Oracle Fusion Middleware 12c on SUSE Linux Enterprise Server 15 SP2 for x86-64

http://www.suse.com

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Introduction

This document provides details on installing and configuring Oracle Fusion Middleware 12c Components on SUSE Linux Enterprise Server 15 SP2. Details are provided for Intel x86-64 versions of both Oracle FMW 12c and SUSE Linux Enterprise Server 15 SP2. Similar steps apply to other platforms (x86, ia64, System z, etc.).

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	4 GB
Disk space for software files	4 GB

Software Requirements

SUSE

• SUSE Linux Enterprise Server 15 SP2- (x86-64)
(http://download.suse.de/install)

Oracle

• Database 12cR2 (12.2.0.1.0) - (x86_64)
(https://www.oracle.com/downloads/#category-database)

• Java SE Development Kit 8 (jdk-8u221-linux-x64.tar.gz)
(https://www.oracle.com/downloads/#category-java)

• WebLogic Server 12cR2 (12.2.1.4) (fmw_12.2.1.3.0_wls_Disk1_1of1.zip)
(https://www.oracle.com/downloads/#category-middleware)

• WebLogic Server 12cR2 (12.2.1.4.0) - (Fusion Middleware Infrastructure Installer)
(https://www.oracle.com/downloads/#category-middleware)

• Forms and Reports 12c (12.2.1.4.0) - (x86_64)
(https://www.oracle.com/downloads/#category-middleware)

• WebTier 12cR2 Oracle HTTP Server (12.2.1.4.0) - (x86_64)
(https://www.oracle.com/downloads/#category-middleware)

• WebCenter Portal 12c (12.2.1.4.0) - (V983398-01.zip)
(https://www.oracle.com/downloads/#category-middleware)

• SOA Suite 12c (12.2.1.4.0) - (V983385-01_1of2.zip)
(https://www.oracle.com/downloads/#category-middleware)

• Oracle Identity and Access Management 12cPS4 (12.2.1.4.0) – (Generic Quick Installer)
(https://www.oracle.com/downloads/#category-middleware)

Testing machine information

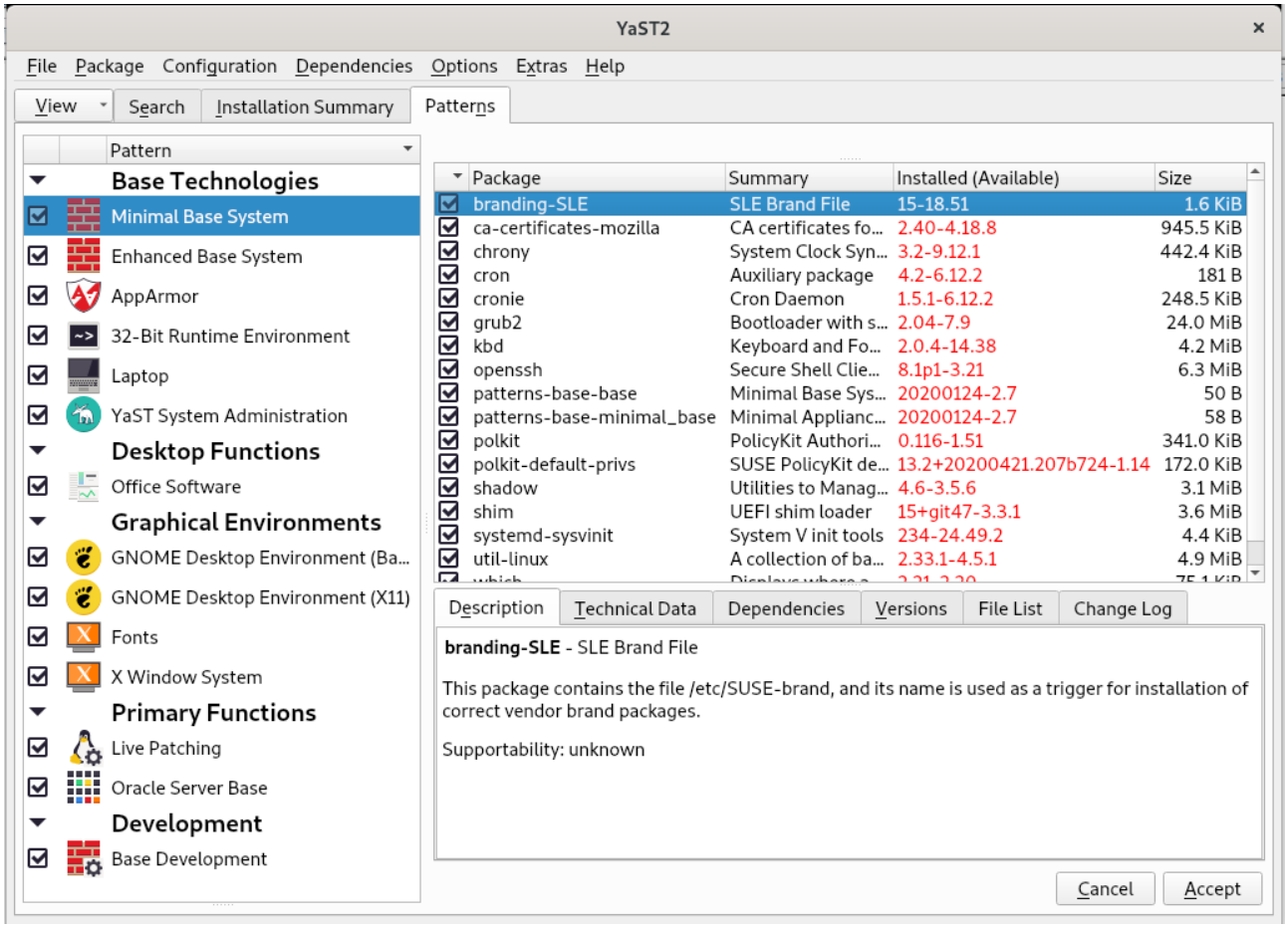
- Dell Laptop Precision 5530
- CPU: 6 * Intel(R) Core(TM) i7-8850H CPU @ 2.60GHz
- RAM: 32 GB
- NIC: 2
- Local HDD: 1TB + 512GB
- Operating System: SUSE Linux Enterprise Server 15 SP2 (x86_64)
- Kernel version: 5.3.18-22-default

Prerequisites

1. Installing SUSE Linux Enterprise Server 15 SP2

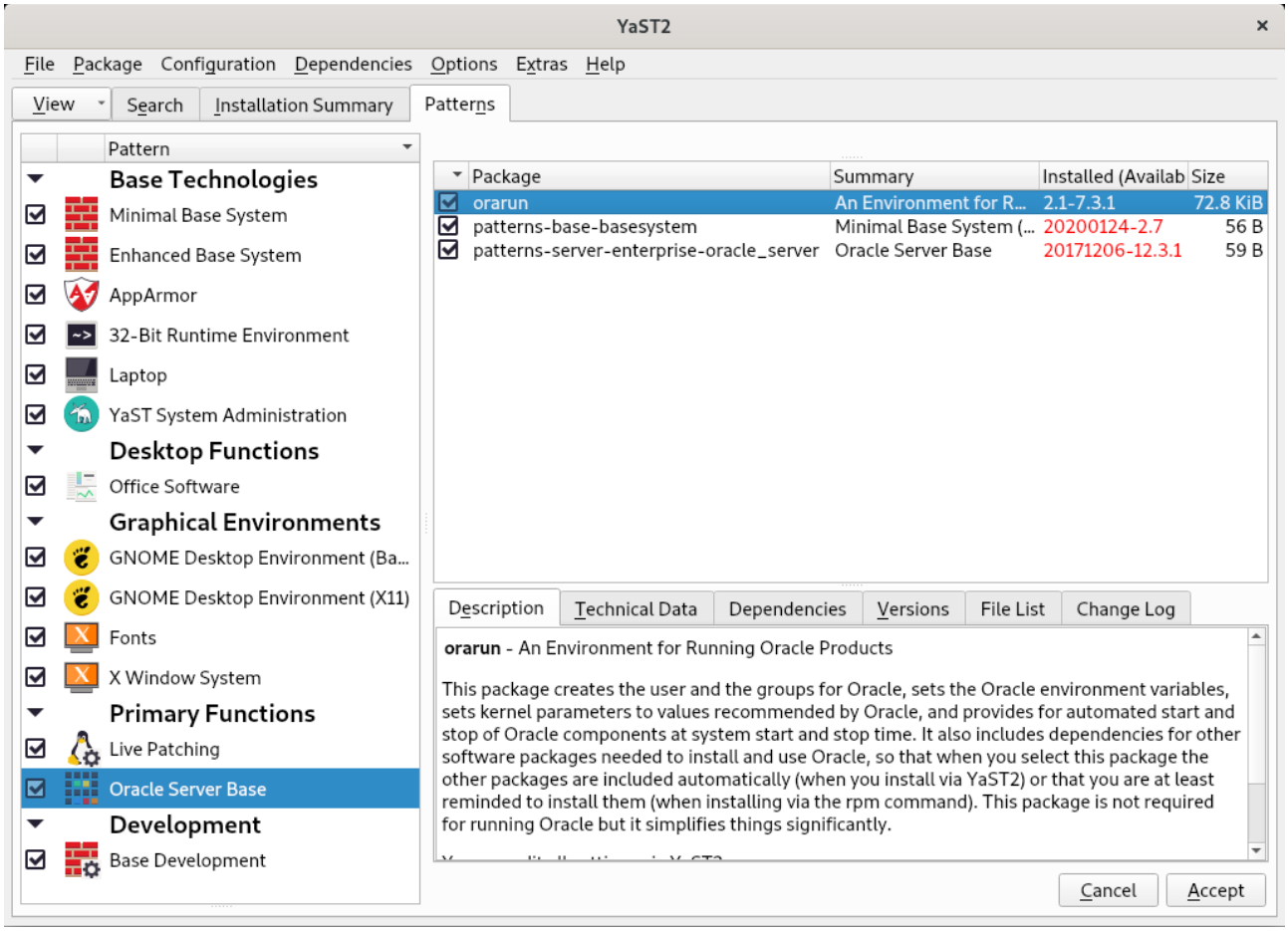
1-1. Install SUSE Linux Enterprise Server 15 SP2 on your testing machine.To do so, follow the instructions in the official SUSE Linux Enterprise Server documentation at https://www.suse.com/documentation/.

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 Operating System information and kernel version

```
oracle@Dell5530:~> more /etc/os-release
NAME="SLES"
VERSION="15-SP2"
VERSION_ID="15.2"
PRETTY_NAME="SUSE Linux Enterprise Server 15 SP2"
ID="sles"
ID_LIKE="suse"
ANSI_COLOR="0;32"
CPE_NAME="cpe:/o:suse:sles:15:sp2"
oracle@Dell5530:~> uname -a
Linux Dell5530 5.3.18-22-default #1 SMP Wed Jun 3 12:16:43 UTC 2020 (720aeba/lp-1a956f1) x86_64 x86_64 x86_64 GNU/Linux
oracle@Dell5530:~>
```

1-2. Special Startup Requirements.

1). To set the SHMMAX kernel parameter.

Change the value of SHMMAX to 4294967295 by including the following line in /etc/sysctl.conf:

```
kernel.shmmax = 4294967295
```

Change the value of shmall to 9272480 by including the following line in '/etc/sysctl.conf'

```
kernel.shmall = 9272480
```

Activate the new SHMMAX setting by running the command:

```
/sbin/sysctl -p
```

2). Checking the Open File Limit and Maximum Stack Size.

```
ulimit -a
```

To change the open file limits,login as root and edit the /etc/security/limits.conf file. Look for the following lines:

```
* soft  nofile  4096
* hard  nofile  65536
* soft  nproc   2047
* hard  nproc  16384
```

To change the maximum stack size,login as root and edit the /etc/security/limits.conf file. Add the following line:

```
oracle  soft  stack  10240
```

then reboot the machine.

2. Installing Oracle Database 12cR2

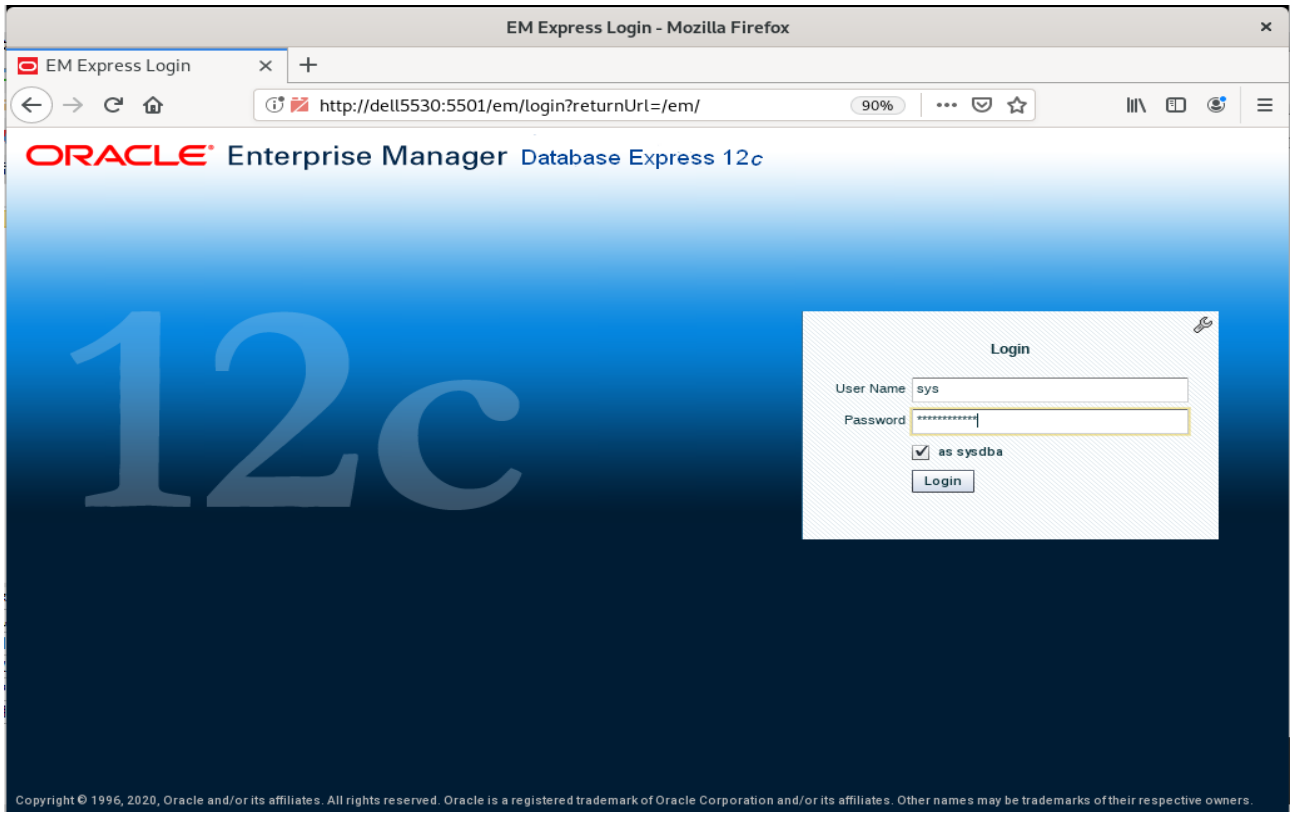
2-1. Log in to the target system (SUSE Linux Enterprise Server 15 SP2 64-bit OS) as a non-admin user. Download Oracle Database 12cR2 (12.2.0.1.0) x86_64 from https://www.oracle.com/downloads/#category-database.

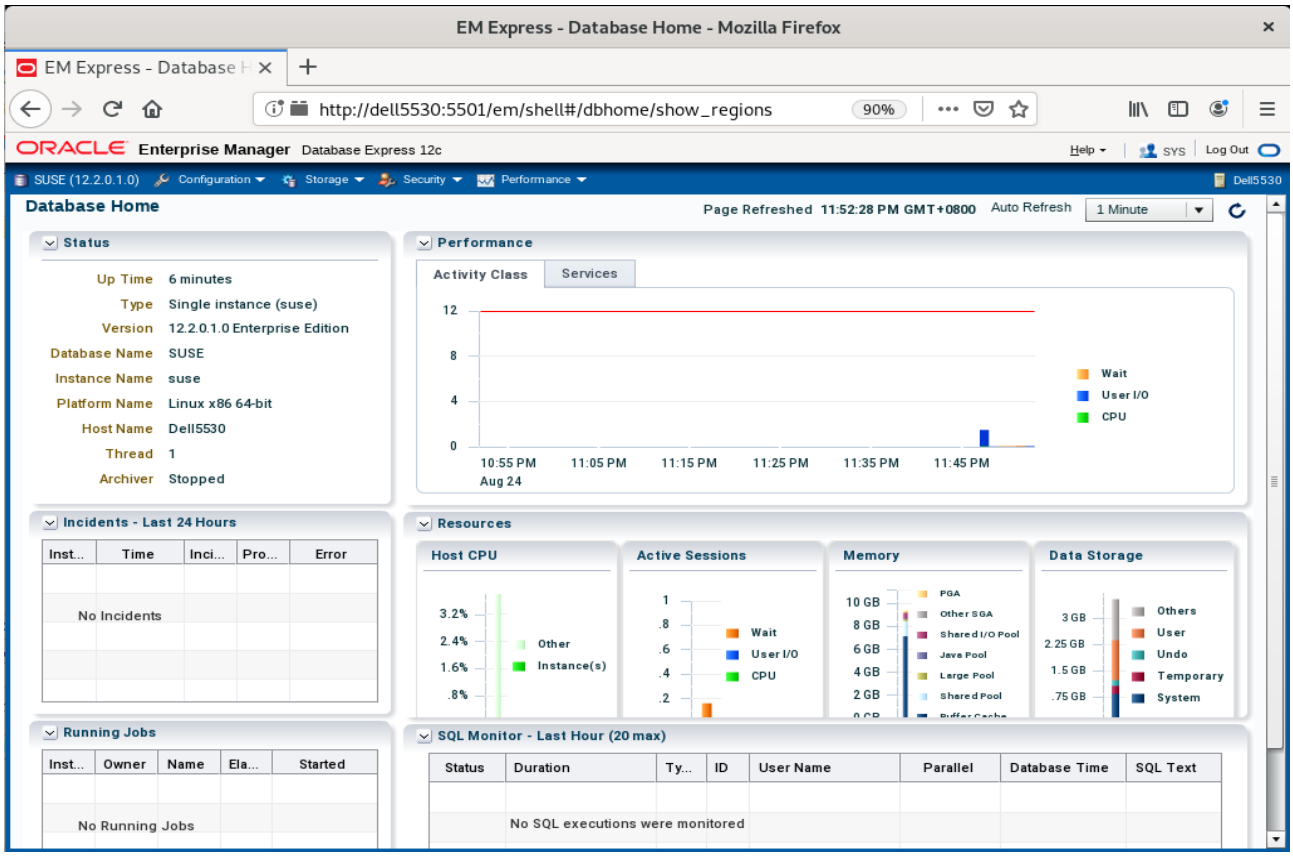
2-2. Oracle Database 12cR2 (12.2.0.1.0) is officially certified for SUSE Linux Enterprise Server 15 (4.12.14-25-default or later) x86_64. For detailed instructions please use Official Oracle Install guides: http://docs.oracle.com/en/database/database.html.

Figure 2-1 Make sure the Database up and running

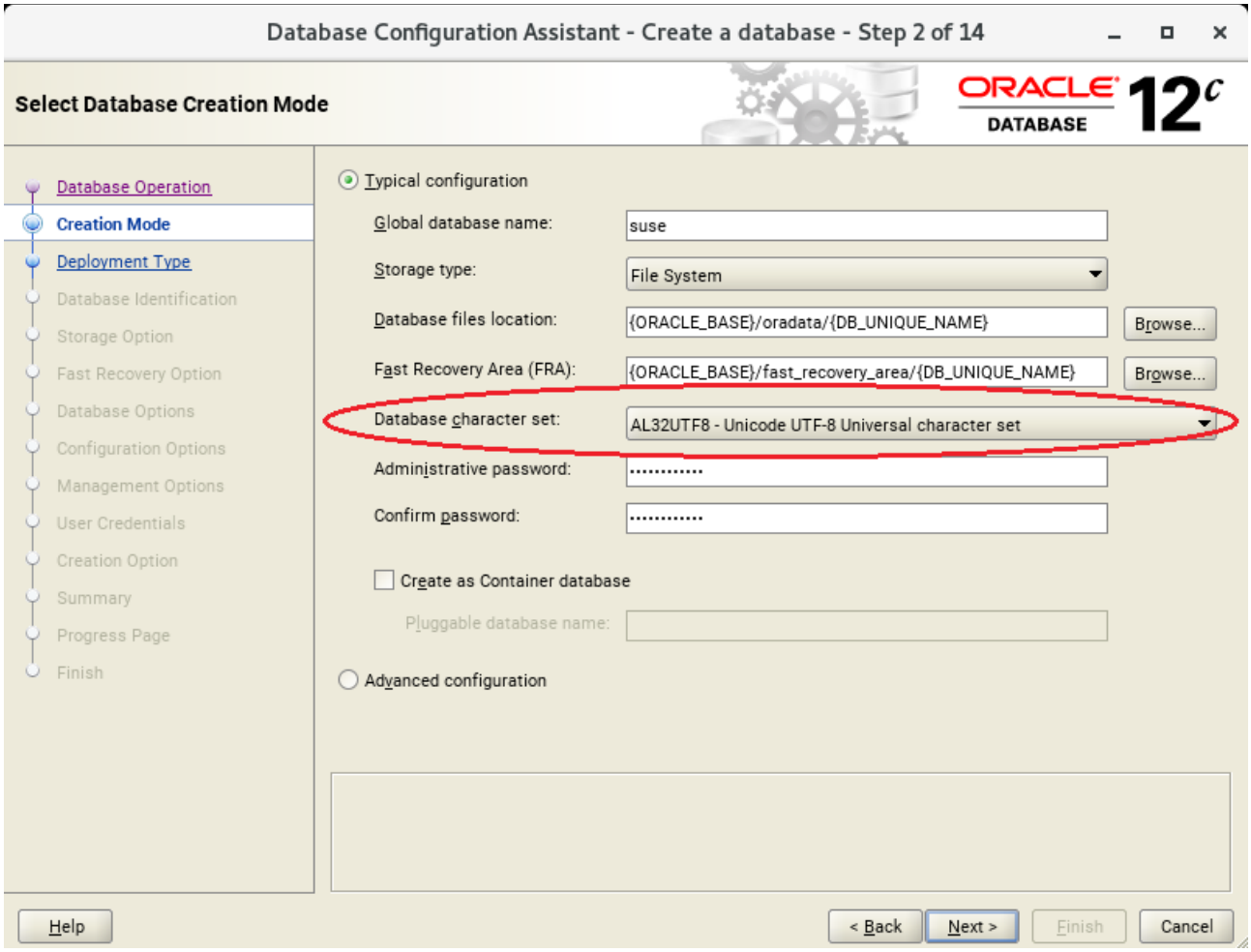
```
oracle@Dell5530:~> export ORACLE_HOME=/home/oracle/app/product/12.2.0/dbhome_1/
oracle@Dell5530:~> export ORACLE_SID=suse
oracle@Dell5530:~> /home/oracle/app/product/12.2.0/dbhome_1/bin/sqlplus /nolog

SQL*Plus: Release 12.2.0.1.0 Production on Mon Aug 24 23:45:27 2020

Copyright (c) 1982, 2016, Oracle.  All rights reserved.

SQL> conn /as sysdba
Connected to an idle instance.
SQL> startup
ORACLE instance started.

Total System Global Area 9898557440 bytes
Fixed Size                 12169752 bytes
Variable Size            2013269480 bytes
Database Buffers         7851737088 bytes
Redo Buffers               21381120 bytes
Database mounted.
Database opened.
SQL> select name,open_mode from v$database;

NAME      OPEN_MODE
--------- --------------------
SUSE      READ WRITE

SQL> exit
Disconnected from Oracle Database 12c Enterprise Edition Release 12.2.0.1.0 - 64bit Production
oracle@Dell5530:~>
```

Figure 2-2 Access to Oracle Database 12cR2 Enterprise Manager





(**Note**: Oracle strongly recommends using the AL32UTF8 character set for database that support Oracle Fusion Middleware. So, please configures the database character set is AL32UTF8.



)

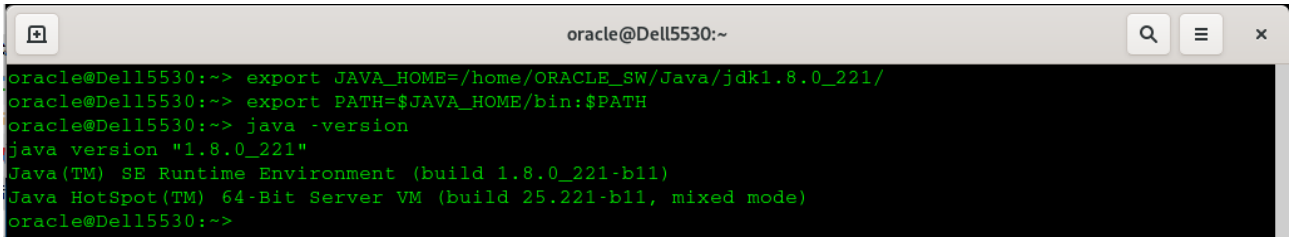
3. Installing Java

3-1. Log in to the target system (SUSE Linux Enterprise Server 15 SP2 64-bit OS) as a non-admin user. Download Java SE Development Kit 8 (jdk-8u221-linux-x64.tar.gz) from https://www.oracle.com/downloads/#category-java.

(Note: The classes in com.oracle.weblogic.management.tools.migration.jar are built with JDK8 and must be run with JDK8. For 12c(12.2.1.4.0), the certified JDK was jdk1.8.0_191 and later.)

3-2. Set environment variables JAVA_HOME and PATH to ensure the proper JDK version is installed and ready for use.

Figure 3-1 Java information



Oracle Fusion MiddleWare 12c Installation and Configuration

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Oracle WebLogic Server software

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1. Installing Oracle WebLogic Server software

1-1. Prerequisites:

Installation of Oracle WebLogic Server requires:

1). Oracle JDK 1.8.0_221 and later is installed.

1-2. Log in to the target system (SUSE Linux Enterprise Server 15 SP2 64-bit OS) as a non-admin user. Download the Oracle WebLogic Server 12cR2 (12.2.1.4.0) from https://www.oracle.com/downloads/#category-middleware.

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

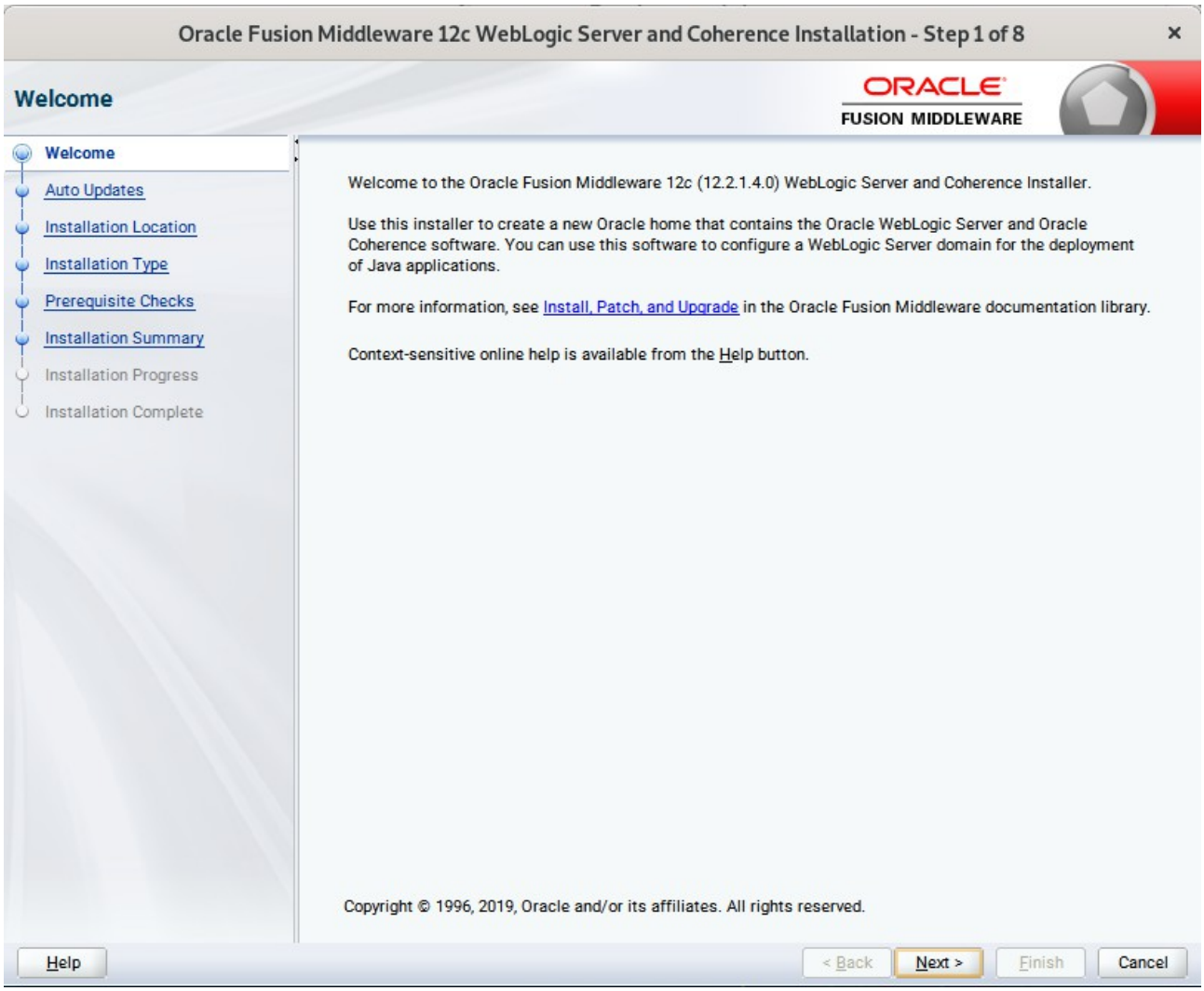
1-3. Go to the directory where you downloaded the installation program. Extract the contents of this .zip (fmw_12.2.1.4.0_wls_Disk1_1of1.zip) file and launch the installation program by running **'java -jar fmw_12.2.1.4.0_wls.jar'**

For the actual installation, follow the steps below:

1). Installation Inventory Setup.

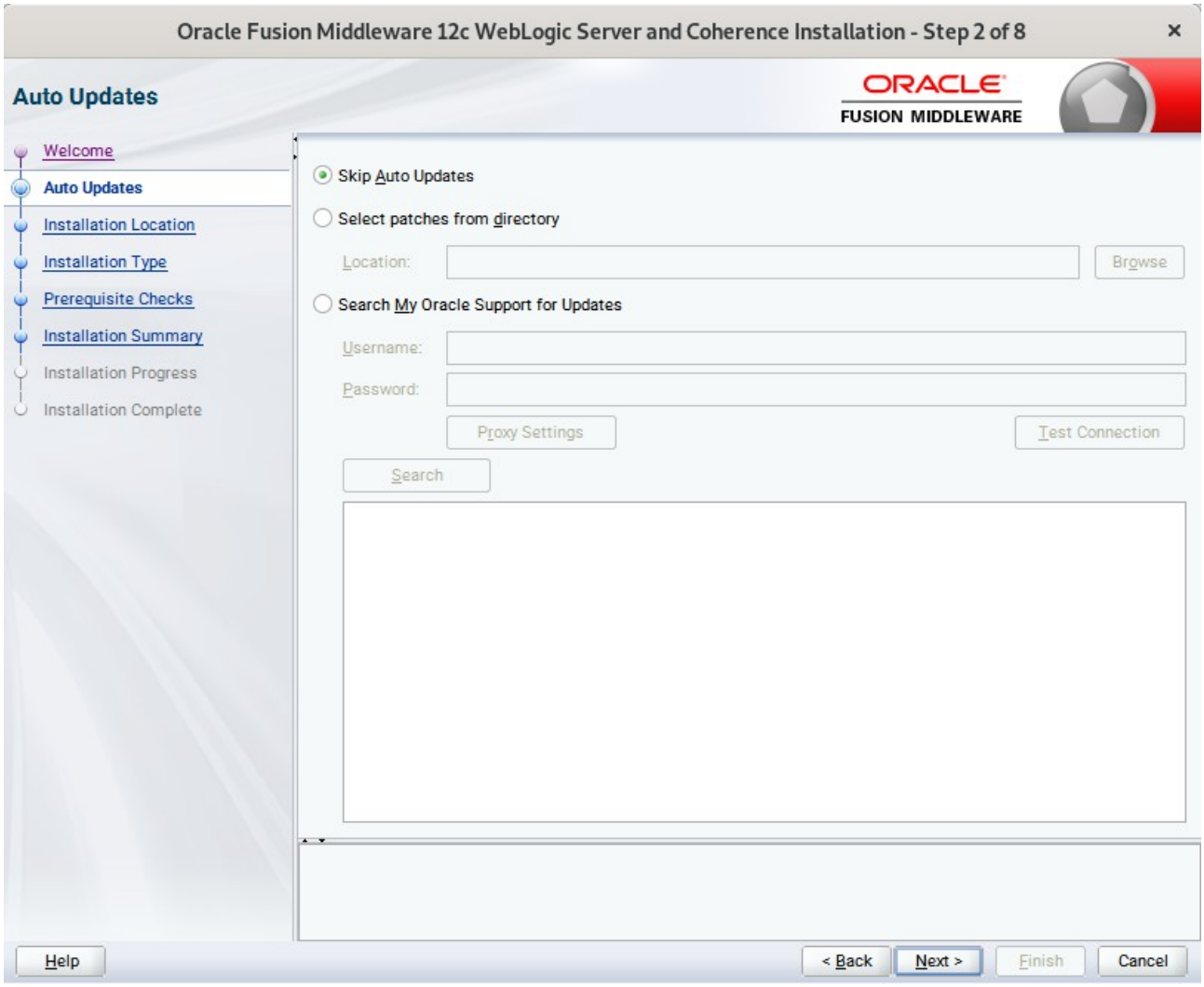
If this is your first Oracle installation on a host that is running SLES, please use this screen to specify the location of the Oracle central inventory directory and Operating System Group Name, then click **OK** to continue.

2). Welcome.



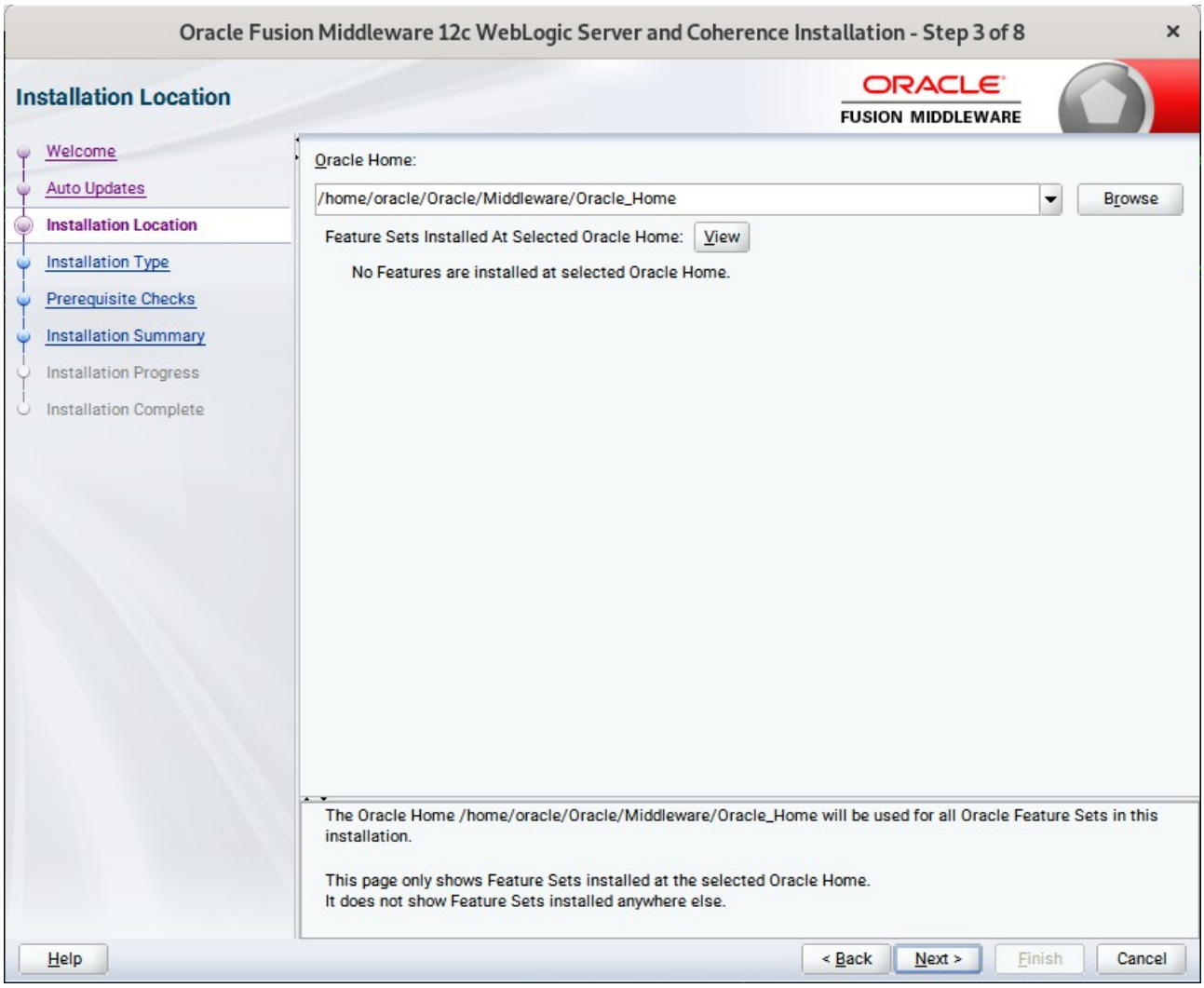
Review the information on this screen carefully to be sure you have performed all the necessary prerequisites, then click **Next** to continue.

3). Auto Updates.



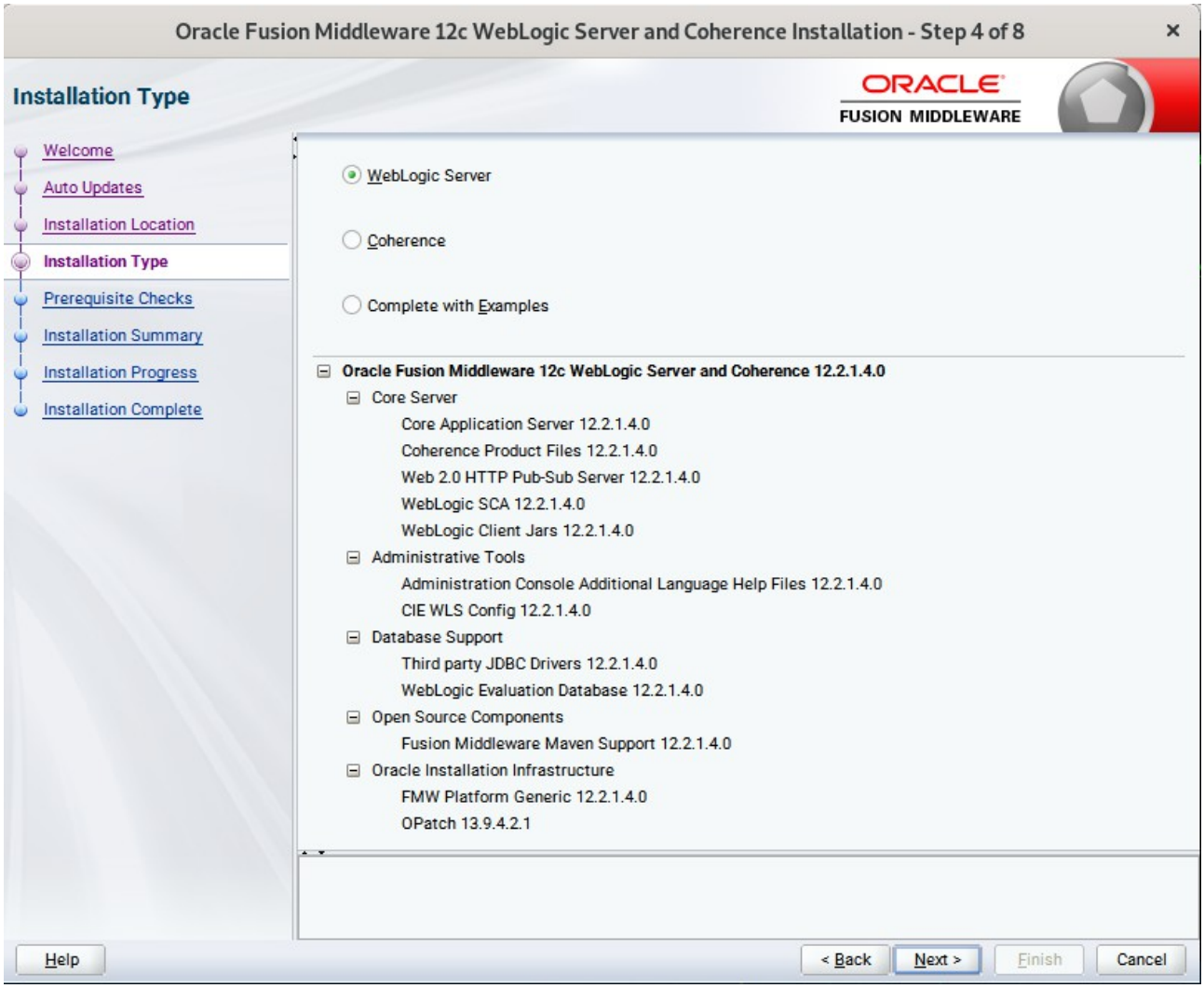
Select option "**Skip Auto Updates**" to skip this screen, then click **Next** to continue.

4). Installation Location.



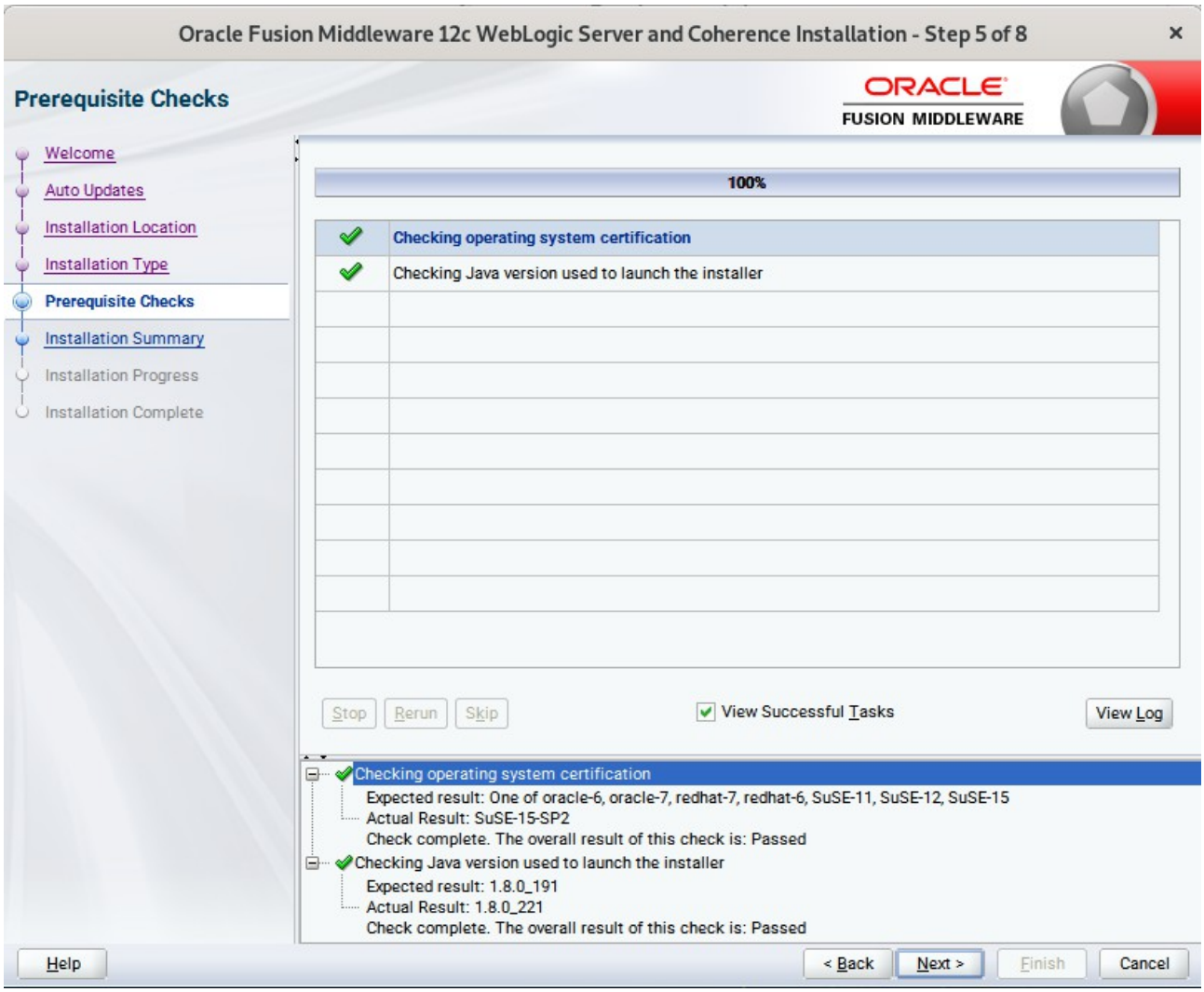
Type the full path of the directory in the Oracle Home field, then click **Next** to continue.

5). Installation Type.



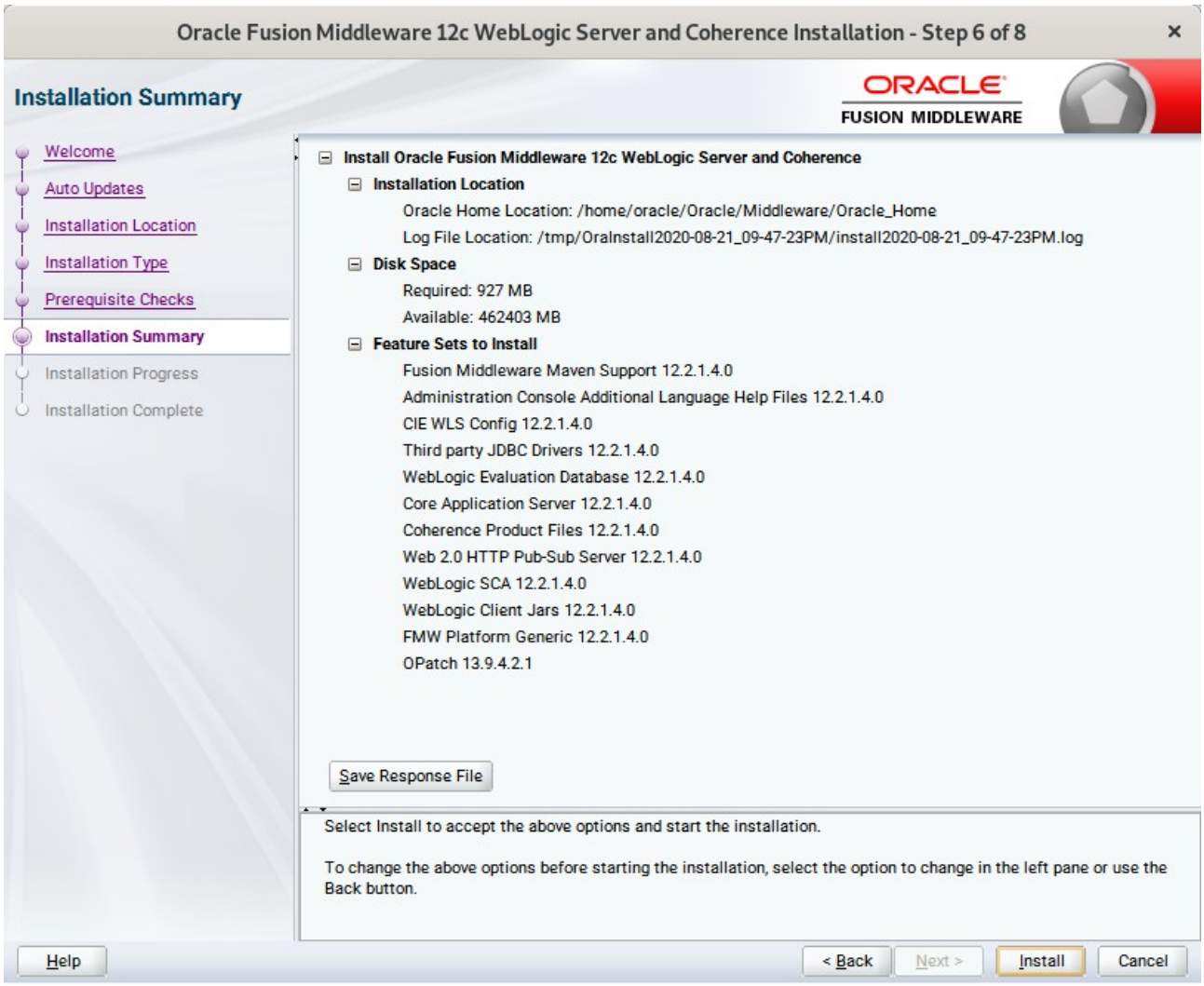
Use this screen to determine the type of installation you want to perform, then click **Next** to continue.

6). Prerequisite Checks.



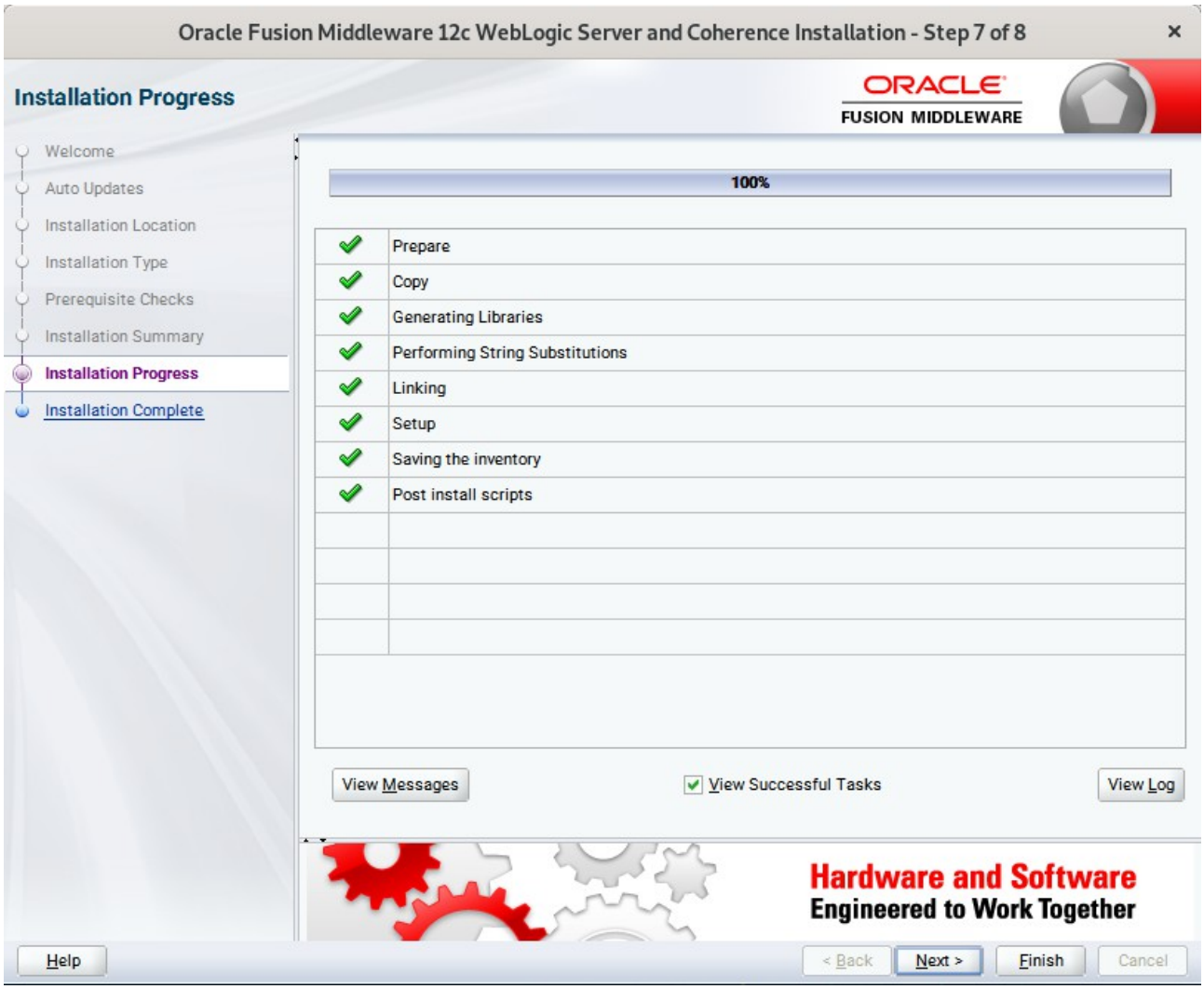
Prerequisite Checks results will be shown as above, Oracle Fusion Middleware 12c is certified on SLES 15(+), click **Next** to continue.

7). Installation Summary.



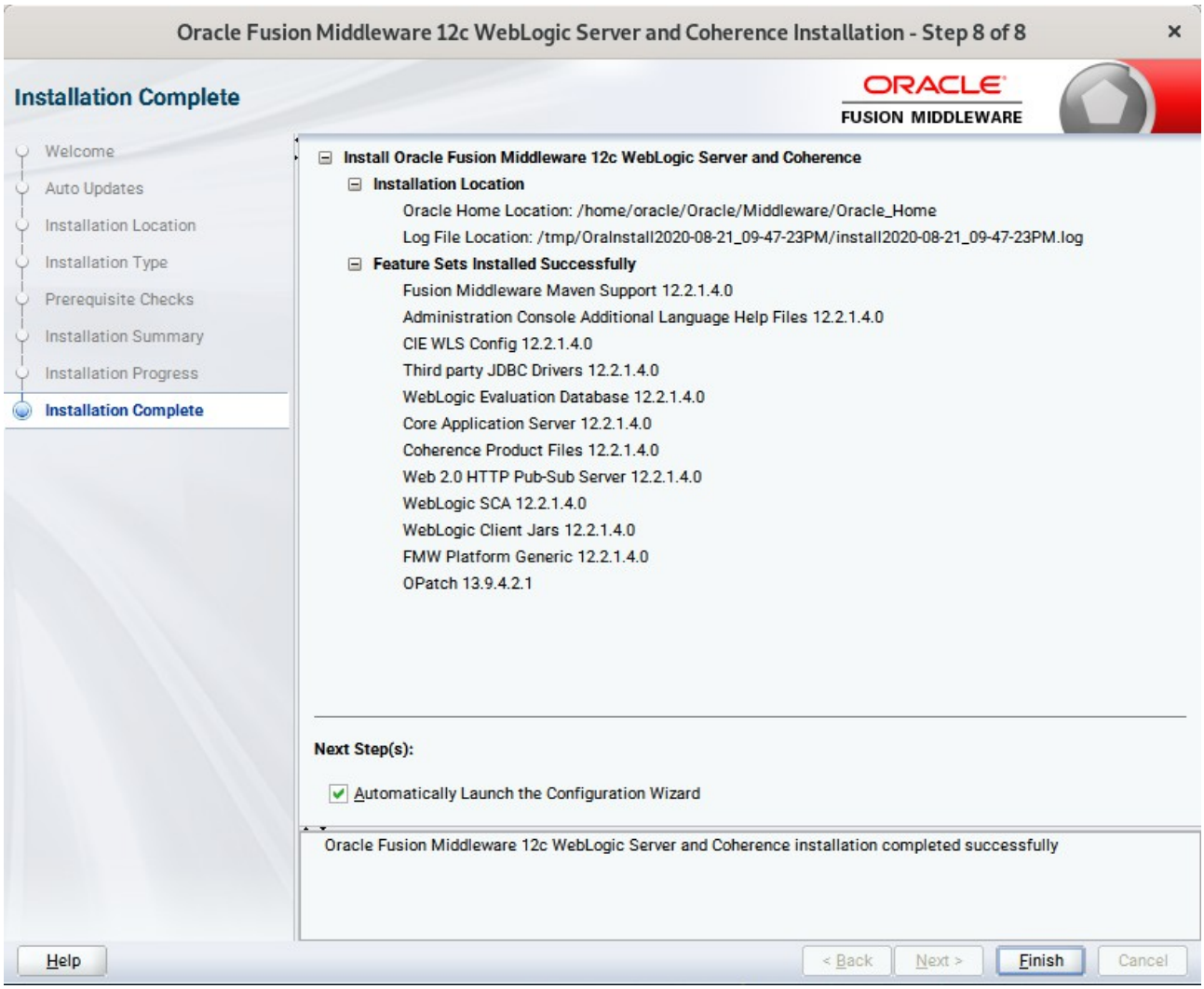
This screen contains a list of the feature sets you selected for installation, along with the approximate amount of disk space to be used by the feature sets once installation is complete. Check the information, then click **Install** to continue.

8). Installation Progress.



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

9). 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 start the domain configuration, you can choose from two options:

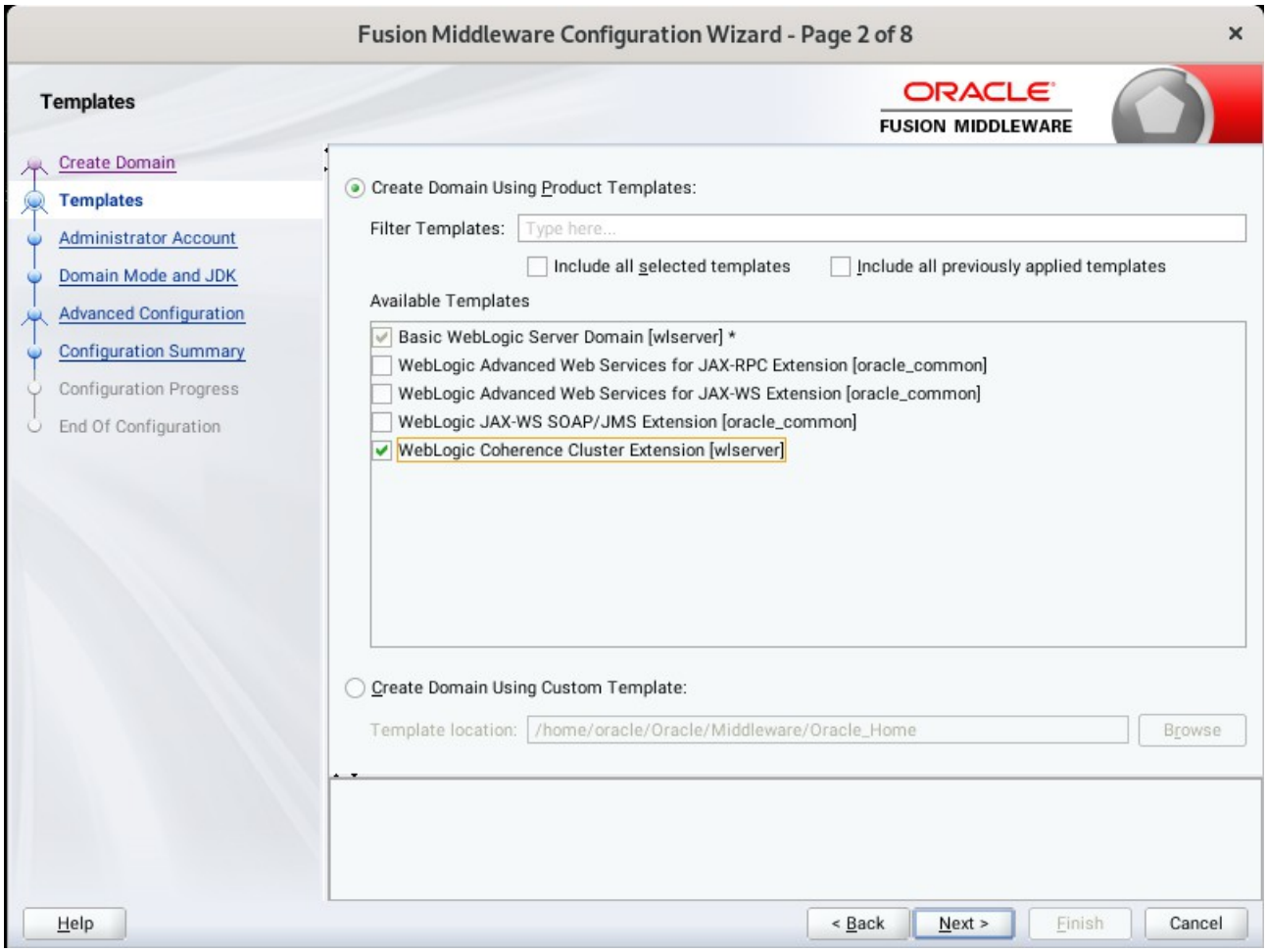
1. From the last-shown screen Installation Complete, you can automatically launch the WebLogic Configuration Wizard through the option **Automatically Launch the Configuration Wizard**.
2. You can also navigate to the directory **ORACLE_HOME/oracle_common/common/bin** and start the WebLogic Server Configuration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

To set up your configuration, follow the steps below:

1). Configuration Type.

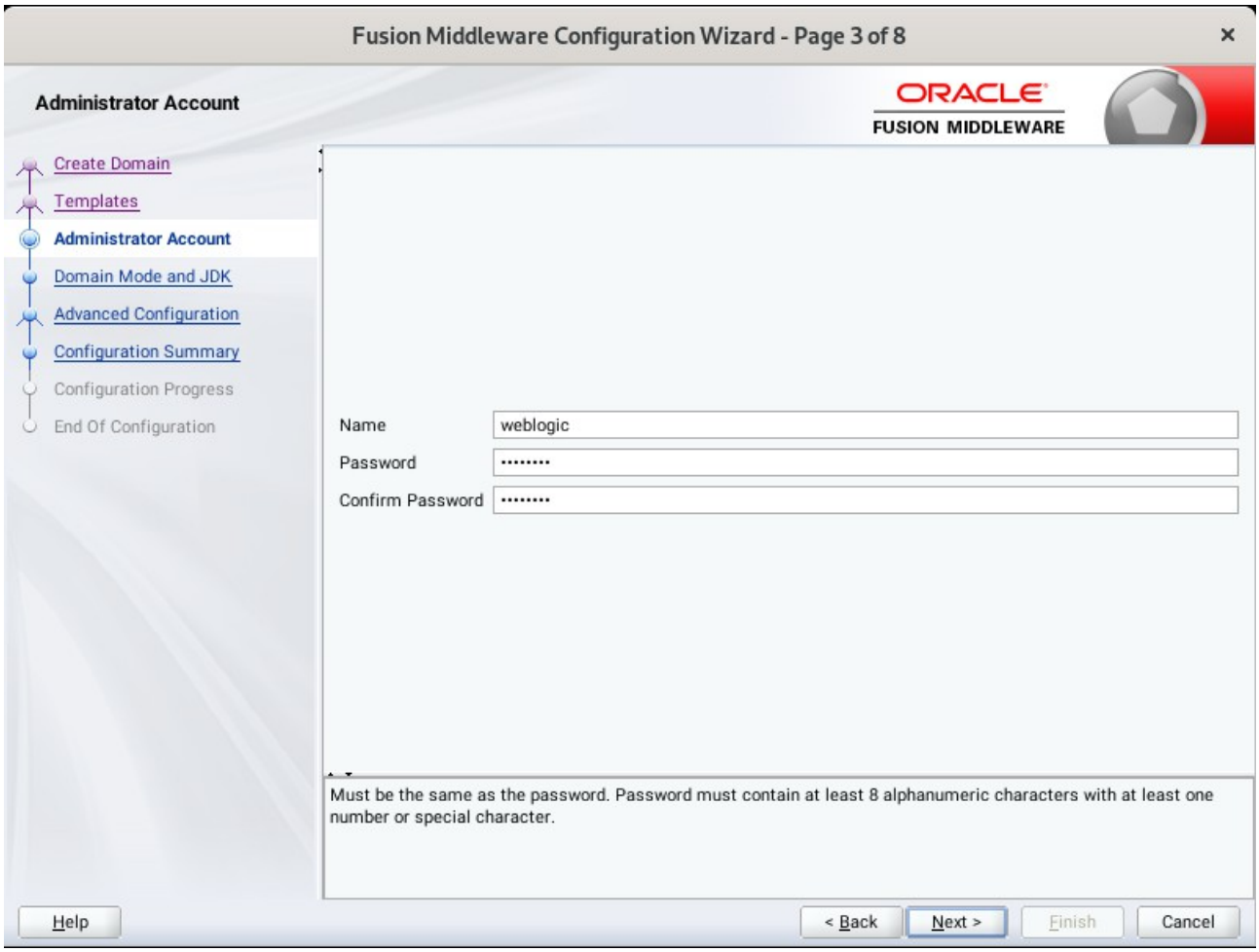
Select option "**Create a New Domain**" and specify the Domain home directory in the "**Domain Location**" field, then click **Next** to continue.

2). Templates.



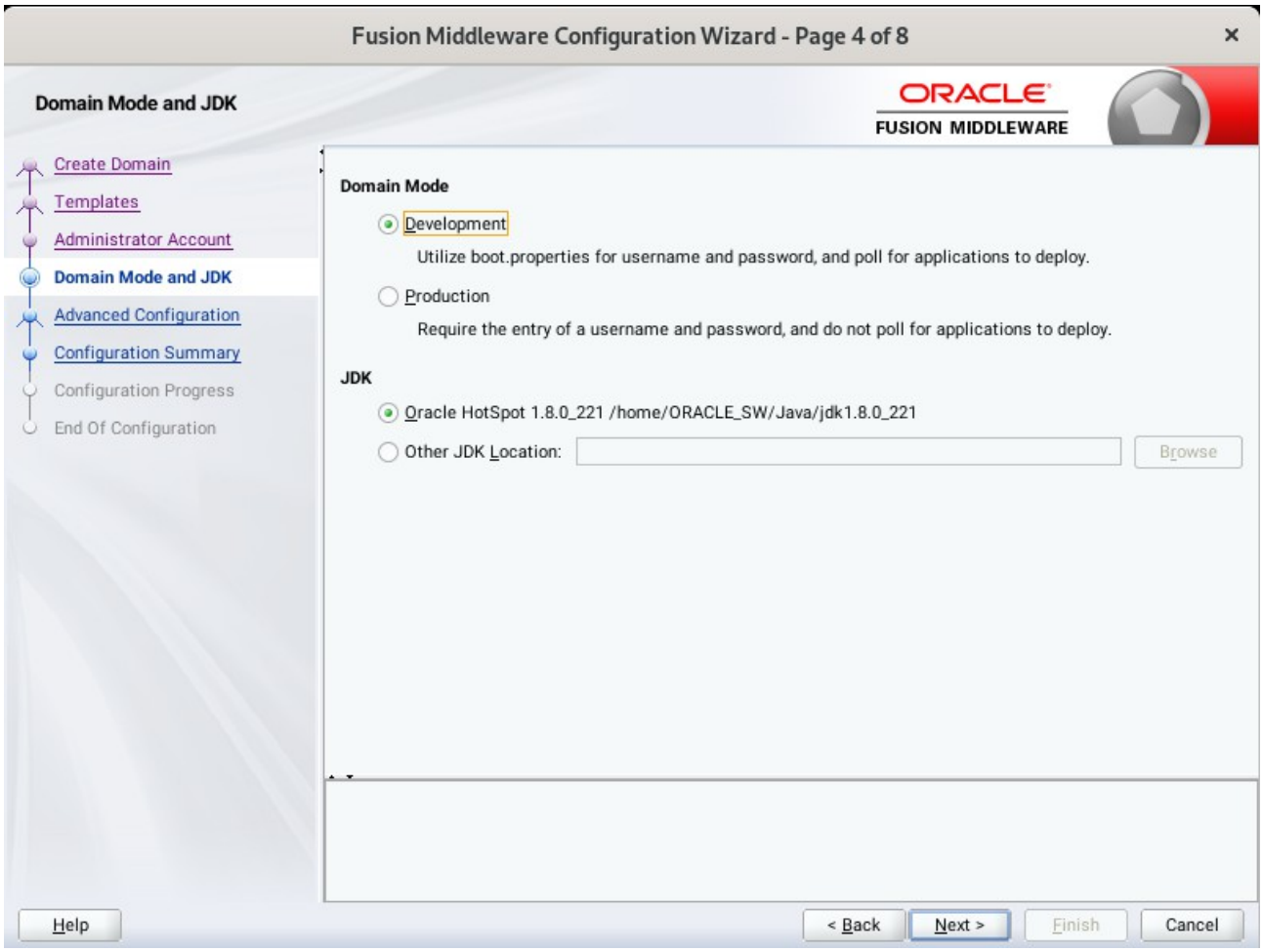
On the Templates screen select "**Basic WebLogic Server Domain (selected by default)**" and "**WebLogic Coherence Cluster Extension**" for configuration, then click **Next** to continue.

3). Administrator Account.



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.

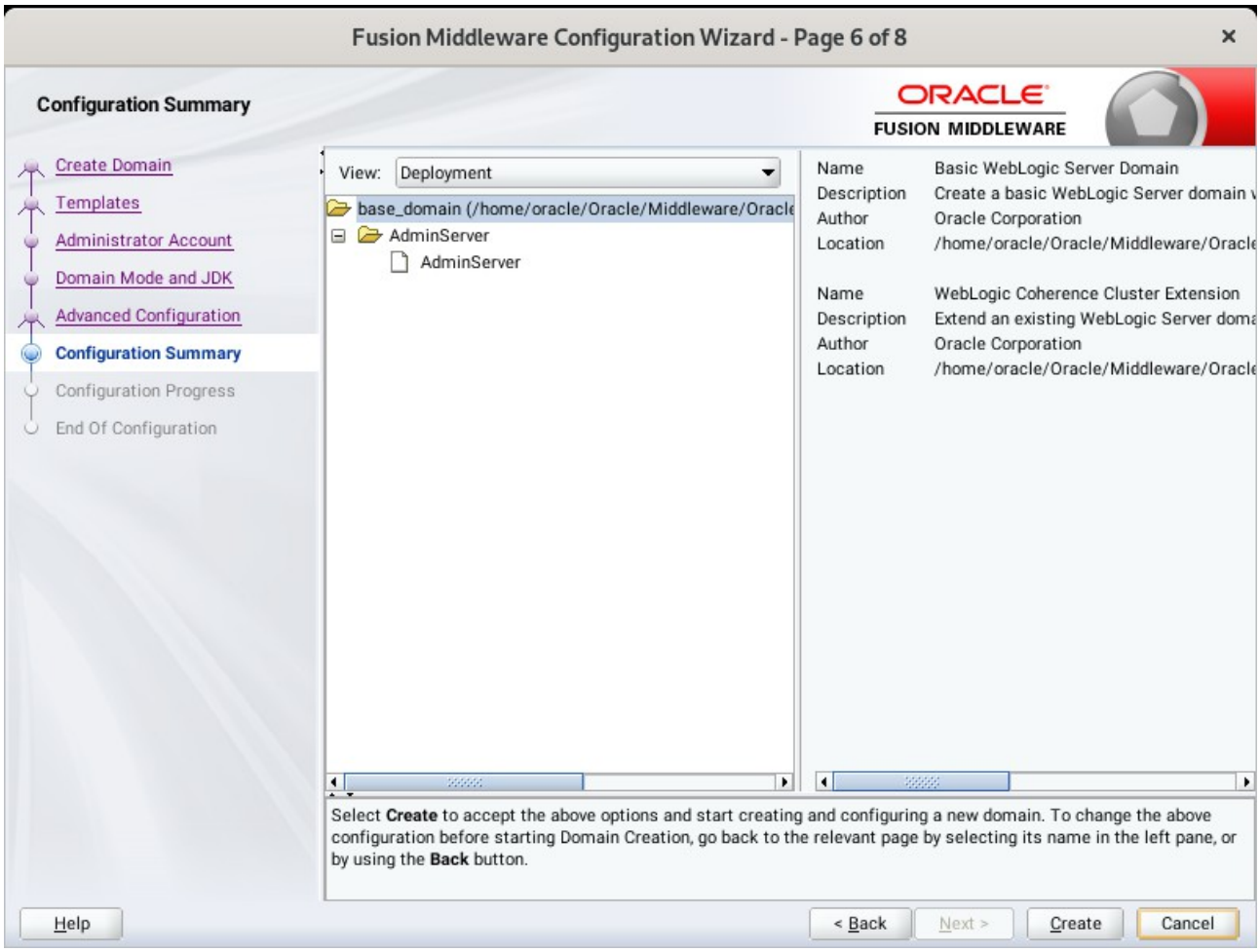


Select "**Development**" in the Domain Mode field, select the "**Oracle HotSpot**" in the JDK field. Then click **Next** to continue.

5). Advanced Configuration.

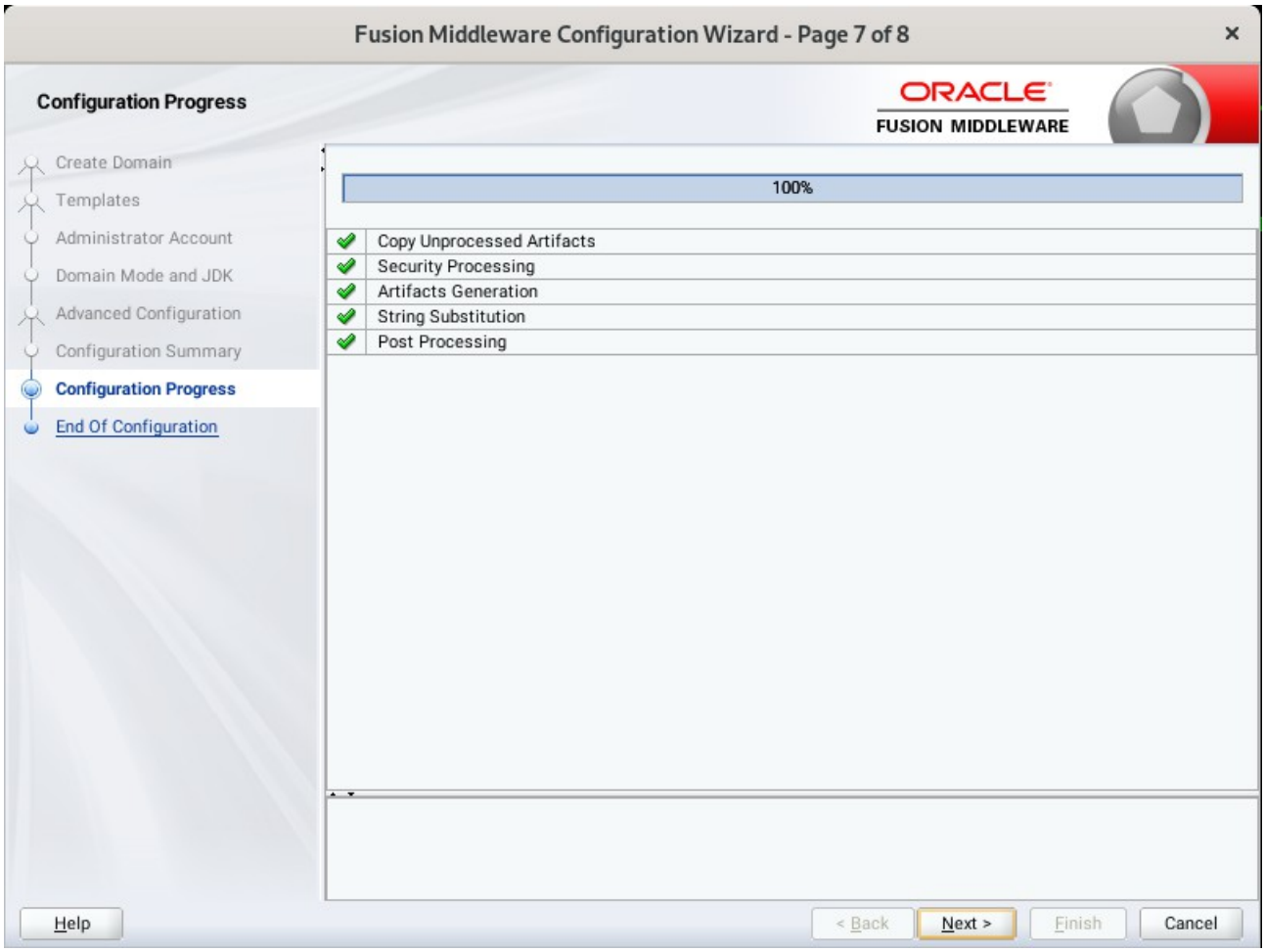
According to your requirements, select the desired options on the Advanced Configuration screen.Then click **Next** to continue.

6). Configuration Summary.



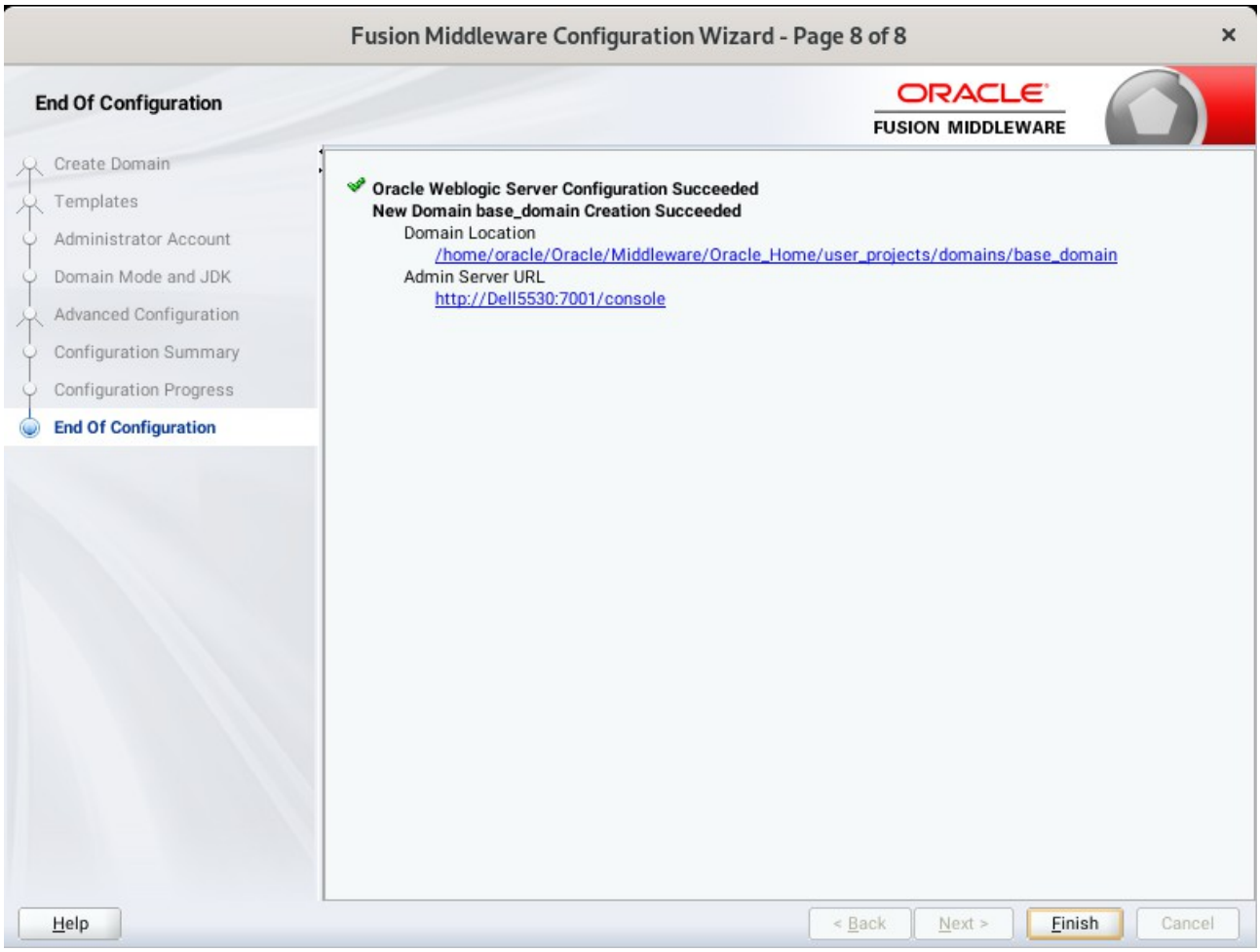
Review this screen to verify the information is correct, then click **Create** to continue.

7). Configuration Progress.



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

8). End Of Configuration.

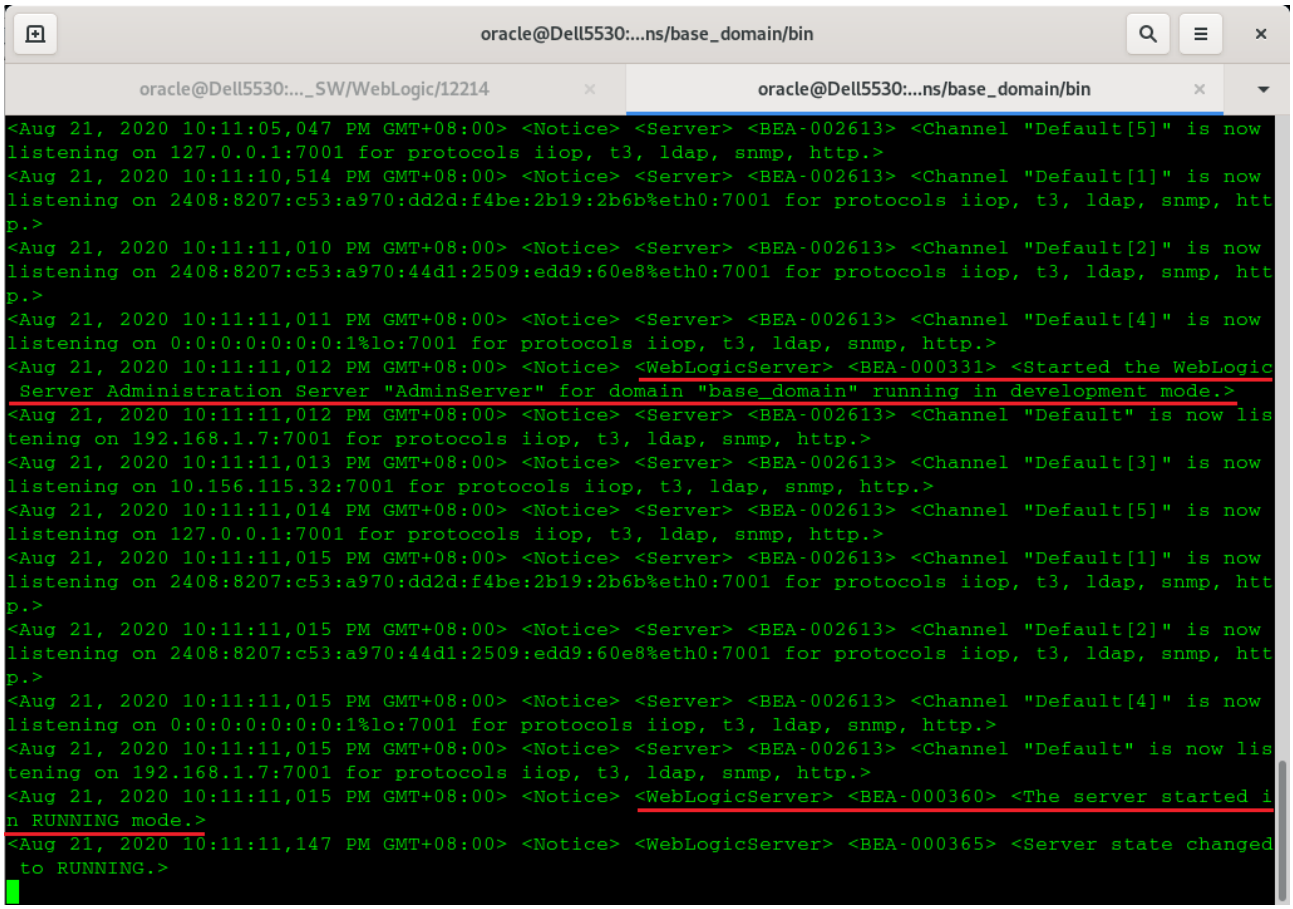


Once you see: "Oracle Weblogic Server Configuration Succeeded", record the "**Domain Location**" and "**Admin Server URL**", then click **Finish** to dismiss the Configuration Wizard.

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**.

Starting the Administration Server through a terminal

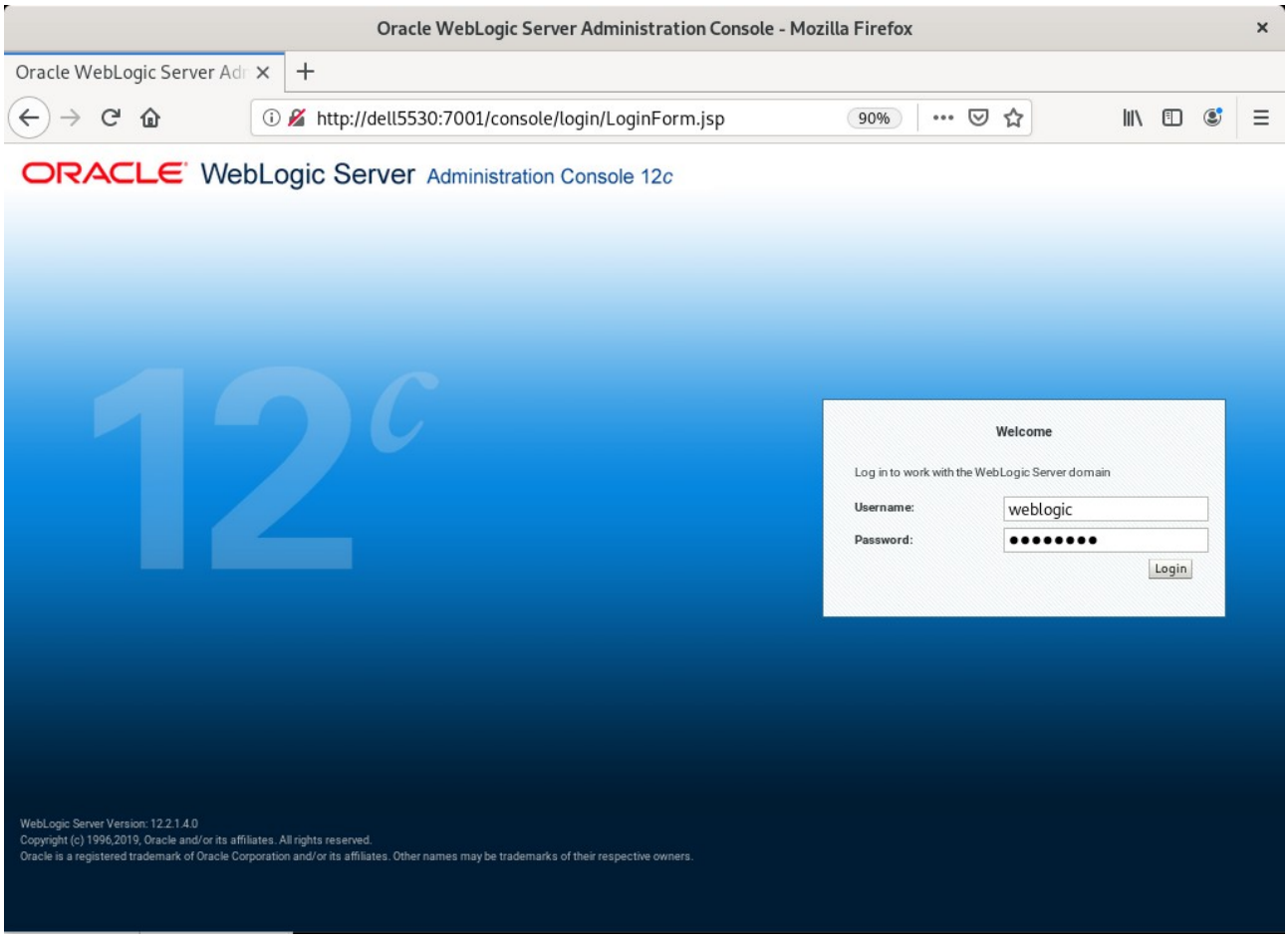


You know that the administrator server is running when you see the following output:

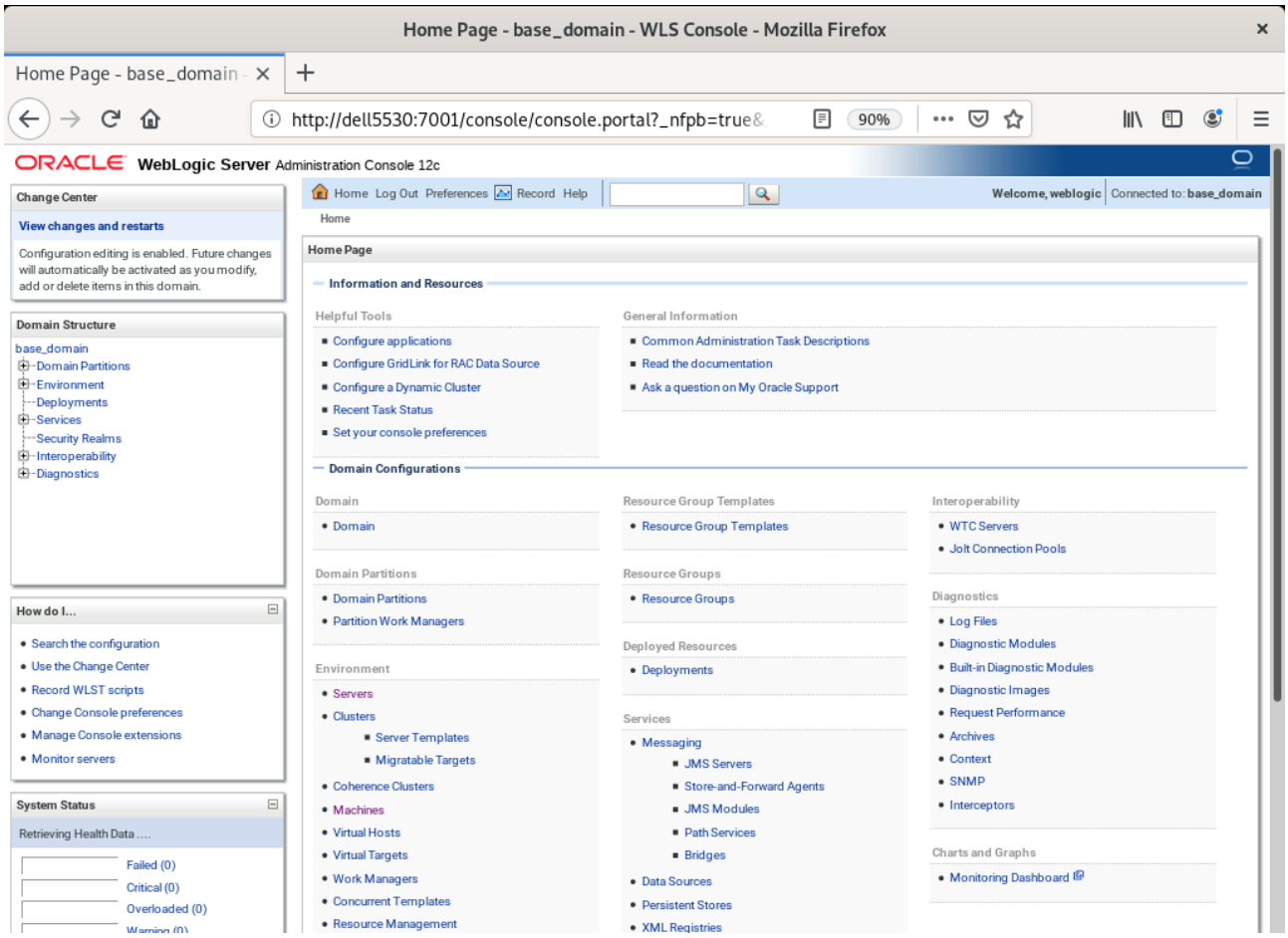
Server state changed to RUNNING.

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

Access to WebLogic Server Admin Console - Login page



Viewing WebLogic Server Admin Console - Home page



End of Oracle WebLogic Server Software.

****

Oracle Forms and Reports

****

1. Installing Oracle Forms and Reports

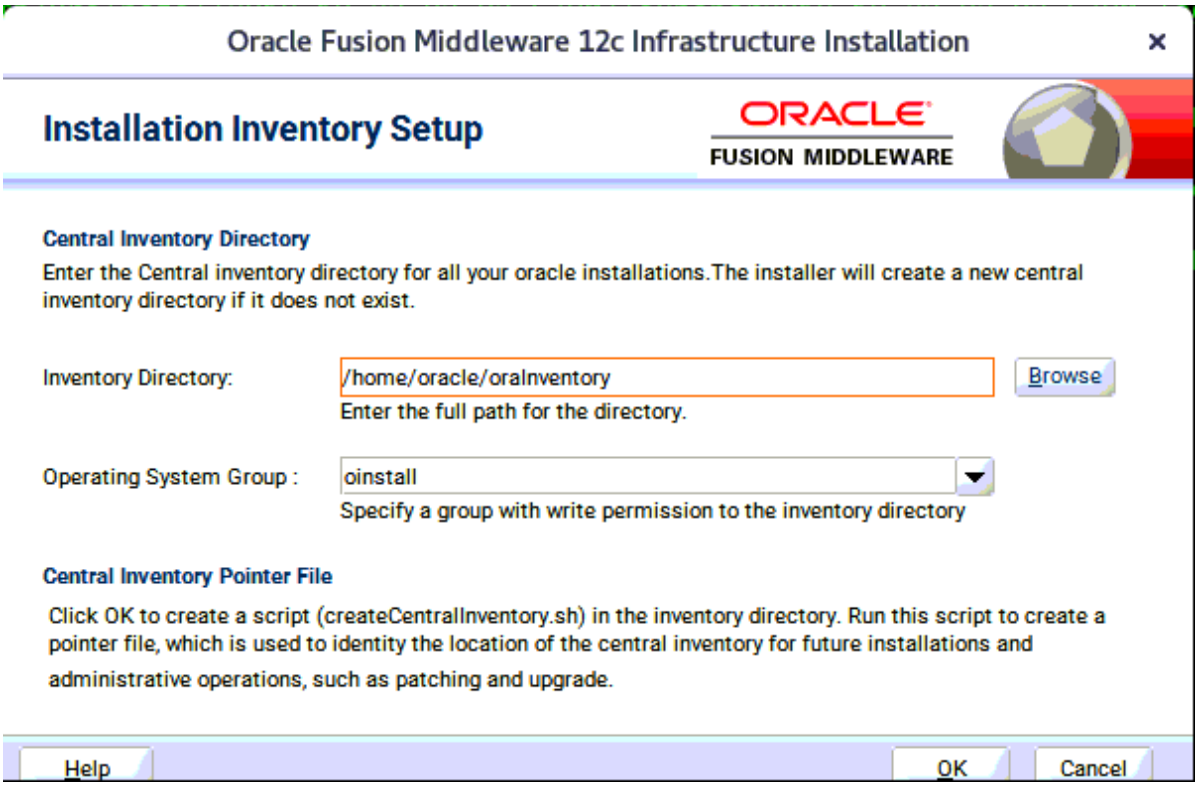
1-1. Prerequisites:

Installation of Oracle Forms and Reports requires:

1). Oracle Database 12cR2 (12.2.0.1.0) installed.
2). Oracle JDK 1.8.0_221 and later installed.
3). Oracle WebLogic Server 12cR2 (12.2.1.4.0) (Fusion Middleware Infrastructure Installer)

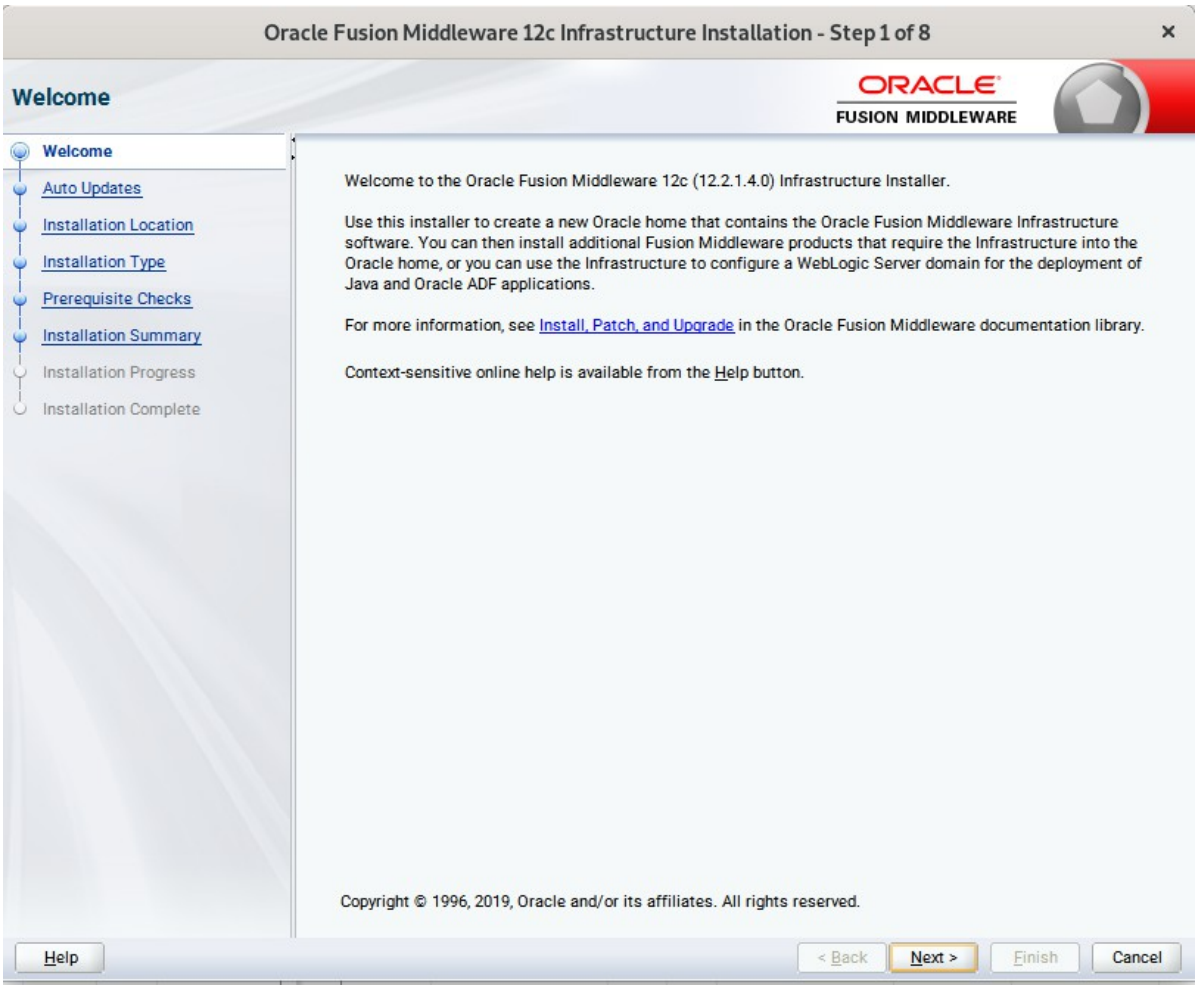
Screenshots: A brief installation setps for Fusion Middleware Infrastructure Installer is as follows:

3-1). Installation Inventory Setup.



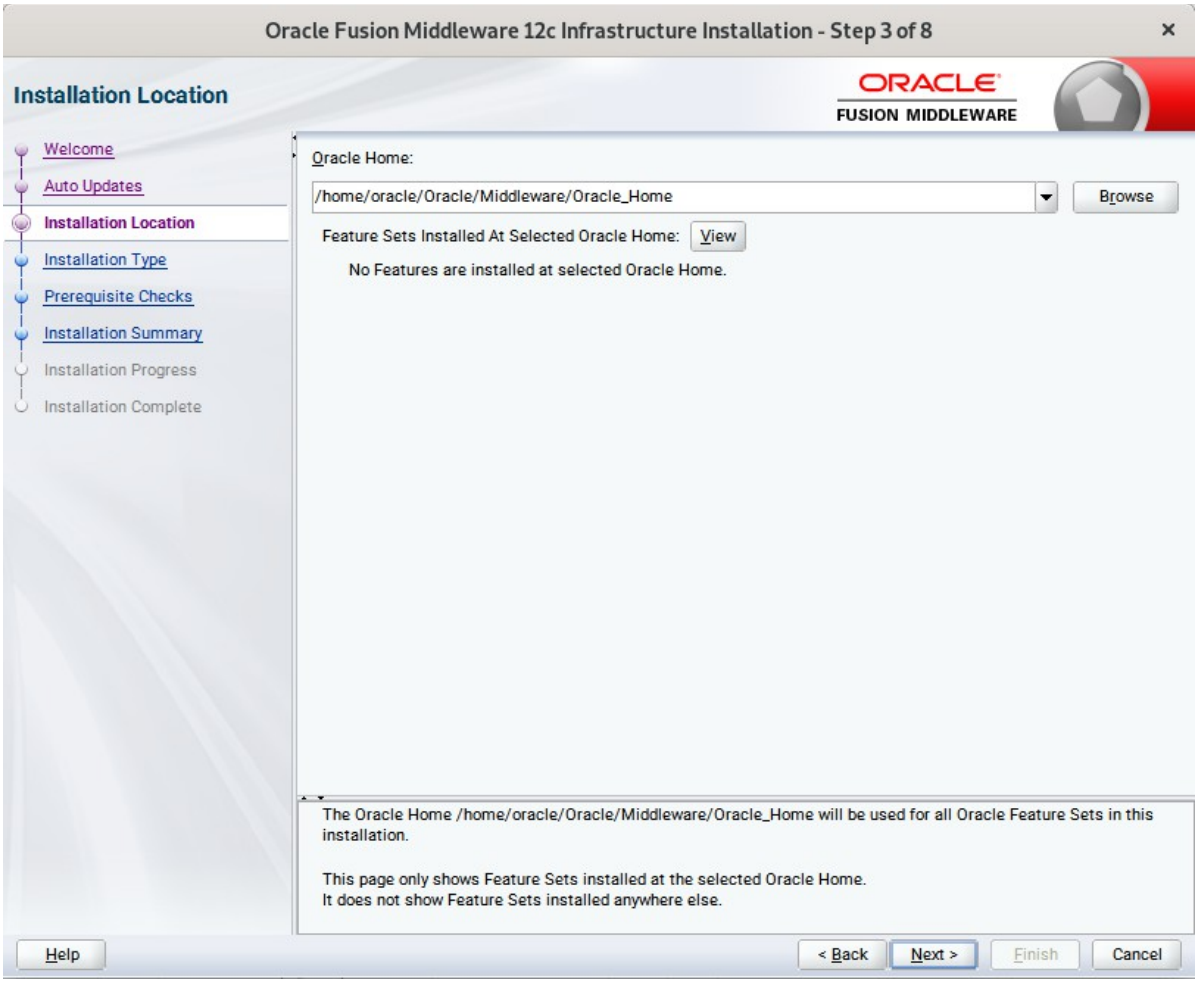
Specify the Oracle inventory directory and group permissions for that directory. The group must have write permissions to the Oracle inventory directory, then click **OK** to continue.

3-2). Welcome.



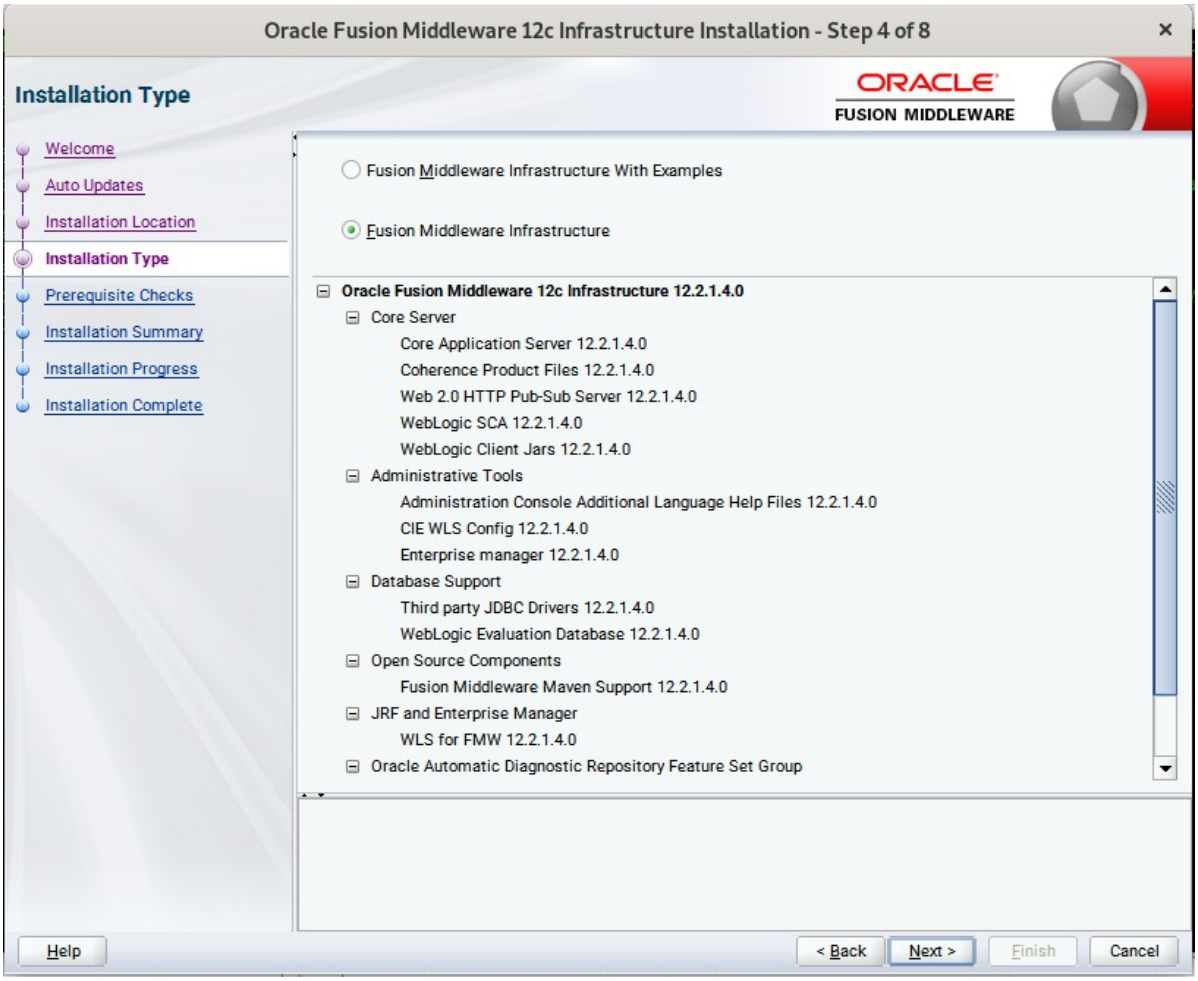
Review the information on this screen carefully to be sure you have performed all the necessary prerequisites, then click **Next** to continue.

3-3). Installation Location.



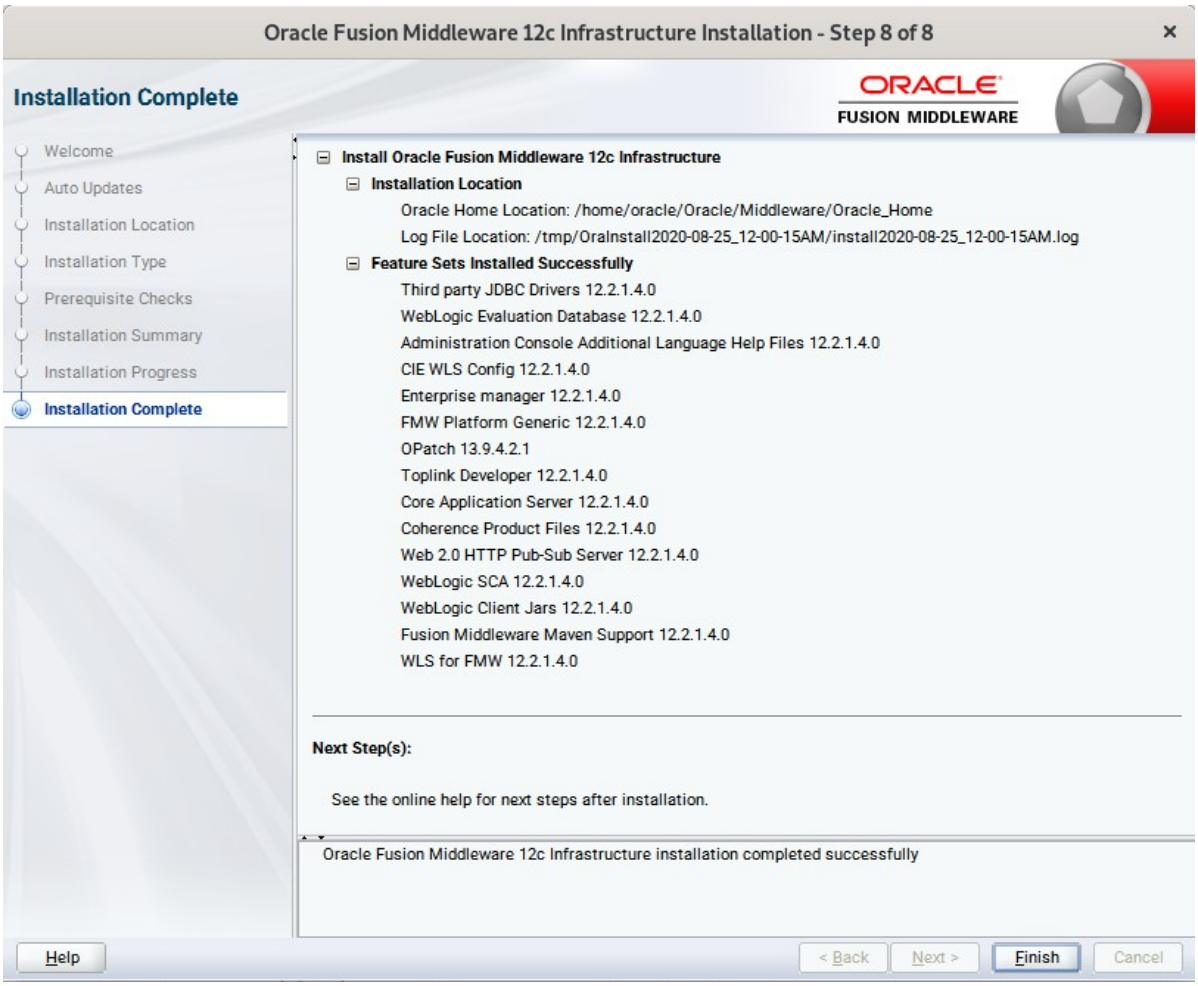
Type the full path of the directory in the Oracle Home field, then click **Next** to continue.

3-4). Installation Type.



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

3-5). Installation Complete.



1-2. Log in to the target system (SUSE Linux Enterprise Server 15 SP2 64-bit OS) as a non-admin user. Download the Oracle Forms and Reports 12c (12.2.1.4.0) from https://www.oracle.com/downloads/#category-middleware.
(**Note:** Please ensure the user has the proper permissions to install and configure the software.)

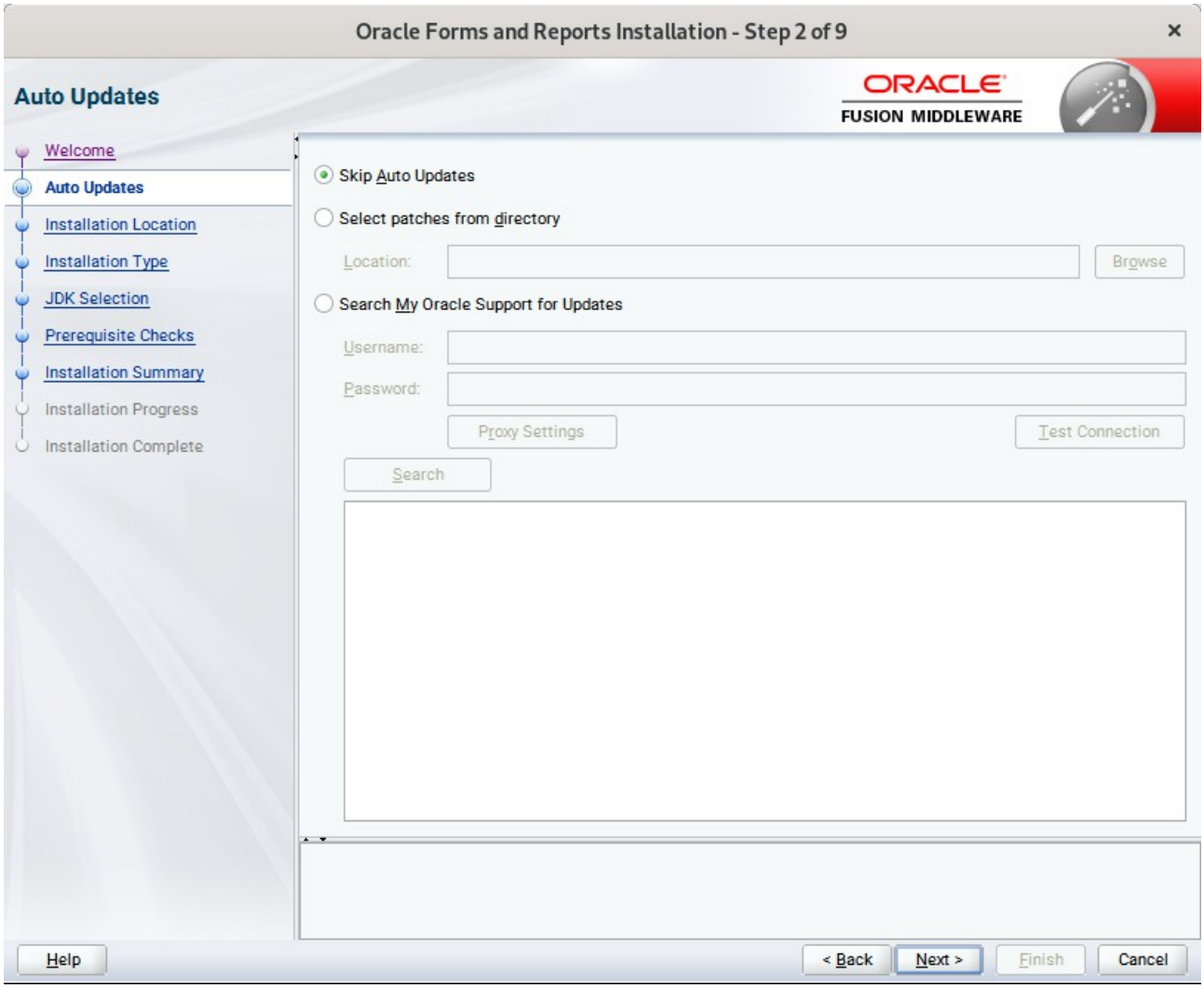
1-3. Go to the directory where you downloaded the installation program. Extract the contents of these .zip ('V983392-01_1of2.zip' and 'V983392-01_2of2.zip') files and launch the installation program by running '**fmw_12.2.1.4.0_fr_linux64.bin**'.

For the actual installation, follow the steps below:

1). Welcome page.

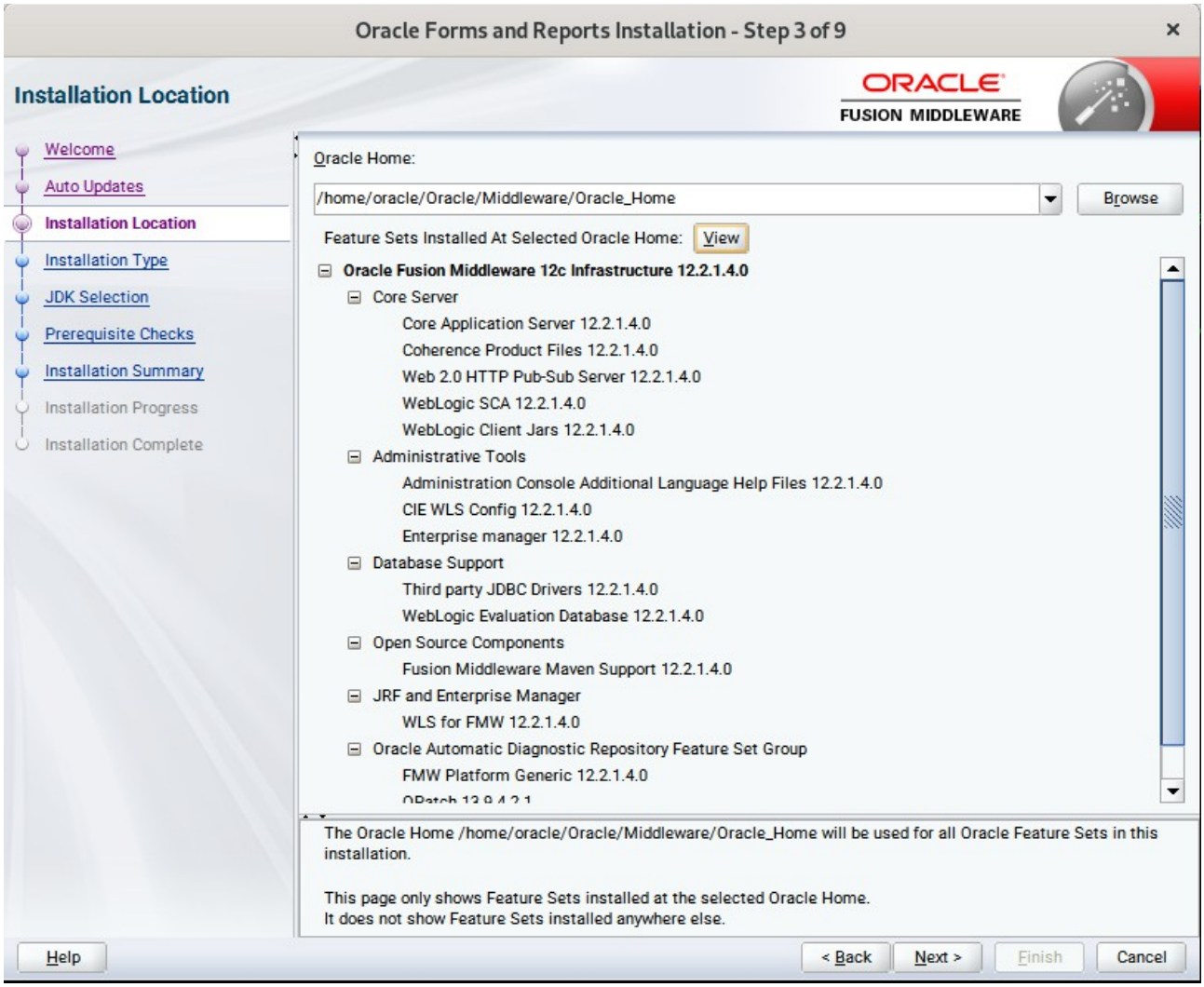
This page welcomes you to the installation. Click **Next** to continue.

2). The **Auto Updates** page appears.



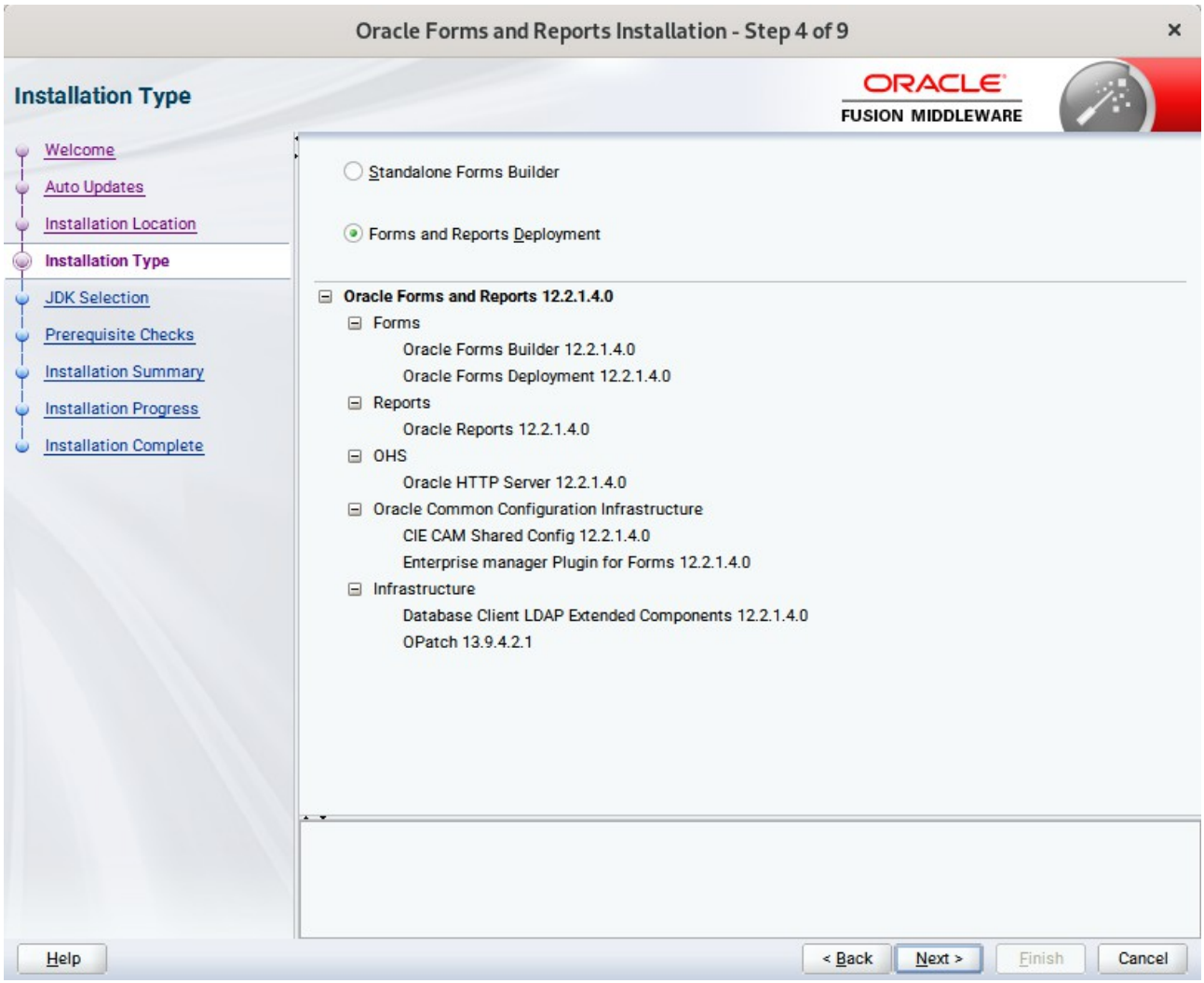
This page enables you to choose to automatically receive software updates for your components from Oracle Corporation. make your choices, then click **Next** to continue.

3). The **Installation Location** page appears.



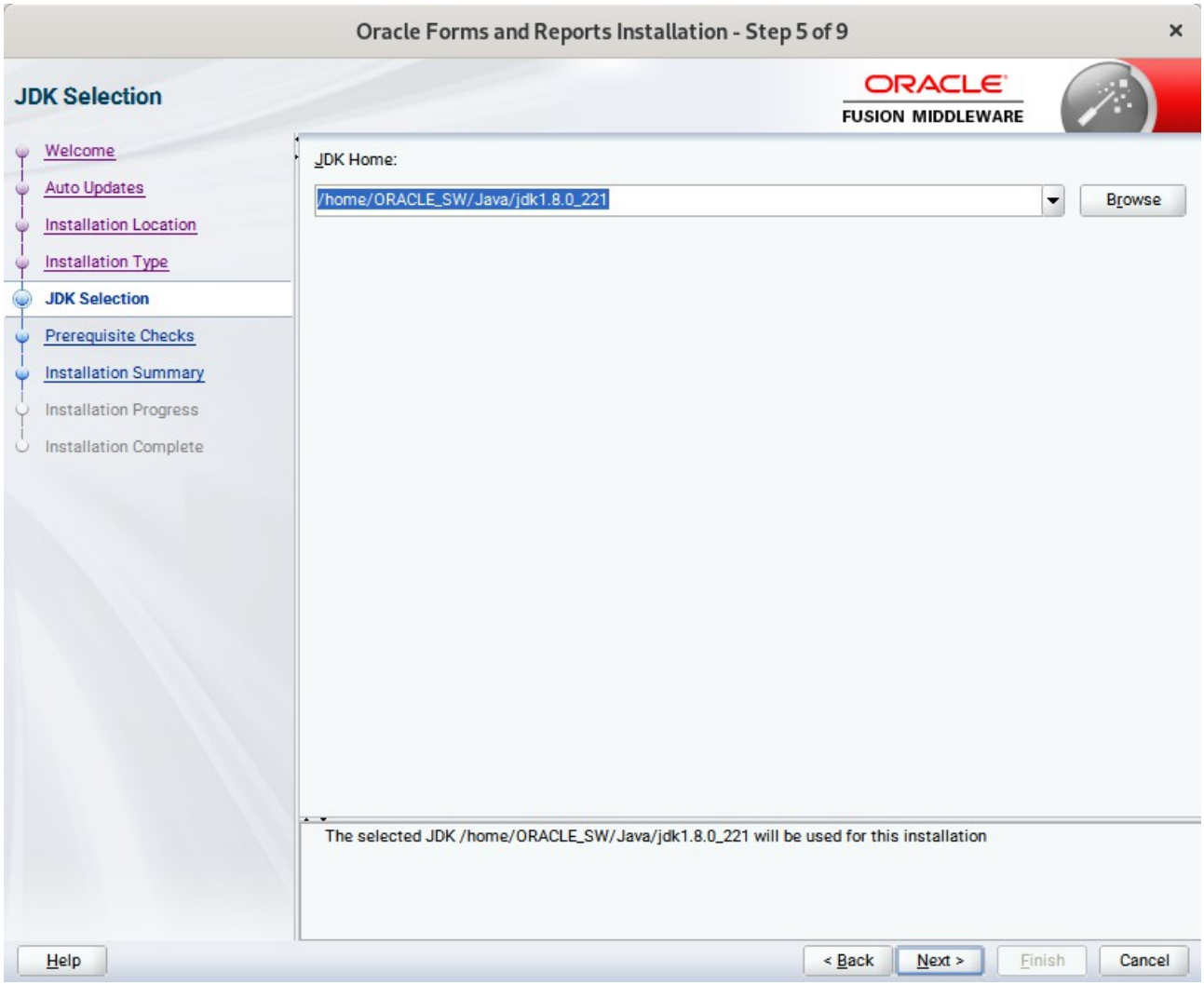
Specify the Oracle home location into which you want to install the product(s). Click **Next** to continue.

4). The **Installation Type** page appears.



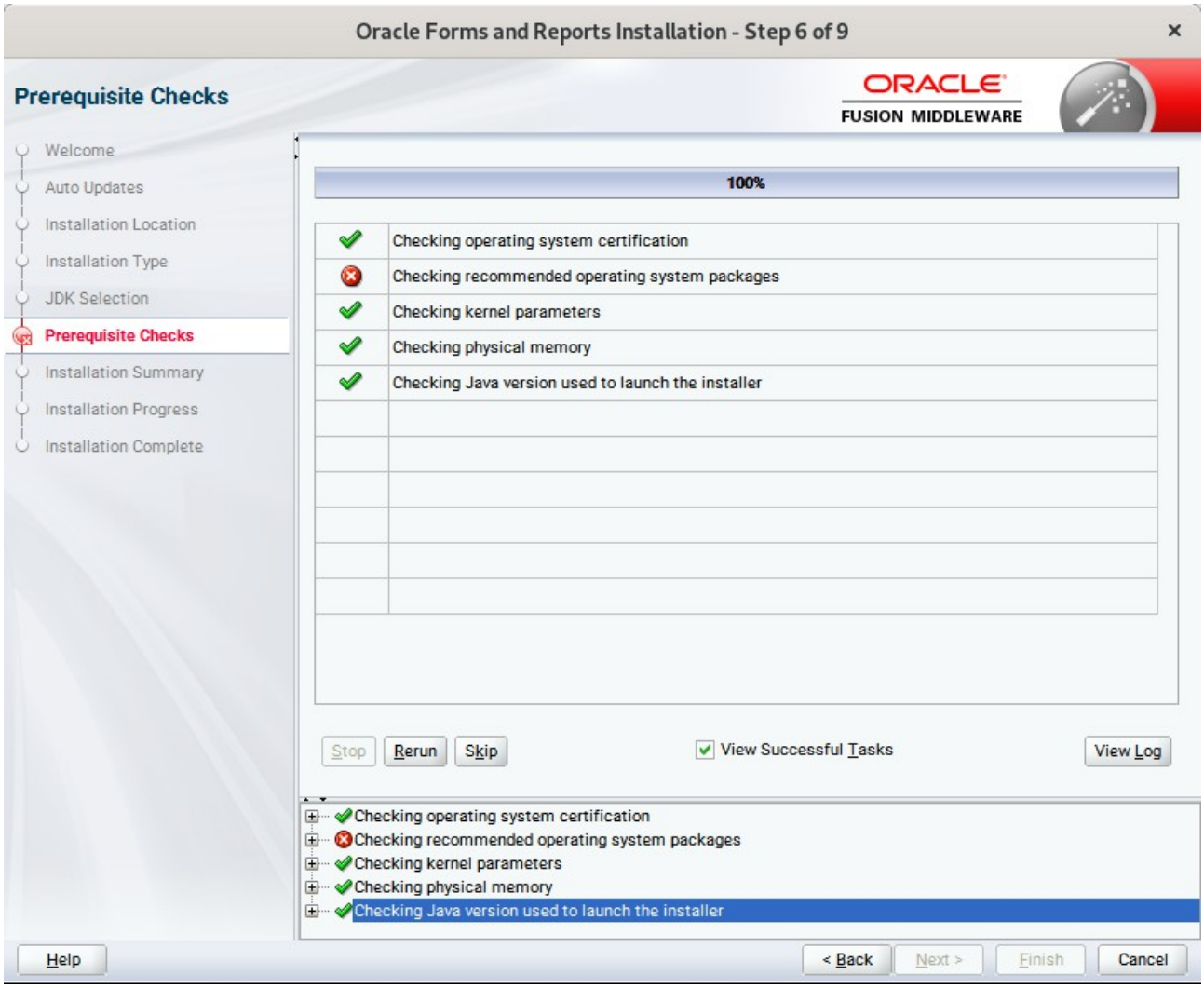
You can select **Standalone Forms Builder** if you want only that functionality, or choose **Forms and Reports Deployment** to install all of the products. Click **Next** to continue.

5). The **JDK Selection** page appears.



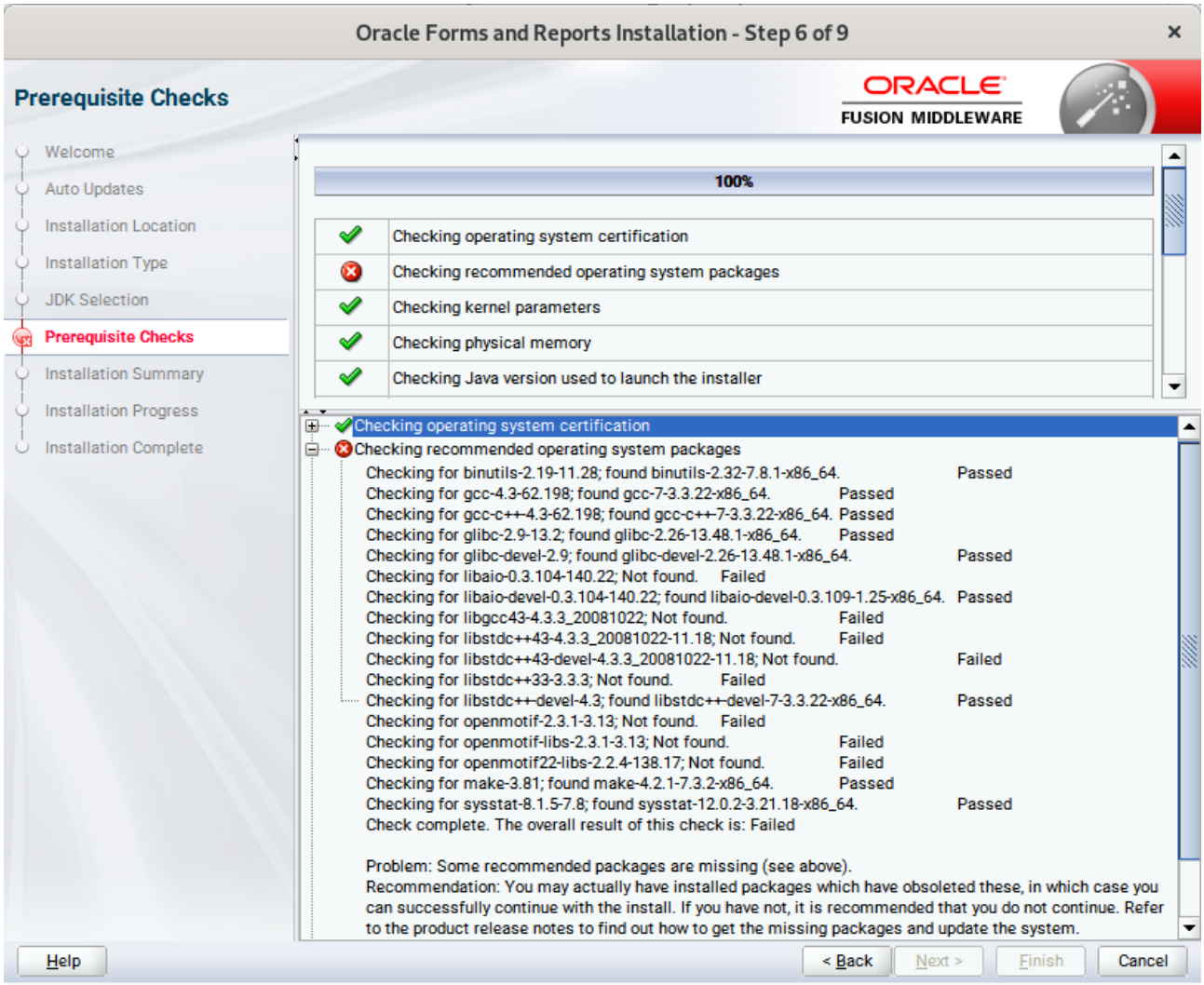
The selected JDK will be used for this installation. Click **Next** to continue.

6). The **Prerequisite Checks** page appears.



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

(**Note:** "Checking recommended operating system packages" failed with following error:

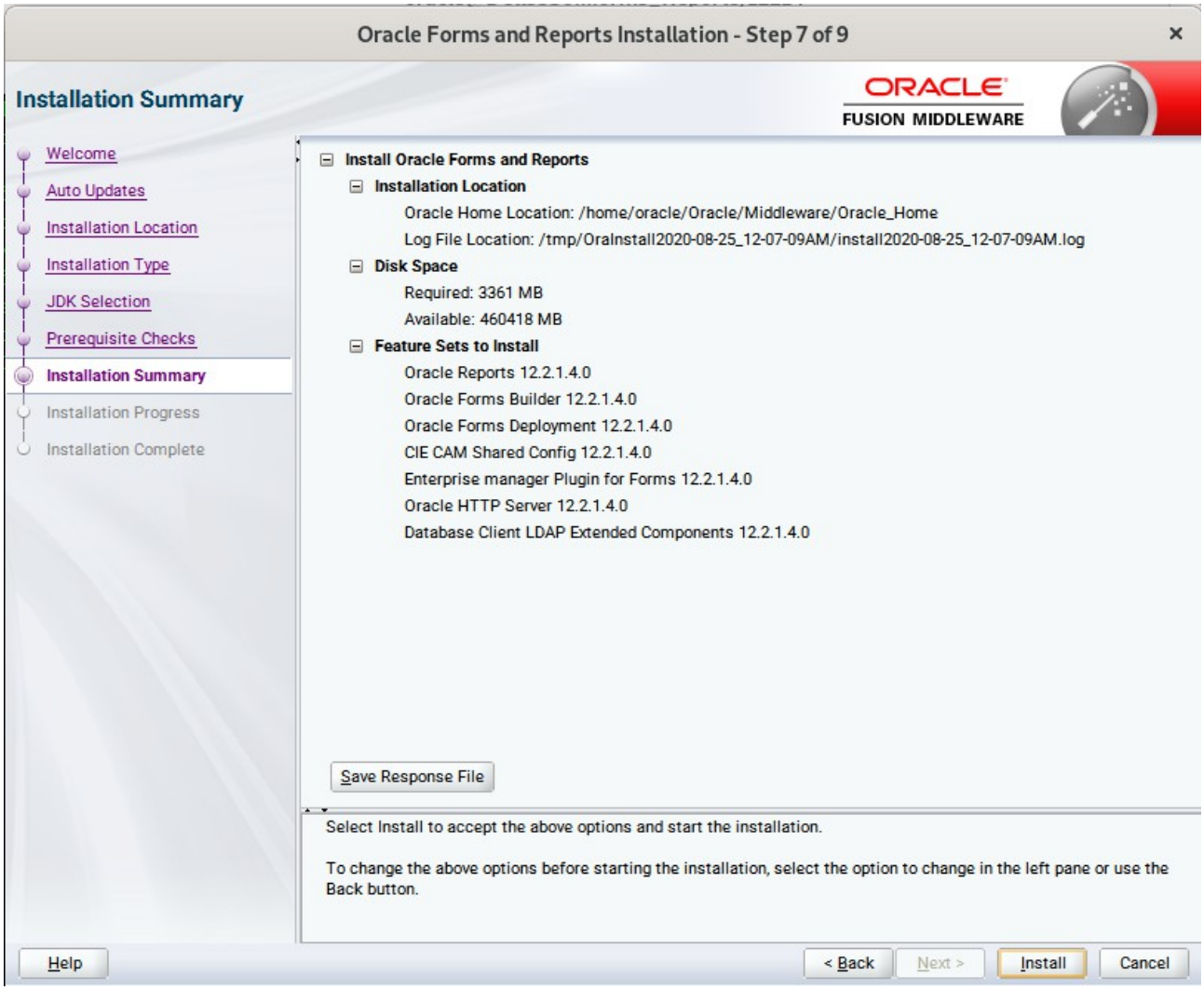


This is due to the different naming of these packages on SLES15 (SP2). Oracle FUSION Middleware 12c (12.2.1.4) is certified on SLES15 (SP1), please make sure that the following packages(or later) are installed:

binutils-2.29.1-4.46.x86_64
gcc7-ada-7.3.1+r258812-2.15.x86_64
gcc-c++-7-1.563.x86_64
gcc-c++-32bit-7-1.563.x86_64
gcc-ada-7-1.563.x86_64
gcc-locale-7-1.563.x86_64
gcc-info-7-1.563.x86_64
gcc-7-1.563.x86_64
gcc7-c++-7.3.1+r258812-2.15.x86_64
gcc7-info-7.3.1+r258812-2.15.noarch
gcc7-7.3.1+r258812-2.15.x86_64
gcc7-locale-7.3.1+r258812-2.15.x86_64
gcc7-c++-32bit-7.3.1+r258812-2.15.x86_64
gcc7-32bit-7.3.1+r258812-2.15.x86_64
gcc-32bit-7-1.563.x86_64
glibc-2.26-11.8.x86_64
linux-glibc-devel-4.15-1.47.noarch

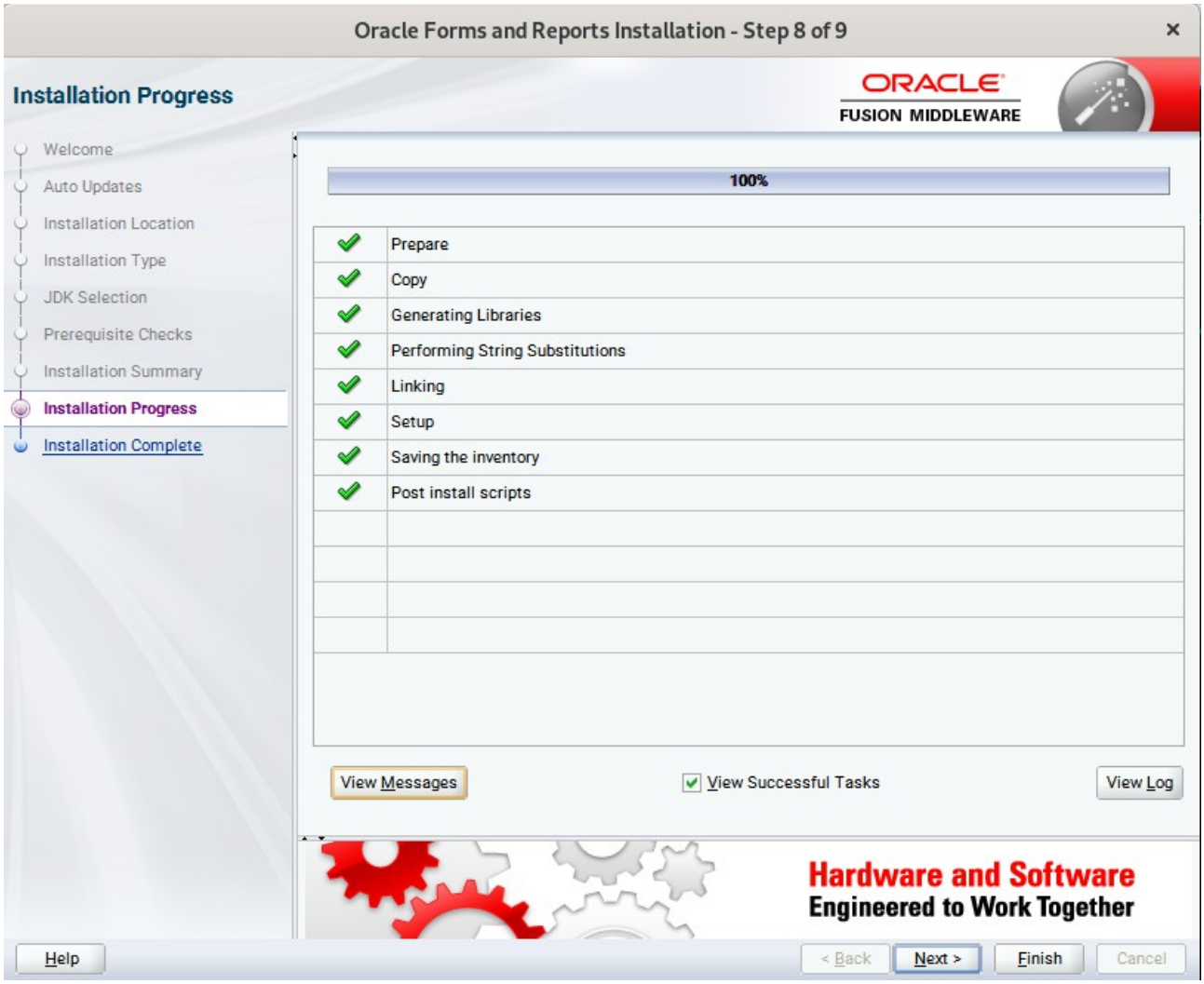
```
    glibc-devel-2.26-11.8.x86_64
    glibc-locale-2.26-11.8.x86_64
    glibc-extra-2.26-11.8.x86_64
    glibc-32bit-2.26-11.8.x86_64
    glibc-devel-32bit-2.26-11.8.x86_64
    mksh-56c-1.10.x86_64
    libaio1-0.3.109-1.25.x86_64
    libaio1-32bit-0.3.109-1.25.x86_64
    libaio-devel-32bit-0.3.109-1.25.x86_64
    libaio-devel-0.3.109-1.25.x86_64
    libcap2-2.25-2.41.x86_64
    libcap-ng0-0.7.9-1.42.x86_64
    libcap2-32bit-2.25-2.41.x86_64
    libstdc++6-7.3.1+r258812-2.15.x86_64
    libstdc++6-devel-gcc7-7.3.1+r258812-2.15.x86_64
    libstdc++6-32bit-7.3.1+r258812-2.15.x86_64
    libstdc++6-devel-gcc7-32bit-7.3.1+r258812-2.15.x86_64
    libstdc++6-locale-7.3.1+r258812-2.15.x86_64
    libstdc++-devel-7-1.563.x86_64
    libgcc_s1-7.3.1+r258812-2.15.x86_64
    libgcc_s1-32bit-7.3.1+r258812-2.15.x86_64
    make-4.2.1-5.48.x86_64
    make-lang-4.2.1-5.48.noarch
    makedumpfile-1.6.3-5.6.x86_64
    xorg-x11-7.6_1-1.22.noarch
    xorg-x11-server-1.19.6-6.19.x86_64
    xorg-x11-fonts-7.6-3.9.noarch
    xorg-x11-driver-video-7.6_1-2.30.x86_64
    xorg-x11-Xvnc-1.8.0-11.23.x86_64
    xorg-x11-fonts-core-7.6-3.9.noarch
    xorg-x11-server-extra-1.19.6-6.19.x86_64
    xorg-x11-essentials-7.6_1-1.22.noarch

)
```

7). The **Installation Summary** page appears.



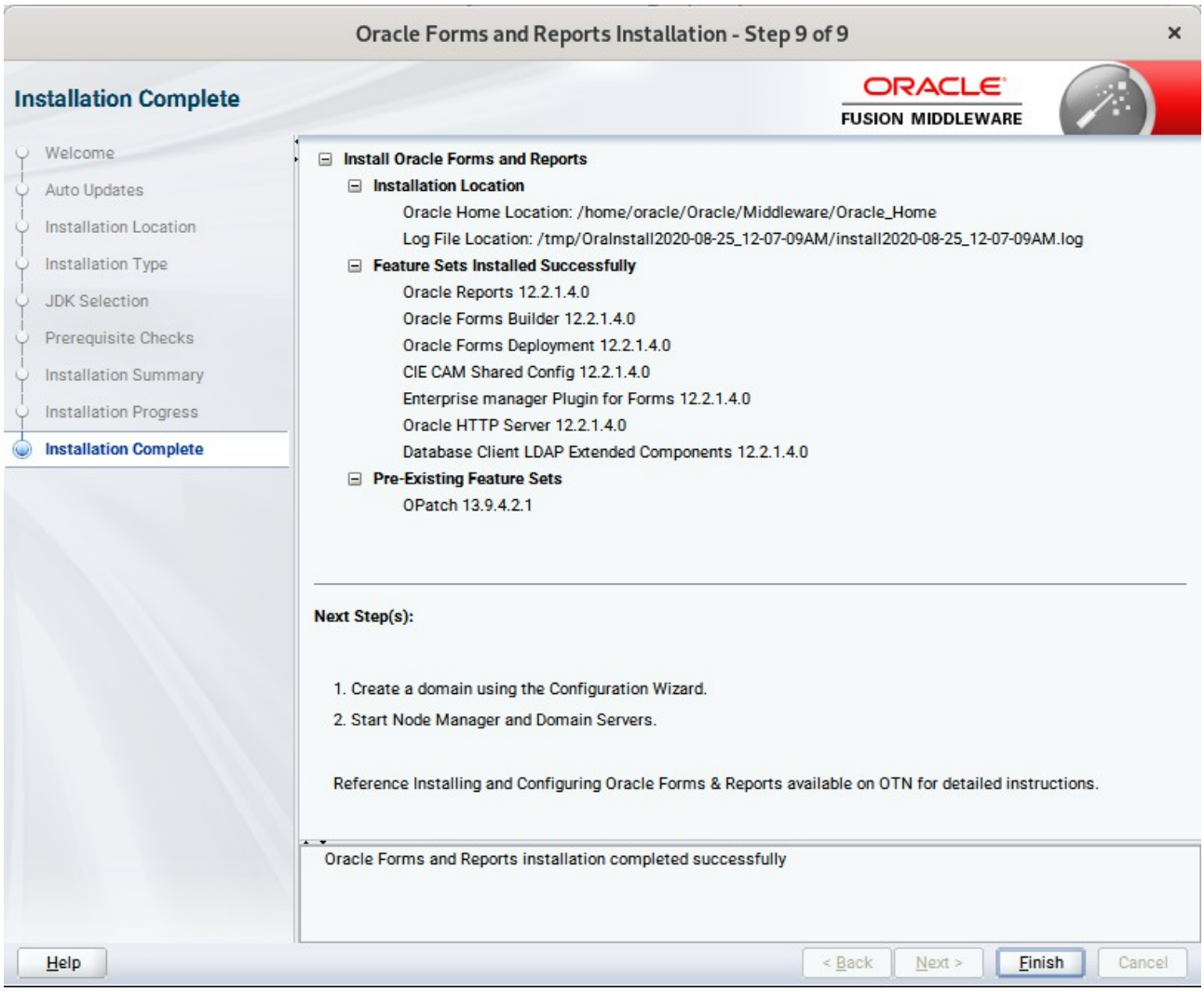
This page shows you what components and features are about to be installed. If you need to make changes, click **Back**, otherwise, click **Install** to start the installation.

8). The **Installation Progress** page appears.



This page shows you the progress of the installation, and will warn you if there are any problems.You can view messages and logs from this page, but typically no action is required here. When progress is complete, click **Next** (go to a Summary page). Alternatively, you can click **Finish**.

9). If you clicked **Next**, the **Installation Complete** page appears, showing you the components that have been installed.

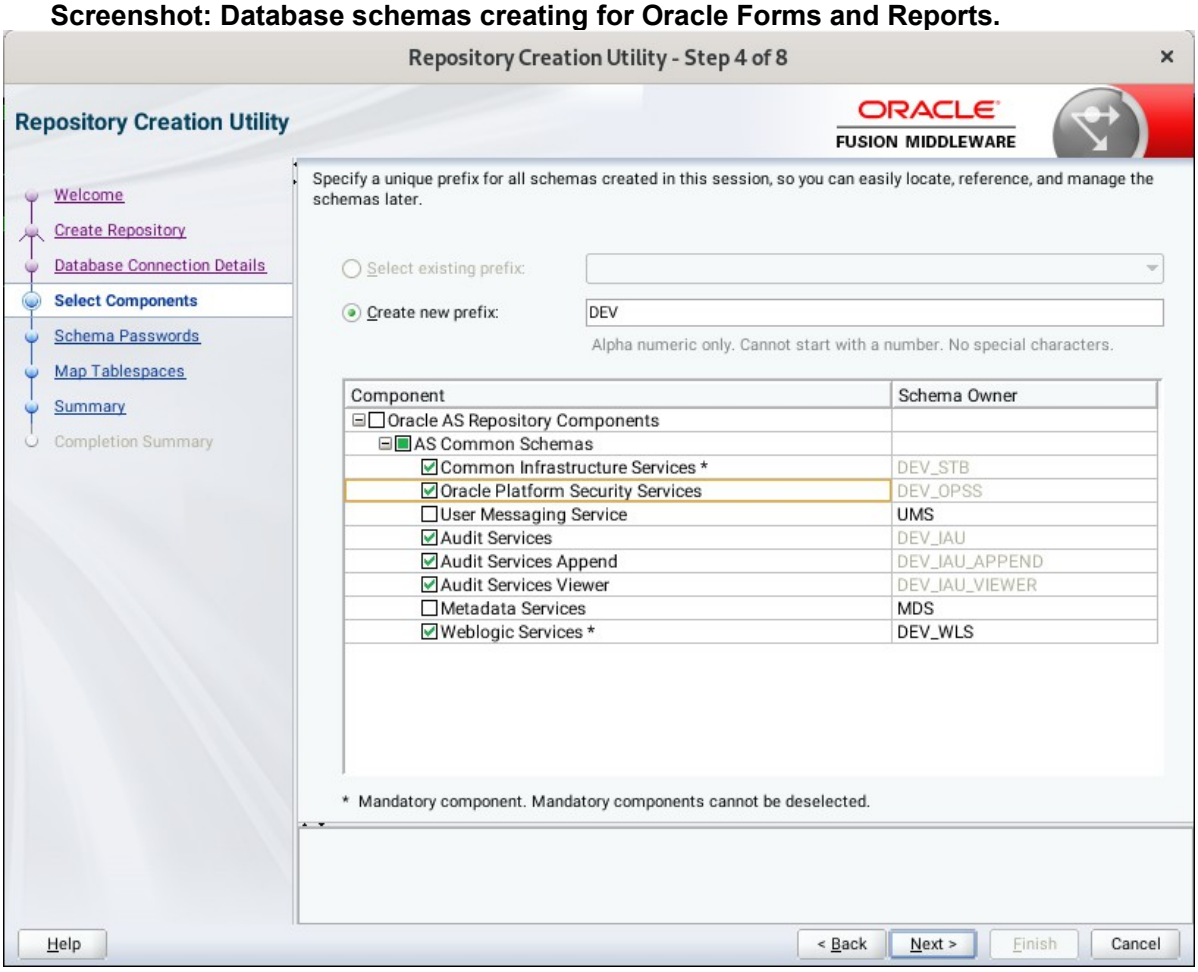


Click **Finish** to dismiss the installer.

2. Creating Oracle Database Schema through Repository Creation Utility(RCU)

2-1. Repository Creation Utility (RCU) is available with the Oracle WebLogic Server 12cR2 Fusion Middleware Infrastructure distribution. Run **$FMW_HOME/oracle_common/bin/rcu** and create required database schemas for Oracle Forms and Reports.

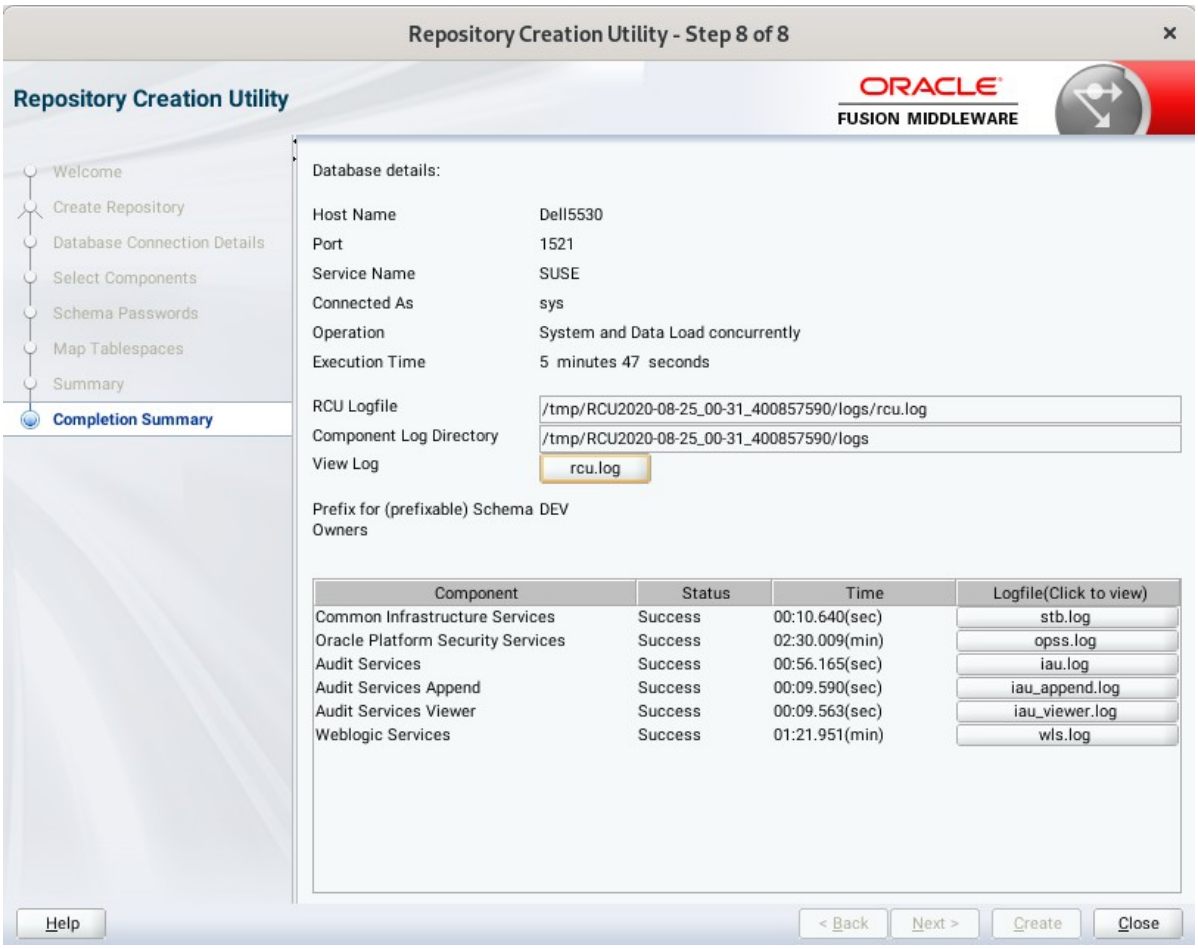
Screenshot: Database schemas creating for Oracle Forms and Reports.



Select the **Create new prefix** radio button and provide a schema prefix (such as DEV). Select the following components: **Common Infrastructure Services***,**Oracle Platform Security Services**, **Audit Services**, **Audit Services Append**, **Audit Services Viewer** and **Weblogic Services***.

(**Note:** If Forms Application Deployment Services (FADS) is also planned to be configured, include **User Messaging Services** (UMS).)

Ensure the schema creation is successful.



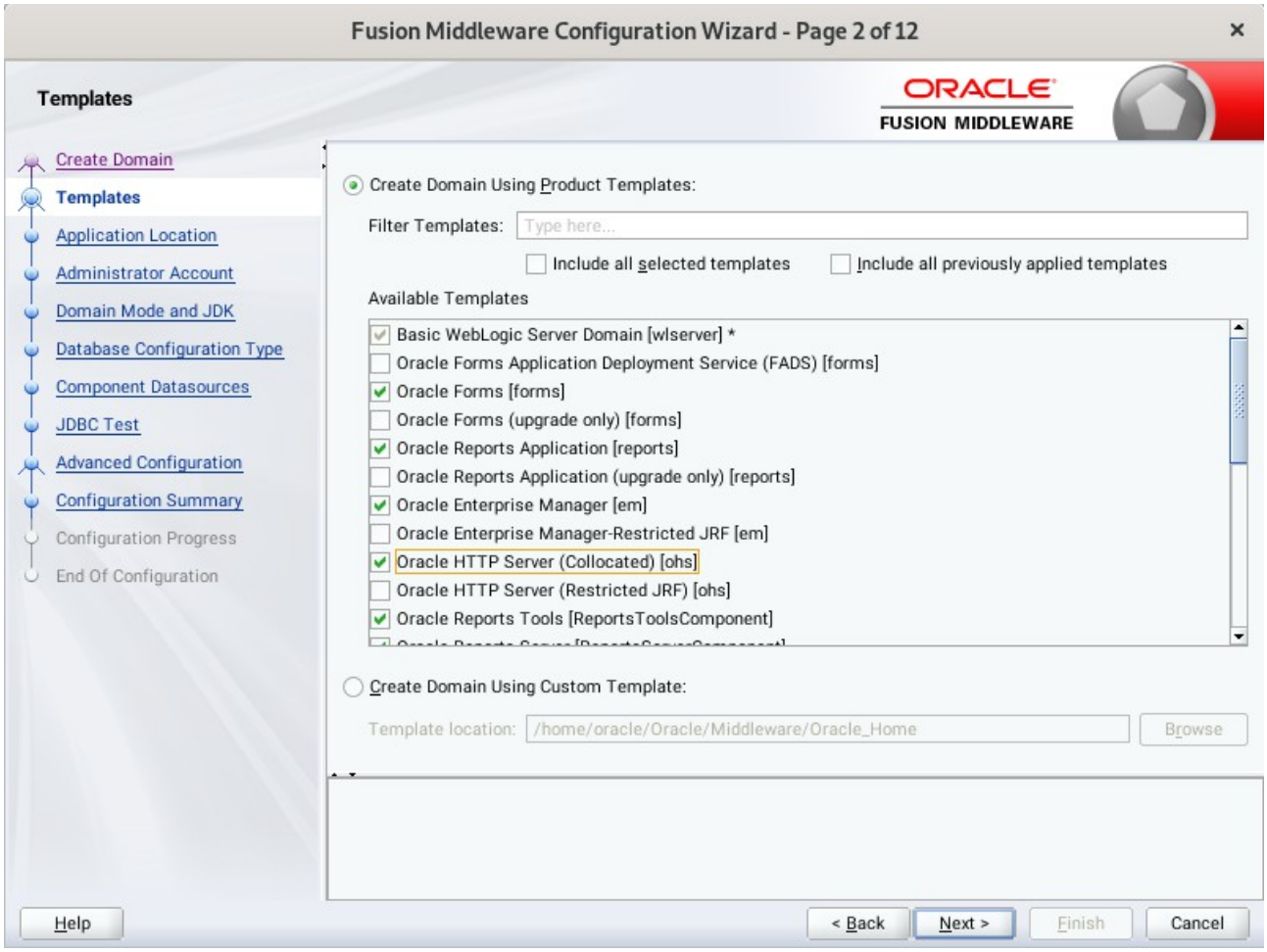
3. Configuring Oracle Forms and Reports using the Config Wizard

3-1. In order to complete the configuration. Run the config wizard using **config.sh** located in the **ORACLE_HOME/oracle_common/common/bin** directory.

