

***Oracle WebLogic Server 12cR2 on  
SUSE Linux Enterprise Server 12 (SP3)  
for x86-64***



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## Introduction

This document provides details on installing Oracle WebLogic Server 12cR2 on SUSE Linux Enterprise Server 12 (SP3). Details are provided for Intel(x86-64) versions of both Oracle WebLogic Server 12cR2 and SUSE Linux Enterprise Server 12. Similar steps apply to other platforms (x86, ia64, System z, etc.). If you encounter issues or have general questions, please post your query to [suse-oracle@listx.novell.com](mailto:suse-oracle@listx.novell.com).

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

## System Requirements and Specifications

### Hardware Requirements

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

### Software Requirements

#### SUSE

- SUSE Linux Enterprise Server 12 SP3 (x86-64)  
(<http://download.suse.de/install>)

#### Oracle

- WebLogic Server 12cR2 (12.2.1.2.0) (fmw\_12.2.1.2.0\_wls\_Disk1\_1of1.zip)  
(<http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html>)
- Java SE Development Kit 8 (jdk-8u112-linux-x64.tar.gz)  
(<http://www.oracle.com/technetwork/indexes/downloads/index.html#java>)

### Testing machine information

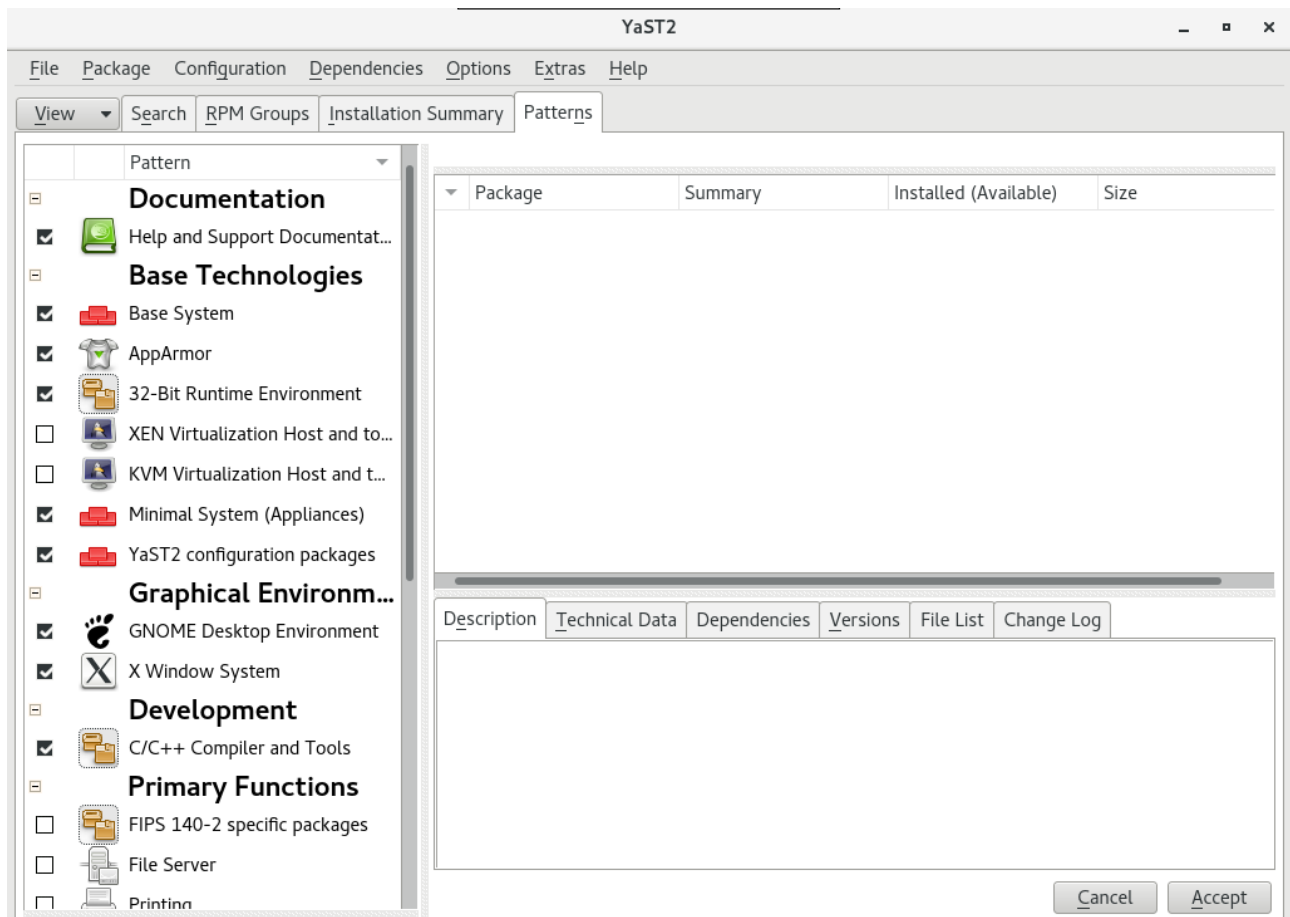
HP DL388 Gen9 Server  
 CPU: 2 \* Intel(R) Xeon(R) CPU E5-2630 v3 @ 2.40GHz  
 RAM: 64 GB  
 NIC: 8  
 Local HDD: 2TB  
 OS: SUSE Linux Enterprise Server 12 SP3 (x86-64) - Kernel version: 4.4.73-5-default

# Prerequisites

## 1. Installing SUSE Linux Enterprise Server 12

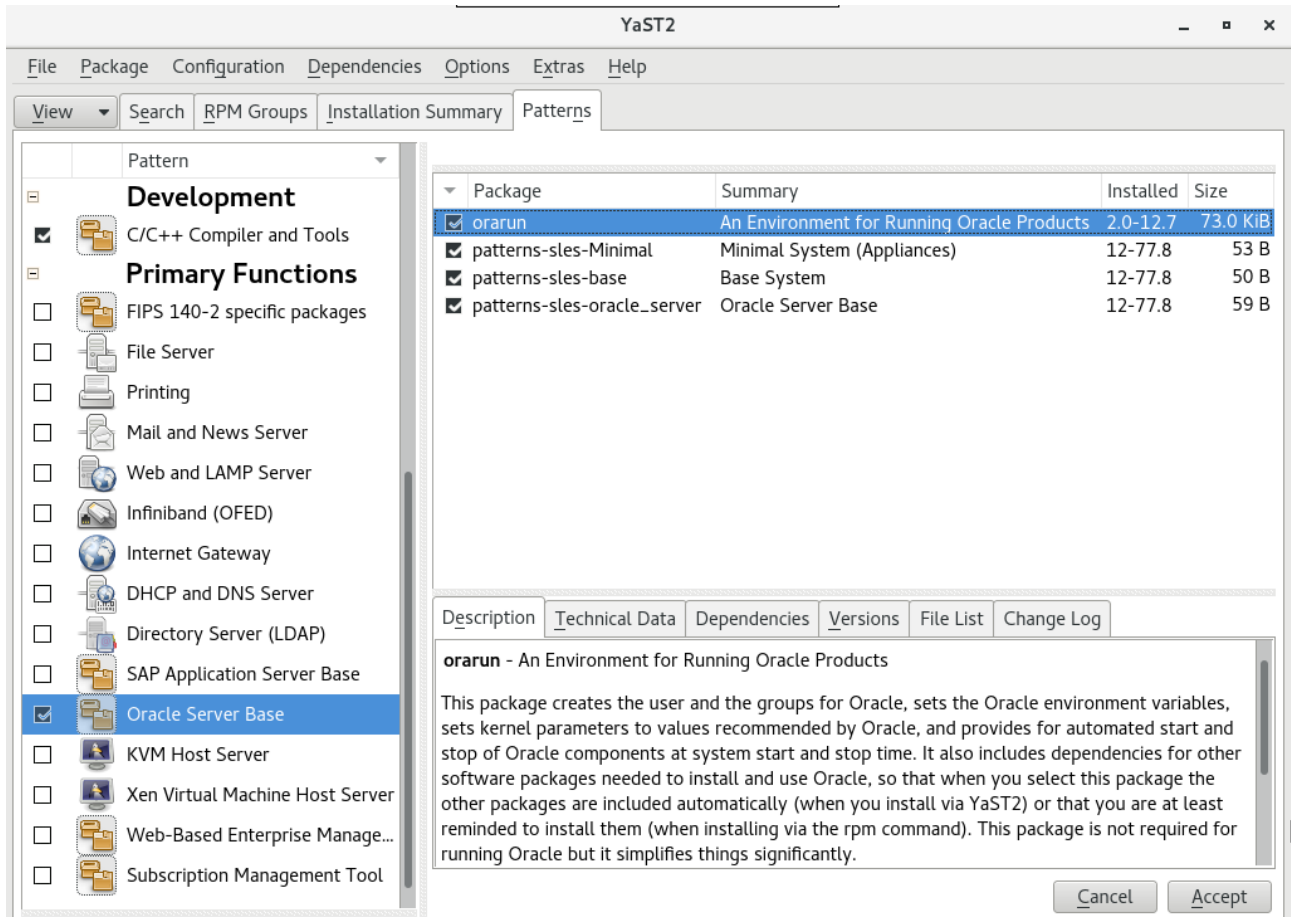
Install SUSE Linux Enterprise Server 12 on your testing machine. To do so, follow the instructions in the official SUSE Linux Enterprise Server documentation at <https://www.suse.com/documentation/sles-12/>.

**Figure 1-1 Software Installed as shown below**



In Yast, select the patterns you need. Make sure you select the patterns and packages required to run Oracle products.

