

Oracle WebLogic Server 12cR2 on SUSE Linux Enterprise Server 12 SP1

Installation Guide for x86-64 Architectures

SUSE Linux Enterprise Server 12 SP1
Oracle WebLogic Server 12cR2

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Oracle WebLogic Server 12c R2 is a reliable application server for building and deploying enterprise Java EE applications with support for new features for lowering cost of operations, improving performance, enhancing scalability and supporting the Oracle Applications portfolio. WebLogic Server Java EE applications are based on standardized, modular components. Oracle WebLogic Server provides a complete set of services for those modules and handles many details of application behavior automatically, without requiring programming.

SUSE Linux Enterprise Server provides Oracle customers a scalable platform for demanding workloads and applications. Oracle and SUSE have teamed up to enable Linux in enterprises and have created world-class solutions that offer real-grid benefits for IT data centers today. This document provides the details for installing Oracle WebLogic Server 12cR2 on SUSE Linux Enterprise Server 12 SP1.


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1 Introduction

This document provides the details for installing Oracle WebLogic Server 12cR2 on SUSE Linux Enterprise Server 12 SP1. Details are provided for the Intel x86-64 versions of both Oracle WebLogic Server 12cR2 and SUSE Linux Enterprise Server 12. Similar steps apply to other platforms (x86, ia64, IBM z Systems, etc.). If you encounter issues or have general questions, post your query to suse-oracle@listx.novell.com.

The official Oracle product documentation is available at: <http://docs.oracle.com/en/> 

2 System Requirements and Specifications

The following paragraphs provide details about the hardware and software requirements that need to be met to install Oracle WebLogic Server 12cR2 on top of SUSE Linux Enterprise Server 12 SP1. They also contain the specification of the test environment.

2.1 Hardware Requirements

TABLE 1: **HARDWARE REQUIREMENTS**

Requirement	Minimum
CPU	1-GHz CPU
Physical Memory	4 GB
Swap space	Approximately twice the size of RAM
Disk space in /tmp	2 GB
Disk space for software files	2 GB

2.2 Software Requirements

SUSE:

- SUSE Linux Enterprise Server 12 SP1 (x86_64)

(<https://www.suse.com/download/sles/>)

Oracle:

- WebLogic Server 12cR2 (12.2.1) (fmw_12.2.1.0.0_wls_Disk1_1of1.zip)
(<http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html>)
- Java SE Development Kit 8 (jdk-8u91-linux-x64.tar.gz)
(<http://www.oracle.com/technetwork/indexes/downloads/index.html#java>)

2.3 Testing Machine information

- HP DL388 Gen9 Server
- CPU: 2 * Intel(R) Xeon(R) CPU E5-2630 v3 @ 2.40GHz
- RAM: 64 GB
- NIC: 8
- Local HDD: 2 TB
- Operating System: SUSE Linux Enterprise Server 12 SP1 (x86_64)
- Kernel version: 3.12.49-11-default

3 Prerequisites

3.1 Installing SUSE Linux Enterprise Server 12

Install SUSE Linux Enterprise Server 12 on your testing machine. To do so, follow the instructions in the official SUSE Linux Enterprise Server documentation at <https://documentation.suse.com/sles/12-SP5/>

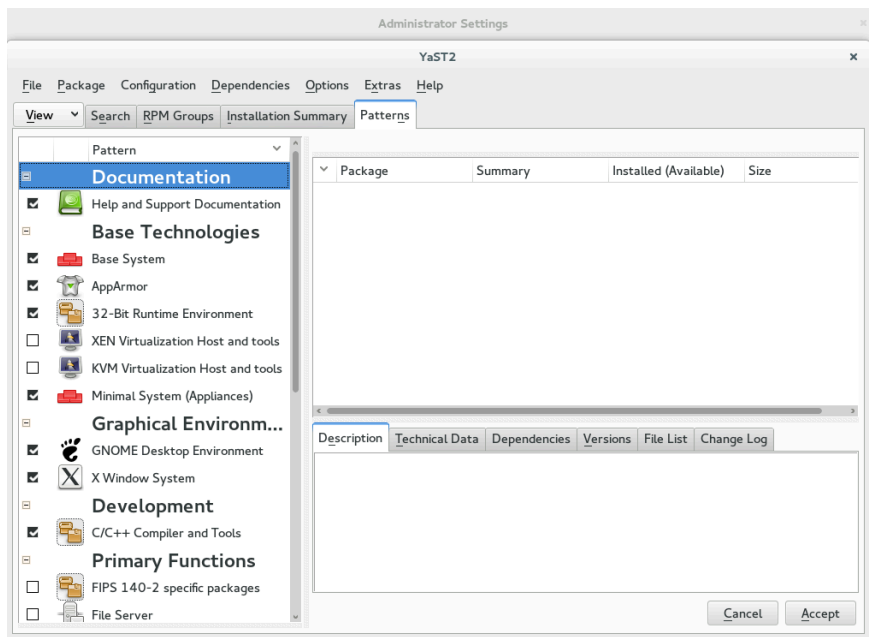


FIGURE 1: INSTALLATION OF SUSE LINUX ENTERPRISE SERVER- 1

In YaST, select the patterns you need. Make sure you select the patterns and packages required to run Oracle products (for example **oracrun**).

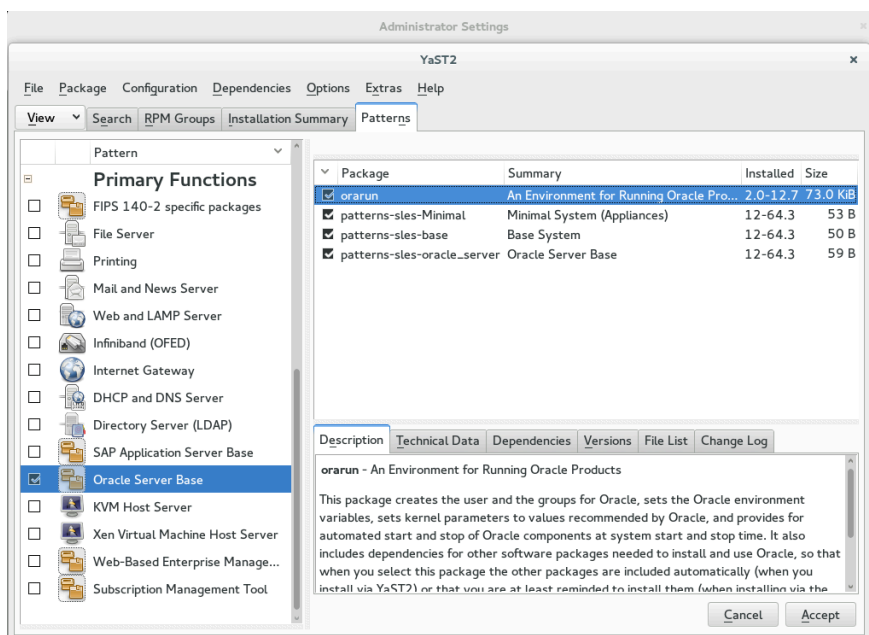


FIGURE 2: INSTALLATION OF SUSE LINUX ENTERPRISE SERVER- 2

After the installation of SUSE Linux Enterprise Server, the following information about the operating system and the kernel version is displayed:

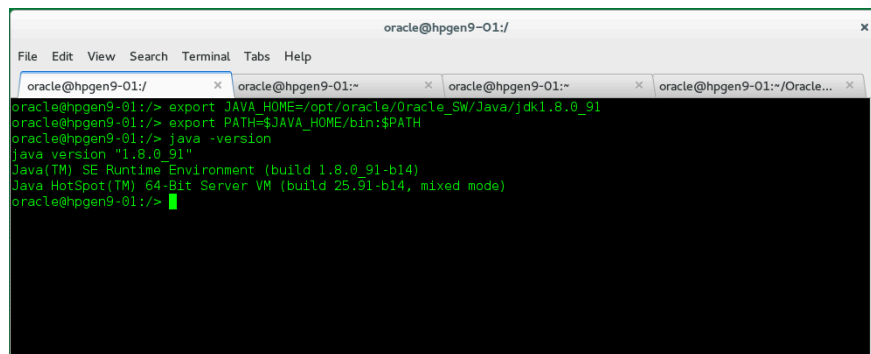
```
oracle@hp9en9-01:~> more /etc/os-release
NAME="SLES"
VERSION="12-SP1"
VERSION_ID="12.1"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP1"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp1"
oracle@hp9en9-01:~> uname -a
Linux hp9en9-01 3.12.49-11-default #1 SMP Wed Nov 11 20:52:43 UTC 2015 (8d714a0) x86_64 x86_64 x86_64 GNU/Linux
oracle@hp9en9-01:~> █
```

FIGURE 3: OPERATING SYSTEM AND KERNEL VERSION

3.2 Installing Java

Oracle WebLogic Server 12cR2 (12.2.1) requires JDK version 1.8. Log in to the target system (SUSE Linux Enterprise Server 12 64-bit operating system) as a non-administration user. Download the Java SE Development Kit 8 (jdk-8u91-linux-x64.tar.gz) from <http://www.oracle.com/technetwork/indexes/downloads/index.html#java>.

Set the environment variables JAVA_HOME and PATH to ensure the proper JDK version is installed and ready for use.

A screenshot of a terminal window titled 'oracle@hp9en9-01:/' with multiple tabs. The terminal shows the following commands and output:

```
oracle@hp9en9-01:~> export JAVA_HOME=/opt/oracle/Oracle_SW/Java/jdk1.8.0_91
oracle@hp9en9-01:~> export PATH=$JAVA_HOME/bin:$PATH
oracle@hp9en9-01:~> java -version
java version "1.8.0_91"
Java(TM) SE Runtime Environment (build 1.8.0_91-b14)
Java HotSpot(TM) 64-Bit Server VM (build 25.91-b14, mixed mode)
oracle@hp9en9-01:~> █
```

FIGURE 4: JAVA INFORMATION

4 Oracle WebLogic Server 12cR2 Installation

The following sections explain how to perform your Oracle WebLogic Server 12cR2 installation.

4.1 Installing Oracle WebLogic Server Software

Log in to the target system (SUSE Linux Enterprise Server 12 64-bit operating system) as a non-administration user. Download the Oracle WebLogic Server 12cR2 (12.2.1) from the Oracle Web site.



Note: Permissions

Ensure the installation user has the proper permissions to install and configure the software.

Go to the directory where you downloaded the installation program. Extract the contents of the .zip file `fmw_12.2.1.0.0_wls_Disk1_lofl1.zip`) and launch the installation program by running `java -jar fmw.xxxx.jar`.

For the actual installation, follow the steps below:

1. Go to Installation Inventory Setup.

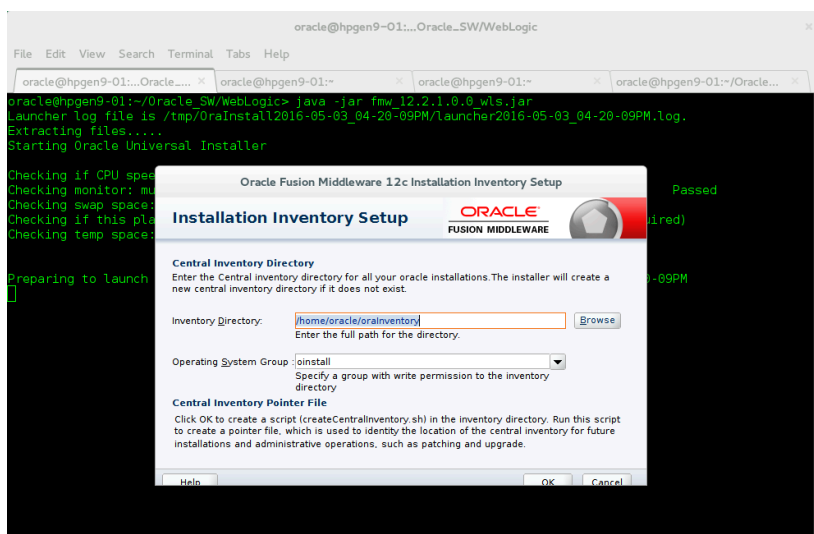


FIGURE 5: INSTALLATION INVENTORY SETUP

If this is your first Oracle installation on a host that is running SUSE Linux Enterprise Server, use the *Oracle Fusion Middleware 12c Installation Inventory Setup* screen to specify the location of the Oracle Central Inventory Directory and Operating System Group Name. Click **OK** to continue.

