

NAH Pilot Installation of Oracle components used in E-ARK Pilot 7

E-ARK Pilot 7 Oracle Components Installation Guide

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Other Contributors:

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1. Introduction

In E-ARK Project the Oracle components are used in archived database access scenarios.

1.1 Audience

This documents covers the installation steps of Oracle software components used in E-ARK Project Pilot 7.

2. Installation

The Oracle software components was installed into the NAH's hardware infrastructure.

The hardware and OS environment settings of the installed machine:

Hardware/OS	Settings
SLOT	12
BLADE TYPE	HS23 (Type 7875)
CPU	2x Intel(R) Xeon(R) CPU E5-2660
MEMORY	48 GB
DISK	2x 300GB SAS
OS	Redhat 6.2
HOSTNAME	hadoop-5
LOCAL IP	10.20.77.5

Install software directory:

/home/oracle/install

2.1 Oracle Database

2.1.1 Prerequisites

Before installing the Oracle database the operating system (OS) environment must satisfies some requirements.

After checking this requirements, the following packages was installed into the OS:

- gcc.x86_64
- gcc-c++.x86_64
- glibc-devel.i686
- libgcc.i686
- libstdc++.i686
- libstdc++-devel.i686
- libaio.i686libaio-devel.i686
- libaio-devel.x86_64
- libXext.i686
- libXext.x86_64
- libXtst.i686
- libXtst.x86_64
- libX11.i686

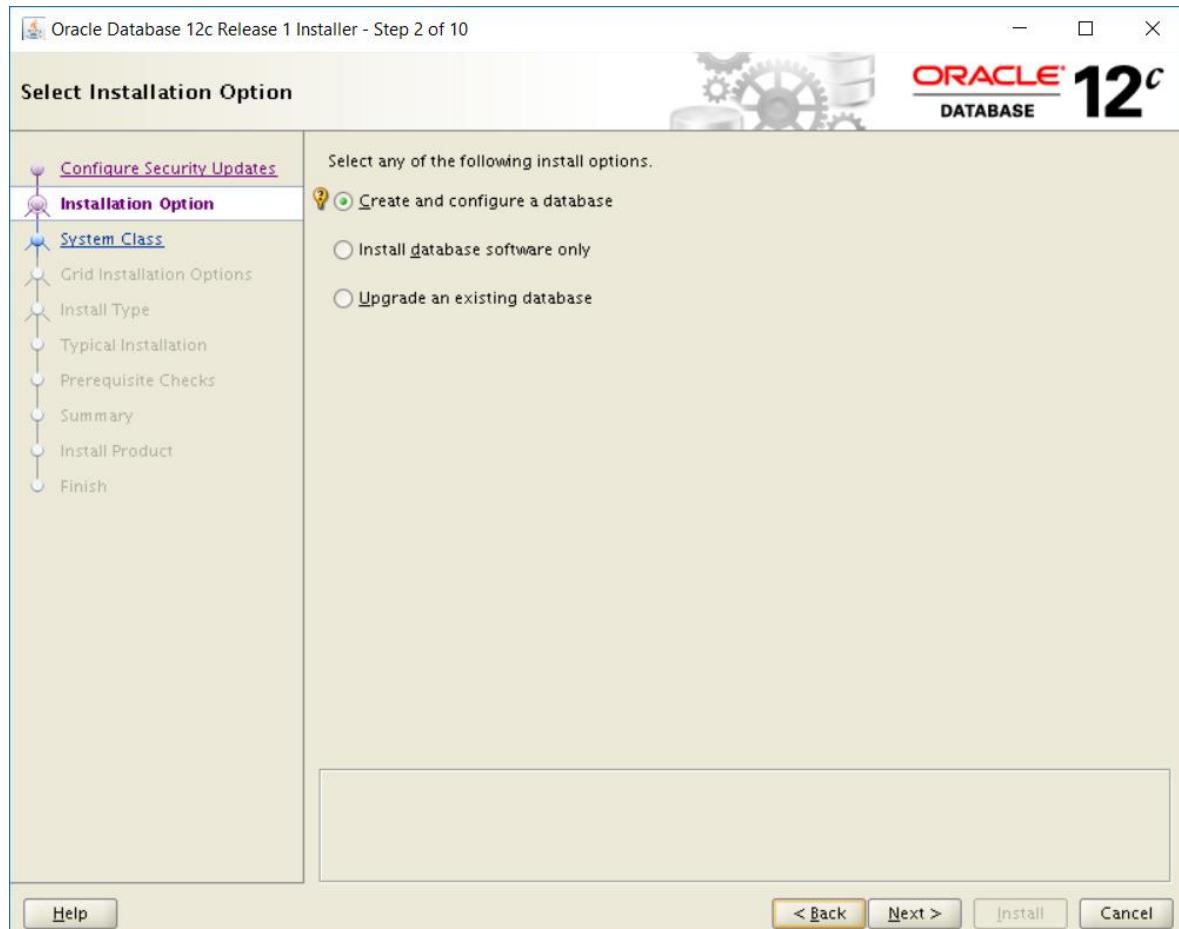
- libX11.x86_64
- libXau.x86_64
- libXau.i686
- libxcb.x86_64
- libxcb.i686
- libXi.x86_64
- libXi.i686
- xorg-x11-server-utils
- xorg-x11-server-Xorg
- xorg-x11-xinit

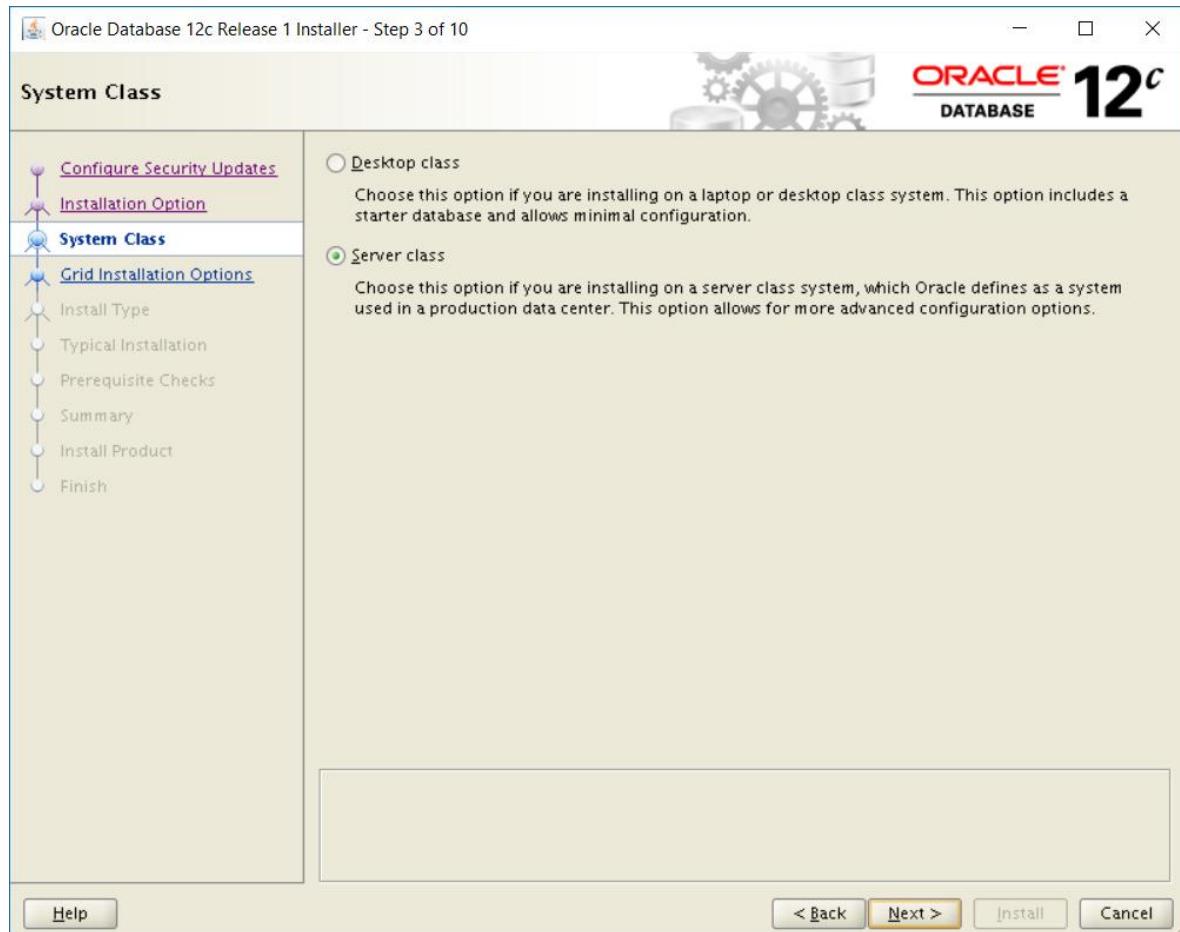
2.1.2 Create OS user

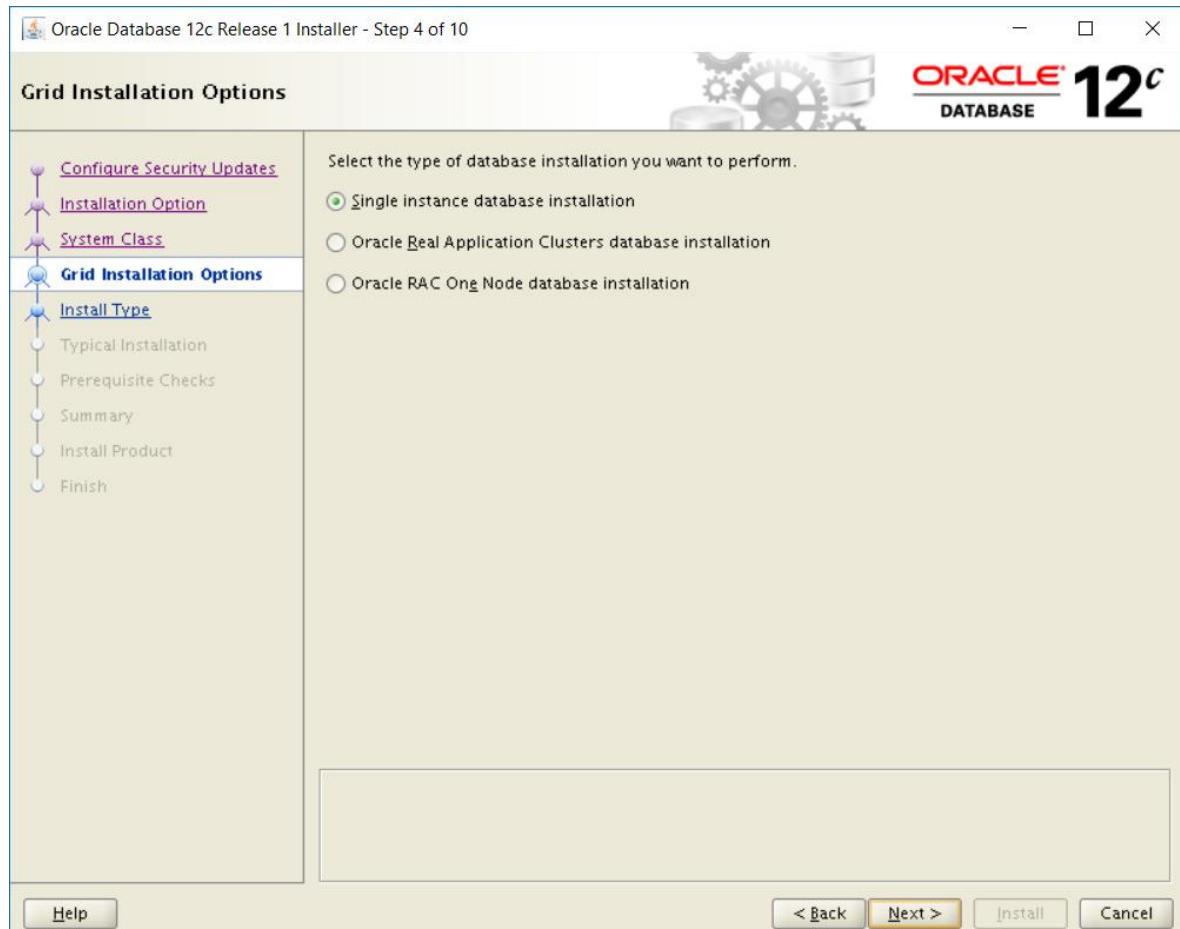
```
/usr/sbin/groupadd oinstall  
/usr/sbin/groupadd dba  
/usr/sbin/useradd -g oinstall -G dba oracle  
passwd oracle/*****  
mkdir -p /u01/app/  
chown -R oracle:oinstall /u01/app/  
chmod -R 775 /u01/app/
```

