RPC Extension - 10.3.4.0 [wlserver_10.3] [3] x
|__ WebLogic Advanced Web Services for JAX-WS Extension - 10.3.4.0 [wlserver_10.3] [4] x

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> 4

<----- Fusion Middleware Configuration Wizard ----->

Application Template Selection:

Available Templates
|__ Basic WebLogic Server Domain - 10.3.4.0 [wlserver_10.3] x
|__ Basic WebLogic SIP Server Domain - 10.3.4.0 [wlserver_10.3] [2] x
|__ WebLogic Advanced Web Services for JAX-RPC Extension - 10.3.4.0 [wlserver_10.3] [3] x
|__ WebLogic Advanced Web Services for JAX-WS Extension - 10.3.4.0 [wlserver_10.3] [4] x

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> Next
```

```
weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin

Enter number exactly as it appears in brackets to toggle selection OR [Exit][Previous][Next]> Next

<----- Fusion Middleware Configuration Wizard ----->

Edit Domain Information:

| Name | Value |
| *Name: | base_domain |

Enter value for "Name" OR [Exit][Previous][Next]> 1

<----- Fusion Middleware Configuration Wizard ----->

Edit Domain Information:

| Name | Value |
| *Name: | 1 |

Use above value or select another option:
1 - Modify "Name"
2 - Discard Changes

Enter option number to select OR [Exit][Previous][Next]>
```

```
weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin

Enter option number to select OR [Exit][Previous][Next]> 1

<----- Fusion Middleware Configuration Wizard ----->

Edit Domain Information:

| Name | Value |
| *Name: | i |

Enter value for "Name" OR [Exit][Previous][Next]> prod

<----- Fusion Middleware Configuration Wizard ----->

Edit Domain Information:

| Name | Value |
| *Name: | prod |

Use above value or select another option:
1 - Modify "Name"
2 - Discard Changes

Enter option number to select OR [Exit][Previous][Next]> 1
```

```
weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin

<----- Fusion Middleware Configuration Wizard ----->

Select the target domain directory for this domain:
"Target Location" = [Enter new value or use default "/root/Oracle/Middleware/user_projects/domains"]

Enter new Target Location OR [Exit][Previous][Next]> Next

<----- Fusion Middleware Configuration Wizard ----->

Configure Administrator User Name and Password:

Create a user to be assigned to the Administrator role. This user is the default administrator used to start development mode servers.

| Name | Value |
| *Name: | weblogic |
| *User password: | |
| *Confirm user password: | |
| Description: | This user is the default administrator. |

Use above value or select another option:
1 - Modify "Name"
2 - Modify "User password"
3 - Modify "Confirm user password"
4 - Modify "Description"

Enter option number to select OR [Exit][Previous][Next]> 1
```

```
weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin

<----- Fusion Middleware Configuration Wizard ----->

Configure Administrator User Name and Password:
-----
Create a user to be assigned to the Administrator role. This user is the default administrator used to start development mode servers.

  **Confirm user password:** = []

Enter new *Confirm user password: OR [Exit][Reset][Accept]>

<----- Fusion Middleware Configuration Wizard ----->

Configure Administrator User Name and Password:
-----
Create a user to be assigned to the Administrator role. This user is the default administrator used to start development mode servers.

|       Name          |          Value          |
| *Name:           | weblogic             |
| *User password: | *****                |
| *Confirm user password: | *****                |
| Description:    | This user is the default administrator. |

Use above value or select another option:
  1 - Modify "Name"
  2 - Modify "User password"
  3 - Modify "Confirm user password"
  4 - Modify "Description"
  5 - Discard Changes

Enter option number to select OR [Exit][Previous][Next]>
```

```
weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin
4 - Modify "Description"
5 - Discard Changes

Enter option number to select OR [Exit][Previous][Next]> Next

<----- Fusion Middleware Configuration Wizard -----
Domain Mode Configuration:
-----
Enable Development or Production Mode for this domain.

->1|Development Mode
2|Production Mode

Enter index number to select OR [Exit][Previous][Next]> 2

<----- Fusion Middleware Configuration Wizard ----->

Java SDK Selection:
-----
->1|JRockit SDK 1.6.0_24 @ /root/Oracle/Middleware/jrockit_160_24_D1.1.2-4
2|Other Java SDK

Enter index number to select OR [Exit][Previous][Next]> 2
```

```
weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin
4 - Modify "Description"
5 - Discard Changes

Enter option number to select OR [Exit][Previous][Next]> Next

<----- Fusion Middleware Configuration Wizard -----
Domain Mode Configuration:
-----
Enable Development or Production Mode for this domain.

->1|Development Mode
2|Production Mode

Enter index number to select OR [Exit][Previous][Next]> 2

<----- Fusion Middleware Configuration Wizard -----
Java SDK Selection:
-----
->1|JRockit SDK 1.6.0_24 @ /root/Oracle/Middleware/jrockit_160_24_D1.1.2-4
2|Other Java SDK

Enter index number to select OR [Exit][Previous][Next]> 1
```

```
weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin
Enter index number to select OR [Exit][Previous][Next]> 1

<----- Fusion Middleware Configuration Wizard -----
Select Optional Configuration:
-----
1|Administration Server [ ]
2| [ ]
3|Managed Servers, Clusters and Machines [ ]
4|Deployments and Services [ ]
5|JMS File Store [ ]
6|RDBMS Security Store [ ]

Enter index number to select OR [Exit][Previous][Next]> 1

<----- Fusion Middleware Configuration Wizard -----
Select Optional Configuration:
-----
1|Administration Server [x]
2| [ ]
3|Managed Servers, Clusters and Machines [ ]
4|Deployments and Services [ ]
5|JMS File Store [ ]
6|RDBMS Security Store [ ]

Enter index number to select OR [Exit][Previous][Next]> 1
```

```
weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin

Enter index number to select OR [Exit][Previous][Next]> 1

<----- Fusion Middleware Configuration Wizard ----->

Select Optional Configuration:

1|Administration Server [ ]
2| [ ]
3|Managed Servers, Clusters and Machines [ ]
4|Deployments and Services [ ]
5|JMS File Store [ ]
6|RDBMS Security Store [ ]

Enter index number to select OR [Exit][Previous][Next]> 1

<----- Fusion Middleware Configuration Wizard ----->

Select Optional Configuration:

1|Administration Server [x]
2| [ ]
3|Managed Servers, Clusters and Machines [ ]
4|Deployments and Services [ ]
5|JMS File Store [ ]
6|RDBMS Security Store [ ]

Enter index number to select OR [Exit][Previous][Next]> Next
```

```
weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin

Each WebLogic Server domain must have one Administration Server. The Administration Server is used to perform administrative tasks.

*Enter index number to modify "Value"

1|true
->2|false
3|Unspecified

Enter index number to select OR [Exit][Reset][Accept]> 1

<----- Fusion Middleware Configuration Wizard ----->

Configure the Administration Server:

Each WebLogic Server domain must have one Administration Server. The Administration Server is used to perform administrative tasks.

| Name | Value |
1| *Name: | AdminServer |
2| *Listen address: | All Local Addresses |
3| Listen port: | 7001 |
4| SSL listen port: | 7002 |
5| SSL enabled: | true |

Use above value or select another option:
1 - Modify "Name"
2 - Modify "Listen address"
3 - Modify "Listen port"
4 - Modify "SSL listen port"
5 - Modify "SSL enabled"
6 - Discard Changes

Enter option number to select OR [Exit][Previous][Next]>
```

```

weblogic@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin

----- Fusion Middleware Configuration Wizard ----->

Configure the Administration Server:
-----
Each WebLogic Server domain must have one Administration Server. The Administration Server is used to perform administrative tasks.

| Name | Value | |
| 1 | *Name: | AdminServer |
| 2 | *Listen address: | All Local Addresses |
| 3 | Listen port: | 7001 |
| 4 | SSL listen port: | 7002 |
| 5 | SSL enabled: | true |

Use above value or select another option:
1 - Modify "Name"
2 - Modify "Listen address"
3 - Modify "Listen port"
4 - Modify "SSL listen port"
5 - Modify "SSL enabled"
6 - Discard Changes

Enter option number to select OR [Exit] [Previous] [Next]> Next

----- Fusion Middleware Configuration Wizard ----->

Creating Domain...
0% 25% 50% 75% 100%
[-----|-----|-----|-----|-----]
[*****|*****|*****|*****|*****]

```

What Is the Administration Server

The Administration Server operates as the central control entity for the configuration of the entire domain. It maintains the domain's configuration documents and distributes changes in the configuration documents to managed servers. You can use the Administration Server as a central location from which to monitor all resources in a domain.

Each WebLogic Server domain must have one server instance that acts as the Administration Server.

To interact with the Administration Server, you can use the Oracle WebLogic Server Administration Console.

Managed Servers

Managed servers host business applications, application components, Web services, and their associated resources. To optimize performance, managed servers maintain a read-only copy of the domain's configuration document. When a managed server starts up, it connects to the domain's Administration Server to synchronize its configuration document with the document that the Administration Server maintains.

Cluster Managed Servers:

For production environments that require increased application performance, throughput, or high availability, you can configure two or more Managed Servers to operate as a cluster.

A cluster is a **collection of multiple WebLogic Server server instances running simultaneously and working together to provide increased scalability and reliability**.

In a cluster, most resources and services are deployed identically to each Managed Server (as opposed to a single Managed Server), enabling failover and load balancing. A single domain can contain multiple WebLogic Server clusters, as well as multiple Managed Servers that are not configured as clusters.

The key difference **between clustered and non-clustered Managed Servers is support for failover and load balancing.** These features are available only in a cluster of Managed Servers.

Domain Creation Using Pack & Unpack Commands

The pack and unpack commands provide a simple, one-step method for creating Weblogic domains and templates from the command line. The pack and unpack commands are available in the \common\bin subdirectory of the product installation directory.

Pack

The pack command creates a template archive (.jar) file that contains a snapshot of either an entire domain or a subset of a domain. You can use a template that contains a subset of a domain to create a Managed Server domain directory hierarchy on a remote machine.

The below path u can find the pack.sh command

```
/root/Oracle/Middleware/wlserver_10.3/common/bin
```

Below is the command to do pack a domain

```
./pack.sh -domain=/root/Oracle/Middleware/user_projects/domains/Production_domain/ -  
template=/root/Oracle/Middleware/user_templates/Production_domain.jar -managed=true -  
template_name="Production domain for horizontal domain "
```

Check the below location jar is exists are not

```
/root/Oracle/Middleware/user_templates -----Production_domain.jar
```

Unpack

Creates a full domain or a subset of a domain used for a Managed Server domain directory on a remote machine. You may use unpack only with a template compatible with your current installation.

A domain template provided by BEA and packaged with your current installation

A domain template created using the Domain Template Builder or WLST Offline

A domain template created using the pack command

Below is my .jar location

```
/root/Oracle/Middleware/user_templates
```

Now i am going to unpack command location

/root/Oracle/Middleware/wlserver_10.3/common/bin

Below is the command for unpack

```
./unpack.sh -template=/root/Oracle/Middleware/user_templates/Production_domain.jar -  
domain=/root/Oracle/Middleware/user_projects/domains/Production_domain
```

Now i have done unpack

Start & Stop Servers

Start & Stop Weblogic Server (win/Linux)

For starting the Admin server in the backend

/root/Oracle/Middleware/user_projects/domains/Production_domain/bin

To start Admin server ---- ./startWebLogic.sh

To stopping Admin server & Manage servers

ps -ef|grep weblogic



Admin server processid.txt

Kill -9 3608

Start & Stop Manage Servers

To start Manage servers---- ./startManagedWebLogic.sh MS1 (Manage server name)

To start Manage servers---- ./stopManagedWebLogic.sh MS1 (Manage server name)

Ps -ef |grep weblogic

You will find java process id's



process id's.txt

Kill -9 3608(process id)

History of Boot.properties

A boot identity file contains the user credentials for starting and stopping an instance of WebLogic Server. An administration server or managed server can refer to this file for user credentials instead of prompting at the command line to provide them. Because the credentials are encrypted, using a boot identity file is more secure than storing plain text credentials in a startup or shutdown script.

If you choose Development Mode when creating a domain by using the Configuration Wizard, a boot identity file is automatically created for the administration server.

If you use Node Manager to start managed servers rather than running start scripts manually, you do not need to create boot identity files for them. Node Manager creates its own boot identity files and stores them under each server's directory in the data/nodemanager subdirectory.

After you install Weblogic in production mode while starting the servers you need to give username and password each time you will start the Weblogic **./startWebLogic** like below:

```
*****
< Dec 13, 2013 12:55:47 AM IST> <Info> <Management> <BEA-141107><Version: WebLogic Server
10.3.5.0 Fri Apr 1 20:20:06 PDT 2011 1398638 >
< Dec 13, 2013 12:55:48 AM IST> <Info> <Security> <BEA-090065> <Getting boot identity from user.>
```

To overcome this problem we have another way to configure the boot.properties file.

Configure boot.properties

Step: 1

Create security folder inside the Admin server directory like below.

Go to the below folder

```
$/root/Oracle/Middleware/user_projects/Domain/Production_domain/servers/Adminserver
```

```
$mkdir security
```

After creating the security folder go to inside that folder and create the boot.properties file

```
$cd security
```

```
$vi boot.properties
```

Now the editor will open then enter i(I for insert) then write

```
username=weblogic
```

```
password=weblogic1
```

Now click Esc button in the keyboard and **:wq!** And enter.

Now boot.properties are created inside the security folder.

Step2:

Restart the Admin server this time server won't ask username and password.

History of NodeManager

Node Manager is a utility that runs as separate process from Oracle WebLogic Server and allows you to perform common operations for a Managed Server, regardless of its location with respect to its Administration Server. While use of Node Manager is optional, it provides valuable benefits if your WebLogic Server environment hosts applications with high-availability requirements.

If you run Node Manager on a machine that hosts Managed Servers, you can start and stop the Managed Servers remotely using the Administration Console or the command line.

Node Manager can also automatically restart a Managed Server after an unexpected failure.

Types of NodeManager

Java-based node manager

Runs with in JVM (Java Virtual Machine) Process and more secure than script-based node manager.

Configuration for java-based node manager is stored in **nodeManager.properties**

Script-based node manager

Script-based node manager – is available for Linux and UNIX systems only and is based on shell script.

Configure NodeManager

History of Cluster

Cluster consists of multiple server instances running simultaneously and working together to provide increased scalability and reliability.

A cluster appears to clients to be a **single WebLogic Server instance**. The server instances that constitute a cluster can run on the same machine, or be located on different machines.

You can increase a cluster's capacity by adding additional server instances to the cluster on an existing machine, or you can add machines to the cluster to host the incremental server instances. Each server instance in a cluster must run the same version of WebLogic Server.

Cluster Relate to a weblogic Domain

A cluster is part of a particular WebLogic Server domain.

A domain is an interrelated set of WebLogic Server resources that are managed as a unit.

A domain includes one or more WebLogic Server instances, which can be clustered, non-clustered, or a combination of clustered and non-clustered instances. A domain can include multiple clusters.

In each domain, one WebLogic Server instance acts as the Administration Server—the server instance which configures, manages, and monitors all other server instances and resources in the domain.

Each Administration Server manages one domain only. If a domain contains multiple clusters, each cluster in the domain has the same Administration Server.

All server instances in a cluster must reside in the same domain; you cannot “split” a cluster over multiple domains. Similarly, you cannot share a configured resource or subsystem between domains.

EX:

If you create a JDBC connection pool in one domain, you cannot use it with a server instance or cluster in another domain. (Instead, you must create a similar connection pool in the second domain.)

Benefits of Clustering

Scalability

The capacity of an application deployed on a WebLogic Server cluster can be increased dynamically to meet demand. You can add server instances to a cluster without interruption of service—the application continues to run without impact to clients and end users.

High-Availability

In a WebLogic Server cluster, application processing can continue when a server instance fails. You “cluster” application components by deploying them on multiple server instances in the cluster—so, if a server instance on which a component is running fails, another server instance on which that component is deployed can continue application processing.

Types of Cluster's

Firstly cluster is nothing but group of manage servers, this manage servers we are configuring in two different ways

Vertical Cluster

Vertical Cluster is nothing but group of manage server are configured in the same machine.

Configure Vertical Cluster

Step1: Login to the weblogic console

Change Center

View changes and restarts

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Lock & Edit

Release Configuration

Domain Structure

Production_domain

- Environment
- Servers
- Clusters**
- Virtual Hosts
- Migratable Targets

Summary of Clusters

This page summarizes the clusters that have been configured in the current WebLogic Server domain.

A cluster defines groups of WebLogic Server servers that work together to increase scalability and reliability.

Customize this table

Clusters (Filtered - More Columns Exist)

<input type="checkbox"/>	Name	Cluster Address	Cluster Messaging Mode	Migration Basis	Default Load Algorithm	Replication Type
<input type="checkbox"/>	Cluster	Cluster	Unicast	Database	Round Robin	(None)

Take Lock & Edit session and create new cluster

What would you like to name your new Cluster?

*** Name:** Cluster

Clusters use messaging for sharing session, load balancing and failover, JMS, and other information between cluster members. Clusters use technology that enables multiple applications to subscribe to a given IP address and port number and listen for messages, but requires hardware requirements. What messaging mode should this cluster use?

Messaging Mode: Unicast

Unicast Broadcast Channel:

Multicast Address: 239.192.0.0

Multicast Port: 7001

OK **Cancel**

Name=Cluster

Messaging Mode=Unicast or Multicast (as per your requirement)

Click OK

Change Center

View changes and restarts

Pending changes exist. They must be activated to take effect.

Activate Changes

Undo All Changes

Domain Structure

Production_domain

- Environment
- Servers
- Clusters**
- Virtual Hosts
- Migratable Targets
- Coherence Servers
- Coherence Clusters
- Machines
- Work Managers
- Startup and Shutdown Classes

Summary of Clusters

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<input type="checkbox"/>	Cluster	Cluster	Unicast	Database	Round Robin	(None)
<input type="checkbox"/>	Cluster	Cluster	Unicast	Database	Round Robin	(None)

Click on the cluster (which u created)

Click on the servers

ORACLE WebLogic Server® Administration Console

Home >Summary of Servers >Summary of Clusters >Cluster

Settings for Cluster

Configuration Monitoring Control Deployments Services Notes

General Messaging Servers Replication Migration Singleton Services Scheduling Overload Health Monitoring HTTP

Name: Cluster

Default Load Algorithm: round-robin

Cluster Address:

Number Of Servers In Cluster Address: 3

Save

Click on Add

ORACLE WebLogic Server® Administration Console

Home >Summary of Servers >Summary of Clusters >Cluster

Settings for Cluster

Configuration Monitoring Control Deployments Services Notes

General Messaging Servers Replication Migration Singleton Services Scheduling Overload Health Monitoring HTTP

Customize this table

Servers

Name

Add Remove

Showing 0 to 0 of 0 Previous | Next

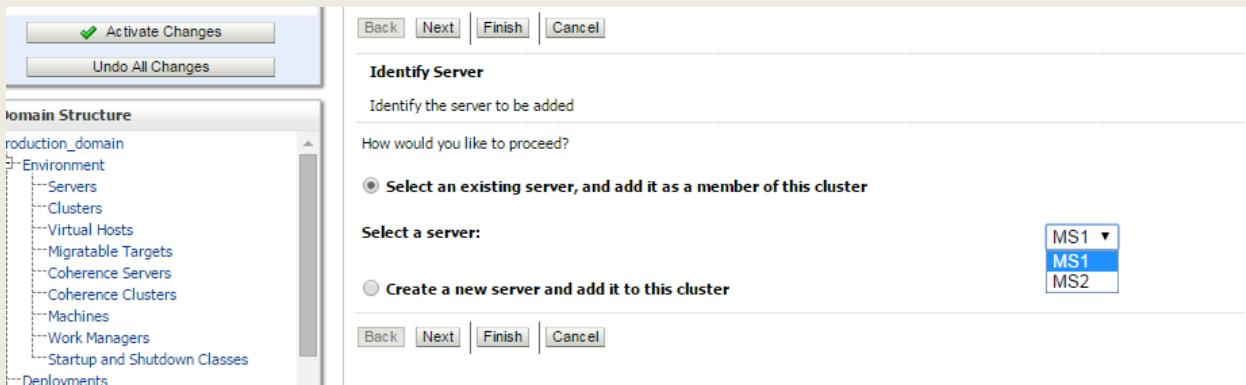
Customize this table

Servers

Name

Add Remove

Showing 0 to 0 of 0 Previous | Next



Select the servers and finish.

Horizontal Cluster

Horizontal Cluster is nothing but group of manage servers are configured in the different machines.

Configure horizontal Cluster

Horizontal cluster mean –Multiple manage servers in multiple Machines

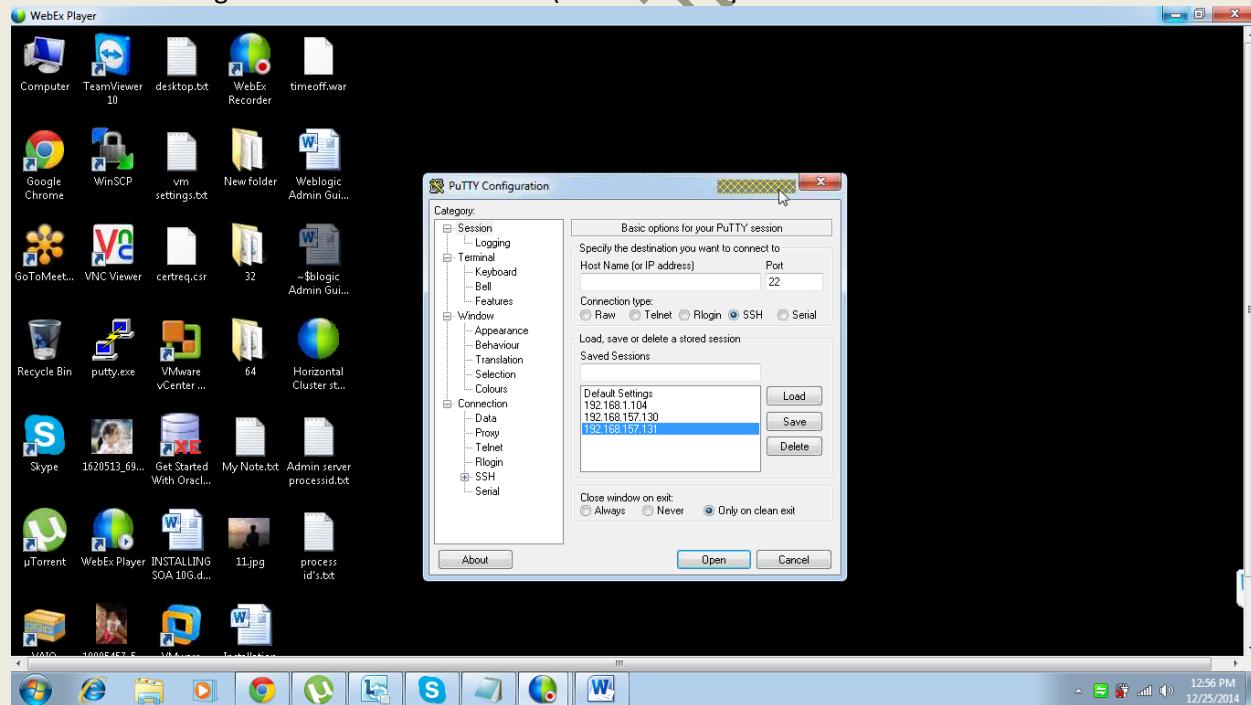
Step-1:

Here I have two vm's –

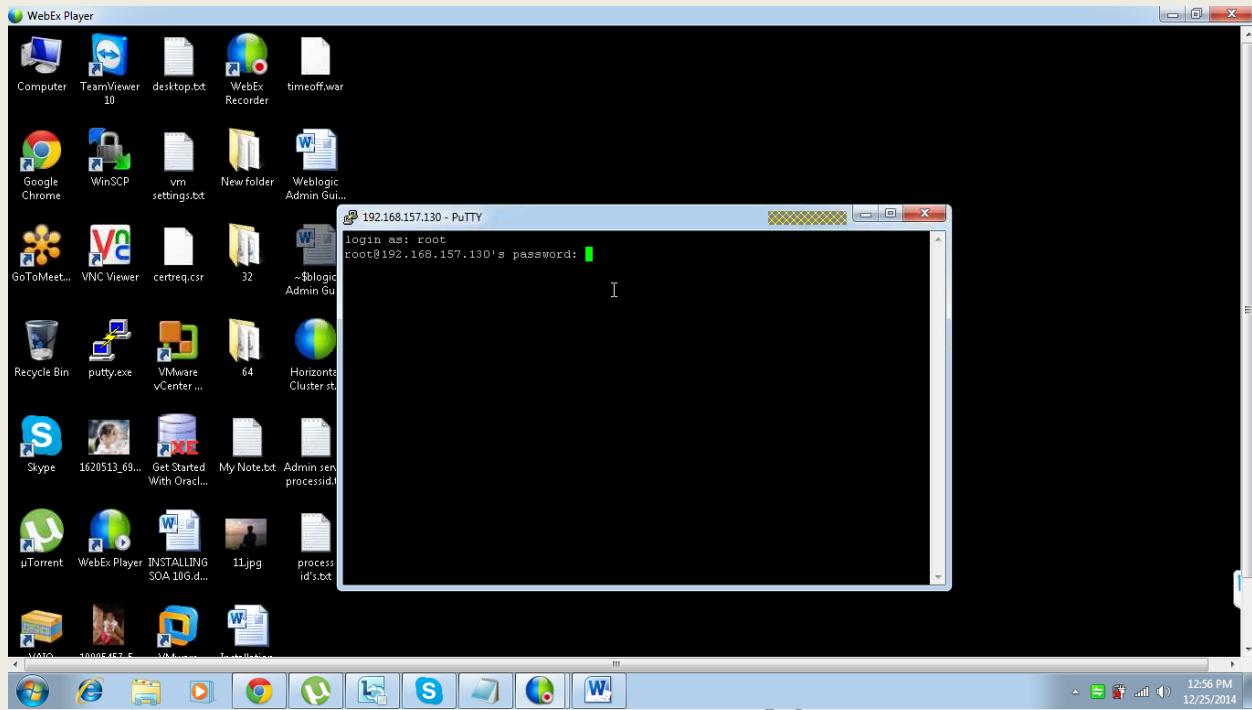
192.168.157.130

192.168.157.131

Now I am creating new Domain in Machine-A(192.168.1.130)



Login in to Machine-A via putty



Step-2:

```

root@localhost:~/Oracle/Middleware/wlservr_10.3/common/bin
-rw-r----- 1 root root 621 Dec 21 01:18 ocm.rsp
-rw-r----- 1 root root 87398 Dec 21 01:18 registry.dat
-rw-r----- 1 root root 2402 Dec 21 01:18 registry.xml
drwxr-x--- 8 root root 4096 Dec 21 01:17 utils
drwxr-x--- 9 root root 4096 Dec 21 01:18 wlservr_10.3
[root@localhost Middleware]# cd wlservr_10.3
[root@localhost wlservr_10.3]# ll
total 56
drwxr-x--- 3 root root 4096 Dec 21 01:17 bugsfixed
drwxr-x--- 11 root root 4096 Dec 21 01:17 common
drwxr-x--- 3 root root 4096 Dec 21 01:18 inventory
drwxr-x--- 2 root root 4096 Dec 21 01:17 LION
drwxr-x--- 11 root root 4096 Dec 21 01:17 server
drwxr-x--- 3 root root 4096 Dec 21 01:17 sip
drwxr-x--- 2 root root 4096 Dec 21 01:16 uninstall
[root@localhost wlservr_10.3]# cd common/
[root@localhost common]# ll
total 72
drwxr-x--- 2 root root 4096 Dec 21 01:18 bin
drwxr-x--- 2 root root 4096 Dec 21 01:17 deployable-libraries
drwxr-x--- 4 root root 4096 Dec 21 01:17 derby
drwxr-x--- 2 root root 4096 Dec 21 01:17 eval
drwxr-x--- 3 root root 4096 Dec 21 01:17 lib
drwxr-x--- 2 root root 4096 Dec 21 01:22 nodemanager
drwxr-x--- 4 root root 4096 Dec 21 01:17 quickstart
drwxr-x--- 6 root root 4096 Dec 21 01:17 templates
drwxr-x--- 4 root root 4096 Dec 21 01:17 wlst
[root@localhost common]# cd bin
[root@localhost bin]# ll
total 164
-rwxr-x--- 1 root root 22460 Dec 21 01:18 commEnv.sh
-rwxr-x--- 1 root root 2120 Dec 21 01:18 config_builder.sh
-rwxr-x--- 1 root root 2272 Dec 21 01:18 config.sh
-rwxr-x--- 1 root root 2577 Dec 21 01:18 pack.sh
-rwxr-x--- 1 root root 1586 Dec 21 01:18 setPatchEnv.sh
-rwxr-x--- 1 root root 4080 Dec 21 01:18 startDerby.sh
-rwxr-x--- 1 root root 4086 Dec 21 01:18 startManagedWebLogic.sh
-rwxr-x--- 1 root root 1445 Dec 21 01:18 stopDerby.sh
-rwxr-x--- 1 root root 2085 Dec 21 01:18 unpack.sh
-rwxr-x--- 1 root root 3396 Dec 21 01:18 upgrade.sh
-rwxr-x--- 1 root root 31124 Dec 21 01:18 viscontrol.sh
-rwxr-x--- 1 root root 13740 Dec 21 01:17 visirconfig.sh
-rwxr-x--- 1 root root 759 Dec 21 01:18 vlist.sh
[root@localhost bin]#

```

Create new Domain

Domain name =Production_domain

```

root@localhost:~/Oracle/Middleware/user_projects/domains/Production_domain/bin
drwxr-x--- 8 root root 4096 Dec 21 01:17 utils
drwxr-x--- 9 root root 4096 Dec 21 01:18 wlserver_10.3
[root@localhost Middleware]# cd user_projects/
[root@localhost user_projects]# cd domains/
[root@localhost domains]# ll
total 1
drwxr-x--- 3 root root 4096 Dec 24 22:02 Production_domain
[root@localhost domains]# cd Production_domain/
[root@localhost Production_domain]# ll
total 192
drwxr-x--- 2 root root 4096 Dec 24 22:02 applications
drwxr-x--- 2 root root 4096 Dec 24 22:02 autodeploy
drwxr-x--- 5 root root 4096 Dec 24 22:02 bin
drwxr-x--- 11 root root 4096 Dec 24 22:02 config
drwxr-x--- 2 root root 4096 Dec 24 22:02 console-ext
-rw-r----- 1 root root 383 Dec 24 22:02 fileRealm.properties
-rw-r----- 1 root root 336 Apr 1 2011 fileRealm.properties.bak
drwxr-x--- 2 root root 4096 Dec 24 22:02 init-info
drwxr-x--- 2 root root 4096 Dec 24 22:02 lib
drwxr-x--- 2 root root 4096 Dec 24 22:02 security
-rwxr-x--- 1 root root 279 Dec 24 22:02 startWebLogic.sh
drwxr-x--- 2 root root 4096 Dec 24 22:02 user_staged_config
-rw-r----- 1 root root 554 Apr 1 2011 wlis.webservice_complete_update.py
-rw-r----- 1 root root 13449 Apr 1 2011 wlis.webservice_complete_update_utils.py
-rw-r----- 1 root root 20017 Dec 24 22:02 wlis.webservice_complete_update_utils$py.class
-rw-r----- 1 root root 613 Apr 1 2011 wlis.webservice_fixup.py
-rw-r----- 1 root root 13131 Apr 1 2011 wlis.webservice_fixup_utils.py
drwxr-x--- 2 root root 4096 Dec 24 22:02 ManagedFileStore
drwxr-x--- 2 root root 4096 Dec 24 22:02 ManagedJavaFileStore
[root@localhost Production_domain]# cd bin
[root@localhost bin]# ll
total 80
drwxr-x--- 2 root root 4096 Dec 24 22:02 nodemanager
drwxr-x--- 2 root root 4096 Dec 24 22:02 server_migration
drwxr-x--- 2 root root 4096 Dec 24 22:02 service_migration
-rwxr-x--- 1 root root 18571 Dec 24 22:02 setDomainEnv.sh
-rwxr-x--- 1 root root 3223 Dec 24 22:02 startManagedWebLogic.sh
-rwxr-x--- 1 root root 5696 Dec 24 22:02 startWebLogic.sh
-rwxr-x--- 1 root root 2447 Dec 24 22:02 stopManagedWebLogic.sh
-rwxr-x--- 1 root root 2127 Dec 24 22:02 stopWebLogic.sh
[root@localhost bin]# ./startWebLogic.sh

```

After creating the domain start the Admin server.

```

/root/Oracle/Middleware/user_projects/domain/Production_domain/bin
./startWeblogic.sh

```

```

root@localhost:~/Oracle/Middleware/user_projects/domains/Production_domain/bin
/weblogic.server.modules_10.3.5.0.jar:/root/Oracle/Middleware/wlserver_10.3/server/lib/webservices.jar:/root/Oracle/Middleware/modules/org.apache.ant_1.7.1/lib/ant-all.jar:/root/Oracle/Middleware/modules/net.sf.antcontrib_1.1.0.0_1-0b2/lib/ant-contrib.jar:/root/Oracle/Middleware/wlserver_10.3/sip/server/lib/weblogic_sip.jar:/root/Oracle/Middleware/wlserver_10.3/common/server/lib/derbyclient.jar:/root/Oracle/Middleware/wlserver_10.3/server/lib/xqrl.jar
.
PATH=/root/Oracle/Middleware/wlserver_10.3/server/bin:/root/Oracle/Middleware/modules/org.apache.ant_1.7.1/bin:/root/Oracle/Middleware/jrockit_160_24_D1.1.2-4/jre/bin:/root/Oracle/Middleware/jrockit_160_24_D1.1.2-4/bin:/usr/kerberos/sbin:/usr/kerberos/bin:/usr/local/sbin:/usr/local/bin:/sbin:/bin:/usr/sbin:/root/bin
.
*****
* To start WebLogic Server, use a username and *
* password assigned to an admin-level user. For *
* server administration, use the WebLogic Server *
* console at http://hostname:port/console *
*****
starting weblogic with Java version:
java version "1.6.0_24"
Java(TM) SE Runtime Environment (build 1.6.0_24-b07)
Oracle JRockit(R) (build R28.1.3-11-141760-1.6.0_24-20110301-1430-linux-ia32, compiled mode)
Starting WLSE with line:
/root/Oracle/Middleware/jrockit_160_24_D1.1.2-4/bin/java -jrockit -Xms512m -Xmx512m -Dweblogic.Name=AdminServer -Djava.security.policy=/root/Oracle/Middleware/wlserver_10.3/server/lib/weblogic.policy -Dweblogic.ProductionModeEnabled=true -Djava.endorsed.dirs= -Djava.ext.dirs=/root/Oracle/Middleware/wlserver_10.3/server -Dweblogic.management.discover=false -Dwlw.iterativeDev=false -Dwlw.testConsole=false -Dwlw.logErrorsToConsole=false -Dweblogic.ext.dirs=/root/Oracle/Middleware/patch_wls1035/profiles/default/systext_manifest.classpath weblogic.Server
<Dec 24, 2014 10:03:21 PM PST> <Info> <Security> <BEA-090905> <Disabling Cryptos JCE Provider self-integrity check for better startup performance. To enable this check, specify -Dweblogic.security.allowCryptoDefaultJCEVerification=true>
<Dec 24, 2014 10:03:22 PM PST> <Info> <Security> <BEA-090906> <Changing the default Random Number Generator in RSA CryptoJ from ECDRBG to FIPS186PRNG. To disable this change, specify -Dweblogic.security.allowCryptoDefaultPRNG=true>
<Dec 24, 2014 10:03:22 PM PST> <Notice> <WebLogicServer> <BEA-000395> <Following extensions directory contents added to the end of the classpath:>
<Dec 24, 2014 10:03:22 PM PST> <Info> <Server> <BEA-002647> <The service plugin, com.oracle.core.sip.activator, was added from /root/Oracle/Middleware/user_projects/domains/Production_domain/lib/sipactivator.jar>
<Dec 24, 2014 10:03:26 PM PST> <Info> <WebLogicServer> <BEA-000377> <Starting WebLogic Server with Oracle JRockit(R) Version R28.1.3-11-141760-1.6.0_24-20110301-1430-linux-ia32 from Oracle Corporation>
<Dec 24, 2014 10:03:53 PM PST> <Info> <Management> <BEA-141107> <Version: WebLogic Server 10.3.5.0 Fri Apr 1 20:20:06 PDT 2011 1398638>
<Dec 24, 2014 10:03:53 PM PST> <Info> <Security> <BEA-090065> <Getting boot identity from user.>
Enter username to boot WebLogic server:weblogic
Enter password to boot WebLogic server:
<Dec 24, 2014 10:03:42 PM PST> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to STARTING>
<Dec 24, 2014 10:03:42 PM PST> <Info> <WorkManager> <BEA-002900> <Initializing self-tuning thread pool>
<Dec 24, 2014 10:03:44 PM PST> <Notice> <Log Management> <BEA-170019> <The server log file /root/Oracle/Middleware/user_projects/domains/Production_domain/servers/AdminServer/logs/AdminServer.log is opened. All server side log events will be written to this file.>
<Dec 24, 2014 10:03:53 PM PST> <Notice> <Security> <BEA-090082> <Security initializing using security realm myrealm.>
<Dec 24, 2014 10:04:04 PM PST> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to STANDBY>
<Dec 24, 2014 10:04:04 PM PST> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to STARTING>

```

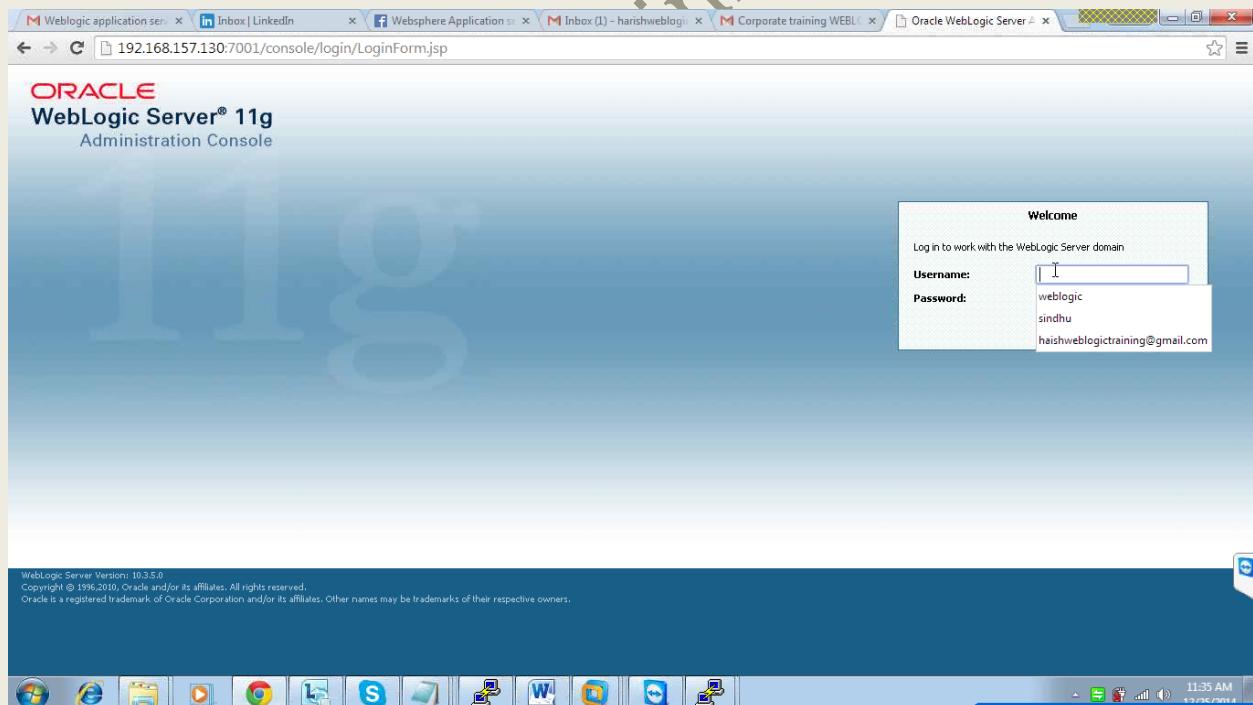
Started Admin server