Follow these steps:

1). Choose **Create a new domain**, and enter the desired domain home path.

2). The **Templates screen** appears.

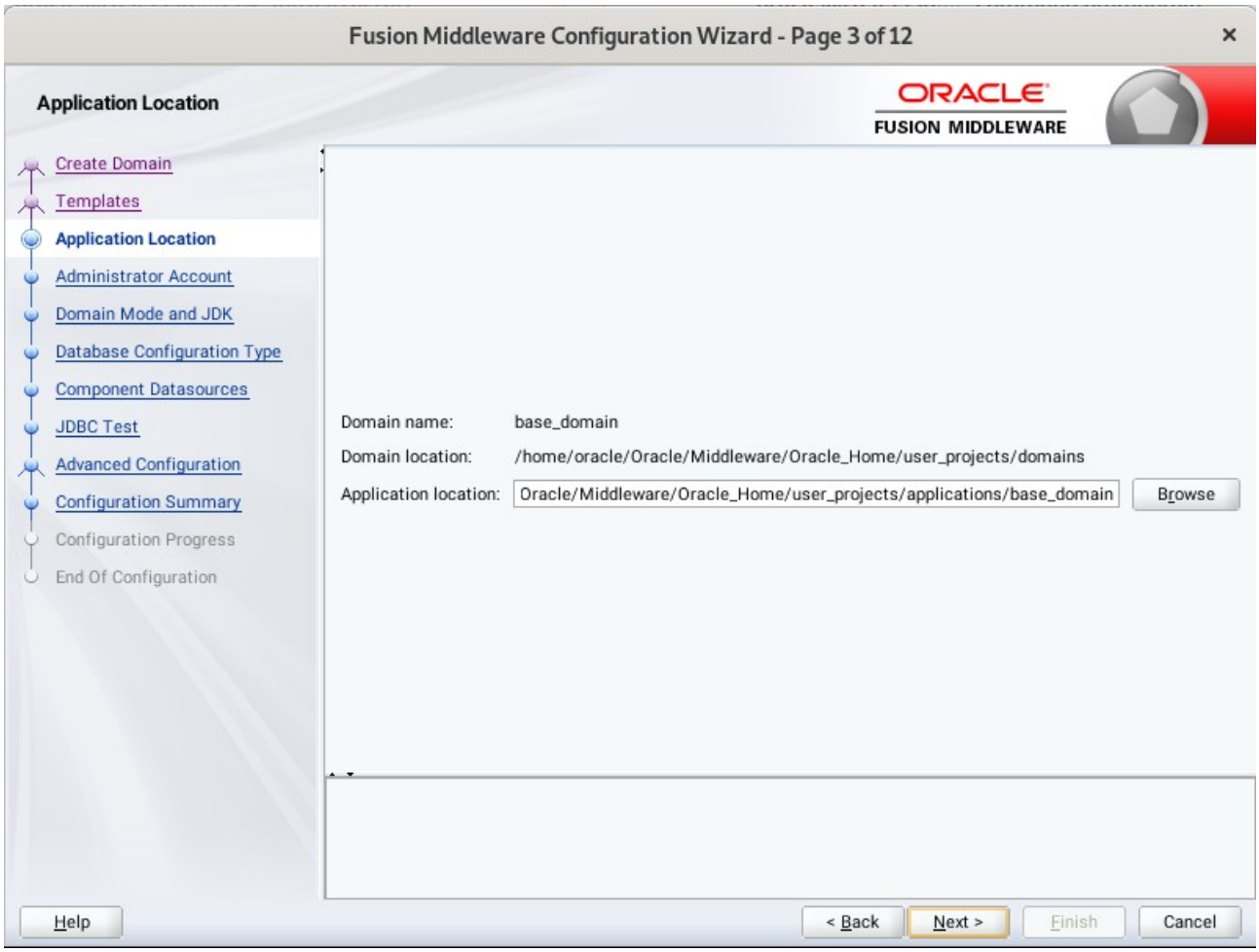


Keep the default selection (**Create Domain using Product Templates**). Selecting

Oracle Forms [forms],
Oracle Reports Server [ReportsServerComponent],
Oracle Reports Tools [ReportsServerComponent],
Oracle Reports Bridge [ReportsServerComponent],
Oracle Reports Application [reports]
and **Oracle HTTP Server(Collocated) [ohs]**.

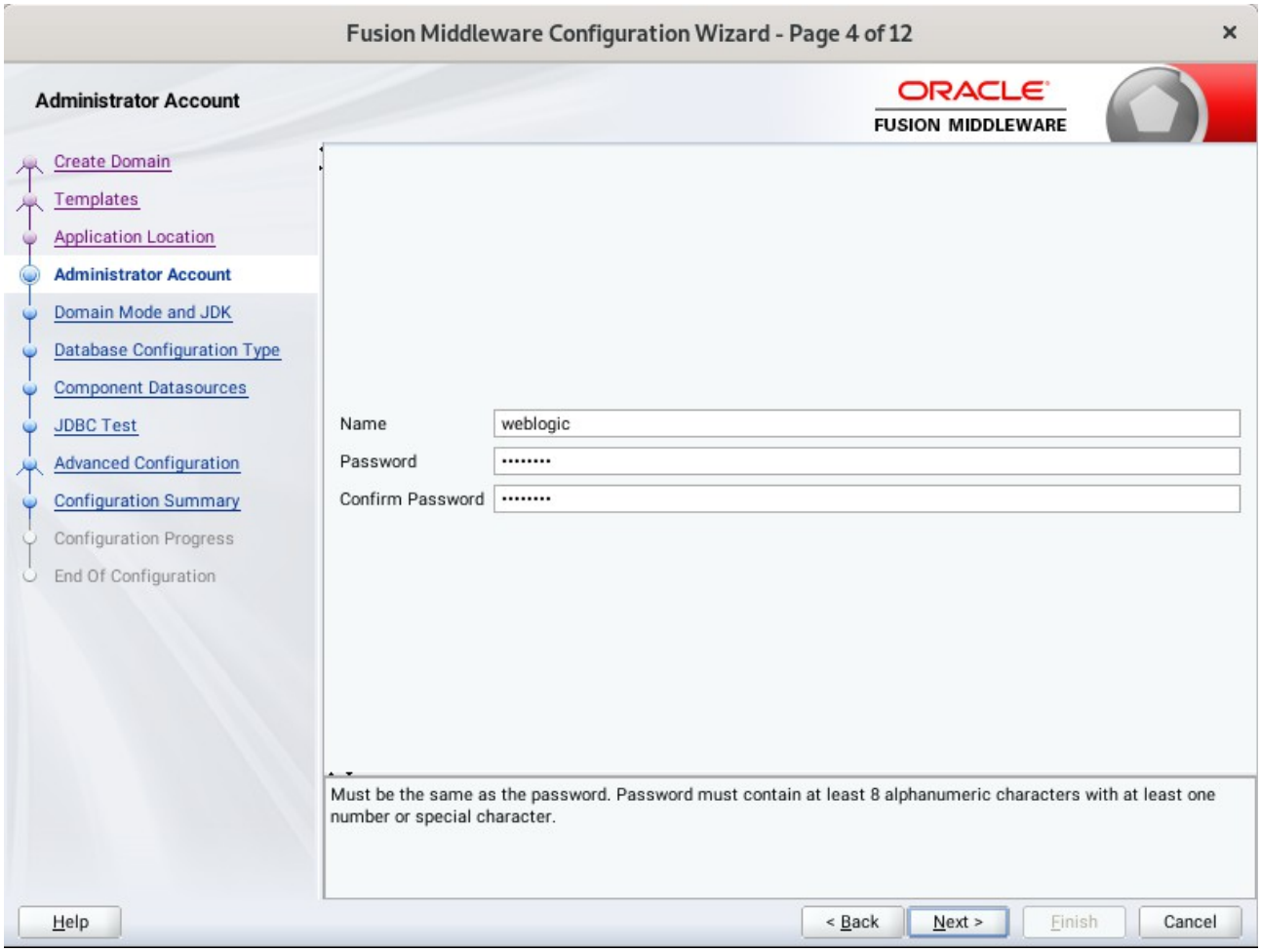
Any dependent templates will be automatically selected. Click **Next** to continue.

3). The **Application Location** screen appears.



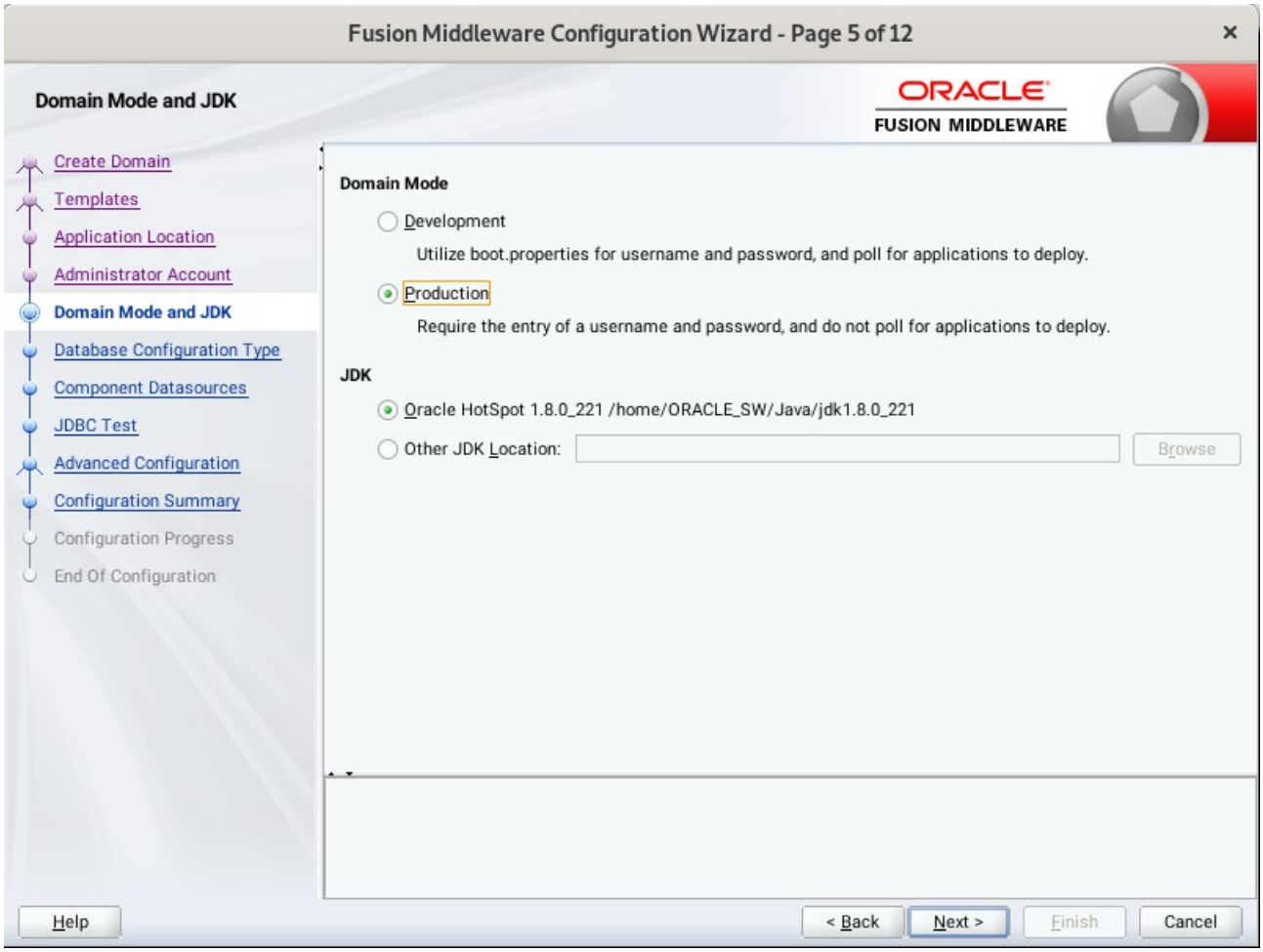
Keep the default value for Application location.Click **Next** to continue.

4). The **Administrator Account** screen appears.



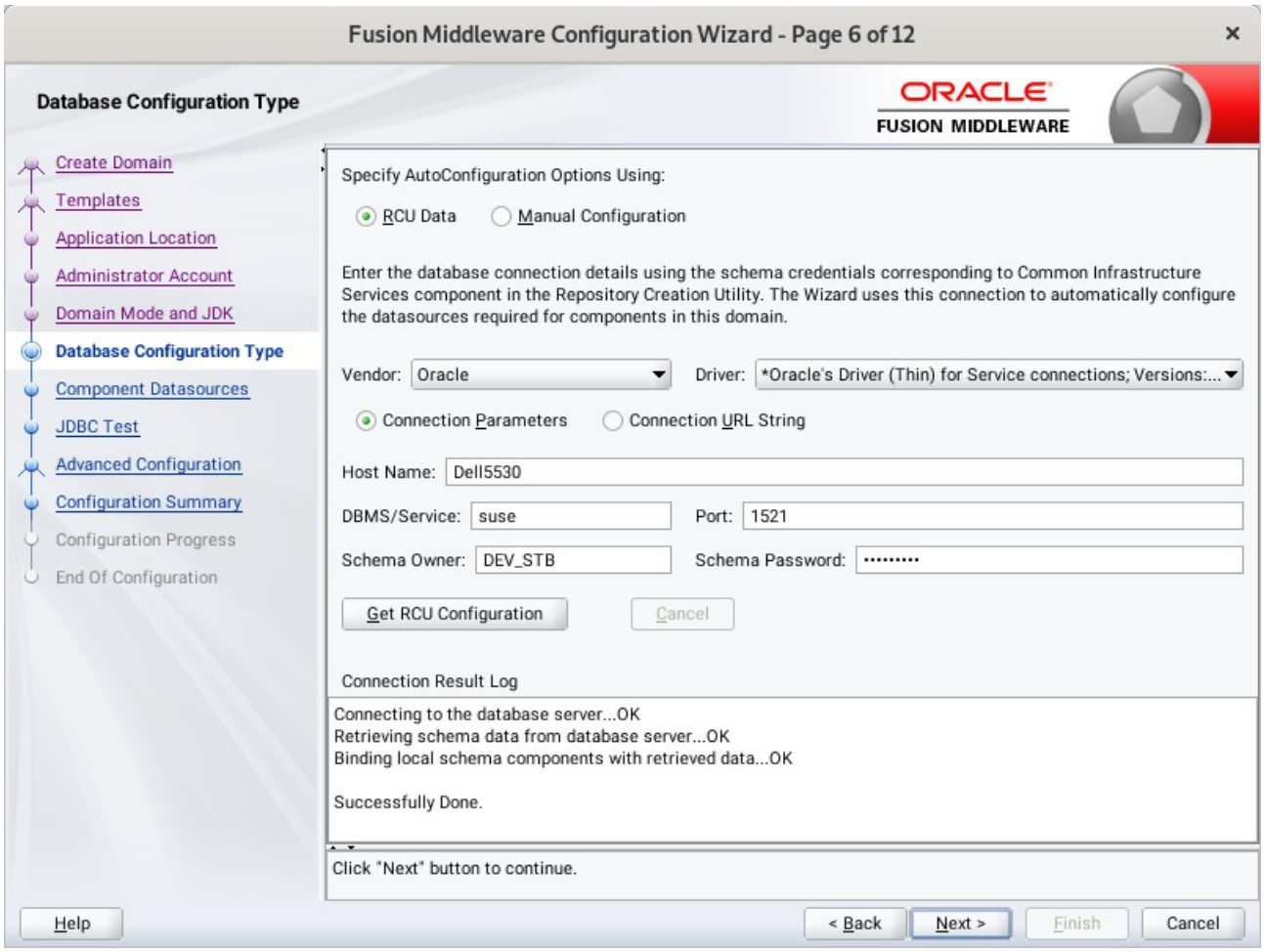
Enter the WebLogic Domain administration username and password. This information will be needed to access WebLogic Server Control and Fusion Middleware Control. Click **Next** to continue.

5). The **Domain Mode and JDK** screen appears.



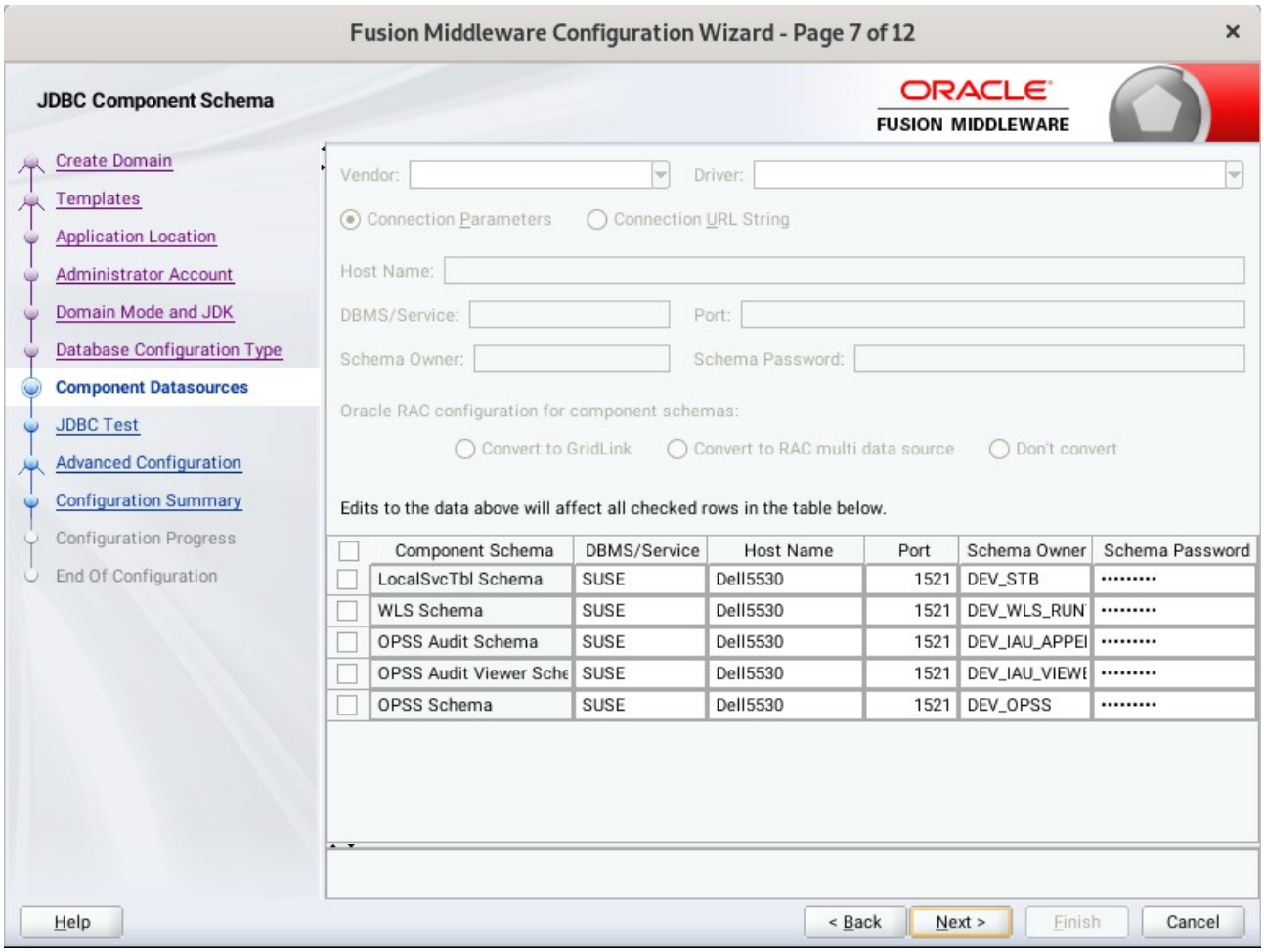
The Domain Mode and JDK screen appears. Select the Domain Mode (either **Development** or **Production**). To ensure the highest degree of security, selecting **Production** is recommended. Leave the default JDK selection as it appears, unless using another version of the JDK desired.

6). The **Database Configuration Type** screen appears.



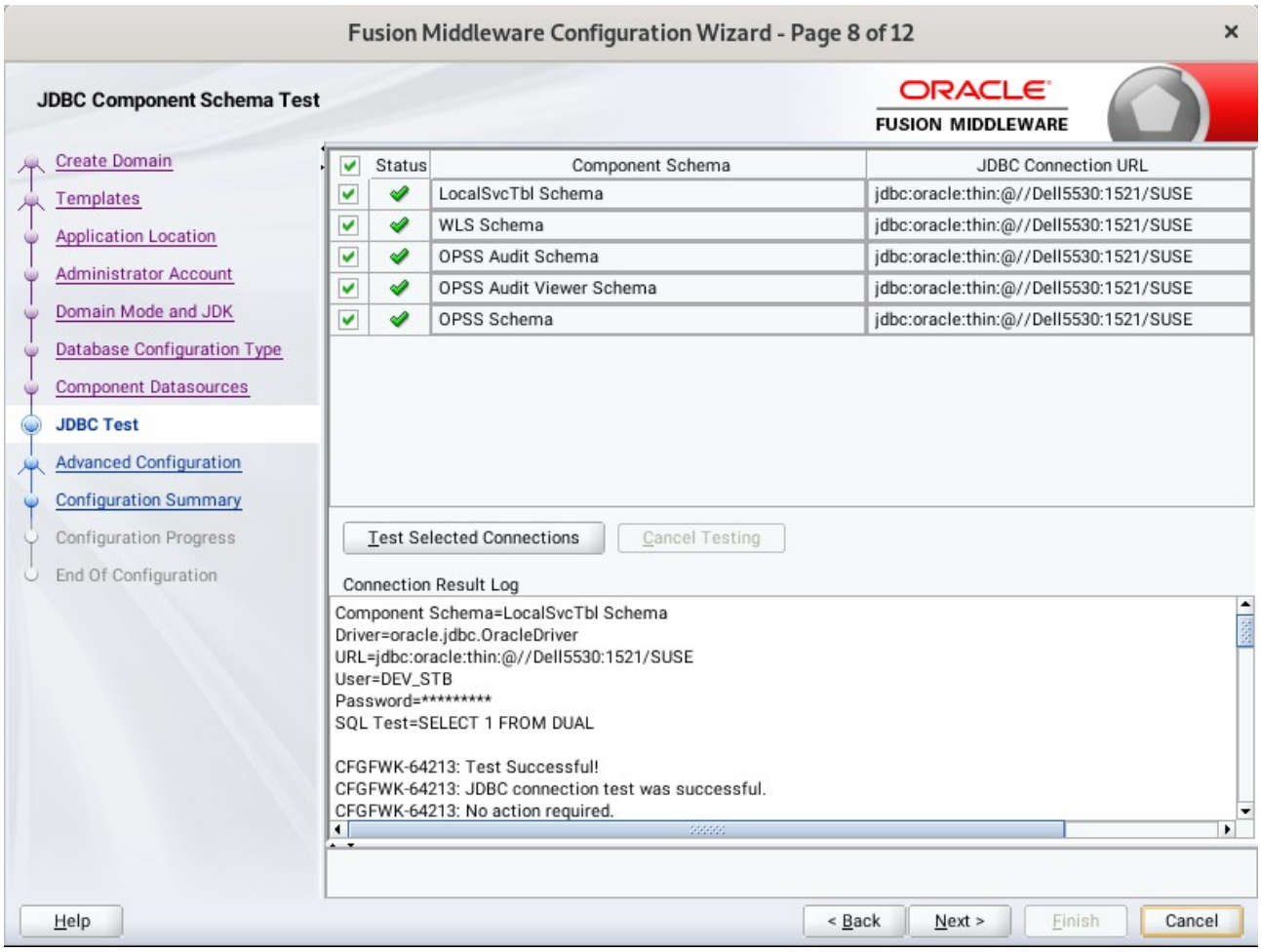
Enter the RCU DB connection information, then click **Get RCU Configuration**. You should receive a success message. Click **Next** to continue.

7). The **JDBC Component Schema** screen appears.



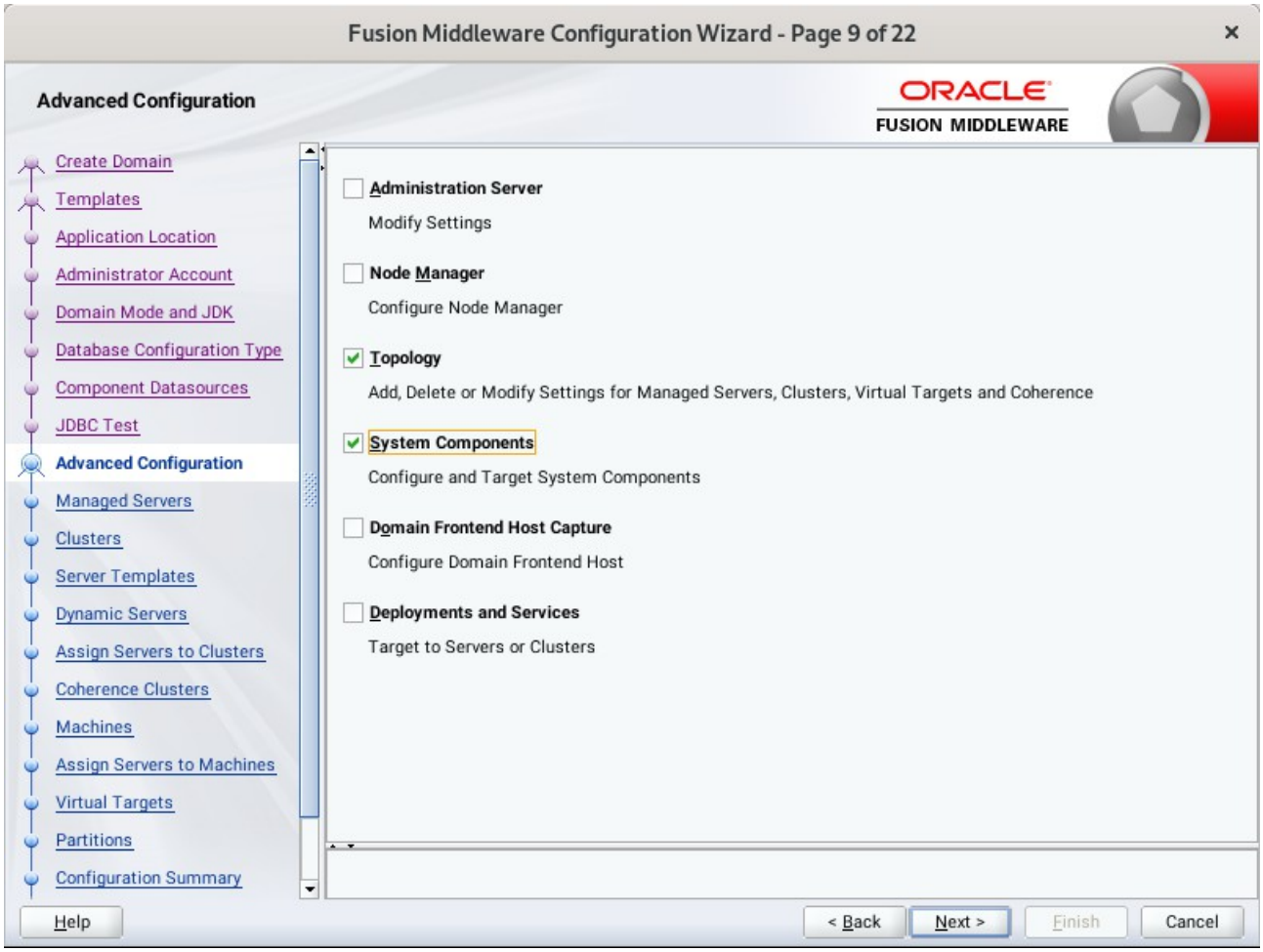
Our instructions assume each Repository schema uses the same password. If not, enter the correct schema passwords. Click **Next** to continue.

8). The **JDBC Component Schema Test** screen appears.



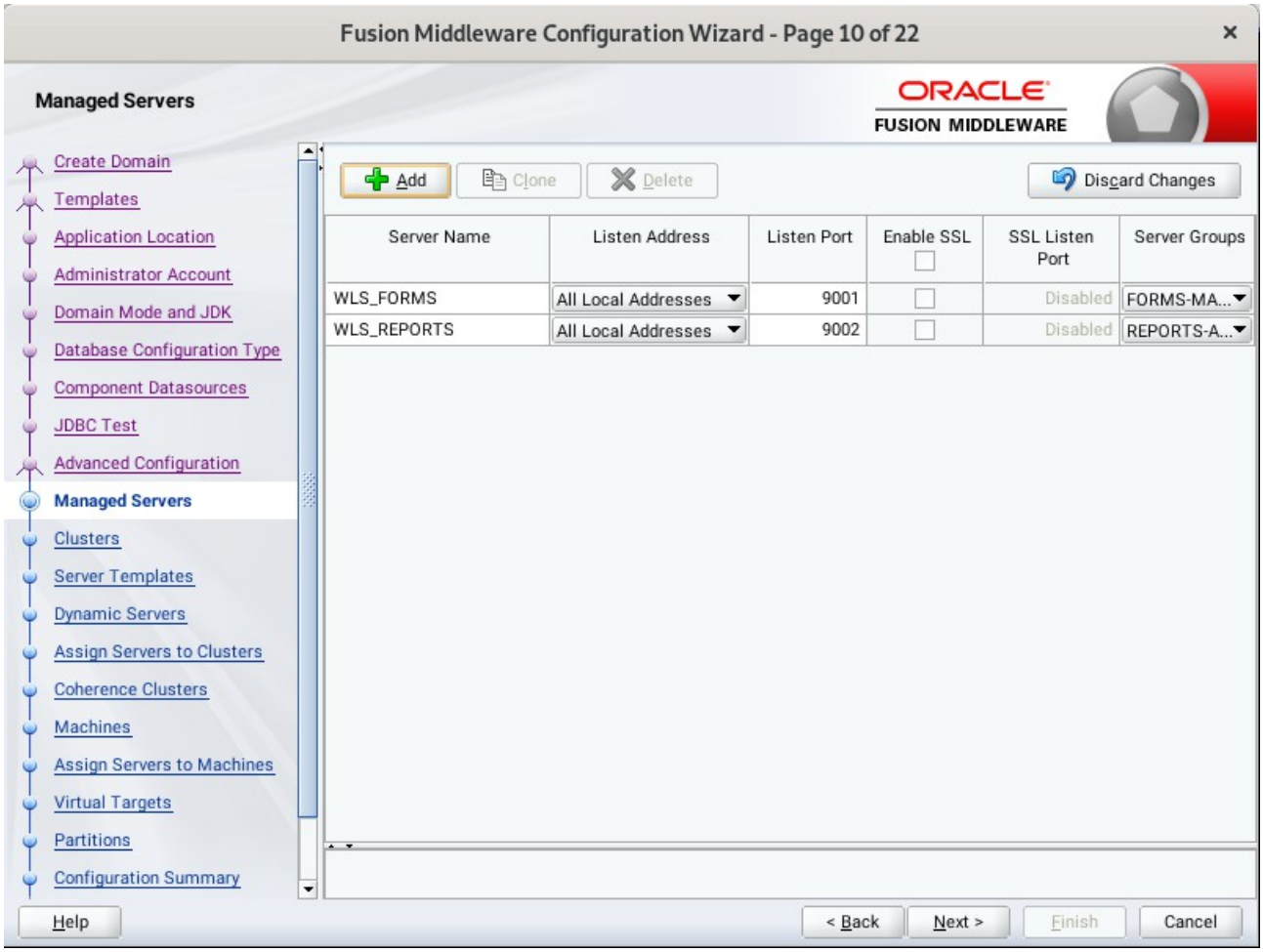
The tests are run and the results given. Ensure all test results are successful.Click **Next** to continue.

9). The **Advanced Configuration** screen appears.



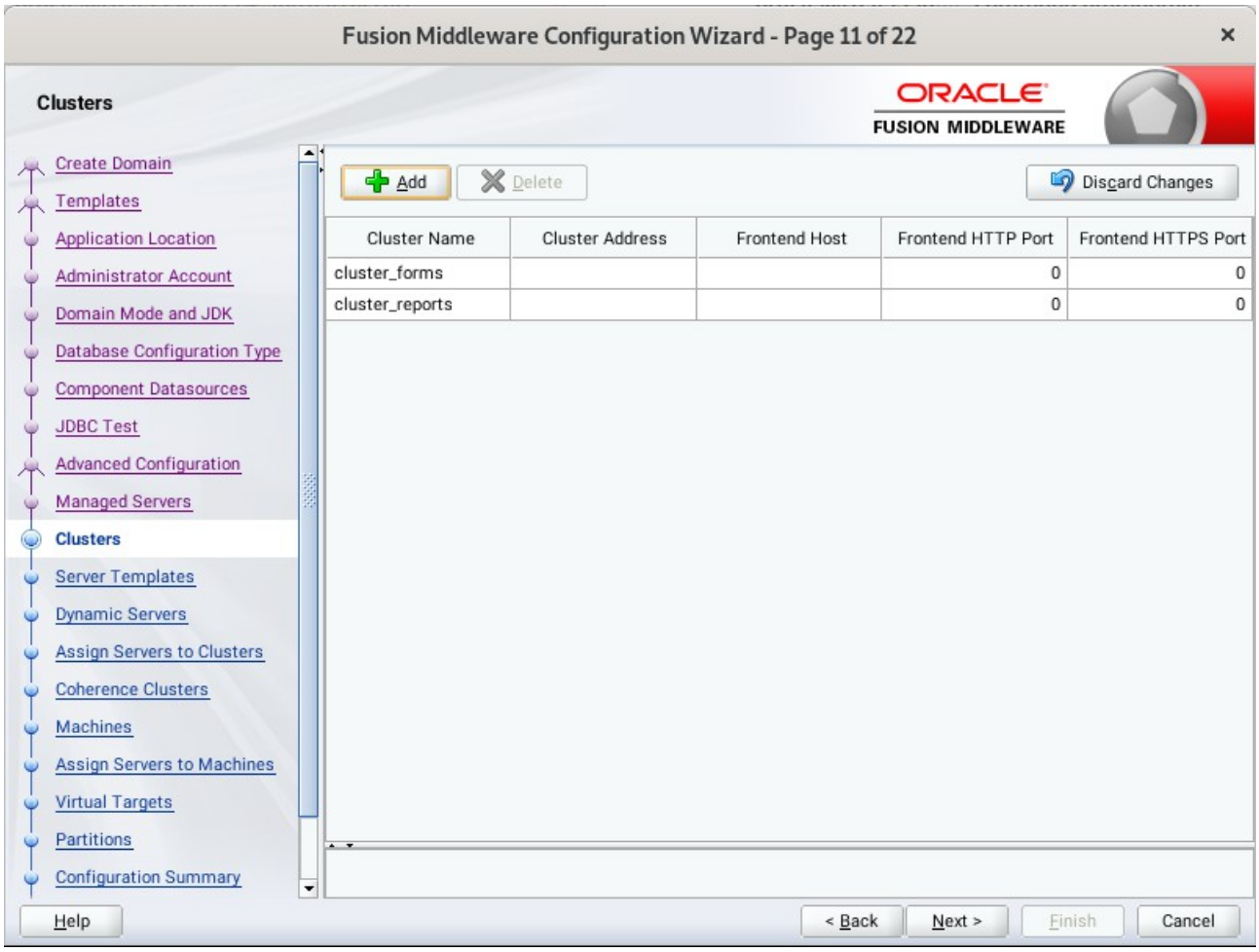
Select **Topology** and **System Components**. Click **Next** to continue.

10). The **Managed Servers** screen appears.



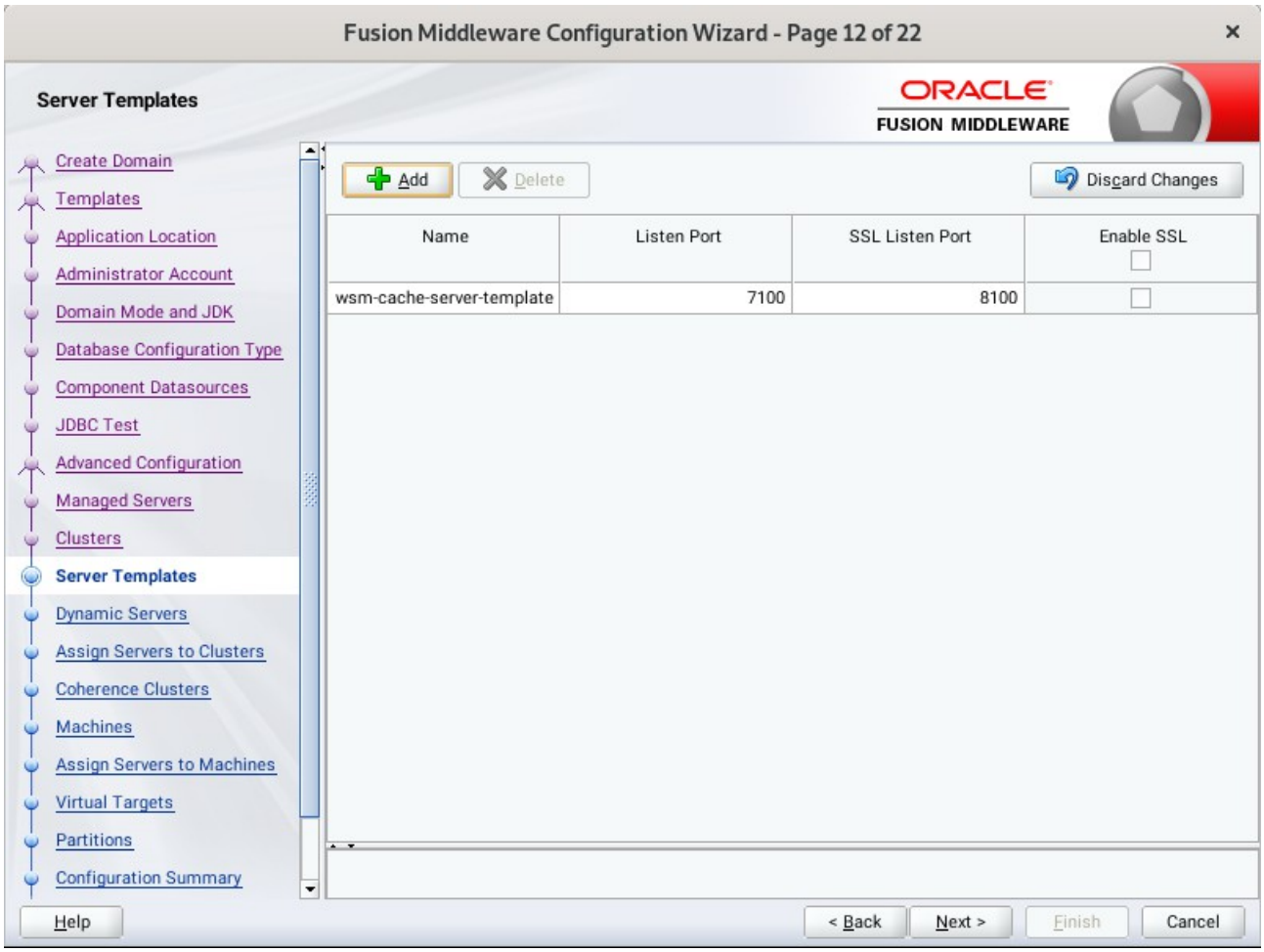
Verify that the Server Groups is set to FORMS-MAN-SVR (for Forms) and REPORTS-APP-SERVERS (for Reports). The Listen address is All Local Addresses. Click **Next** to continue.

11). The **Clusters screen** appears.



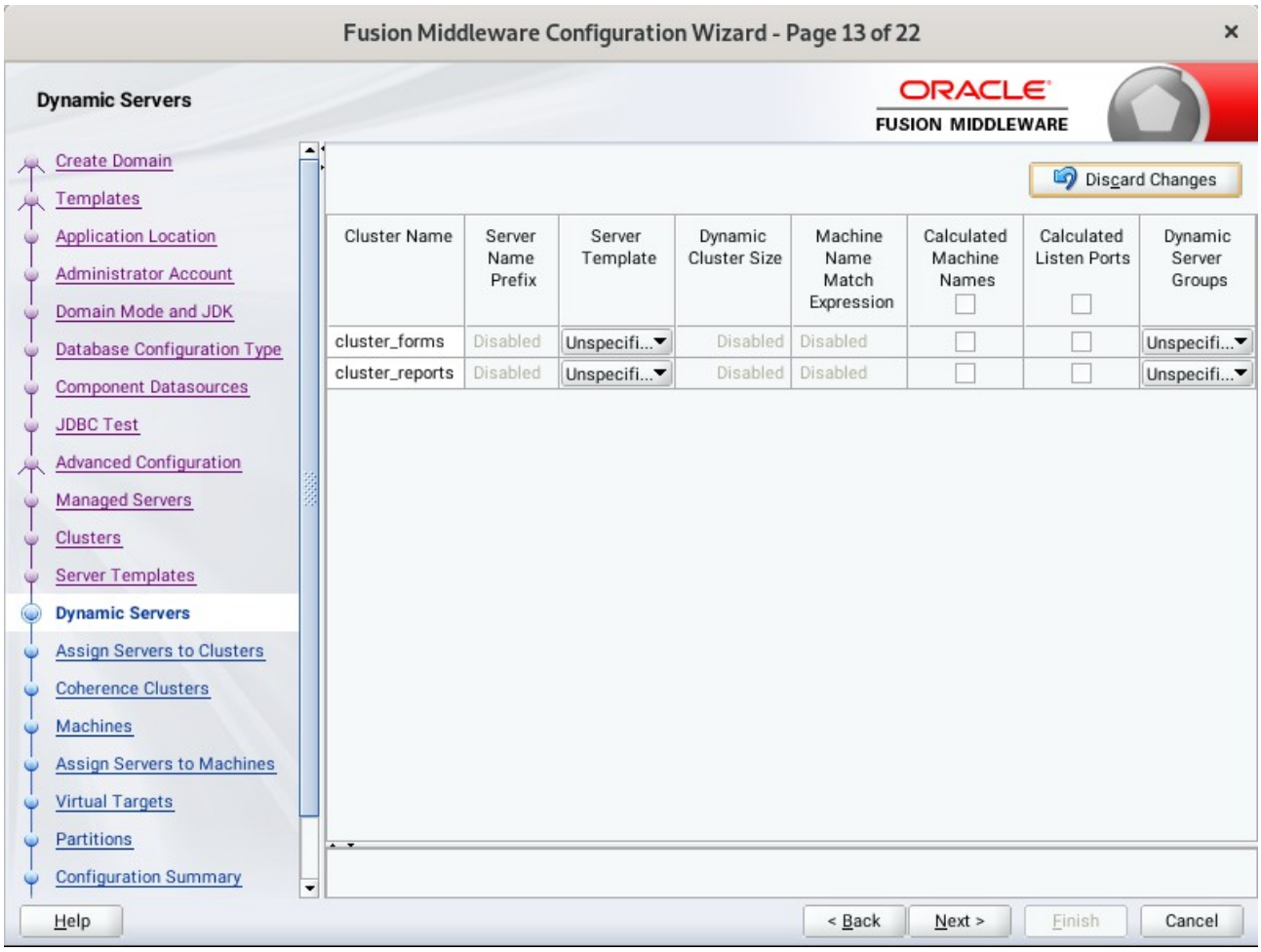
Default entries will be acceptable in most cases, unless adding new clusters is desirable. Click **Next** to continue.

12). Then **Server Templates** screen appears.



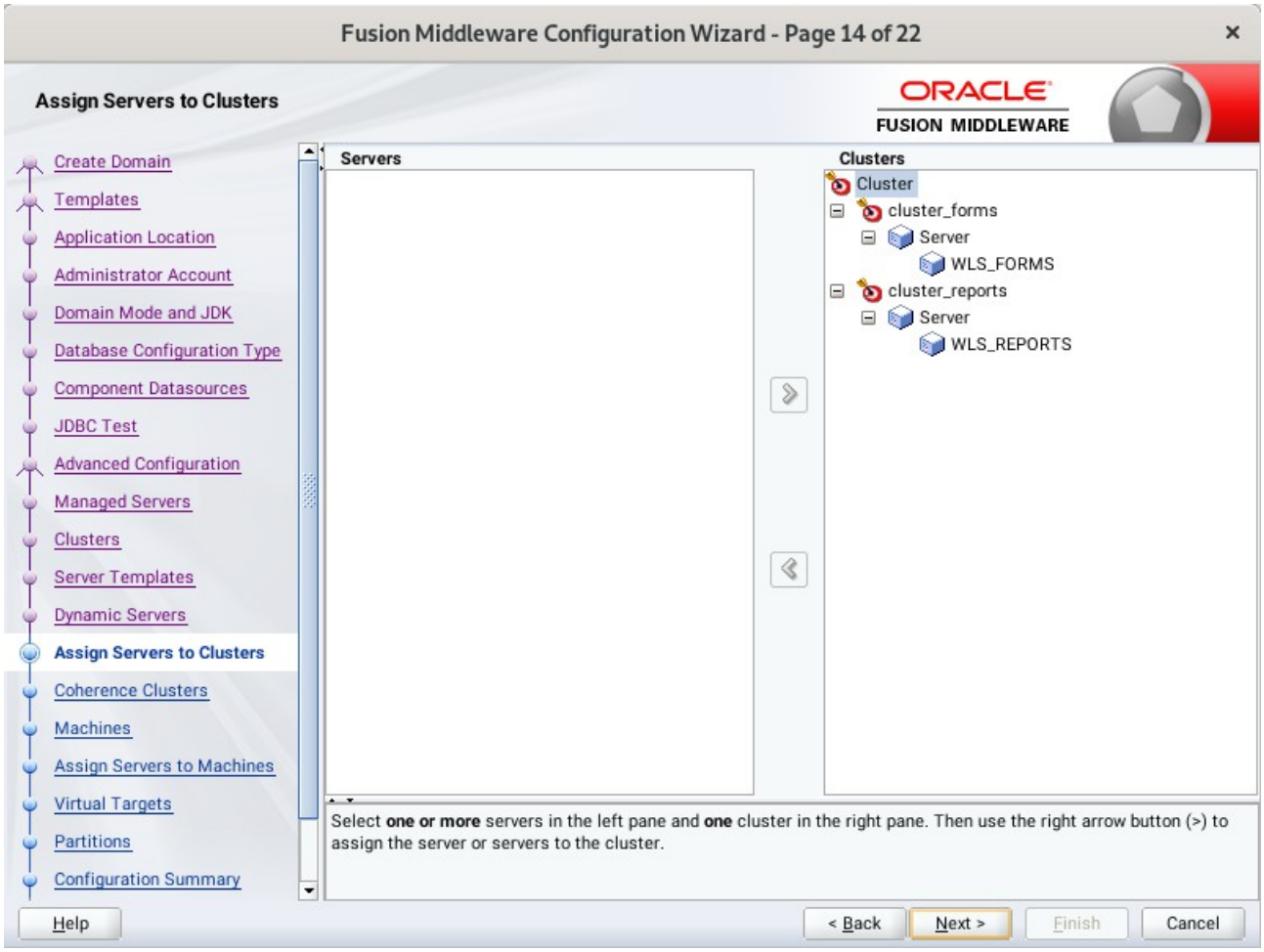
The default values will be appropriate for most cases. Click **Next** to continue.

13). The **Dynamic Servers** screen appears.



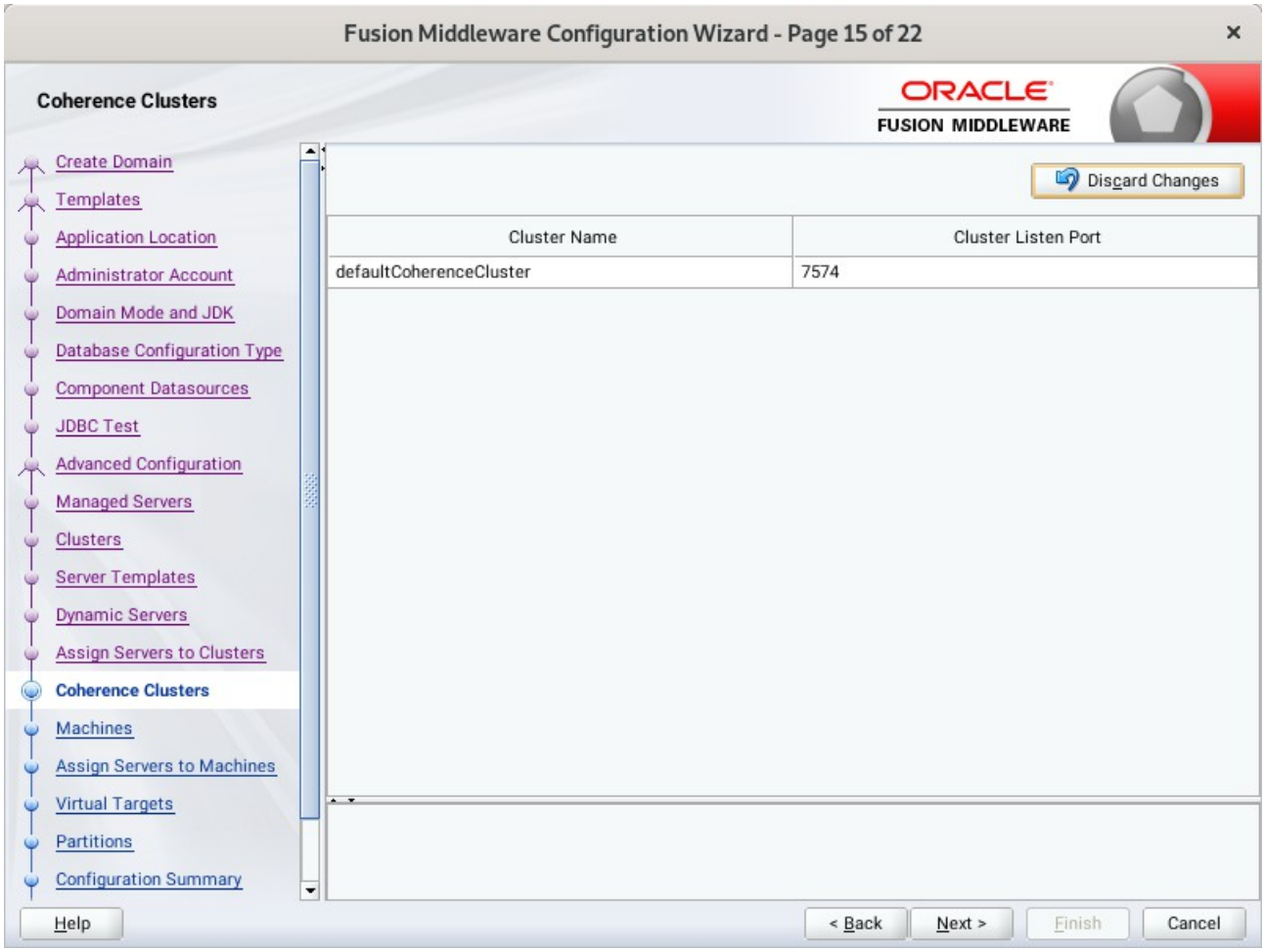
The default values will be appropriate for most cases. Click **Next** to continue.

14). The **Assign Servers to Clusters** screen appears.



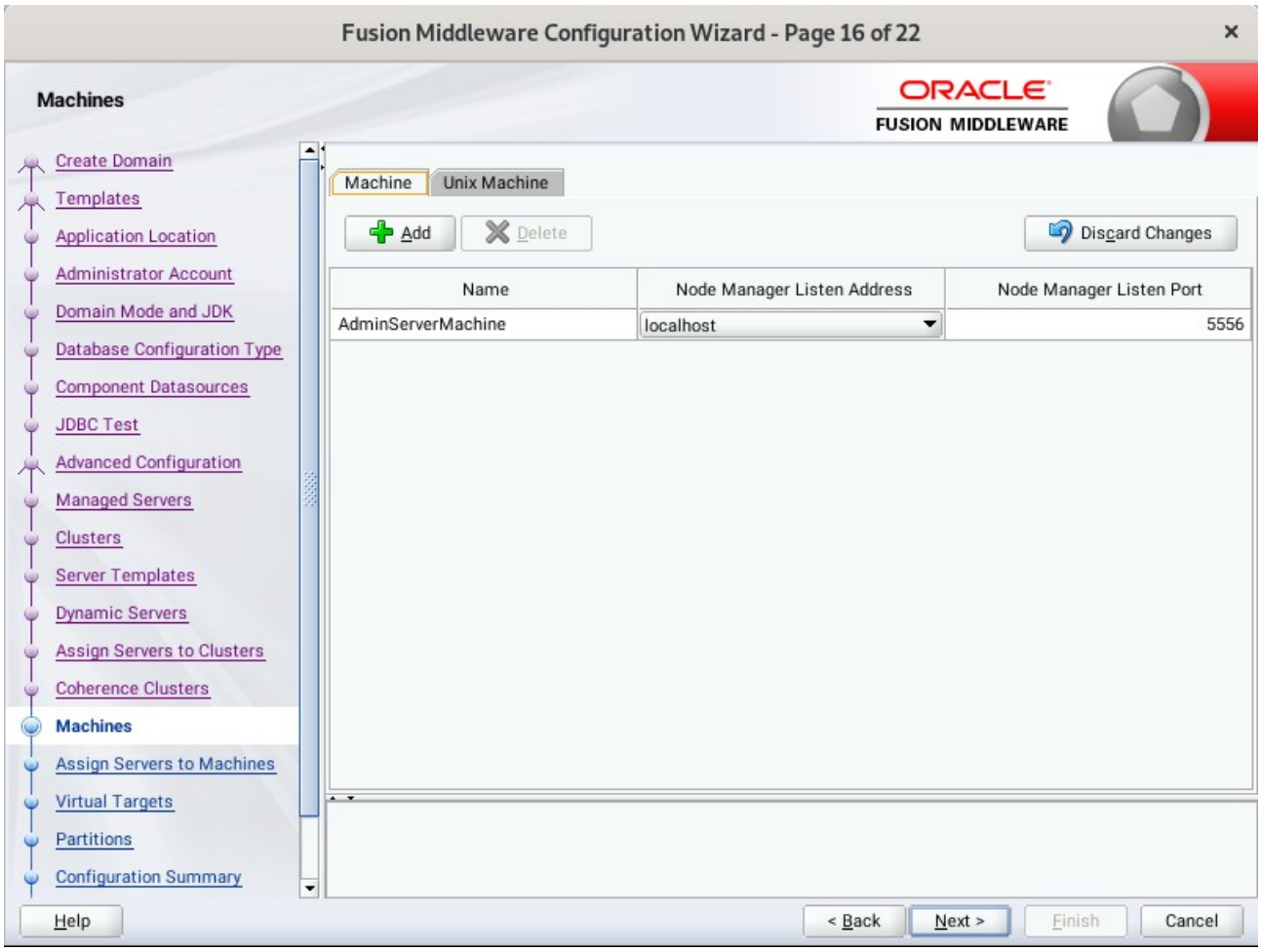
The default values will be appropriate for most cases. However, if new managed servers were added in the previous step, they should be added to the cluster here. Click **Next** to continue.

15). The **Coherence Clusters** screen appears.



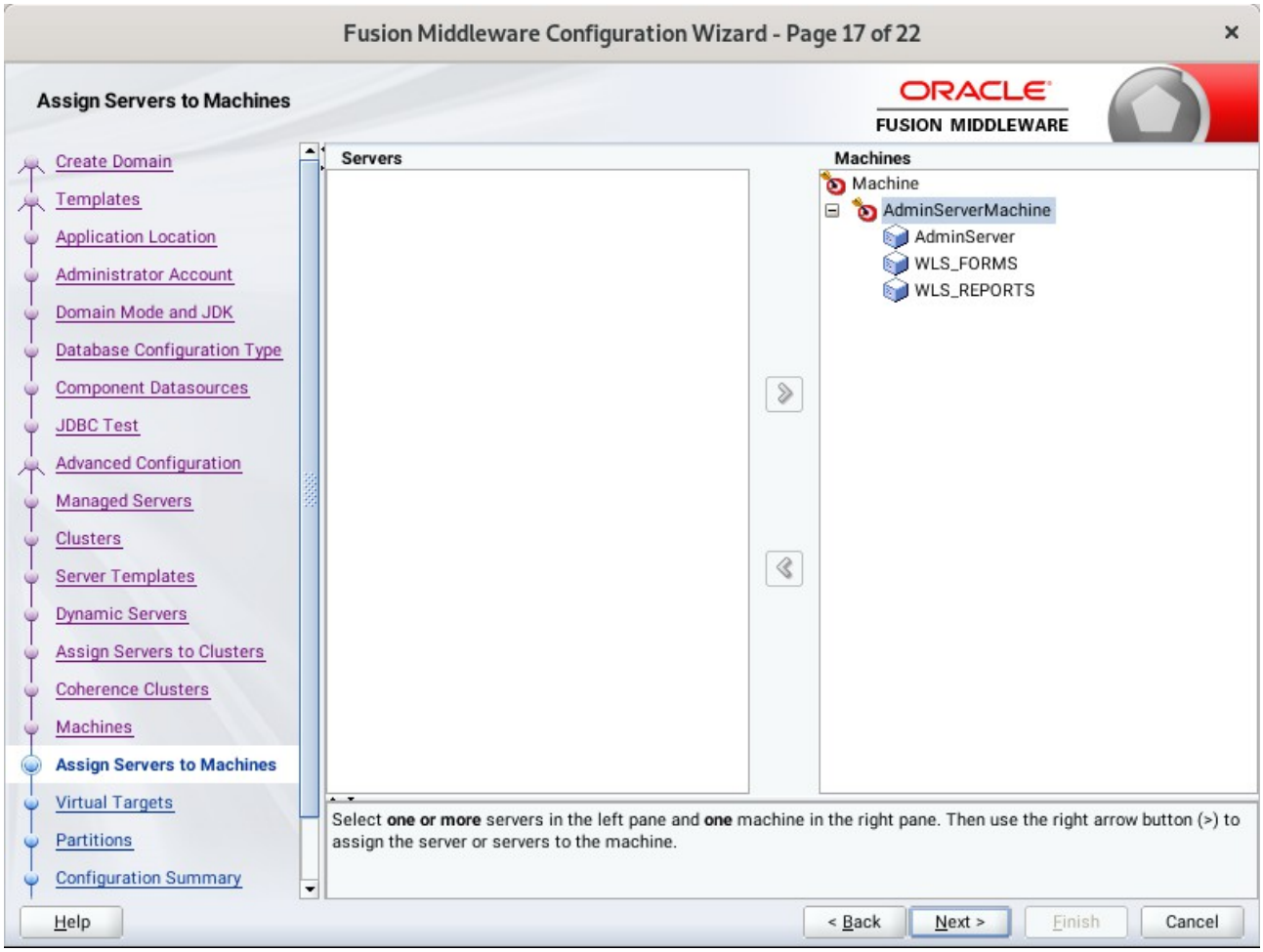
The default values will be appropriate for most cases. Click **Next** to continue.

16). The **Machines** screen appears.



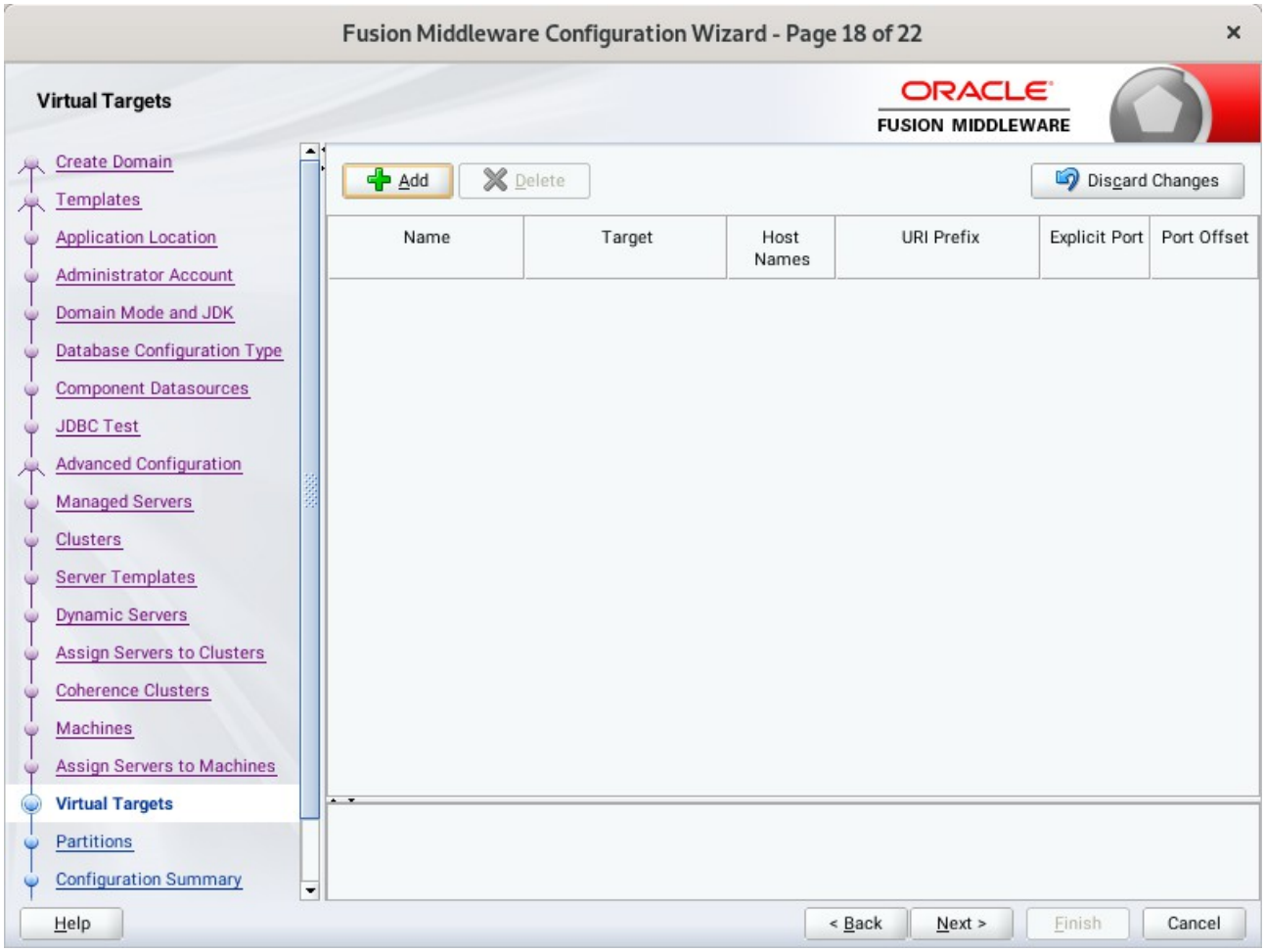
You can use this screen to override the machine name or add addition Machine names for extend domain. Click **Next** to continue.

17). The **Assign Servers to Machines** screen appears.



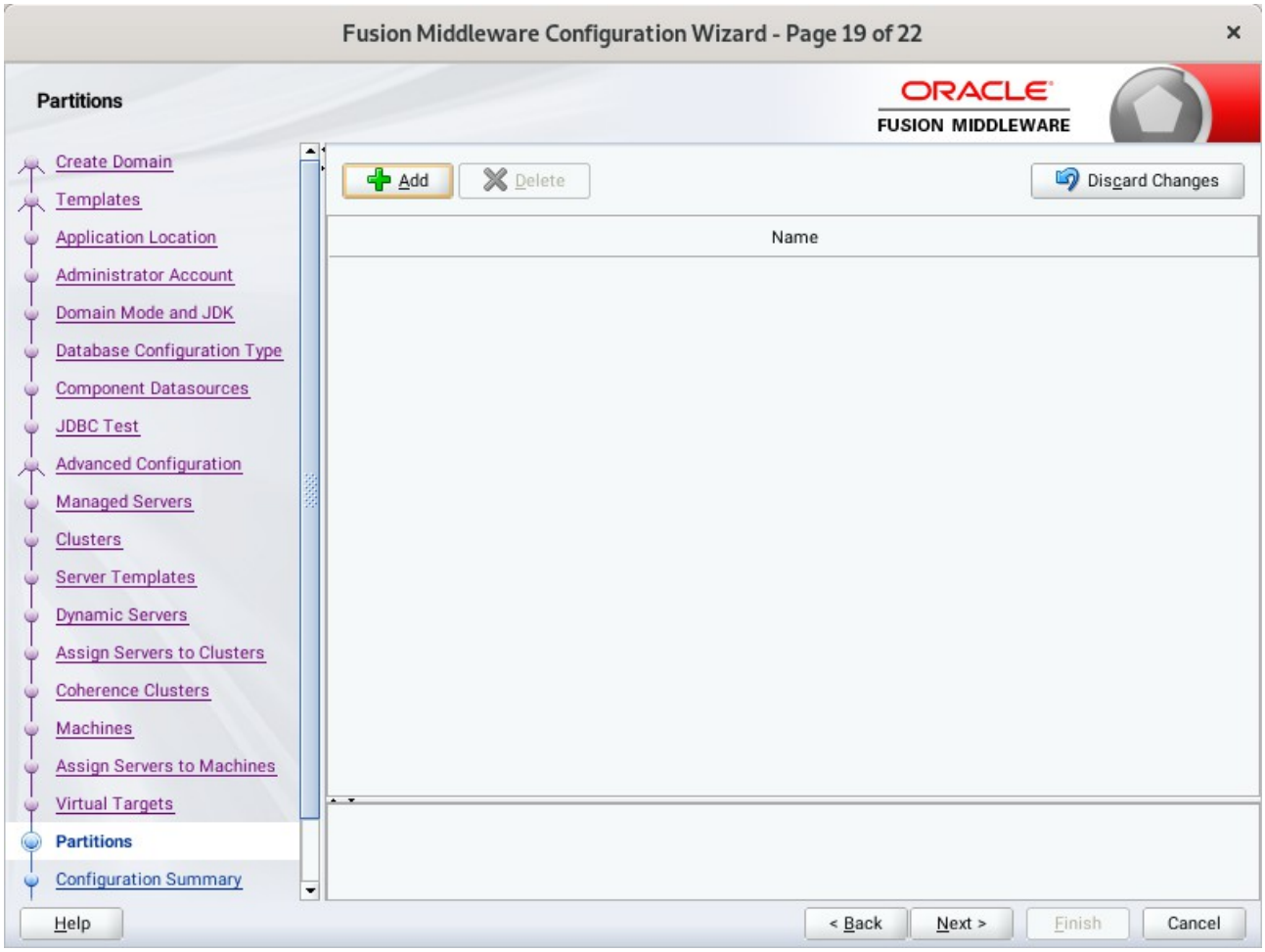
Move the AdminServer to the AdminServerMachine by clicking the '**>**' button. Click **Next** to continue.

18). The **Virtual Targets** screen appears.



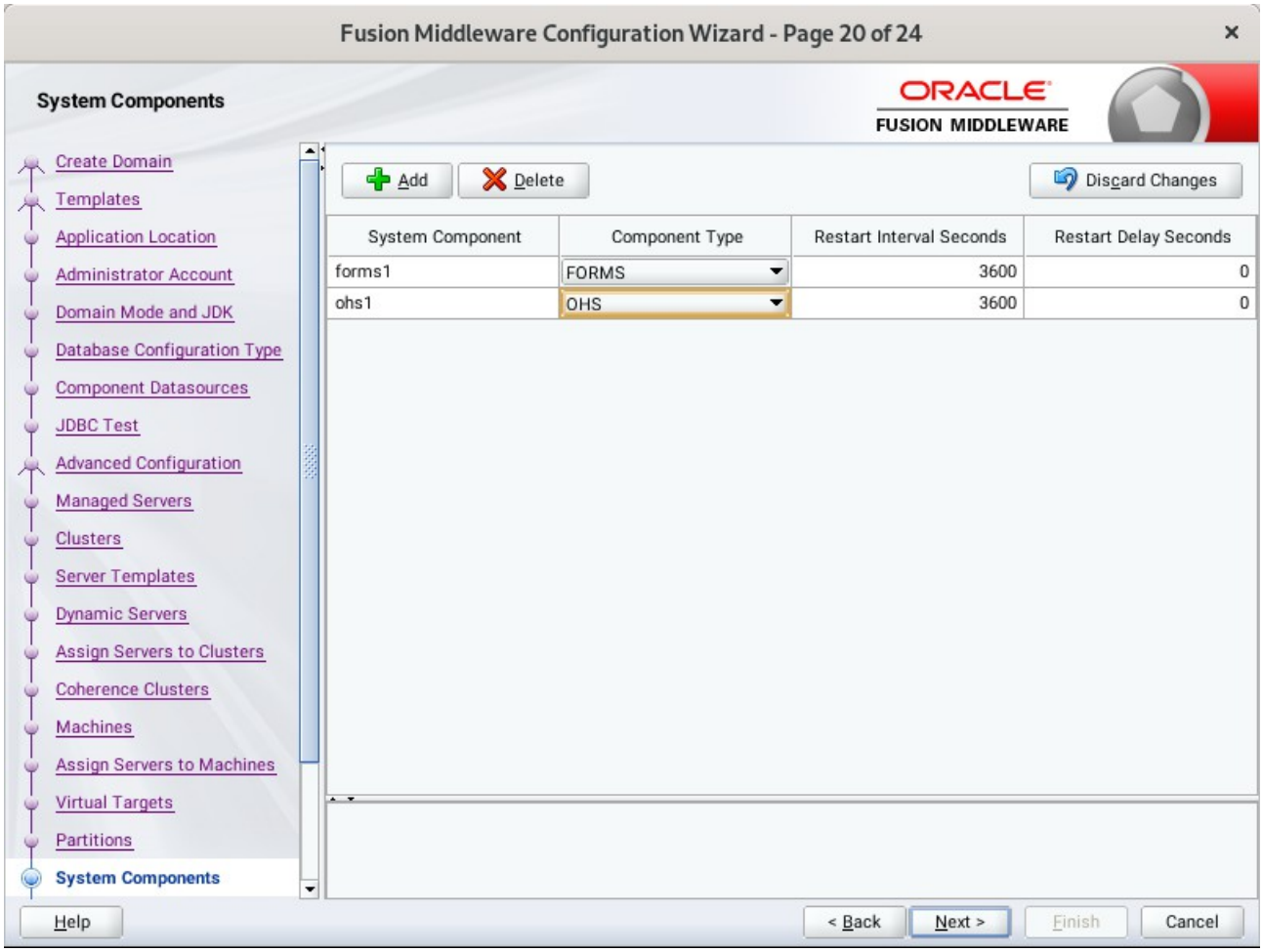
Used with WebLogic Server Partitions. Refer to the WebLogic Server documentation for details. Click **Next** to continue.

19). The **Partitions** screen appears.



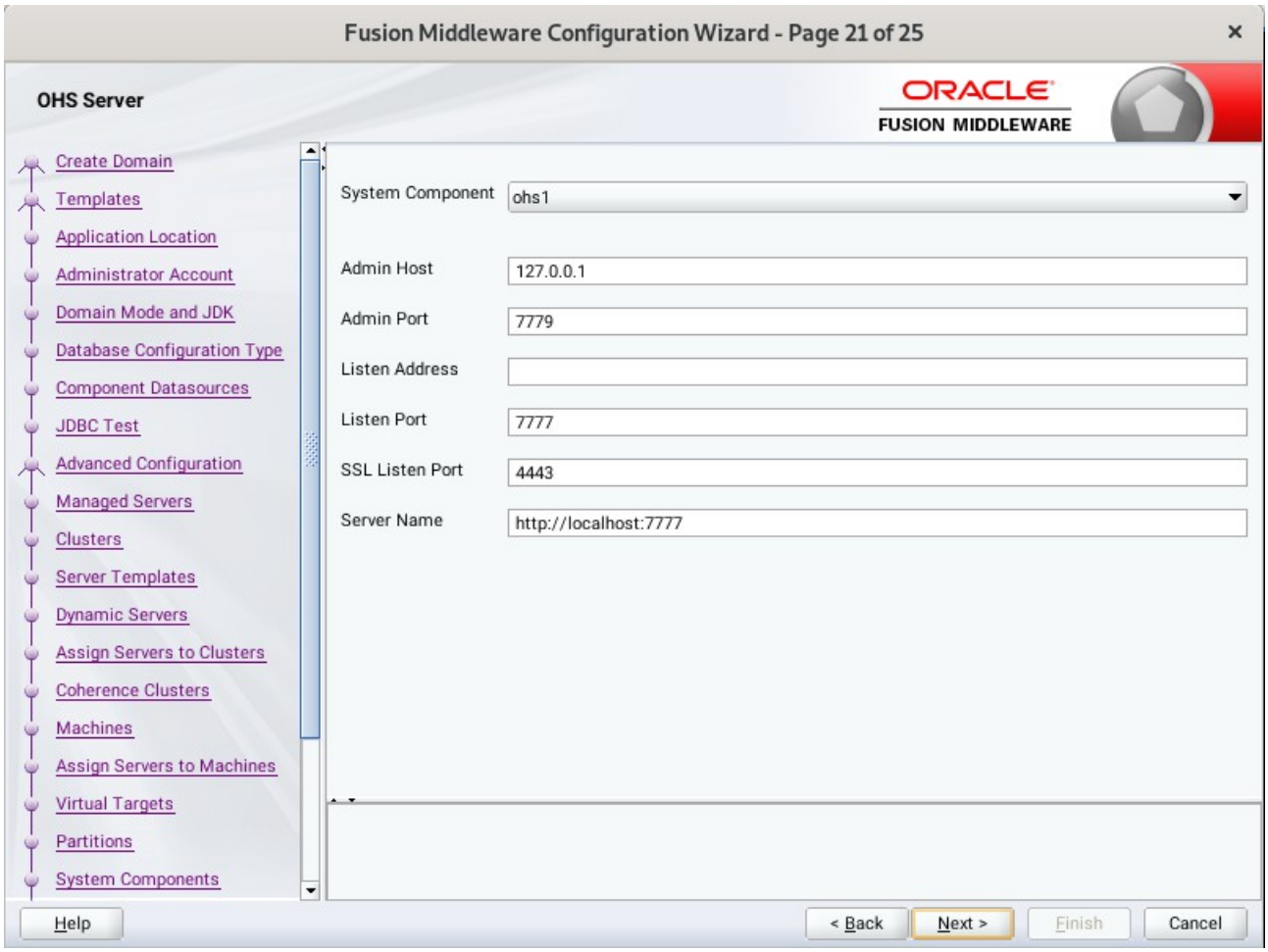
The Partitions screen appears. Use this screen to add Weblogic Partitions if desired. Refer to the WebLogic Server documentation for details on how to use Partitions. Click **Next** to continue.

20). The **System Components** screen appears.



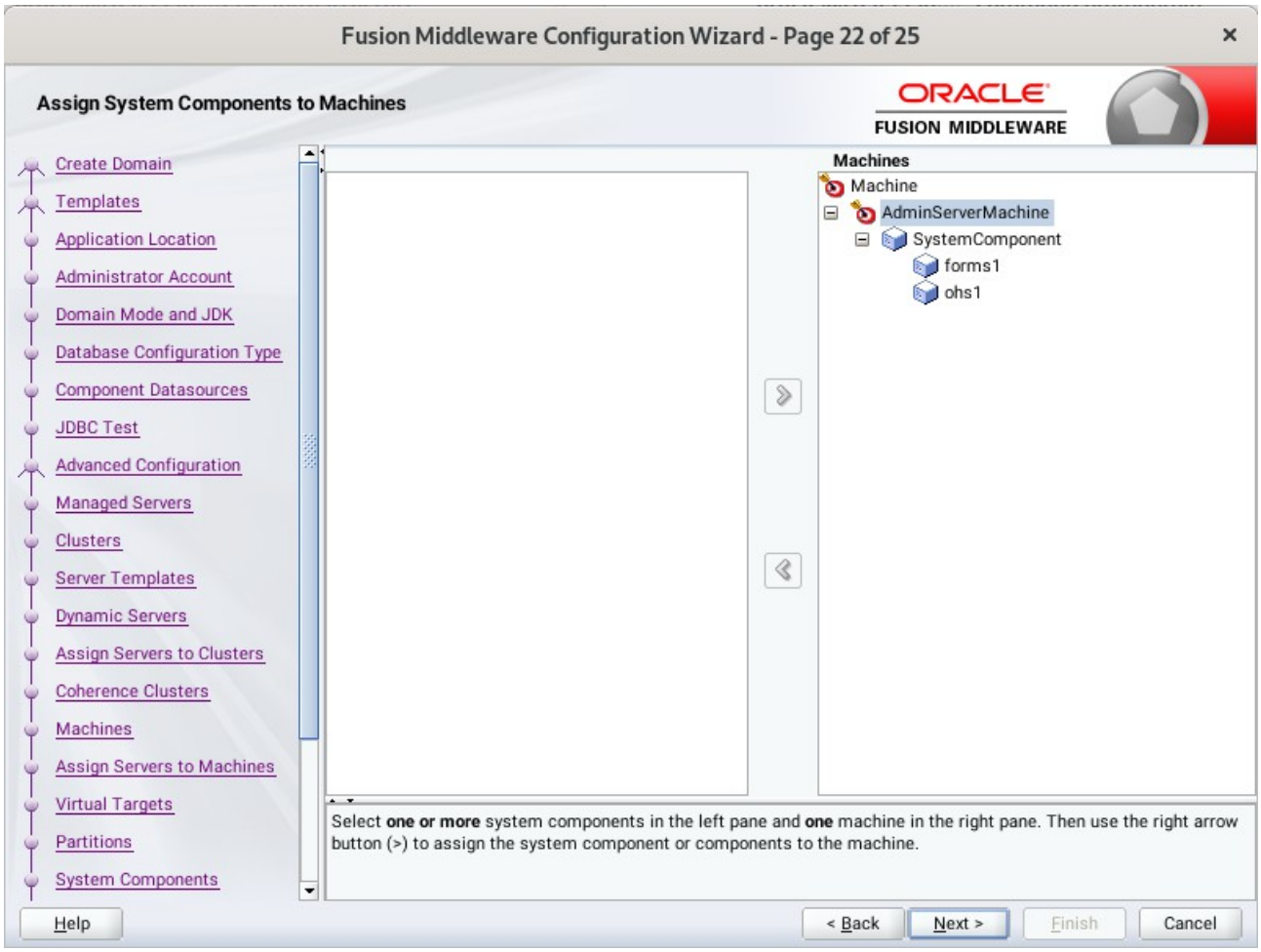
The default values will be appropriate for most cases. You can add additional System Component instances on this screen (for extend domain scenario). If adding OHS, it would appear here. Click **Next** to continue.

21). The **OHS Server** screen appears.



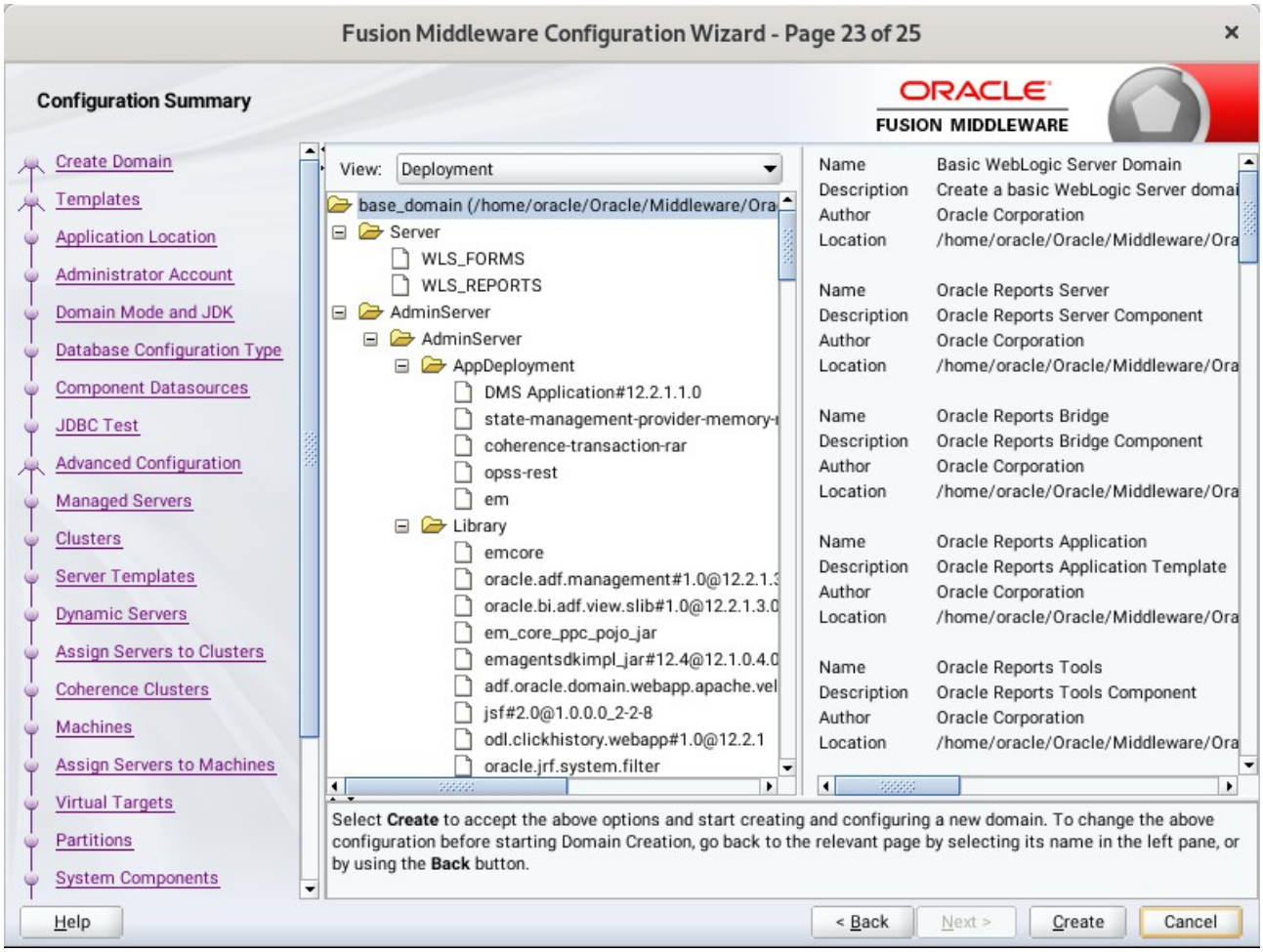
The default values will be appropriate for most cases. Click **Next** to continue.

22). The **Assign System Components** screen appears.



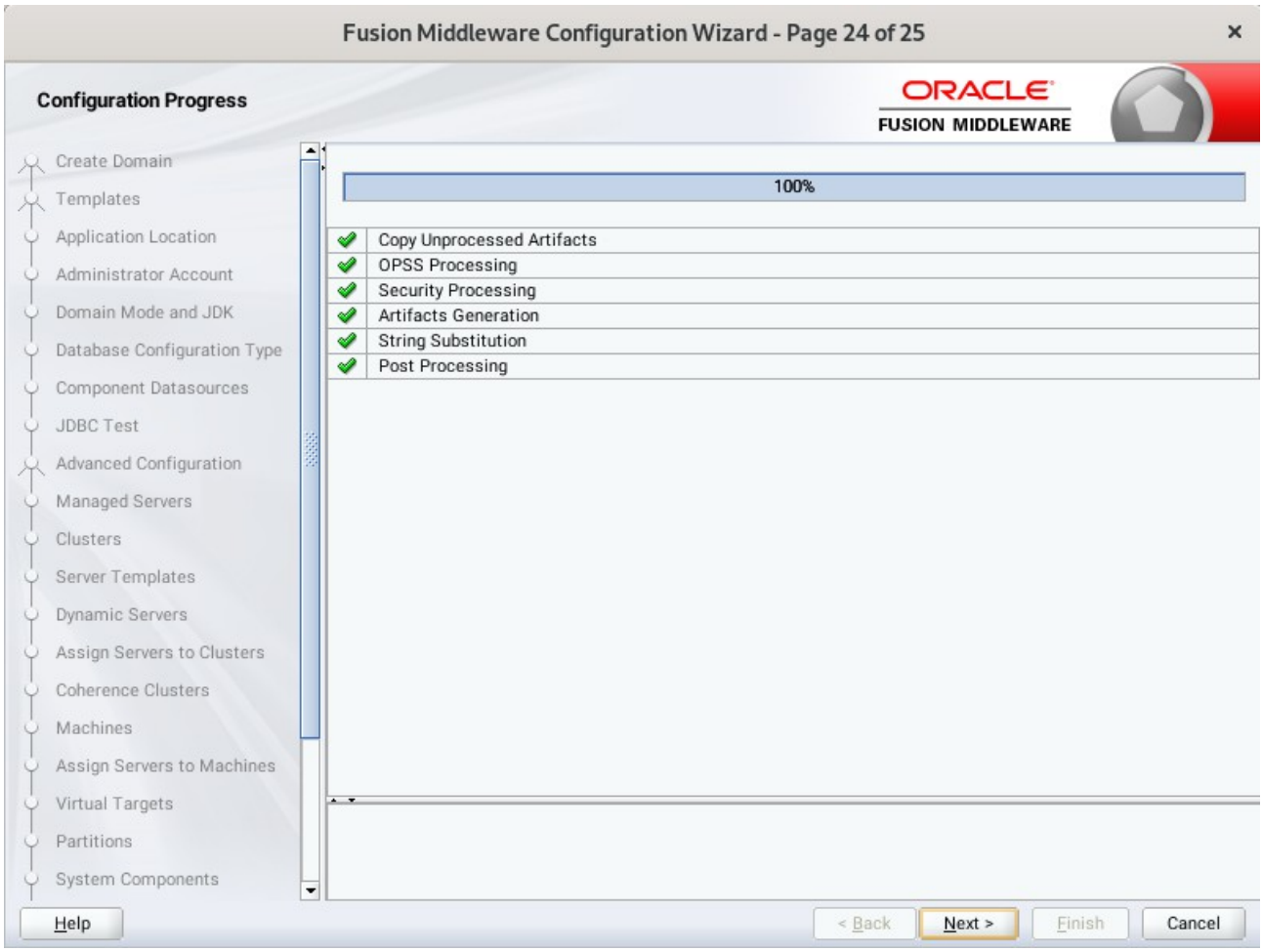
The default values will be appropriate for most cases. Click **Next** to continue.

23). The **Configuration Summary** screen appears.



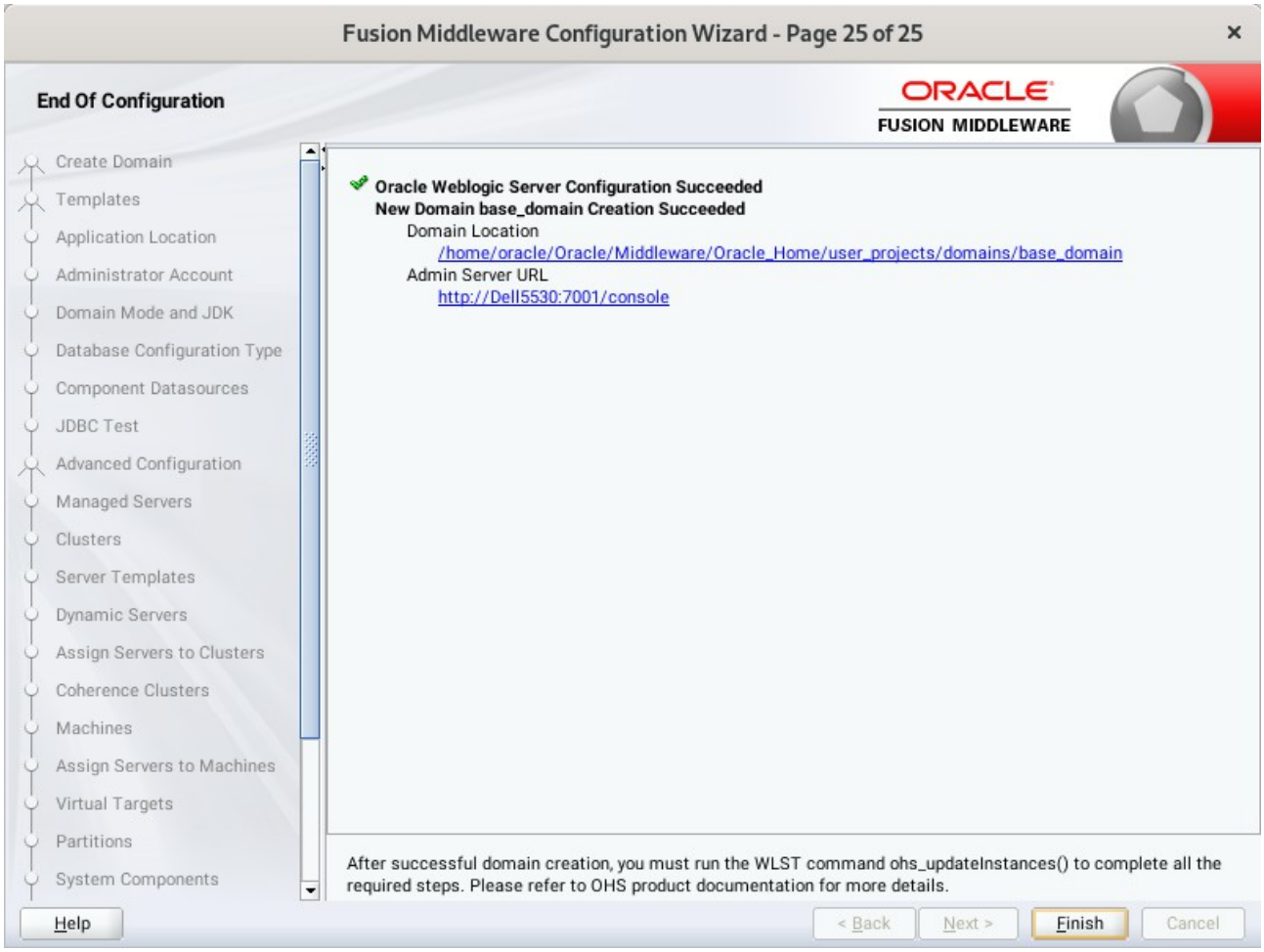
Select **Create** to accept the above options and start creating and configuring a new domain.

24). The **Configuration Progress** screen appears.



Wait for this part of the configuration to complete. Depending on the location and performance of the Repository database, this process may take a few minutes. Click **Next** to continue.

25). The **End of Configuration** screen appears.



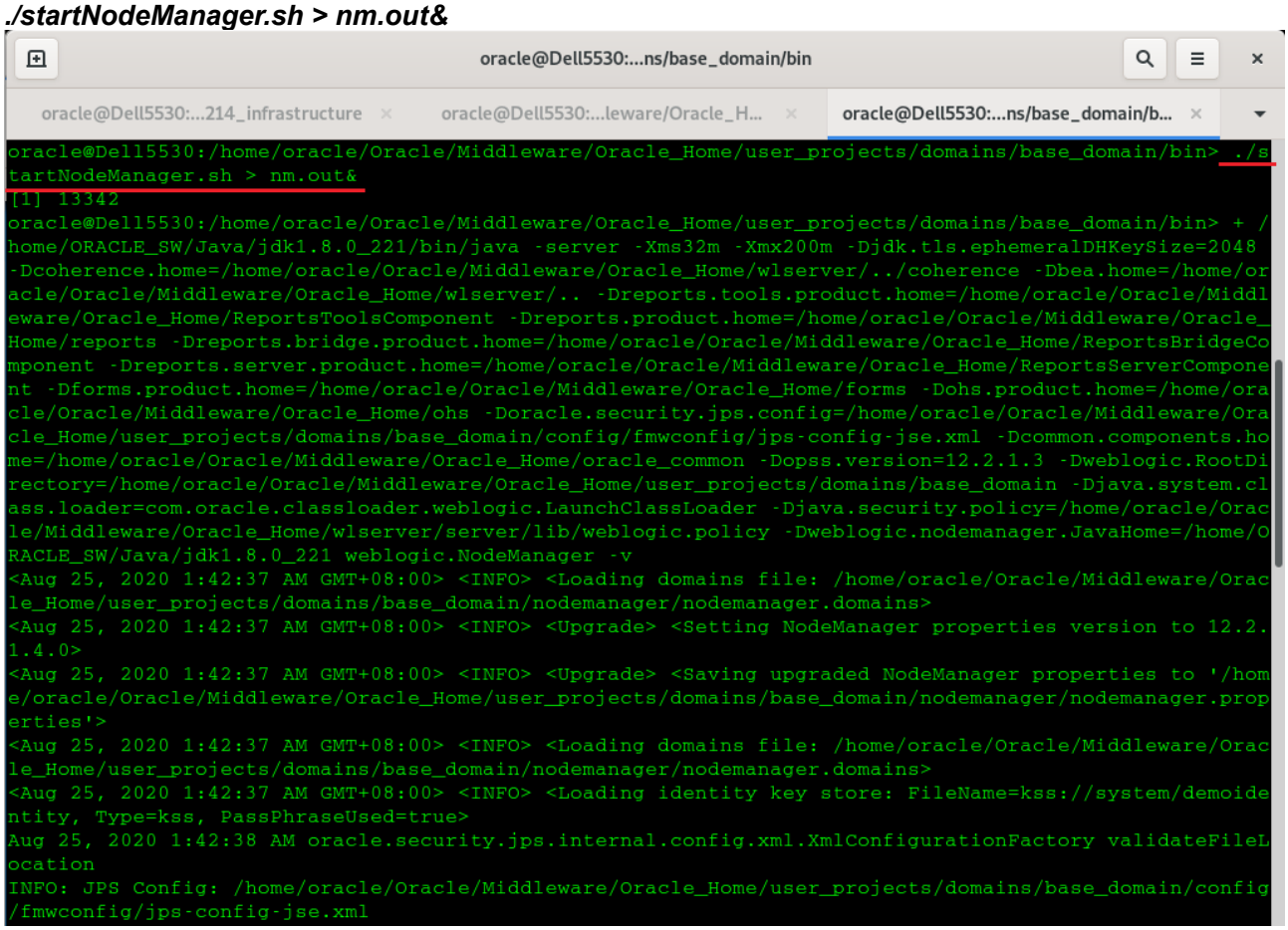
Once you see: "Oracle Weblogic Server Configuration Succeeded", record the '**Domain Location**' and '**Admin Server URL**', then click **Finish** to dismiss the Configuration Wizard.

4. Verifying Oracle Forms and Reports Installation and Configuration

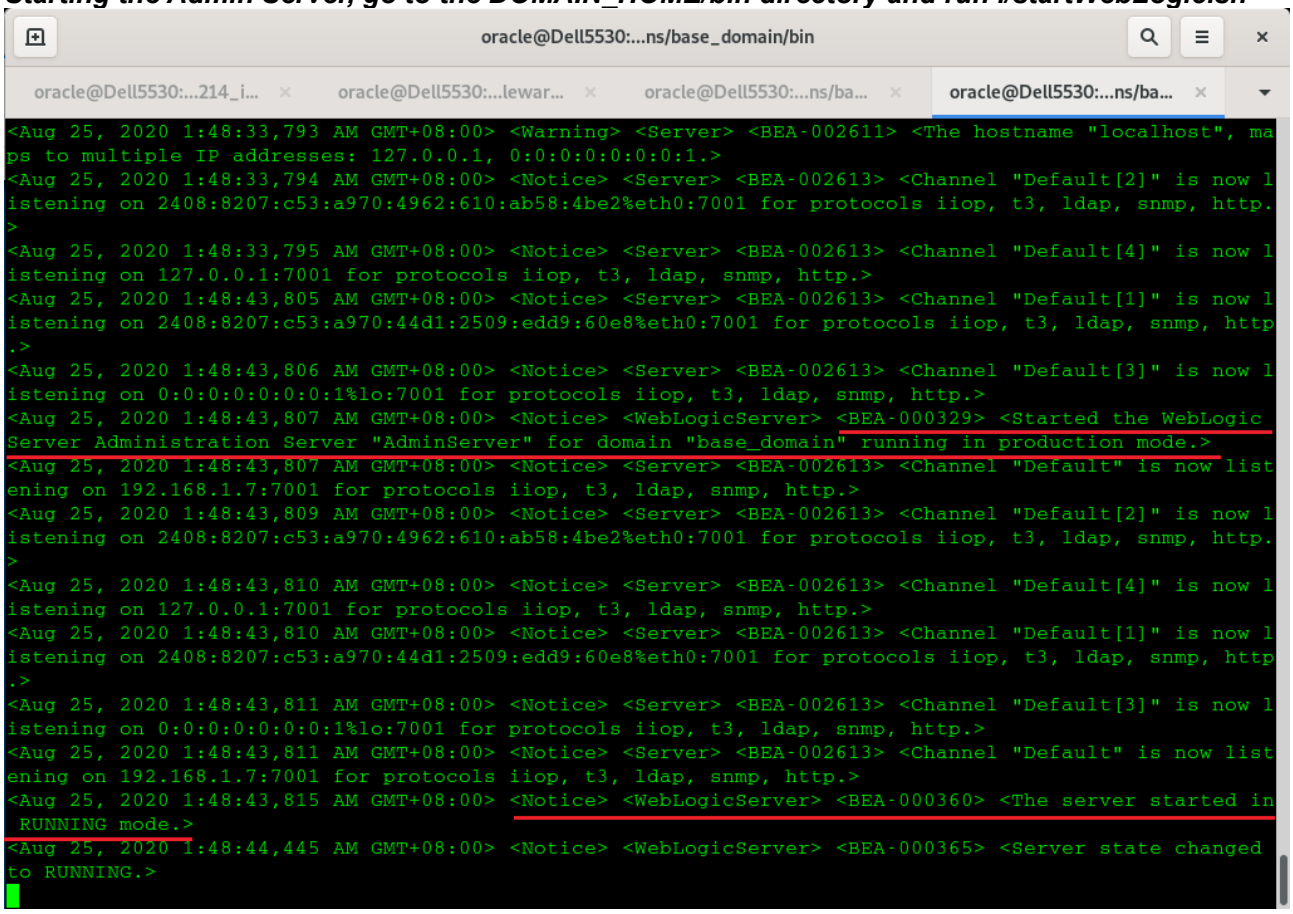
4-1. Check for the presence of installation log files in logs directory inside your Oracle Inventory directory. Also, check the domain server logs, which are located in the servers directory inside the domain home directory.

4-2. Starting the Node Manager and the AdminServer.

Starting the Node Manager, go to the DOMAIN_HOME/bin directory and run ./startNodeManager.sh > nm.out&



Starting the Admin Server, go to the DOMAIN_HOME/bin directory and run ./startWebLogic.sh



You know that the administrator server is running when you see the following output:

Server state changed to RUNNING.

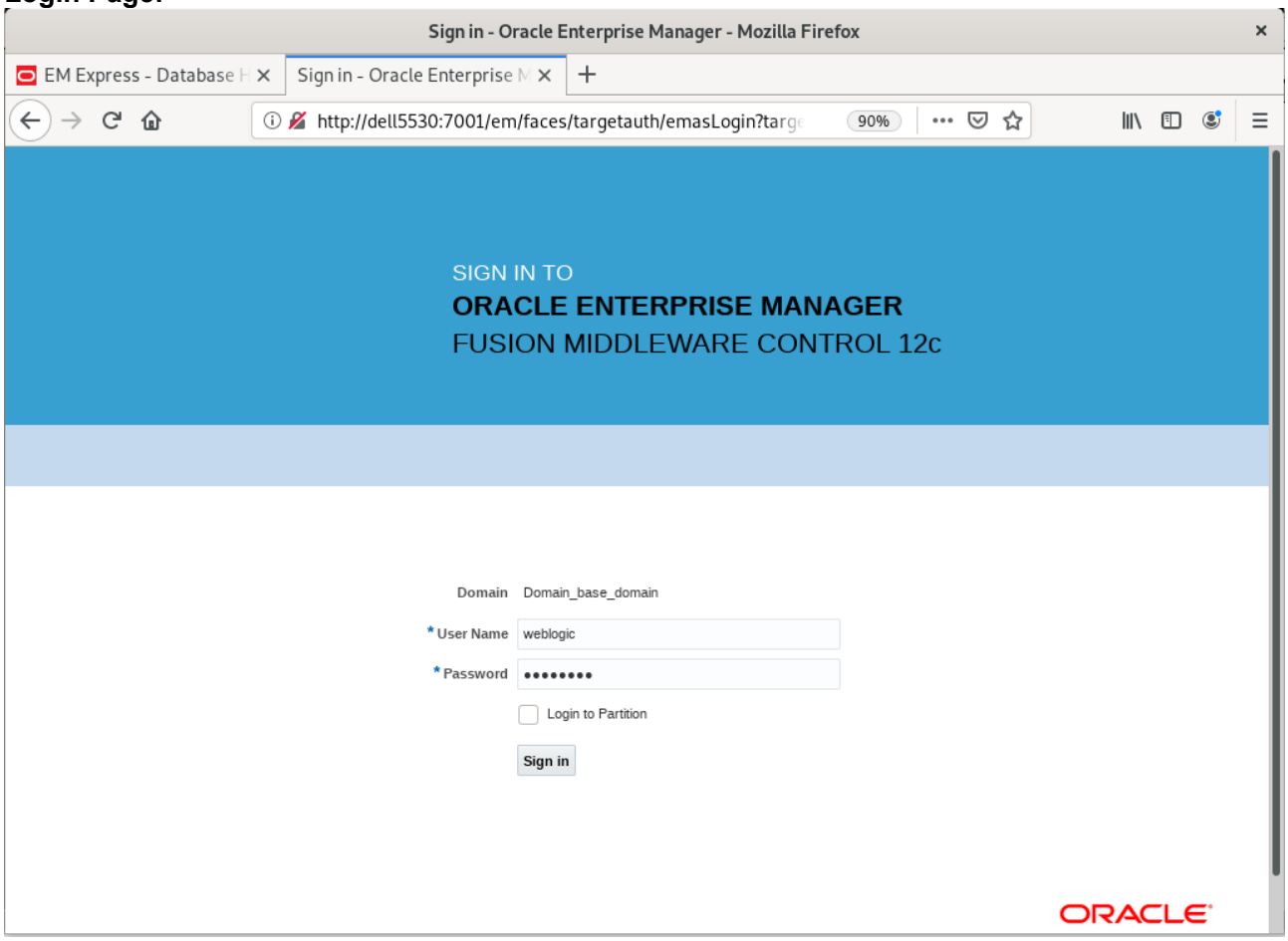
4-3. Verifying the Installed Products and Product Versions. Check the products and product version numbers by running the **opatch lsinventory -detail** command from the **ORACLE_HOME/OPatch** directory.

Confirmed that OPatch succeeded.

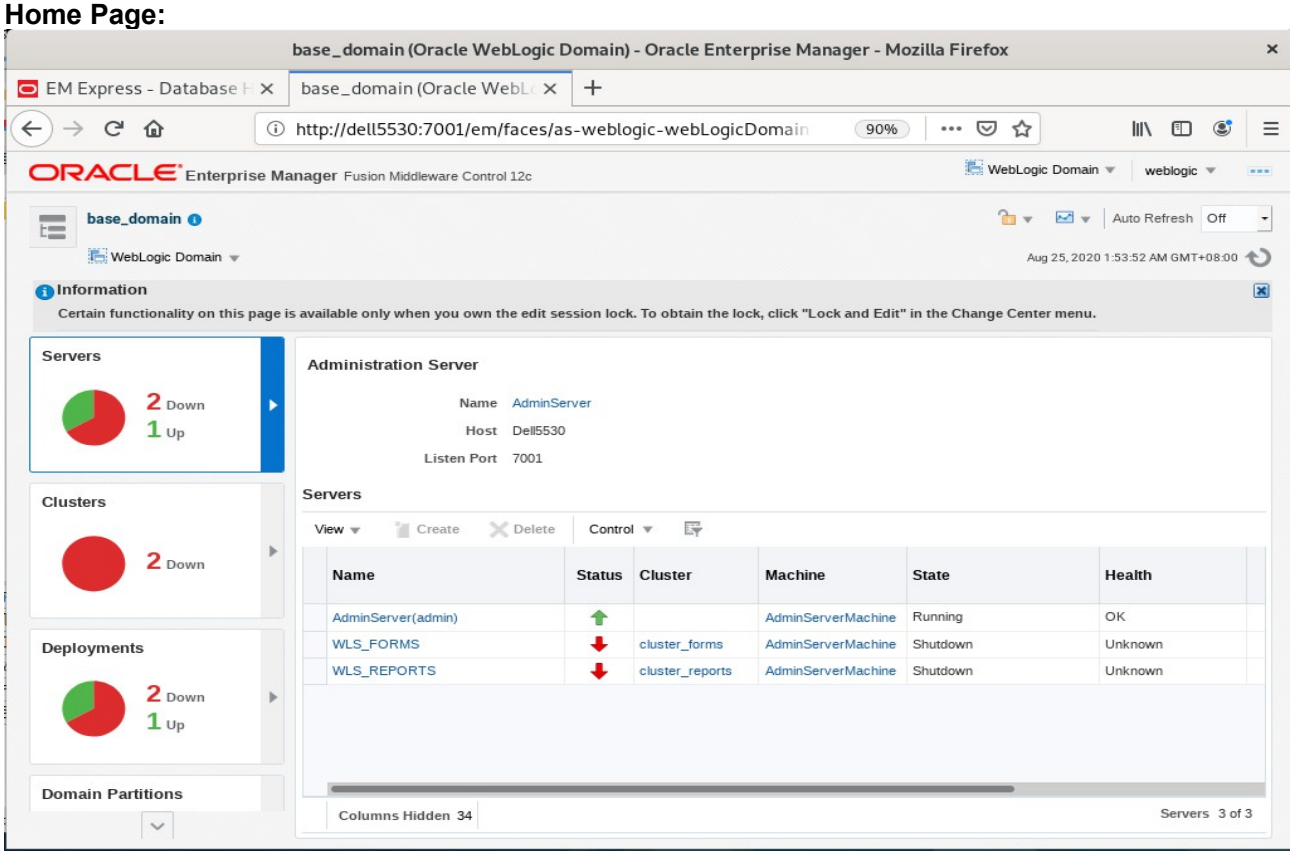
4-4. Checking Oracle Forms and Reports Product URLs.

1). Access to Enterprise Manager Console.

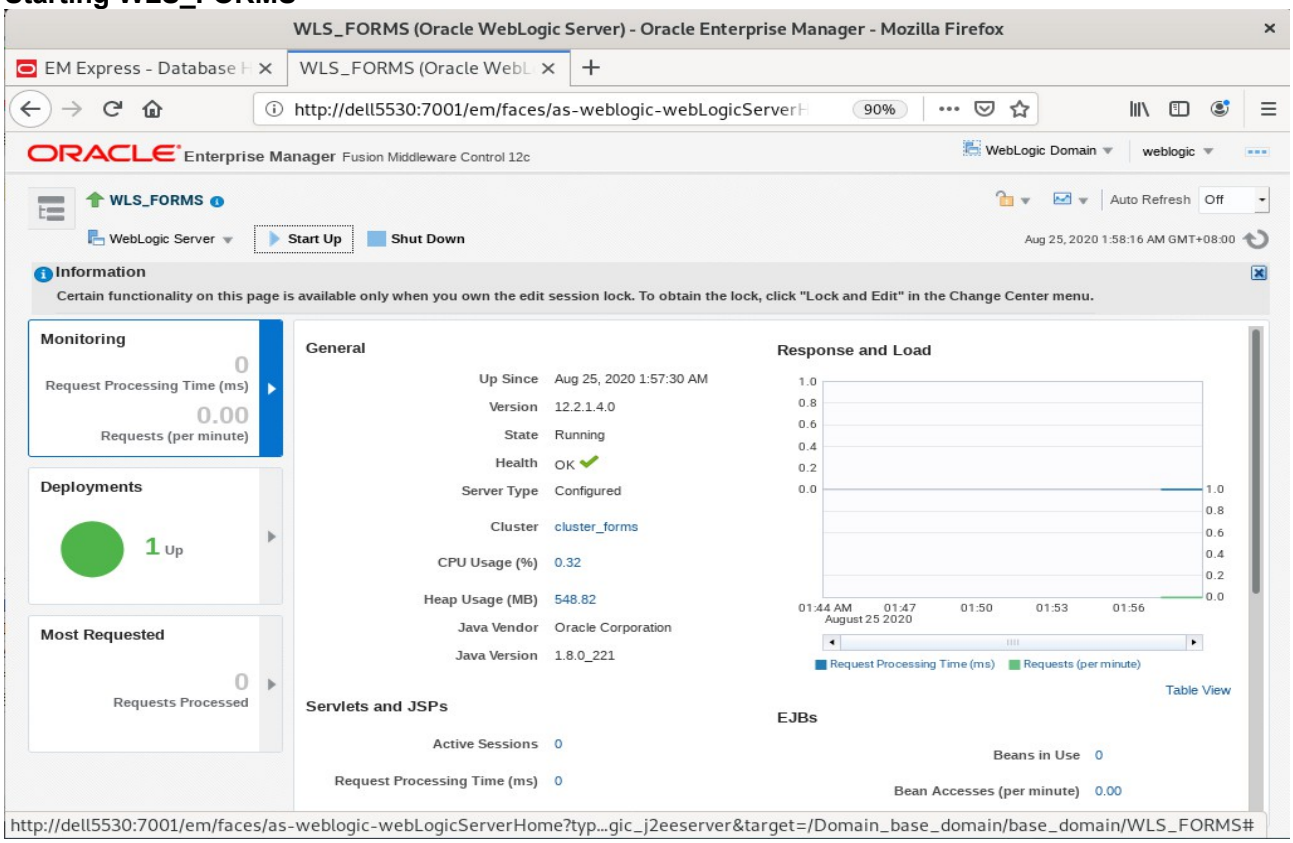
Login Page:



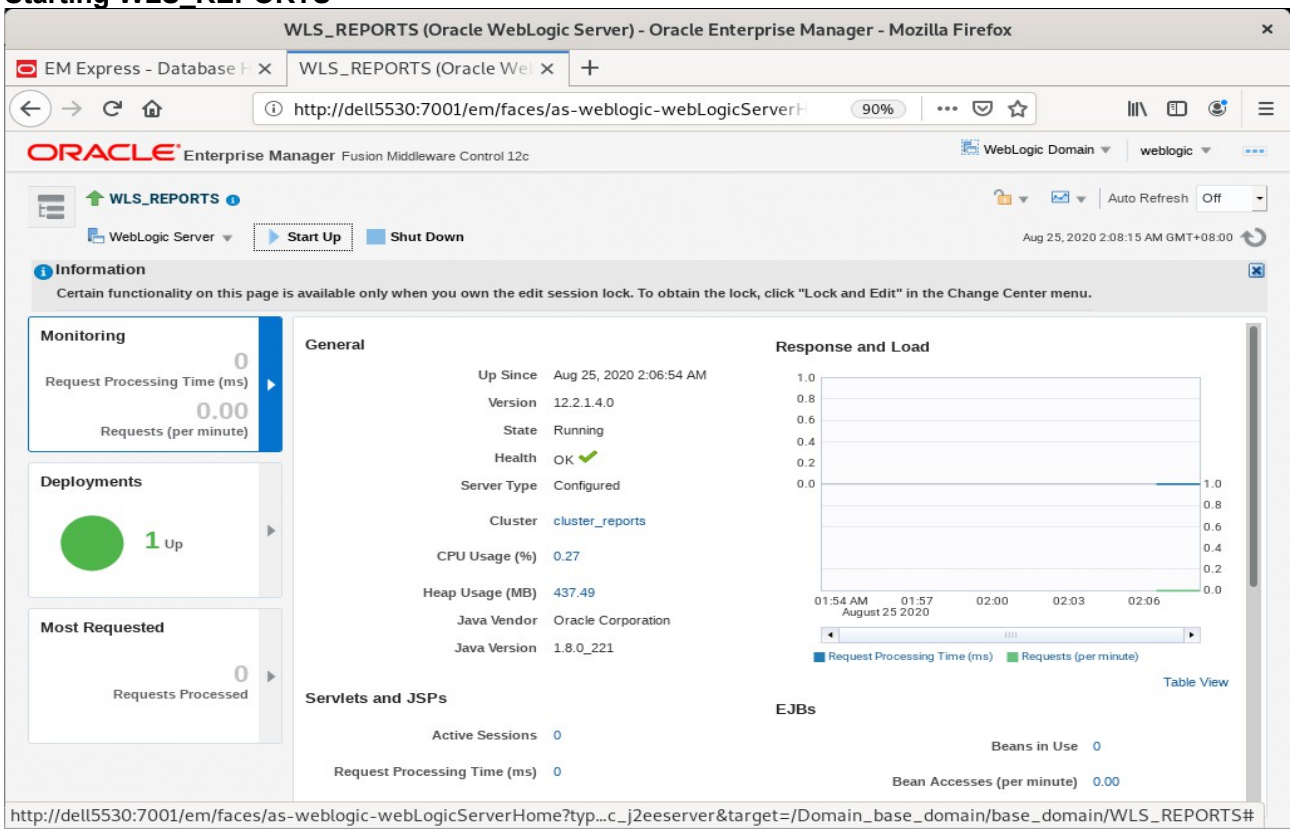
Home Page:



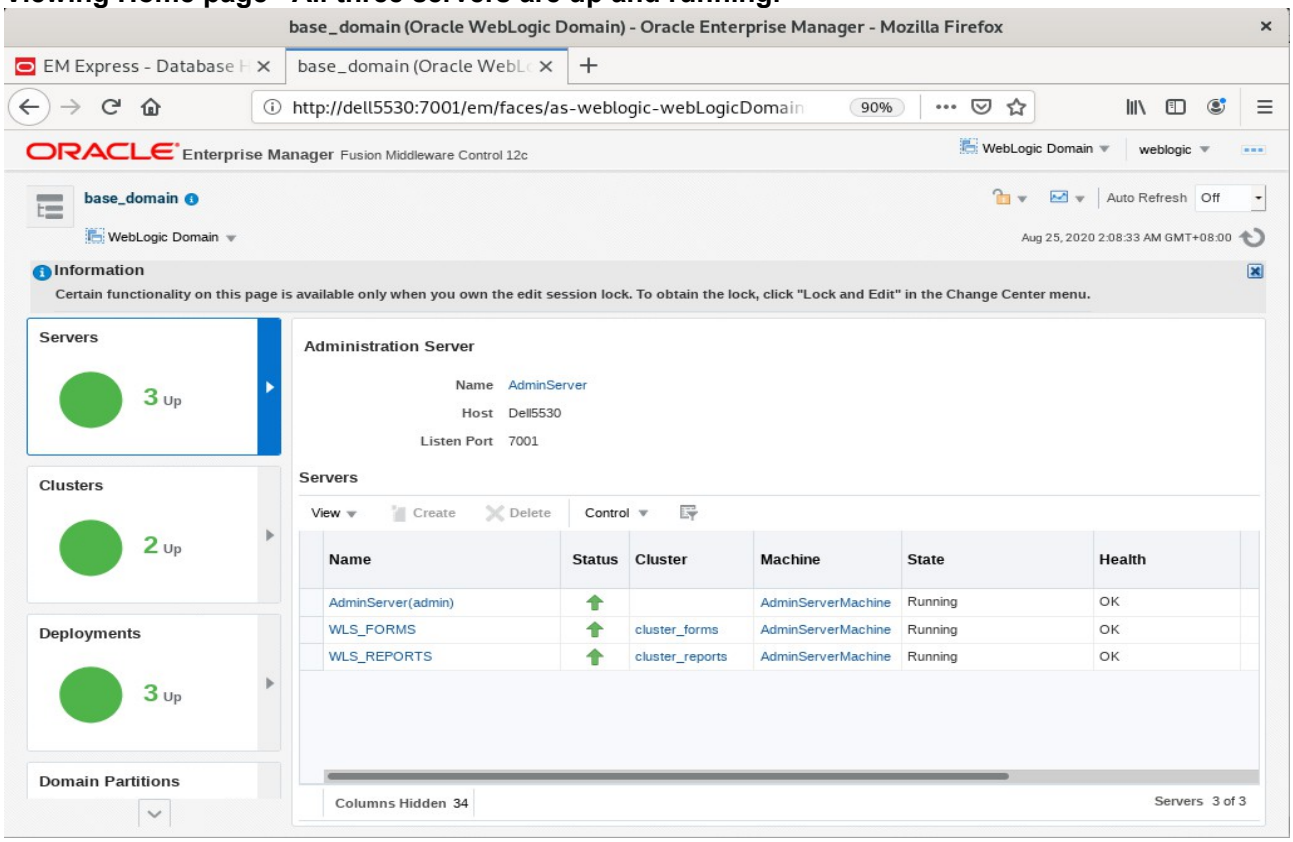
Starting WLS_FORMS



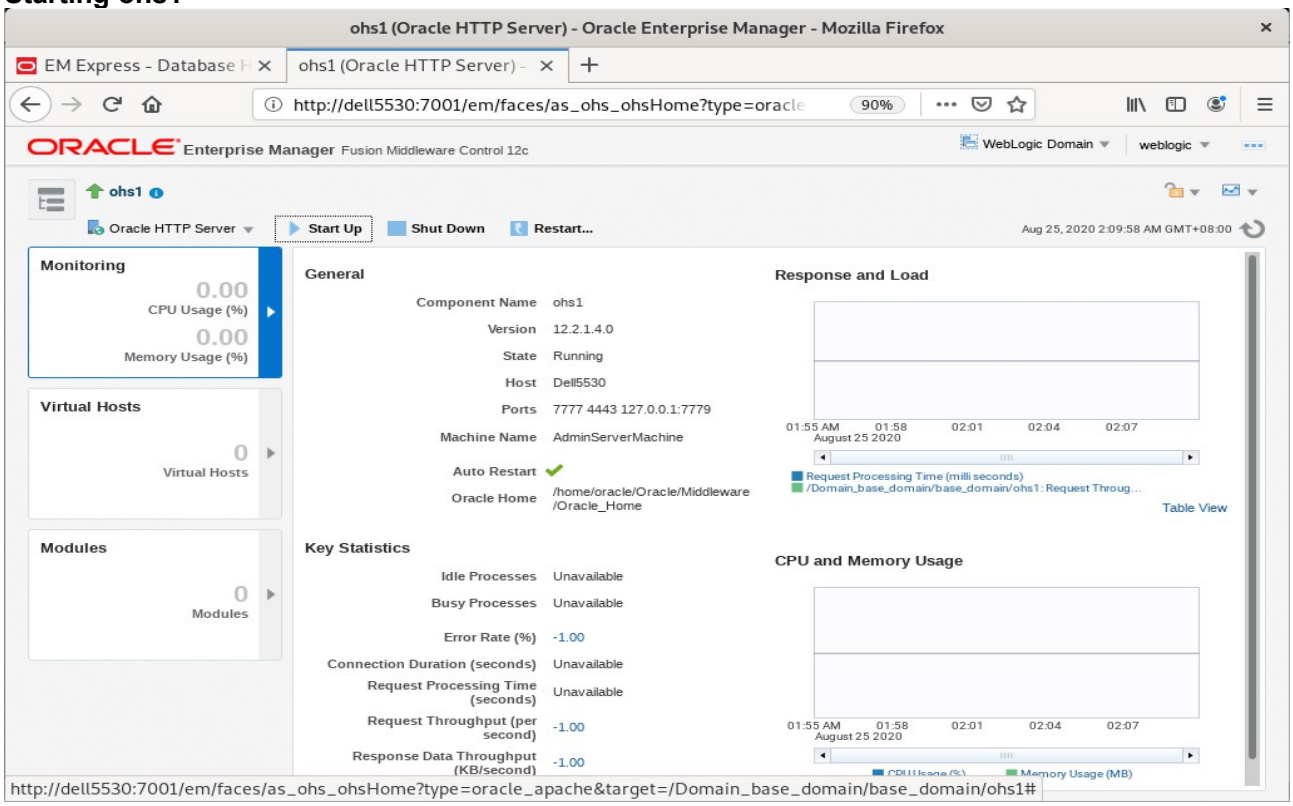
Starting WLS_REPORTS



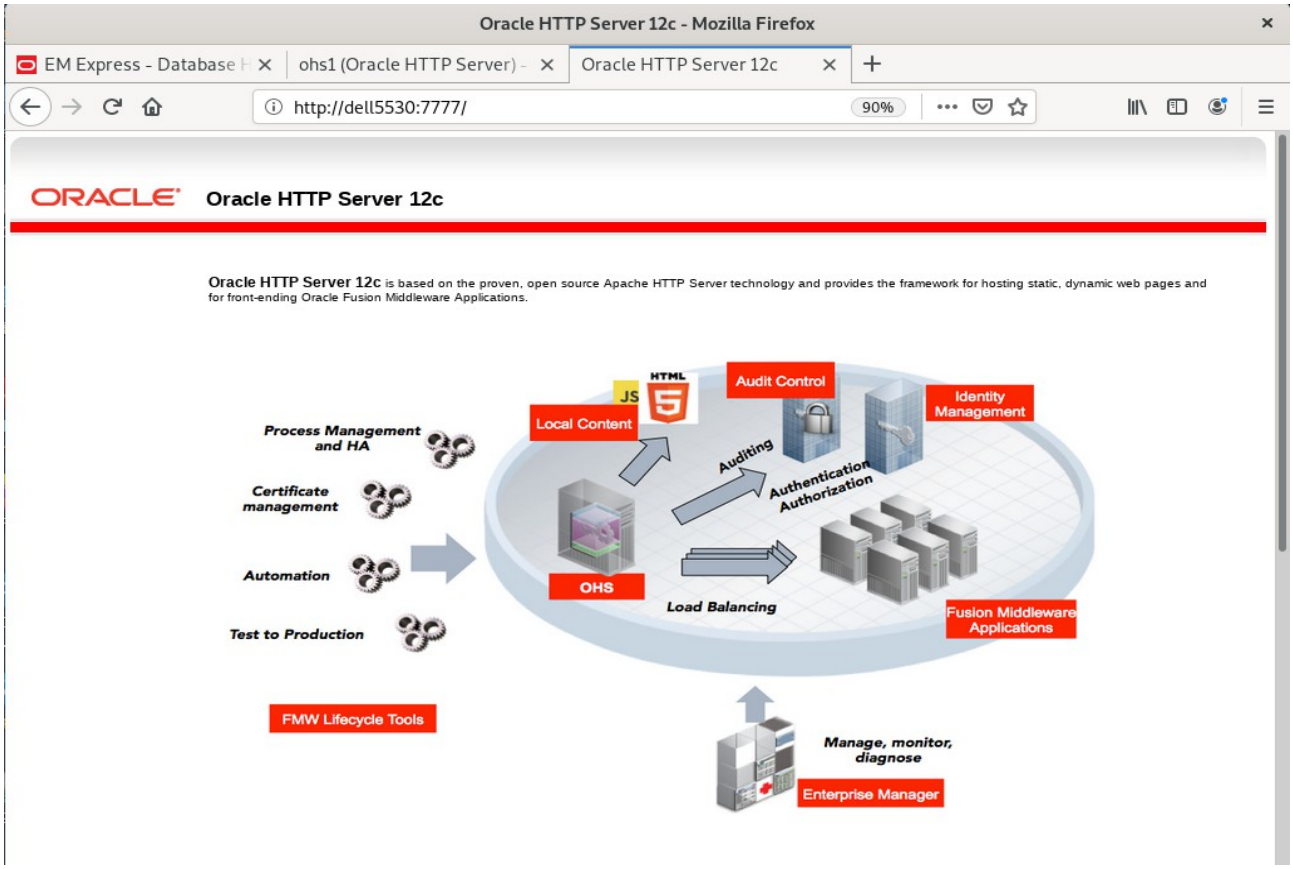
Viewing Home page - All three servers are up and running.

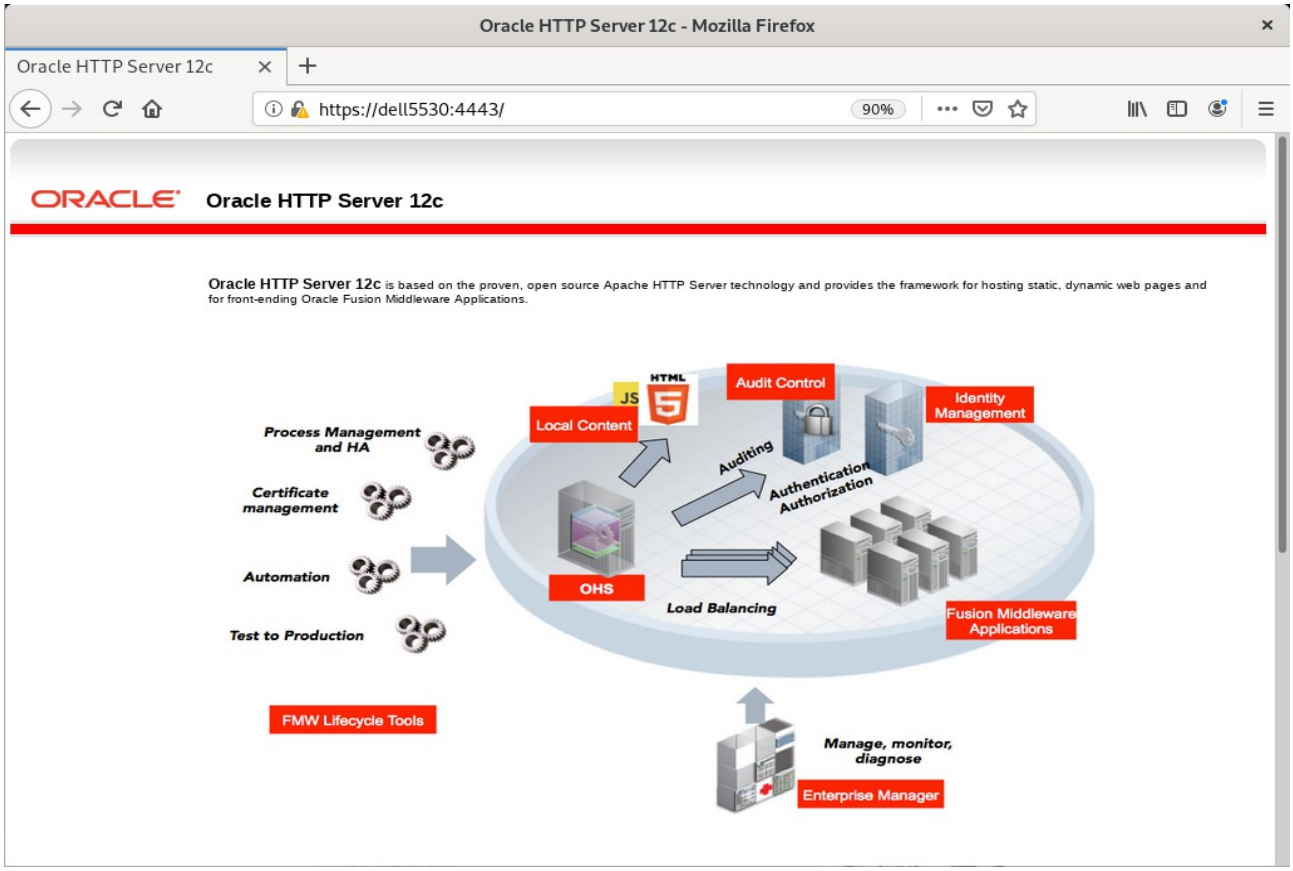


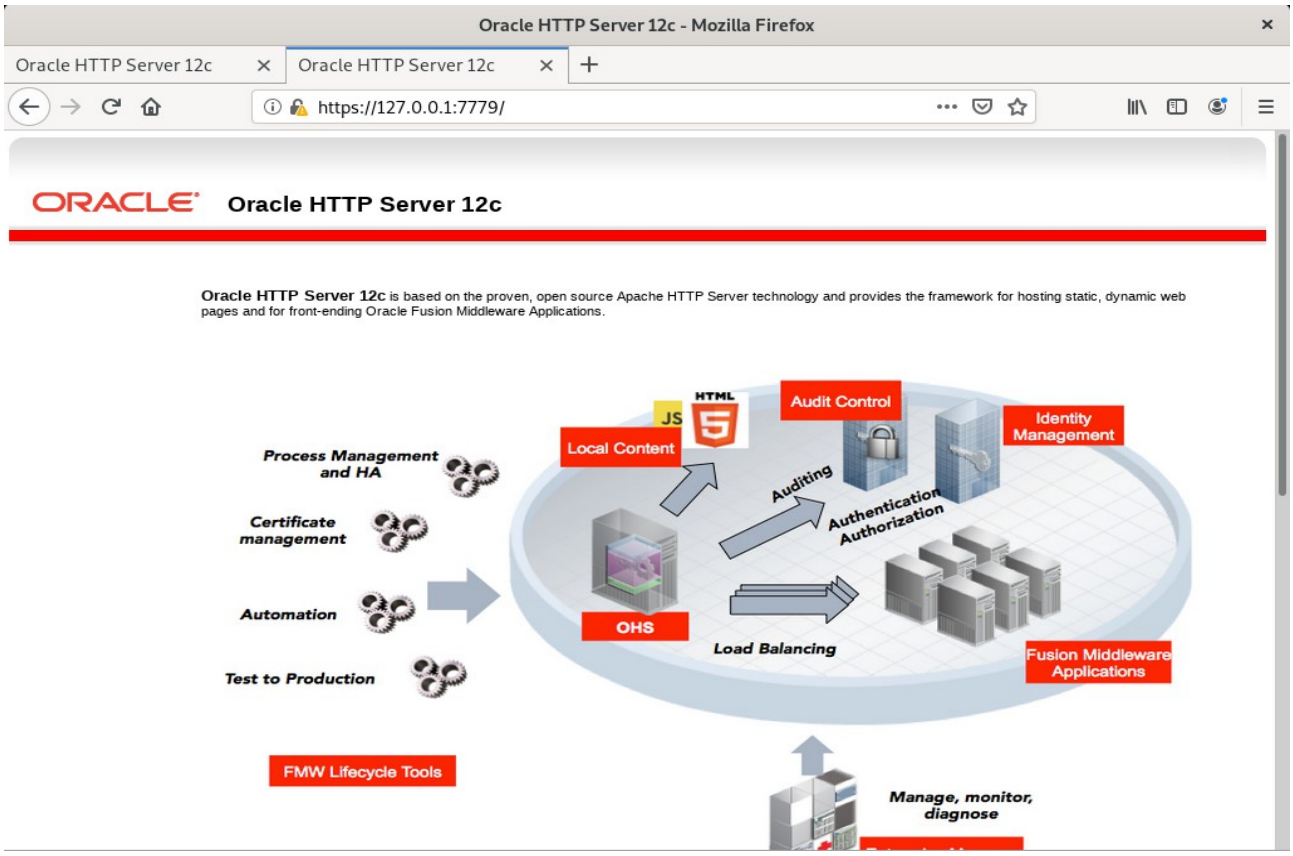
Starting ohs1



Verified ohs1 URLs can be accessed.

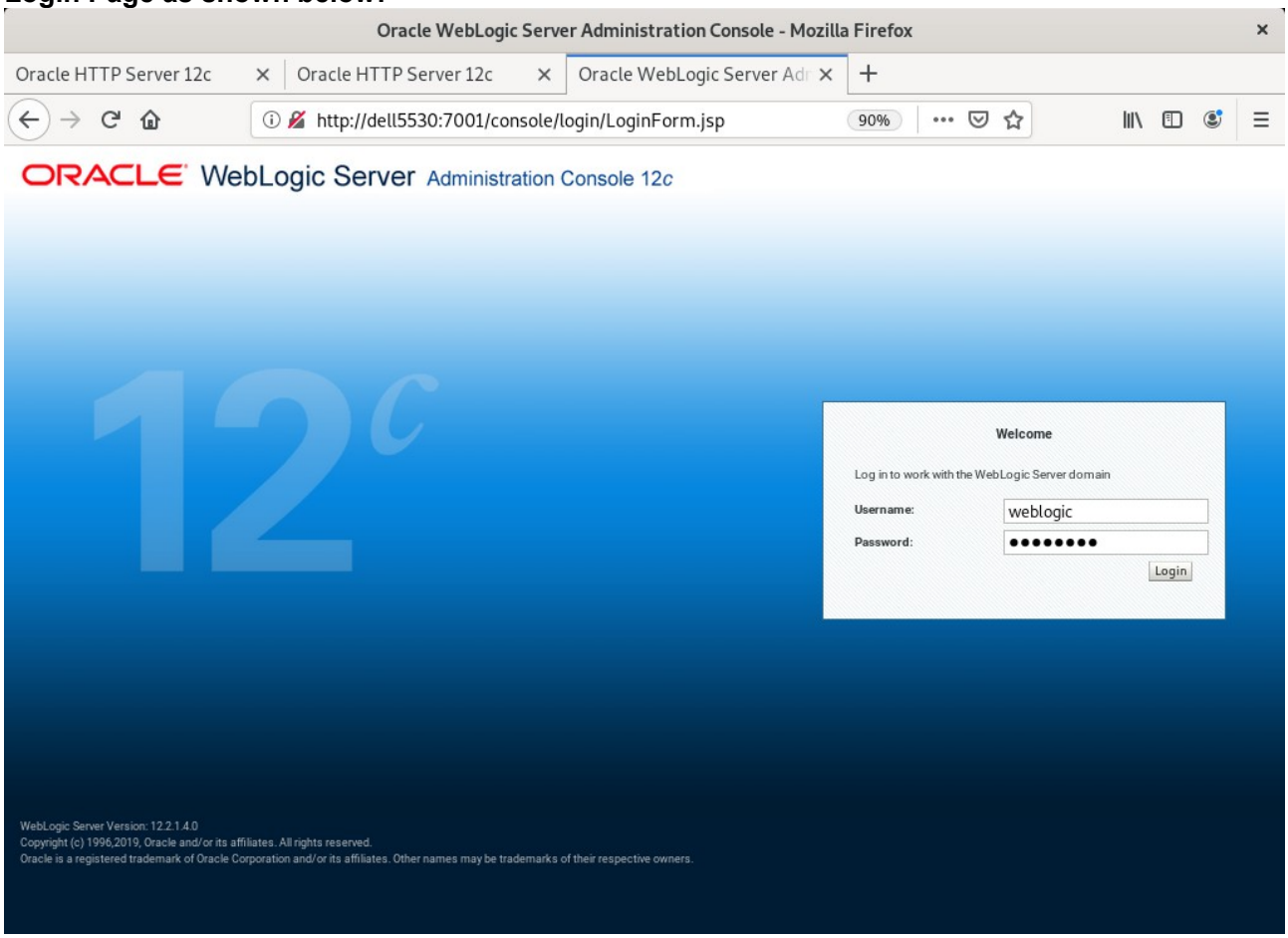



Oracle HTTP Server 12c - Mozilla Firefox
Oracle HTTP Server 12c
https://dell5530:4443/
90%
ORACLE
Oracle HTTP Server 12c
Oracle HTTP Server 12c is based on the proven, open source Apache HTTP Server technology and provides the framework for hosting static, dynamic web pages and for front-ending Oracle Fusion Middleware Applications.
Process Management and HA
Certificate management
Automation
Test to Production
FMW Lifecycle Tools
HTML
JS
Local Content
Audit Control
Identity Management
Auditing
Authentication
Authorization
OHS
Load Balancing
Fusion Middleware Applications
Manage, monitor, diagnose
Enterprise Manager

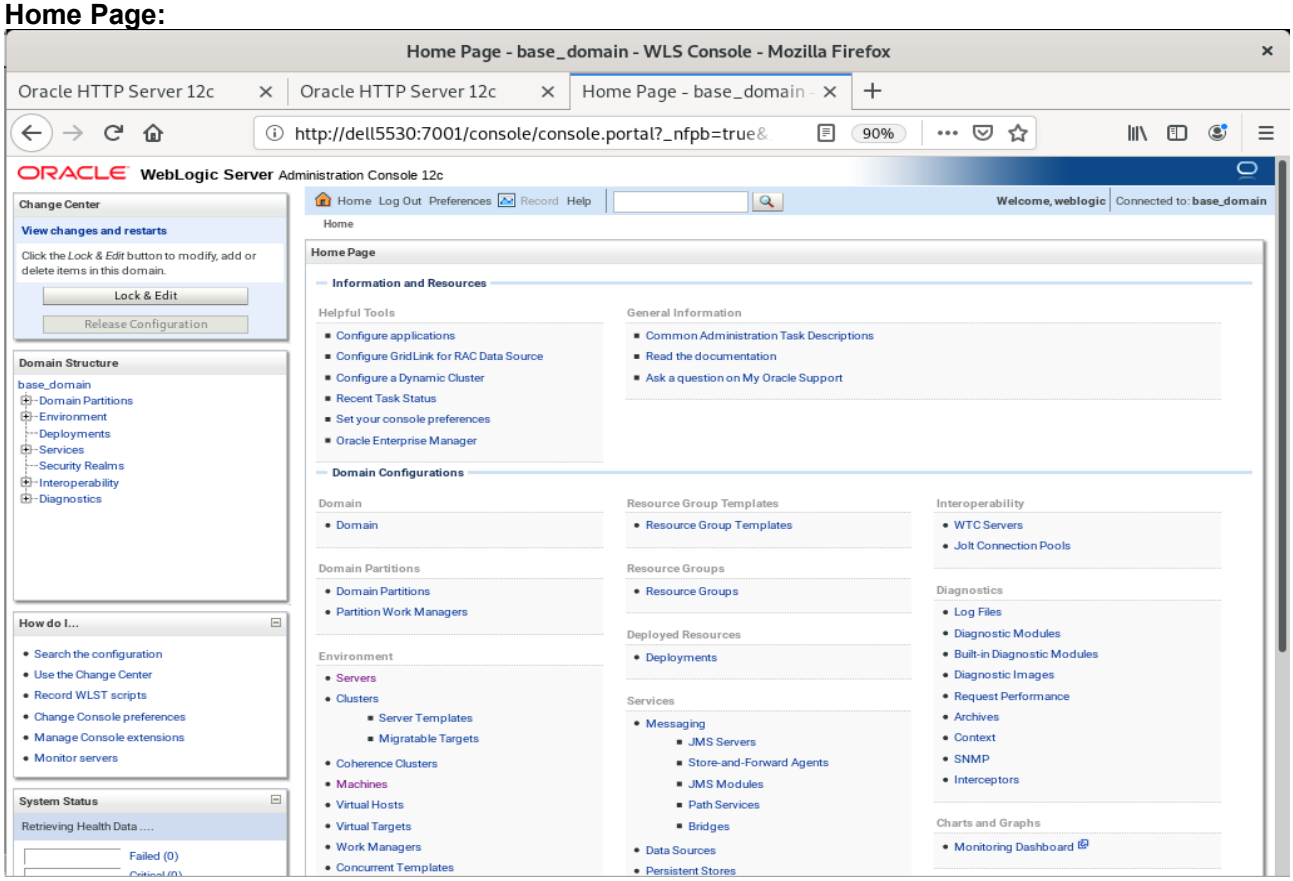

Oracle HTTP Server 12c - Mozilla Firefox
Oracle HTTP Server 12c
Oracle HTTP Server 12c
https://127.0.0.1:7779/
ORACLE
Oracle HTTP Server 12c
Oracle HTTP Server 12c is based on the proven, open source Apache HTTP Server technology and provides the framework for hosting static, dynamic web pages and for front-ending Oracle Fusion Middleware Applications.
Process Management and HA
Certificate management
Automation
Test to Production
FMW Lifecycle Tools
HTML
JS
Local Content
Audit Control
Identity Management
Auditing
Authentication
Authorization
OHS
Load Balancing
Fusion Middleware Applications
Manage, monitor, diagnose

2). Access to Administration Server Console

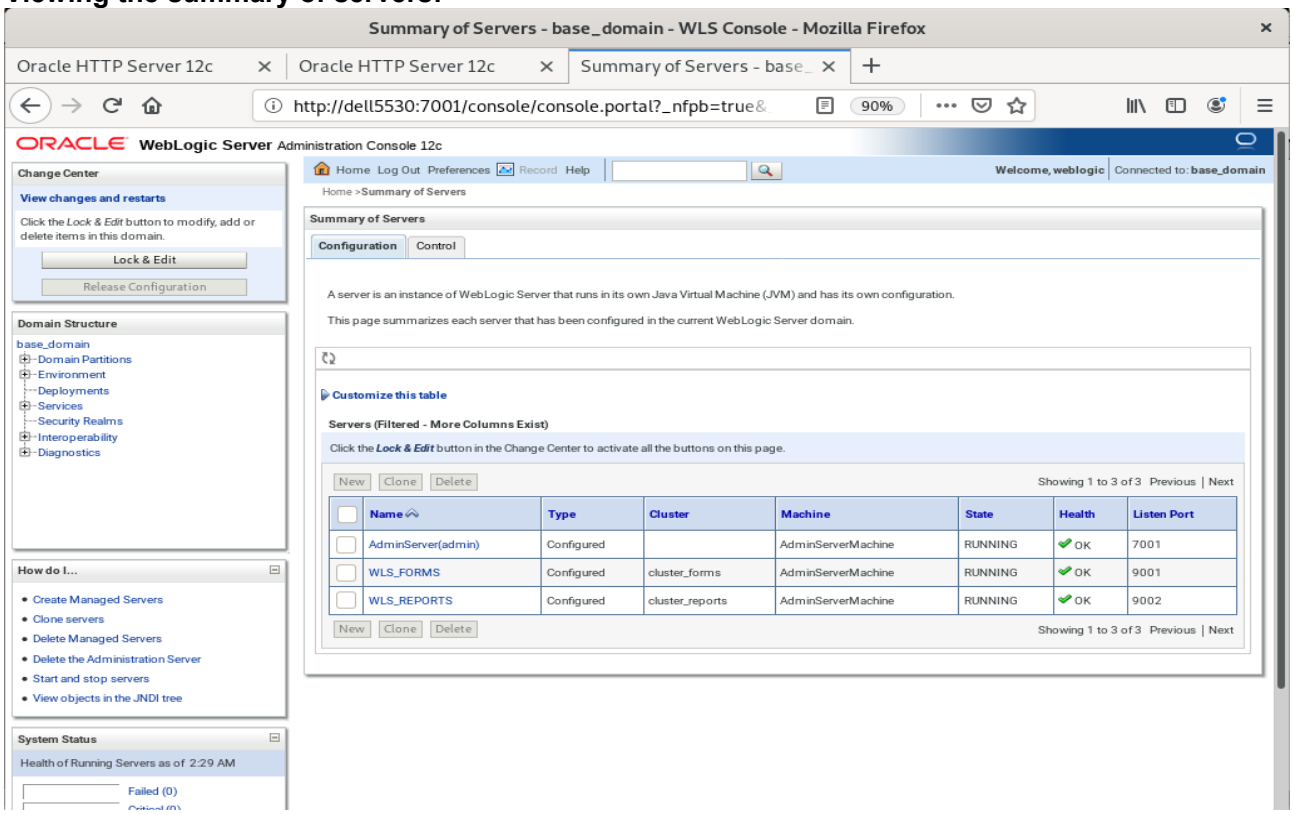
Login Page as shown below:



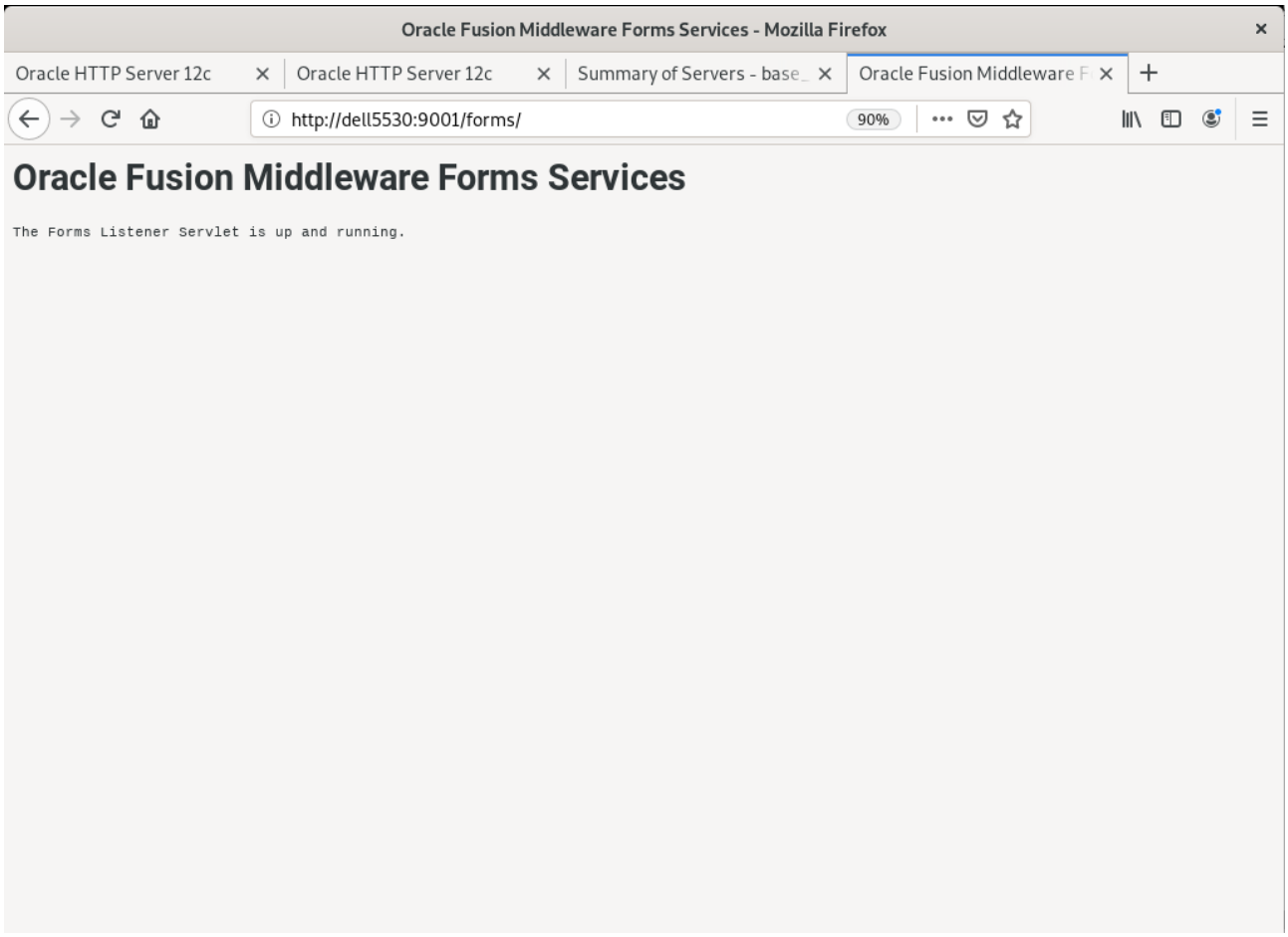
Home Page:



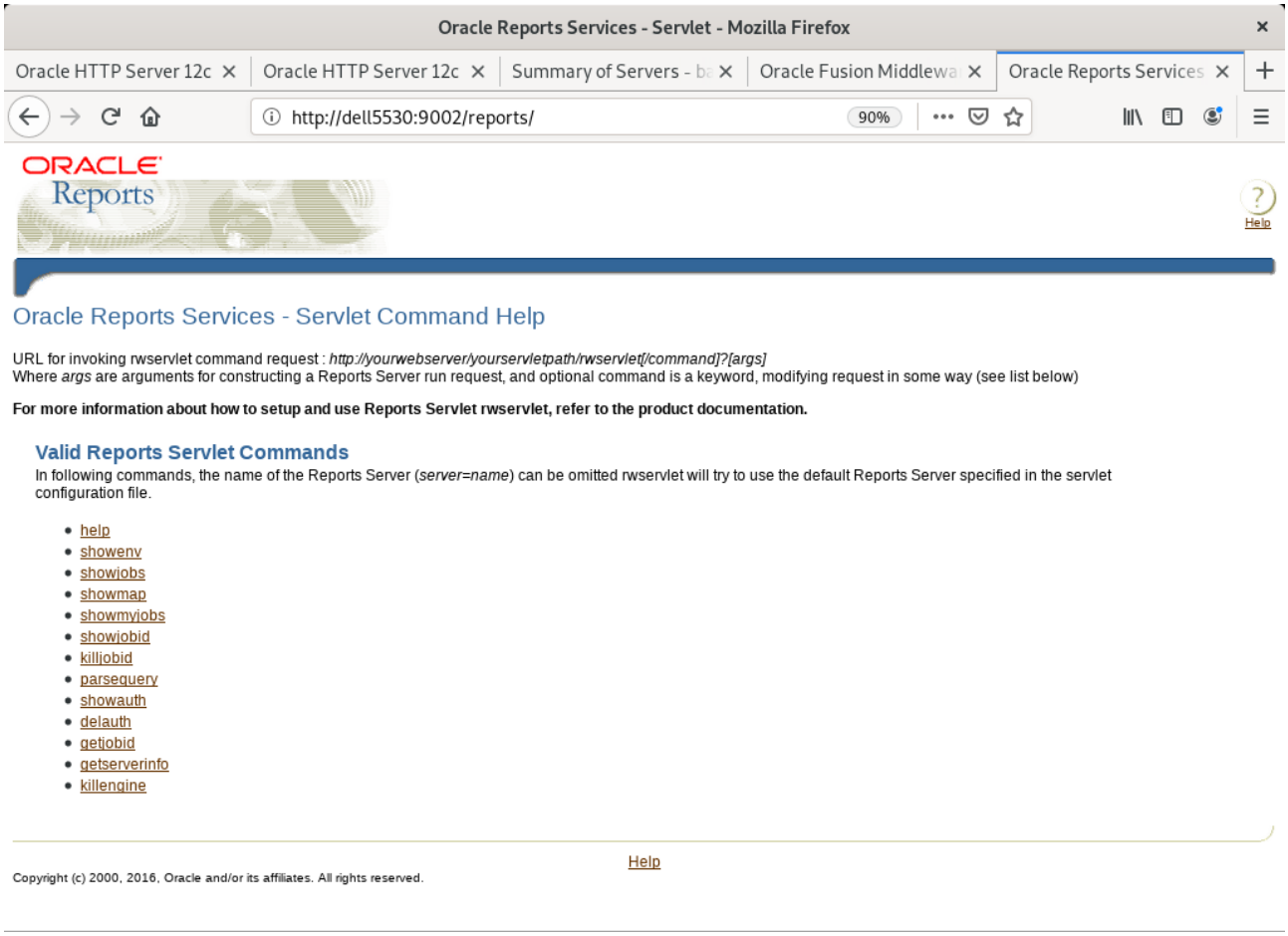
Viewing the summary of servers:



3). Access to Oracle Forms Services.



4). Access to Oracle Reports Services.



End of Oracle Forms and Reports.

****

Oracle WebTier

****

1. Installing Oracle WebTier 12cR2 OHS

1-1. Prerequisites:

Installation of Oracle WebTier Http Server requires:

1). Oracle Database 12cR2 (12.2.0.1.0) installed.
2). Oracle JDK 1.8.0_221 and later installed.
3). Oracle WebLogic Server 12cR2 (12.2.1.4.0) (Fusion Middleware Infrastructure Installer)

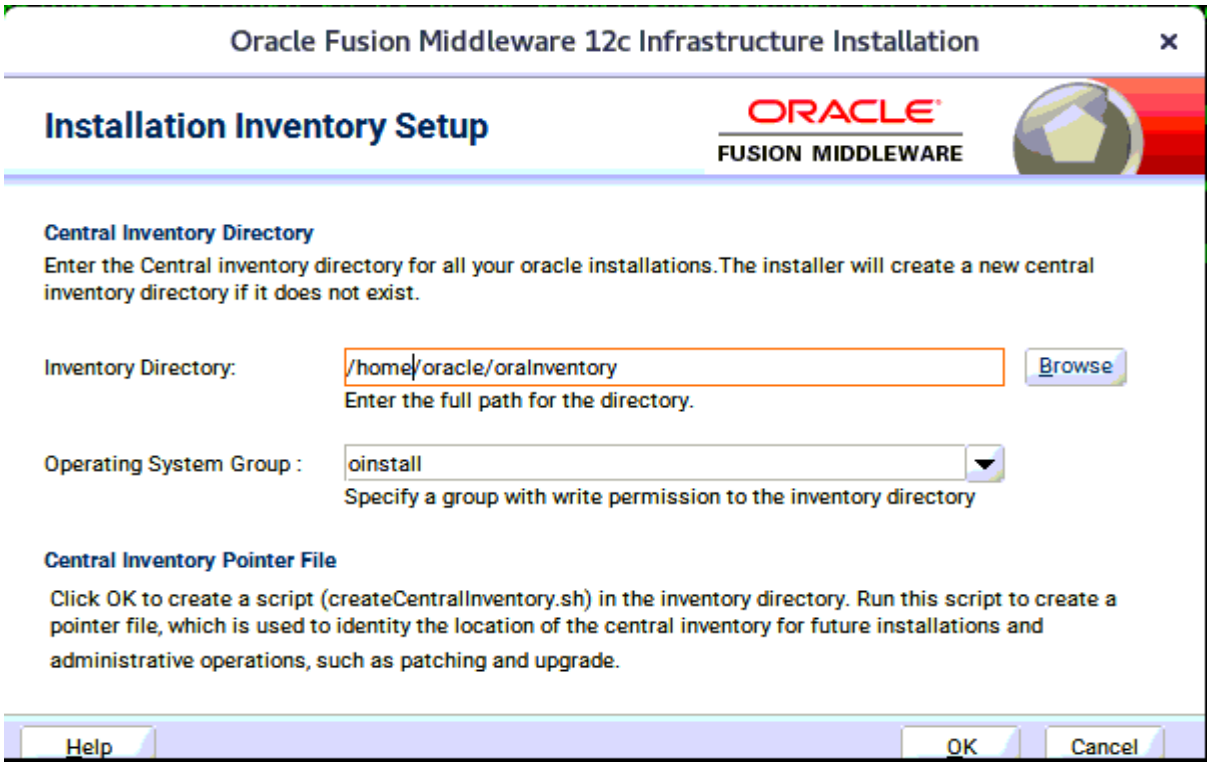
1-2. Login to the target system (SLES 15 SP2 64-bit OS) as a non-admin user. Download the Oracle WebTier 12cR2 OHS (12.2.1.4.0) from https://www.oracle.com/downloads/#category-middleware.

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

1-3. Go to the directory where you downloaded the installation program. Extract the contents of this .zip (fmw_12.2.1.4.0_ohs_linux64_Disk1_1of1.zip) file and launch the installation program by running **'fmw_12.2.1.4.0_ohs_linux64.bin'**

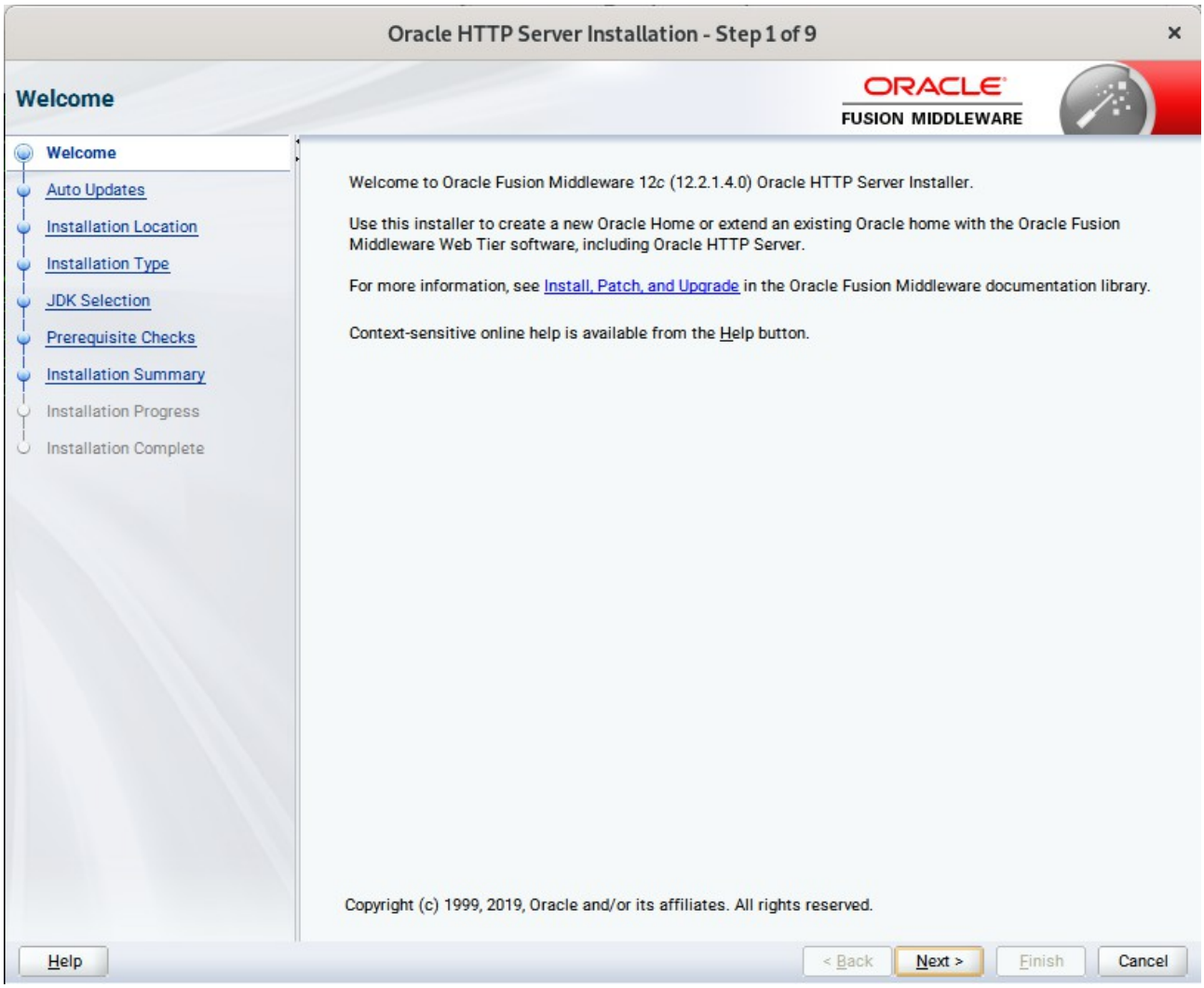
For the actual installation, follow the steps below:

1). Installation Inventory Setup.



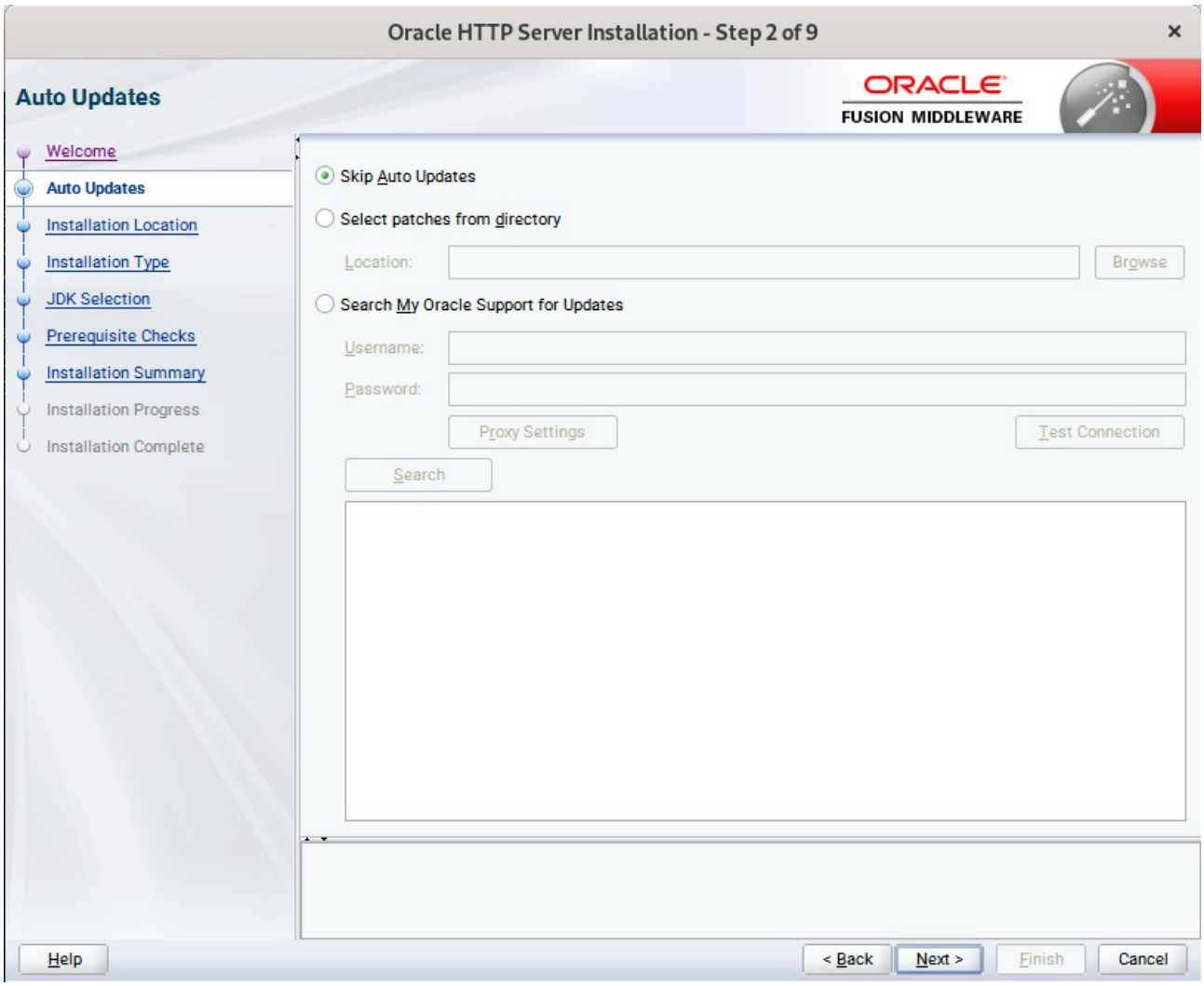
Specify the Oracle inventory directory and group permissions for that directory. The group must have write permissions to the Oracle inventory directory, then click **OK** to continue.