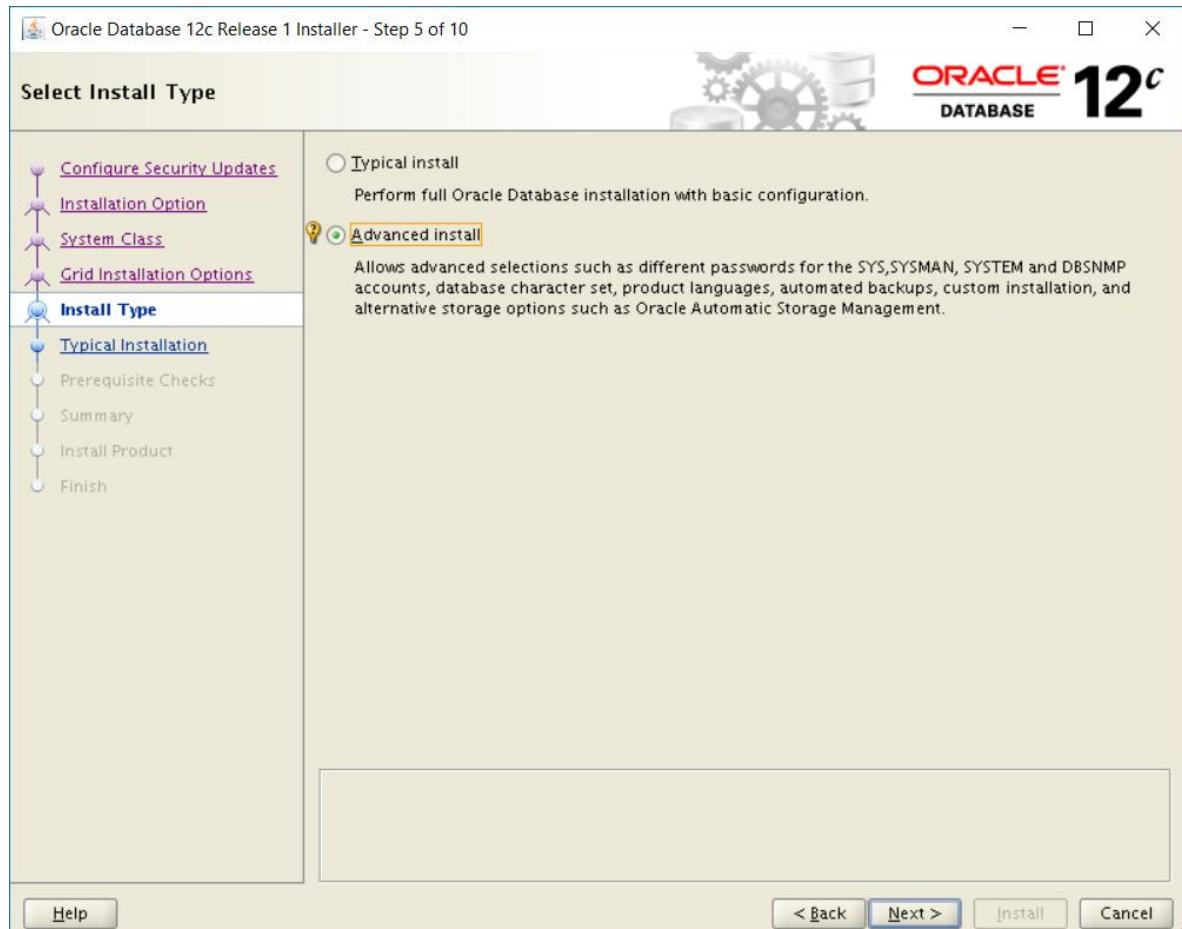
2.1.3 Run installer

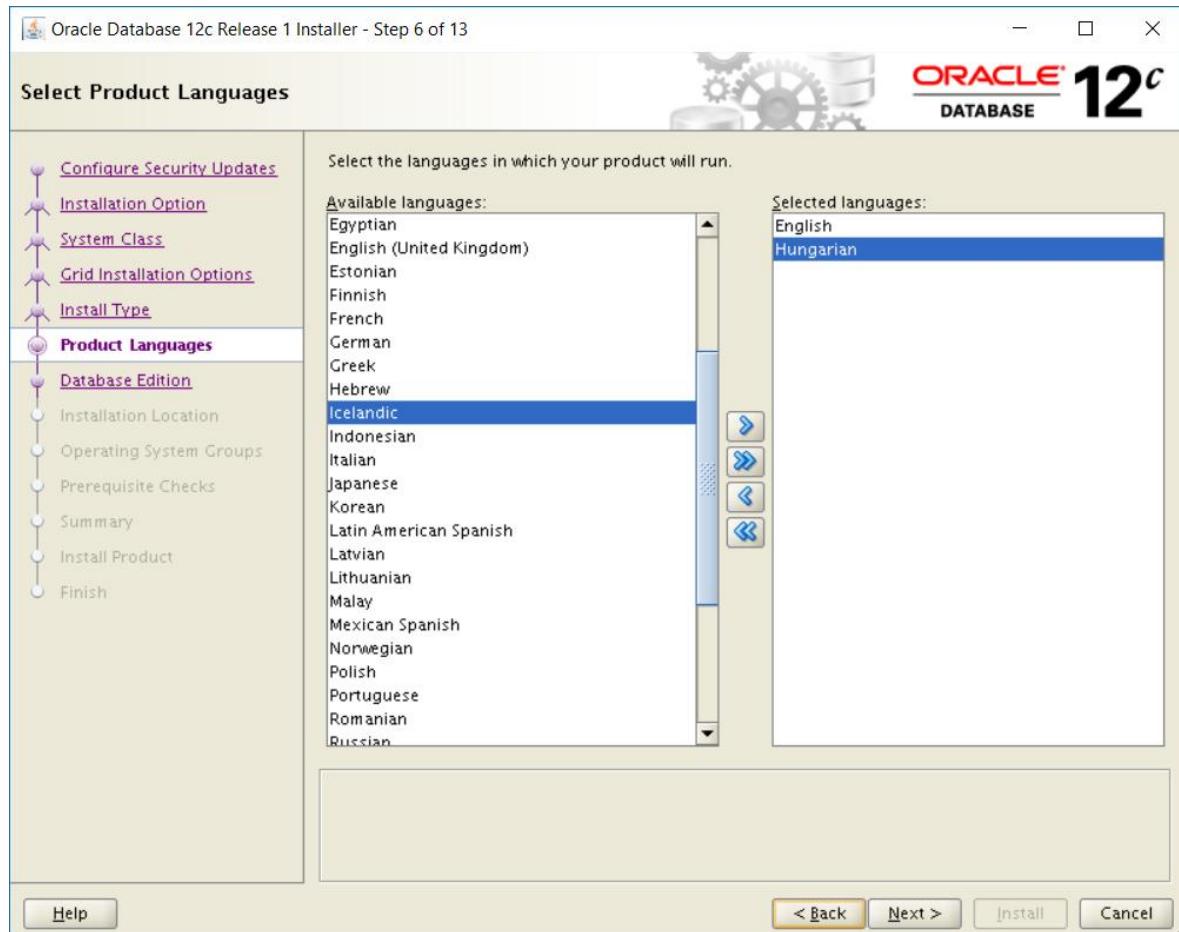
```
runInstaller.sh
```

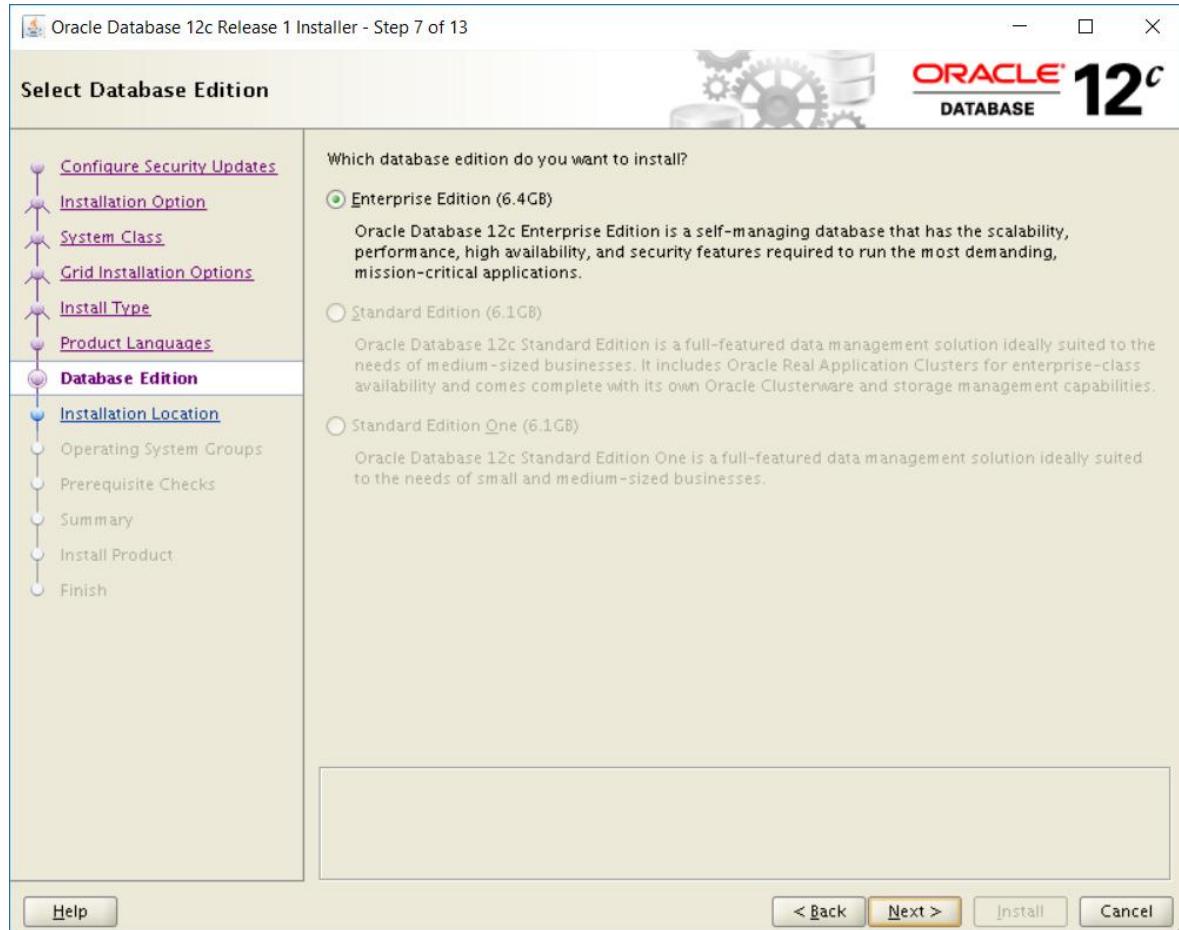


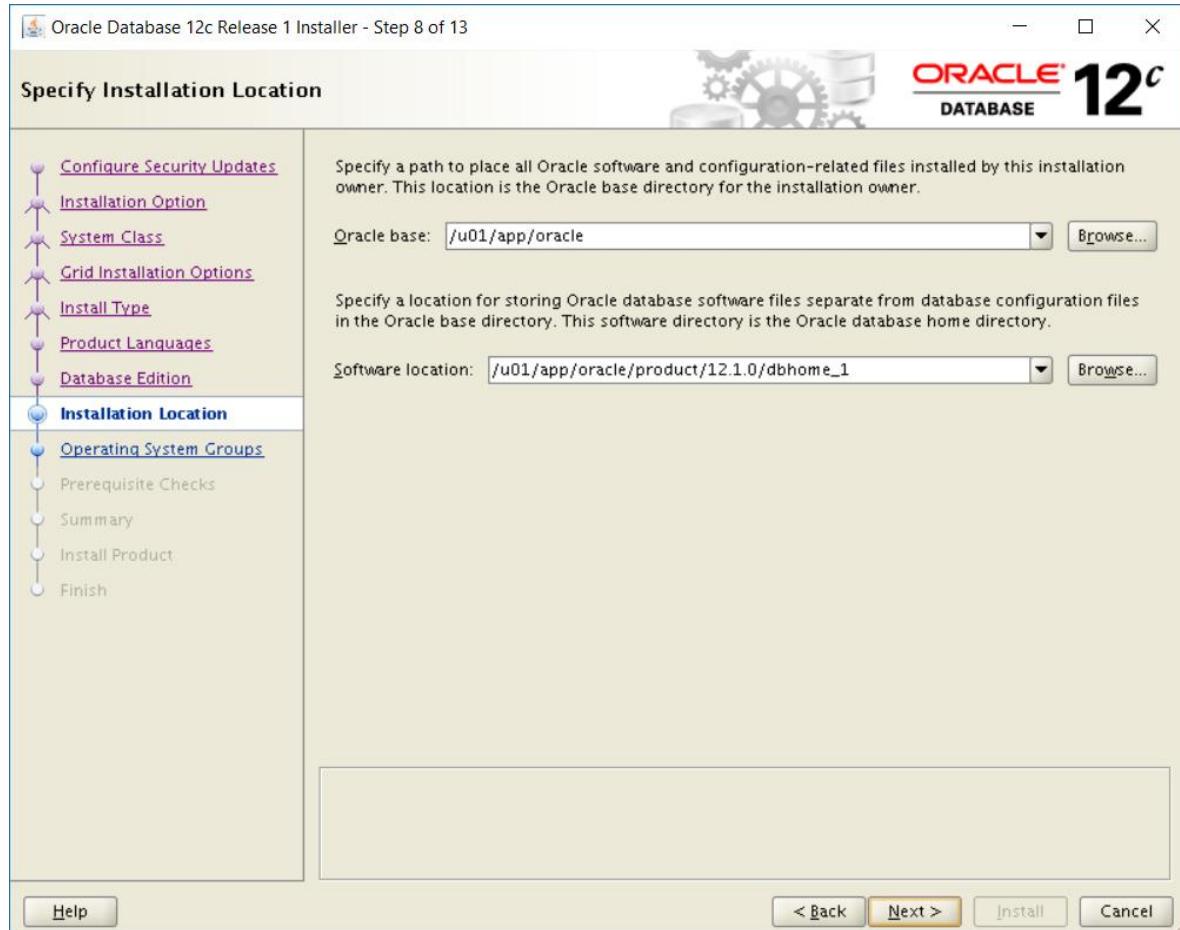


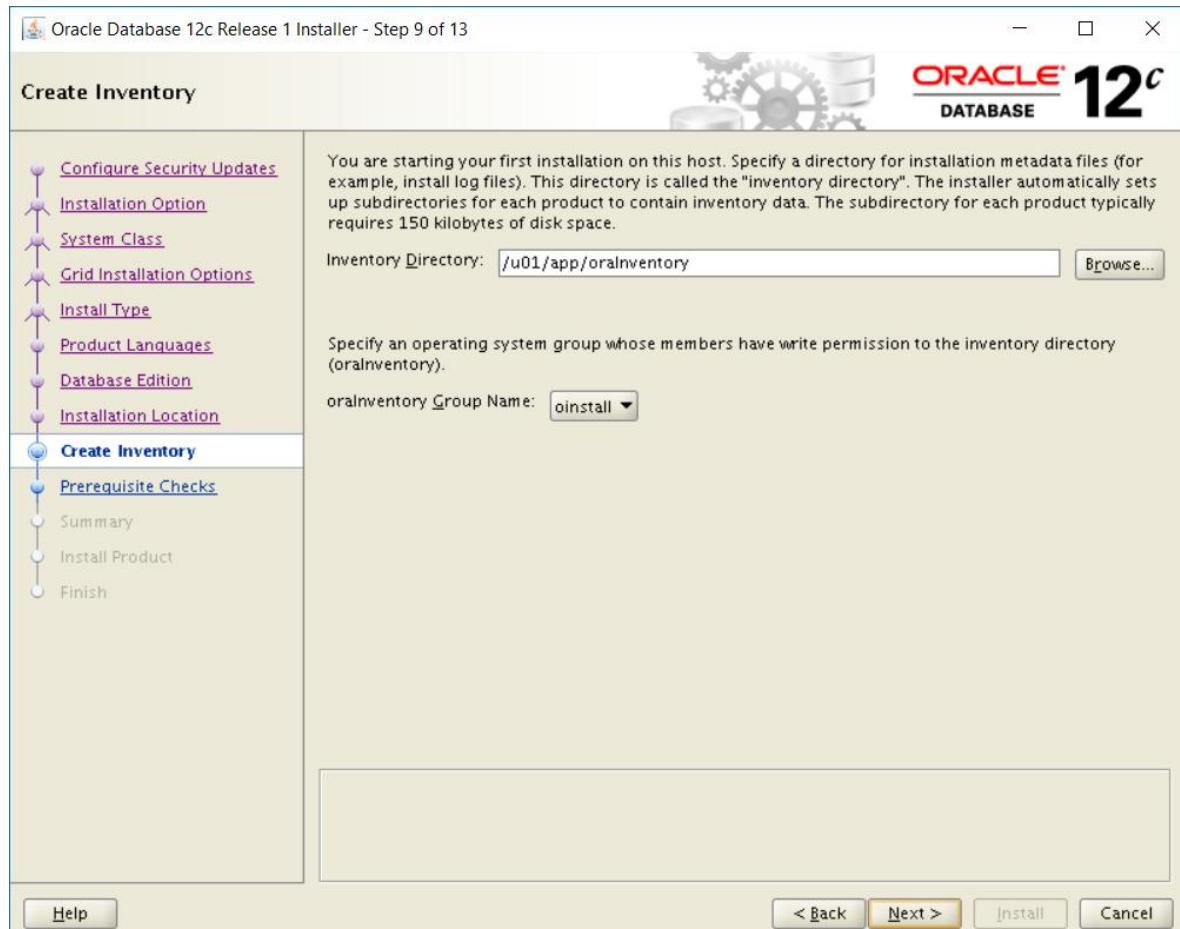


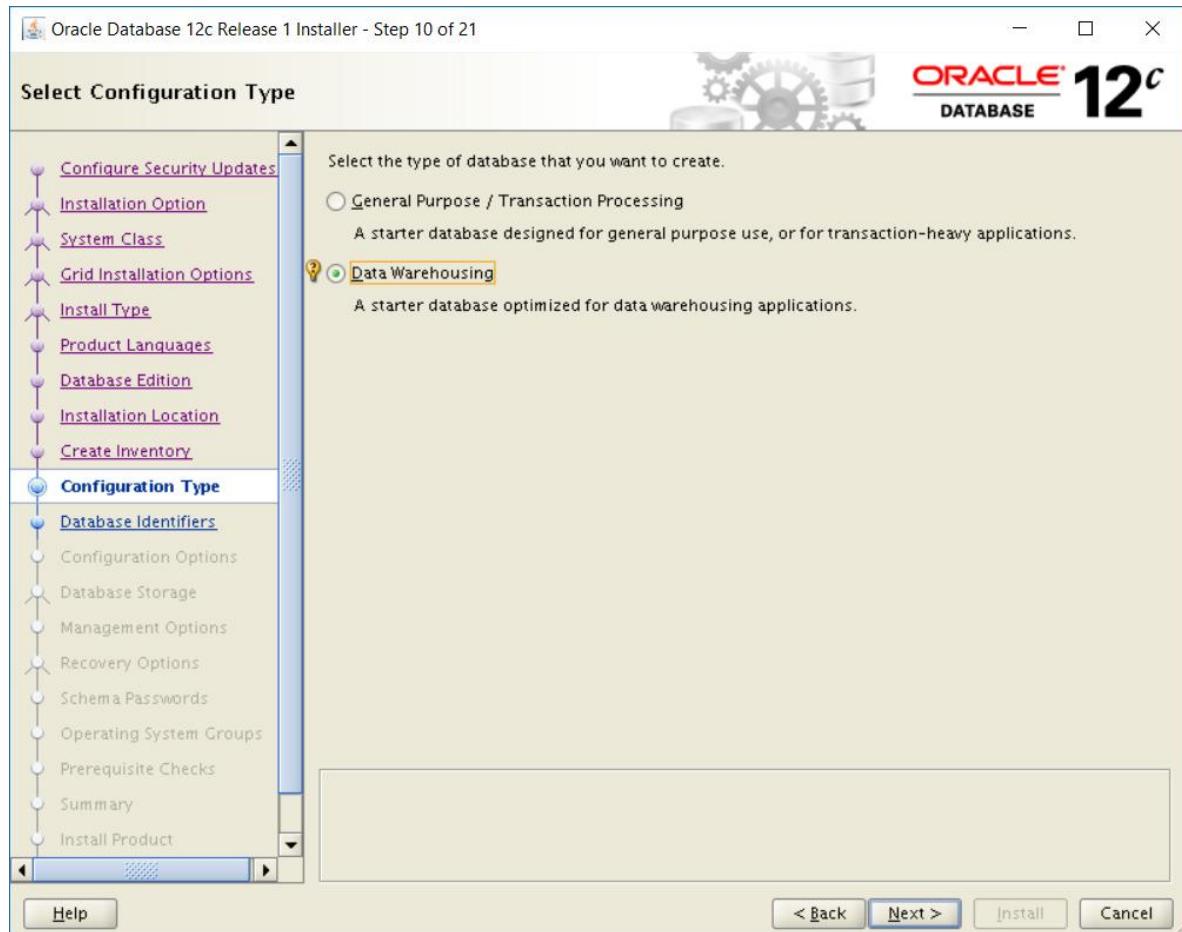


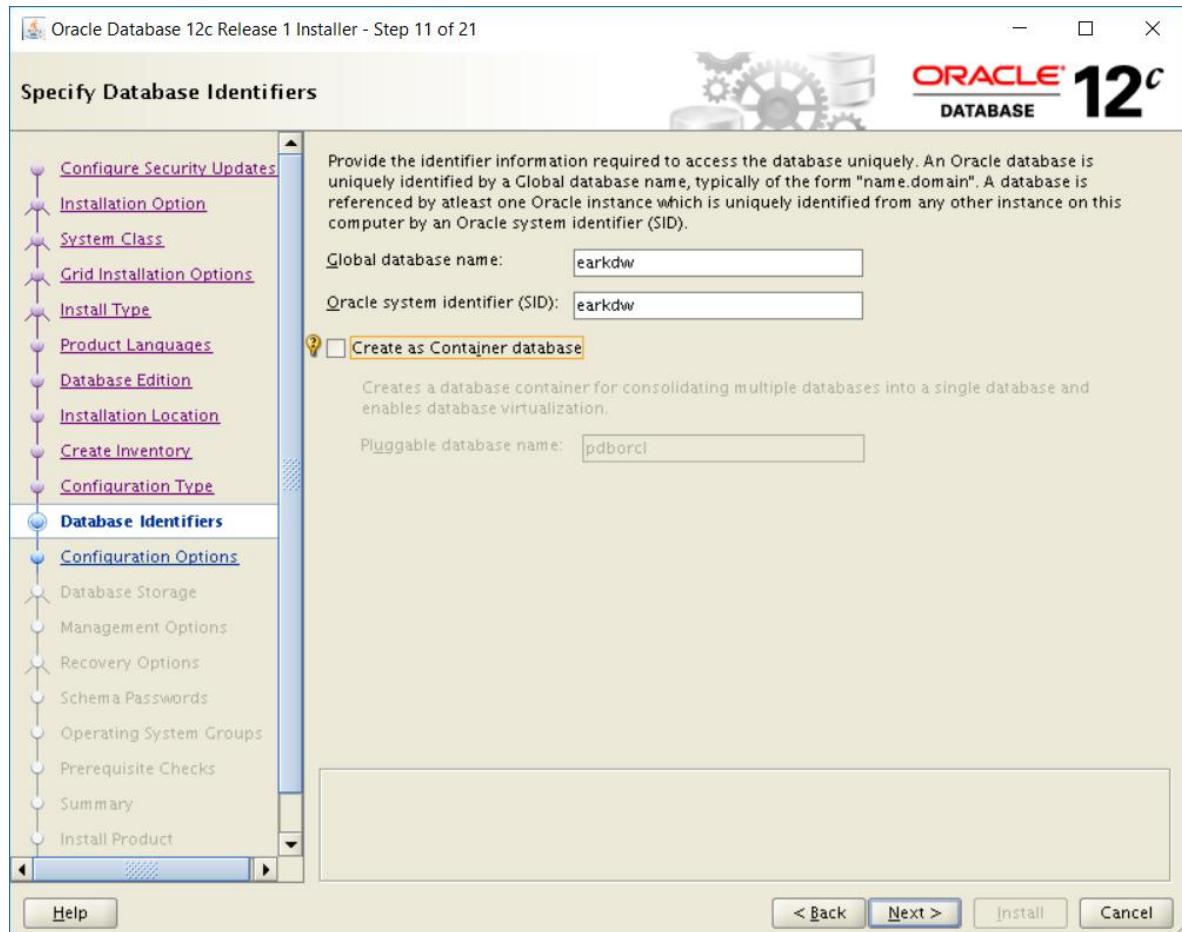


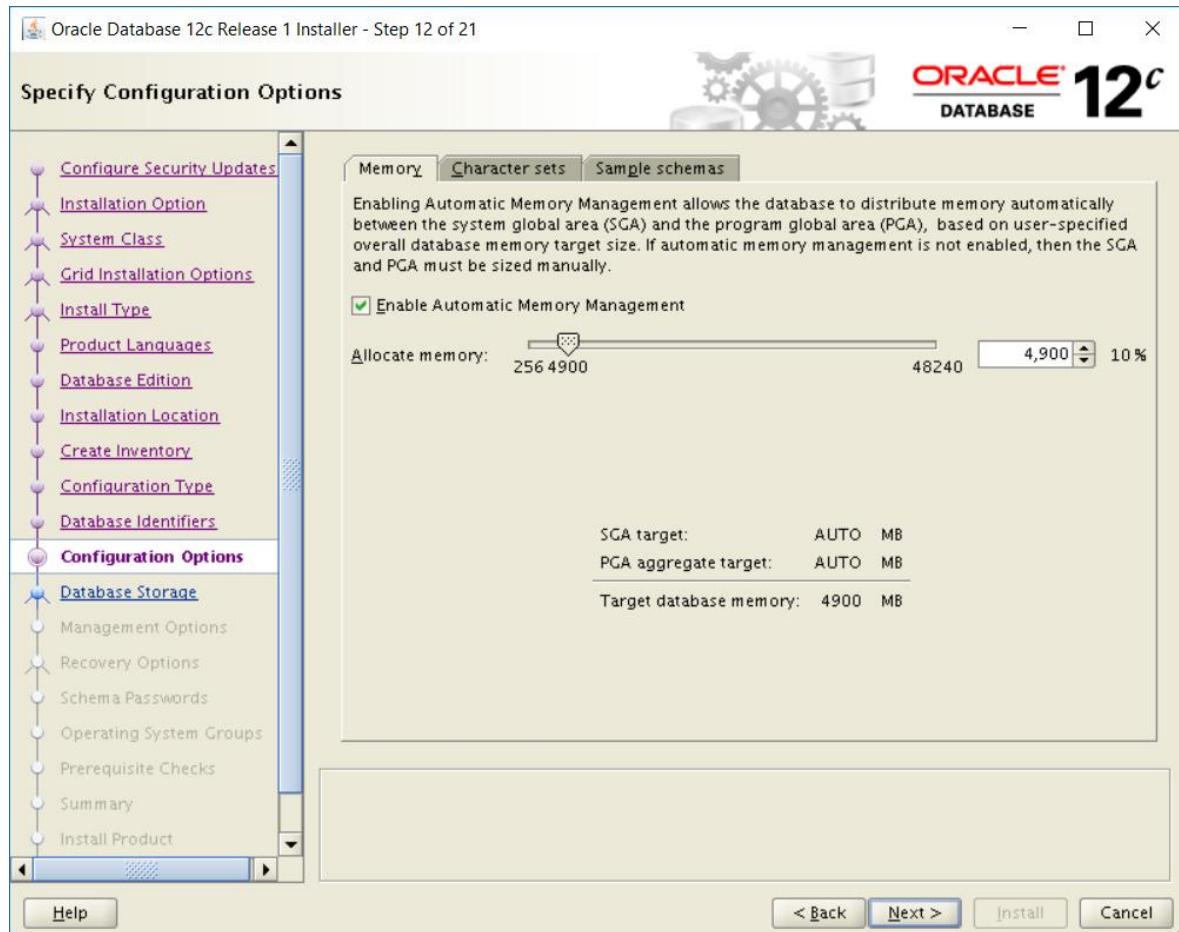


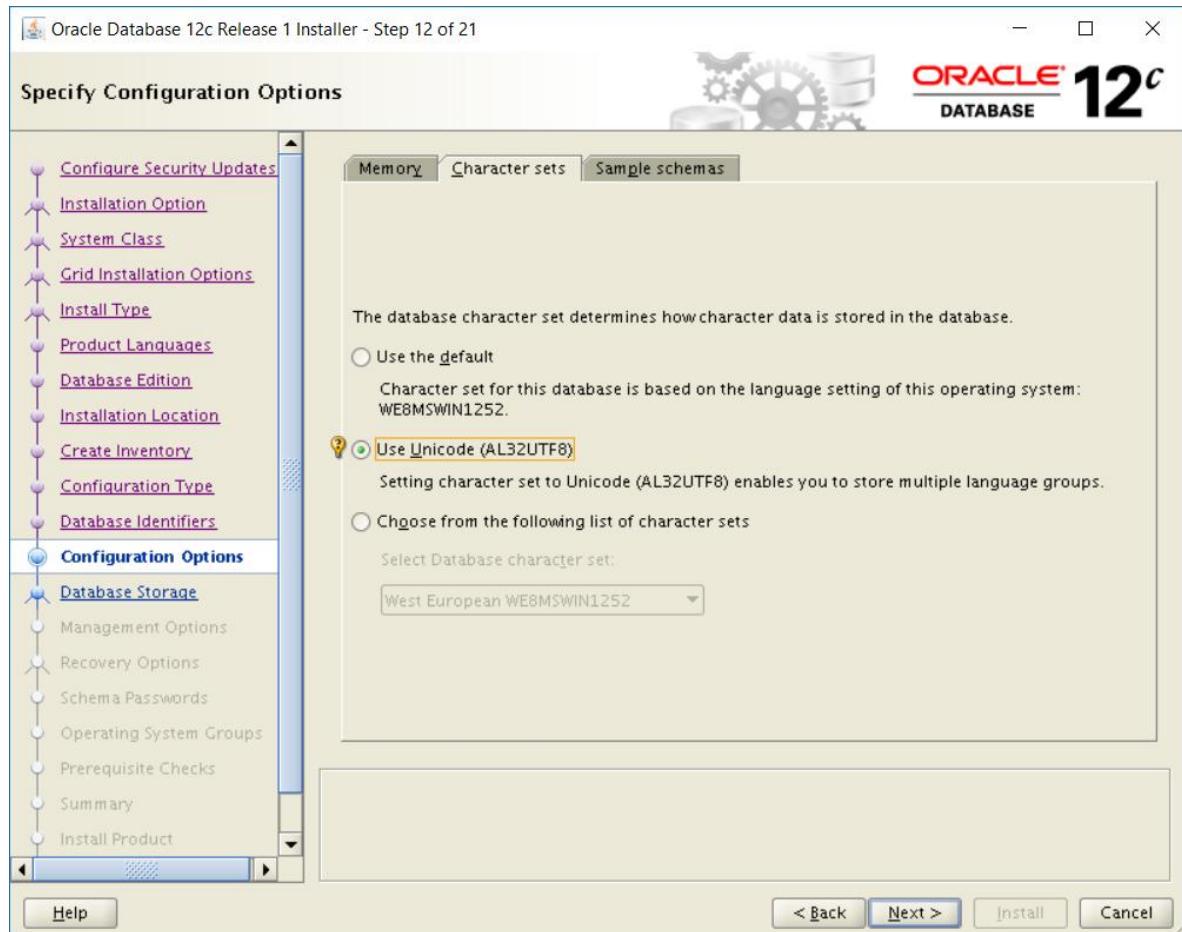


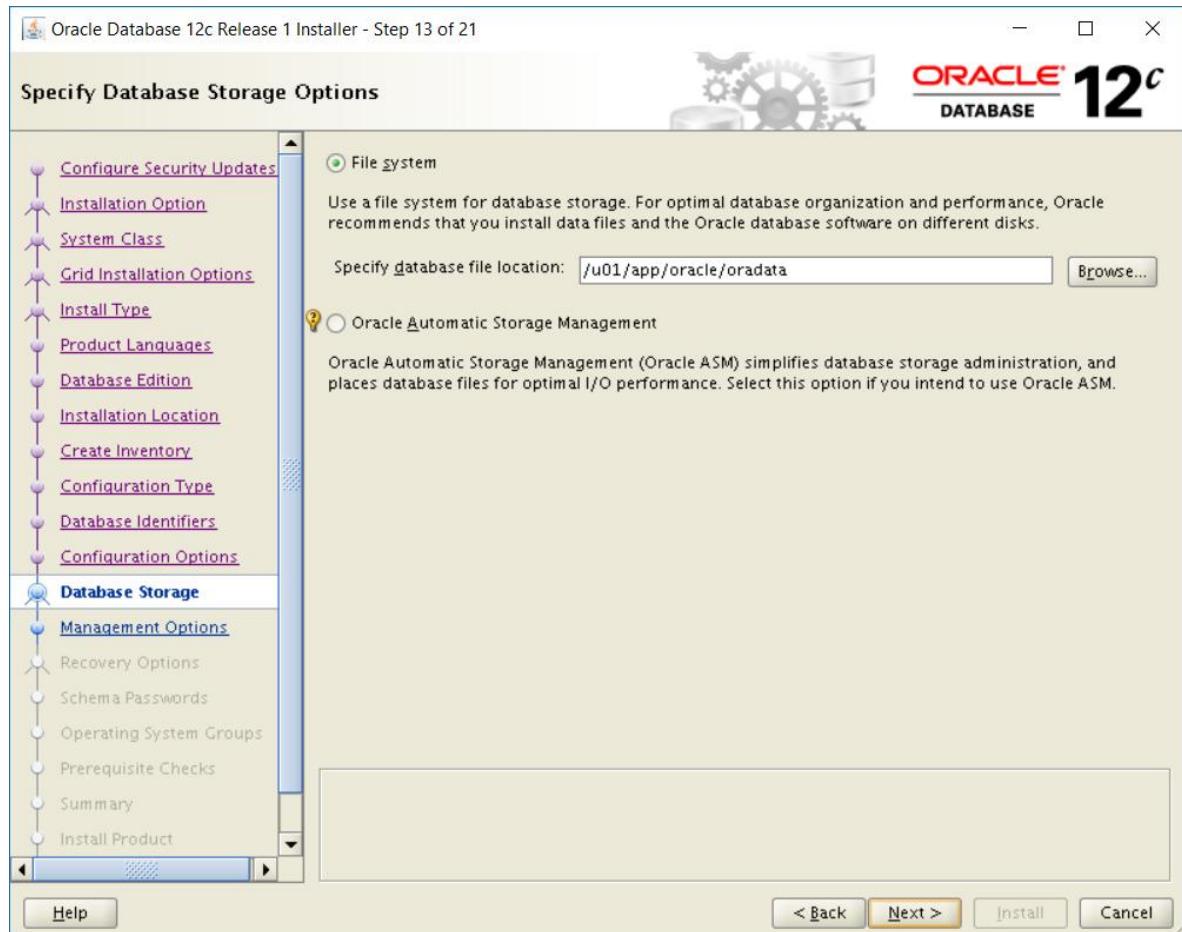


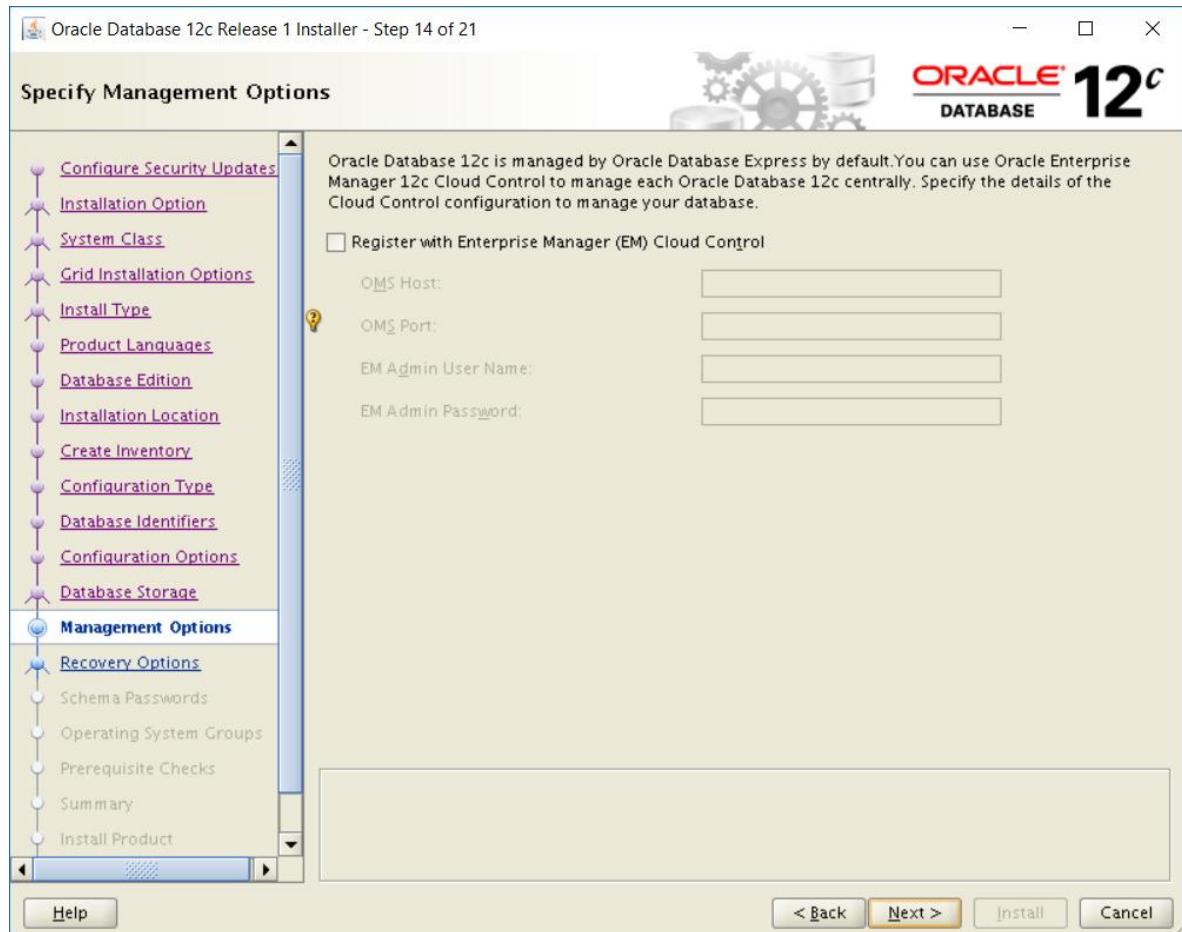


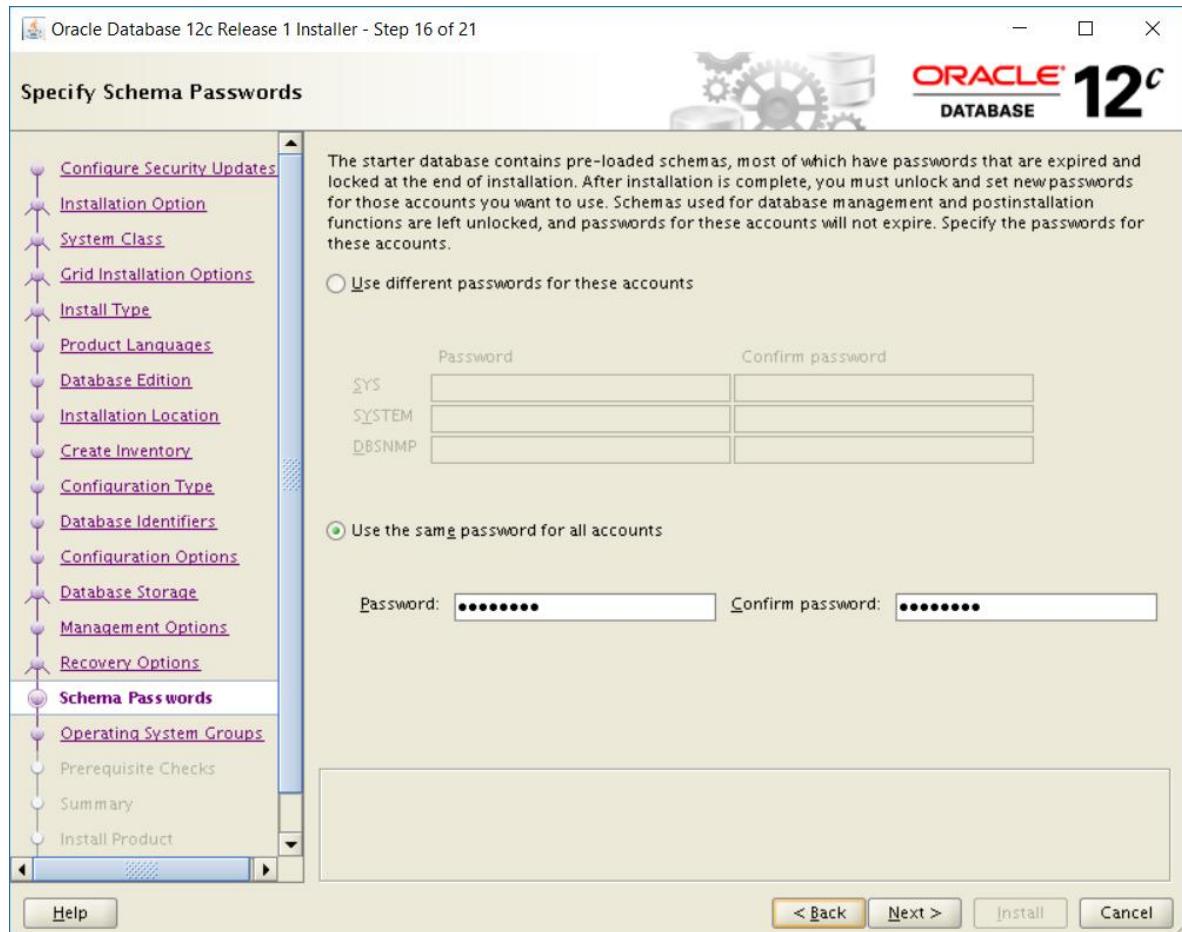


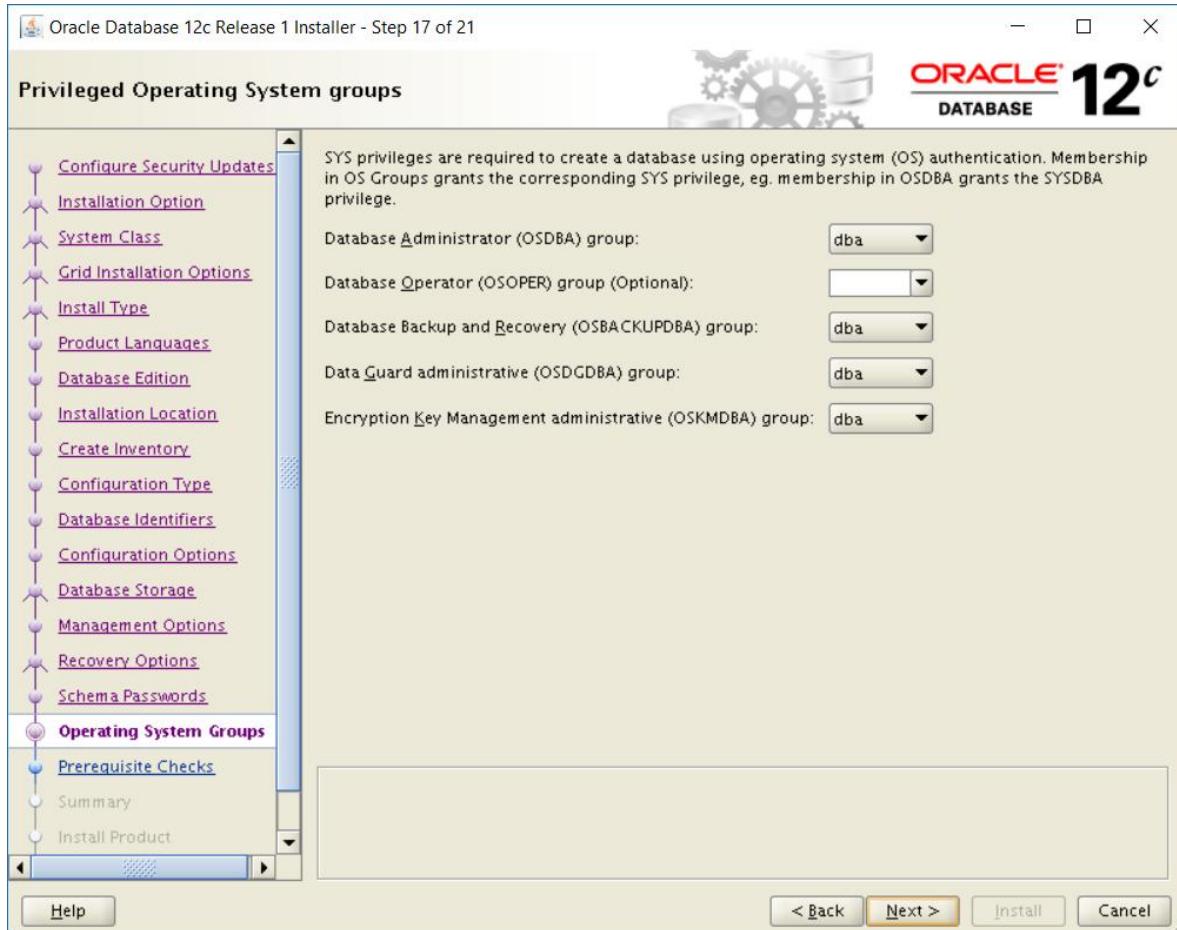












```
/tmp/CVU_12.1.0.2.0_oracle/runfixup.sh
```

```

FixupTask::fix - Fixing Total 2 instances of this task.
FixupTask::fix - Fixing Task TASKSHELLLIMITS instance number (0)
FixupTask::fix - Complete fixup operations for Task TASKSHELLLIMITS instance number (0), Now uploading output to xml.
FixupTask::fix - Fixing Task TASKSHELLLIMITS instance number (0) fixed and output uploaded
FixupTask::fix - Fixing Task TASKSHELLLIMITS instance number (1)
FixupTask::fix - Complete fixup operations for Task TASKSHELLLIMITS instance number (1), Now uploading output to xml.
FixupTask::fix - Fixing Task TASKSHELLLIMITS instance number (1) fixed and output uploaded
FixupTask::fix - Fixing Total 12 instances of this task.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (0)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=250
requiredVal=250
sTaskSystemSettings::correctNumericValue - Returning corrected value as (250)
sTaskSystemSettings::correctNumericValue -
currentVal=250
requiredVal=250

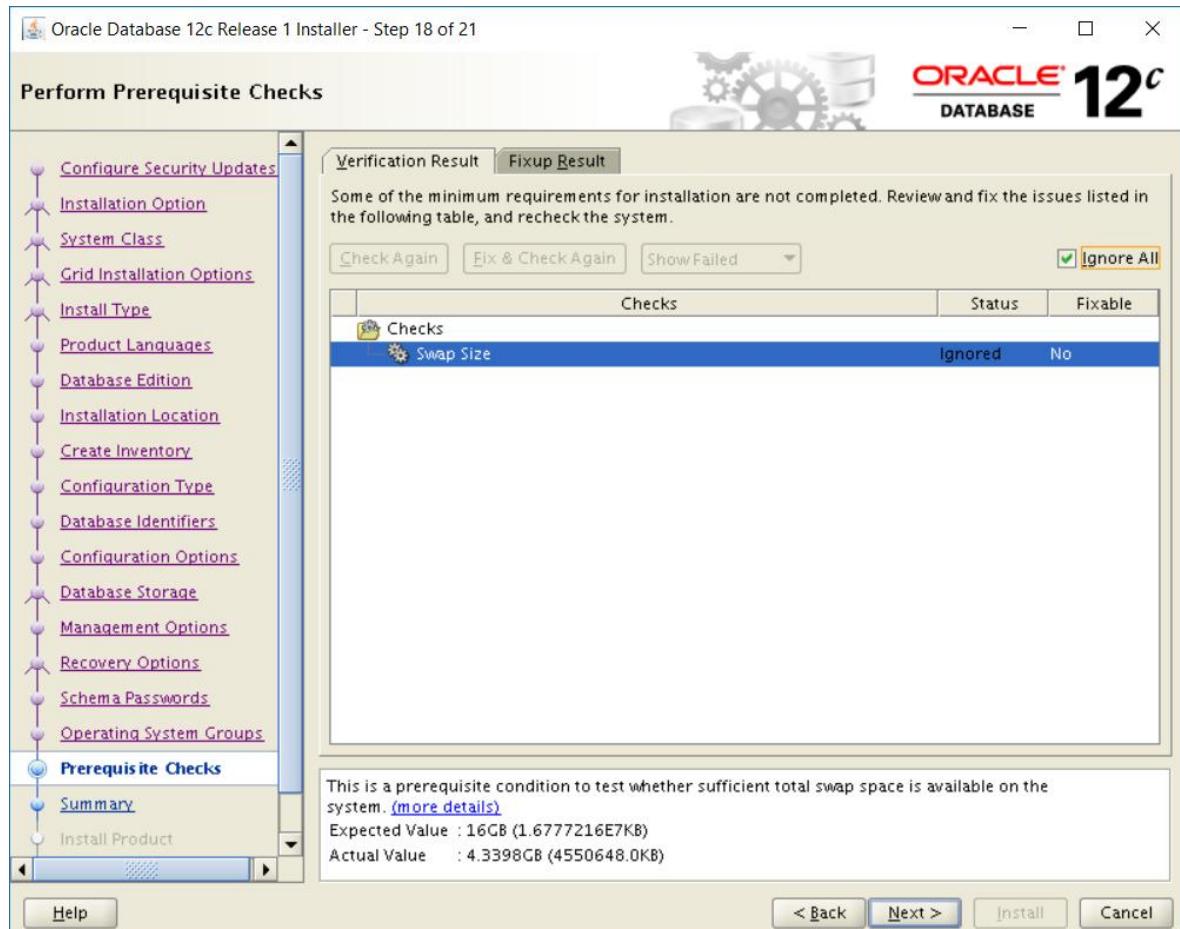
```

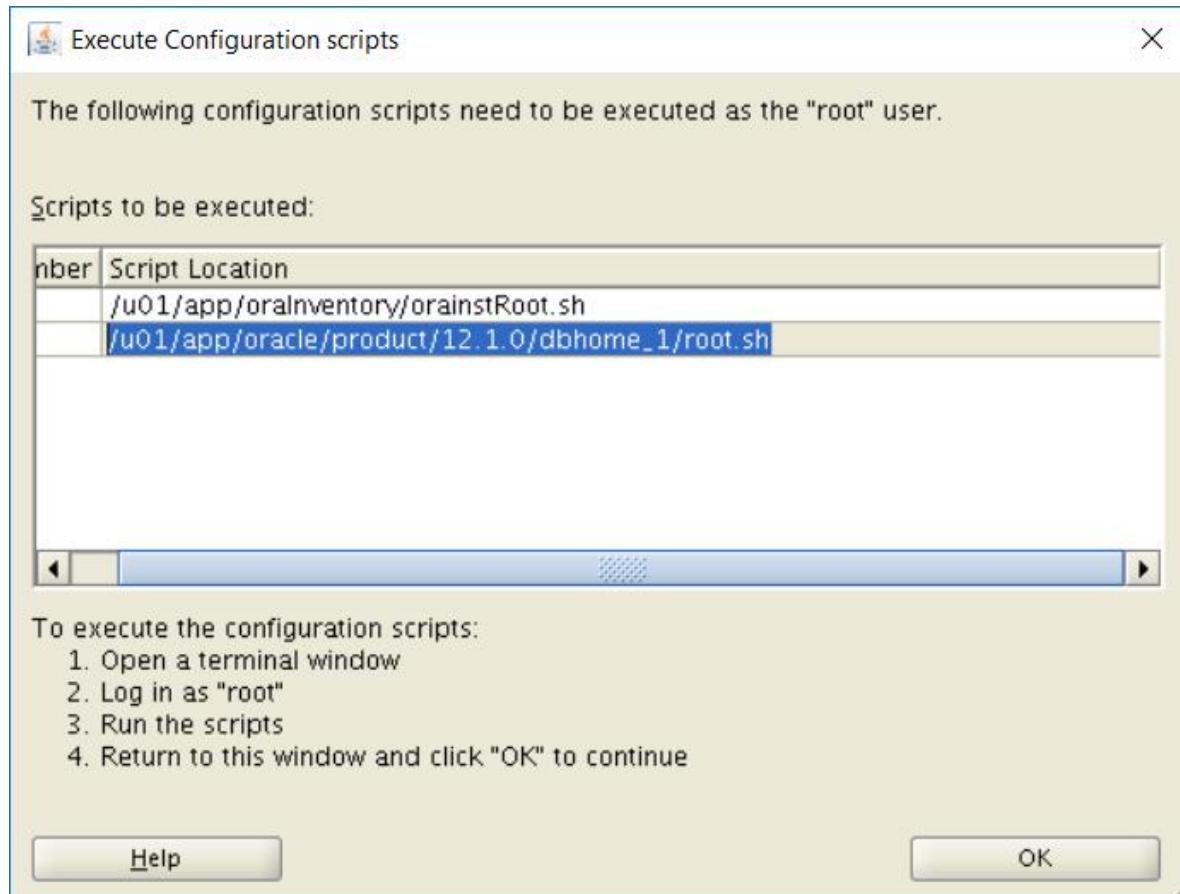
```
sTaskSystemSettings::correctNumericValue - Returning corrected value as (250)
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (0), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (0) fixed and output uploaded
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (1)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=32000
requiredVal=32000
sTaskSystemSettings::correctNumericValue - Returning corrected value as (32000)
sTaskSystemSettings::correctNumericValue -
currentVal=32000
requiredVal=32000
sTaskSystemSettings::correctNumericValue - Returning corrected value as (32000)
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (1), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (1) fixed and output uploaded
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (2)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=32
requiredVal=100
sTaskSystemSettings::correctNumericValue - Returning corrected value as (100)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=32
requiredVal=100
sTaskSystemSettings::correctNumericValue - Returning corrected value as (100)
sTaskSystemSettings::updateEntryInSysctlConfFile - After Updating 'kernel.sem' value in /etc/sysctl.conf at line
became: kernel.sem = 250      32000      100      128
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (2), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (2) fixed and output uploaded
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (3)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=128
requiredVal=128
sTaskSystemSettings::correctNumericValue - Returning corrected value as (128)
sTaskSystemSettings::correctNumericValue -
currentVal=128
requiredVal=128
sTaskSystemSettings::correctNumericValue - Returning corrected value as (128)
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (3), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (3) fixed and output uploaded
```

```
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (4)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=4096
requiredVal=4096
sTaskSystemSettings::correctNumericValue - Returning corrected value as (4096)
sTaskSystemSettings::correctNumericValue -
currentVal=0
requiredVal=4096
sTaskSystemSettings::correctNumericValue - Returning corrected value as (4096)
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (4), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (4) fixed and output uploaded
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (5)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=65536
requiredVal=6815744