```

root@localhost:~/Oracle/Middleware/user_projects/domains/Production_domain/bin
ems Enterprise Services GmbH,C=DE". The loading of the trusted certificate list raised a certificate parsing exception PKIX: Unsupported OID in the AlgorithmIdentifier object: 1.2.840.113549.1.1.11.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Security> <BEA-090898> <Ignoring the trusted CA certificate "CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE". The loading of the trusted certificate list raised a certificate parsing exception PKIX: Unsupported OID in the AlgorithmIdentifier object: 1.2.840.113549.1.1.11.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Security> <BEA-090898> <Ignoring the trusted CA certificate "CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3". The loading of the trusted certificate list raised a certificate parsing exception PKIX: Unsupported OID in the AlgorithmIdentifier object: 1.2.840.113549.1.1.11.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Security> <BEA-090898> <Ignoring the trusted CA certificate "OU=Security Communication RootCA2,O=SECOM Trust Systems Co.,LTD.,C=JP". The loading of the trusted certificate list raised a certificate parsing exception PKIX: Unsupported OID in the AlgorithmIdentifier object: 1.2.840.113549.1.1.11.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Security> <BEA-090898> <Ignoring the trusted CA certificate "CN=VeriSign Universal Root Certification Authority,OU=(c) 2008 VeriSign, Inc. - For authorized use only,OU=VeriSign Trust Network,O=VeriSign, Inc.,C=US". The loading of the trusted certificate list raised a certificate parsing exception PKIX: Unsupported OID in the AlgorithmIdentifier object: 1.2.840.113549.1.1.11.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Security> <BEA-090898> <Ignoring the trusted CA certificate "CN=KEYNECTIS ROOT CA,OU=ROOT,O=KEYNECTIS,C=FR". The loading of the trusted certificate list raised a certificate parsing exception PKIX: Unsupported OID in the AlgorithmIdentifier object: 1.2.840.113549.1.1.11.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Security> <BEA-090898> <Ignoring the trusted CA certificate "CN=GeoTrust Primary Certification Authority - G3,OU=(c) 2008 GeoTrust Inc. - For authorized use only,OU=GeoTrust Inc.,C=US". The loading of the trusted certificate list raised a certificate parsing exception PKIX: Unsupported OID in the AlgorithmIdentifier object: 1.2.840.113549.1.1.11.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "DefaultSecure" is now listening on 192.168.157.130:7002 for protocols iiops, t3s, ldaps, https.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "Default" is now listening on 192.168.157.130:7001 for protocols iiop, t3, ldap, snmp, http.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "DefaultSecure[2]" is now listening on 127.0.0.1:7002 for protocols iiops, t3s, ldaps, https.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "sip[2]" is now listening on 127.0.0.1:5061 for protocols sip.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "sip[2]" is now listening on 127.0.0.1:5060 for protocols sip.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "sip[3]" is now listening on 192.168.157.130:5061 for protocols sip.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "sip[3]" is now listening on 192.168.157.130:5060 for protocols sip.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "Default[2]" is now listening on 127.0.0.1:7001 for protocols iiop, t3, ldap, snmp, http.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "sip[1]" is now listening on fe80:0:0:0:20c:29ff:fe6f:4715:5060 for protocols sip.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "sip[1]" is now listening on fe80:0:0:0:20c:29ff:fe6f:4715:5061 for protocols sips.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "DefaultSecure[1]" is now listening on fe80:0:0:0:20c:29ff:fe6f:4715:7002 for protocols iiops, t3s, ldaps, https.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "Default[1]" is now listening on fe80:0:0:0:20c:29ff:fe6f:4715:7001 for protocols iiop, t3, ldap, snmp, http.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "DefaultSecure[3]" is now listening on 0:0:0:0:0:0:0:1:7002 for protocols iiops, t3s, ldaps, https.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "Default[3]" is now listening on 0:0:0:0:0:0:0:1:7001 for protocols iiop, t3, ldap, snmp, http.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "sip[3]" is now listening on 0:0:0:0:0:0:0:1:5061 for protocols sip.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "sip[3]" is now listening on 0:0:0:0:0:0:0:1:5060 for protocols sip.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <WebLogicServer> <BEA-000329> <started WebLogic Admin Server "AdminServer" for domain "Production_domain" running in Production mode>
<Dec 24, 2014 10:04:30 PM PST> <Notice> <WLSS.Transport> <BEA-330687> <Thread "SIP Message processor (Transport UDP)" is listening on port 5060>
<Dec 24, 2014 10:04:30 PM PST> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to RUNNING>
<Dec 24, 2014 10:04:30 PM PST> <Notice> <WebLogicServer> <BEA-000360> <Server started in RUNNING mode>

```

Step-3:



Login with the weblogic and password.

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

Click the Lock & Edit button to modify, add or delete items in this domain.

Lock & Edit

Release Configuration

Domain Structure

Production_domain

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
- Deployments
- Services
- Security Realms

How do I...

- Search the configuration
- Use the Change Center
- Record WLST Scripts
- Change Console preferences
- Monitor servers

System Status

Health of Running Servers

Waiting for 192.168.157.130...

Home Page

Information and Resources

Helpful Tools

- Configure applications
- Configure GridLink for RAC Data Source
- Recent Task Status
- Set your console preferences

General Information

- Common Administration Task Descriptions
- Read the documentation
- Ask a question on My Oracle Support
- Oracle Guardian Overview

Domain Configurations

Domain

- Domain

Environment

- Servers
- Clusters
- Virtual Hosts
- Migratable Targets
- Coherence Servers
- Coherence Clusters
- Machines
- Work Managers
- Startup And Shutdown Classes

Services

- Messaging**
 - JMS Servers
 - Store-and-Forward Agents
 - JMS Modules
 - Path Services
 - Bridges
- Data Sources
- Persistent Stores
- XML Registries
- XML Entity Caches
- Foreign JNDI Providers
- Work Contexts
- JCOM
- Mail Sessions
- FileT3
- JTA

Interoperability

- WTC Servers
- Jolt Connection Pools

Diagnostics

- Log Files
- Diagnostic Modules
- Diagnostic Images
- Request Performance
- Archives
- Context
- SNMP

Charts and Graphs

- Monitoring Dashboard

11:35 AM 13/05/2014

Click the servers

Step-4:

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Release Configuration

Domain Structure

Production_domain

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
- Deployments
- Services
- Security Realms

How do I...

- Create Managed Servers
- Clone Servers
- Delete Managed Servers
- Delete the Administration Server
- Start and stop servers

System Status

Health of Running Servers

Waiting for 192.168.157.130...

Home > Summary of Servers

Summary of Servers

Configuration Control

A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration.

This page summarizes each server that has been configured in the current WebLogic Server domain.

Servers (Filtered - More Columns Exist)

Name	Cluster	Machine	State	Health	Listen Port
AdminServer(admin)			RUNNING	OK	7001

New Clone Delete

Showing 1 to 1 of 1 Previous | Next

New Clone Delete

Showing 1 to 1 of 1 Previous | Next

11:35 AM 13/05/2014

Create servers

ORACLE WebLogic Server® Administration Console

Welcome, weblogic | Connected to: Production_domain

Change Center

View changes and restarts

Pending changes exist. They must be activated to take effect.

[Activate Changes](#)

[Undo All Changes](#)

Domain Structure

Production_domain

- Environment
 - Servers**
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
 - Deployments
 - Services
 - Security Realms

How do I...

- Create Managed Servers
- Clone Servers
- Delete Managed Servers
- Delete the Administration Server
- Start and stop servers

System Status

Health of Running Servers

192.168.157.130:7001/console/console.portal?_nfpb=true&_pageLabel=CoreServerServerTablePage

Create MS1, MS2, MS3 and MS4 like below.

MS1 and MS2 give Machine-A ip address

MS3 and MS4 give Machine-B ip address

Manage server Name	IP Address	PORT
MS1	192.168.157.130	7004
MS2	192.168.157.130	7004
MS3	192.168.157.131	7005
MS4	192.168.157.131	7006

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

Click the Lock & Edit button to modify, add or delete items in this domain.

Lock & Edit

Release Configuration

Domain Structure

Production_domain

- Environment
- Servers** (selected)
- Clusters
- Virtual Hosts
- Migratable Targets
- Coherence Servers
- Coherence Clusters
- Machines
- Work Managers
- Startup and Shutdown Classes
- Deployments
- Services
- Security Realms

How do I...

- Create Managed Servers
- Clone Servers
- Delete Managed Servers
- Delete the Administration Server
- Start and stop servers

System Status

Health of Running Servers

192.168.157.130:7001/console/console.portal?_nfpb=true&_pageLabel=CoreServerServerTablePage

Home Log Out Preferences Record Help

Welcome, weblogic Connected to: Production_domain

Summary of Servers

Configuration Control

A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration.

This page summarizes each server that has been configured in the current WebLogic Server domain.

Customize this table

Servers (Filtered - More Columns Exist)

Click the Lock & Edit button in the Change Center to activate all the buttons on this page.

Name	Cluster	Machine	State	Health	Listen Port
AdminServer(admin)			RUNNING	OK	7001
MS1			SHUTDOWN		7003
MS2			SHUTDOWN		7004
MS3			SHUTDOWN		7005
MS4			SHUTDOWN		7006

New Clone Delete

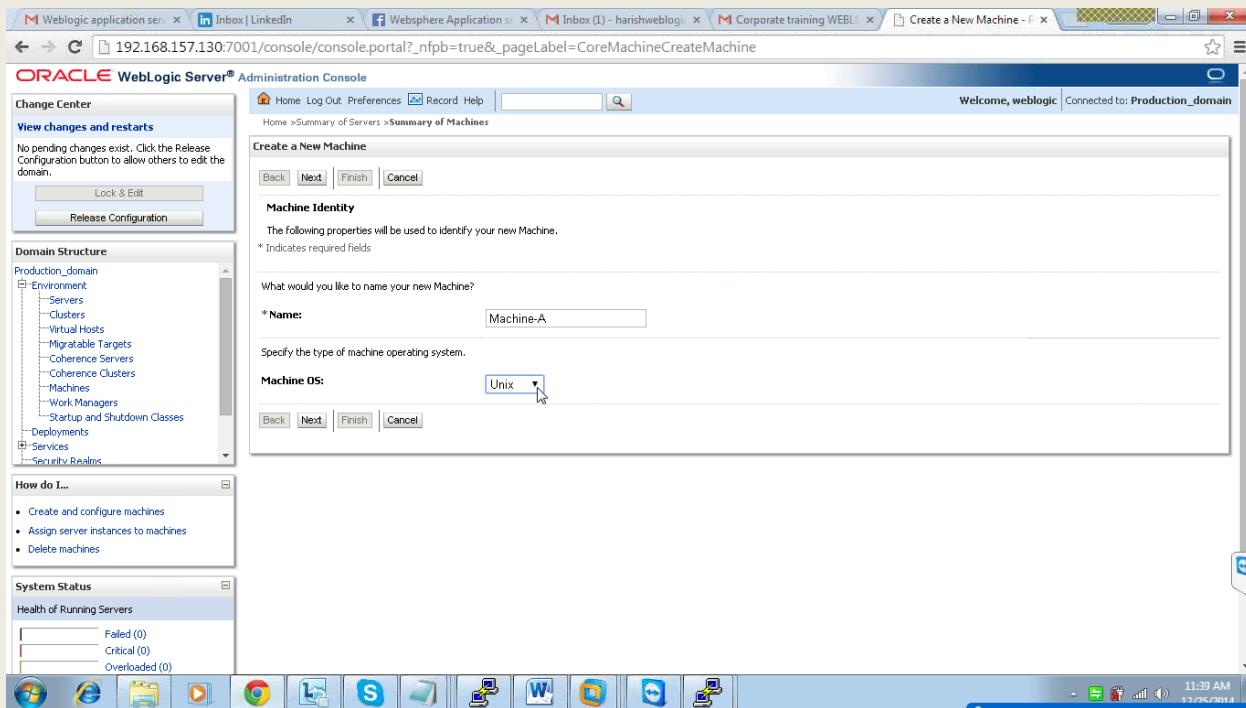
Showing 1 to 5 of 5 Previous | Next

11:39 AM 17/05/2014

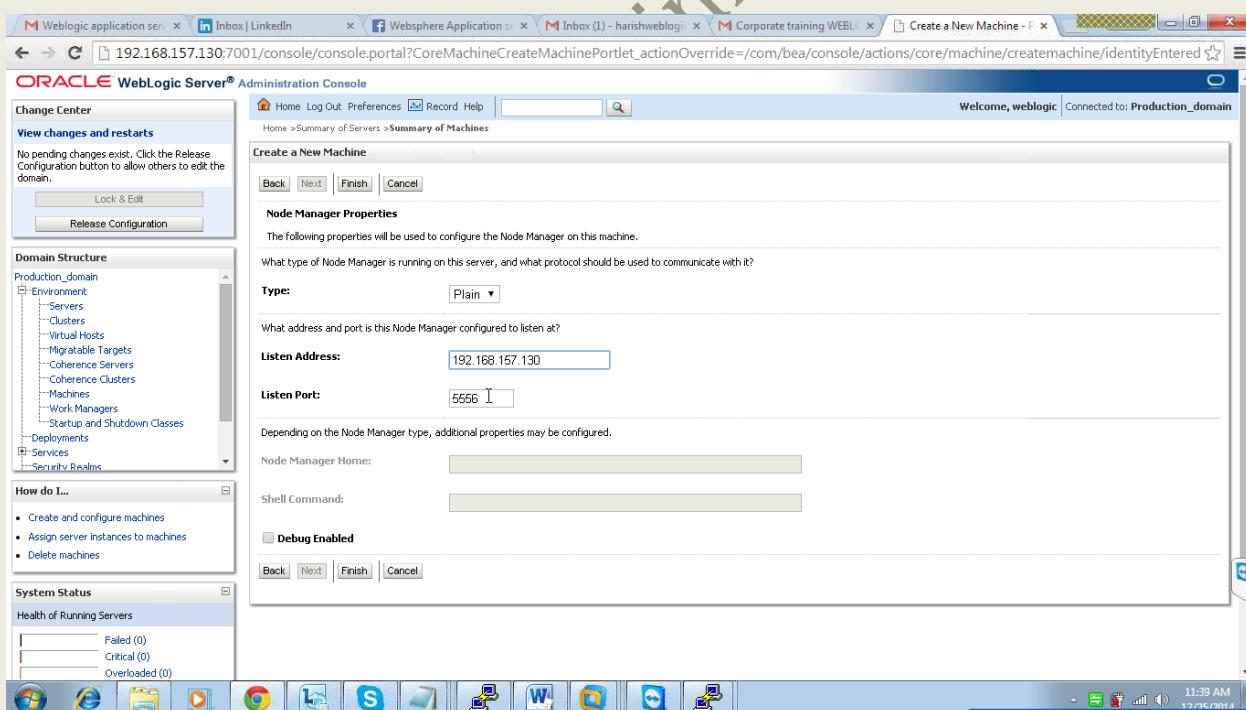
After creating manager server look like the above.

Step-5:

Create Machine in the Weblogic console
 Click on the machines in the and create 2 machines



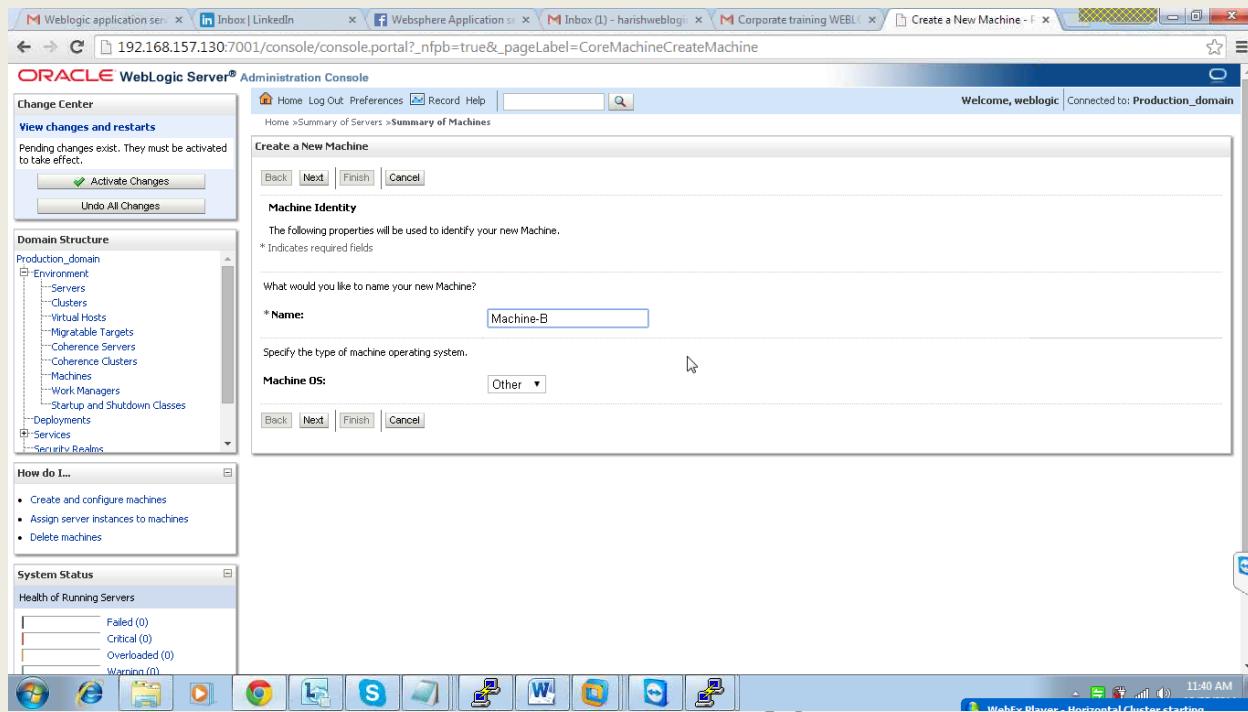
Name=Machine-A



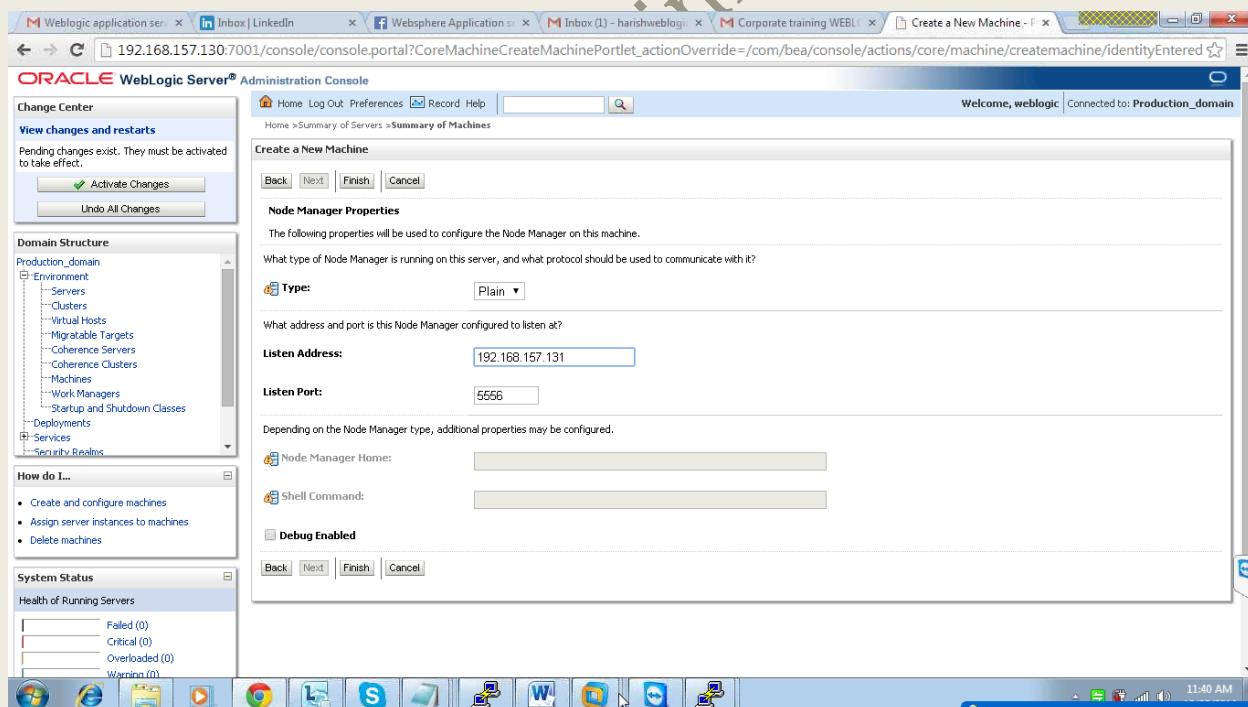
Click next

Type=Plain (because we are not using ssl certificates)

Listen Address=192.168.157.130



Now Create Machine B



Click next

Type=Plain (because we are not using ssl certificates)

Listen Address=192.168.157.131

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

Pending changes exist. They must be activated to take effect.

Activate Changes

Undo All Changes

Domain Structure

Production_domain

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines**
 - Work Managers
 - Startup and Shutdown Classes
 - Deployments
 - Services
 - Security Realms

How do I...

- Create and configure machines
- Assign server instances to machines
- Clone machines
- Delete machines

System Status

Health of Running Servers

Failed (0)

192.168.157.130:7001/console/console.portal?_nfpb=true&_pageLabel=CoreMachineMachineTablePage

11:40 AM

Step-6:

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

Click the Lock & Edit button to modify, add or delete items in this domain.

Lock & Edit

Release Configuration

Domain Structure

Production_domain

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines**
 - Work Managers
 - Startup and Shutdown Classes
 - Deployments
 - Services
 - Security Realms

How do I...

- Create and configure machines
- Delete machines
- Assign server instances to machines

System Status

Health of Running Servers

Failed (0)
Critical (0)
Unresolved (0)

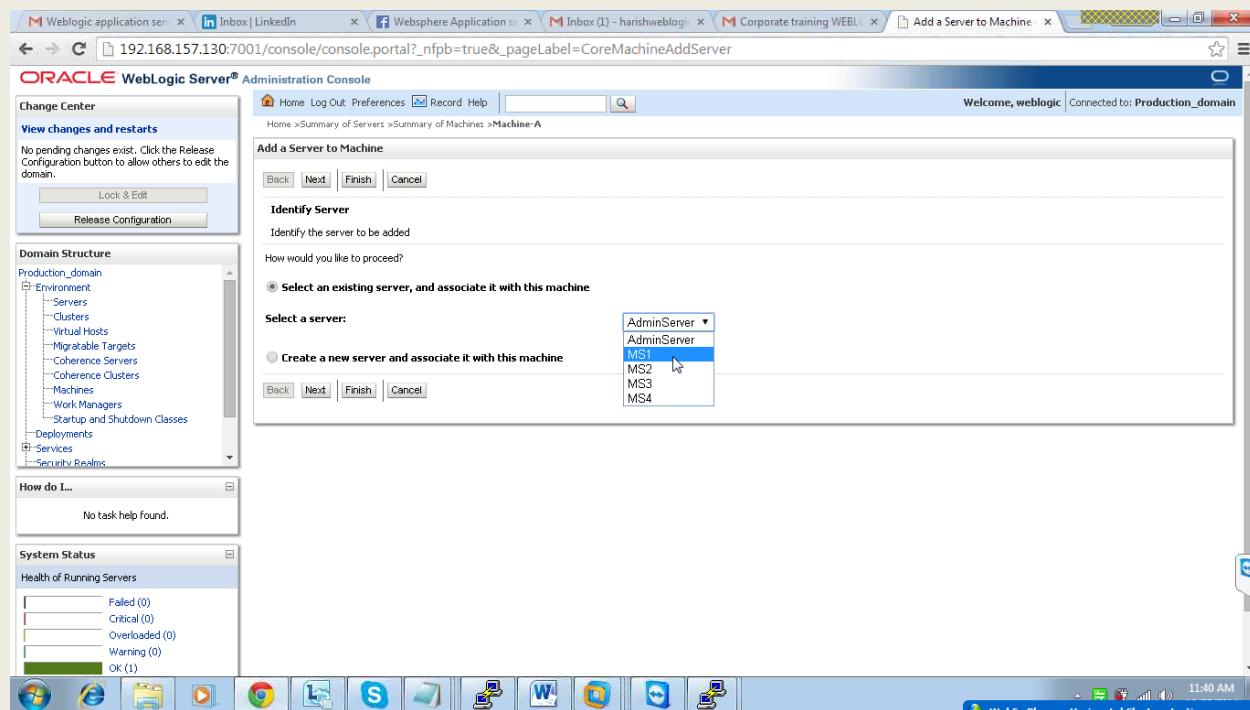
192.168.157.130:7001/console/console.portal?_nfpb=true&_pageLabel=CoreMachineMachineConfigGeneralPage&CoreMachineMachineConfigGeneralPortlethandle=com

11:40 AM

Now add manage servers to machines.

Means which manage server belongs to which machine

Manage-server	Machine	IP-address	port
MS1	Machine-A	192.168.157.130	7003
MS2	Machine-A	192.168.157.130	7004
MS3	Machine-B	192.168.1.131	7005
MS4	Machine-B	192.168.1.131	7006



Scroll and select

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

Pending changes exist. They must be activated to take effect.

Activate Changes

Undo All Changes

Domain Structure

Production_domain

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
 - Deployments
- Services
- Security Realms

How do I...

- Create and configure machines
- Create Managed Servers
- Delete machines
- Assign server instances to machines

System Status

Health of Running Servers

- Failed (0)
- Critical (0)
- Unavailable (0)

11:41 AM

WebEx Player - Horizontal Cluster starting

192.168.157.130:7001/console/console.portal?_nfpb=true&_pageLabel=CoreMachineConfigServersPage

Home Log Out Preferences Record Help

Welcome, weblogic Connected to: Production_domain

Messages

Server created successfully.

Settings for Machine-A

Configuration Monitoring Notes

General Node Manager Servers

Servers (Filtered - More Columns Exist)

Add Remove

Name	Cluster	Machine	State	Health	Listen Port
MS1		Machine-A	SHUTDOWN		7003
MS4		Machine-A	SHUTDOWN		7006

Add Remove

Showing 1 to 2 of 2 Previous | Next

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

Click the Lock & Edit button to modify, add or delete items in this domain.

Lock & Edit

Release Configuration

Domain Structure

Production_domain

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Clusters, Level 2, 2 of 9
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
 - Deployments
- Services
- Security Realms

How do I...

- Create and configure machines
- Create Managed Servers
- Delete machines
- Assign server instances to machines

System Status

Health of Running Servers

- Failed (0)

192.168.157.130:7001/console/console.portal?_nfpb=true&_pageLabel=CoreMachineConfigServersPage

Home Log Out Preferences Record Help

Welcome, weblogic Connected to: Production_domain

Messages

All changes have been activated. No restarts are necessary.

Settings for Machine-B

Configuration Monitoring Notes

General Node Manager Servers

Servers (Filtered - More Columns Exist)

Add Remove

Name	Cluster	Machine	State	Health	Listen Port
MS2		Machine-B	SHUTDOWN		7004
MS3		Machine-B	SHUTDOWN		7005

Add Remove

Showing 1 to 2 of 2 Previous | Next

11:41 AM

WebEx Player - Horizontal Cluster starting

Now machines are configured.

Step-7:

Now create cluster

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Lock & Edit

Release Configuration

Domain Structure

Production_domain

- Environment
- Servers
- Clusters
- Virtual Hosts
- Migratable Targets
- Coherence Servers
- Coherence Clusters
- Machines
- Work Managers
- Startup and Shutdown Classes
- Deployments
- Services
- Security Realms

How do I...

- Configure clusters
- Assign servers to clusters
- Configure server migration in a cluster
- Configure cross-cluster replication

System Status

Health of Running Servers

- Failed (0)
- Critical (0)

OK Cancel

Welcome, weblogic | Connected to: Production_domain

Home >Summary of Servers >Summary of Machines >Machine-A >Summary of Servers >Summary of Machines >Machine-B >Summary of Clusters

Create a New Cluster

OK Cancel

Cluster Properties

The following properties will be used to create your new Cluster.

* Indicates required fields

What would you like to name your new Cluster?

* Name:

Clusters use messaging for sharing session, load balancing and failover, JMS, and other information between cluster members. Clusters can use either Unicast or Multicast messaging. Multicast is a simple broadcast technology that enables multiple applications to subscribe to a given IP address and port number and listen for messages, but requires hardware configuration and support. What messaging mode should this cluster use?

Messaging Mode:

Unicast Broadcast Channel:

Multicast Address:

Multicast Port:

OK Cancel

Name=Horizontal_cluster

Messaging mode=Unicast

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

Pending changes exist. They must be activated to take effect.

Activate Changes

Undo All Changes

Domain Structure

Production_domain

- Environment
- Servers
- Clusters**
- Virtual Hosts
- Migratable Targets
- Coherence Servers
- Coherence Clusters
- Machines
- Work Managers
- Startup and Shutdown Classes
- Deployments
- Services
- Security Realms

How do I...

- Configure clusters
- Assign servers to clusters
- Configure server migration in a cluster
- Configure cross-cluster replication

System Status

Health of Running Servers

- Failed (0)

192.168.157.130:7001/console/console.portal?_nfpb=true&_pageLabel=CoreClusterClusterTablePage

OK Cancel

Welcome, weblogic | Connected to: Production_domain

Home >Summary of Servers >Summary of Machines >Machine-A >Summary of Servers >Summary of Machines >Machine-B >Summary of Clusters

Summary of Clusters

Cluster created successfully

This page summarizes the clusters that have been configured in the current WebLogic Server domain.

A cluster defines groups of WebLogic Server servers that work together to increase scalability and reliability.

Customize this table

Clusters (Filtered - More Columns Exist)

Name	Cluster Address	Cluster Messaging Mode	Migration Basis	Default Load Algorithm	Replication Type	Cluster Broadcast Channel	Servers
Horizontal_Cluster		Unicast	Database	Round Robin	(None)		

New | Clone | Delete

Showing 1 to 1 of 1 Previous | Next

Showing 1 to 1 of 1 Previous | Next

192.168.157.130:7001/console/console.portal?_nfpb=true&_pageLabel=CoreCluster...

Horizontal cluster is created.

Now add all manage server in to Cluster

Manage server	Cluster	Machine	Ip-address	Port
MS1	Horizontal-Cluster	Machine-A	192.168.157.130	7003
MS2	Horizontal-Cluster	Machine-A	192.168.157.130	7004
Ms3	Horizontal-Cluster	Machine-B	192.168.157.131	7005
Ms4	Horizontal-Cluster	Machine-B	192.168.157.131	7006

Name	Cluster	Machine	State	Health	Listen Port
AdminServer(admin)			RUNNING	OK	7001
MS1	Horizontal-Cluster	Machine-A	RUNNING	OK	7003
MS2	Horizontal-Cluster	Machine-B	SHUTDOWN		7004
MS3	Horizontal-Cluster	Machine-B	SHUTDOWN		7005
MS4	Horizontal-Cluster	Machine-A	RUNNING	OK	7006

Step-8:

Now add the cluster address in the Horizontal_Cluster>General

Select the Algorithm type: round-robin (default) ---select whatever you want

Cluster Address: 192.168.157.130:7003,192.168.157.130:7004,192.168.157.130:7005,

192.168.157.130:7006

Number of servers in cluster Address: 4

Click save.

Click on the Replication tab

Cross-Cluster Replication Type: WAN(Asynchronous)HTTP Session State Replication

Remote Cluster Address: 192.168.157.130:7003,192.168.157.130:7004,192.168.157.130:7005,
192.168.157.130:7006

Click saves.

Click on Active changes.

Now we have done all configurations in the console

1---Created manage servers

2---Created machines

3---Created cluster

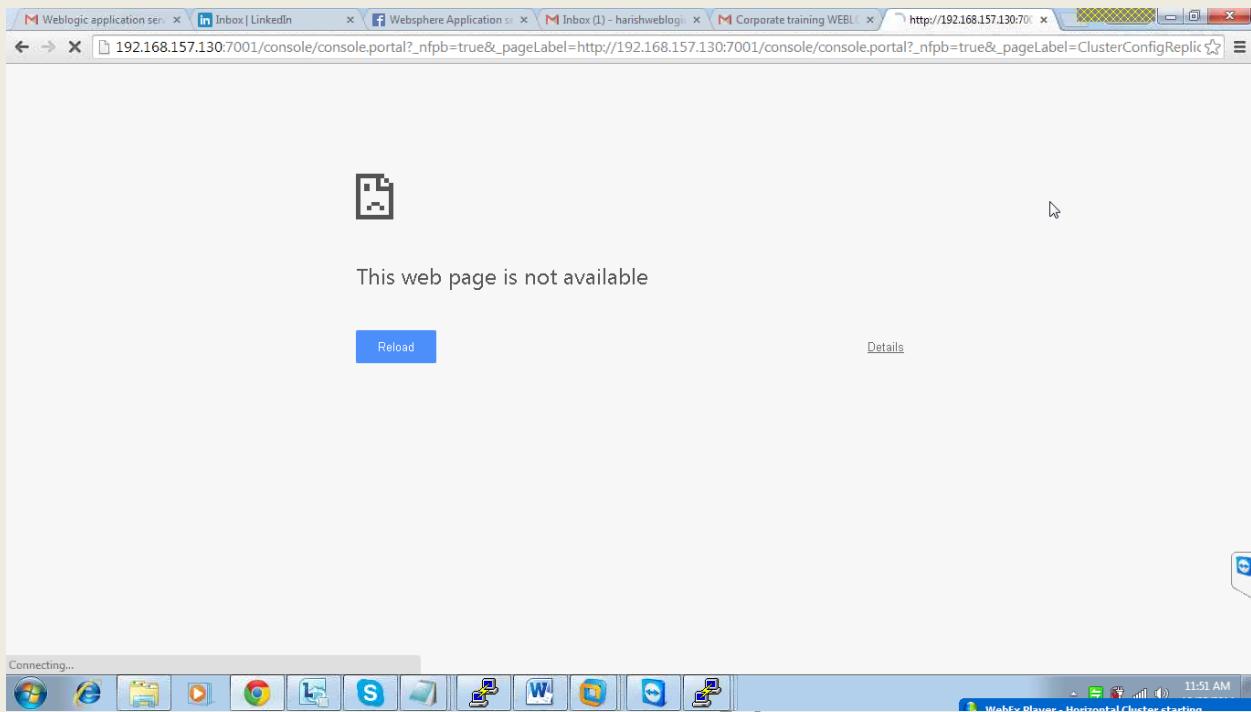
Now I am going to pack this entire domain. Before packing the domain stop all server .