**Figure 1-2 Software Installed as shown below**



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

**Figure 1-3 OS release information and kernel version**

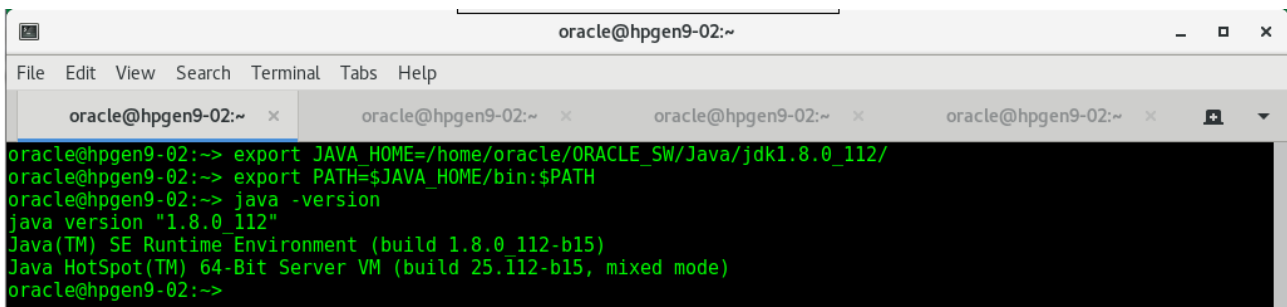
```
oracle@hpgen9-02:~> more /etc/os-release
NAME="SLES"
VERSION="12-SP3"
VERSION_ID="12.3"
PRETTY_NAME="SUSE Linux Enterprise Server 12 SP3"
ID="sles"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:12:sp3"
oracle@hpgen9-02:~> uname -a
Linux hpgen9-02 4.4.73-5-default #1 SMP Tue Jul 4 15:33:39 UTC 2017 (b7ce4e4) x86_64 x86_64 x86_64 GNU/Linux
oracle@hpgen9-02:~> █
```

## 2. Installing Java

2-1. Oracle WebLogic Server 12cR2 (12.2.1.2.0) requires JDK 1.8 version. Log in to the target system (SUSE Linux Enterprise Server 12 64-bit OS) as a non-admin user. Download Java SE Development Kit 8 (jdk-8u112-linux-x64.tar.gz) from <http://www.oracle.com/technetwork/indexes/downloads/index.html#java>

2-2. Set environment variables JAVA\_HOME and PATH to ensure the proper JDK version is installed and ready for use.

**Figure 2-1 Java information**

A terminal window titled 'oracle@hpgen9-02:~' with a menu bar (File, Edit, View, Search, Terminal, Tabs, Help) and four tabs. The terminal shows the following commands and output:

```
oracle@hpgen9-02:~> export JAVA_HOME=/home/oracle/ORACLE_SW/Java/jdk1.8.0_112/
oracle@hpgen9-02:~> export PATH=$JAVA_HOME/bin:$PATH
oracle@hpgen9-02:~> java -version
java version "1.8.0_112"
Java(TM) SE Runtime Environment (build 1.8.0_112-b15)
Java HotSpot(TM) 64-Bit Server VM (build 25.112-b15, mixed mode)
oracle@hpgen9-02:~>
```

# Oracle WebLogic Server 12cR2 Installation

## 1. Installing Oracle WebLogic Server software

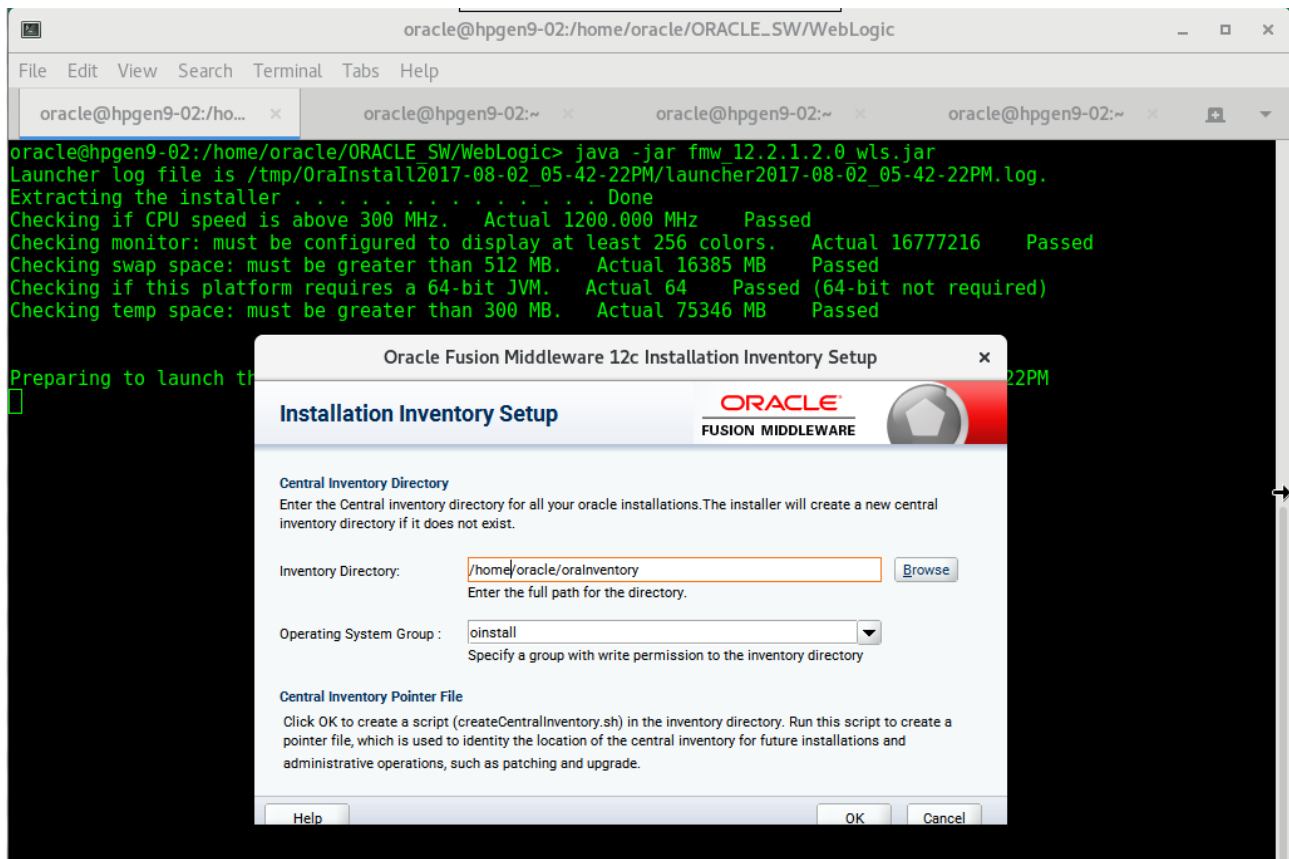
1-1. Log in to the target system (SUSE Linux Enterprise Server 12 64-bit OS) as a non-admin user. Download the Oracle WebLogic Server 12cR2 (12.2.1.2.0) from <http://www.oracle.com/technetwork/middleware/fusion-middleware/downloads/index.html>.

(**Note:** Please ensure the installation user has the proper permissions to install and configure the software.)

1-2. Go to the directory where you downloaded the installation program. Extract the contents of this .zip (fmw\_12.2.1.2.0\_wls\_Disk1\_1of1.zip) file and launch the installation program by running '**java -jar fmw.xxx.jar**'

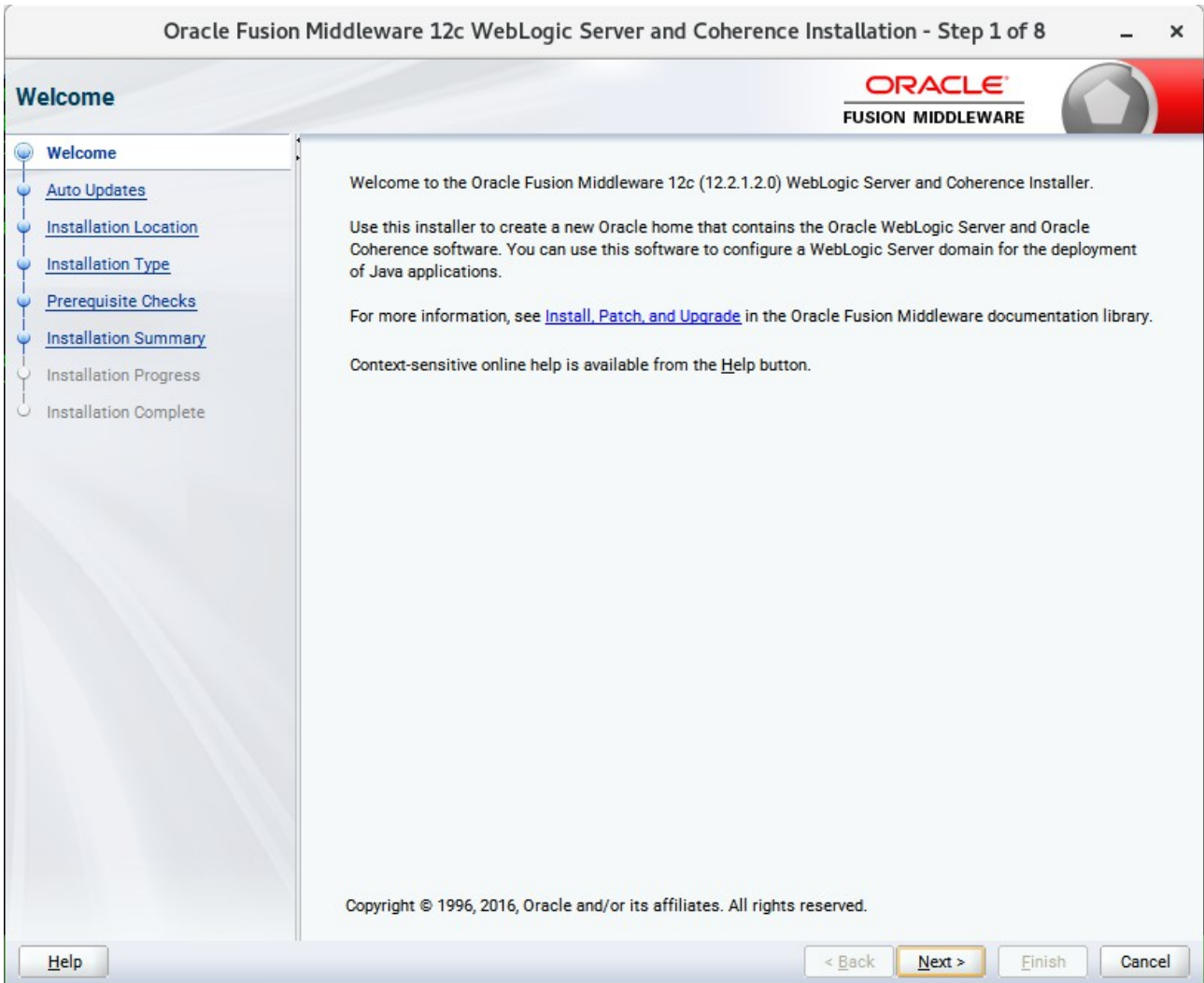
### Install Flow:

1). Installation Inventory Setup.



If this is your first Oracle installation on a host that is running SLES, please use this screen to specify the location of the Oracle central inventory directory and Operating System Group Name, then click **OK** to continue.