2). Welcome page.



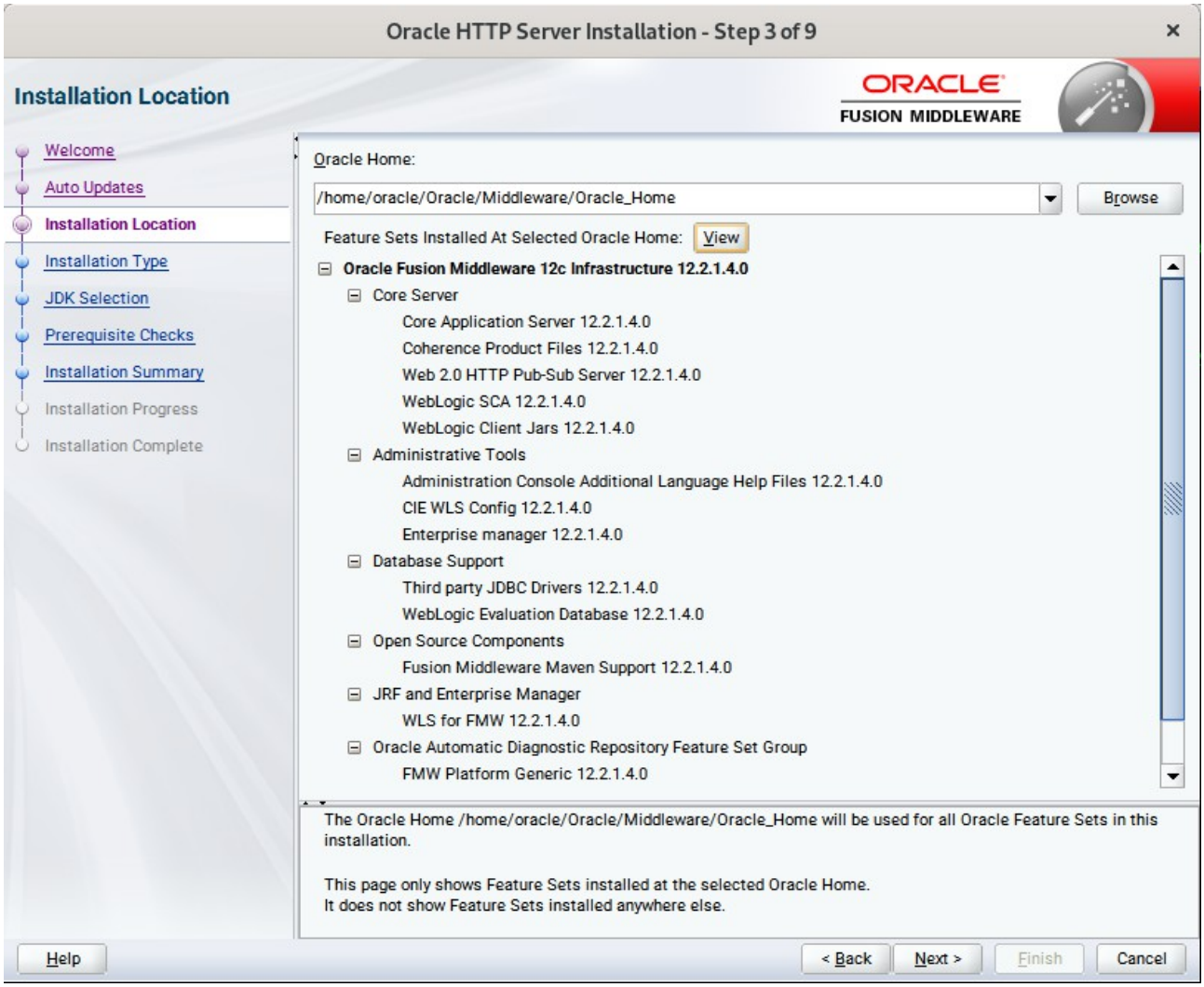
This page welcomes you to the installation. Click **Next** to continue.

2). The **Auto Updates** page appears.



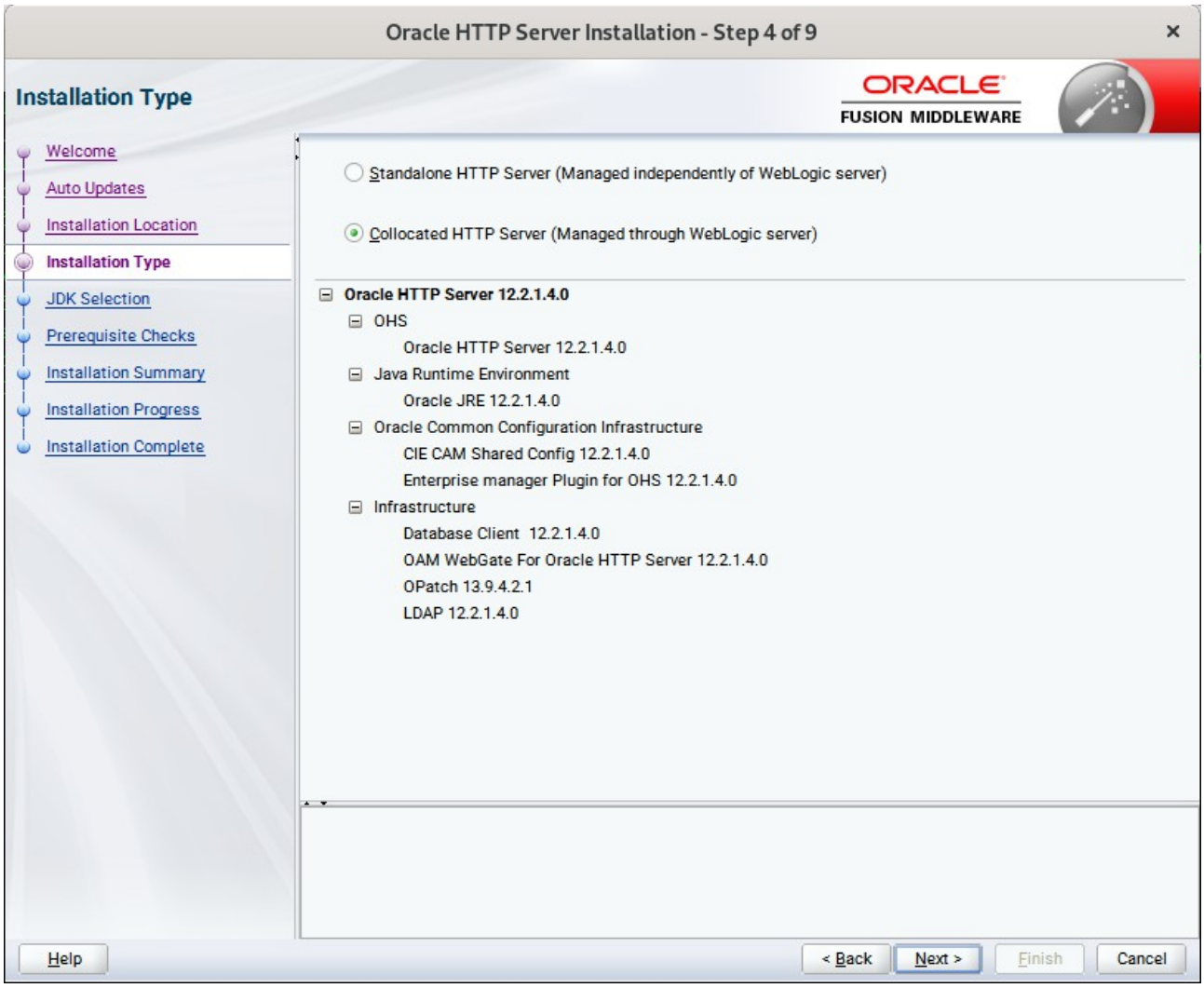
This page enables you to choose to automatically receive software updates for your components from Oracle Corporation. make your choices, then click **Next** to continue.

3). The **Installation Location** page appears.



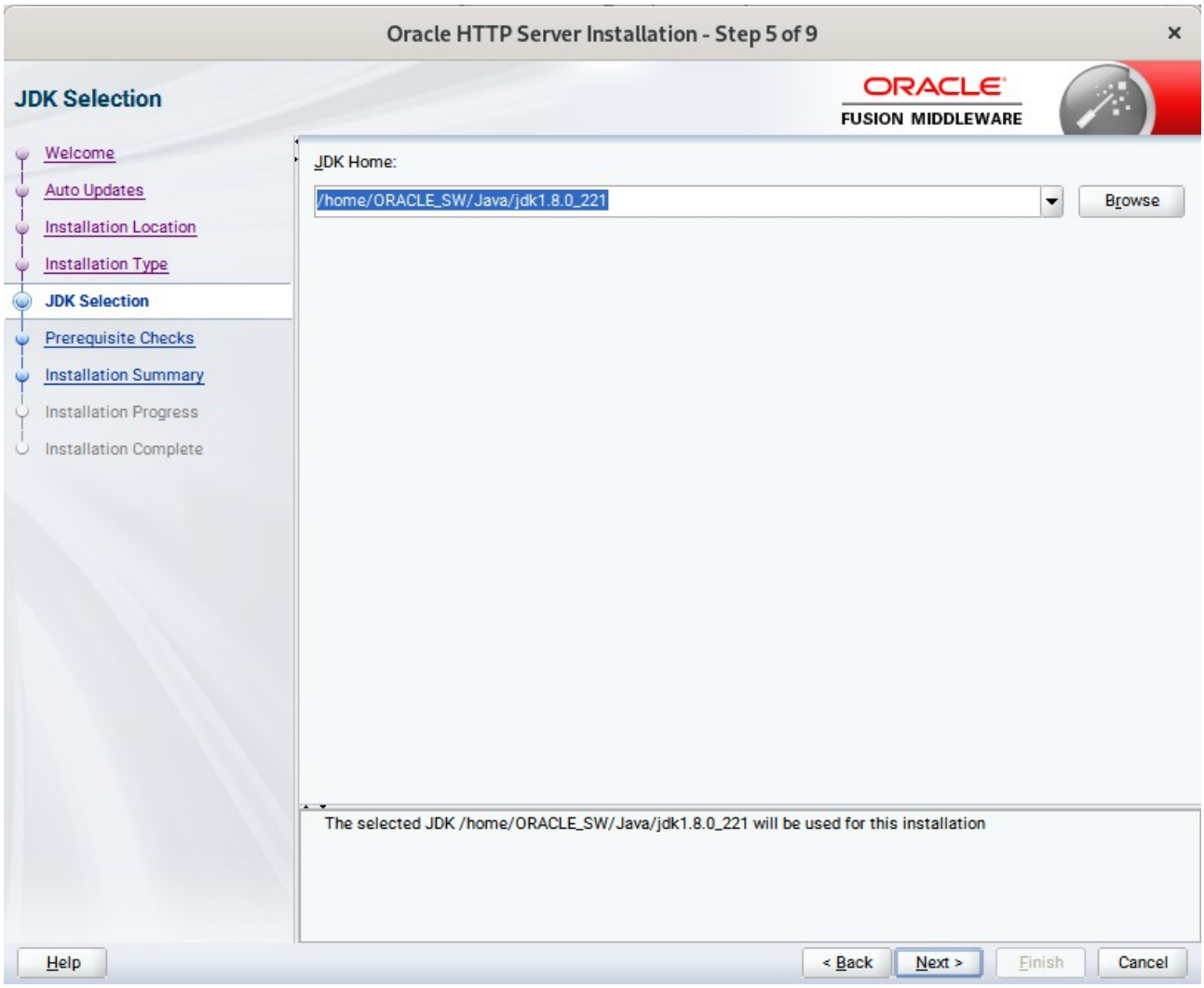
Specify the Oracle home location into which you want to install the product(s). Click **Next** to continue.

4). The **Installation Type** page appears.



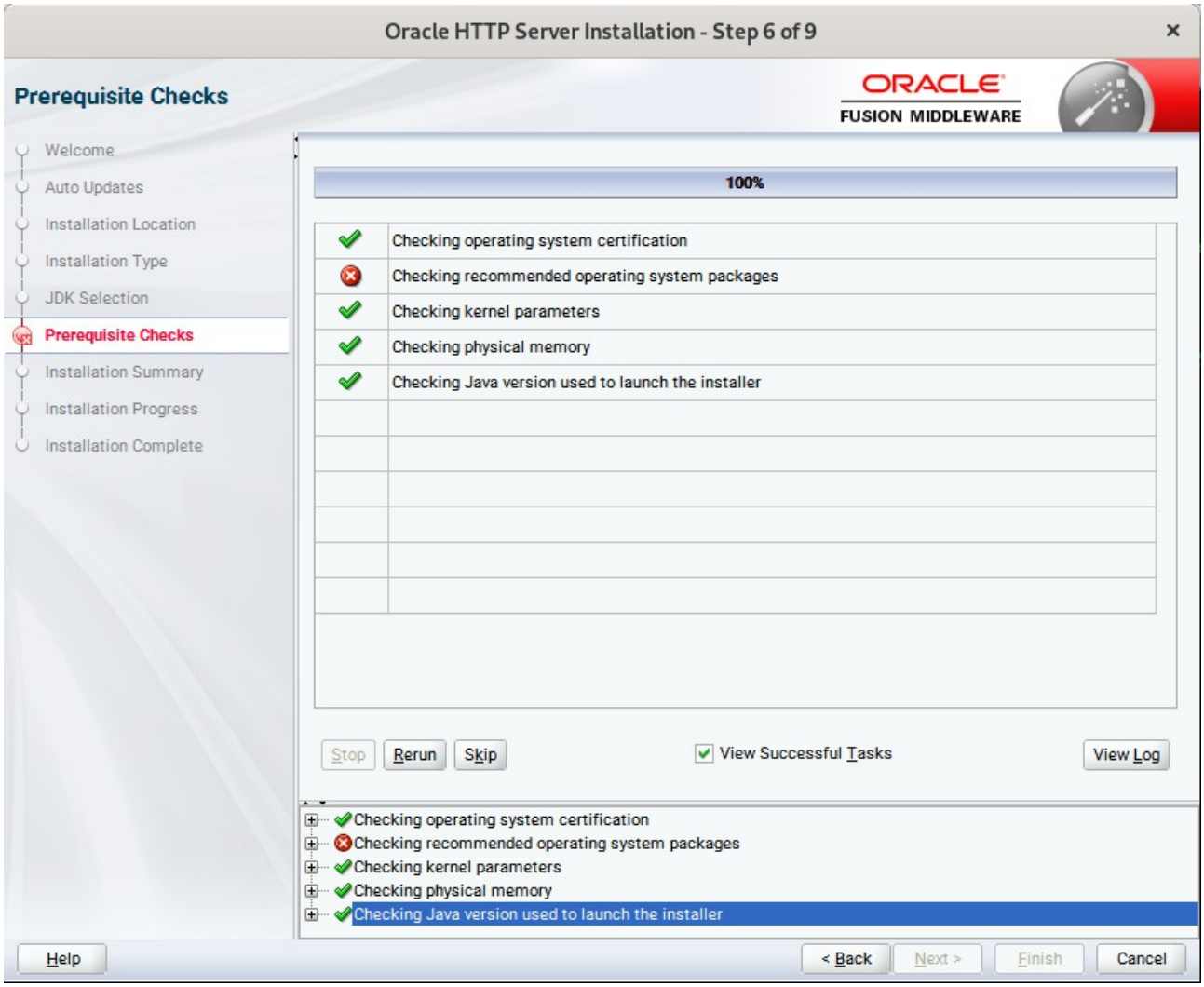
Selected **Collocated HTTP Server (Managed through WebLogic server)** to configure Oracle HTTP Server in a WebLogic Server Domain.(Alternative, select **Standalone HTTP Server (Managed independently of WebLogic server)** in the Installation Type screen to configure Oracle HTTP Server in a Standalone Domain.) Click **Next** to continue.

5). The **JDK Selection** page appears.



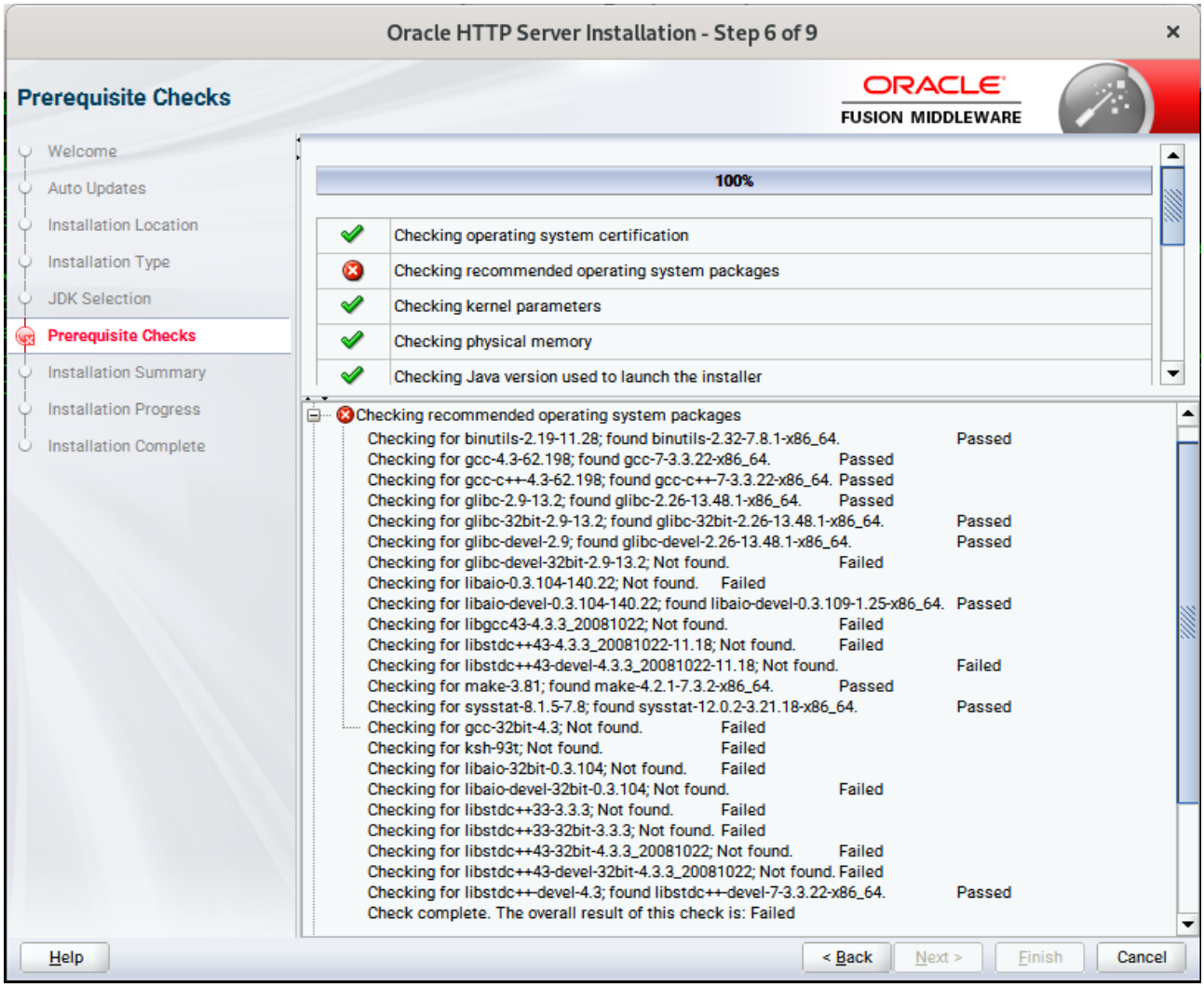
The selected JDK will be used for this installation.Click **Next** to continue.

6). The **Prerequisites Checks** page appears.



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

(**Note:** "Checking recommended operating system packages" failed with following error:

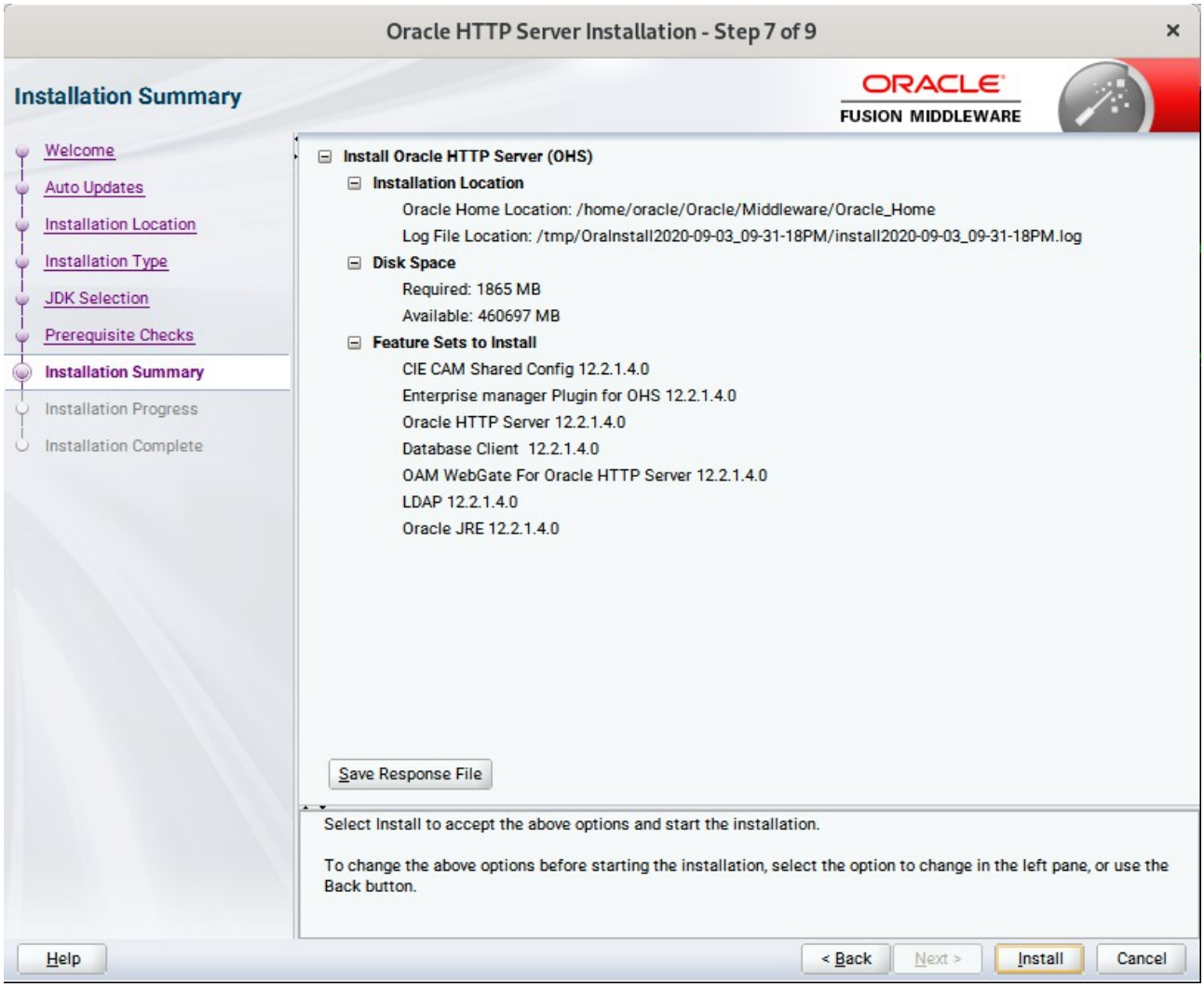


This is due to rpm name change in SLES15 (SP2). Oracle FUSION Middleware 12c (12.2.1.4) is certified on SLES15 (SP1). Manually ensure the following updated packages are installed.

binutils-2.29.1-4.46.x86_64
gcc7-ada-7.3.1+r258812-2.15.x86_64
gcc-c++-7-1.563.x86_64
gcc-c++-32bit-7-1.563.x86_64
gcc-ada-7-1.563.x86_64
gcc-locale-7-1.563.x86_64
gcc-info-7-1.563.x86_64
gcc-7-1.563.x86_64
gcc7-c++-7.3.1+r258812-2.15.x86_64
gcc7-info-7.3.1+r258812-2.15.noarch
gcc7-7.3.1+r258812-2.15.x86_64
gcc7-locale-7.3.1+r258812-2.15.x86_64
gcc7-c++-32bit-7.3.1+r258812-2.15.x86_64
gcc7-32bit-7.3.1+r258812-2.15.x86_64
gcc-32bit-7-1.563.x86_64
glibc-2.26-11.8.x86_64
linux-glibc-devel-4.15-1.47.noarch
glibc-devel-2.26-11.8.x86_64

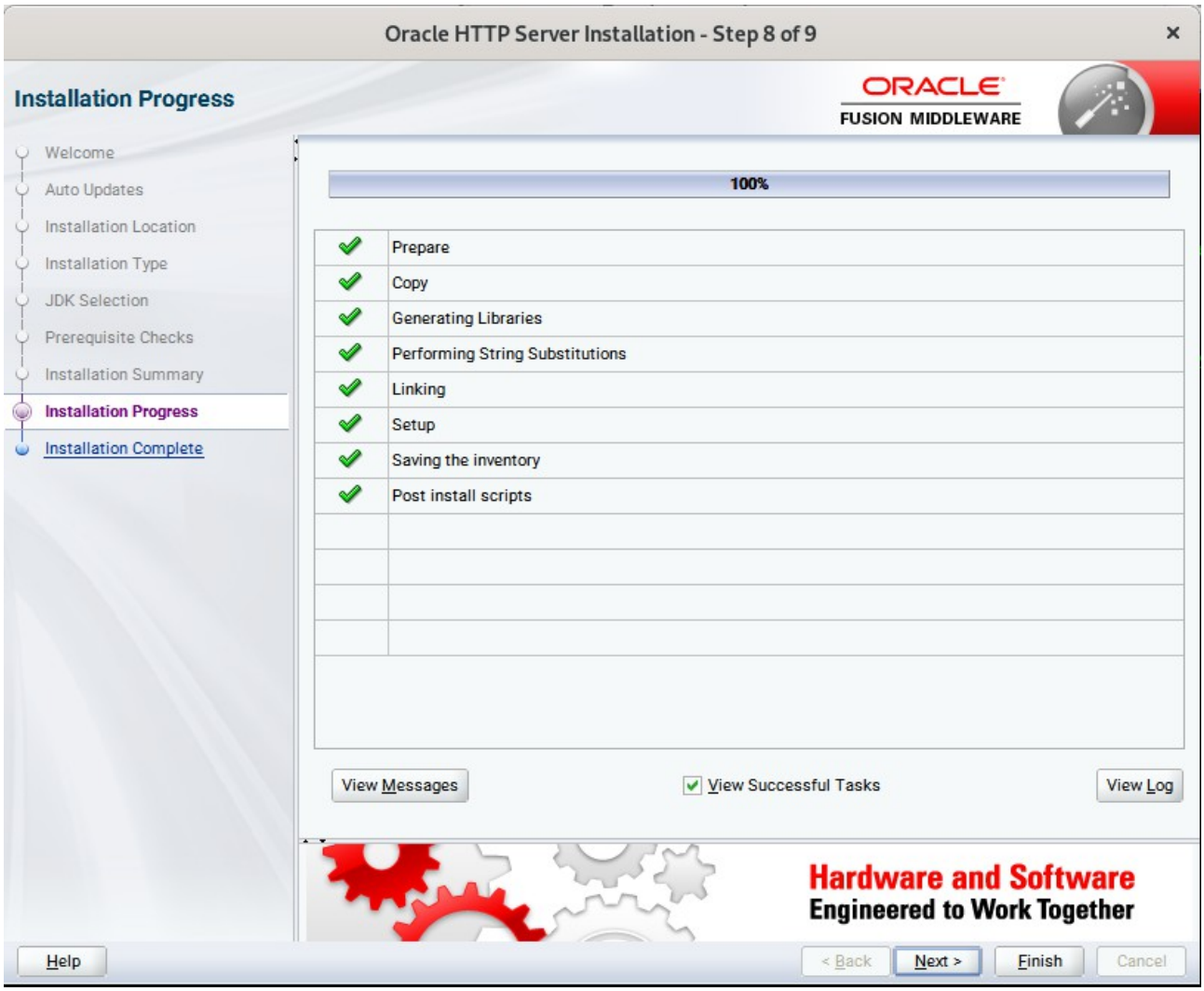
```
    glibc-locale-2.26-11.8.x86_64
    glibc-extra-2.26-11.8.x86_64
    glibc-32bit-2.26-11.8.x86_64
    glibc-devel-32bit-2.26-11.8.x86_64
    mksh-56c-1.10.x86_64
    libaio1-0.3.109-1.25.x86_64
    libaio1-32bit-0.3.109-1.25.x86_64
    libaio-devel-32bit-0.3.109-1.25.x86_64
    libaio-devel-0.3.109-1.25.x86_64
    libcap2-2.25-2.41.x86_64
    libcap-ng0-0.7.9-1.42.x86_64
    libcap2-32bit-2.25-2.41.x86_64
    libstdc++6-7.3.1+r258812-2.15.x86_64
    libstdc++6-devel-gcc7-7.3.1+r258812-2.15.x86_64
    libstdc++6-32bit-7.3.1+r258812-2.15.x86_64
    libstdc++6-devel-gcc7-32bit-7.3.1+r258812-2.15.x86_64
    libstdc++6-locale-7.3.1+r258812-2.15.x86_64
    libstdc++-devel-7-1.563.x86_64
    libgcc_s1-7.3.1+r258812-2.15.x86_64
    libgcc_s1-32bit-7.3.1+r258812-2.15.x86_64
    make-4.2.1-5.48.x86_64
    make-lang-4.2.1-5.48.noarch
    makedumpfile-1.6.3-5.6.x86_64
    xorg-x11-7.6_1-1.22.noarch
    xorg-x11-server-1.19.6-6.19.x86_64
    xorg-x11-fonts-7.6-3.9.noarch
    xorg-x11-driver-video-7.6_1-2.30.x86_64
    xorg-x11-Xvnc-1.8.0-11.23.x86_64
    xorg-x11-fonts-core-7.6-3.9.noarch
    xorg-x11-server-extra-1.19.6-6.19.x86_64
    xorg-x11-essentials-7.6_1-1.22.noarch

)
```

7). The **Installation Summary** page appears.



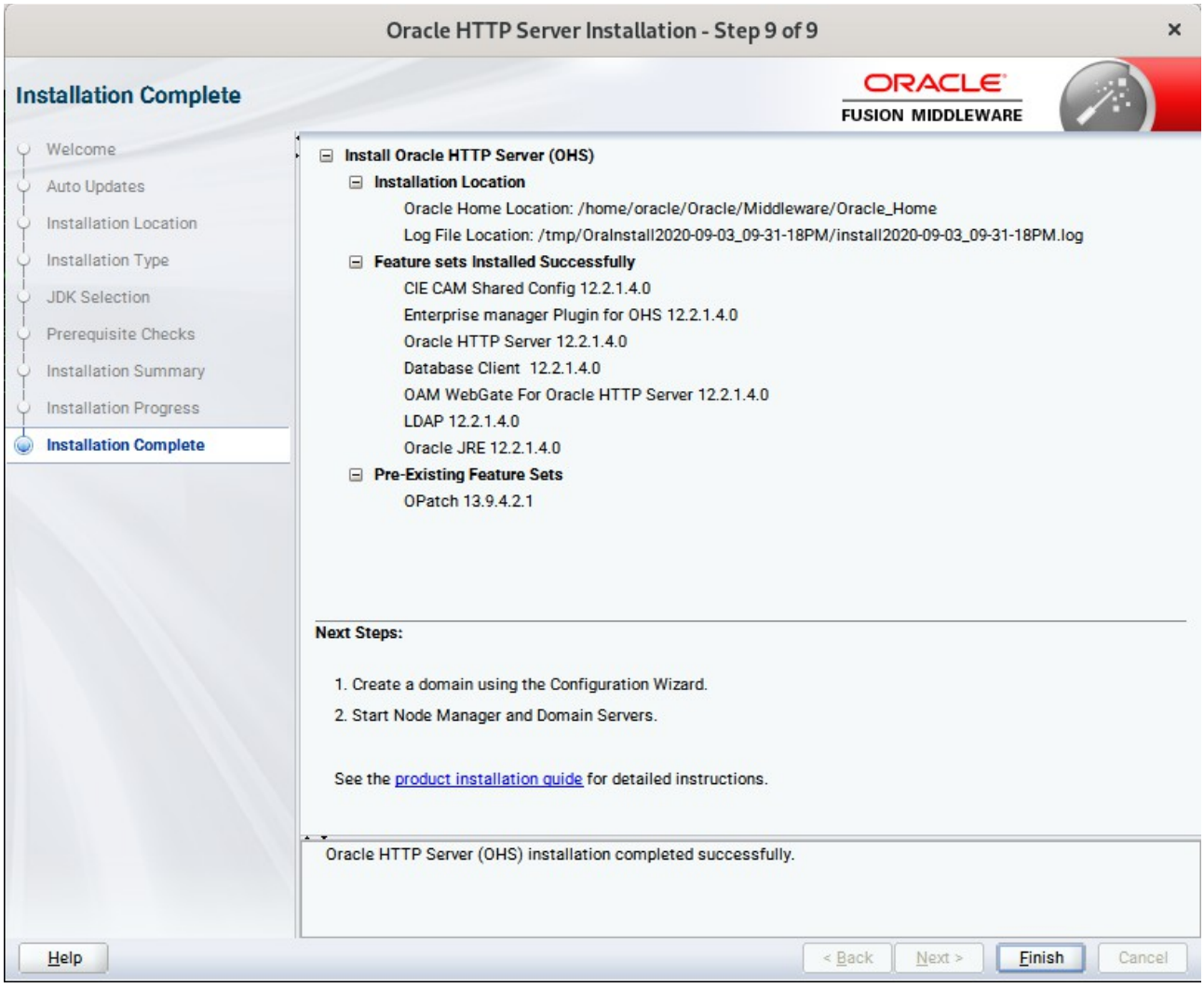
This page shows you what components and features are about to be installed. If you need to make changes, click **Back**, otherwise, click **Install** to start the installation.

8). The **Installation Progress** page appears.



This page shows you the progress of the installation, and will warn you if there are any problems.You can view messages and logs from this page, but typically no action is required here. When progress is complete, click **Next** (go to a Summary page). Alternatively, you can click **Finish**.

9). If you clicked **Next**, the **Installation Complete** page appears, showing you the components that have been installed.

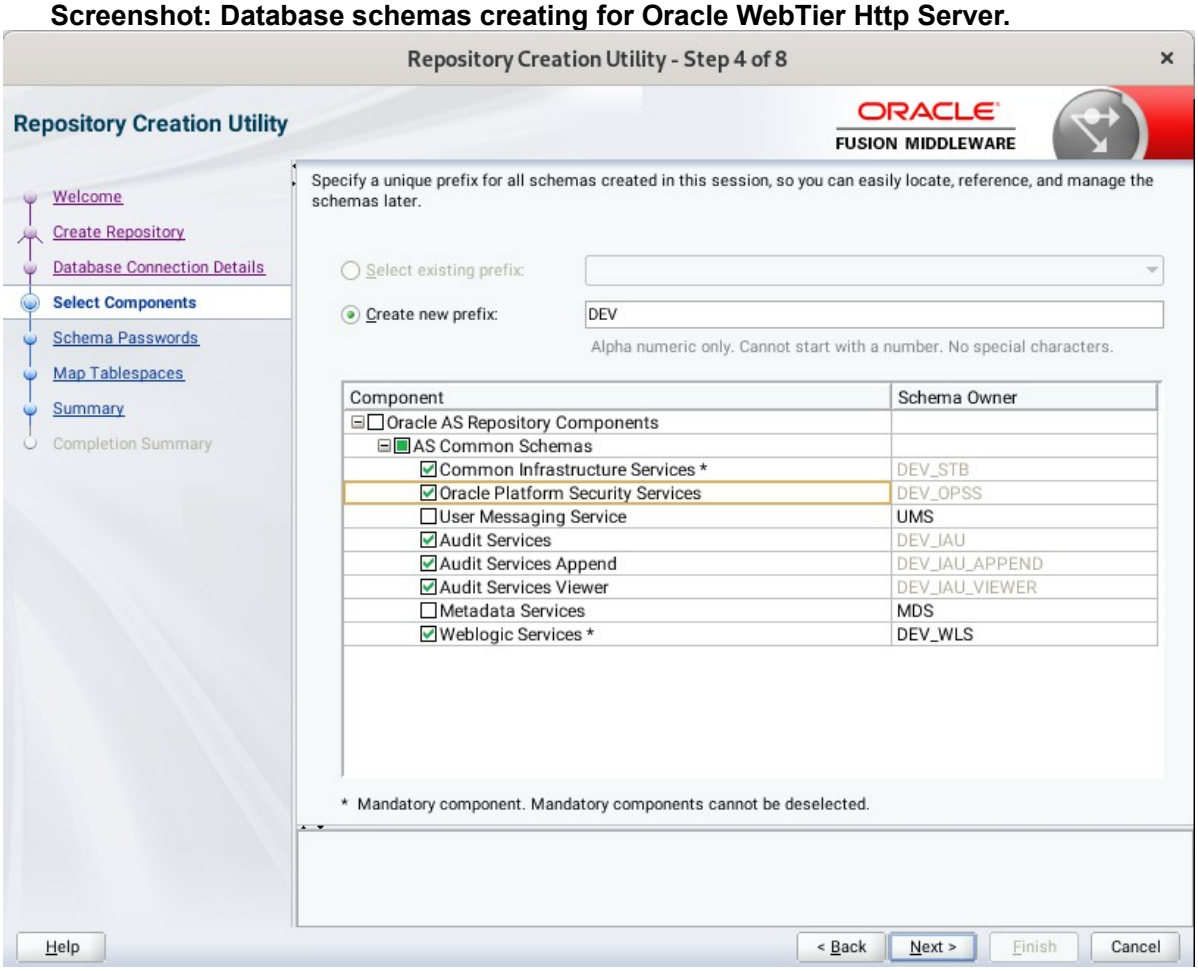


Click **Finish** to dismiss the installer.

2. Creating Oracle Database Schema through Repository Creation Utility(RCU)

2-1. Repository Creation Utility (RCU) is available with the Oracle WebLogic Server 12cR2 Fusion Middleware Infrastructure distribution. Run **$FMW_HOME/oracle_common/bin/rcu** and create required database schemas for Oracle WebTier Http Server.

Screenshot: Database schemas creating for Oracle WebTier Http Server.



Select the **Create new prefix** radio button and provide a schema prefix (such as DEV). Select the components as shown above, and ensure the schema creation is successful.

3. Configuring Oracle WebTier 12cR2 OHS using the Config Wizard

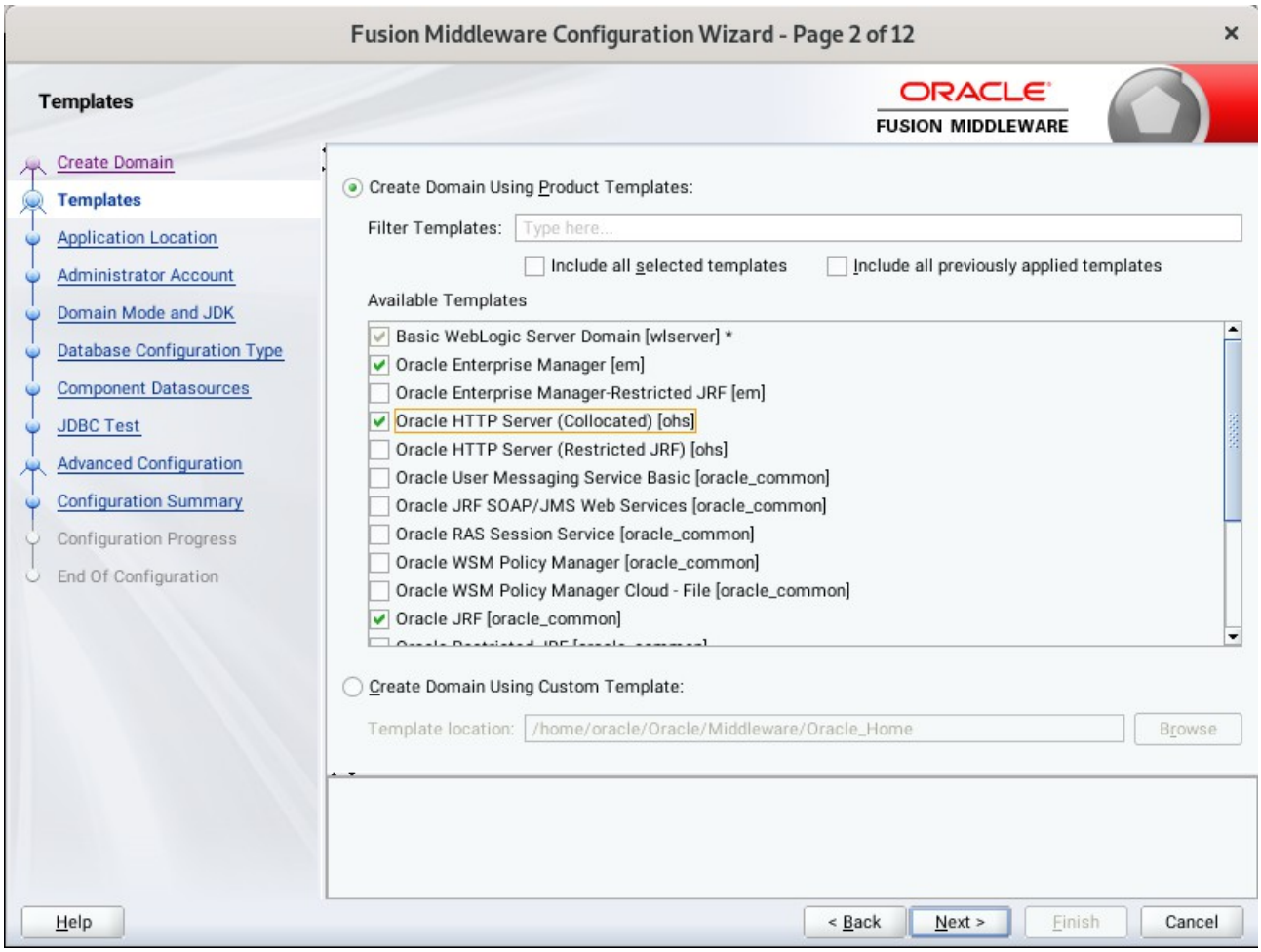
3-1. In order to complete the configuration. Run the config wizard using **config.sh** located in the **ORACLE_HOME/oracle_common/common/bin** directory.

Follow these steps:

1). Choose **Create a new domain**, and enter the desired domain home path.

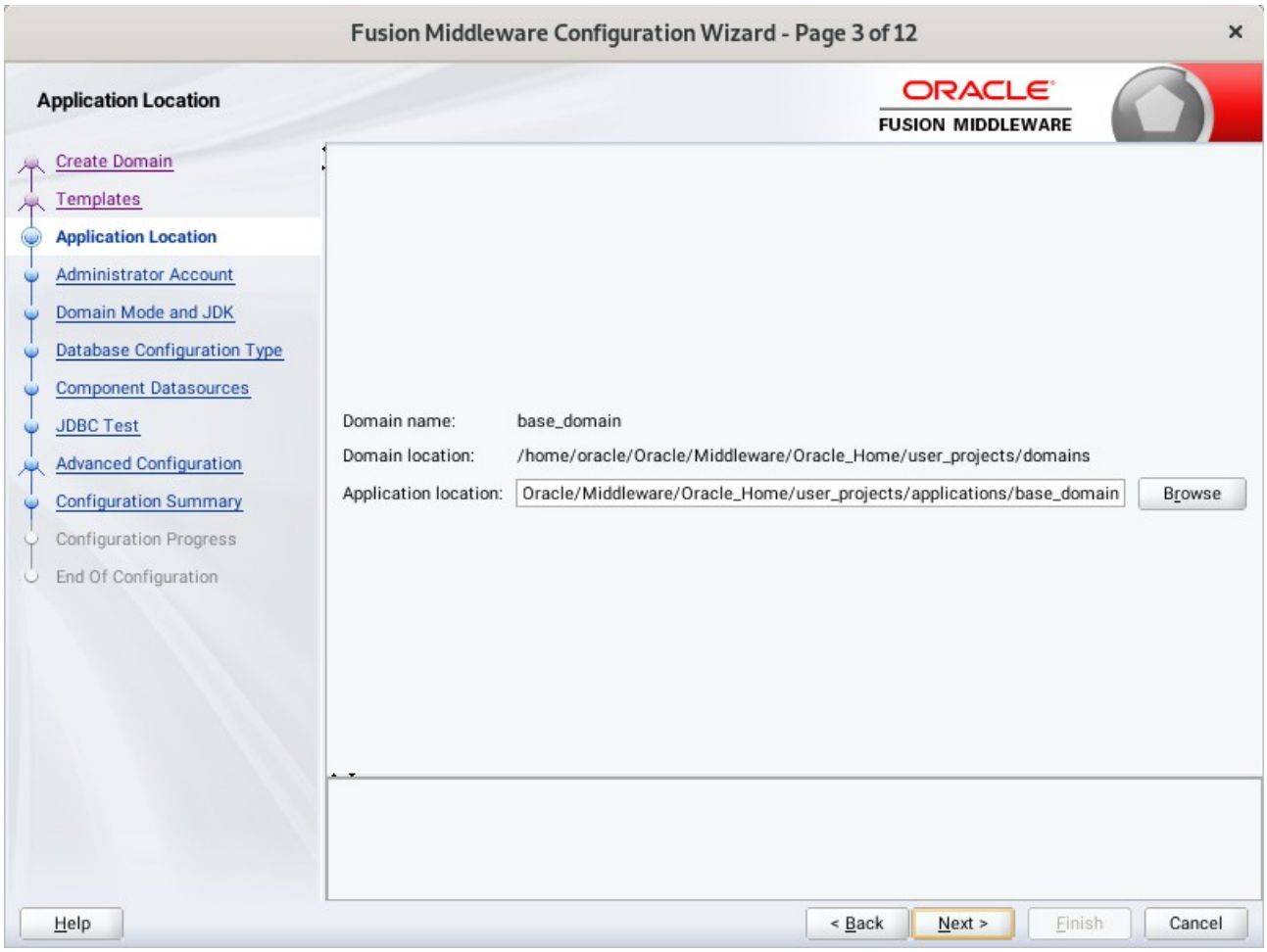
Click **Next** to continue.

2). The **Templates screen** appears.



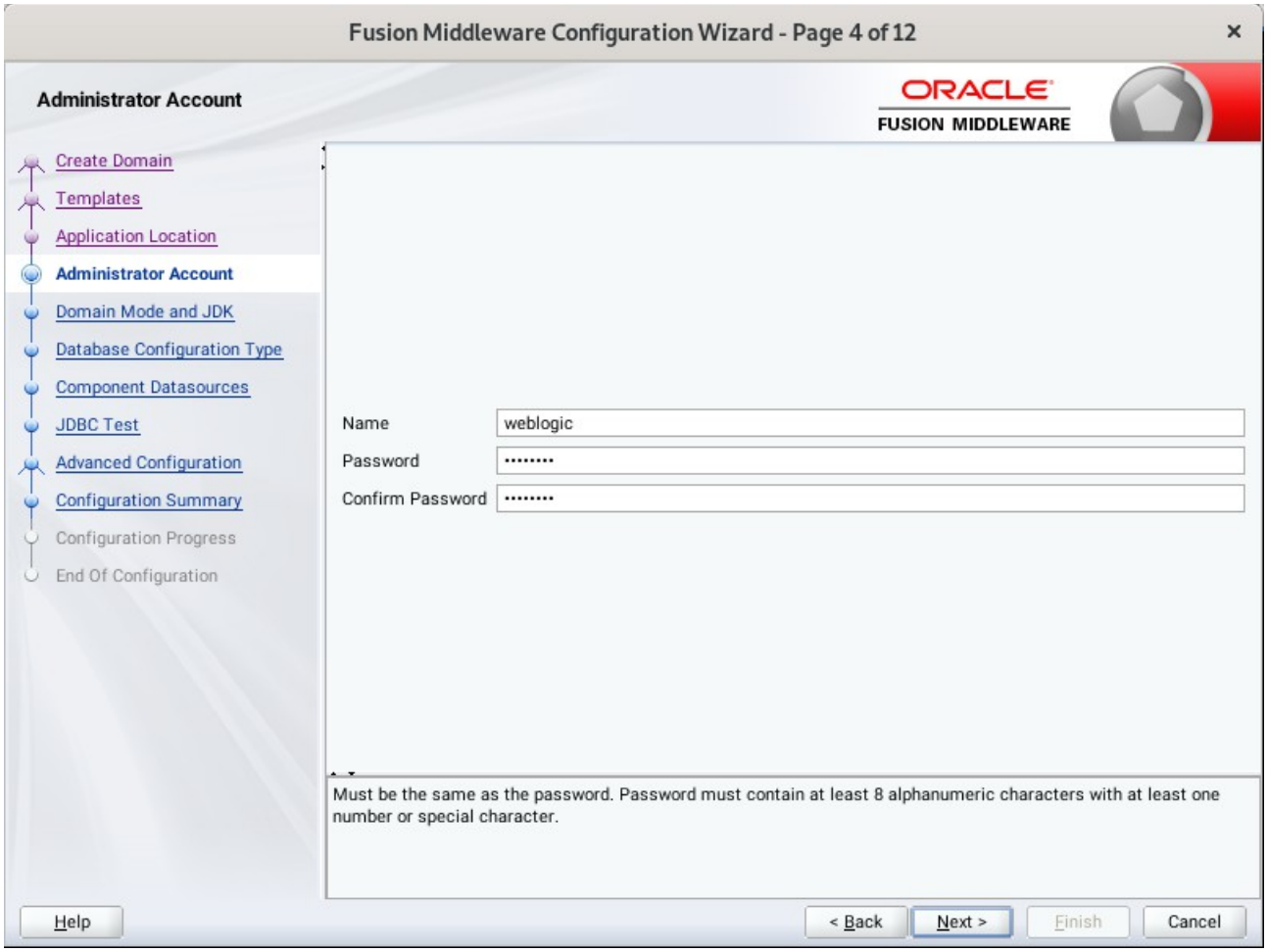
Keep the default selection (**Create Domain using Product Templates**), and select **Oracle HTTP Server (Collocated) [ohs]** component. This automatically selects **Oracle Enterprise Manager [em]** and so on. Click **Next** to continue.

3). The **Application Location** screen appears.



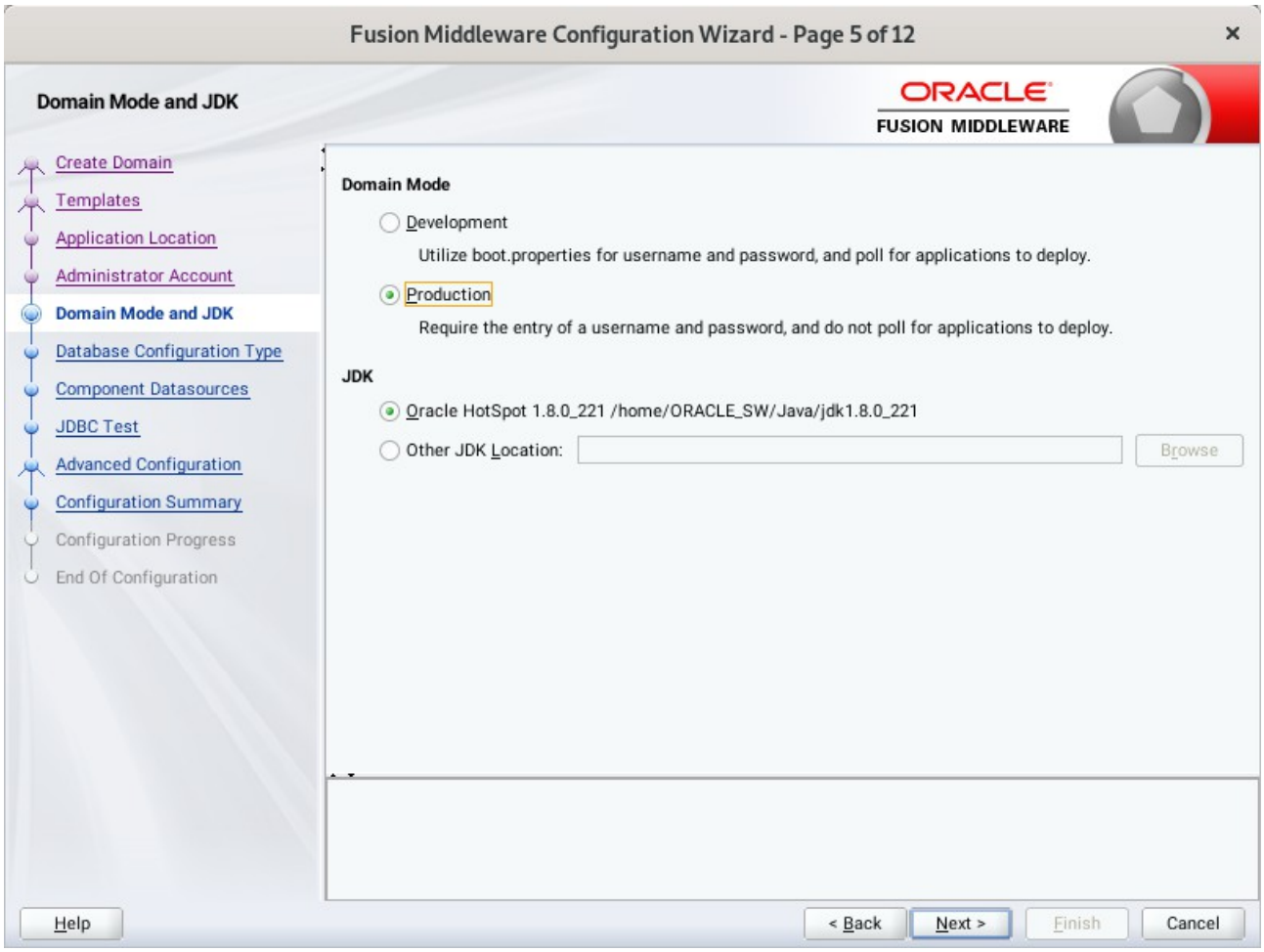
Keep the default value for Application location.Click **Next** to continue.

4). The **Administrator Account** screen appears.



Enter the WebLogic Domain administration username and password. This information will be needed to access WebLogic Server Control and Fusion Middleware Control. Click **Next** to continue.

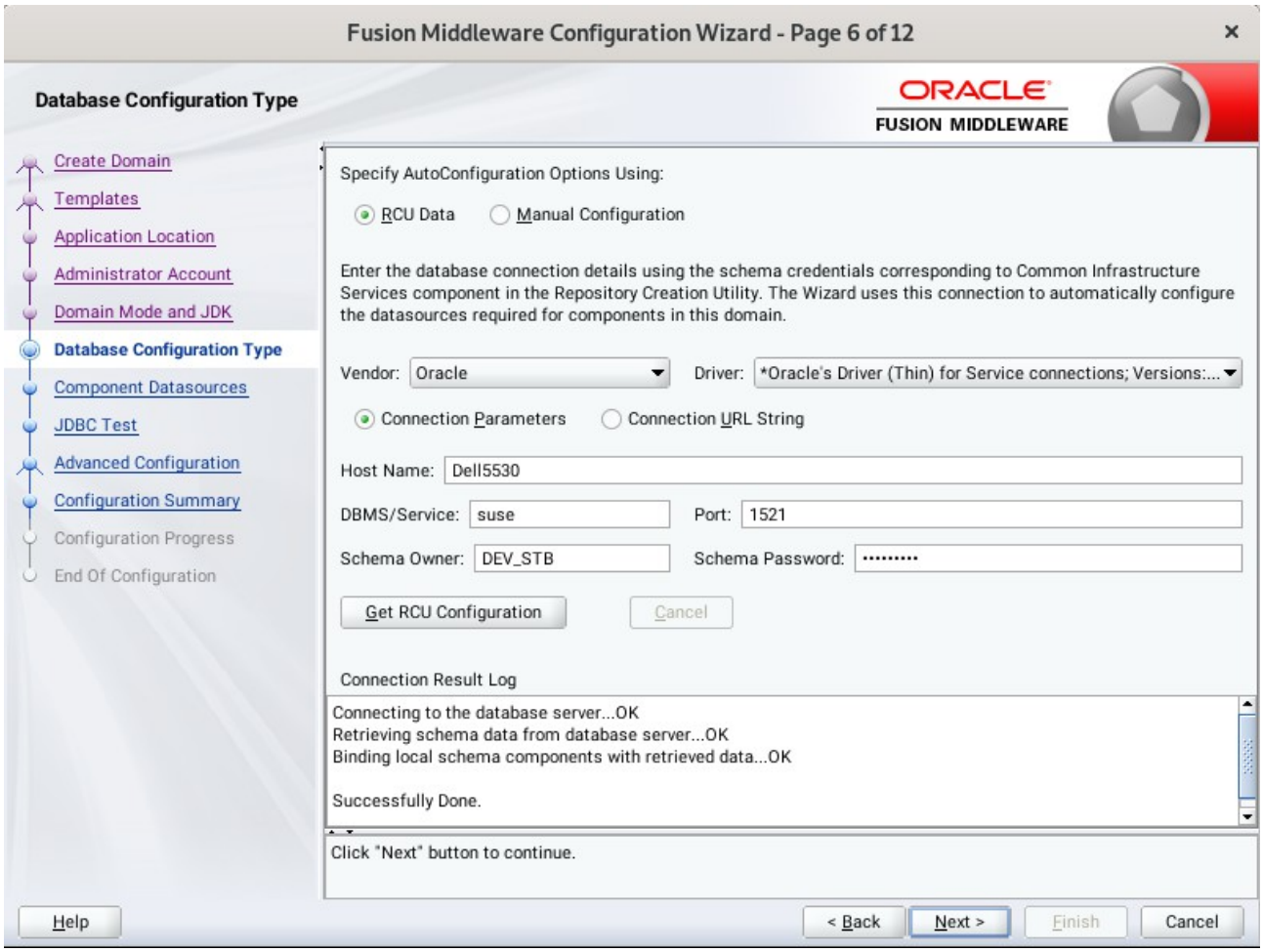
5). The **Domain Mode and JDK** screen appears.



Select the Domain Mode (either **Development** or **Production**). For our purposes, select **Production**. Leave the default JDK selection as it appears, unless using another version of the JDK desired.

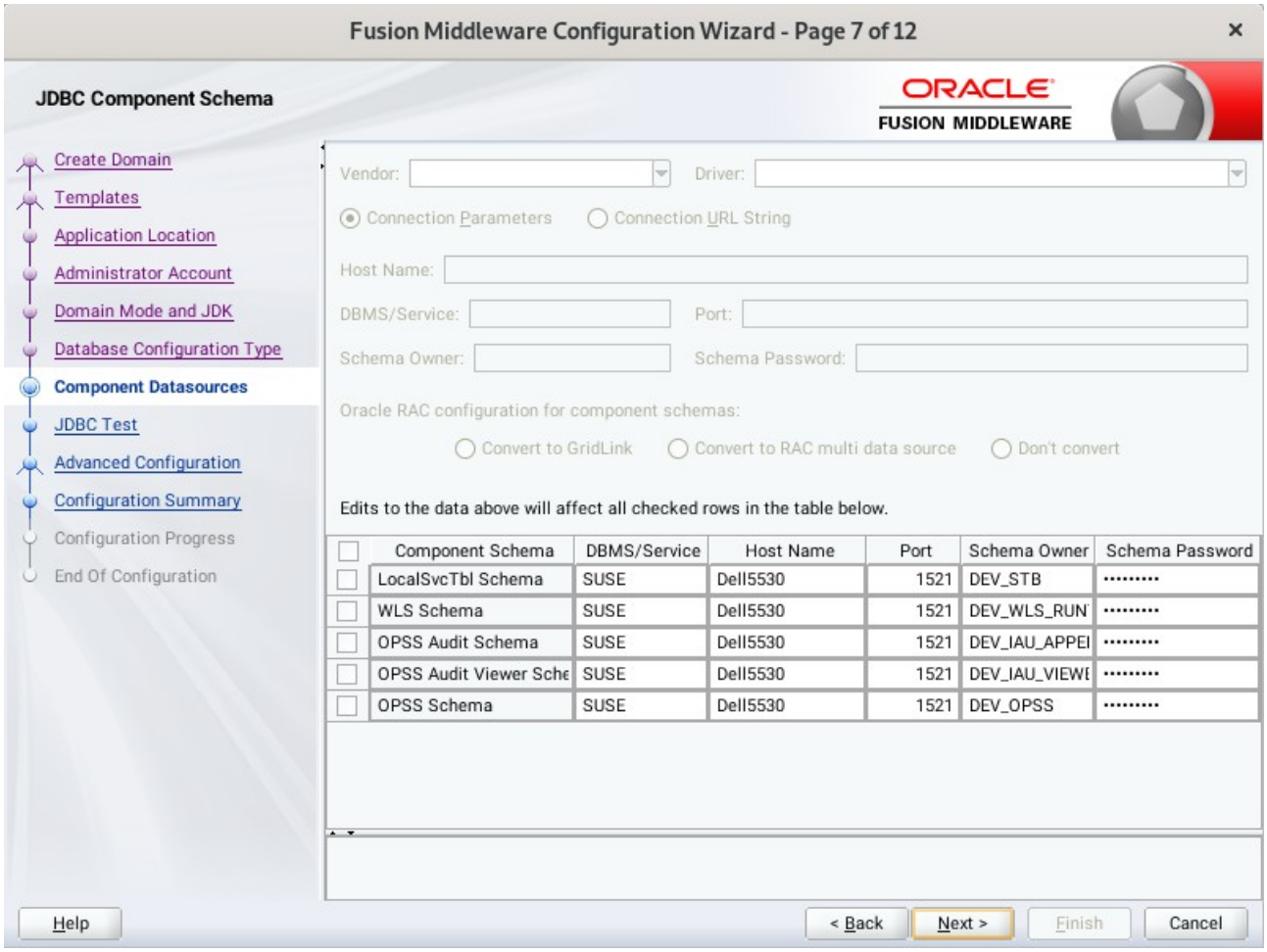
(**Note**: Your installation can only be secured with Identity Management if you are configuring your components in deployment mode.)

6). The **Database Configuration Type** screen appears.



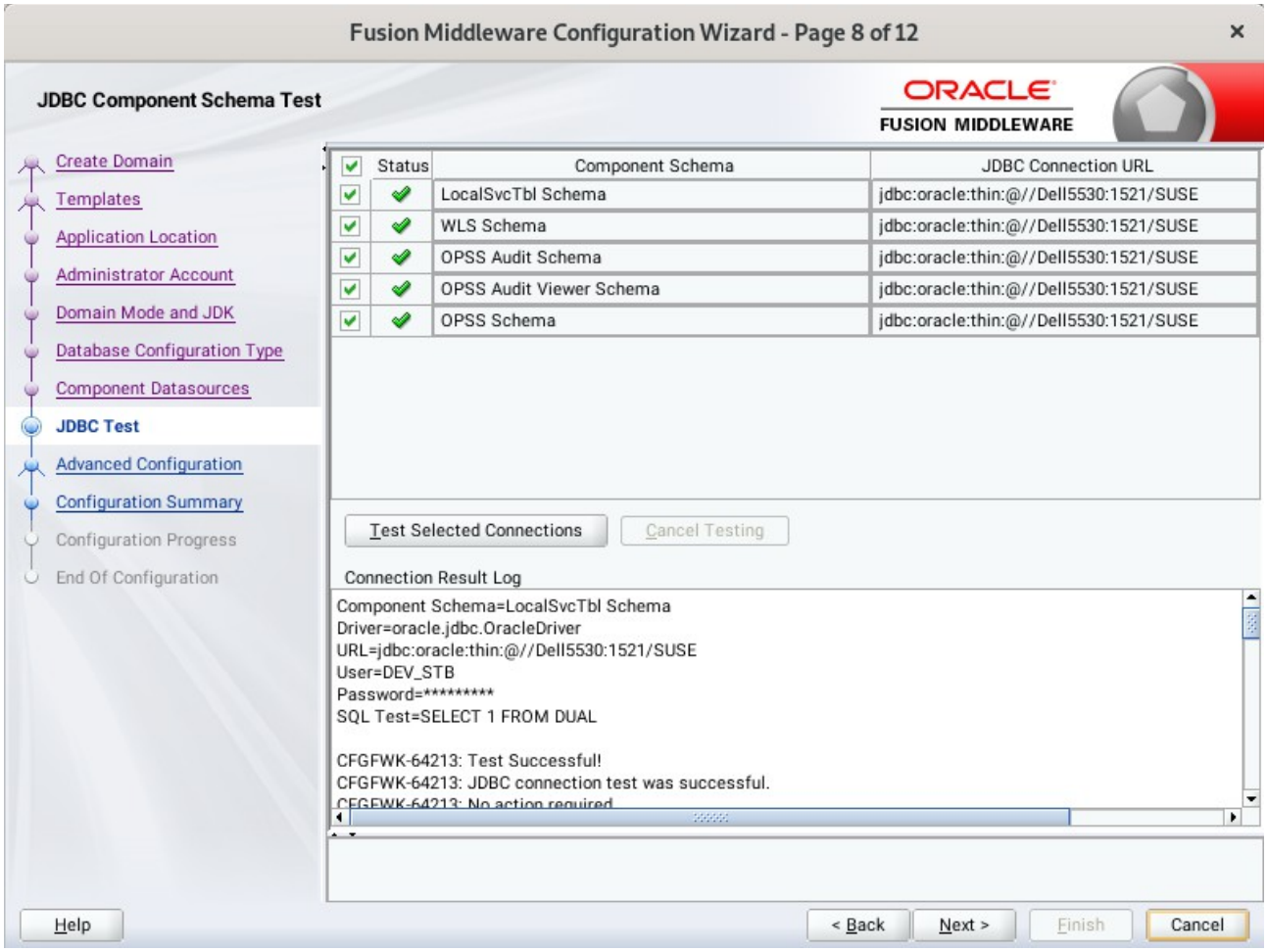
Enter the RCU DB connection information, then click **Get RCU Configuration**. You should receive a success message. Click **Next** to continue.

7). The **JDBC Component Schema** screen appears.



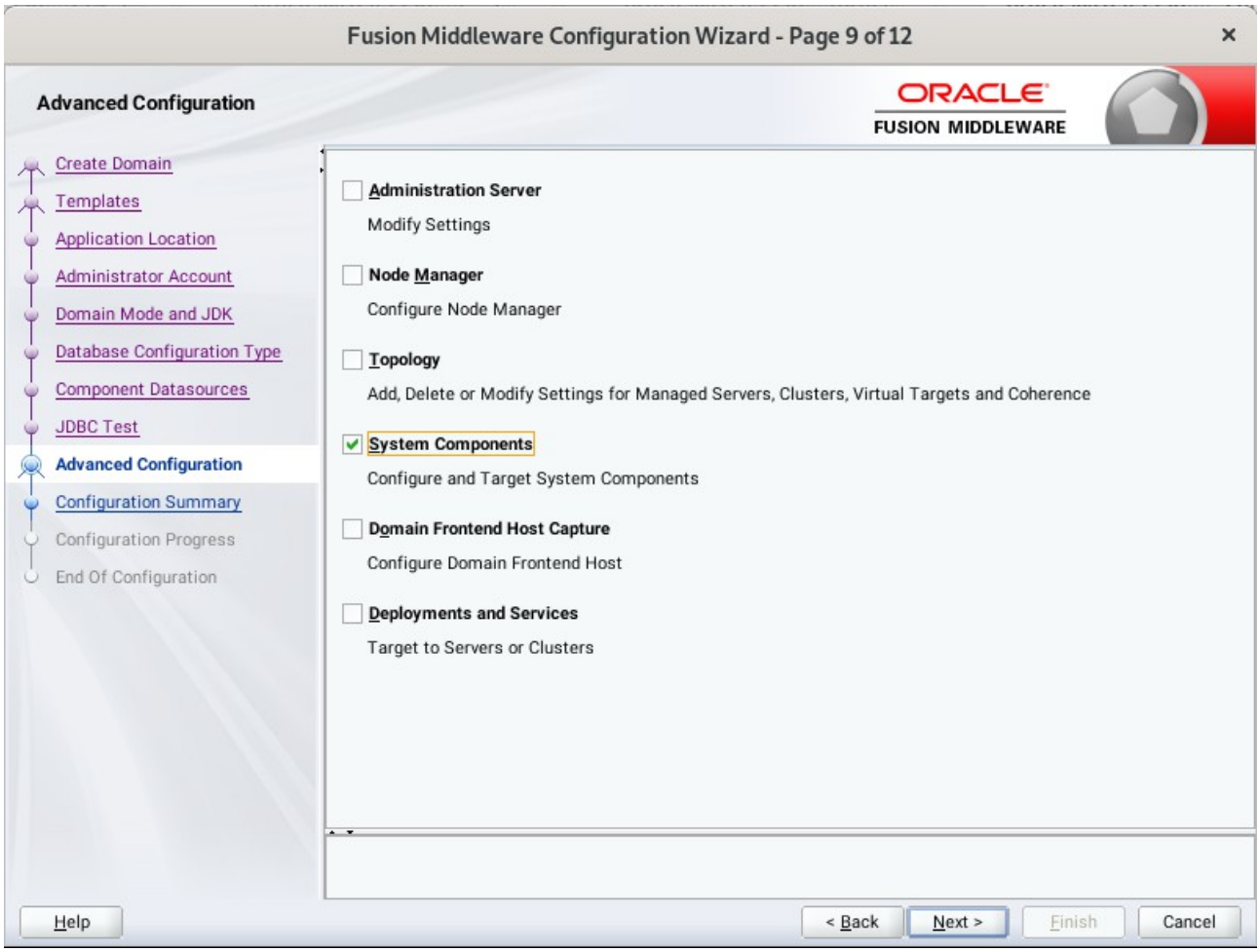
Our instructions assume each Repository schema uses the same password. If not, enter the correct schema passwords. Click **Next** to continue.

8). The **JDBC Component Schema Test** screen appears.



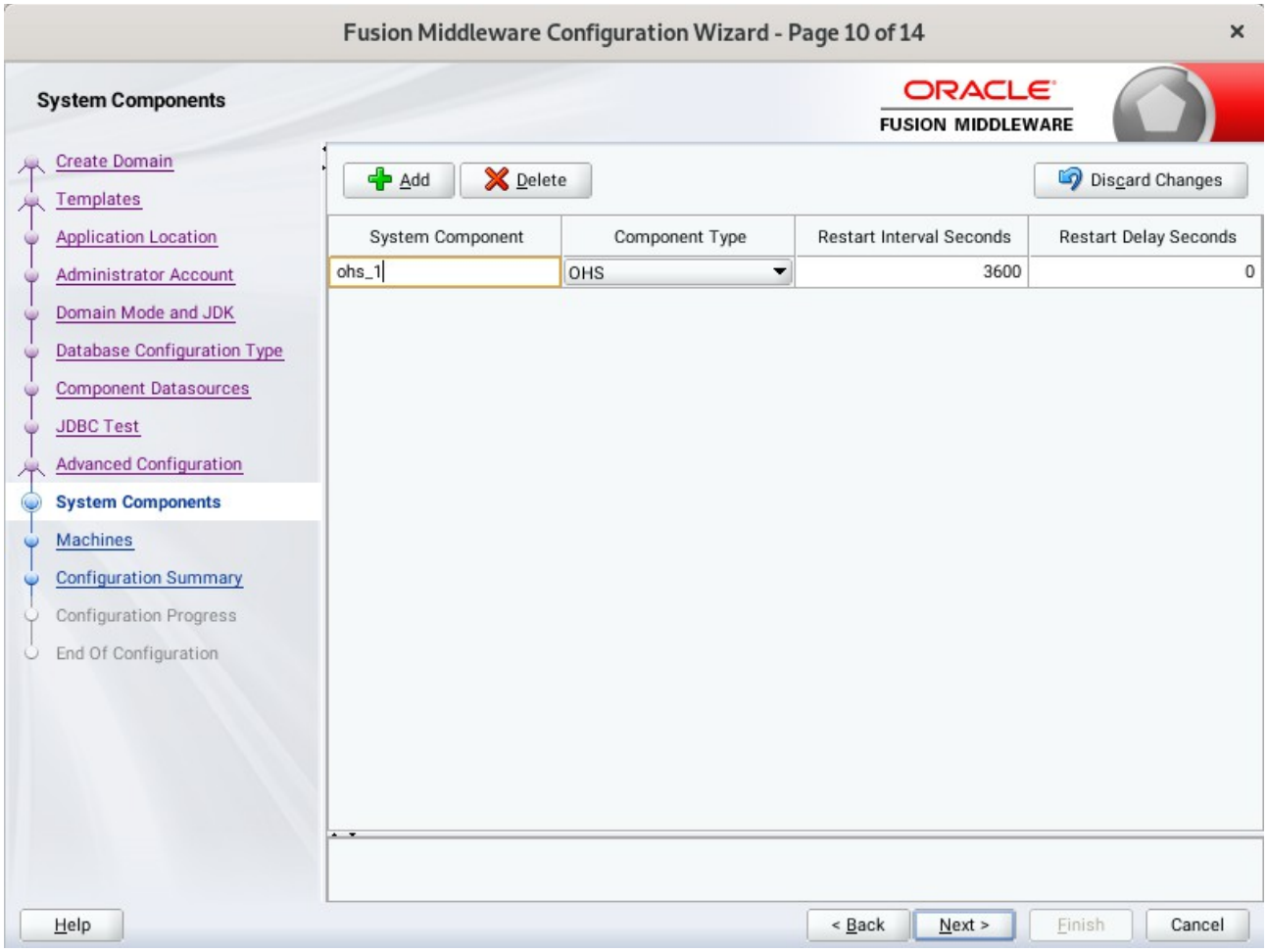
The tests are run and the results given. Ensure all test results are successful.Click **Next** to continue.

9). The **Advanced Configuration** screen appears.



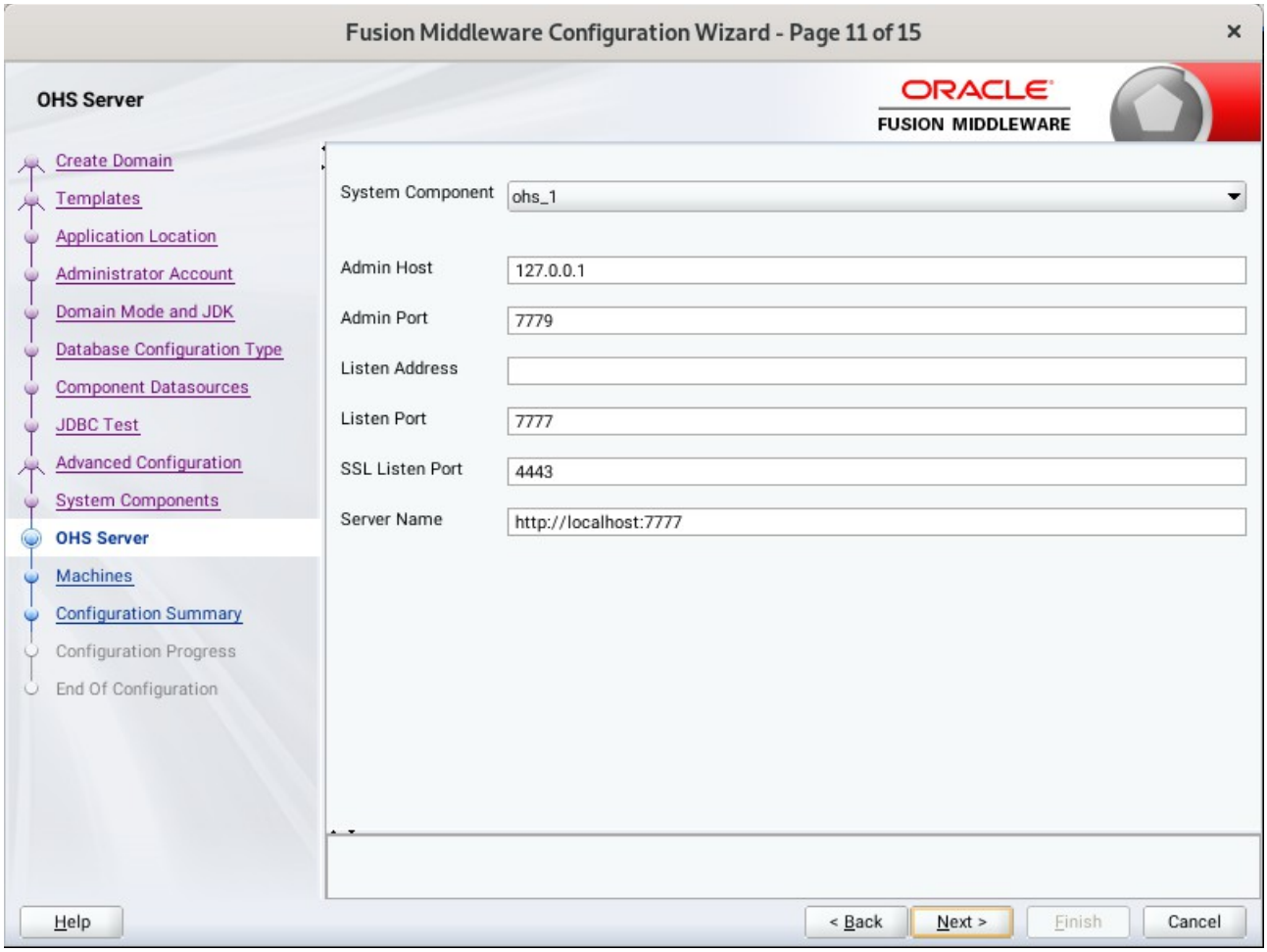
Choose the services on your requirements, then click **Next** to continue.

10). The **System Components** screen appears.



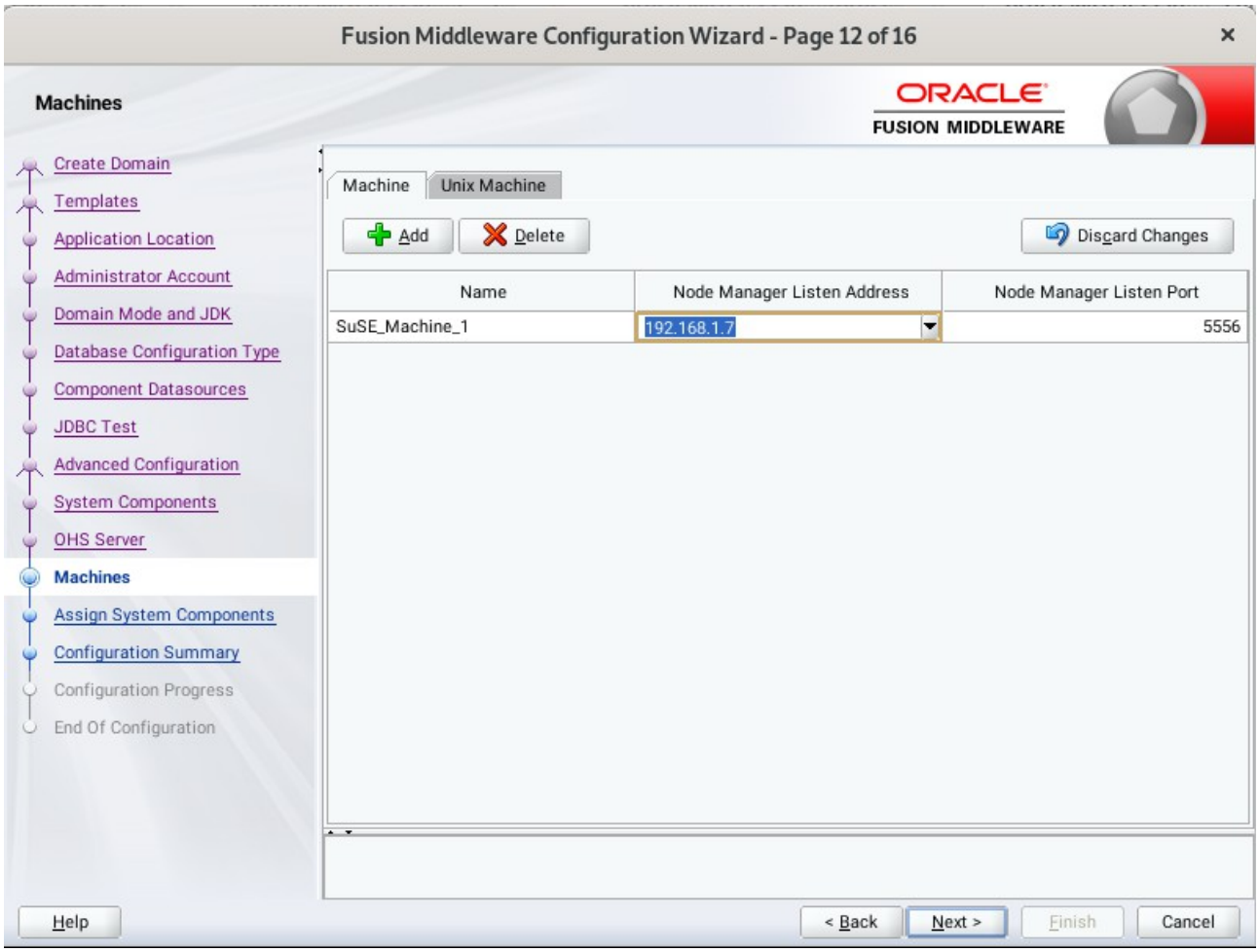
Click **Add** to create a new Oracle HTTP Server instance. Specify '*ohs_1*' in the **System Component** field, and specify '*OHS*' in the **Component Type** field. Click **Next** to continue.

11). The **OHS Server** screen appears.



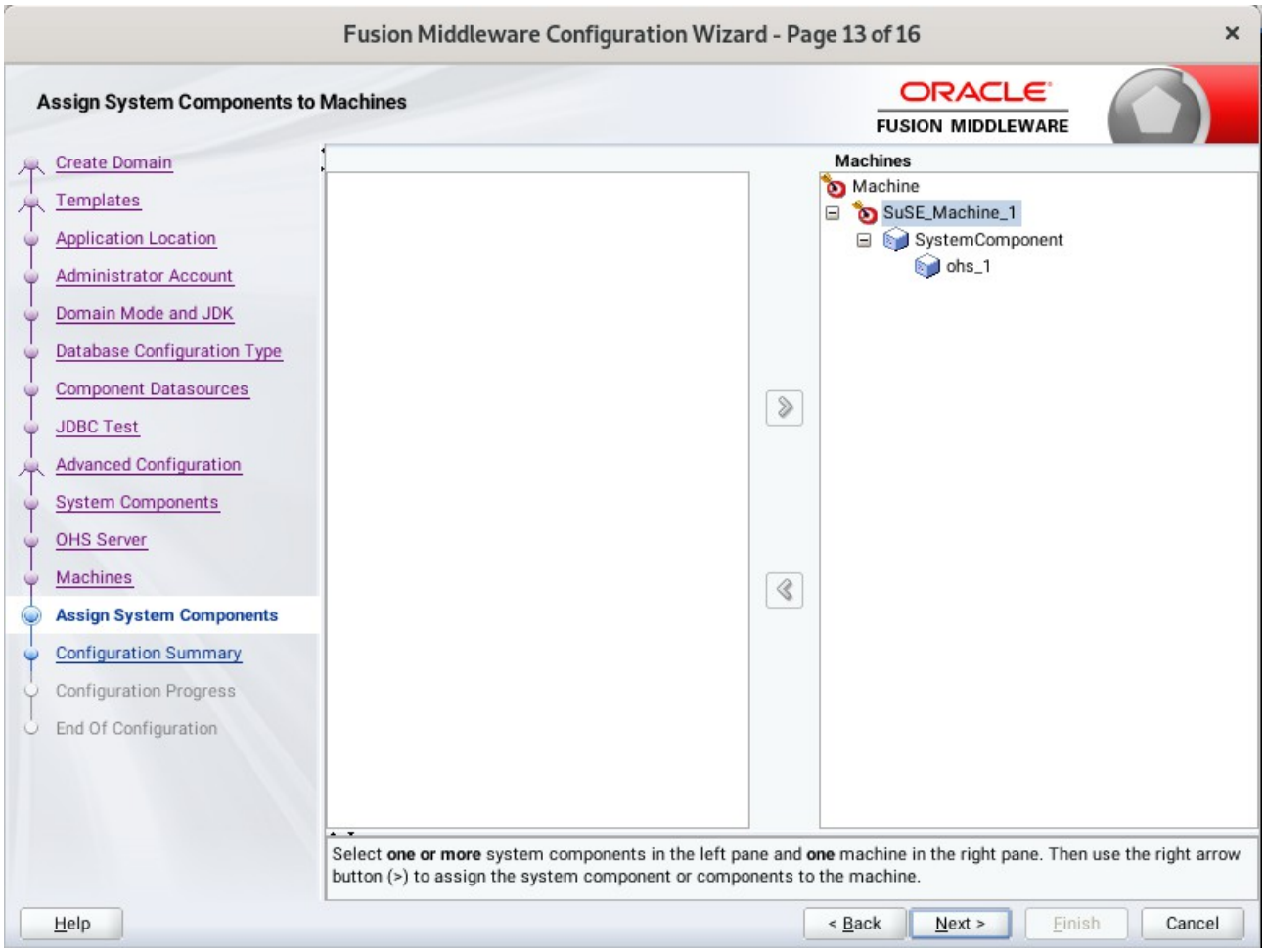
Use the **OHS Server** screen to configure the Oracle HTTP Server servers in your domain. In the System Component field specify the IP address of the host on which the Oracle HTTP Server instance will reside. Do not use "localhost". Click **Next** to continue.

12). The **Machines** screen appears.



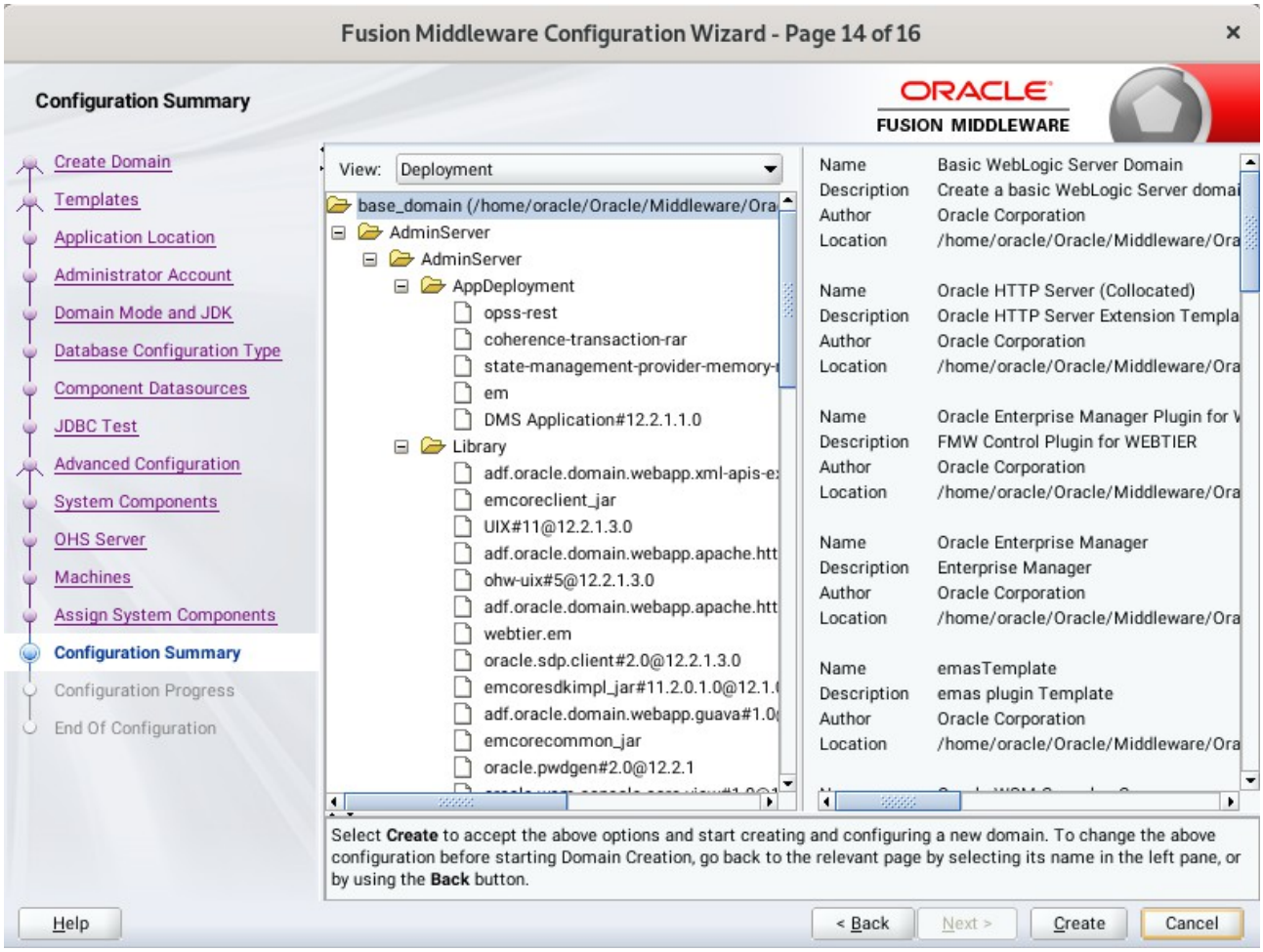
You can use this screen to override the machine name or add addition Machine names for extend domain. Click **Next** to continue.

13). The **Assign System Components** screen appears.



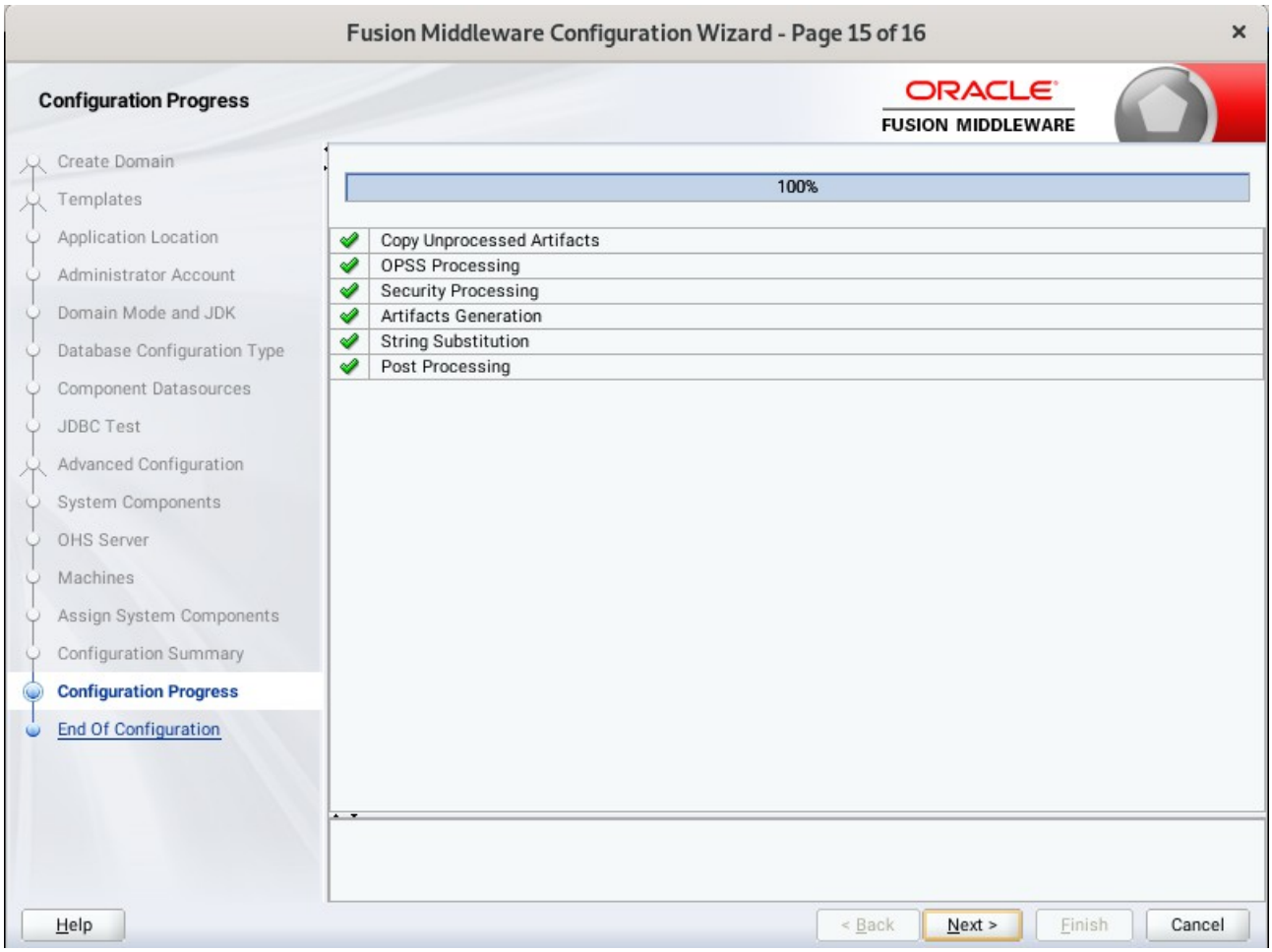
Select the '**ohs_1**' in the System Component list box and click the right arrow. Click **Next** to continue.

14). The **Configuration Summary** screen appears.



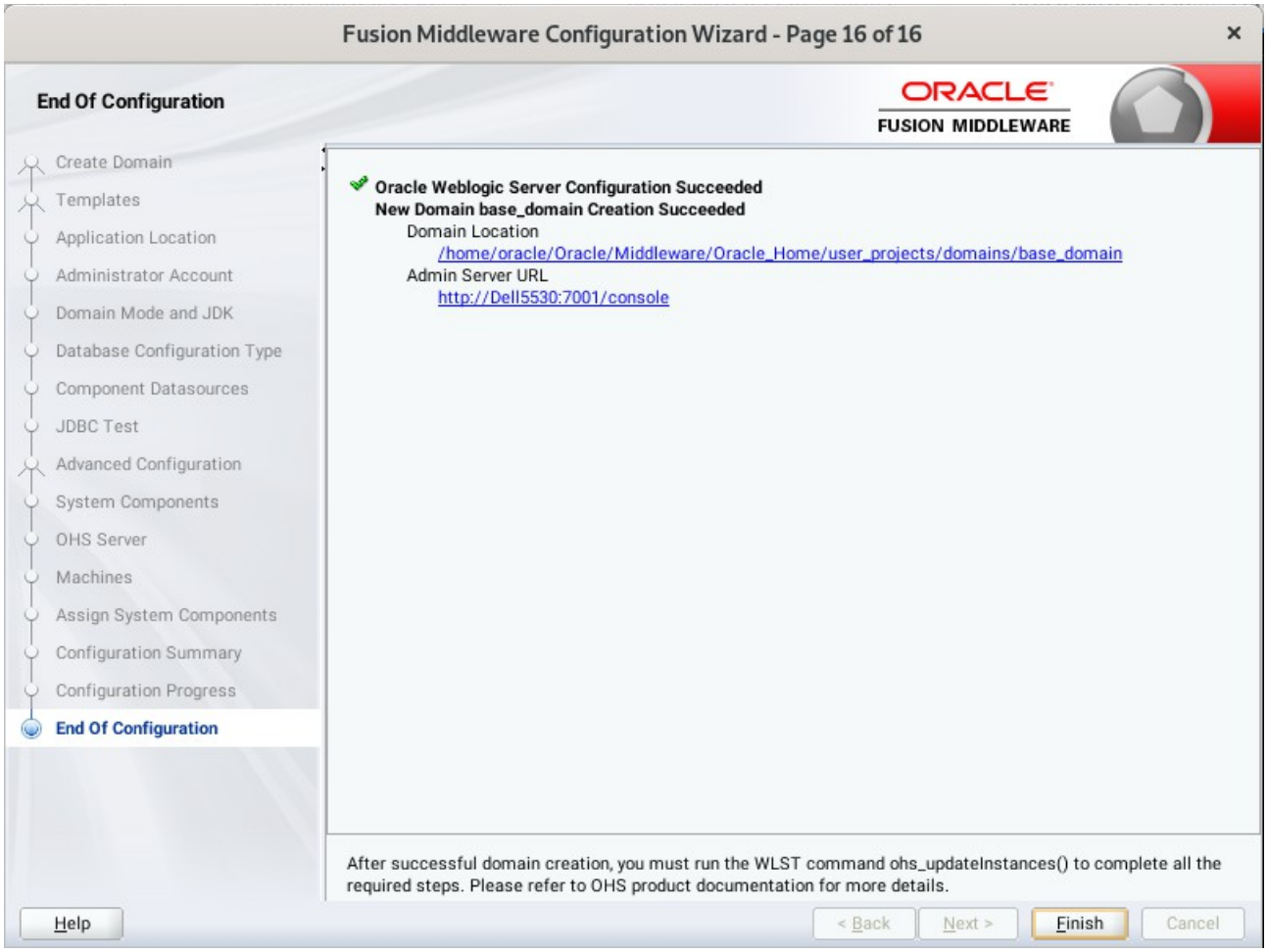
Select **Create** to accept the above options and start creating and configuring a new domain.

15). The **Configuration Progress** screen appears.



Wait for this part of the configuration to complete. Depending on the location and performance of the Repository database, this process may take a few minutes. Click **Next** to continue.

16). The **End of Configuration** screen appears.



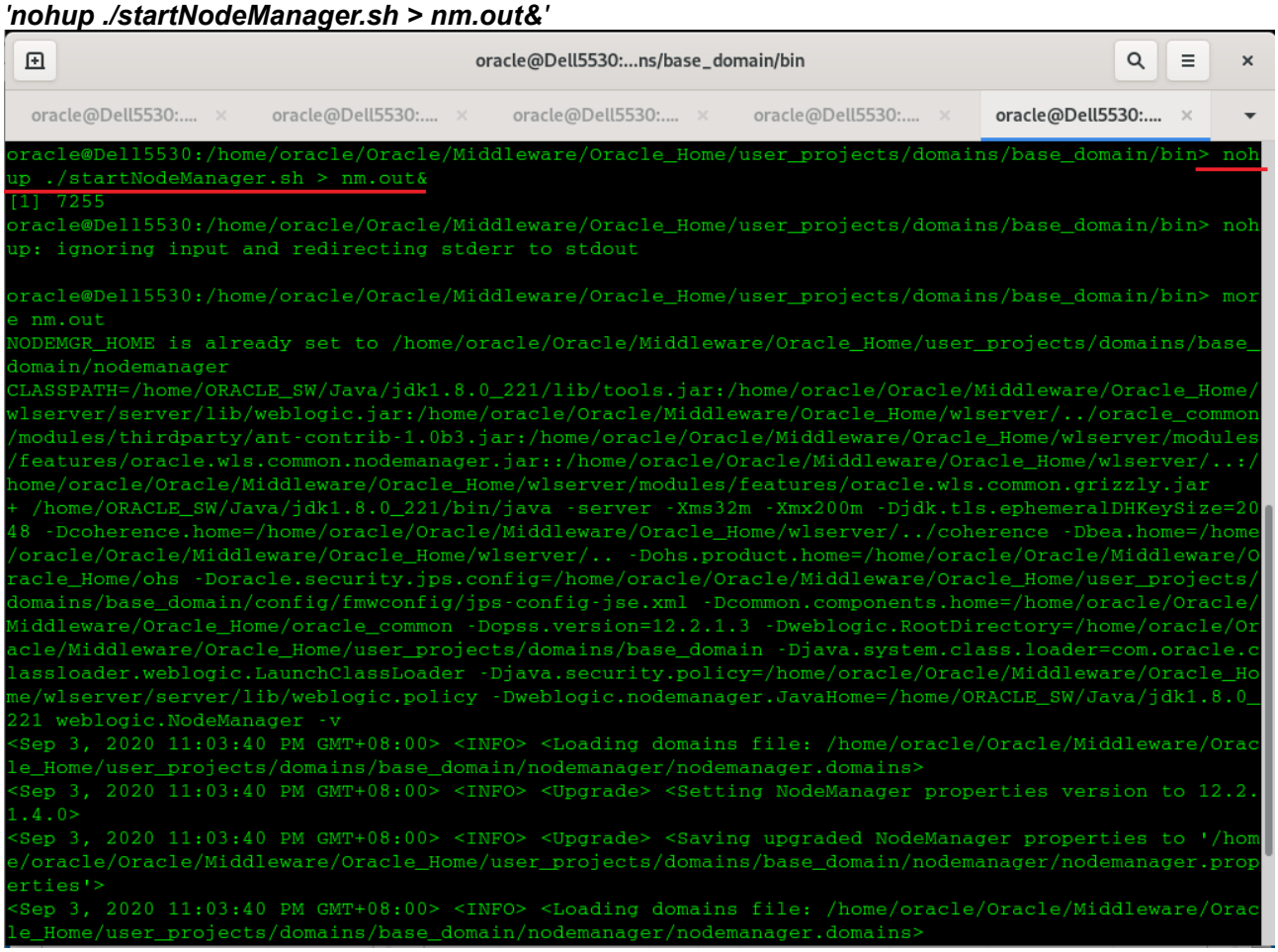
Once you see: "Oracle Weblogic Server Configuration Succeeded", record the '**Domain Location**' and '**Admin Server URL**', then click **Finish** to dismiss the Configuration Wizard.

4. Verifying Oracle WebTier 12cR2 OHS Installation and Configuration

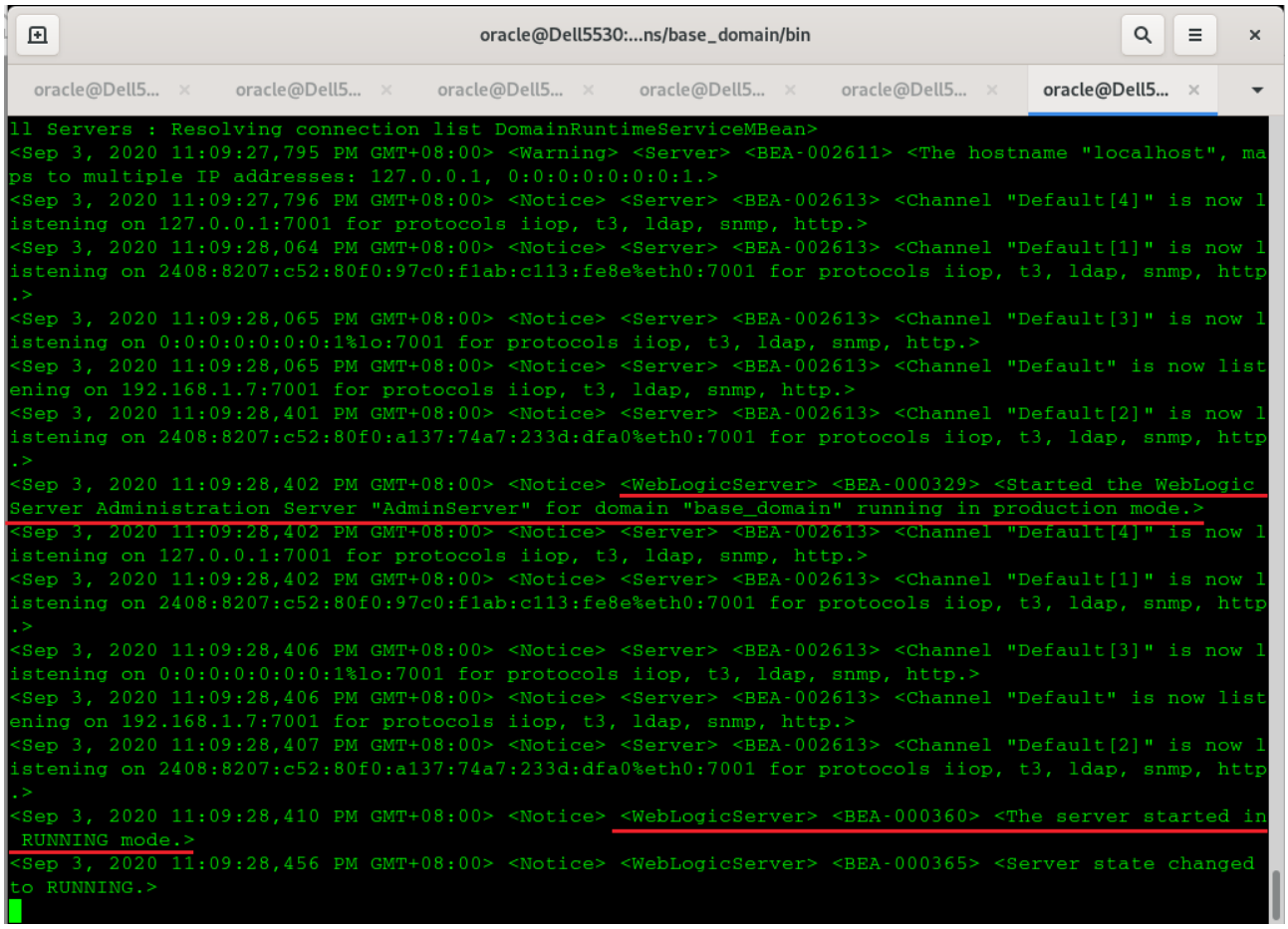
4-1. Check for the presence of installation log files in logs directory inside your Oracle Inventory directory. Also, check the domain server logs, which are located in the servers directory inside the domain home directory.

4-2. Starting the Node Manager and the Admin Server.

Starting the Node Manager, go to the DOMAIN_HOME/bin directory and run 'nohup ./startNodeManager.sh > nm.out&'



Starting Admin Server, go to the DOMAIN_HOME/bin directory and run ./startWebLogic.sh.



You know that the administrator server is running when you see the following output:

Server state changed to RUNNING.

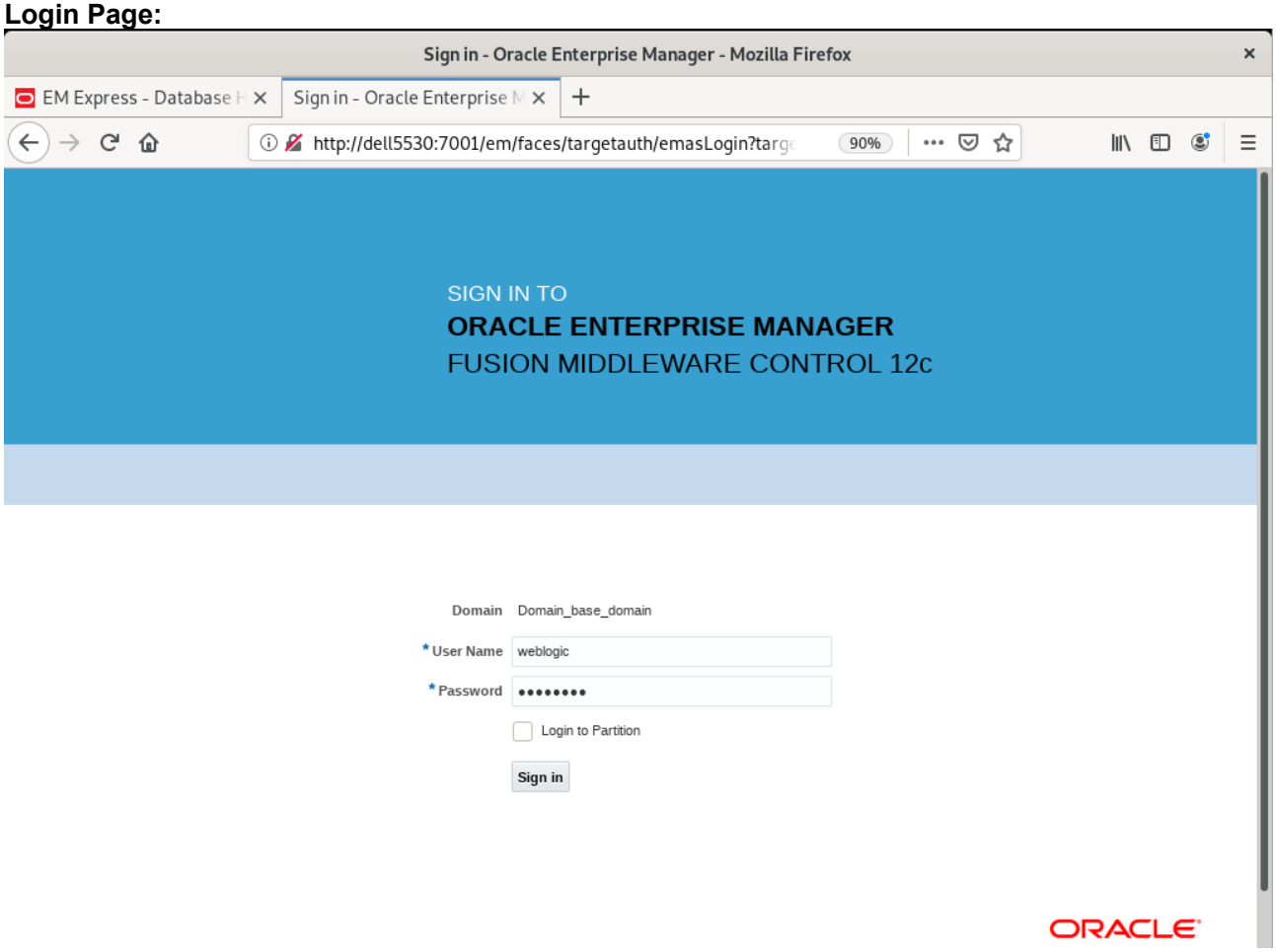
4-3. Run the WLST command ohs_updateInstances() to complete all the required steps.

```
oracle@Dell5530:/home/oracle/Oracle/Middleware/Oracle_Home/ohs/common/bin> ./wlst.sh
WARNING: This is a deprecated script. Please invoke the wlst.sh script under oracle_common/common/bin.

Initializing WebLogic Scripting Tool (WLST) ...

Welcome to WebLogic Server Administration Scripting Shell

Type help() for help on available commands

wls:/offline> connect ('weblogic','welcome1','Dell5530:7001')
Connecting to t3://Dell5530:7001 with userid weblogic ...
Successfully connected to Admin Server "AdminServer" that belongs to domain "base_domain".

Warning: An insecure protocol was used to connect to the server.
To ensure on-the-wire security, the SSL port or Admin port should be used instead.

wls:/base_domain/serverConfig/> ohs_updateInstances()
Location changed to edit custom tree. This is a writable tree with No root.
For more help, use help('editCustom')

Starting an edit session ...
Started edit session, be sure to save and activate your changes once you are done.
Saving all your changes ...
Saved all your changes successfully.
Activating all your changes, this may take a while ...
The edit lock associated with this edit session is released once the activation is completed.
Activation completed
OHS instances have been updated successfully.
wls:/base_domain/serverConfig/>
```

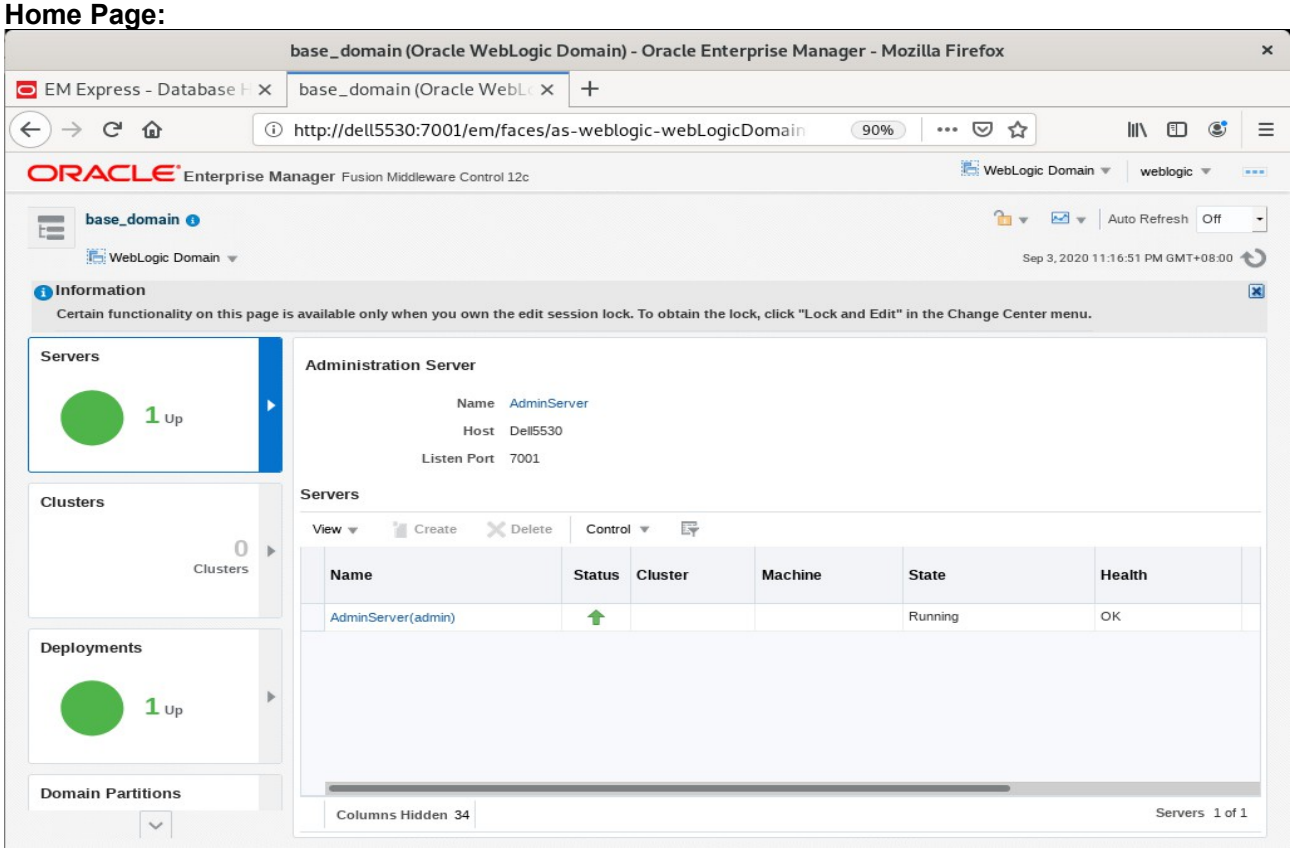
4-4. Checking Oracle WebTier Product URLs.

1). Access to Enterprise Manager Console.

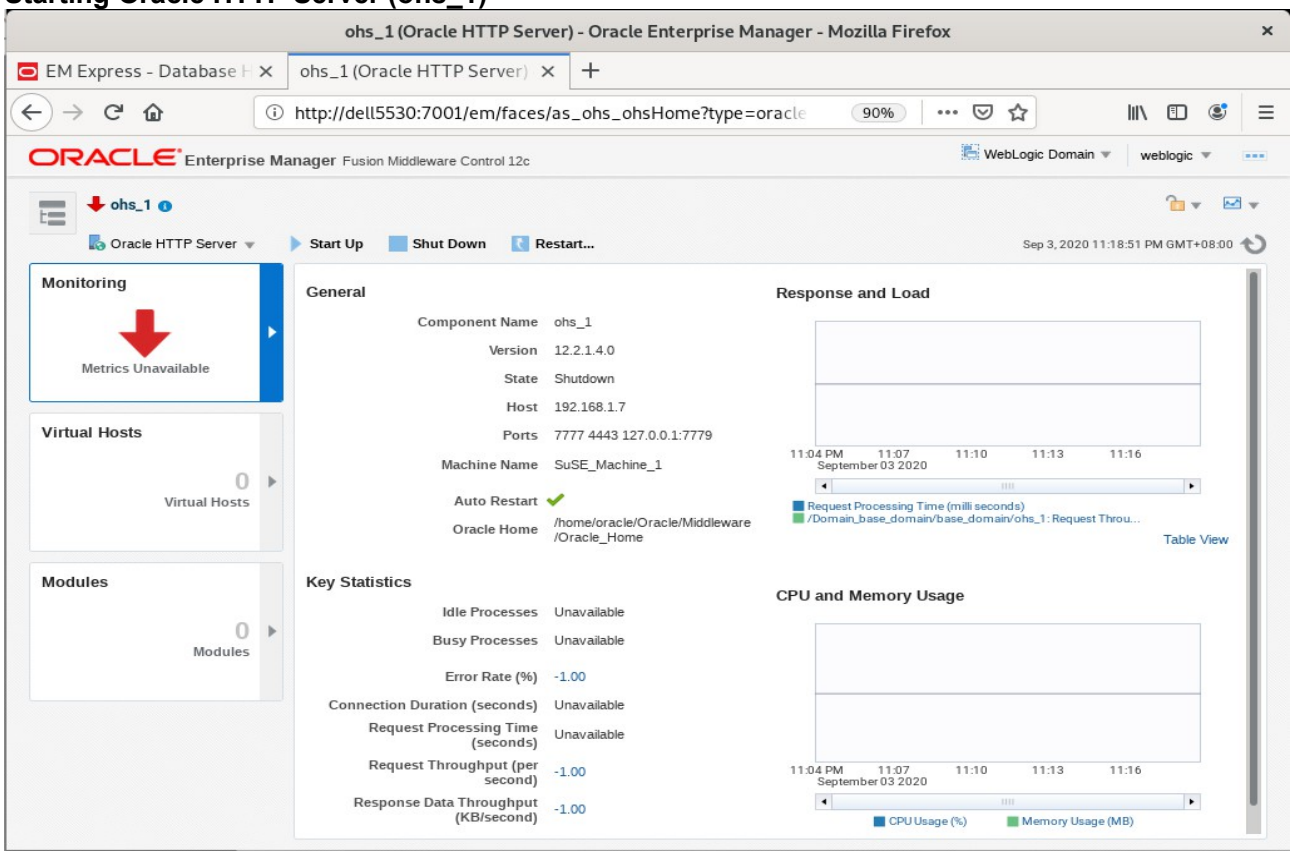
Login Page:



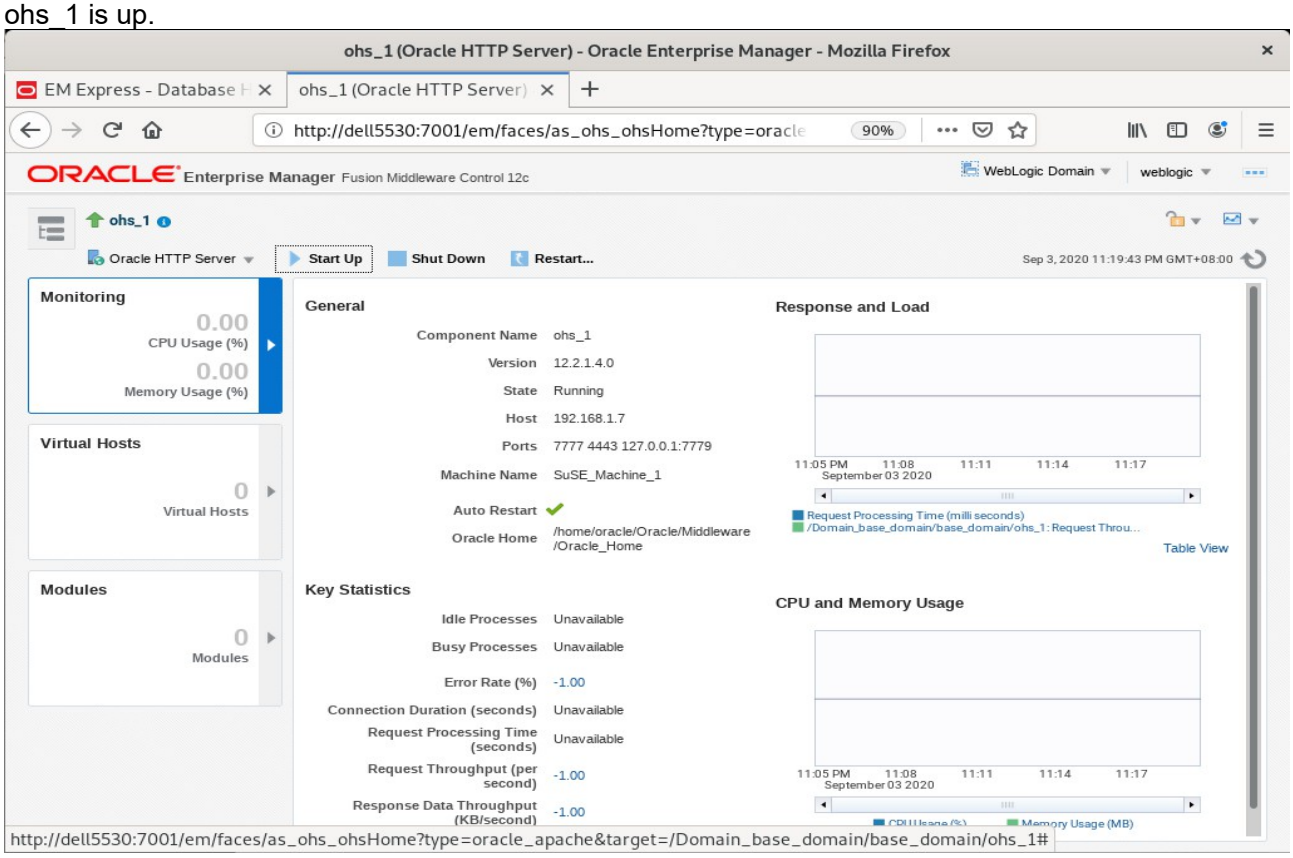
Home Page:



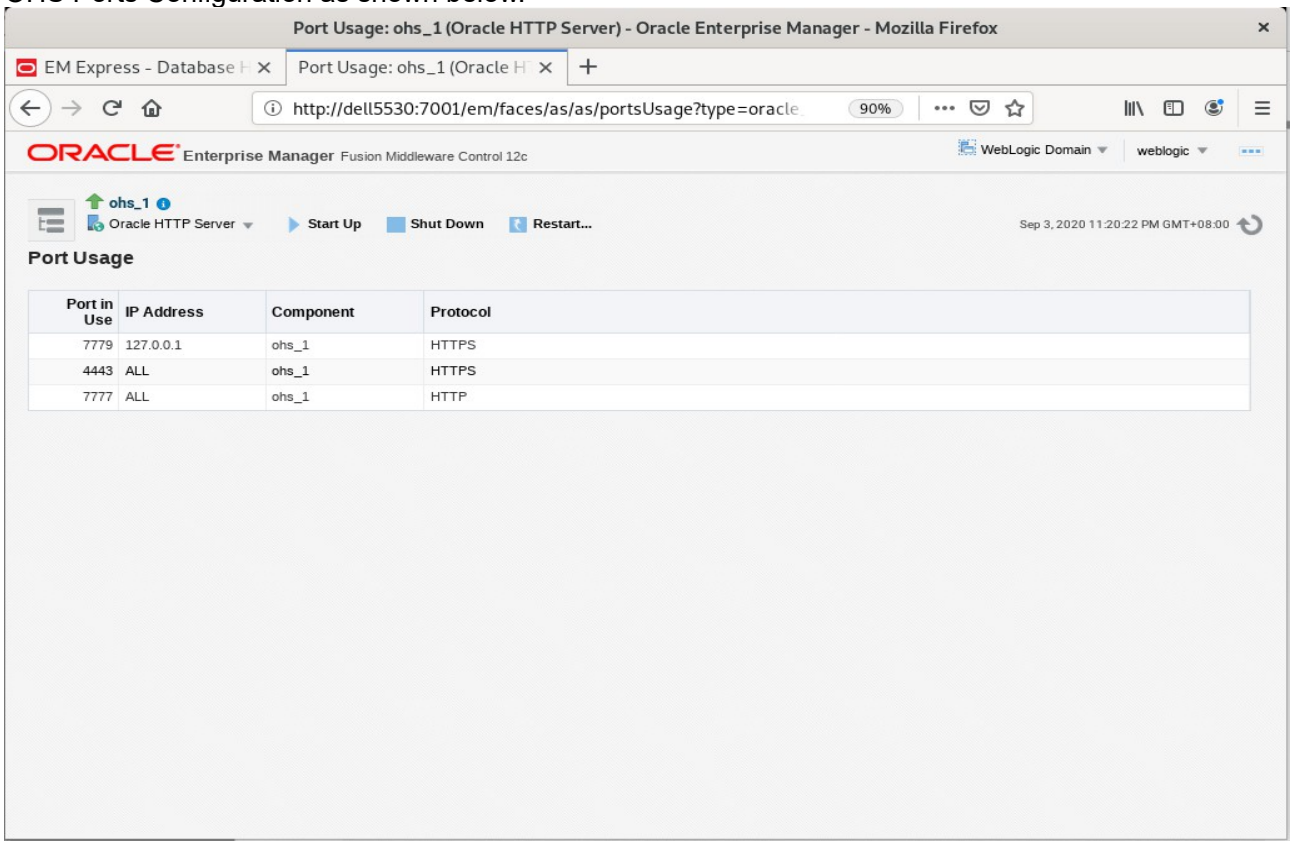
Starting Oracle HTTP Server (ohs_1)



ohs_1 is up.

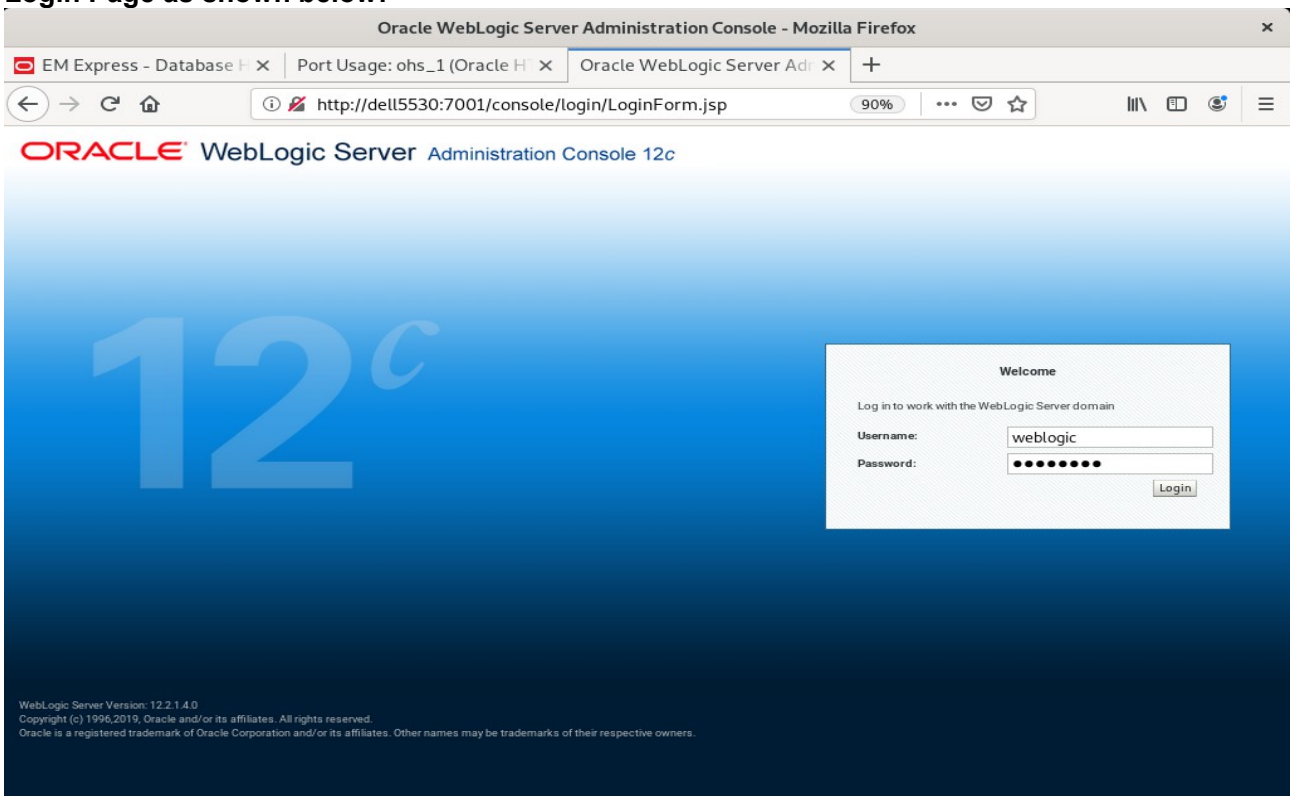


OHS Ports Configuration as shown below.

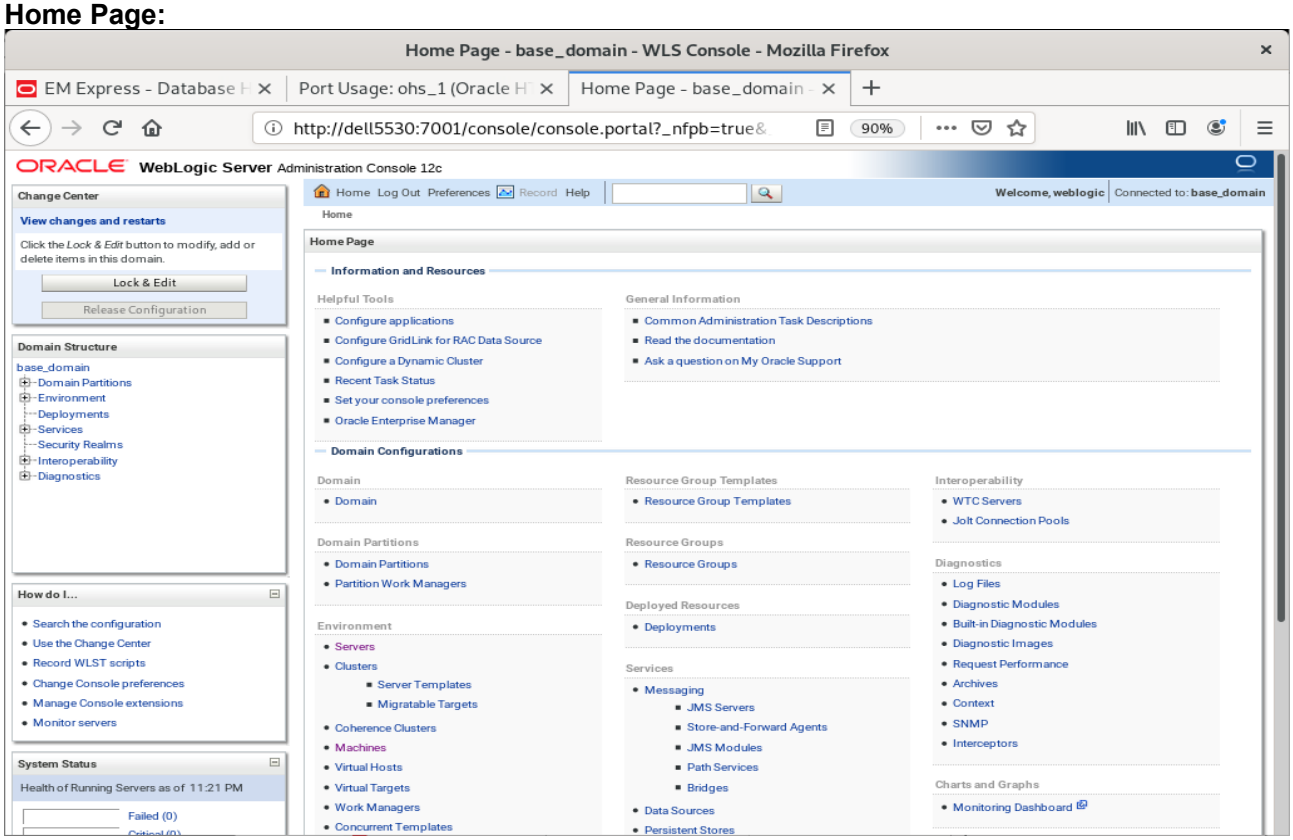


2). Access to Administration Server Console

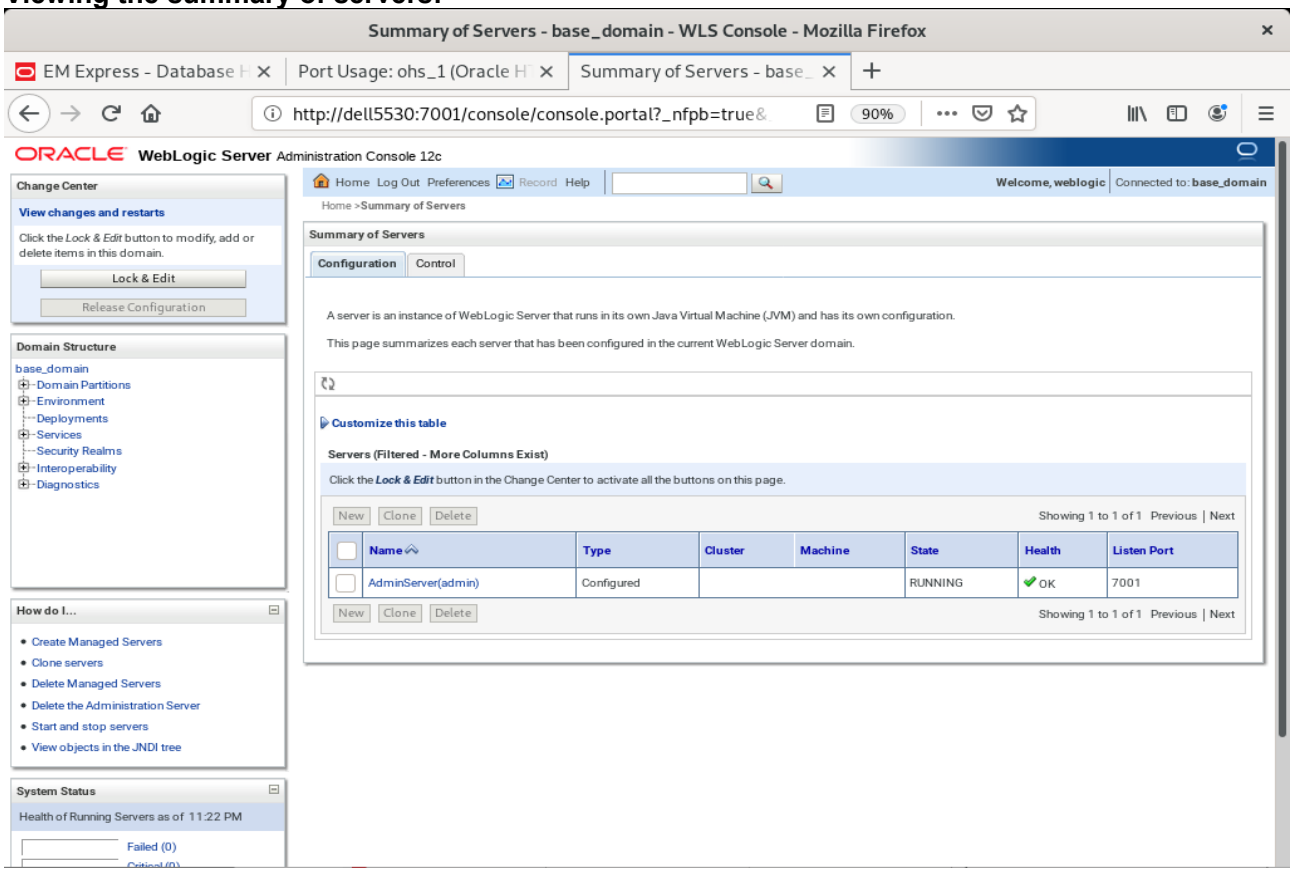
Login Page as shown below:



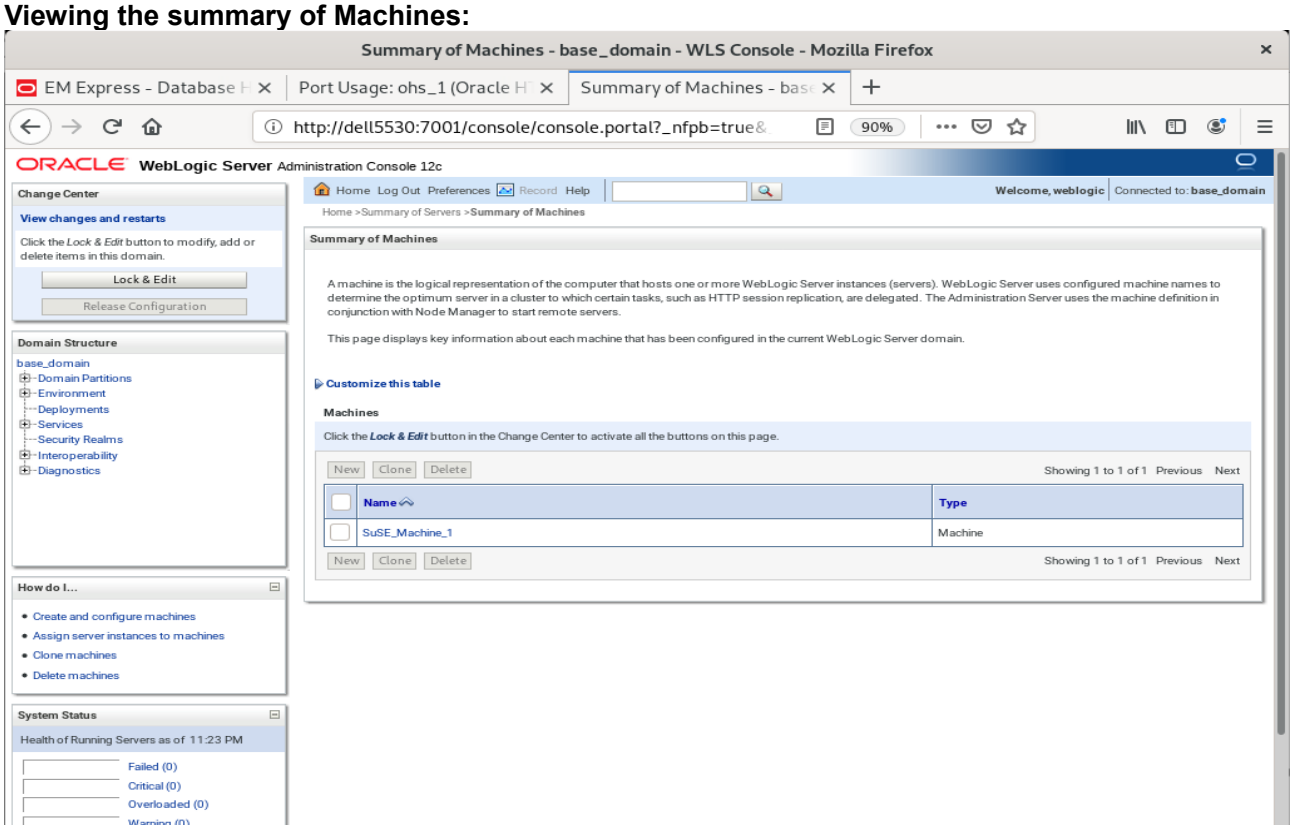
Home Page:



Viewing the summary of servers:

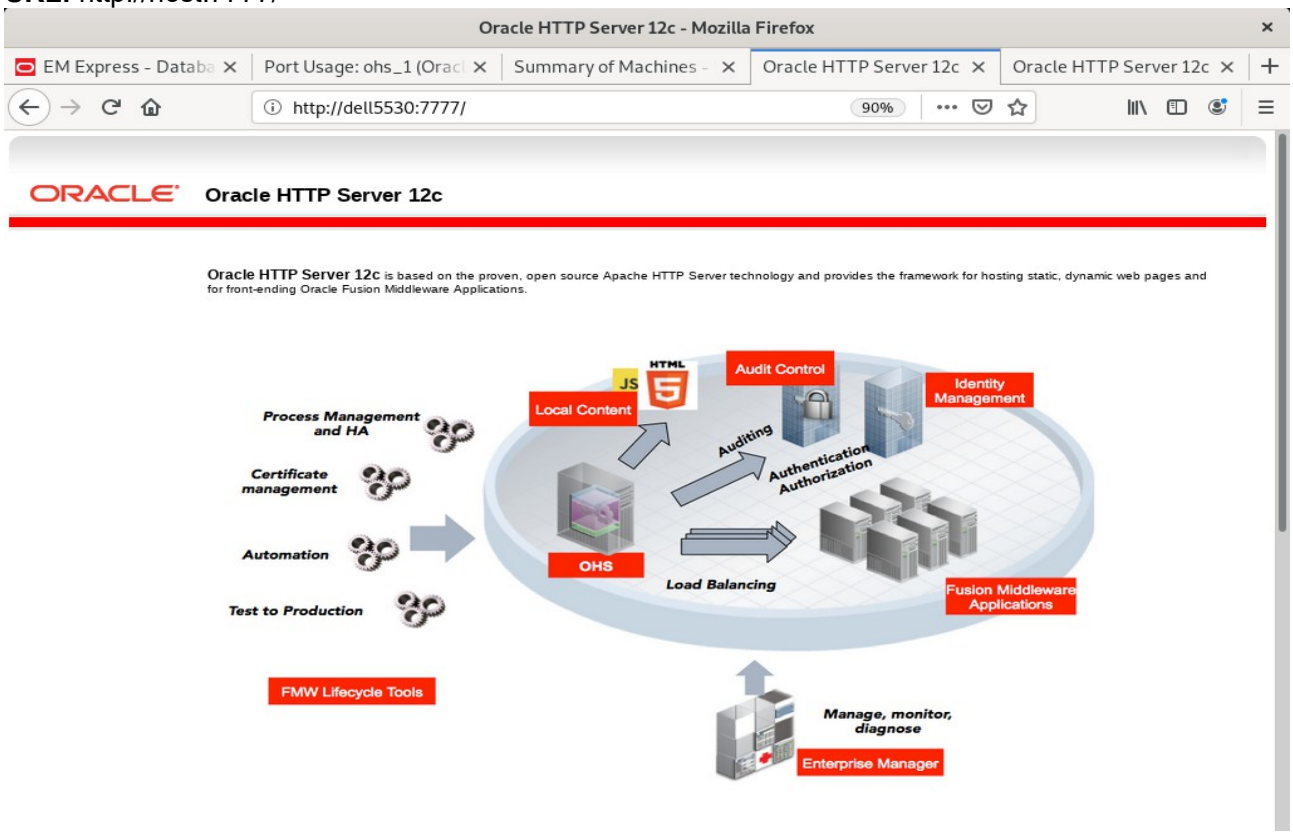


Viewing the summary of Machines:

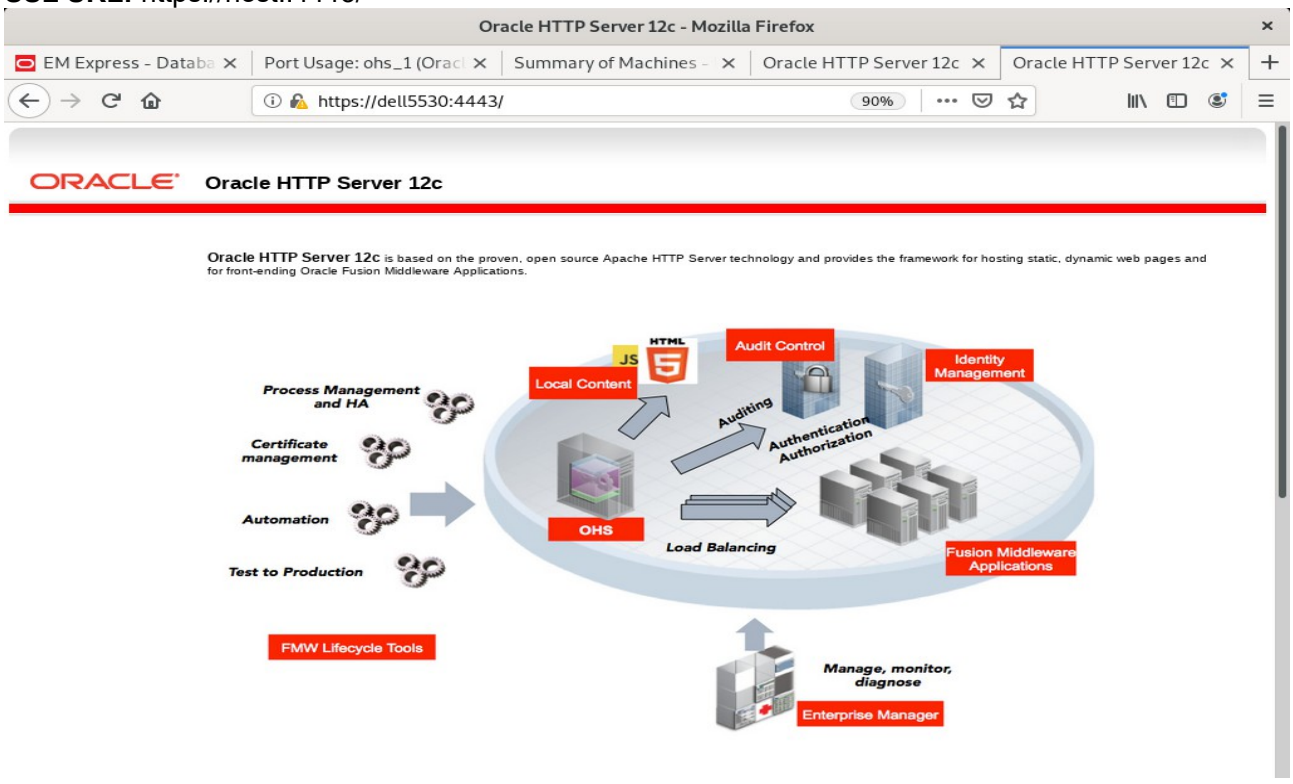


3). Access to Oracle HTTP Server listening address

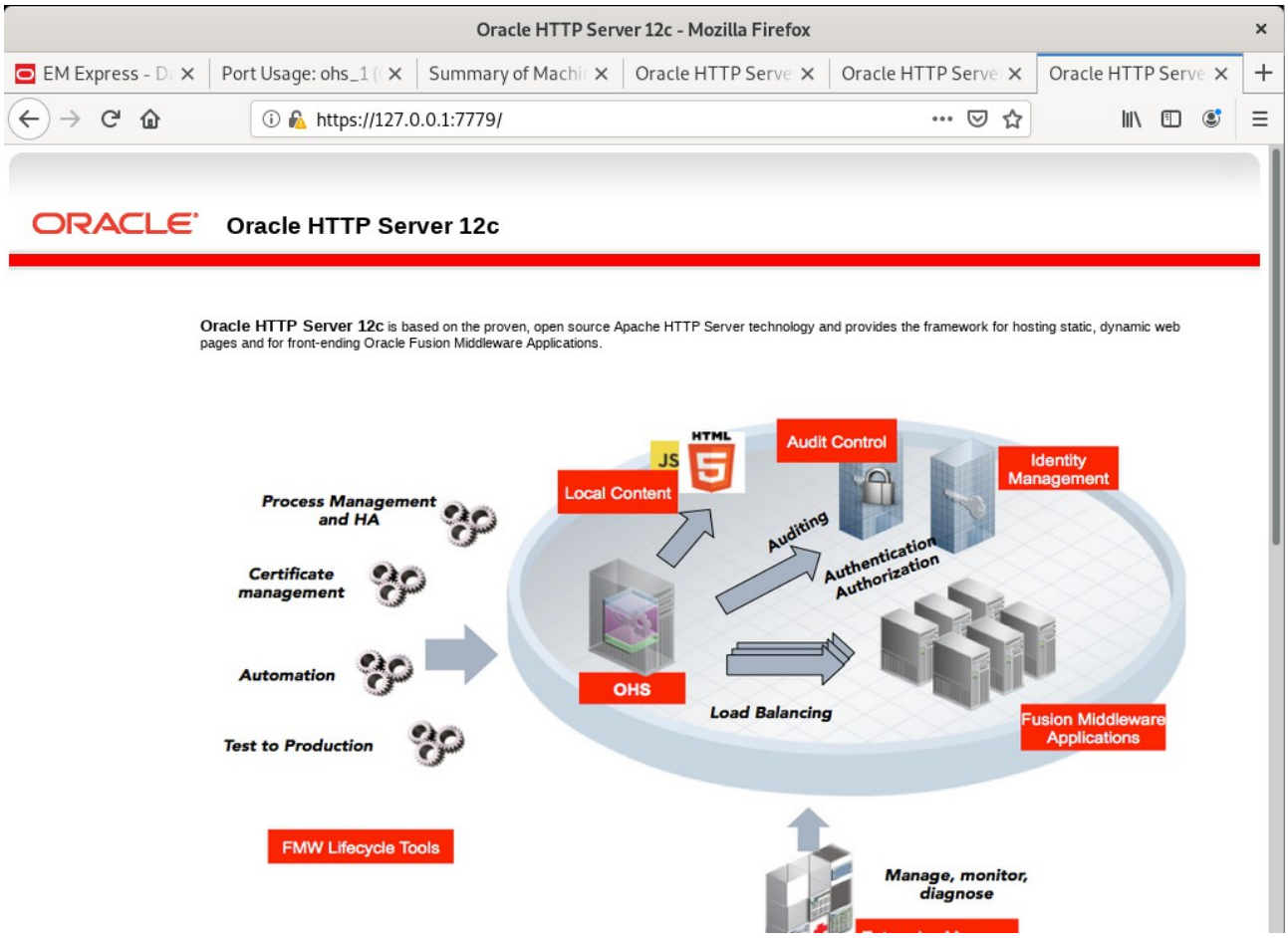
URL: http://host:7777/



SSL URL: https://host::4443/



Admin Host SSL URL: https://host:7779/



4-5. Checking OHS state through Oracle WLST tool.

```
oracle@Dell5530:/home/oracle/Oracle/Middleware/Oracle_Home/ohs/common/bin> ./wlst.sh
WARNING: This is a deprecated script. Please invoke the wlst.sh script under oracle_common/common/bin.

Initializing WebLogic Scripting Tool (WLST) ...

Welcome to WebLogic Server Administration Scripting Shell

Type help() for help on available commands

wls:/offline> connect ('weblogic','welcome1','Dell5530:7001')
Connecting to t3://Dell5530:7001 with userid weblogic ...
Successfully connected to Admin Server "AdminServer" that belongs to domain "base_domain".

Warning: An insecure protocol was used to connect to the server.
To ensure on-the-wire security, the SSL port or Admin port should be used instead.

wls:/base_domain/serverConfig/> ohs_updateInstances()
Location changed to edit custom tree. This is a writable tree with No root.
For more help, use help('editCustom')

Starting an edit session ...
Started edit session, be sure to save and activate your changes once you are done.
Saving all your changes ...
Saved all your changes successfully.
Activating all your changes, this may take a while ...
The edit lock associated with this edit session is released once the activation is completed.
Activation completed
OHS instances have been updated successfully.
wls:/base_domain/serverConfig/> state('ohs_1')
Current state of "ohs_1" : RUNNING
wls:/base_domain/serverConfig/>
```

End of Oracle WebTier Http Server.

****

Oracle WebCenter Portal

****

1. Installing Oracle WebCenter Portal 12c

1-1. Prerequisites:

Installation of Oracle WebCenter Portal requires:

1). Oracle Database 12cR2 (12.2.0.1.0) installed.
2). Oracle JDK 1.8.0_221 and later installed.
3). Oracle WebLogic Server 12cR2 (12.2.1.4.0) (Fusion Middleware Infrastructure Installer)

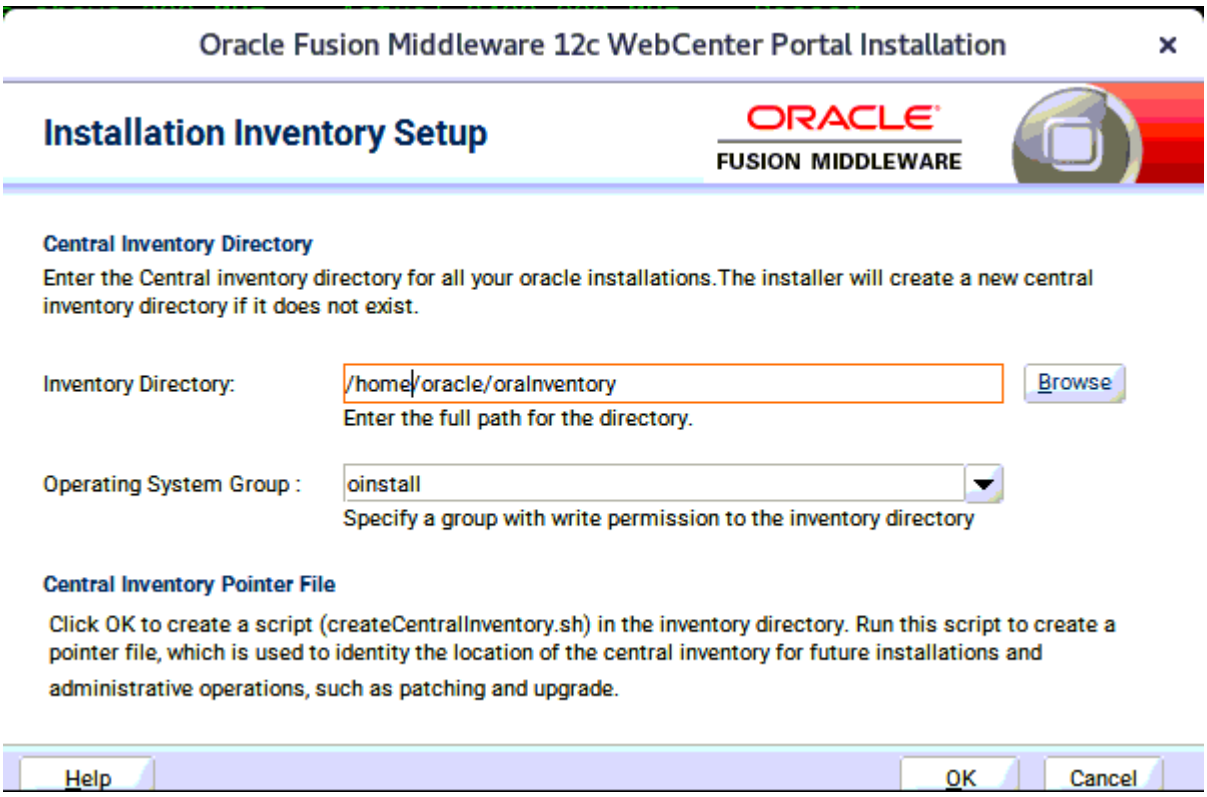
1-2. Log in to the target system (SLES 15 SP2 64-bit OS) as a non-admin user. Download the Oracle WebCenter Portal 12c (12.2.1.4.0) from https://www.oracle.com/downloads/#category-middleware.

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

1-3. Go to the directory where you downloaded the installation program. Extract the contents of this .zip (V983398-01.zip) file and launch the installation program by running '**java -jar fmw_12.2.1.4.0_wcportal.jar**'

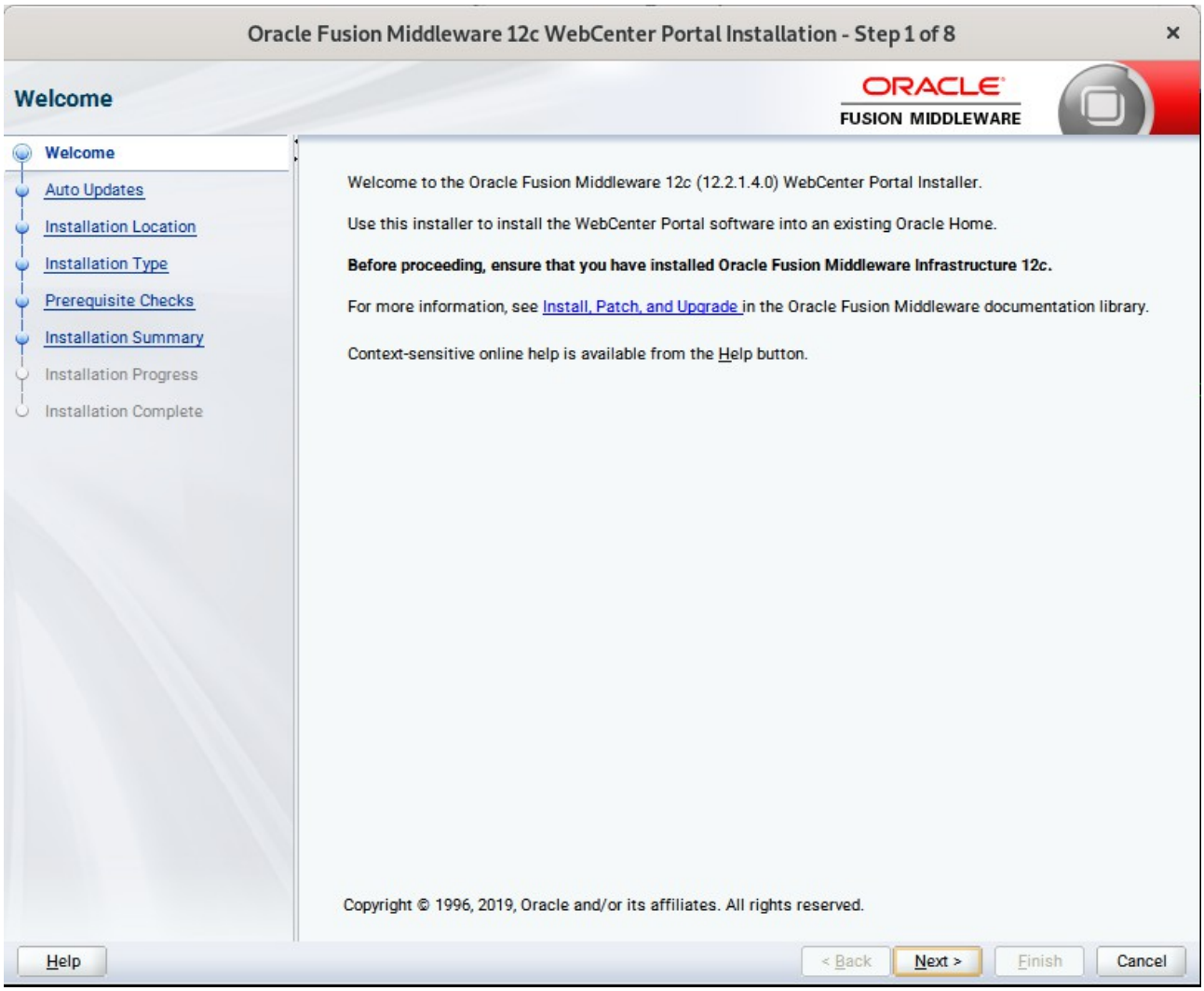
For the actual installation, follow the steps below:

1). Installation Inventory Setup.



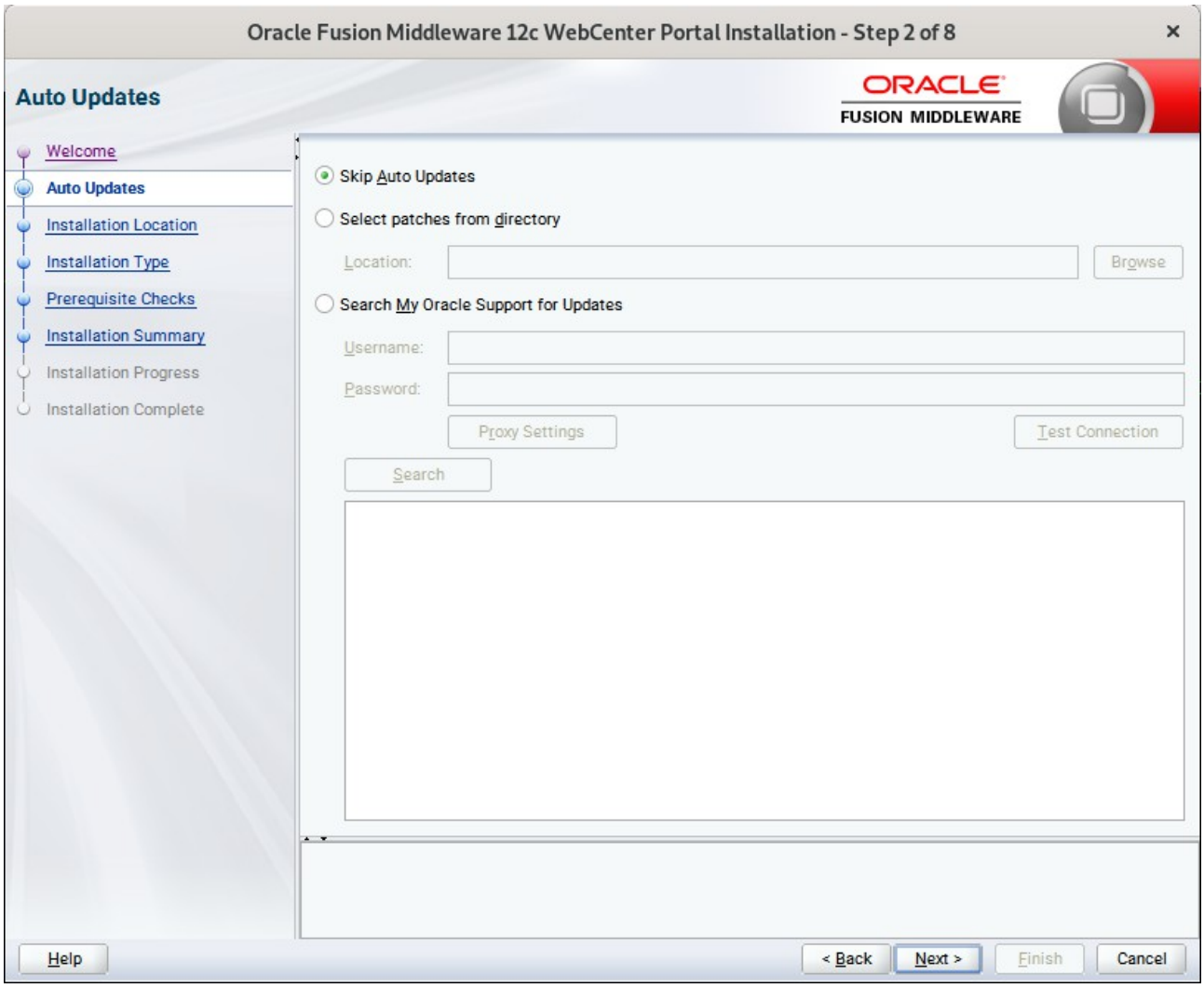
Specify the Oracle inventory directory and group permissions for that directory. The group must have write permissions to the Oracle inventory directory, then click **OK** to continue.