```

root@localhost:~/Oracle/Middleware/user_projects/domains/Production_domain/bin
<Dec 24, 2014 10:04:29 PM PST> <Notice> <Server> <BEA-002613> <channel "sips[3]" is now listening on 0:0:0:0:0:0:1:5061 for protocols sips.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <BEA-002613> <channel "sip[3]" is now listening on 0:0:0:0:0:0:1:5060 for protocols sip.>
<Dec 24, 2014 10:04:29 PM PST> <Notice> <WebLogicServer> <BEA-000329> <Started WebLogic Admin Server "AdminServer" for domain "Production_domain" running in Production Mode>
<Dec 24, 2014 10:04:30 PM PST> <Notice> <WLSS.Transport> <BEA-330687> <Thread "SIP Message processor (Transport UDP)" is listening on port 5060>
<Dec 24, 2014 10:04:30 PM PST> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to RUNNING>
<Dec 24, 2014 10:04:30 PM PST> <Notice> <WebLogicServer> <BEA-000360> <Server started in RUNNING mode>
<Dec 24, 2014 10:06:50 PM PST> <Warning> <Socket> <BEA-000449> <Closing socket as no data read from it on 192.168.157.1:51,520 during the configured idle timeout of 5 seconds>
<Dec 24, 2014 10:08:35 PM PST> <Warning> <Socket> <BEA-000449> <Closing socket as no data read from it on 192.168.157.1:51,650 during the configured idle timeout of 5 seconds>
<Dec 24, 2014 10:11:15 PM PST> <Warning> <Management> <BEA-141239> <The non-dynamic attribute Machine on weblogic.management.configuration.ServerMBeanImpl@1814be8249([Production_domain]/Servers[MS1]) has been changed. This may require redeploying or rebooting configured entities>
<Dec 24, 2014 10:11:15 PM PST> <Warning> <Management> <BEA-141239> <The non-dynamic attribute Machine on weblogic.management.configuration.ServerMBeanImpl@1814be824c([Production_domain]/Servers[MS4]) has been changed. This may require redeploying or rebooting configured entities>
<Dec 24, 2014 10:11:41 PM PST> <Warning> <Management> <BEA-141239> <The non-dynamic attribute Machine on weblogic.management.configuration.ServerMBeanImpl@1814be824e([Production_domain]/Servers[MS2]) has been changed. This may require redeploying or rebooting configured entities>
<Dec 24, 2014 10:11:41 PM PST> <Warning> <Management> <BEA-141239> <The non-dynamic attribute Machine on weblogic.management.configuration.ServerMBeanImpl@1814be824f([Production_domain]/Servers[MS3]) has been changed. This may require redeploying or rebooting configured entities>
<Dec 24, 2014 10:20:38 PM PST> <Warning> <Management> <BEA-141239> <The non-dynamic attribute ClusterAddress on weblogic.management.configuration.ClusterMBeanImpl@4f2ad851([Production_domain]/Clusters[Horizontal-Cluster]) has been changed. This may require redeploying or rebooting configured entities>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <WebLogicServer> <BEA-000388> <VM called WLS shutdown hook. The server will force shutdown now>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to FORCE_SUSPENDING>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to ADMIN>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to FORCE_SHUTTING_DOWN>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <Server> <BEA-002607> <channel "Default[2]" listening on 127.0.0.1:7002 was shutdown.>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <Server> <BEA-002607> <channel "sip[2]" listening on 127.0.0.1:5060 was shutdown.>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <Server> <BEA-002607> <channel "Default[3]" listening on 0:0:0:0:0:0:1:7002 was shutdown.>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <Server> <BEA-002607> <channel "sip[3]" listening on 0:0:0:0:0:0:1:5061 was shutdown.>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <Server> <BEA-002607> <channel "Default[1]" listening on 192.168.157.130:7001 was shutdown.>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <Server> <BEA-002607> <channel "Default[2]" listening on 127.0.0.1:7001 was shutdown.>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <Server> <BEA-002607> <channel "sip[1]" listening on fe80:0:0:0:20c:29ff:fe6f:4715:5060 was shutdown.>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <Server> <BEA-002607> <channel "sip[1]" listening on fe80:0:0:0:20c:29ff:fe6f:4715:5061 was shutdown.>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <Server> <BEA-002607> <channel "DefaultSecure[1]" listening on fe80:0:0:0:20c:29ff:fe6f:4715:7002 was shutdown.>
<Dec 24, 2014 10:21:36 PM PST> <Notice> <Server> <BEA-002607> <channel "Default[1]" listening on fe80:0:0:0:20c:29ff:fe6f:4715:7001 was shutdown.>
<WLSS> SIP Message processor (Transport UDP) stopped listening on port 5060

```

Shutdown the servers.



Step-9:

Prepare the pack and unpack commands:

Run pack command in machine-A(because we have domain in machine-A)

Run unpack command in machine-B(We want same domain in machine-B)

```
./pack.sh -domain=/root/Oracle/Middleware/user_projects/domains/Production_domain/ -  
template=/root/Oracle/Middleware/user_templates/Production_domain.jar -managed=true -  
template_name="Production domain for horizontal cluster"
```

```
./unpack.sh -template=/root/Oracle/Middleware/user_templates/Production_domain.jar -  
domain=/root/Oracle/Middleware/user_projects/domains/Production_domain
```

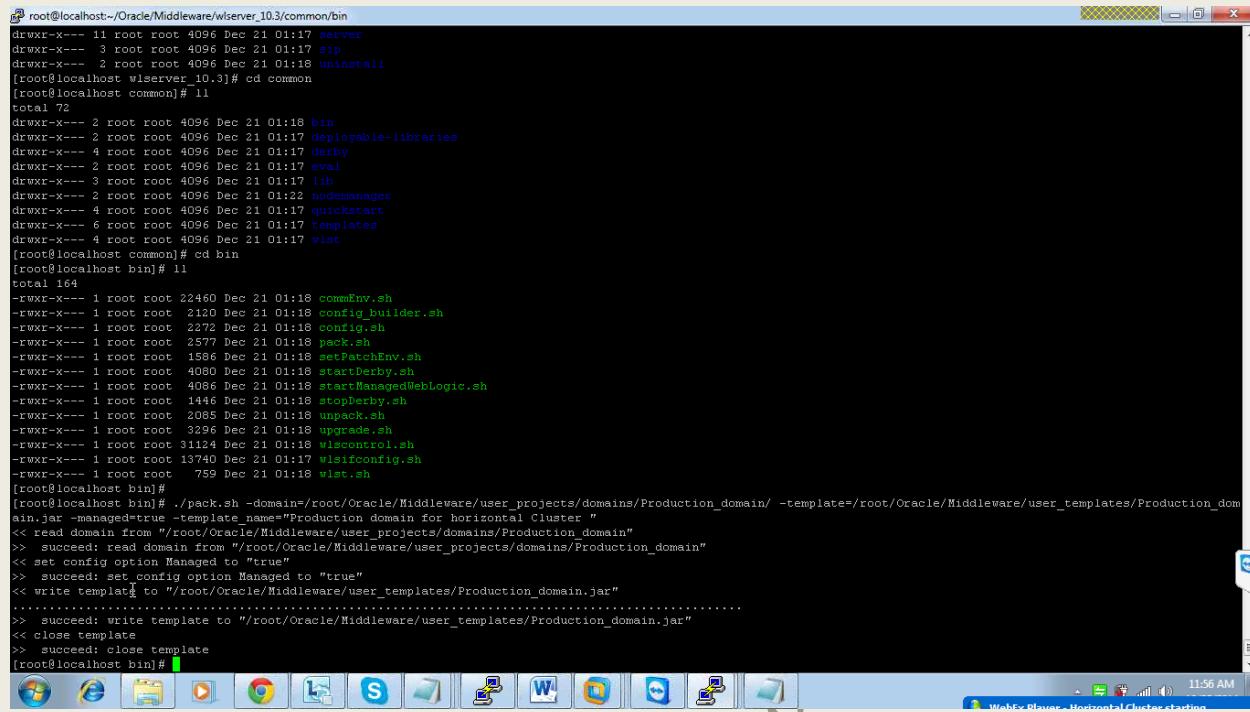
Run `setDomainEnv.sh`

Go to the root\Oracle\Middleware\wlserver-10.3\common\bin\ pack.sh