sTaskSystemSettings::correctNumericValue - Returning corrected value as (6815744)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal= 65536
requiredVal=6815744
sTaskSystemSettings::correctNumericValue - Returning corrected value as (6815744)
sTaskSystemSettings::updateEntryInSysctlConfFile - After Updating 'fs.file-max' value in /etc/sysctl.conf at line
became: fs.file-max = 6815744
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (5), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (5) fixed and output uploaded
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (6)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=32768
requiredVal=9000
sTaskSystemSettings::correctNumericValue - Returning corrected value as (9000)
sTaskSystemSettings::correctNumericValue -
currentVal=32768
requiredVal=9000
sTaskSystemSettings::correctNumericValue - Returning corrected value as (9000)
sTaskSystemSettings::correctNumericValue -
currentVal=61000
requiredVal=65535
sTaskSystemSettings::correctNumericValue - Returning corrected value as (65535)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
```

```
currentVal=0
requiredVal=9000
sTaskSystemSettings::correctNumericValue - Returning corrected value as (9000)
sTaskSystemSettings::correctNumericValue -
currentVal=0
requiredVal=65535
sTaskSystemSettings::correctNumericValue - Returning corrected value as (65535)
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (6), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (6) fixed and output uploaded
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (7)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=124928
requiredVal=262144
sTaskSystemSettings::correctNumericValue - Returning corrected value as (262144)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=0
requiredVal=262144
sTaskSystemSettings::correctNumericValue - Returning corrected value as (262144)
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (7), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (7) fixed and output uploaded
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (8)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=131071
requiredVal=4194304
sTaskSystemSettings::correctNumericValue - Returning corrected value as (4194304)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=0
requiredVal=4194304
sTaskSystemSettings::correctNumericValue - Returning corrected value as (4194304)
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (8), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (8) fixed and output uploaded
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (9)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=124928
requiredVal=262144
sTaskSystemSettings::correctNumericValue - Returning corrected value as (262144)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
```

```
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=0
requiredVal=262144
sTaskSystemSettings::correctNumericValue - Returning corrected value as (262144)
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (9), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (9) fixed and output uploaded
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (10)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=131071
requiredVal=1048576
sTaskSystemSettings::correctNumericValue - Returning corrected value as (1048576)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=0
requiredVal=1048576
sTaskSystemSettings::correctNumericValue - Returning corrected value as (1048576)
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (10), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (10) fixed and output uploaded
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (11)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=65536
requiredVal=1048576
sTaskSystemSettings::correctNumericValue - Returning corrected value as (1048576)
sFixupUtil::checkFileExistence - Checking existence of file /sbin/sysctl
sFixupUtil::checkFileExistence - /sbin/sysctl exists
sTaskSystemSettings::correctNumericValue -
currentVal=0
requiredVal=1048576
sTaskSystemSettings::correctNumericValue - Returning corrected value as (1048576)
FixupTask::fix - Complete fixup operations for Task TASKKERNELPARAM instance number (11), Now uploading
output to xml.
FixupTask::fix - Fixing Task TASKKERNELPARAM instance number (11) fixed and output uploaded
```