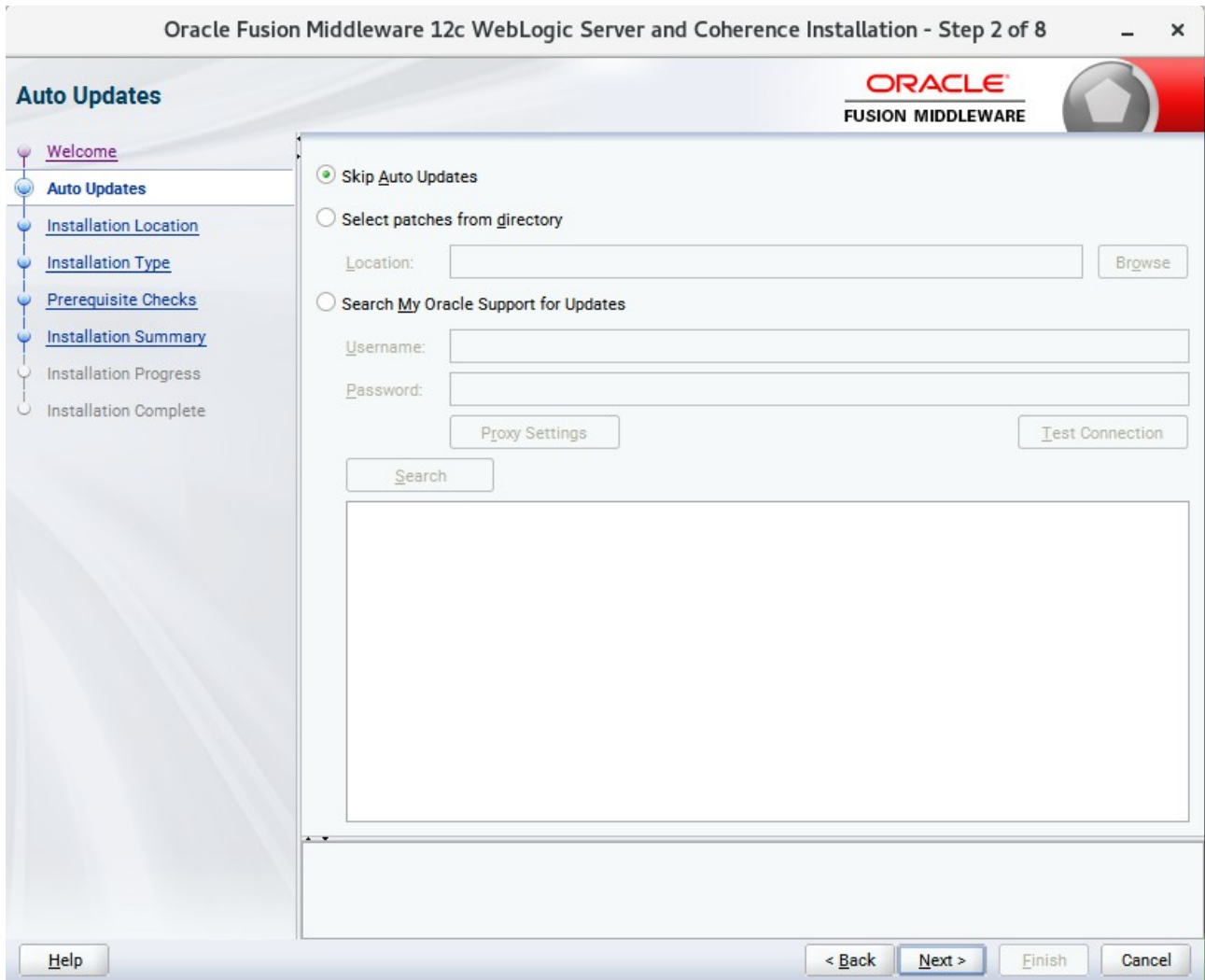
2). Welcome.



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

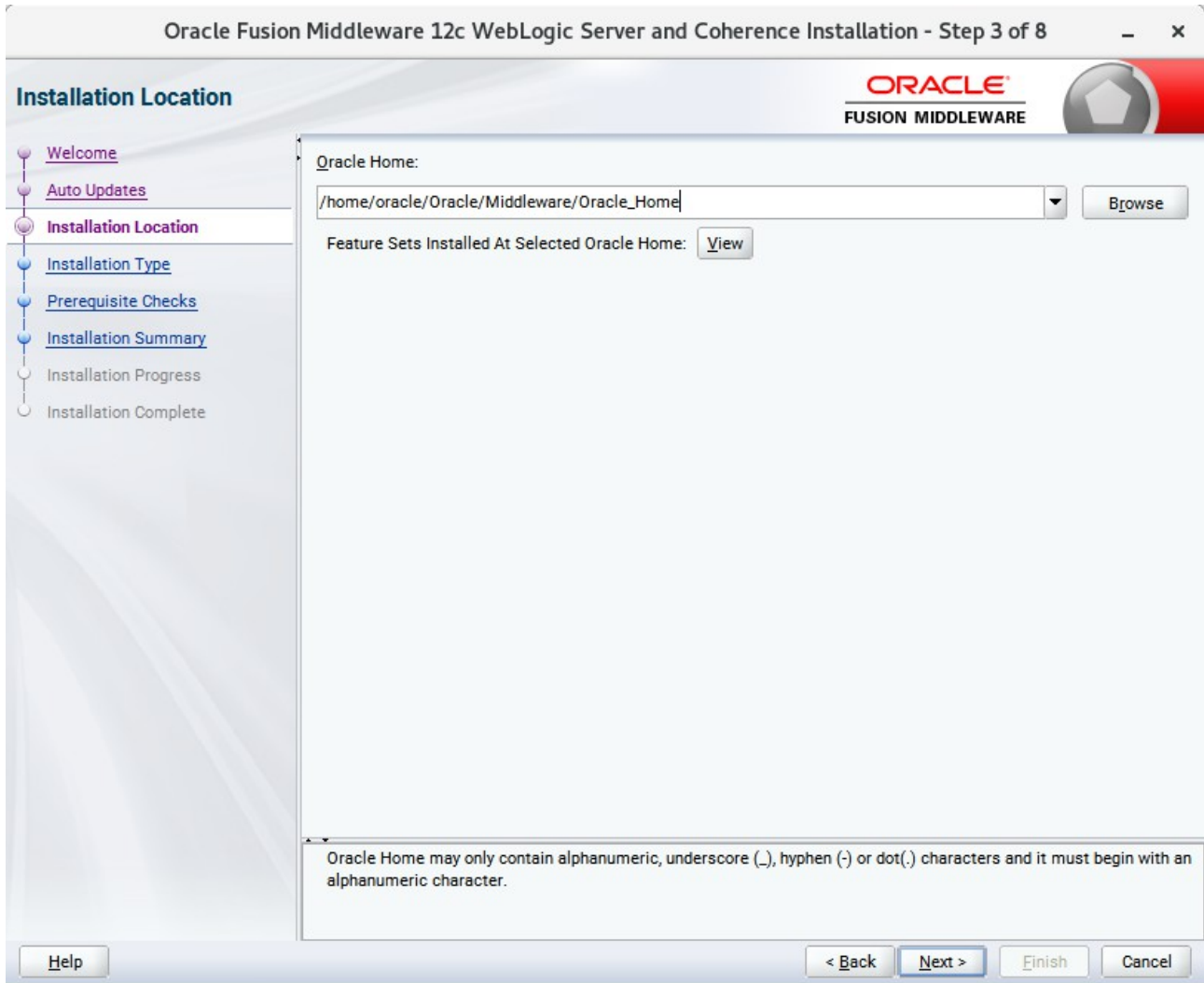


3). Auto Updates.



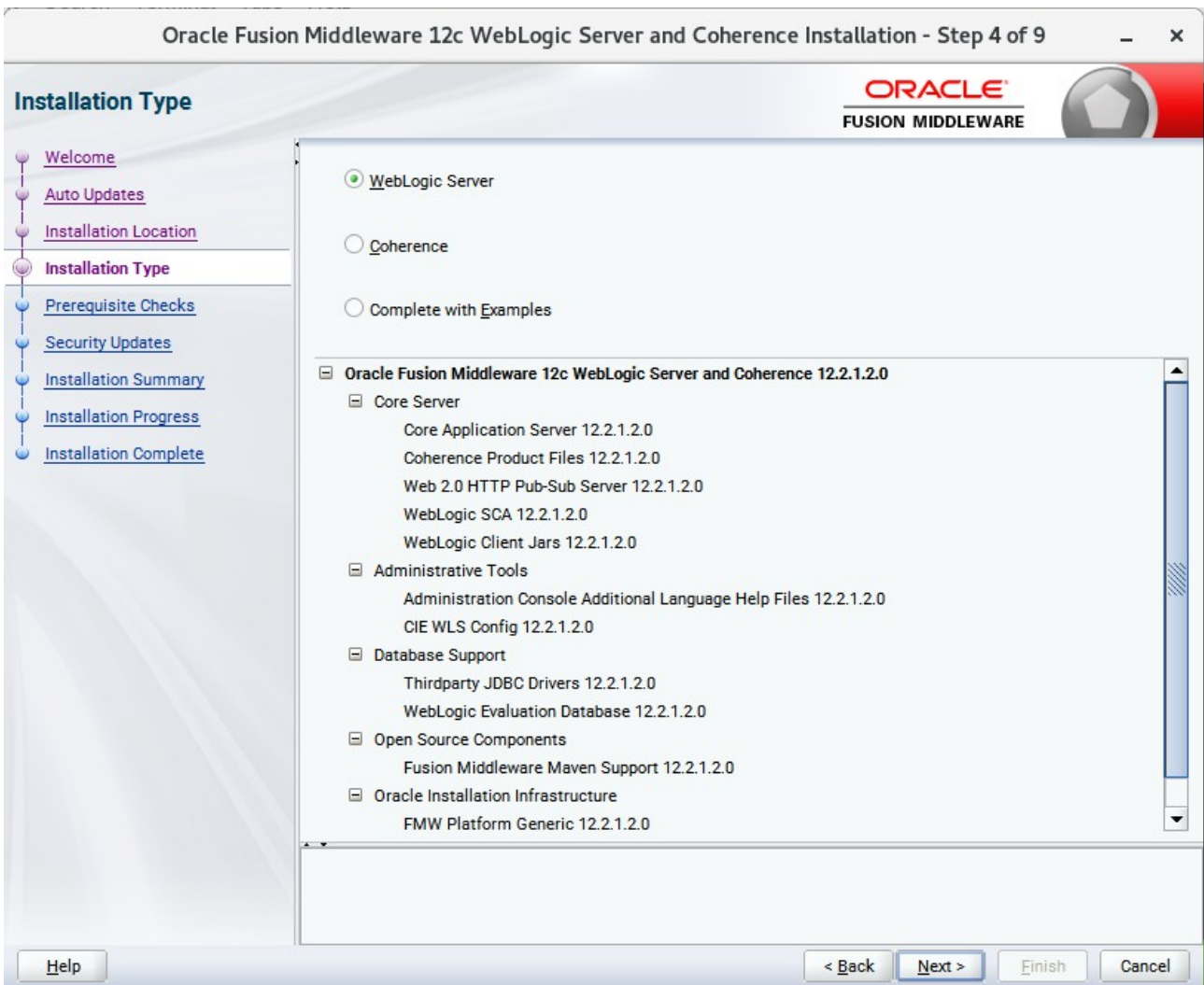
Select option "Skip Auto Updates" to skip this screen, then click **Next** to continue.