```
root@localhost:/Oracle/Middleware/wlservr_10.3/common/bin
drwxr-x--- 3 root root 4096 Dec 24 22:02 user_projects
drwxr-x--- 8 root root 4096 Dec 21 01:17 utils
drwxr-x--- 9 root root 4096 Dec 21 01:18 wlservr_10.3
[root@localhost Middleware]# cd wlservr_10.3
[root@localhost wlservr_10.3]# ll
total 56
drwxr-x--- 3 root root 4096 Dec 21 01:17 bugsfixed
drwxr-x--- 11 root root 4096 Dec 21 01:17 common
drwxr-x--- 3 root root 4096 Dec 21 01:18 inventory
drwxr-x--- 2 root root 4096 Dec 21 01:17 lib
drwxr-x--- 11 root root 4096 Dec 21 01:17 server
drwxr-x--- 3 root root 4096 Dec 21 01:17 zip
drwxr-x--- 2 root root 4096 Dec 21 01:18 uninstall
[root@localhost wlservr_10.3]# cd common
[root@localhost common]# ll
total 72
drwxr-x--- 2 root root 4096 Dec 21 01:18 bin
drwxr-x--- 2 root root 4096 Dec 21 01:17 deployable-libraries
drwxr-x--- 4 root root 4096 Dec 21 01:17 derby
drwxr-x--- 2 root root 4096 Dec 21 01:17 eval
drwxr-x--- 3 root root 4096 Dec 21 01:17 lib
drwxr-x--- 2 root root 4096 Dec 21 01:23 nodemanager
drwxr-x--- 4 root root 4096 Dec 21 01:17 quickstart
drwxr-x--- 6 root root 4096 Dec 21 01:17 templates
drwxr-x--- 4 root root 4096 Dec 21 01:17 wlist
[root@localhost common]# cd bin
[root@localhost bin]# ll
total 164
-rwxr-x--- 1 root root 22460 Dec 21 01:18 commEnv.sh
-rwxr-x--- 1 root root 2120 Dec 21 01:18 config_builder.sh
-rwxr-x--- 1 root root 2272 Dec 21 01:18 config.sh
-rwxr-x--- 1 root root 2577 Dec 21 01:18 pack.sh
-rwxr-x--- 1 root root 1586 Dec 21 01:18 setPatchEnv.sh
-rwxr-x--- 1 root root 4080 Dec 21 01:18 startDerby.sh
-rwxr-x--- 1 root root 4086 Dec 21 01:18 startManagedWebLogic.sh
-rwxr-x--- 1 root root 1446 Dec 21 01:18 stopDerby.sh
-rwxr-x--- 1 root root 2085 Dec 21 01:18 unpack.sh
-rwxr-x--- 1 root root 3296 Dec 21 01:18 upgrade.sh
-rwxr-x--- 1 root root 31124 Dec 21 01:18 wlscontrol.sh
-rwxr-x--- 1 root root 13740 Dec 21 01:17 wlsfconfig.sh
-rwxr-x--- 1 root root 759 Dec 21 01:18 wlist.sh
[root@localhost bin]#
[root@bin ~]# ./pack.sh --domain=/root/Oracle/Middleware/user_projects/domains/Production_domain/ -template=/root/Oracle/Middleware/user_templates/Production_domain.jar --managed=true -templateName="Production domain for horizontal Cluster"

```

Run the pack.sh command

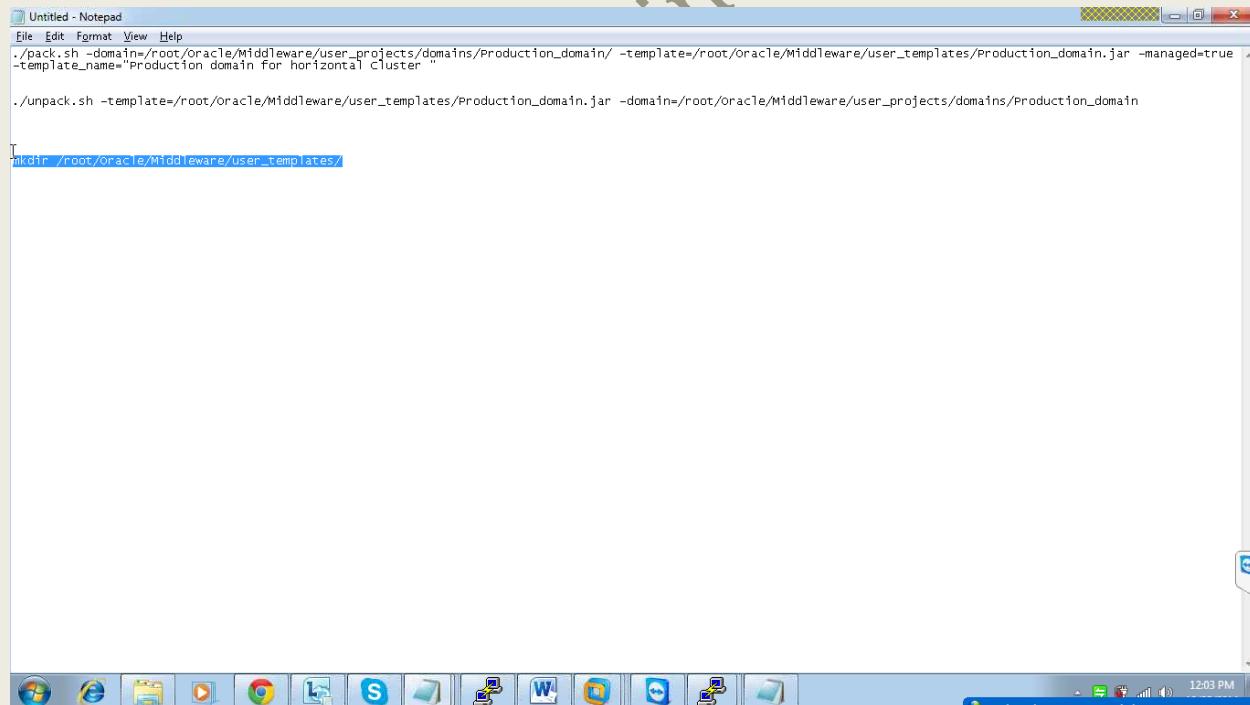


```

root@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin
drwxr-x--- 11 root root 4096 Dec 21 01:17 server
drwxr-x--- 3 root root 4096 Dec 21 01:17 sip
drwxr-x--- 2 root root 4096 Dec 21 01:18 uninstall
[root@localhost wlserver_10.3]# cd common
[root@localhost common]# ll
total 72
drwxr-x--- 2 root root 4096 Dec 21 01:18 bin
drwxr-x--- 2 root root 4096 Dec 21 01:17 deployable-libraries
drwxr-x--- 4 root root 4096 Dec 21 01:17 derby
drwxr-x--- 2 root root 4096 Dec 21 01:17 eval
drwxr-x--- 3 root root 4096 Dec 21 01:17 lib
drwxr-x--- 2 root root 4096 Dec 21 01:22 nodemanager
drwxr-x--- 4 root root 4096 Dec 21 01:17 quickstart
drwxr-x--- 6 root root 4096 Dec 21 01:17 templates
drwxr-x--- 4 root root 4096 Dec 21 01:17 wlst
[root@localhost common]# cd bin
[root@localhost bin]# ll
total 164
-rwxr-x--- 1 root root 22460 Dec 21 01:18 commEnv.sh
-rwxr-x--- 1 root root 2120 Dec 21 01:18 config_builder.sh
-rwxr-x--- 1 root root 2272 Dec 21 01:18 config.sh
-rwxr-x--- 1 root root 2577 Dec 21 01:18 pack.sh
-rwxr-x--- 1 root root 1586 Dec 21 01:18 setPatchEnv.sh
-rwxr-x--- 1 root root 4080 Dec 21 01:18 startDerby.sh
-rwxr-x--- 1 root root 4086 Dec 21 01:18 startManagedWebLogic.sh
-rwxr-x--- 1 root root 1446 Dec 21 01:18 stopDerby.sh
-rwxr-x--- 1 root root 2085 Dec 21 01:18 unpack.sh
-rwxr-x--- 1 root root 3296 Dec 21 01:18 upgrade.sh
-rwxr-x--- 1 root root 31124 Dec 21 01:18 wlsccontrol.sh
-rwxr-x--- 1 root root 13740 Dec 21 01:17 wlscifconfig.sh
-rwxr-x--- 1 root root 759 Dec 21 01:18 wlst.sh
[root@localhost bin]# ./pack.sh -domain=/root/Oracle/Middleware/user_projects/domains/Production_domain/ -template=/root/Oracle/Middleware/user_templates/Production_domain.jar -managed=true -template_name="Production domain for horizontal Cluster"
<< read domain from "/root/Oracle/Middleware/user_projects/domains/Production_domain"
>> succeed: read domain from "/root/Oracle/Middleware/user_projects/domains/Production_domain"
<< set config option Managed to "true"
>> succeed: set config option Managed to "true"
<< write template to "/root/Oracle/Middleware/user_templates/Production_domain.jar"
.....>>
>> succeed: write template to "/root/Oracle/Middleware/user_templates/Production_domain.jar"
<< close template
>> succeed: close template
[root@localhost bin]#

```

After packing the domain you will able to see above success message.



```

Untitled - Notepad
File Edit Format View Help
./pack.sh -domain=/root/Oracle/Middleware/user_projects/domains/Production_domain/ -template=/root/Oracle/Middleware/user_templates/Production_domain.jar -managed=true -template_name="Production domain for horizontal Cluster"
./unpack.sh -template=/root/Oracle/Middleware/user_templates/Production_domain.jar -domain=/root/Oracle/Middleware/user_projects/domains/Production_domain
mkdtr /root/Oracle/middleware/user_templates/

```

```

root@localhost:~/Oracle/Middleware
Installation Complete

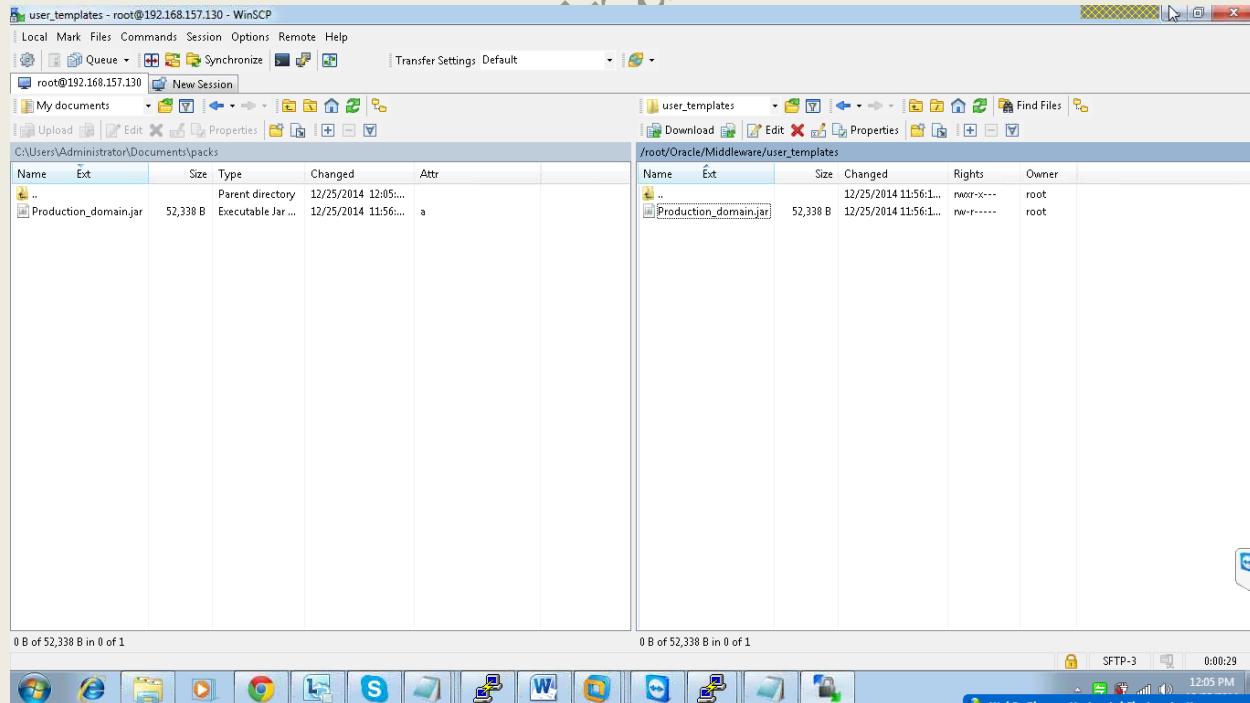
Congratulations! Installation is complete.

Press [Enter] to continue or type [Exit]> exit
[root@localhost Desktop]# ll
total 1047048
-rwxr--r-- 1 root root 1071117042 Apr  3  2012 wlst035_ope111172_linux32.bin
[root@localhost Desktop]# cd ..
[root@localhost ~]# ll
total 80
-rw-r----- 1 root root 883 Dec 21 04:53 anaconda-ks.cfg
drwxr-x--- 2 root root 4096 Dec 24 22:31 bea
drwxr-xr-x 2 root root 4096 Dec 21 01:08 Desktop
-rw-r----- 1 root root 29073 Dec 21 04:52 install.log
-rw-r----- 1 root root 4633 Dec 21 04:51 install.log.syslog
drwxr-x--- 3 root root 4096 Dec 24 22:30 Oracle
[root@localhost ~]# mkdir /root/Oracle/Middleware/user_templates/
[root@localhost ~]# ll
total 80
-rw-r----- 1 root root 883 Dec 21 04:53 anaconda-ks.cfg
drwxr-x--- 2 root root 4096 Dec 24 22:31 bea
drwxr-xr-x 2 root root 4096 Dec 21 01:08 Desktop
-rw-r----- 1 root root 29073 Dec 21 04:52 install.log
-rw-r----- 1 root root 4633 Dec 21 04:51 install.log.syslog
drwxr-x--- 3 root root 4096 Dec 24 22:30 Oracle
[root@localhost ~]# cd /root/Oracle/Middleware/
[root@localhost Middleware]# ll
total 208
-rw-r----- 1 root root 133 Dec 24 22:31 domain-registry.xml
drwxr-x--- 7 root root 4096 Dec 24 22:31 jdk160_34_01.1.2-4
drwxr-x--- 7 root root 4096 Dec 24 22:31 jrockit_160_34_01.1.2-4
drwxr-x--- 2 root root 4096 Dec 24 22:32 logs
drwxr-x--- 7 root root 36864 Dec 24 22:30 modules
-rw-r----- 1 root root 621 Dec 24 22:32 ocm.rsp
-rw-r----- 1 root root 87406 Dec 24 22:32 registry.dat
-rw-r----- 1 root root 2403 Dec 24 22:32 registry.xml
drwxr-xr-x 2 root root 4096 Dec 24 22:33 user_templates
drwxr-x--- 8 root root 4096 Dec 24 22:31 utils
drwxr-x--- 9 root root 4096 Dec 24 22:32 wlserver_10.3
[root@localhost Middleware]#

```

Domain is packed in to the user_templates folder with the Production.jar format.

Step-10:



Now I am going to send .jar file to machine-B location via win-scp

Step-11:

Go to machine-B(because we are going to unpack .jar file in machine)

```
root@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin
total 80
-rw-r----- 1 root root 883 Dec 21 04:53 anaconda-ks.cfg
drwxr-x--- 2 root root 4096 Dec 24 22:31 bea
drwxr-xr-x 2 root root 4096 Dec 21 01:08 Desktop
-rw-r--r-- 1 root root 29073 Dec 21 04:52 install.log
-rw-r--r-- 1 root root 4633 Dec 21 04:51 install.log.syslog
drwxr-x--- 3 root root 4096 Dec 24 22:30 Oracle
[root@localhost ~]# cd /root/Oracle/Middleware/
[root@localhost Middleware]# ll
total 208
-rw-rw---- 1 root root 133 Dec 24 22:31 domain-registry.xml
drwxr-x--- 7 root root 4096 Dec 24 22:31 jdk160_24
drwxr-x--- 7 root root 4096 Dec 24 22:31 jrockit_160_24_D1.1.2-4
drwxr-x--- 2 root root 4096 Dec 24 22:32 logs
drwxr-x--- 7 root root 36864 Dec 24 22:30 modules
-rw-r----- 1 root root 621 Dec 24 22:32 ocm.rsp
-rw-r----- 1 root root 87406 Dec 24 22:32 registry.dat
-rw-r----- 1 root root 2403 Dec 24 22:32 registry.xml
drwxr-xr-x 2 root root 4096 Dec 24 22:33 user_templates
drwxr-x--- 8 root root 4096 Dec 24 22:31 utils
drwxr-x--- 9 root root 4096 Dec 24 22:32 wlserver_10.3
[root@localhost Middleware]# cd user_templates
[root@localhost user_templates]# ll
total 0
[root@localhost user_templates]# ll
total 60
-rw-r----- 1 root root 52336 Dec 24 22:26 Production.domain.jar
[root@localhost user_templates]# cd /root/Oracle/Middleware/wlserver_10.3/common/bin
[root@localhost bin]# ll
total 164
-rwxr-x--- 1 root root 22460 Dec 24 22:32 commEnv.sh
-rwxr-x--- 1 root root 2120 Dec 24 22:32 config_builder.sh
-rwxr-x--- 1 root root 2272 Dec 24 22:32 config.sh
-rwxr-x--- 1 root root 2577 Dec 24 22:32 pack.sh
-rwxr-x--- 1 root root 1586 Dec 24 22:32 setPatchEnv.sh
-rwxr-x--- 1 root root 4080 Dec 24 22:32 startDerby.sh
-rwxr-x--- 1 root root 4086 Dec 24 22:32 startManagedWebLogic.sh
-rwxr-x--- 1 root root 1446 Dec 24 22:32 stopDerby.sh
-rwxr-x--- 1 root root 2085 Dec 24 22:32 unpack.sh
-rwxr-x--- 1 root root 3295 Dec 24 22:32 upgrade.sh
-rwxr-x--- 1 root root 31124 Dec 24 22:32 wlserver.sh
-rwxr-x--- 1 root root 13740 Dec 24 22:30 wlserverConfig.sh
-rwxr-x--- 1 root root 759 Dec 24 22:32 vist.sh
[root@localhost bin]#
```

Go to the /root/Oracle/Middleware/wlserver_10.3/Common/bin