/u01/app/oralInventory/orainstRoot.sh

Changing permissions of /u01/app/oralInventory.

Adding read,write permissions for group.

Removing read,write,execute permissions for world.

Changing groupname of /u01/app/oralInventory to oinstall.

The execution of the script is complete.

/u01/app/oracle/product/12.1.0/dbhome_1/root.sh

Performing root user operation.

The following environment variables are set as:

ORACLE_OWNER= oracle

ORACLE_HOME= /u01/app/oracle/product/12.1.0/dbhome_1

Enter the full pathname of the local bin directory: [/usr/local/bin]:

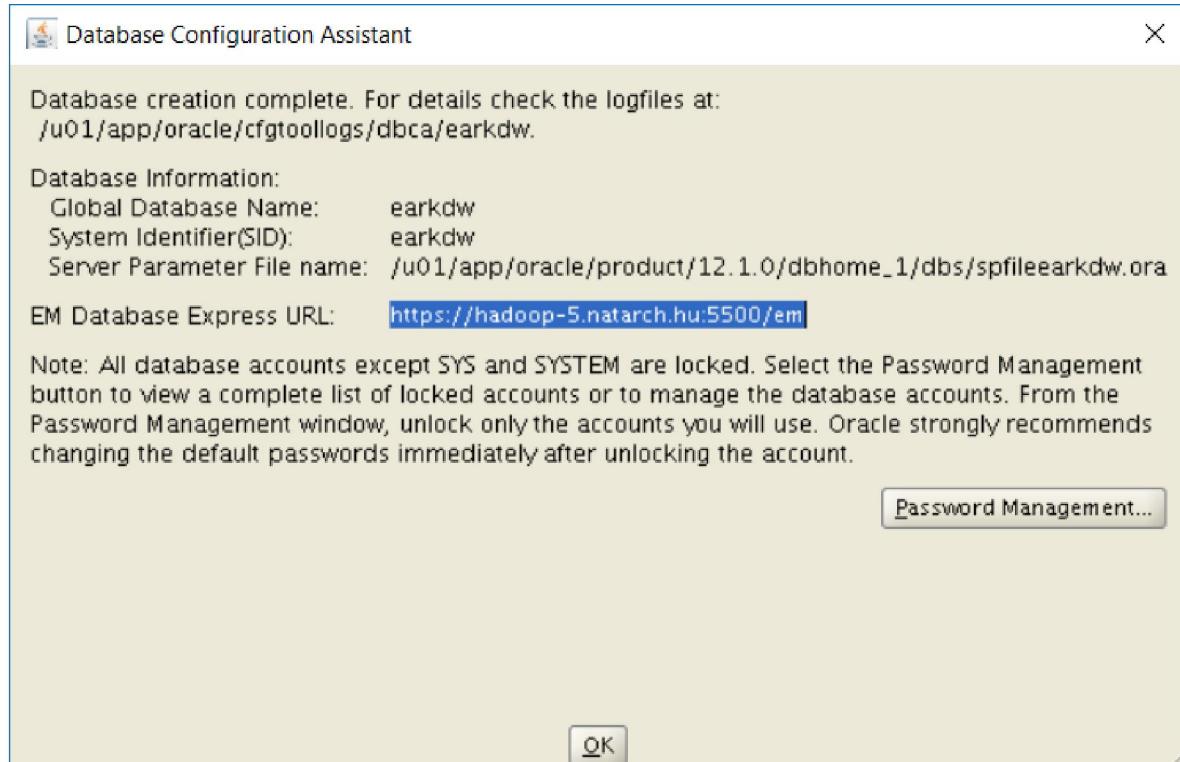
Copying dbhome to /usr/local/bin ...

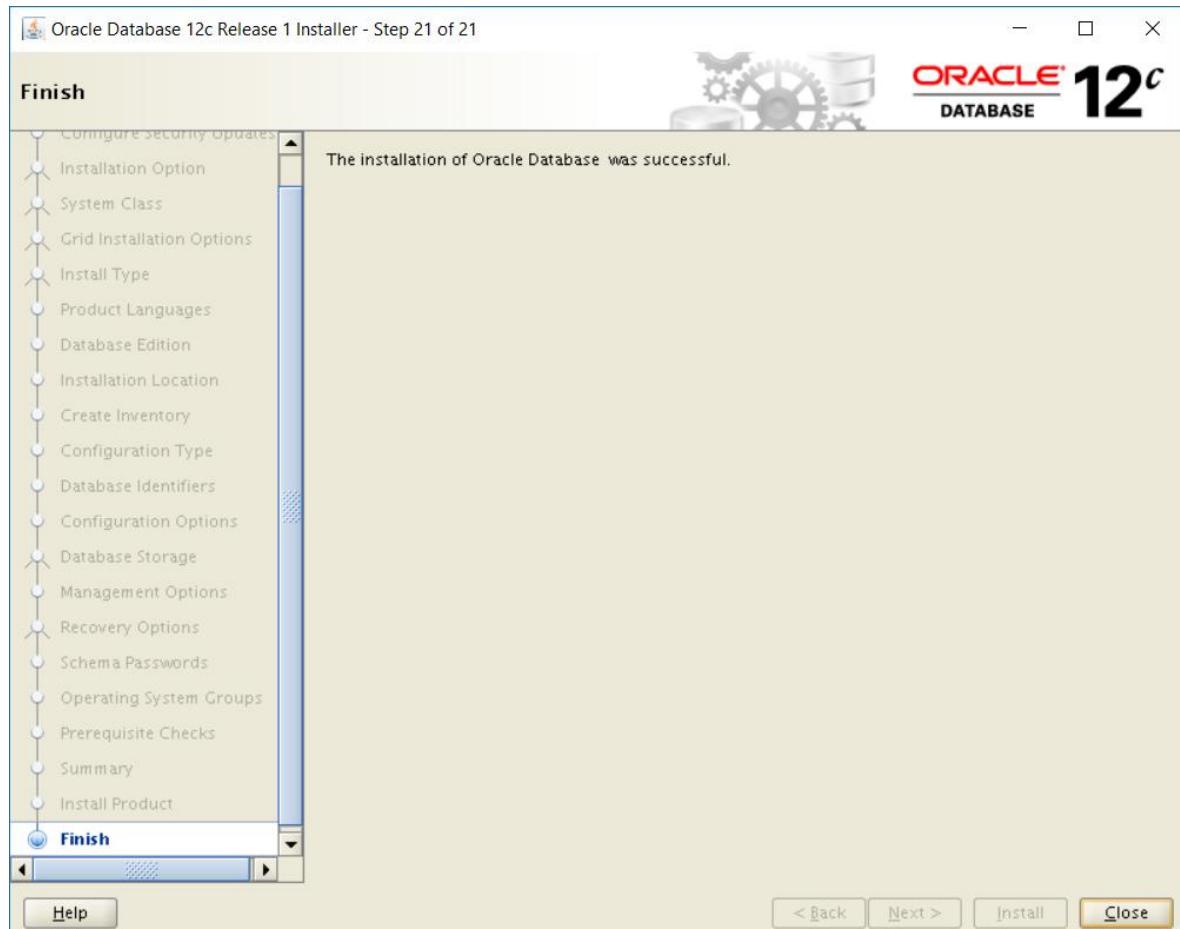
Copying oraenv to /usr/local/bin ...

Copying coraenv to /usr/local/bin ...

Entries will be added to the /etc/oratab file as needed by
Database Configuration Assistant when a database is created
Finished running generic part of root script.

Now product-specific root actions will be performed.





2.2 Oracle Application Express

Installed software version: Oracle Application Express (APEX) 5.0.3

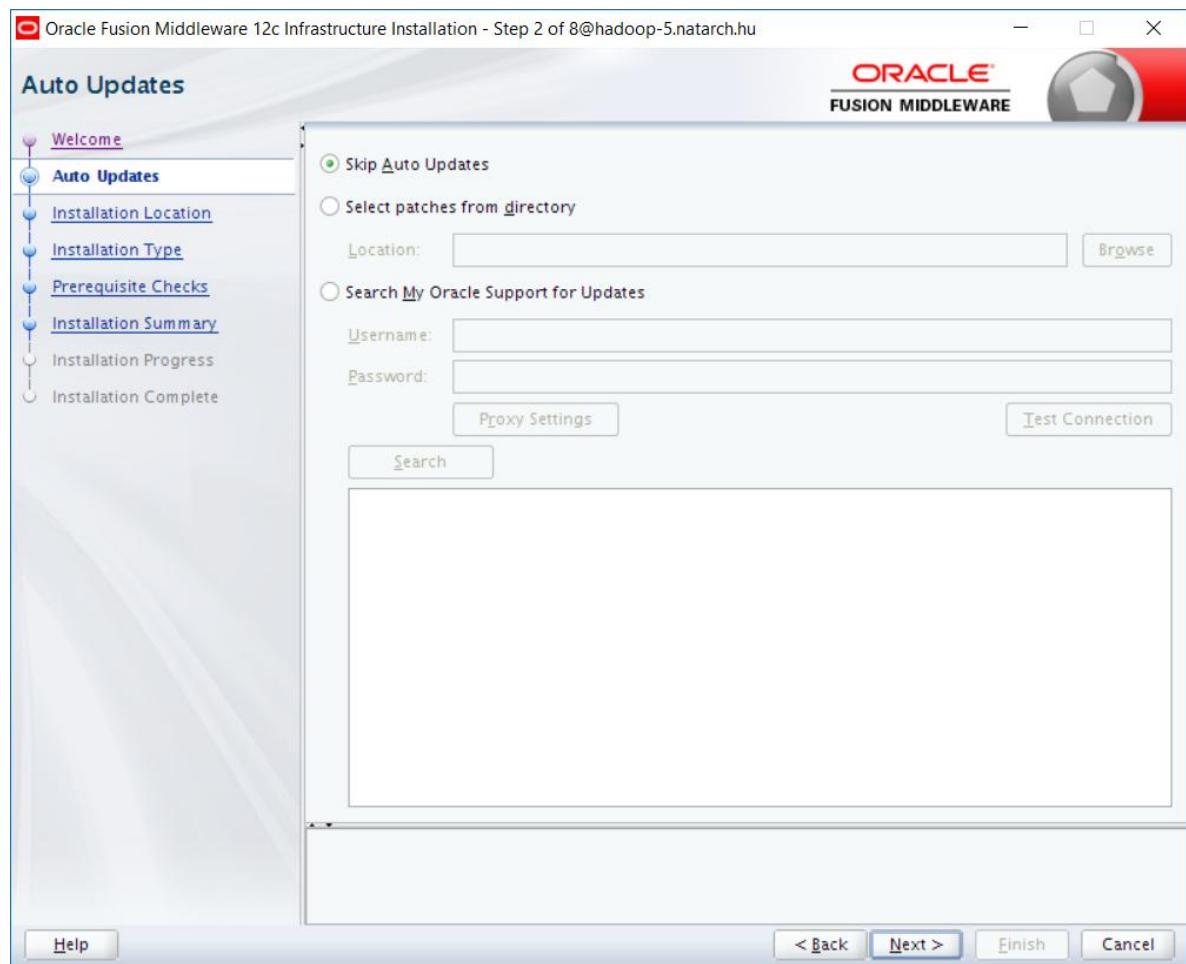
```
cd /u01/app/oracle/product/12.1.0/dbhome_1/apex_503
sqlplus / as sysdba
@apexins.sql SYSAUX SYSAUX TEMP /i/
@apxchpwd.sql
ALTER USER APEX_PUBLIC_USER ACCOUNT UNLOCK IDENTIFIED BY *****;
EXEC DBMS_XDB.SETHTTPPORT(0);
@apex_rest_config.sql
```

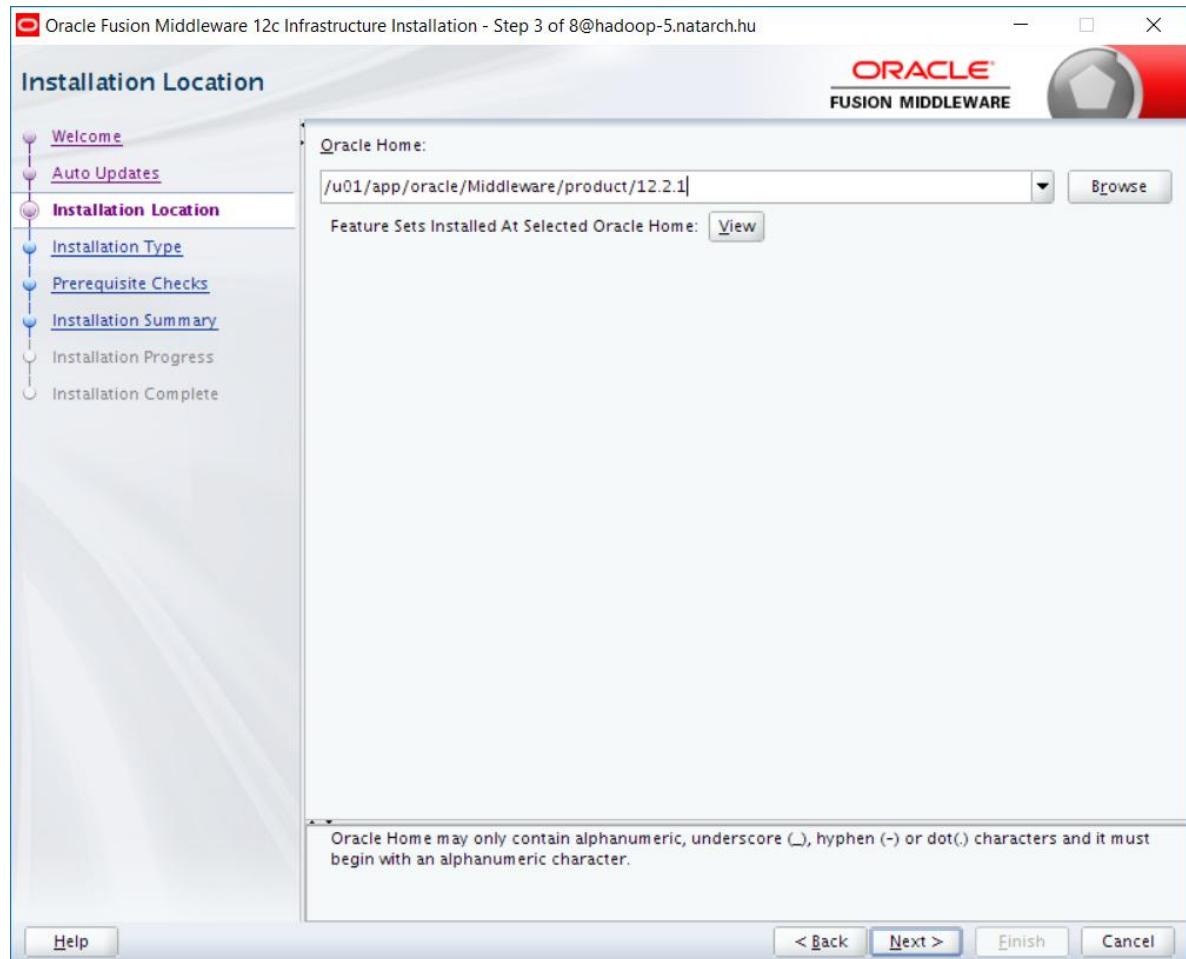
2.3 Oracle Fusion Middleware Infrastructure

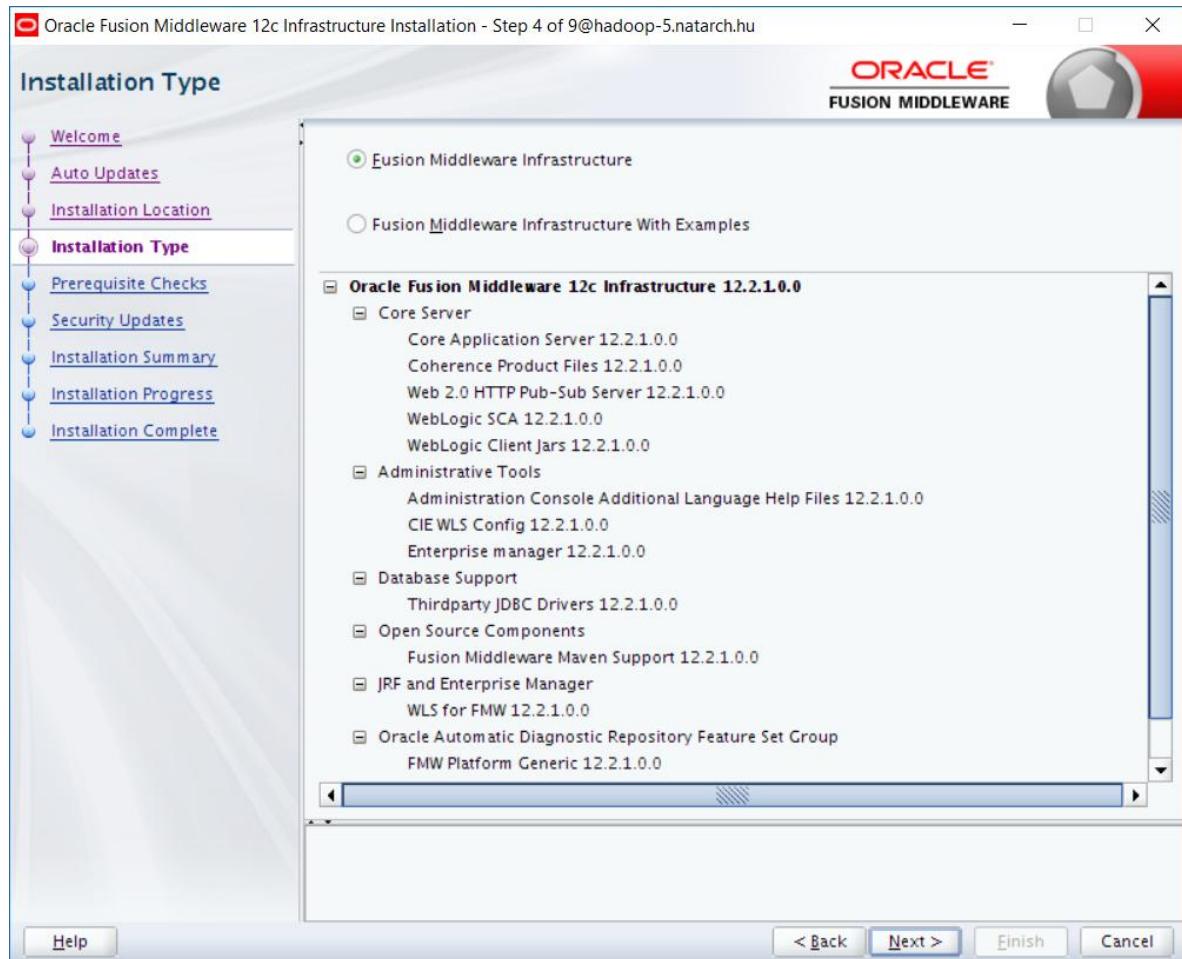
Installed software version: Oracle Fusion Middleware Infrastructure 12.2.1