4). Installation Location.



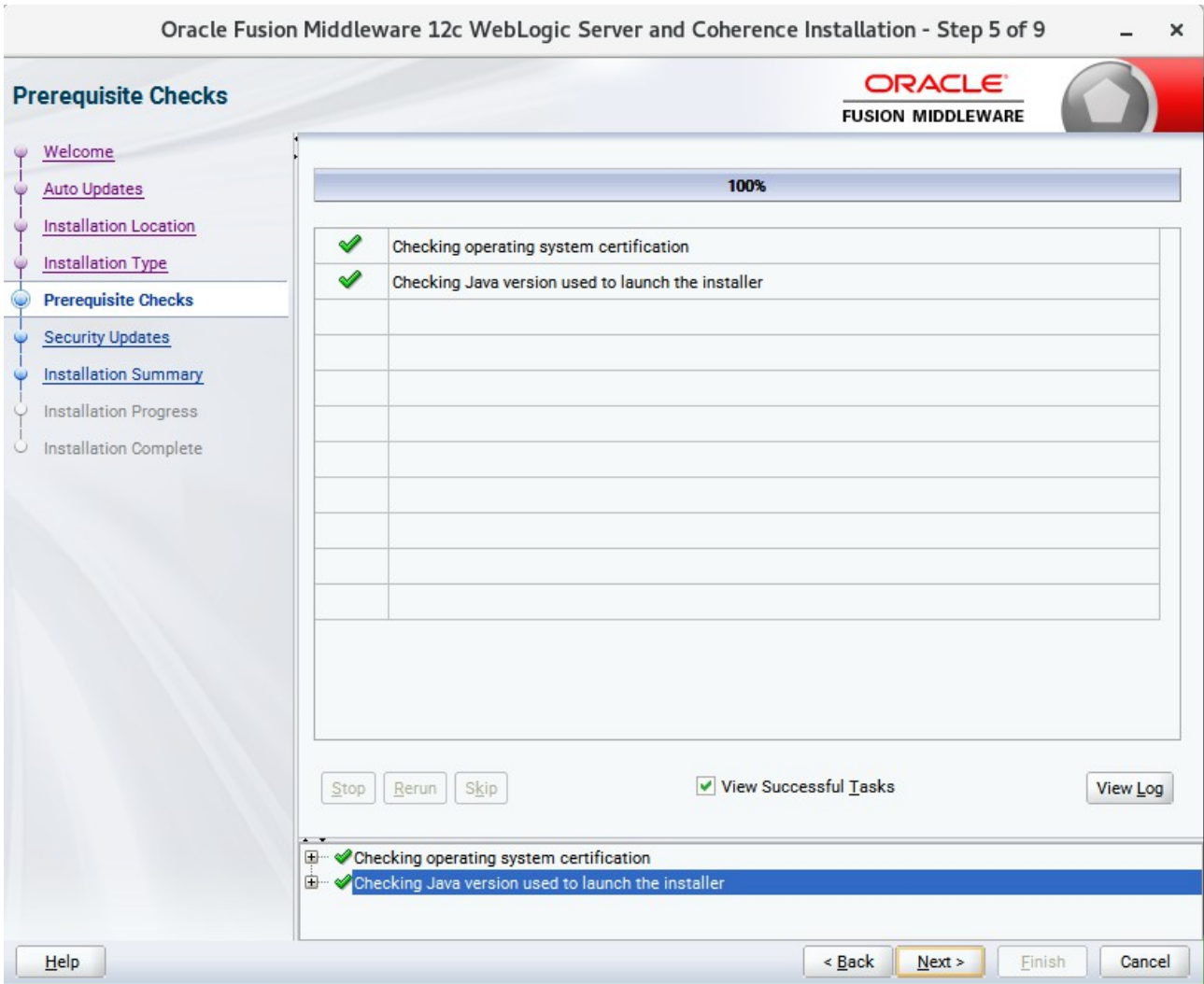
Type the full path of the directory in the Oracle Home field, then click **Next** to continue.

5). Installation Type.



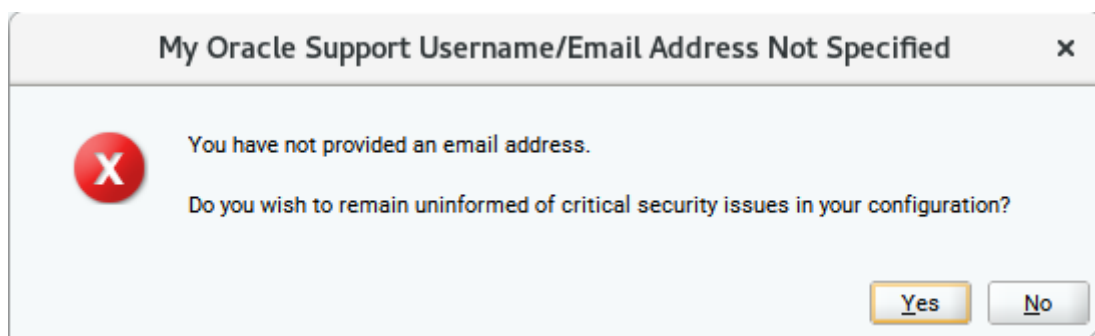
Use this screen to determine the type of installation you want to perform, then click **Next** to continue.

6). Prerequisite Checks.



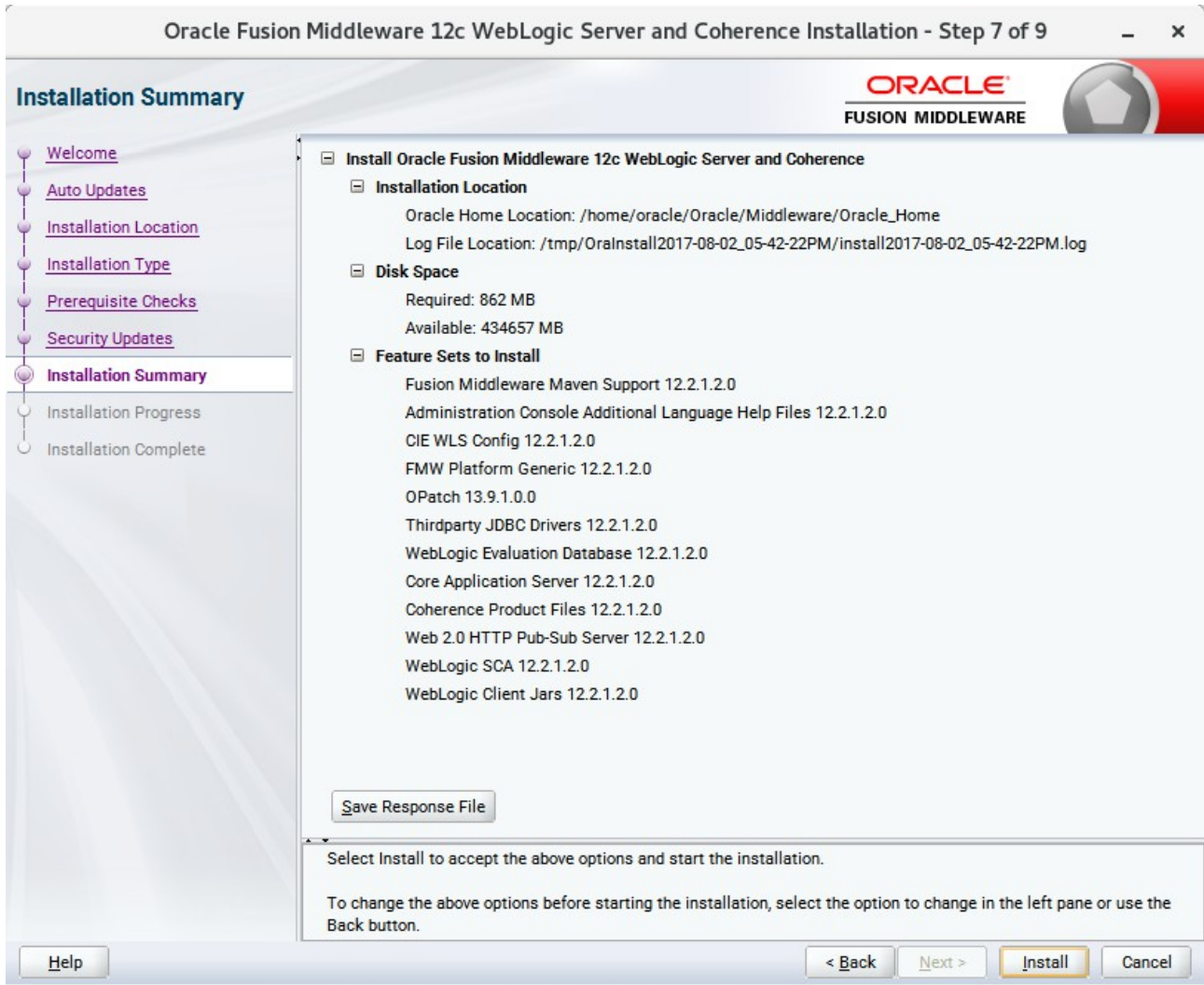
Prerequisite Checks results will be shown as above, click **Next** to continue.

7). Security Updates.