2). Welcome page.



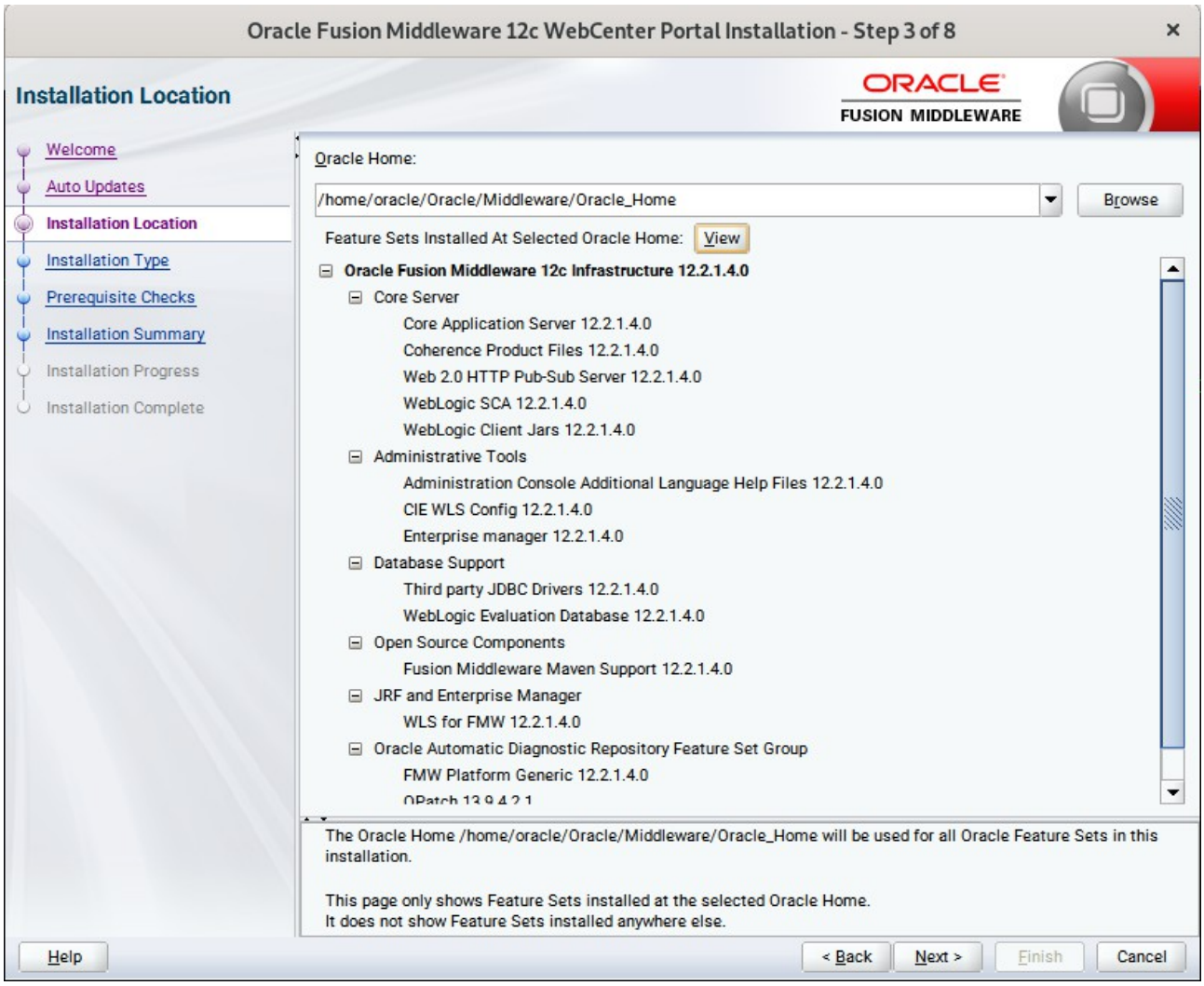
This page welcomes you to the installation. Click **Next** to continue.

3). The **Auto Updates** page appears.



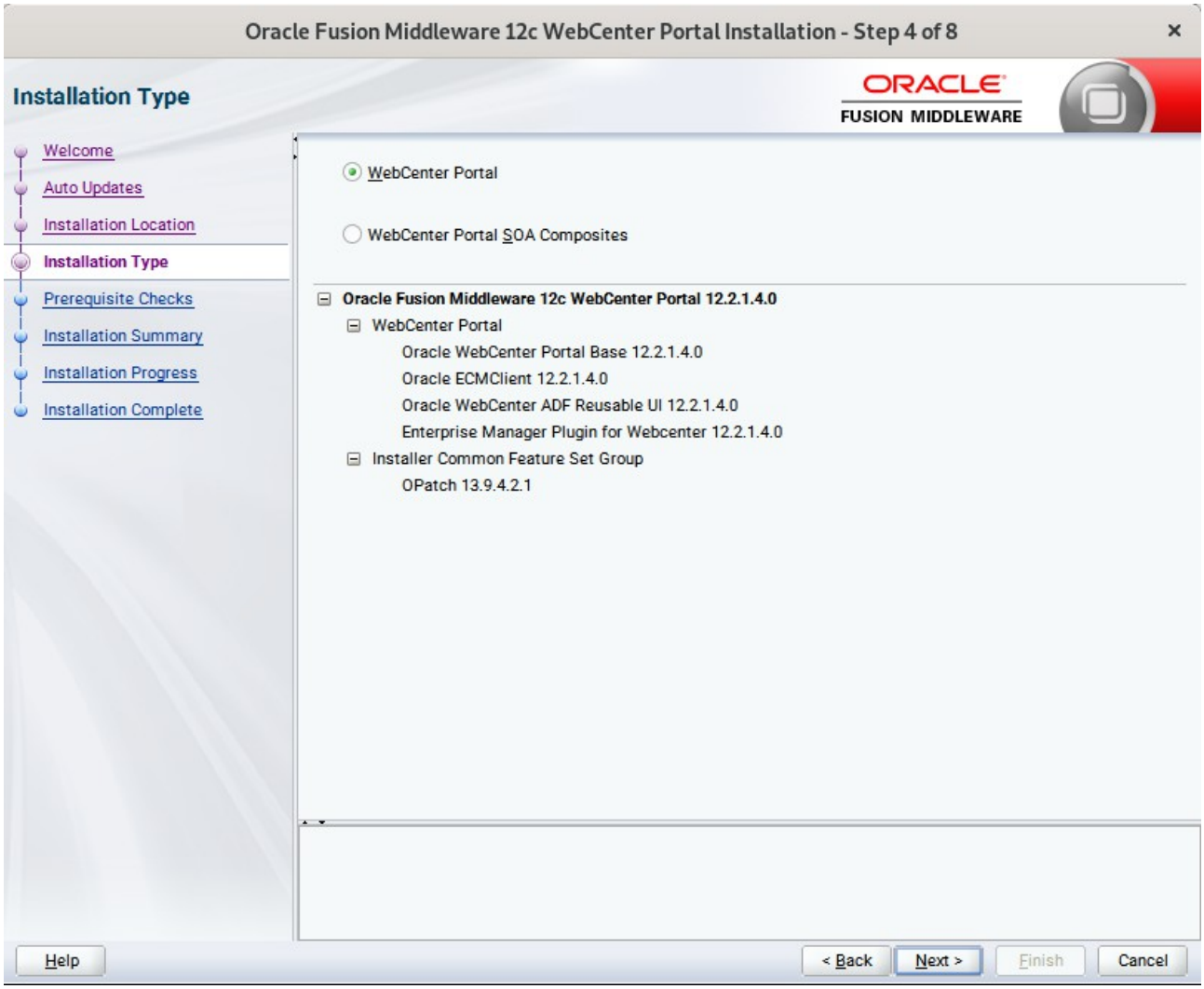
This page enables you to choose to automatically receive software updates for your components from Oracle Corporation. make your choices, then click **Next** to continue.

4). The **Installation Location** page appears.



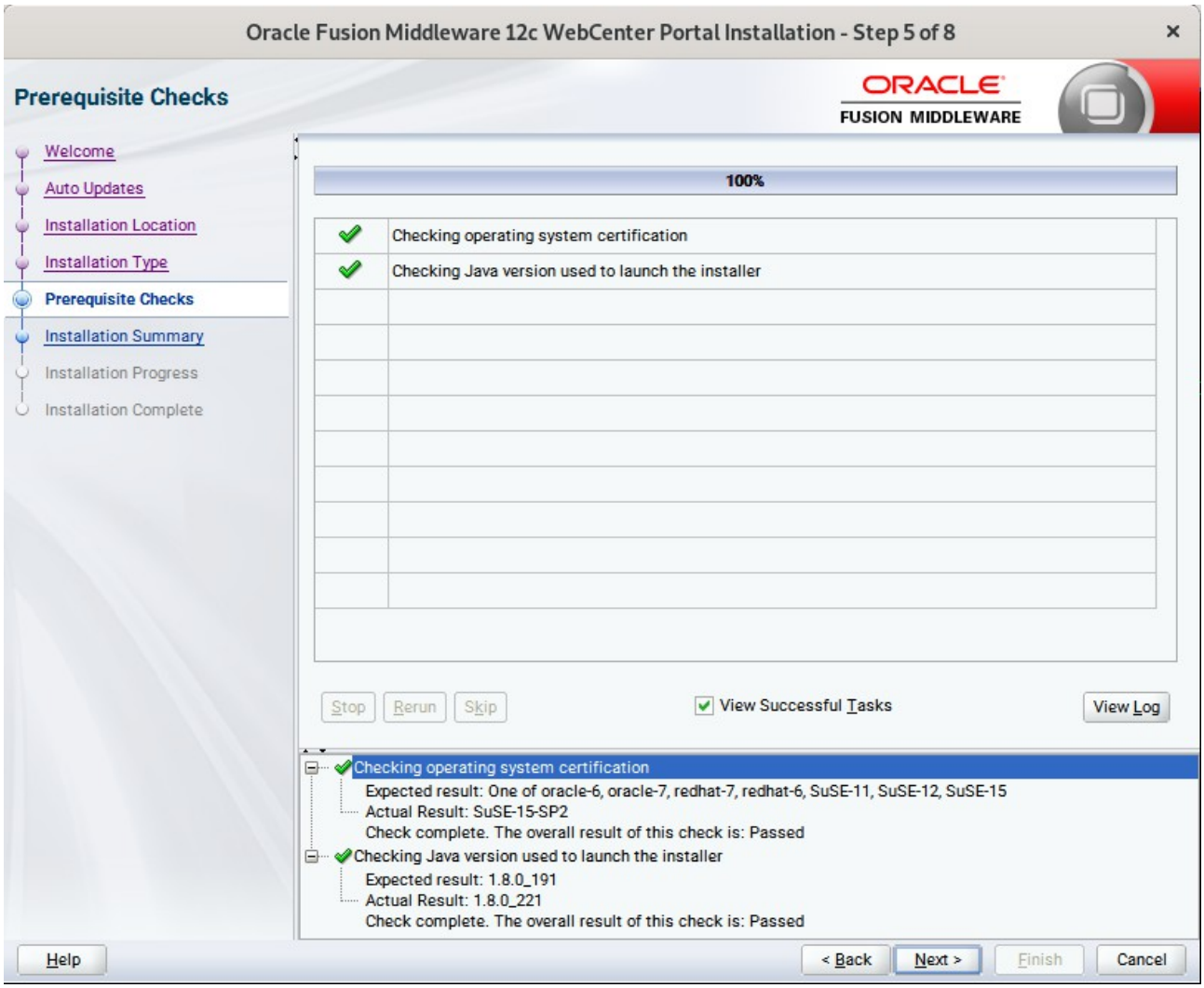
Specify the Oracle home location into which you want to install the product(s). Click **Next** to continue.

5). The **Installation Type** page appears.



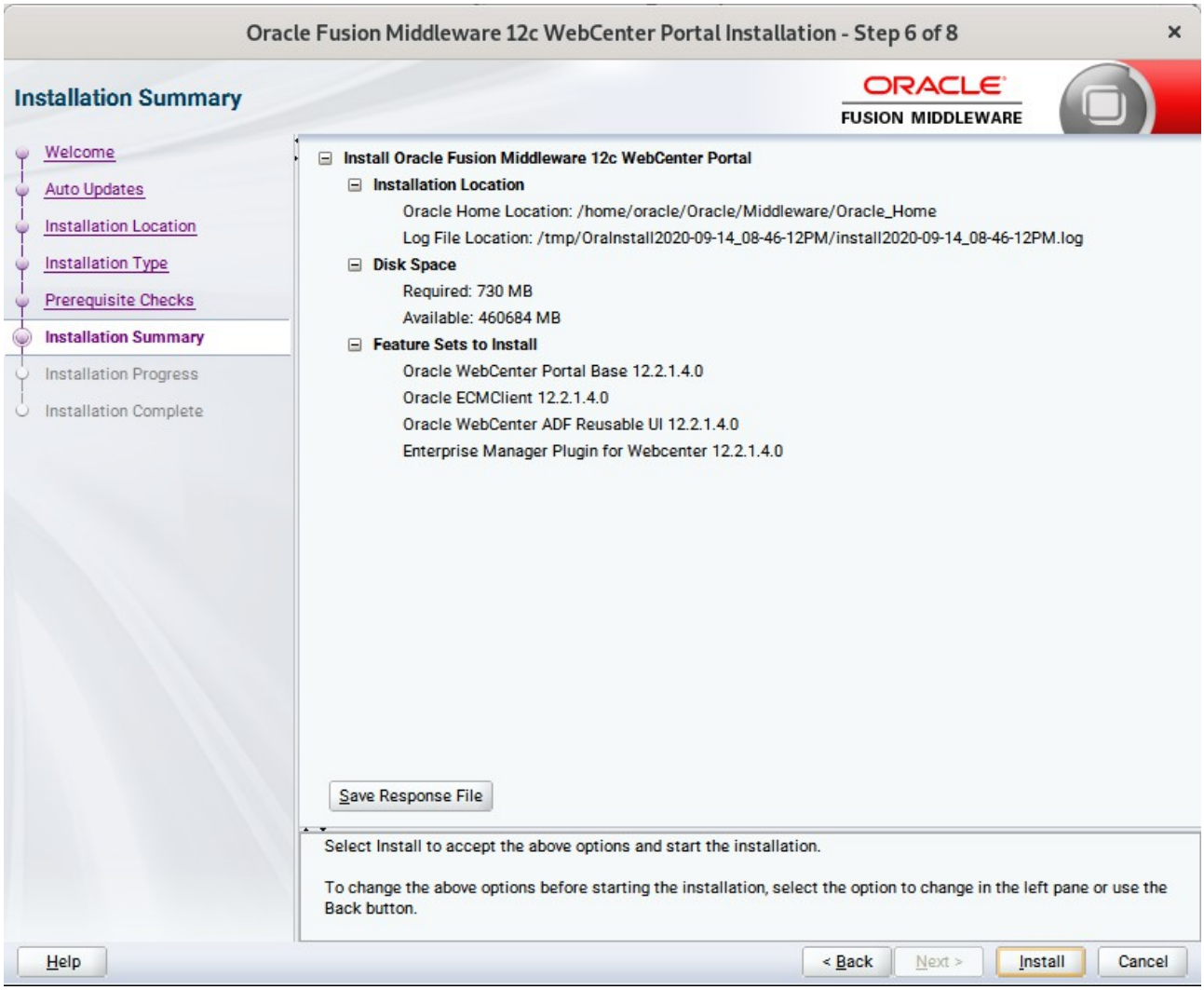
Use this screen to select the installation type and then products or feature sets you want to install. Selected the **WebCenter Portal** install type to install the WebCenter product. Click **Next** to continue.

6). The **Prerequisites Checks** page appears.



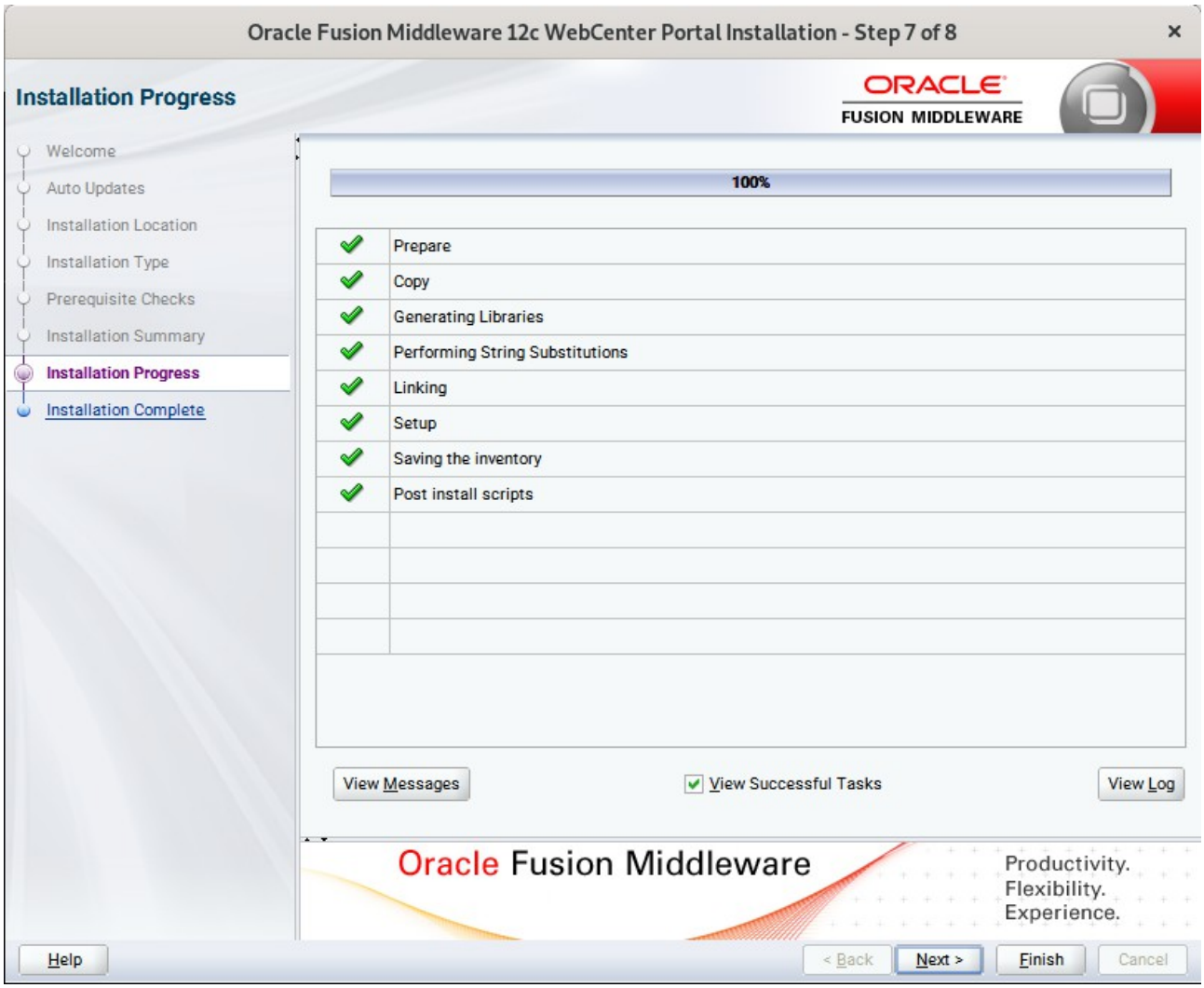
This pages shows you the progress of the system checking the prerequisites on your system prior to installation. If you are lacking any prerequisites, a message will appear telling you so. You do not need to take any actions on this page, though you can view the log from here. Click **Next** to continue.

7). The **Installation Summary** page appears.



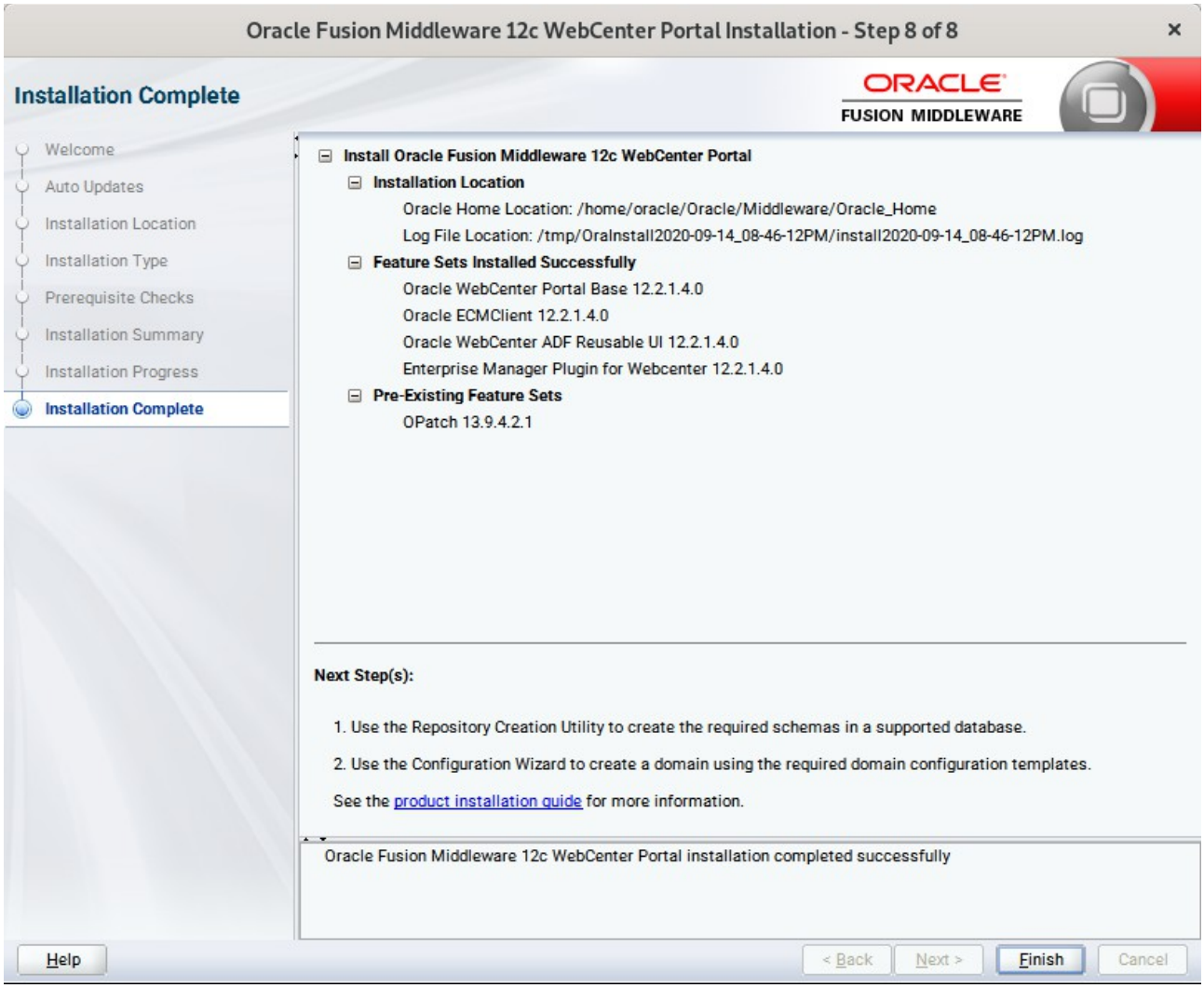
This page shows you what components and features are about to be installed. If you need to make changes, click **Back**, otherwise, click **Install** to start the installation.

8). The **Installation Progress** page appears.



This page shows you the progress of the installation, and will warn you if there are any problems.You can view messages and logs from this page, but typically no action is required here. When progress is complete, click **Next** (go to a Summary page). Alternatively, you can click **Finish**.

9). If you clicked **Next**, the **Installation Complete** page appears, showing you the components that have been installed.

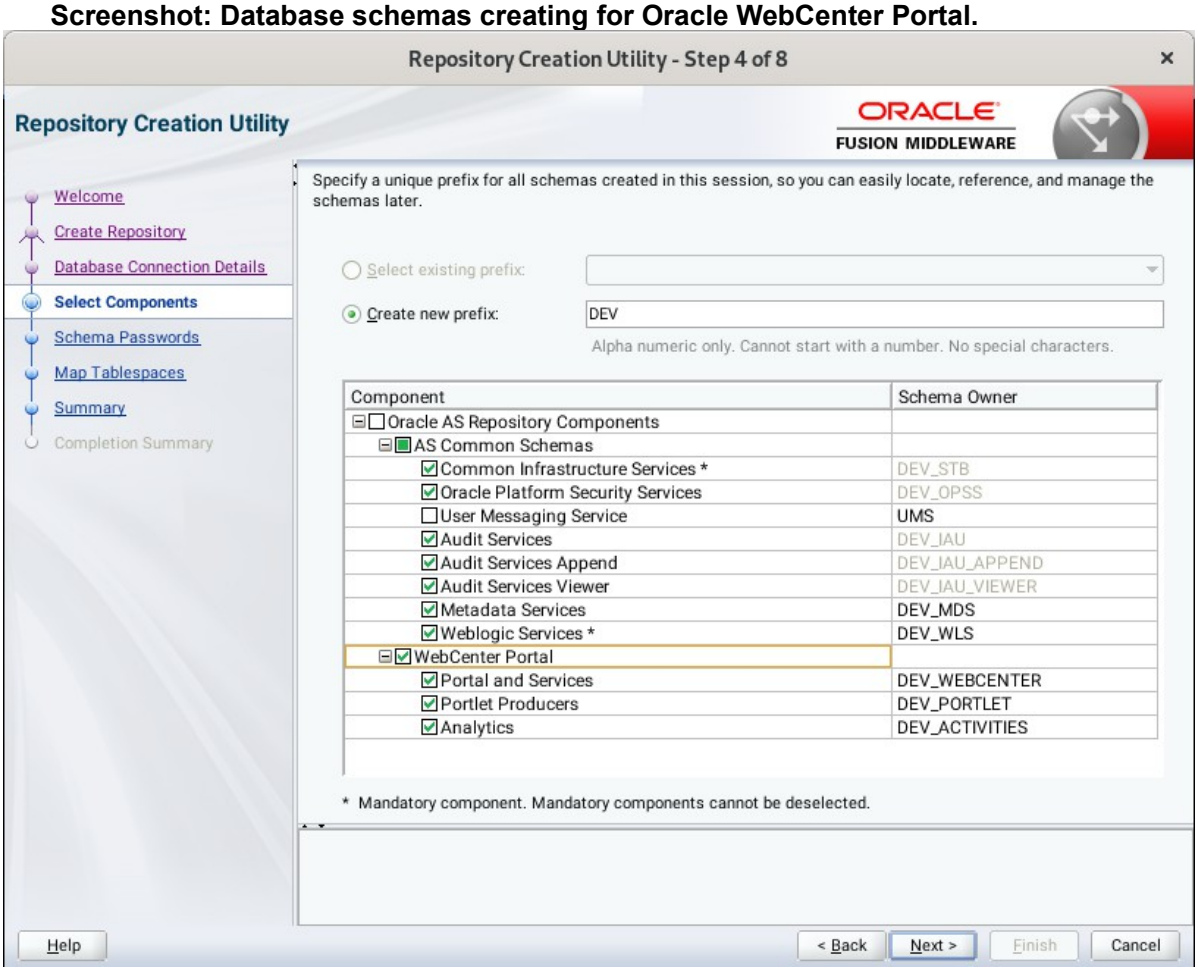


Click **Finish** to dismiss the installer.

2. Creating Oracle Database Schema through Repository Creation Utility(RCU)

2-1. Repository Creation Utility (RCU) is available with the Oracle WebLogic Server 12cR2 Fusion Middleware Infrastructure distribution. Run **$FMW_HOME/oracle_common/bin/rcu** and create required database schemas for Oracle Oracle WebCenter Portal.

Screenshot: Database schemas creating for Oracle WebCenter Portal.



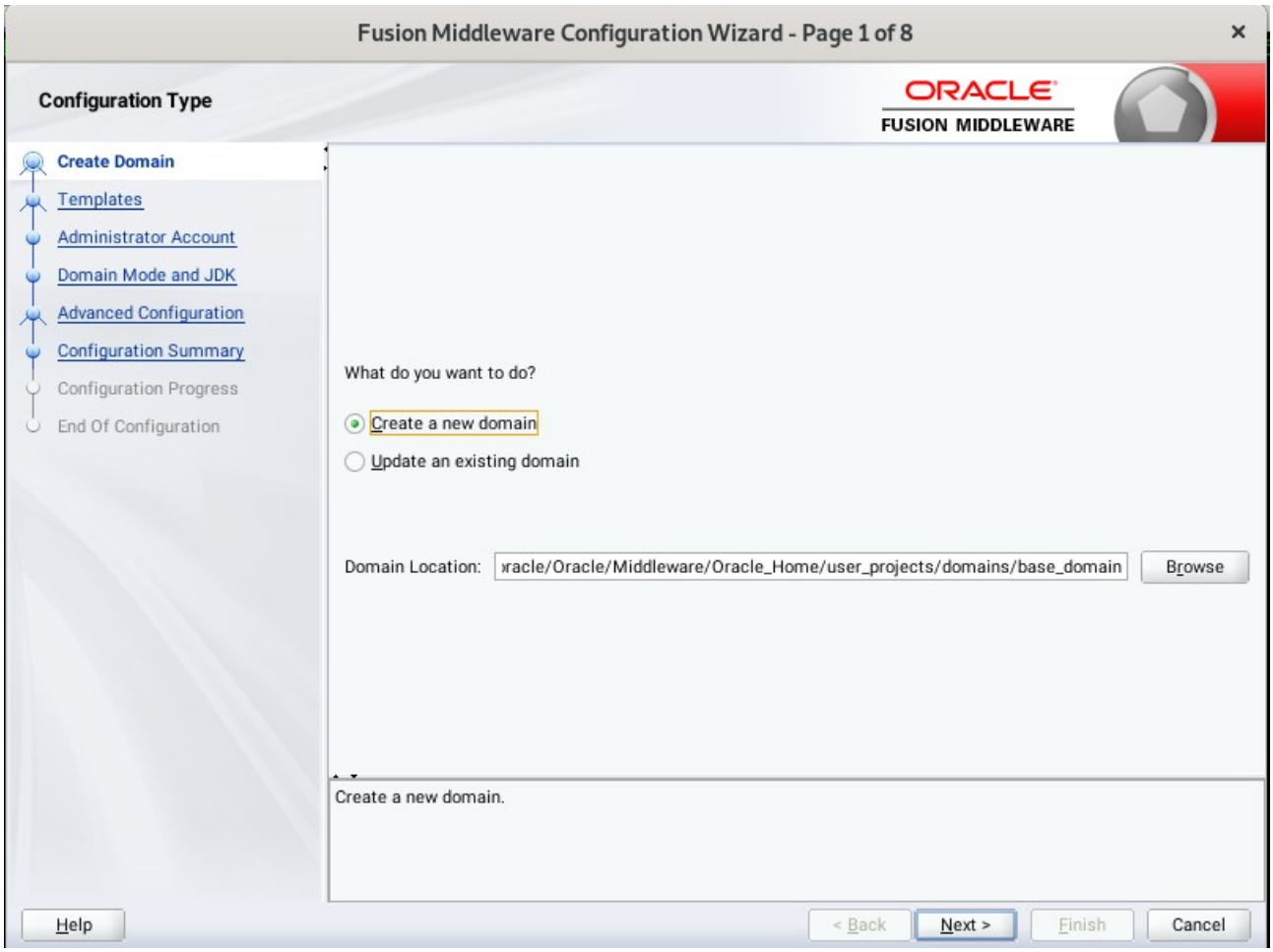
Select the **Create new prefix** radio button and provide a schema prefix (such as DEV). Select the components as shown above, and ensure schema creation is successful.

3. Configuring Oracle WebCenter Portal 12c using the Config Wizard

3-1. In order to complete the configuration. Run the config wizard using **config.sh** located in the **ORACLE_HOME/oracle_common/common/bin** directory.

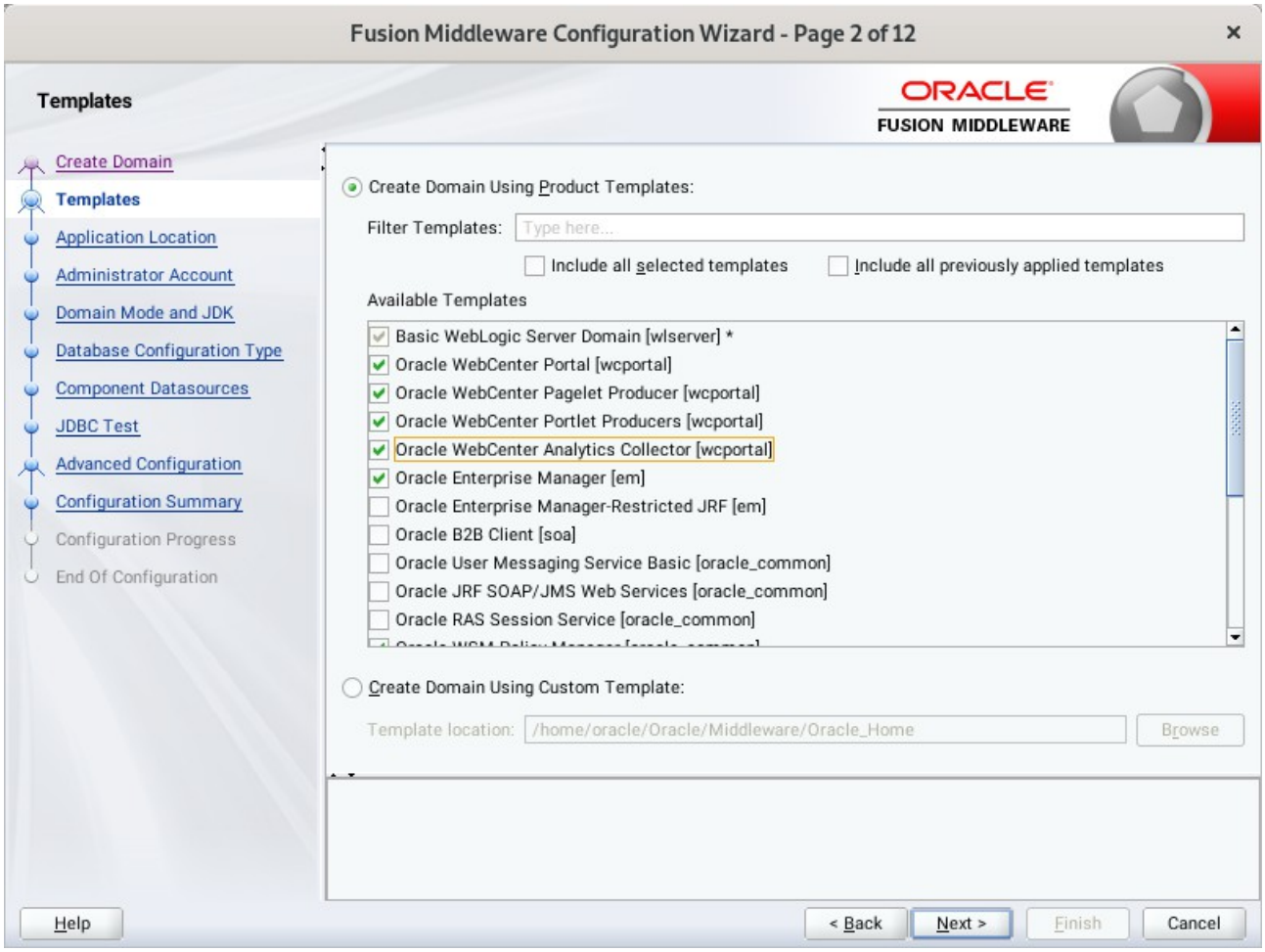
Follow these steps:

1). On the Configuration Type screen, select **Create a new domain**, and enter the desired domain home path.



Click **Next** to continue.

2). The **Templates** screen appears.



Use the **Templates** screen to select the templates you require. On the **Templates** screen, make sure **Create Domain Using Product Templates** is selected, then select the following template:

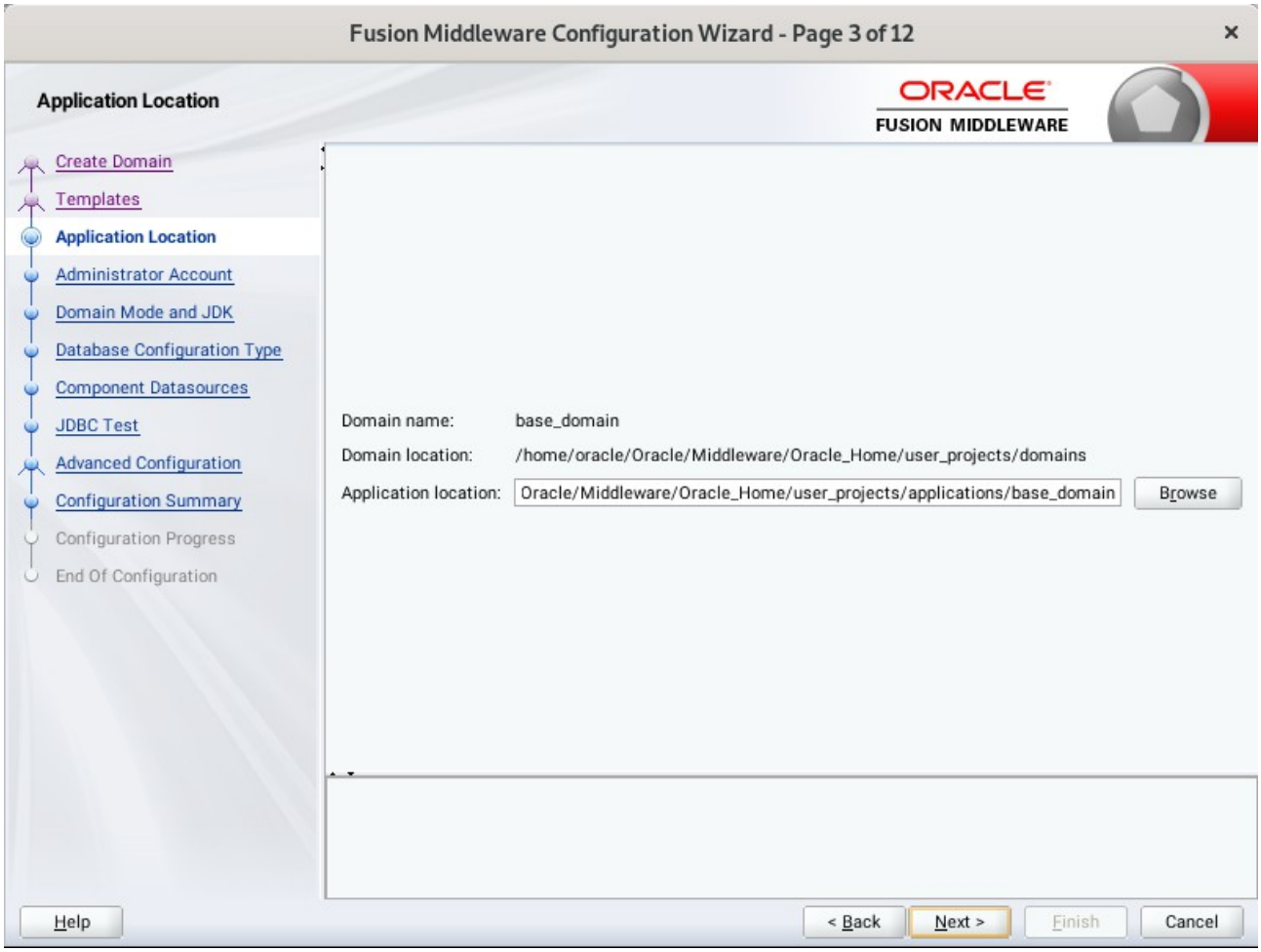
- Oracle WebCenter Portal [wcportal]

  Selecting this template automatically selects the following as dependencies:

  - Oracle Enterprise Manager
  - Oracle WSM Policy Manager
  - Oracle JRF
  - WebLogic Coherence Cluster Extension

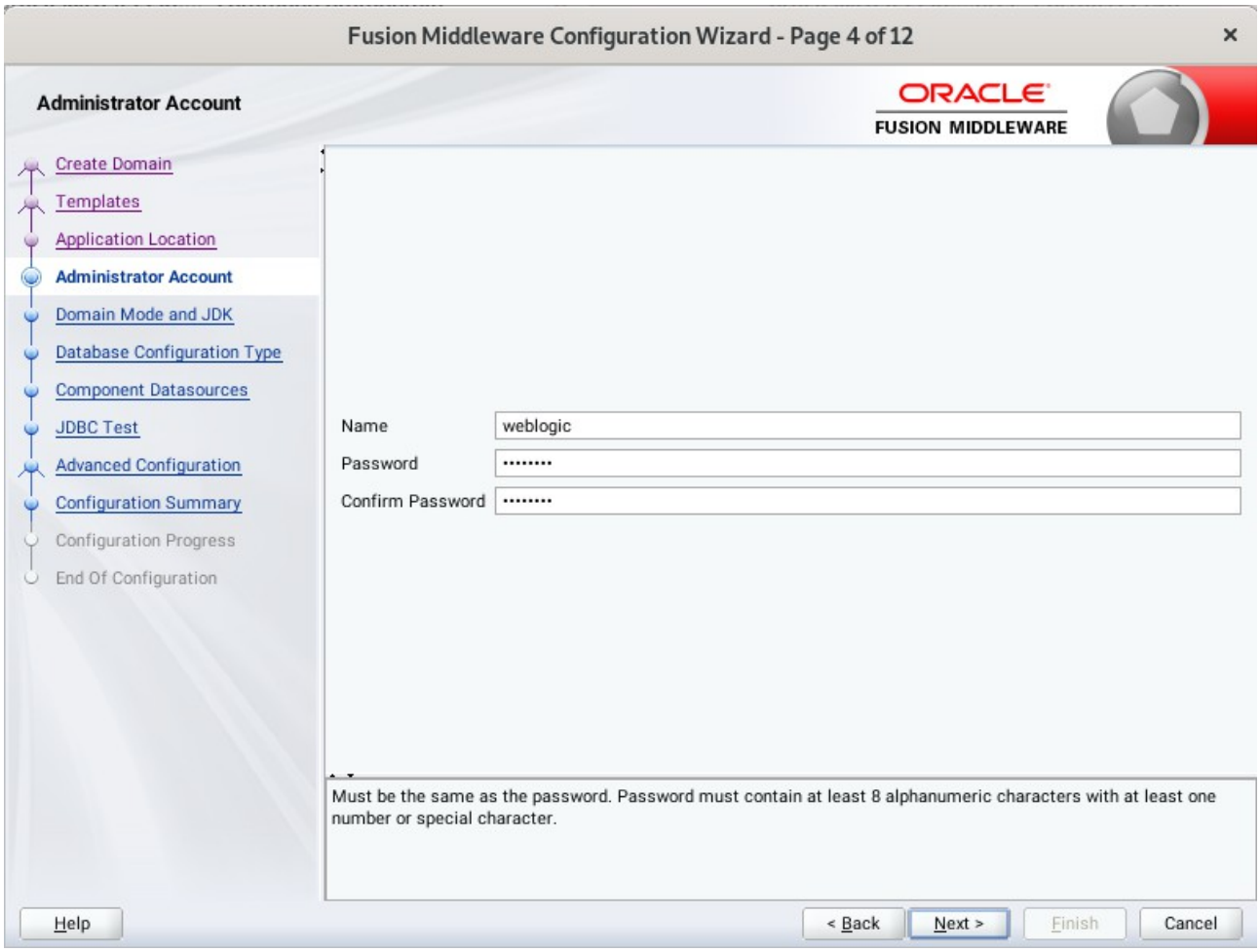
You can also select any of the Oracle WebCenter Portal products listed in the following table. You do not need to select all of these templates, and you can always run the configuration wizard again to add products to your domain later. Click **Next** to continue.

3). The **Application Location** screen appears.



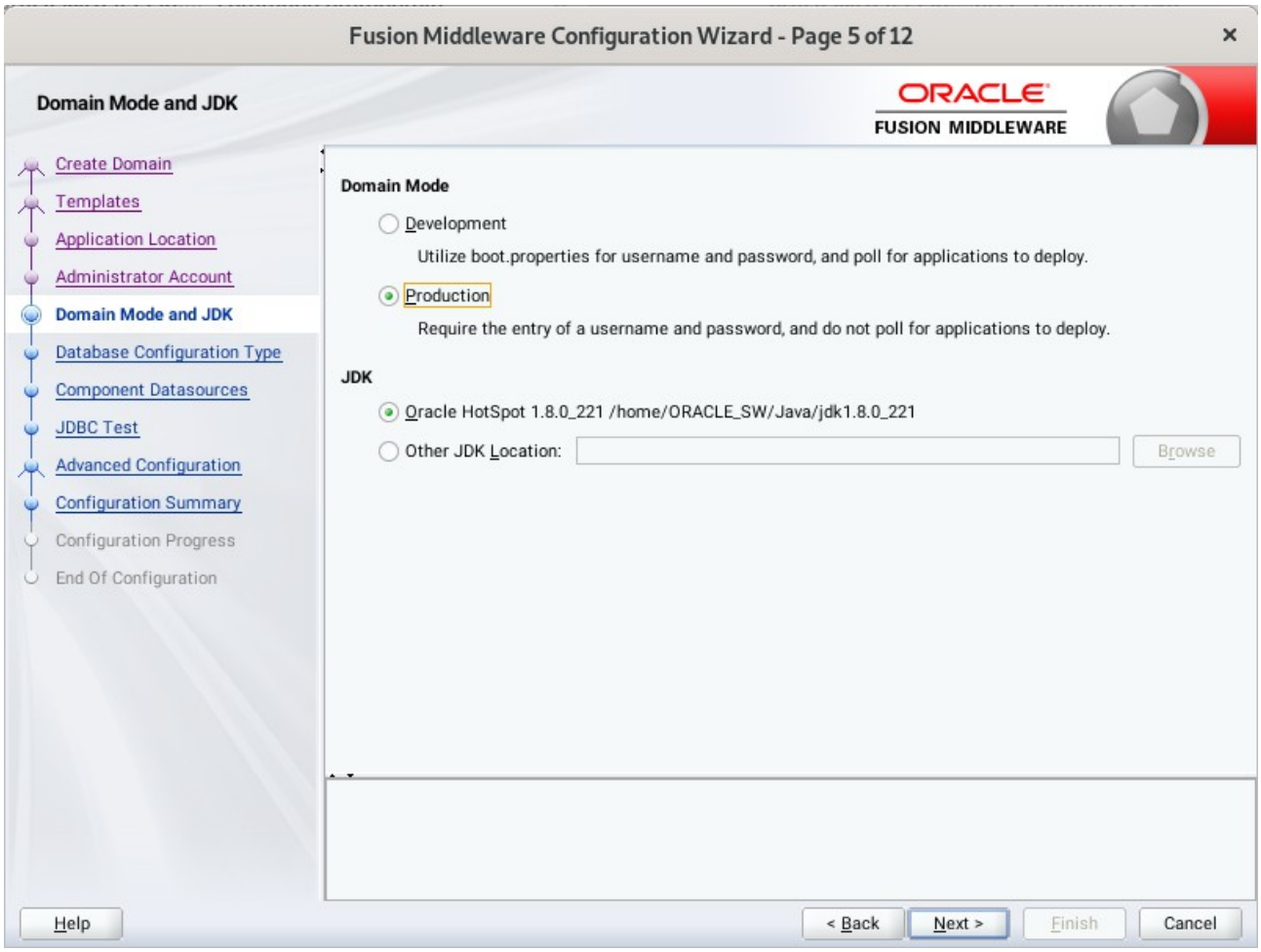
Keep the default value for Application location.Click **Next** to continue.

4). The **Administrator Account** screen appears.



Enter the WebLogic Domain administration username and password. This information will be needed to access WebLogic Server Control and Fusion Middleware Control. Click **Next** to continue.

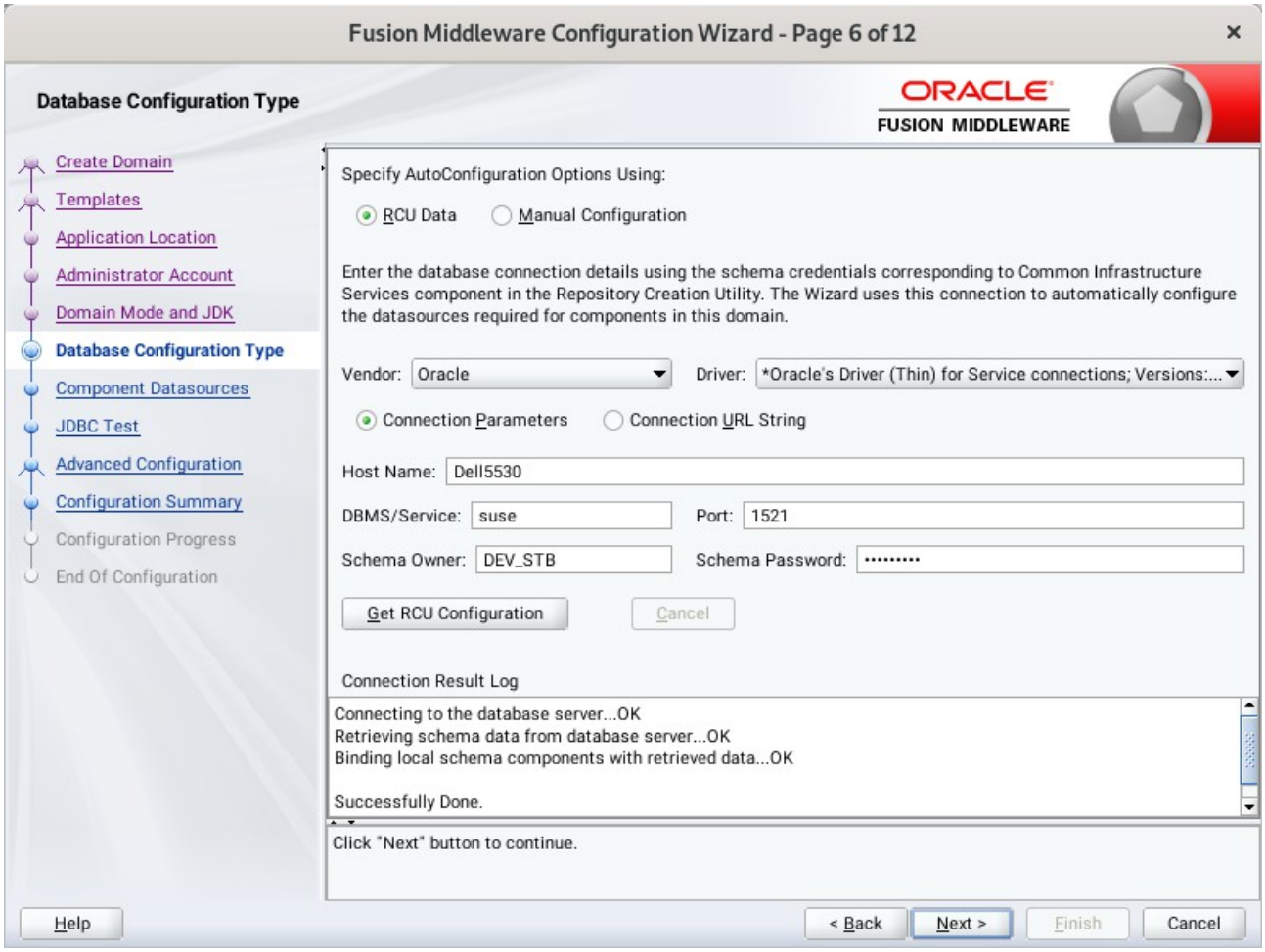
5). The **Domain Mode and JDK** screen appears.



Select the Domain Mode (either **Development** or **Production**). For our purposes, select **Production**. Leave the default JDK selection as it appears, unless using another version of the JDK desired.

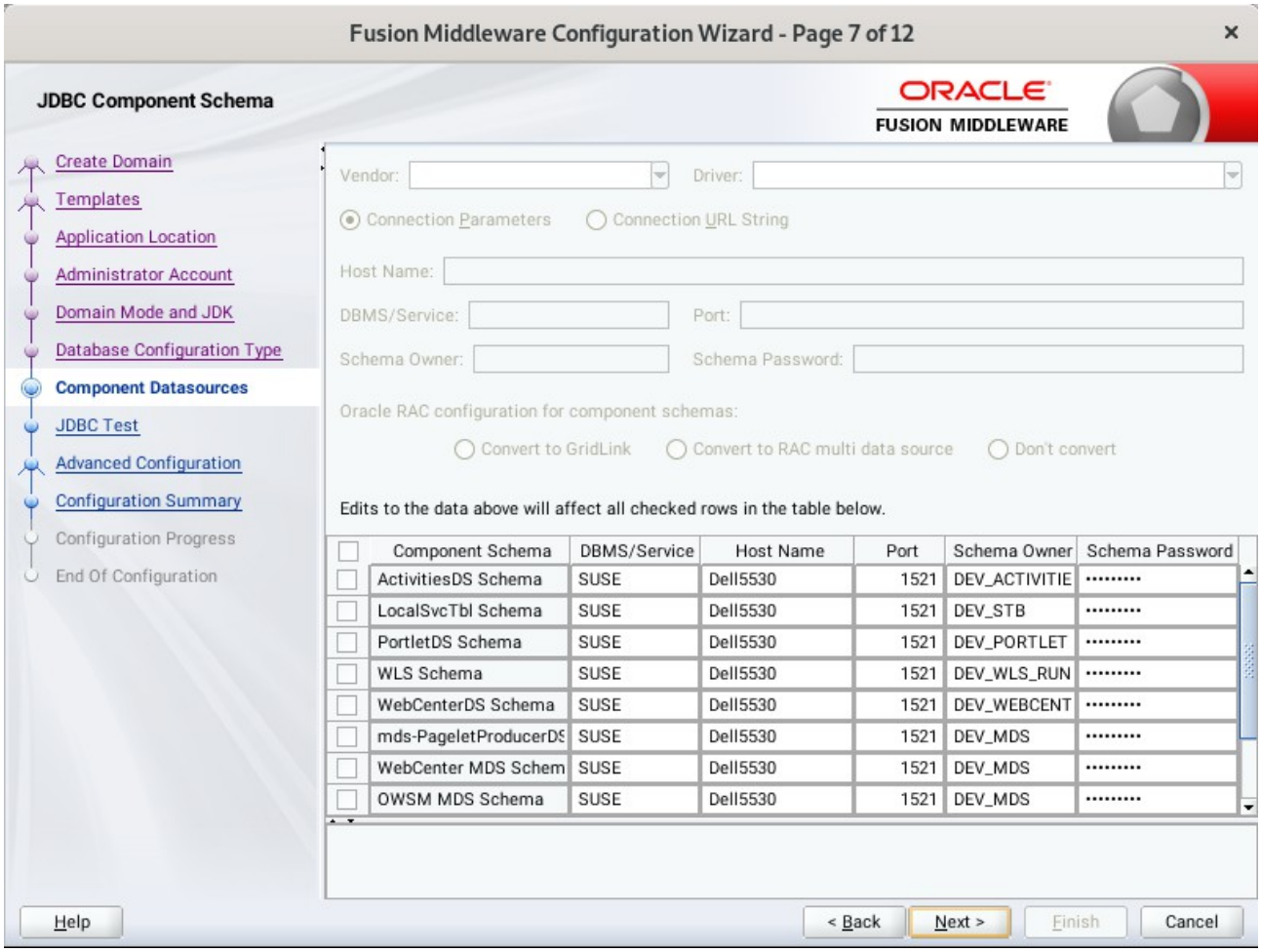
(**Note**: The installation can only be secured with Identity Management if you are configuring your components in deployment mode.)

6). The **Database Configuration Type** screen appears.



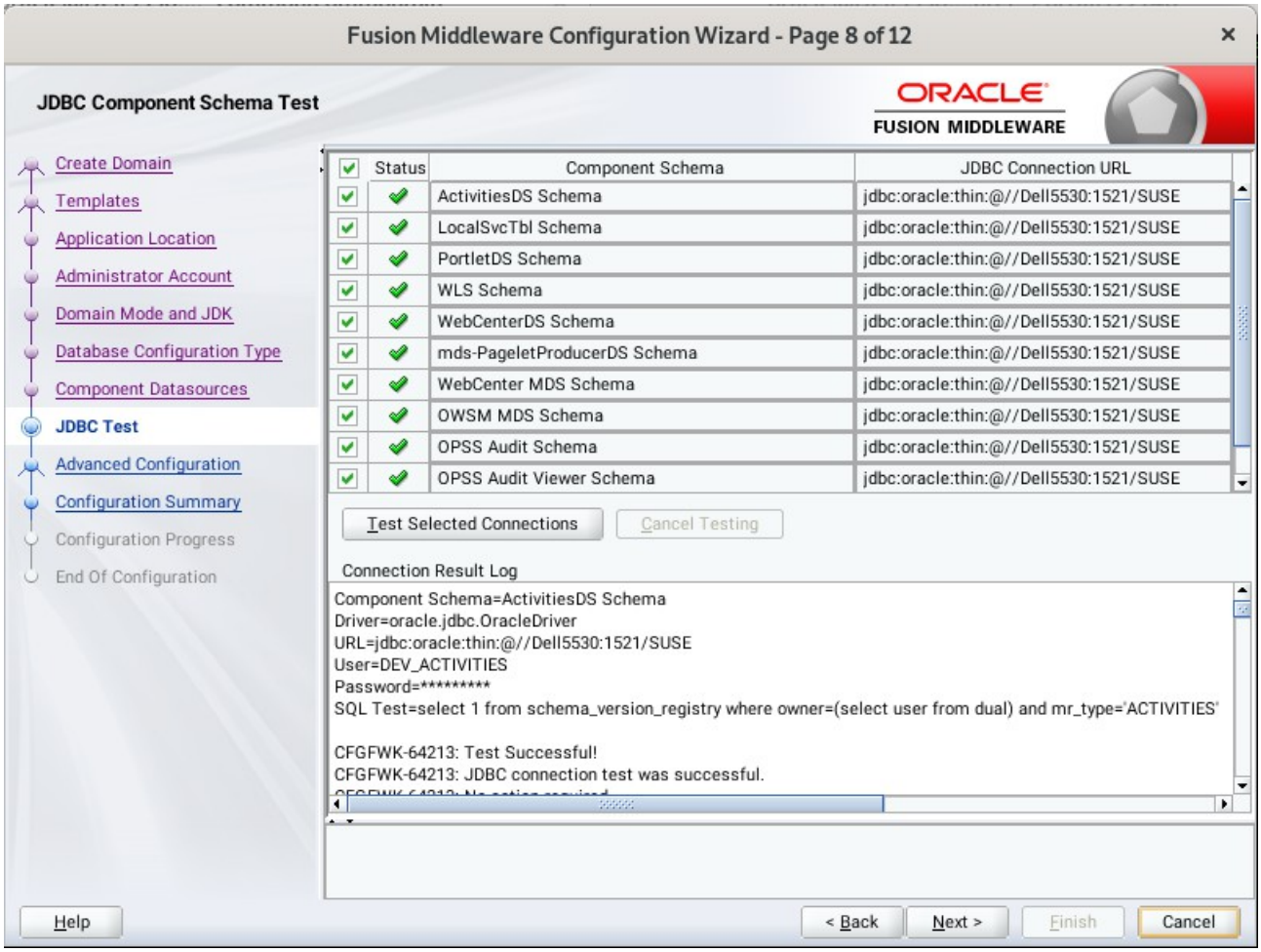
Enter the RCU DB connection information, then click **Get RCU Configuration**. You should receive a success message. Click **Next** to continue.

7). The **JDBC Component Schema** screen appears.



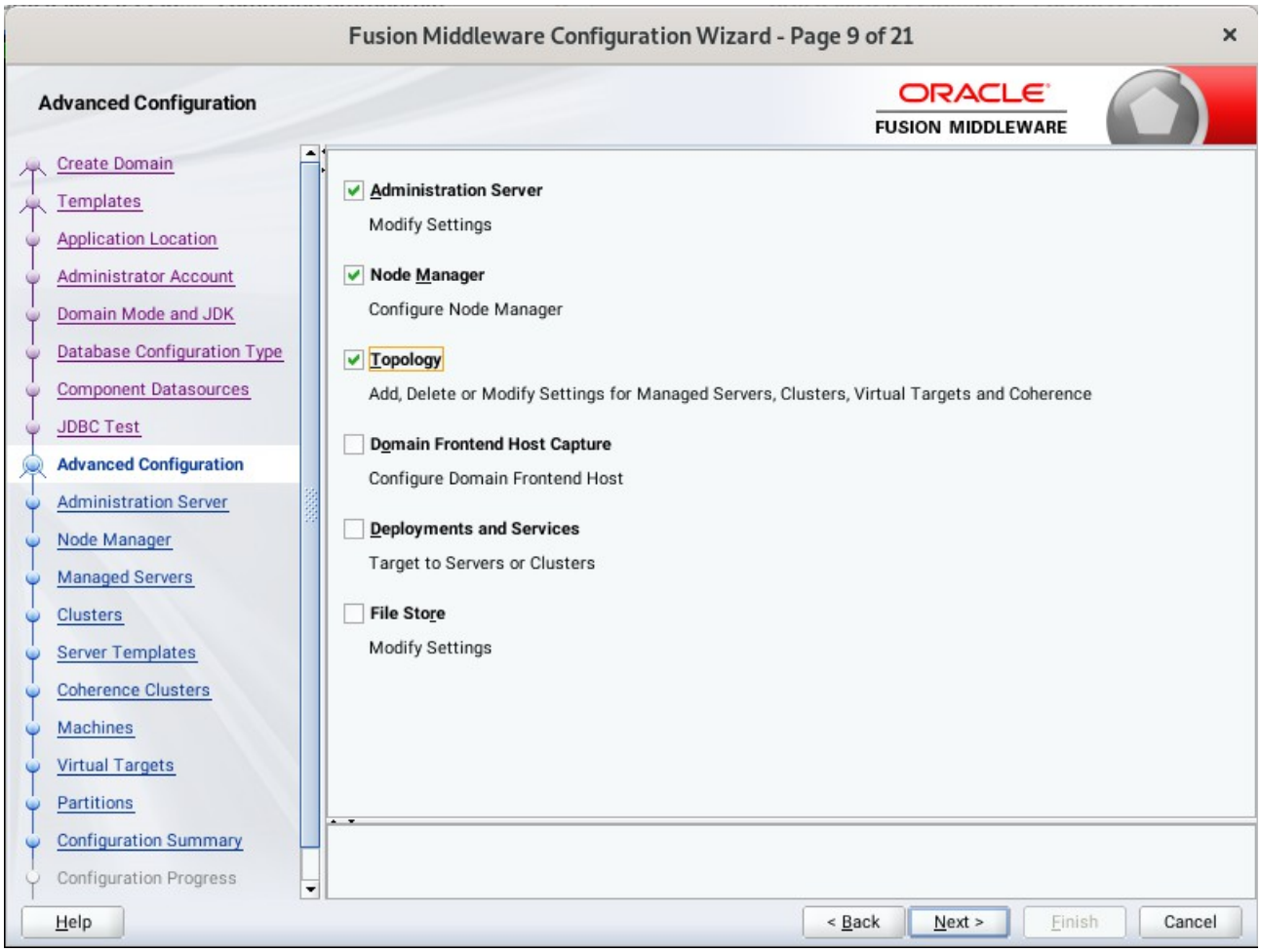
Our instructions assume each Repository schema uses the same password. If not, enter the correct schema passwords. Click **Next** to continue.

8). The **JDBC Component Schema Test** screen appears.



The tests are run and the results given. Ensure all test results are successful.Click **Next** to continue.

9). The **Advanced Configuration** screen appears.

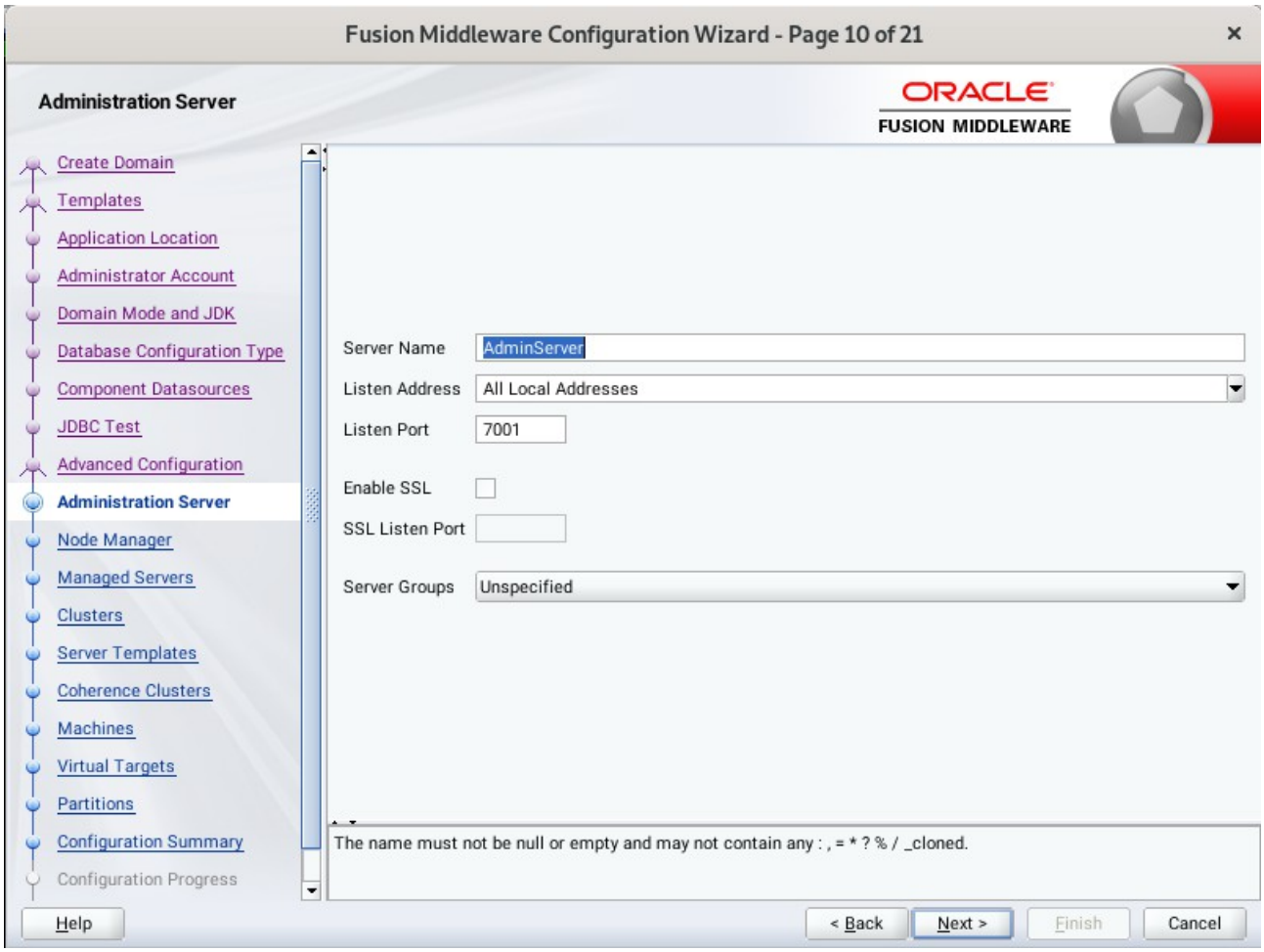


On the Advanced Configuration screen, select:

- Administration Server
- Node Manager
- Topology

Then, click **Next** to continue.

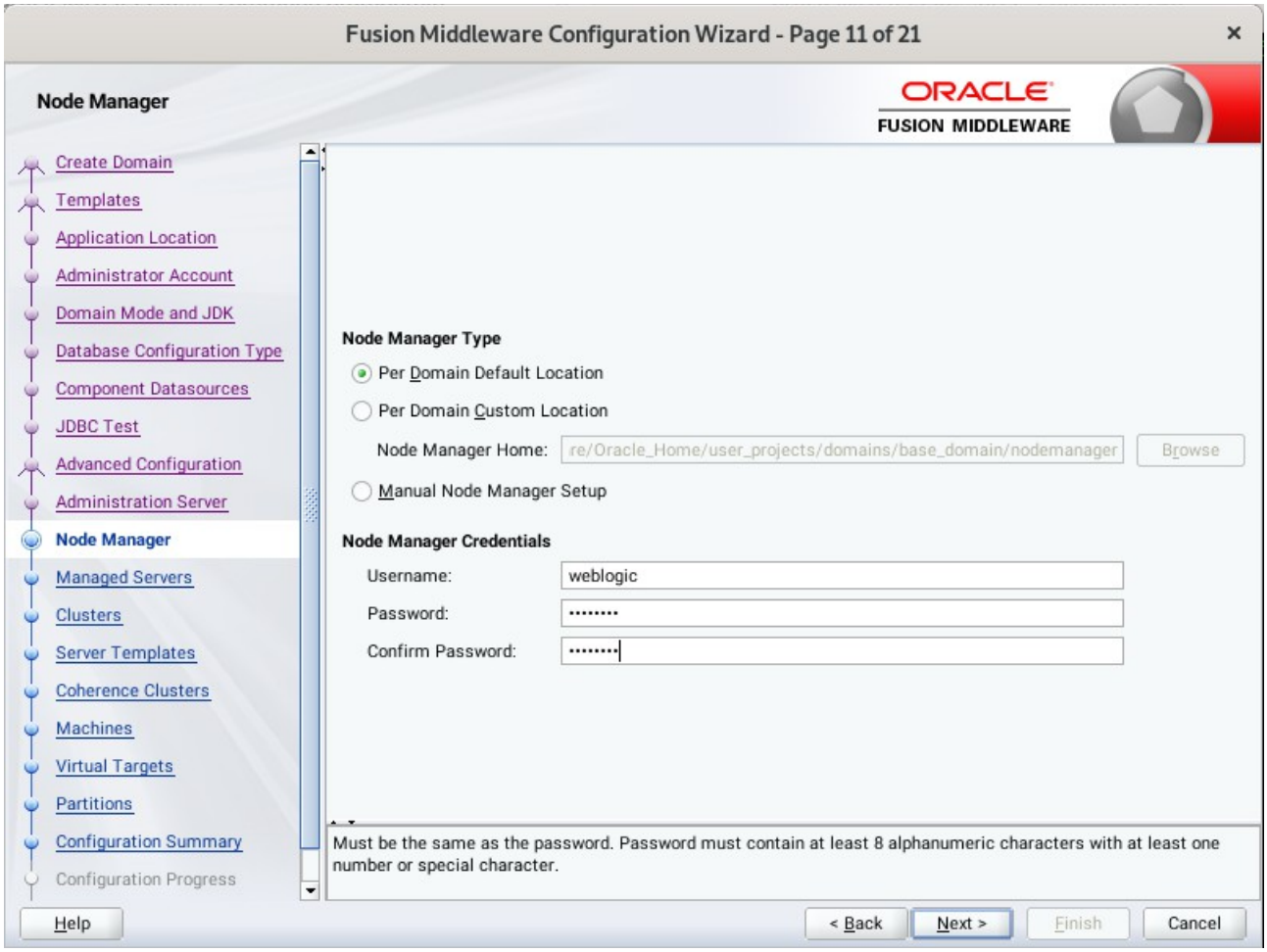
10). The **Administration Server** screen appears.



Use the **Administration Server** screen to select the IP address of the host. Select the drop-down list next to **Listen Address** and select the IP address of the host where the Administration Server will reside, or use the system name or DNS name that maps to a single IP address.

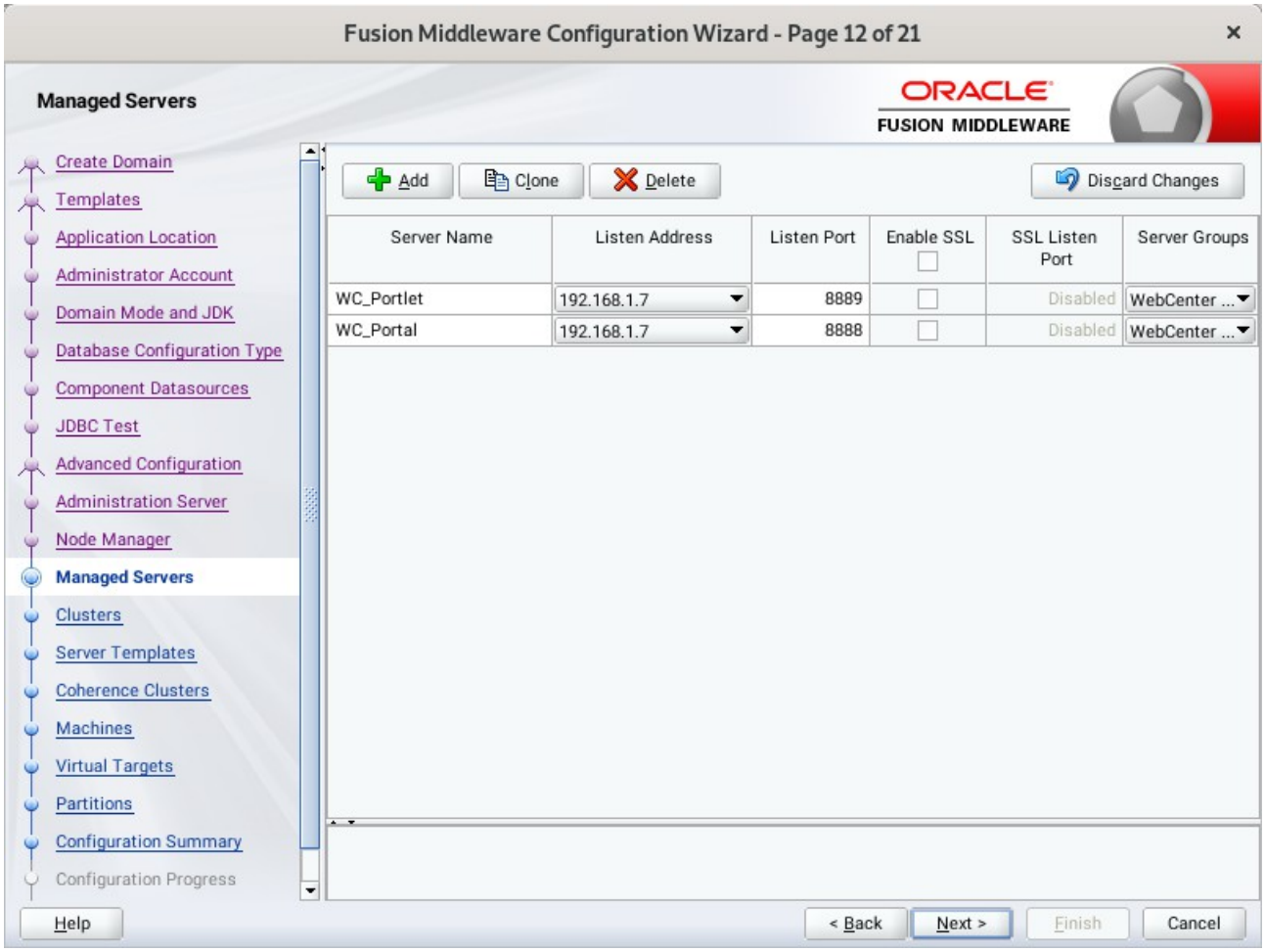
Click **Next** to continue.

11). Configuring **Node Manager** screen appears.



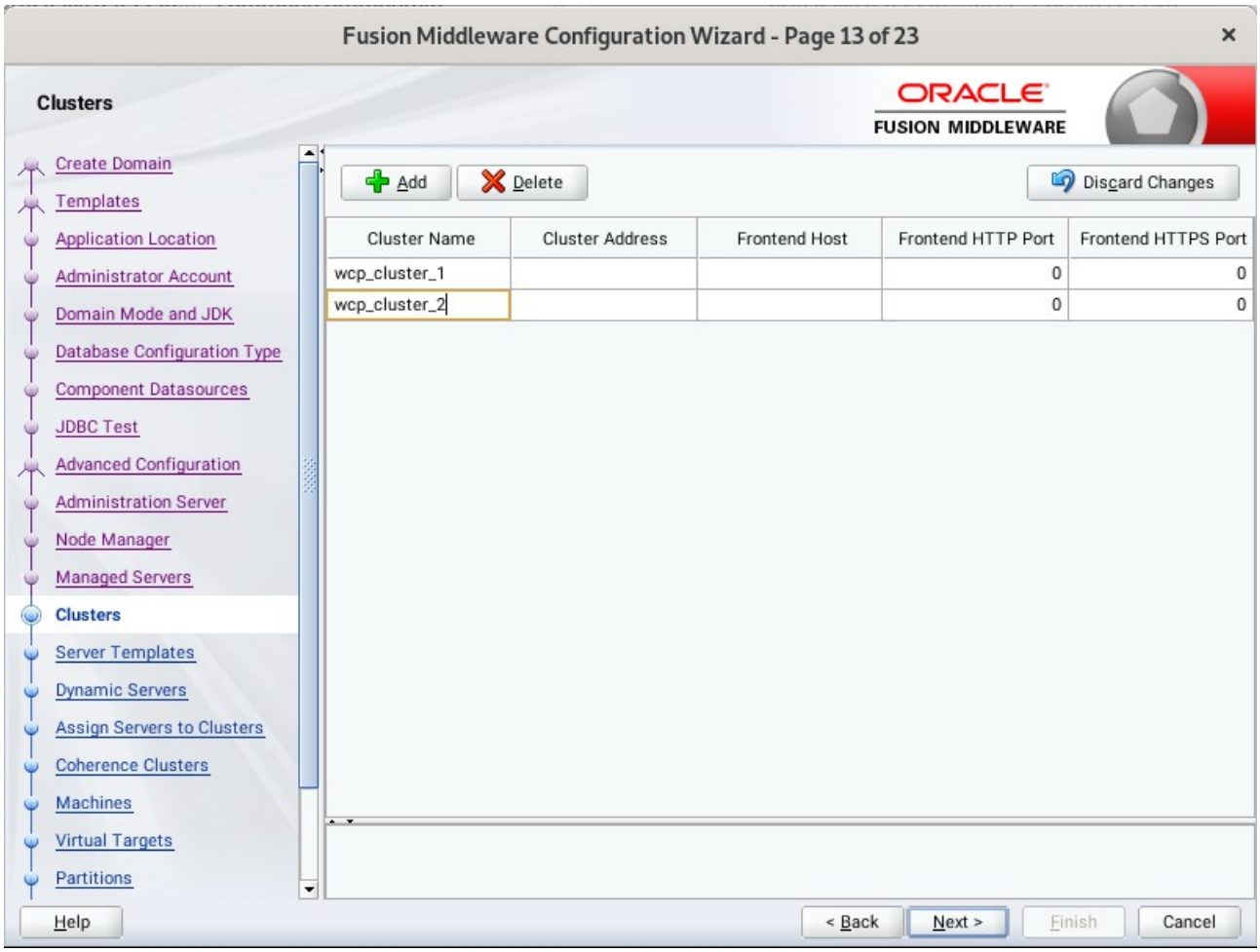
Select **Per Domain Default Location** as the Node Manager type, then specify Node Manager credentials. Click **Next** to continue.

12). The **Managed Servers** screen appears.



On the **Managed Servers** screen, new Managed Servers named *WC_Portlet*, and *WC_Portal* are automatically created. In the **Listen Address** drop-down list, select the IP address of the host on which the Managed Server will reside or use the system name or DNS name that maps to a single IP address. The default **Server Groups** have already been selected for each server. Click **Next** to continue.

13). The **Clusters** screen appears.

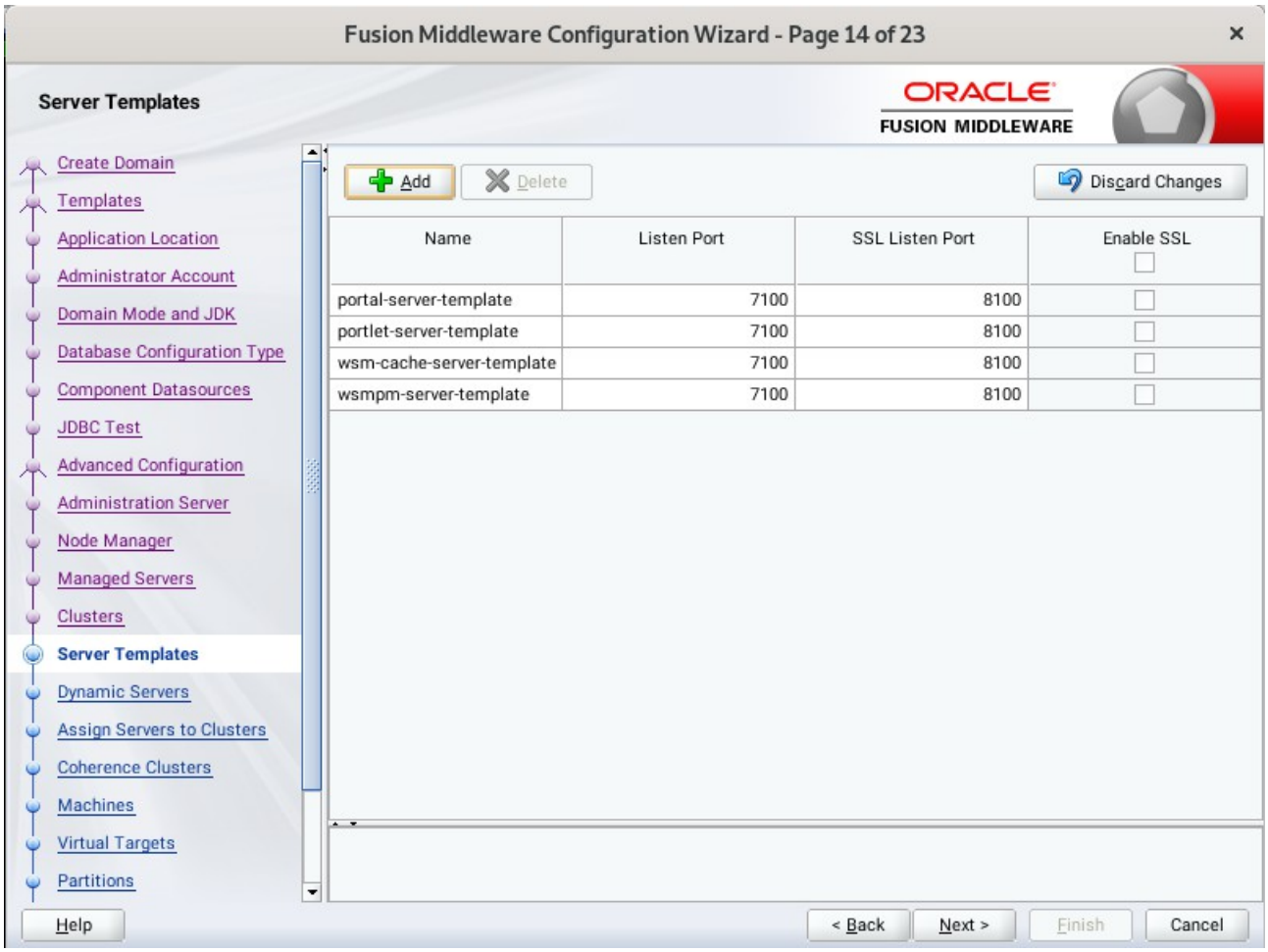


On the Clusters screen:

1. Click **Add**.
2. Specify ***wcp_cluster_1*** in the Cluster Name field.
3. Leave the Cluster Address field blank.
4. Repeat these steps to create one more clusters: ***wcp_cluster_2***.

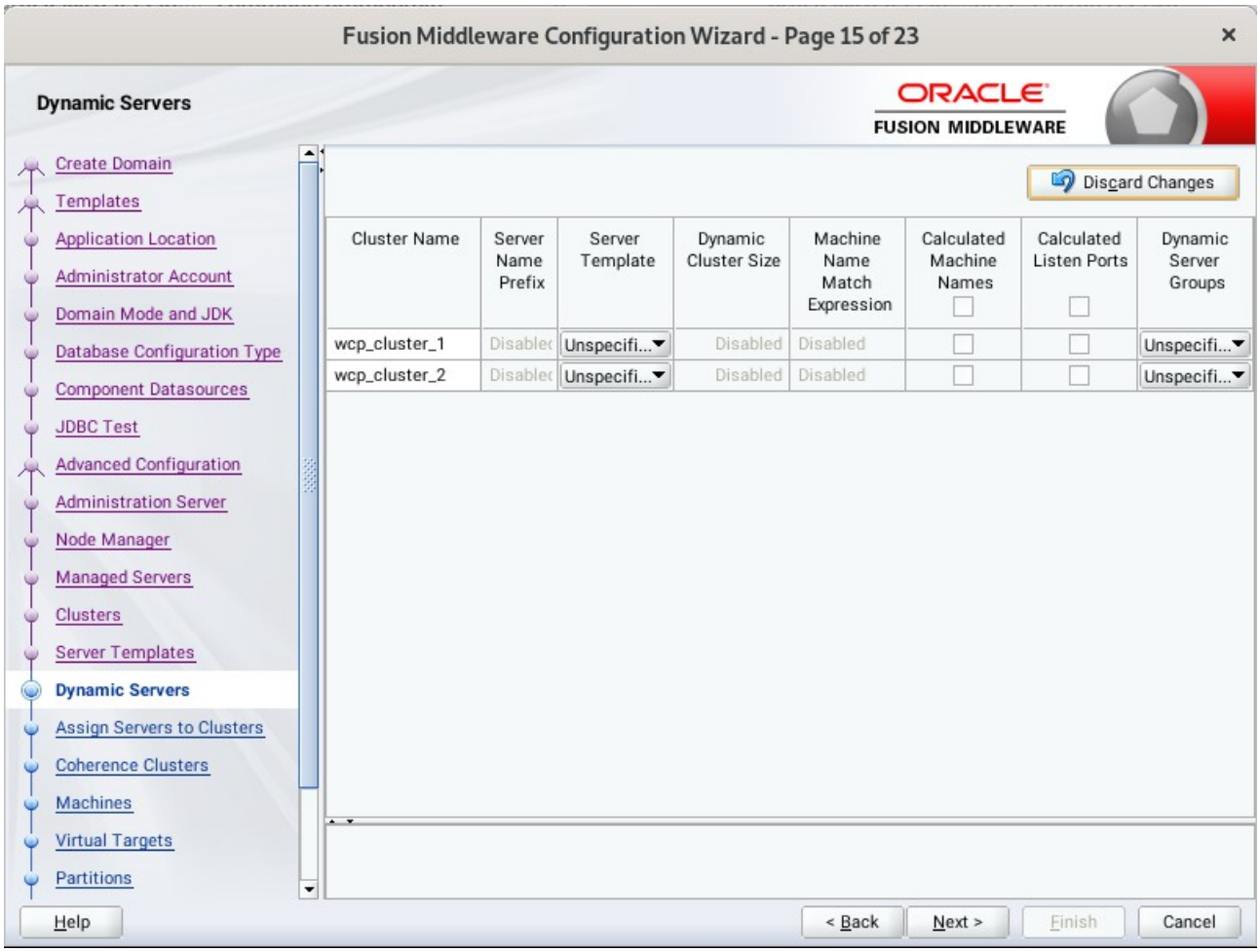
Click **Next** to continue.

14). The **Server templates** screep appears.



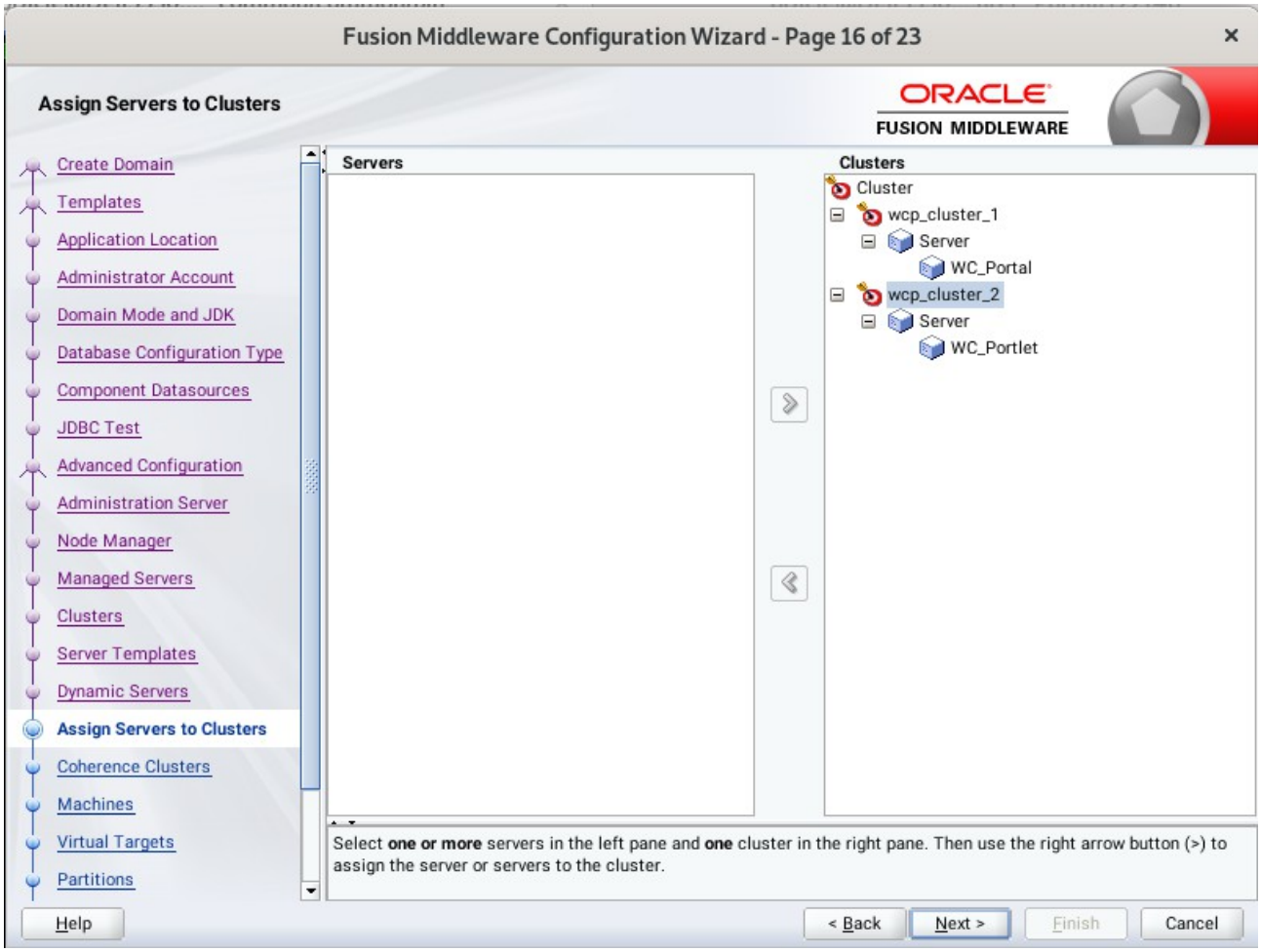
If you are creating dynamic clusters for a high availability setup, use the Server Templates screen to define one or more server templates for domain. To continue configuring the domain, click **Next**.

15). The **Dynamic Servers** screep appears.



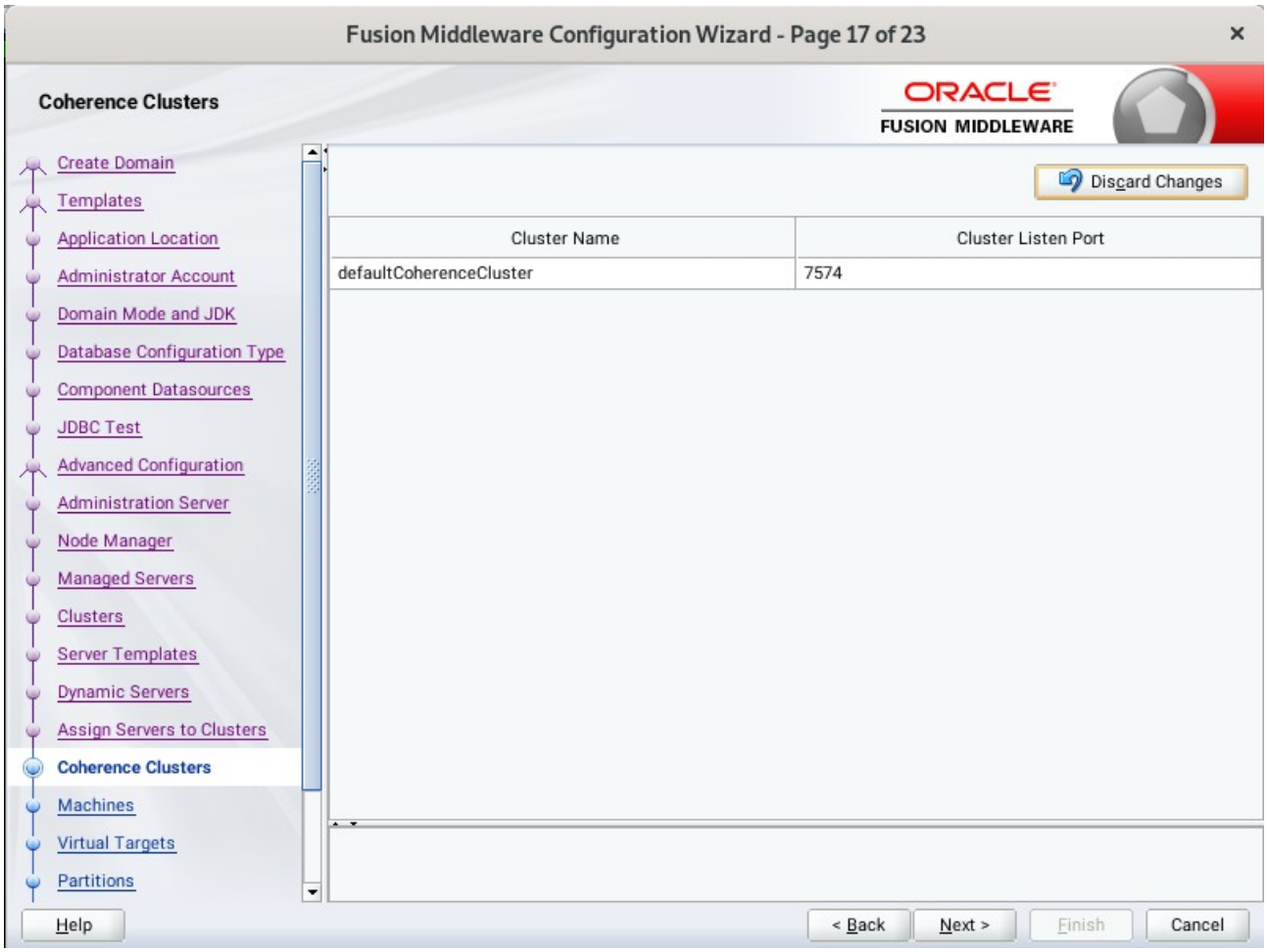
If you are creating dynamic clusters for a high availability setup, use the Dynamic Servers screen to configure the dynamic servers. If you are not configuring a dynamic cluster, click **Next** to continue configuring the domain.

16). The **Assign Servers to Clusters** screen appears.



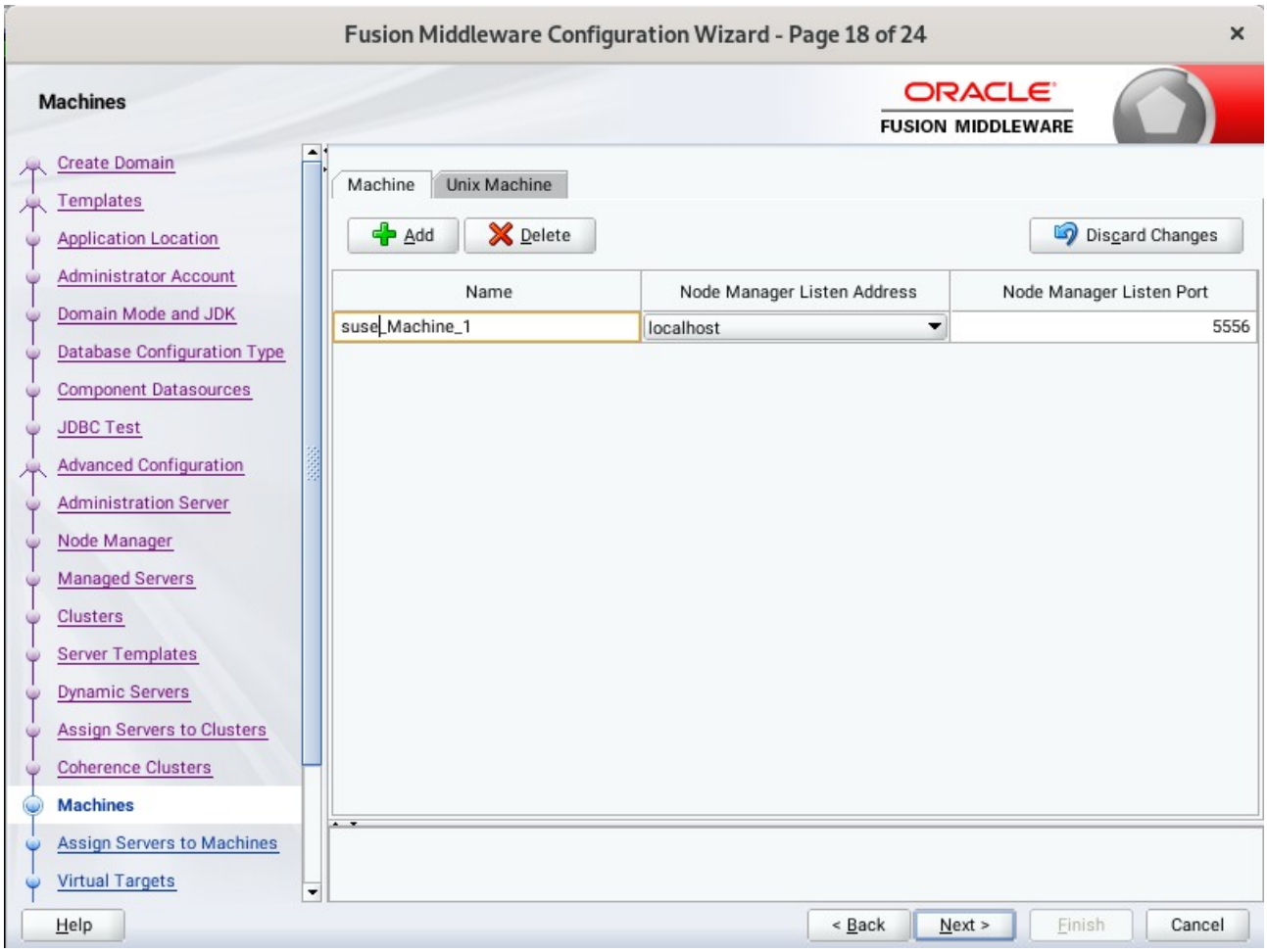
In the Clusters pane, select the cluster to which you want to assign the servers; in this case, ***wcp_cluster_1***. In the Servers pane, assign ***WC_Portal*** to ***wcp_cluster_1****, then r*epeat to assign ***WC_Portlet*** to ***wcp_cluster_2***. Click **Next** to continue.

17). The **Coherence Clusters** screen appears.



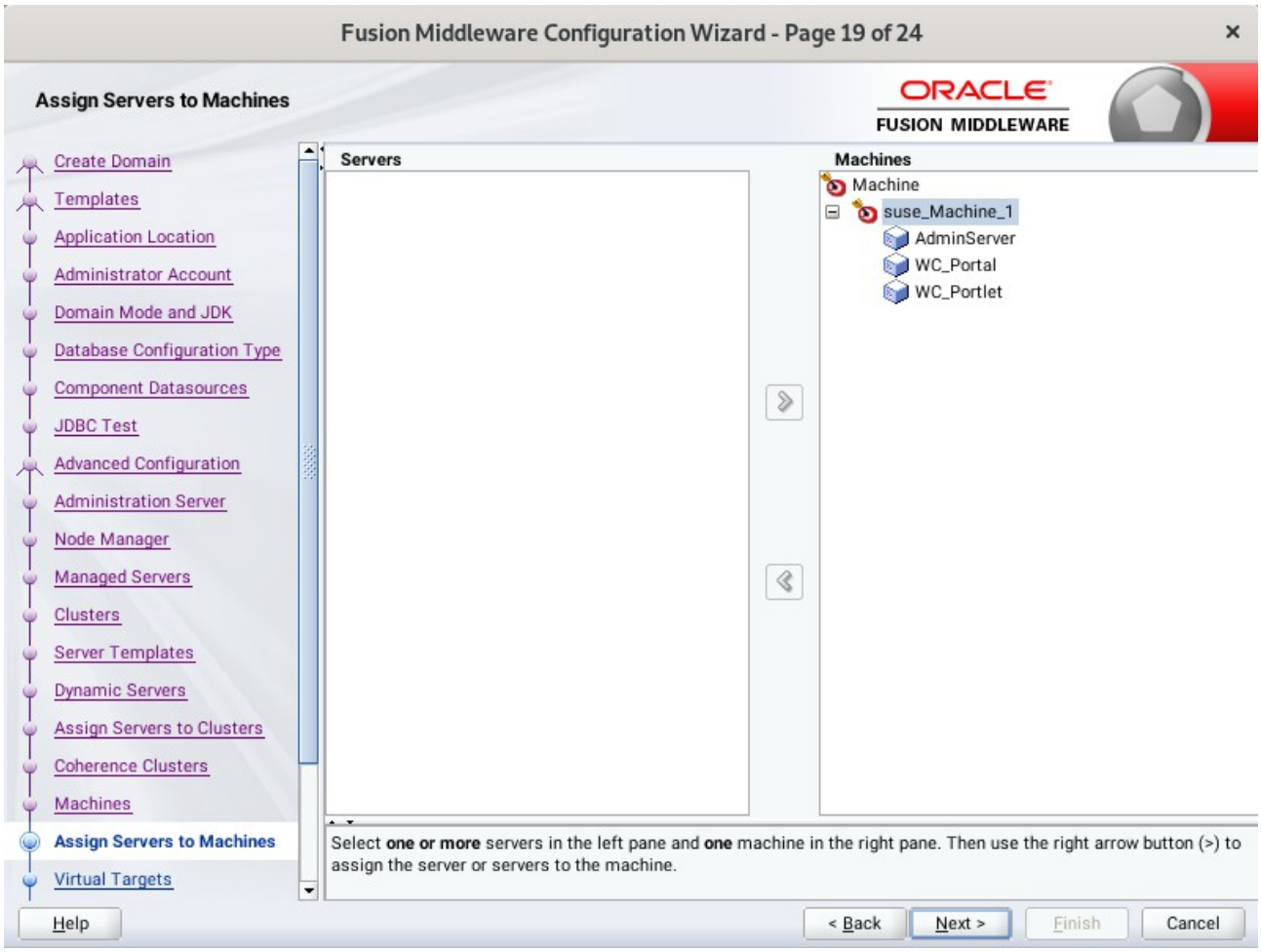
Leave the default port number as the Coherence cluster listen port. Click **Next** to continue.

18). The **Machines** screen appears.



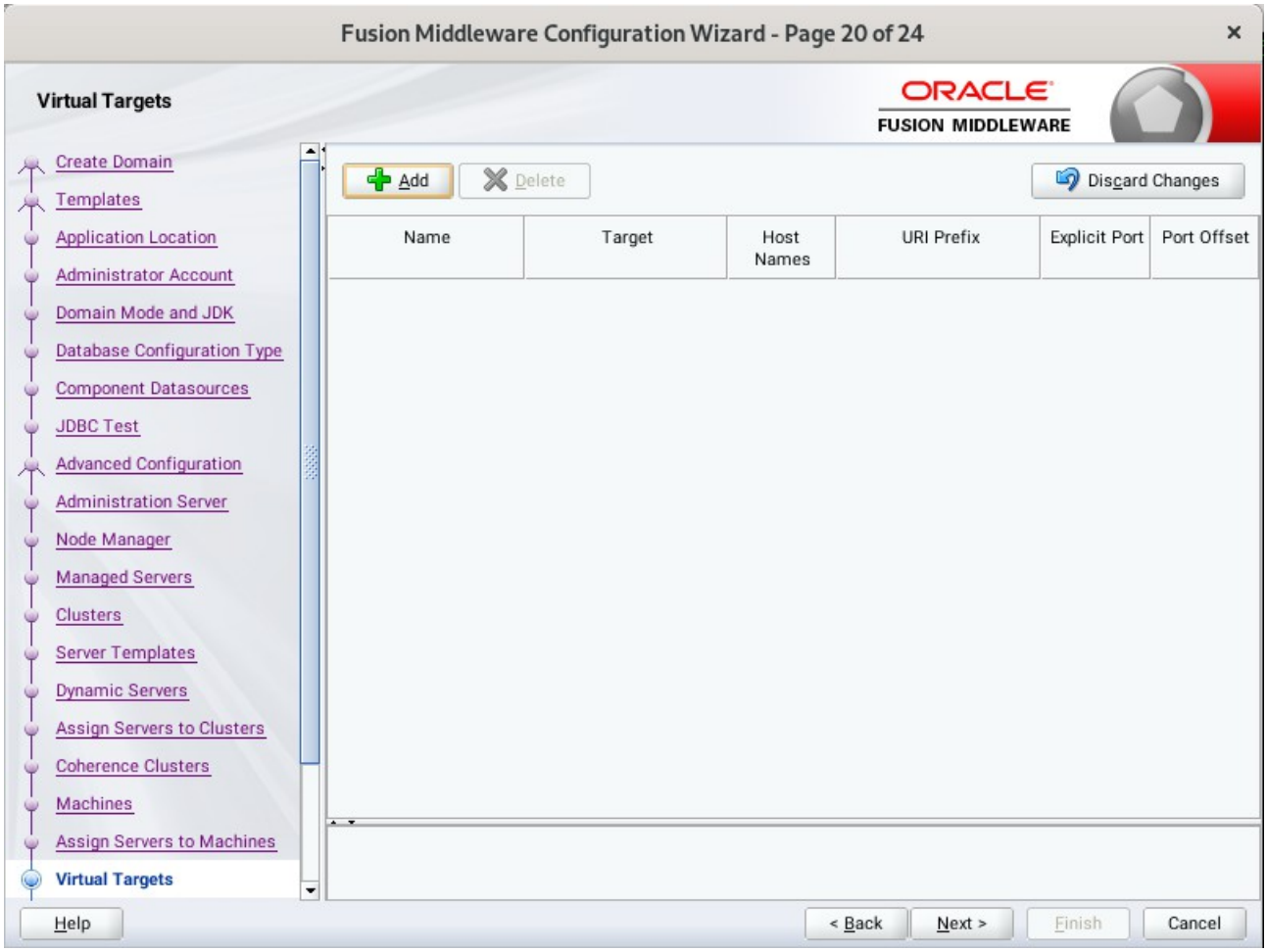
To create a new Oracle WebCenter Portal machine so that Node Manager can start and stop servers. Click **Next** to continue.

19). The **Assign Servers to Machines** screen appears.



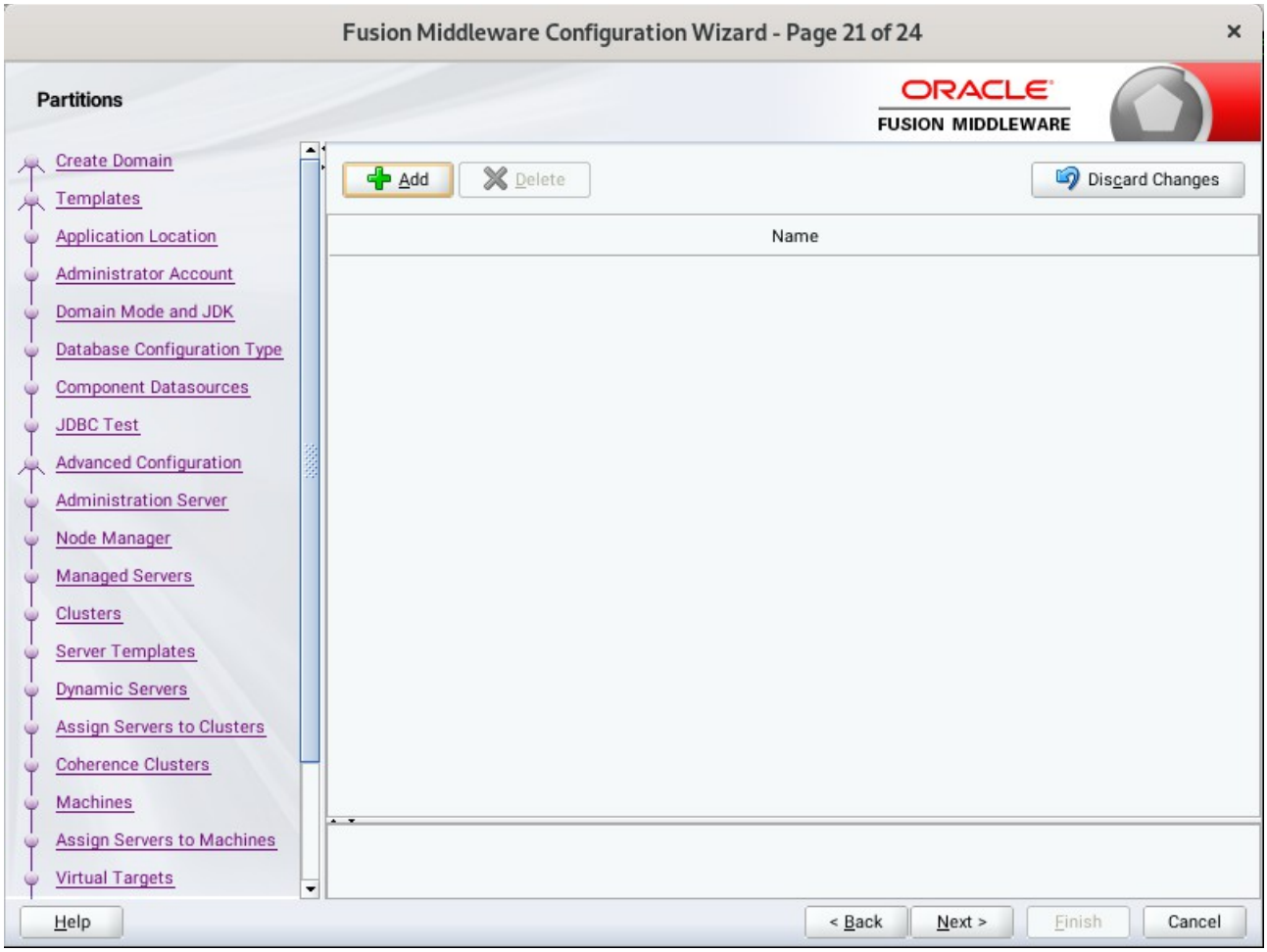
Use the **Assign Servers to Machines** screen to assign the Managed Servers to the new machine you just created. Click **Next** to continue.

20). The **Virtual Targets** screep appears.



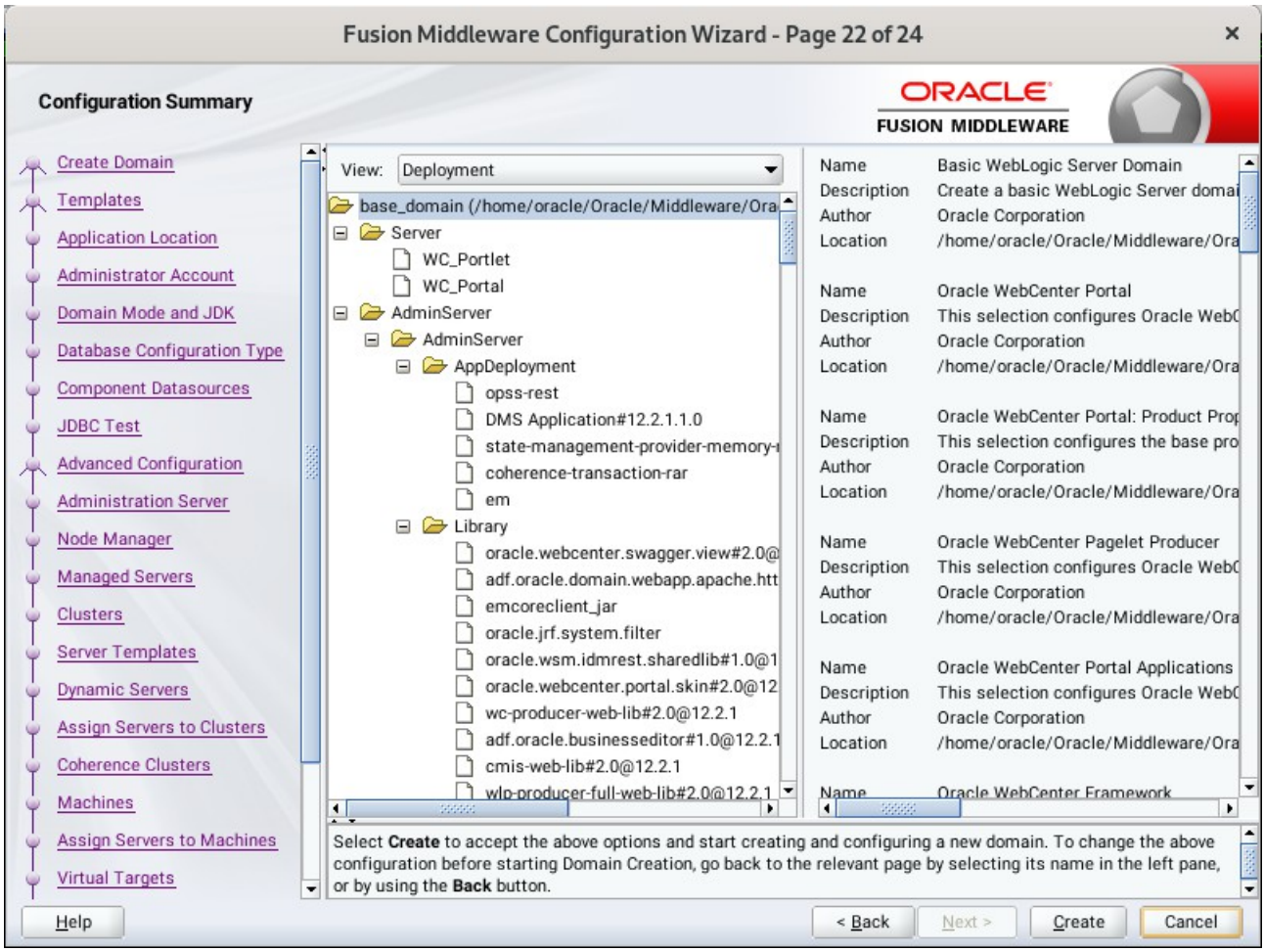
If you have a WebLogic Server Multitenant (MT) environment, you use the Virtual Targets screen to add or delete virtual targets. For this installation (not a WebLogic Server MT environment), you do not enter any values; just select **Next**.

21). The **Partitions** screep appears.



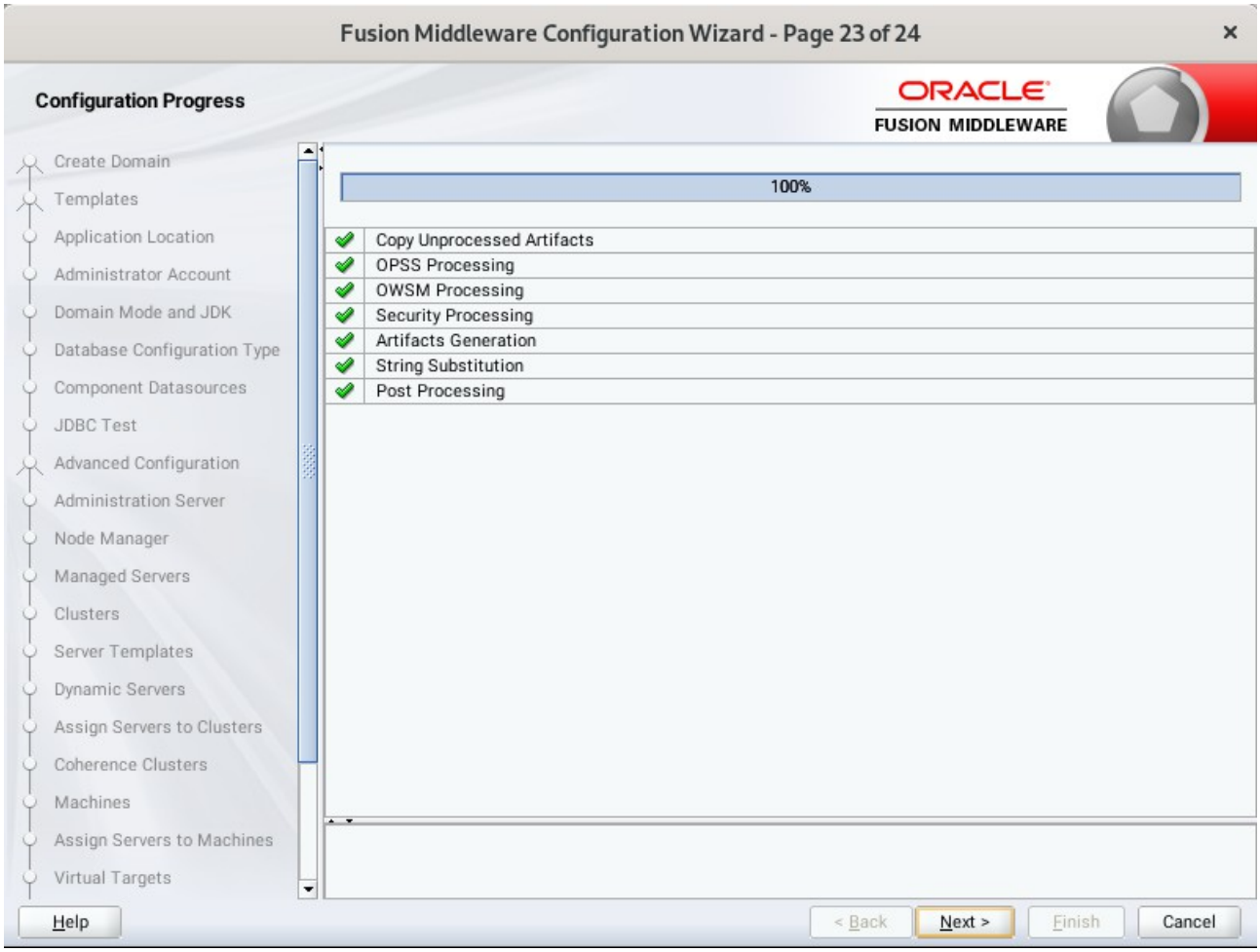
The Partitions screen is used to configure partitions for virtual targets in WebLogic Server Multitenant (MT) environments. Select **Next** without selecting any options.

22). The **Configuration Summary** screen appears.



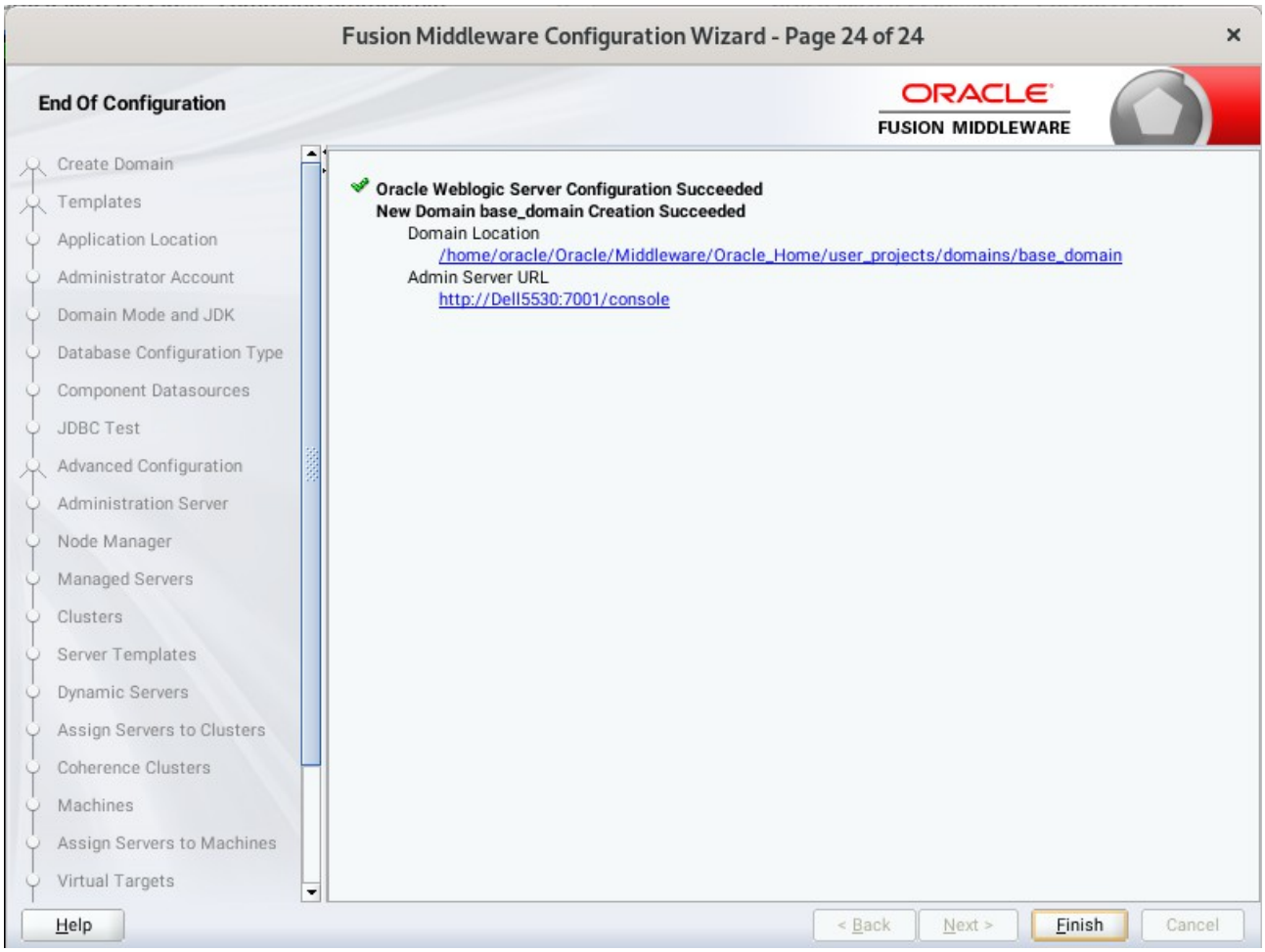
Select **Create** to accept the above options and start creating and configuring a new domain.

23). The **Configuration Progress** screen appears.



Wait for this part of the configuration to complete. Depending on the location and performance of the Repository database, this process may take a few minutes. After the domain successful created, click **Next** to continue.

24). The **End of Configuration** screen appears.



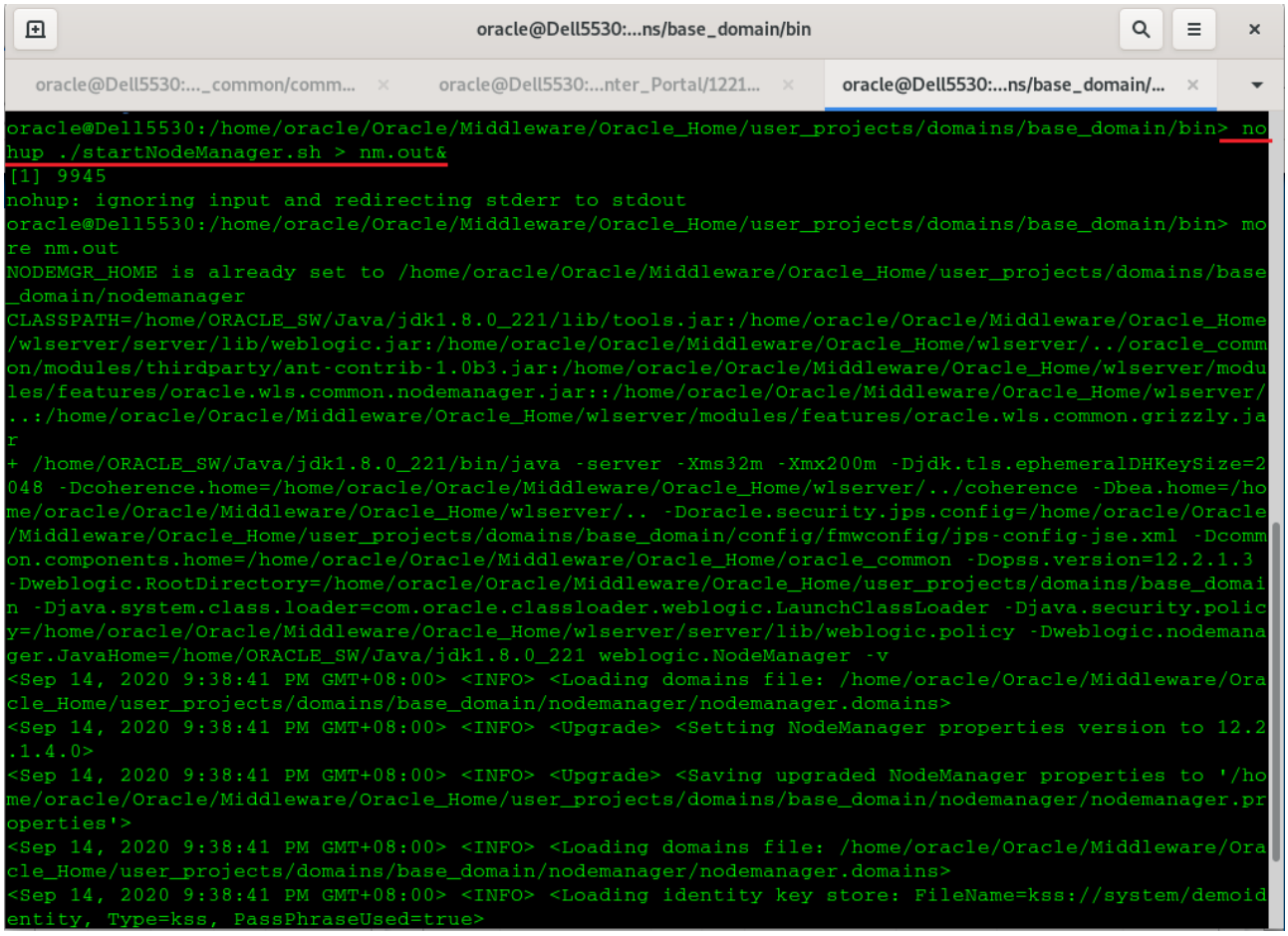
Once you see: "Oracle Weblogic Server Configuration Succeeded", record the '**Domain Location**' and '**Admin Server URL**', then click **Finish** to dismiss the Configuration Wizard.

4. Verifying Oracle WebCenter Portal 12c Installation and Configuration

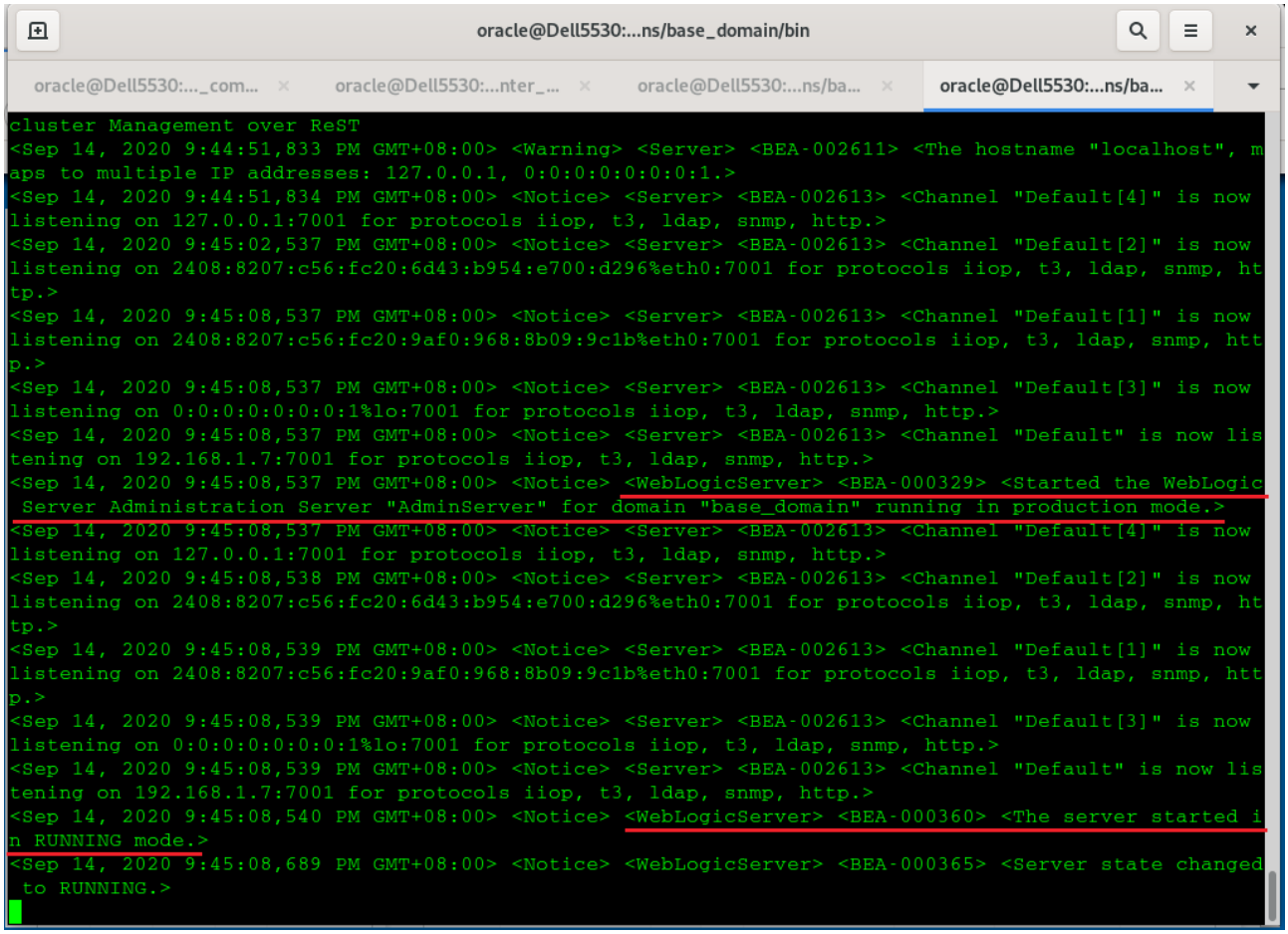
4-1. Check for the presence of installation log files in logs directory inside your Oracle Inventory directory. Also, check the domain server logs, which are located in the servers directory inside the domain home directory.

4-2. Starting the Node Manager and the Admin Server.

Starting the Node Manager, go to the DOMAIN_HOME/bin directory and run 'nohup ./startNodeManager.sh > nm.out&'



Starting the Admin Server, go to the DOMAIN_HOME/bin directory and run ./startWebLogic.sh.



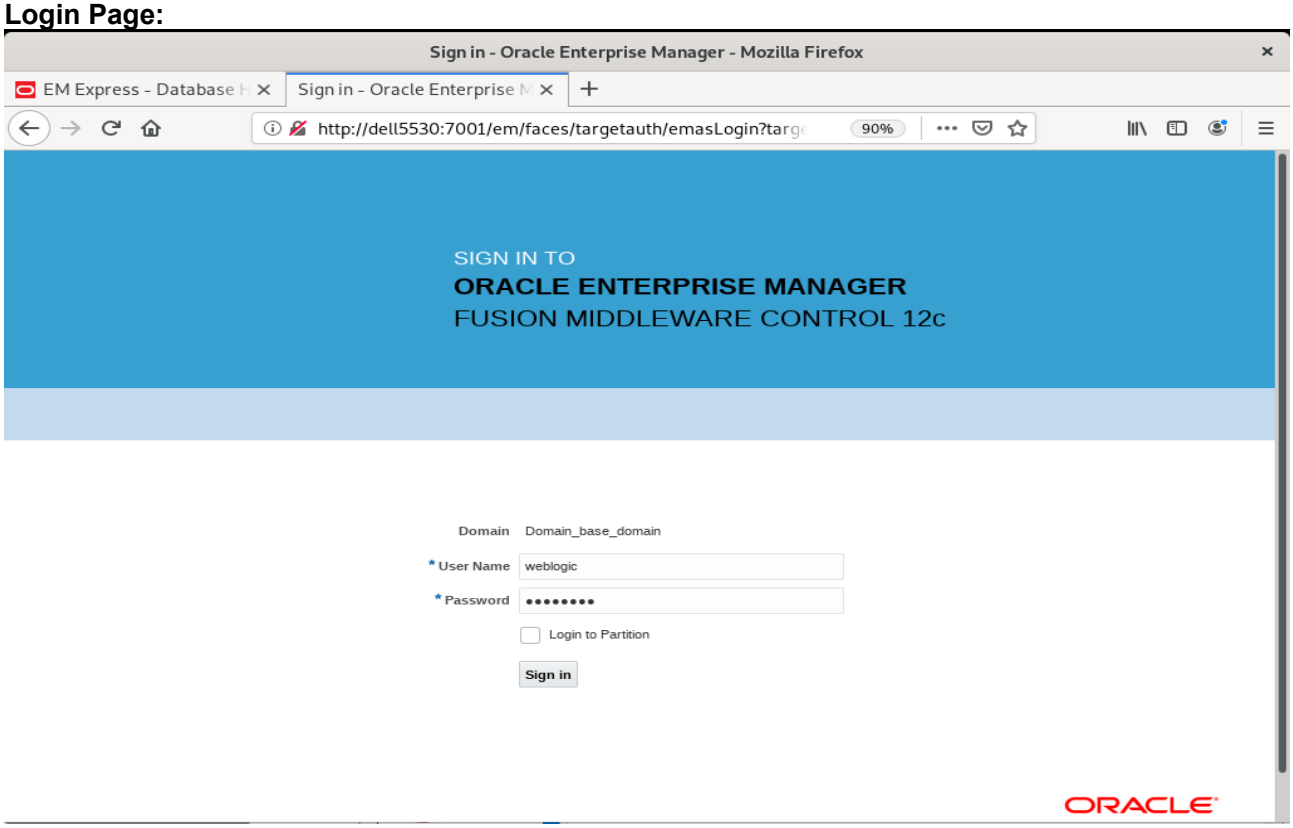
You know that the administrator server is running when you see the following output:

Server state changed to RUNNING.

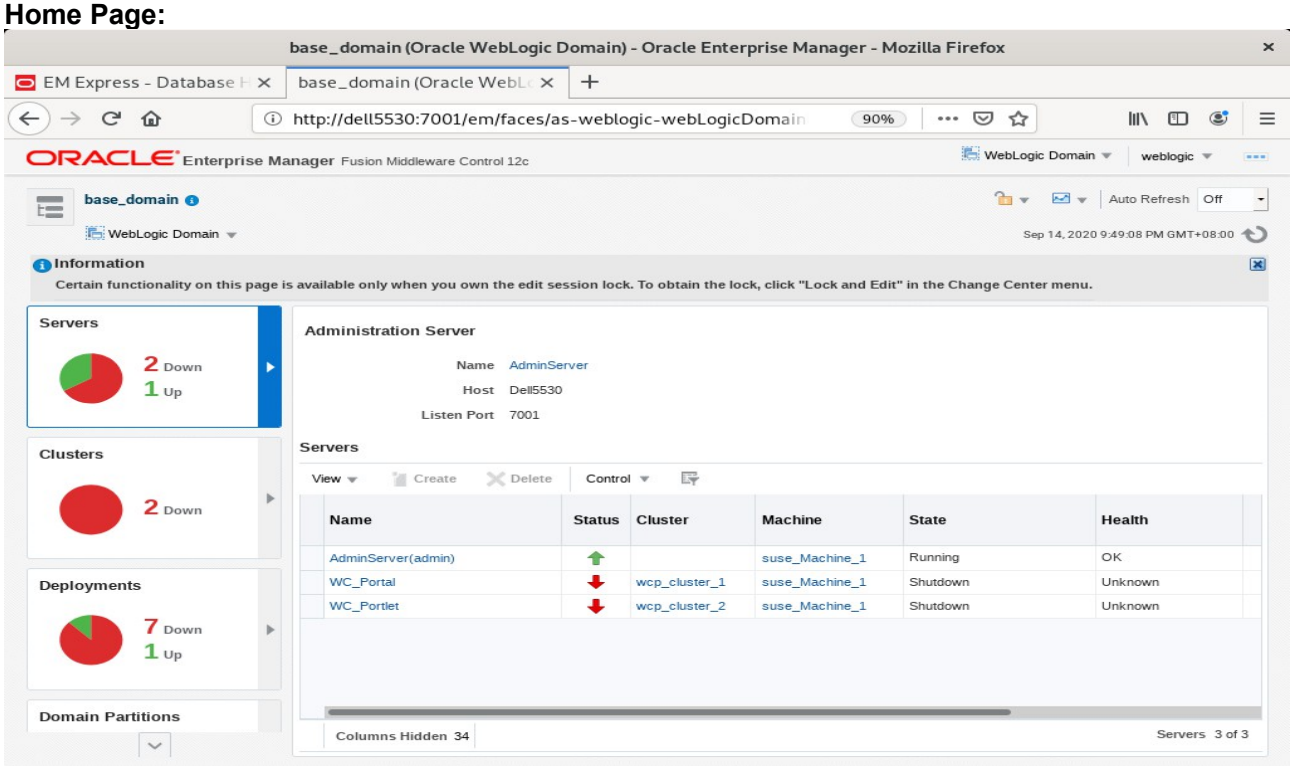
4-3. Checking Oracle WebCenter Product URLs.

1). Access to Enterprise Manager Console.

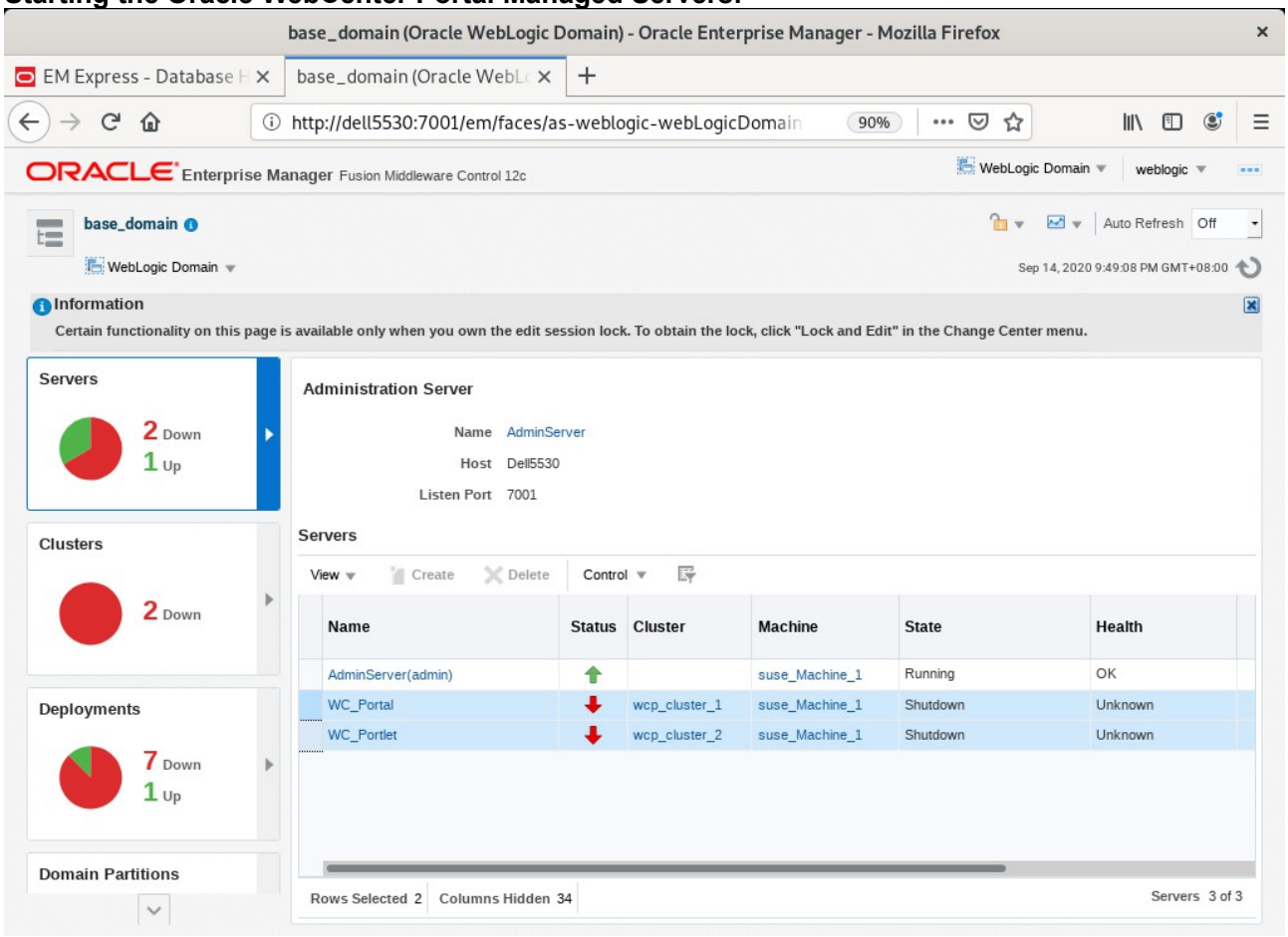
Login Page:



Home Page:



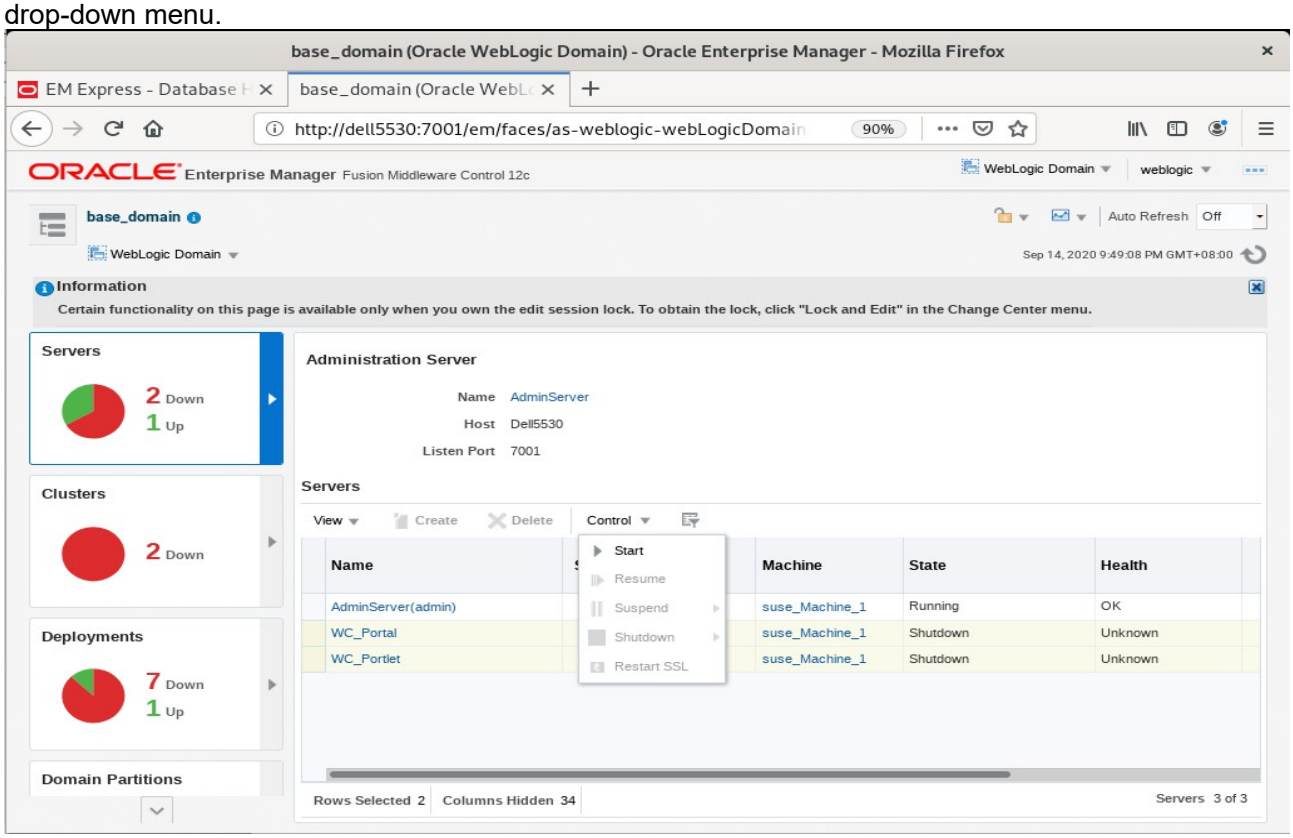
Starting the Oracle WebCenter Portal Managed Servers:



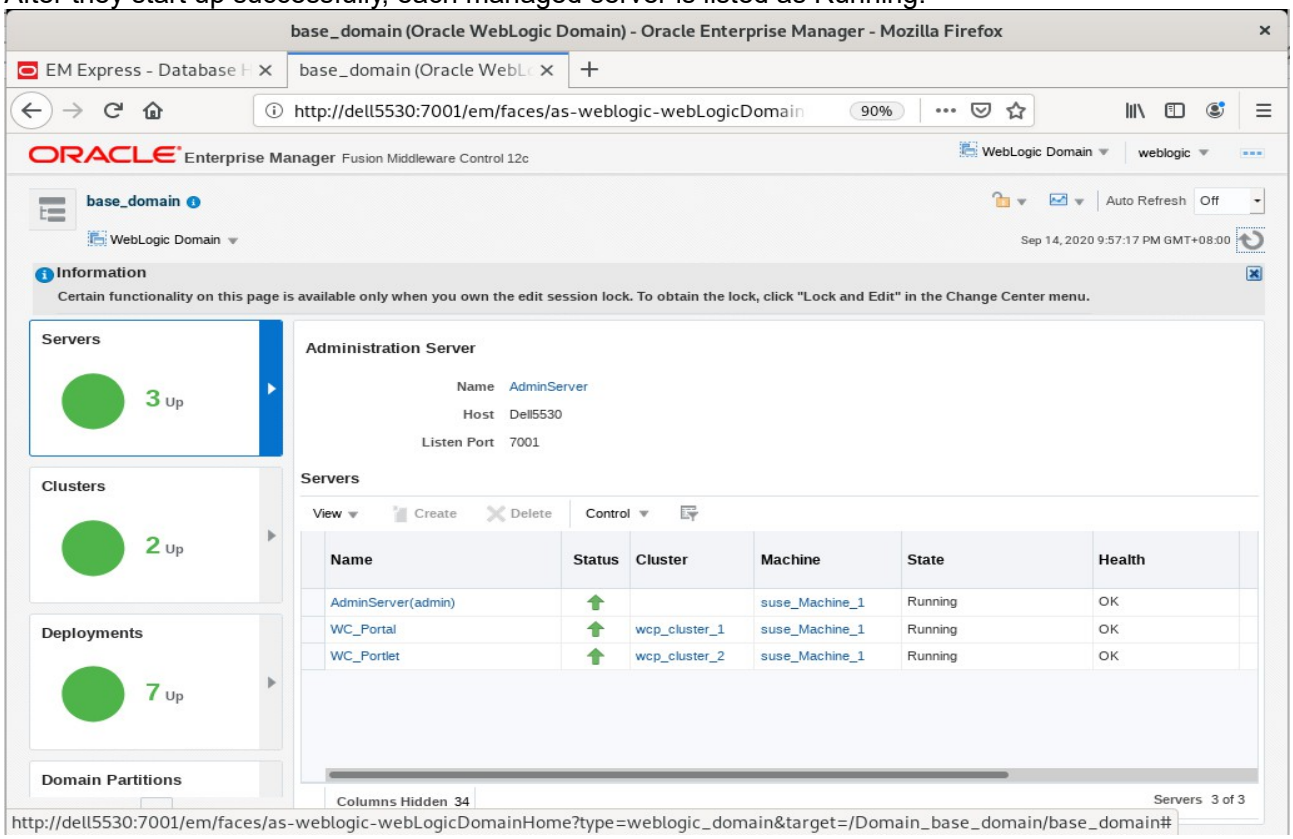
Select **WC_Portal**, and **WC_Portlet**.

- Left-click to select a managed server.
- Hold down the SHIFT key to select more than one managed server.

Select **Control** from the ribbon menu above the list of managed servers. Then select **Start** from the drop-down menu.



After they start up successfully, each managed server is listed as Running.

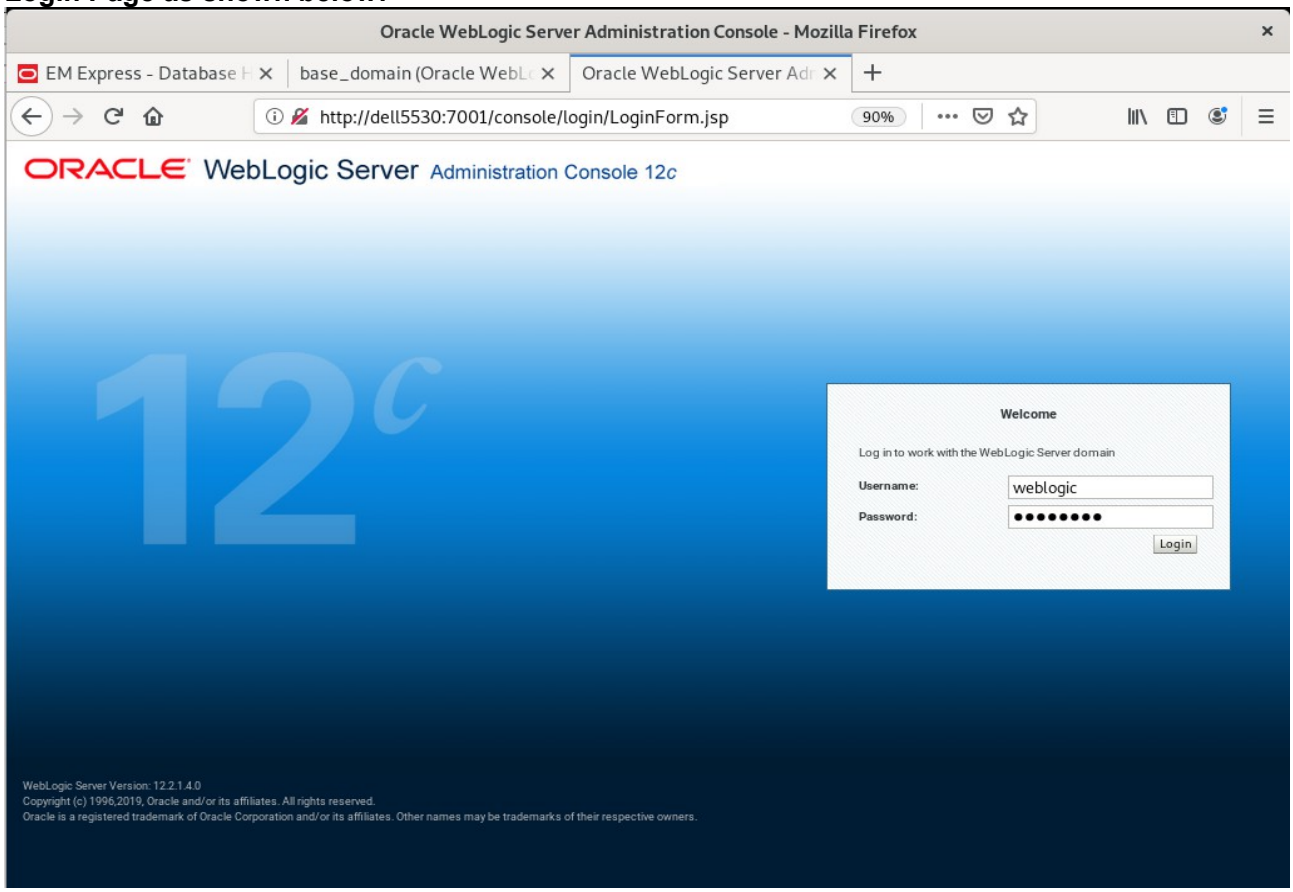


Checking WebCenter Servers state through Oracle WLST tool.