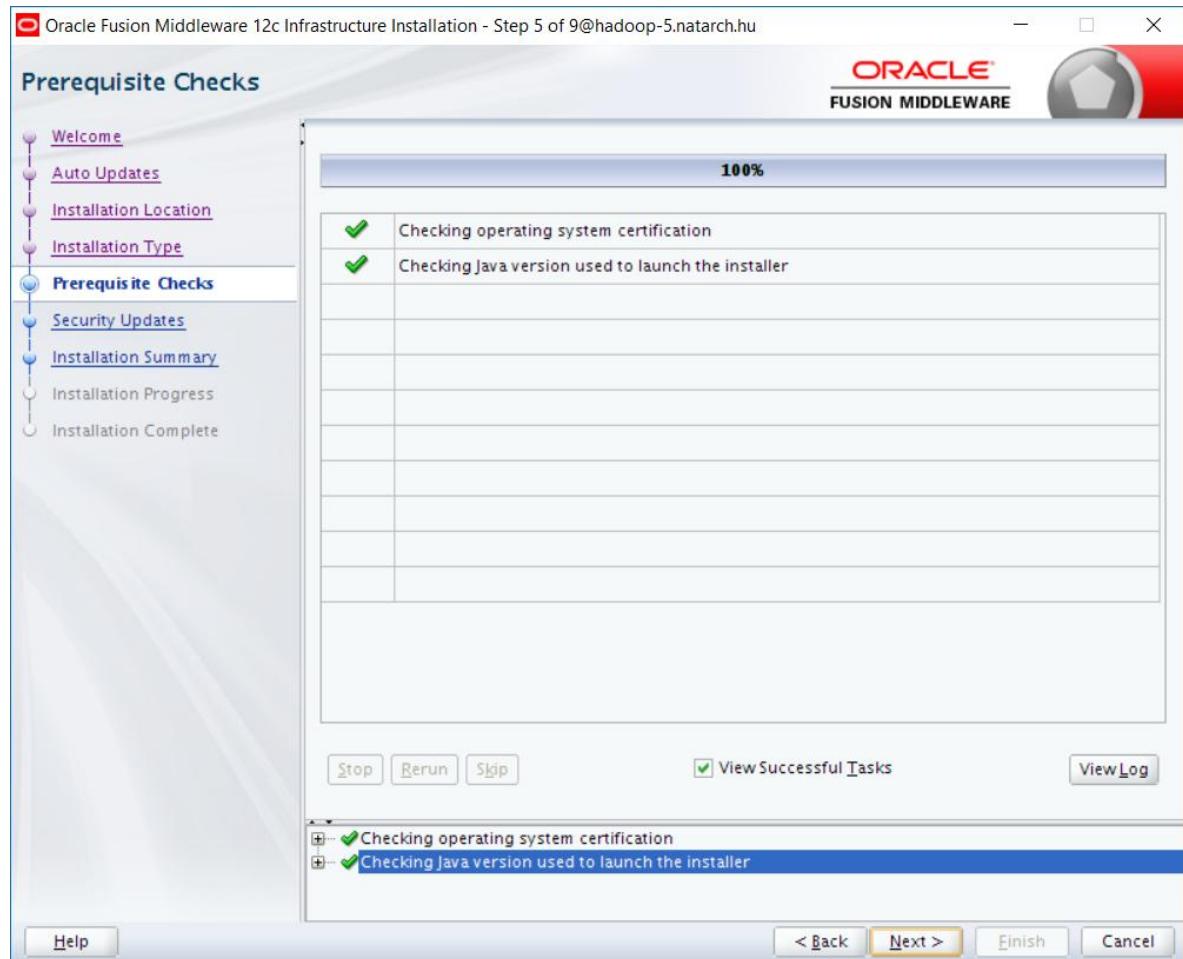
```
java -jar fmw_12.2.1.0.0_infrastructure.jar
```