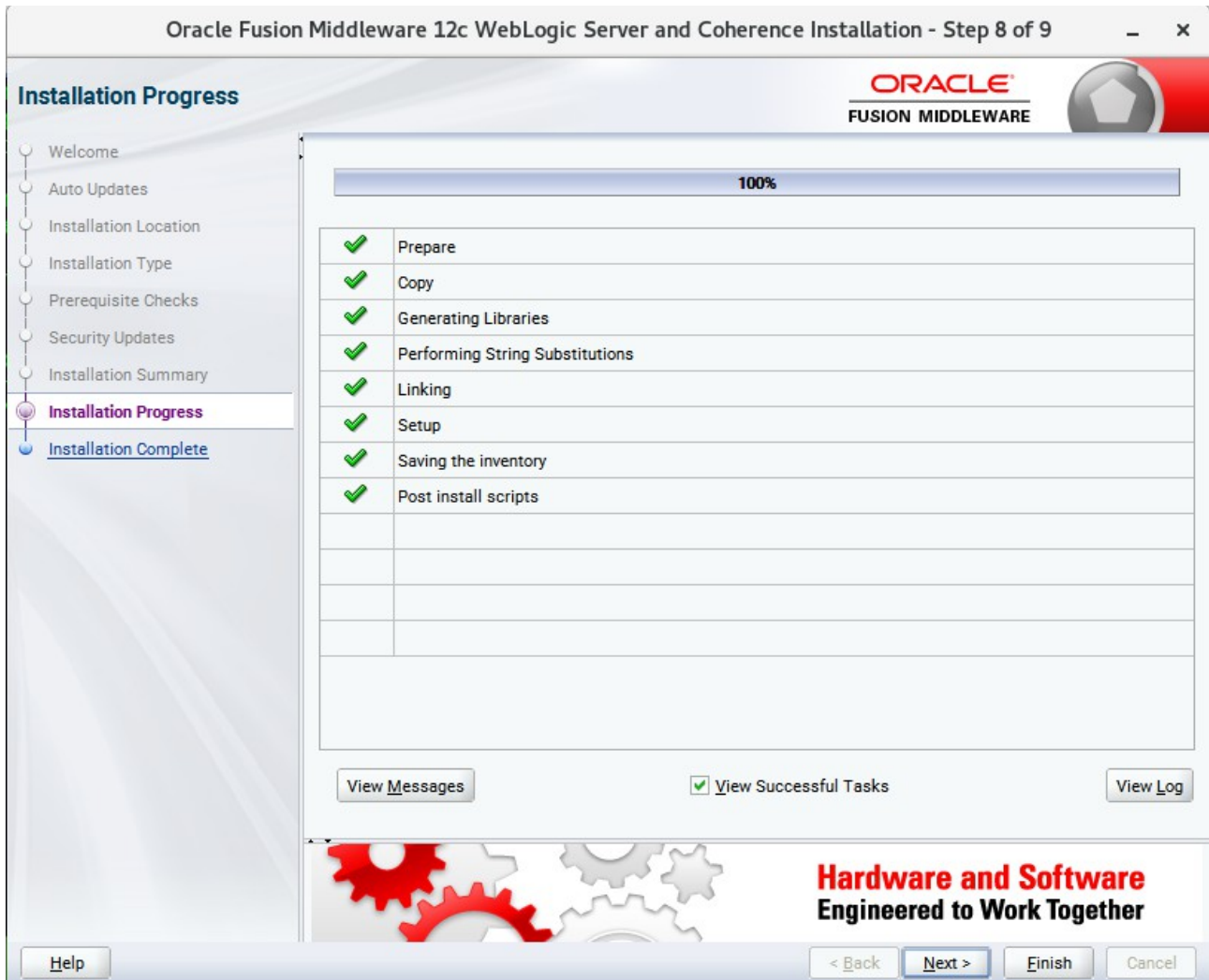
If you wish to register your installation, enter your Email address and your My Oracle Support password. If you wish to decline registration, deselect "I wish to receive security updates via My Oracle Support" and confirm your choice.

8). Installation Summary.



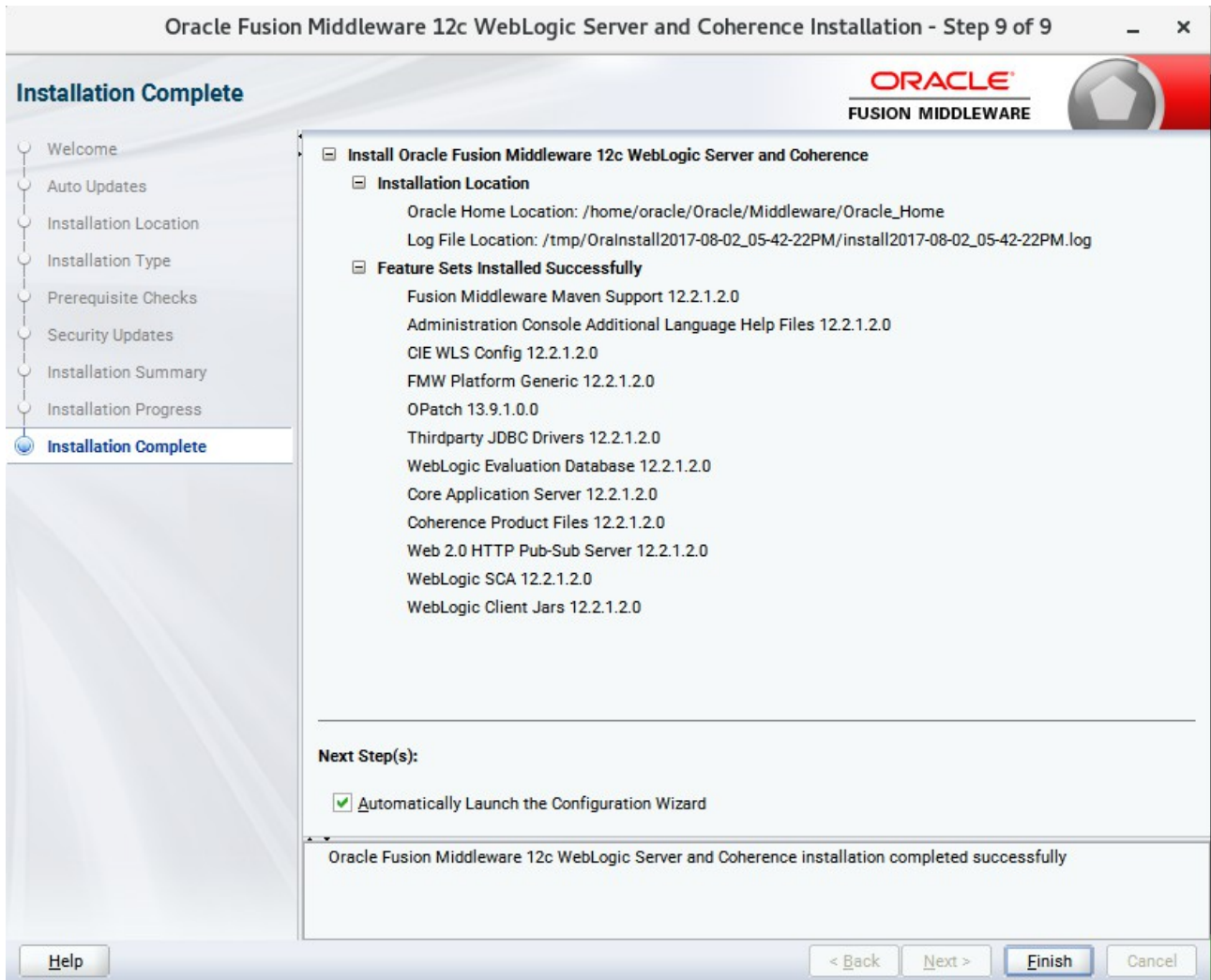
This screen contains a list of the feature sets you selected for installation, along with the approximate amount of disk space to be used by the feature sets once installation is complete. Check the information, then click **Install** to continue.

9). Installation Progress.



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

10). Installation Complete.



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



## 2. Creating and Configuring the WebLogic Domain

2-1. To begin domain configuration, you can automatically launch the Configuration Wizard through the option "**Automatically Launch the Configuration Wizard**" on the last Installation complete screen. You can also navigate to the '**ORACLE\_HOME/oracle\_common/common/bin**' directory and start the WebLogic Server Configuration Wizard by running: '**./config.sh**'.

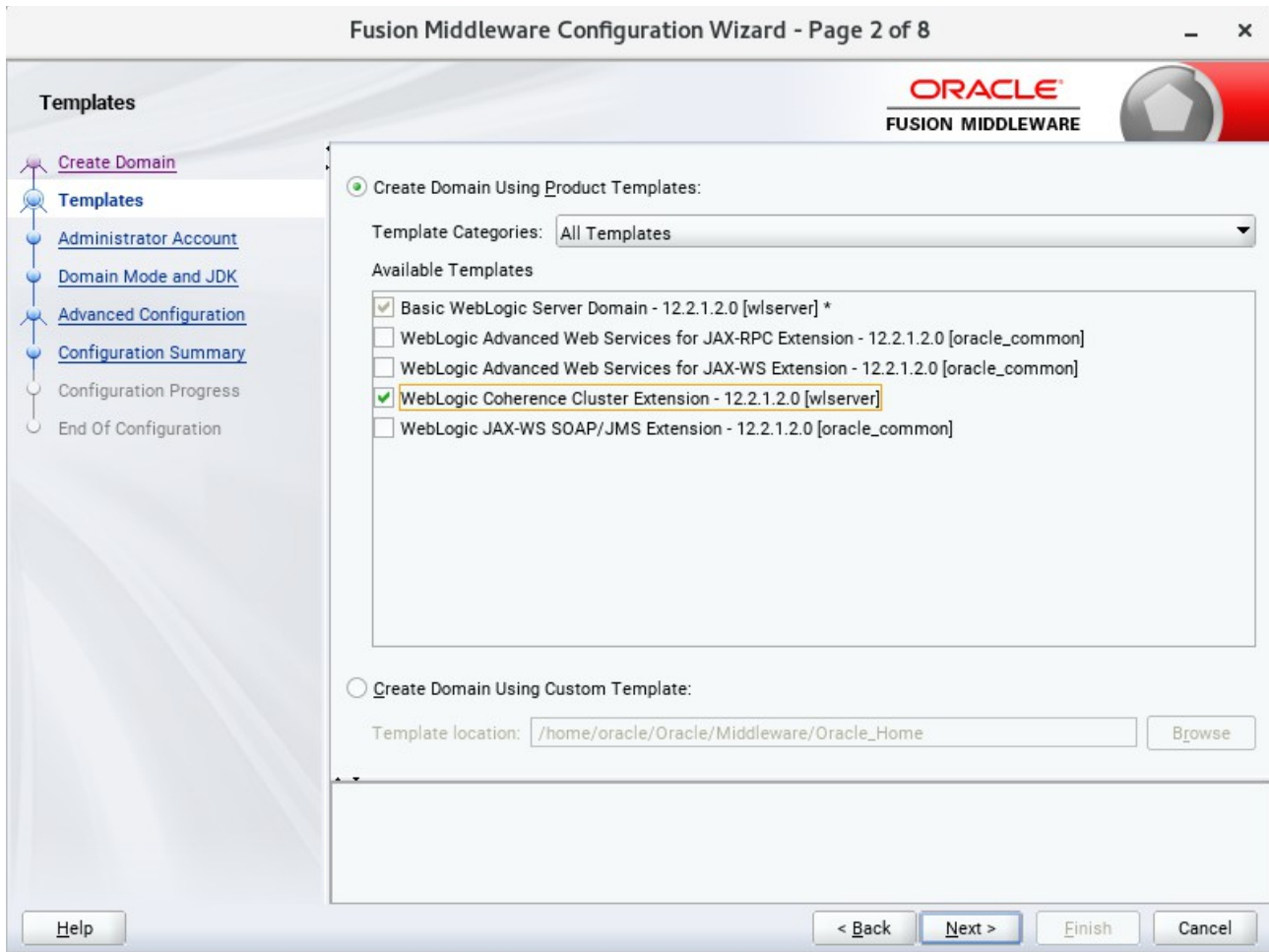
### Starting configuration:

1). Configuration Type.