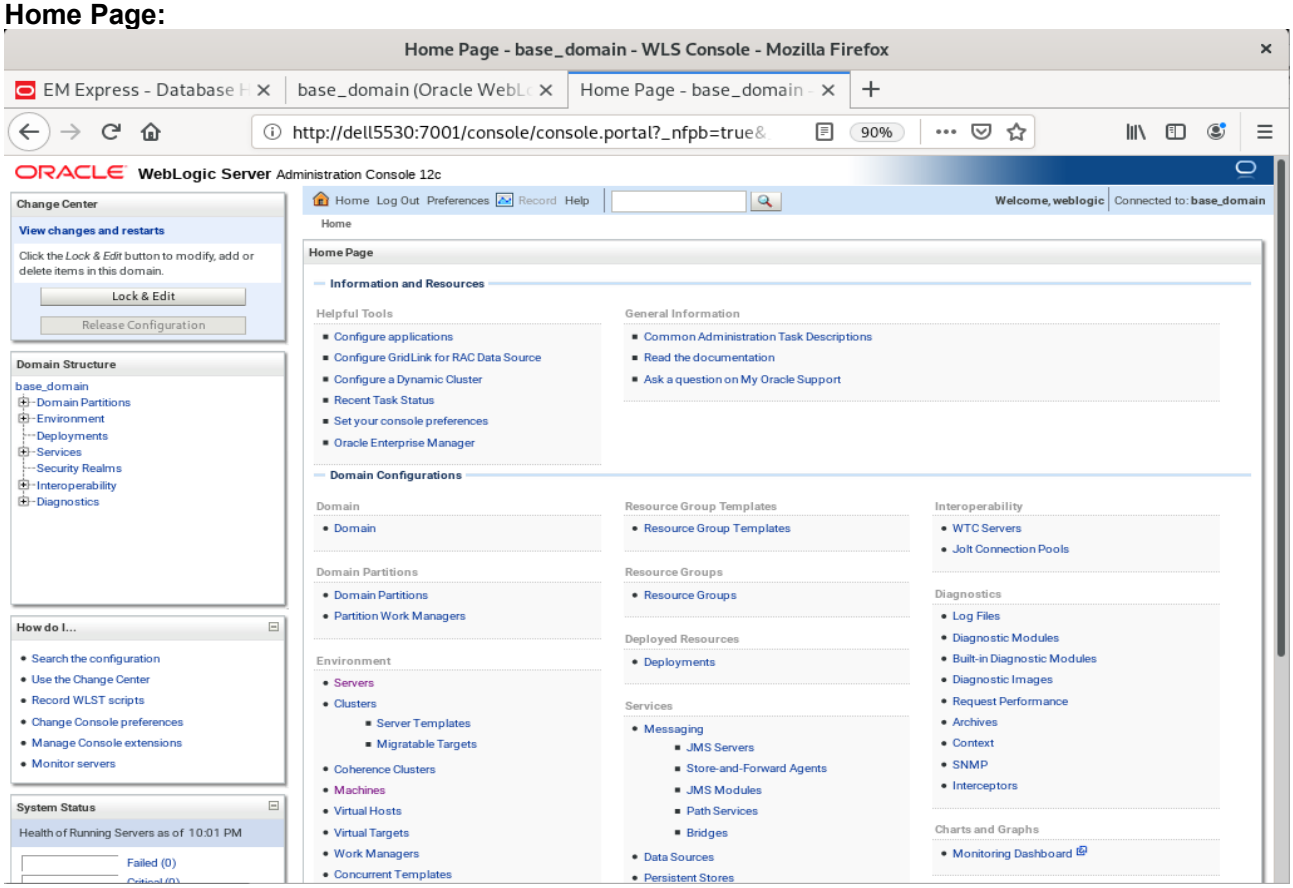
```
oracle@Dell5530:/home/oracle/Oracle/Middleware/Oracle_Home/oracle_common/common/bin> ./wlst.sh

Initializing WebLogic Scripting Tool (WLST) ...


Welcome to WebLogic Server Administration Scripting Shell

Type help() for help on available commands

wls:/offline> connect('weblogic','welcome1','Dell5530:7001')
Connecting to t3://Dell5530:7001 with userid weblogic ...
Successfully connected to Admin Server "AdminServer" that belongs to domain "base_domain".

Warning: An insecure protocol was used to connect to the server.
To ensure on-the-wire security, the SSL port or Admin port should be used instead.

wls:/base_domain/serverConfig/> state('AdminServer')
Current state of "AdminServer" : RUNNING
wls:/base_domain/serverConfig/> state('WC_Portal')
Current state of "WC_Portal" : RUNNING
wls:/base_domain/serverConfig/> state('WC_Portlet')
Current state of "WC_Portlet" : RUNNING
wls:/base_domain/serverConfig/>
```

2). Access to Administration Server Console

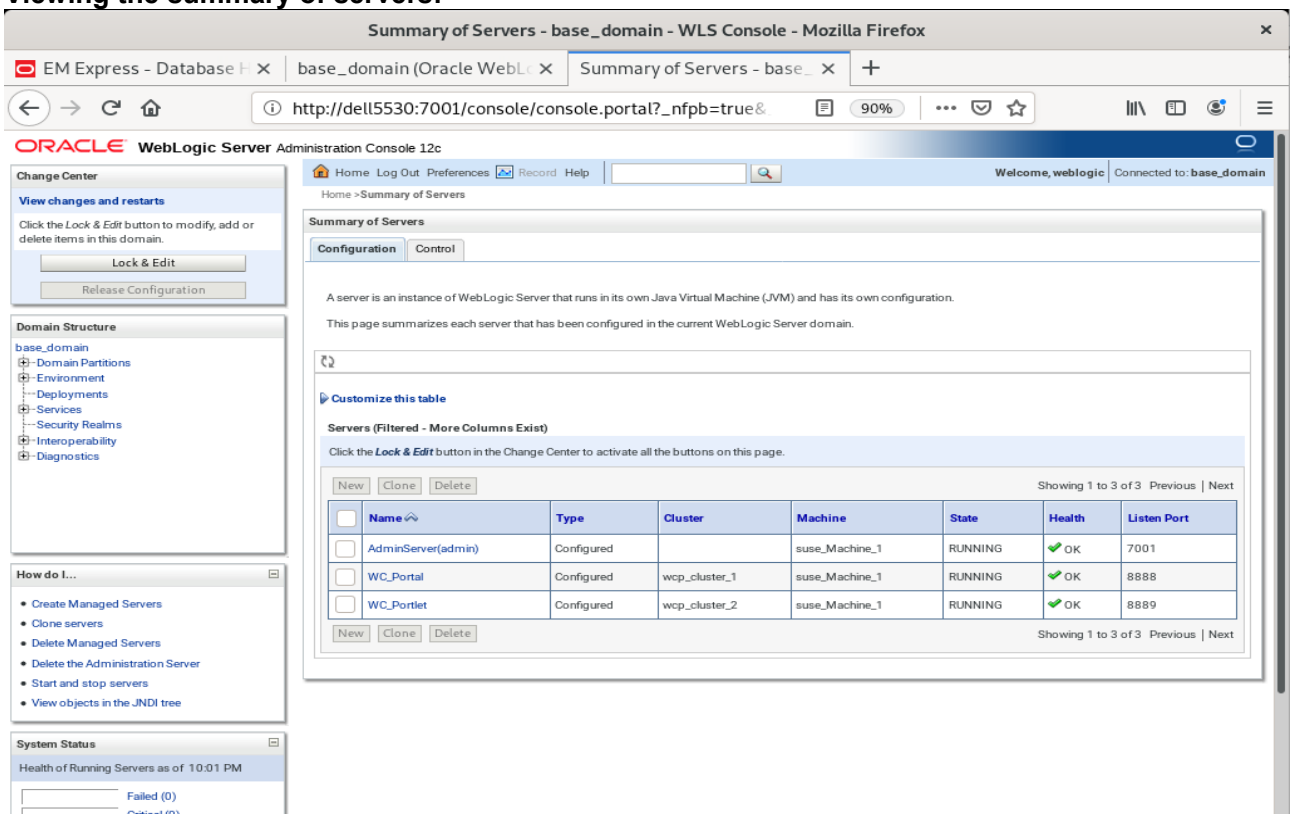
Login Page as shown below:



Home Page:

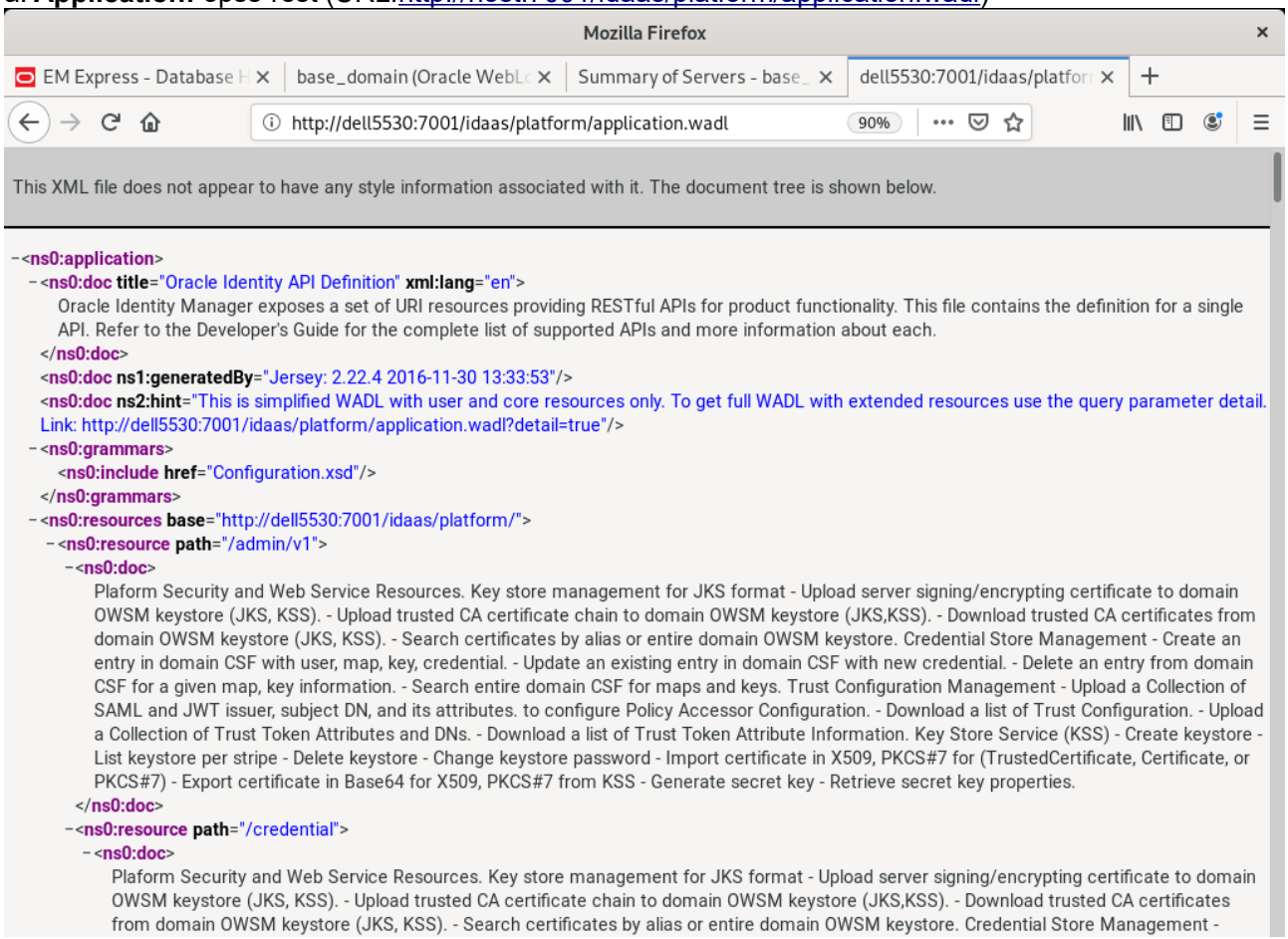


Viewing the summary of servers:

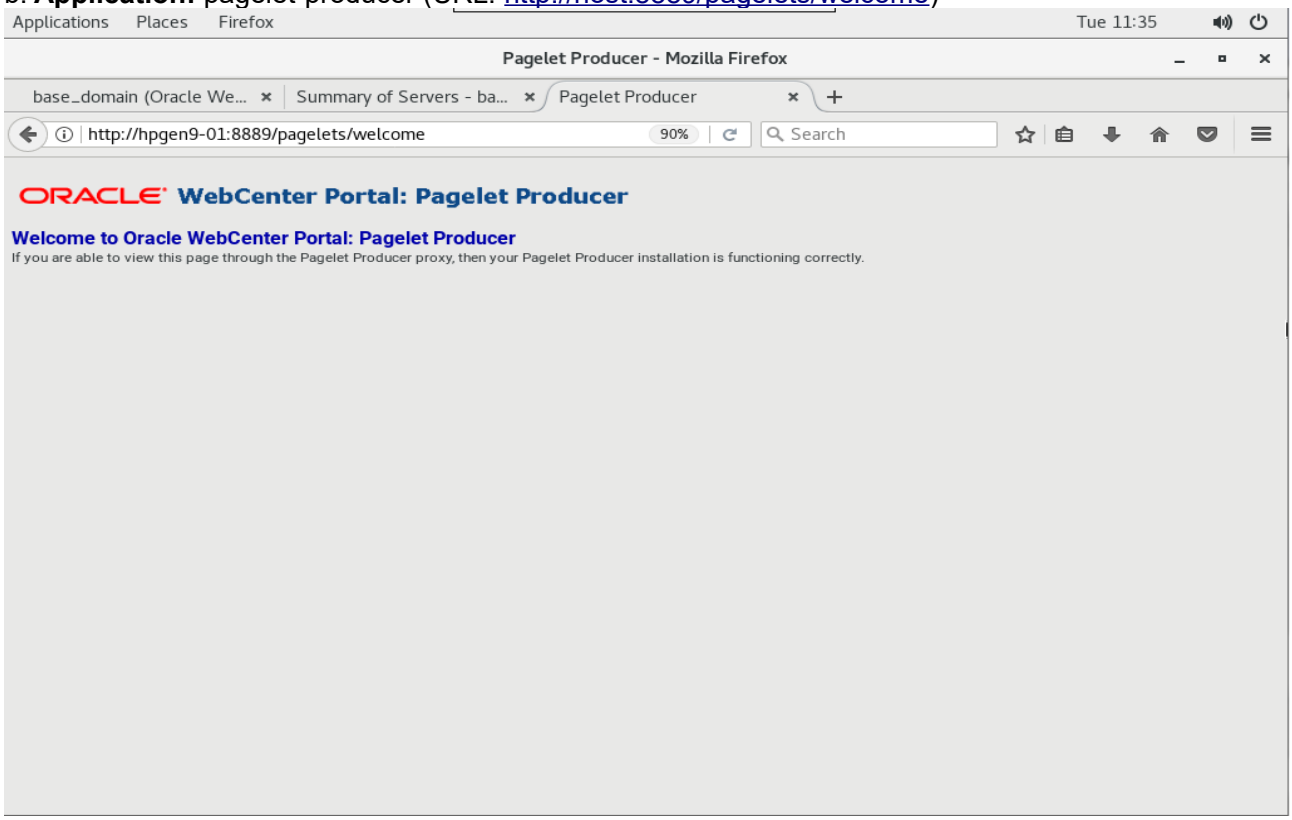


3). Test Oracle WebCenter Portal Web Service

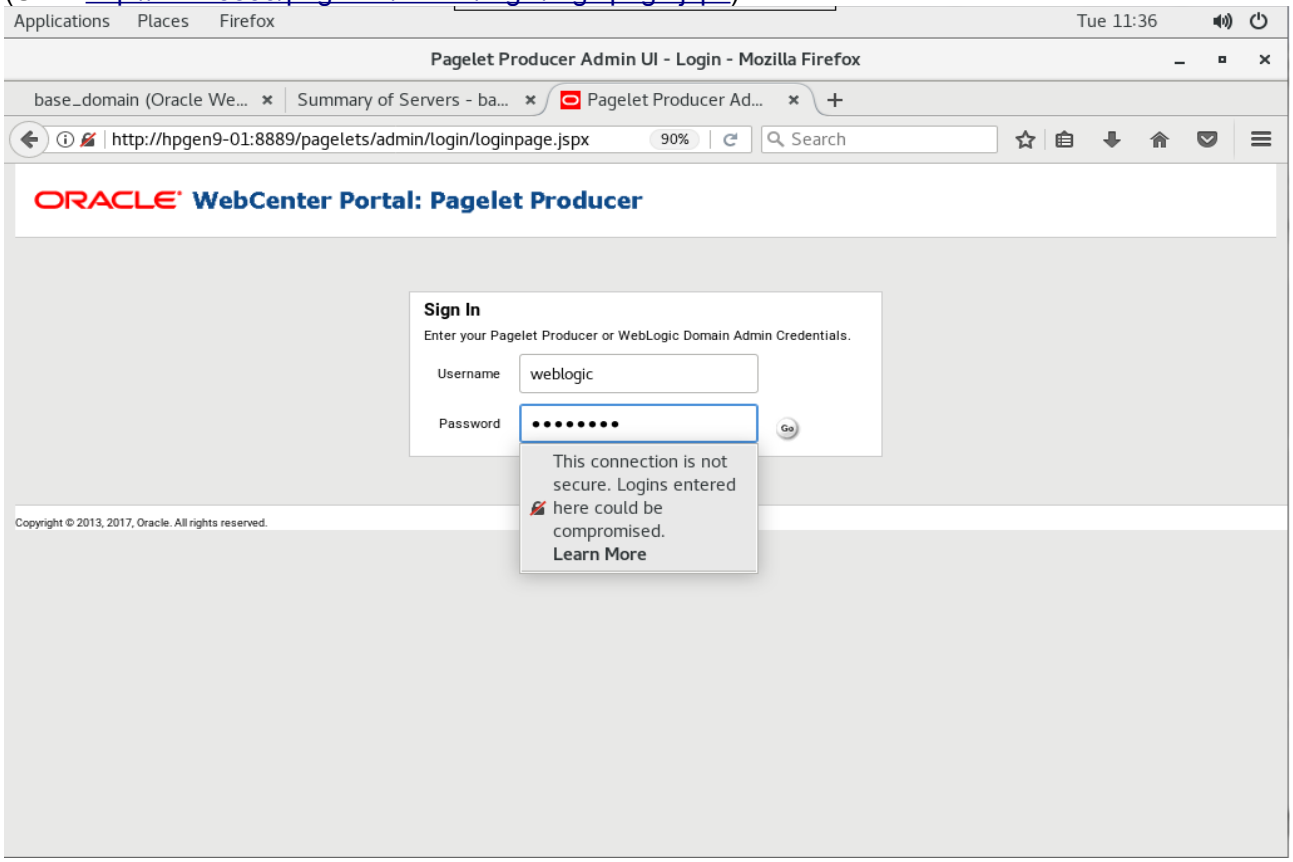
a. **Application:** opss-rest (URL:http://host:7001/idaas/platform/application.wadl)

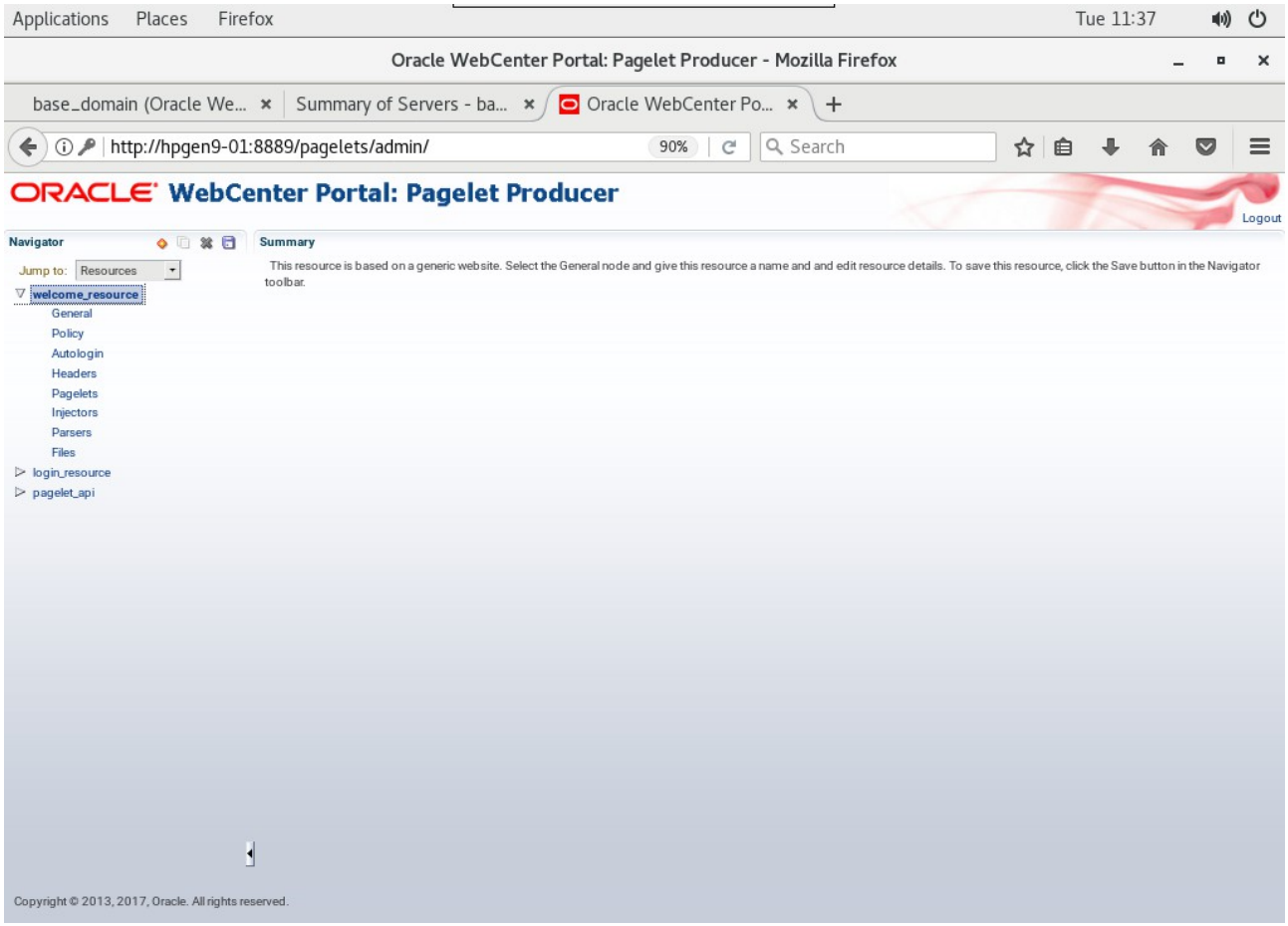


b. **Application:** pagelet-producer (URL: http://host:8889/pagelets/welcome)

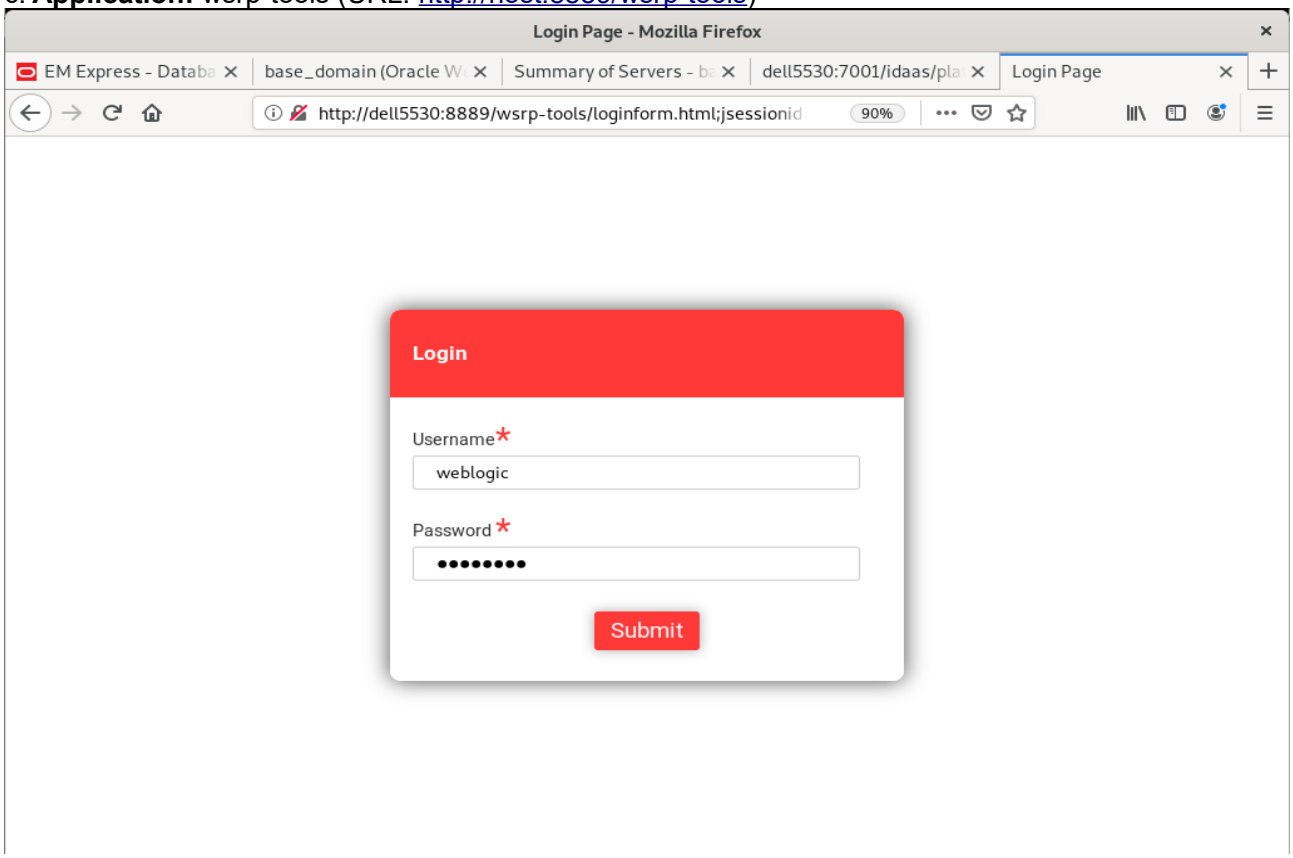


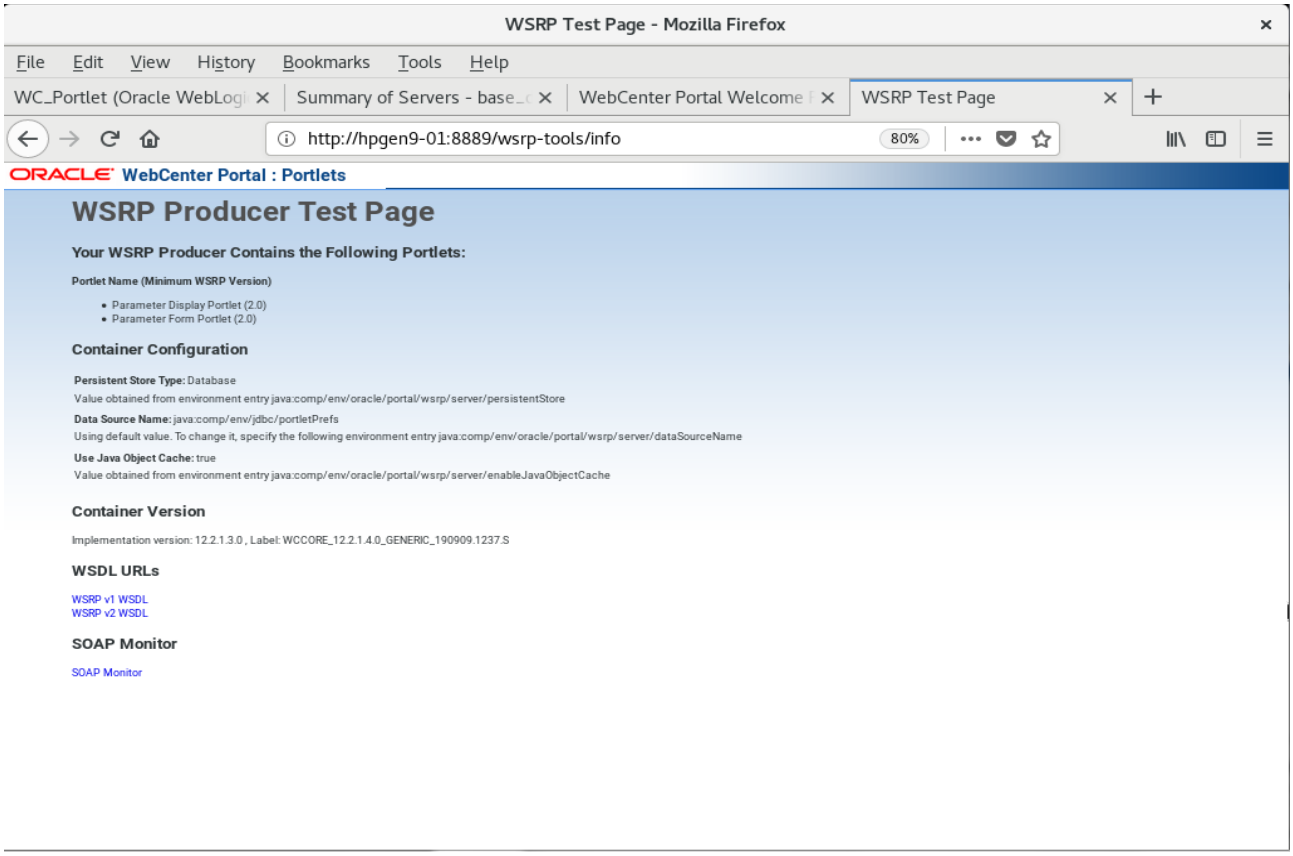
(URL: http://host:8889/pagelets/admin/login/loginpage.jspx)

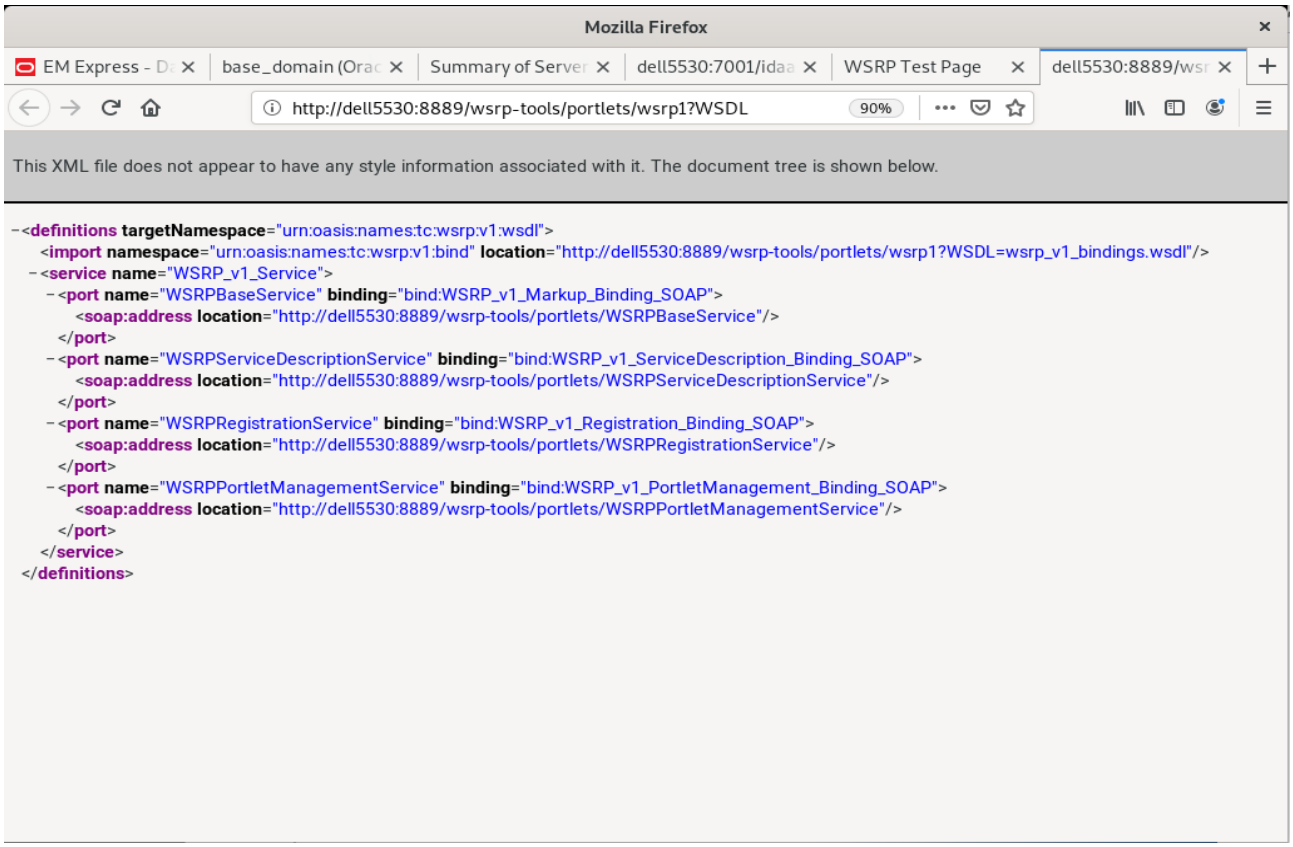


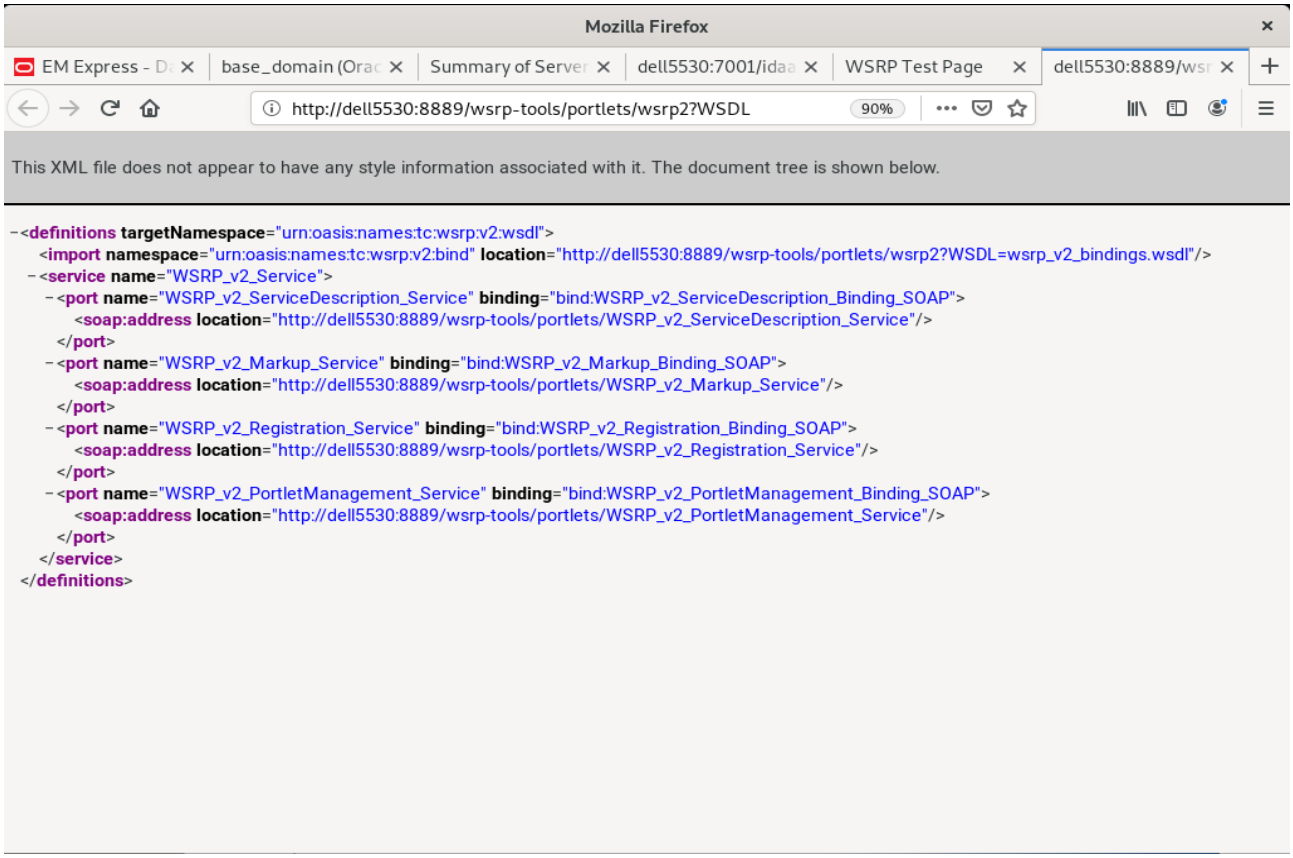

Applications
Places
Firefox
Tue 11:37
Oracle WebCenter Portal: Pagelet Producer - Mozilla Firefox
base_domain (Oracle We...
Summary of Servers - ba...
Oracle WebCenter Po...
http://hpgen9-01:8889/pagelets/admin/
90%
Search
ORACLE WebCenter Portal: Pagelet Producer
Logout
Navigator
Jump to:
Resources
welcome_resource
General
Policy
Autologin
Headers
Pagelets
Injectors
Parsers
Files
login_resource
pagelet_api
Summary
This resource is based on a generic website. Select the General node and give this resource a name and and edit resource details. To save this resource, click the Save button in the Navigator toolbar.
Copyright © 2013, 2017, Oracle. All rights reserved.

c. **Application:** wsrp-tools (URL: http://host:8889/wsrp-tools)






Mozilla Firefox
EM Express - D
base_domain (Orac
Summary of Server
dell5530:7001/idaa
WSRP Test Page
dell5530:8889/wsr
http://dell5530:8889/wsrp-tools/portlets/wsrp1?WSDL
90%
This XML file does not appear to have any style information associated with it. The document tree is shown below.
<definitions targetNamespace="urn:oasis:names:tc:wsrp:v1:wsdl">
<import namespace="urn:oasis:names:tc:wsrp:v1:bind" location="http://dell5530:8889/wsrp-tools/portlets/wsrp1?WSDL=wsrp_v1_bindings.wsdl"/>
<service name="WSRP_v1_Service">
<port name="WSRPBaseService" binding="bind:WSRP_v1_Markup_Binding_SOAP">
<soap:address location="http://dell5530:8889/wsrp-tools/portlets/WSRPBaseService"/>
</port>
<port name="WSRPServiceDescriptionService" binding="bind:WSRP_v1_ServiceDescription_Binding_SOAP">
<soap:address location="http://dell5530:8889/wsrp-tools/portlets/WSRPServiceDescriptionService"/>
</port>
<port name="WSRPRegistrationService" binding="bind:WSRP_v1_Registration_Binding_SOAP">
<soap:address location="http://dell5530:8889/wsrp-tools/portlets/WSRPRegistrationService"/>
</port>
<port name="WSRPPortletManagementService" binding="bind:WSRP_v1_PortletManagement_Binding_SOAP">
<soap:address location="http://dell5530:8889/wsrp-tools/portlets/WSRPPortletManagementService"/>
</port>
</service>
</definitions>


Mozilla Firefox
EM Express - D
base_domain (Orac
Summary of Server
dell5530:7001/idaa
WSRP Test Page
dell5530:8889/wsr
http://dell5530:8889/wsrp-tools/portlets/wsrp2?WSDL
90%
This XML file does not appear to have any style information associated with it. The document tree is shown below.
<definitions targetNamespace="urn:oasis:names:tc:wsrp:v2:wsdl">
<import namespace="urn:oasis:names:tc:wsrp:v2:bind" location="http://dell5530:8889/wsrp-tools/portlets/wsrp2?WSDL=wsrp_v2_bindings.wsdl"/>
<service name="WSRP_v2_Service">
<port name="WSRP_v2_ServiceDescription_Service" binding="bind:WSRP_v2_ServiceDescription_Binding_SOAP">
<soap:address location="http://dell5530:8889/wsrp-tools/portlets/WSRP_v2_ServiceDescription_Service"/>
</port>
<port name="WSRP_v2_Markup_Service" binding="bind:WSRP_v2_Markup_Binding_SOAP">
<soap:address location="http://dell5530:8889/wsrp-tools/portlets/WSRP_v2_Markup_Service"/>
</port>
<port name="WSRP_v2_Registration_Service" binding="bind:WSRP_v2_Registration_Binding_SOAP">
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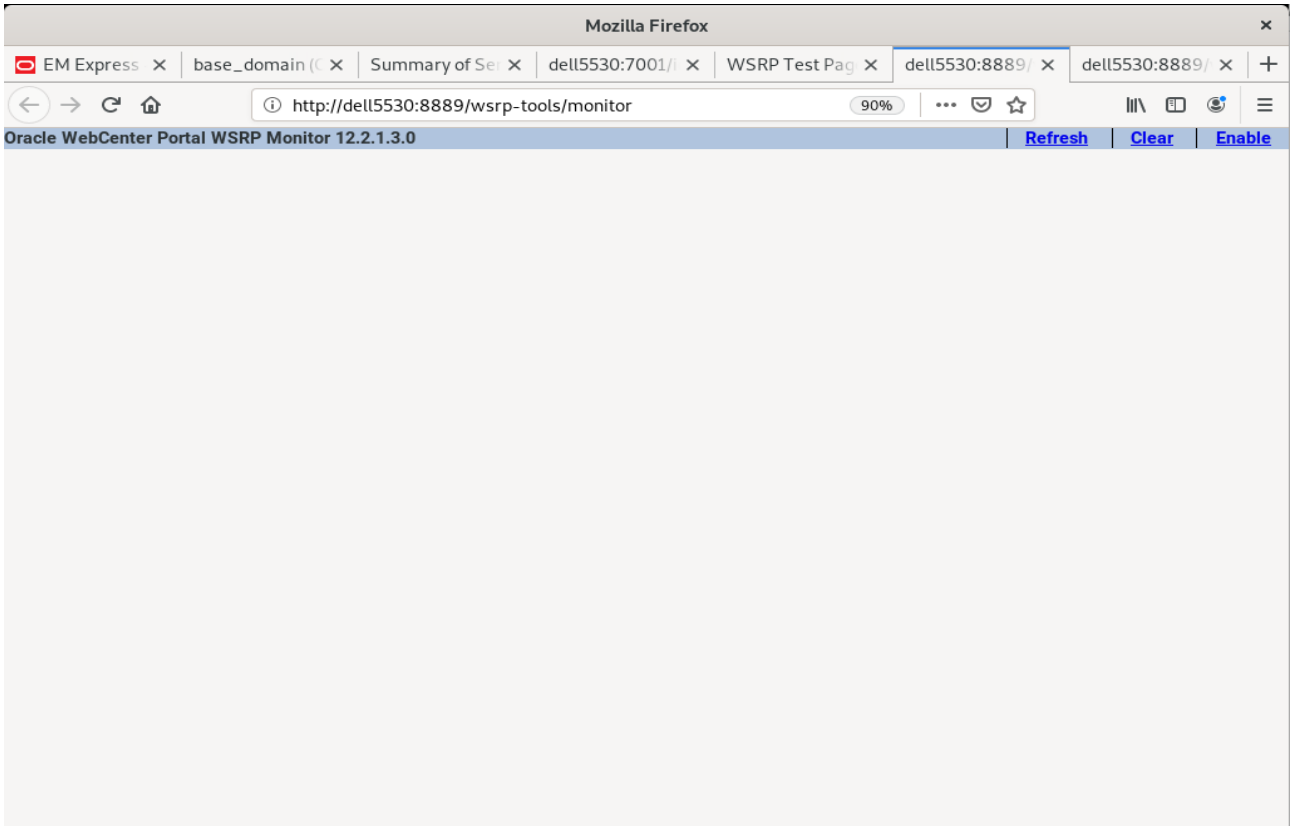
</port>
<port name="WSRP_v2_PortletManagement_Service" binding="bind:WSRP_v2_PortletManagement_Binding_SOAP">
<soap:address location="http://dell5530:8889/wsrp-tools/portlets/WSRP_v2_PortletManagement_Service"/>
</port>
</service>
</definitions>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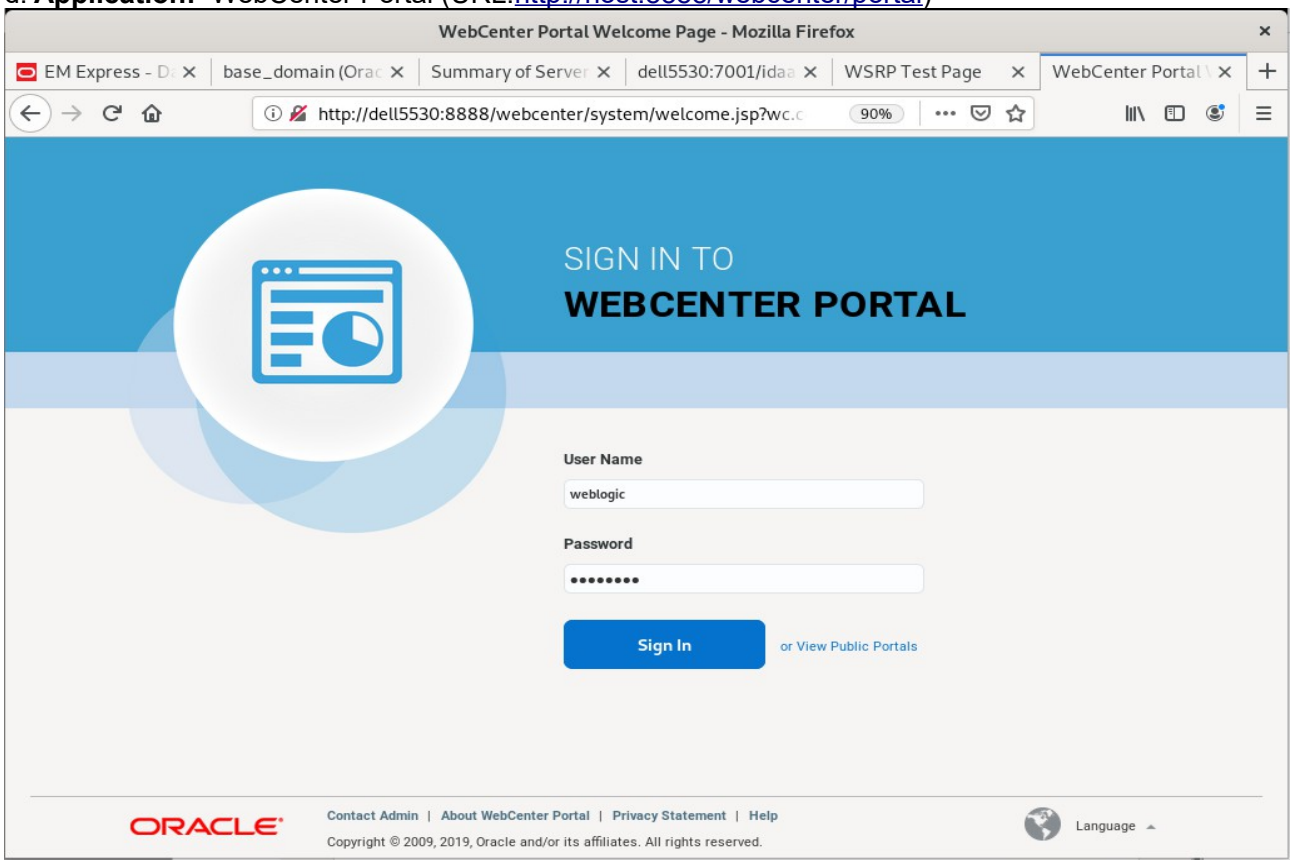
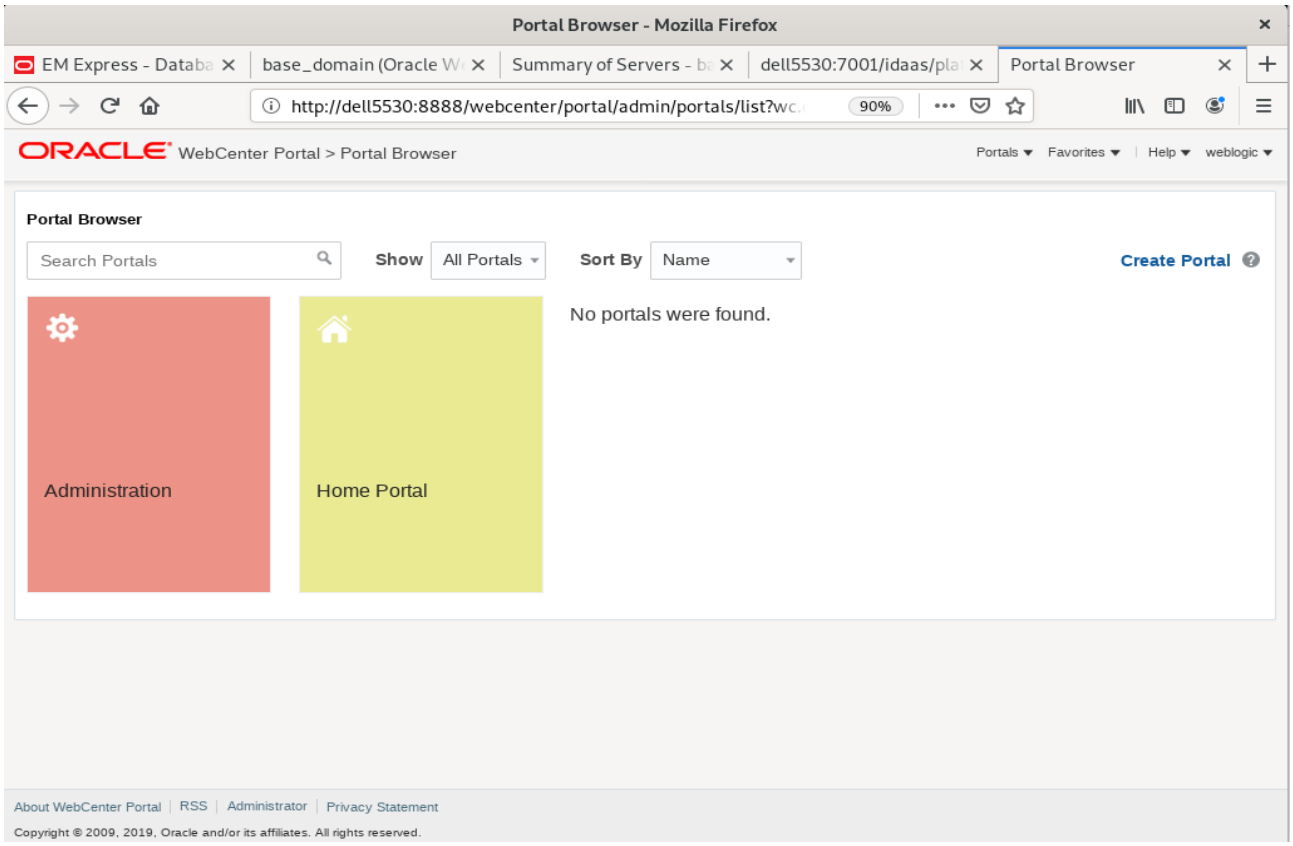
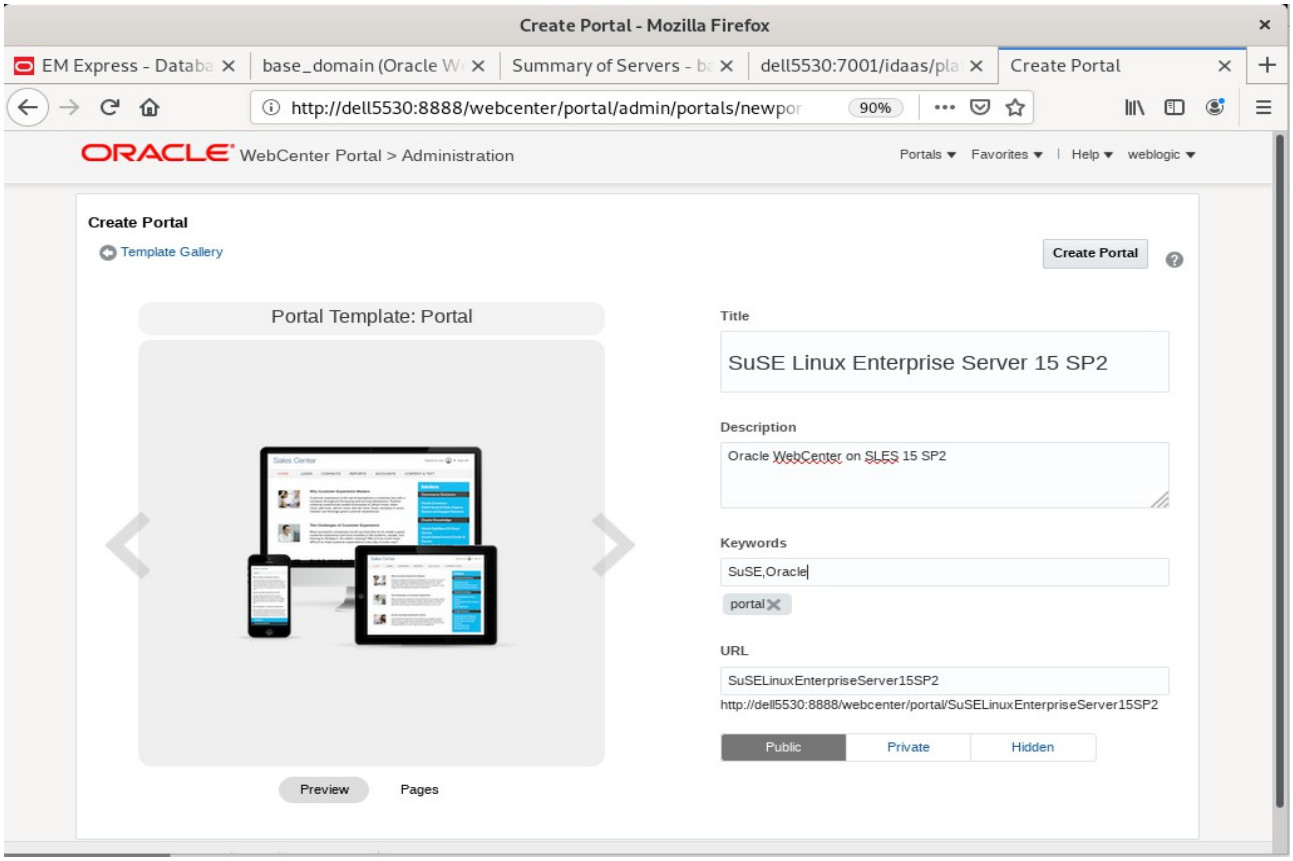
d. **Application:** WebCenter Portal (URL:http://host:8888/webcenter/portal)



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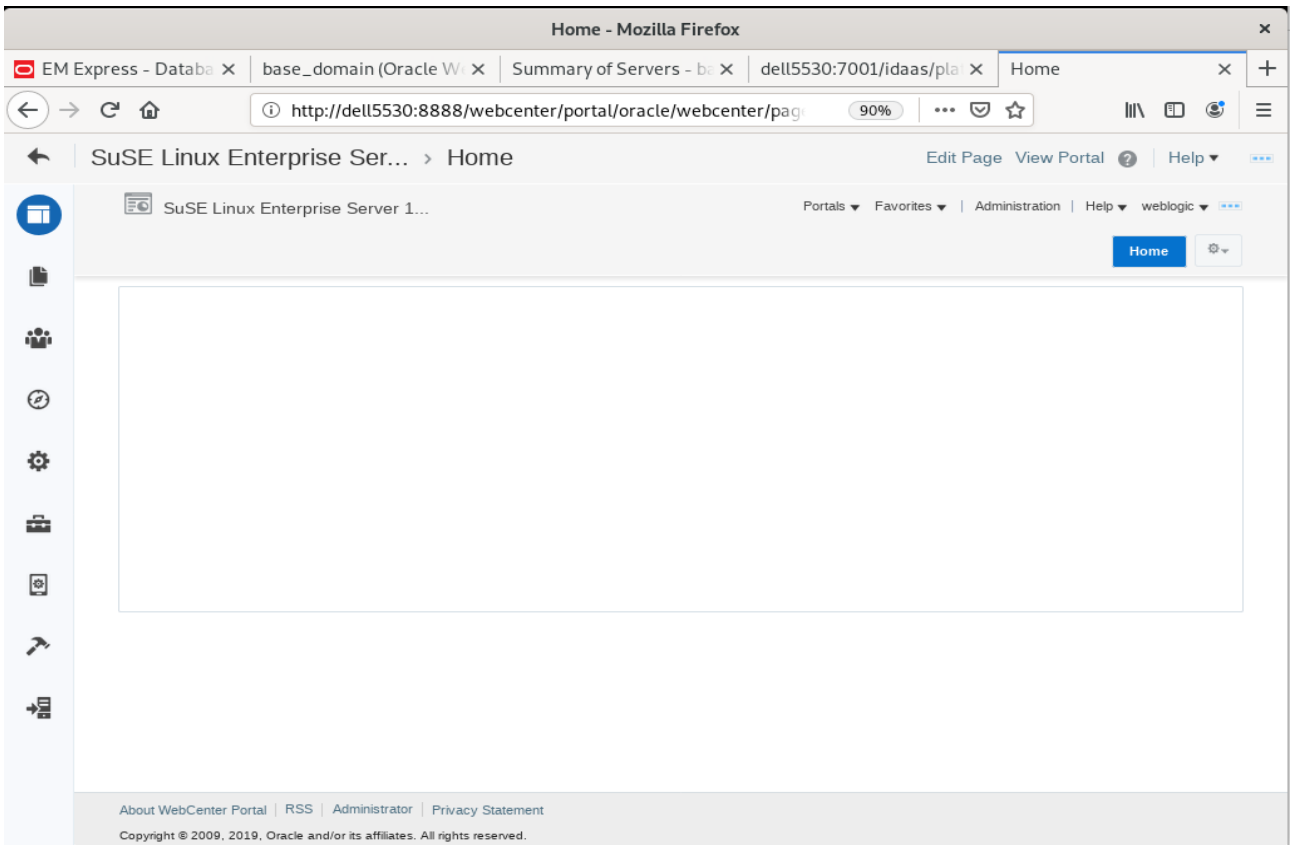
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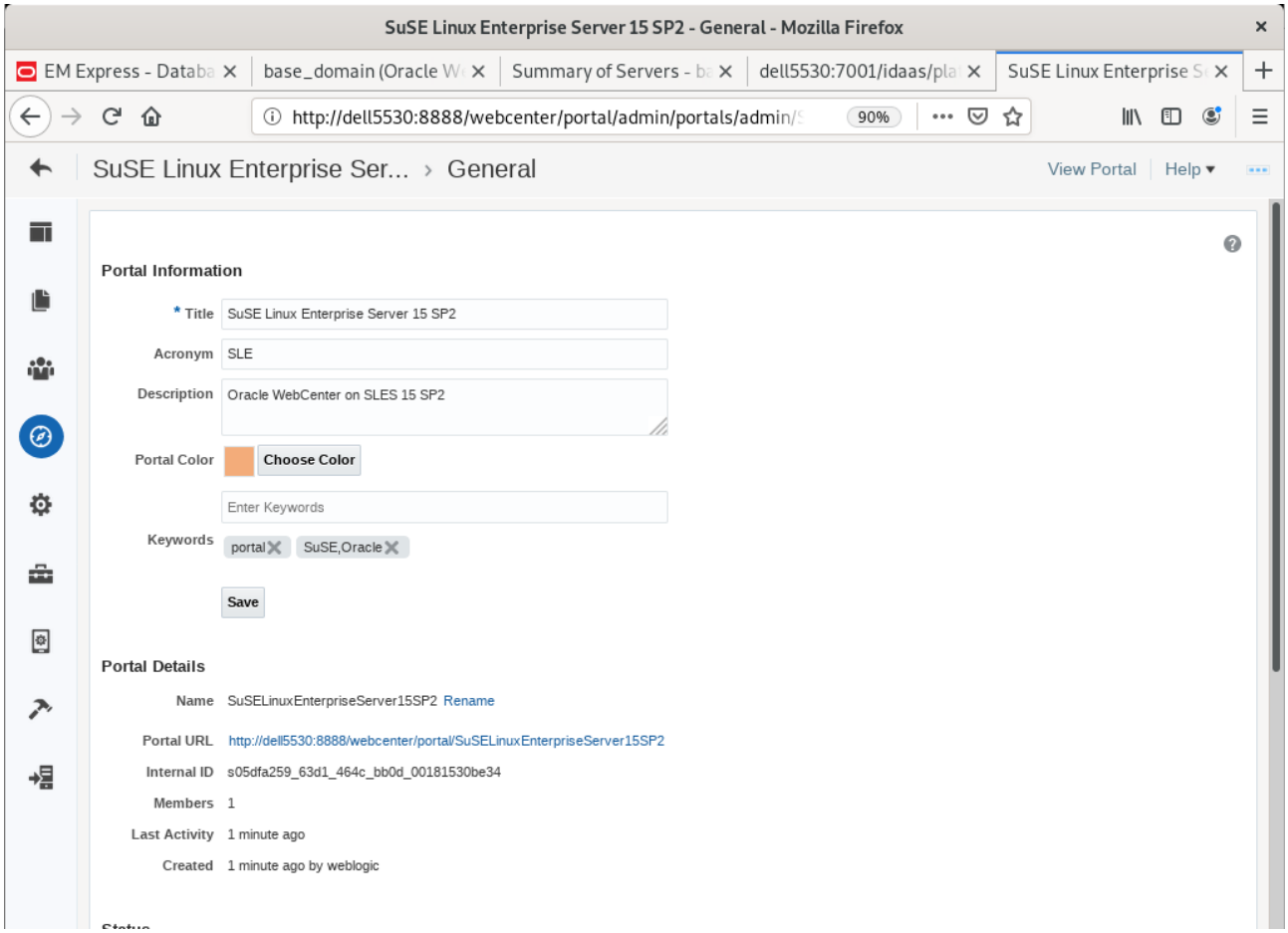
About WebCenter Portal
RSS
Administrator
Privacy Statement
Copyright © 2009, 2019, Oracle and/or its affiliates. All rights reserved.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Internal ID
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Members
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Last Activity
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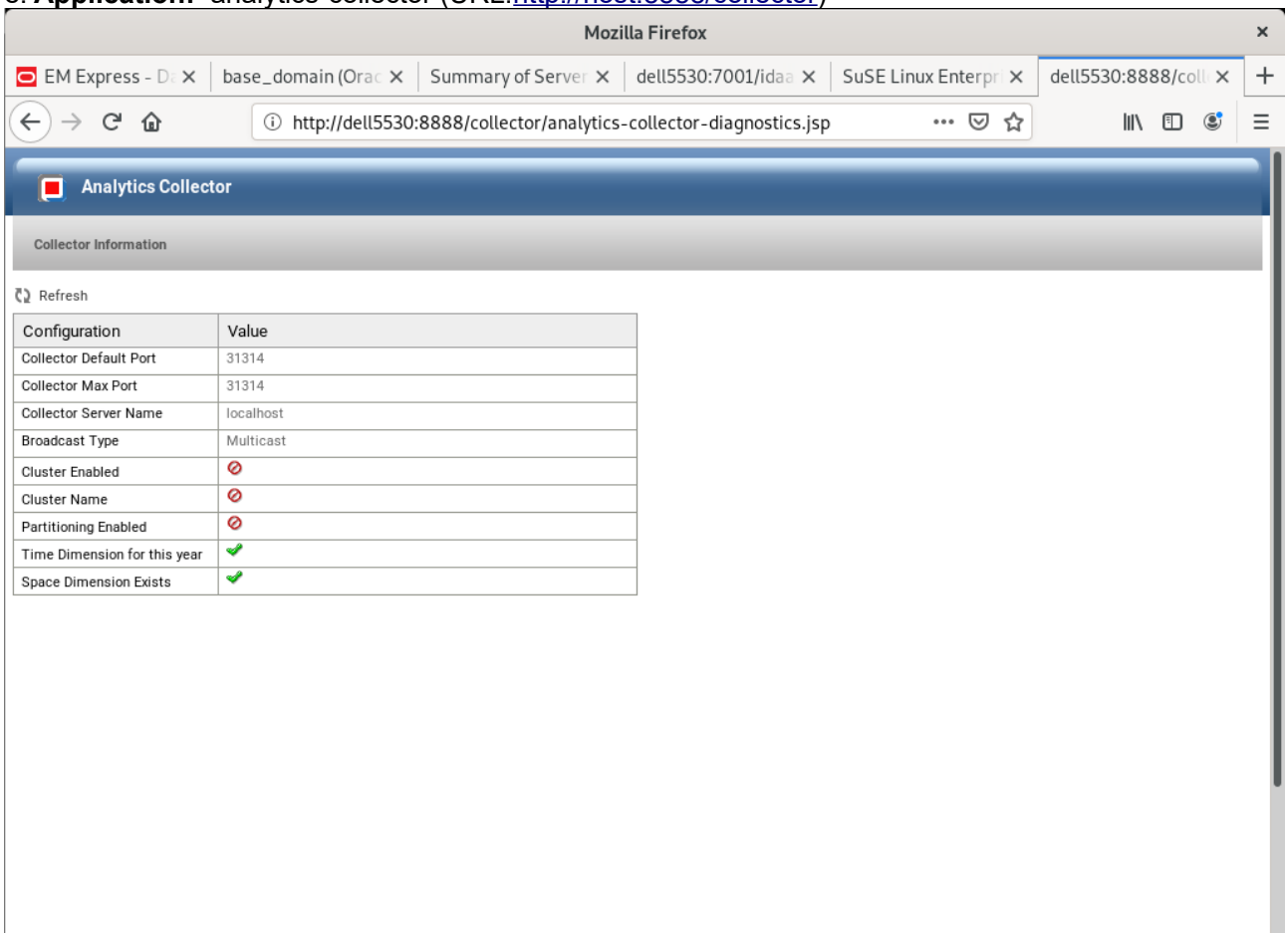
Created
1 minute ago by weblogic

e. **Application:** analytics-collector (URL:http://host:8888/collector)



End of Oracle WebCenter Portal.

****

Oracle SOA Suite

****

1. Installing Oracle SOA Suite 12c

1-1. Prerequisites:

Installation of Oracle SOA Suite requires:

1). Oracle Database 12cR2 (12.2.0.1.0) installed.
2). Oracle JDK 1.8.0_221 and later installed.

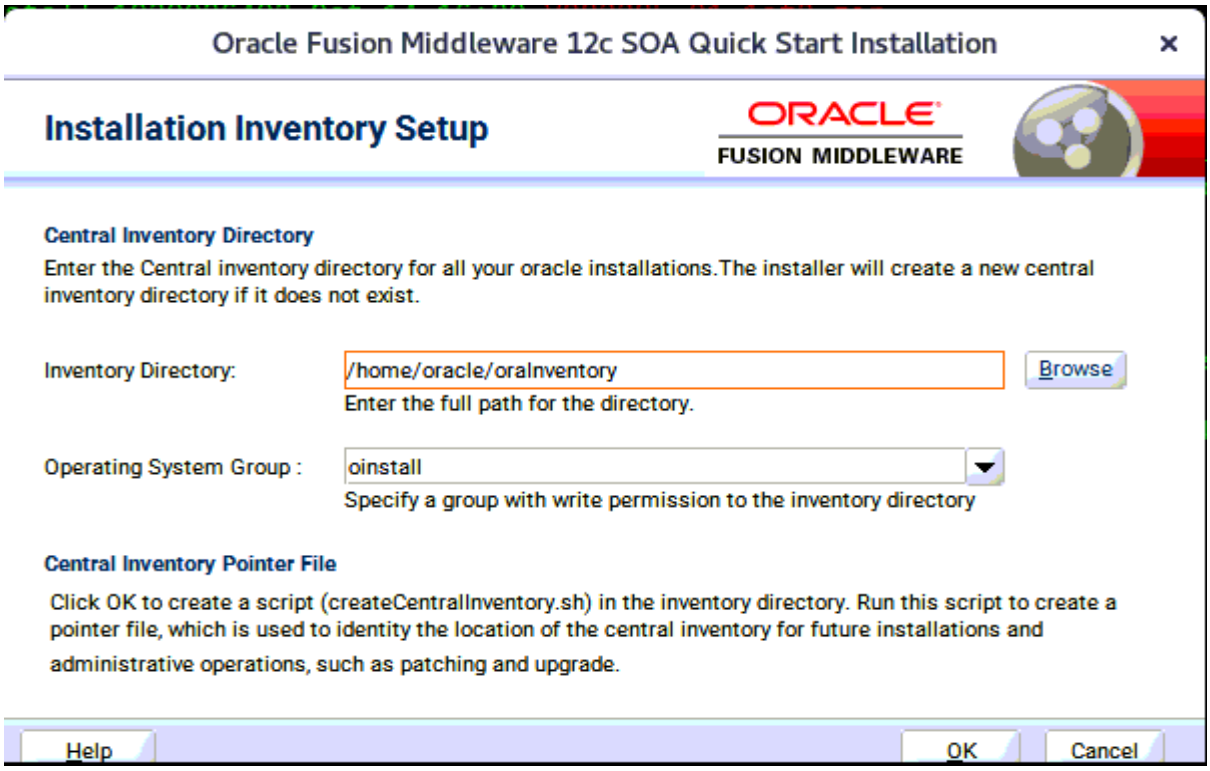
1-2. Log in to the target system (SLES 15 SP2 64-bit OS) as a non-admin user. Download the Oracle SOA Suite 12c (12.2.1.4.0) Quick Start installer zip file from https://www.oracle.com/downloads/#category-middleware.

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

1-3. Go to the directory where you downloaded the installation program. Extract the contents of these .zip ('V983385-01_1of2.zip') files and launch the installation program by running '**java -jar fmw_12.2.1.4.0_soa_quickstart.jar** '

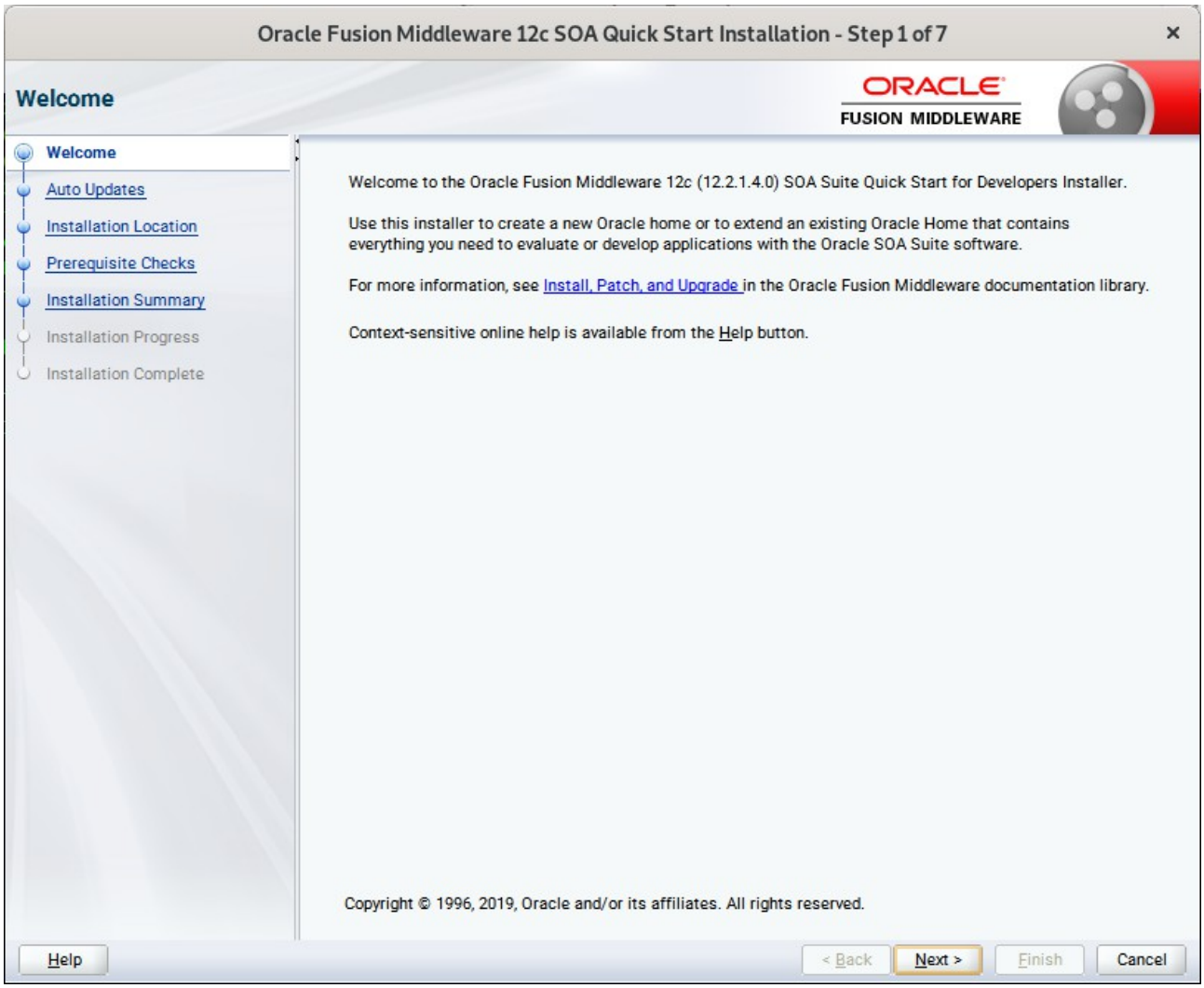
For the actual installation, follow the steps below:

1). Installation Inventory Setup.



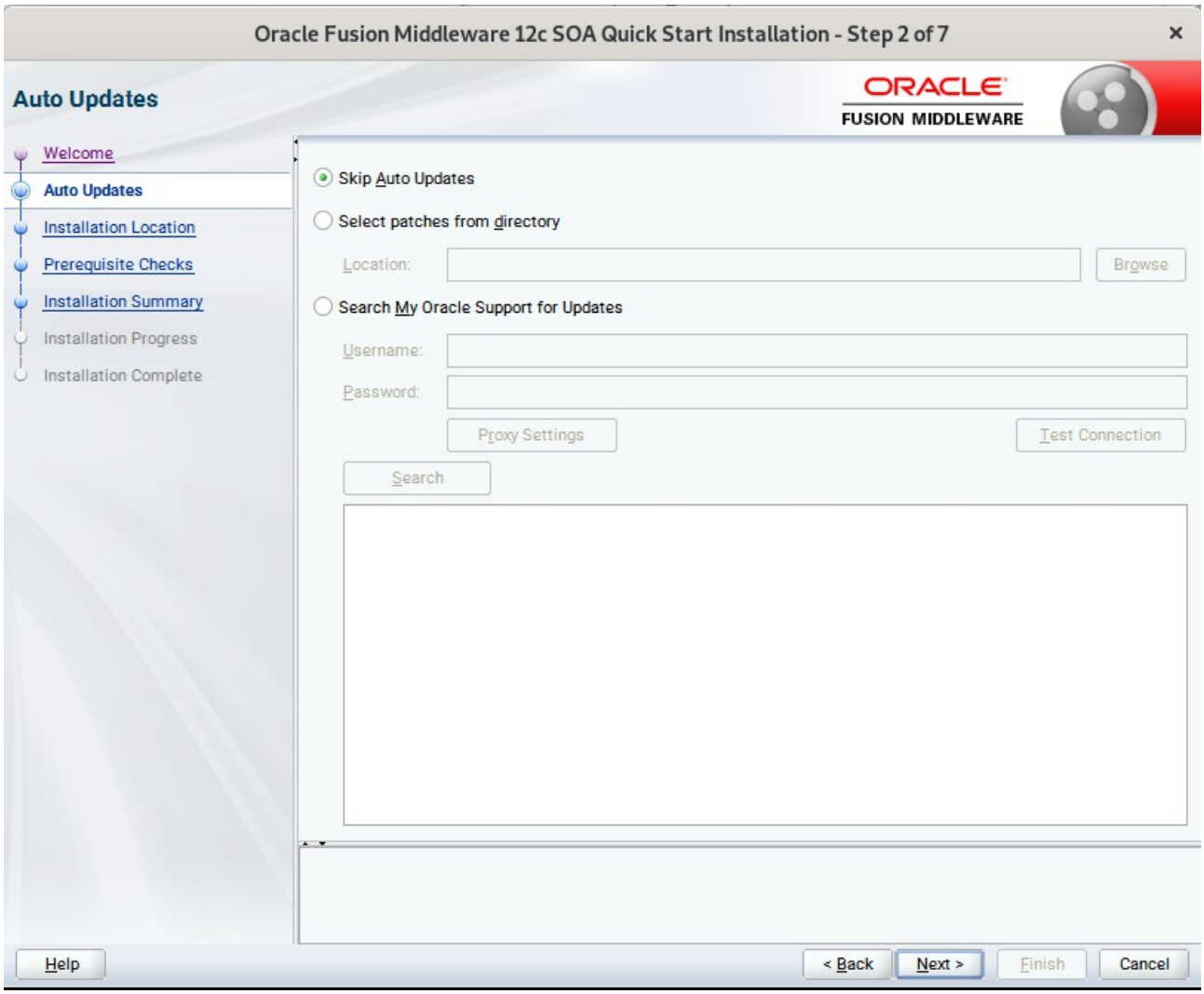
Specify the Oracle inventory directory and group permissions for that directory. The group must have write permissions to the Oracle inventory directory, then click **OK** to continue.

2). Welcome page.



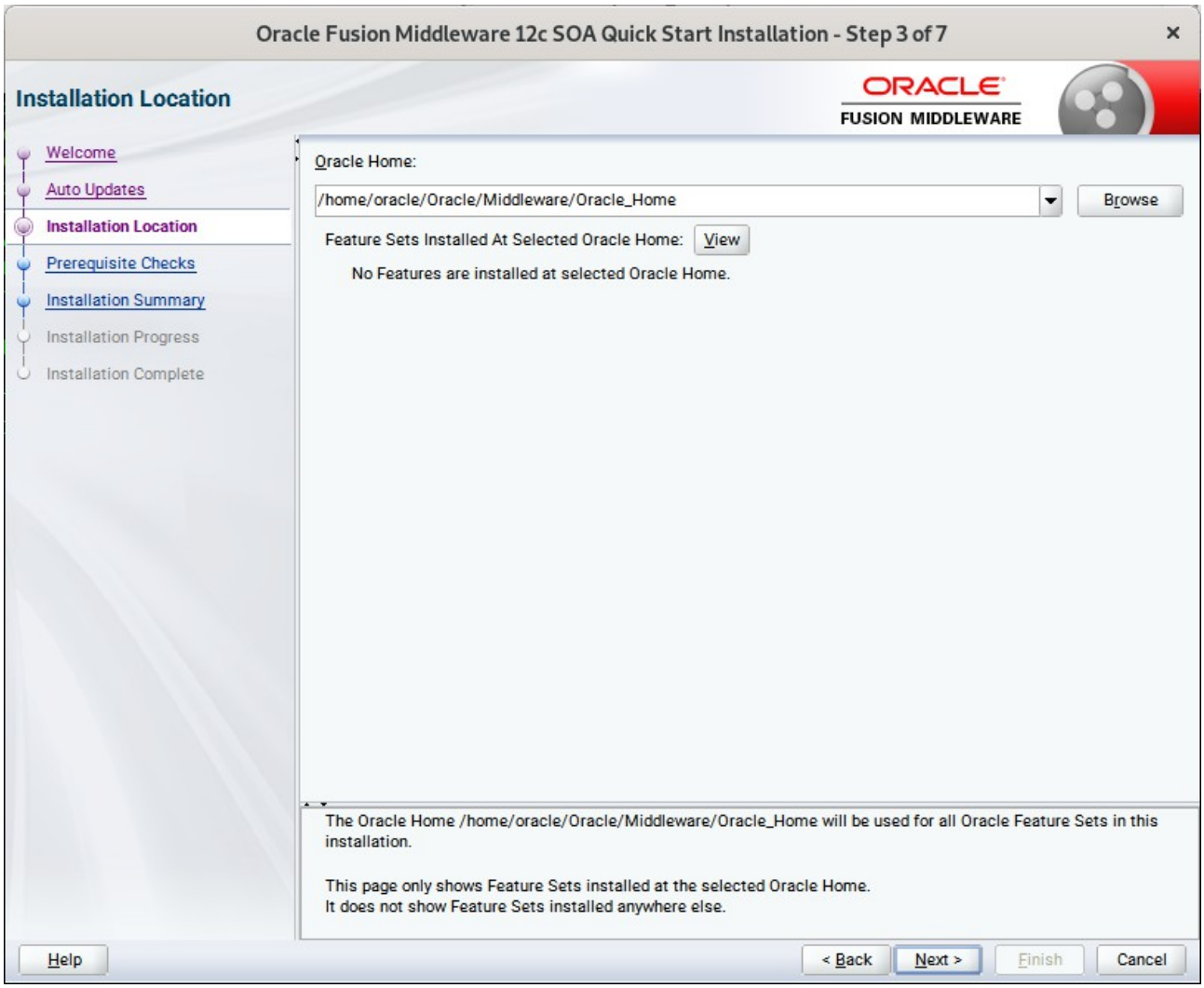
This page welcomes you to the installation. Click **Next** to continue.

3). The **Auto Updates** page appears.



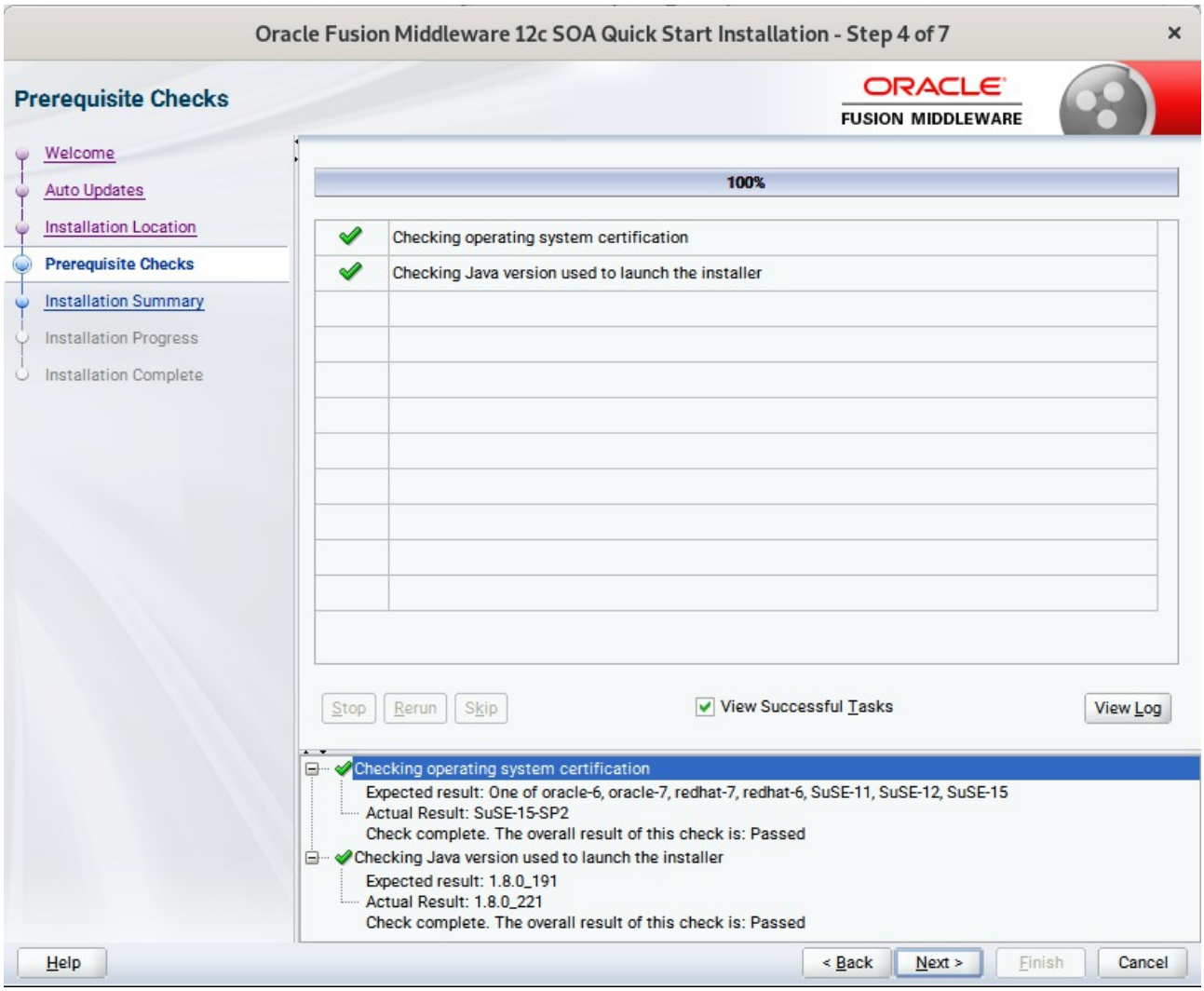
This page enables you to choose to automatically receive software updates for your components from Oracle Corporation. make your choices, then click **Next** to continue.

4). The **Installation Location** page appears.



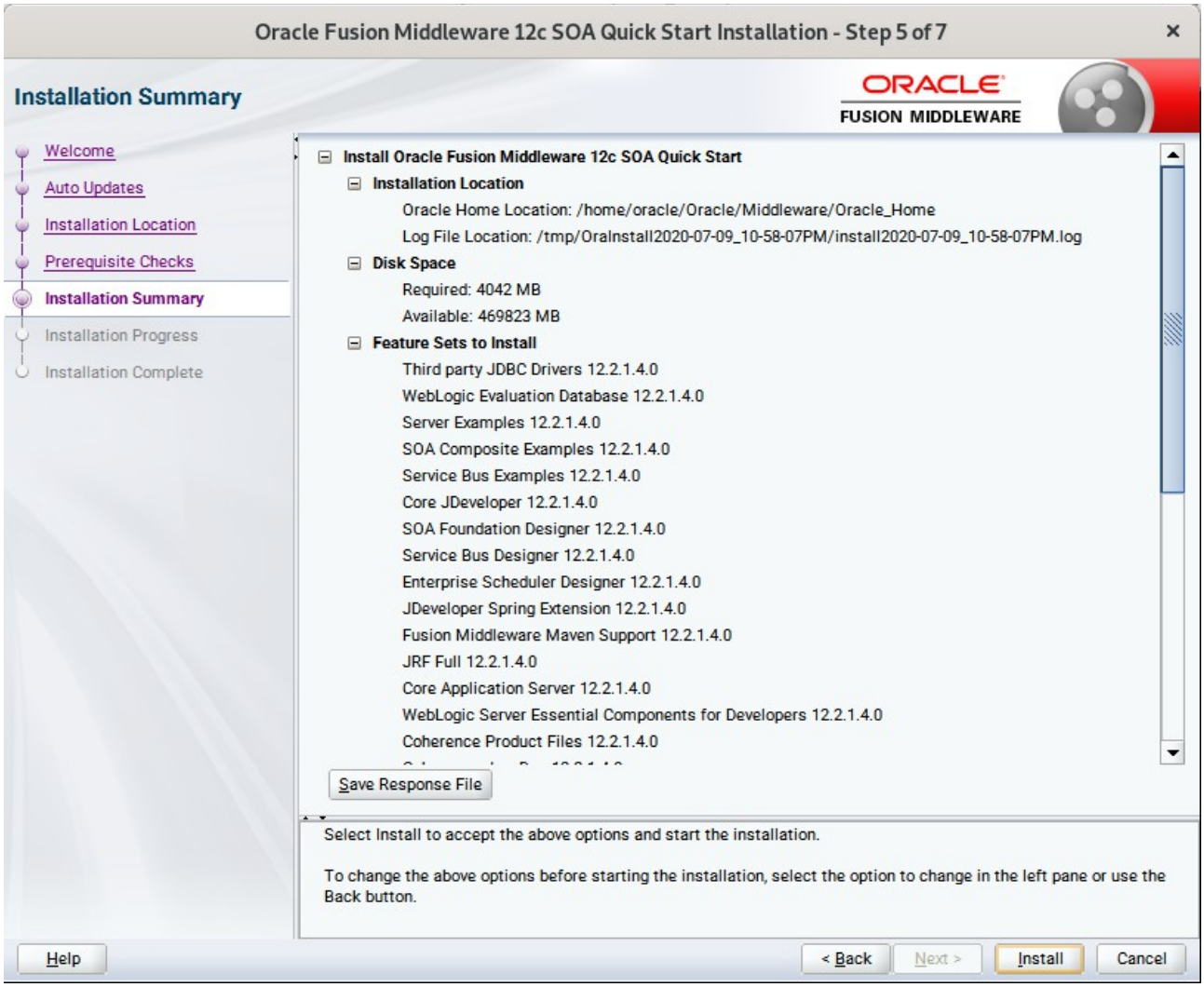
Specify the Oracle home location into which you want to install the product(s). Click **Next** to continue.

5). The **Prerequisites Checks** page appears.



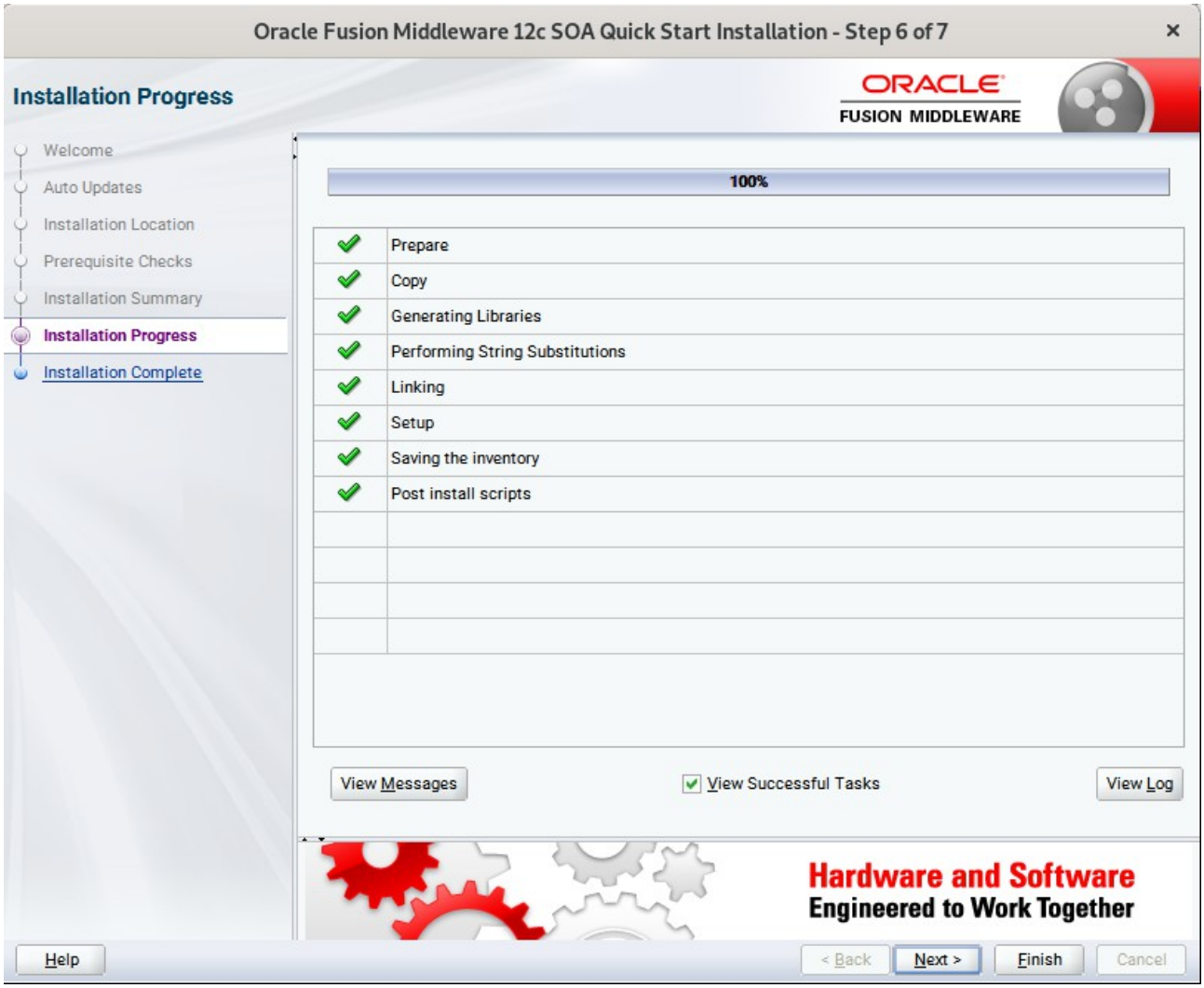
This pages shows you the progress of the system checking the prerequisites on your system prior to installation. If you are lacking any prerequisites, a message will appear telling you so. You do not need to take any actions on this page, though you can view the log from here. Click **Next** to continue.

6). The **Installation Summary** page appears.



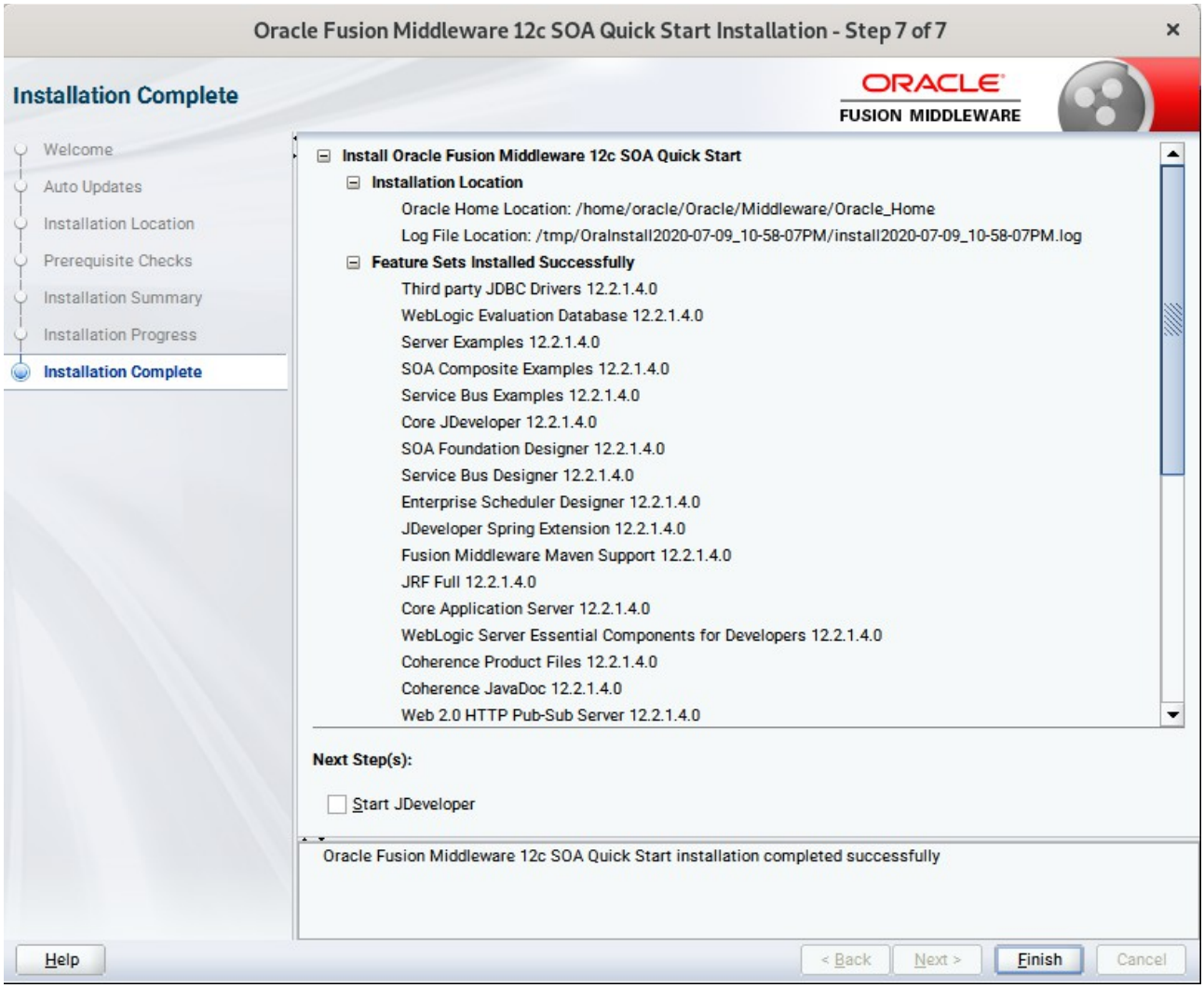
This page shows you what components and features are about to be installed. If you need to make changes, click **Back**, otherwise, click **Install** to start the installation.

7). The **Installation Progress** page appears.



This page shows you the progress of the installation, and will warn you if there are any problems.You can view messages and logs from this page, but typically no action is required here. When progress is complete, click **Next** (go to a Summary page). Alternatively, you can click **Finish**.

8). If you clicked **Next**, the **Installation Complete** page appears, showing you the components that have been installed.

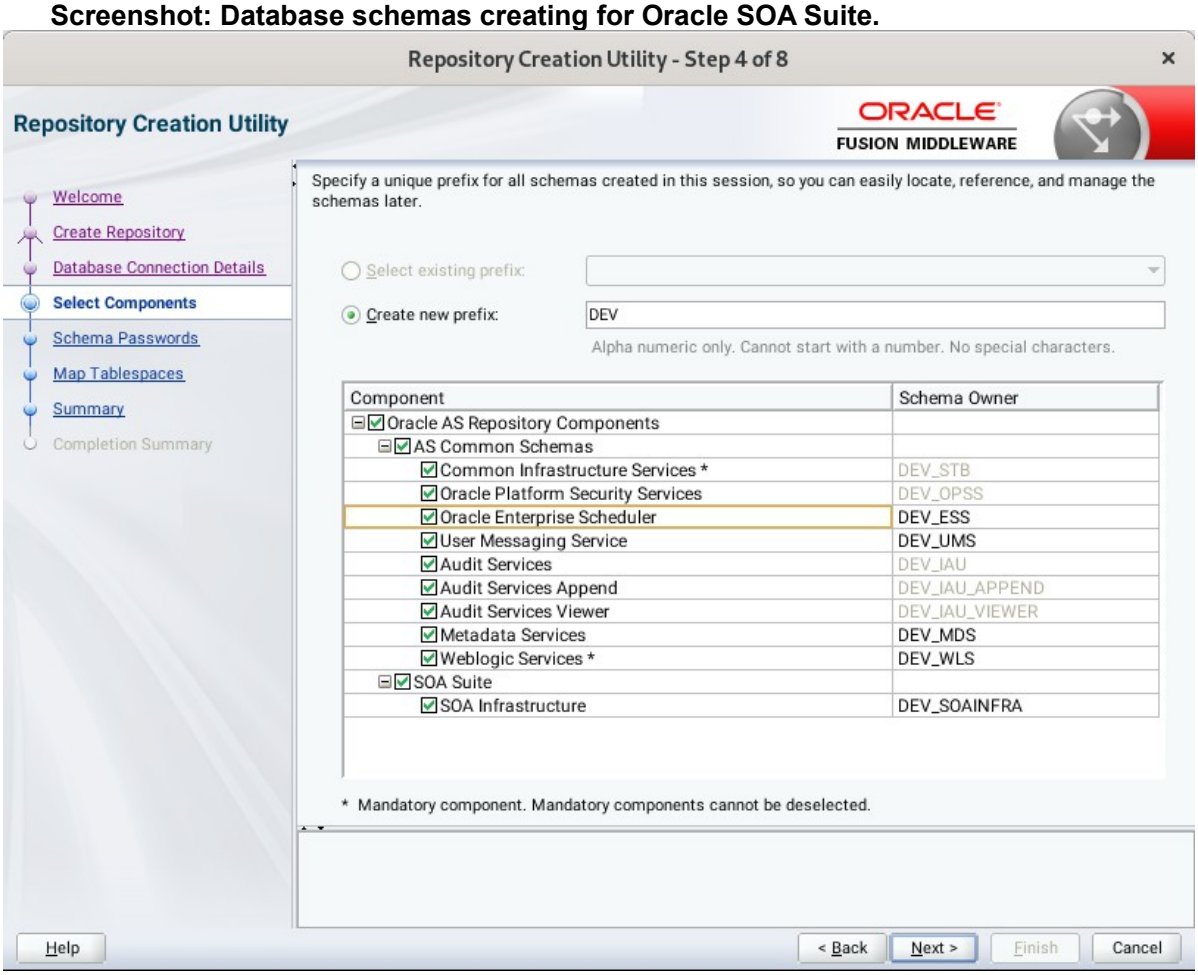


At the bottom of this screen, there is a checkbox to launch Oracle JDeveloper upon closing the installation wizard. This guide recommends that you uncheck this box. Click **Finish** to dismiss the installer.

2. Creating Oracle Database Schema through Repository Creation Utility(RCU)

2-1. Invoke the RCU packaged with your Quick Start installation to create schemas in your database. Do not download or use any other version of RCU to configure a database with Quick Start. Run **$FMW_HOME/oracle_common/bin/rcu** and create required database schemas for Oracle SOA Suite.

Screenshot: Database schemas creating for Oracle SOA Suite.



Select the **Create new prefix** radio button and provide a schema prefix (such as DEV). Select the components as shown above, and ensure schema creation is successful.

3. Configuring a Compact Domain for Oracle SOA Suite using the Config Wizard

3-1. Go to **ORACLE_HOME/oracle_common/common/bin**. Set the environment variable **CONFIG_JVM_ARGS to -Dcom.oracle.cie.config.showProfile=true**. This will activate the compact domain option in the configuration wizard. Then launch the configuration wizard.

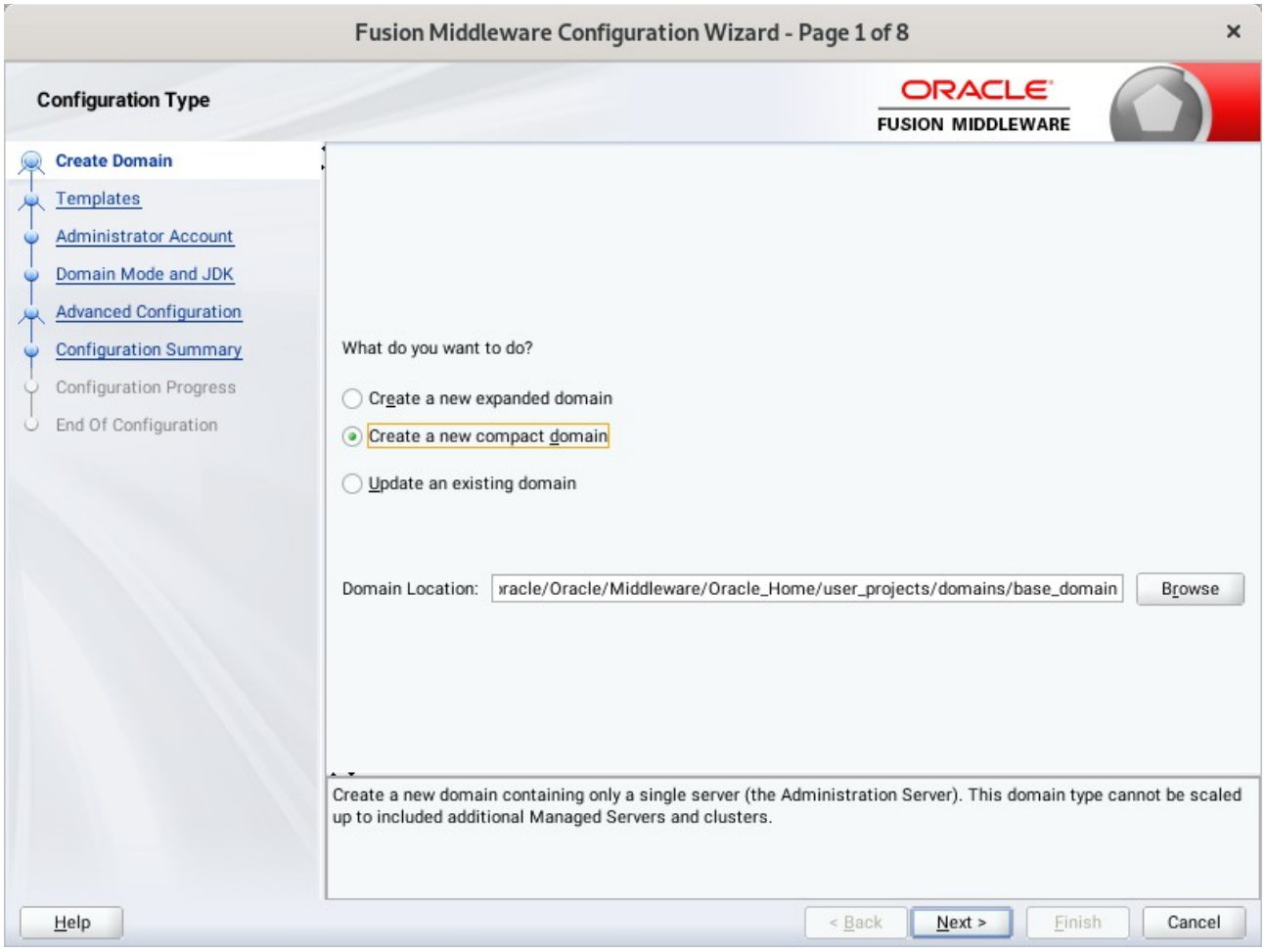
Example commands for this task are as follows:

---

cd ORACLE_HOME/oracle_common/common/bin
CONFIG_JVM_ARGS=-Dcom.oracle.cie.config.showProfile=true
export CONFIG_JVM_ARGS
./config.sh

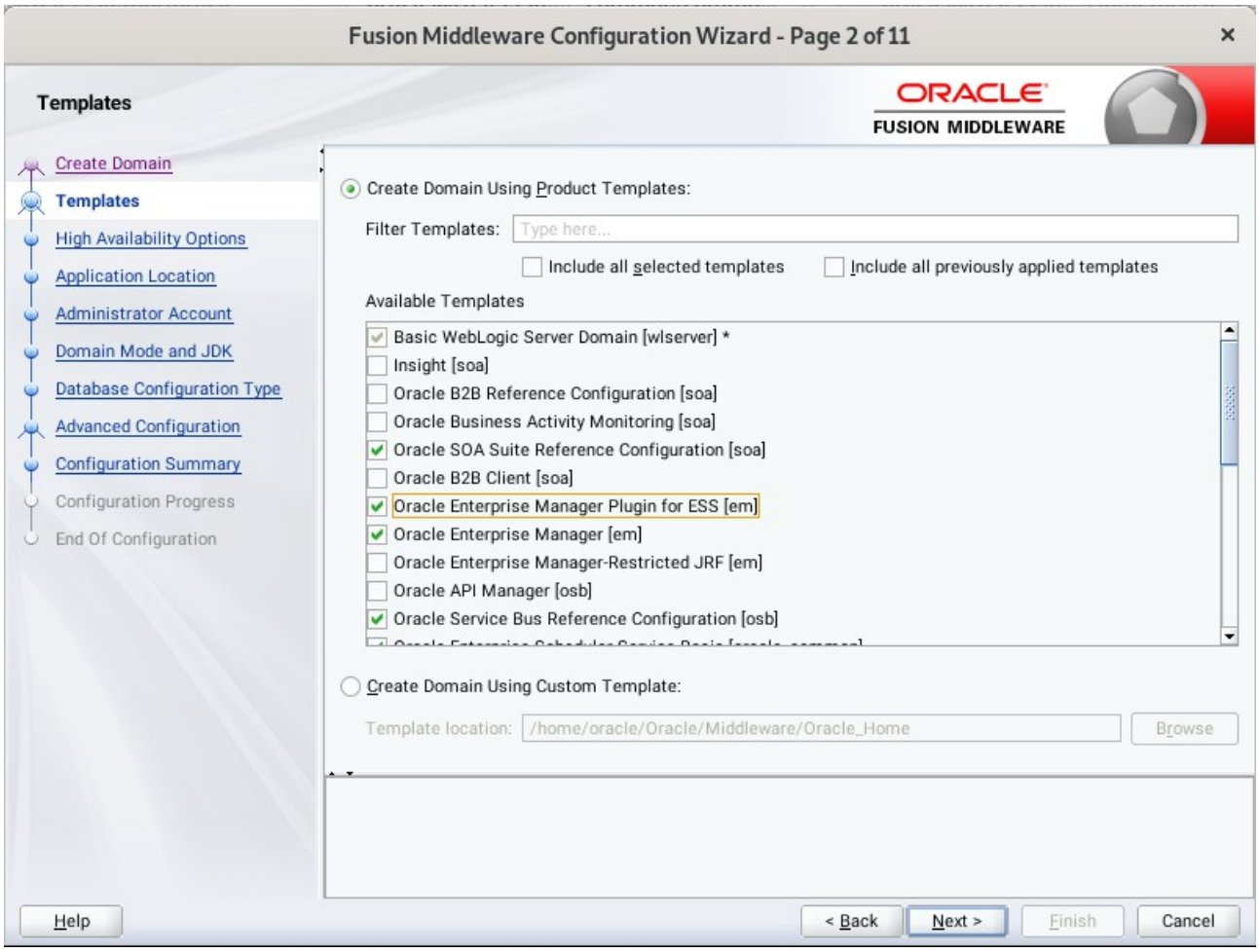
Follow these steps:

1). On the Configuration Type screen, select **Create a new domain**, and enter the desired domain home path.



Click **Next** to continue.

2). The **Templates** screen appears.



Use the **Templates** screen to select the templates you require. On the **Templates** screen, make sure **Create Domain Using Product Templates** is selected, then select the following template:

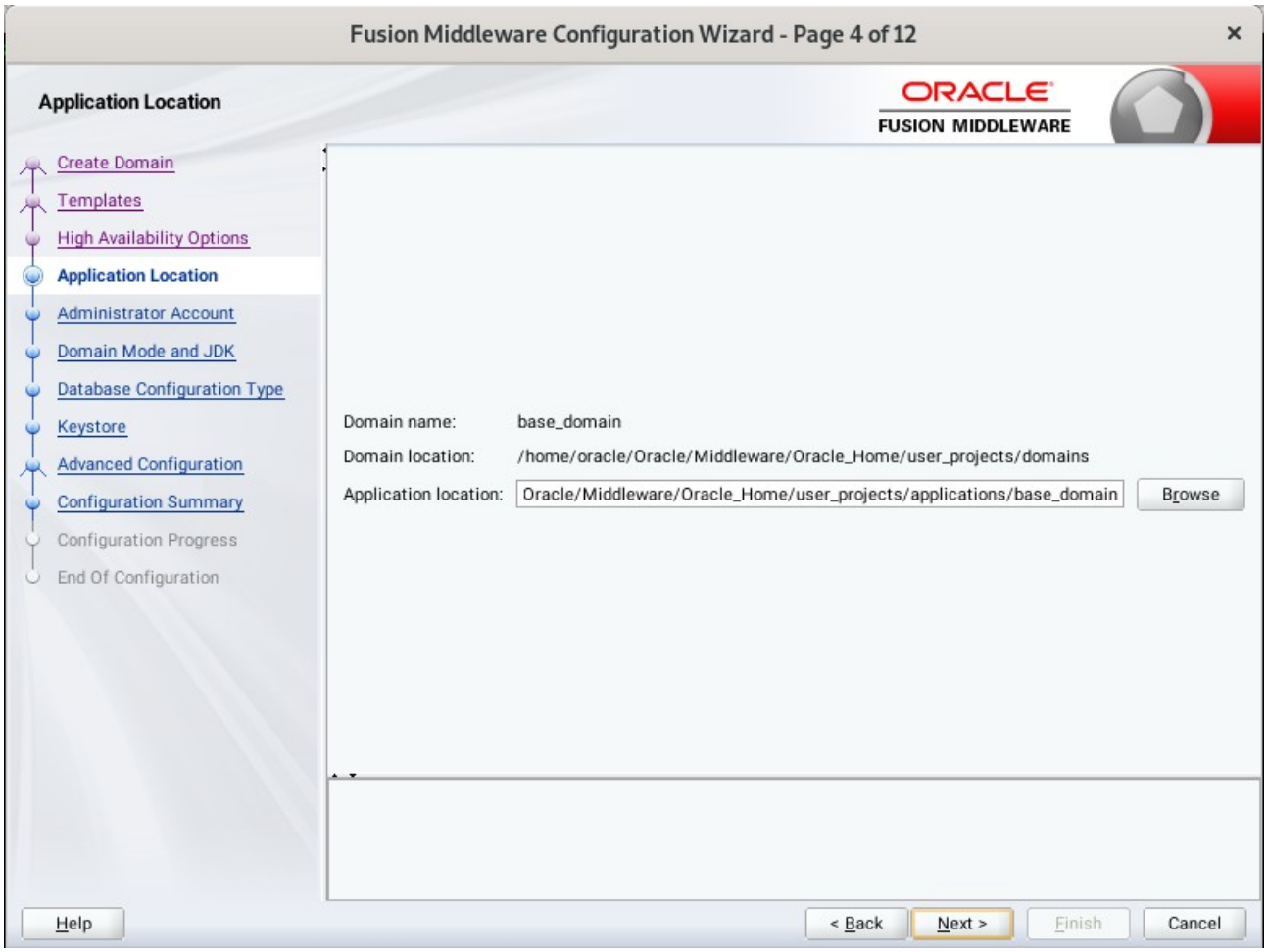
- Oracle SOA Suite Reference Configuration [soa]
  Selecting this template automatically selects the following as dependencies:
  - Oracle Enterprise Manager [em]
  - Oracle WSM Policy Manager [oracle_common]
  - Oracle JRF [oracle_common]
  - WebLogic Coherence Cluster Extension [wlserver]
- Oracle Service Bus Reference Configuration [osb]
  Selecting this template automatically selects the following as a dependency:
  - ODSI XQuery 2004 Components [oracle_common]
- WebLogic Advanced Web Services for JAX-RPC Extension [oracle_common]
- Oracle Enterprise Scheduler Service Basic [oracle_common]
- Oracle Enterprise Manager Plugin for ESS [em]

Click **Next** to continue.

3). The **High Availability Options** screen appears.

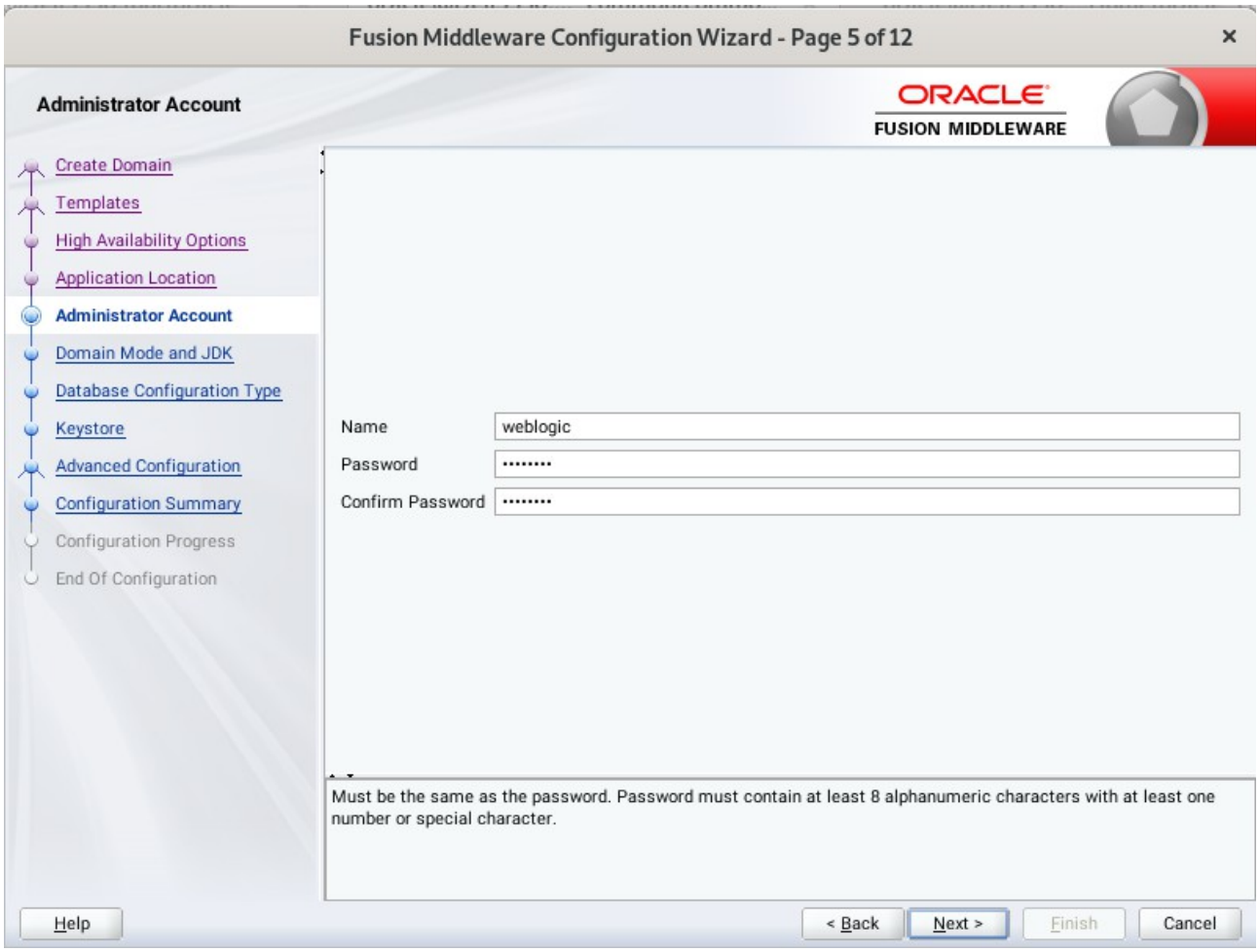
Keep the default value for Application location.Click **Next** to continue.

4). The **Application Location** screen appears.



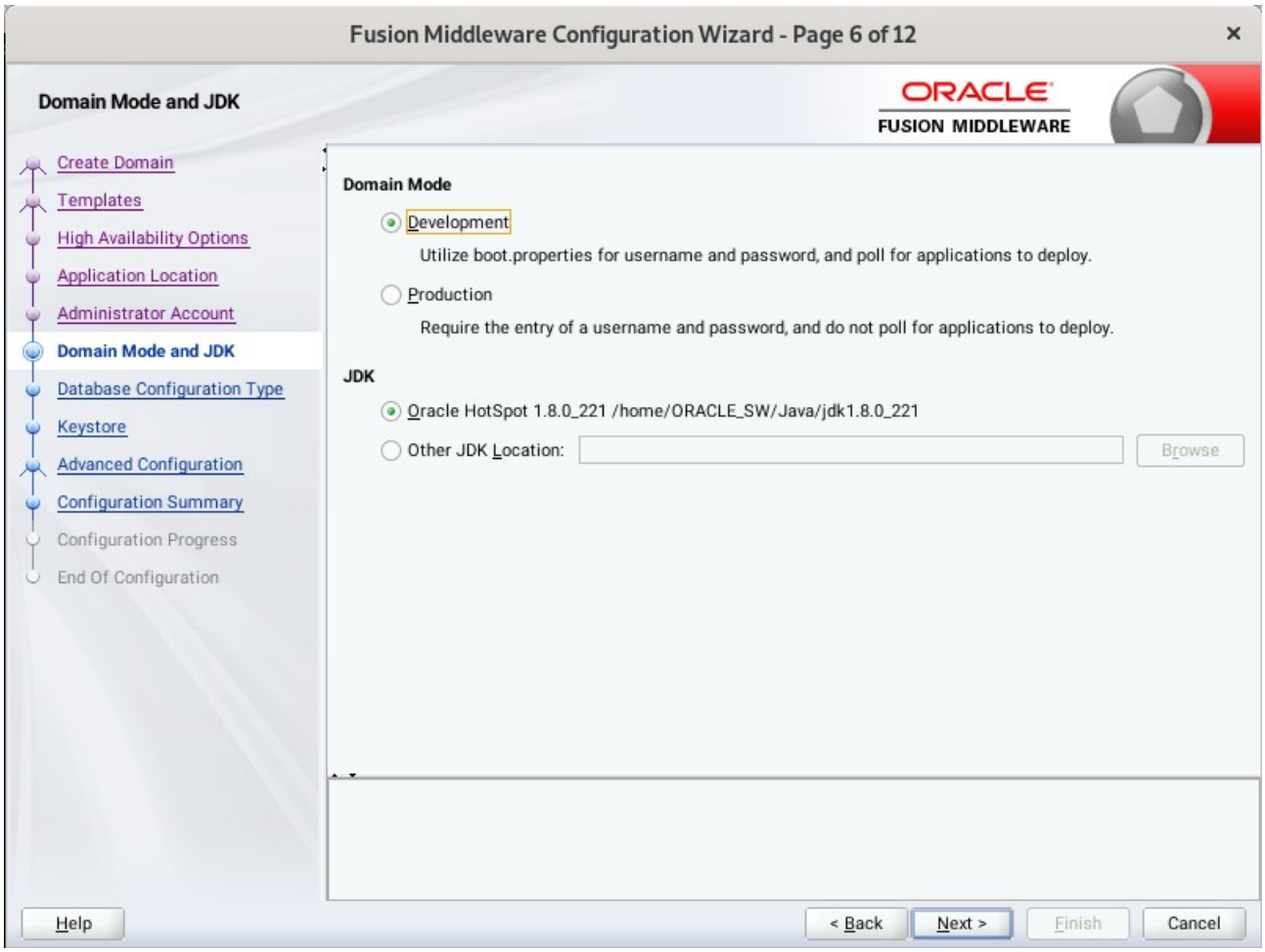
Keep the default value for Application location.Click **Next** to continue.

5). The **Administrator Account** screen appears.



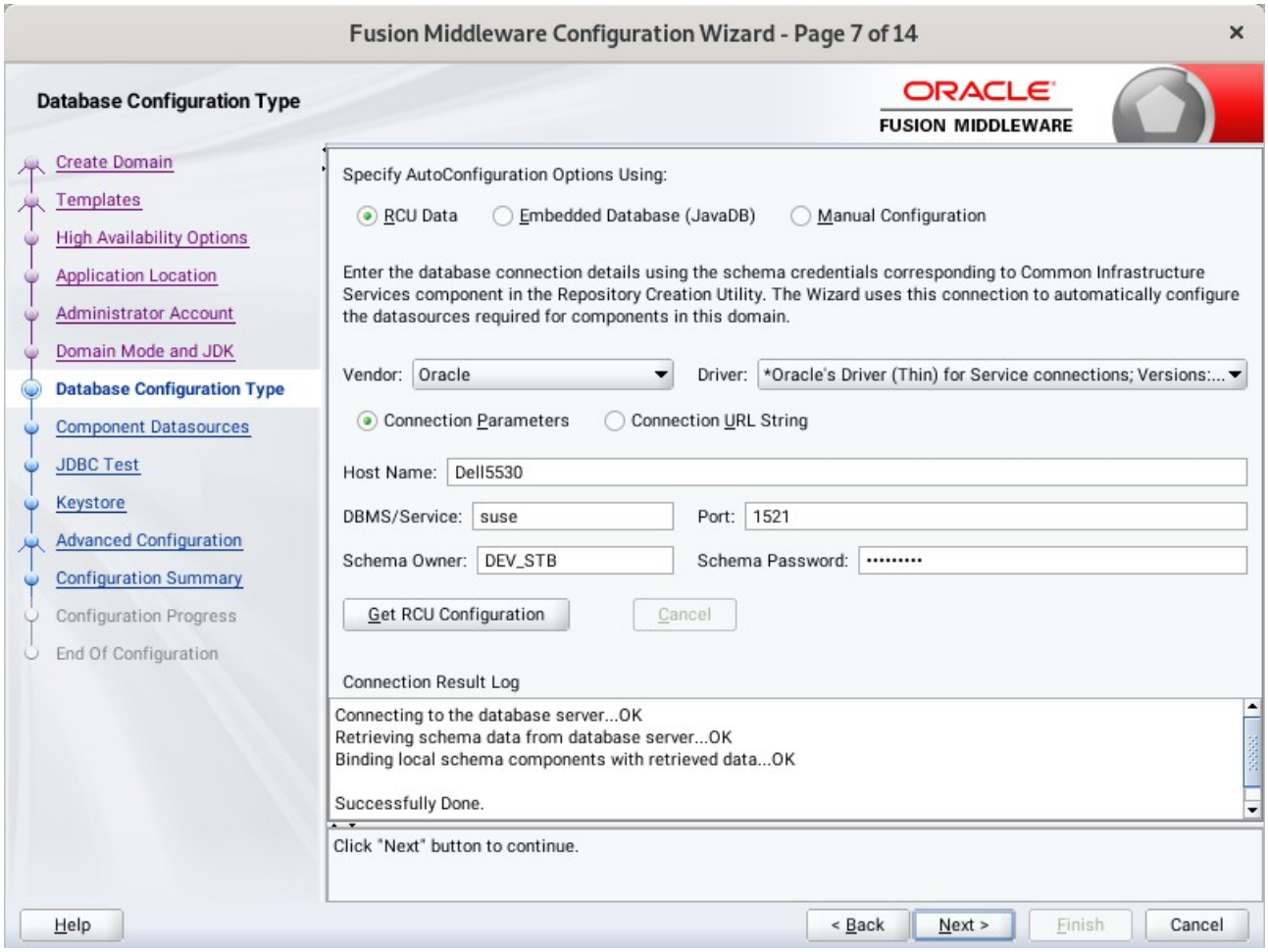
Enter the WebLogic Domain administration username and password. This information will be needed to access WebLogic Server Control and Fusion Middleware Control. Click **Next** to continue.

6). The **Domain Mode and JDK** screen appears.



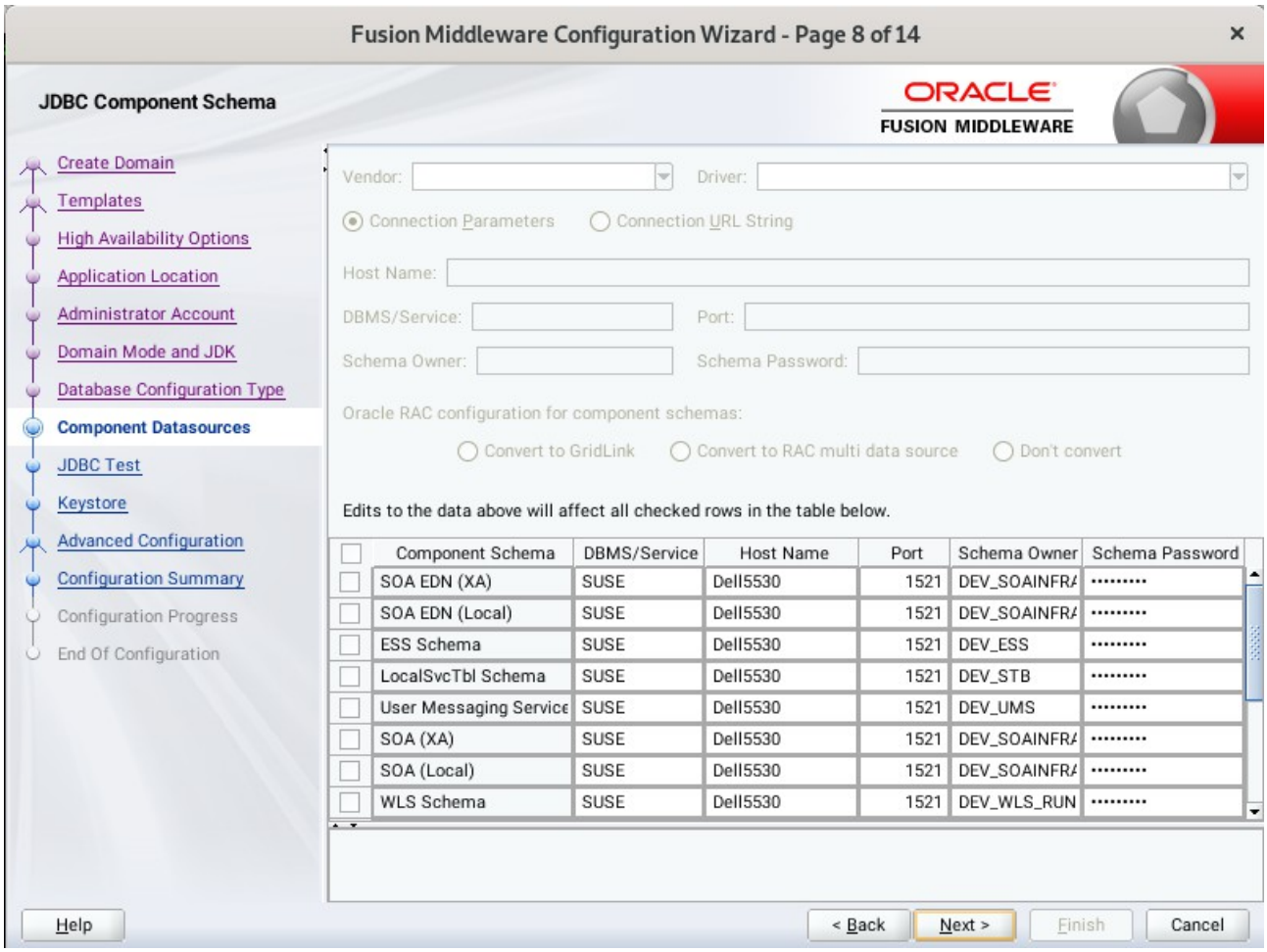
Select the Domain Mode (either **Development** or **Production**) as shown above. Click **Next** to continue.

7). The **Database Configuration Type** screen appears.



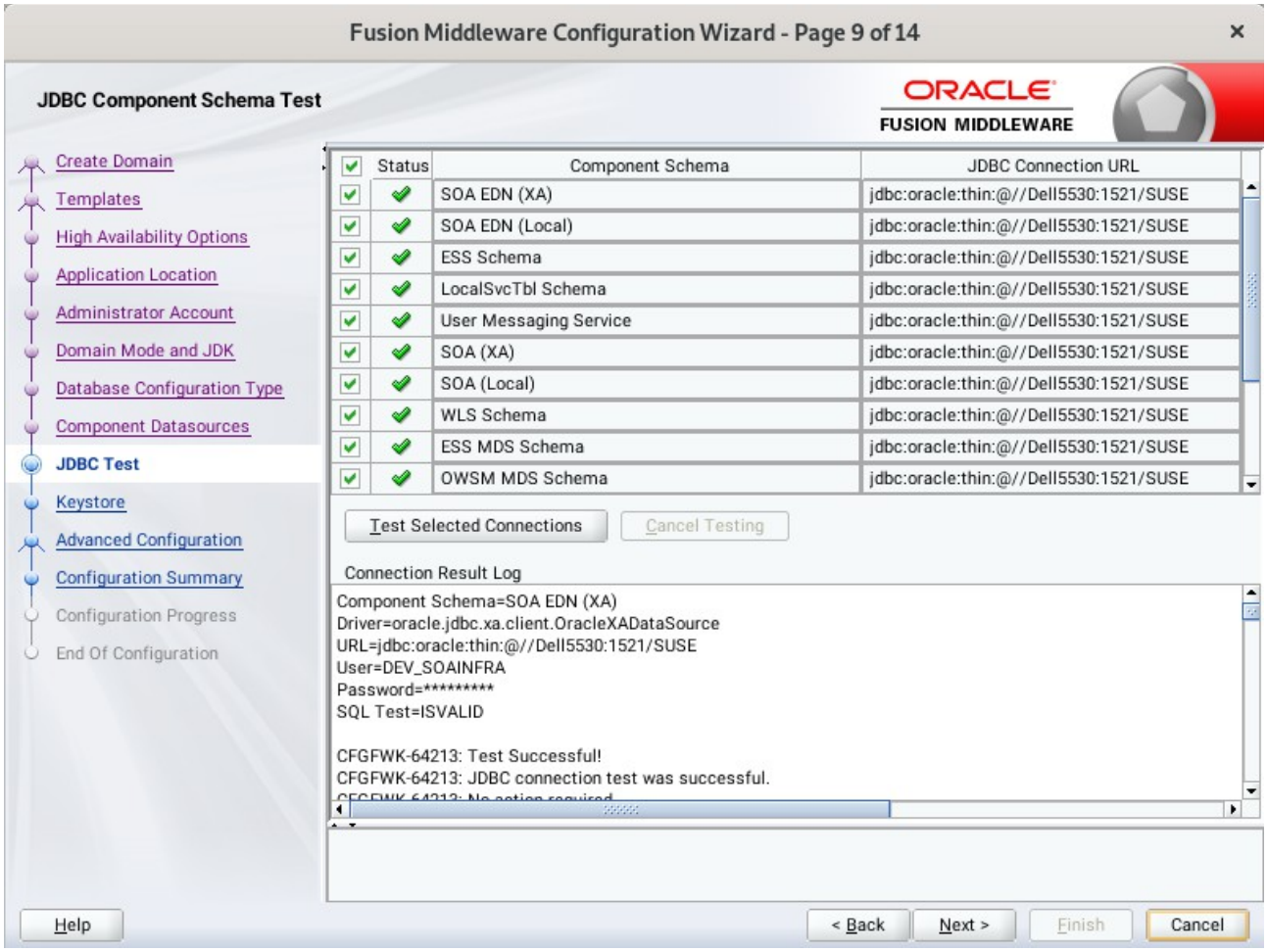
Select **RCU Data** to activate the fields. The **RCU Data** option instructs the Configuration Wizard to connect to the database and Service Table (STB) schema to automatically retrieve schema information for the schemas needed to configure the domain. Enter the RCU DB connection information, then click **Get RCU Configuration**. You should receive a success message. Click **Next** to continue.

8). The **JDBC Component Schema** screen appears.



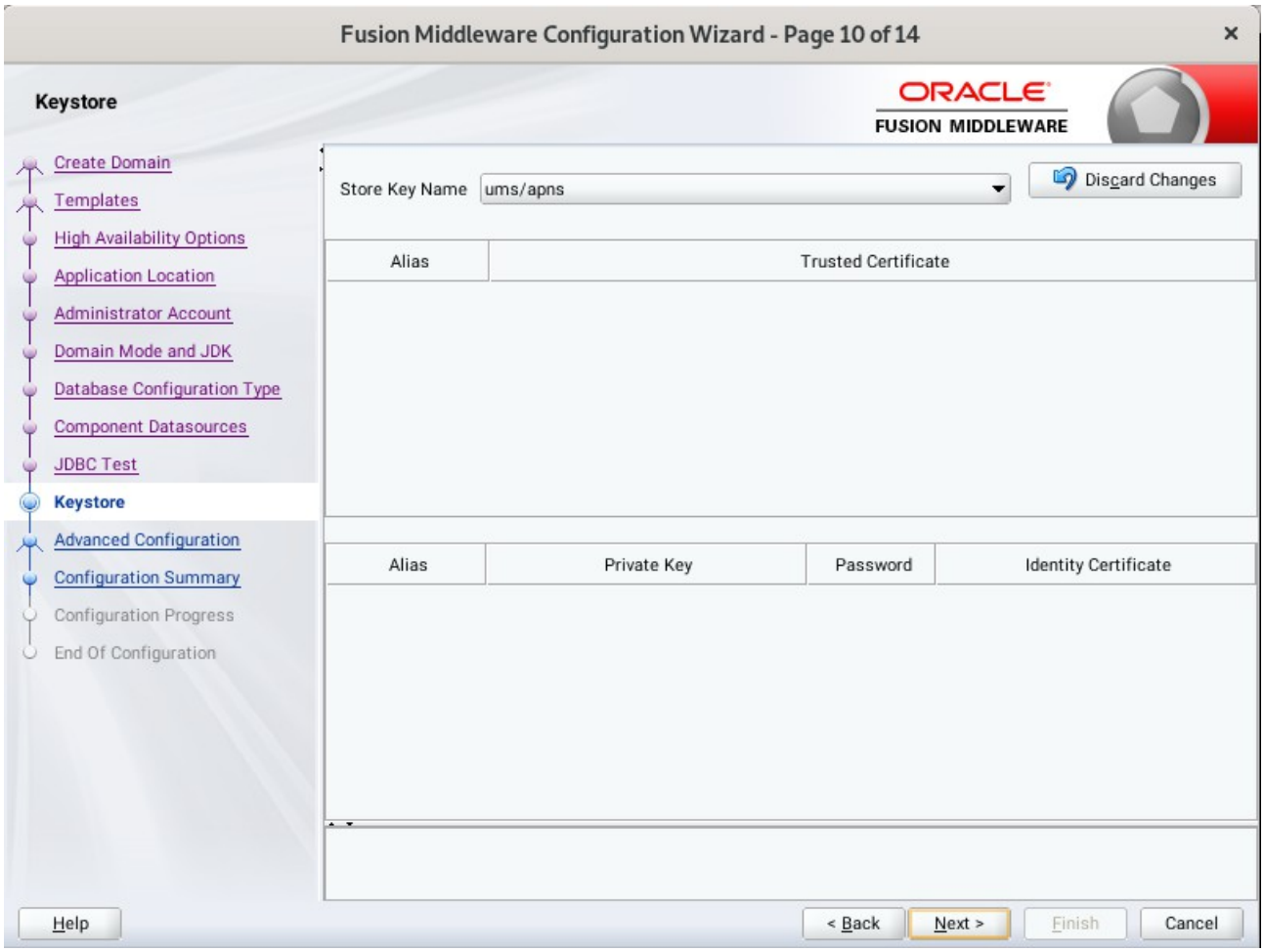
Our instructions assume each Repository schema uses the same password. If not, enter the correct schema passwords. Click **Next** to continue.

9). The **JDBC Component Schema Test** screen appears.



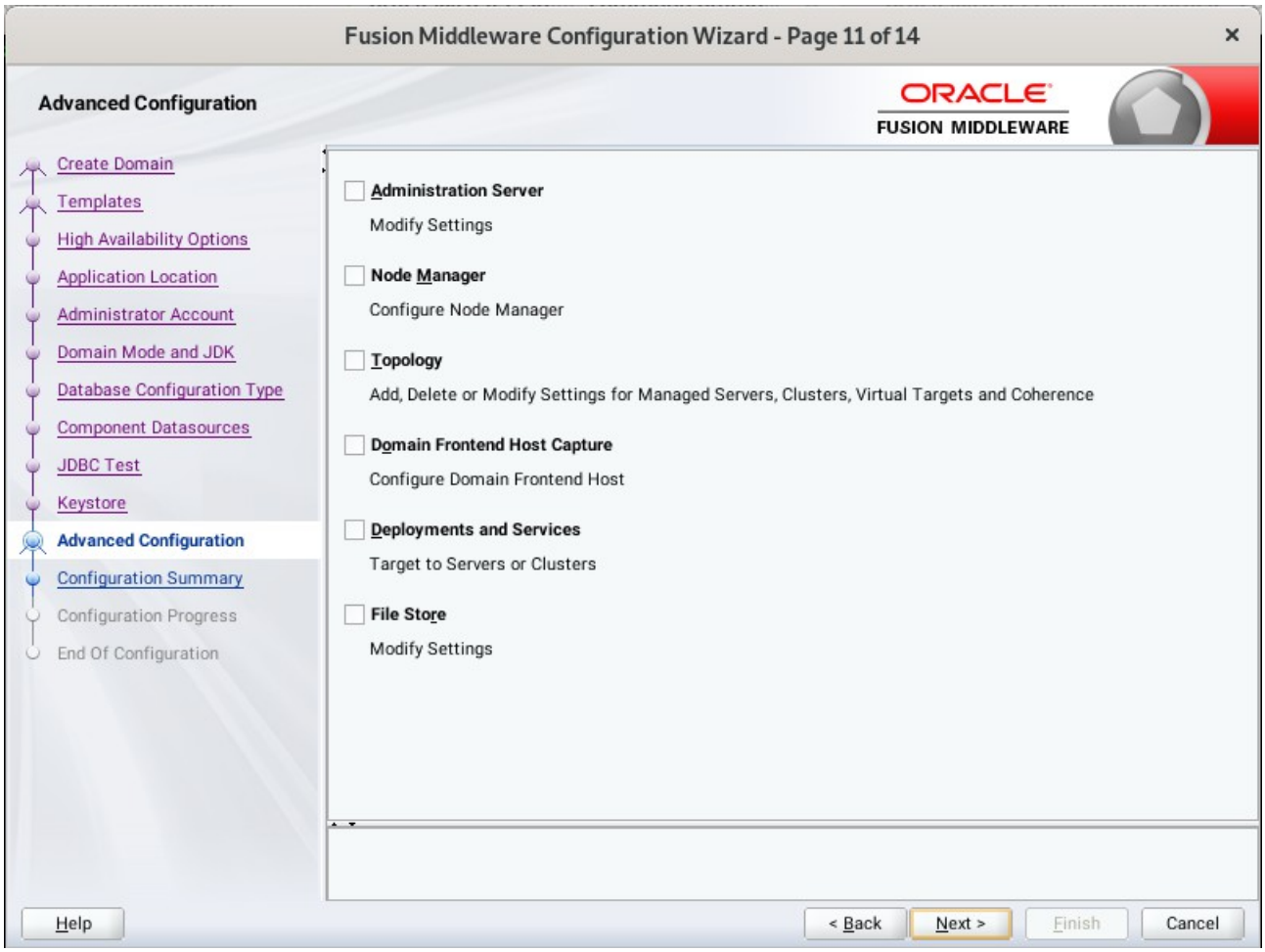
The tests are run and the results given. Ensure all test results are successful.Click **Next** to continue.

10). The **Keystore** screen appears.



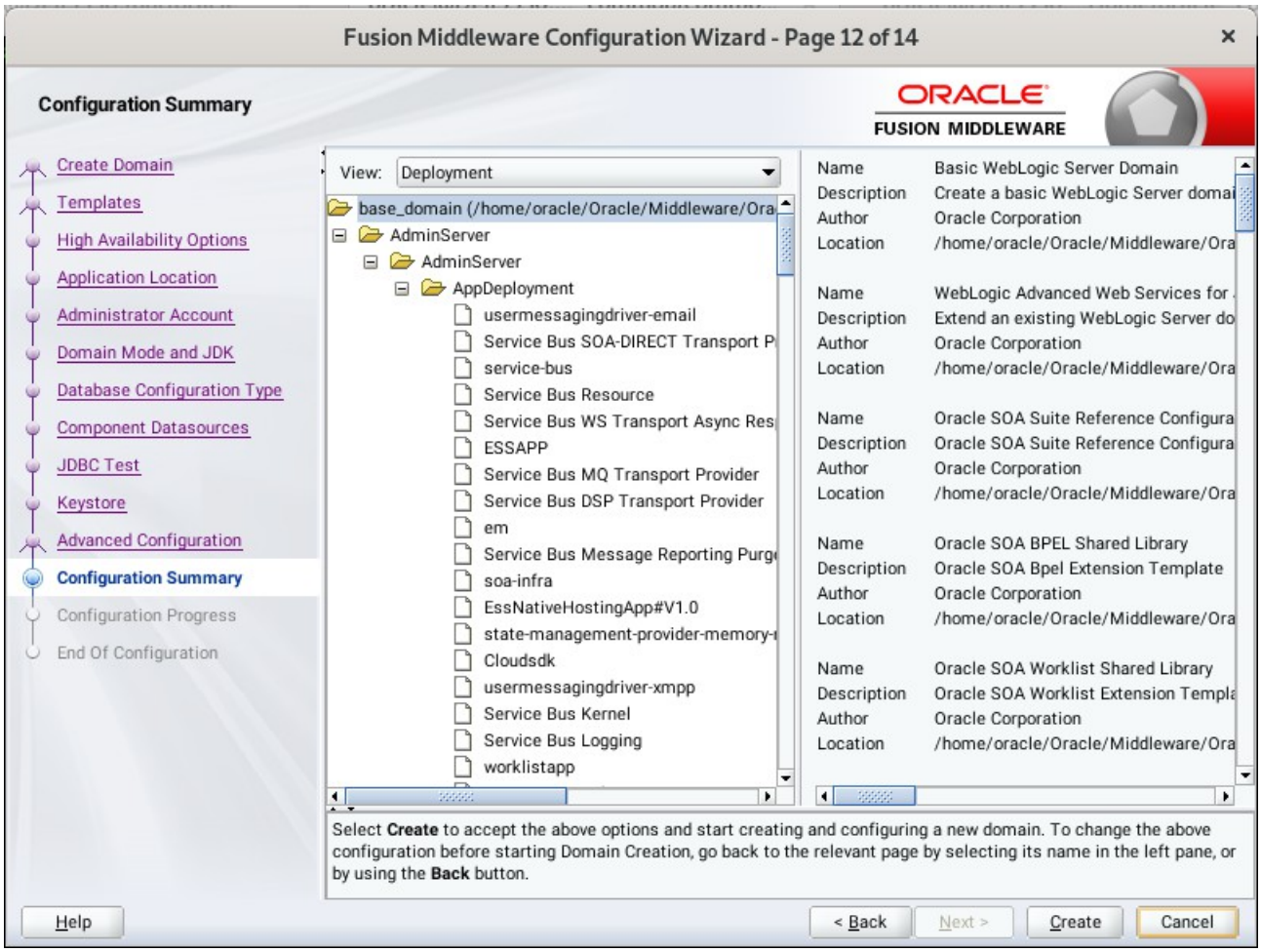
Accept the defaults and click **Next** to continue.

11). The **Advanced Configuration** screen appears.



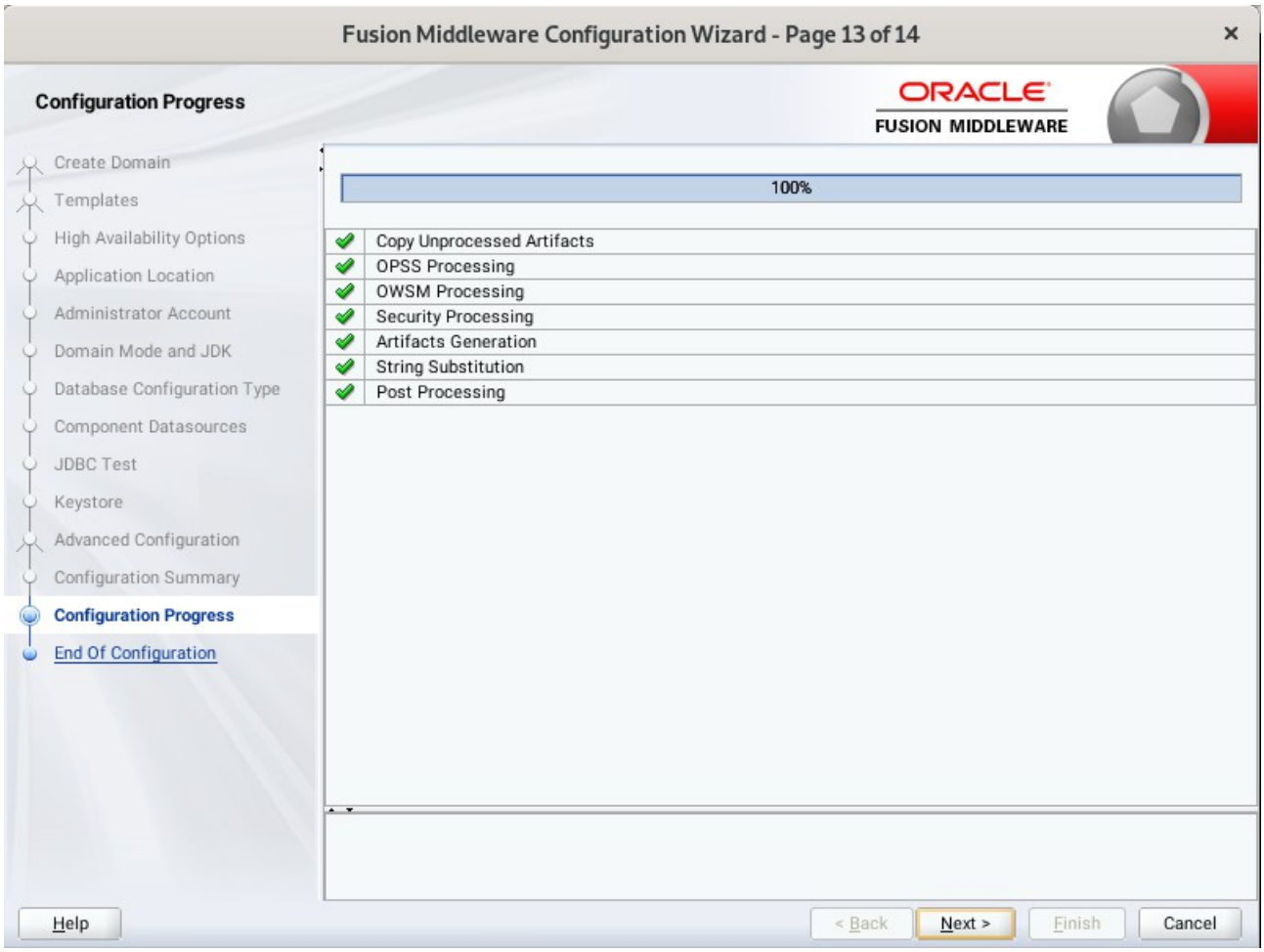
On the Advanced Configuration screen, you do not need any advanced configuration for a compact domain. You can skip through the Advanced Configuration screen without selecting anything. Click **Next** to continue.

12). The **Configuration Summary** screen appears.



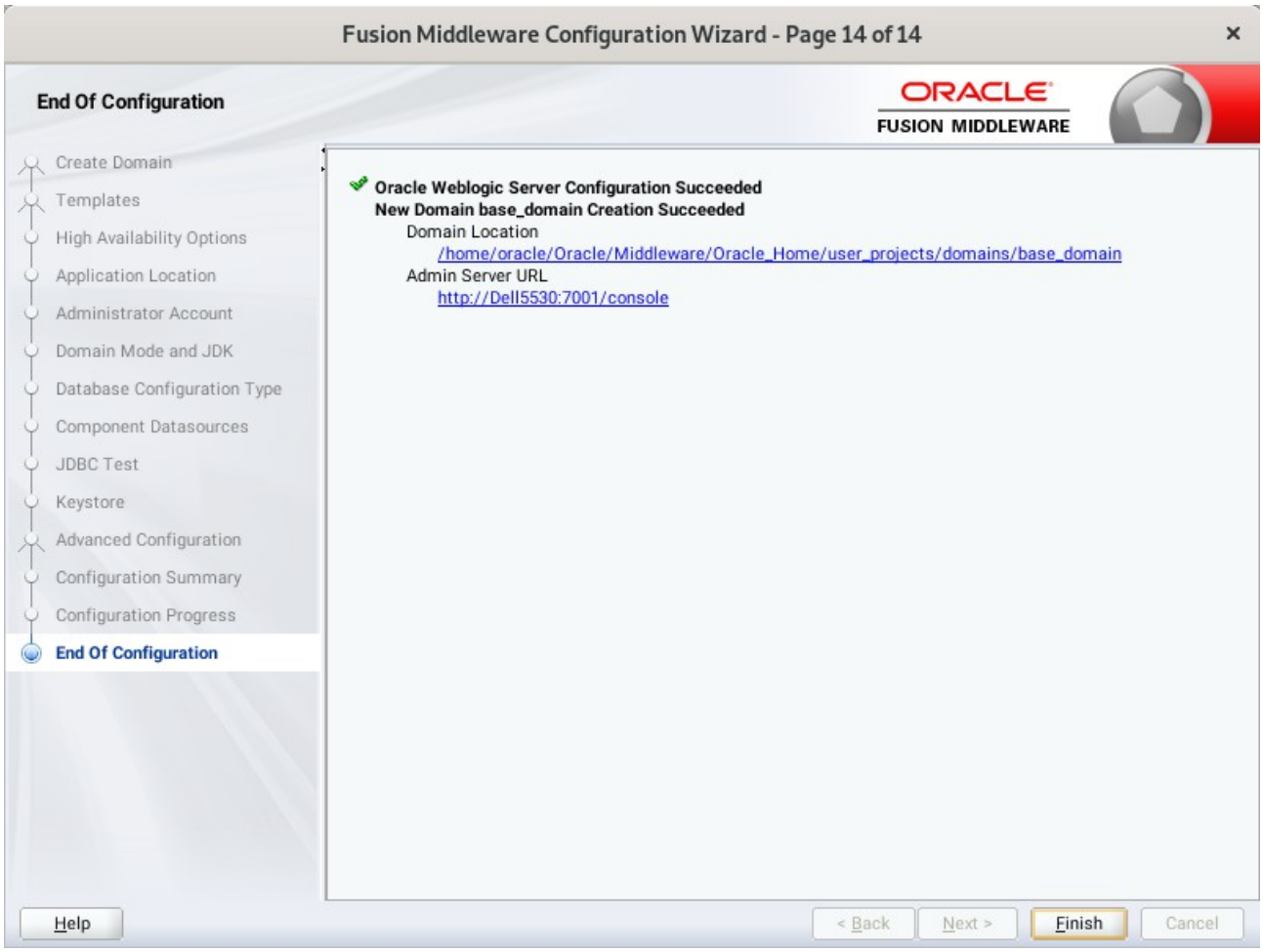
Select **Create** to accept the above options and start creating and configuring a new domain.

13). The **Configuration Progress** screen appears.



Wait for this part of the configuration to complete. Depending on the location and performance of the Repository database, this process may take a few minutes. After the domain successful created, click **Next** to continue.

14). The **End of Configuration** screen appears.



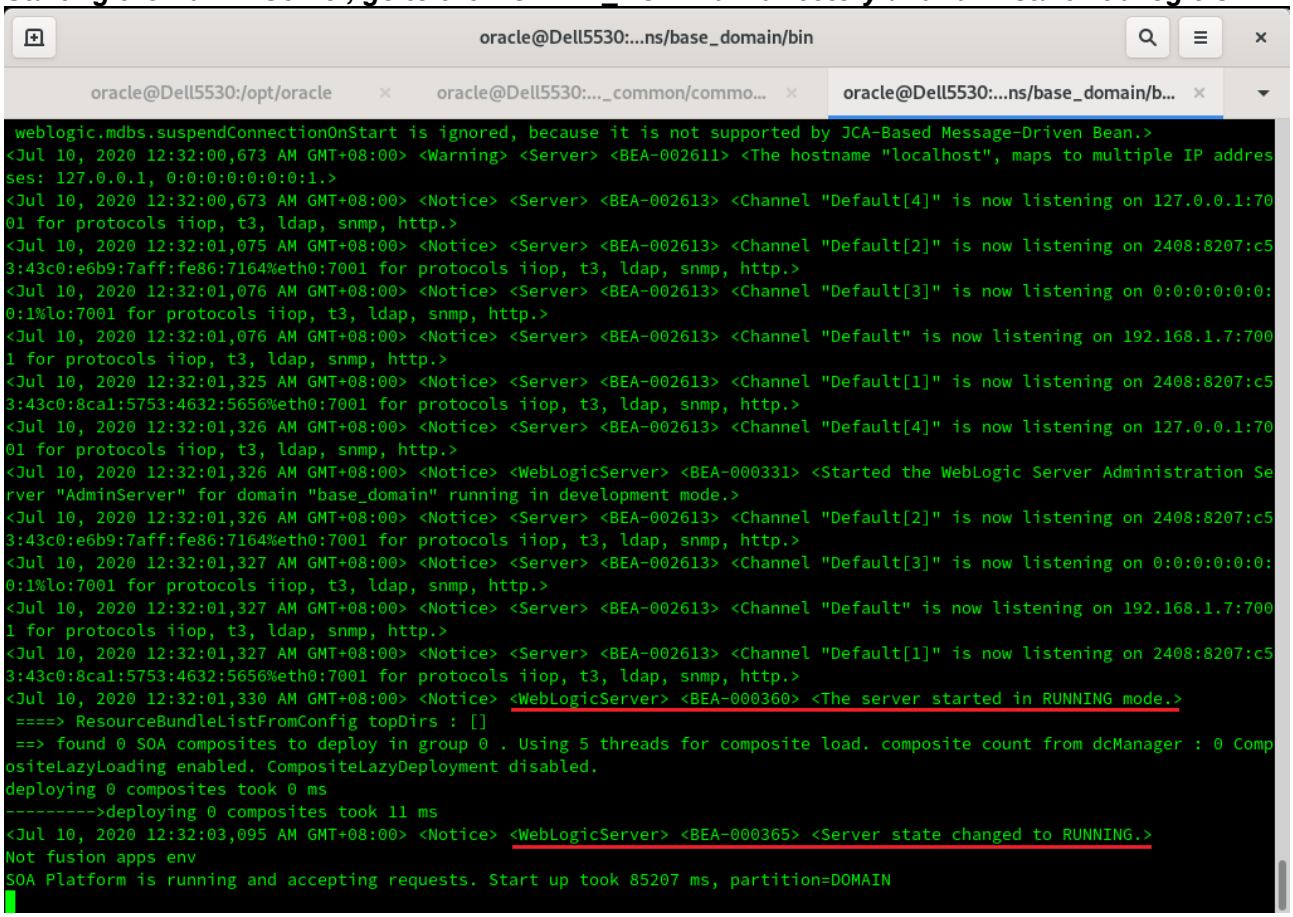
Once you see: "Oracle Weblogic Server Configuration Succeeded", record the '**Domain Location**' and '**Admin Server URL'**, then click **Finish** to dismiss the Configuration Wizard.

4. Verifying Oracle SOA Suite 12c Installation and Configuration

4-1. Check for the presence of installation log files in logs directory inside your Oracle Inventory directory. Also, check the domain server logs, which are located in the servers directory inside the domain home directory.

4-2. Navigate to your compact domain's home and start the administrator server.

Starting the Admin Server, go to the DOMAIN_HOME/bin directory and run ./startWebLogic.sh.



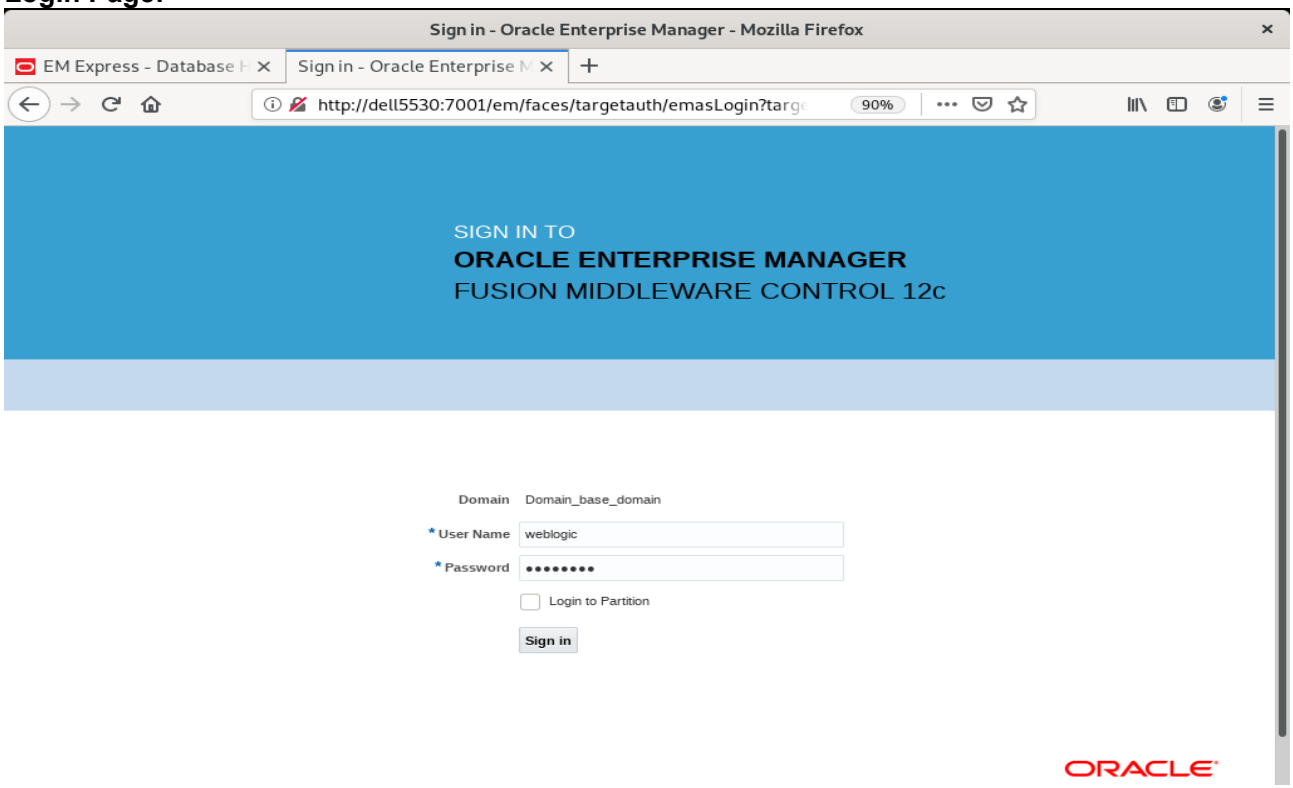
You know that the administrator server is running when you see the following output:

Server state changed to RUNNING.

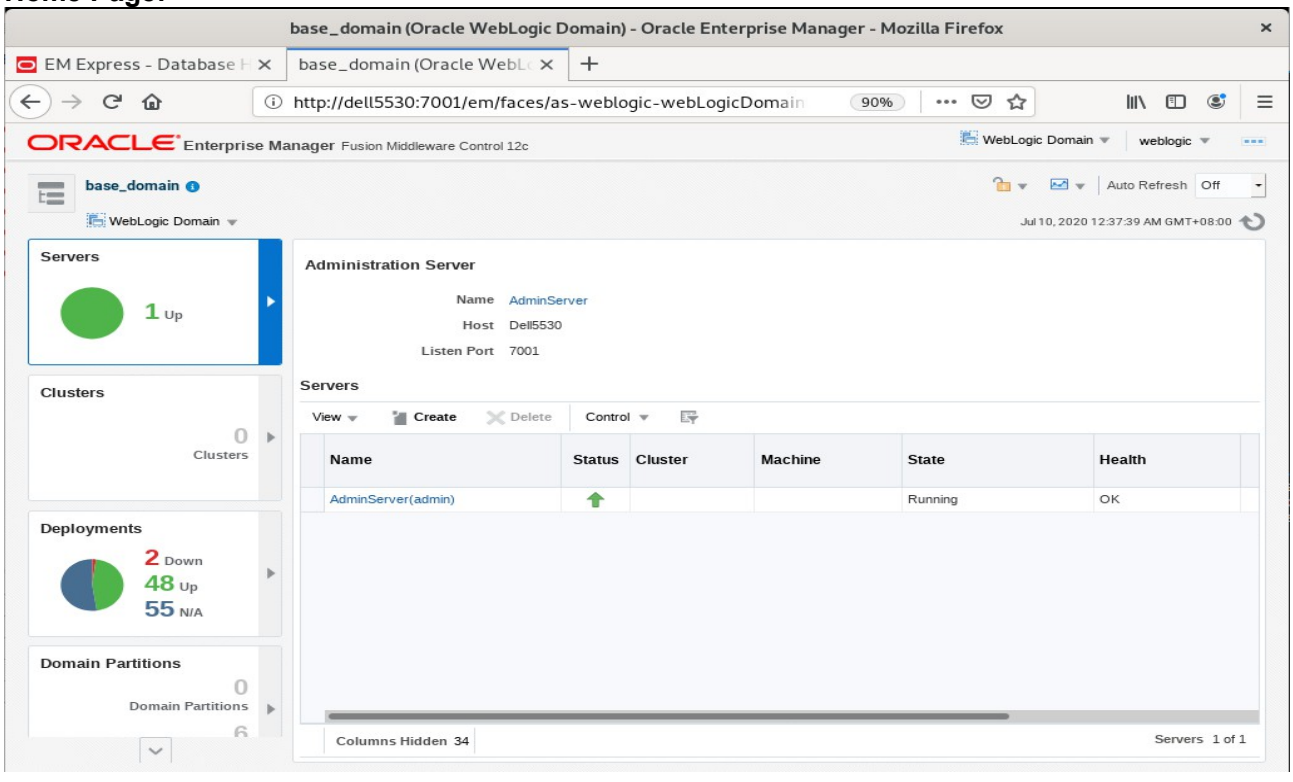
4-3. Checking Oracle SOA Suite 12c Product URLs.

1). Access to Enterprise Manager Console.