2. Proceed to Welcome.

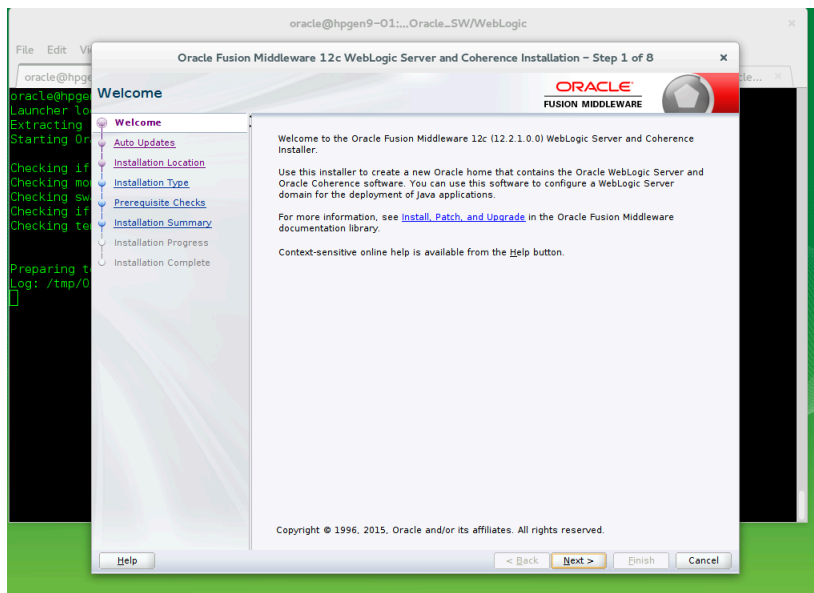


FIGURE 6: WELCOME

Review the information on this screen carefully to be sure you have performed all the necessary prerequisites. Click **Next** to continue.

3. Proceed to Auto Updates.

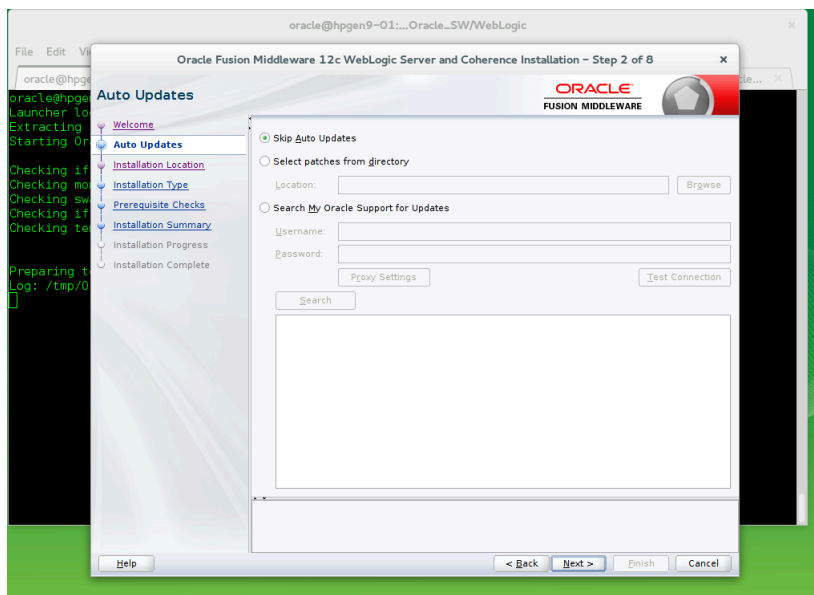


FIGURE 7: AUTO UPDATES

Select the option **"Skip Auto Updates"**, to skip this screen. Click **Next** to continue.

4. Proceed to **Installation Location**.

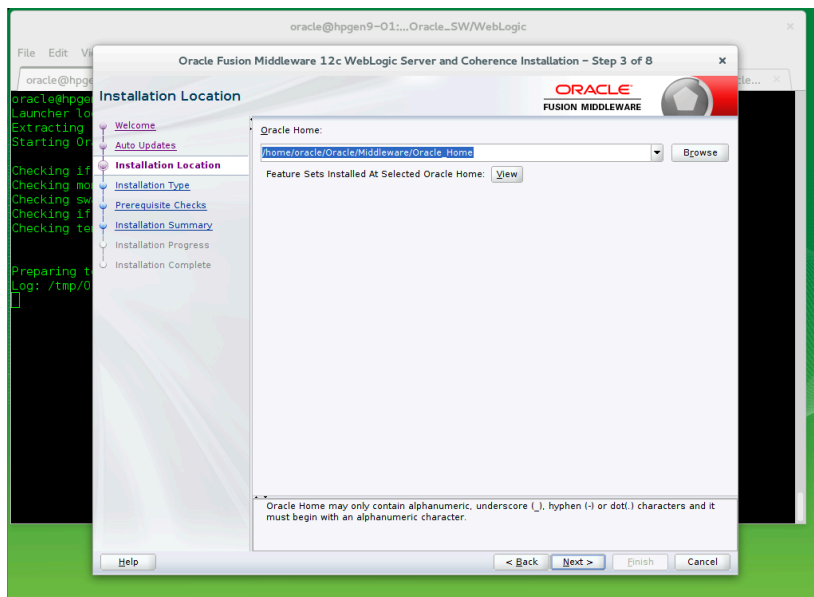


FIGURE 8: **INSTALLATION LOCATION**

Type the full path of the directory into the Oracle Home field. Click **Next** to continue.

5. Proceed to **Installation Type**.

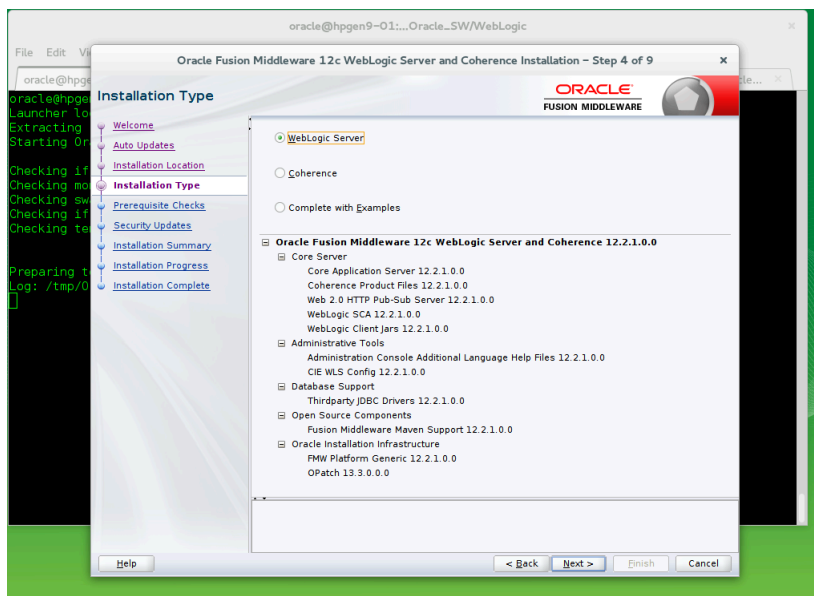


FIGURE 9: **INSTALLATION TYPE**

Use this screen to determine the type of installation you want to perform, then click **Next** to continue.