The screenshot shows the 'Fusion Middleware Configuration Wizard - Page 1 of 8' window. The 'Configuration Type' section is active, and the 'Create Domain' option is selected in the left-hand navigation pane. The main content area displays the question 'What do you want to do?' with two radio button options: 'Create a new domain' (which is selected) and 'Update an existing domain'. Below this, there is a text field for 'Domain Location' containing the path 'oracle/Oracle/Middleware/Oracle\_Home/user\_projects/domains/base\_domain' and a 'Browse' button to the right. At the bottom of the window, there are navigation buttons: 'Help', '< Back', 'Next >', 'Finish', and 'Cancel'.

Select option "**Create a New Domain**" and specify the Domain home directory in the "**Domain Location**" field, then click **Next** to continue.

## 2). Templates.



On the Templates screen select "**Basic WebLogic Server Domain (selected by default)**" and "**WebLogic Coherence Cluster Extension**" for configuration, then click **Next** to continue.

3). Administrator Account.

Fusion Middleware Configuration Wizard - Page 3 of 8

**Administrator Account**

ORACLE  
FUSION MIDDLEWARE

Create Domain  
Templates  
**Administrator Account**  
Domain Mode and JDK  
Advanced Configuration  
Configuration Summary  
Configuration Progress  
End Of Configuration

Name

Password

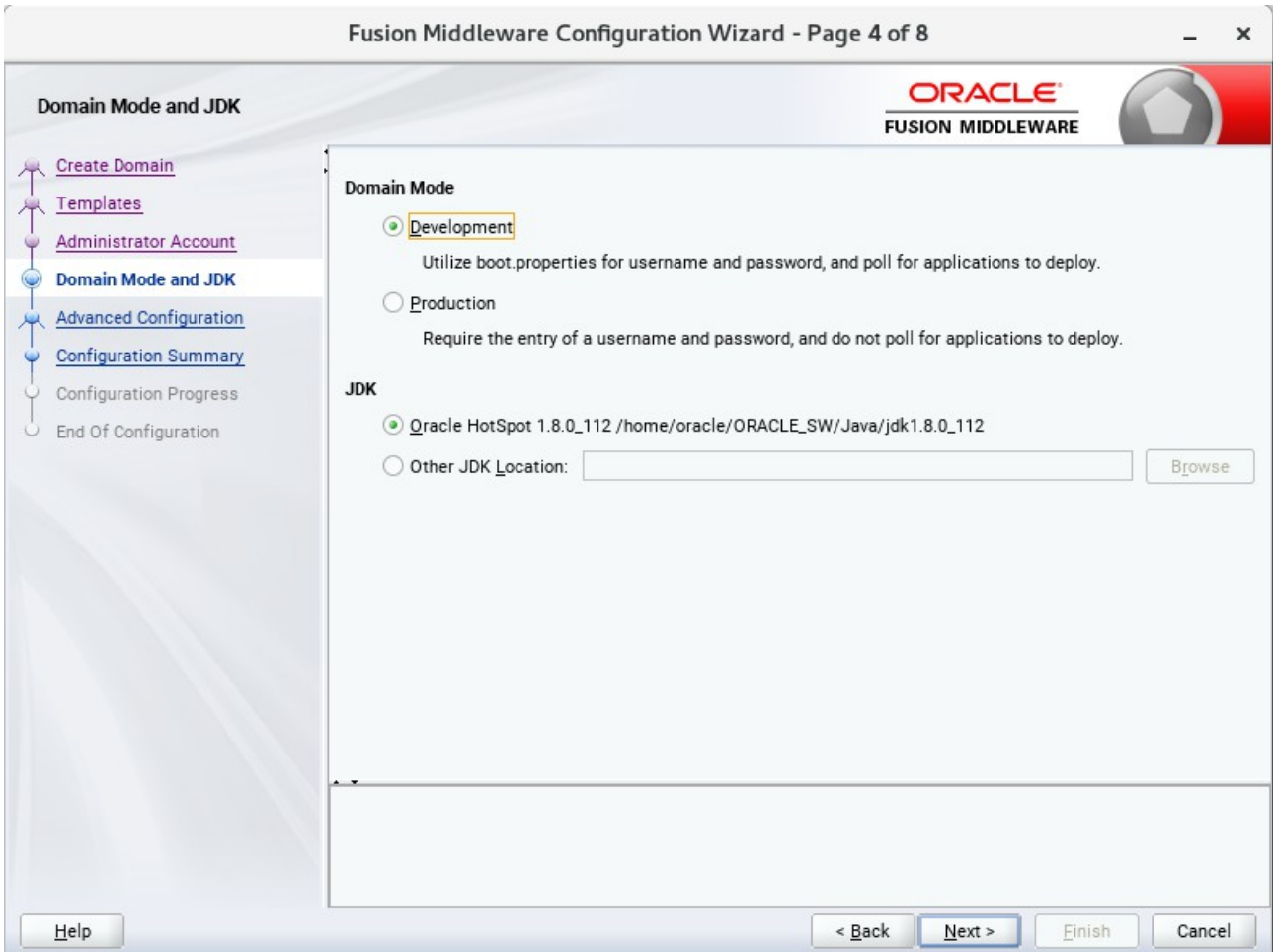
Confirm Password

Must be the same as the password. Password must contain at least 8 alphanumeric characters with at least one number or special character.

Help < Back **Next >** Finish Cancel

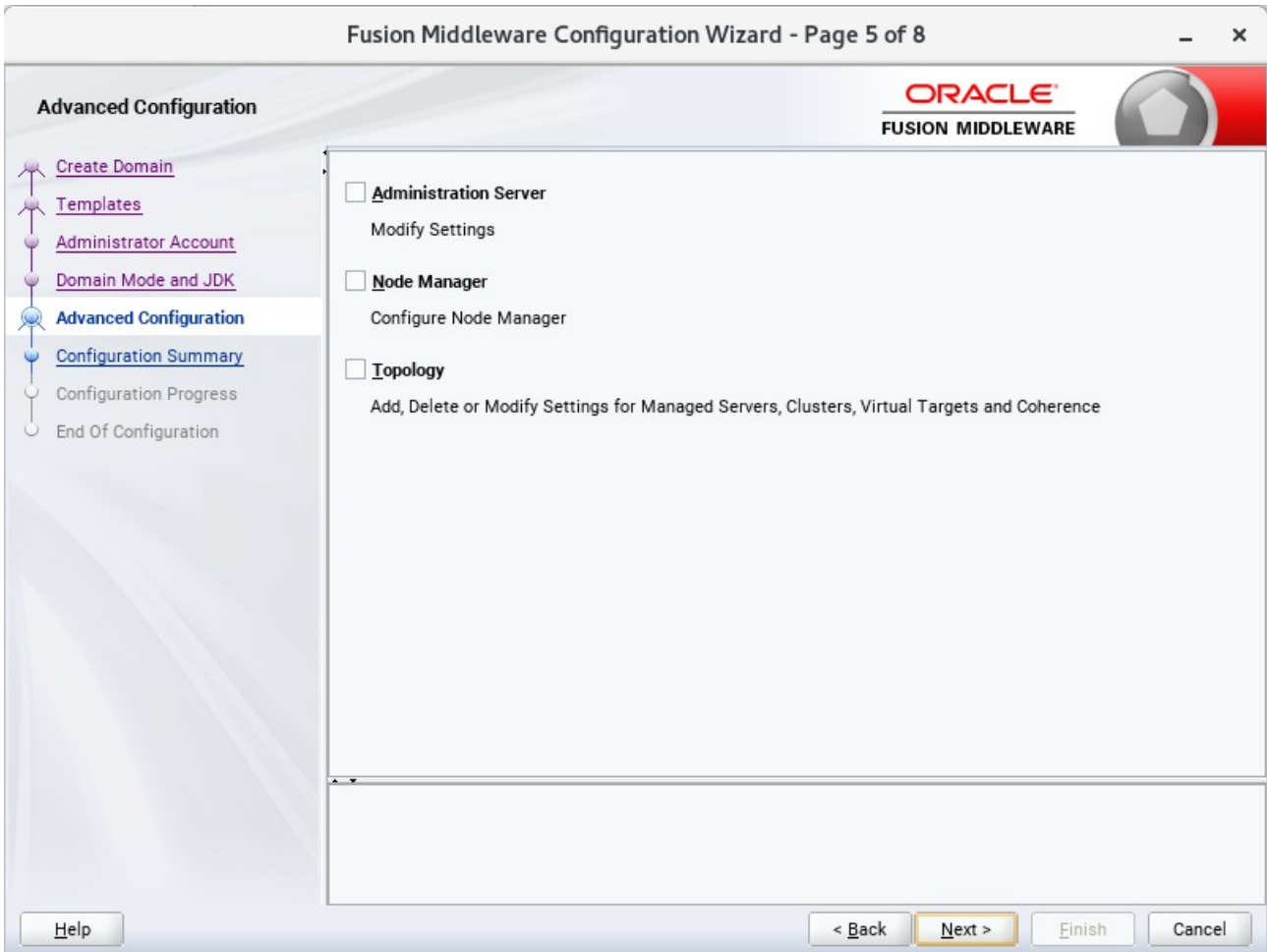
Specify the user name and password for the default WebLogic Administrator account for the domain, then click **Next** to continue.

4). Domain Mode and JDK.