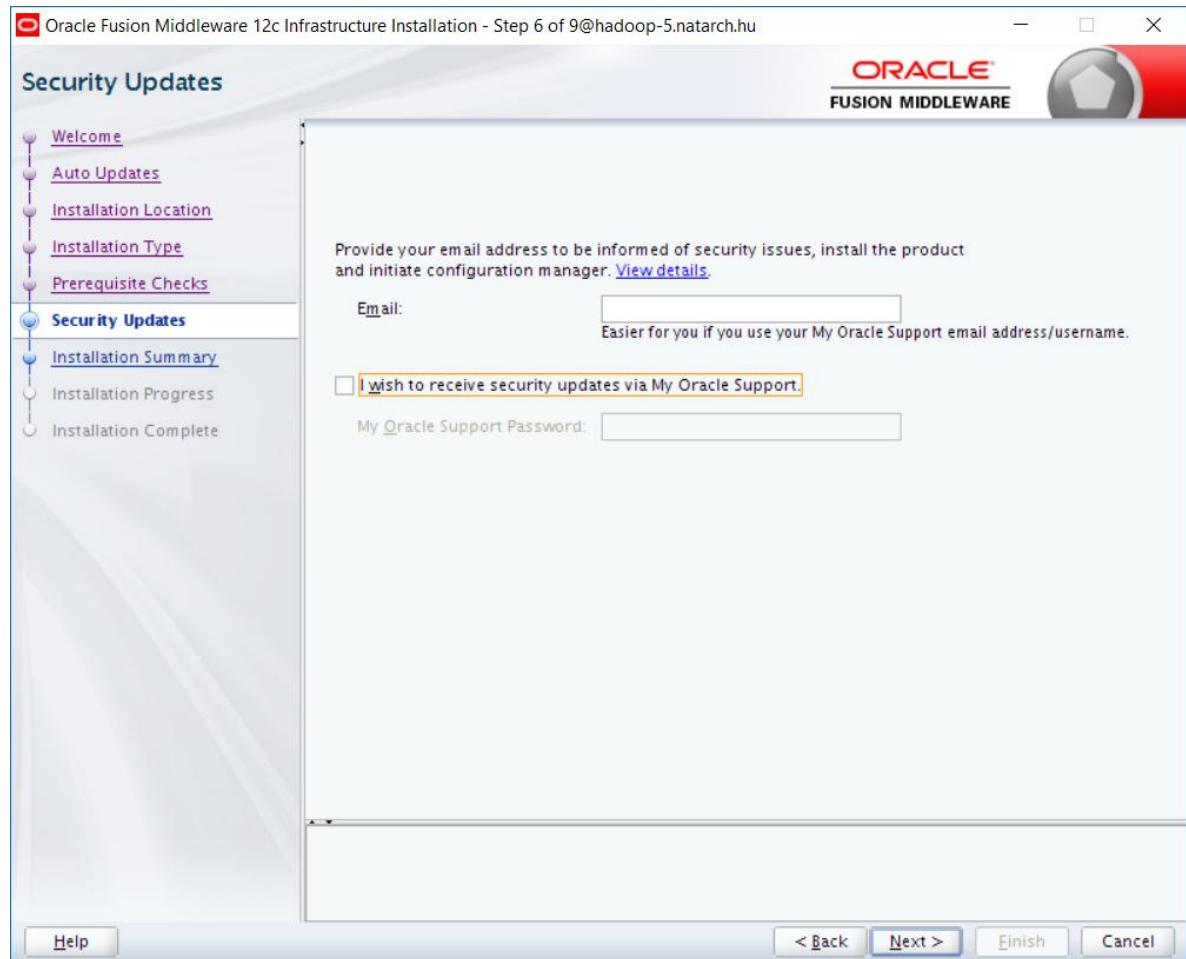


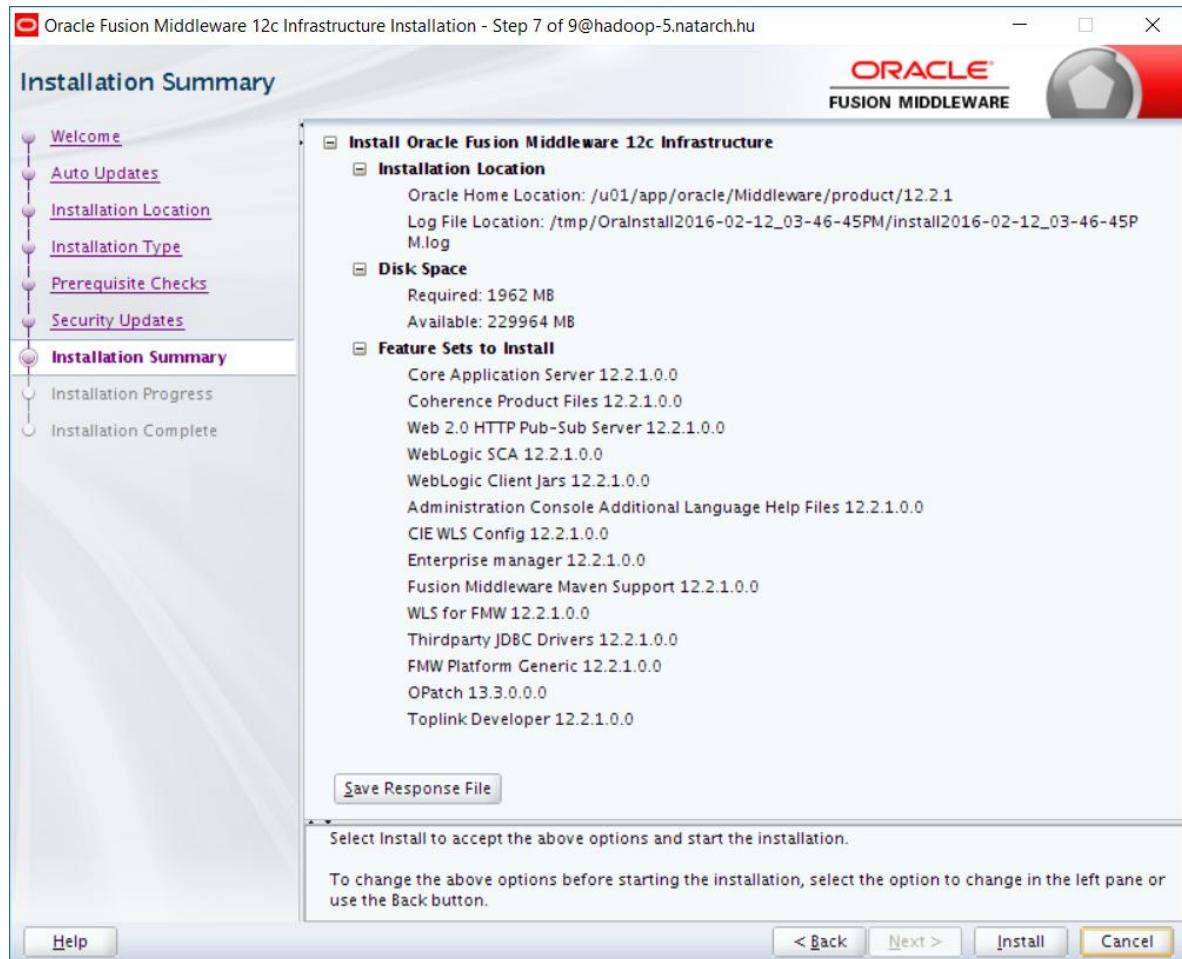


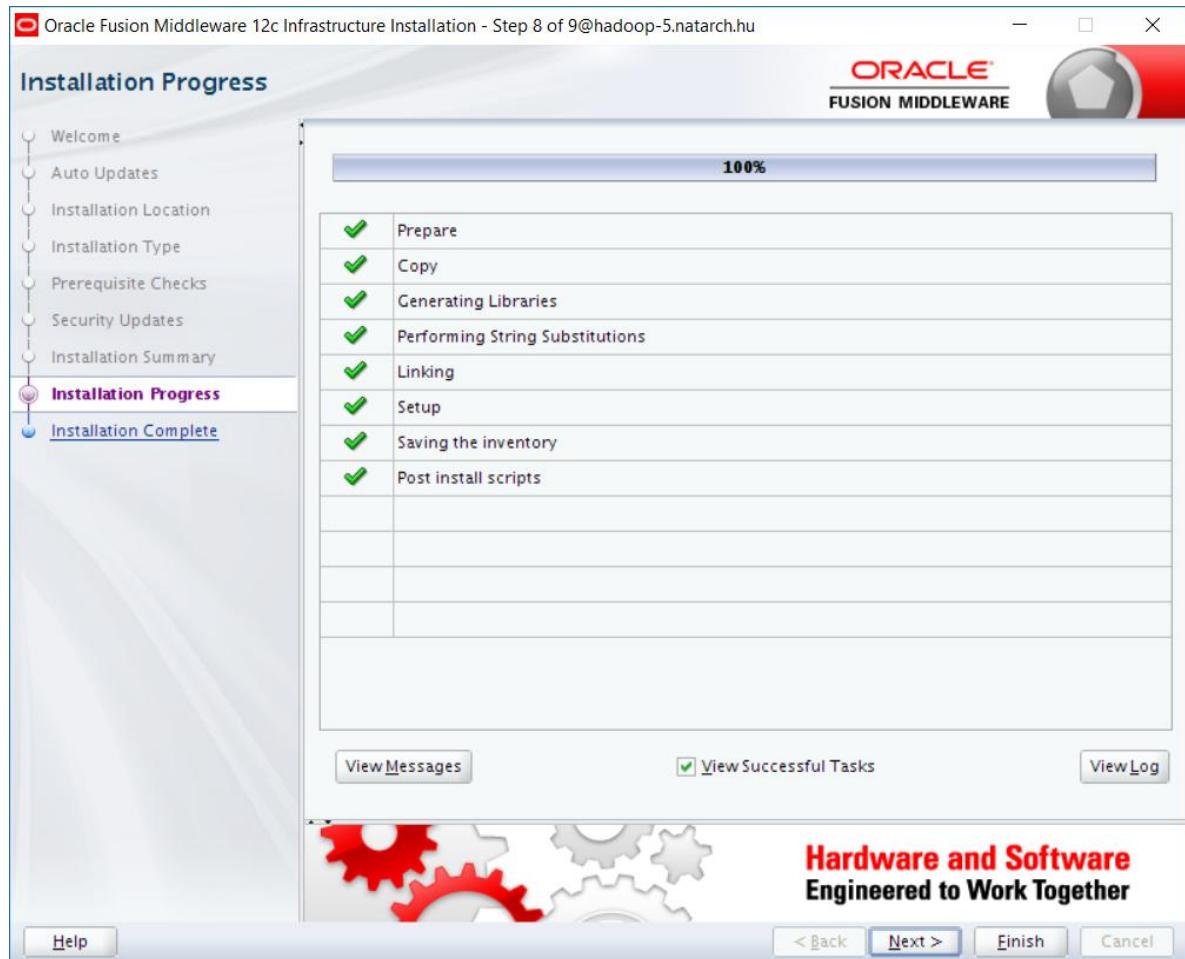


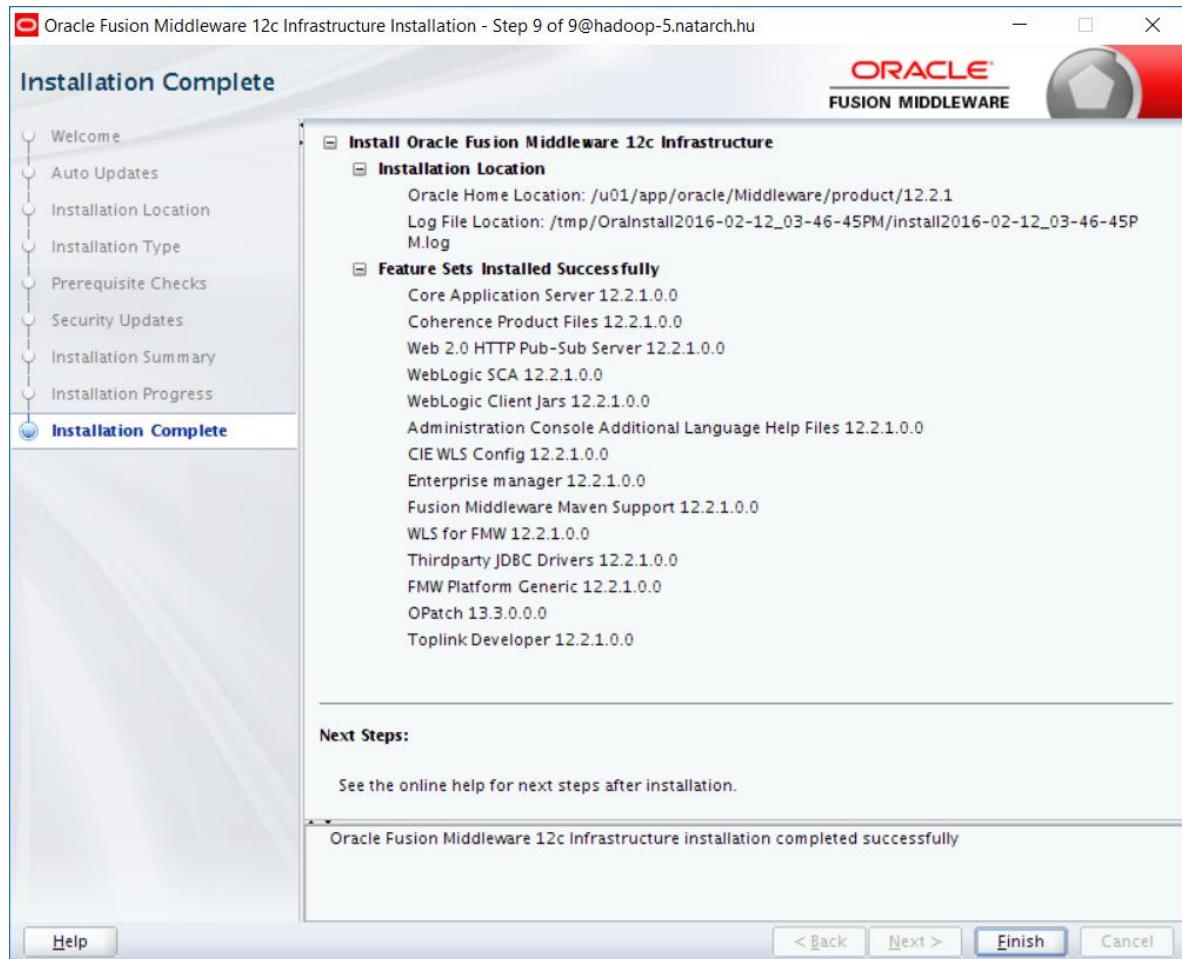










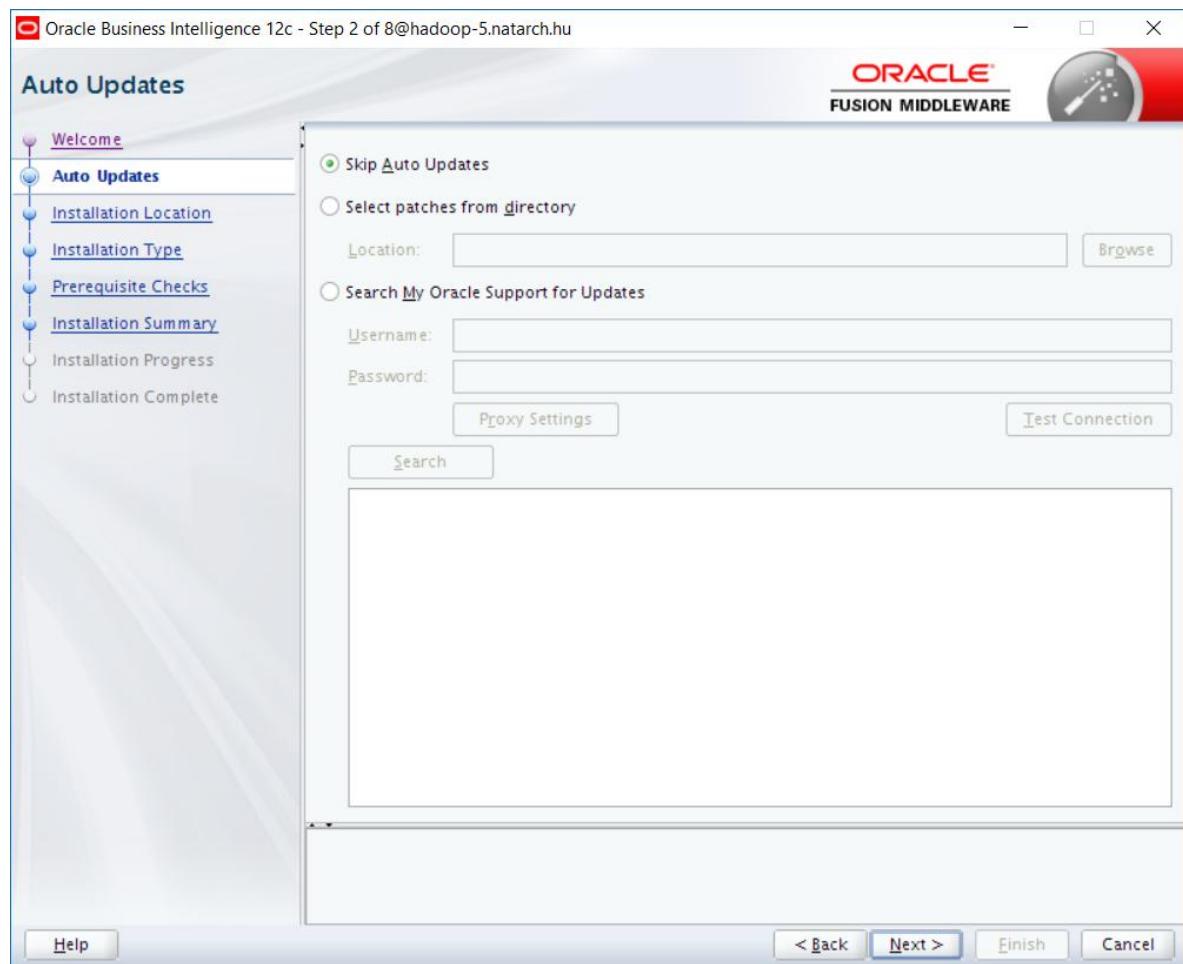


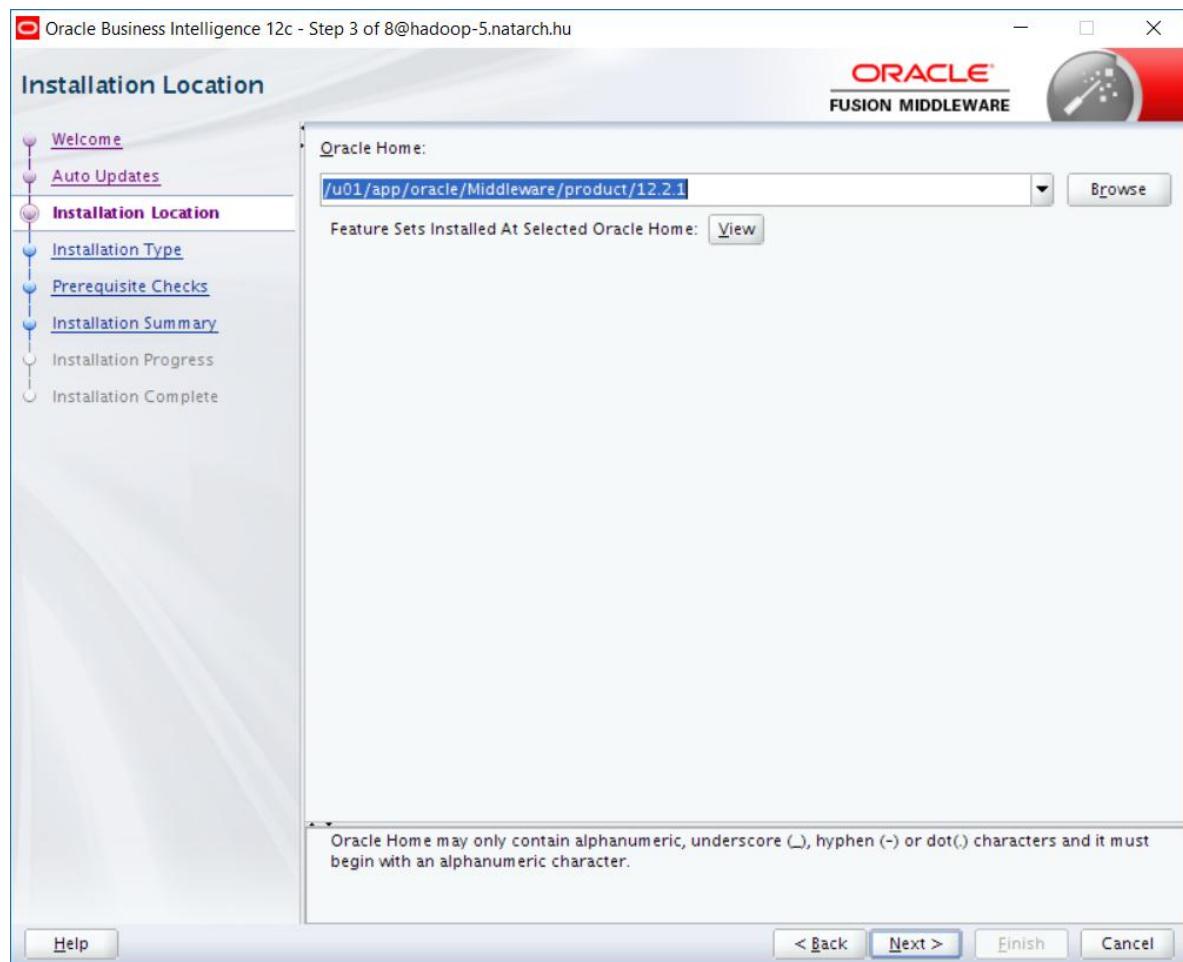
2.4 Oracle Business Intelligence

Installed software version: Oracle Business Intelligence (BI) 12.2.1

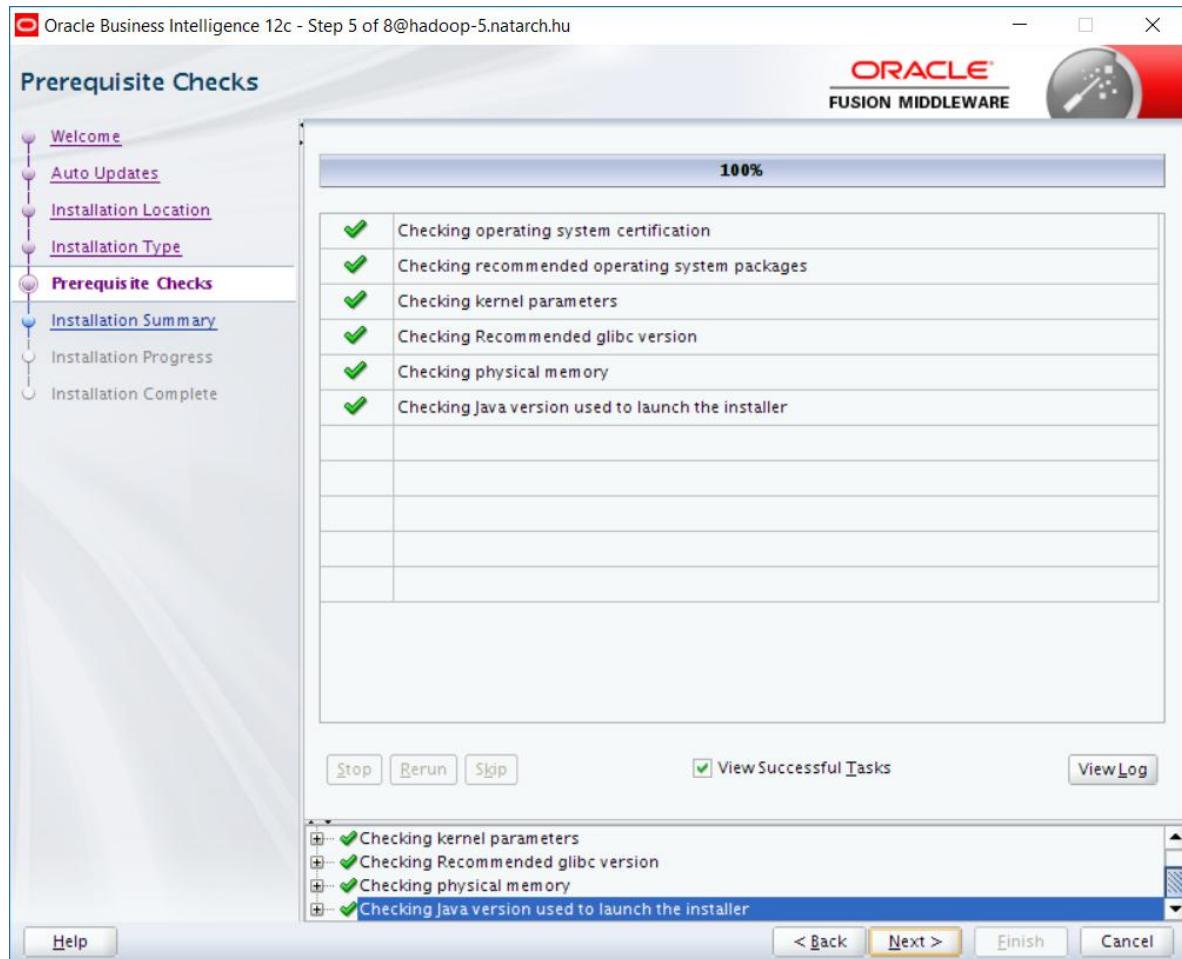
bi_platform-12.2.1.0.0_linux64.bin

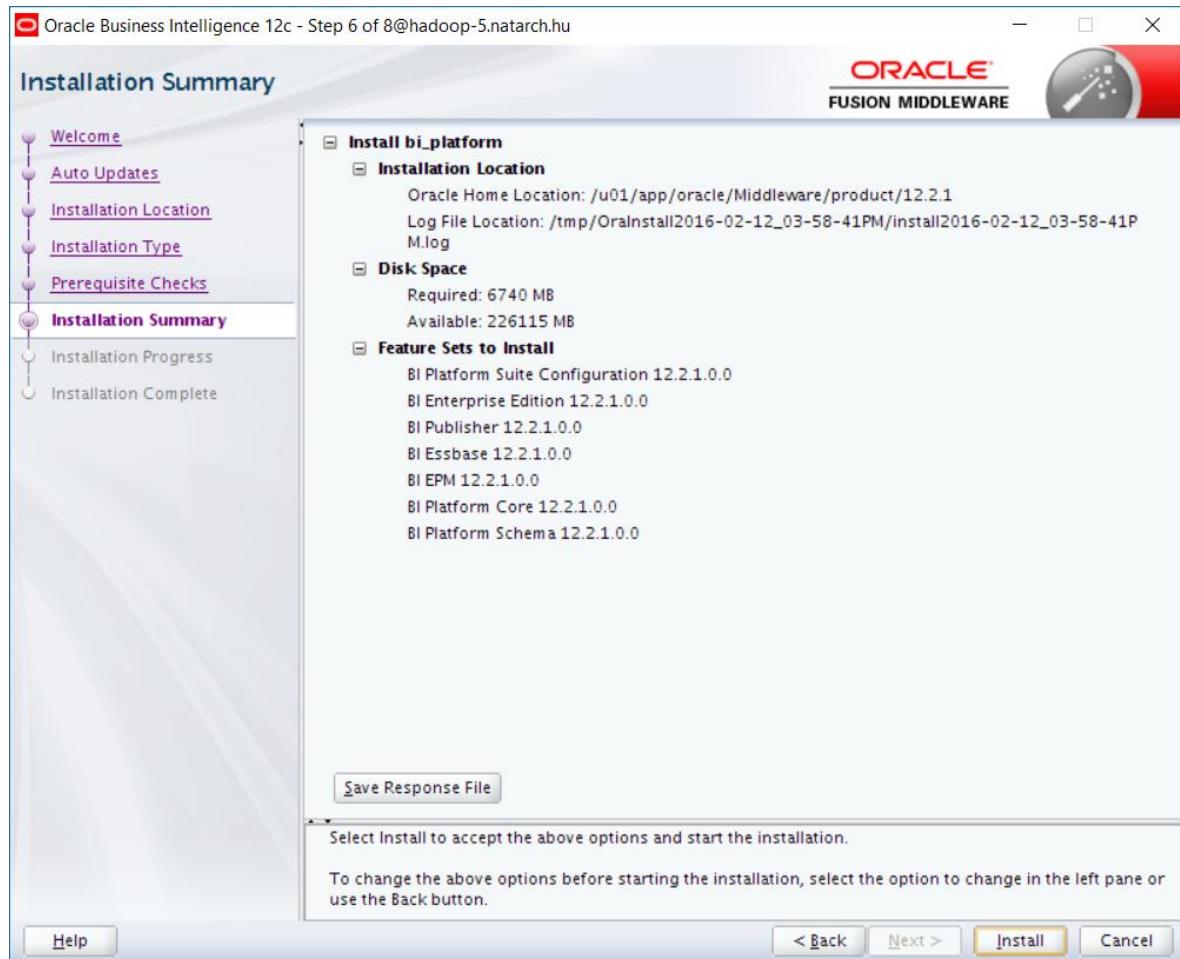




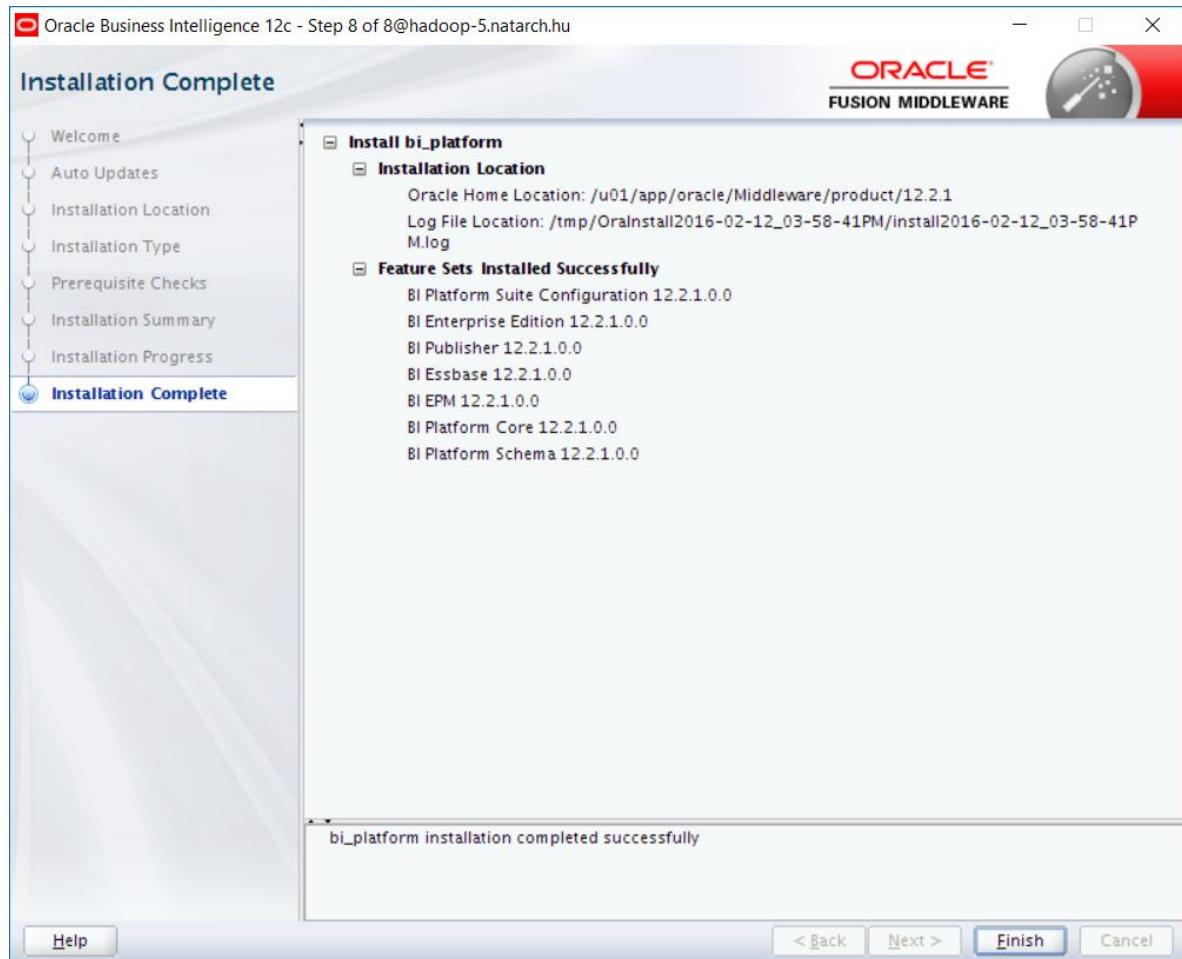








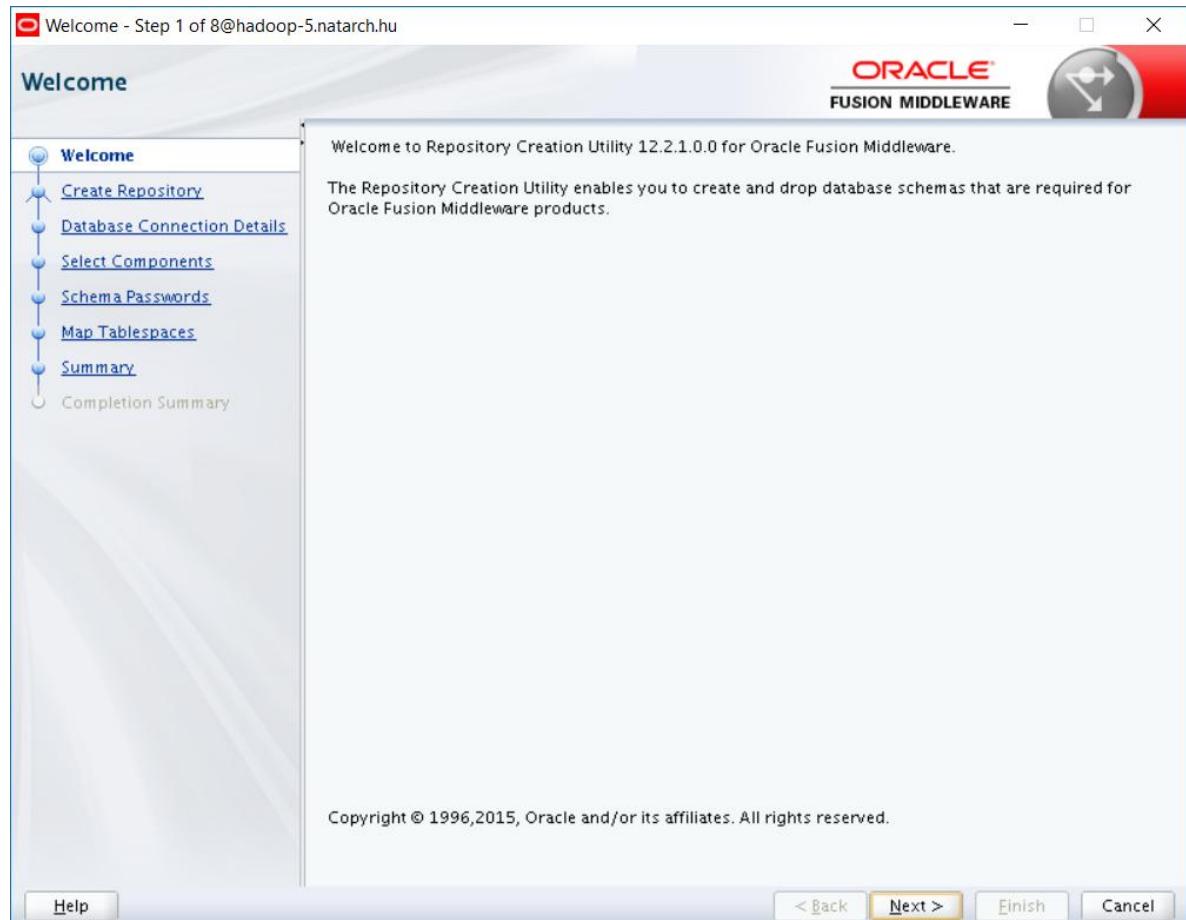




2.4.1 Create BI Repository Schemas

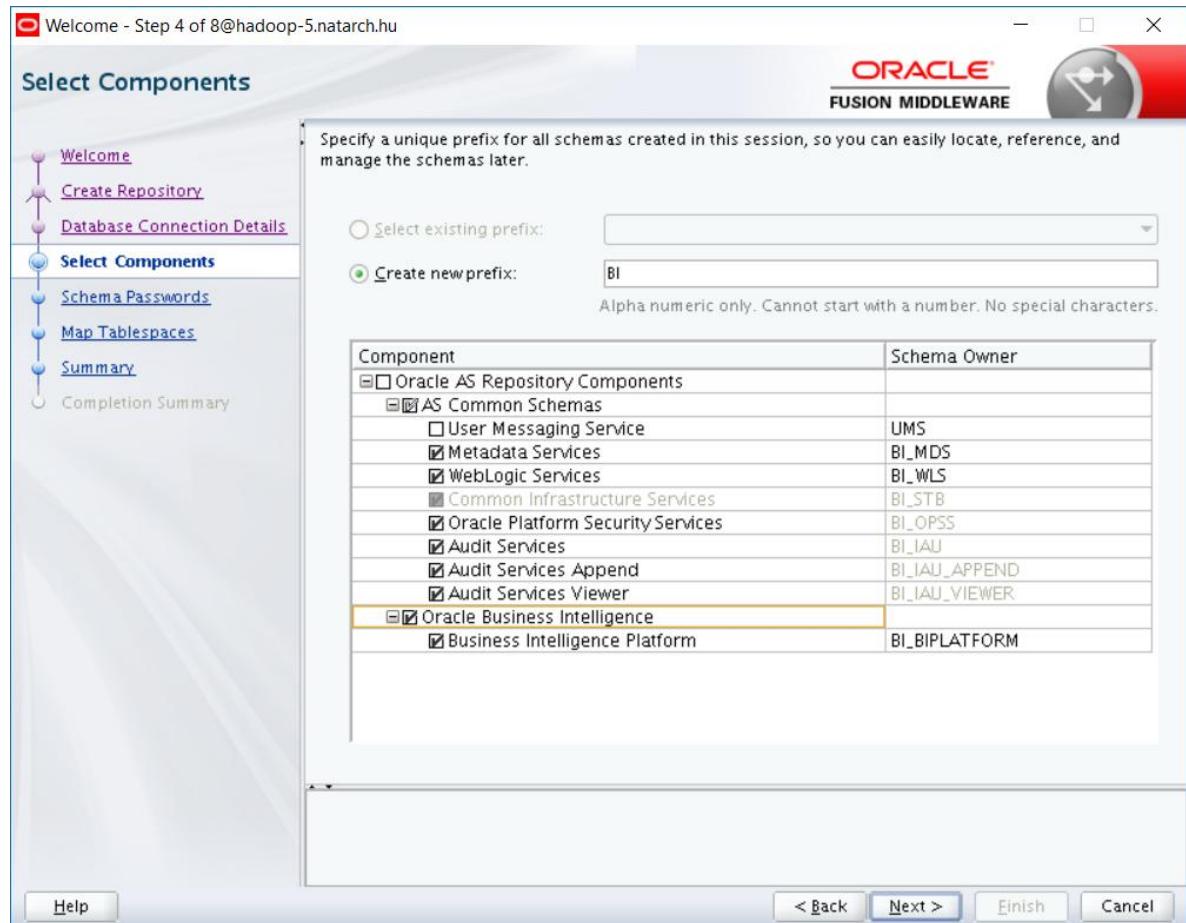
Create BI repository schemas in EARKDW database using Repository Creation Utility.