6. Proceed to Prerequisite Checks.

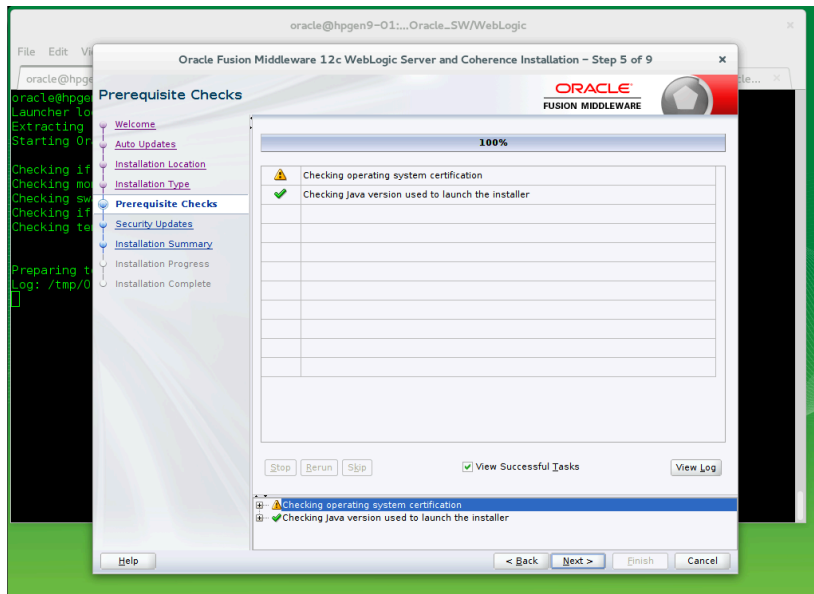


FIGURE 10: PREREQUISITE CHECKS

The **Prerequisite Checks** results will be shown as above. Click **Next** to continue.

7. Proceed to Security Updates.

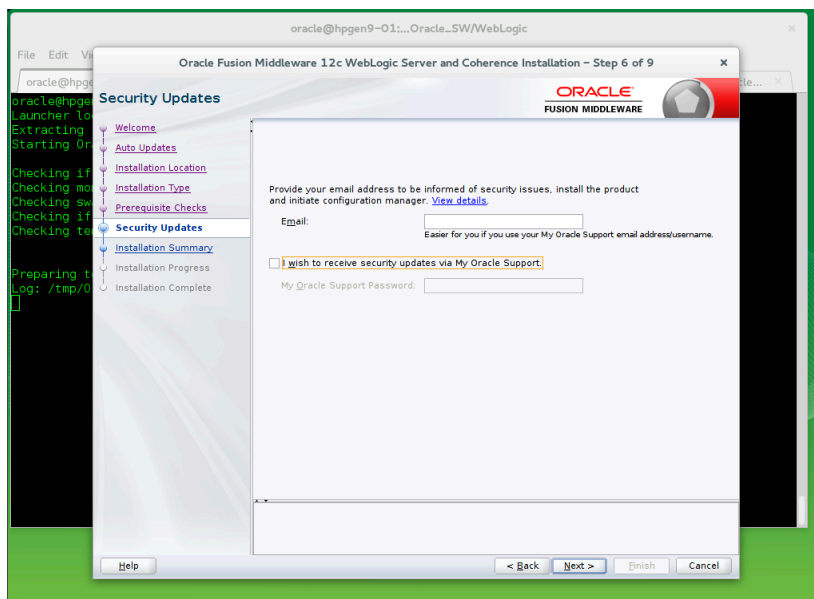


FIGURE 11: SECURITY UPDATES

If you want to register your installation, enter your e-mail address and your **My Oracle Support** password.

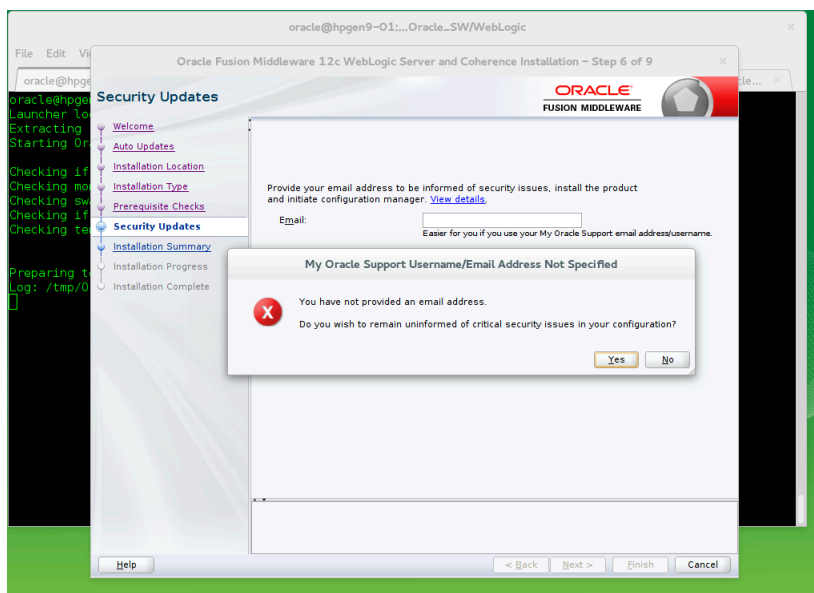


FIGURE 12: SECURITY UPDATES - 2

If you want to decline registration, deselect **I wish to receive security updates via My Oracle Support** and confirm your choice.