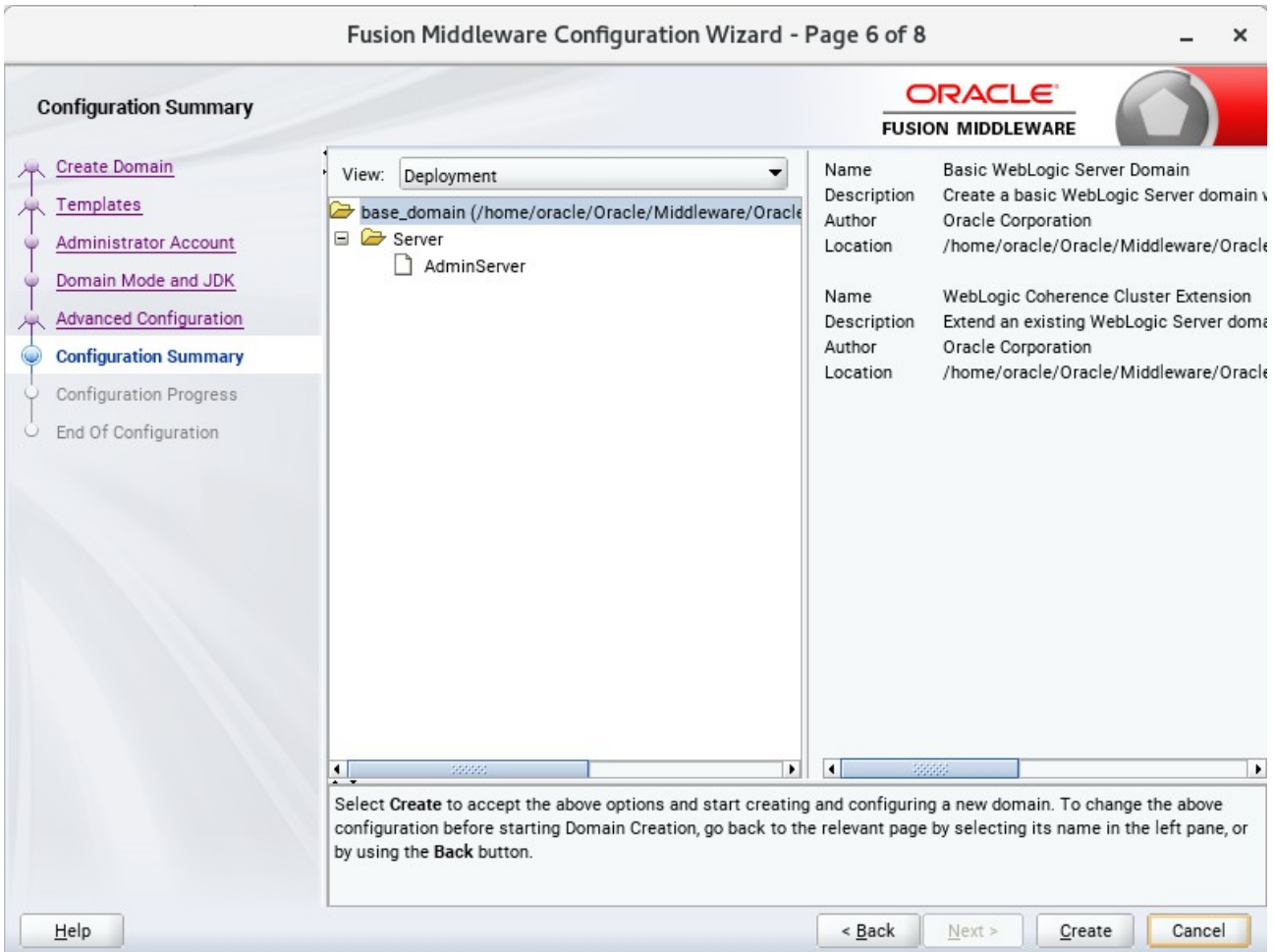
Select "**Development**" in the Domain Mode field, select the "**Oracle HotSpot**" in the JDK field. Then click **Next** to continue.

5). Advanced Configuration.



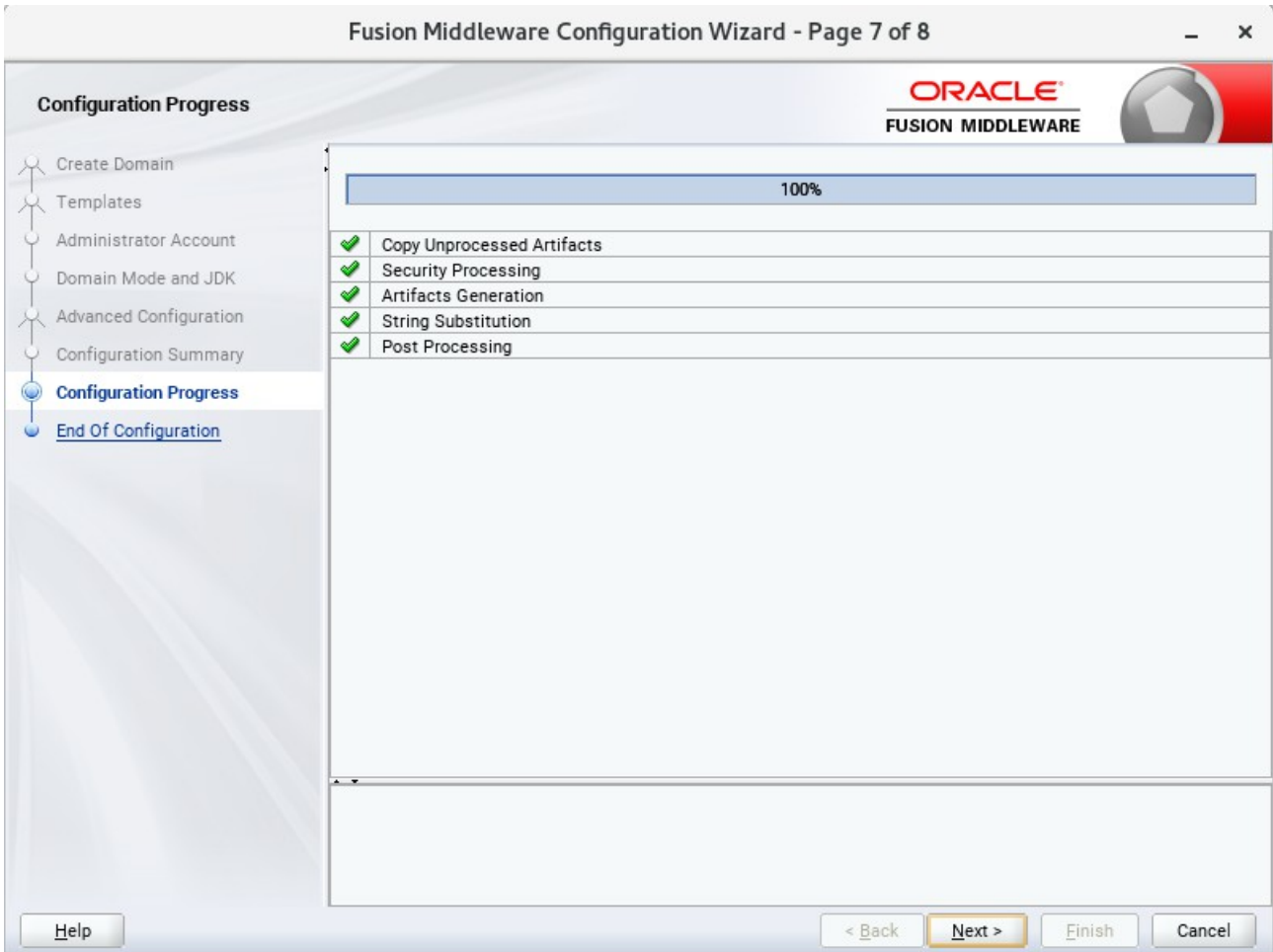
According to your requirements, select the desired options on the Advanced Configuration screen. Then click **Next** to continue.

6). Configuration Summary.



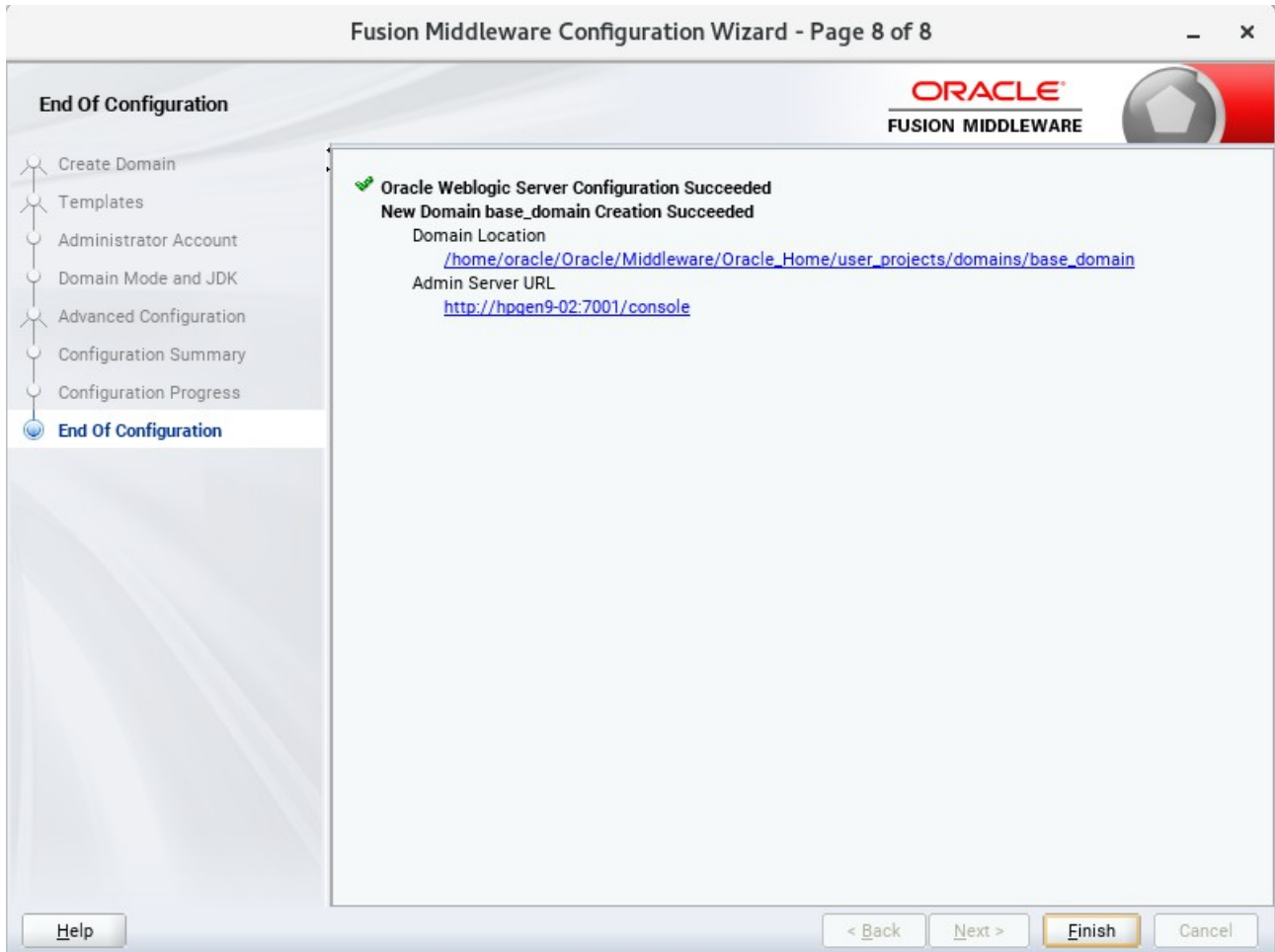
Review this screen to verify the information is correct, then click **Create** to continue.