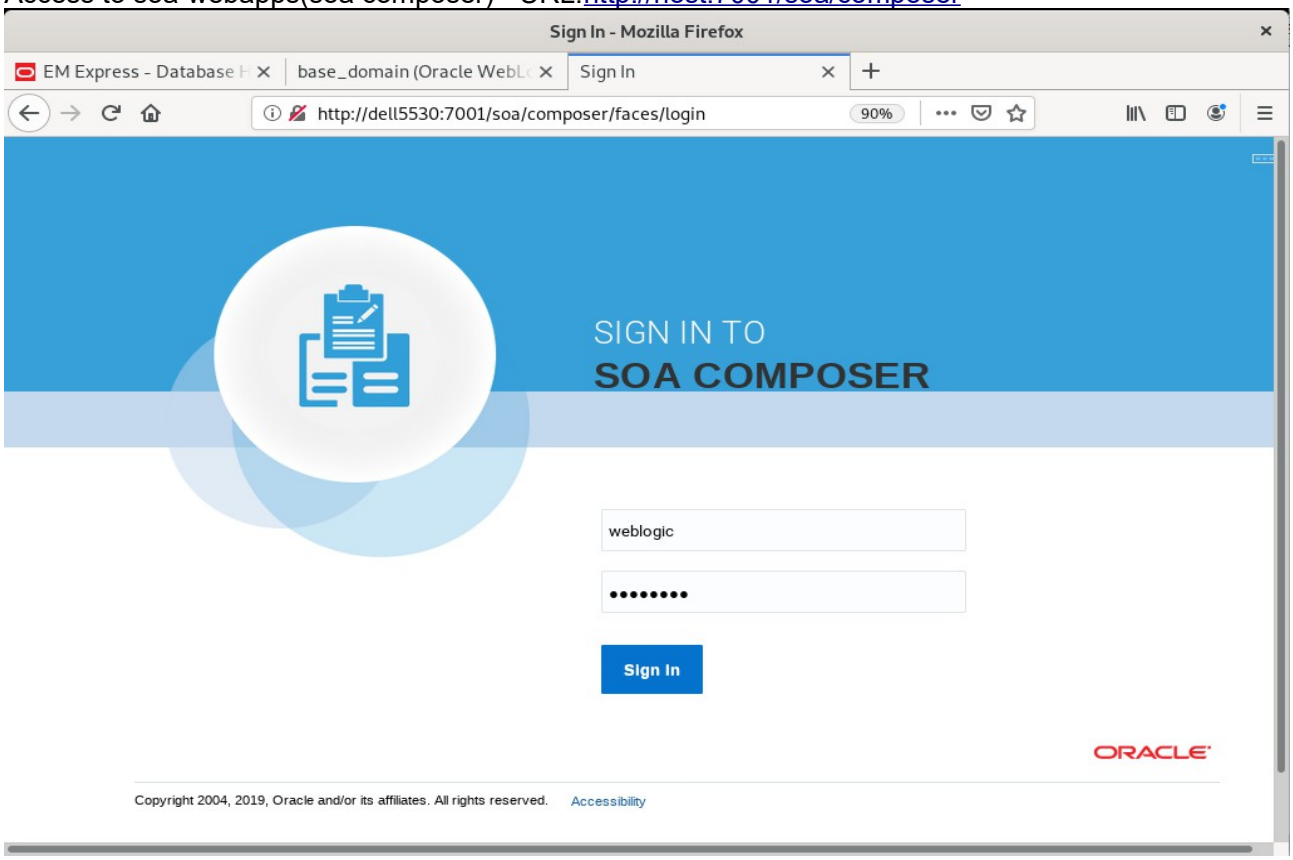
Login Page:

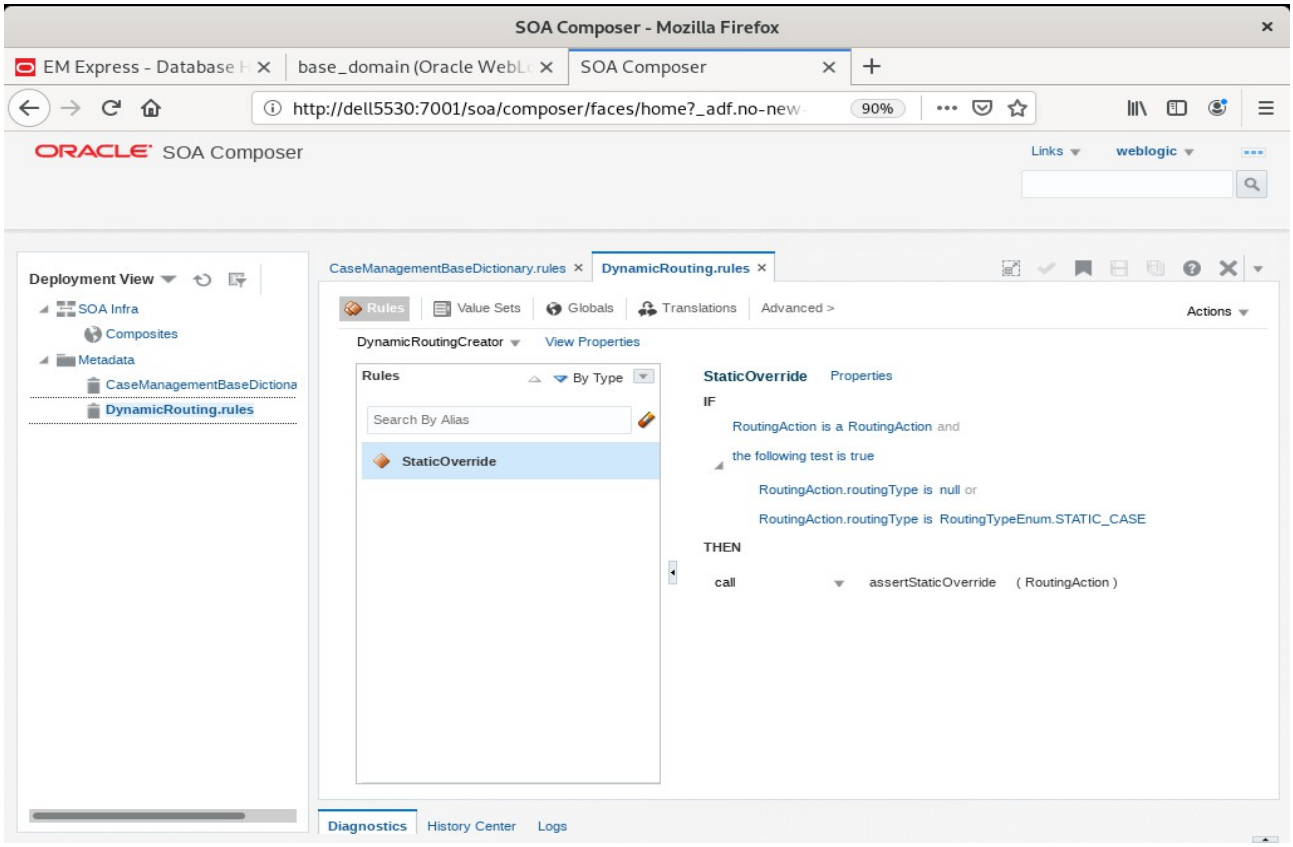


Home Page:

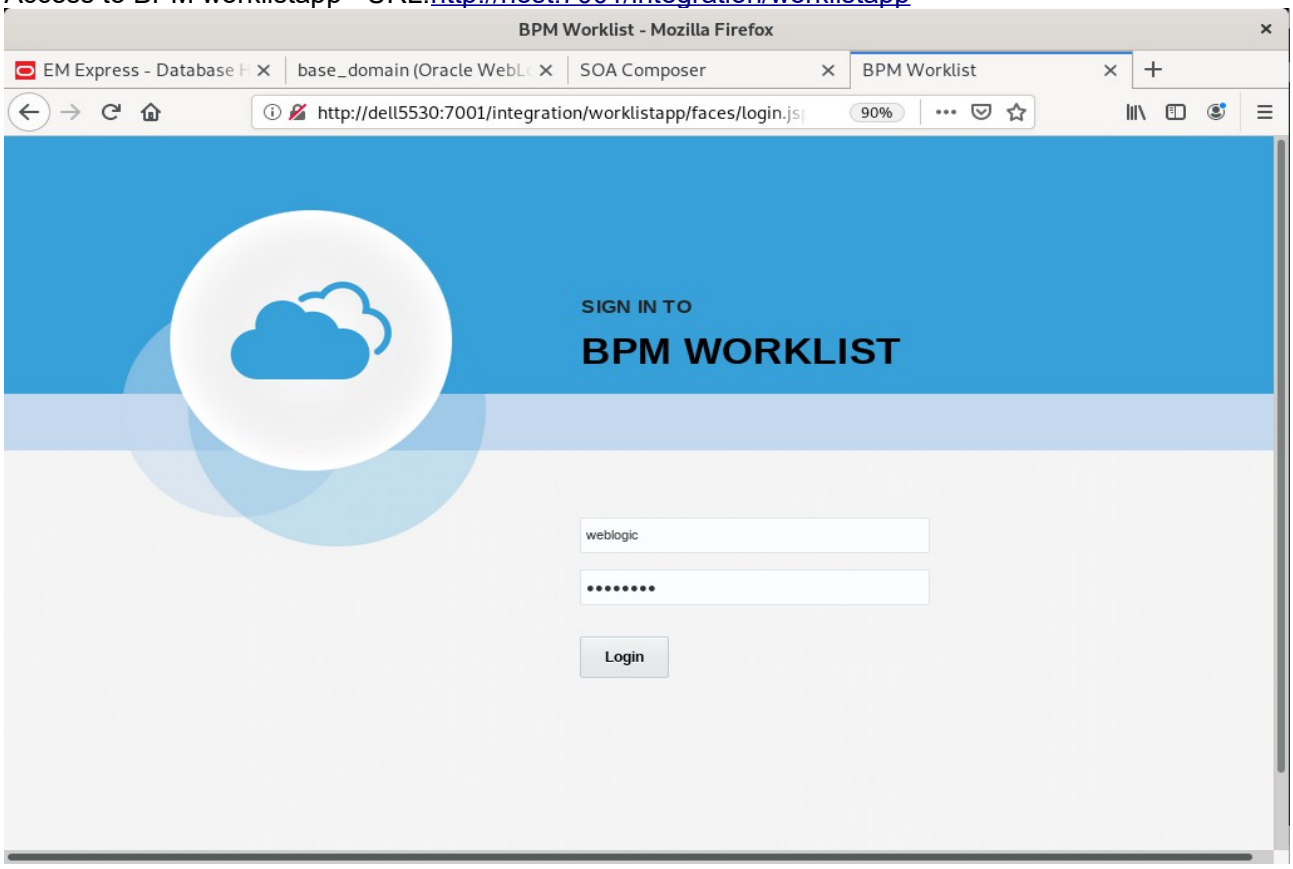


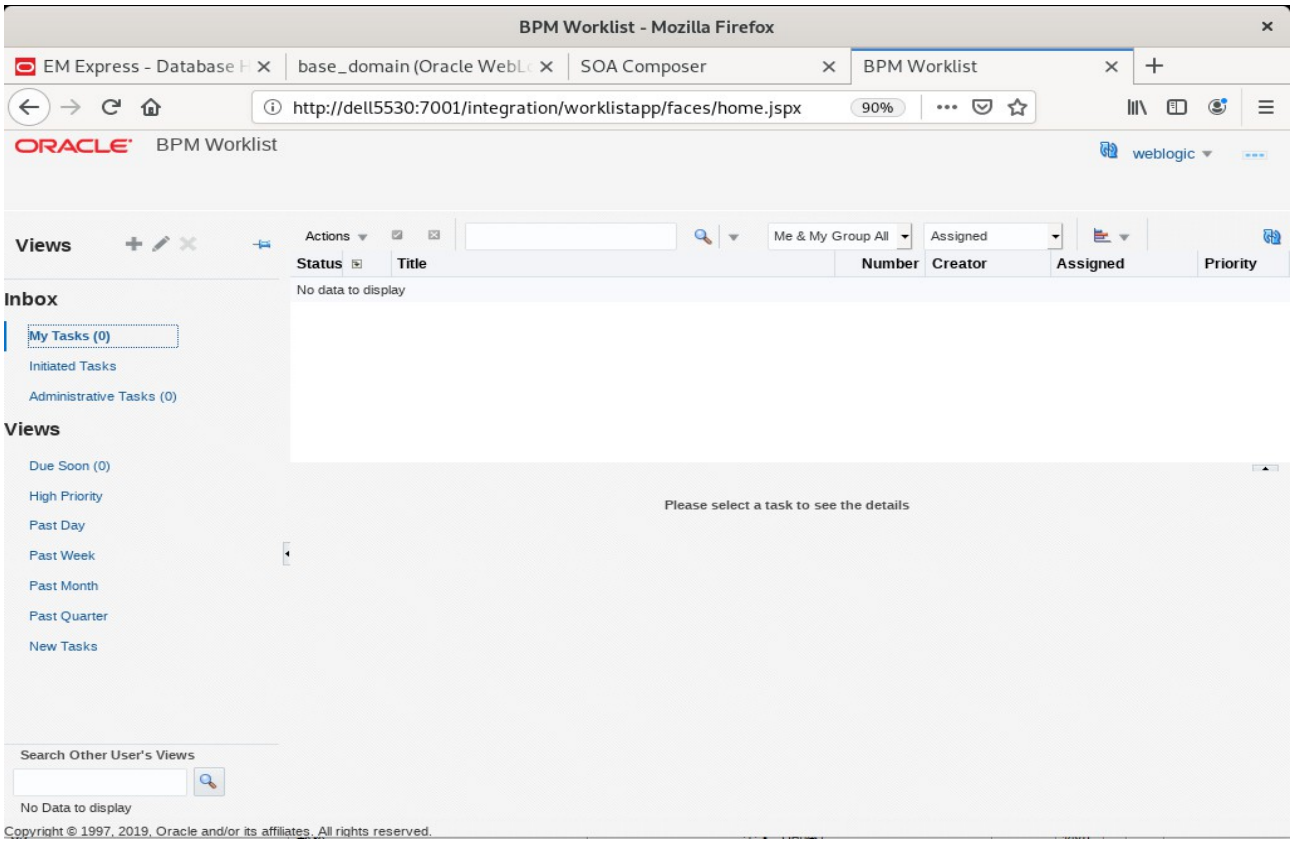
Access to soa-webapps(soa composer) - URL:http://host:7001/soa/composer





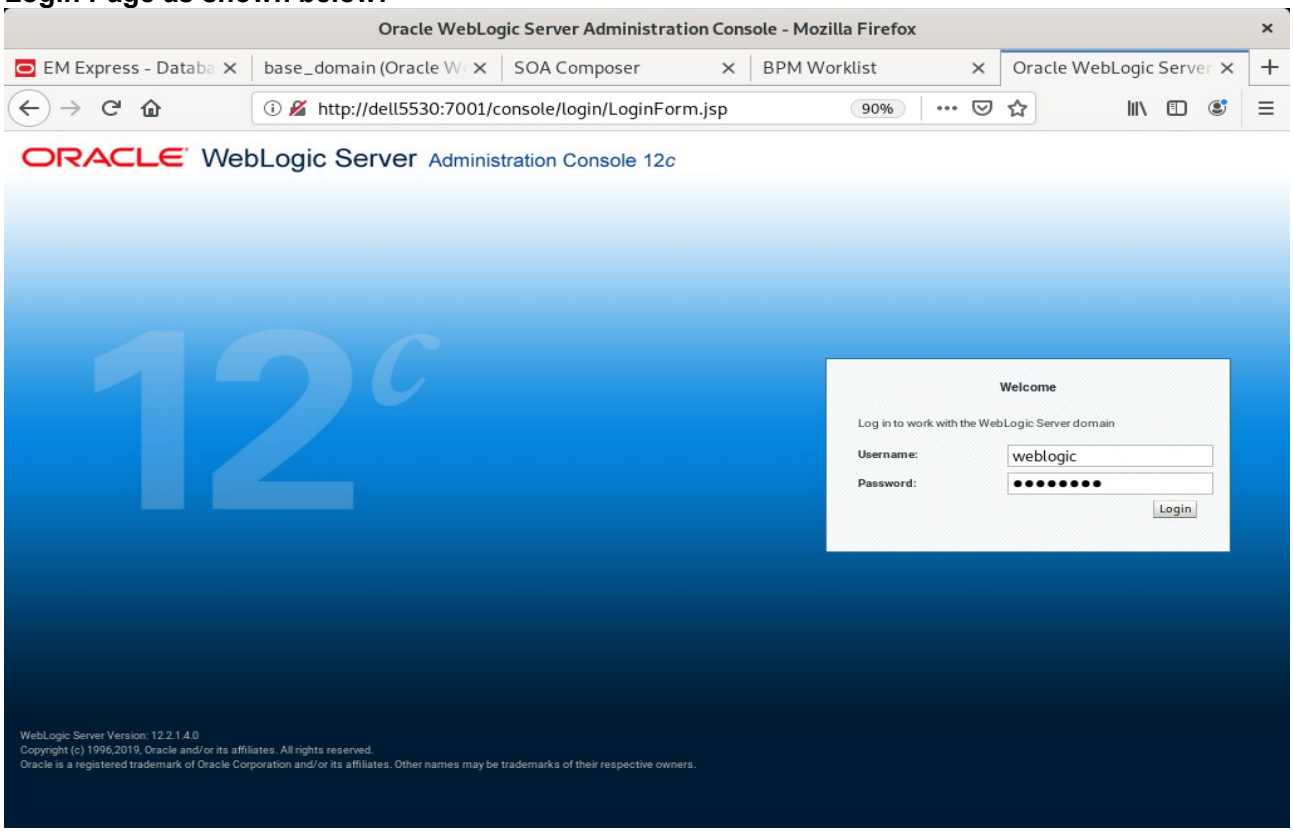
Access to BPM worklistapp - URL:http://host:7001/integration/worklistapp



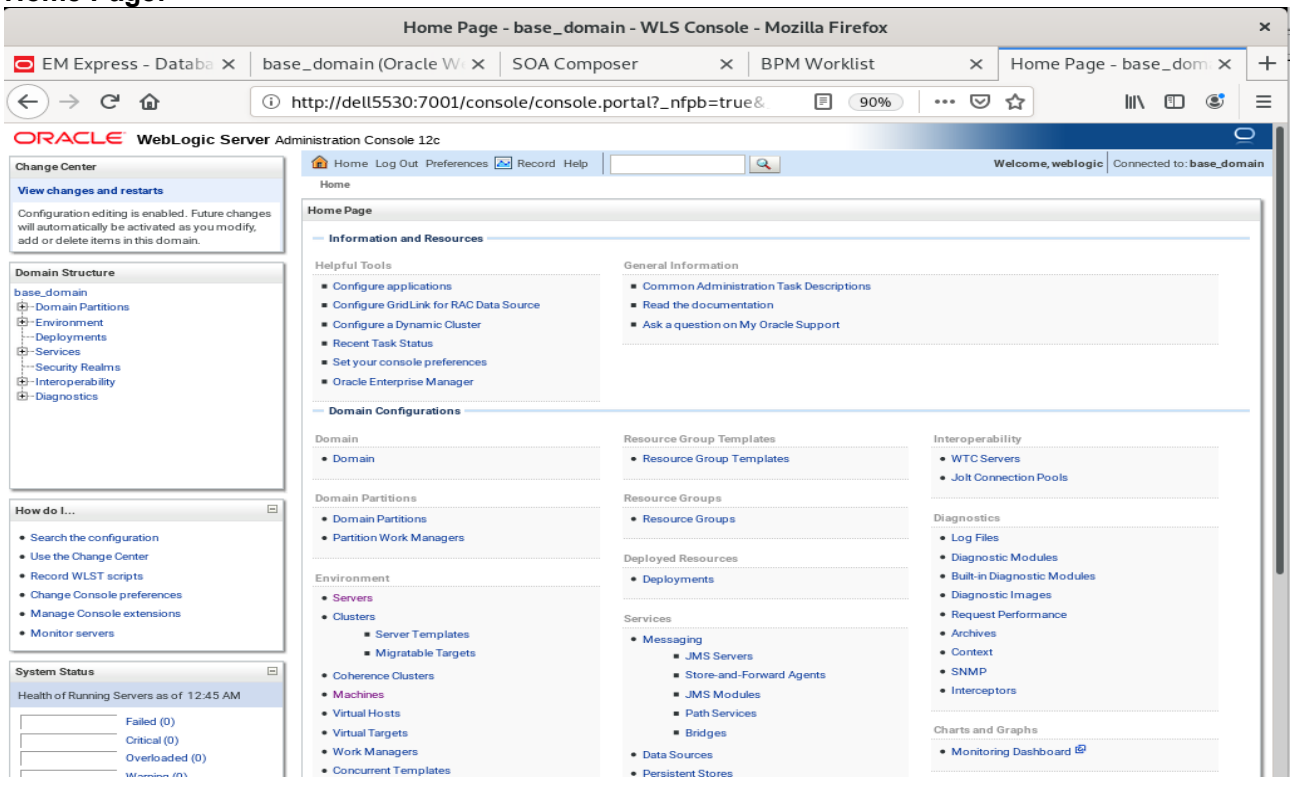


2). Access to Administration Server Console

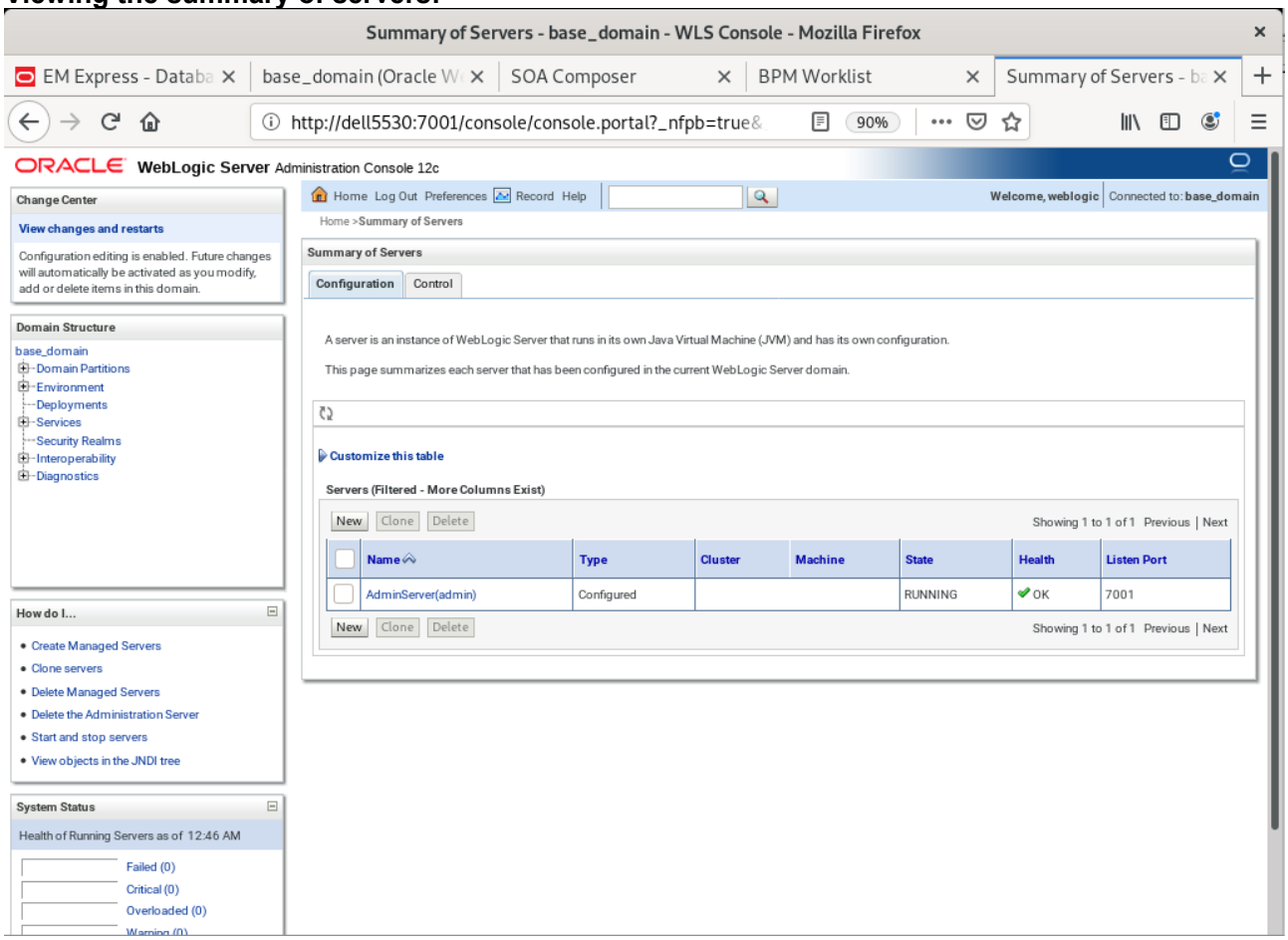
Login Page as shown below:



Home Page:



Viewing the summary of servers:



3). Connecting JDeveloper to the Compact Domain.

Launch Oracle JDeveloper with the appropriate command.

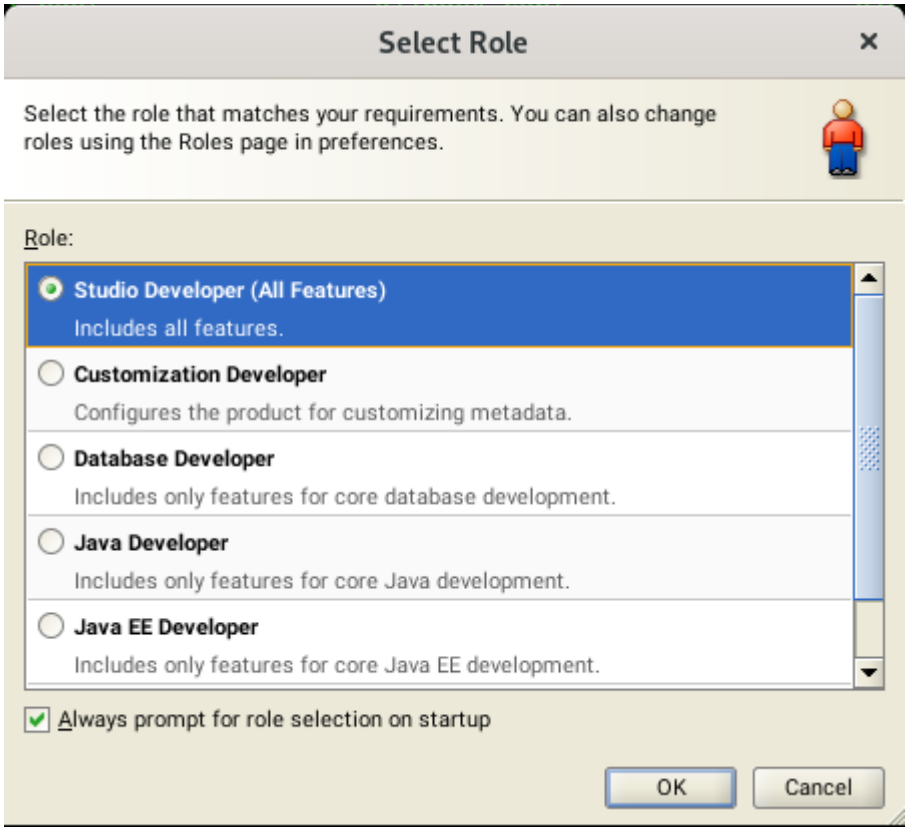
Ex:

---

cd $ORACLE_HOME/jdeveloper/jdev/bin
./jdev

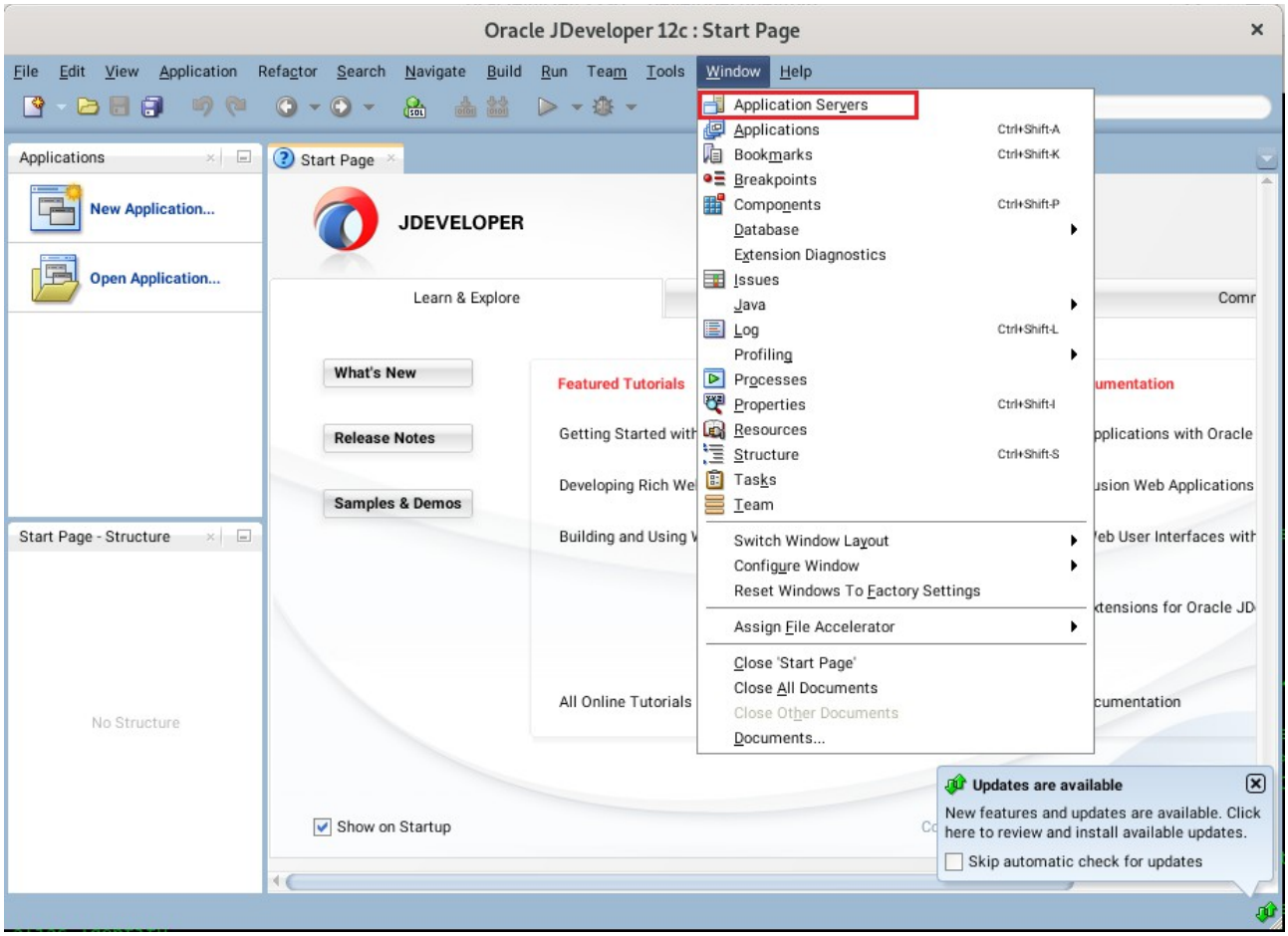
Follow these steps:

a1). Select Role.

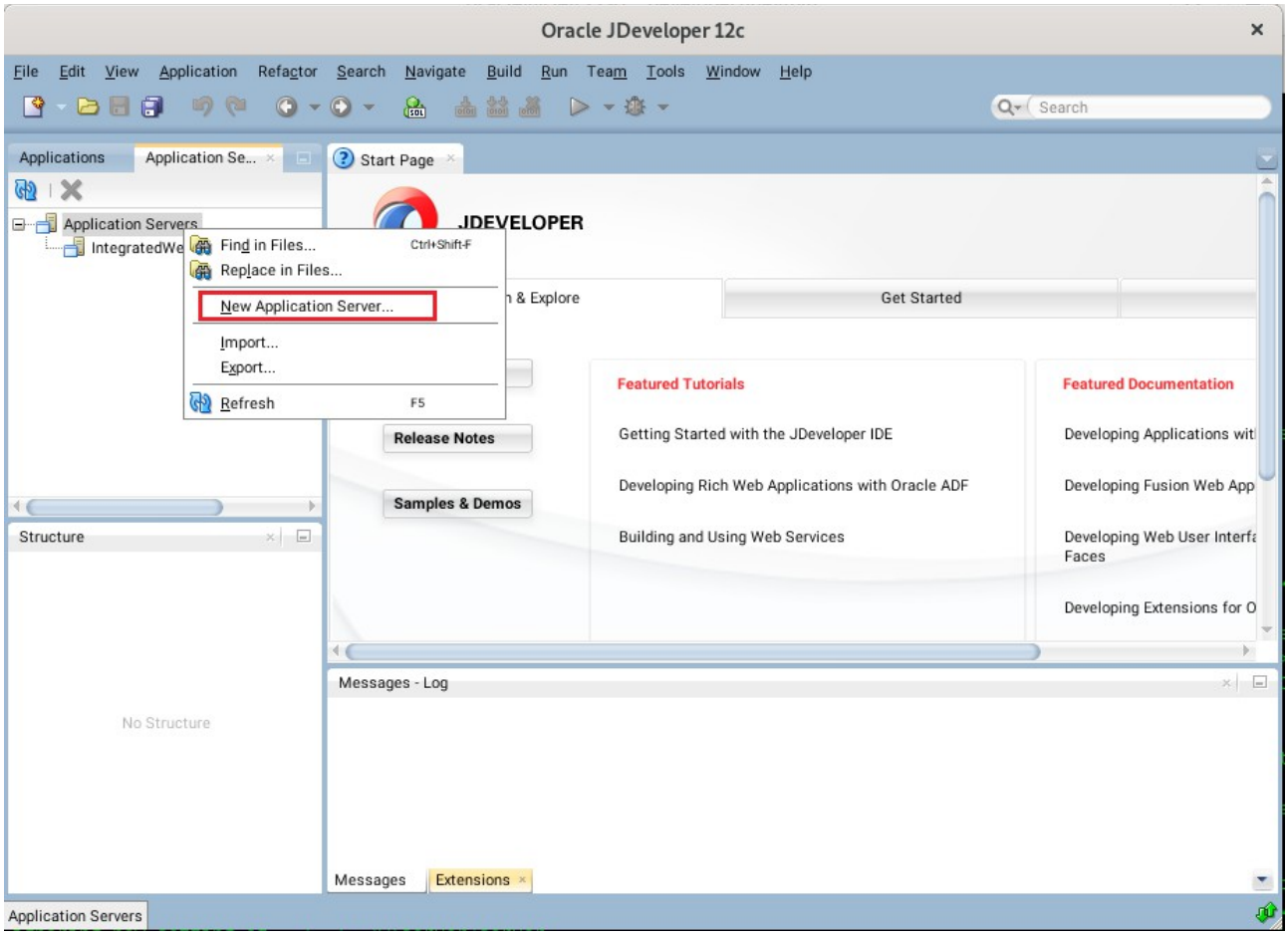


Select the role that matches your requirements. Click **OK** to continue.

a2). Select **Window** from the top menu, and then choose **Application Servers** from the drop-down menu. This will open the Application Server Navigator in the left-hand pane.

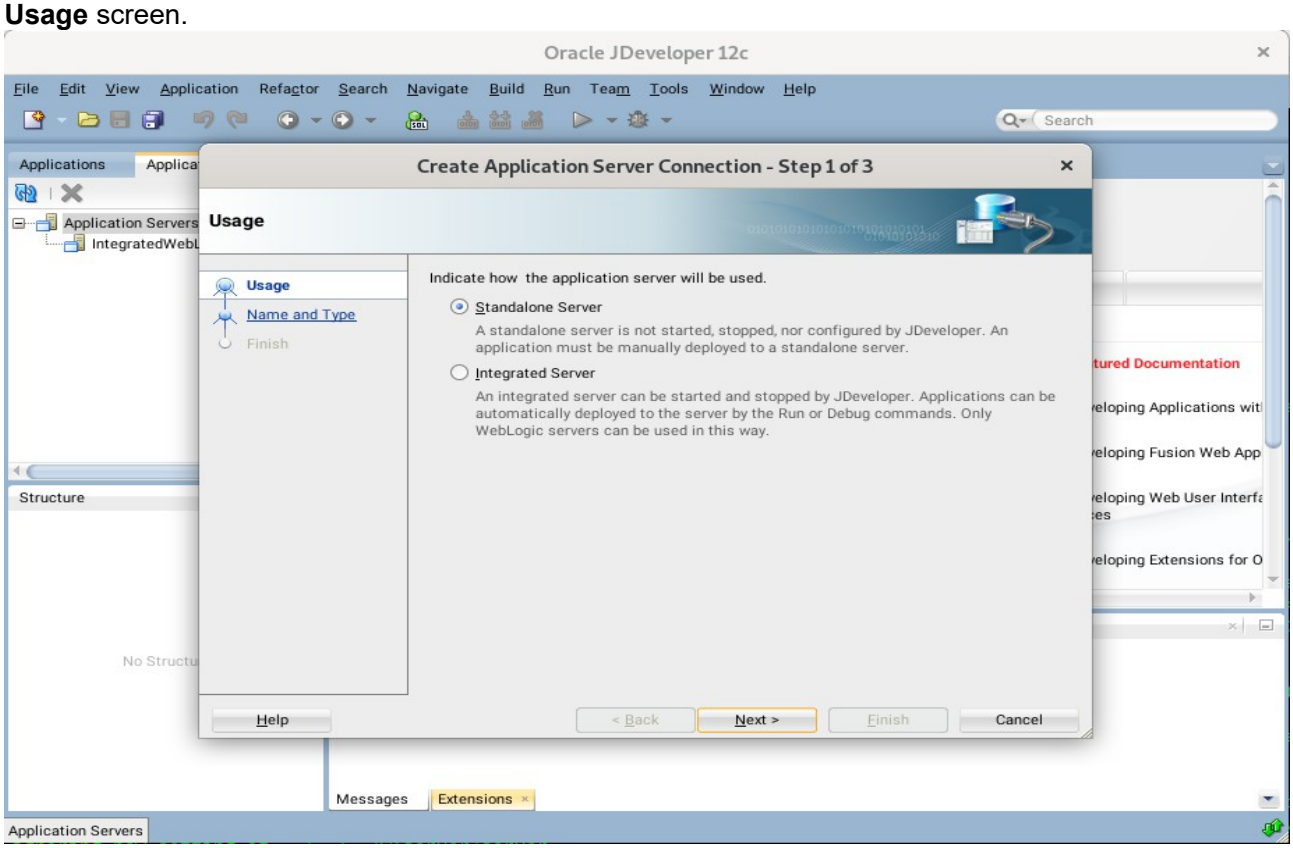


a3). Right-click on **Application Servers** in the Application Server Navigator. Select **New Application Server** from the drop-down menu to launch the **Create Application Server Connection** wizard.

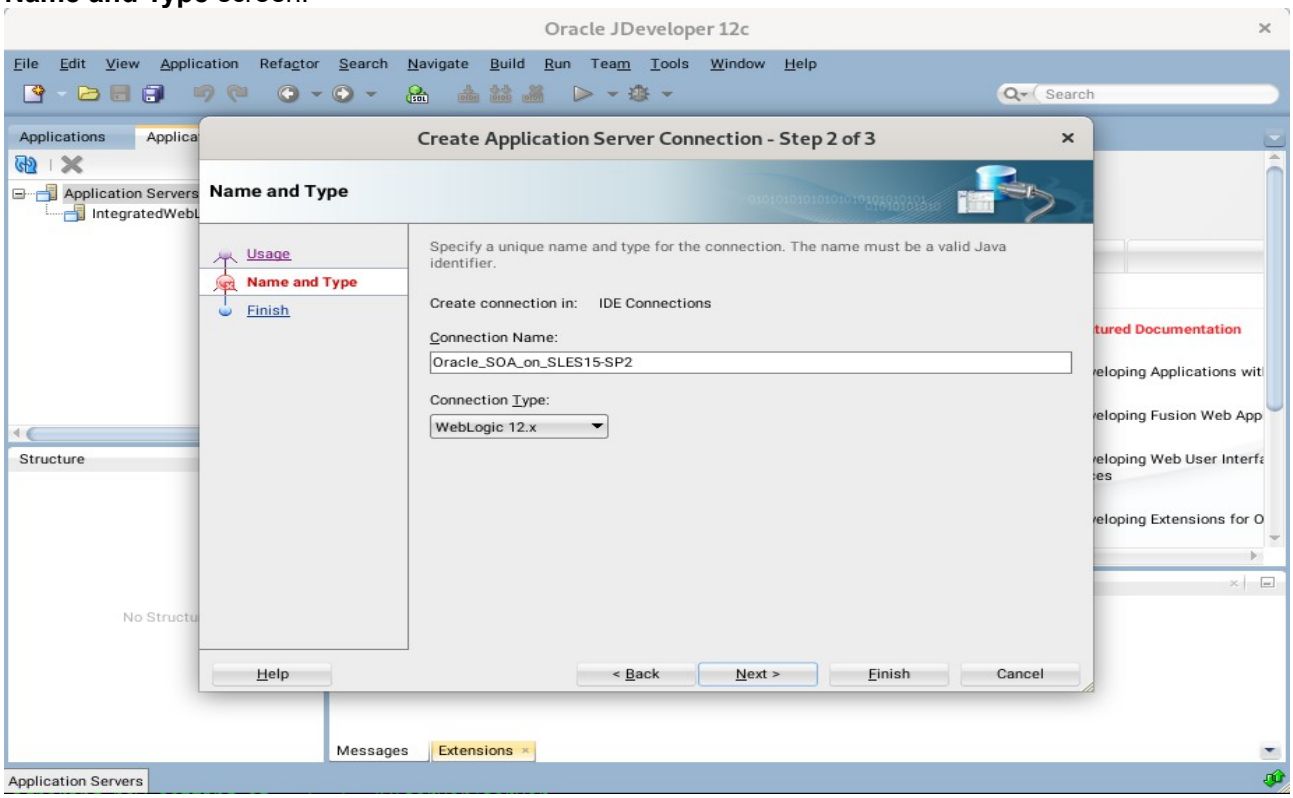


a4). Creating Application Server Connection steps as shown below.

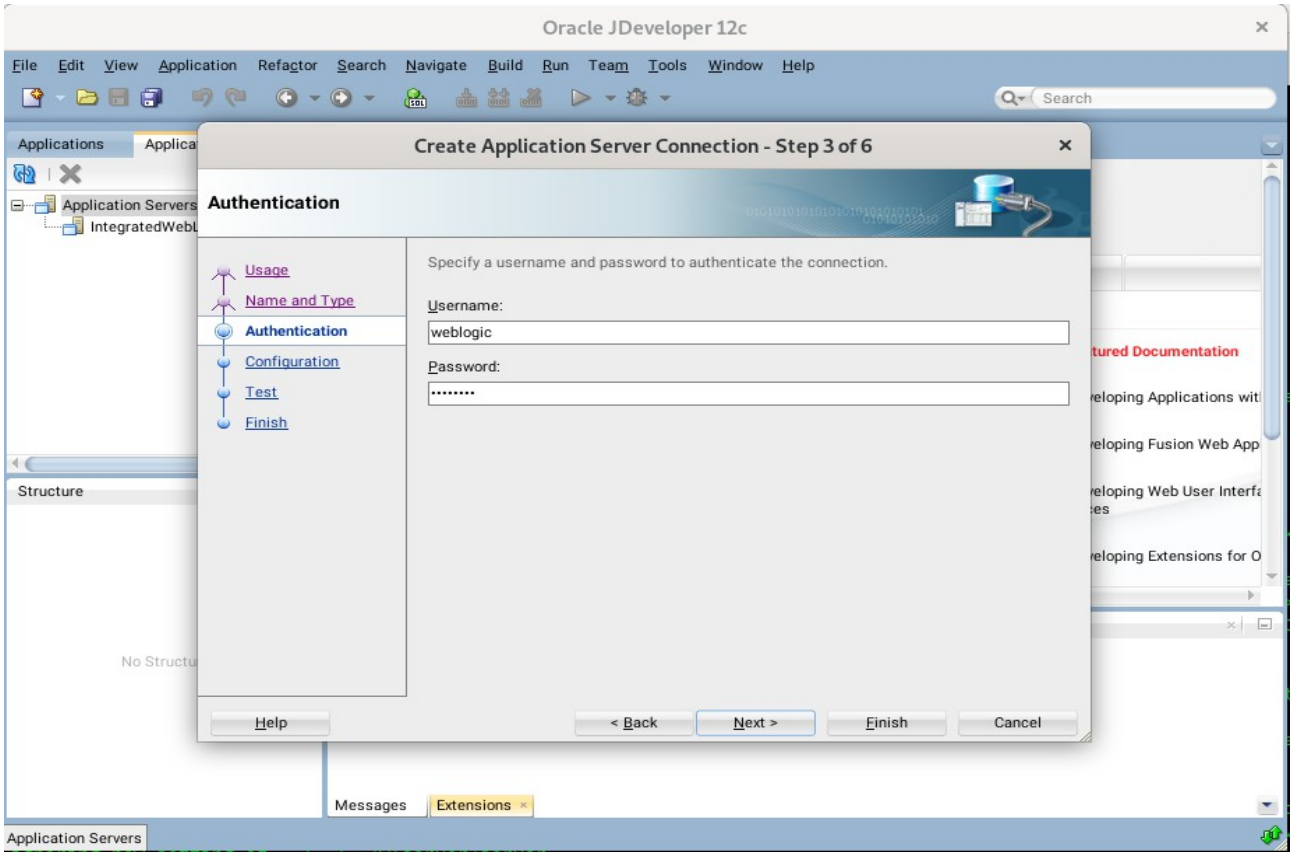
Usage screen.



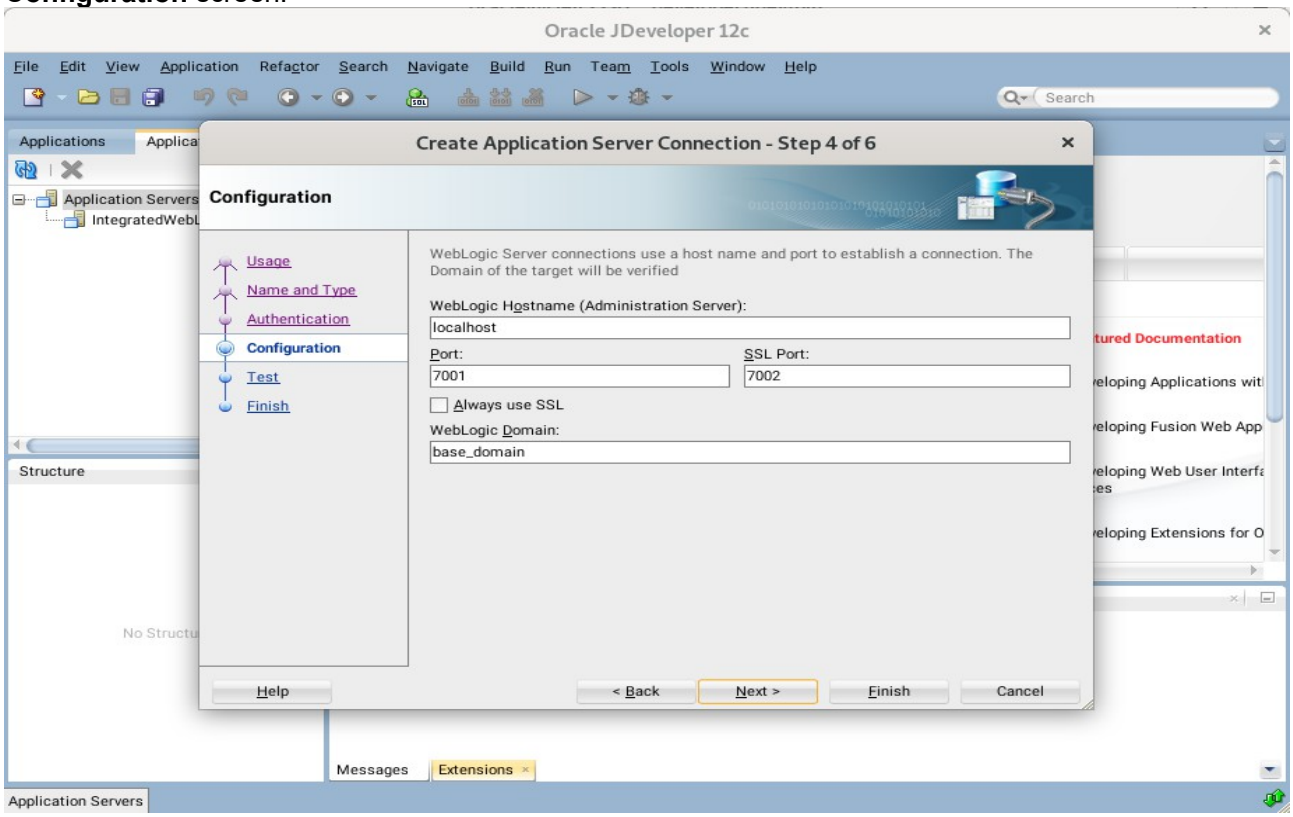
Name and Type screen.



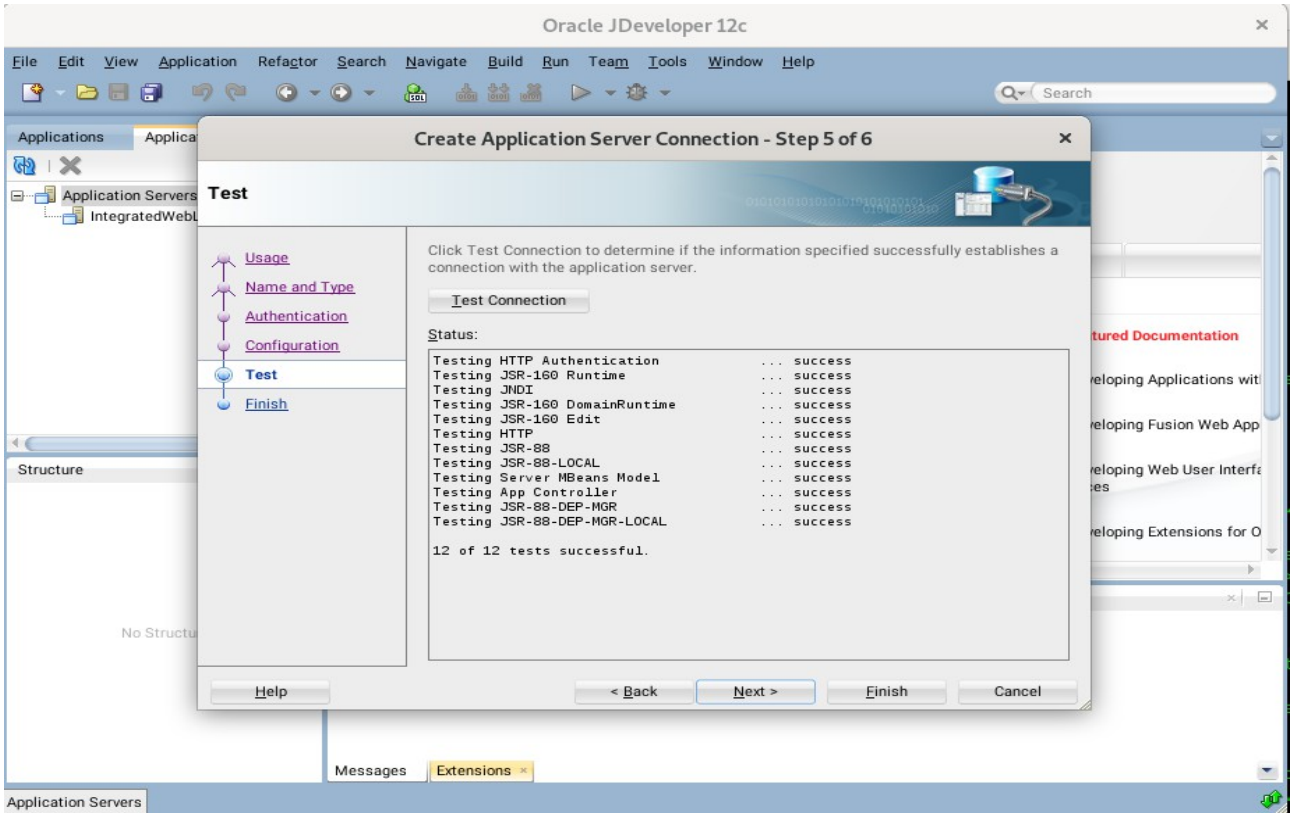
Authentication screen.



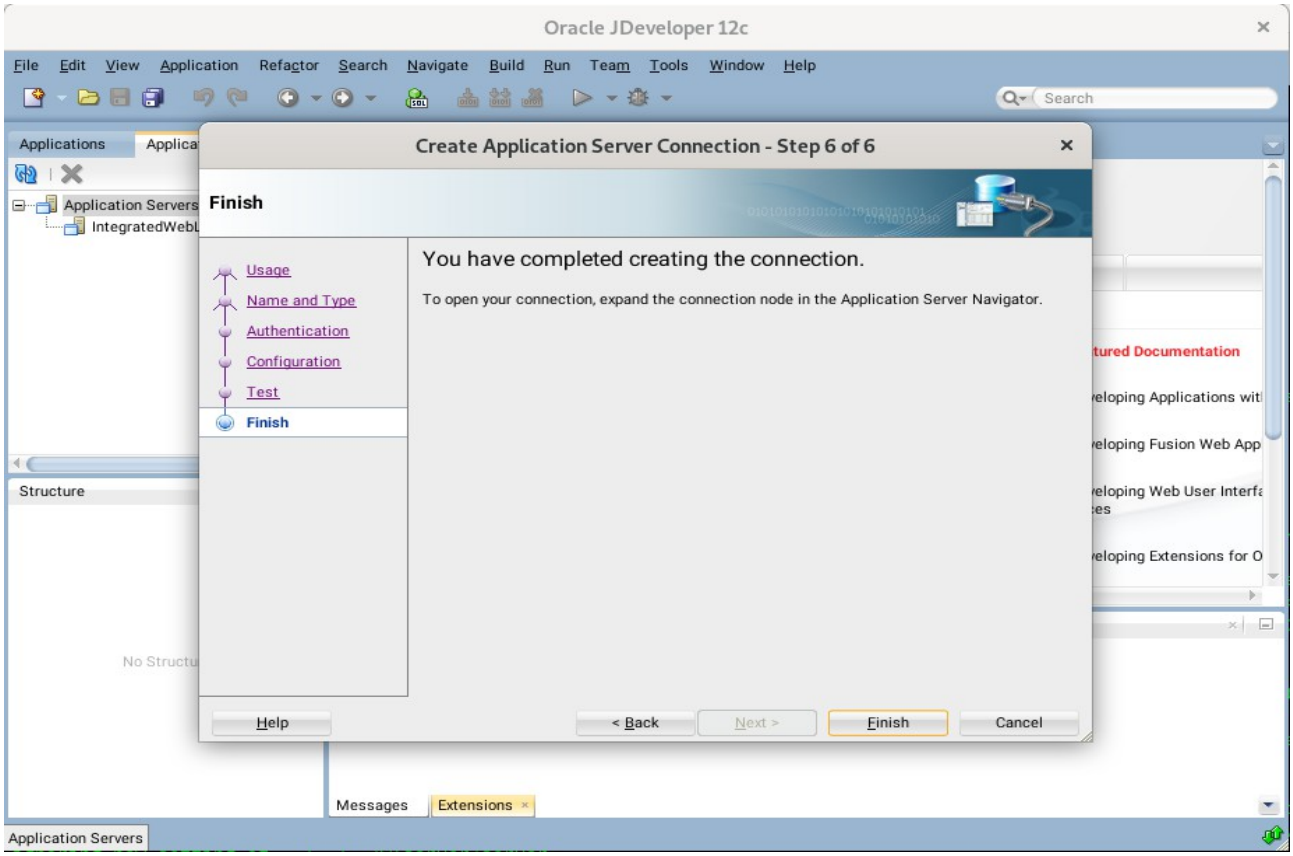
Configuration screen.



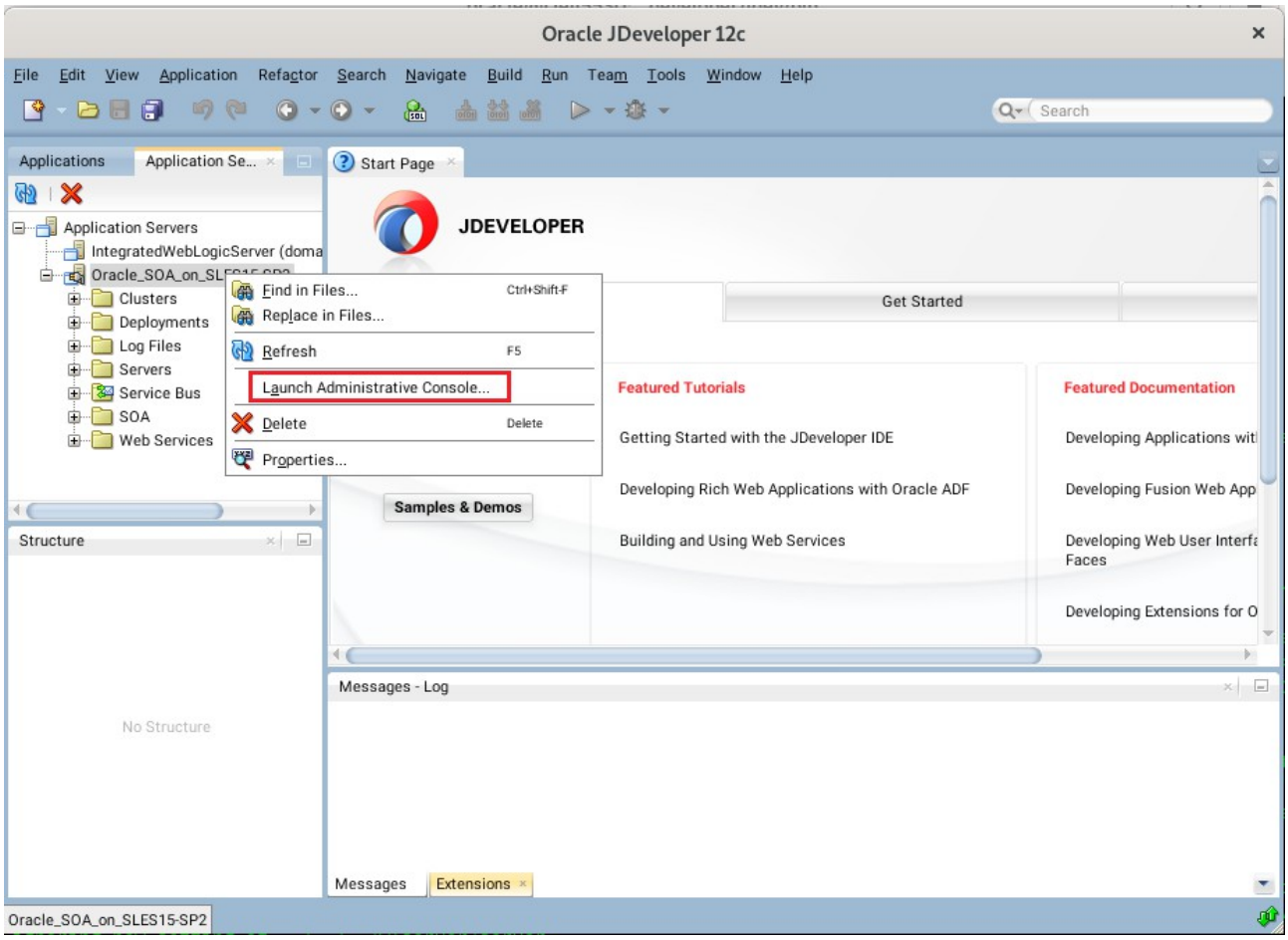
Test screen.



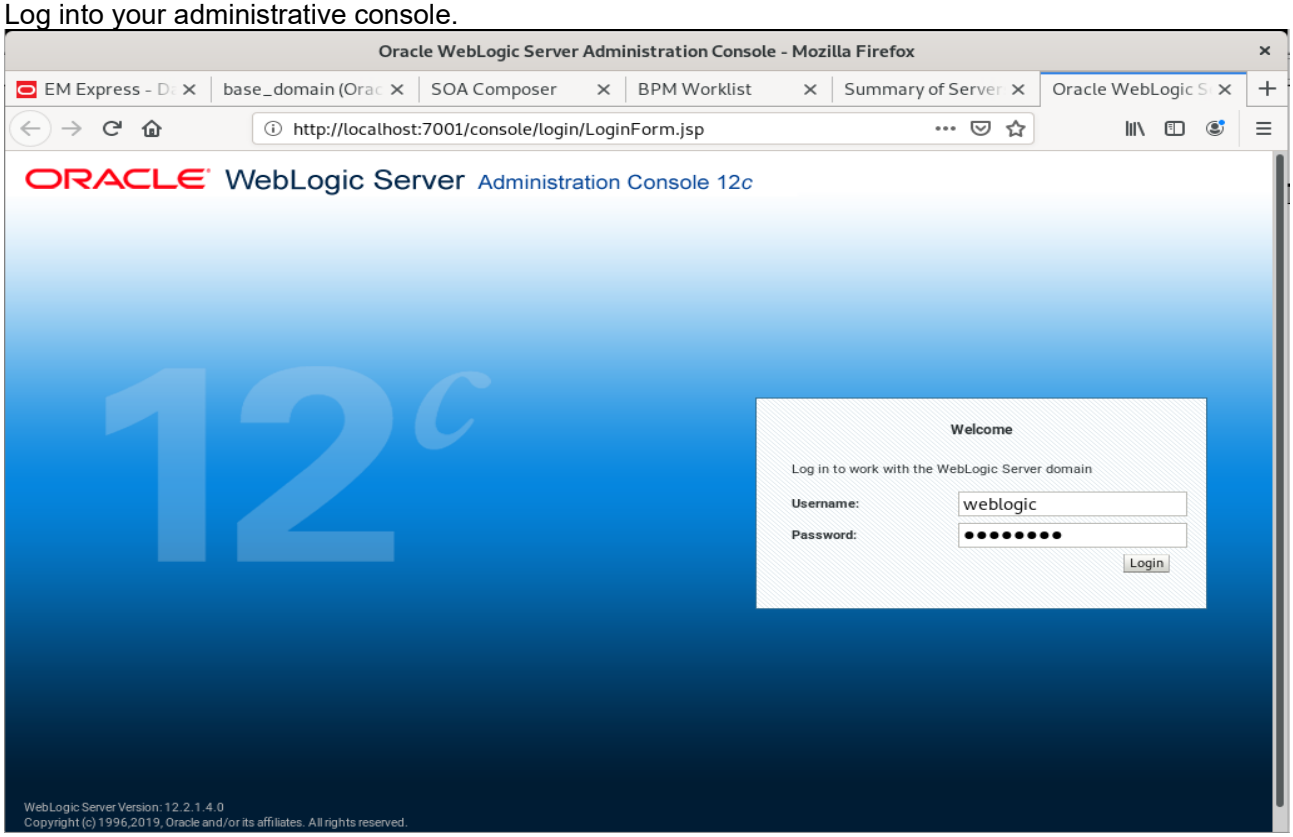
Finish screen.



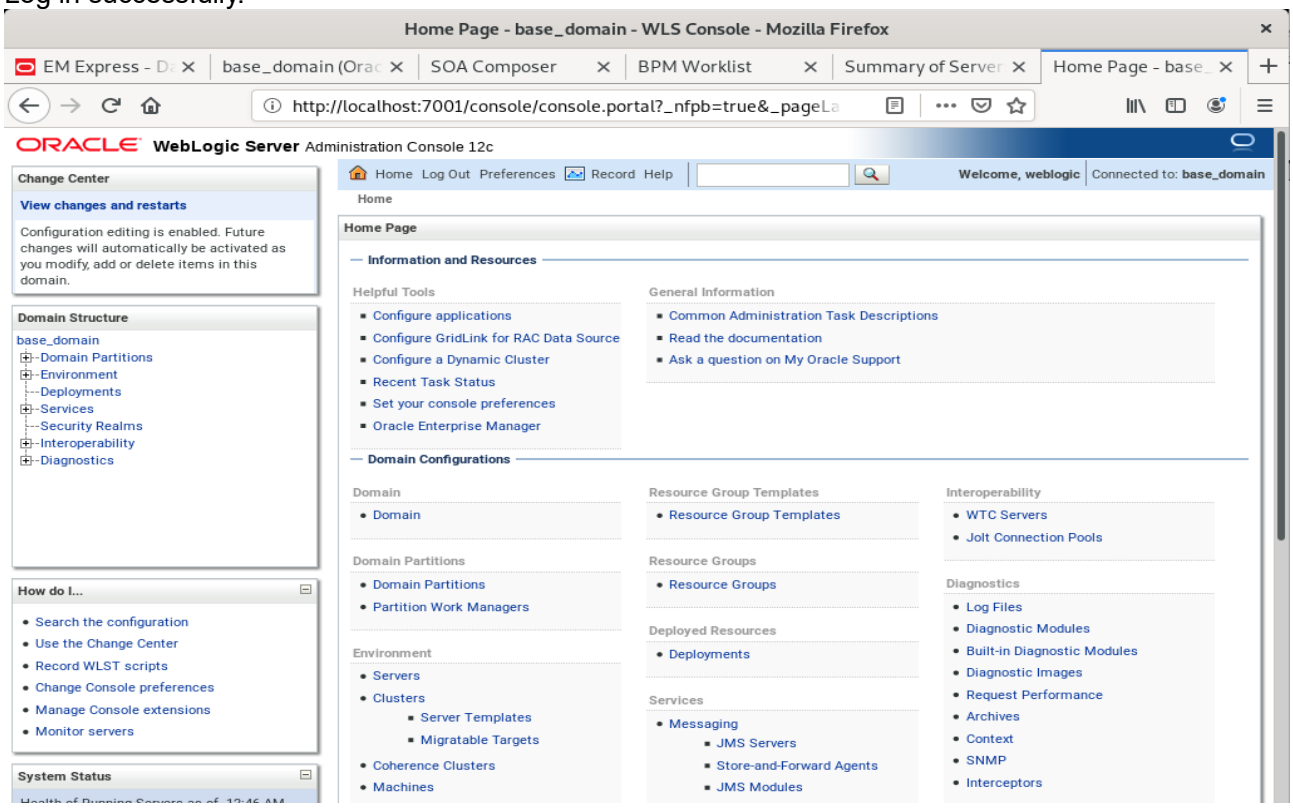
a5). Verifying Your Connection. Expand the connection node beside **Application Servers** in the Application Server Navigator. You should see your domain listed by the **Connection Name** you specified on the **Name and Type** screen. Right-click on your domain's name and choose **Launch Administrative Console**.



Log into your administrative console.



Log in successfully.



End of Oracle SOA Suite.

****

Oracle Access Manager

****

1. Installing Oracle Identity and Access Management 12cPS4 software

1-1. Prerequisites:

Installation of Oracle Identity and Access management requires:

1). Oracle Database 12cR2 (12.2.0.1.0) installed.

(**Note**: Please make sure that database initialization parameter **OPEN_CURSORS** greater than or equal to 800; Login to database server as **root user** and execute the SQL command: "alter system set open_cursors=1600 scope=spfile;" then restart the database)

```
SQL> show parameter open_cursors;

NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------------
open_cursors                         integer     300
SQL> alter system set open_cursors=1600 scope=spfile;

System altered.

SQL> shutdown immediate;
Database closed.
Database dismounted.
ORACLE instance shut down.
SQL> startup
ORACLE instance started.

Total System Global Area 9898557440 bytes
Fixed Size                 12169752 bytes
Variable Size            2013269480 bytes
Database Buffers         7851737088 bytes
Redo Buffers               21381120 bytes
Database mounted.
Database opened.
SQL> show parameter open_cursors;

NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------------
open_cursors                         integer     1600
SQL>
```

2). Oracle jdk1.8.0_221 and later installed.

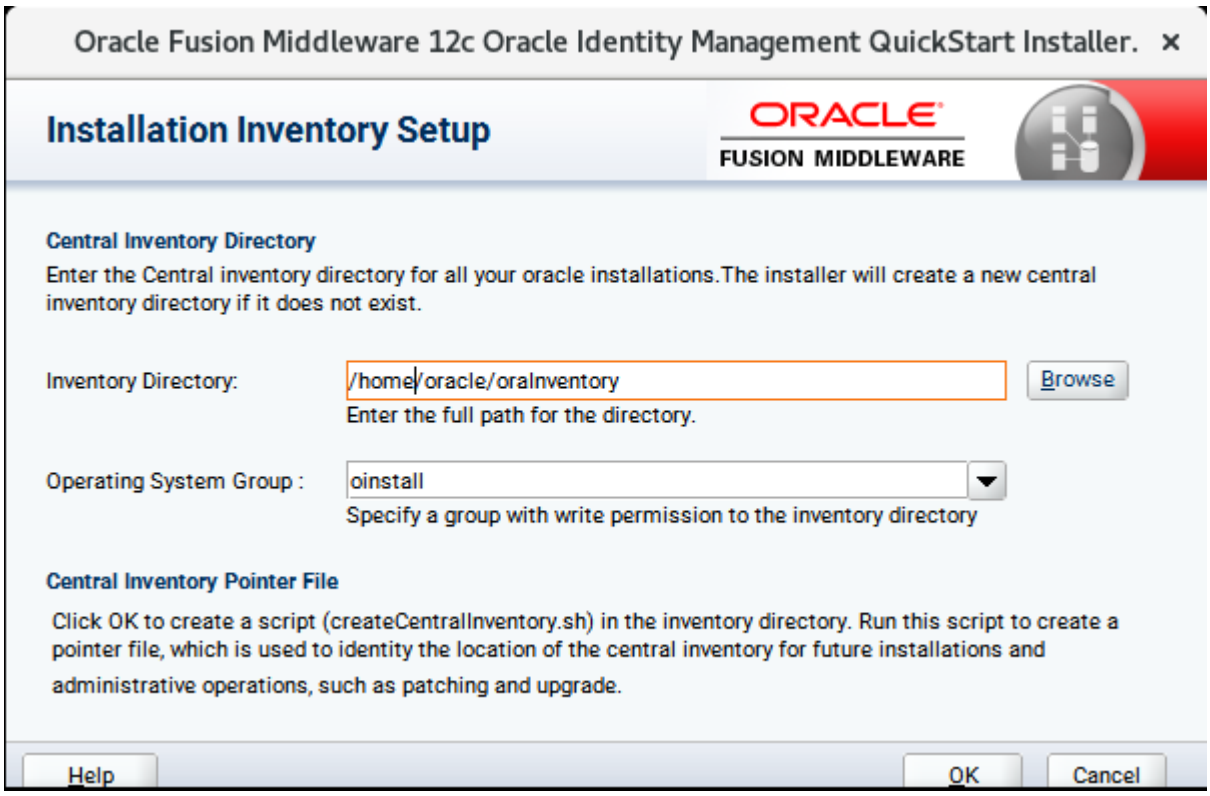
1-2. Log in to the target system (SLES 15 SP2 64-bit OS) as a non-admin user. Download the Oracle Identity and Access Management 12cPS4 (12.2.1.4.0) generic installer .zip file from https://www.oracle.com/downloads/#category-middleware.

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

1-3. Go to the directory where you downloaded the installation program. Extract the contents of these .zip ("fmw_12.2.1.4.0_idmqs_Disk1_1of2.zip" and "fmw_12.2.1.4.0_idmqs_Disk1_2of2.zip") files and launch the installation program by running '**fmw_12.2.1.4.0_idmquickstart.jar**'

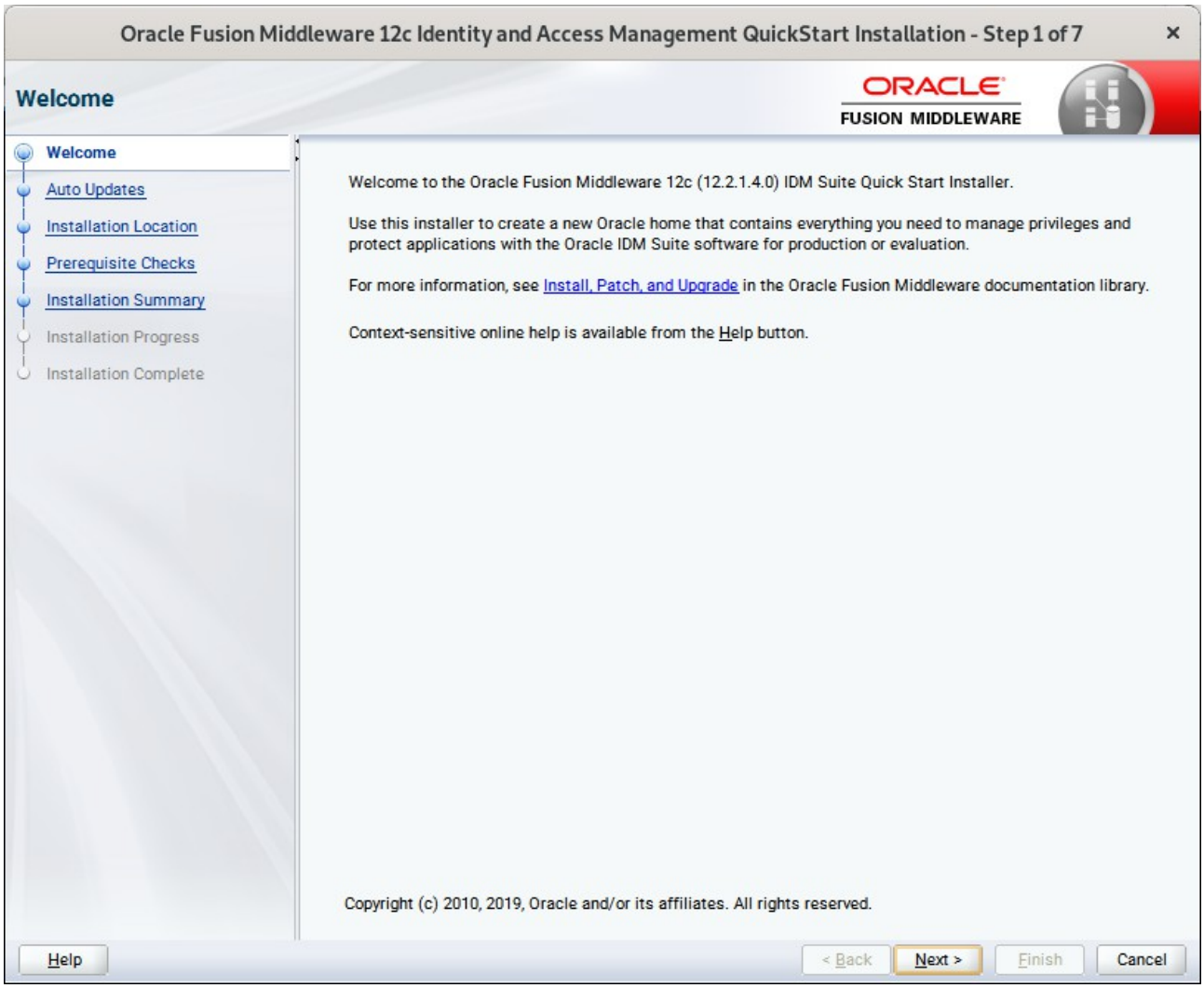
For the actual installation, follow the steps below:

1). Installation Inventory Setup.



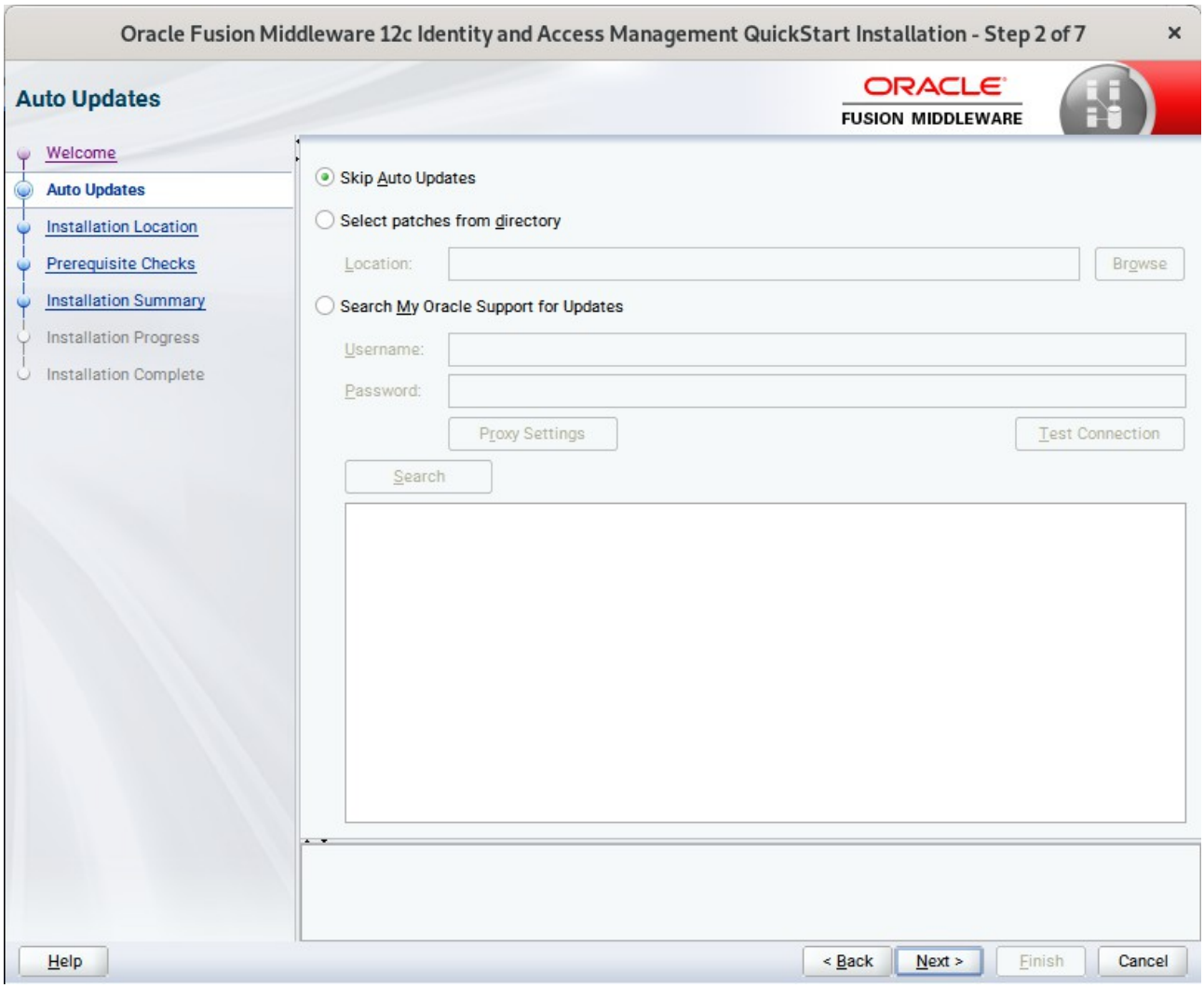
If this is your first Oracle installation on a host that is running SLES, please use this screen to specify the location of the Oracle central inventory directory and Operating System Group Name, then click **OK** to continue.

2). **Welcome** page appears.



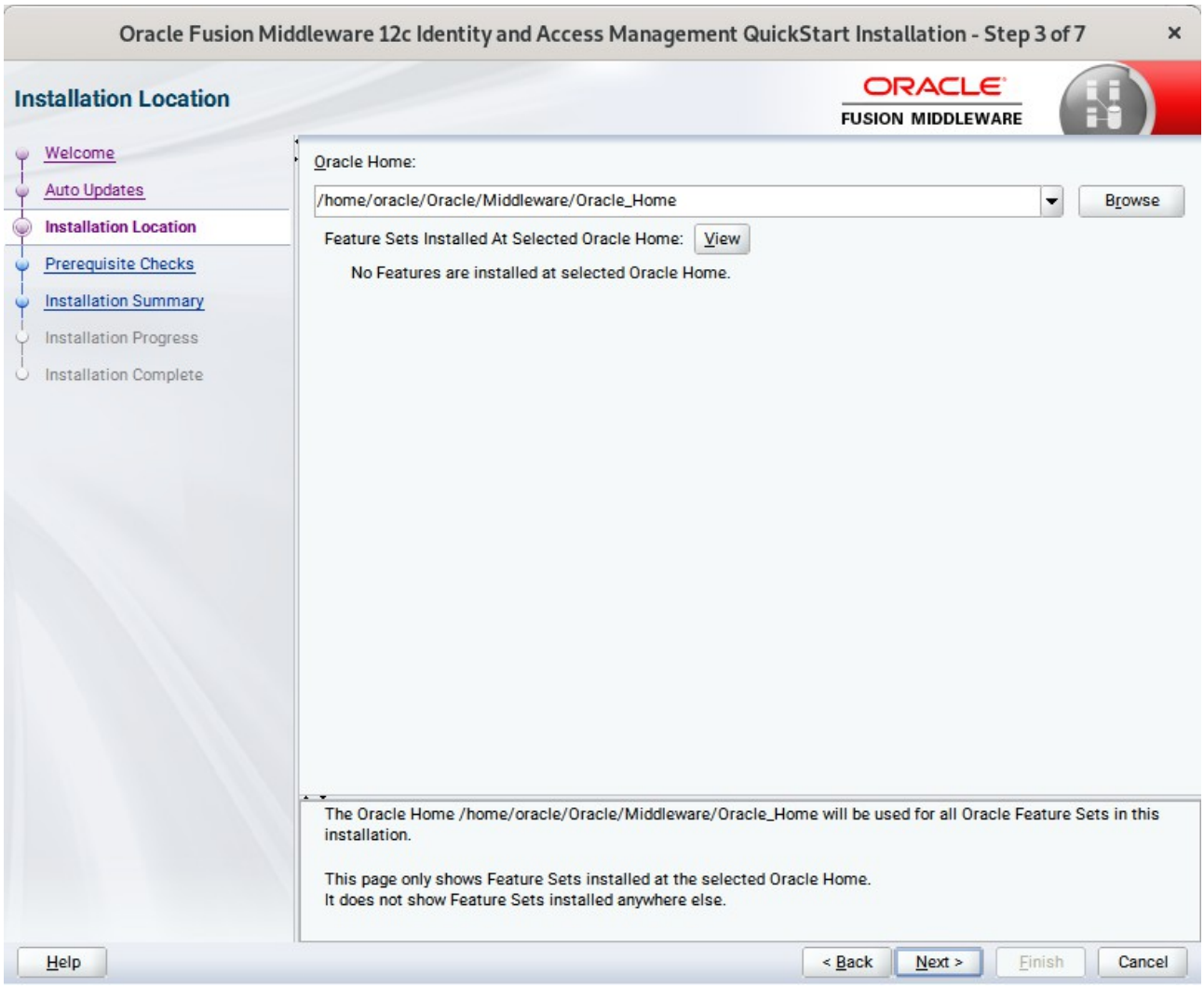
This page welcomes you to the installation. Click **Next** to continue.

3). The **Auto Updates** page appears.



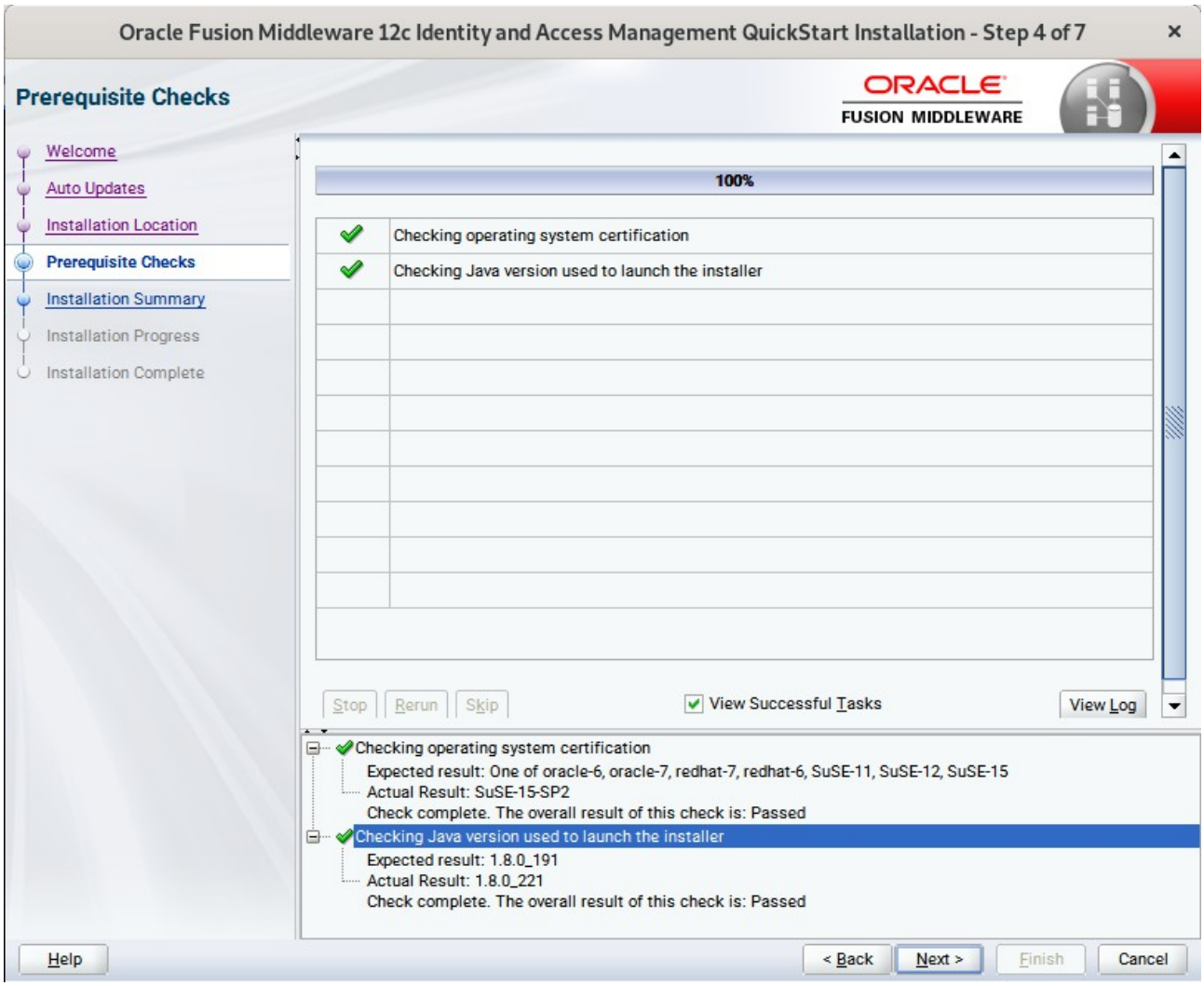
This screen helps to quickly and easily search for the latest software updates, including important security updates, via your My Oracle Support account. Make your choices, then click **Next** to continue.

4). The **Installation Location** page appears.



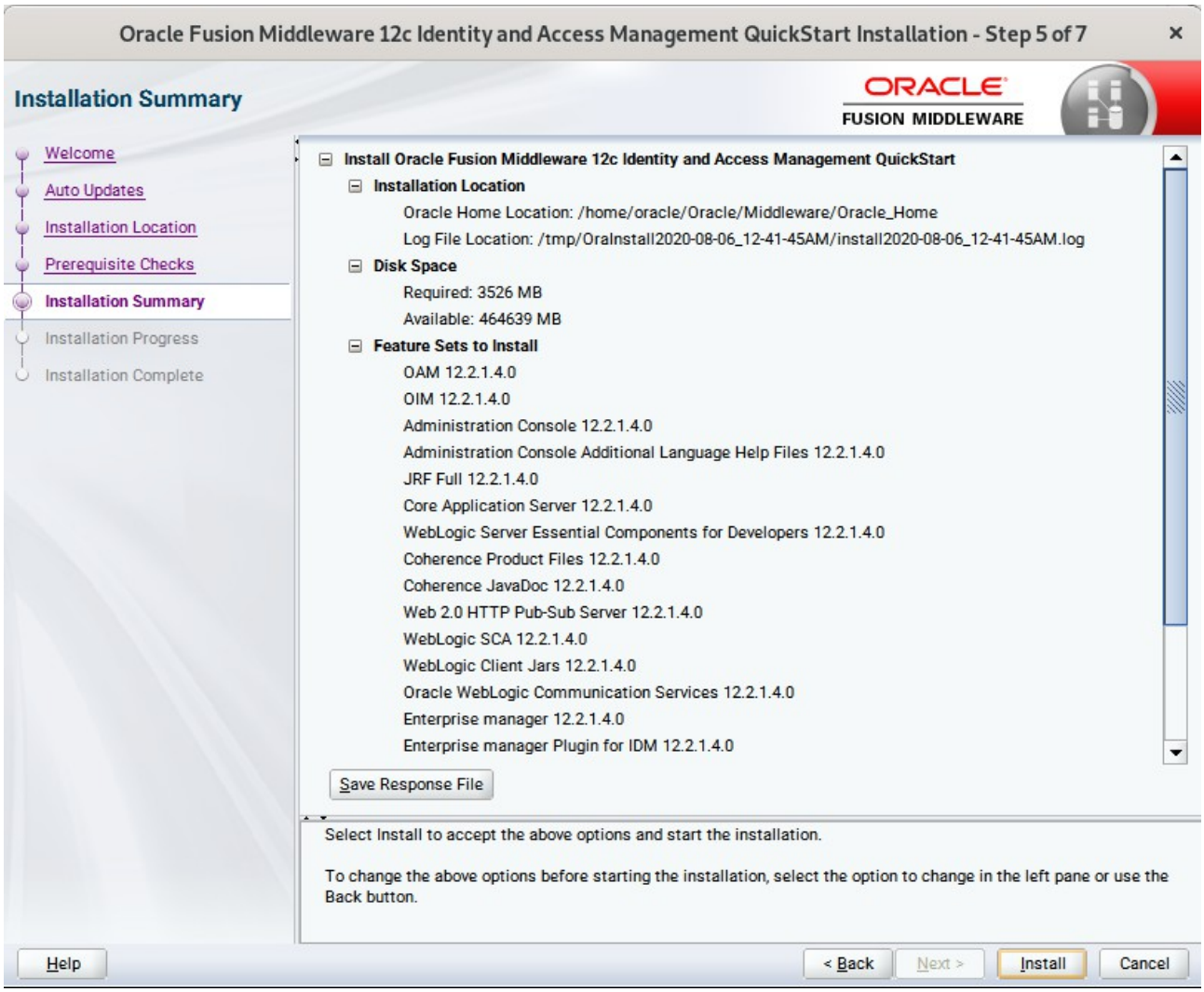
Specify the Oracle home location into which you want to install the product(s). Click **Next** to continue.

5). The **Prerequisites Checks** page appears.



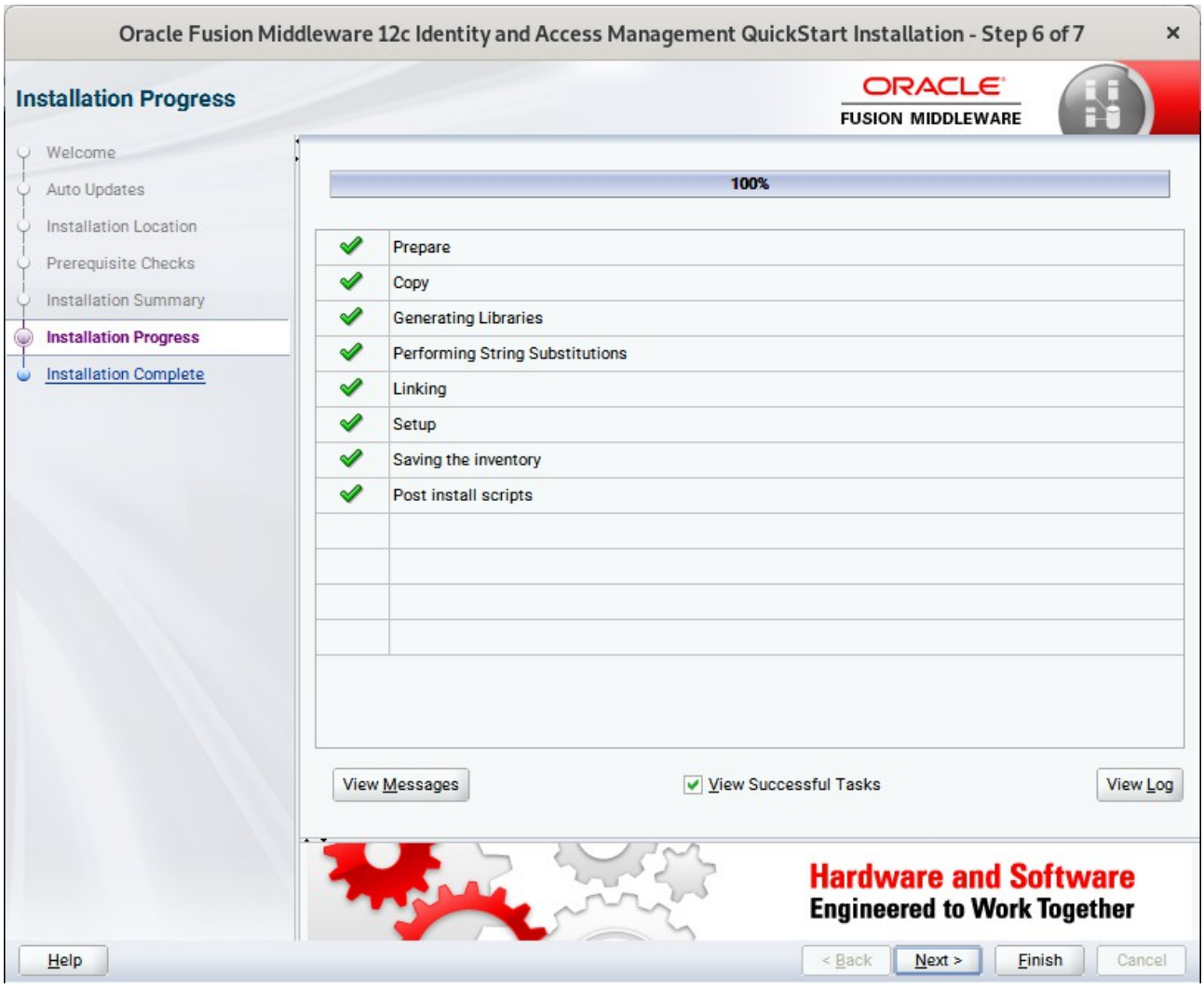
This pages shows you the progress of the system checking the prerequisites on your system prior to installation. If you are lacking any prerequisites, a message will appear telling you so. You do not need to take any actions on this page, though you can view the log from here. Click **Next** to continue.

6). The **Installation Summary** page appears.



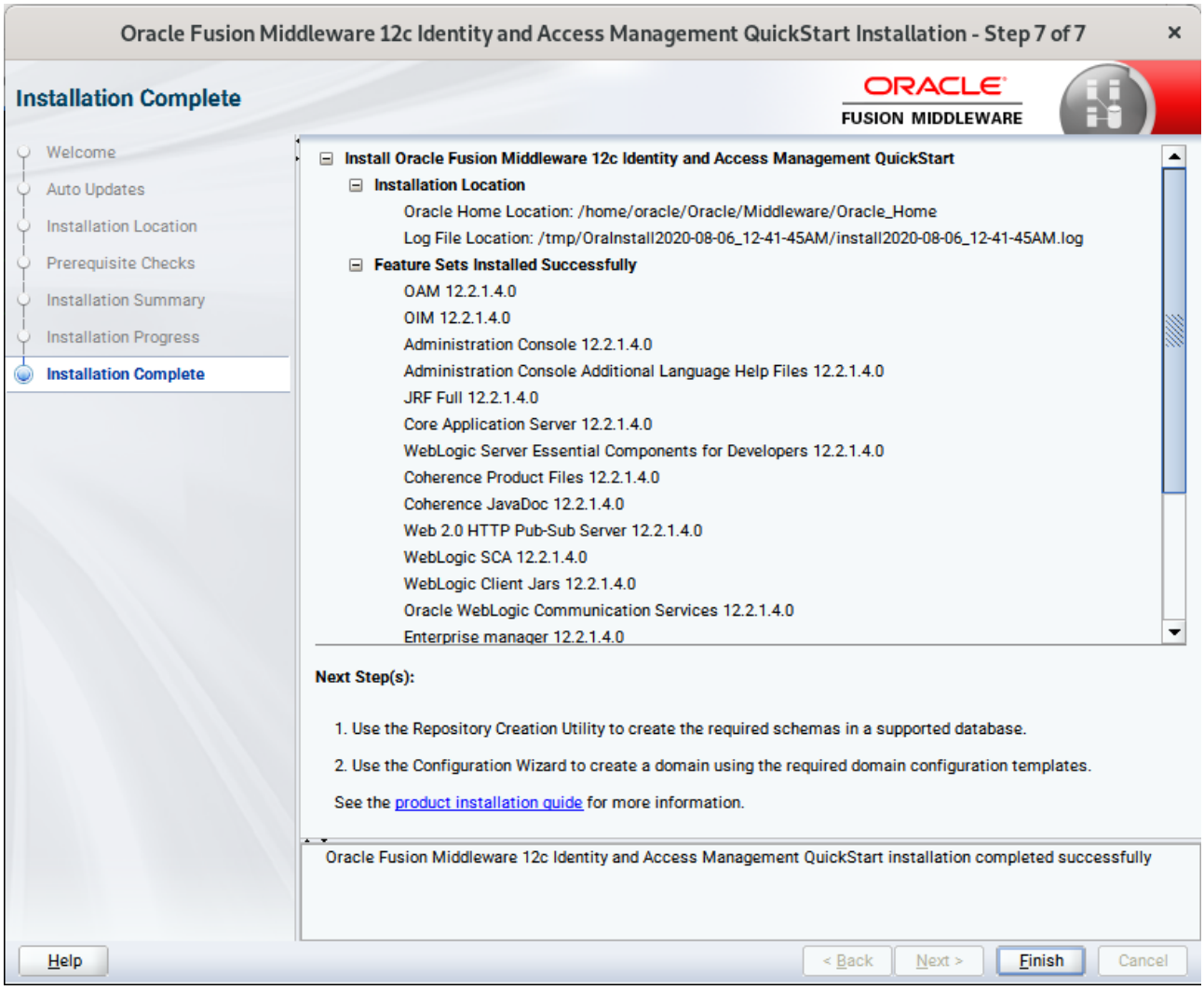
This page shows you what components and features are about to be installed. If you need to make changes, click **Back**, otherwise, click **Install** to start the installation.

7). The **Installation Progress** page appears.



This page shows you the progress of the installation, and will warn you if there are any problems.You can view messages and logs from this page, but typically no action is required here. When progress is complete, click **Next** (go to a Summary page). Alternatively, you can click **Finish**.

8). If you clicked **Next**, the **Installation Complete** page appears, showing you the components that have been installed.



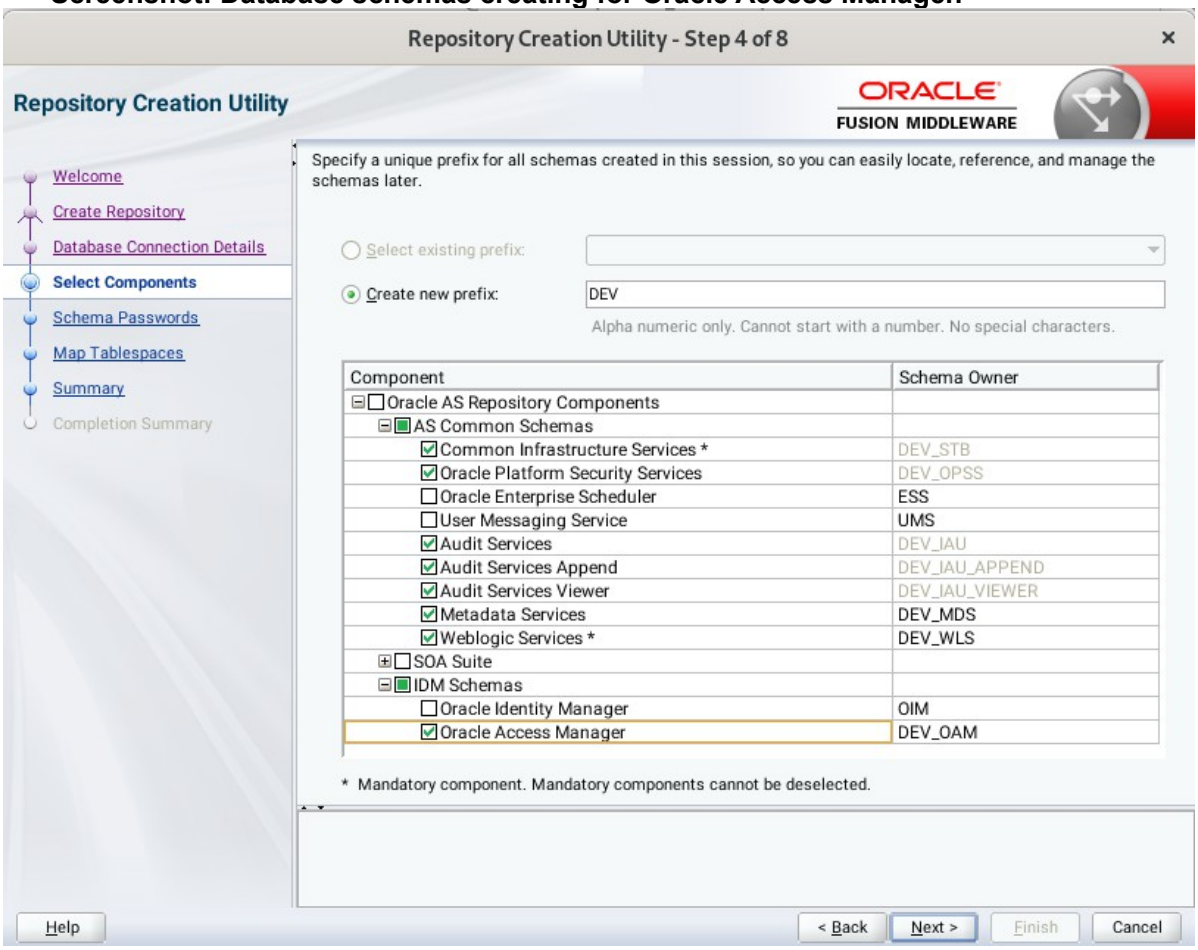
This screen displays the Installation Location and the Feature Sets that are installed. Review this information and click **Finish** to close the installer.

2. Configuring the Oracle Access Manager Domain

2-1. Creating Database Schema through Repository Creation Utility for OAM.

Repository Creation Utility (RCU) is available with the Oracle Fusion Middleware Infrastructure 12c distribution. Run **$FMW_HOME/oracle_common/bin/rcu** and create required database schemas for Oracle Access Manager.

Screenshot: Database schemas creating for Oracle Access Manager.



Select the **Create new prefix** radio button and specify a custom prefix(such as DEV). Select the **Oracle Access Manager** schema, this action automatically selects the schemas as dependencies, and ensure the schema creation is successful.

2-2. Configuring a Domain for Oracle Access Manager(OAM) using the Config Wizard

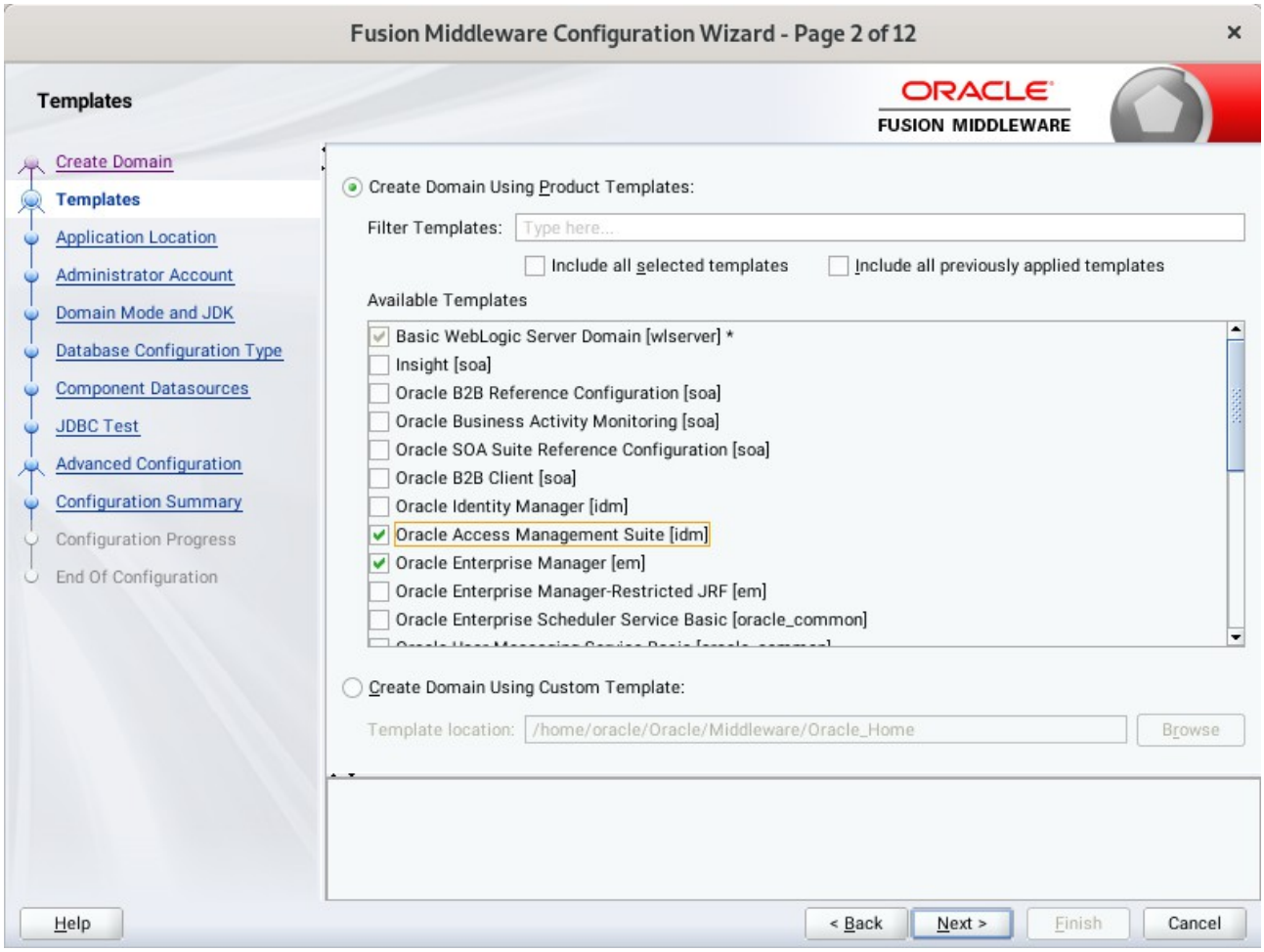
In order to complete the configuration. Run the config wizard using **config.sh** located in the **ORACLE_HOME/oracle_common/common/bin** directory.

Follow these steps:

1). On the Configuration Type screen, select **Create a new domain**, and enter the desired domain home path.

Click **Next** to continue.

2). The **Templates** screen appears.



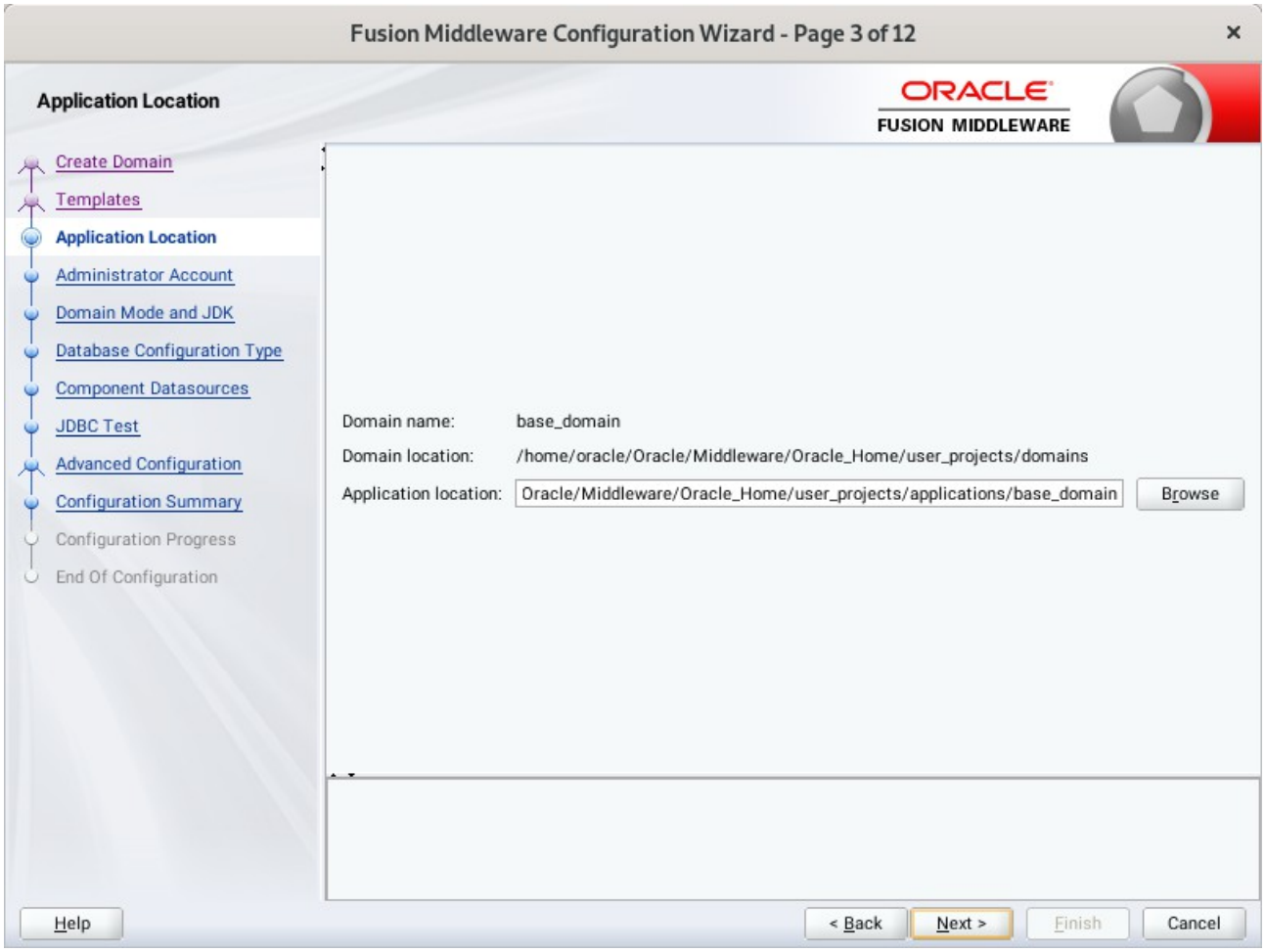
On the Templates screen, make sure **Create Domain Using Product Templates** is selected, then select the template **Oracle Access Management Suite [idm]**.

Selecting these templates automatically selects the following as dependencies:

- Oracle Enterprise Manager [em]
- Oracle JRF [oracle_common]
- WebLogic Coherence Cluster Extension [wlserver]

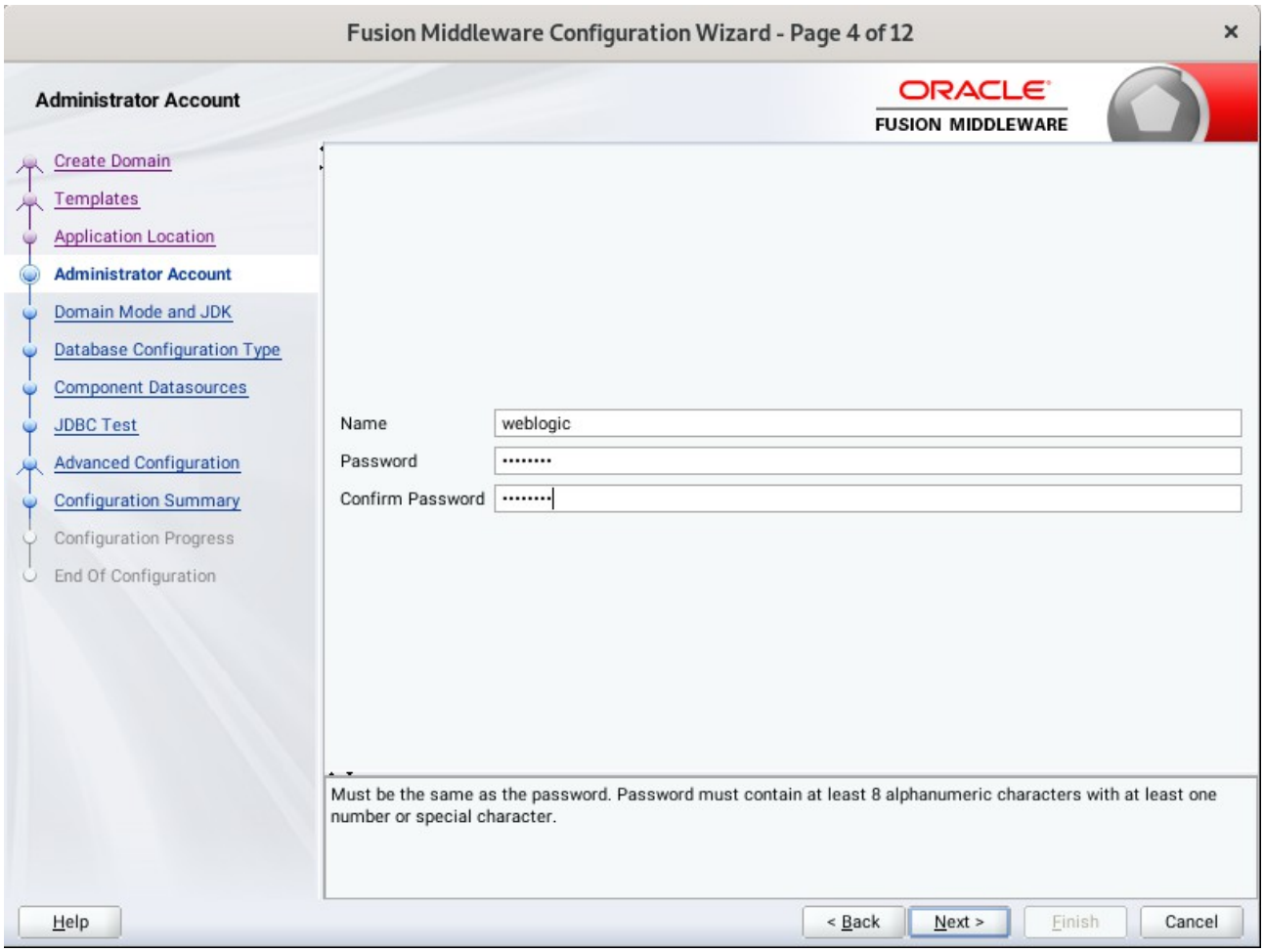
You can also select any of the Oracle products listed in the following table. You do not need to select all of these templates, and you can always run the configuration wizard again to add products to your domain later. Click **Next** to continue.

3). The **Application Location** screen appears.



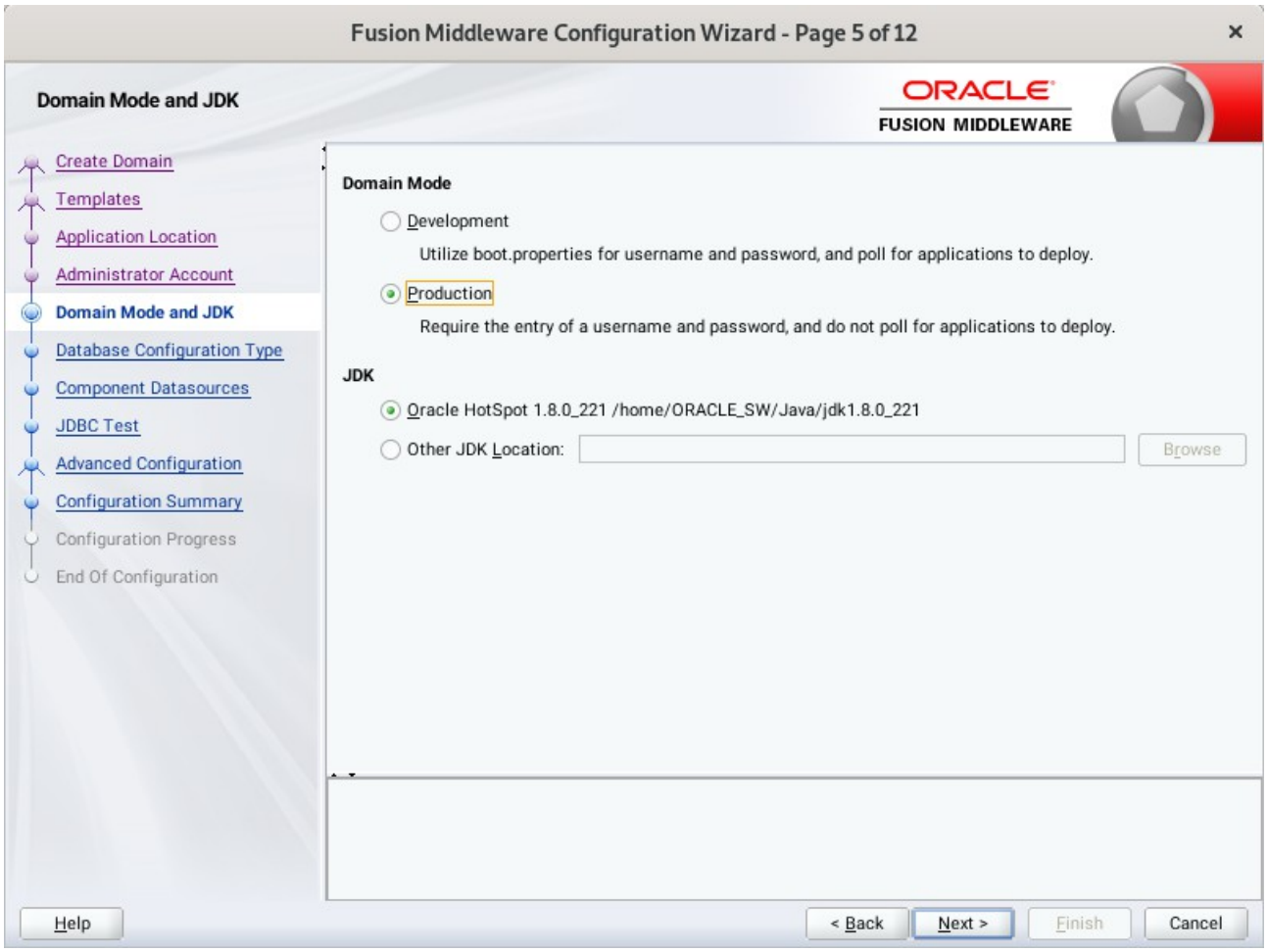
Keep the default value for Application location.Click **Next** to continue.

4). The **Administrator Account** screen appears.



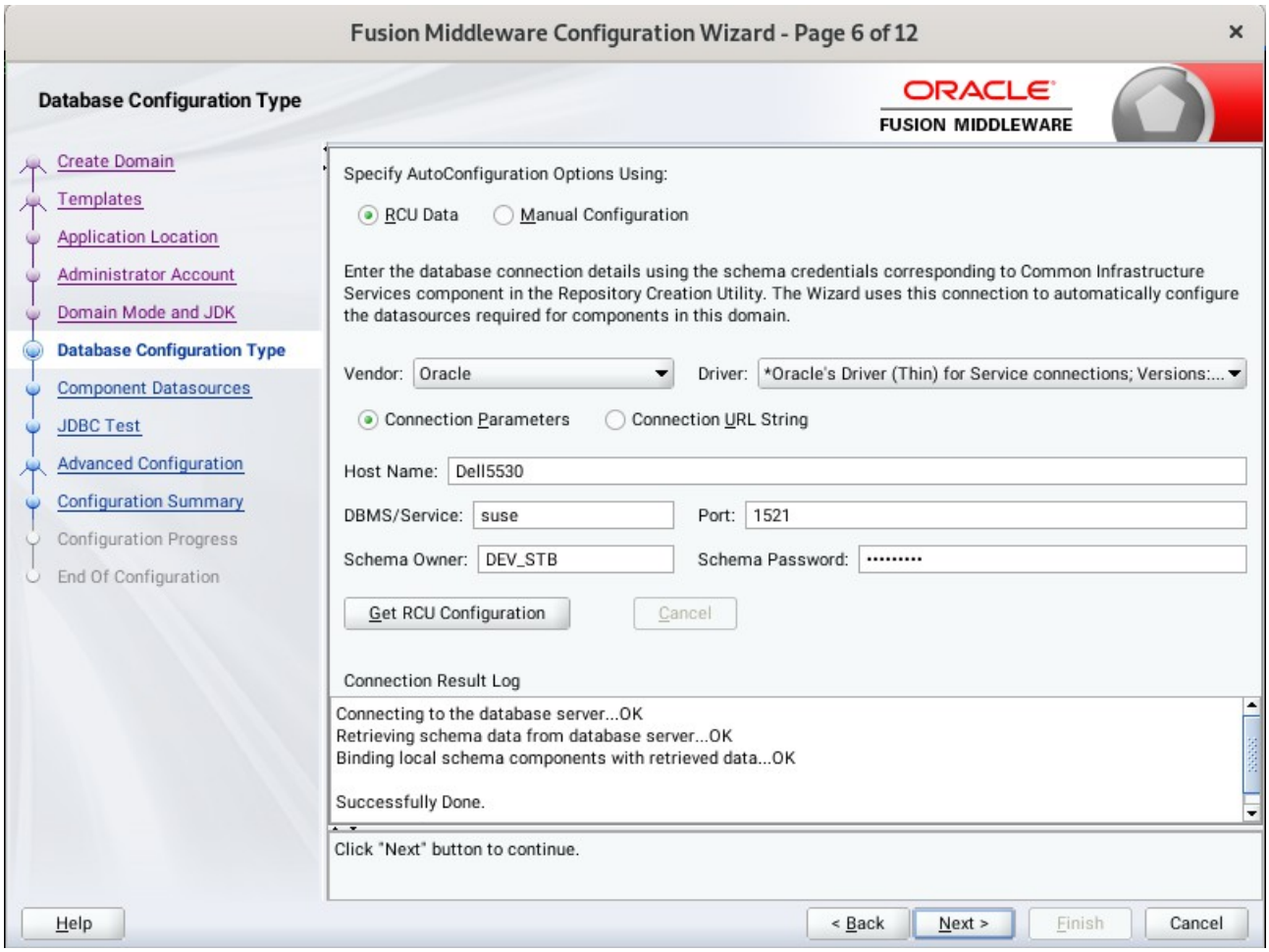
Enter the WebLogic Domain administration username and password. This information will be needed to access WebLogic Server Control and Fusion Middleware Control. Click **Next** to continue.

5). The **Domain Mode and JDK** screen appears.



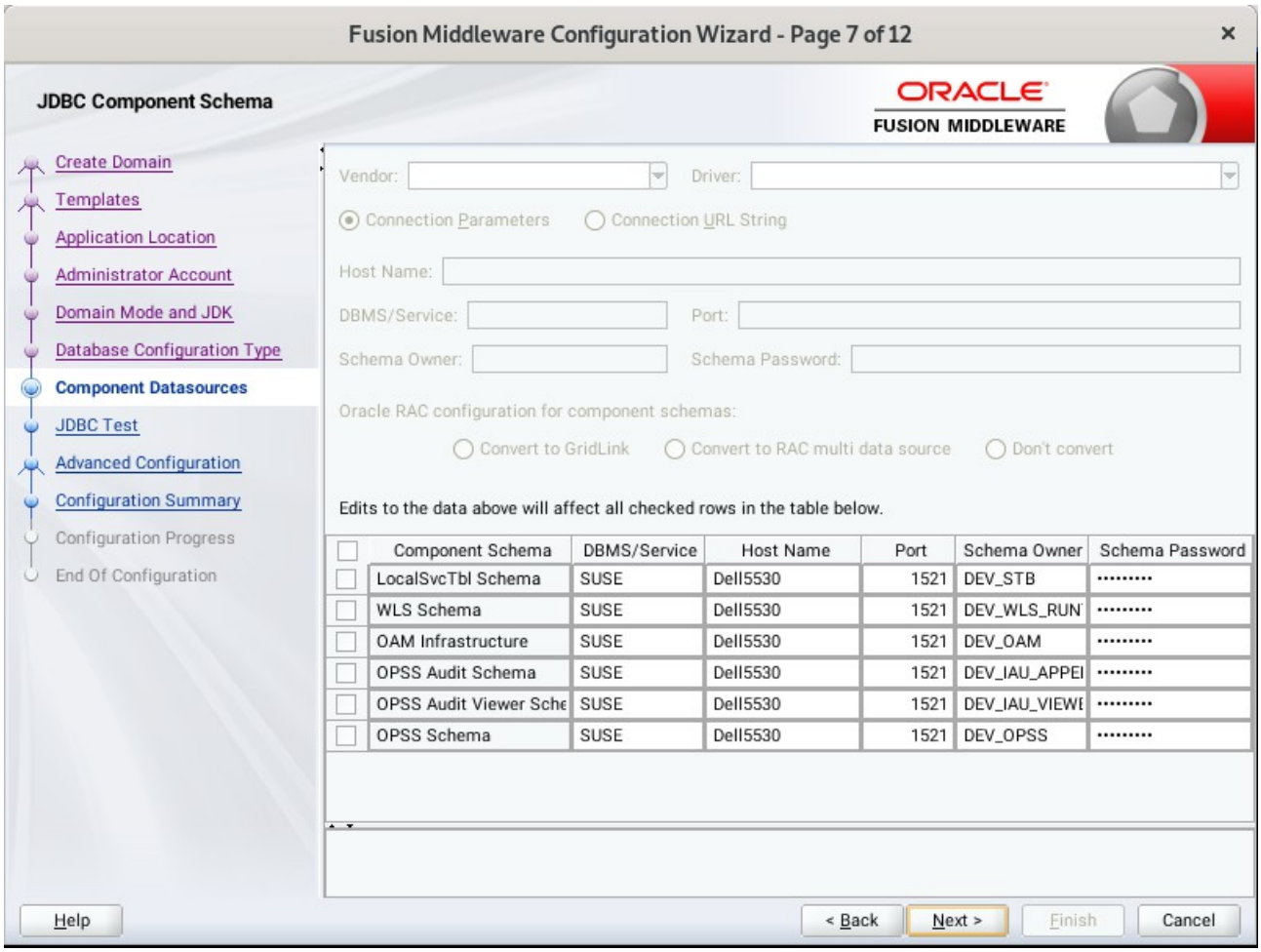
Select **Production** in the **Domain Mode** field and select the **Oracle HotSpot JDK** in the **JDK** field. Click **Next** to continue.

6). The **Database Configuration Type** screen appears.



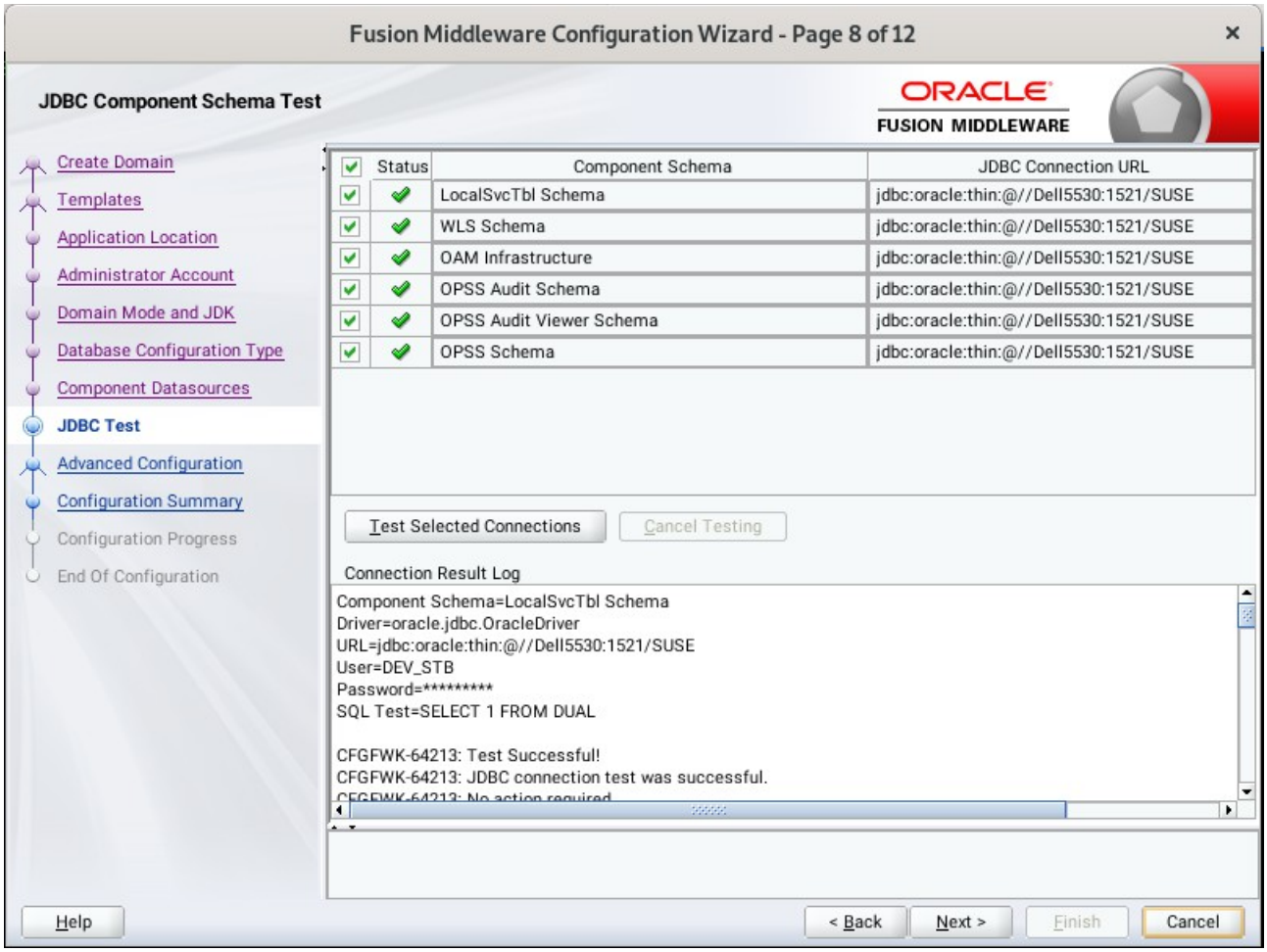
Select **RCU Data** to activate the fields. The **RCU Data** option instructs the Configuration Wizard to connect to the database and Service Table (STB) schema to automatically retrieve schema information for the schemas needed to configure the domain. Enter the RCU DB connection information, then click **Get RCU Configuration**. You should receive a success message. Click **Next** to continue.

7). The **JDBC Component Schema** screen appears.



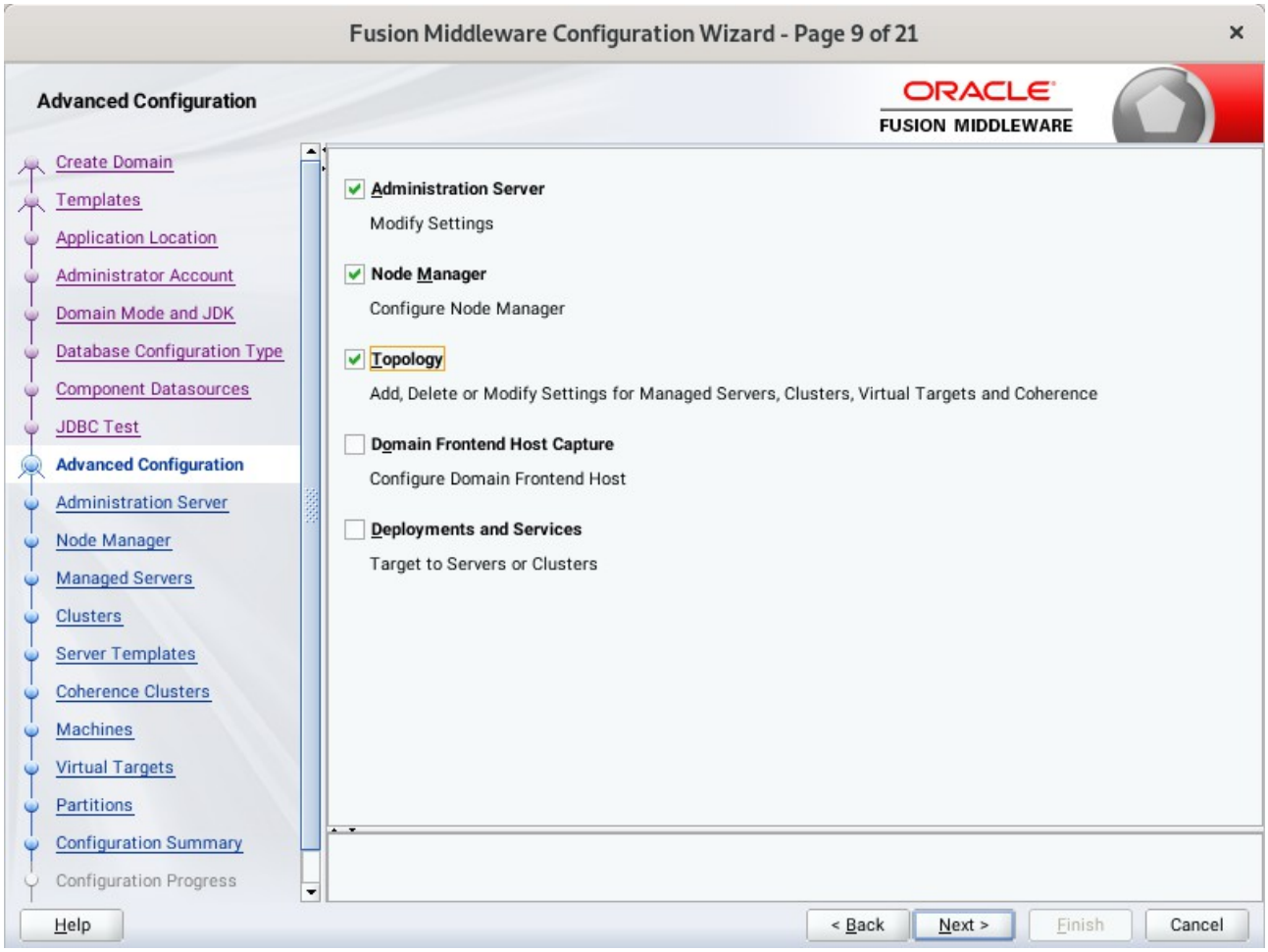
Our instructions assume each Repository schema uses the same password. If not, enter the correct schema passwords. Click **Next** to continue.

8). The **JDBC Component Schema Test** screen appears.



The tests are run and the results given. Ensure all test results are successful.Click **Next** to continue.

9). The **Advanced Configuration** screen appears.

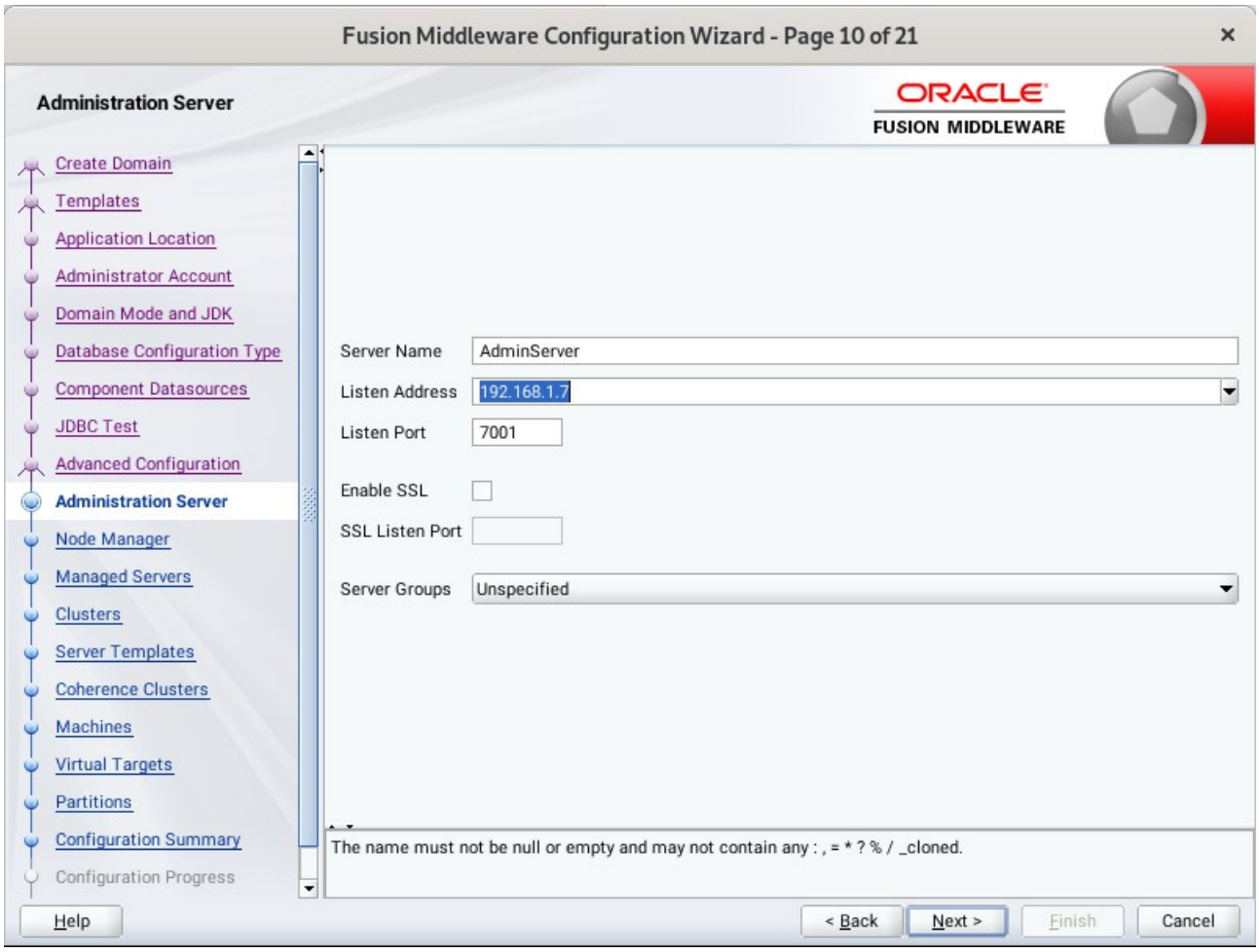


On the Advanced Configuration screen, select:

- Administration Server
- Node Manager
- Topology

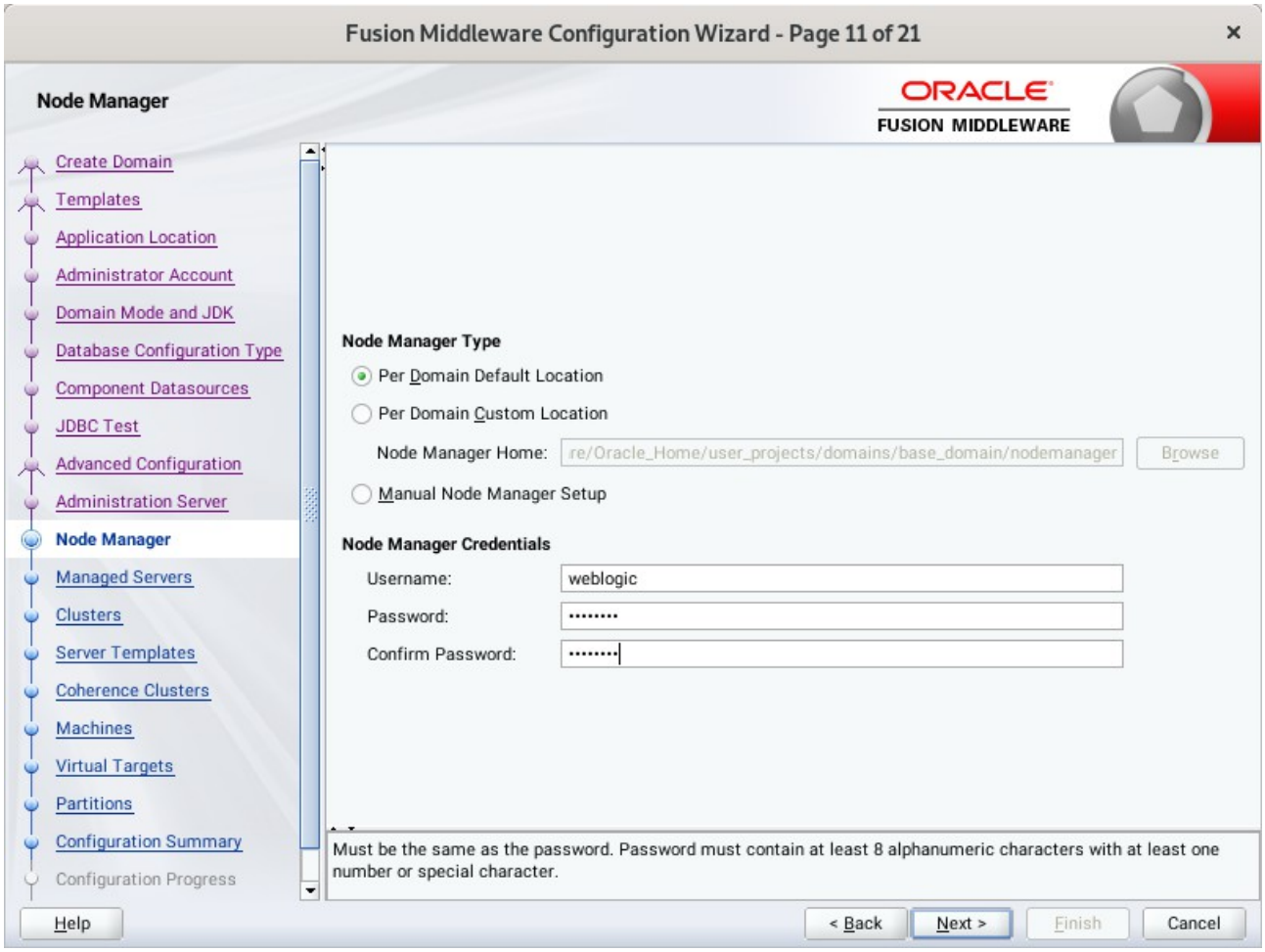
Then, click **Next** to continue.

10). The **Administration Server** screen appears.



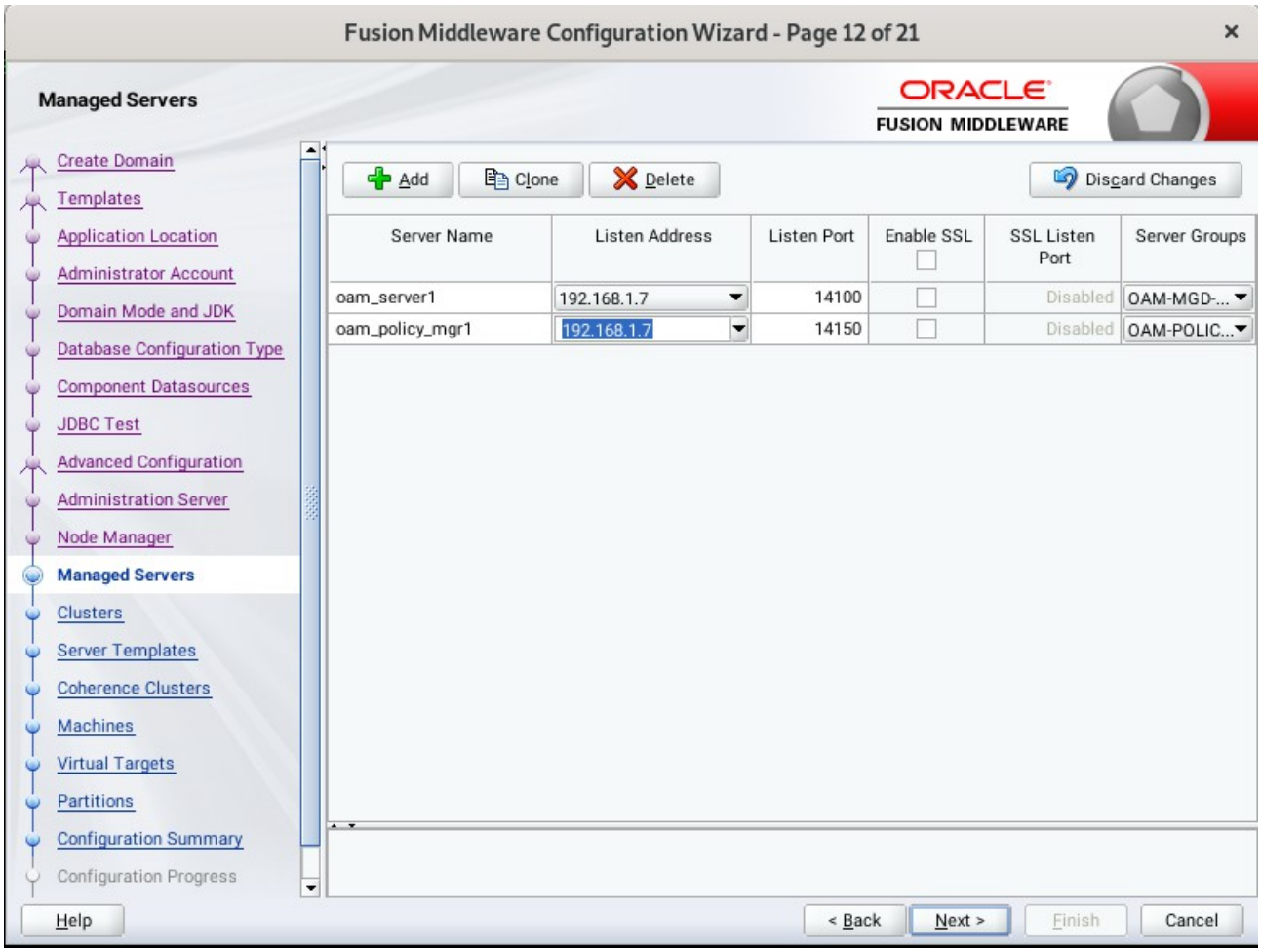
Use the **Administration Server** screen to select the IP address of the host. Select the drop-down list next to **Listen Address** and select the IP address of the host where the Administration Server will reside, or use the system name or DNS name that maps to a single IP address. Click **Next** to continue.

11). Configuring **Node Manager** screen appears.



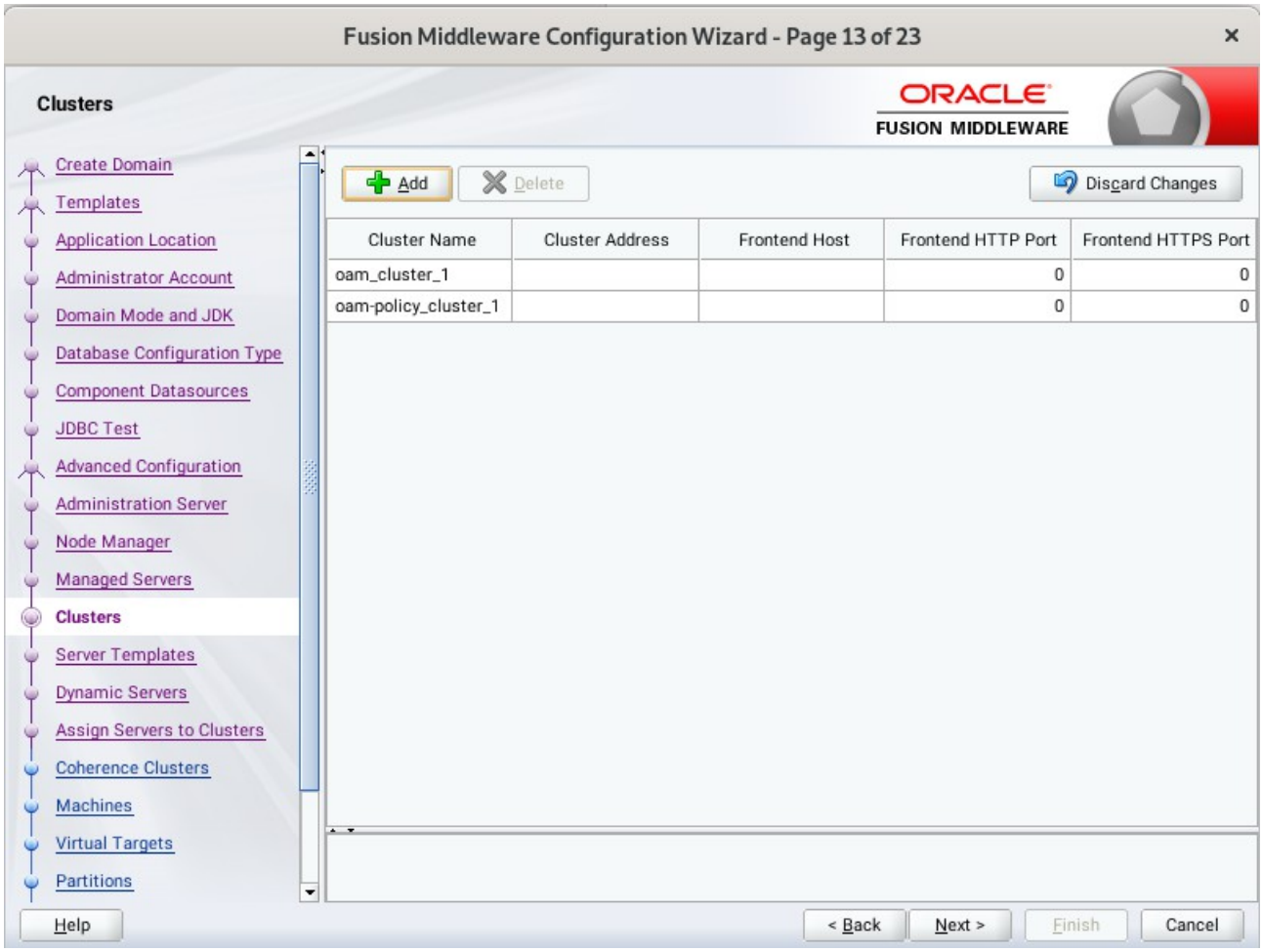
Select **Per Domain Default Location** as the Node Manager type, then specify Node Manager credentials. Click **Next** to continue.

12). The **Managed Servers** screen appears.



On the **Managed Servers** screen, new Managed Servers named: *oam_server1* and *oam_policy_mgr1* are automatically created. In the **Listen Address** drop-down list, select the IP address of the host on which the Managed Server will reside or use the system name or DNS name that maps to a single IP address. The default **Server Groups** have already been selected for each server. Click **Next** to continue.

13). The **Clusters** screen appears.



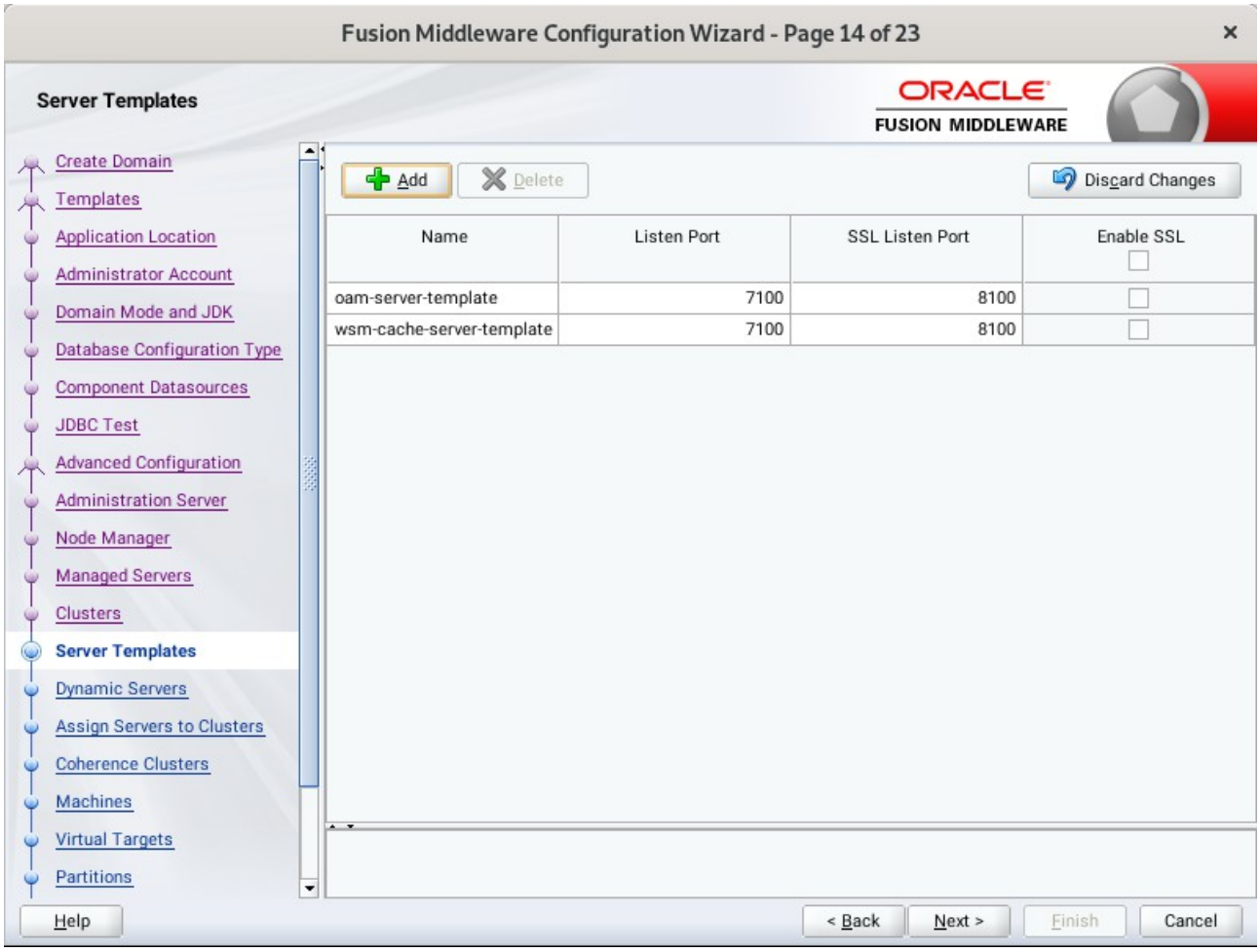
On the Clusters screen:

1. Click **Add**.
2. Specify *oam_cluster_1* in the Cluster Name field.
3. Leave the Cluster Address field blank.
4. Repeat these steps to create *oam-policy_cluster_1* cluster.

Click **Next** to continue.

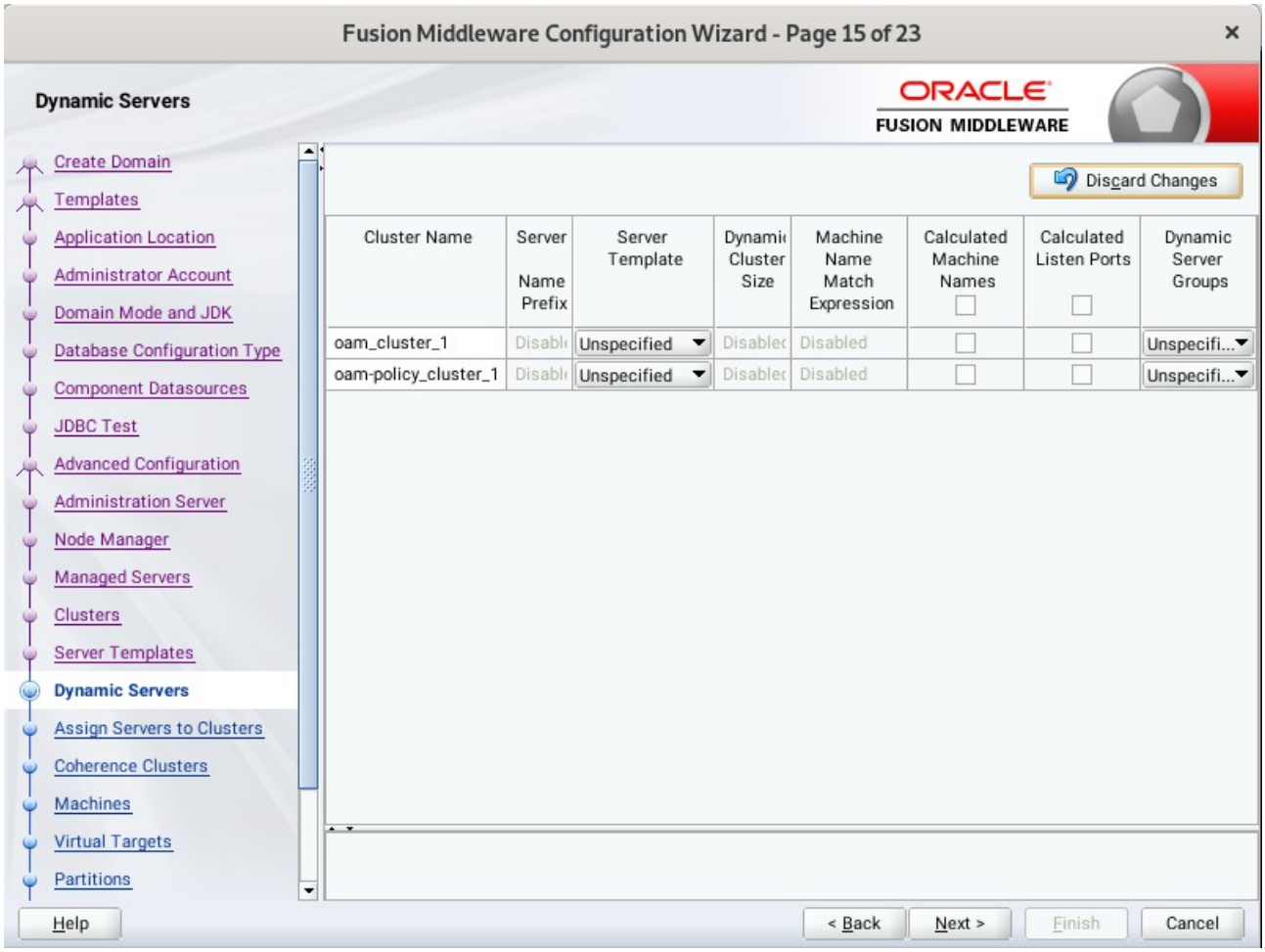
(**Note:** Configuring a non-clustered setup on a single node, skip this screen.)

14). The **Server templates** screep appears.



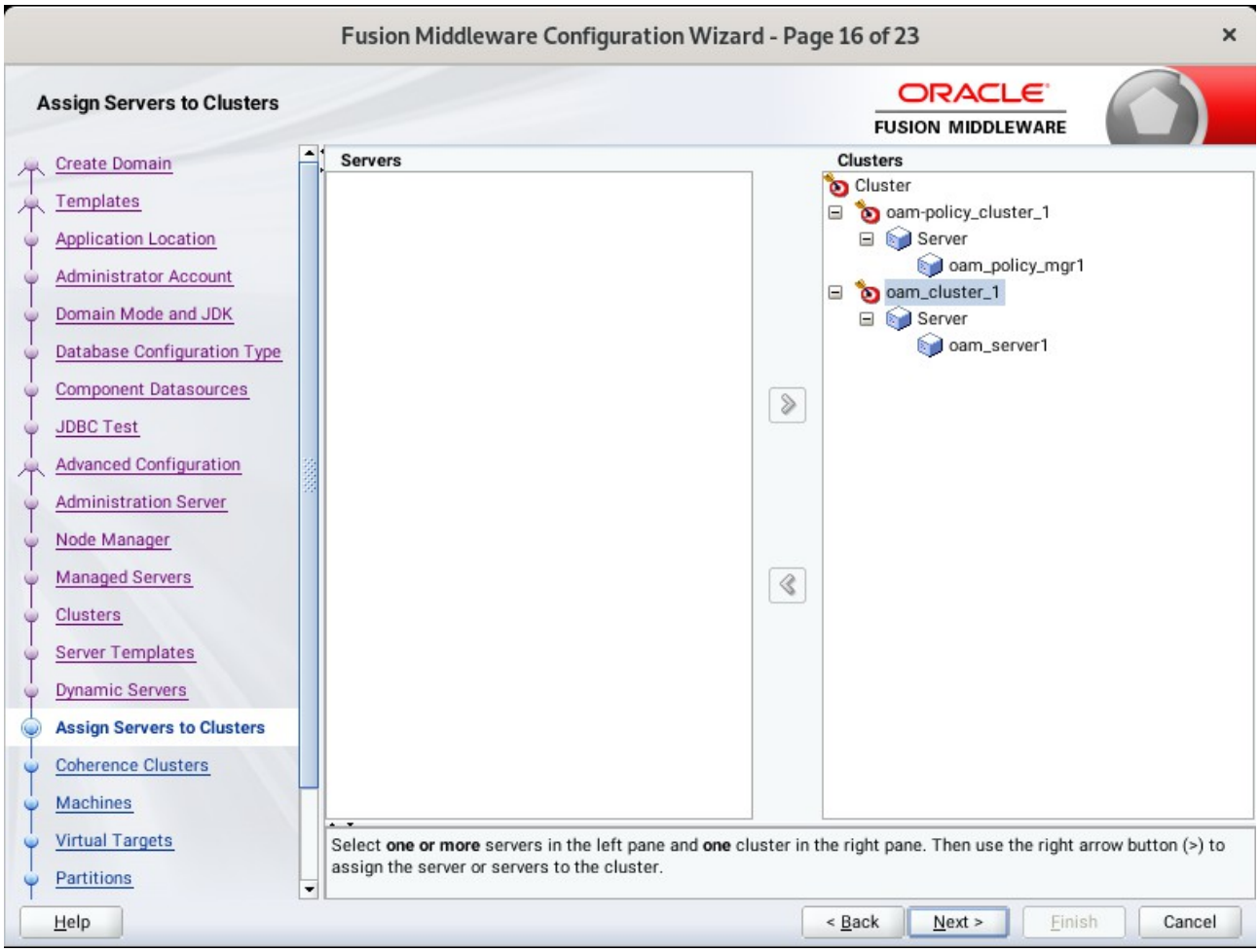
If you are creating dynamic clusters for a high availability setup, use the Server Templates screen to define one or more server templates for domain. To continue configuring the domain, click **Next**.

15). The **Dynamic Servers** screep appears.



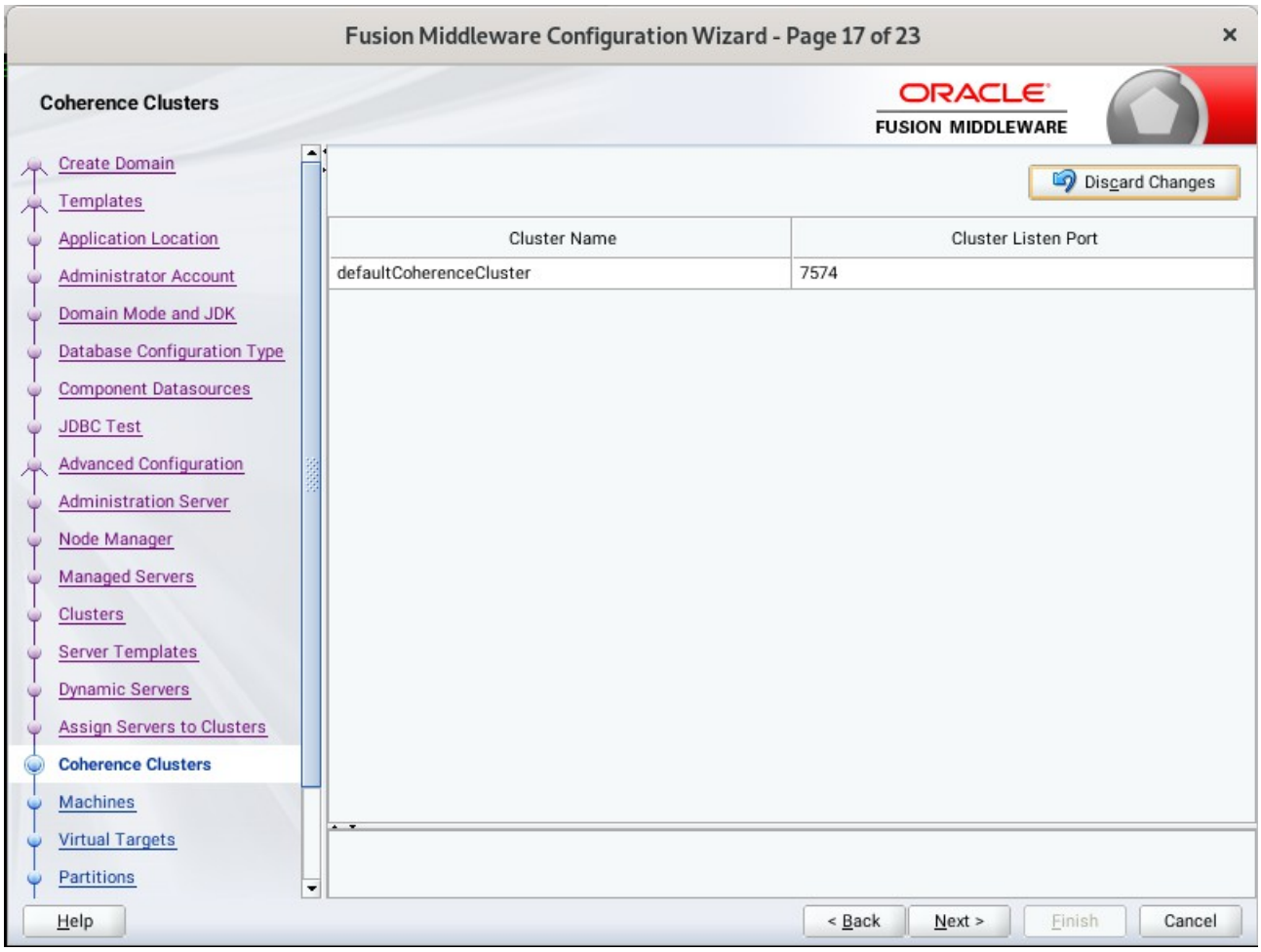
If you are creating dynamic clusters for a high availability setup, use the Dynamic Servers screen to configure the dynamic servers. If you are not configuring a dynamic cluster, click **Next** to continue configuring the domain.