8. Proceed to **Installation Summary** .

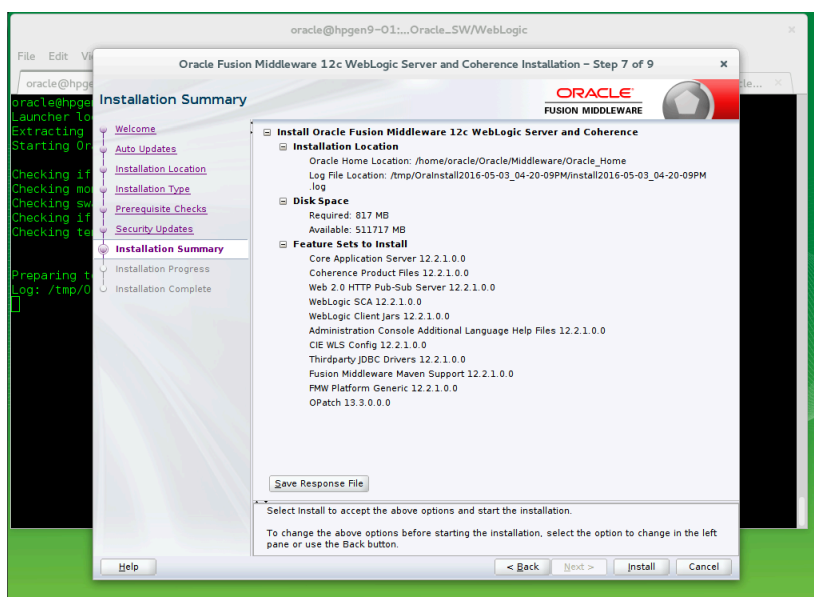


FIGURE 13: INSTALLATION SUMMARY

This screen contains a list of the feature sets you selected for your installation, along with the approximate amount of disk space to be used by the feature sets when the installation is complete. Check the information, then click **Install** to continue.

9. Proceed to Installation Progress.

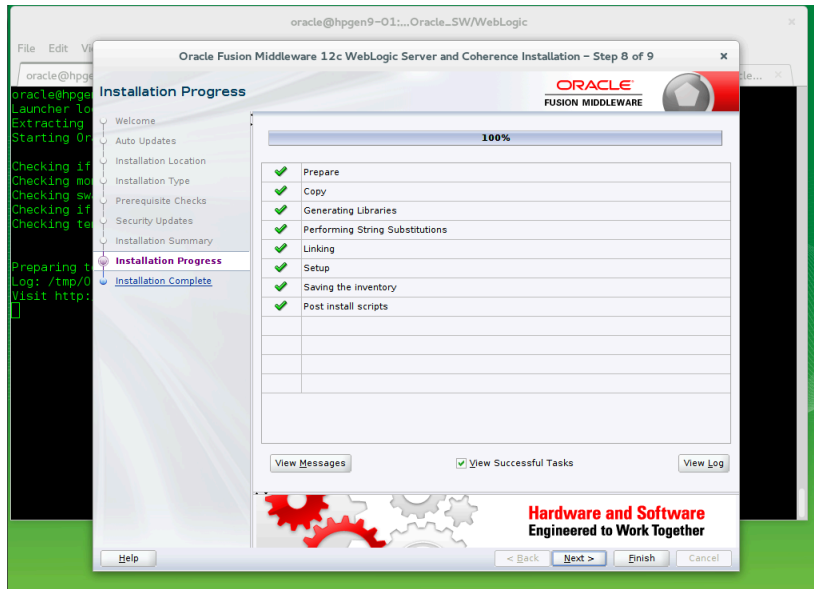


FIGURE 14: INSTALLATION PROGRESS

This screen shows the progress of the installation. When the progress bar reaches 100 percent, the installation is complete. Click **Finish** to continue.

10. Proceed to Installation Complete.

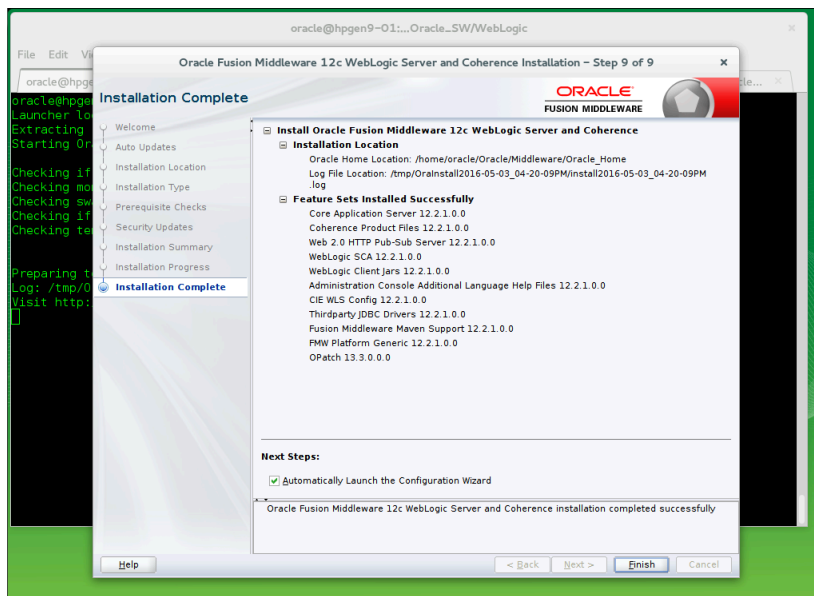


FIGURE 15: INSTALLATION COMPLETE

This screen appears at the conclusion of the installation. Select the option **Automatically Launch the Configuration Wizard**, then click **Finish** to exit the installer.

4.2 Creating and Configuring the WebLogic Domain

To start the domain configuration, you can choose from two options

1. From the last-shown screen **Installation Complete**, you can automatically launch the WebLogic Configuration Wizard through the option **Automatically Launch the Configuration Wizard**.
2. You can also navigate to the directory `ORACLE_HOME/oracle_common/common/bin` and start the WebLogic Server Configuration Wizard by running the command `./config.sh`.