7). Configuration Progress.



The Configuration Progress screen as shown above, once you see: "Domain Created successfully", click **Next** to continue.

8). End Of Configuration.



Once you see: "Oracle Weblogic Server Configuration Succeeded", record the "**Domain Location**" and "**Admin Server URL**", then click **Finish** to dismiss the Configuration Wizard.



### 3. Starting the Administration Server and verifying the Configuration

3-1. To start the Administration Server through a terminal, go to the DOMAIN\_HOME/bin directory and run the command `./startWebLogic.sh`.

**Figure 3-1 Starting the Administration Server through a terminal**

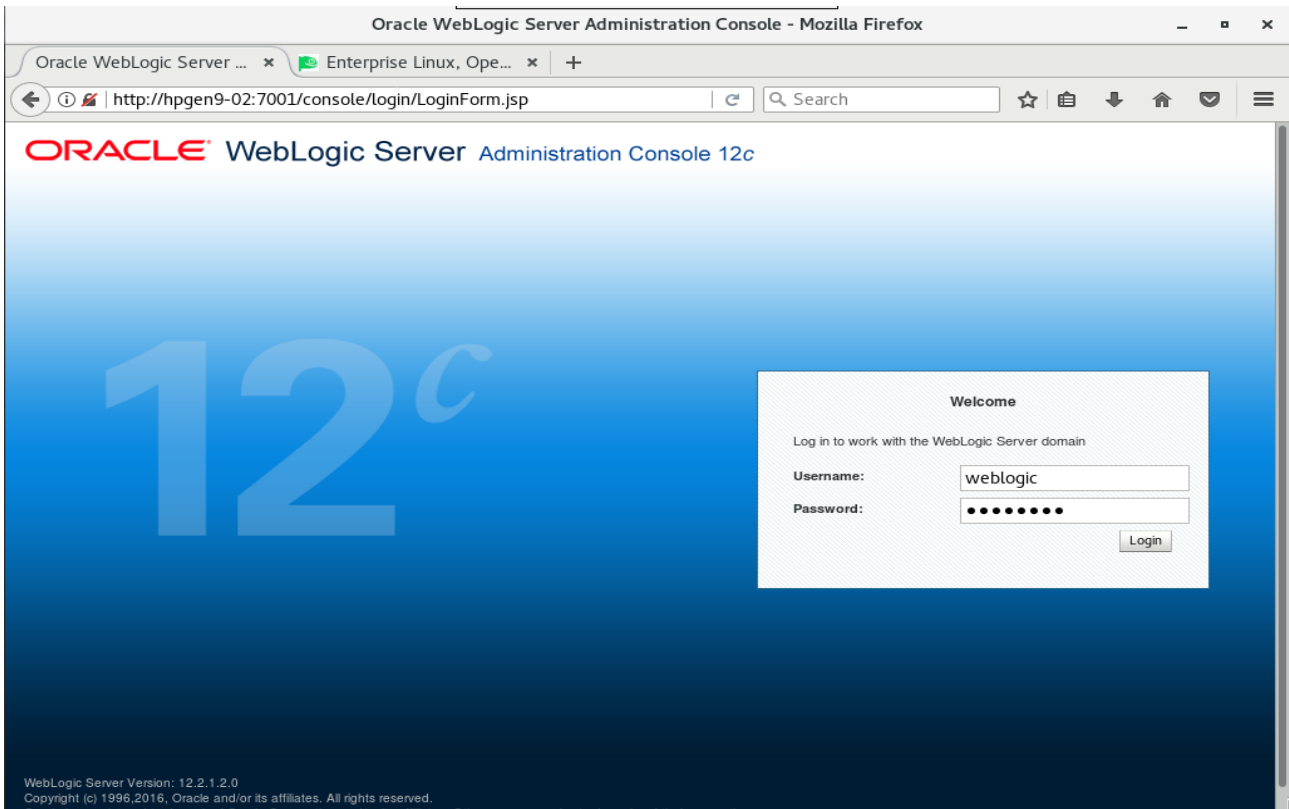
```

oracle@hpgen9-02:/home/oracle/Oracle/Middleware/Oracle_Home/user_projects/domains/base_domain/bin
File Edit View Search Terminal Tabs Help
oracle@hpgen9-02:/ho... x oracle@hpgen9-02:/ho... x oracle@hpgen9-02:~ x oracle@hpgen9-02:~ x
<Aug 2, 2017, 5:59:23,877 PM GMT+08:00> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to STANDBY.>
<Aug 2, 2017, 5:59:23,877 PM GMT+08:00> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to STARTING.>
<Aug 2, 2017, 5:59:23,925 PM GMT+08:00> <Notice> <Log Management> <BEA-170036> <The Logging monitoring service timer has started to check for logged message counts every 30 seconds.>
<Aug 2, 2017, 5:59:24,273 PM GMT+08:00> <Notice> <Log Management> <BEA-170027> <The server has successfully established a connection with the Domain level Diagnostic Service.>
<Aug 2, 2017, 5:59:27,946 PM GMT+08:00> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to ADMIN.>
<Aug 2, 2017, 5:59:28,1 PM GMT+08:00> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to RESUMING.>
<Aug 2, 2017, 5:59:28,58 PM GMT+08:00> <Warning> <Server> <BEA-002611> <The hostname "localhost", maps to multiple IP addresses: 127.0.0.1, 0:0:0:0:0:0:1.>
<Aug 2, 2017, 5:59:28,60 PM GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default[2]" is now listening on 127.0.0.1:7001 for protocols iiop, t3, ldap, snmp, http.>
<Aug 2, 2017, 5:59:28,61 PM GMT+08:00> <Notice> <WebLogicServer> <BEA-000331> <Started the WebLogic Server Administration Server "AdminServer" for domain "base domain" running in development mode.>
<Aug 2, 2017, 5:59:28,61 PM GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default[1]" is now listening on 0:0:0:0:0:0:1%lo:7001 for protocols iiop, t3, ldap, snmp, http.>
<Aug 2, 2017, 5:59:28,61 PM GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default" is now listening on 192.168.1.191:7001 for protocols iiop, t3, ldap, snmp, http.>
<Aug 2, 2017, 5:59:28,62 PM GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default[2]" is now listening on 127.0.0.1:7001 for protocols iiop, t3, ldap, snmp, http.>
<Aug 2, 2017, 5:59:28,62 PM GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default[1]" is now listening on 0:0:0:0:0:0:1%lo:7001 for protocols iiop, t3, ldap, snmp, http.>
<Aug 2, 2017, 5:59:28,63 PM GMT+08:00> <Notice> <WebLogicServer> <BEA-000360> <The server started in RUNNING mode.>
<Aug 2, 2017, 5:59:28,63 PM GMT+08:00> <Notice> <Server> <BEA-002613> <Channel "Default" is now listening on 192.168.1.191:7001 for protocols iiop, t3, ldap, snmp, http.>
<Aug 2, 2017, 5:59:28,73 PM GMT+08:00> <Notice> <WebLogicServer> <BEA-000365> <Server state changed to RUNNING.>

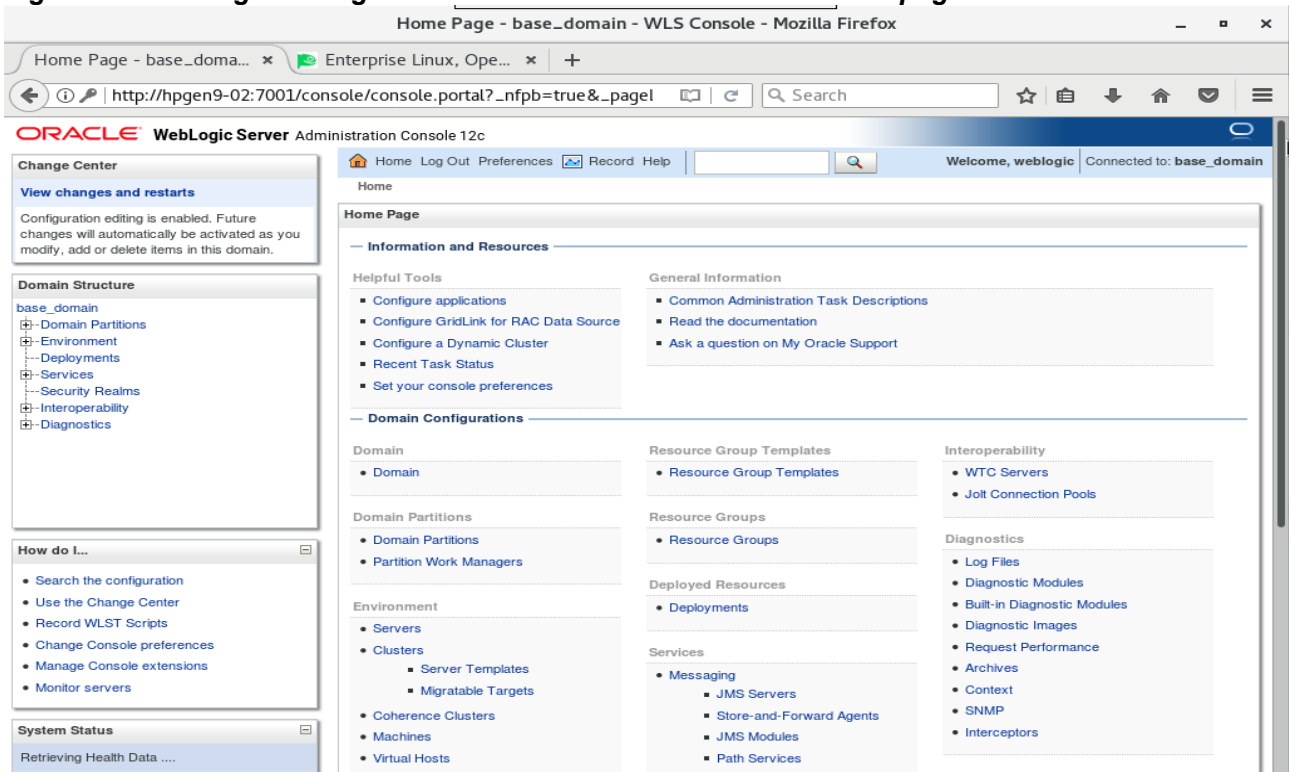
```

3-2. Access to Oracle WebLogic Server Administration Console.

**Figure 3-2 Access to WebLogic Server 12cR2 Admin Console - Login page**



**Figure 3-3 Viewing WebLogic Server 12cR2 Admin Console - Home page**



## 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 it is suitable for a production system.

**Thank you !**  
**SUSE ISV Engineering Team**  
**Aug 4th, 2017**

<https://www.suse.com>