16). The **Assign Servers to Clusters** screen appears.



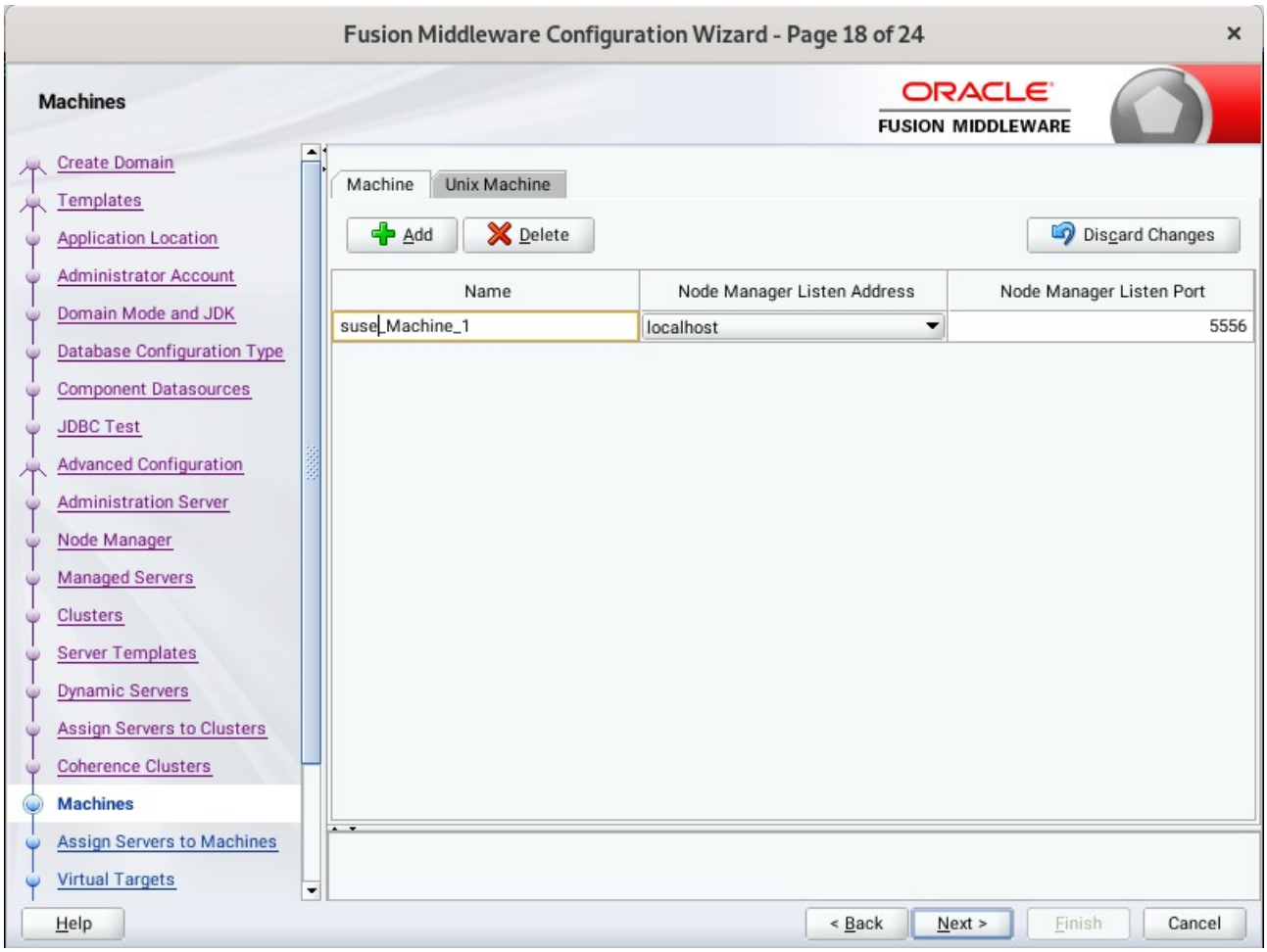
Use the **Assign Servers to Clusters** screen to assign Managed Servers to a new configured cluster. Click **Next** to continue.

17). The **Coherence Clusters** screen appears.



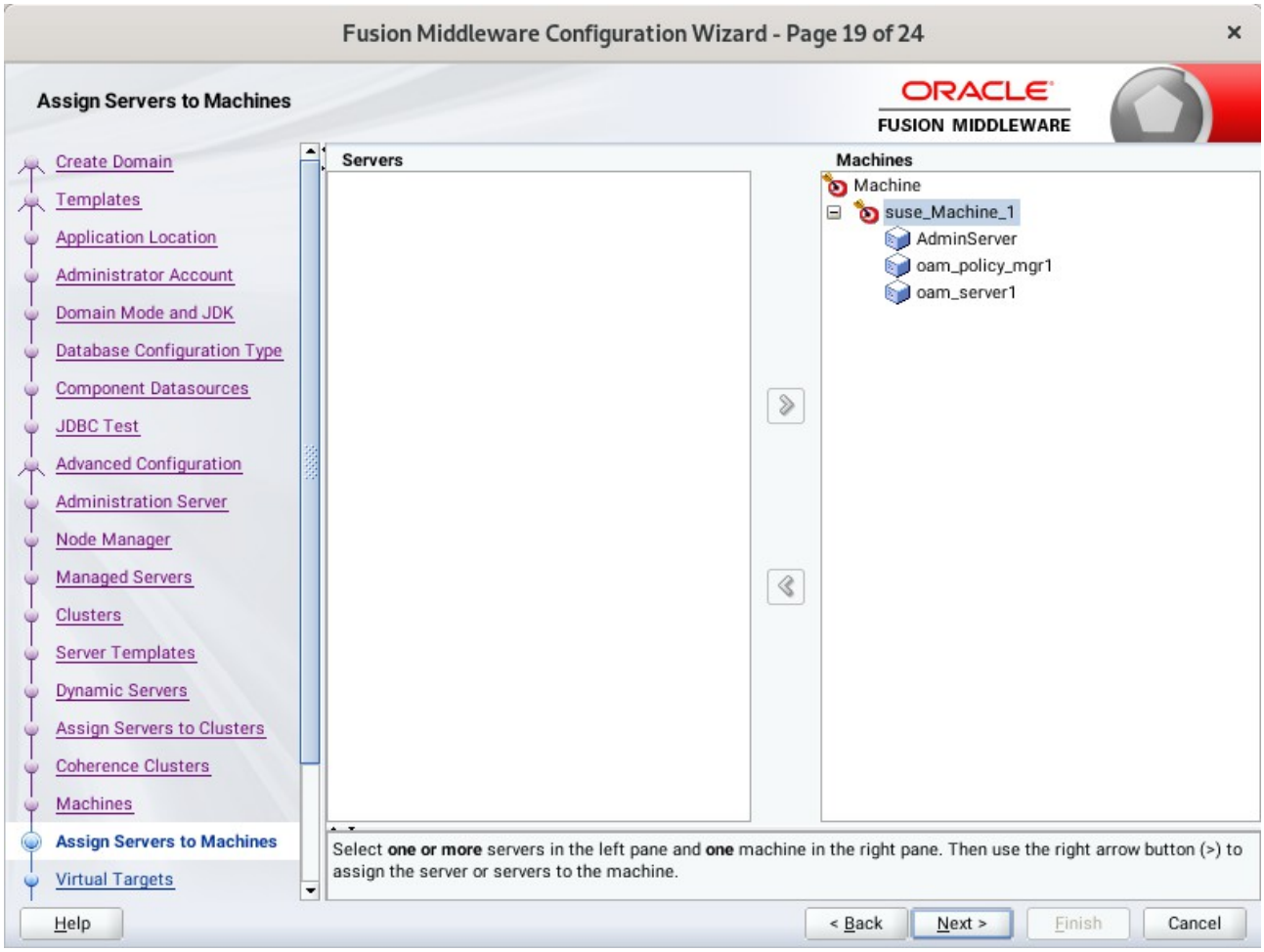
Leave the default port number as the Coherence cluster listen port. After configuration, the Coherence cluster is automatically added to the domain. Click **Next** to continue.

18). The **Machines** screen appears.



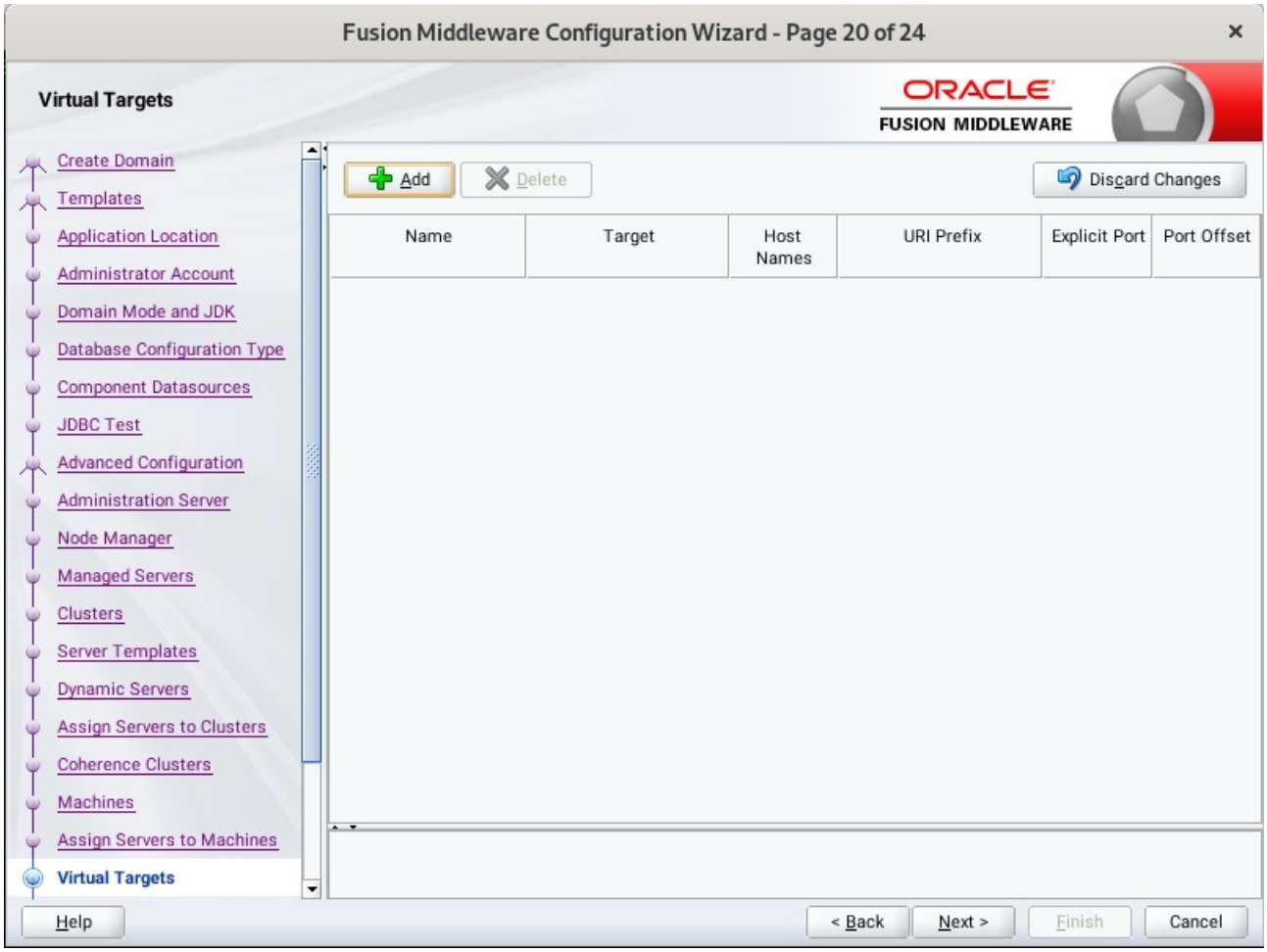
To create a new machine so that Node Manager can start and stop servers. Click **Next** to continue.

19). The **Assign Servers to Machines** screen appears.



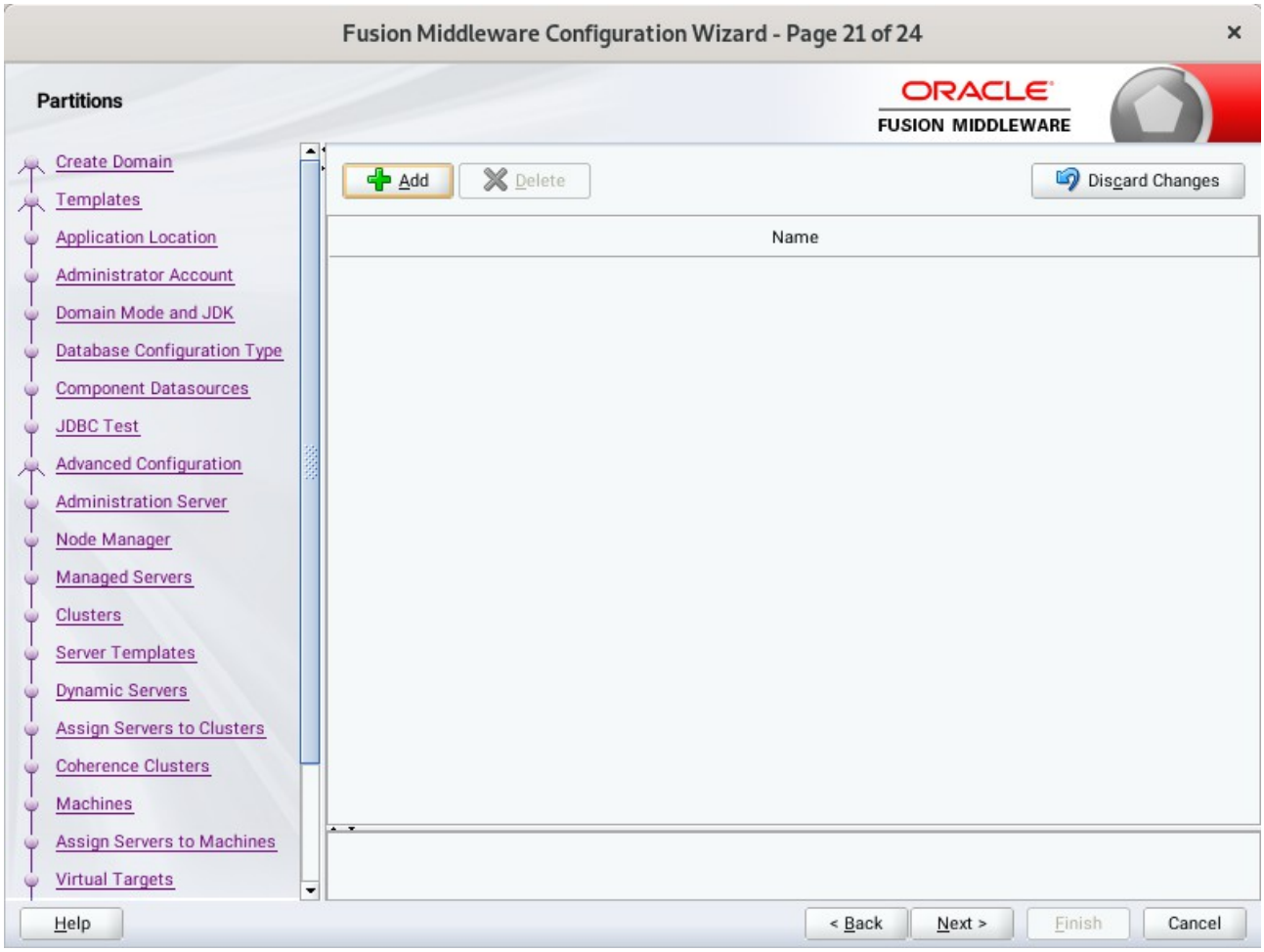
Use the **Assign Servers to Machines** screen to assign the Managed Servers to the new machine you just created. Click **Next** to continue.

20). The **Virtual Targets** screep appears.



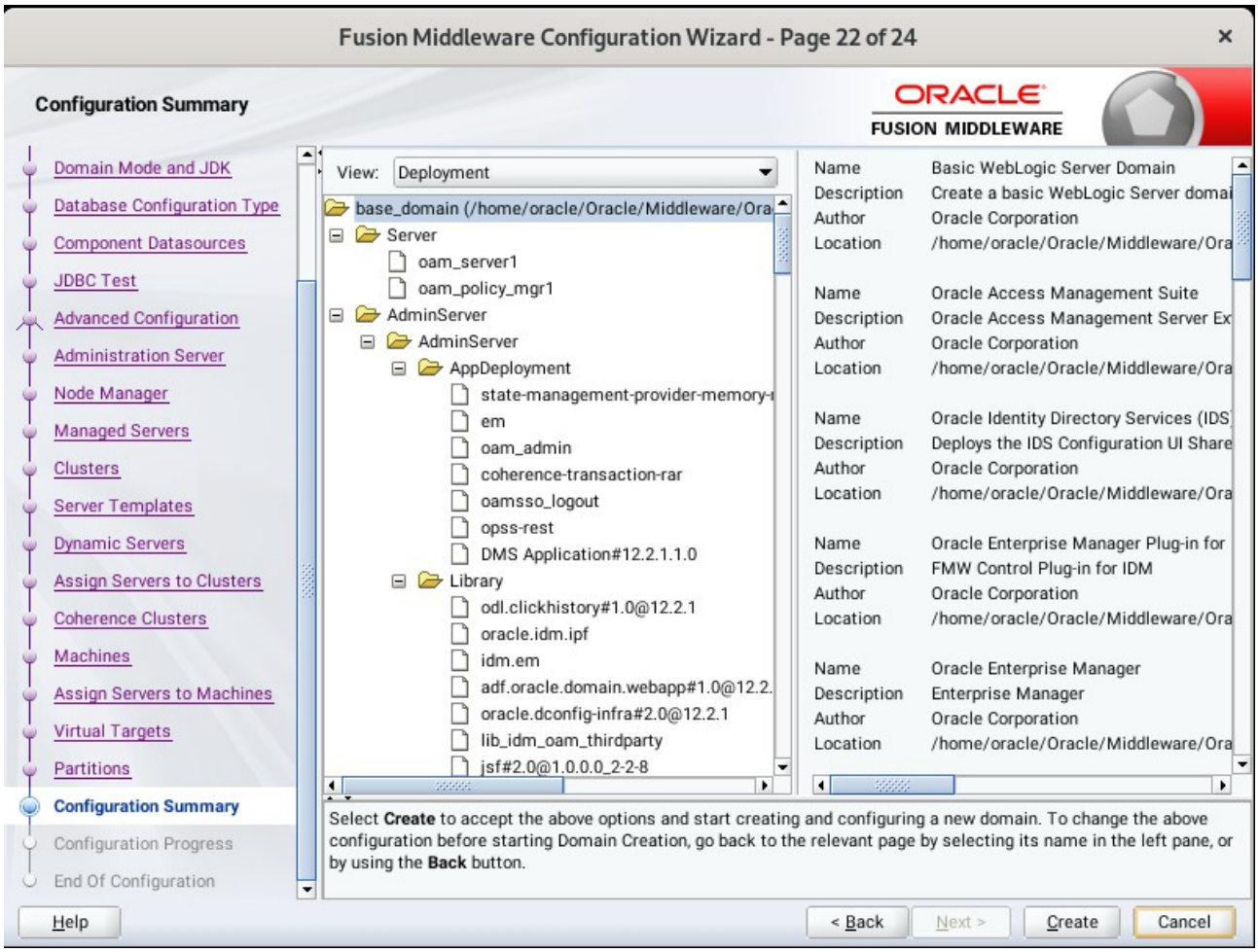
If you have a WebLogic Server Multitenant (MT) environment, you use the Virtual Targets screen to add or delete virtual targets. For this installation (not a WebLogic Server MT environment), you do not enter any values; just select **Next**.

21). The **Partitions** screep appears.



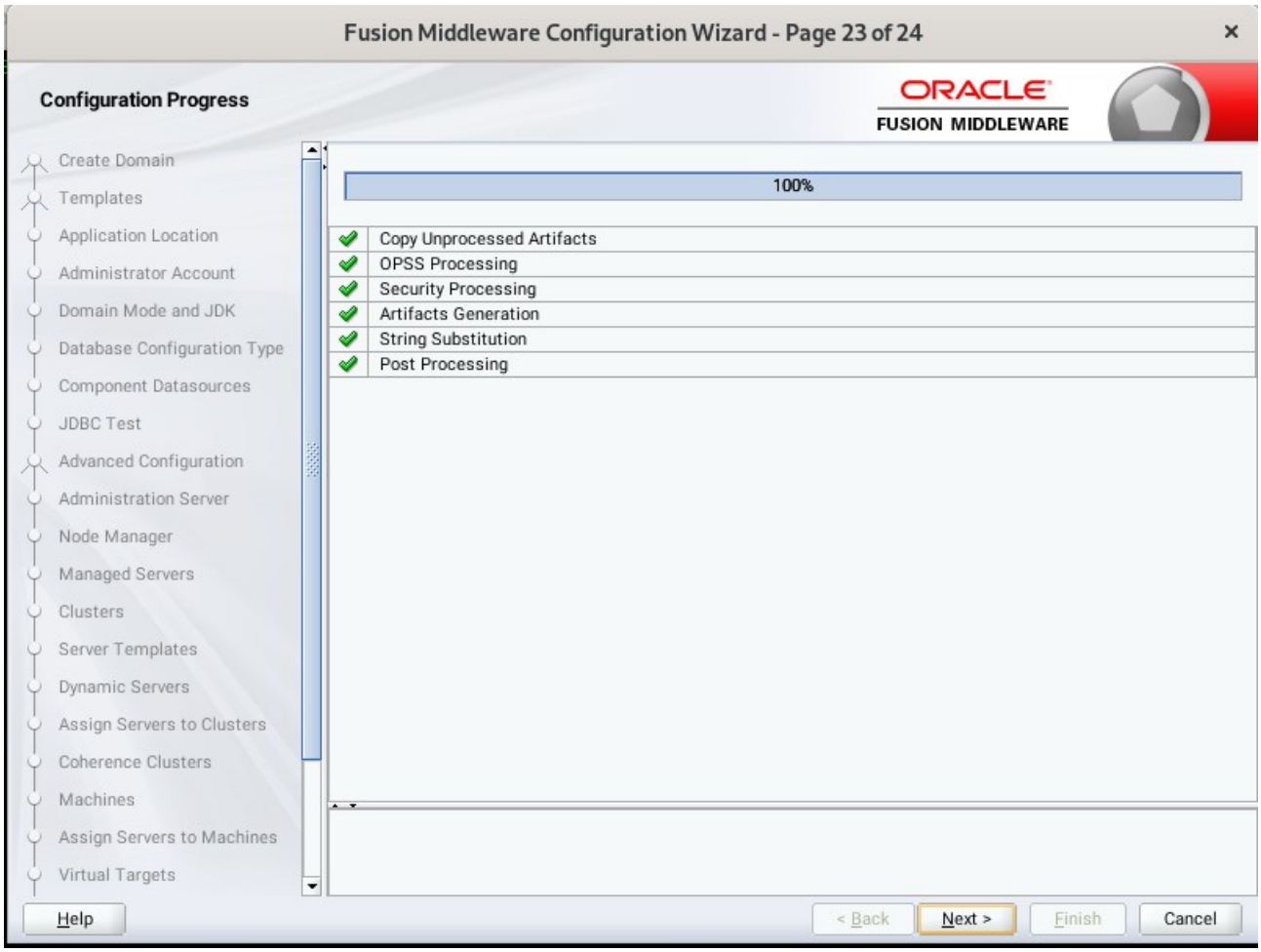
The Partitions screen is used to configure partitions for virtual targets in WebLogic Server Multitenant (MT) environments. Select **Next** without selecting any options.

22). The **Configuration Summary** screen appears.



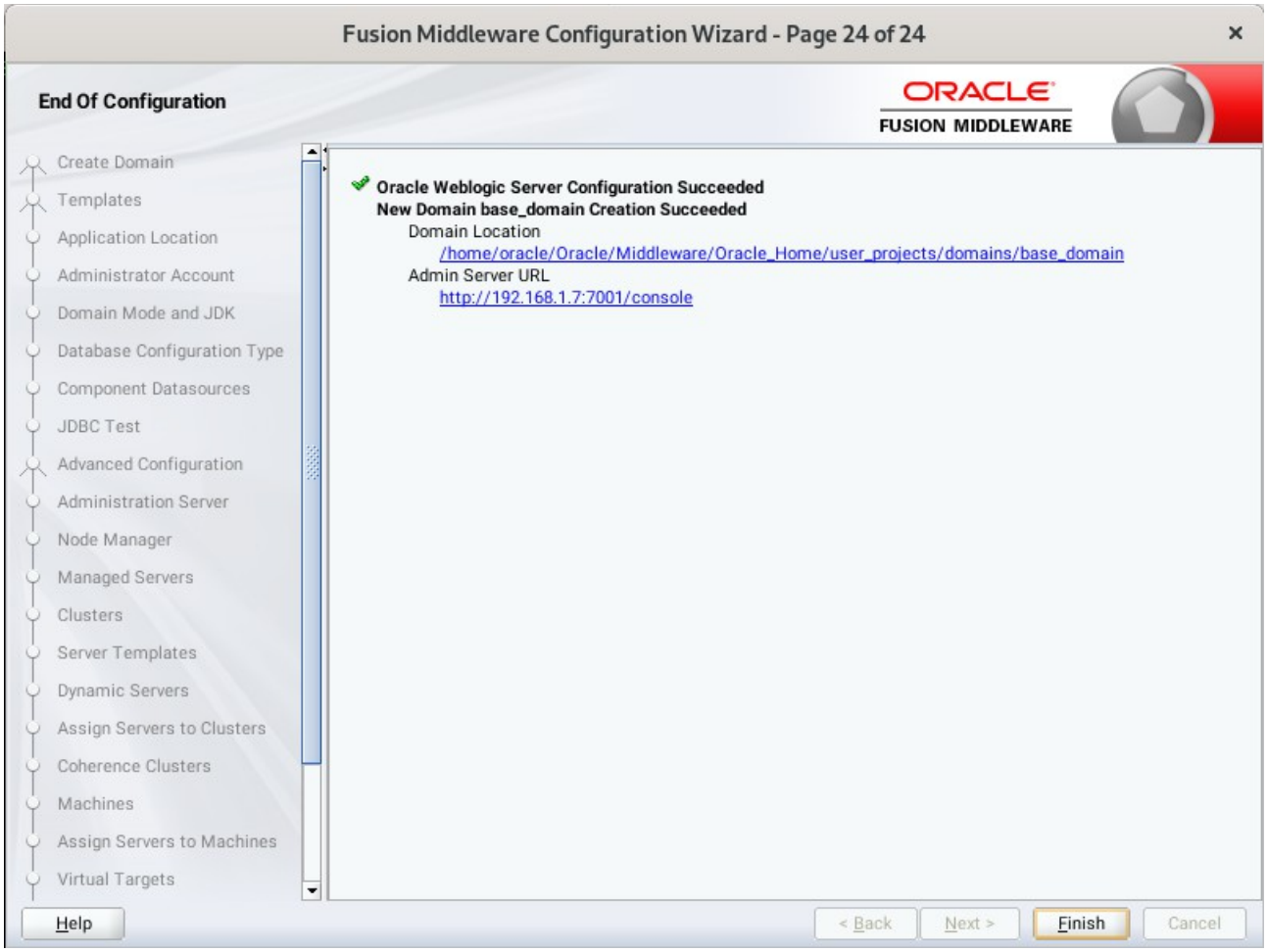
Select **Create** to accept the above options and start creating and configuring a new domain.

23). The **Configuration Progress** screen appears.



Wait for this part of the configuration to complete. Depending on the location and performance of the Repository database, this process may take a few minutes. After the domain successful created, click **Next** to continue.

24). The **End of Configuration** screen appears.



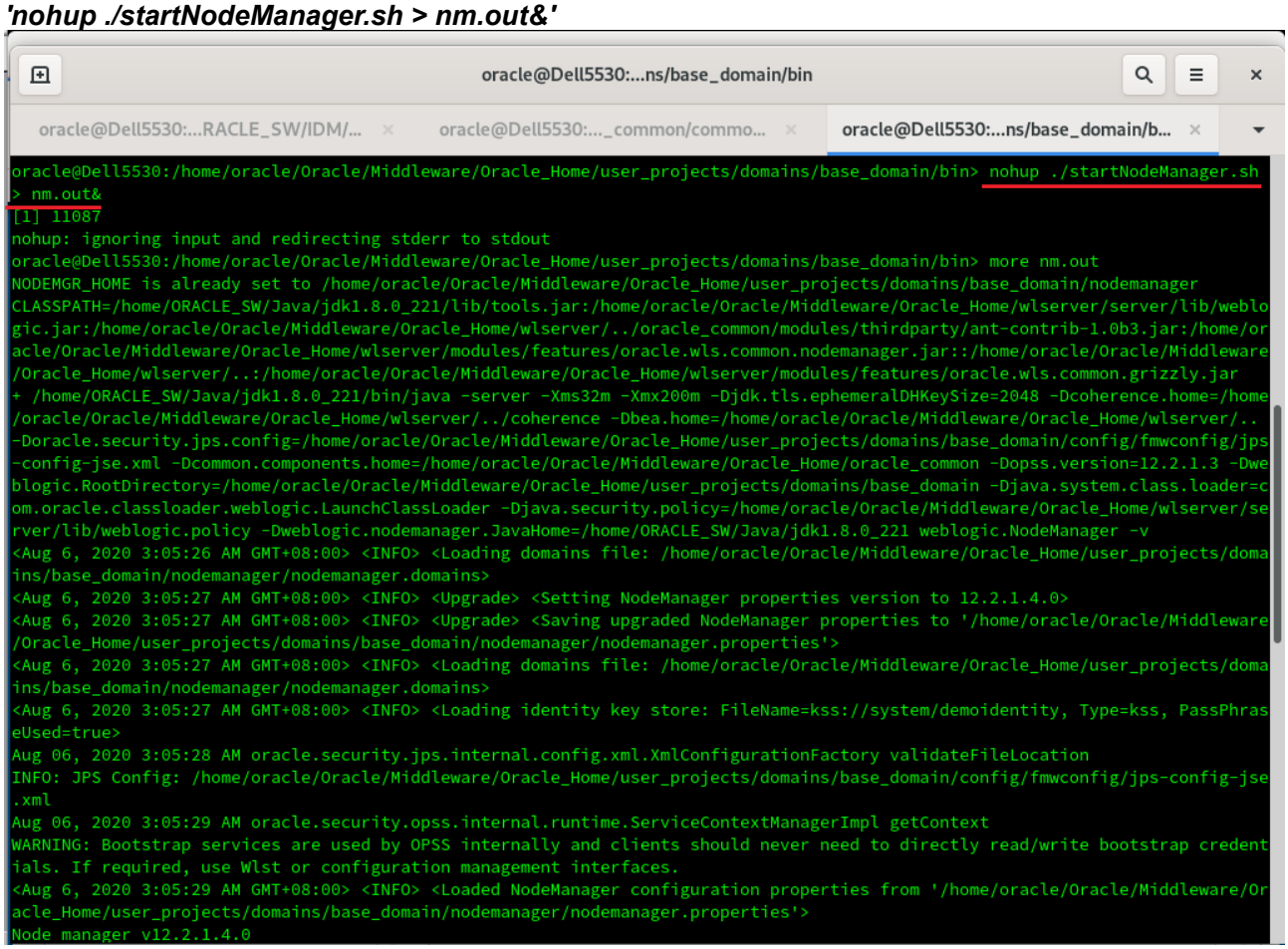
Once you see: "Oracle Weblogic Server Configuration Succeeded", record the '**Domain Location**' and '**Admin Server URL**', then click **Finish** to dismiss the Configuration Wizard.

3. Verifying Oracle Access Manager(OAM) Installation and Configuration

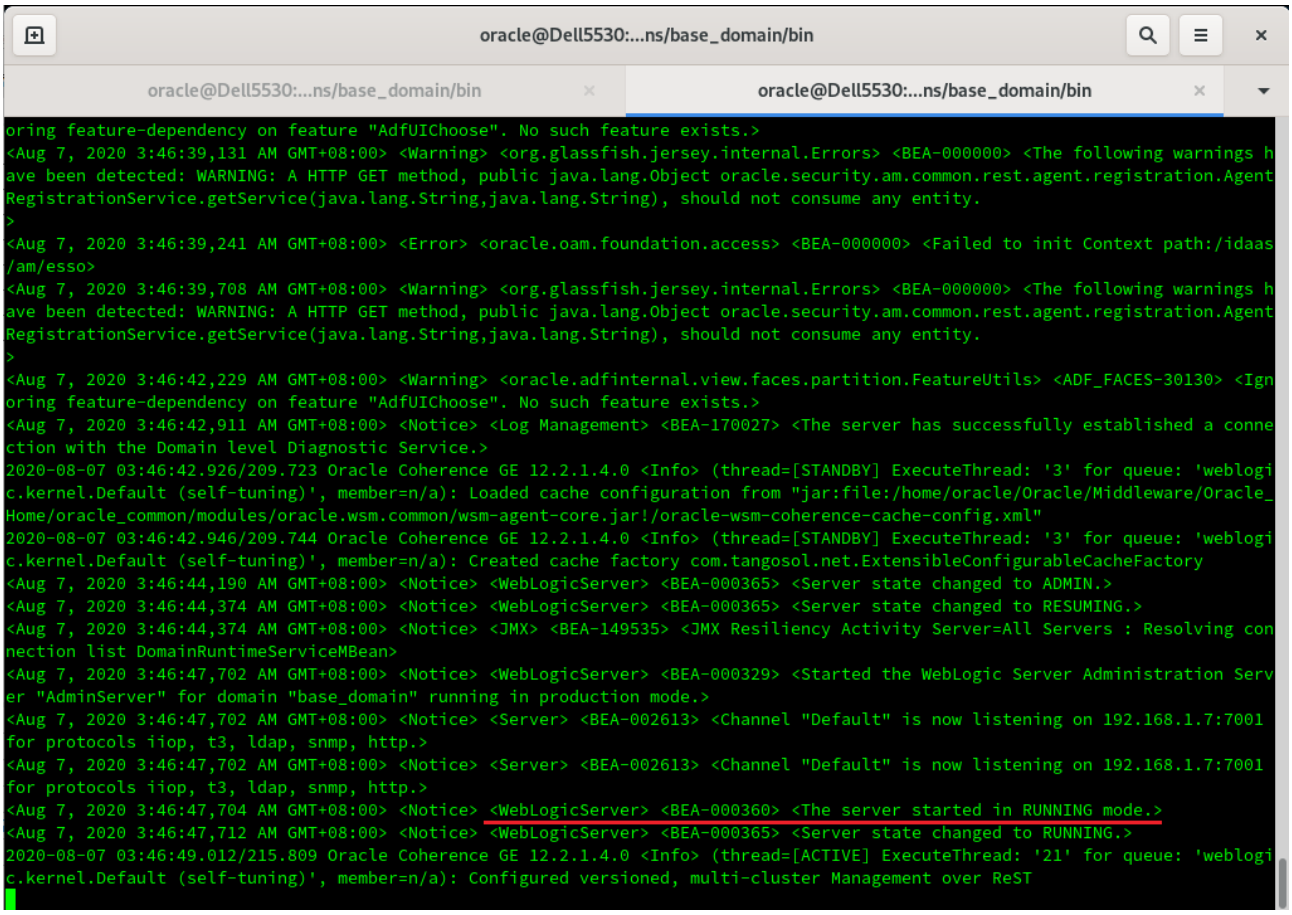
3-1. Check for the presence of installation log files in logs directory inside your Oracle Inventory directory. Also, check the domain server logs, which are located in the servers directory inside the domain home directory.

3-2. Starting the Node Manager and the Admin Server.

Starting the Node Manager, go to the DOMAIN_HOME/bin directory and run 'nohup ./startNodeManager.sh > nm.out&'



Starting the Admin Server, go to the DOMAIN_HOME/bin directory and run ./startWebLogic.sh.



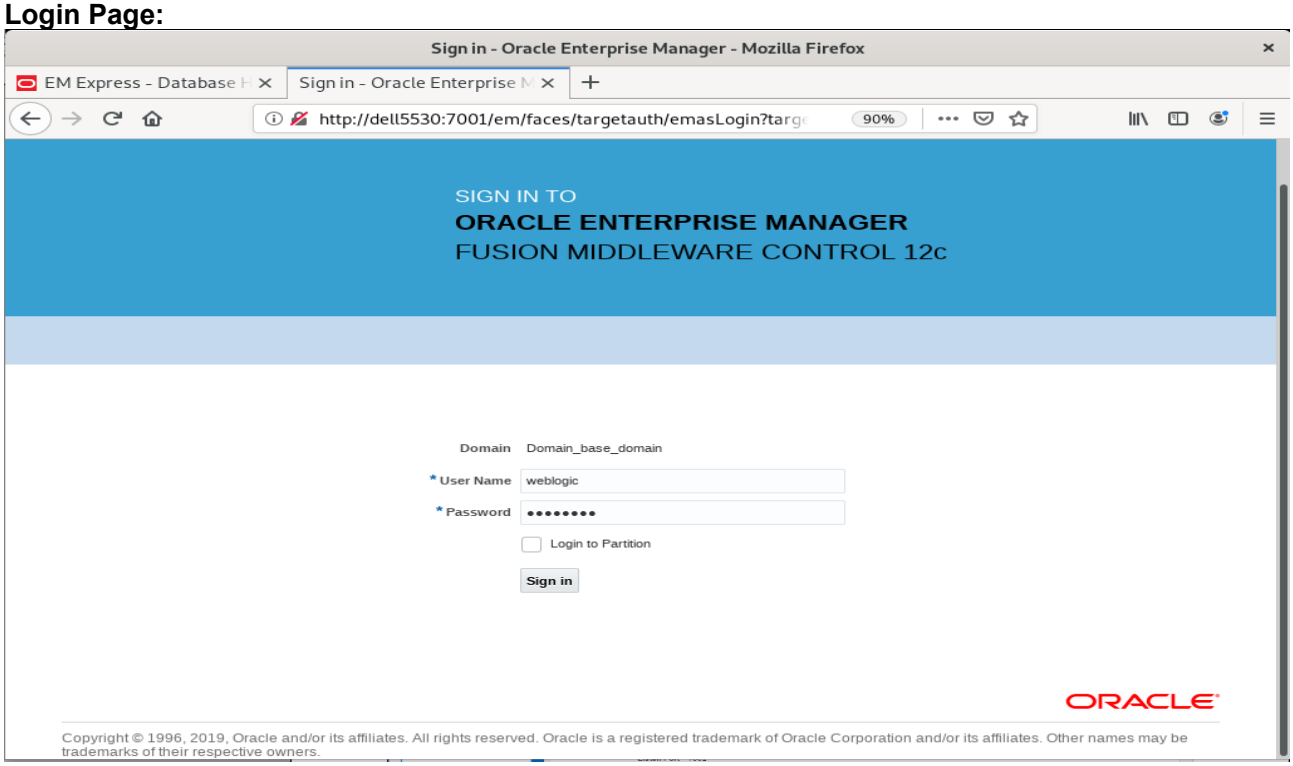
You know that the administrator server is running when you see the following output:

Server state changed to RUNNING.

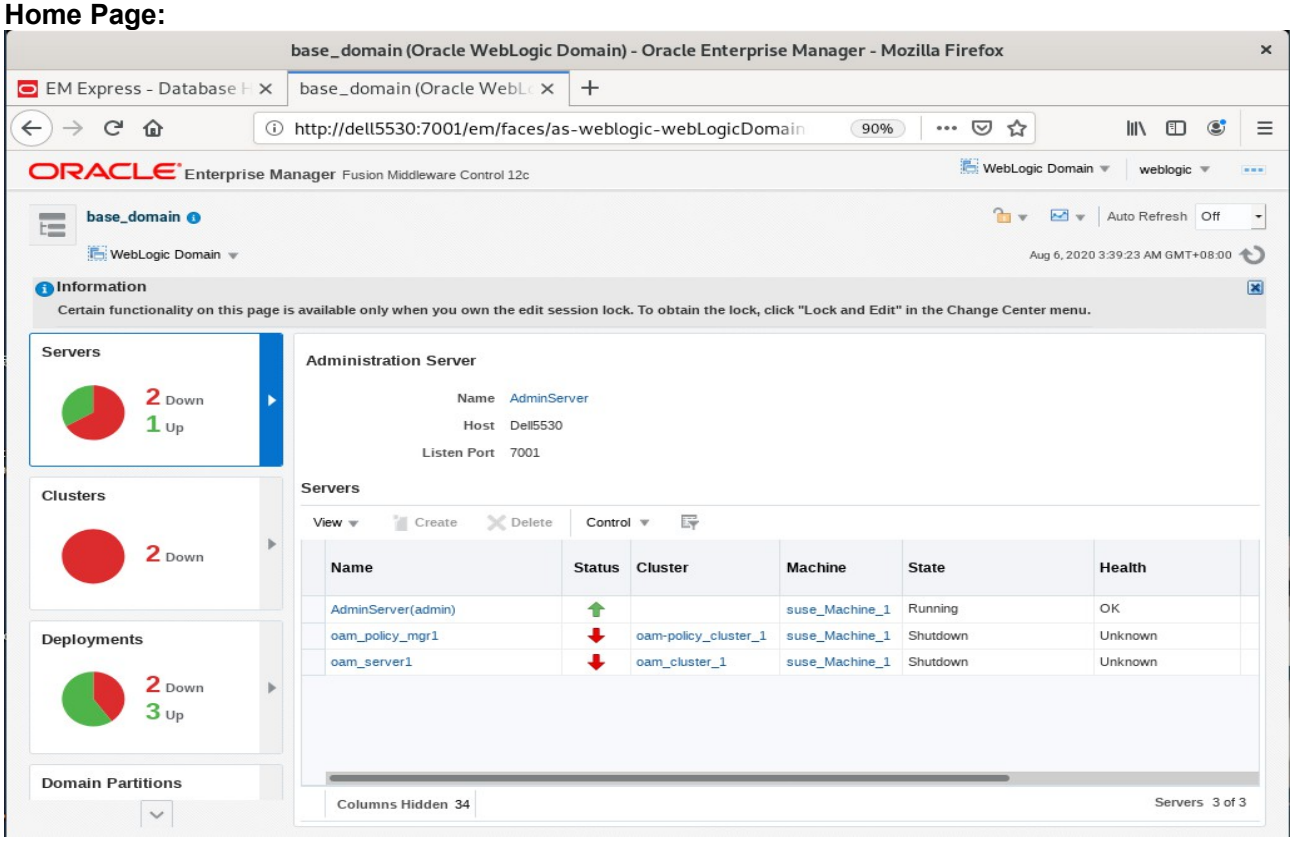
3-3. Checking Oracle Identity and Access Management 12c Product URLs.

1). Access to Enterprise Manager Console.

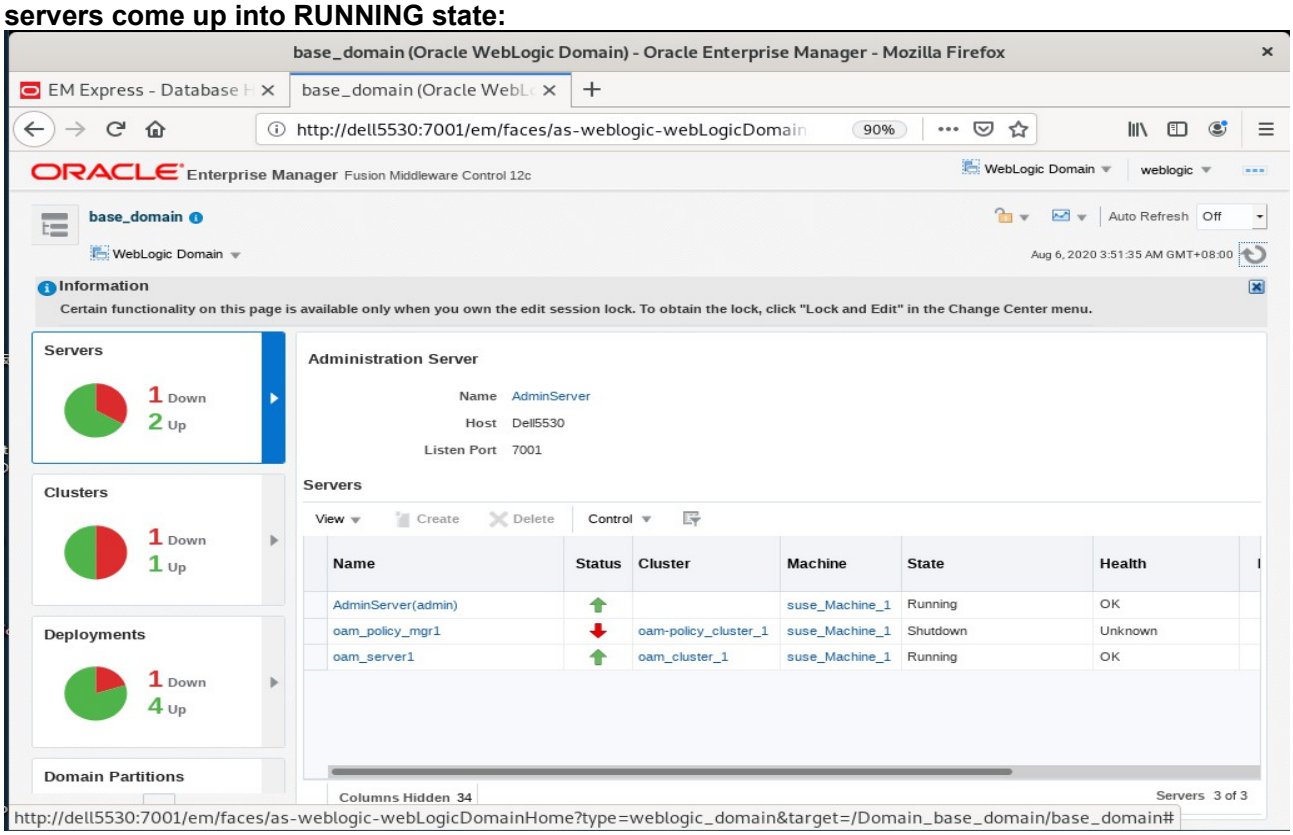
Login Page:

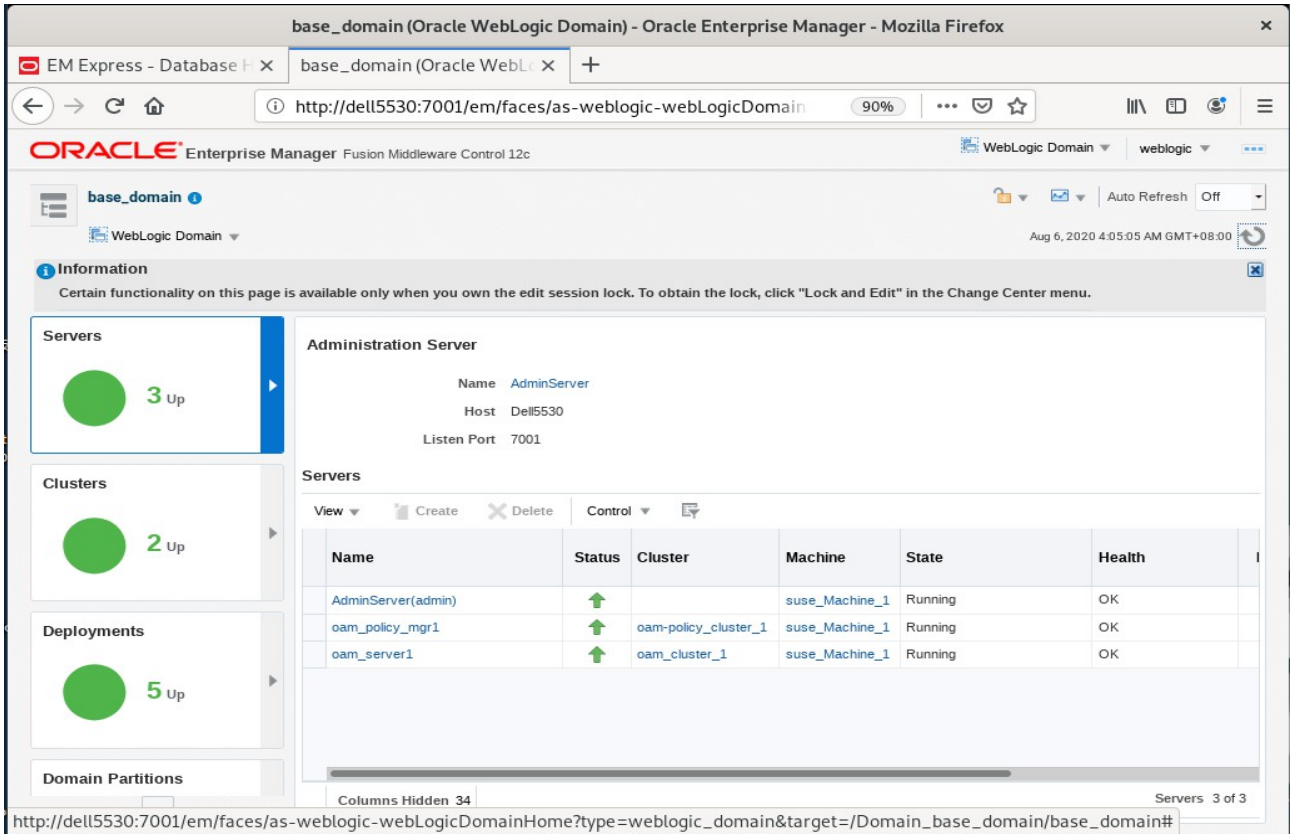


Home Page:



Starting the managed oam server and oam policy server defined in domain, wait until these servers come up into RUNNING state:

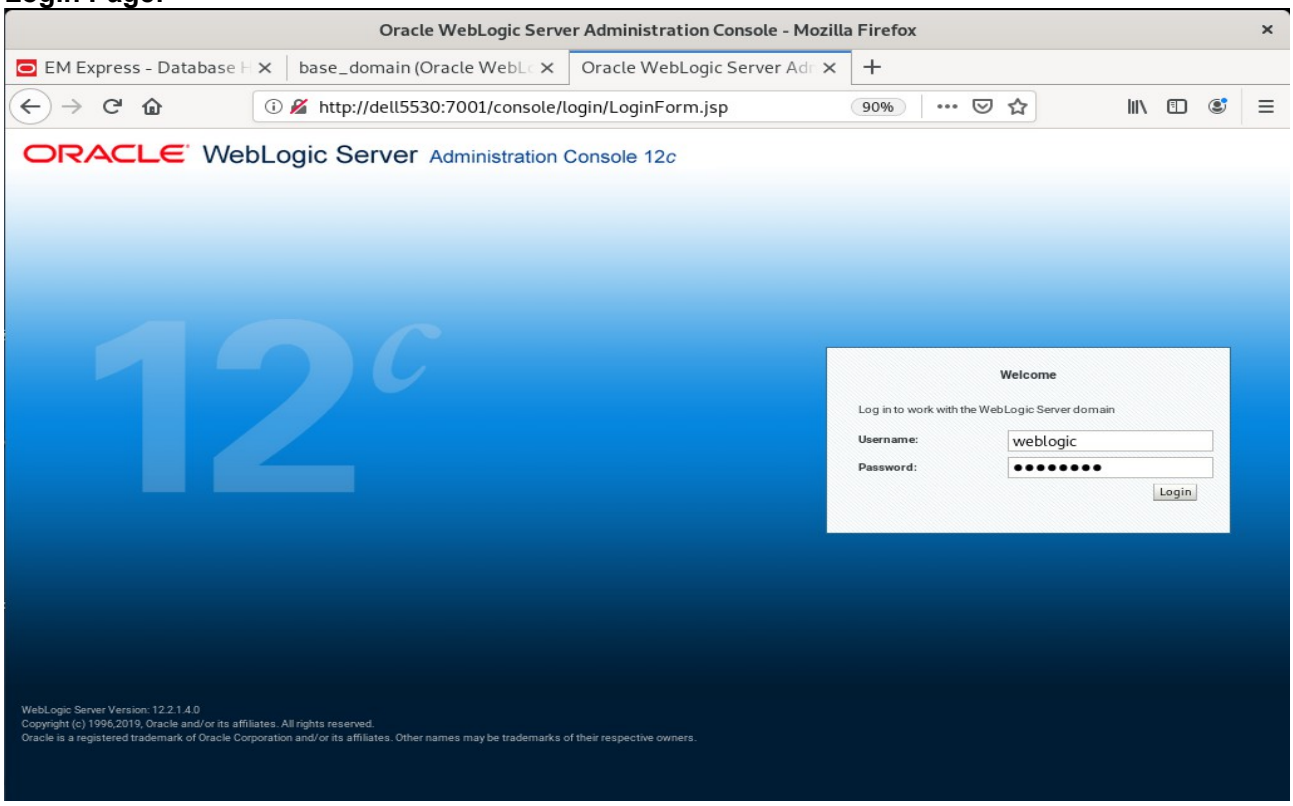




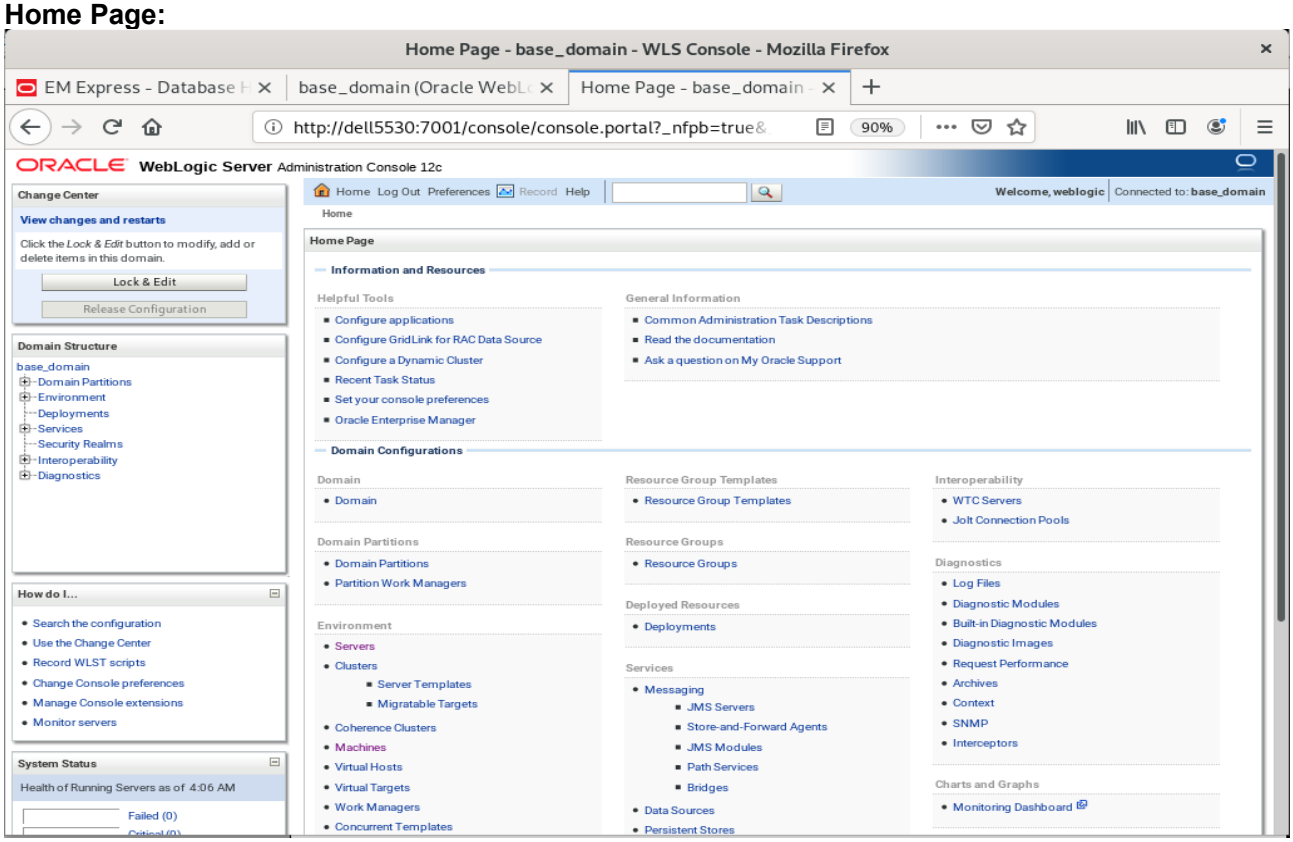
After they start up successfully, each managed server is listed as Running.

2). Access to Administration Server Console

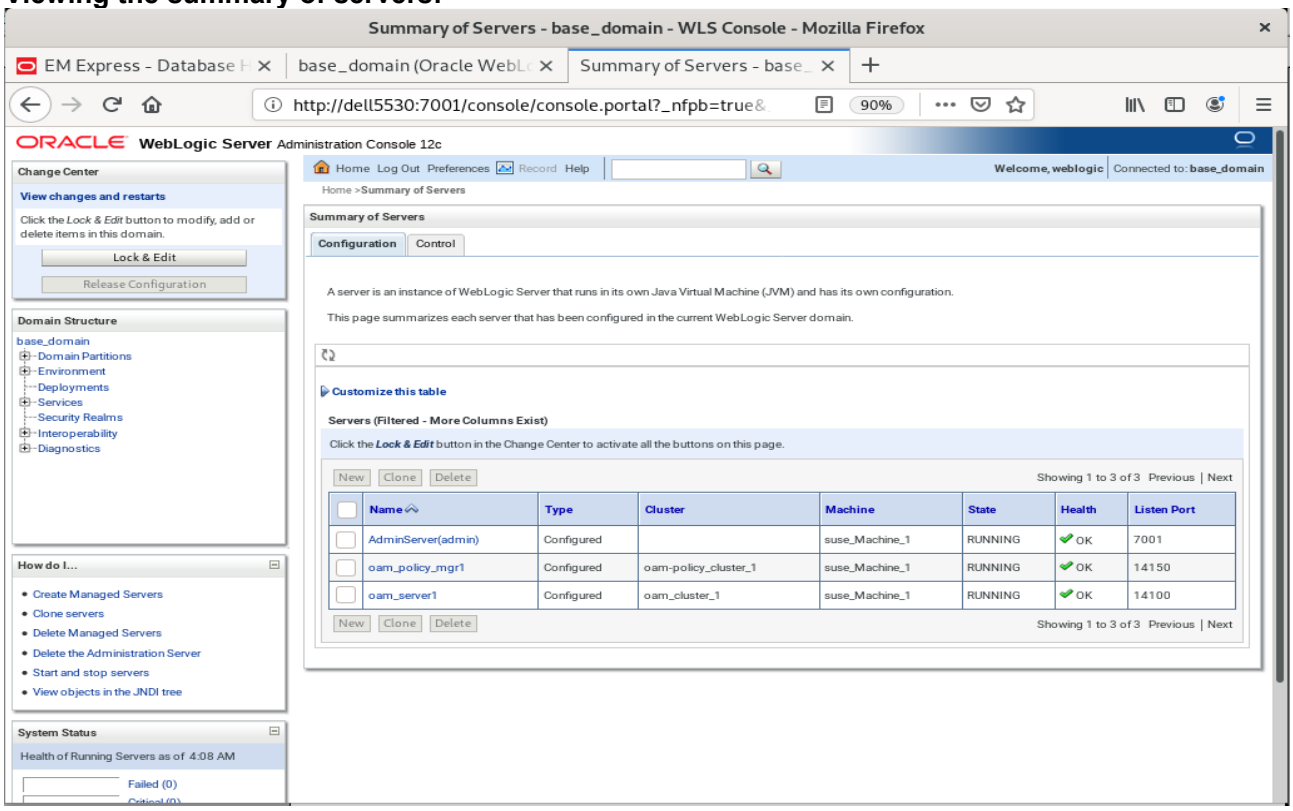
Login Page:



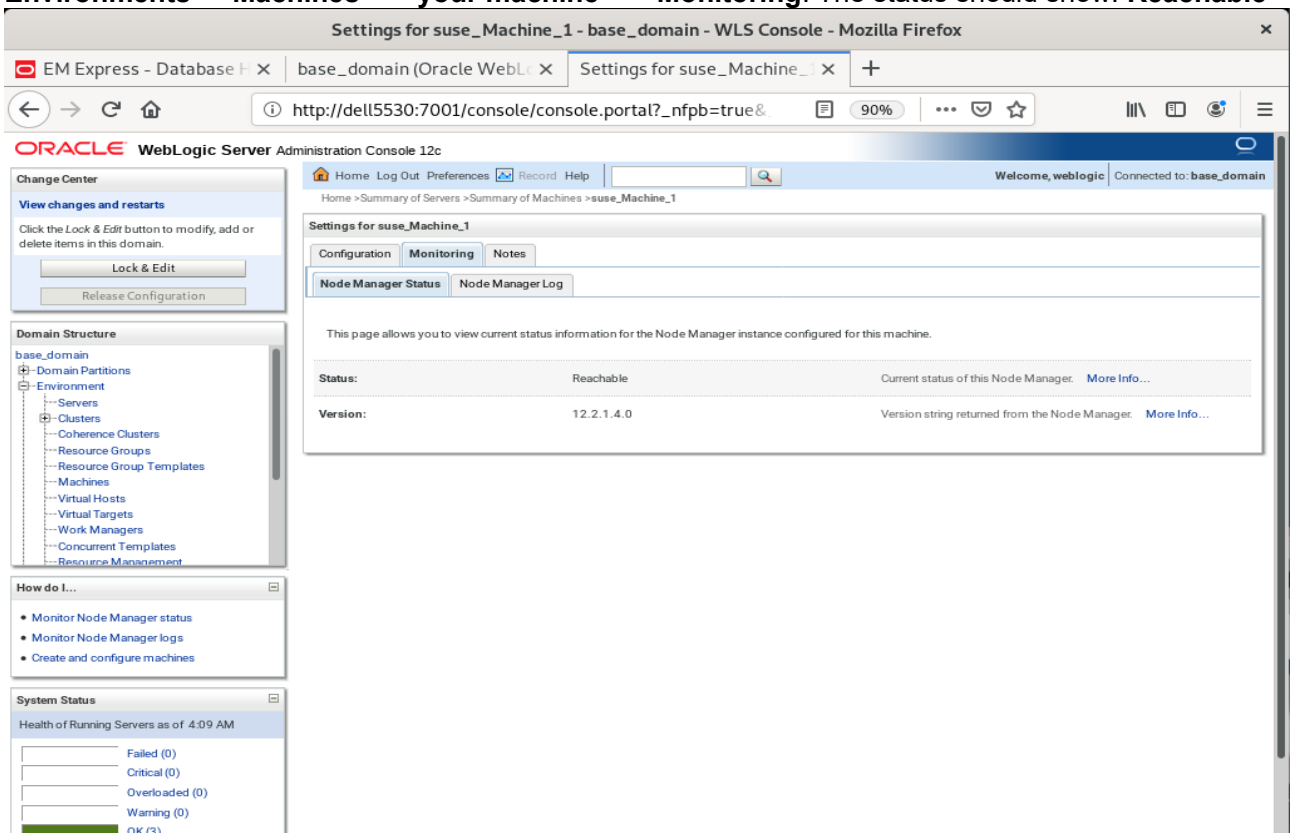
Home Page:



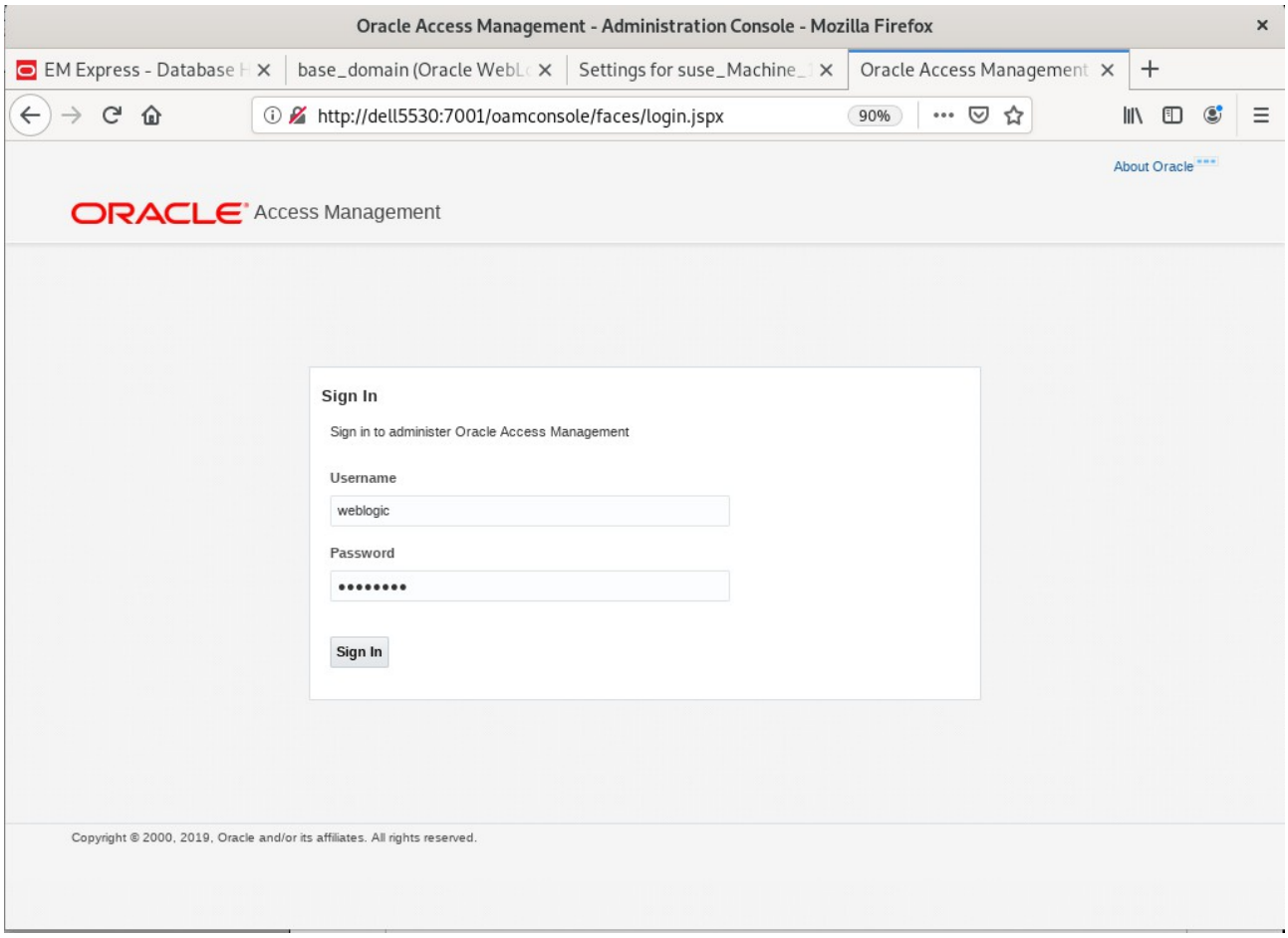
Viewing the summary of servers:

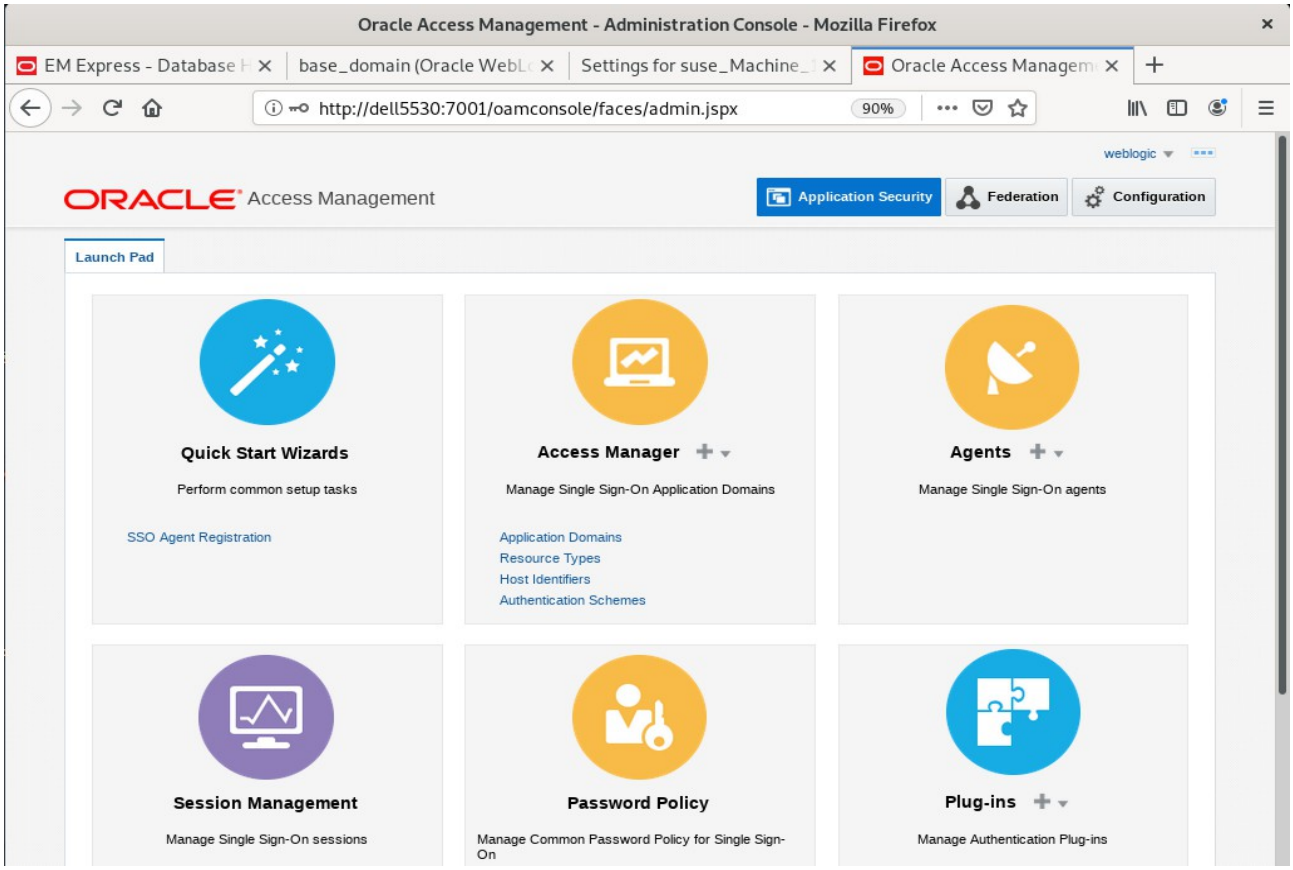


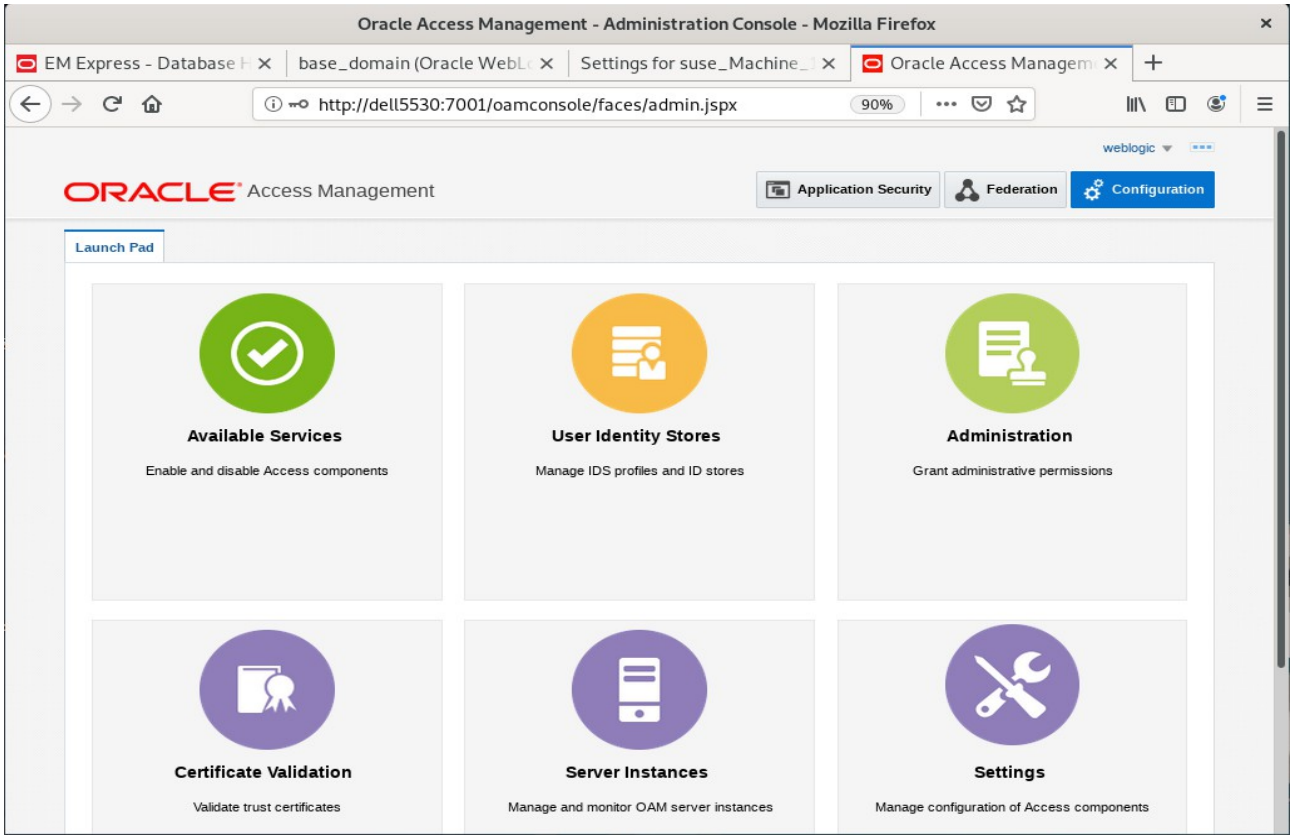
Verify that the Admin Server can connect to the node manager running on your machine.
Environments -> Machines -> <your machine> -> Monitoring. The status should show: **Reachable**



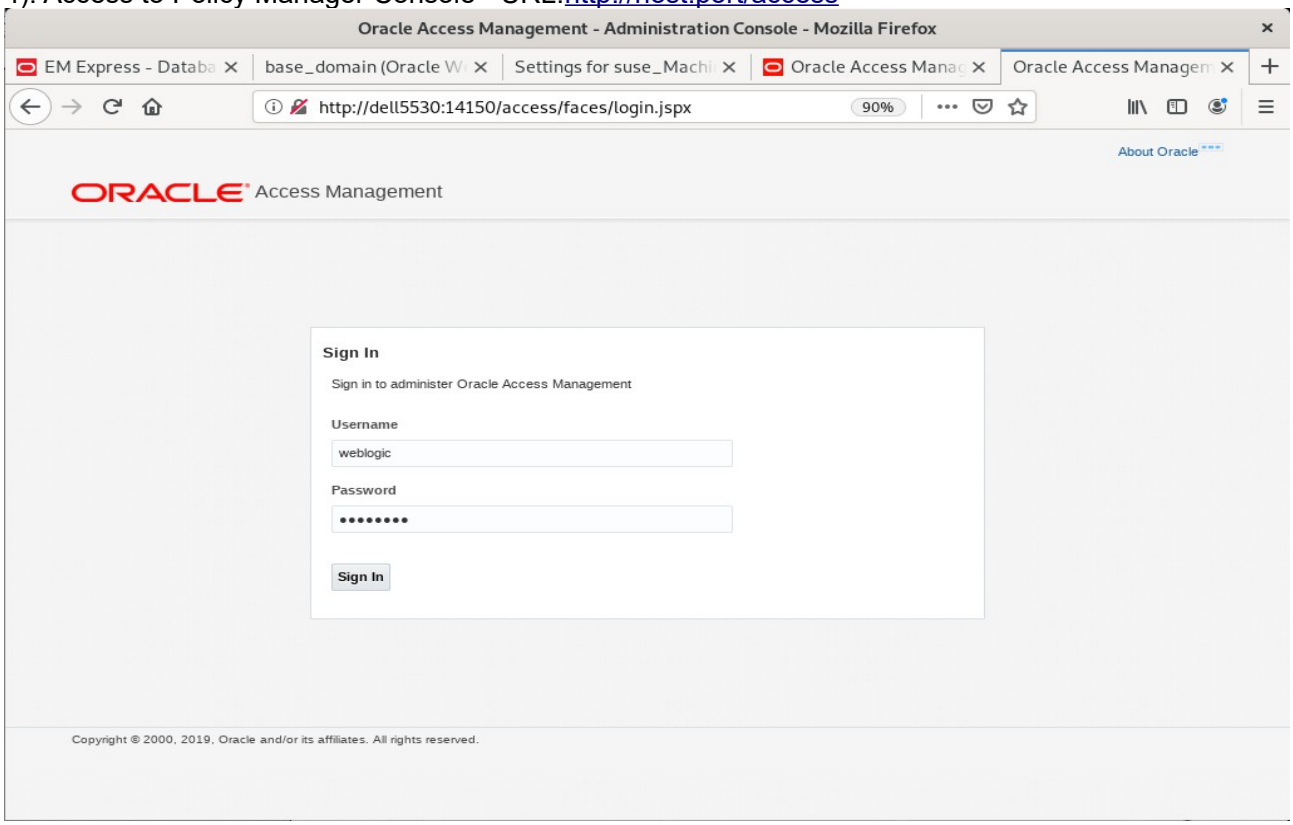
3). Access to Oracle Access Management Console - URL:http://host:port/oamconsole

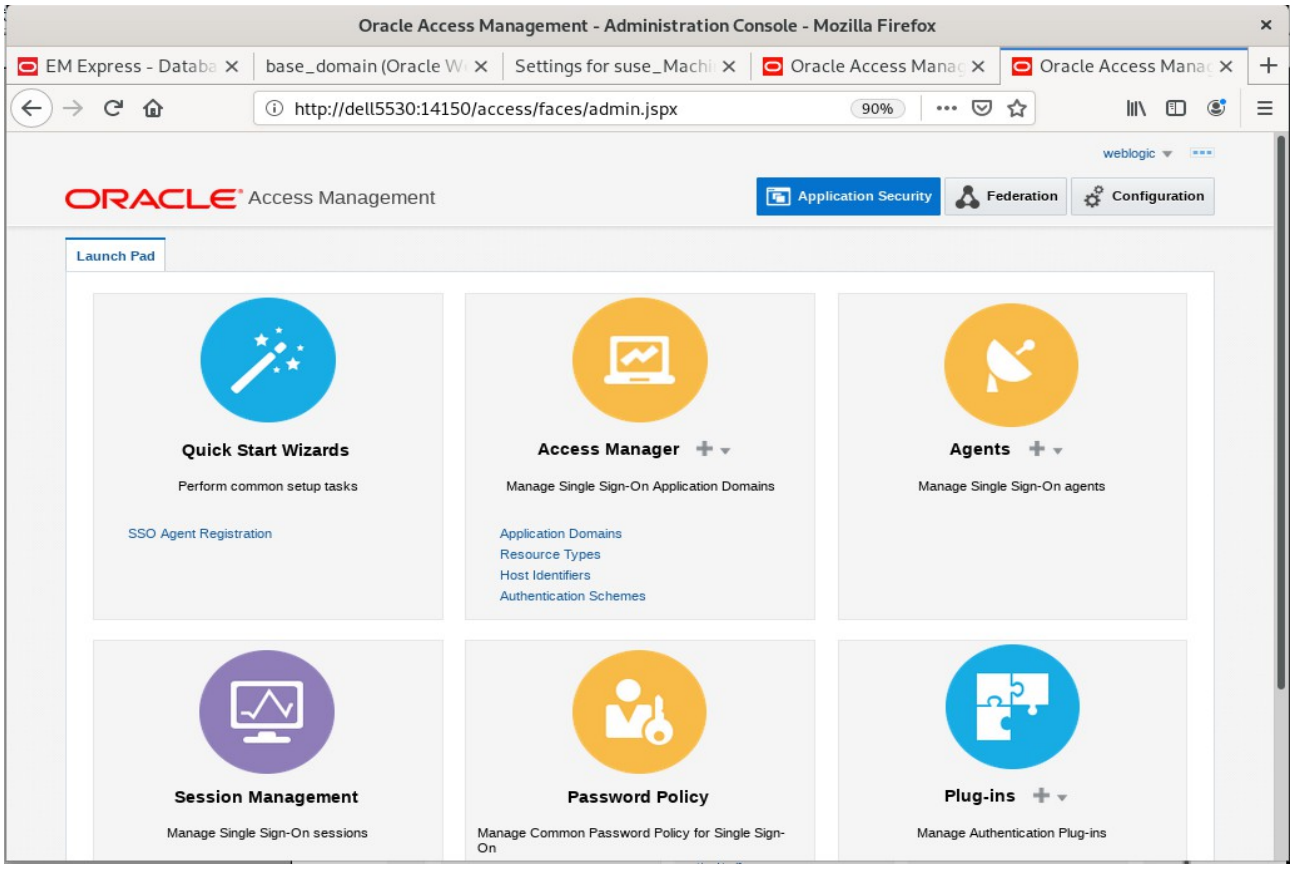



Oracle Access Management - Administration Console - Mozilla Firefox
EM Express - Database
base_domain (Oracle WebL
Settings for suse_Machine_
Oracle Access Managem
http://dell5530:7001/oamconsole/faces/admin.jspx
90%
weblogic
ORACLE Access Management
Application Security
Federation
Configuration
Launch Pad
Quick Start Wizards
Perform common setup tasks
SSO Agent Registration
Access Manager
Manage Single Sign-On Application Domains
Application Domains
Resource Types
Host Identifiers
Authentication Schemes
Agents
Manage Single Sign-On agents
Session Management
Manage Single Sign-On sessions
Password Policy
Manage Common Password Policy for Single Sign-On
Plug-ins
Manage Authentication Plug-ins


Oracle Access Management - Administration Console - Mozilla Firefox
EM Express - Database
base_domain (Oracle WebL
Settings for suse_Machine_
Oracle Access Managem
http://dell5530:7001/oamconsole/faces/admin.jspx
90%
weblogic
ORACLE Access Management
Application Security
Federation
Configuration
Launch Pad
Available Services
Enable and disable Access components
User Identity Stores
Manage IDS profiles and ID stores
Administration
Grant administrative permissions
Certificate Validation
Validate trust certificates
Server Instances
Manage and monitor OAM server instances
Settings
Manage configuration of Access components

4). Access to Policy Manager Console - URL:http://host:port/access





End of Oracle Access Manager.

****

Oracle Identity Manager

****

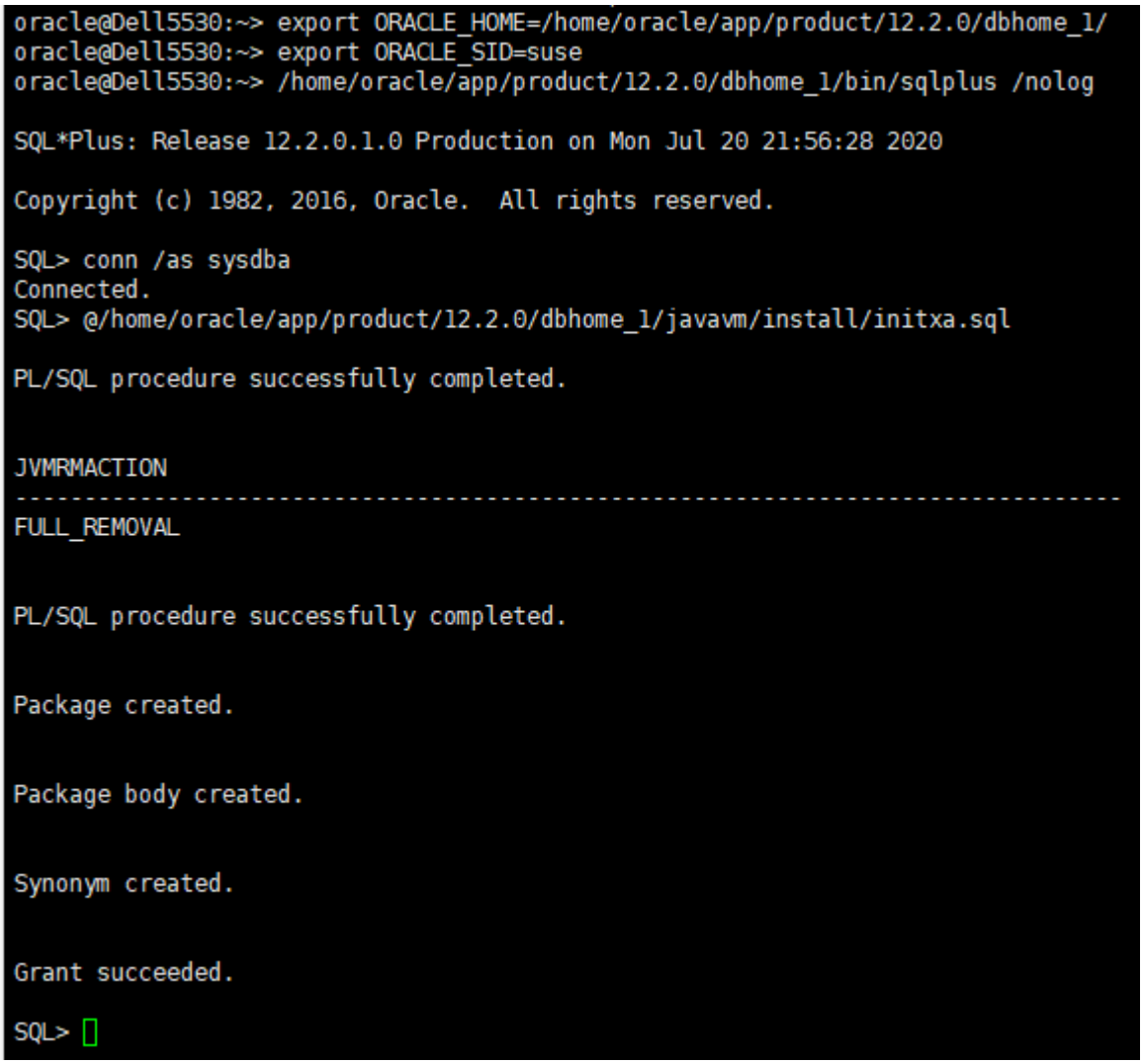
1.Installing Oracle Identity and Access Management 12cPS4 software

1-1. Prerequisites:

Installation of Oracle Identity and Access Management requires:

1). Oracle Database 12cR2 (12.2.0.1.0) installed.

(**Note**: With DB version 12, XA transaction recovery views/synonyms are required by the OIM Schema.To install these views/synonyms via the initxa.sql and xaview.sql scripts.



```
SQL> @/home/oracle/app/product/12.2.0/dbhome_1/rdbms/admin/xaview.sql
DROP VIEW d$xatrans$
*
ERROR at line 1:
ORA-00942: table or view does not exist


DROP VIEW d$pending_xatrans$
*
ERROR at line 1:
ORA-00942: table or view does not exist



View created.


Synonym created.


View created.


Synonym created.

SQL>
```

Also, please make sure that database initialization parameter **OPEN_CURSORS** greater than or equal to 800; Login to database server as **root user** and execute the SQL command: **"alter system set open_cursors=1600 scope=spfile;" then restart the database**

```
SQL> show parameter open_cursors;

NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------------
open_cursors                         integer     300
SQL> alter system set open_cursors=1600 scope=spfile;

System altered.

SQL> shutdown immediate;
Database closed.
Database dismounted.
ORACLE instance shut down.
SQL> startup
ORACLE instance started.

Total System Global Area 9898557440 bytes
Fixed Size                 12169752 bytes
Variable Size            2013269480 bytes
Database Buffers         7851737088 bytes
Redo Buffers               21381120 bytes
Database mounted.
Database opened.
SQL> show parameter open_cursors;

NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------------
open_cursors                         integer     1600
SQL>
```

)

2). Oracle JDK 1.8.0_221 and later installed.

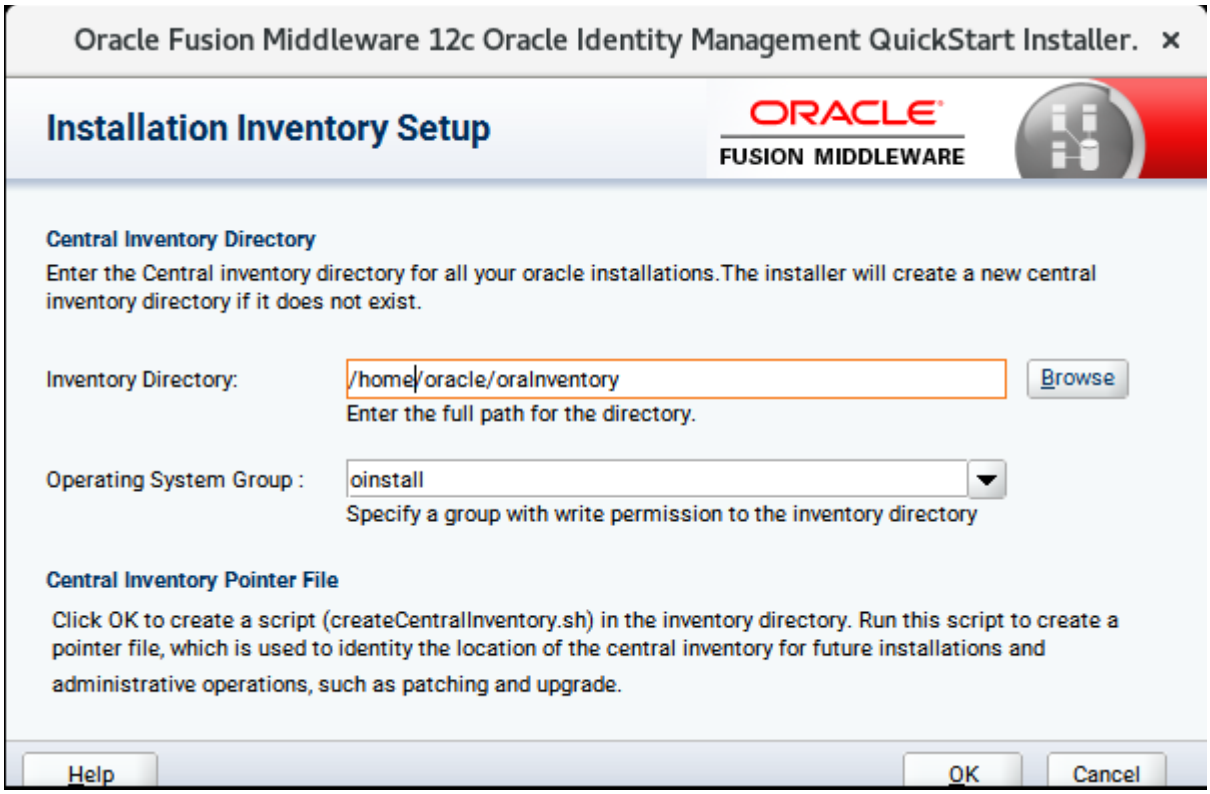
1-2. Log in to the target system (SLES 15 SP2 64-bit OS) as a non-admin user. Download the Oracle Identity and Access Management 12cPS4 (12.2.1.4.0) generic installer .zip file from http://www.oracle.com/technetwork/indexes/downloads/index.html#middleware.

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

1-3. Go to the directory where you downloaded the installation program. Extract the contents of these .zip ("fmw_12.2.1.4.0_idmqs_Disk1_1of2.zip" and "fmw_12.2.1.4.0_idmqs_Disk1_2of2.zip") files and launch the installation program by running '**java -jar fmw_12.2.1.4.0_idmquickstart.jar**'

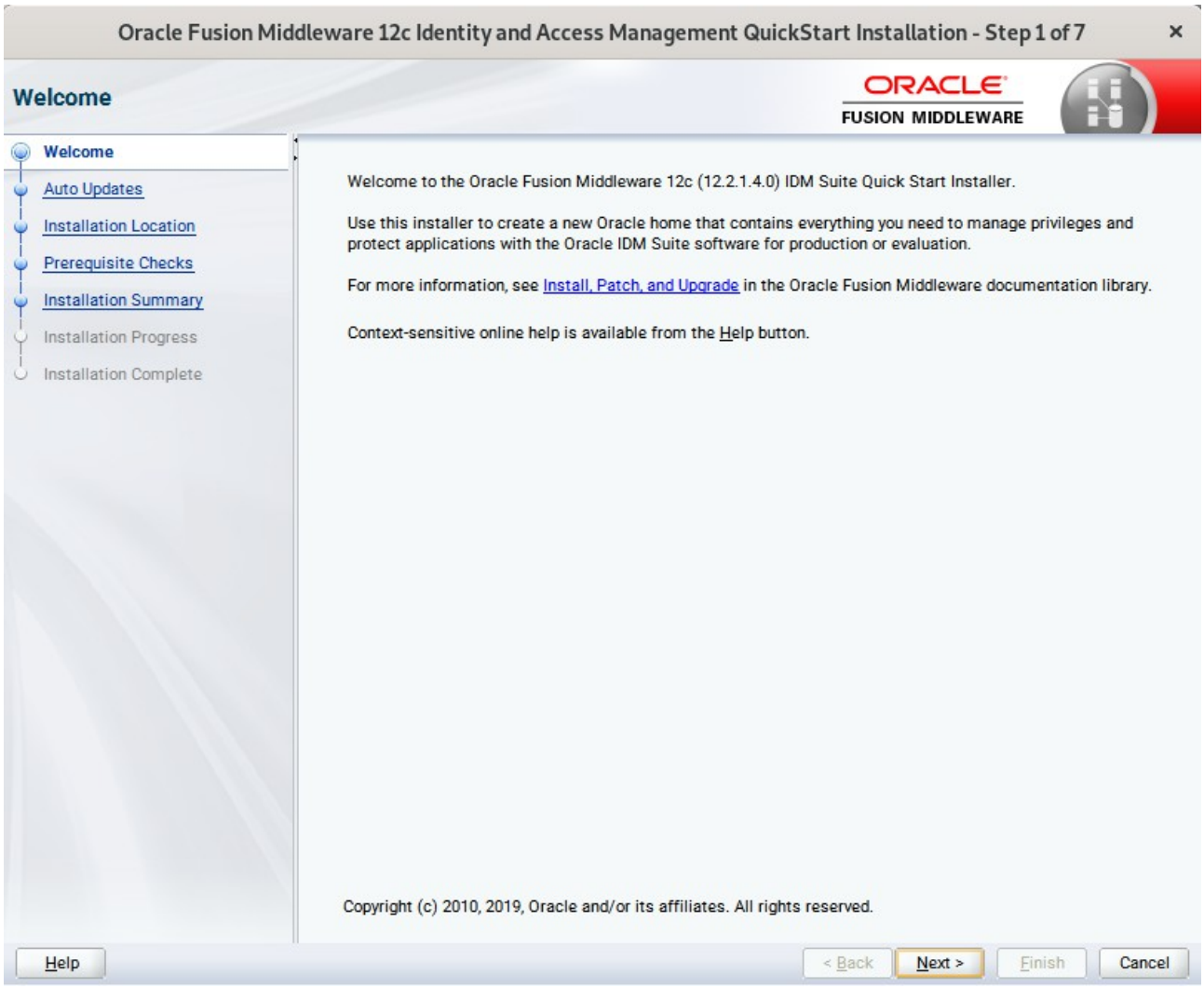
For the actual installation, follow the steps below:

1). Installation Inventory Setup.



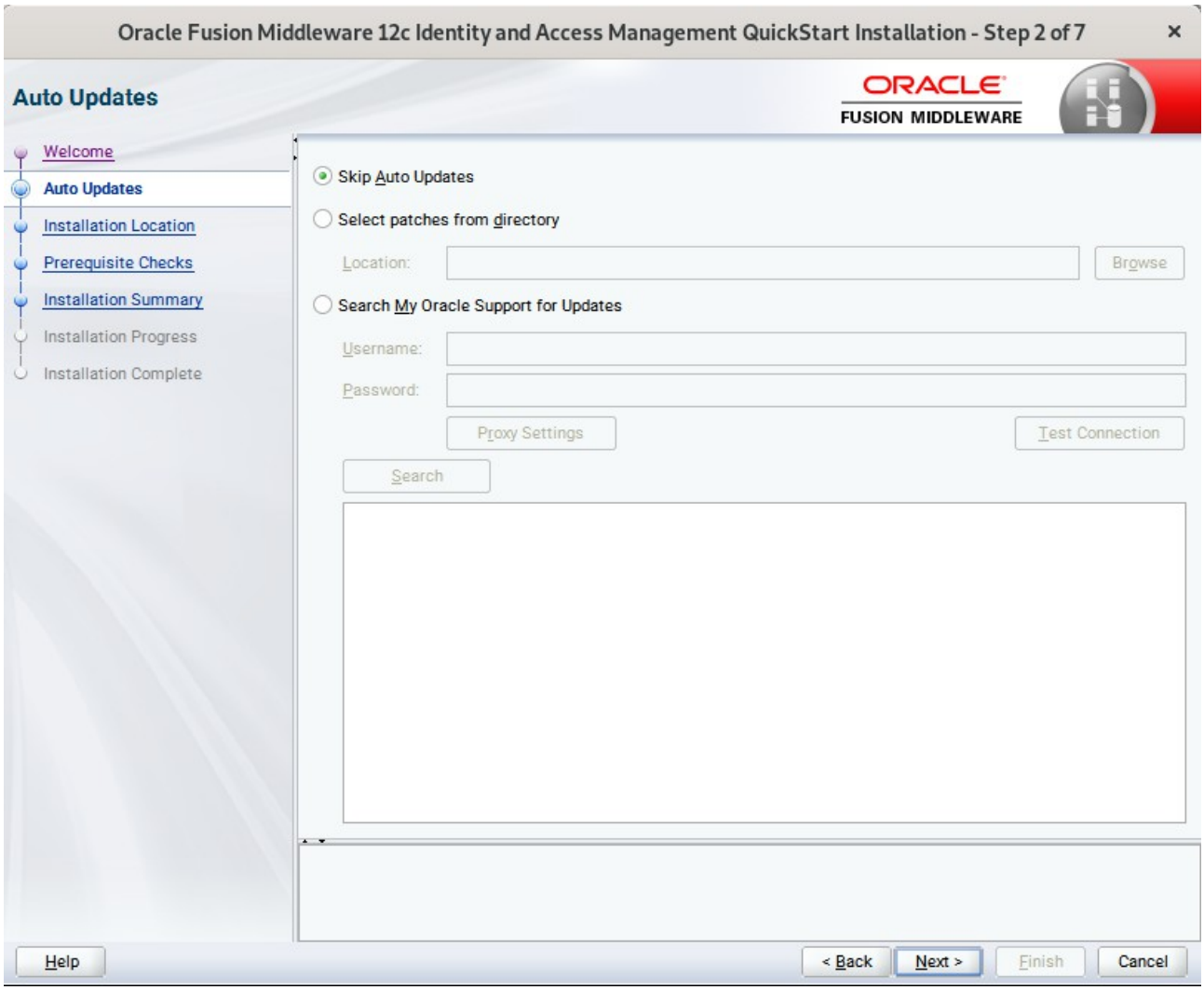
Specify the Oracle inventory directory and group permissions for that directory. The group must have write permissions to the Oracle inventory directory, then click **OK** to continue.

2). **Welcome** page appears.



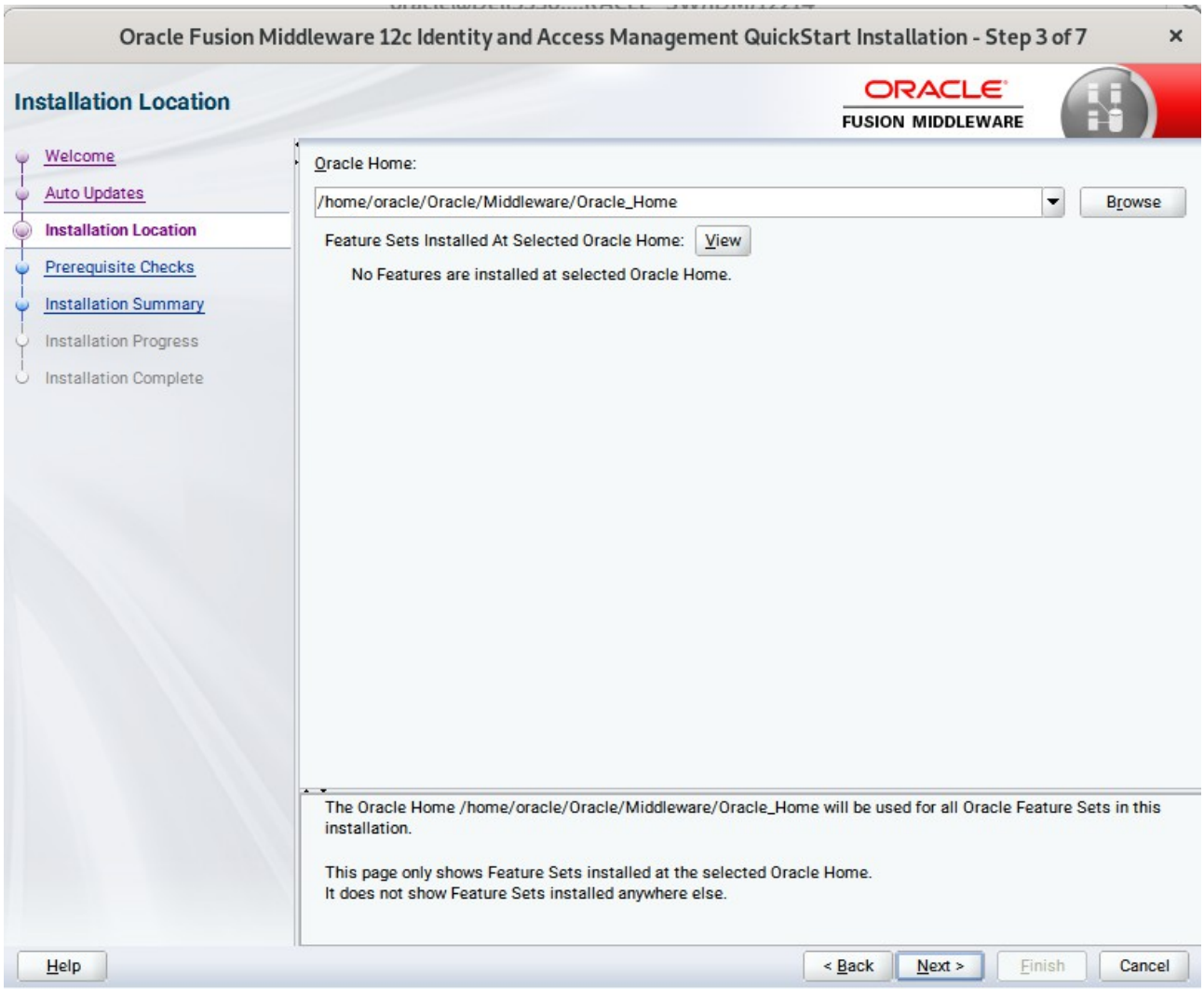
This page welcomes you to the installation. Click **Next** to continue.

3). The **Auto Updates** page appears.



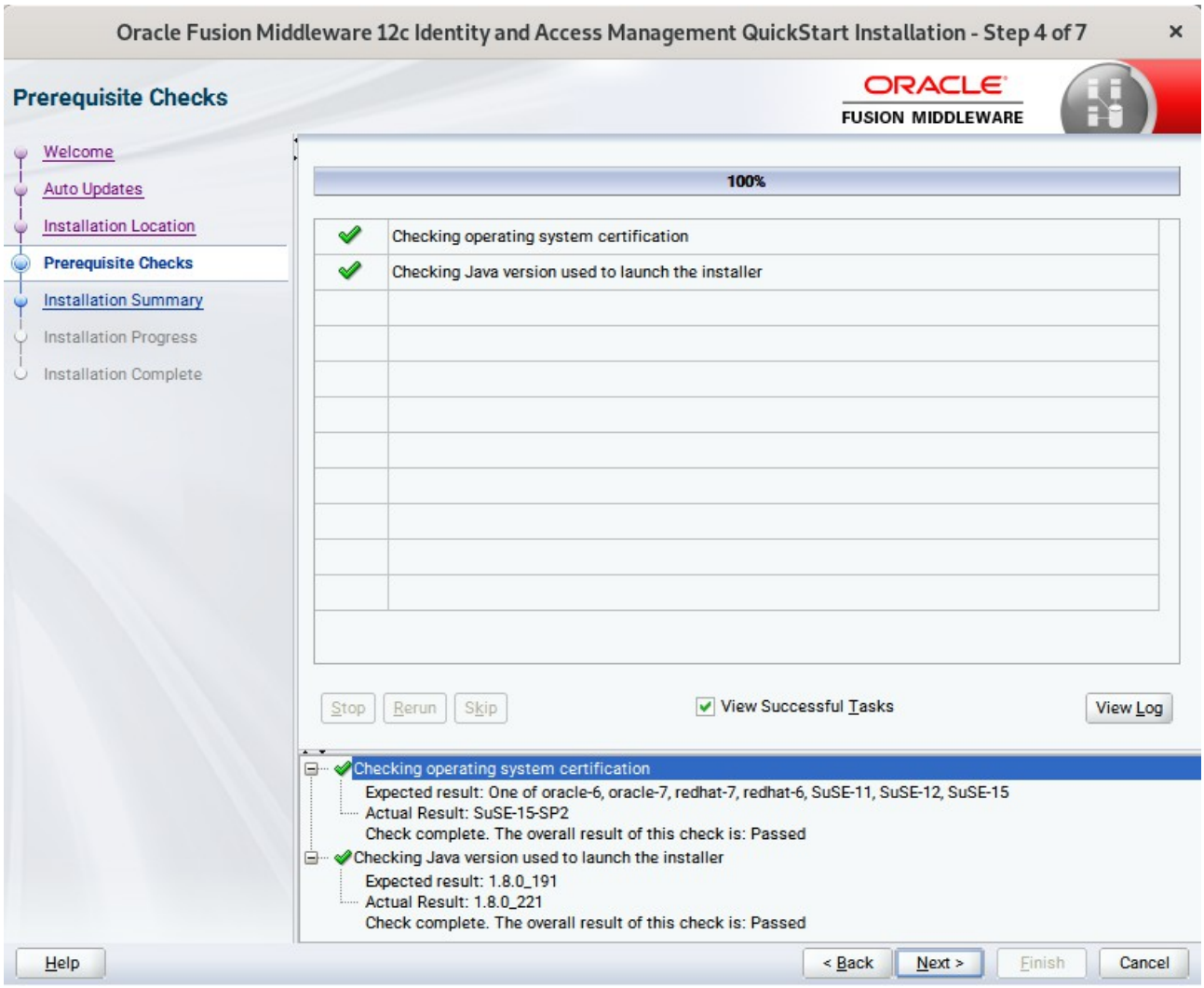
This screen helps to quickly and easily search for the latest software updates, including important security updates, via your My Oracle Support account. Make your choices, then click **Next** to continue.

4). The **Installation Location** page appears.



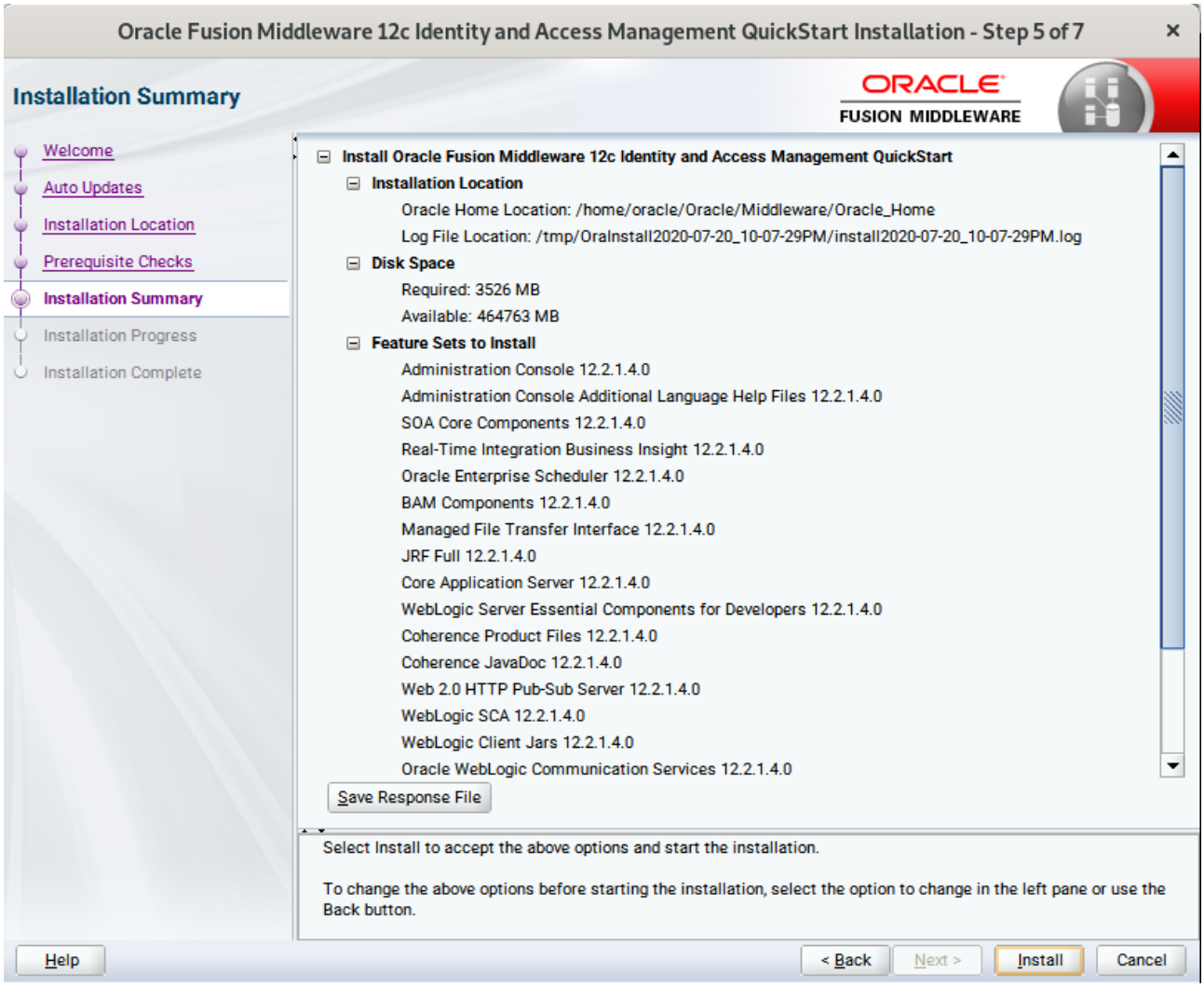
Specify the Oracle home location into which you want to install the product(s). Click **Next** to continue.

5). The **Prerequisites Checks** page appears.



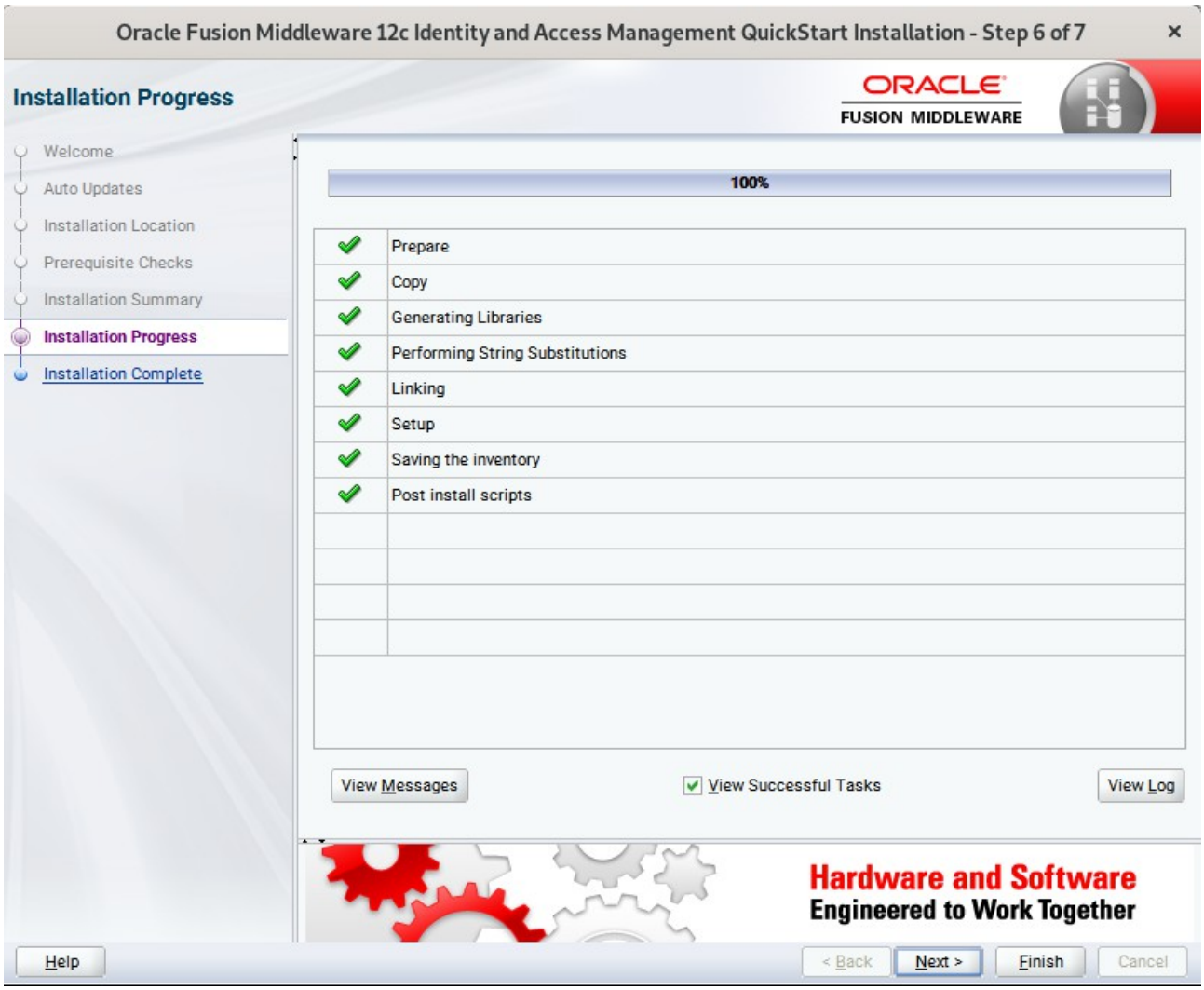
This pages shows you the progress of the system checking the prerequisites on your system prior to installation. If you are lacking any prerequisites, a message will appear telling you so. You do not need to take any actions on this page, though you can view the log from here. Click **Next** to continue.

6). The **Installation Summary** page appears.



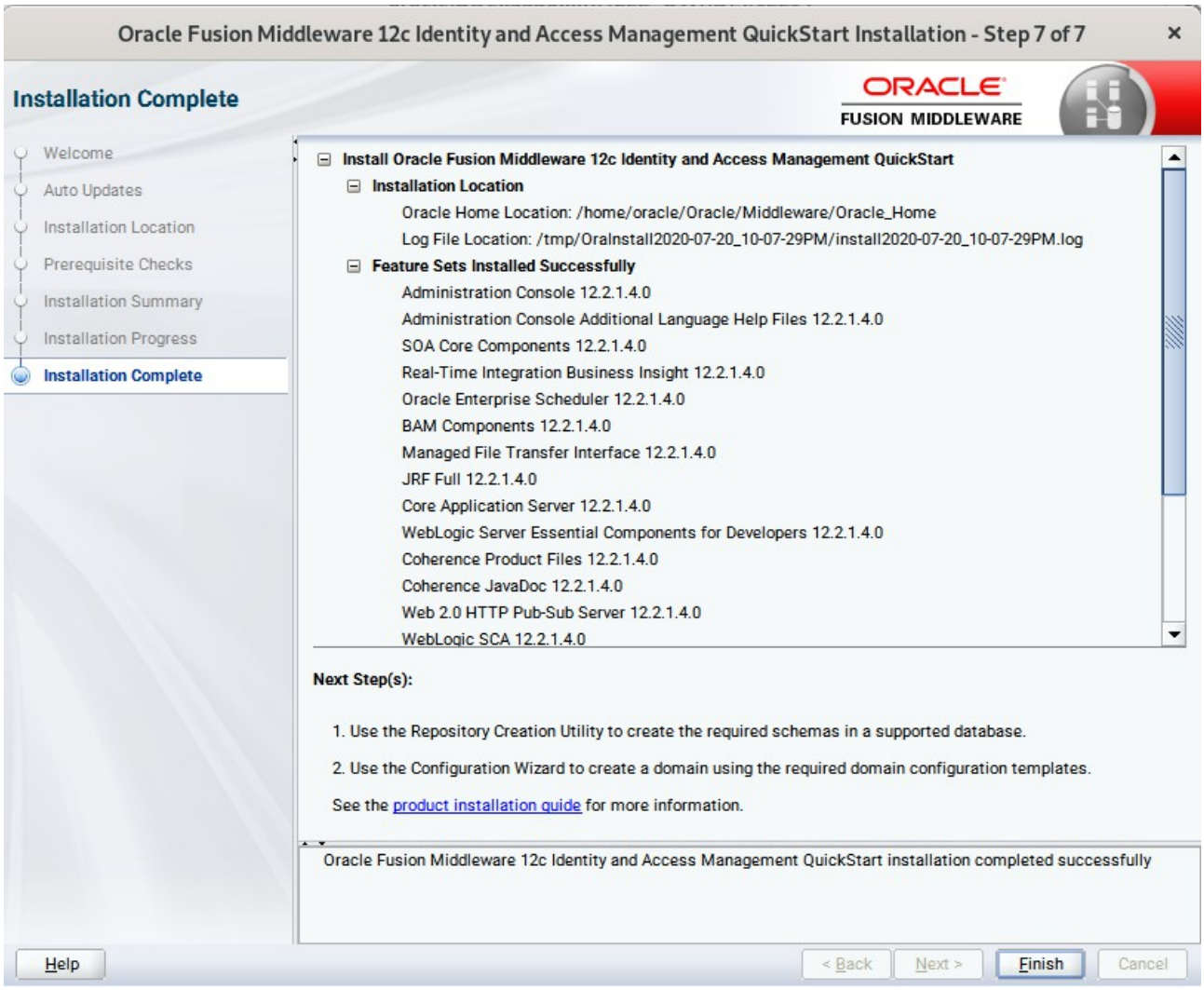
This page shows you what components and features are about to be installed. If you need to make changes, click **Back**, otherwise, click **Install** to start the installation.

7). The **Installation Progress** page appears.



This page shows you the progress of the installation, and will warn you if there are any problems.You can view messages and logs from this page, but typically no action is required here. When progress is complete, click **Next** (go to a Summary page). Alternatively, you can click **Finish**.

8). If you clicked **Next**, the **Installation Complete** page appears, showing you the components that have been installed.



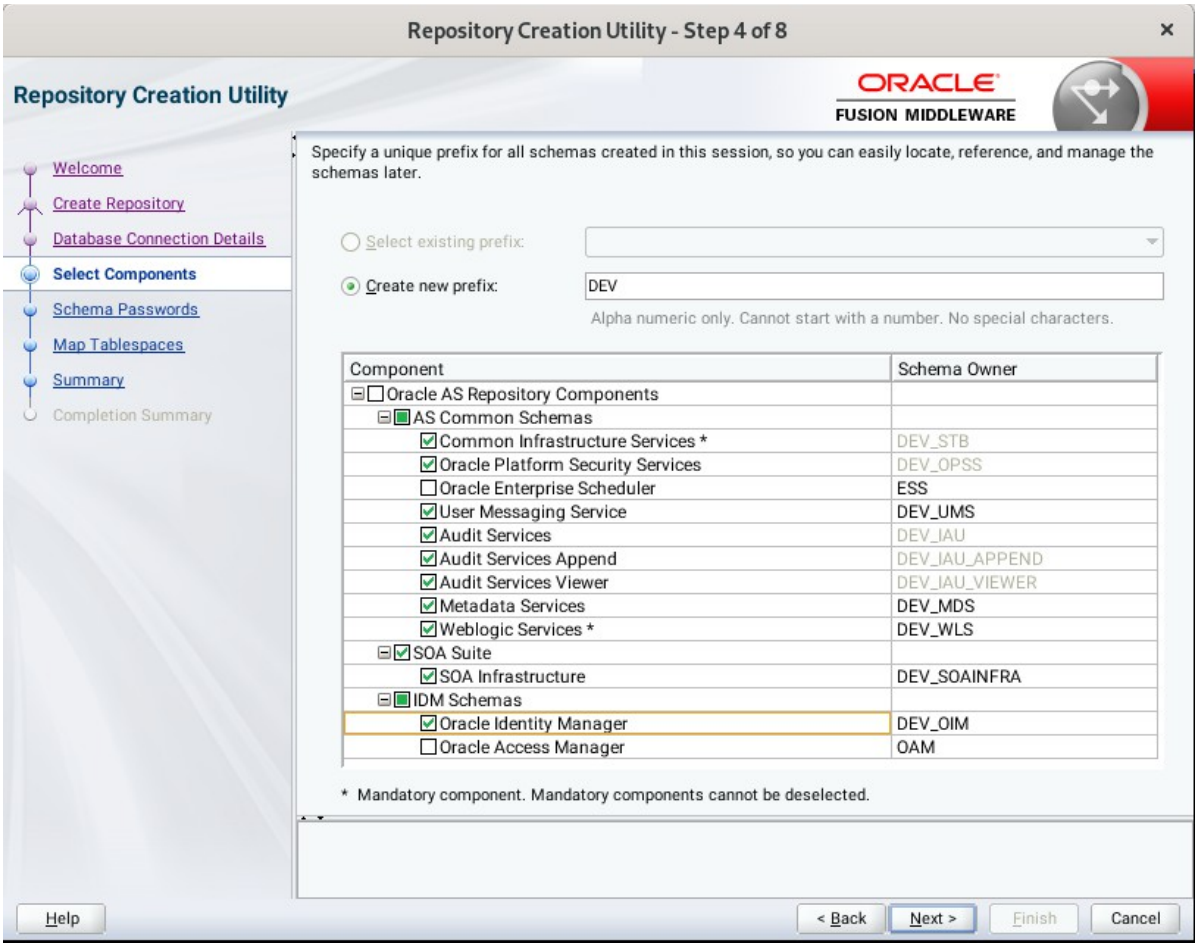
This screen displays the Installation Location and the Feature Sets that are installed. Review this information and click **Finish** to close the installer.

2. Configuring the Oracle Identity Manager Domain

2-1. Creating Database Schema through Repository Creation Utility for OIM.

Repository Creation Utility (RCU) is available with the Oracle Fusion Middleware Infrastructure 12c distribution. Run **$FMW_HOME/oracle_common/bin/rcu** and create required database schemas for Oracle Identity Manager.

Screenshot: Database schemas creating for Oracle Identity Manager.



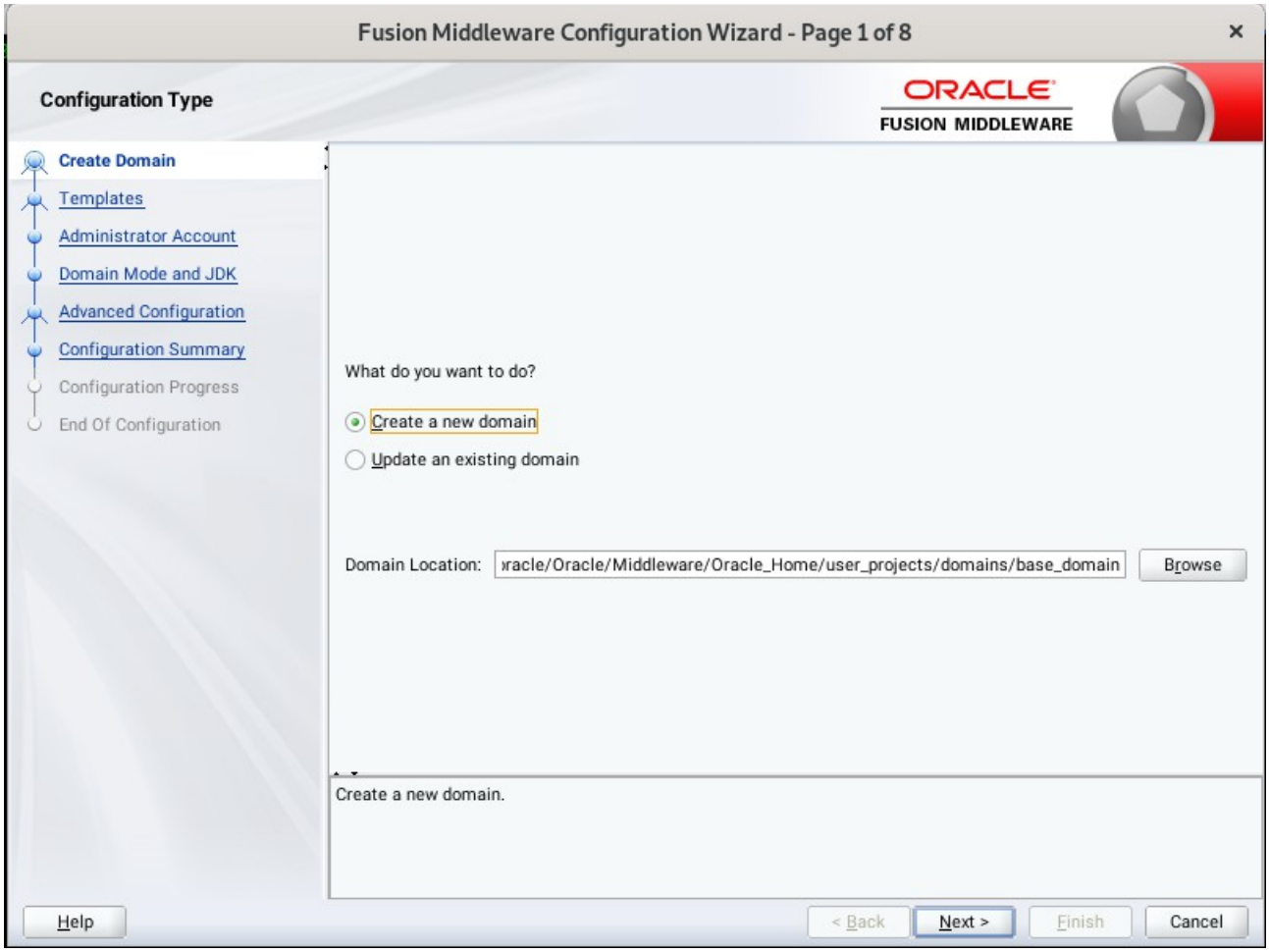
Select the **Create new prefix** radio button and provide a schema prefix (such as DEV). Select the **Oracle Identity Manager** schema, this action automatically selects the schemas as dependencies, and ensure the schema creation is successful.

2-2. Configuring a Domain for Oracle Identity Manager(OIM) using the Config Wizard

In order to complete the configuration. Run the config wizard using **config.sh** located in the **ORACLE_HOME/oracle_common/common/bin** directory.

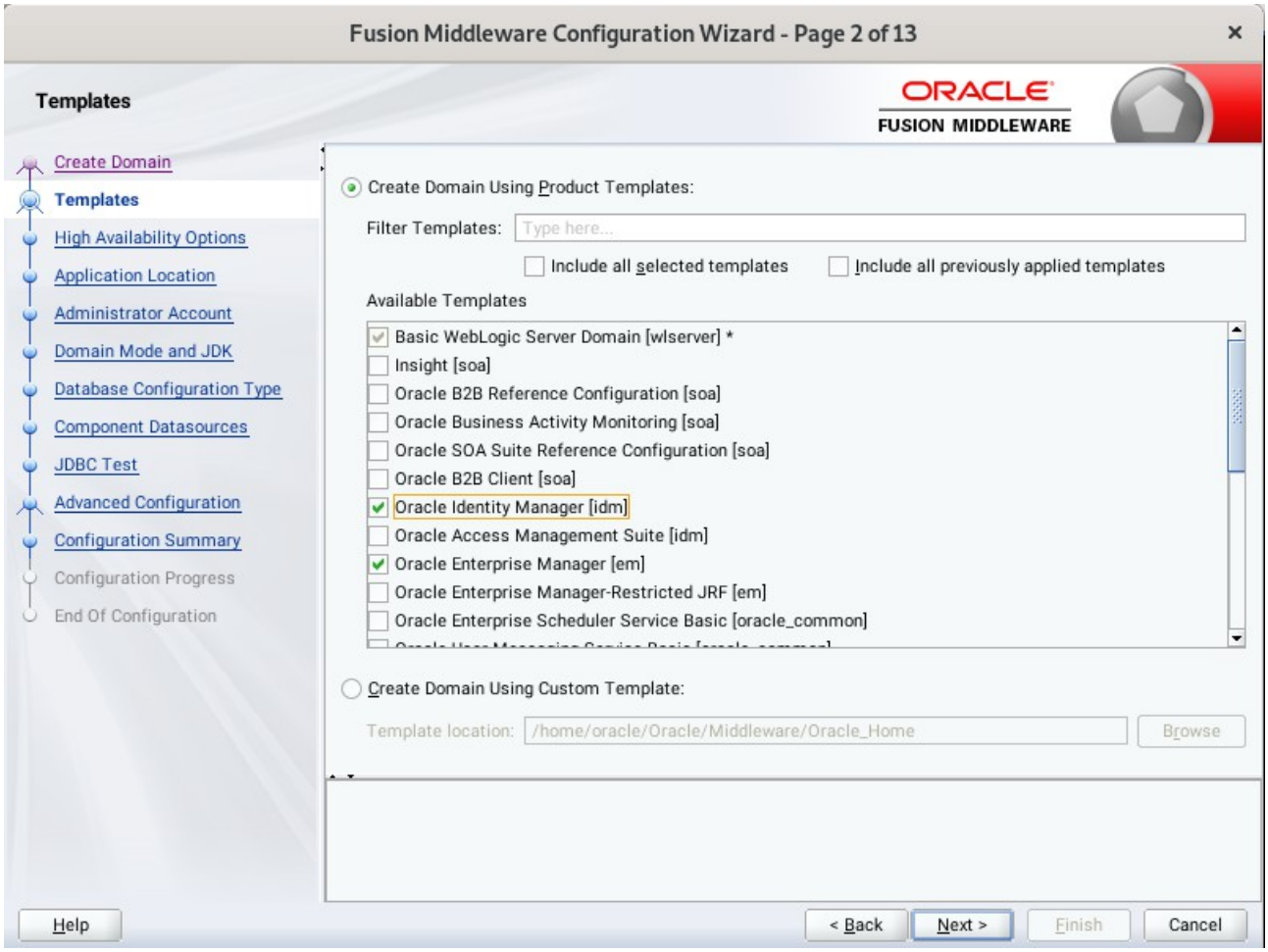
Follow these steps:

1). On the Configuration Type screen, select **Create a new domain**, and enter the desired domain home path.



Click **Next** to continue.

2). The **Templates** screen appears.



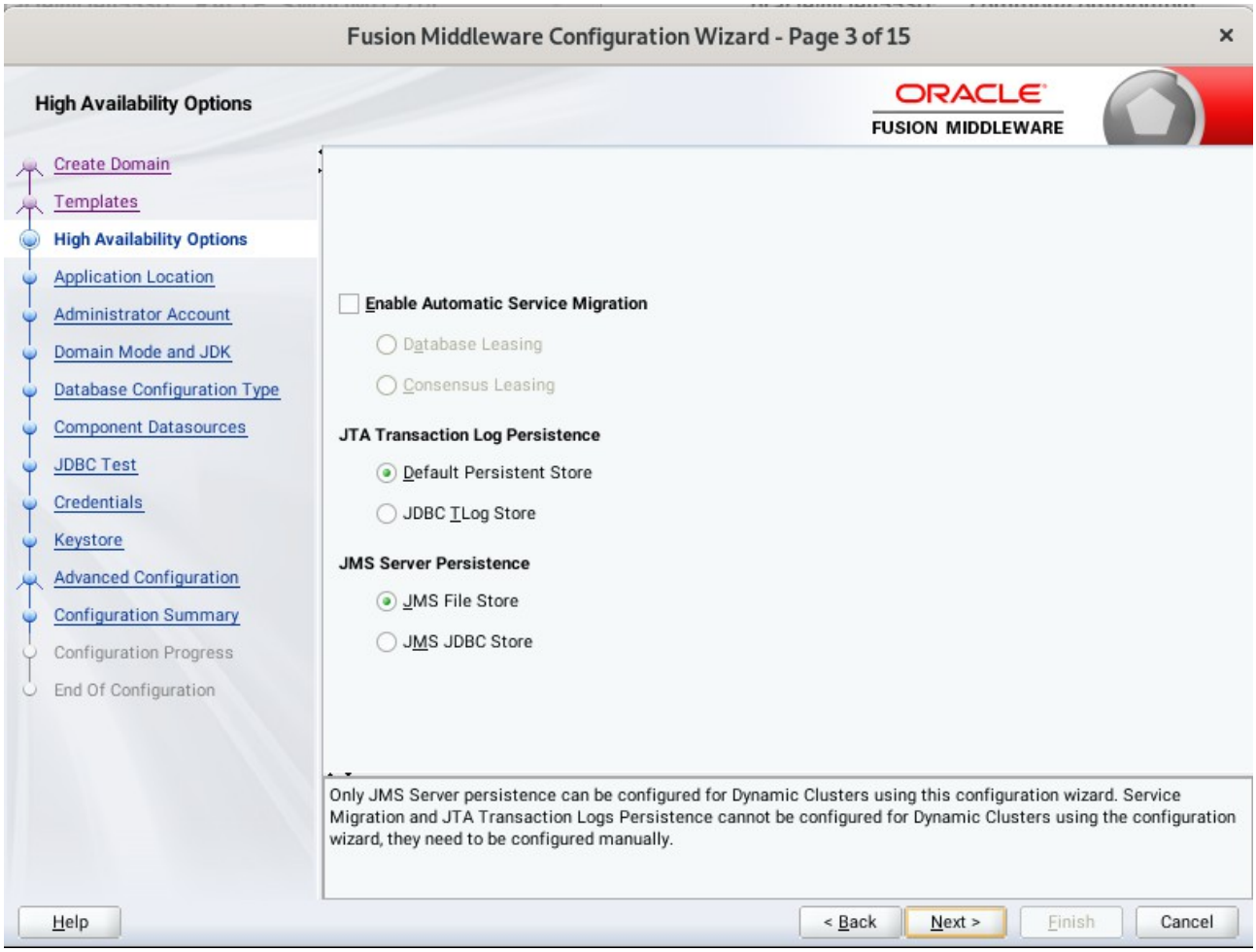
On the Templates screen, make sure **Create Domain Using Product Templates** is selected, then select the template **Oracle Identity Manager [idm]**.

Selecting this template automatically selects the following as dependencies:

- Oracle Enterprise Manager [em]
- Oracle JRF [oracle_common]
- Oracle WSM Policy Manager [oracle_common]
- WebLogic Coherence Cluster Extension [wlserver]

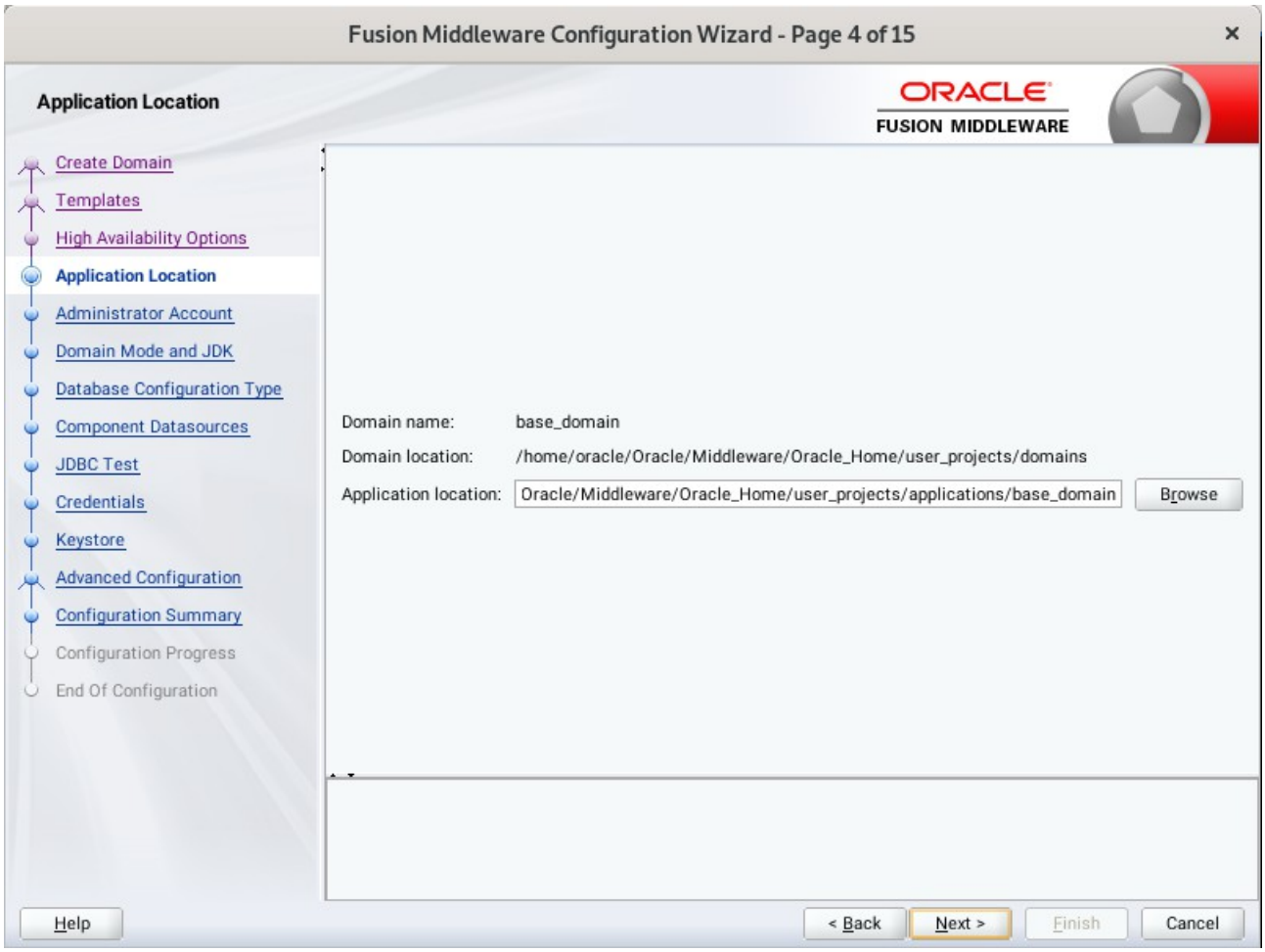
You can also select any of the Oracle products listed in the following table. You do not need to select all of these templates, and you can always run the configuration wizard again to add products to your domain later. Click **Next** to continue.

3). The **High Availability Options** screen appears.



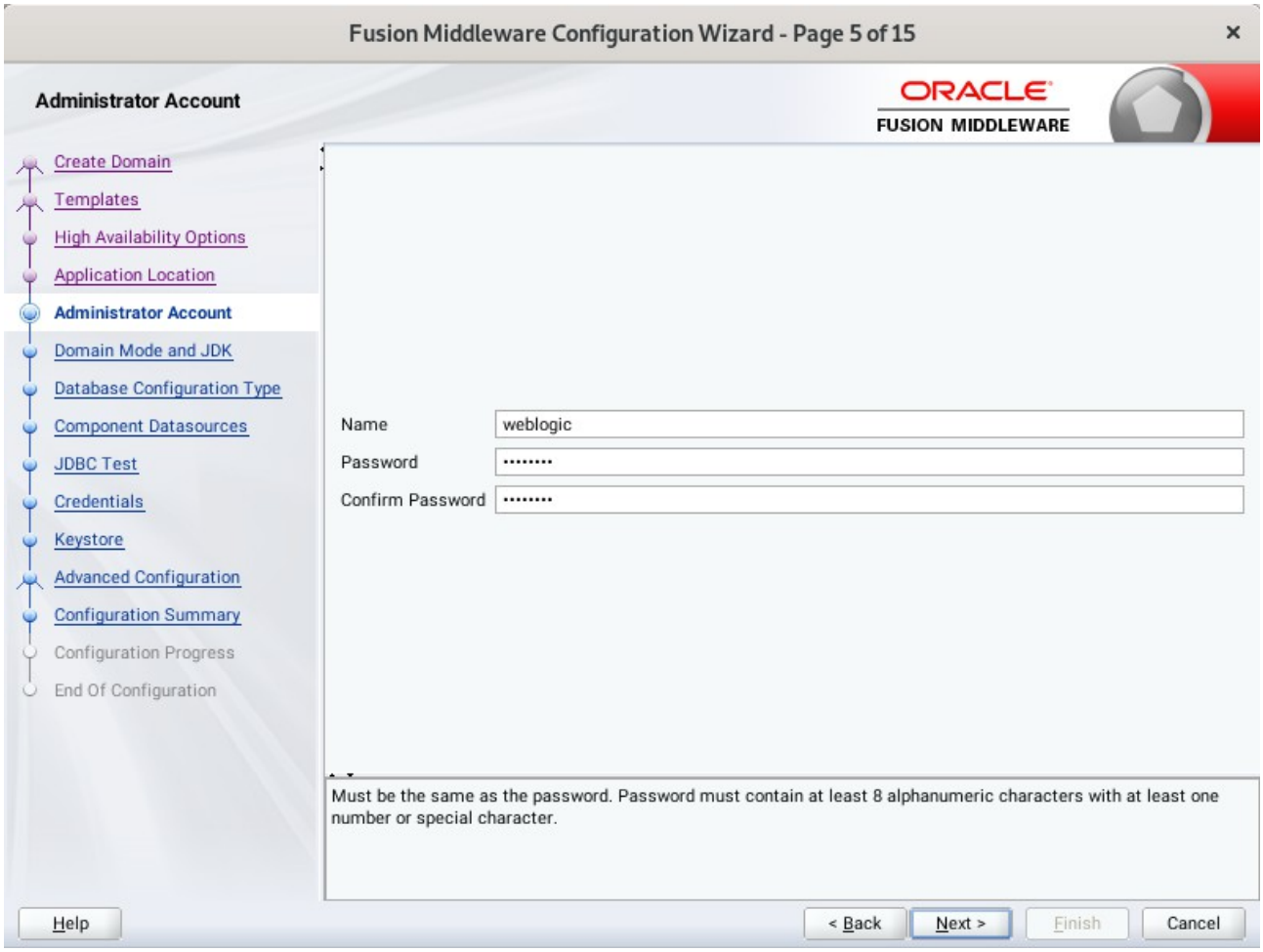
Keep the default value for Application location.Click **Next** to continue.

4). The **Application Location** screen appears.



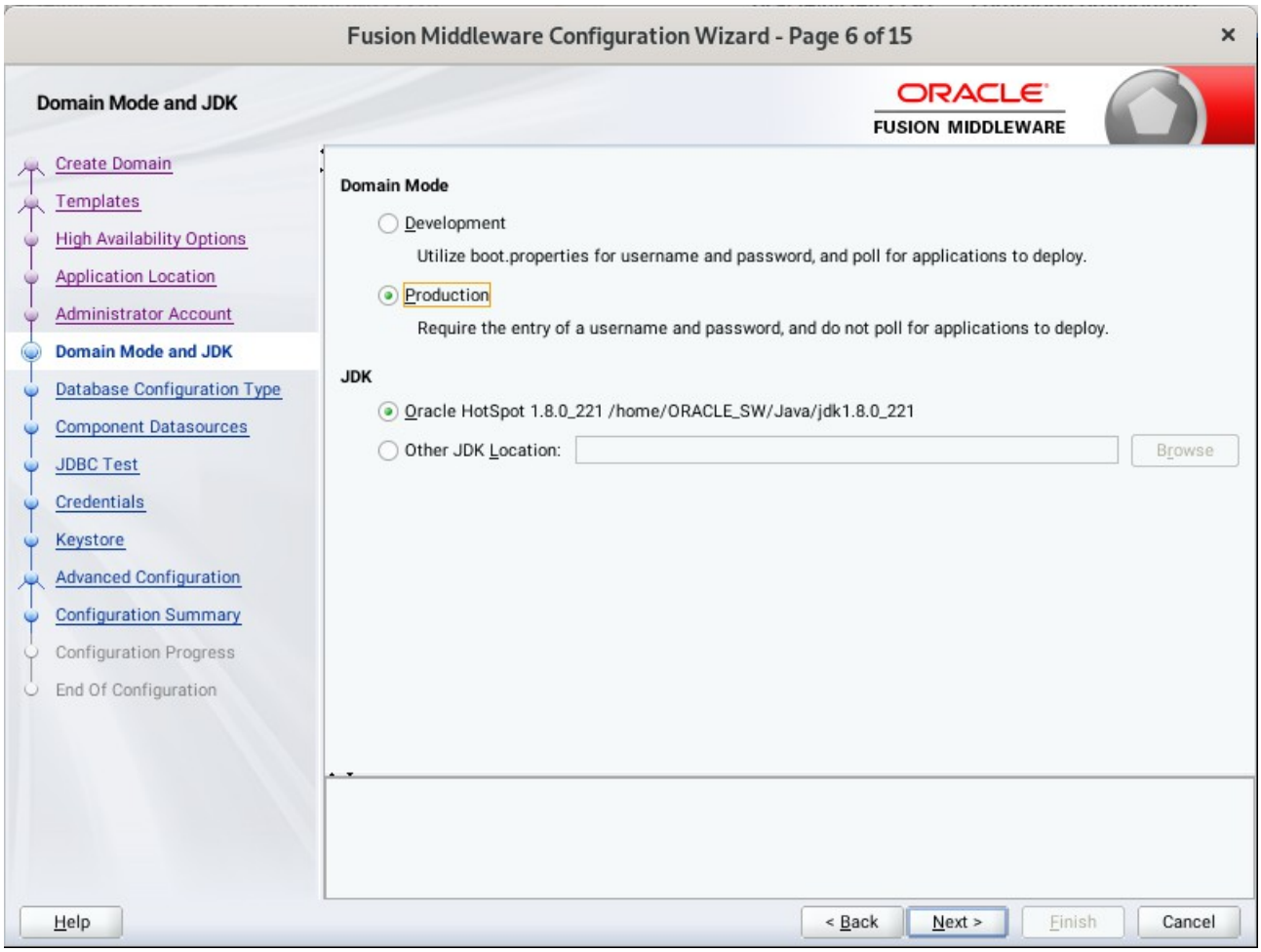
Keep the default value for Application location.Click **Next** to continue.

5). The **Administrator Account** screen appears.



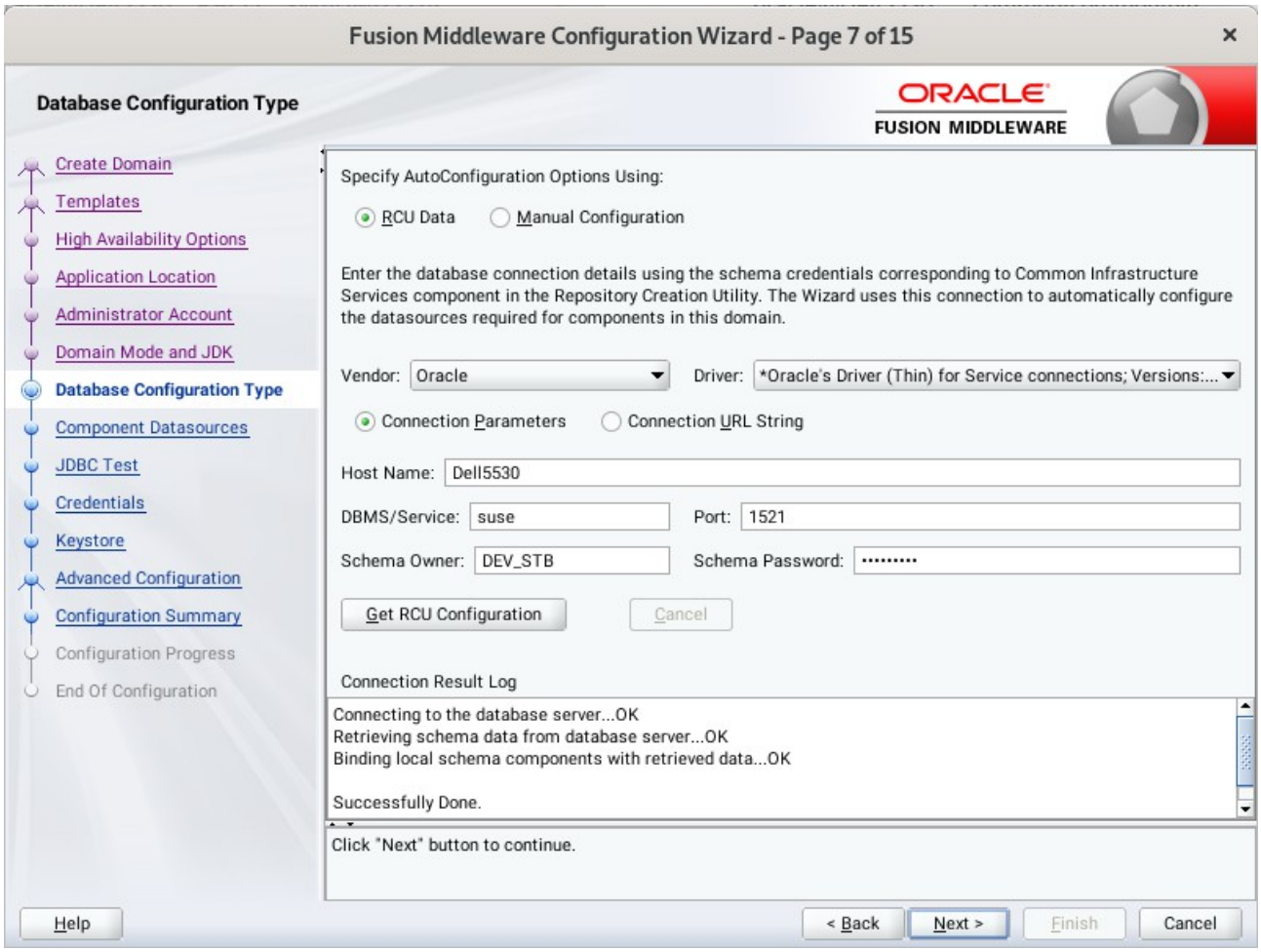
Enter the WebLogic Domain administration username and password. This information will be needed to access WebLogic Server Control and Fusion Middleware Control. Click **Next** to continue.

6). The **Domain Mode and JDK** screen appears.



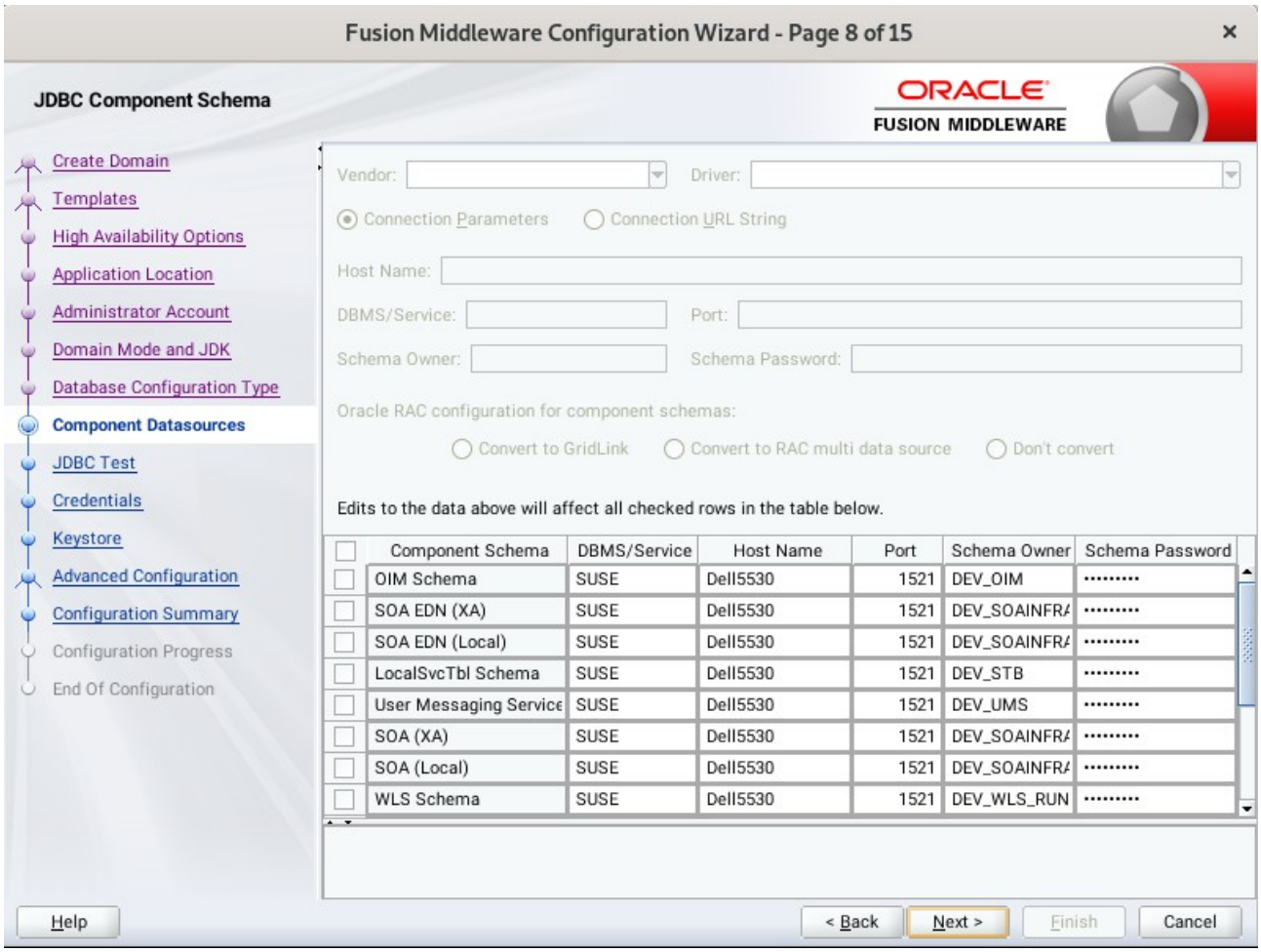
Select **Production** in the **Domain Mode** field and select the **Oracle HotSpot JDK** in the **JDK** field. Click **Next** to continue.

7). The **Database Configuration Type** screen appears.



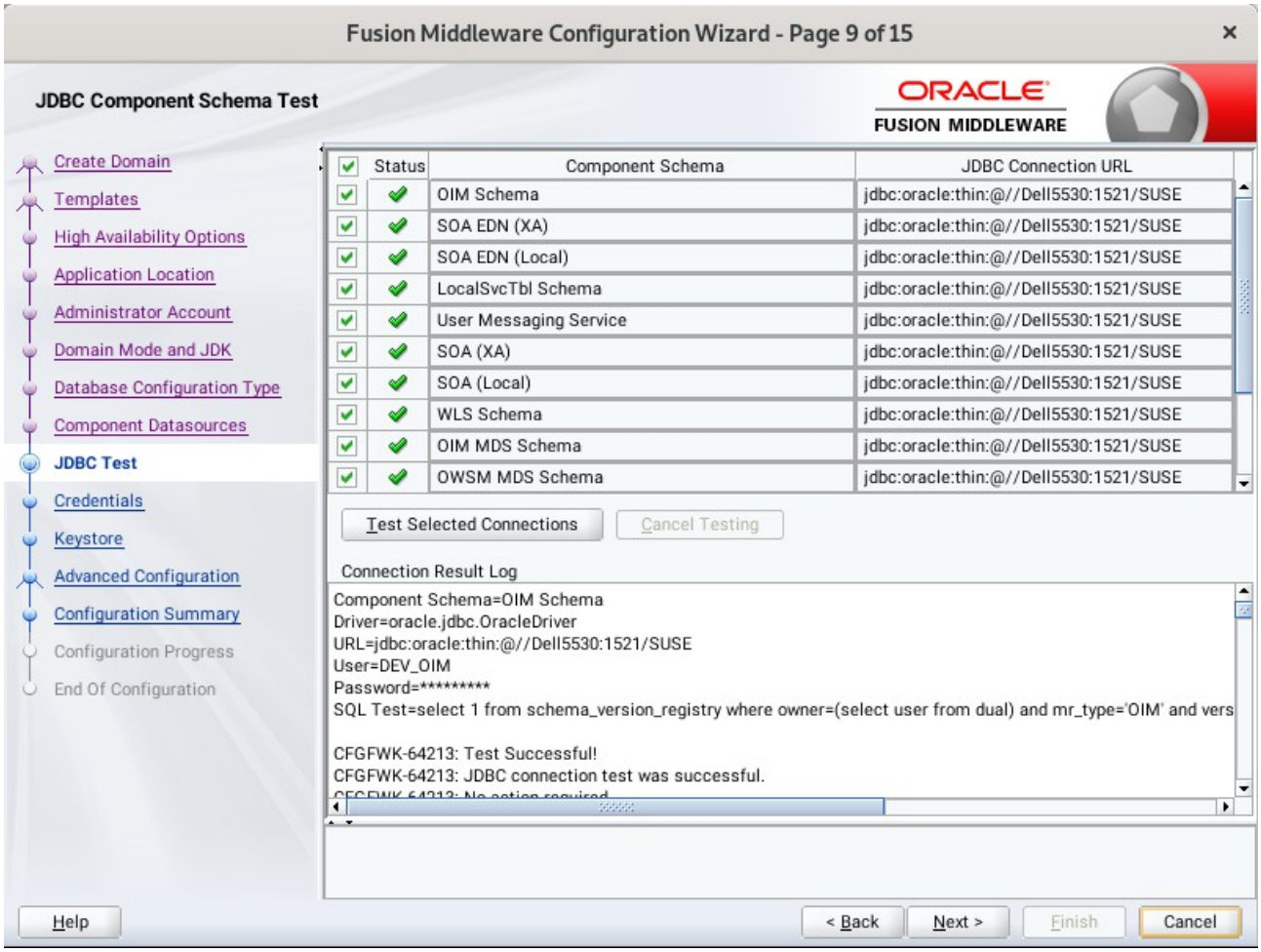
Select **RCU Data** to activate the fields. The **RCU Data** option instructs the Configuration Wizard to connect to the database and Service Table (STB) schema to automatically retrieve schema information for the schemas needed to configure the domain. Enter the RCU DB connection information, then click **Get RCU Configuration**. You should receive a success message. Click **Next** to continue.

8). The **JDBC Component Schema** screen appears.