To set up your configuration, follow the steps below:

1. Go to **Configuration Type**.

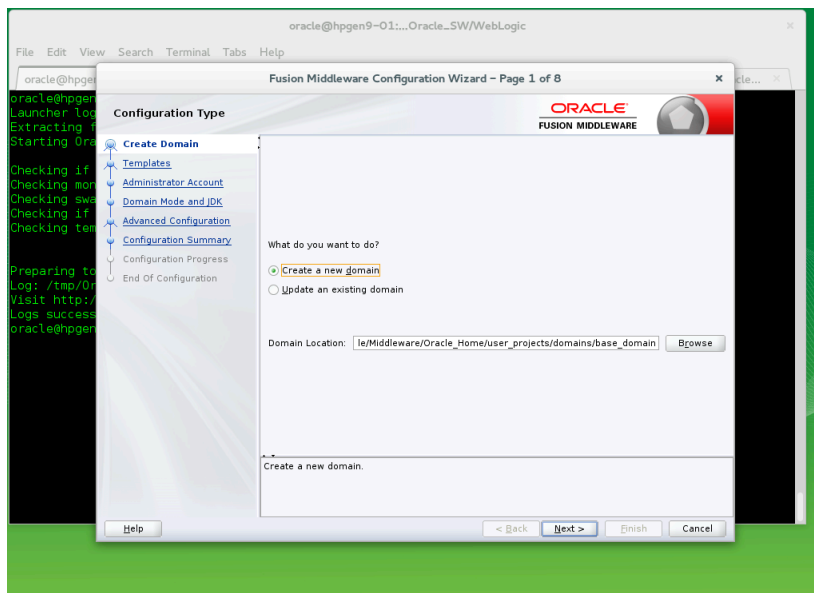


FIGURE 16: CONFIGURATION TYPE

Select the option **Create a New Domain** and specify the Domain home directory in the **Domain Location** field. Click **Next** to continue.

2. Proceed to **Templates**.

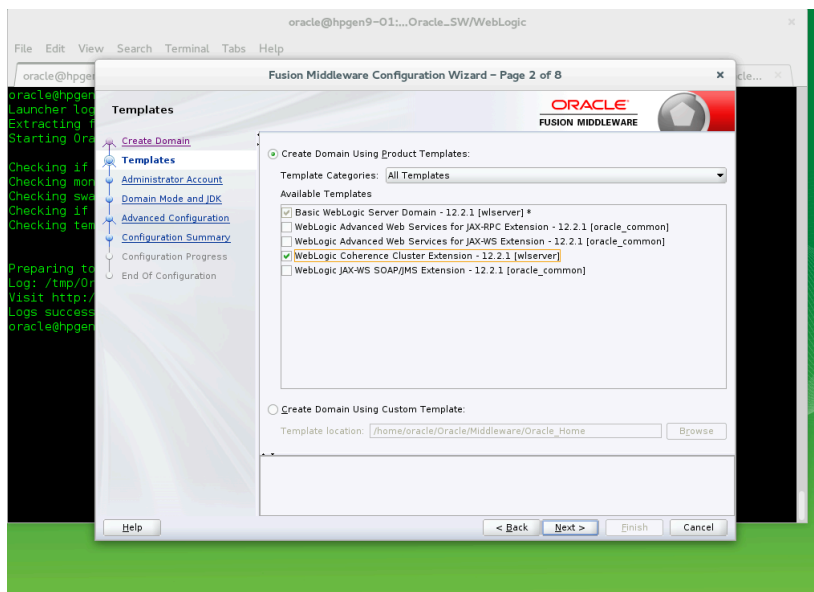


FIGURE 17: TEMPLATES

On the **Templates** screen select **Basic WebLogic Server Domain** which is pre-selected by default, and **WebLogic Coherence Cluster Extension** for the configuration. Click **Next** to continue.

3. Proceed to **Administrator Account**.

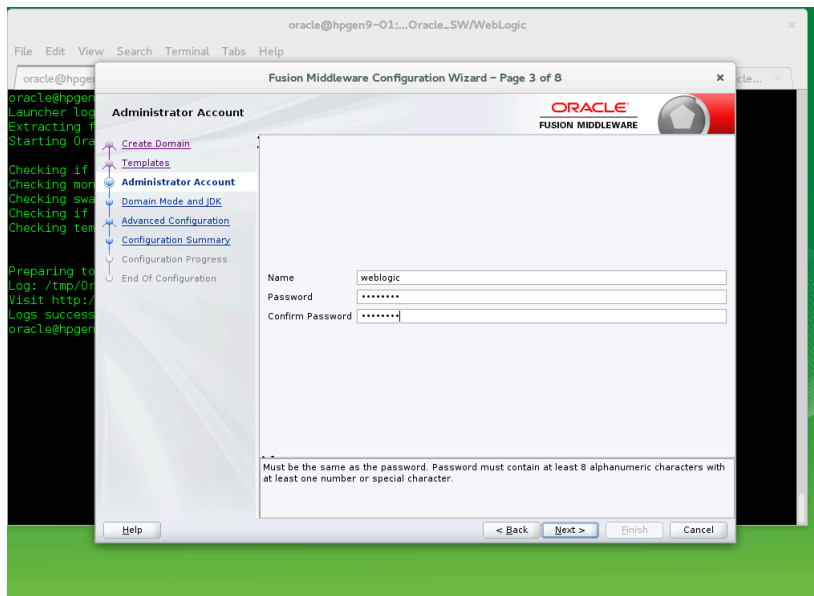


FIGURE 18: **ADMINISTRATOR ACCOUNT**

Specify the user name and password for the default WebLogic Administrator account for the domain. Click **Next** to continue.

4. Proceed to **Domain Mode and JDK**.

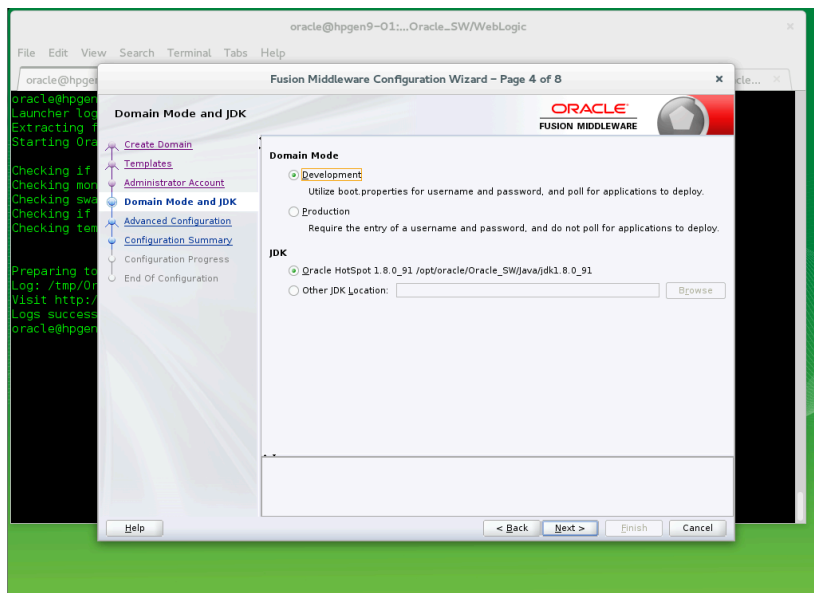


FIGURE 19: DOMAIN MODE AND JDK

Select **Development** in the Domain Mode field and the **Oracle HotSpot** in the JDK field. Click **Next** to continue.