```
root@localhost:~/Oracle/Middleware/wlserver_10.3/common/bin
drwxr-x--- 2 root root 4096 Dec 24 22:31 bea
drwxr-xr-x 2 root root 4096 Dec 21 01:08 Desktop
-rw-r--r-- 1 root root 29073 Dec 21 04:52 install.log
-rw-r--r-- 1 root root 4633 Dec 21 04:51 install.log.syslog
drwxr-x--- 3 root root 4096 Dec 24 22:30 Oracle
[root@localhost ~]# cd /root/Oracle/Middleware/
[root@localhost Middleware]# ll
total 208
-rw-rw---- 1 root root 133 Dec 24 22:31 domain-registry.xml
drwxr-x--- 7 root root 4096 Dec 24 22:31 jdk160_24
drwxr-x--- 7 root root 4096 Dec 24 22:31 jrockit_160_24_D1.1.2-4
drwxr-x--- 2 root root 4096 Dec 24 22:32 logs
drwxr-x--- 7 root root 36864 Dec 24 22:30 modules
-rw-r----- 1 root root 621 Dec 24 22:32 ocm.rsp
-rw-r----- 1 root root 87406 Dec 24 22:32 registry.dat
-rw-r----- 1 root root 2403 Dec 24 22:32 registry.xml
drwxr-xr-x 2 root root 4096 Dec 24 22:33 user_templates
drwxr-x--- 8 root root 4096 Dec 24 22:31 utils
drwxr-x--- 9 root root 4096 Dec 24 22:32 wlserver_10.3
[root@localhost Middleware]# cd user_templates
[root@localhost user_templates]# ll
total 0
[root@localhost user_templates]# ll
total 60
-rw-r----- 1 root root 52336 Dec 24 22:26 Production.domain.jar
[root@localhost user_templates]# cd /root/Oracle/Middleware/wlserver_10.3/common/bin
[root@localhost bin]# ll
total 164
-rwxr-x--- 1 root root 22460 Dec 24 22:32 commEnv.sh
-rwxr-x--- 1 root root 2120 Dec 24 22:32 config_builder.sh
-rwxr-x--- 1 root root 2272 Dec 24 22:32 config.sh
-rwxr-x--- 1 root root 2577 Dec 24 22:32 pack.sh
-rwxr-x--- 1 root root 1586 Dec 24 22:32 setPatchEnv.sh
-rwxr-x--- 1 root root 4080 Dec 24 22:32 startDerby.sh
-rwxr-x--- 1 root root 4086 Dec 24 22:32 startManagedWebLogic.sh
-rwxr-x--- 1 root root 1446 Dec 24 22:32 stopDerby.sh
-rwxr-x--- 1 root root 2085 Dec 24 22:32 unpack.sh
-rwxr-x--- 1 root root 3295 Dec 24 22:32 upgrade.sh
-rwxr-x--- 1 root root 31124 Dec 24 22:32 wlserver.sh
-rwxr-x--- 1 root root 13740 Dec 24 22:30 wlserverConfig.sh
-rwxr-x--- 1 root root 759 Dec 24 22:32 vist.sh
[root@localhost bin]# ./unpack.sh -template=/root/Oracle/Middleware/user_templates/Production.domain.jar -domain=/root/Oracle/Middleware/user_projects/domains/Production
```

Run the unpack command.

After unpacking the Domain you will able to see the above success message.

Now we have done pack the domain in machine-A and unpacking in machine-B.

Step:

- 1) Now start the weblogic server in the machine-A(192.168.157.130) by using `./startweblogic.sh`
 - 2) After starting the Adminserver lunch the weblogic console `http://192.168.157.130:7001/console`
 - 3) Run MS3(manage server) in machine –B(192.168.157.131) by using
`./startmanagedweblogic.sh Ms3 http://192.168.157.130:7001`

```
[root@localhost ~]# Oracle/Middleware/user_projects/domains/Production_domain/bin
[root@localhost Oracle]# ll
total 8
drwxr-x--- 10 root root 4096 Dec 24 22:37 Middleware
[root@localhost Oracle]# cd Middleware/
[root@localhost Middleware]# ll
total 216
-rw-r----- 1 root root 219 Dec 24 22:37 domain-registry.xml
drwxr-x--- 7 root root 4096 Dec 24 22:31 jdk160_24
drwxr-x--- 7 root root 4096 Dec 24 22:31 jrockit_160_24_01.1.2-4
drwxr-x--- 2 root root 4096 Dec 24 22:37 logs
drwxr-x--- 7 root root 36864 Dec 24 22:30 modules
-rw-r----- 1 root root 621 Dec 24 22:32 ocm.rsp
-rw-r----- 1 root root 2403 Dec 24 22:32 registry.dat
drwxr-x--- 3 root root 4096 Dec 24 22:37 user_projects
drwxr-xr-x 2 root root 4096 Dec 24 22:36 user_templates
drwxr-x--- 8 root root 4096 Dec 24 22:31 utils
drwxr-x--- 9 root root 4096 Dec 24 22:32 wlservers_10_3
[root@localhost Middleware]# cd user_projects/domains/Production_domain/
[root@localhost Production_domain]# ll
total 88
drwxr-x--- 5 root root 4096 Dec 24 22:37 bin
drwxr-x--- 12 root root 4096 Dec 24 22:37 config
-rw-r----- 1 root root 462 Dec 24 22:37 fileRealm.properties
drwxr-x--- 2 root root 4096 Dec 24 22:37 init-info
drwxr-x--- 2 root root 4096 Dec 24 22:37 lib
drwxr-x--- 2 root root 4096 Dec 24 22:37 security
drwxr-x--- 3 root root 4096 Dec 24 22:37 servers
-rw-r----- 1 root root 663 Dec 24 22:37 startManagedWebLogic_readme.txt
-rwxr-x--- 1 root root 279 Dec 24 22:37 startWebLogic.sh
drwxr-x--- 2 root root 4096 Dec 24 22:37 WebFileStore
drwxr-x--- 2 root root 4096 Dec 24 22:37 WebJaxwsFileStore
[root@localhost Production_domain]# cd bin/
[root@localhost bin]# ll
total 80
drwxr-x--- 2 root root 4096 Dec 24 22:37 nodemanager
drwxr-x--- 2 root root 4096 Dec 24 22:37 server_migration
drwxr-x--- 2 root root 4096 Dec 24 22:37 service_migration
-rwxr-x--- 1 root root 13567 Dec 24 22:37 setDomainEnv.sh
-rwxr-x--- 1 root root 3223 Dec 24 22:37 startManagedWebLogic.sh
-rwxr-x--- 1 root root 5696 Dec 24 22:37 startWebLogic.sh
-rwxr-x--- 1 root root 2447 Dec 24 22:37 stopManagedWebLogic.sh
-rwxr-x--- 1 root root 2127 Dec 24 22:37 stopWebLogic.sh
[root@localhost bin]# ./startManagedWebLogic.sh M52 http://192.168.157.130:7001
```

Starting the MS3 server in Machine-B

Now see MS3 server is going to running mode.

Step-12:

Now just refresh the Admin server.

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

Click the Lock & Edit button to modify, add or delete items in this domain.

Lock & Edit

Release Configuration

Domain Structure

Production_domain

- Environments
- Servers**
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
- Deployments
- Services
- Security Realms

How do I...

- Create Managed Servers
- Clone Servers
- Delete Managed Servers
- Delete the Administration Server
- Start and stop servers

System Status

Health of Running Servers

192.168.157.130:7001/console/console.portal?_nfpb=true&_pageLabel=CoreServerTablePage

Home Log Out Preferences Record Help

Welcome, weblogic Connected to: Production_domain

Summary of Servers

Configuration Control

A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration.

This page summarizes each server that has been configured in the current WebLogic Server domain.

Servers (Filtered - More Columns Exist)

Click the Lock & Edit button in the Change Center to activate all the buttons on this page.

Name	Cluster	Machine	State	Health	Listen Port
AdminServer(admin)			RUNNING	OK	7001
MS1		Machine-A	SHUTDOWN		7003
MS2		Machine-B	RUNNING	OK	7004
MS3		Machine-B	SHUTDOWN		7005
MS4		Machine-A	SHUTDOWN		7006

New Clone Delete

Showing 1 to 5 of 5 Previous | Next

12:13 PM

MS3 is going to running mode in the console.

The same way you can remaining manage server

MS1 and MS2 in Machine-A

MS3 and MS4 in Machine-B

Unicast & Multicast

Unicast and Multicast are the messaging modes in weblogic server cluster.

When servers are in a cluster, these member servers communicate with each other by sending heartbeats and indicating that they are alive. For this communication between the servers, either unicast or multicast messaging is used

To use multicast messaging, hardware configuration and support for multicast packets is required. Unicast does not have this requirement, which is why using unicast in latest versions is recommended.

Unicast : In the Unicast messaging mode Cluster group members are chosen their group leader(the senior manage server),only those group leaders communicate with the servers among the group and these leaders notify each other about the availability of all the other servers.

EX: We have 6 manage server in two cluster groups, then in each cluster group the manage servers are chose the leader, now the remaining manage server are send heartbeat(alive status) signals to the leader in each group.

If manage server not sent heartbeat signal 10 interval (10sec=1interval) the group leader will decide that the manager server got down.

Multicast: Multicast messaging is used, it is a one-to-many communication, and every server sends the notification/heartbeat/multicast packet to each other.

Multicast IP address in the range 224.0.0.0 – 239.255.255.255

EX: each and every manager server will receive the hert beat signal to other manager server.Heart beat is nothing but it is a multicast address and the port number along with the manager server name.

Load Balancing in a Cluster

Failover and Replication in a Cluster

WebLogic Server Detects Failures

WebLogic Server instances in a cluster detect failures of their peer server instances by monitoring:

- Socket connections to a peer server

- Regular server heartbeat messages

WebLogic Server Heartbeat

If clustered server instances do not have opened sockets for peer-to-peer communication, **failed servers may also be detected via the WebLogic Server heartbeat**. All server instances in a cluster use multicast or unicast to broadcast regular server heartbeat messages to other members of the cluster.

Each heartbeat message contains data that uniquely identifies the server that sends the message.

Servers broadcast their heartbeat messages **at regular intervals of 10 seconds**. In turn, each server in a cluster monitors the multicast or unicast address to ensure that all peer servers' heartbeat messages are being sent.

If a server monitoring the multicast or unicast address misses three heartbeats from a peer server (i.e., if **it does not receive a heartbeat from the server for 30 seconds or longer**), the monitoring server marks the peer server as “failed.” It then updates its local JNDI tree, if necessary, to retract the services that were hosted on the failed server.

Replication and Failover for Servlets and JSPs

To support automatic replication and failover for servlets and JSPs within a cluster, Weblogic Server supports two mechanisms for preserving HTTP session state:

Hardware load balancers

For clusters that use a supported hardware load balancing solution, the load balancing hardware simply redirects client requests to any available server in the WebLogic Server cluster. The cluster itself obtains the replica of the client's HTTP session state from a secondary server in the cluster.

Proxy plug-ins

In clusters that utilize Web servers with WebLogic proxy plug-ins, the proxy plug-in handles failover transparently to the client. If a server fails, the plug-in locates the replicated HTTP session state on a secondary server and redirects the client's request accordingly.

HTTP Session State Replication

Weblogic Server uses two methods for replicating HTTP session state across clusters:

In-memory replication

Using in-memory replication, WebLogic Server copies a session state from one server instance to another. The primary server creates a primary session state on the server to which the client first connects, and a secondary replica on another WebLogic Server instance in the cluster. The replica is kept up-to-date so that it may be used if the server that hosts the servlet fails.

JDBC-based persistence

In JDBC-based persistence, WebLogic Server maintains the HTTP session state of a servlet or JSP using file-based or JDBC-based persistence.

Weblogic Deployments

Generally we get following types of files to deploy

- 1) .war
- 2) .ear
- 3) .rar
- 4) .jar
- 5) .sar

Note: .ear = .war + .jar

In the above formats we cannot directly deploy .jar files in the server, but we can replace .jar which already deployed. Some important file we get in deployment bundle.

.war contain

- > META-INF/MANIFEST.MF —> Version info etc
- >WEB-INF/web.xml
- > weblogic.xml (optional)
- > APP-INF/application.xml (optional)
- > weblogic-application.xml (optional)

Web.xml is called DD (deployment descriptor). It contains details of classes required and order of their deployment etc.

Note: .war can be deployed anywhere like web-logic server, web-sphere, Glass-fish etc. For deployment on WL, there may be one more optional file

weblogic.xml

DD for .ear is application.xml (optional)

If a value is defined in both web.xml and weblogic.ml, then the value in web.xml will be taken into consideration.

An installation guide (IG) or deployment guide is provided by developer to tell if files have to be deployed in any specific order.

Modes of Deployments

In the weblogic we can deploy Applications in three modes

Stage

NO-Stage

External-Stage

Stage:

For the console deployments the default mode is **STAGE** when you deploy the application using stage mode, the admin server copies the deployment files from the original deployment location of the application on the admin server to each target server's stage directory.

For example, if you have a distributed environment, 3 managed servers in a cluster on 3 different machines, and when a web application is deployed on the cluster, the **admin server copies the deployment files to the managed server/stage directory.**

This mode is most commonly used. This is advantageous because when there is a network outage and the managed servers are not able to communicate with the admin server, the managed servers still have the deployment files so the *application will be available.*

Stage mode should only be used when the application to be deployed is not too large. It gives an overhead in the production environment to copy huge application on each machine.

Syntax Command line deployment:

```
java weblogic.Deployer -adminurl 192.168.1.104:8001 -user weblogic -password weblogic -name
WorkManager1 -stage -targets Cluster1 -deploy WorkManager1
```

Admin Console deployment:

When you deploy an application to the cluster, stage mode is used by default. When you deploy the application to the cluster, a stage directory will be created in the domain/server/managed server

directory. Inside the stage folder, the directory with the application name will be created. The whole application resides in this. This local copy will be used by the managed servers to run the application.

Every time you redeploy the application, this local copy on every target server is updated with new changes. Using staging mode only makes sense when there is a distributed environment. When all the servers are in the same machine, the managed servers can use a shared copy of the application.

No-Stage

When no-stage deployment is used, the admin server does not copy the application to the directory of every server. The servers have to access the application from a shared location. So if no stage option is used for deployment, the stage directory is ignored.

Syntax to deploy application in no-stage mode:

```
java weblogic.Deployer -adminurl 192.168.1.104:8001 -user weblogic -password weblogic -name mydeploymentname -targets MyCluster -nostage -deploy c:\localfiles\myapp.ear
```

If the application is too huge, it is better to use no-stage so that the overhead while deployment decreases.

Even if no-stage mode is used, it does not mean that the server does not have the application local copy with it. The **application temporary copy is created and saved in the tmp folder** of the server for easy and quick access of the application.

External stage

External stage deployment is similar to stage mode deployment. But in this, admin server is not responsible to copy the deployment files to the target servers. This should be done manually by the user.

Steps:

- ✓ Create a stage folder in each target server directory.
- ✓ Inside the stage folder, create another folder by the name of the application that will be deployed. For e.g.: MyWebApp
- ✓ Then copy the deployment files to the folder. Do this for each target server.
- ✓ From the admin console, go to target server, -> Configuration -> Deployments. Change the Staging mode to external stage in the drop down list.

Enter the below command in the command prompt:

```
java weblogic.Deployer -adminurl 192.168.1.104:8001 -username weblogic -password weblogic -external_stage MyCluster -name web-app -deploy \home\Apps\web-app
```

External stage mode is the least common mode of application deployments. This mode is used when the application size is very huge and the time of application deployment needs to be saved.

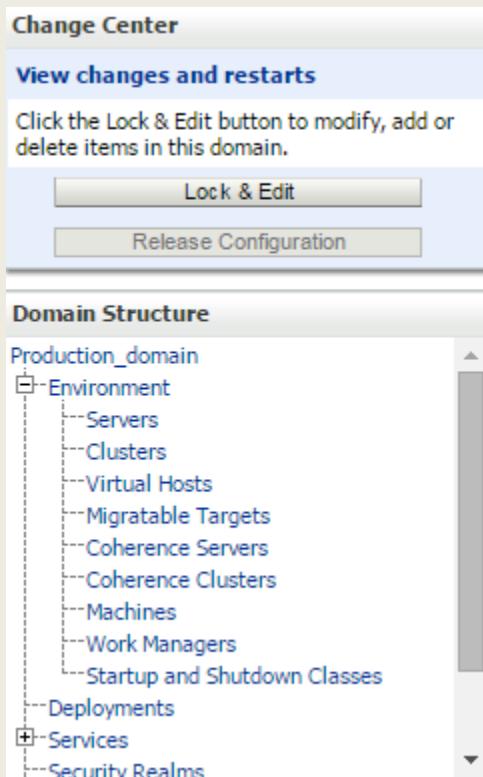
When you need application local copies on every server and the application size is very huge, you cannot use no-stage mode and stage mode which takes lot of time. You can use external stage.

Types of Deployments

Console Mode deployments

Step1:

Take Lock & Edit session and on the deployments.



Step2:

Change Center

View changes and restarts

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Domain Structure

- Production_domain
 - Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
 - Deployments**
 - Services

Summary of Deployments

Control Monitoring

This page displays a list of Java EE applications and stand-alone application modules that have been installed to this domain. Installed applications deleted from the domain by first selecting the application name and using the controls on this page.

To install a new application or module for deployment to targets in this domain, click the Install button.

Customize this table

Deployments

<input type="checkbox"/>	Name	State	Health	Type	Deploy
There are no items to display					

Install Update Delete Start Stop

Click on the Install button

Step3:

Change Center

View changes and restarts

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Domain Structure

- Production_domain
 - Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
 - Deployments**
 - Services

Install Application Assistant

Back Next Finish Cancel

Locate deployment to install and prepare for deployment

Select the file path that represents the application root directory, archive file, exploded archive directory, or application module descriptor that you want to install. You can also enter the path directory or file in the Path field.

Note: Only valid file paths are displayed below. If you cannot find your deployment files, [upload your file\(s\)](#) and/or confirm that your application contains the required deployment descriptor.

Path: /root/Oracle/Middleware/user_projects/domains/Production_domain/servers/AdminServer/upload

Recently Used Paths: /root/Oracle/Middleware/user_projects/domains/Production_domain/servers/AdminServer/upload

Current Location: 192.168.1.104 / root / Oracle / Middleware / user_projects / domains / Production_domain / servers / AdminServer / upload

There are no files at the current location which are selectable. Choose a parent folder from the location links above or enter a new path.

Back Next Finish Cancel

Click on upload your files option.

Step4:

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Domain Structure

Production_domain

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
- Deployments
- Services

Install Application Assistant

Upload a Deployment to the admin server

Click the Browse button below to select an application or module on the machine from which you are currently I Administration Server.

Deployment Archive: timeoff.war

Upload a deployment plan (this step is optional)

A deployment plan is a configuration which can supplement the descriptors included in the deployment archive, now. This deployment plan archive will be a directory of configuration information packaged as a .jar file. See n

Deployment Plan Archive: No file chosen

Back **Next** **Finish** **Cancel**

Browse the deployable file from the choose option

Click Next

Step5:

ORACLE WebLogic Server® Administration Console

Change Center

View changes and restarts

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Domain Structure

Production_domain

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
- Deployments
- Services

Install Application Assistant

Locate deployment to install and prepare for deployment

Select the file path that represents the application root directory, archive file, exploded archive directory, or application module descriptor that you want to install. You can directory or file in the Path field.

Note: Only valid file paths are displayed below. If you cannot find your deployment files, upload your file(s) and/or confirm that your application contains the required de

Path:

Recently Used Paths:

Current Location: **timeoff.war**

Back **Next** **Finish** **Cancel**

Click Next → Next

Step6:

Change Center

View changes and restarts

No pending changes exist. Click the Release Configuration button to allow others to edit the domain.

Domain Structure

Production_domain

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
- Deployments
- + Services
- + Security Realms

How do I...

Install Application Assistant

Home > Summary of Servers > Summary of Clusters > Cluster > **Summary of Deployments**

Select deployment targets

Select the servers and/or clusters to which you want to deploy this application. (You can select multiple targets)

Available targets for timeoff :

Servers

AdminServer

Clusters

Horizontal_cluster

- All servers in the cluster
- Part of the cluster
 - MS1
 - MS2

Select the targets .

Click Next→Next→Finish

Now the application is deployed .

ORACLE WebLogic Server® Administration Console

192.168.1.104:7001/console/console.portal?_nfpb=true&_pageLabel=WebAppApplicationOverviewPage&WebAppApplicationOverviewPortlethandle=com.bea.console han

Welcome, weblogic | Connected to: Production_domain

Change Center

View changes and restarts

Pending changes exist. They must be activated to take effect.

Activate Changes

Domain Structure

Production_domain

- Environment
 - Servers
 - Clusters
 - Virtual Hosts
 - Migratable Targets
 - Coherence Servers
 - Coherence Clusters
 - Machines
 - Work Managers
 - Startup and Shutdown Classes
- Deployments
- + Services
- + Security Realms

How do I...

- Deploy Web applications
- Configure Web applications
- Create a deployment plan
- Test the deployment
- Monitor Web applications and servlets

System Status

Health of Running Servers

Failed (0)	Critical (0)
------------	--------------

Settings for timeoff

Overview Deployment Plan Configuration Security Targets Control Testing Monitoring Notes

Name: timeoff

Context Root: timeoff

Path: /root/Oracle/Middleware/user_projects/domains/Production_domain/servers/AdminServer/upload/timeoff.war

Deployment Plan: (no plan specified)

Staging Mode: (not specified)

Security Model: DDOOnly

Deployment Order: 100

Deployment Principal Name:

Save

Modules and Components

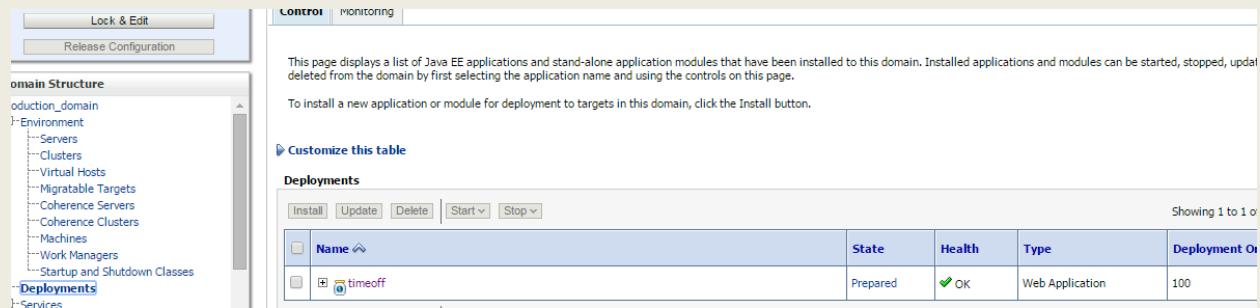
Showing 1 to 1 of 1 | Previous | Next

1:04 AM 12/24/2014

Step7:

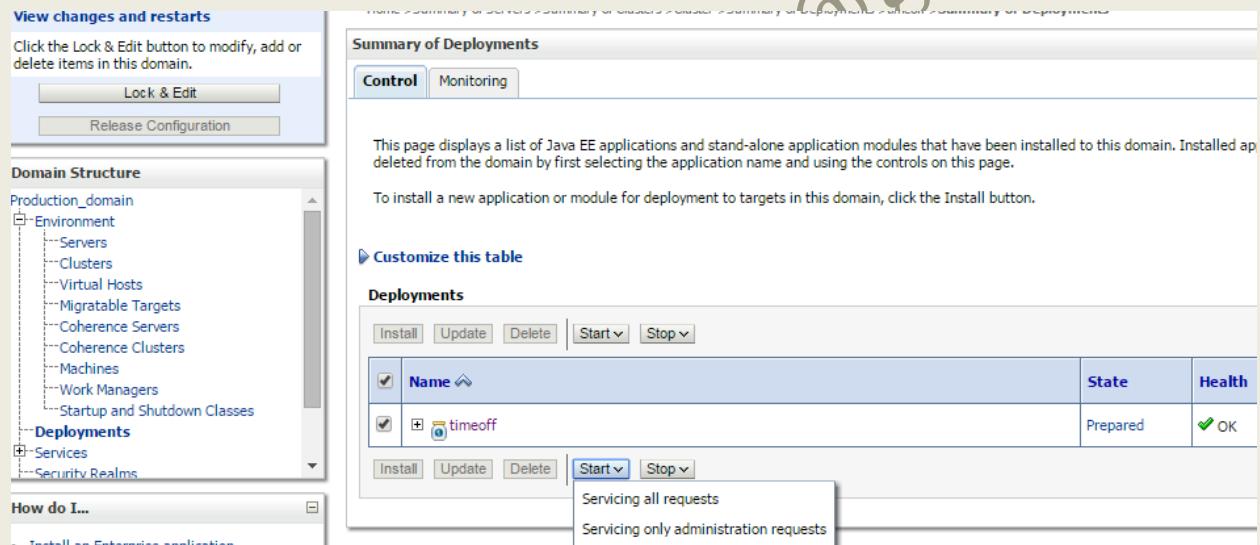
Click on Active changes.

Go to deployments



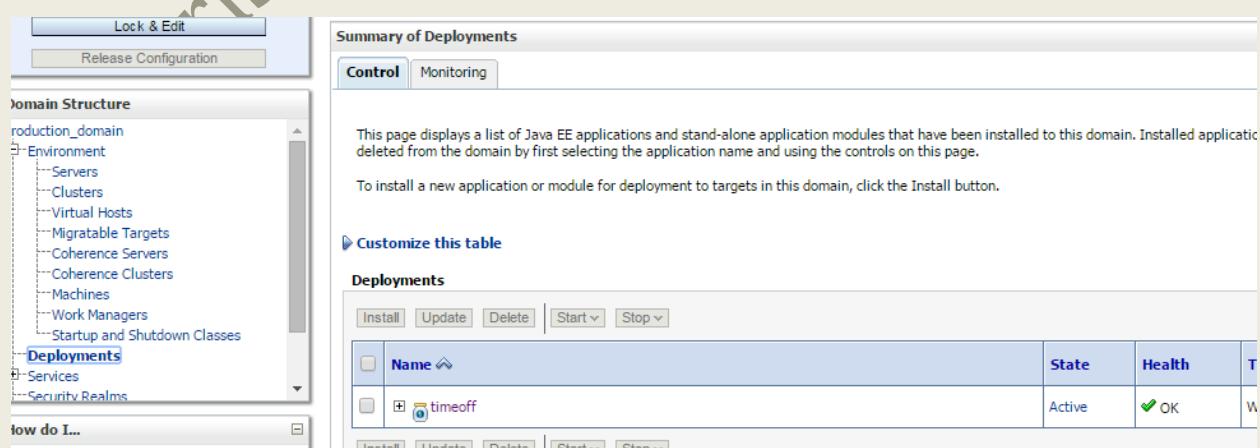
Name	State	Health	Type	Deployment ID
timeoff	Prepared	OK	Web Application	100

See the application is deployed and it's in prepared state ,now I am going to start the application by using the start application request



Name	State	Health
timeoff	Prepared	OK

Step8:



Name	State	Health	Type
timeoff	Active	OK	Web Application

Now the Application is deployed successfully .

Side by Side deployments:

Production redeployment of application/ versioning/ side by side deployment

We need versioning for updating the application in production on runtime. The sessions which are already logged in will be using the previous version of the application and the new sessions created will use the new version of application.

Deploying:

```
java weblogic.Deployer -appversion 1 -adminurl http://192.168.1.104:7001 -username weblogic -password weblogic1 -deploy -name ATM1.1 -source \root\...\ -targets ClusterA
```

Redeploying:

```
bin>java weblogic.Deployer -appversion 2 -adminurl http://192.168.1.104:7001 -username weblogic -password weblogic1 -redeploy -name ATM1.2 -source \root\...\ -retiretimeout 120
```

WLST Deployment:

```
java weblogic.WLST benifits.py
```



benifits.py

Weblogic Server JDBC Resources

The Administration Console provides an interface to the tools that allow you to configure and manage WebLogic Server features, including JDBC (database connectivity with Java). For most JDBC administrative functions, which include creating, managing and monitoring connectivity, systems administrators use the Administrative Console or the command-line interface. Application developers may want to use the JDBC API.

Datasource:

In WebLogic Server, you configure database connectivity by adding data sources to your WebLogic domain. WebLogic JDBC data sources provide database access and database connection management. Each data source contains a pool of database connections that are created when the data source is created and at server startup. Applications reserve a database connection from the data source by looking up the data source on the JNDI tree or in the local application context and then calling `getConnection()`. When finished with the connection, the application should call `connection.close()` as early as possible, which returns the database connection to the pool for other applications to use.

JDBC data source names are used to identify the data source within the WebLogic domain.

Connection Pool:

Each JDBC data source has a pool of JDBC connections that are created when the data source is deployed or at server startup.

Applications use a connection from the pool then return it when finished using the connection.

Connection pooling enhances performance by eliminating the costly task of creating database connections for the application.

JDBC Driver:

When creating a JDBC data source using the Administration Console, you are prompted to select a JDBC driver.

The Administration Console provides the driver class name and helps you construct the URL as required by the driver.

The driver you select must be in the classpath on all servers on which you intend to deploy the data source. Some but not all JDBC drivers listed in the Administration Console are shipped with WebLogic Server

Third-party JDBC drivers:

- Oracle Thin Driver (XA and non-XA)
- Sybase jConnect
- PointBase

WebLogic Type 4 JDBC Drivers from DataDirect for the following database management systems:

- DB2
- Informix
- Microsoft SQL Server
- Oracle
- Sybase

All of these drivers are referenced by the `weblogic.jar` manifest file and do not need to be explicitly defined in a server's classpath.

Generic Data source:

Statement Cache Algorithms

The Statement Cache Type (or algorithm) determines which prepared and callable statements to store in the cache for each connection in a data source.

- [LRU \(Least Recently Used\)](#)

- Fixed

LRU (Least Recently Used):

When you select LRU (Least Recently Used, the default) as the Statement Cache Type, WebLogic Server caches prepared and callable statements used on the connection until the statement cache size is reached. When an application calls `Connection.prepareStatement()`, WebLogic Server checks to see if the statement is stored in the statement cache. If so, WebLogic Server returns the cached statement (if it is not already being used). If the statement is not in the cache, and the cache is full (number of statements in the cache = statement cache size), WebLogic Server determines which existing statement in the cache was the least recently used and replaces that statement in the cache with the new statement.

The LRU statement cache algorithm in WebLogic Server uses an approximate LRU scheme.

Fixed:

When you select FIXED as the Statement Cache Type, WebLogic Server caches prepared and callable statements used on the connection until the statement cache size is reached. When additional statements are used, they are not cached.

With this statement cache algorithm, you can inadvertently cache statements that are rarely used. In many cases, the LRU algorithm is preferred because rarely used statements will eventually be replaced in the cache with frequently used statements.

Statement Cache Size:

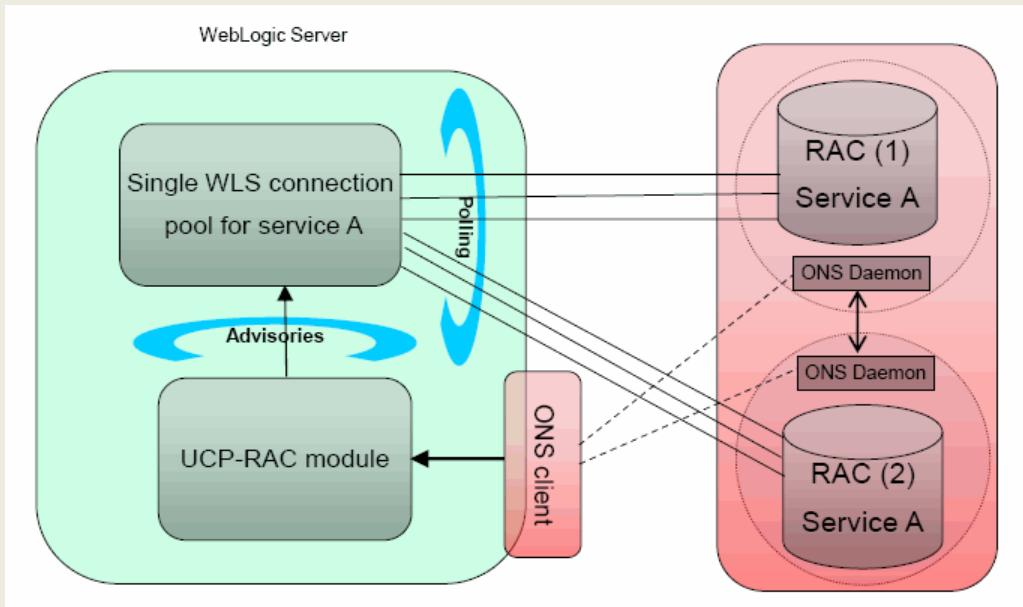
The Statement Cache Size attribute determines the total number of prepared and callable statements to cache for each connection in each instance of the data source. By caching statements, you can increase your system performance. However, you must consider how your DBMS handles open prepared and callable statements. In many cases, the DBMS will maintain a cursor for each open statement. This applies to prepared and callable statements in the statement cache. If you cache too many statements, you may exceed the limit of open cursors on your database server.

EX:

If you have a data source with 10 connections deployed on 2 servers, if you set the Statement Cache Size to 10 (the default), you may open 200 (10 x 2 x 10) cursors on your database server for the cached statements.

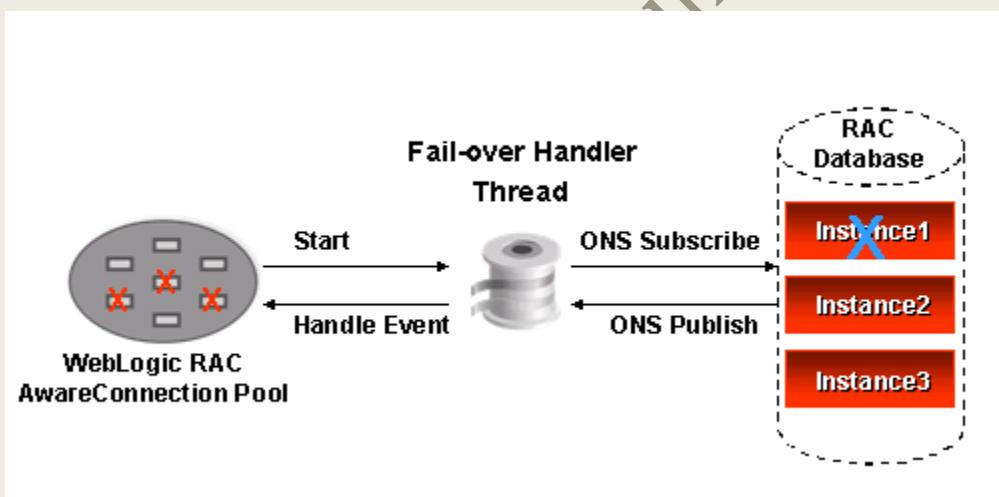
Grid link Data source:

A single GridLink data source provides connectivity between WebLogic Server and an Oracle Database service targeted to an Oracle RAC cluster. It uses the Oracle Notification Service (ONS) to adaptively respond to state changes in an Oracle RAC instance. An Oracle Database service represents a workload with common attributes that enables administrators to manage the workload as a single entity. You scale the number of GridLink data sources as the number of services increases in the data base, independent of the number of nodes in the cluster.



Fast Connection Failover:

A GridLink data source uses Fast Connection Failover and responds to Oracle RAC events using ONS. This ensures that the connection pool in the GridLink data source contains valid connections (including reserved connections) without the need to poll and test connections.



Runtime Connection Load Balancing:

GridLink data sources provide load balancing in XA and non-XA environments.

GridLink data sources use runtime connection load balancing to distribute connections to Oracle RAC instances based on Oracle FAN events issued by the database.

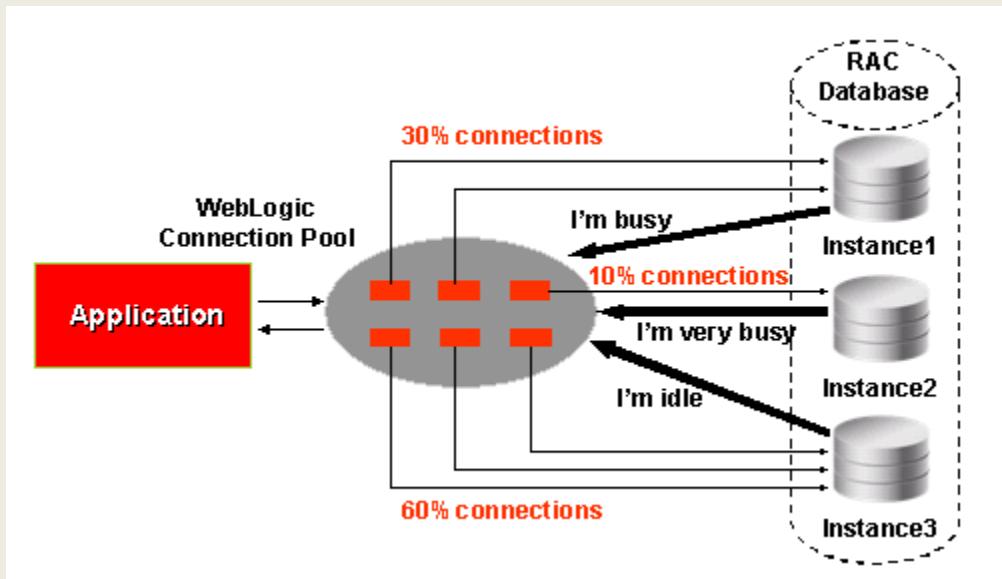
This simplifies data source configuration and improves performance as the database drives load balancing of connections through the GridLink data source, independent of the database topology.

Runtime Connection Load Balancing allows WebLogic Server to:

Adjust the distribution of work based on back end node capacities such as CPU, availability, and response time.

React to changes in Oracle RAC topology.

Manage pooled connections for high performance and scalability.



Graceful Handling for Oracle RAC Outages

A GridLink data source provides graceful handling for the planned and unplanned shutdown of an Oracle RAC service:

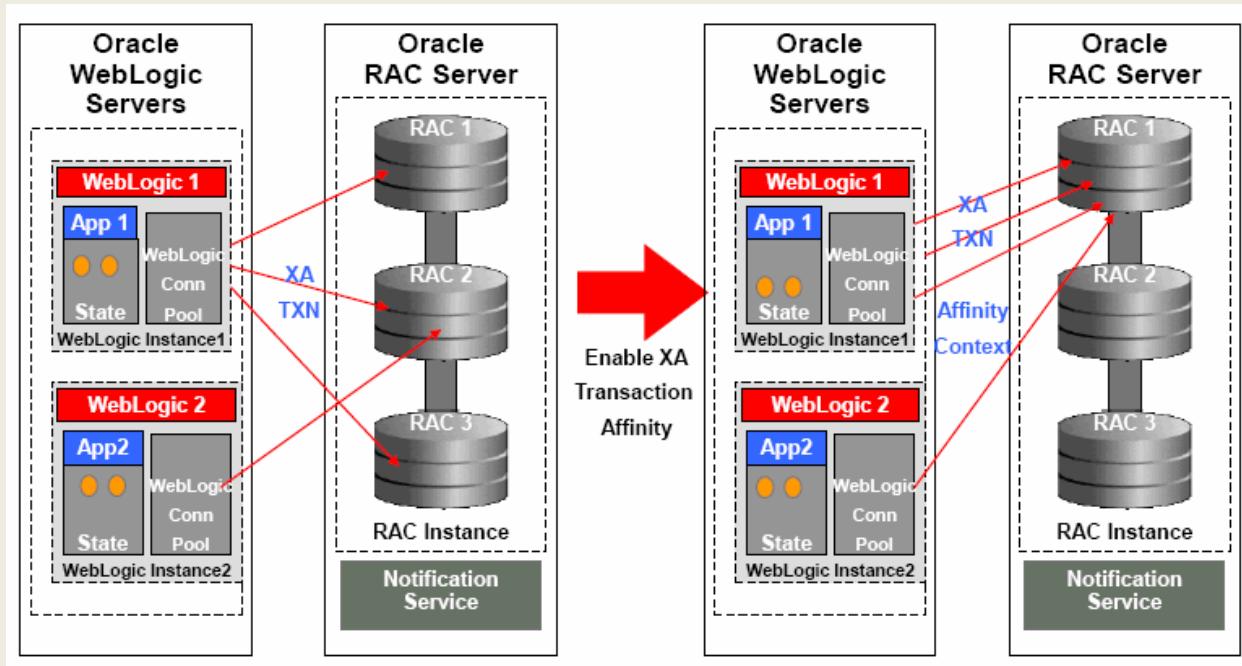
For planned shutdowns, the data source allows in-progress transactions to complete before closing connections. New Requests are load balanced to active Oracle RAC instances.

For unplanned shutdowns, the data source rolls back in-progress transactions and closes the connections.

New Requests are load balanced to active Oracle RAC instances.

XA Affinity

XA Affinity for global transactions ensures all the data base operations for a global transaction performed on an Oracle RAC cluster are directed to the same Oracle RAC instance. The first connection request for an XA transaction is load balanced using RCLB and is assigned an Affinity context. All subsequent connection requests are routed to the same Oracle RAC instance using the Affinity context of the first connection.



Multi-Data source:

A multi data source can be thought of as a pool of data sources. Multi data sources are best used for failover or load balancing between nodes of a highly available database system, such as redundant databases or Oracle Real Application Clusters (RAC).

Multi Data Source Algorithm

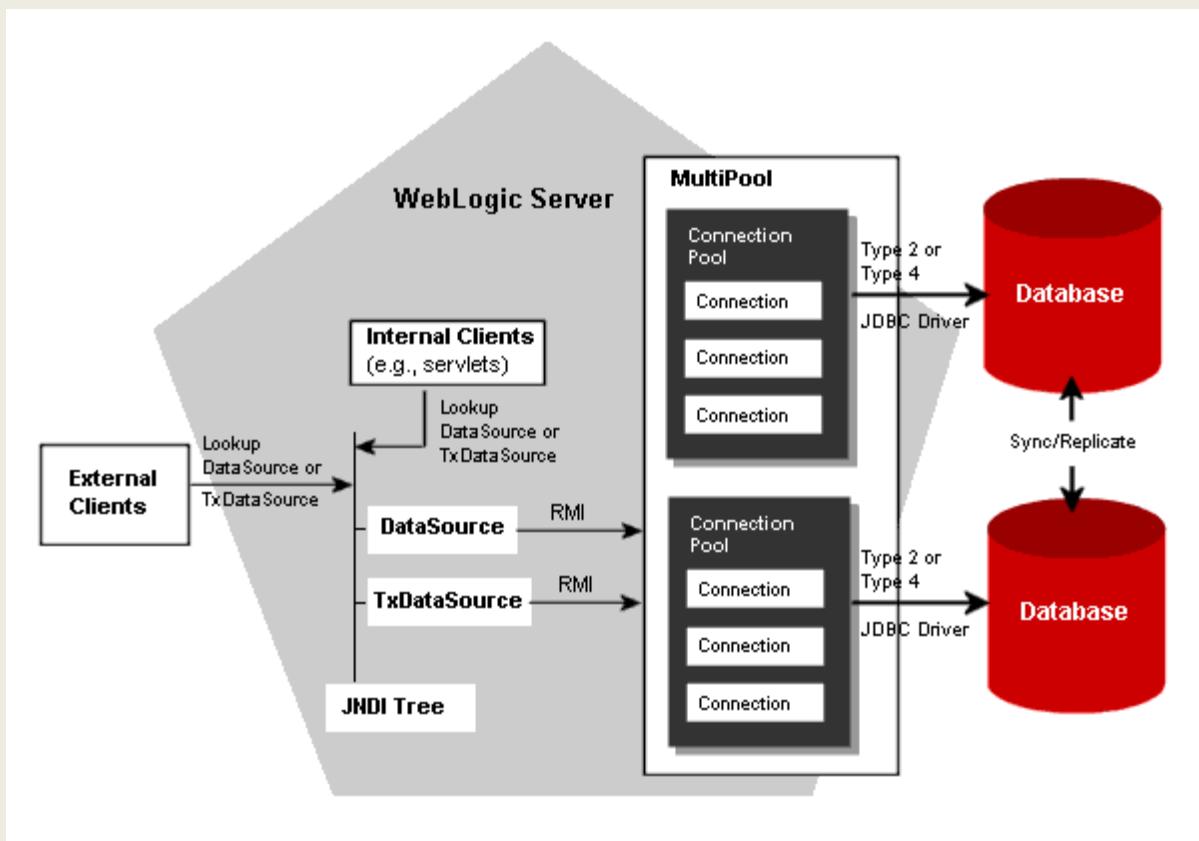
Before you set up a multi data source, you need to determine the primary purpose of the multi data source—failover or load balancing. You can choose the algorithm that corresponds with your requirements.

Failover:

The Failover algorithm provides an ordered list of data sources to use to satisfy connection requests. Normally, every connection request to this kind of multi data source is served by the first data source in the list. If a database connection test fails and the connection cannot be replaced, or if the data source is suspended, a connection is sought sequentially from the next data source on the list.

Load Balancing:

Connection requests to a load-balancing multi data source are served from any data source in the list. The multi data source selects data sources to use to satisfy connection requests using a round-robin scheme. When the multi data source provides a connection, it selects a connection from the data source listed just after the last data source that was used to provide a connection. Multi data sources that use the Load Balancing algorithm also fail over to the next data source in the list if a database connection test fails and the connection cannot be replaced, or if the data source is suspended.



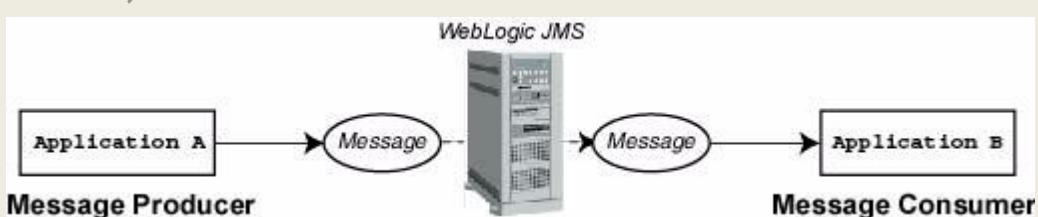
JMS

JMS is a standard API for accessing enterprise messaging systems. Specifically,

WebLogic JMS:

Enables Java applications sharing a messaging system to exchange messages. Simplifies application development by providing a standard interface for creating, sending, and receiving messages.

https://blogs.oracle.com/soaproactive/entry/how_to_create_a_simple



ConnectionFactory:

A `ConnectionFactory` encapsulates connection configuration information, and enables JMS applications to create a `Connection`. A connection factory supports concurrent use, enabling multiple threads to access the object simultaneously. You can use the preconfigured default connection factories provided by WebLogic JMS, or you can configure one or more connection factories to create connections with predefined attributes that suit your application.

Default Connection factory's:

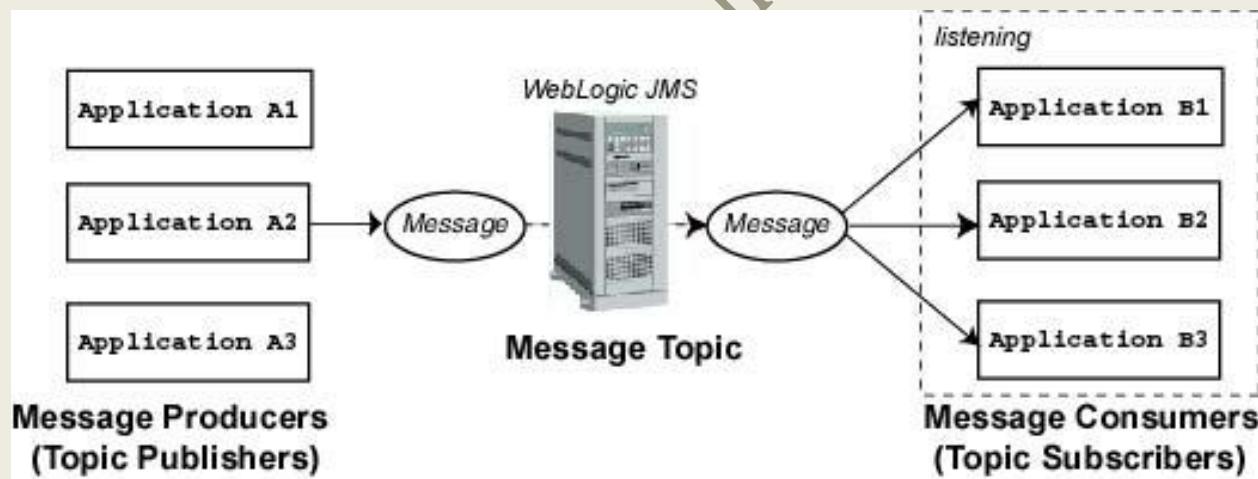
- `weblogic.jms.ConnectionFactory` ----XA (False)
- `weblogic.jms.XAConnectionFactory`—XA (True)

Queue (Point-to-Point Messaging):

The point-to-point (PTP) messaging model enables one application to send a message to another.

PTP messaging applications send and receive messages using named queues.

A *queue sender* (producer) sends a message to a specific queue. A *queue receiver* (consumer) receives messages from a specific queue.

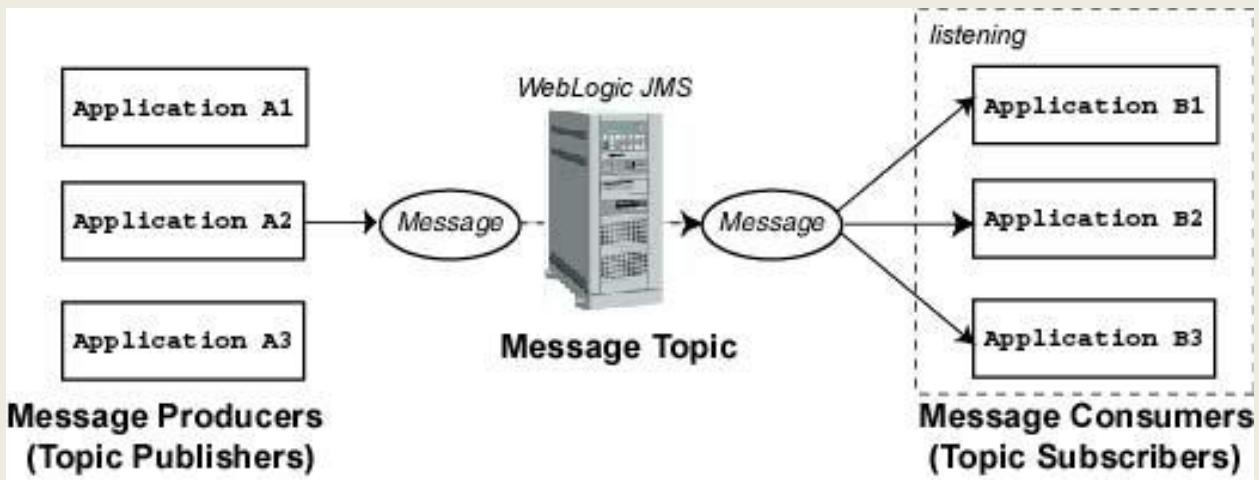


Multiple queue senders and queue receivers can be associated with a single queue, but an individual message can be delivered to only *one* queue receiver.

If multiple queue receivers are listening for messages on a queue, WebLogic JMS determines which one will receive the next message on a first come, first serve basis. If no queue receivers are listening on the queue, messages remain in the queue until a queue receiver attaches to the queue.

Topic (Publish/Subscribe Messaging):

The publish/subscribe (pub/sub) messaging model enables an application to send a message to multiple applications. Pub/sub messaging applications send and receive messages by subscribing to a *topic*. A *topic publisher* (producer) sends messages to a specific topic. A *topic subscriber* (consumer) retrieves messages from a specific topic.



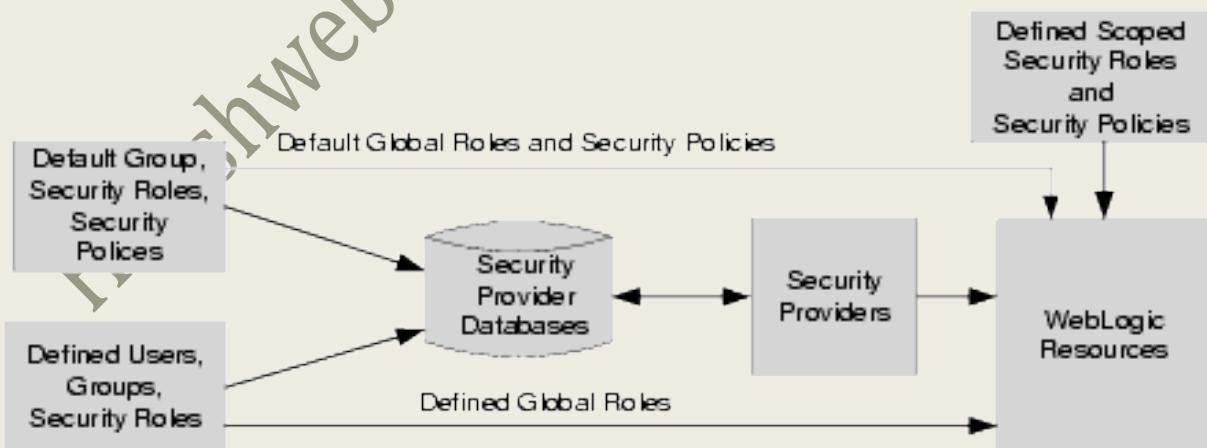
Unlike with the PTP messaging model, the pub/sub messaging model allows multiple topic subscribers to receive the same message. JMS retains the message until all topic subscribers have received it.

Introduction to Security Realms

A security realm comprises mechanisms for protecting WebLogic resources. Each security realm consists of a set of configured security providers, users, groups, security roles, and security policies.

A user must be defined in a security realm in order to access any WebLogic resources belonging to that realm.

When a user attempts to access a particular WebLogic resource, WebLogic Server tries to authenticate and authorize the user by checking the security role assigned to the user in the relevant security realm and the security policy of the particular WebLogic resource.



Users

Users are entities that can be authenticated in a security realm, such as myrealm

A user can be a person, such as application end user, or a software entity, such as a client application, or other instances of WebLogic Server.

As a result of authentication, a user is assigned an identity, or principal. Each user is given a unique identity within the security realm. Users may be placed into groups that are associated with security roles, or be directly associated with security roles.

When users want to access WebLogic Server, they present proof material (for example, a password or a digital certificate) typically through a JAAS LoginModule to the Authentication provider configured in the security realm.

If WebLogic Server can verify the identity of the user based on that username and credential, WebLogic Server associates the principal assigned to the user with a thread that executes code on behalf of the user.

Note: All user names and groups must be unique within a security realm.

Groups

Groups are logically ordered sets of users

Usually, group members have something in common. For example, a company may separate its sales staff into two groups, Sales Representatives and Sales Managers. Companies may do this because they want their sales personnel to have different levels of access to WebLogic resources, depending on their job functions.

Managing groups is more efficient than managing large numbers of users individually.

EX: An administrator can specify permissions for 50 users at one time by placing the users in a group, assigning the group to a security role, and then associating the security role with a WebLogic resource via a security policy.

Note: All user names and groups must be unique within a security realm.

Security Roles:

A security role is a privilege granted to users or groups based on specific conditions. Like groups, security roles allow you to restrict access to WebLogic resources for several users at once. However, unlike groups, security roles:

- ⊕ Are computed and granted to users or groups dynamically, based on conditions such as user name, group membership, or the time of day.
- ⊕ Can be scoped to specific WebLogic resources within a single application in a WebLogic Server domain (unlike groups, which are always scoped to an entire WebLogic Server domain).

Granting a security role to a user or a group confers the defined access privileges to that user or group, as long as the user or group is "in" the security role. Multiple users or groups can be granted a single security role.

Security Policies:

A security policy is an association between a WebLogic resource and one or more users, groups, or security roles. Security policies protect the WebLogic resource against unauthorized access. A WebLogic resource has no protection until you create a security policy for it. A policy condition is a condition under which a security policy will be created. WebLogic Server provides a set of default policy conditions.

SSL: An Introduction

Secure Sockets Layer (SSL) provides secure connections by allowing two applications connecting over a network connection to authenticate the other's identity and by encrypting the data exchanged between the applications.

Authentication allows a server and optionally a client to verify the identity of the application on the other end of a network connection. Encryption makes data transmitted over the network intelligible only to the intended recipient.

WebLogic Server supports SSL on a dedicated listen port which defaults to 7002. To establish an SSL connection, a Web browser connects to WebLogic Server by supplying the SSL listen port and the HTTPS schema in the connection URL, for example, <https://myserver:7002>.

WLS is by default configured with **DemoIdentity** and **DemoTrust**, we just need to enable SSL port under General Tab of the Server and WLS will start listening over SSL on that port (7002).

Certificates

Private keys, digital certificates, and trusted certificate authorities establish and verify server identity.

SSL uses public key encryption technology for authentication. With public key encryption, a public key and a private key are generated for a server.

The keys are related such that data encrypted with the public key can only be decrypted using the corresponding private key and vice versa.

The private key is carefully protected so that only the owner can decrypt messages that were encrypted using the public key.

The public key is embedded into a digital certificate with additional information describing the owner of the public key, such as name, street address, and e-mail address.

A private key and digital certificate provide identity for the server.

An application participating in an SSL connection is authenticated when the other party evaluates and accepts the application's digital certificate. Web browsers, servers, and other SSL-enabled applications

generally accept as genuine any digital certificate that is signed by a trusted certificate authority and is otherwise valid.

One-Way SSL

One-way SSL, the server is required to present a certificate to the client but the client is not required to present a certificate to the server. To successfully negotiate an SSL connection, the client must authenticate the server but the server will accept any client into the connection. One-way SSL is common on the Internet where customers want to create secure connections before they share personal data. Often, clients will also use SSL to log on so that the server can authenticate them.

Two-way SSL

Two-way SSL (SSL with client authentication), the server presents a certificate to the client and the client presents a certificate to the server. WebLogic Server can be configured to require clients to submit valid and trusted certificates before completing the SSL connection.

Performance and tunneling

Reset the Weblogic Admin user password

Step1:

Shutdown all Managed Servers, Admin Server in the weblogic Domain.

Step2:

Run the below command to reset the Admin password after setting WLS environment variables.

```
$ cd /Oracle/Middleware/user_projects/Domains/mydomain/bin/  
$ ./setDomainEnv.sh  
$ cd /Oracle/Middleware/user_projects/Domains/mydomain /security  
cp DefaultAuthenticatorInit.ldift DefaultAuthenticatorInit.ldift_bkp  
java weblogic.security.utils.AdminAccount weblogic <NewPassword>.
```

run the above command in the below example location

```
user_home\domains\my_domain\security>java weblogic.security.utils.AdminAccount newAdmin  
newPassword .
```

The above command will create DefaultAuthenticatorInit.ldift file with new password on the same location

Step3:

Run the below steps to re-create the AdminServer

```
$cd /Oracle/Middleware/user_projects/Domains/mydomain /servers/  
mv Adminserver AdminServer_bkp
```

Step4:

Start the AdminServer manually for the first time.

```
$cd Oracle/Middleware/user_projects/Domains/mydomain /bin  
.startWebLogic.sh
```

This time enter the username and new password manually when it prompts

If you want keep the same password for both AdminServer and NodeManager then do the below step.

Login Admin Console-->Lock and Edit-->Domain

Click on Security tab

Click on Advanced link

Update Node Manager Password and confirm it, then click Save

Click "Activate Changes"

Run the below steps for each NodeManager on all servers

```
cd $NM_HOME
```

```
mv nm_data.properties nm_data.properties_bkp
```

So it will create a new encryption data the Node Manager uses as a symmetric encryption key

```
nohup ./startNodeManager.sh &
```

Shutdown all the NodeManager and Admin server.

Create a boot.properties with below values on

```
$DOMAIN_HOME/servers/AdminServer/security/
```

username=weblogic admin user name

password=new password

Now you can bring up the AdminServer followed by Managed servers in the domain.

Unlocking a User Account

To unlock a locked user account on a managed server, a user with Admin privileges can use the following command:

```
java weblogic.Admin -url 192.168.1.104:7001 -username weblogic -password weblogic1 -type
weblogic.management.security.authentication.UserLockoutManager -method clearLockout
lockedusername
```

You can also wait the time specified in the Lockout Duration attribute. The user account will be unlocked after the specified time.

To unlock a user account using the Administration Console:

1. Expand the Monitoring-->Security tab for the server.
2. In the User table, click on the Details link for the user to be unlocked.
3. Click Unlock.

Errors:

1) Possible errors while creating multidaatasource

```
Failed to bind remote object (ClusterableRemoteRef(-
1478582895960188952S:192.168.157.130:Production_domain:MS1 null)/295
[weblogic.jdbc.common.internal.RemoteDataSource]) to replica aware stub at
myDataSource(ClusterableRemoteRef(-
1478582895960188952S:192.168.157.130:Production_domain:MS1 [-
1478582895960188952S:192.168.157.130:Production_domain:MS1/282, -
1641020309091241343S:192.168.157.130:[7006,7006,-1,-1,-1,-1,-1]:Production_domain:MS4/282])/282
[weblogic.jdbc.common.internal.RemoteDataSource])
```

Resolution:

root cause for this kind of bind exceptions are because of duplicate entries or already existing entries which are conflicting with each other while getting active and acquiring connections.

Make sure all the existing datasource Names and JNDI names are unique. If you find any JNDI name duplicated then make sure to make it unique or use the already existing JNDI if it works and connects to the same DB.

Once all are checked restart the managed server to re-initiate all datasources. In case if you are getting this error in your weblogic log file its better to remove the faulty datasource and reconfigure freshly post managed server restart to avoid errors.