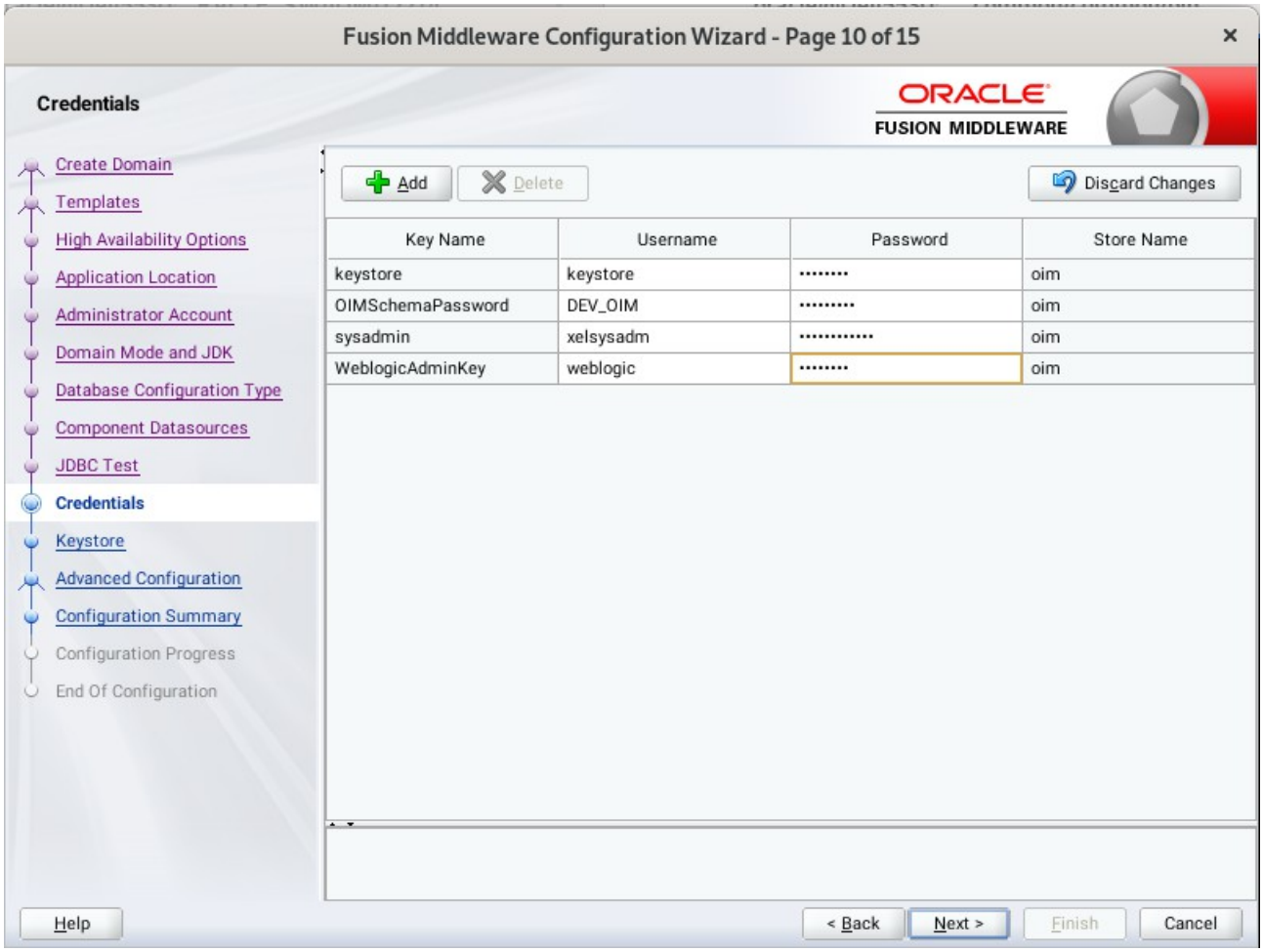
Our instructions assume each Repository schema uses the same password. If not, enter the correct schema passwords. Click **Next** to continue.

9). The **JDBC Component Schema Test** screen appears.



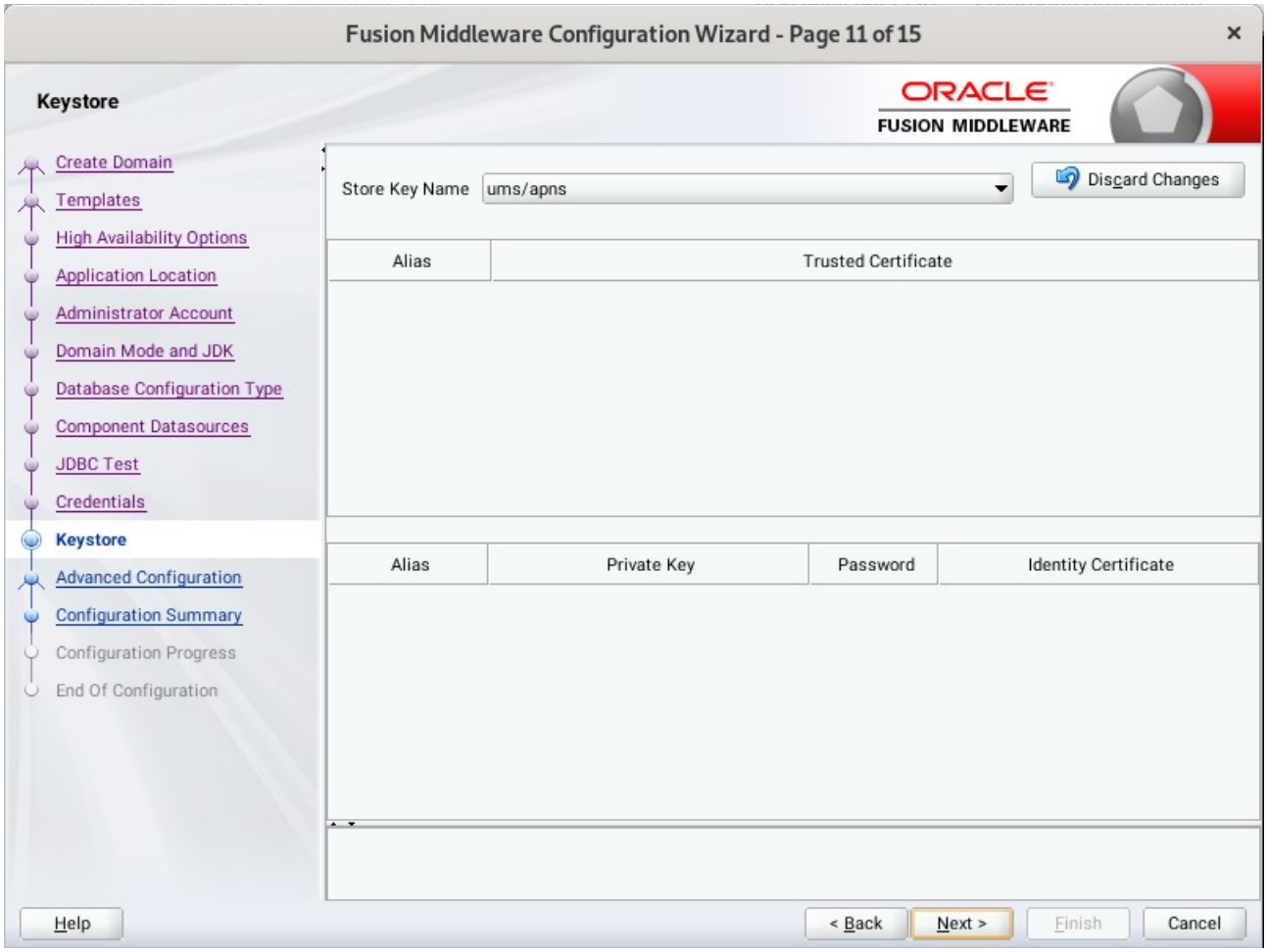
The tests are run and the results given. Ensure all test results are successful.Click **Next** to continue.

10). The **Credentials** screen appears.



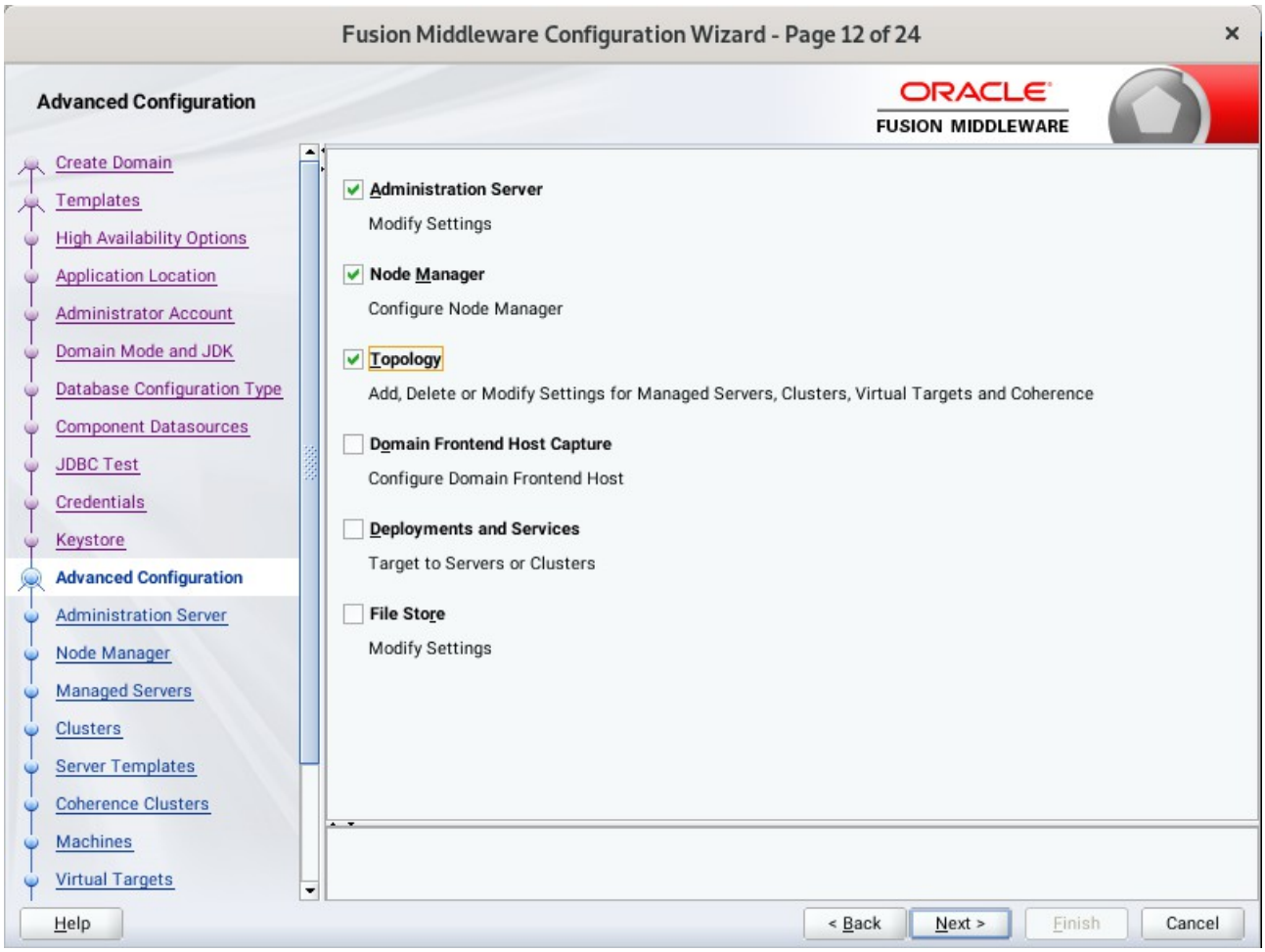
Use the Credentials screen to set credentials for each key in the domain. Ensure that you specify '*keystore'* as the username for the key **Keystore**, and '*xelsysadm'* as the username for the key **sysadmin**.

11). The **Keystore** screen appears.



Accept the defaults and click **Next** to continue.

12). The **Advanced Configuration** screen appears.

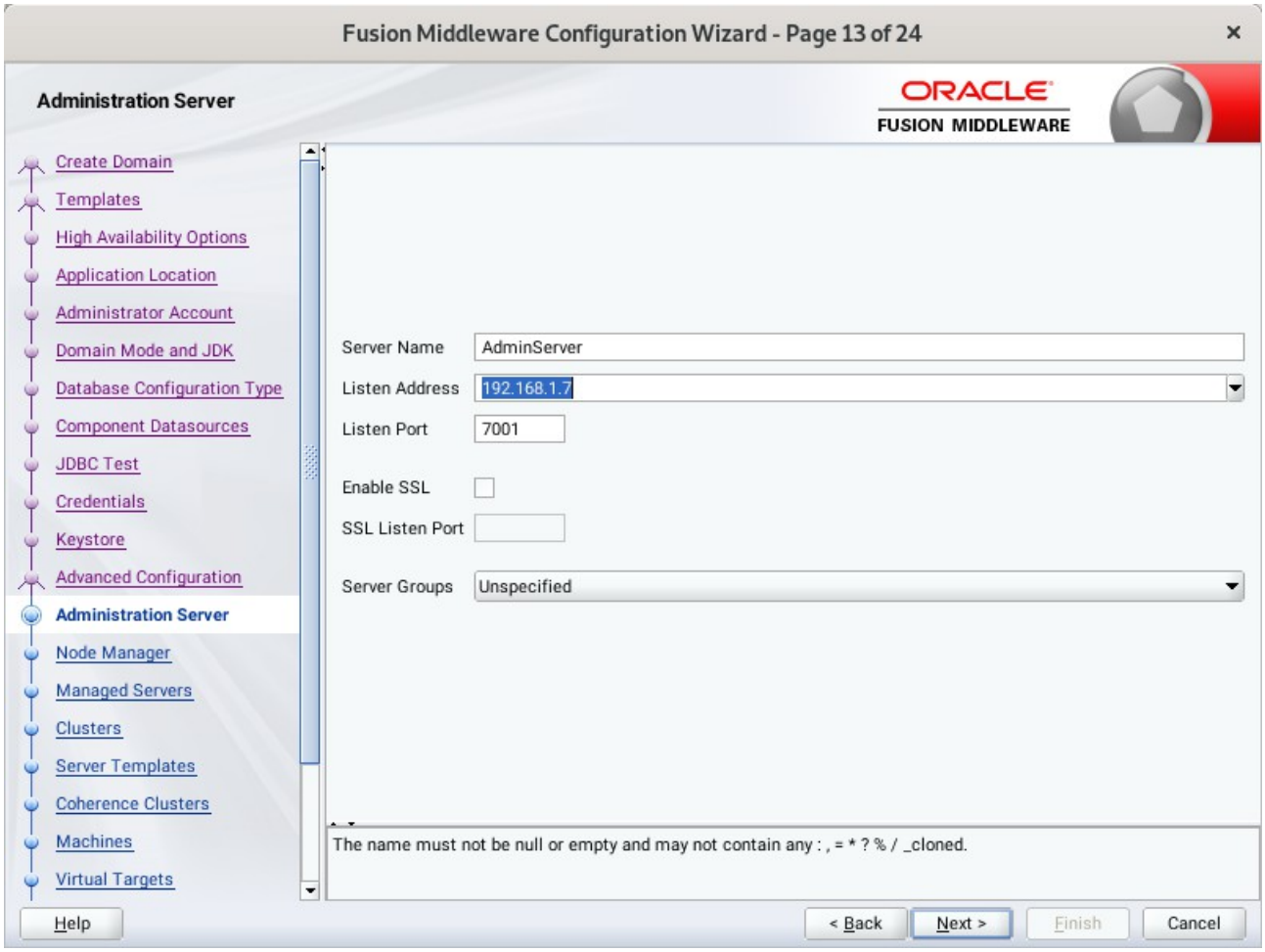


On the Advanced Configuration screen, select:

- Administration Server
- Node Manager
- Topology

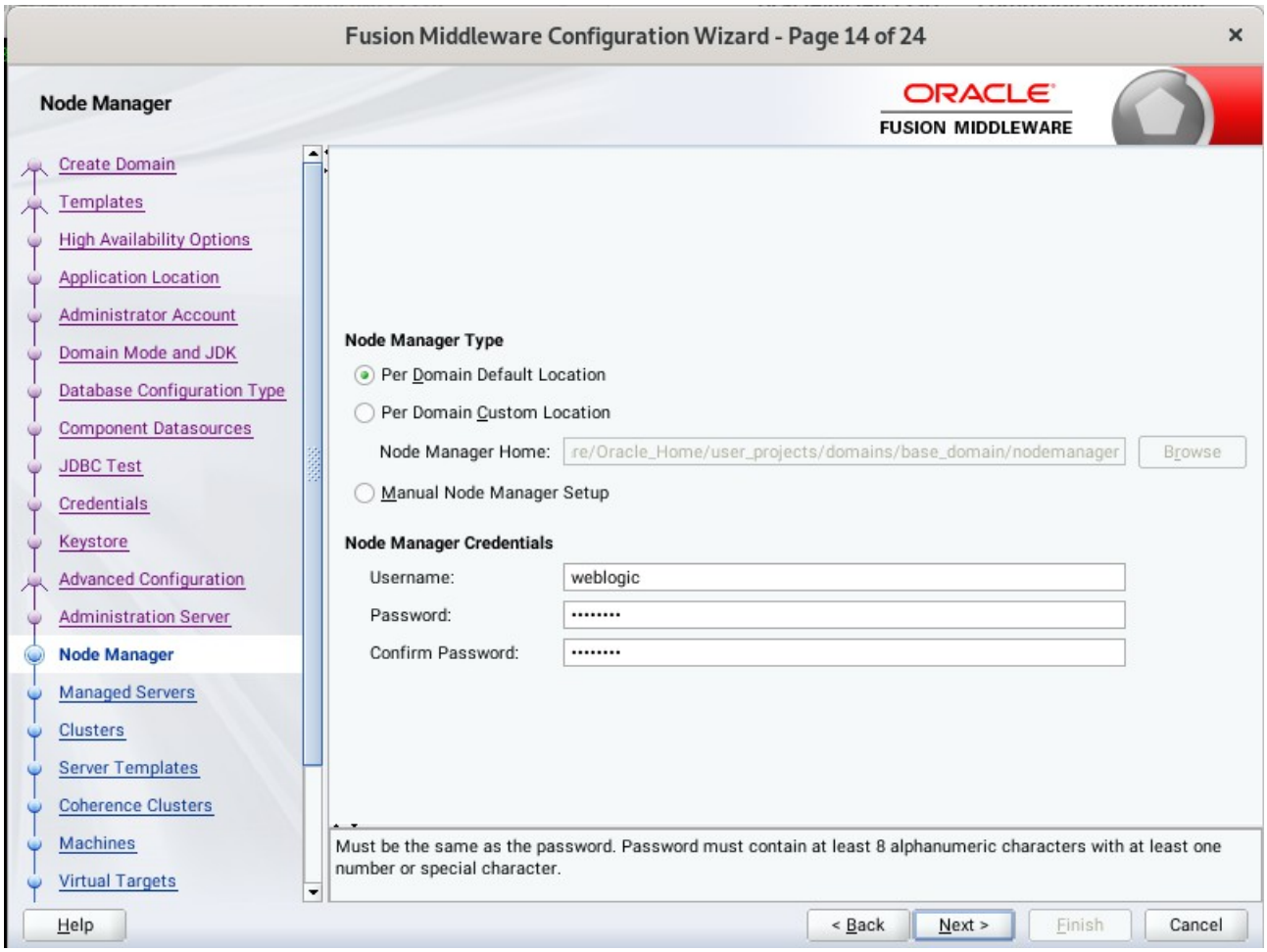
Then, click **Next** to continue.

13). The **Administration Server** screen appears.



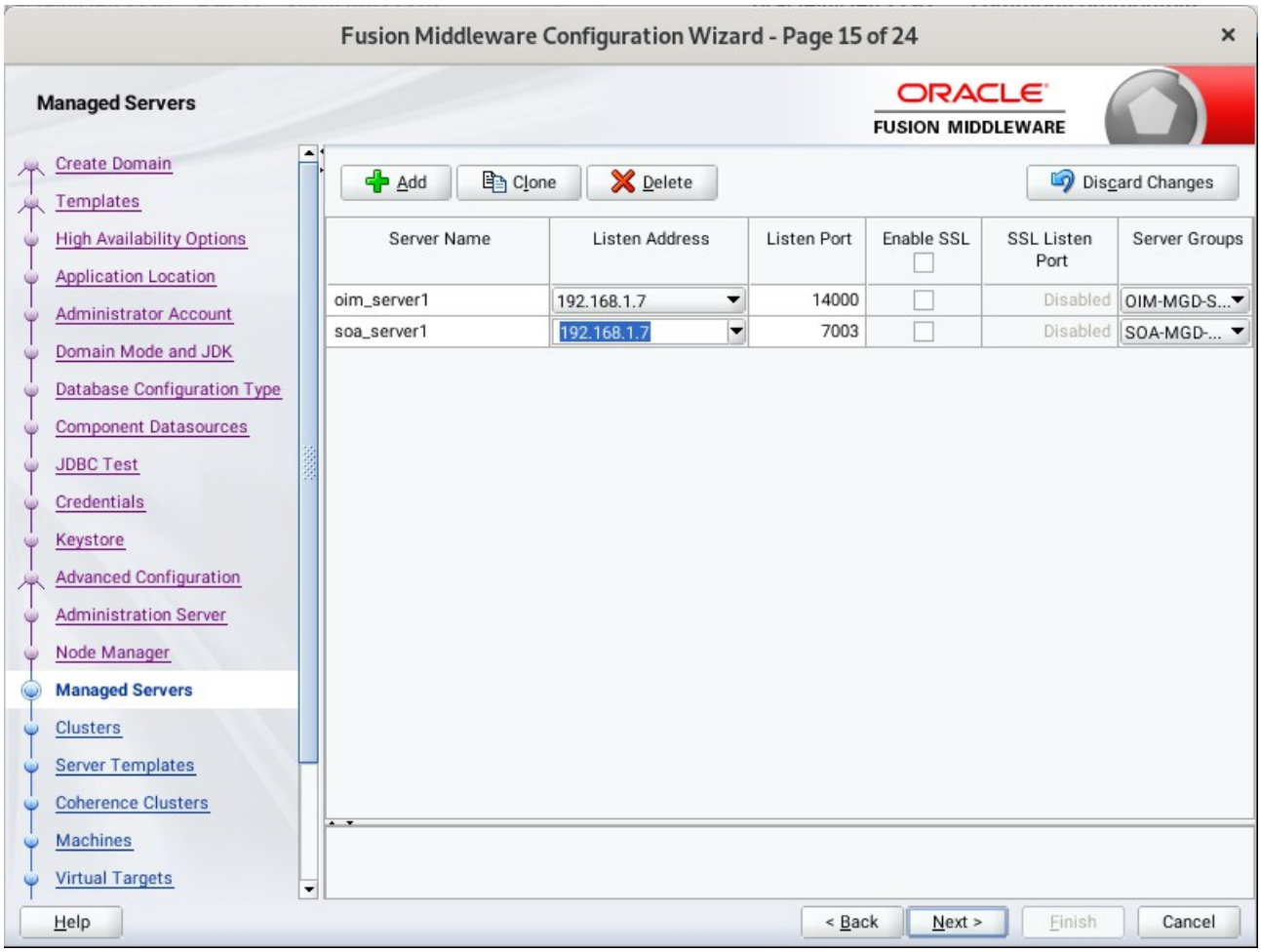
Use the **Administration Server** screen to select the IP address of the host. Select the drop-down list next to **Listen Address** and select the IP address of the host where the Administration Server will reside, or use the system name or DNS name that maps to a single IP address. Click **Next** to continue.

14). Configuring **Node Manager** screen appears.



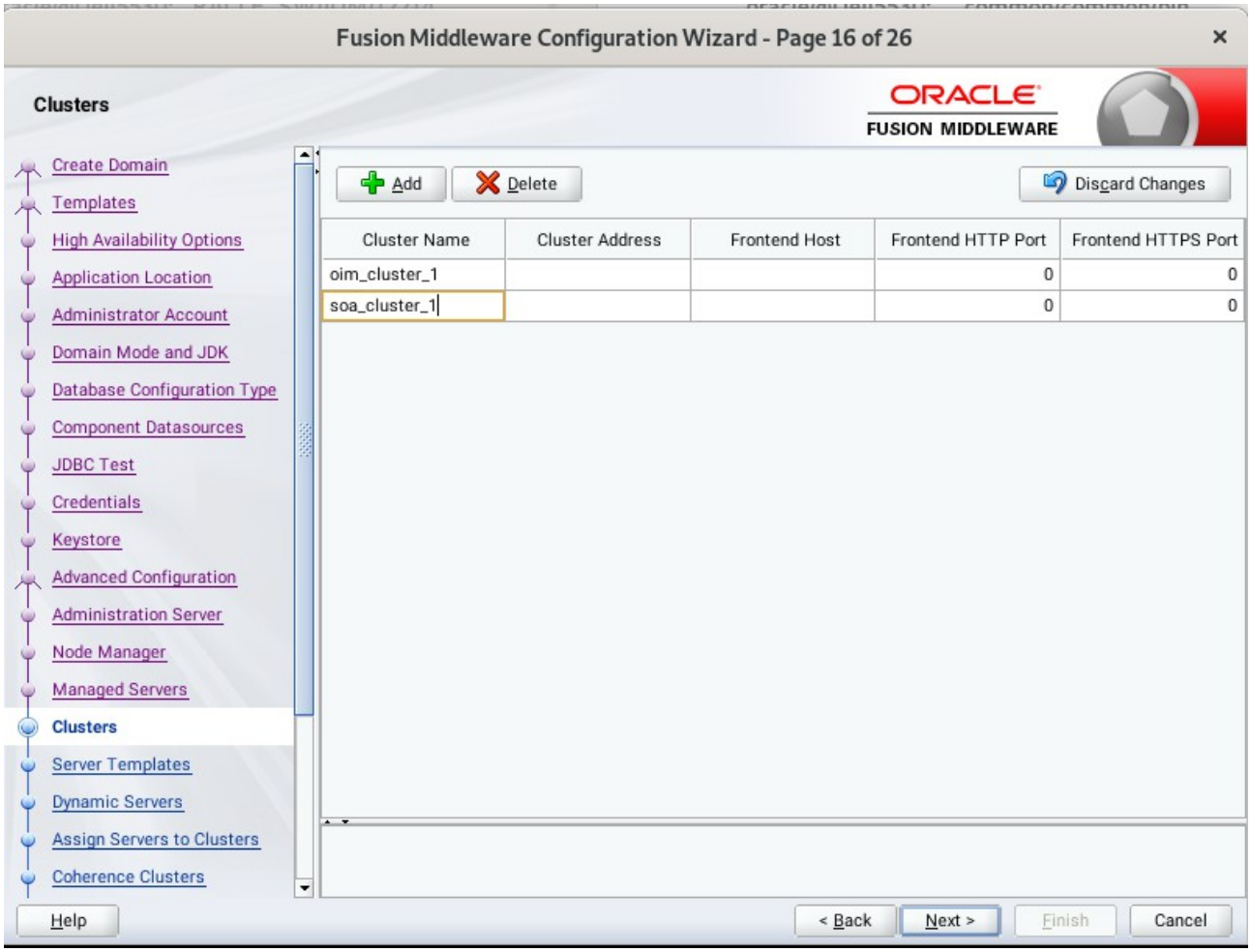
Select **Per Domain Default Location** as the Node Manager type, then specify Node Manager credentials. Click **Next** to continue.

15). The **Managed Servers** screen appears.



On the **Managed Servers** screen, new Managed Servers named: *oim_server1* and *soa_server1* are automatically created. In the **Listen Address** drop-down list, select the IP address of the host on which the Managed Server will reside or use the system name or DNS name that maps to a single IP address. The default **Server Groups** have already been selected for each server. Click **Next** to continue.

16). The **Clusters** screen appears.



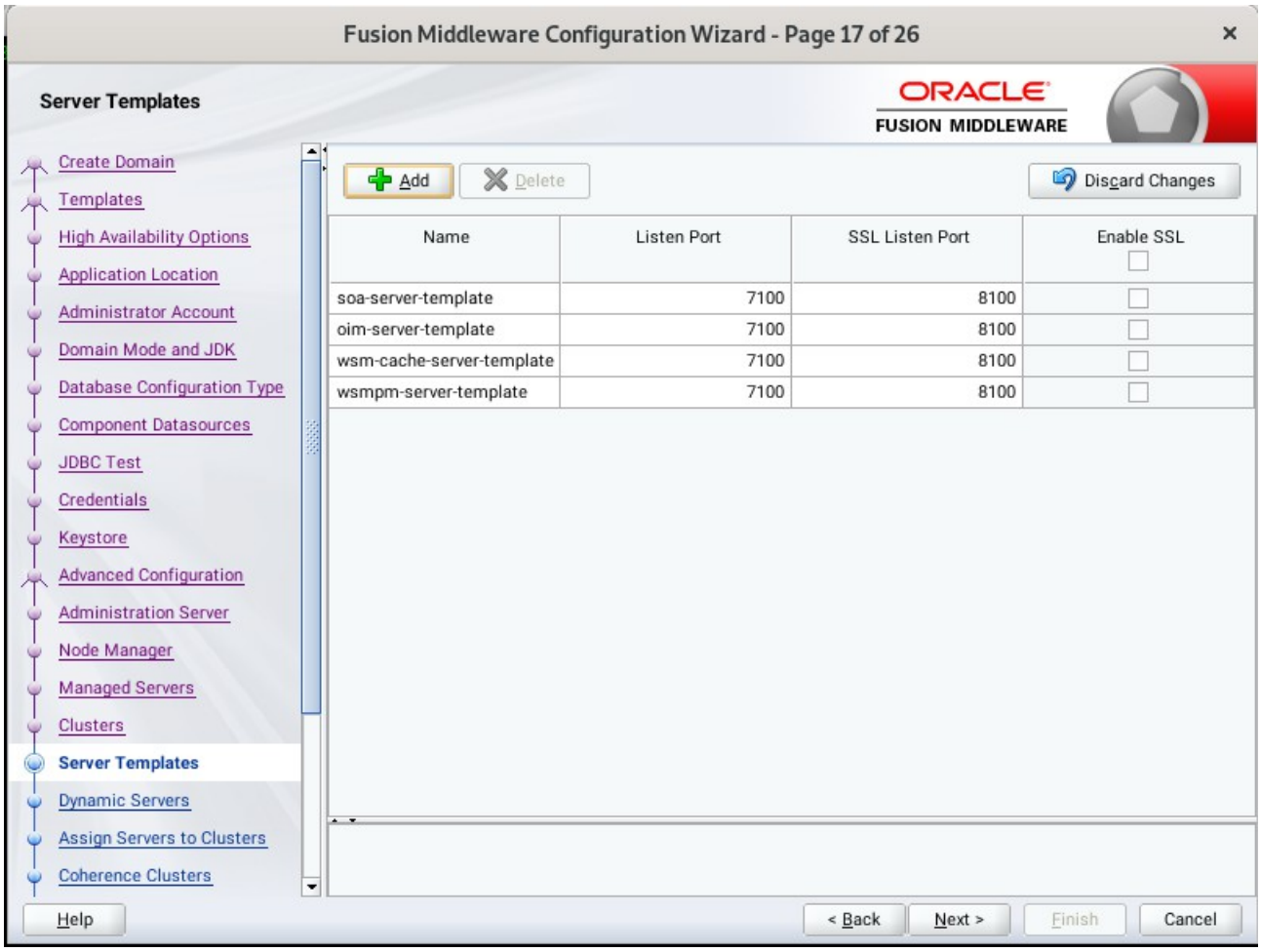
On the Clusters screen:

1. Click **Add**.
2. Specify *oim_cluster_1* in the Cluster Name field.
3. Leave the Cluster Address field blank.
4. Repeat these steps to create *soa_cluster_1* cluster.

Click **Next** to continue.

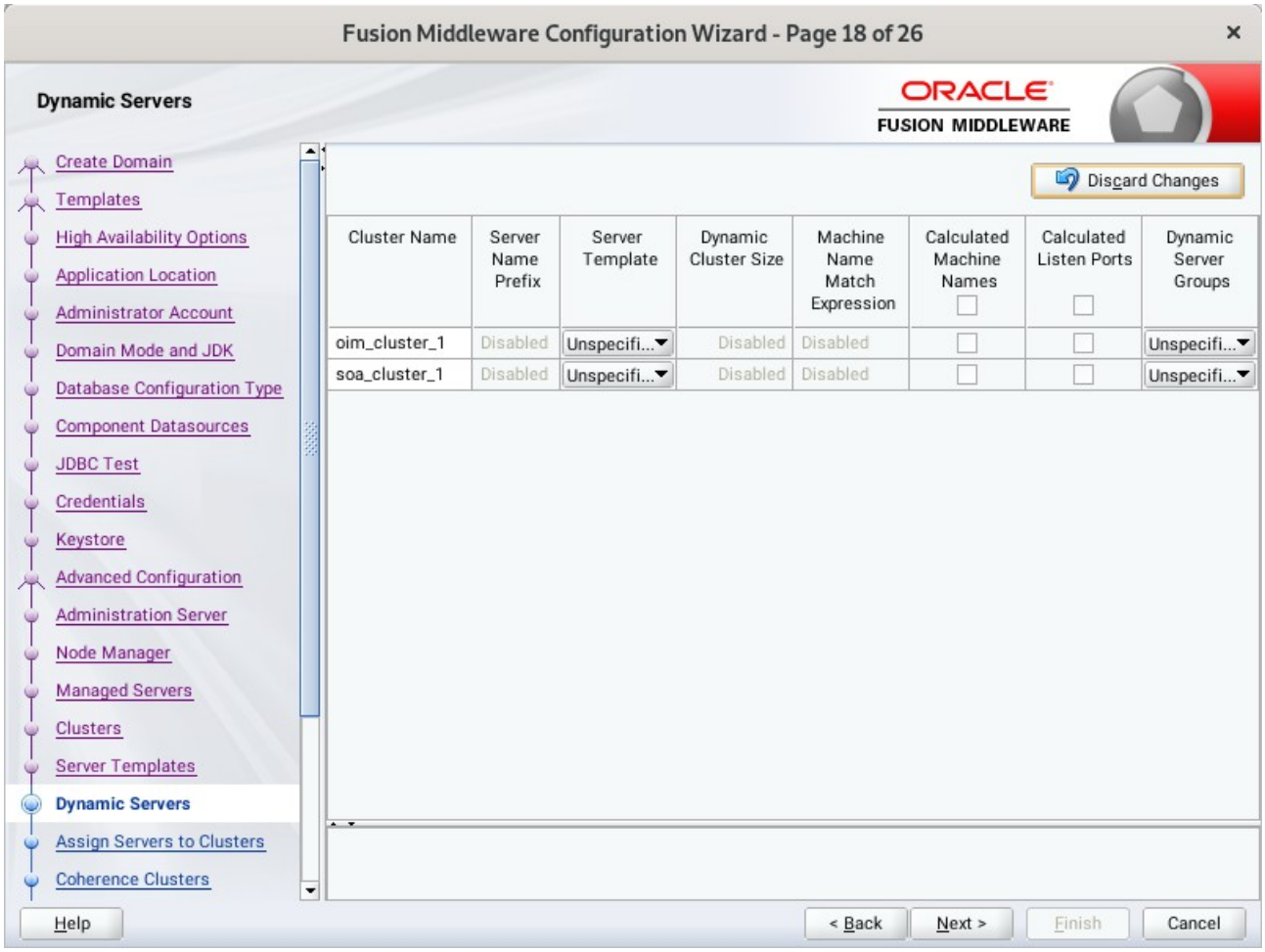
(**Note:** If you are configuring a non-clustered setup on a single node, skip this screen.)

17). The **Server templates** screep appears.



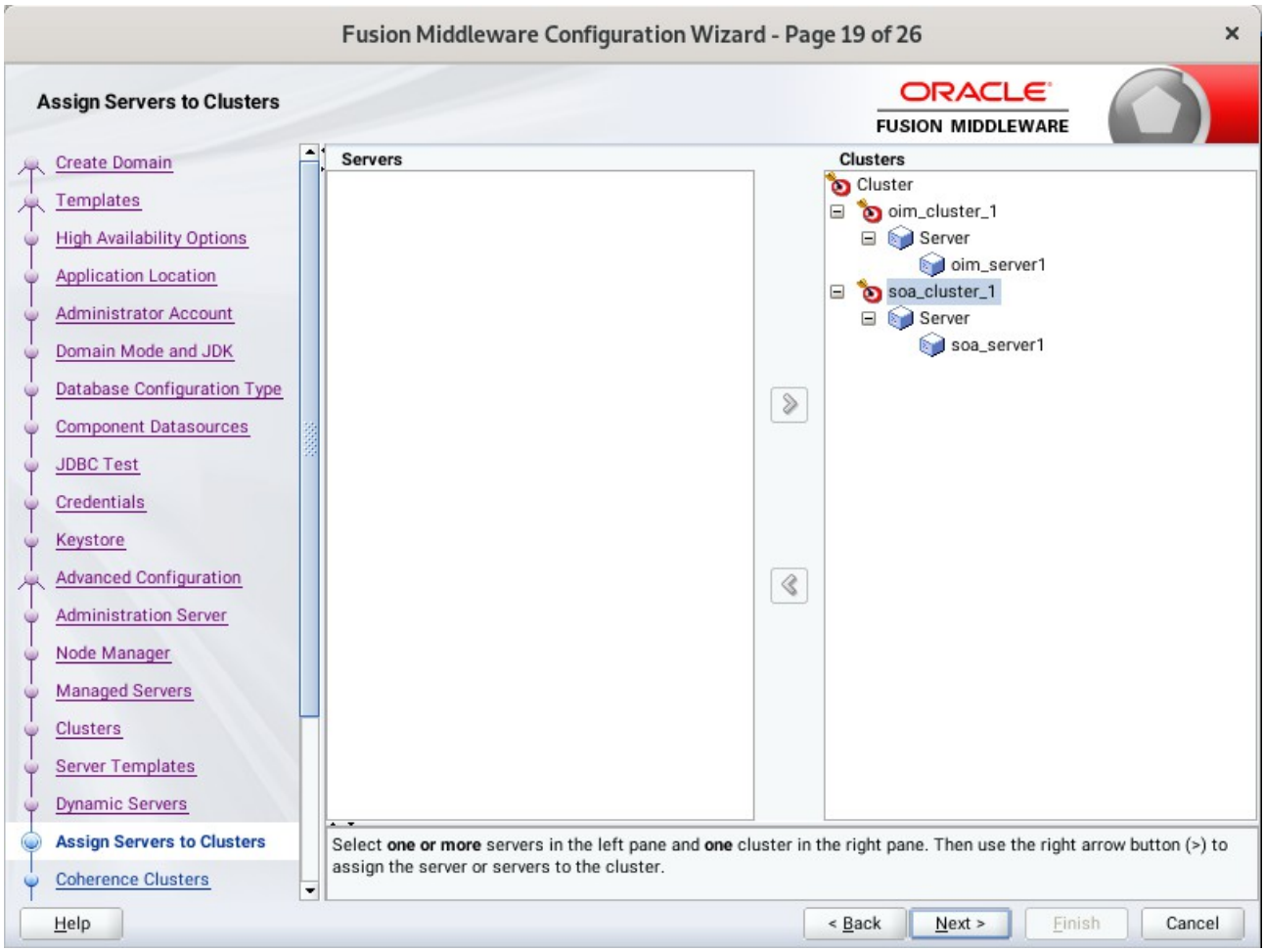
If you are creating dynamic clusters for a high availability setup, use the Server Templates screen to define one or more server templates for domain. To continue configuring the domain, click **Next**.

18). The **Dynamic Servers** screep appears.



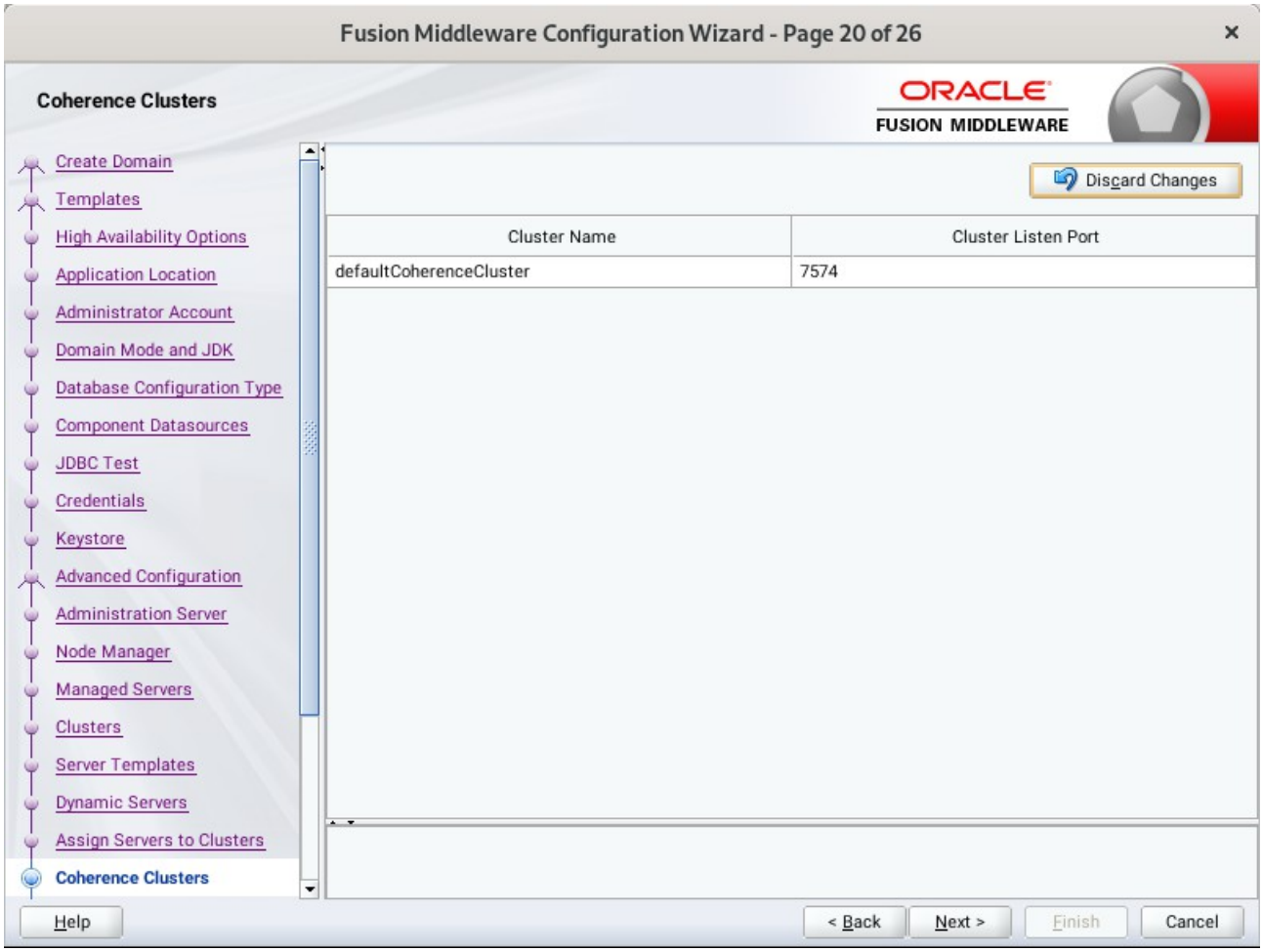
If you are creating dynamic clusters for a high availability setup, use the Dynamic Servers screen to configure the dynamic servers. If you are not configuring a dynamic cluster, click **Next** to continue configuring the domain.

19). The **Assign Servers to Clusters** screen appears.



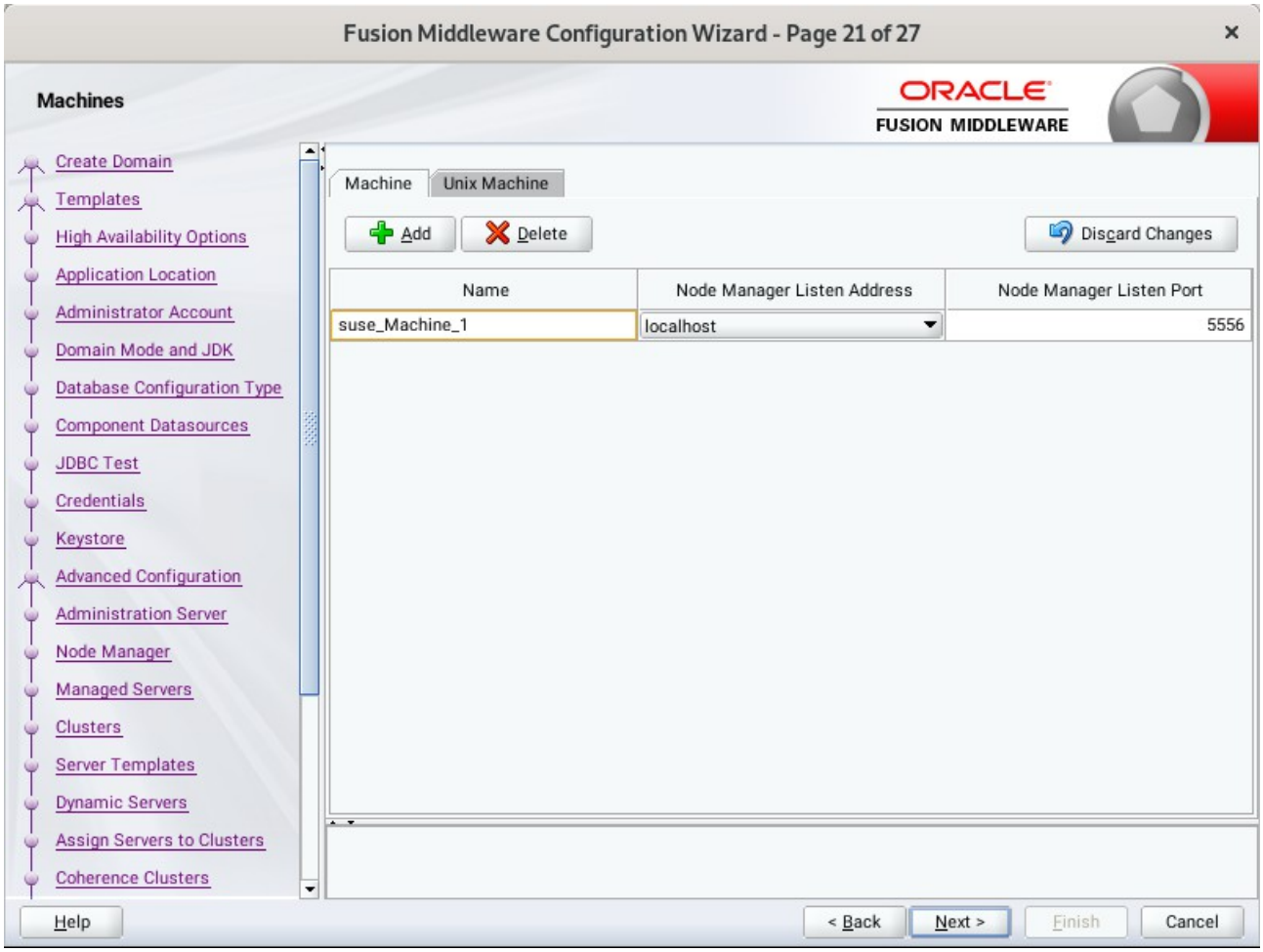
Use the **Assign Servers to Clusters** screen to assign Managed Servers to a new configured cluster. Click **Next** to continue.

20). The **Coherence Clusters** screen appears.



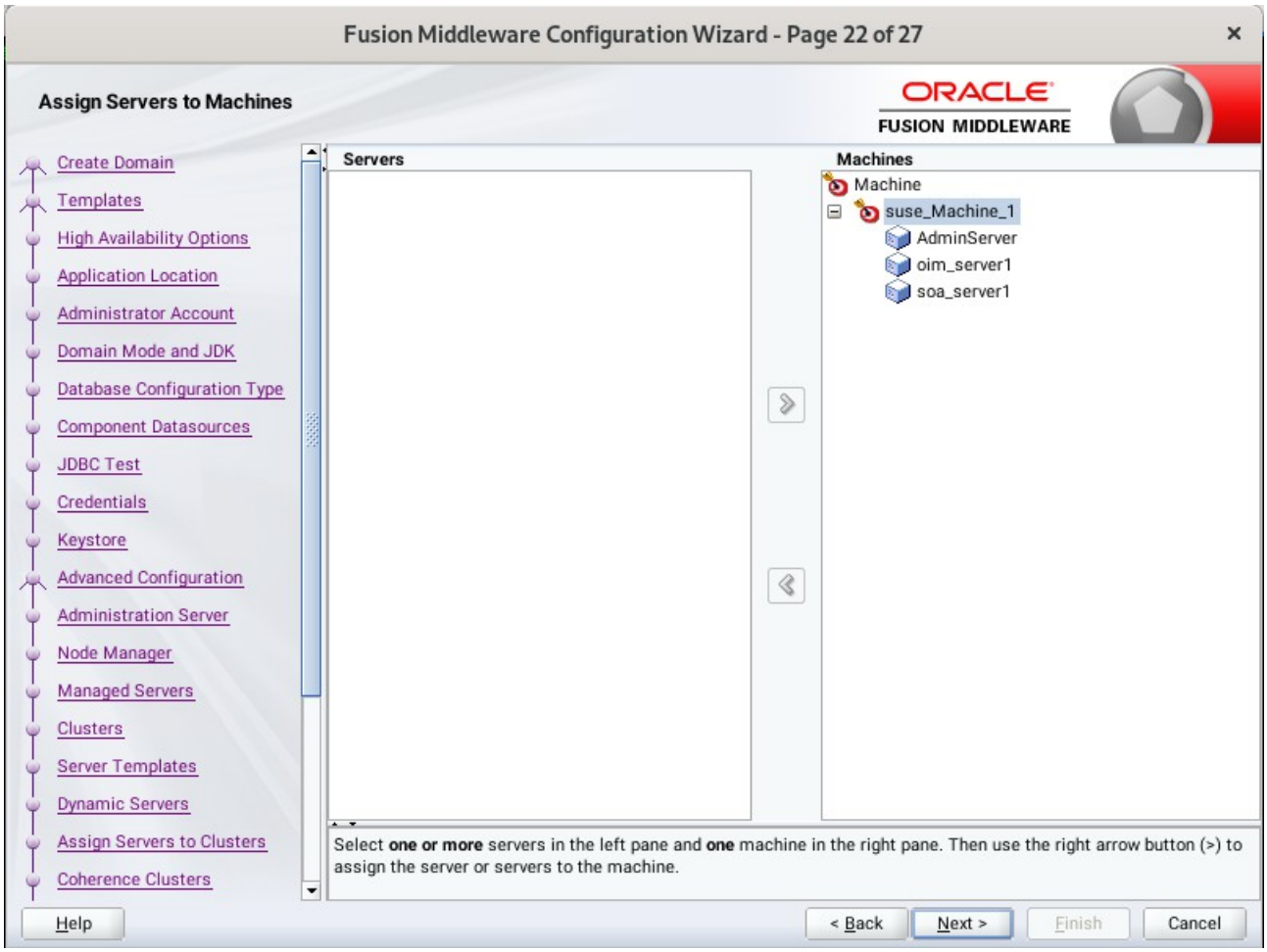
Leave the default port number as the Coherence cluster listen port. After configuration, the Coherence cluster is automatically added to the domain. Click **Next** to continue.

21). The **Machines** screen appears.



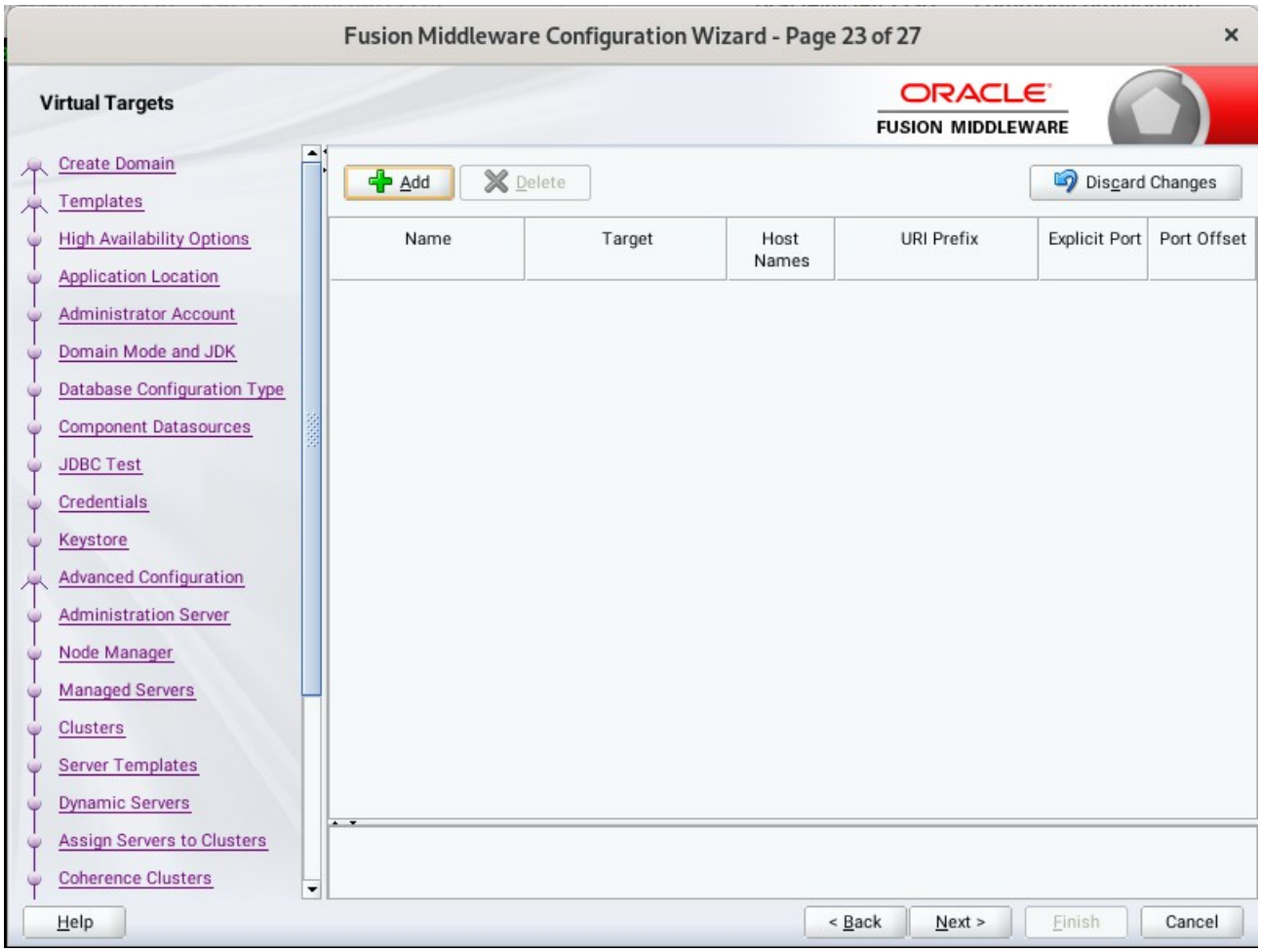
To create a new machine so that Node Manager can start and stop servers. Click **Next** to continue.

22). The **Assign Servers to Machines** screen appears.



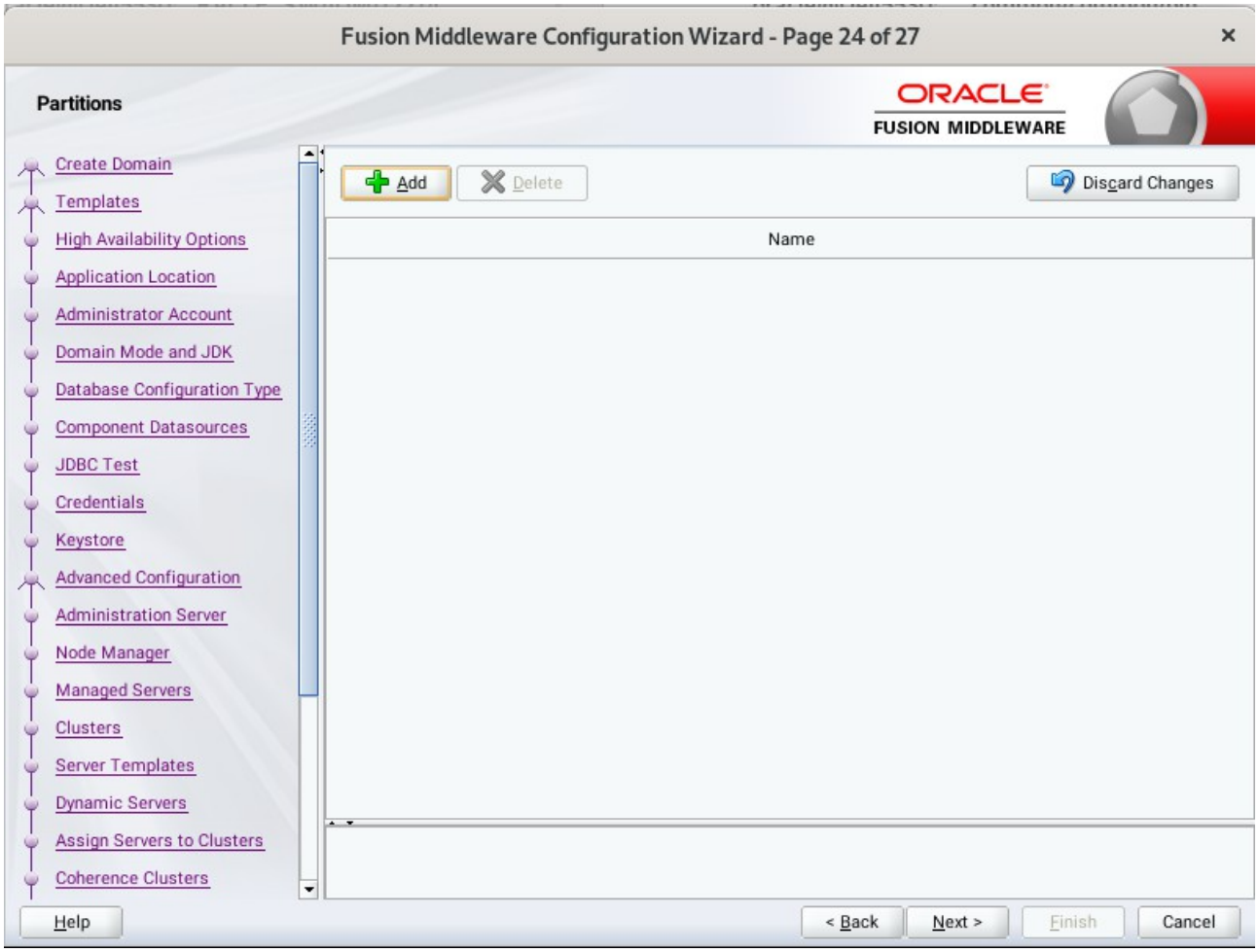
Use the **Assign Servers to Machines** screen to assign the Managed Servers to the new machine you just created. Click **Next** to continue.

23). The **Virtual Targets** screep appears.



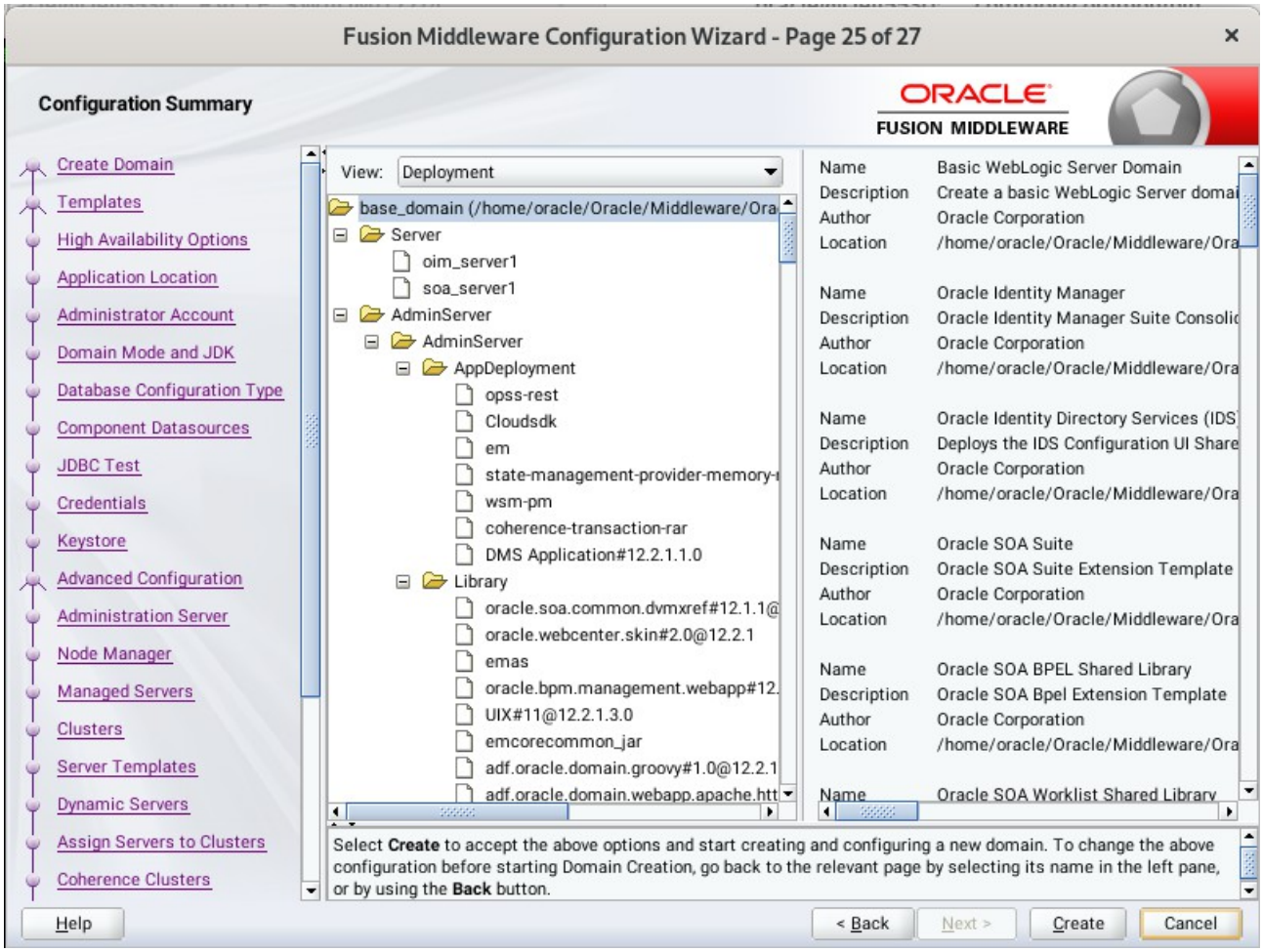
If you have a WebLogic Server Multitenant (MT) environment, you use the Virtual Targets screen to add or delete virtual targets. For this installation (not a WebLogic Server MT environment), you do not enter any values; just select **Next**.

24). The **Partitions** screep appears.



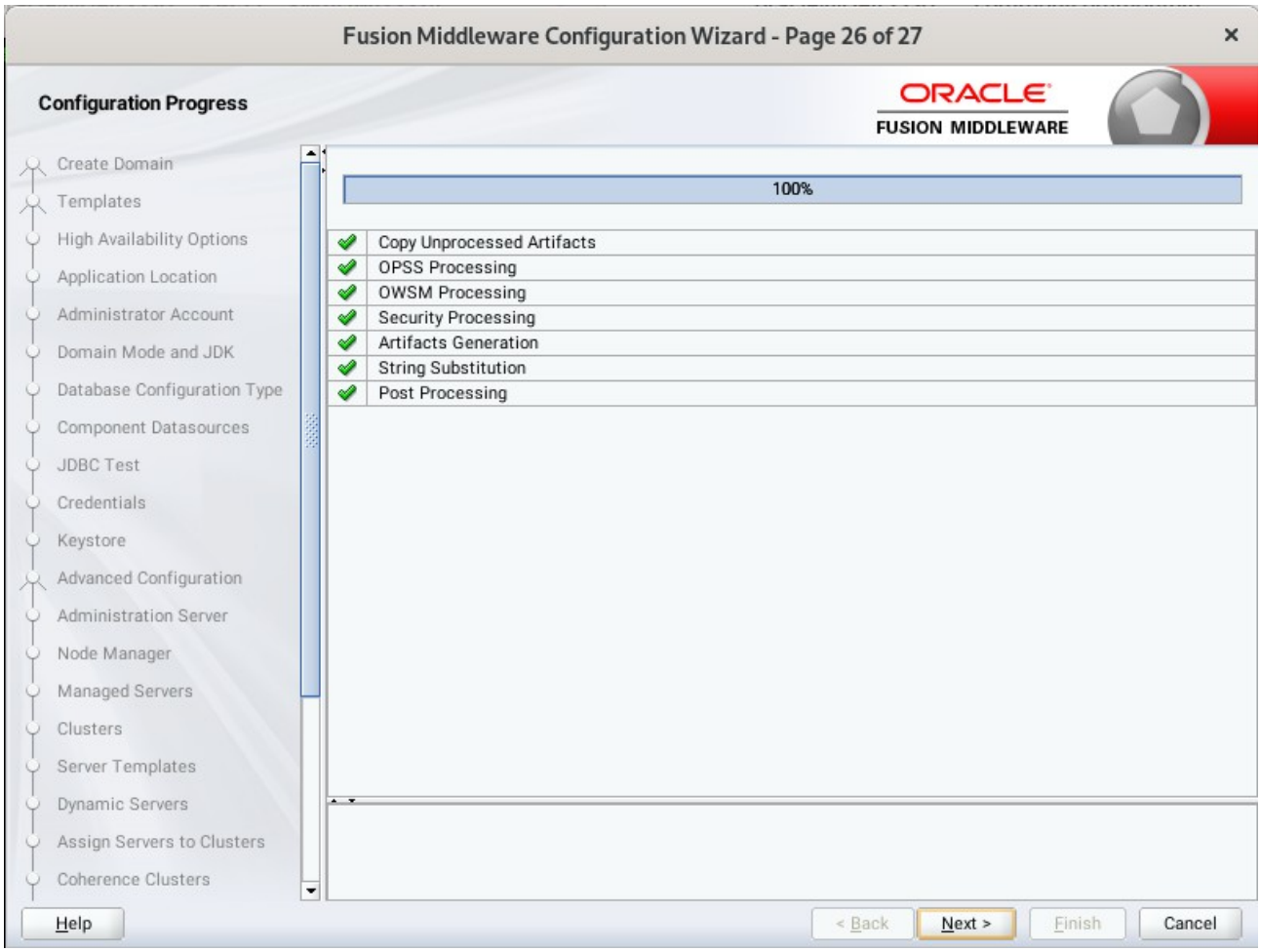
The Partitions screen is used to configure partitions for virtual targets in WebLogic Server Multitenant (MT) environments. Select **Next** without selecting any options.

25). The **Configuration Summary** screen appears.



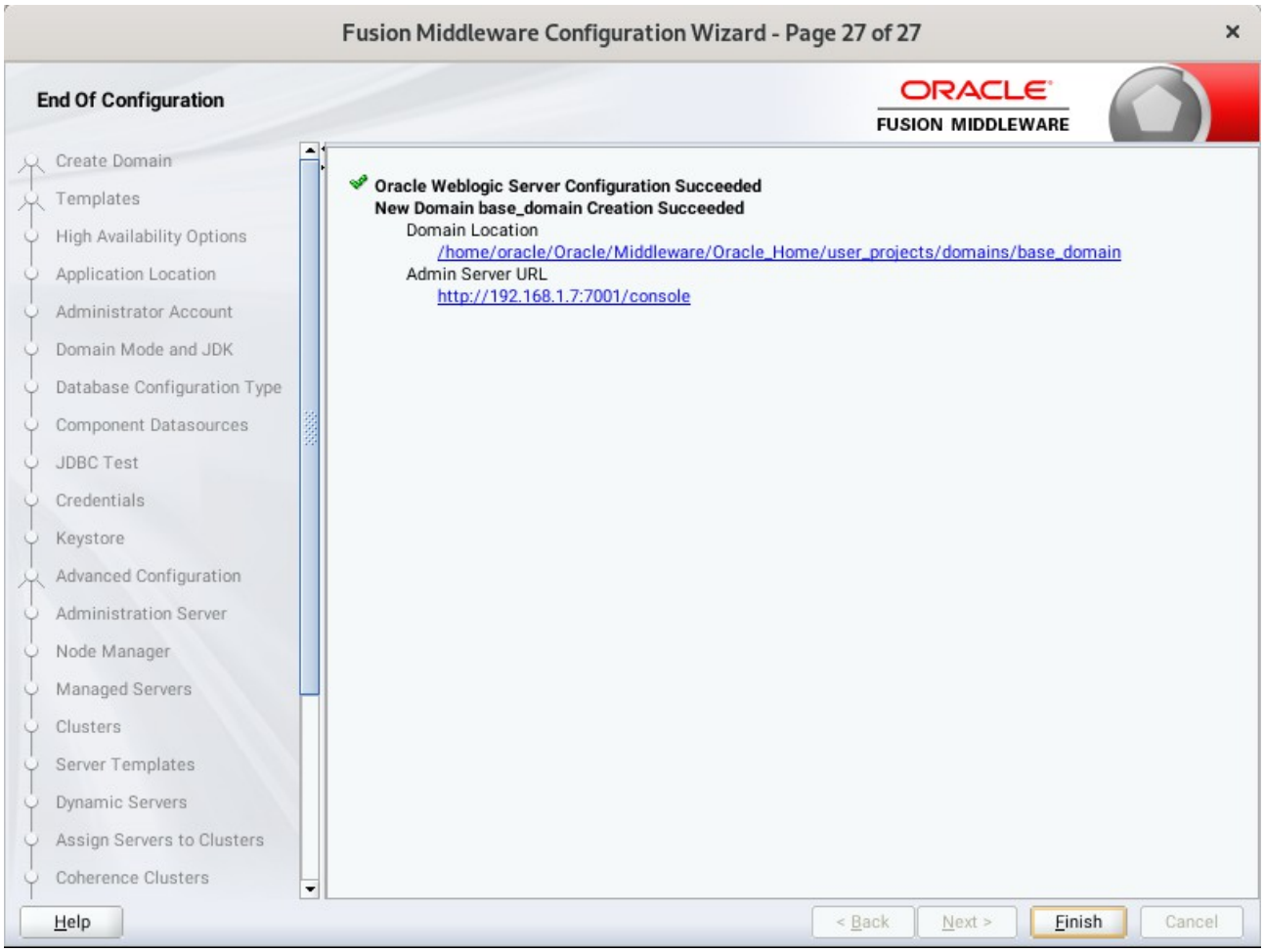
Select **Create** to accept the above options and start creating and configuring a new domain.

26). The **Configuration Progress** screen appears.



Wait for this part of the configuration to complete. Depending on the location and performance of the Repository database, this process may take a few minutes. After the domain successful created, click **Next** to continue.

27). The **End of Configuration** screen appears.



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

2-3. Performing Post-Configuration Tasks

After you configure the Oracle IDM domain, perform the necessary post-configuration tasks.

1). Running the Offline Configuration Command.

To run the offlineConfigManager command, do the following:

- Set the following environment variables to the right values.

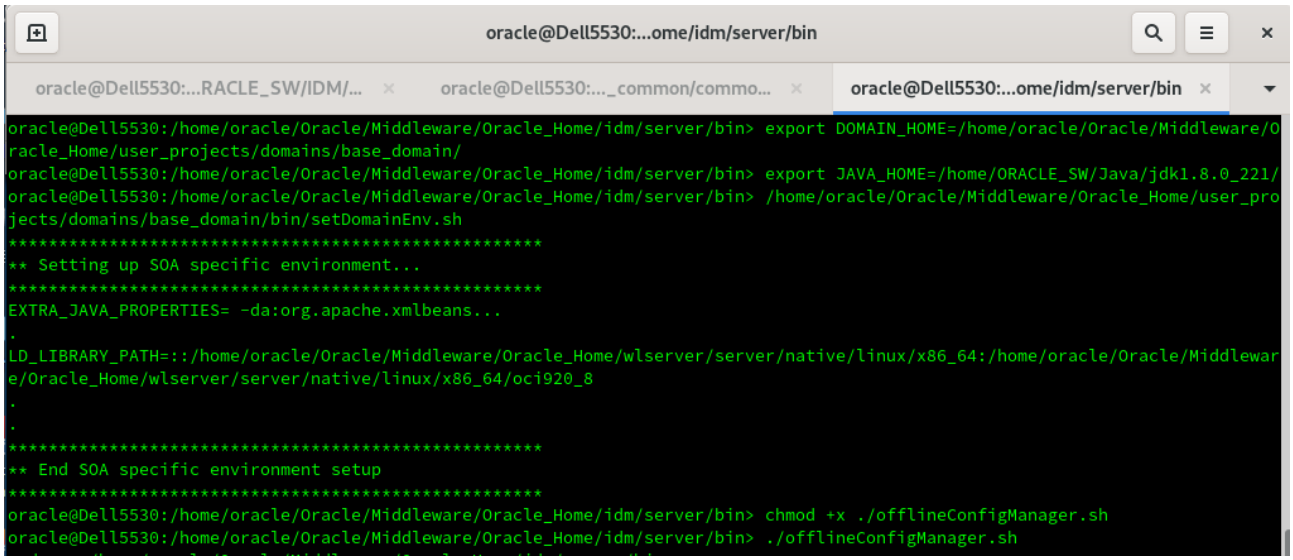
  DOMAIN_HOME
  JAVA_HOME

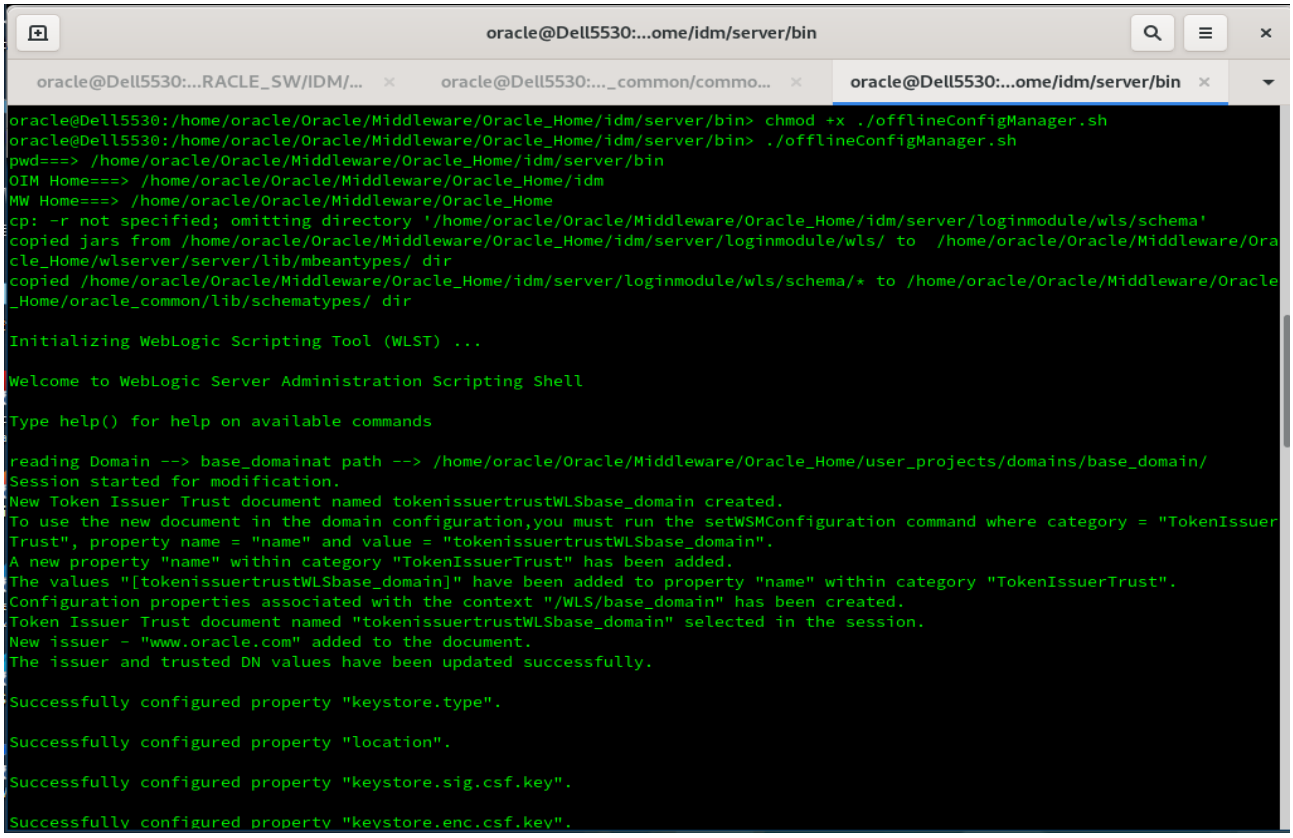
- Run the setDomainEnv script from %DOMAIN_HOME%\bin, in order to set up all of the required environment variables.

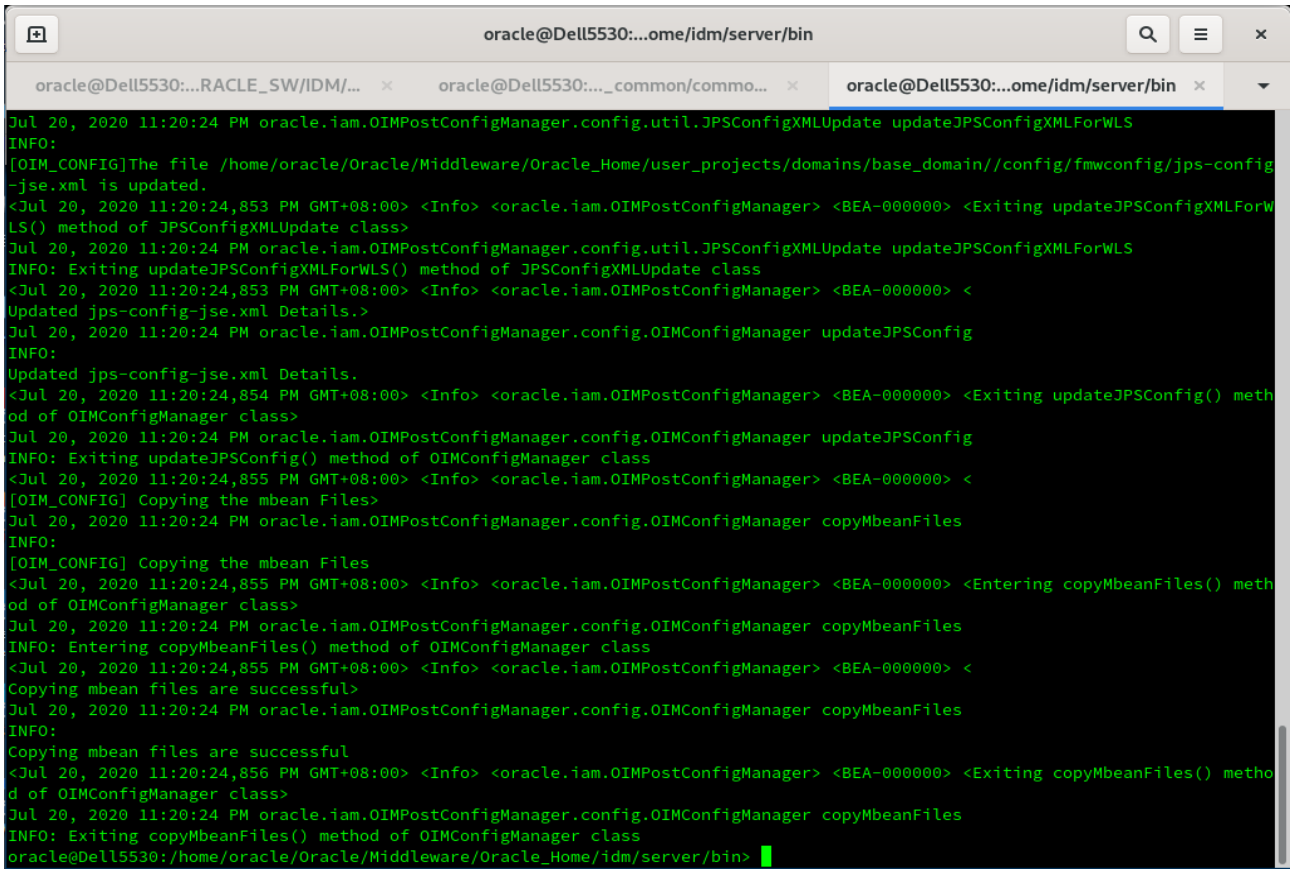
  ./setDomainEnv.sh

- Run the following command from the location OIM_HOME/server/bin/:

  ./offlineConfigManager.sh




oracle@Dell5530:...ome/idm/server/bin
oracle@Dell5530:...RACLE_SW/IDM/...
oracle@Dell5530:..._common/commo...
oracle@Dell5530:...ome/idm/server/bin
oracle@Dell5530:/home/oracle/Oracle/Middleware/Oracle_Home/idm/server/bin> chmod +x ./offlineConfigManager.sh
oracle@Dell5530:/home/oracle/Oracle/Middleware/Oracle_Home/idm/server/bin> ./offlineConfigManager.sh
pwd===> /home/oracle/Oracle/Middleware/Oracle_Home/idm/server/bin
OIM Home===> /home/oracle/Oracle/Middleware/Oracle_Home/idm
MW Home===> /home/oracle/Oracle/Middleware/Oracle_Home
cp: -r not specified; omitting directory '/home/oracle/Oracle/Middleware/Oracle_Home/idm/server/loginmodule/wls/schema'
copied jars from /home/oracle/Oracle/Middleware/Oracle_Home/idm/server/loginmodule/wls/ to /home/oracle/Oracle/Middleware/Oracle_Home/wlserver/server/lib/mbeantypes/ dir
copied /home/oracle/Oracle/Middleware/Oracle_Home/idm/server/loginmodule/wls/schema/* to /home/oracle/Oracle/Middleware/Oracle_Home/oracle_common/lib/schematypes/ dir
Initializing WebLogic Scripting Tool (WLST) ...
Welcome to WebLogic Server Administration Scripting Shell
Type help() for help on available commands
reading Domain --> base_domainat path --> /home/oracle/Oracle/Middleware/Oracle_Home/user_projects/domains/base_domain/
Session started for modification.
New Token Issuer Trust document named tokenissuertrustWLSbase_domain created.
To use the new document in the domain configuration,you must run the setWSMConfiguration command where category = "TokenIssuerTrust", property name = "name" and value = "tokenissuertrustWLSbase_domain".
A new property "name" within category "TokenIssuerTrust" has been added.
The values "[tokenissuertrustWLSbase_domain]" have been added to property "name" within category "TokenIssuerTrust".
Configuration properties associated with the context "/WLS/base_domain" has been created.
Token Issuer Trust document named "tokenissuertrustWLSbase_domain" selected in the session.
New issuer - "www.oracle.com" added to the document.
The issuer and trusted DN values have been updated successfully.
Successfully configured property "keystore.type".
Successfully configured property "location".
Successfully configured property "keystore.sig.csf.key".
Successfully configured property "keystore.enc.csf.key".

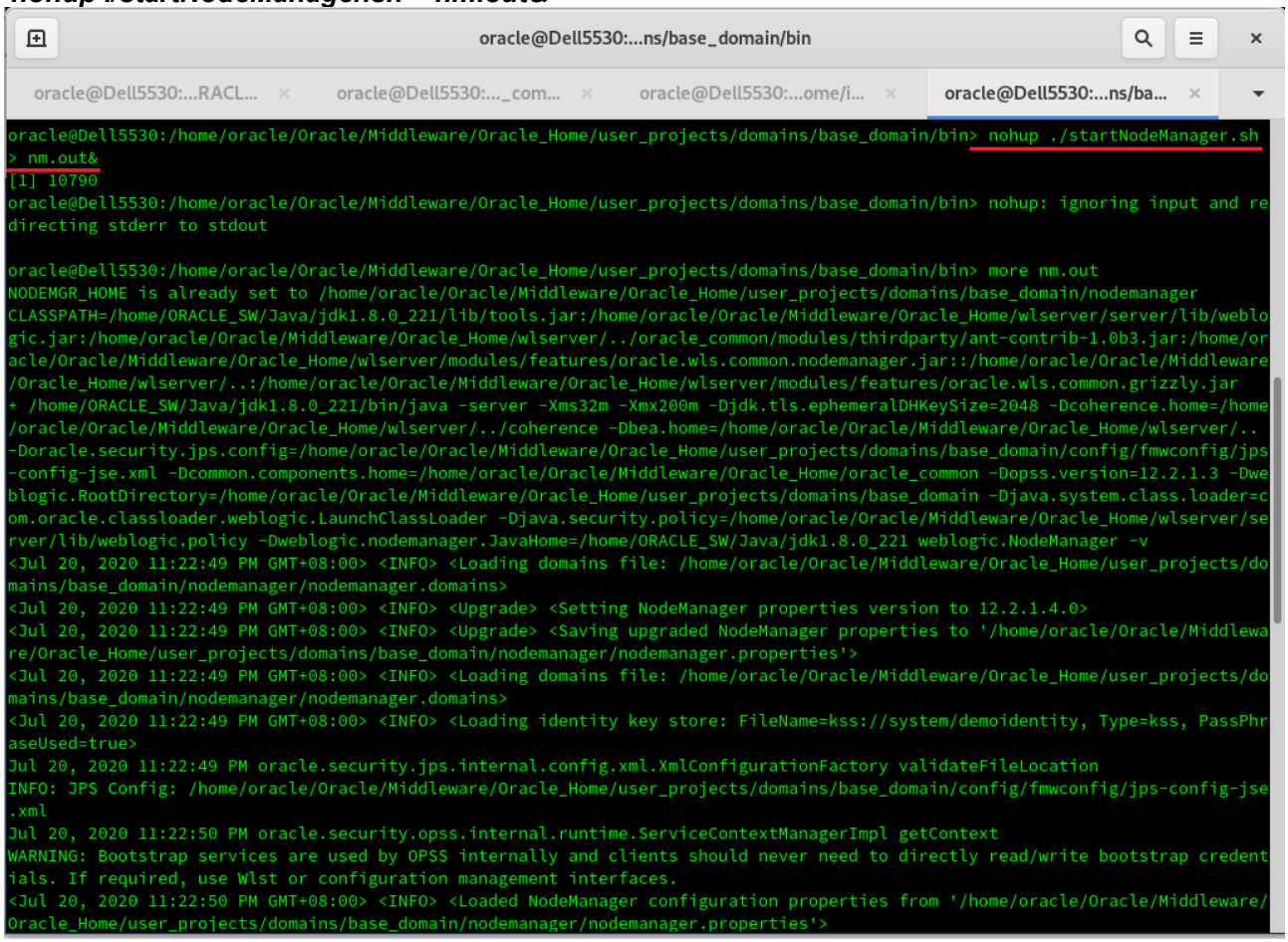

oracle@Dell5530:...ome/idm/server/bin
oracle@Dell5530:...RACLE_SW/IDM/...
oracle@Dell5530:..._common/commo...
oracle@Dell5530:...ome/idm/server/bin
Jul 20, 2020 11:20:24 PM oracle.iam.OIMPostConfigManager.config.util.JPSConfigXMLUpdate updateJPSConfigXMLForWLS
INFO:
[OIM_CONFIG]The file /home/oracle/Oracle/Middleware/Oracle_Home/user_projects/domains/base_domain//config/fmwconfig/jps-config-jse.xml is updated.
<Jul 20, 2020 11:20:24,853 PM GMT+08:00> <Info> <oracle.iam.OIMPostConfigManager> <BEA-000000> <Exiting updateJPSConfigXMLForWLS() method of JPSConfigXMLUpdate class>
Jul 20, 2020 11:20:24 PM oracle.iam.OIMPostConfigManager.config.util.JPSConfigXMLUpdate updateJPSConfigXMLForWLS
INFO: Exiting updateJPSConfigXMLForWLS() method of JPSConfigXMLUpdate class
<Jul 20, 2020 11:20:24,853 PM GMT+08:00> <Info> <oracle.iam.OIMPostConfigManager> <BEA-000000> <
Updated jps-config-jse.xml Details.>
Jul 20, 2020 11:20:24 PM oracle.iam.OIMPostConfigManager.config.OIMConfigManager updateJPSConfig
INFO:
Updated jps-config-jse.xml Details.
<Jul 20, 2020 11:20:24,854 PM GMT+08:00> <Info> <oracle.iam.OIMPostConfigManager> <BEA-000000> <Exiting updateJPSConfig() method of OIMConfigManager class>
Jul 20, 2020 11:20:24 PM oracle.iam.OIMPostConfigManager.config.OIMConfigManager updateJPSConfig
INFO: Exiting updateJPSConfig() method of OIMConfigManager class
<Jul 20, 2020 11:20:24,855 PM GMT+08:00> <Info> <oracle.iam.OIMPostConfigManager> <BEA-000000> <
[OIM_CONFIG] Copying the mbean Files>
Jul 20, 2020 11:20:24 PM oracle.iam.OIMPostConfigManager.config.OIMConfigManager copyMbeanFiles
INFO:
[OIM_CONFIG] Copying the mbean Files
<Jul 20, 2020 11:20:24,855 PM GMT+08:00> <Info> <oracle.iam.OIMPostConfigManager> <BEA-000000> <Entering copyMbeanFiles() method of OIMConfigManager class>
Jul 20, 2020 11:20:24 PM oracle.iam.OIMPostConfigManager.config.OIMConfigManager copyMbeanFiles
INFO: Entering copyMbeanFiles() method of OIMConfigManager class
<Jul 20, 2020 11:20:24,855 PM GMT+08:00> <Info> <oracle.iam.OIMPostConfigManager> <BEA-000000> <
Copying mbean files are successful>
Jul 20, 2020 11:20:24 PM oracle.iam.OIMPostConfigManager.config.OIMConfigManager copyMbeanFiles
INFO:
Copying mbean files are successful
<Jul 20, 2020 11:20:24,856 PM GMT+08:00> <Info> <oracle.iam.OIMPostConfigManager> <BEA-000000> <Exiting copyMbeanFiles() method of OIMConfigManager class>
Jul 20, 2020 11:20:24 PM oracle.iam.OIMPostConfigManager.config.OIMConfigManager copyMbeanFiles
INFO: Exiting copyMbeanFiles() method of OIMConfigManager class
oracle@Dell5530:/home/oracle/Oracle/Middleware/Oracle_Home/idm/server/bin>

3. Verifying Oracle Identity Manager(OIM) Installation and Configuration

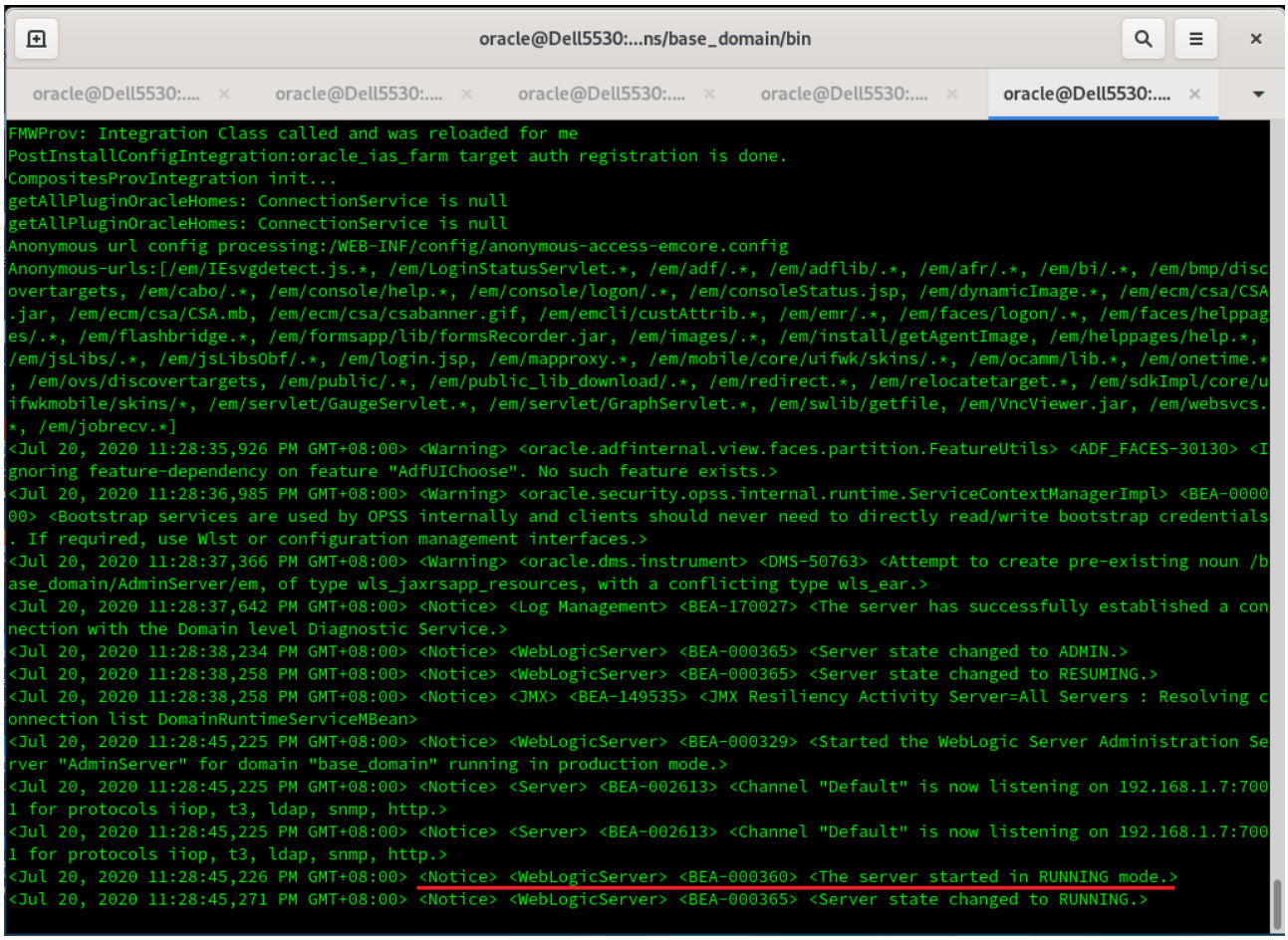
3-1. Check for the presence of installation log files in logs directory inside your Oracle Inventory directory. Also, check the domain server logs, which are located in the servers directory inside the domain home directory.

3-2. Starting the Node Manager and the Admin Server.

Starting the Node Manager, go to the DOMAIN_HOME/bin directory and run 'nohup ./startNodeManager.sh > nm.out&'



Starting the Admin Server, go to the DOMAIN_HOME/bin directory and run ./startWebLogic.sh.



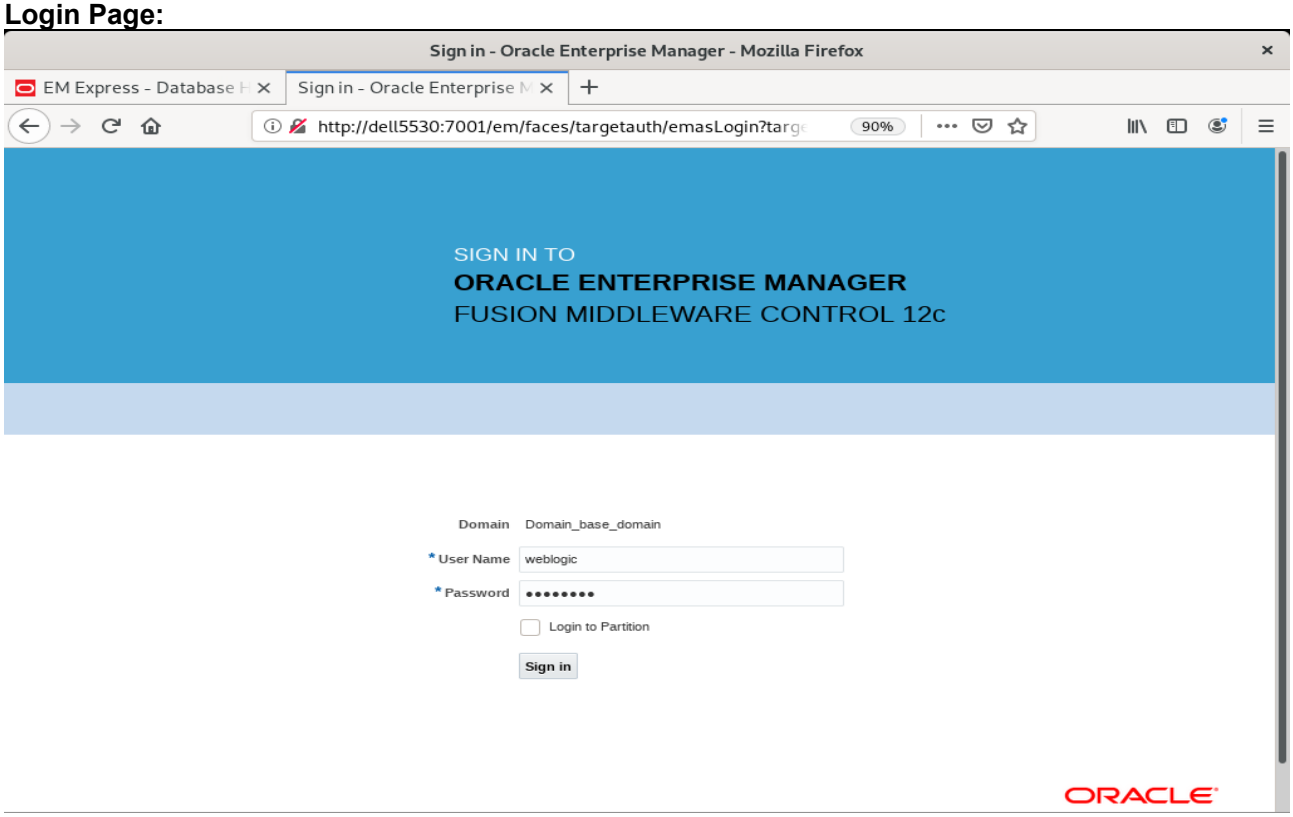
You know that the administrator server is running when you see the following output:

Server state changed to RUNNING.

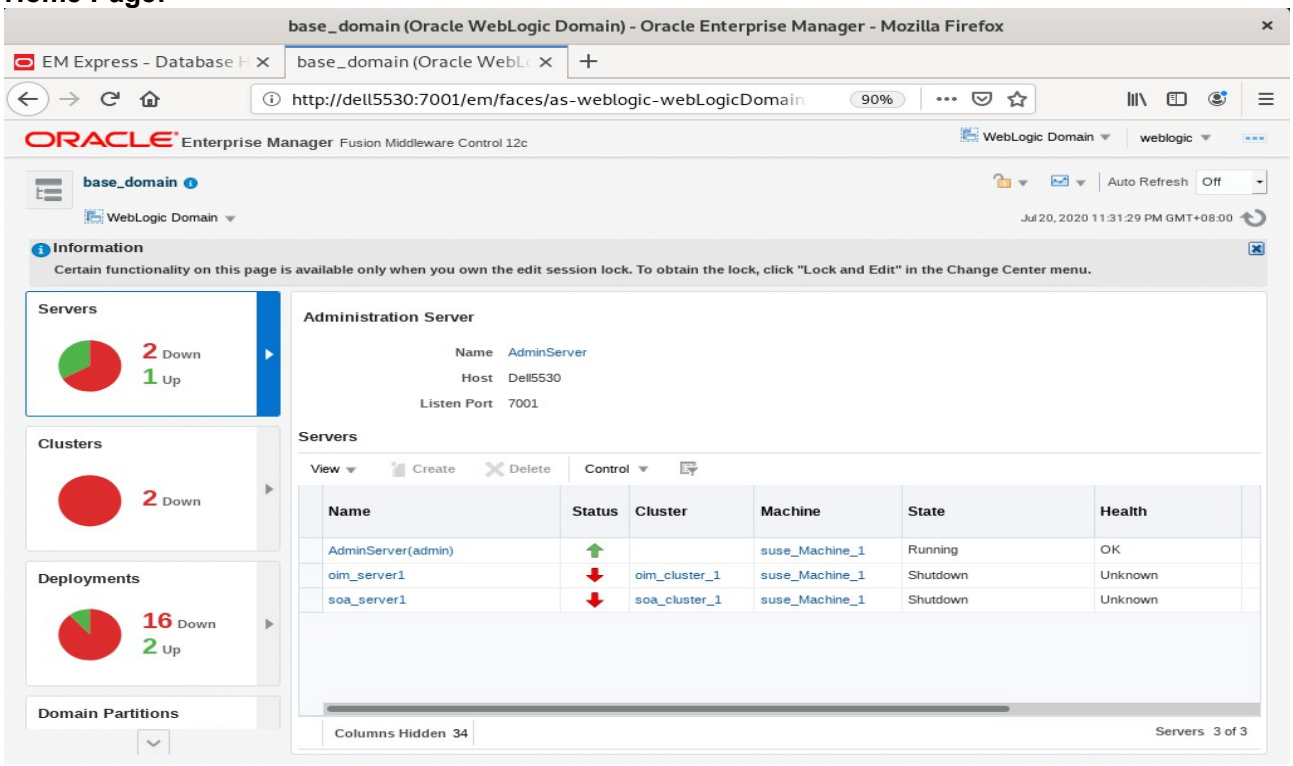
3-3. Checking Oracle Identity and Access Management 12c Product URLs.

1). Access to Enterprise Manager Console.

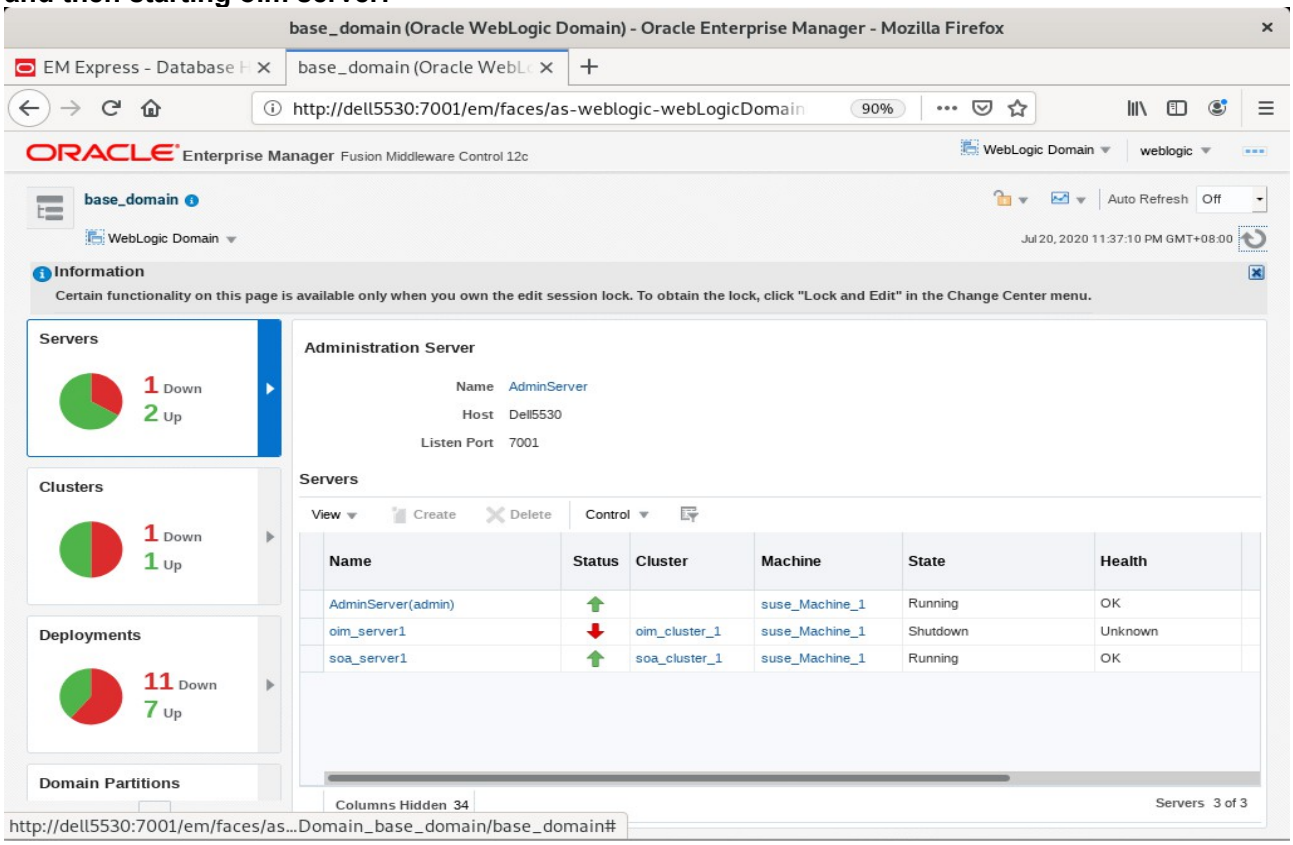
Login Page:

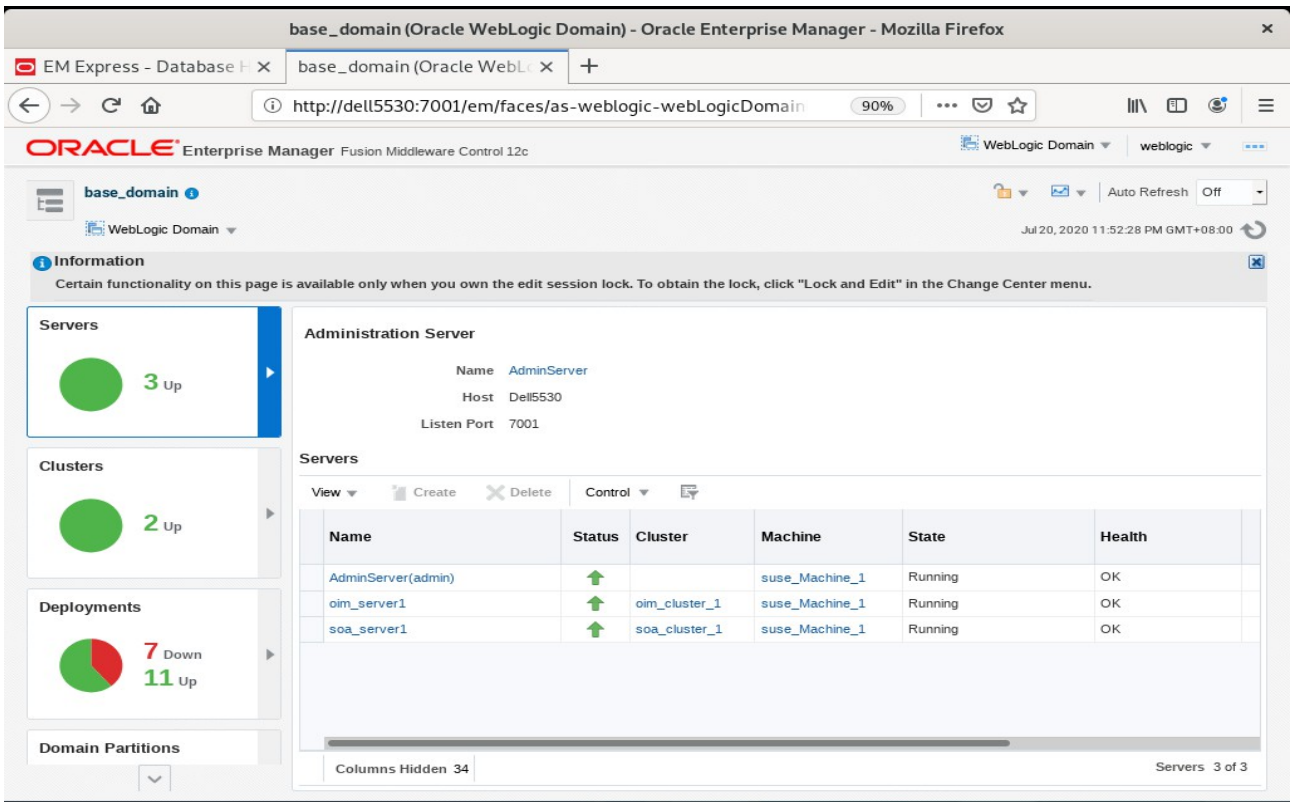


Home Page:



Starting the managed soa server defined in domain, wait until is comes up into RUNNING state and then starting oim server:

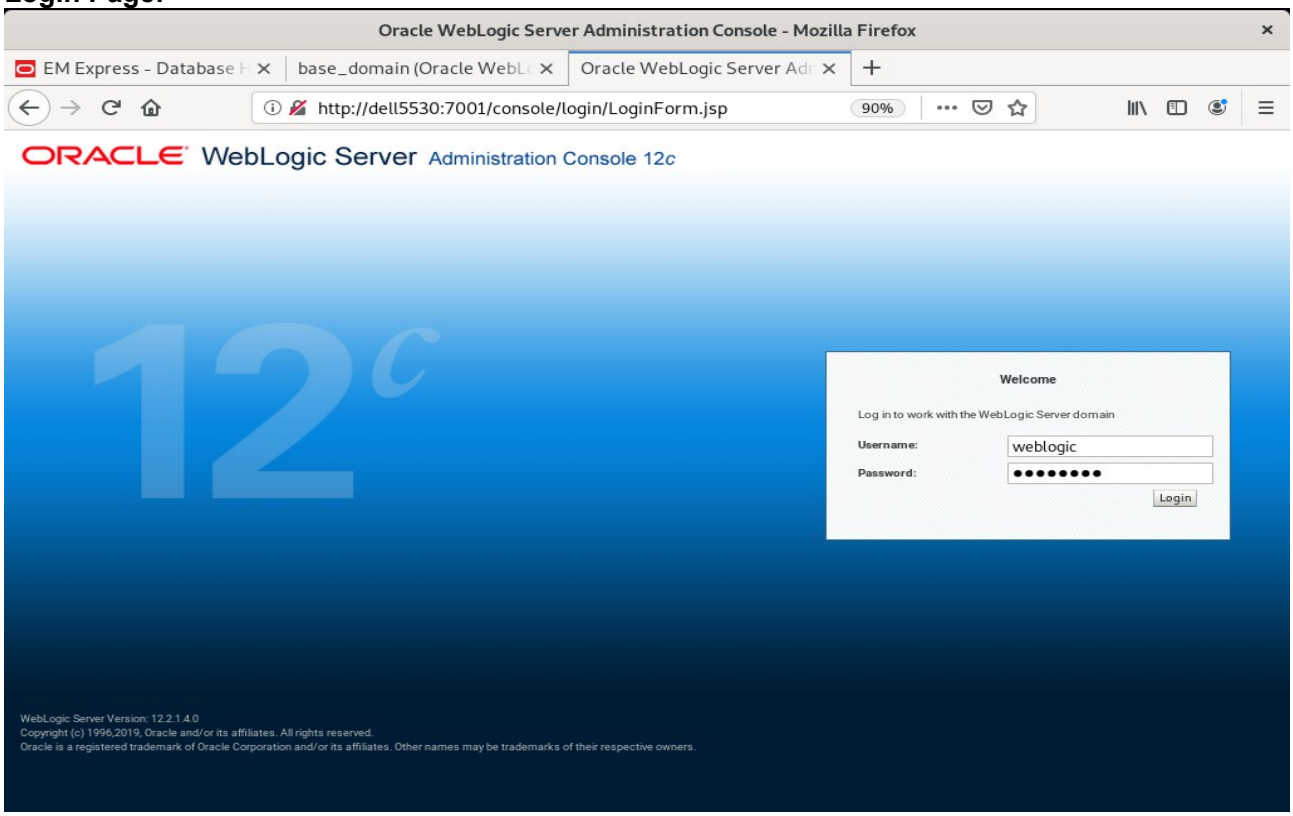




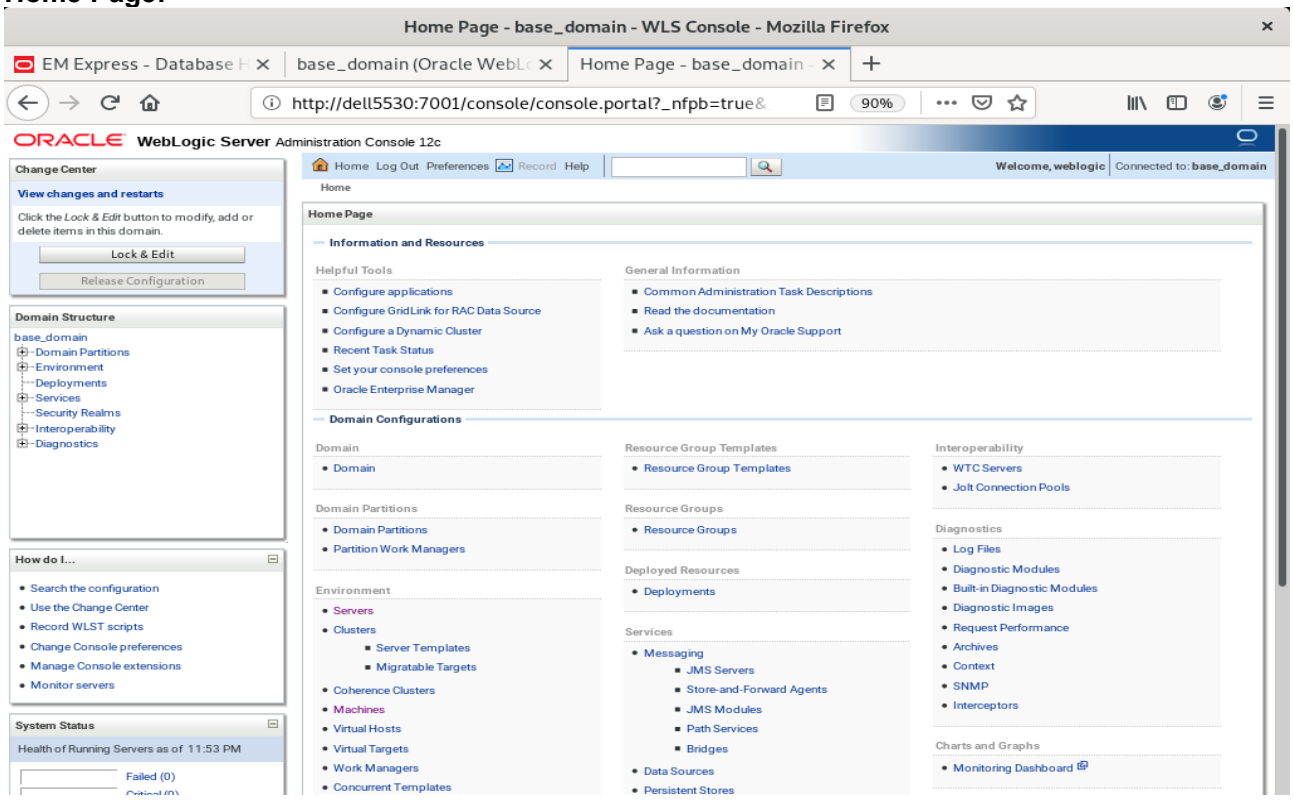
After they start up successfully, each managed server is listed as Running.

2). Access to Administration Server Console

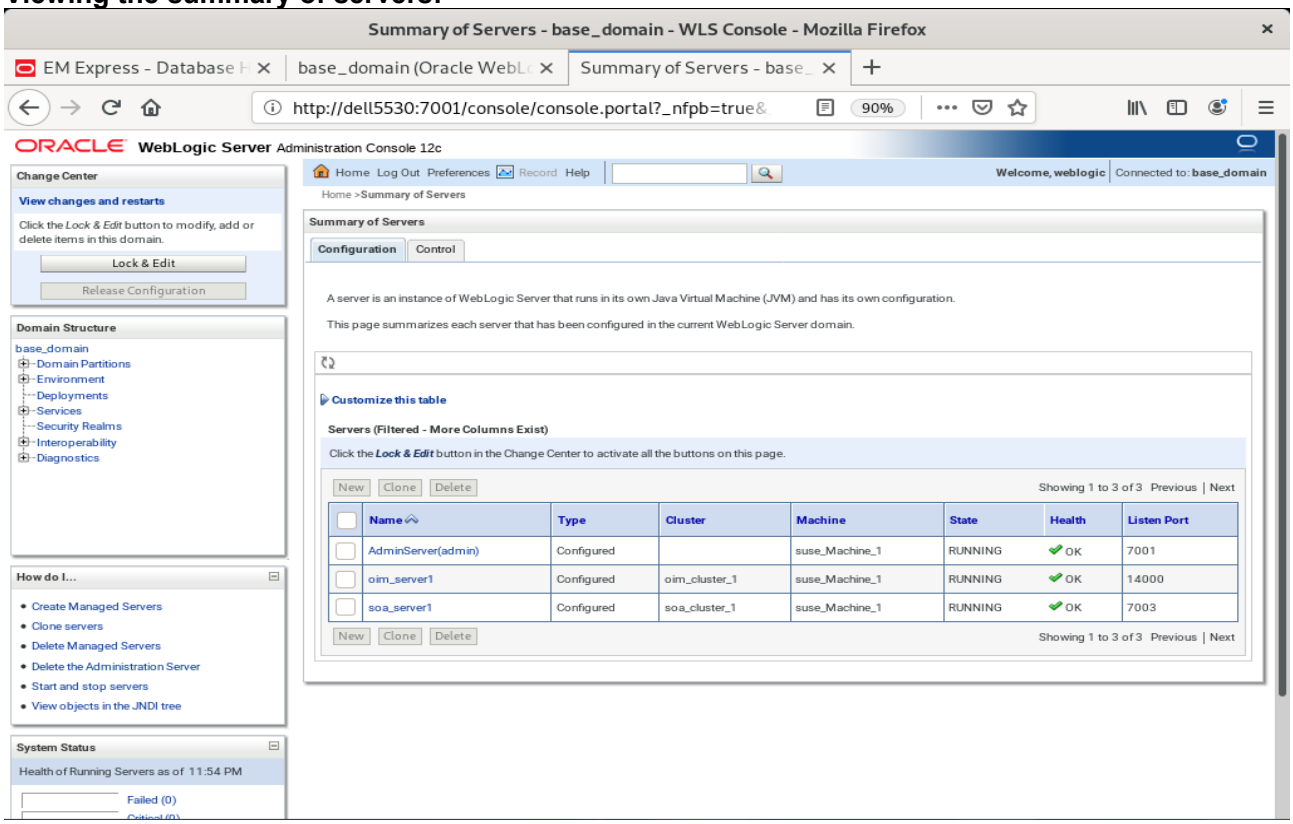
Login Page:



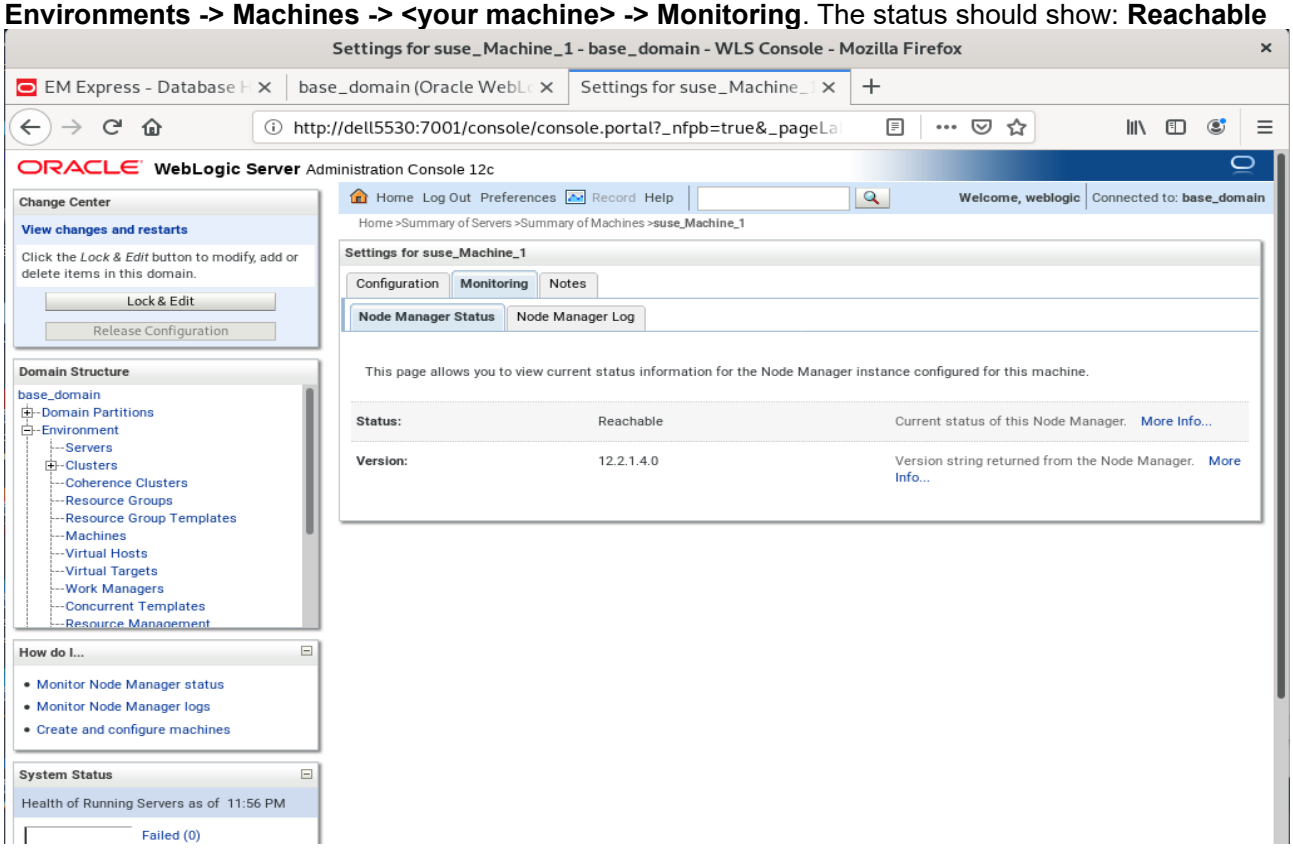
Home Page:



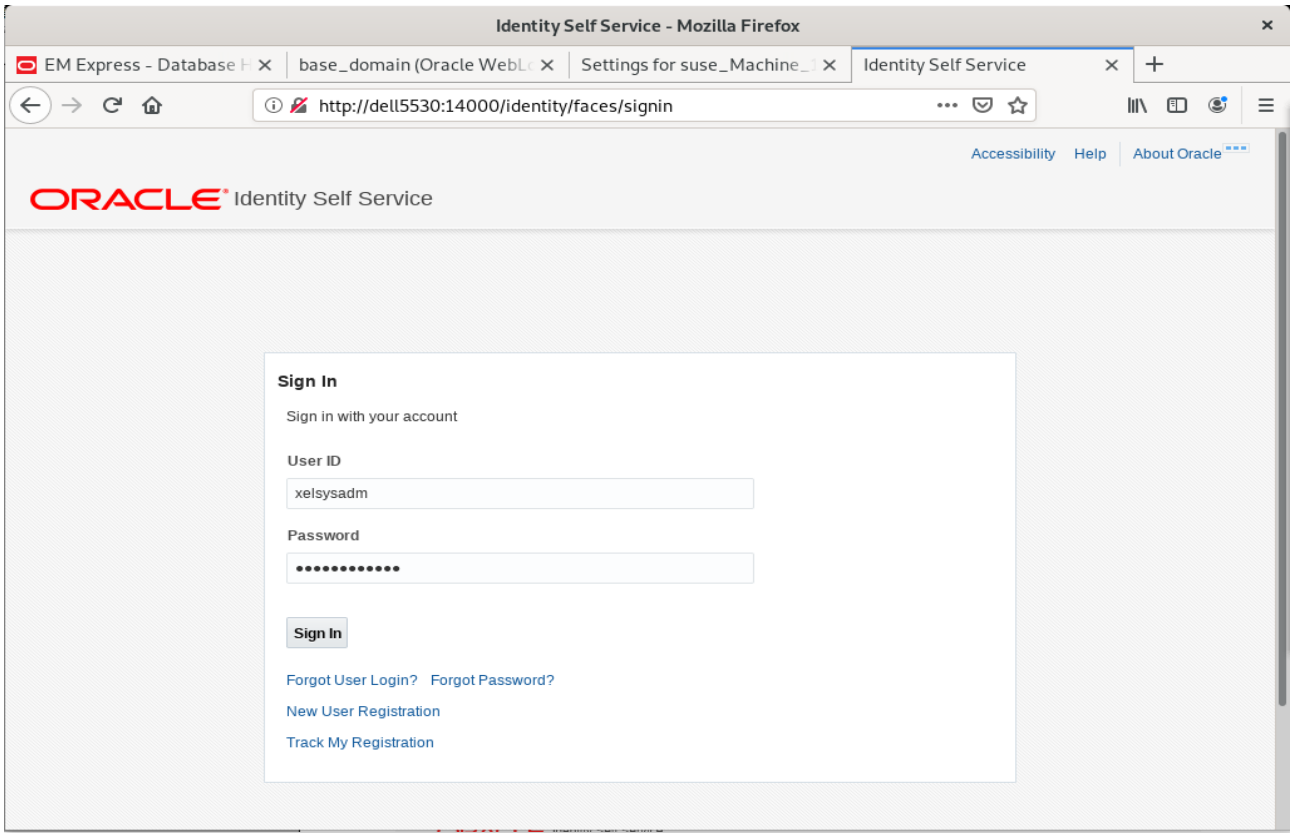
Viewing the summary of servers:

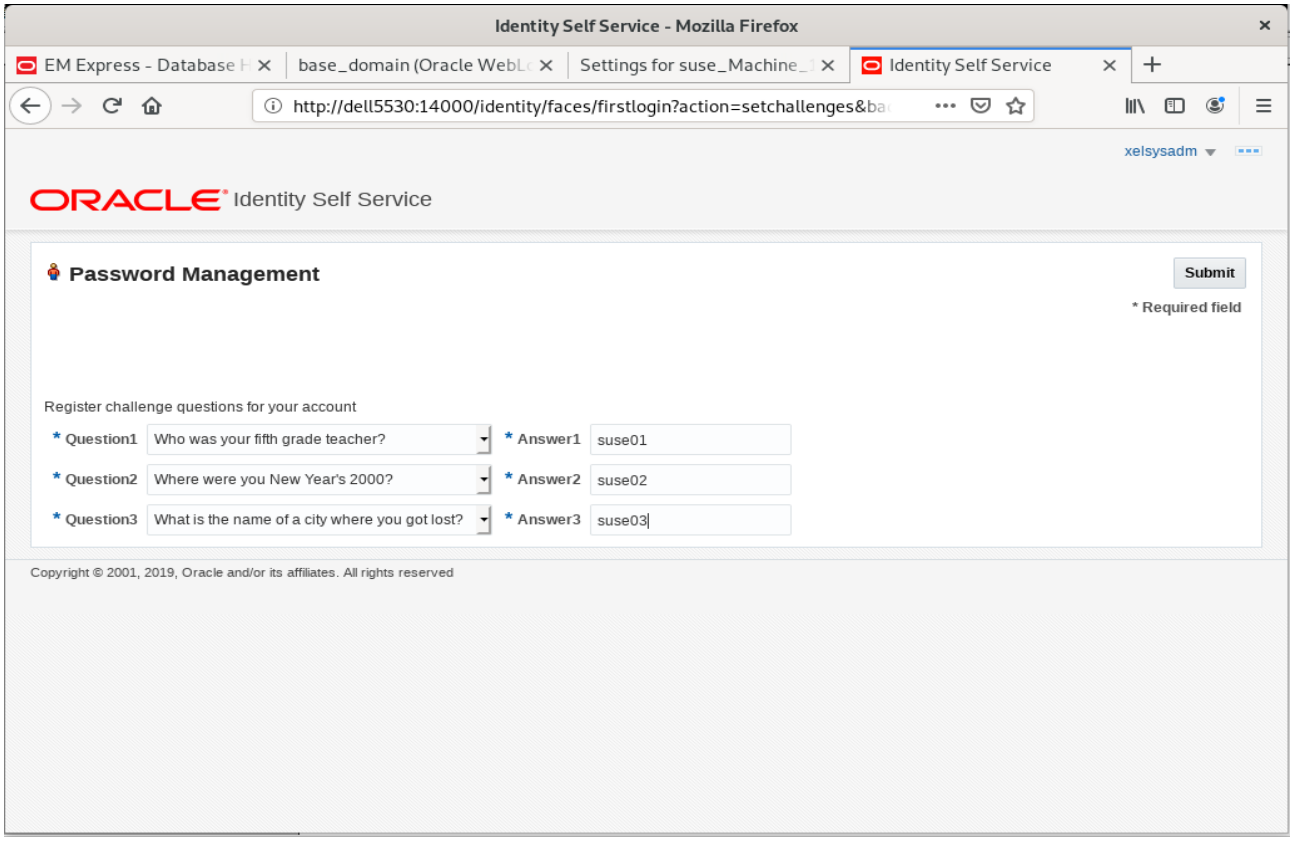


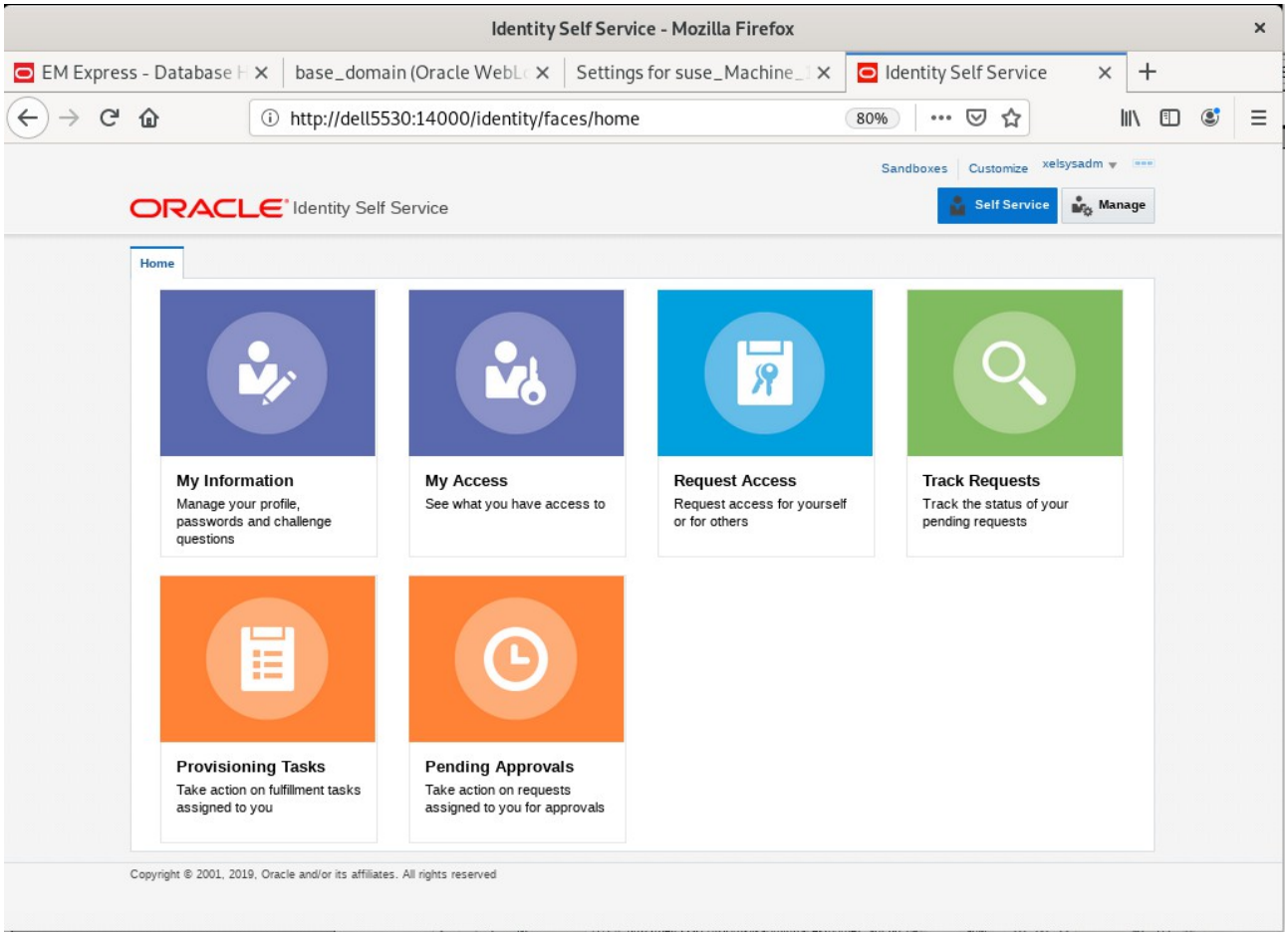
Verify that the Admin Server can connect to the node manager running on your machine. **Environments -> Machines -> <your machine> -> Monitoring**. The status should show: **Reachable**



3). Access to OIM Identity Self Service – URL:http://host:port/identity






Identity Self Service - Mozilla Firefox
EM Express - Database
base_domain (Oracle WebL
Settings for suse_Machine_1
Identity Self Service
http://dell5530:14000/identity/faces/home
80%
Sandboxes
Customize
xelsysadm
ORACLE Identity Self Service
Self Service
Manage
Home
My Information
Manage your profile, passwords and challenge questions
My Access
See what you have access to
Request Access
Request access for yourself or for others
Track Requests
Track the status of your pending requests
Provisioning Tasks
Take action on fulfillment tasks assigned to you
Pending Approvals
Take action on requests assigned to you for approvals
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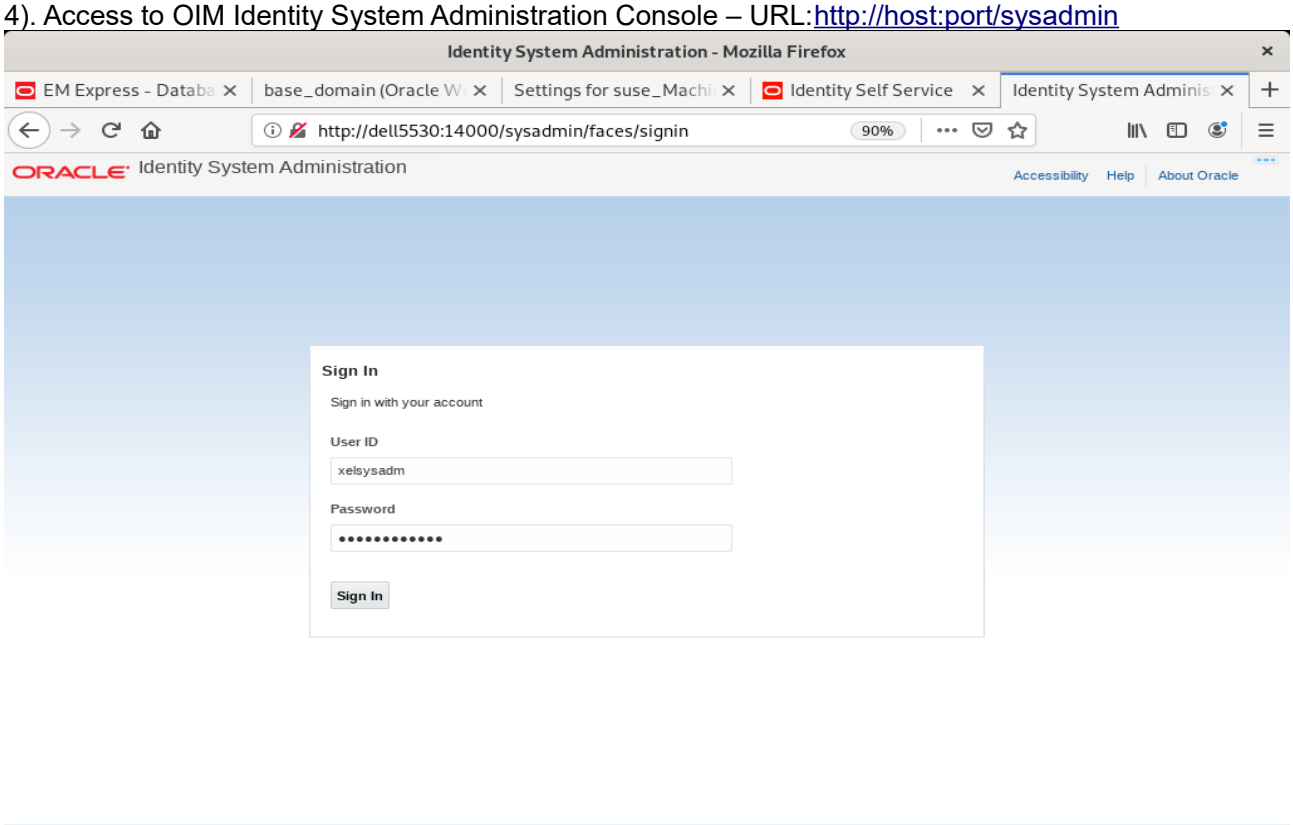
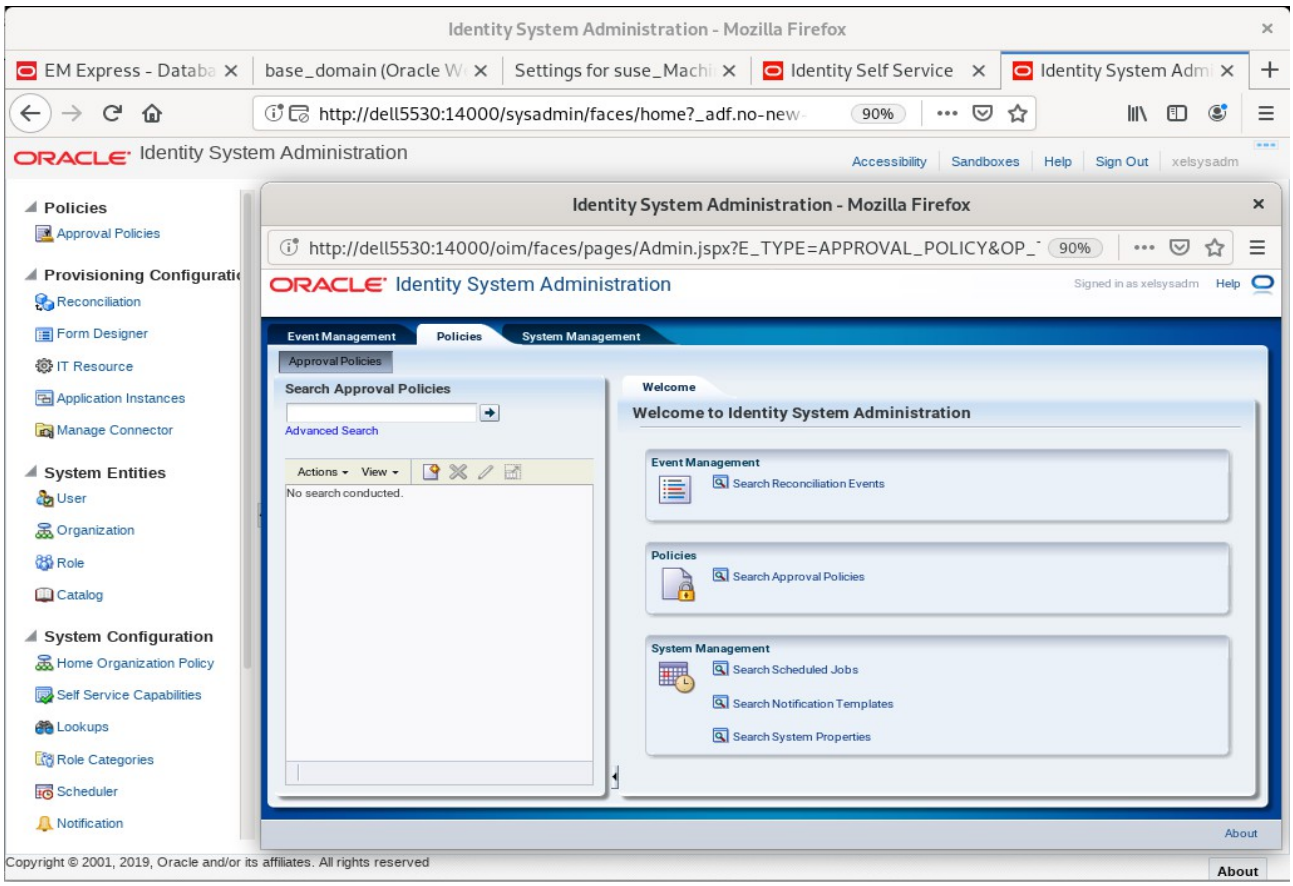
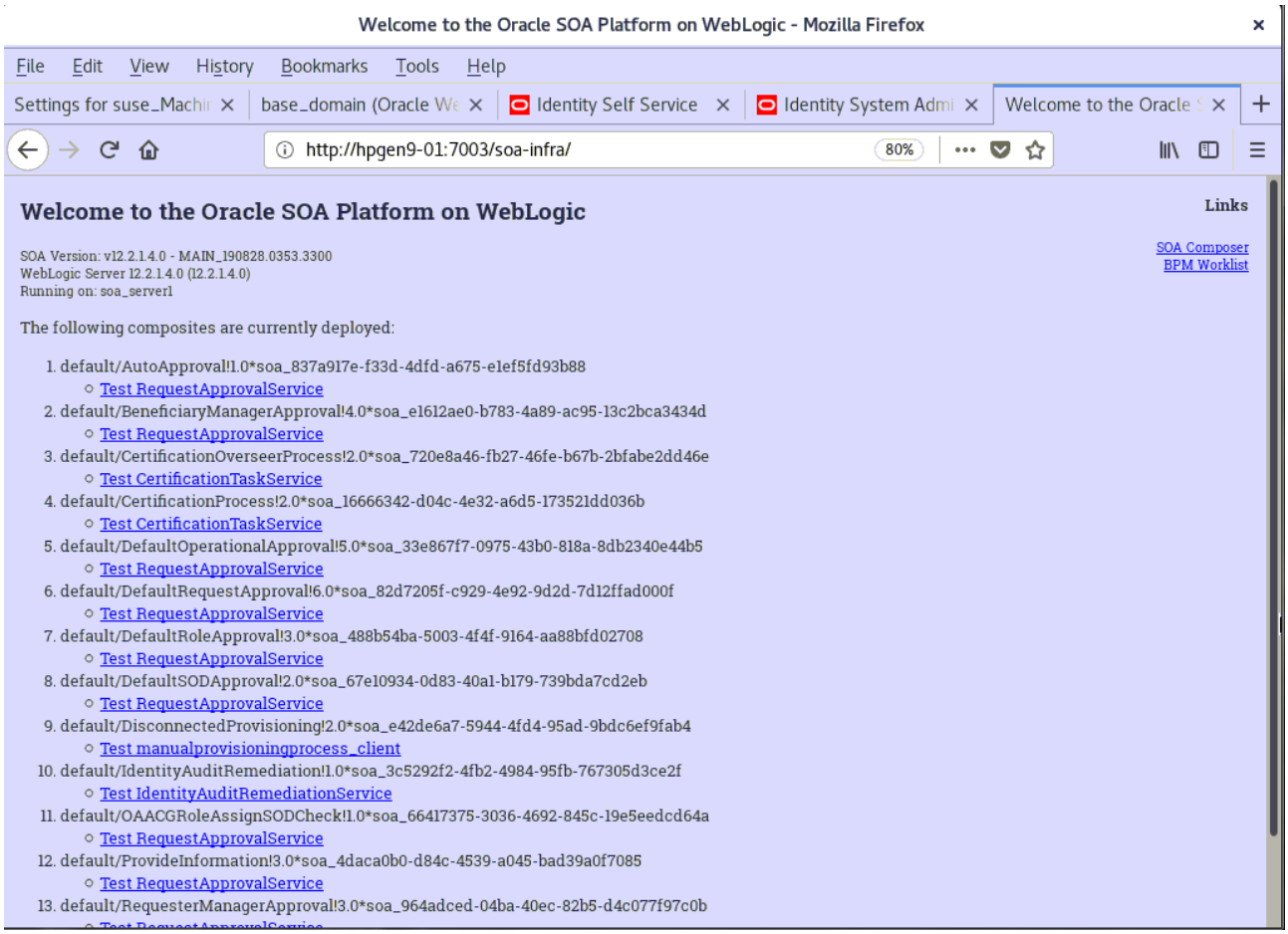
4). Access to OIM Identity System Administration Console – URL:http://host:port/sysadmin

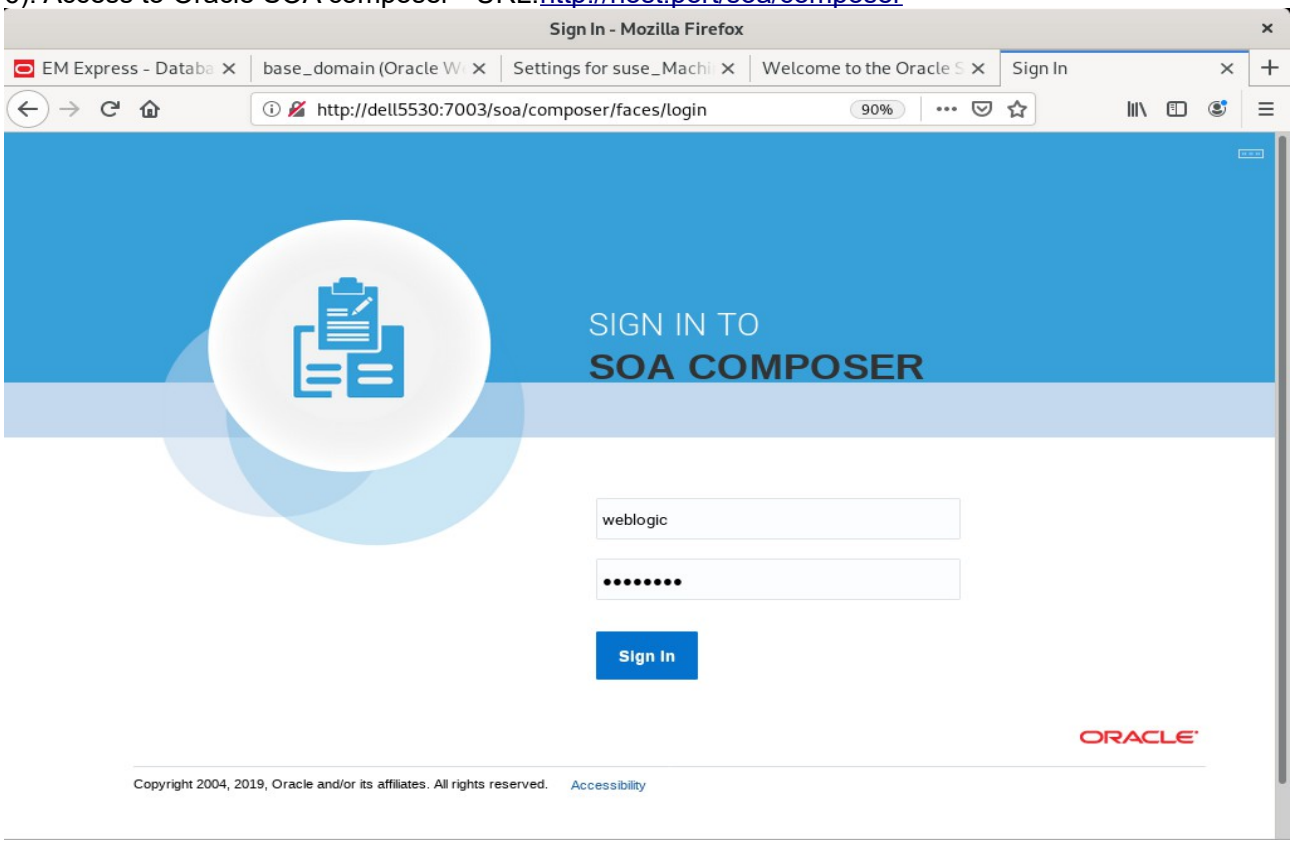


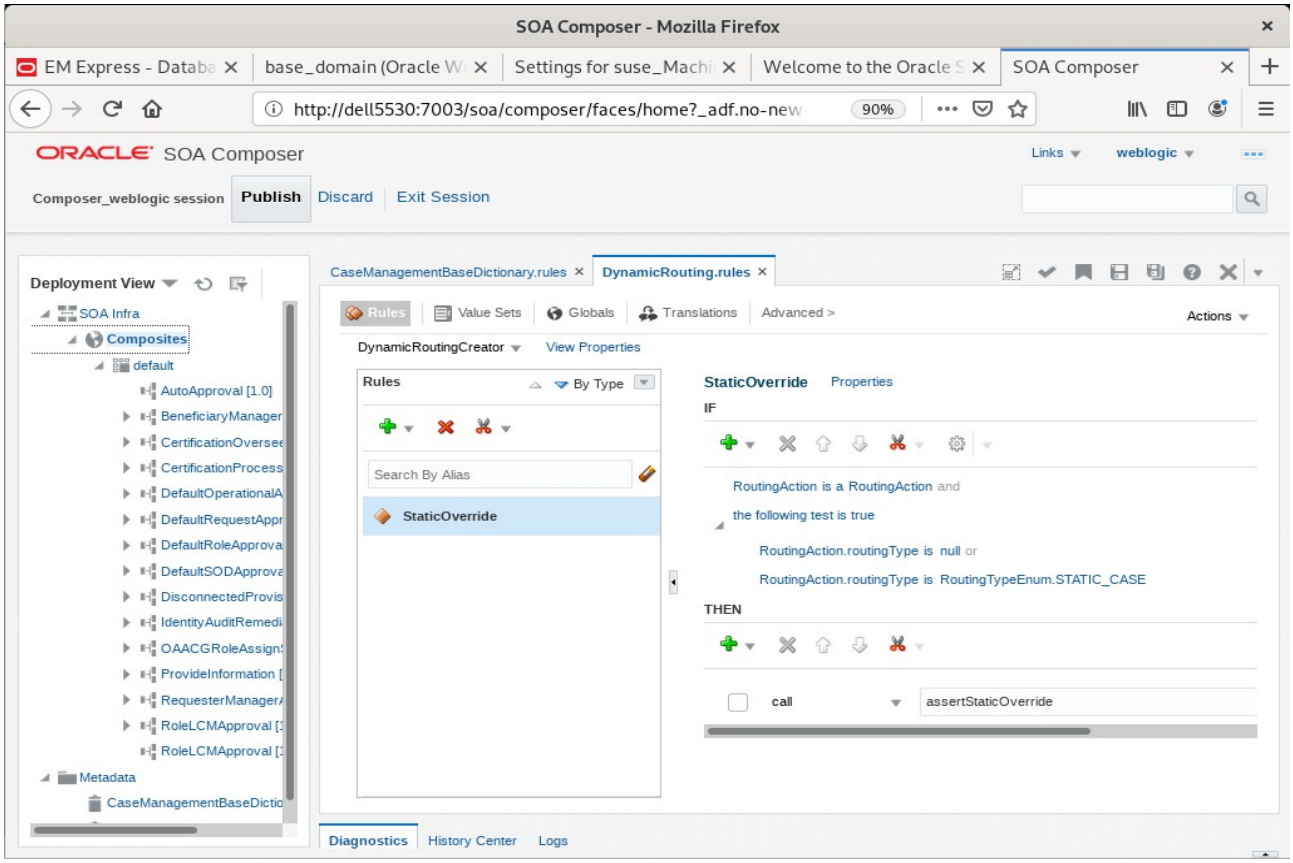


5). Access to Oracle SOA infrastructure Main Page – URL:http://host:port/soa-infra



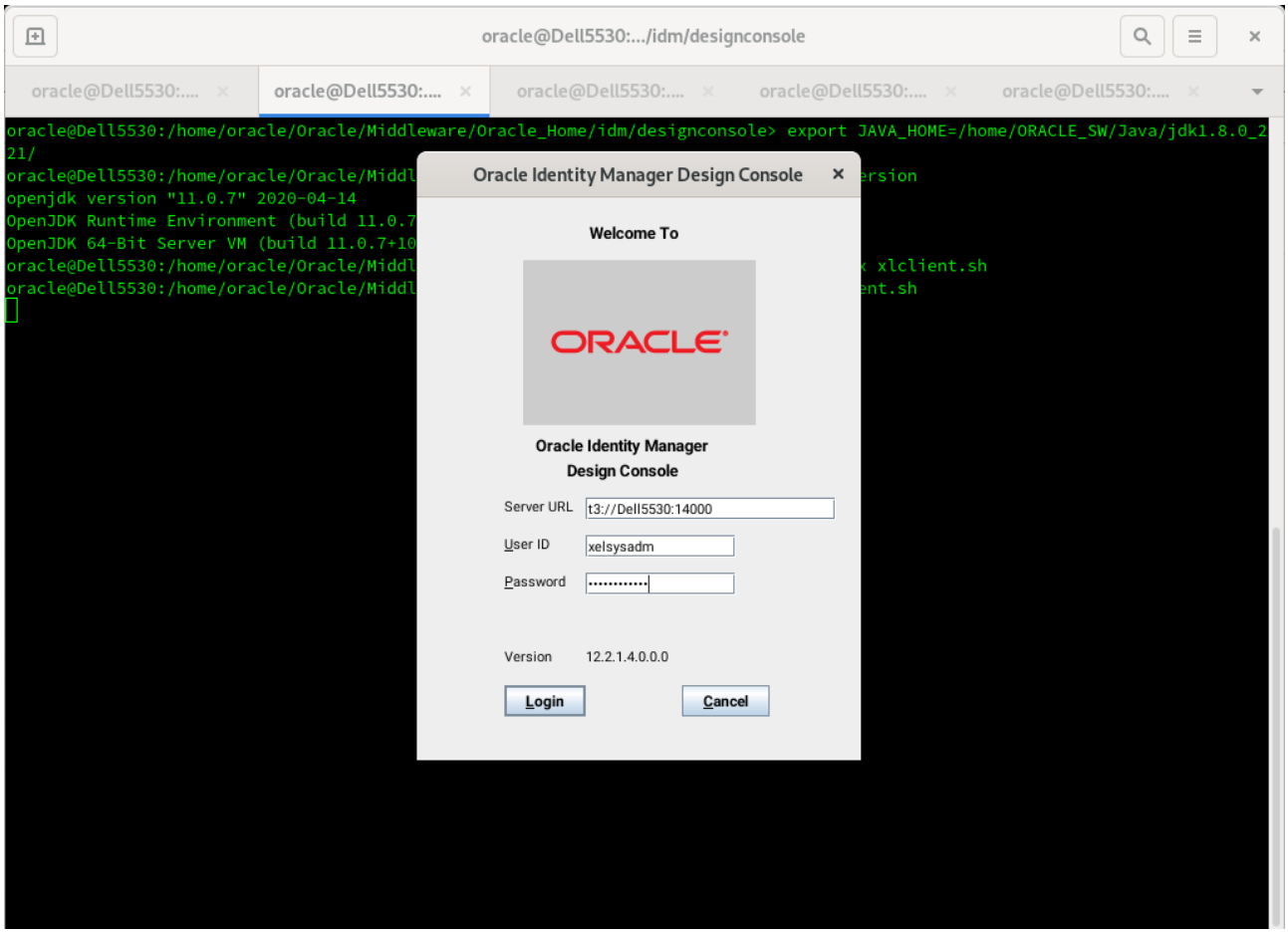
6). Access to Oracle SOA composer - URL:http://host:port/soa/composer



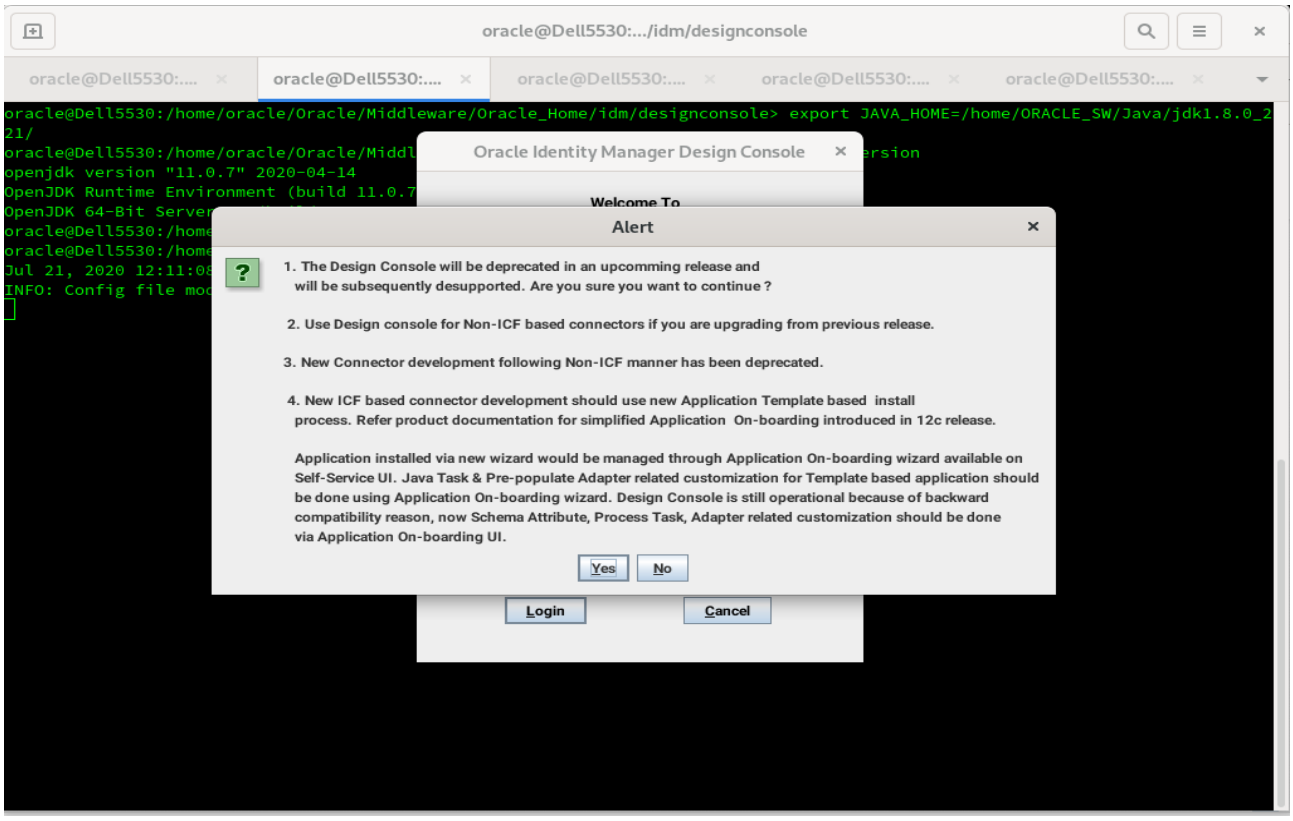


7). Verifying connection for OIM design console. Launch the Design Console (via the xlclient.sh script in $MW_HOME/idm/designconsole)

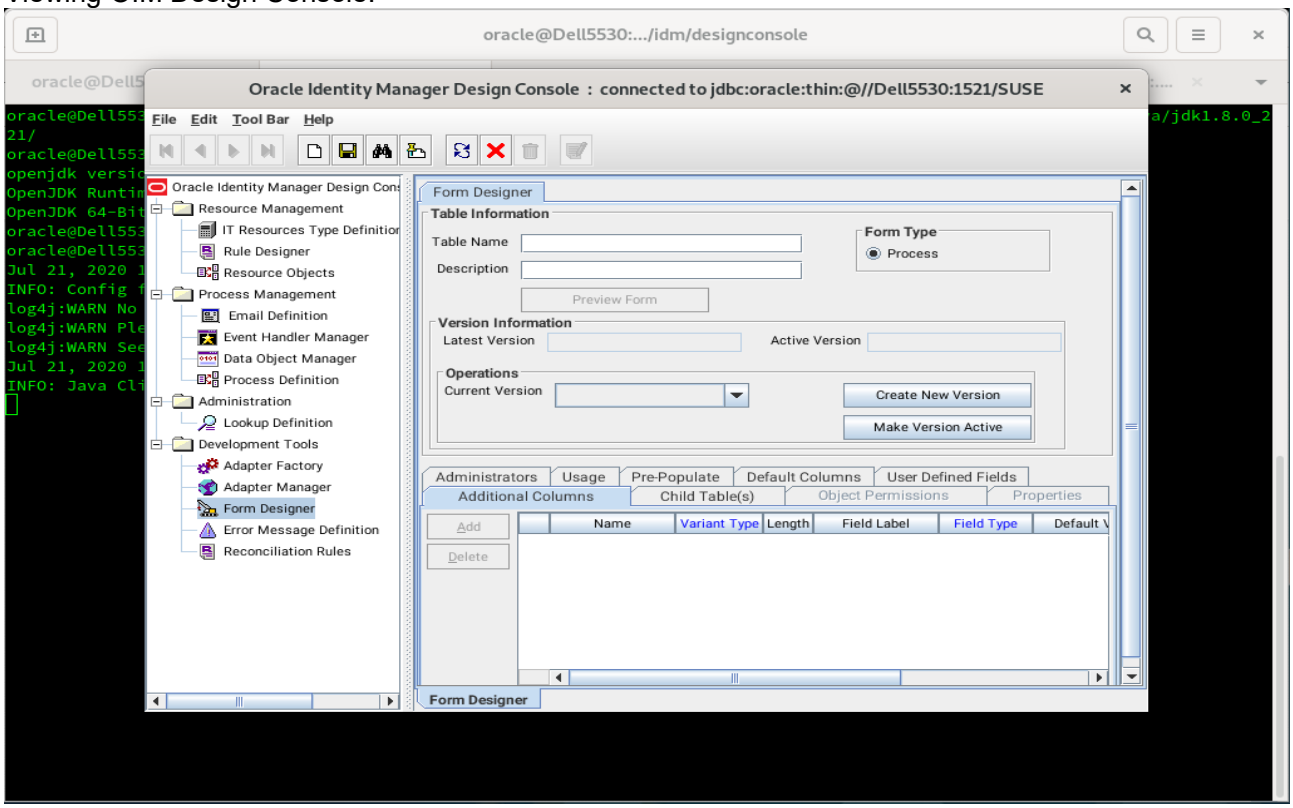
export JAVA_HOME=xxx
chmod +x xlclient.sh
./xlclient.sh



Click on **Login**. Then click **Yes** to confirm.



Viewing OIM Design Console.



End of Oracle Identity Manager.

Additional Comments

This document shows how to install and configure a standard topology for Oracle Fusion Middleware components 12c on SLES 15 SP2. 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
Oct 16th, 2020
https://www.suse.com