5. Proceed to Advanced Configuration.

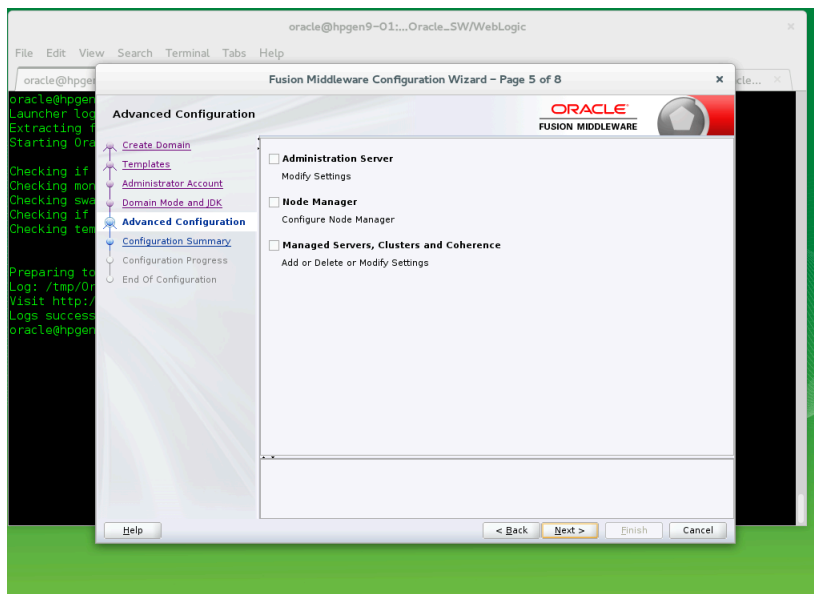


FIGURE 20: ADVANCED CONFIGURATION

According to your requirements, select the desired options on the **Advanced Configuration** screen. Click **Next** to continue.

6. Proceed to Configuration Summary.

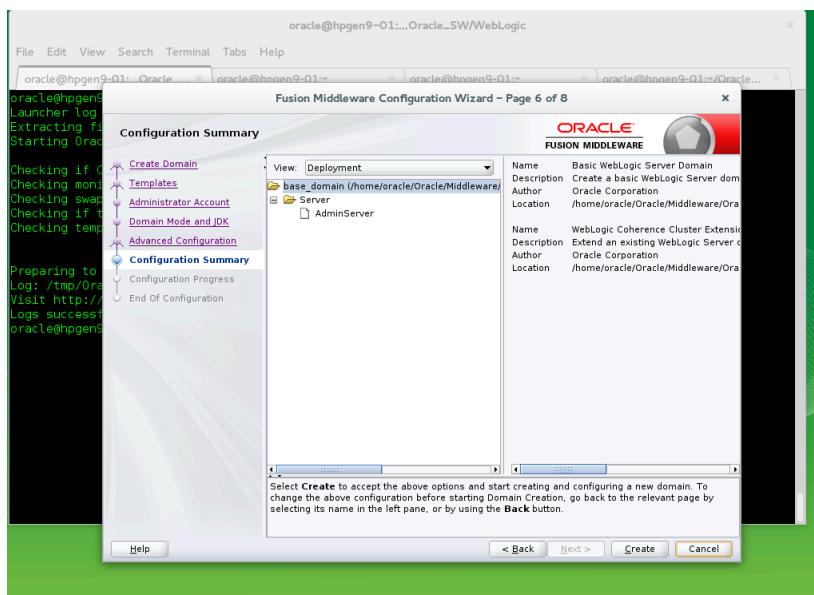


FIGURE 21: CONFIGURATION SUMMARY

Review the information on the **Configuration Summary** screen to verify everything is correct, then click **Create** to continue.

7. Proceed to Configuration Progress.

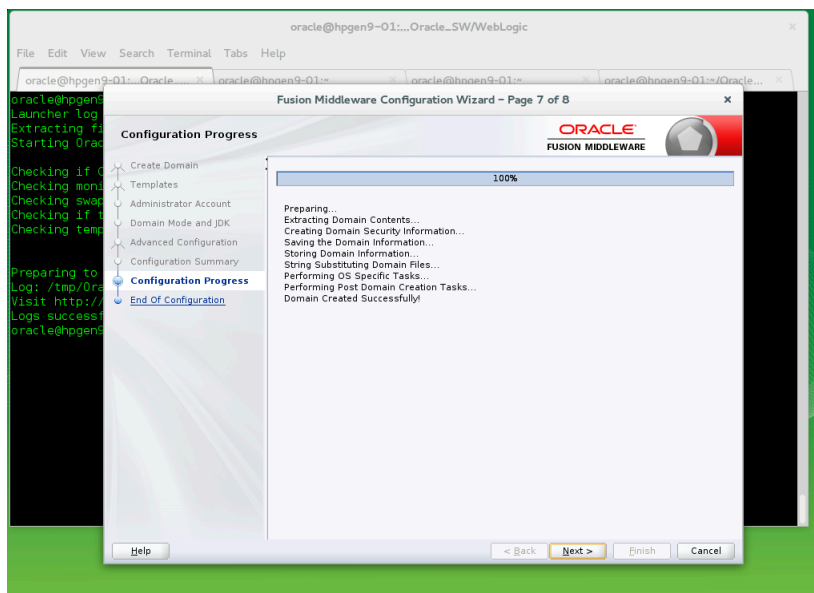


FIGURE 22: CONFIGURATION PROGRESS

The **Configuration Progress** screen shows the progress of your configuration. For different progress states, different messages are displayed. When you see the message **Domain Created successfully**, click **Next** to continue.