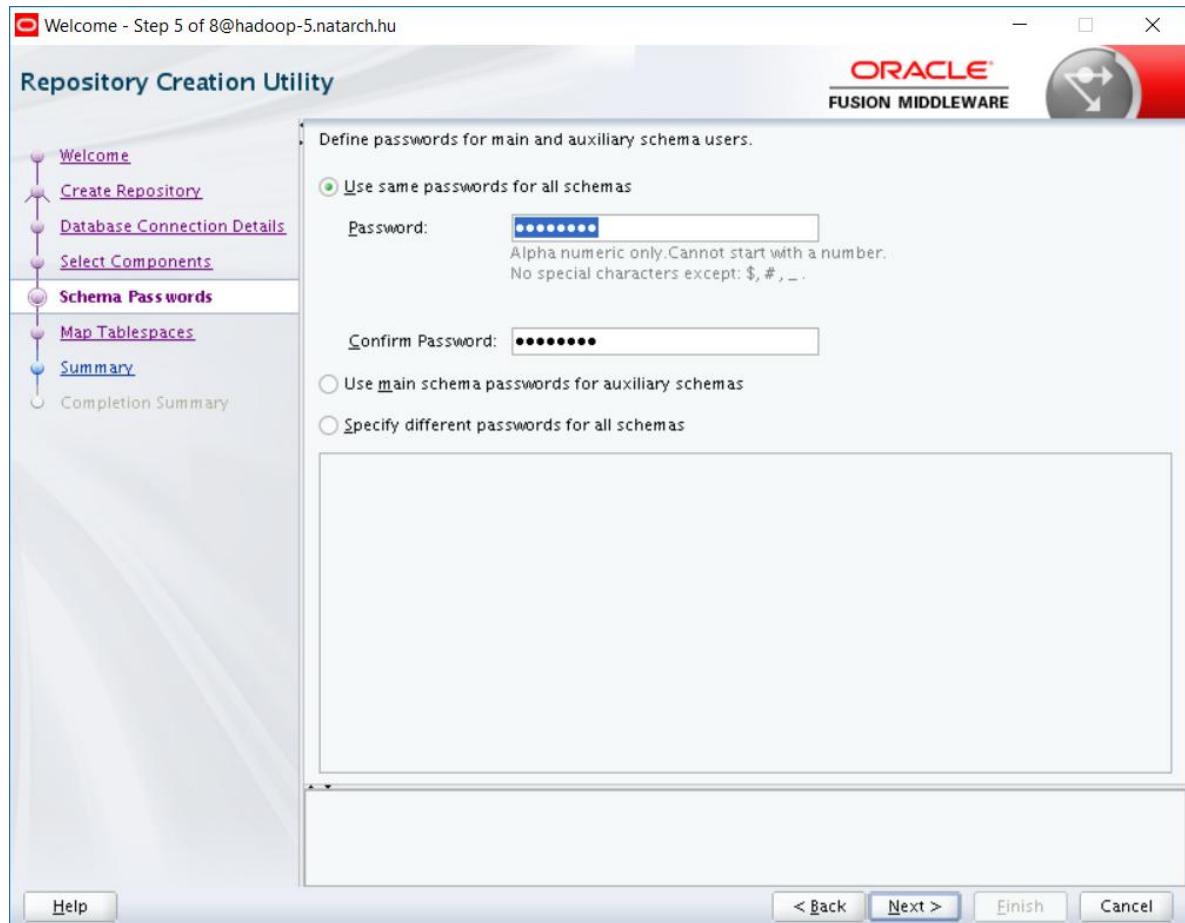
```
cd $MW_HOME  
/oracle_common/bin/rcu
```