8. Proceed to End Of Configuration.

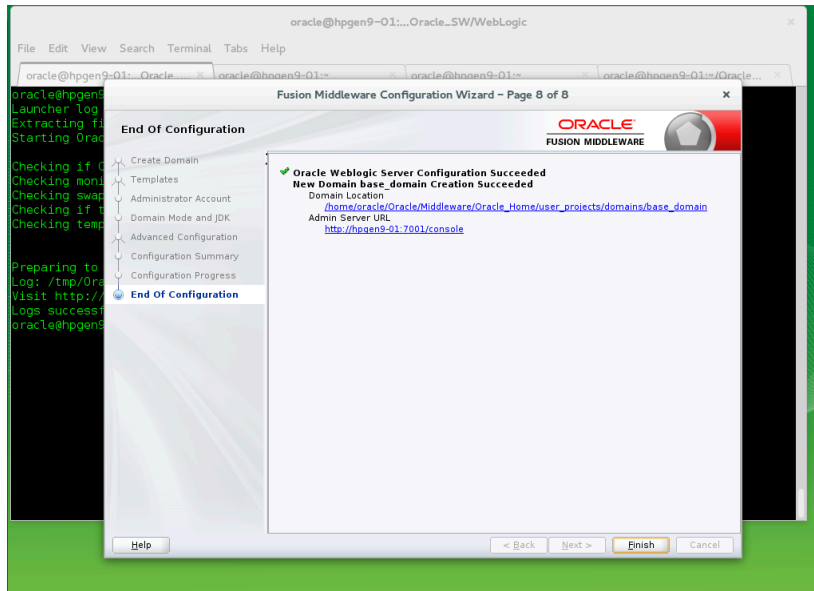


FIGURE 23: CONFIGURATION PROGRESS

When you see the message **Oracle WebLogic Server Configuration Succeeded**, record the **Domain Location** and **Admin Server URL**. Click **Finish** to exit the Configuration Wizard.

4.3 Starting the Administration Server and Verifying the Configuration

To start the Administration Server through a terminal, go to the DOMAIN_HOME/bin directory and run the command ./startWebLogic.sh.

```
oracle@hpgen9-01:~$ ns/base_domain/bin
File Edit View Search Terminal Tabs Help
oracle@hpgen9-01:~$ ns/base_domain/bin
TING.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <Log Management> <BEA-170036> <The Logging monitoring servi
ce timer has started to check for logged message counts every 30 seconds.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <Log Management> <BEA-170027> <The server has successfully
established a connection with the Domain Level Diagnostic Service.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to ADMI
N.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to RESU
MING.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Warning> <Server> <BEA-002611> <The hostname "localhost", maps to m
ultiple IP addresses: 127.0.0.1, 0:0:0:0:0:0:0:1.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default[2]" is now listenin
g on 127.0.0.1:7001 for protocols iiop, t3, ldap, snmp, http.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default" is now listening o
n 192.168.1.190:7001 for protocols iiop, t3, ldap, snmp, http.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <WebLogicServer> <BEA-000331> <Started the WebLogic Server
Administration Server "AdminServer" for domain "base_domain" running in development mode.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default[1]" is now listenin
g on 0:0:0:0:0:0:0:1%lo:7001 for protocols iiop, t3, ldap, snmp, http.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default[2]" is now listenin
g on 127.0.0.1:7001 for protocols iiop, t3, ldap, snmp, http.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default" is now listening o
n 192.168.1.190:7001 for protocols iiop, t3, ldap, snmp, http.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default[1]" is now listenin
g on 0:0:0:0:0:0:0:1%lo:7001 for protocols iiop, t3, ldap, snmp, http.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <WebLogicServer> <BEA-000360> <The server started in RUNNIN
G mode.>
<03-May-2016 17:12:16 o'clock GMT+08:00> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to RUNN
ING.>
```

FIGURE 24: STARTING THE ADMINISTRATION SERVER

Review the information displayed on the screen.

Access the Oracle WebLogic Server Administration Console.

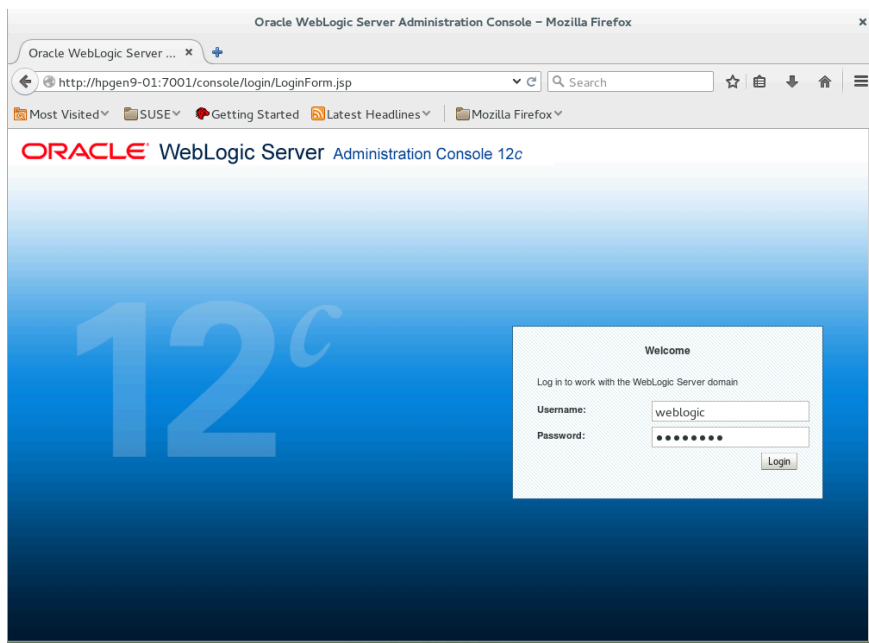


FIGURE 25: ORACLE WEBLOGIC SERVER ADMINISTRATION CONSOLE

Fill in your user name and password. You are then proceeded to the **WebLogic Server 12cR2 Administration Console** home page.

The installation and configuration of your Oracle WebLogic Server 12cR2 is now successfully finished.


5 Additional Comments

This document shows how to create a standard installation topology for Oracle WebLogic Server. You can extend this topology to make it highly available and secure so that it is suitable for a production system.

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