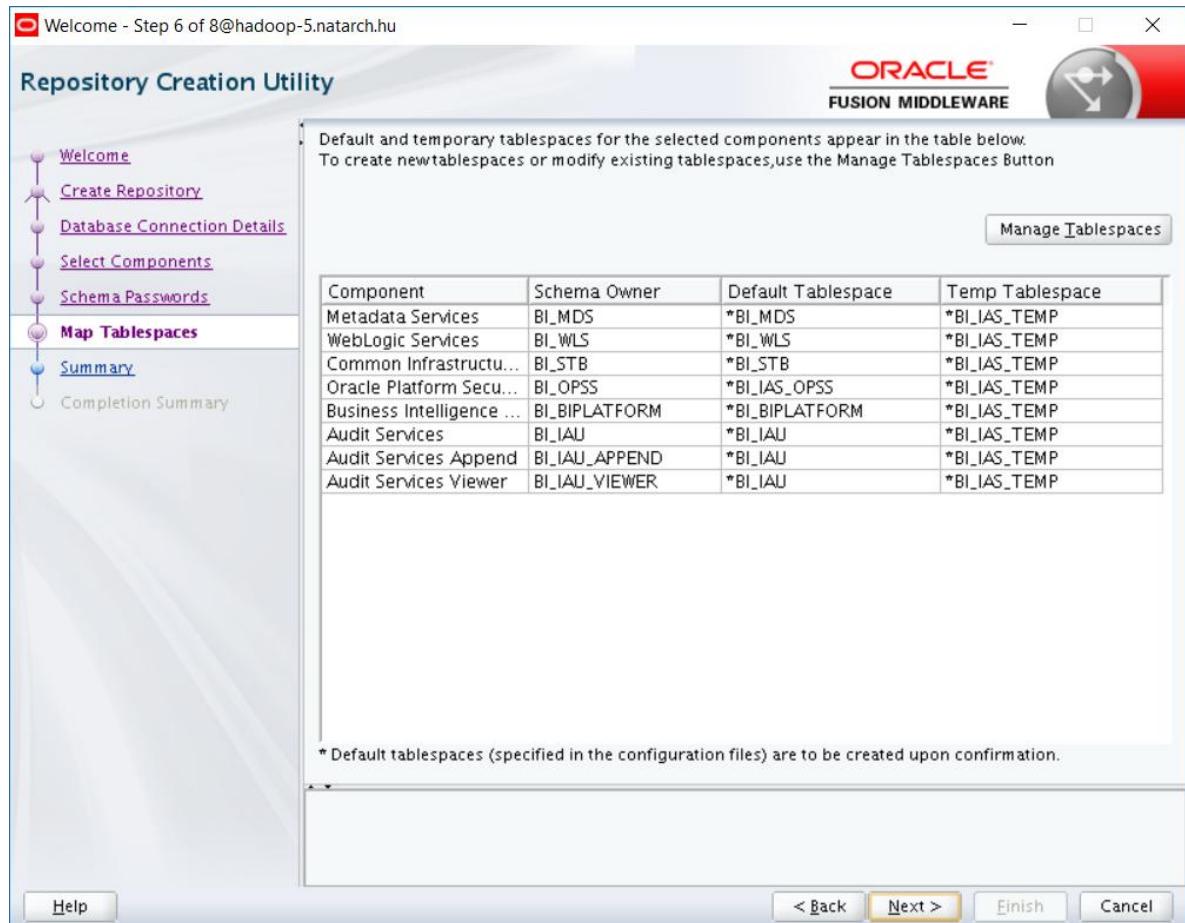


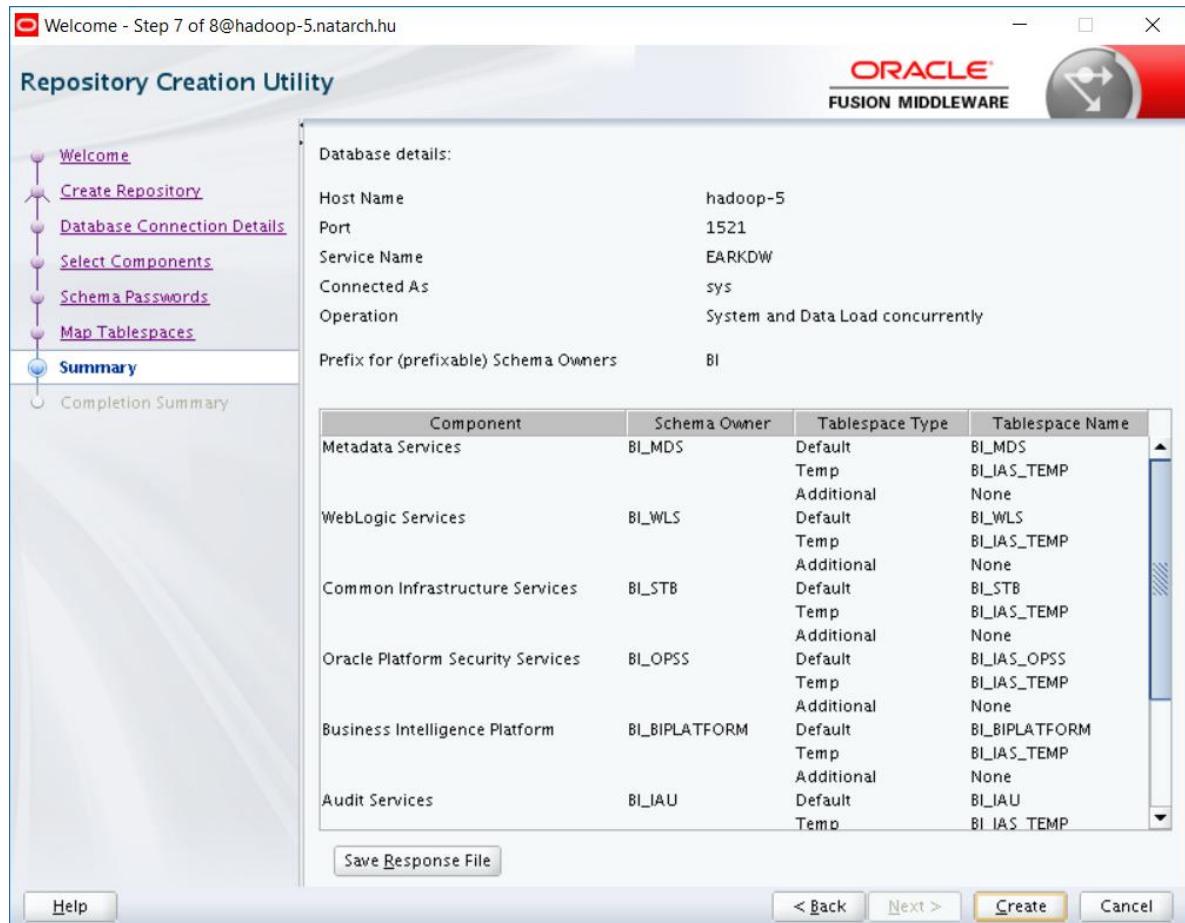


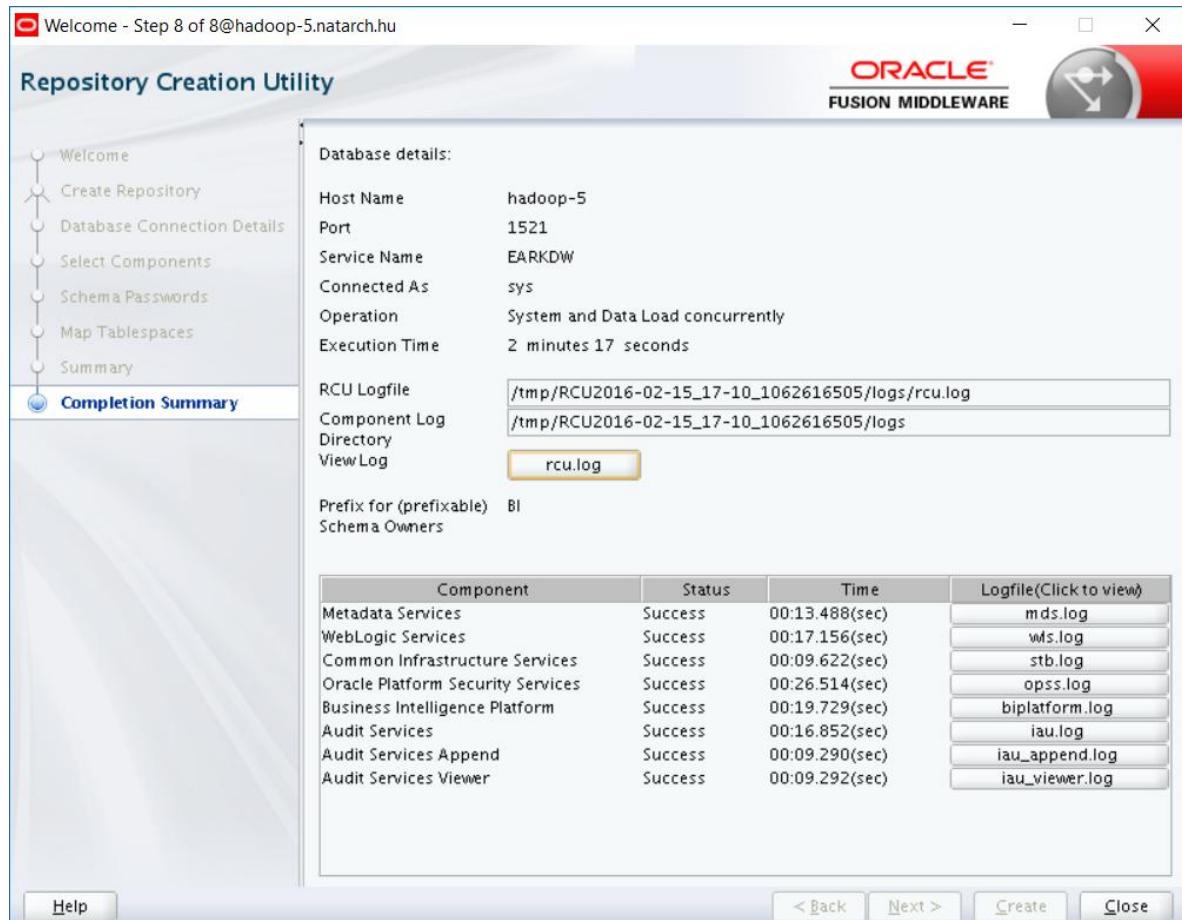








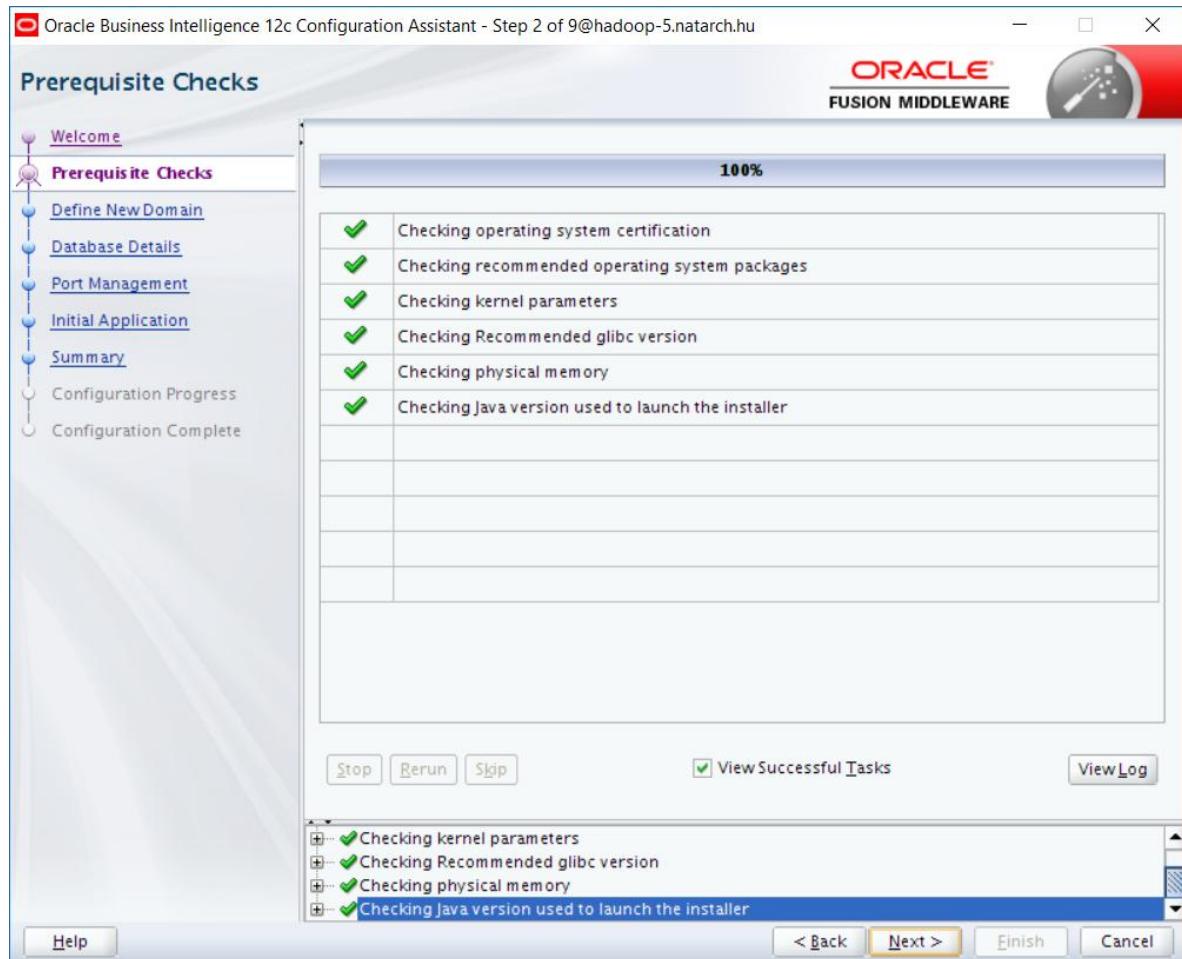


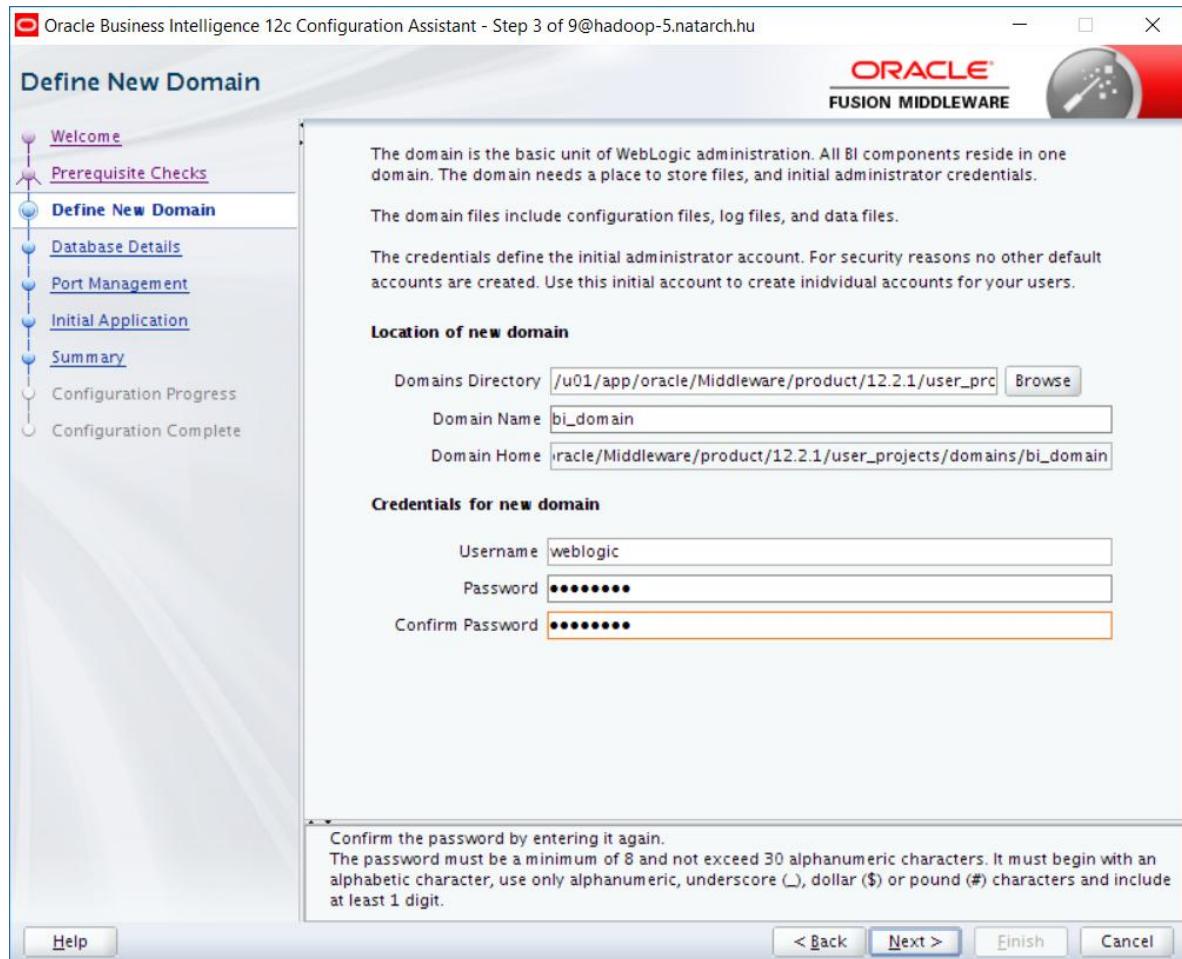


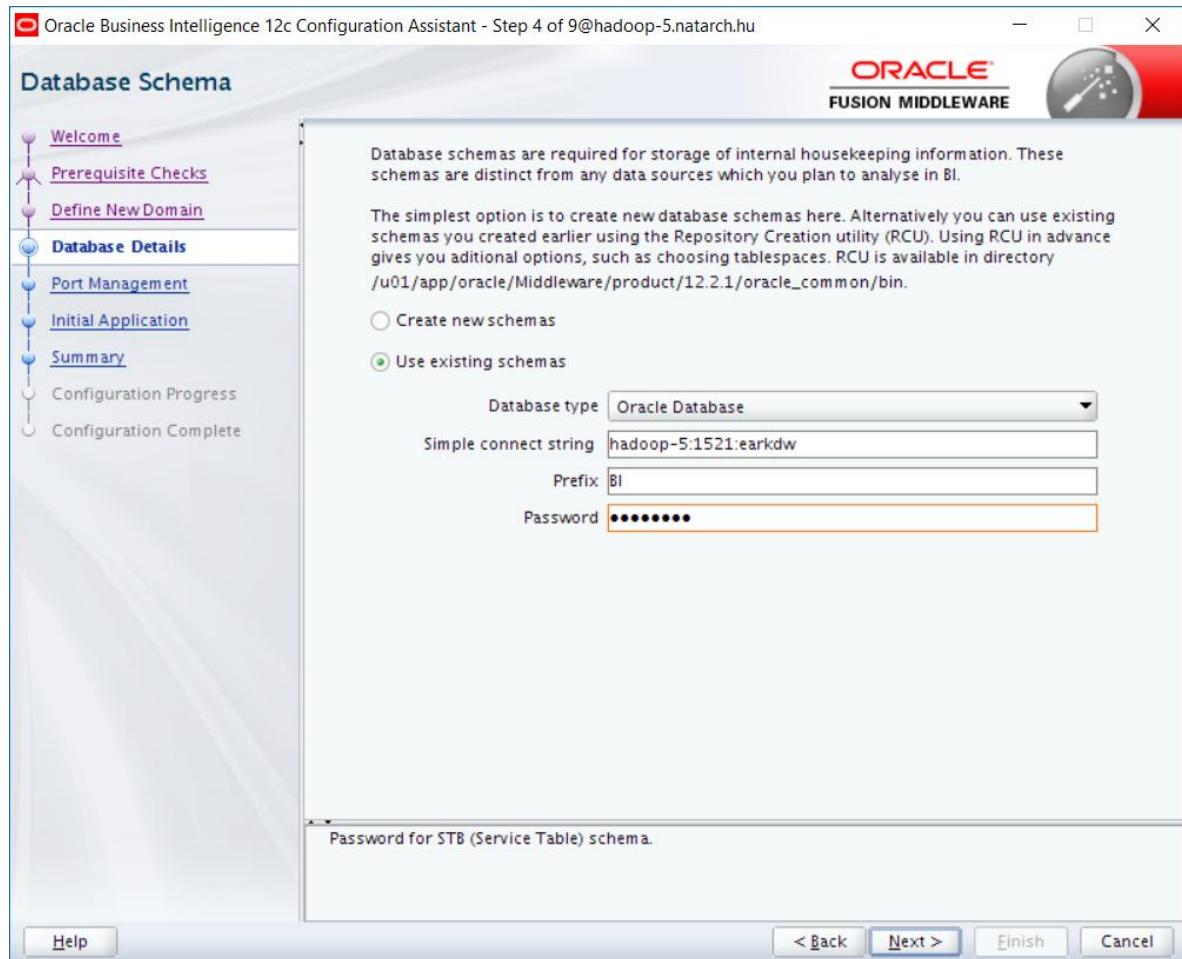
2.4.2 Configure BI

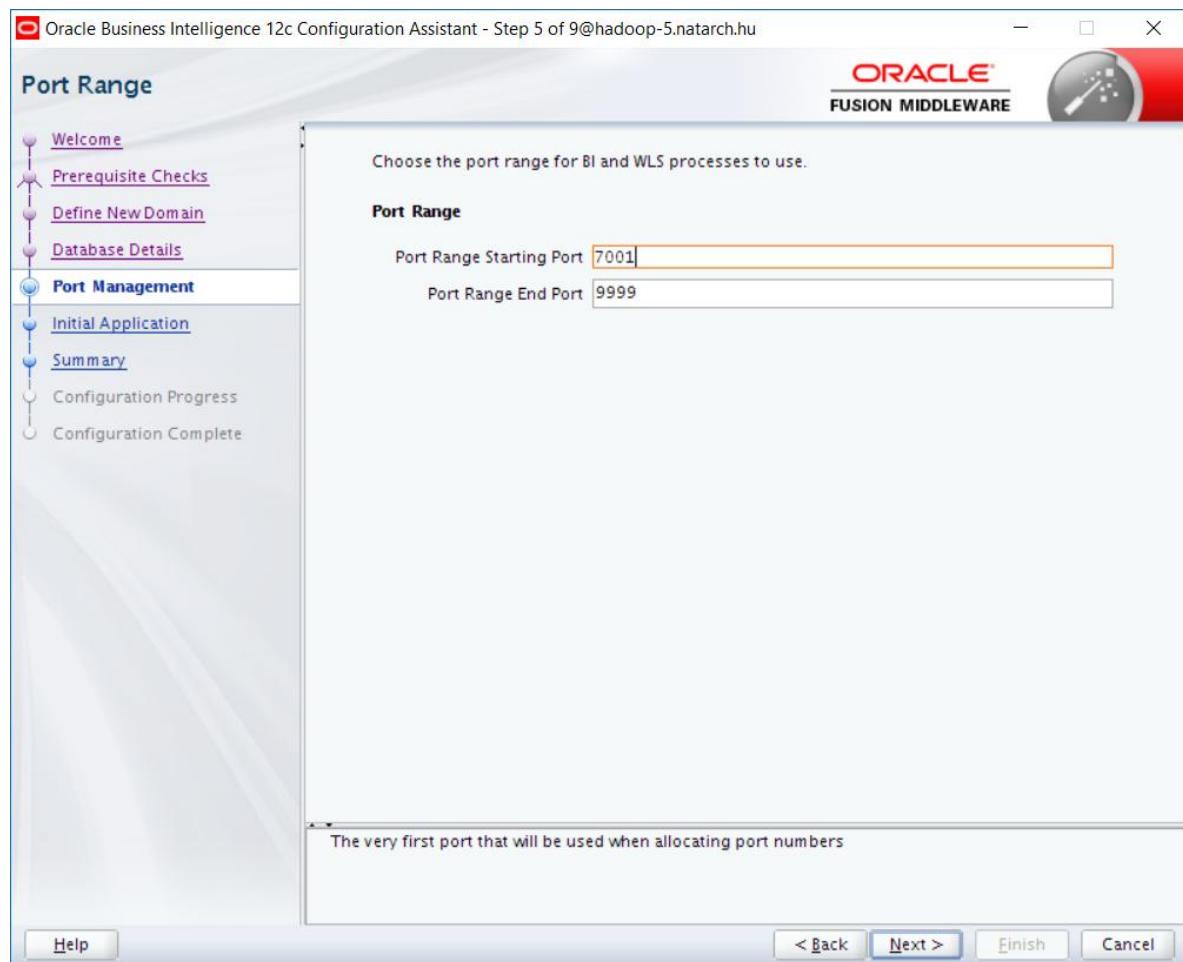
```
cd $MW_HOME
/bi/bin/config.sh
```

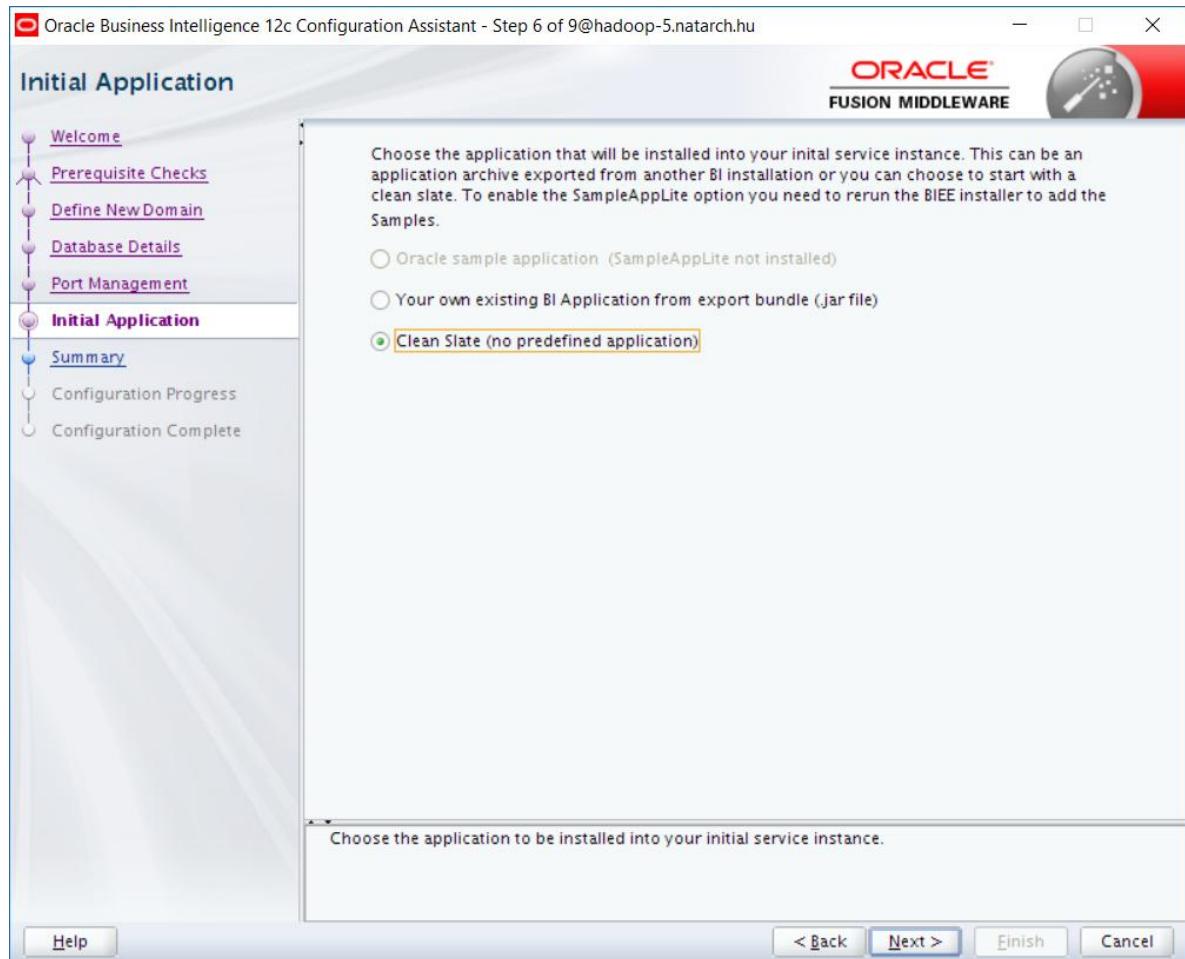


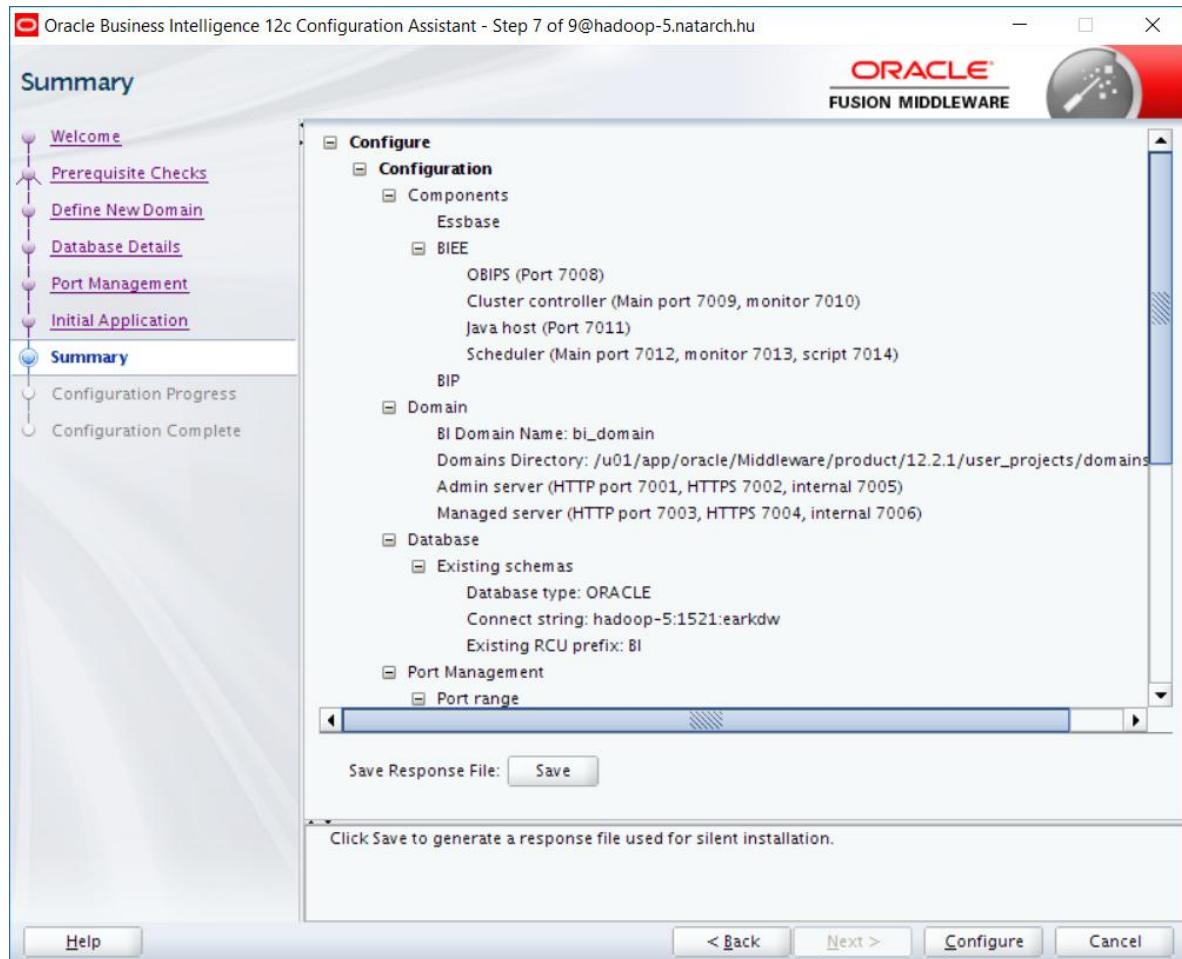


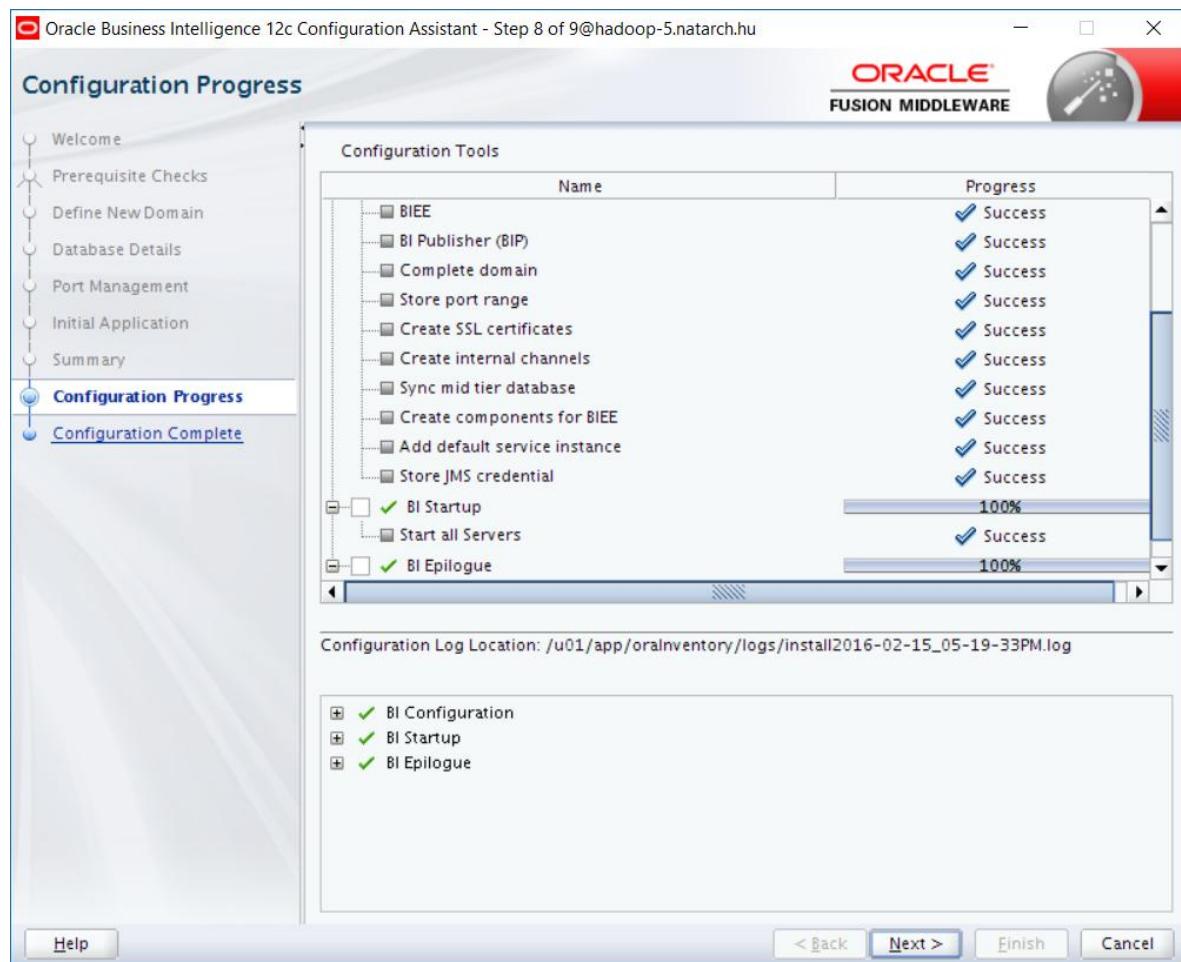


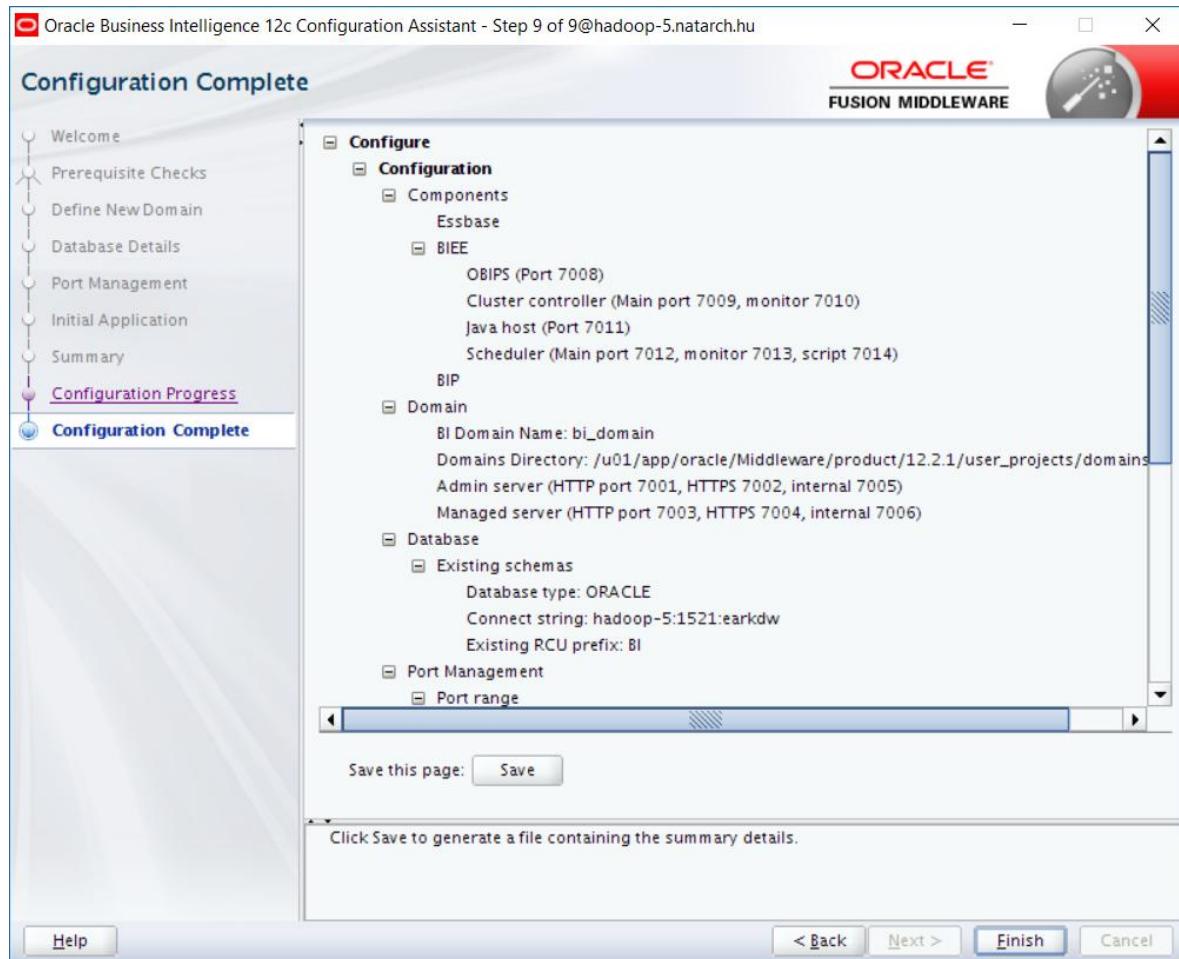










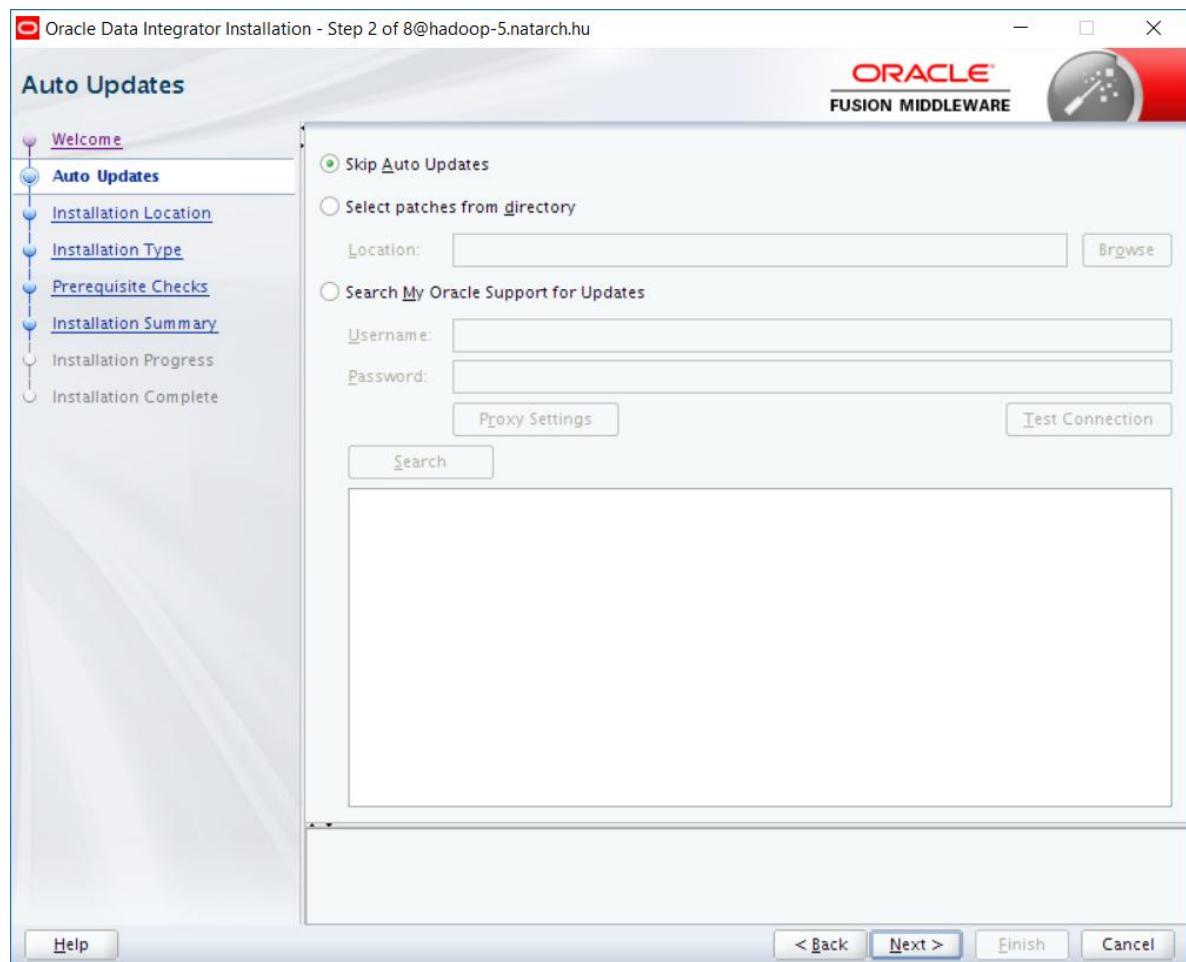


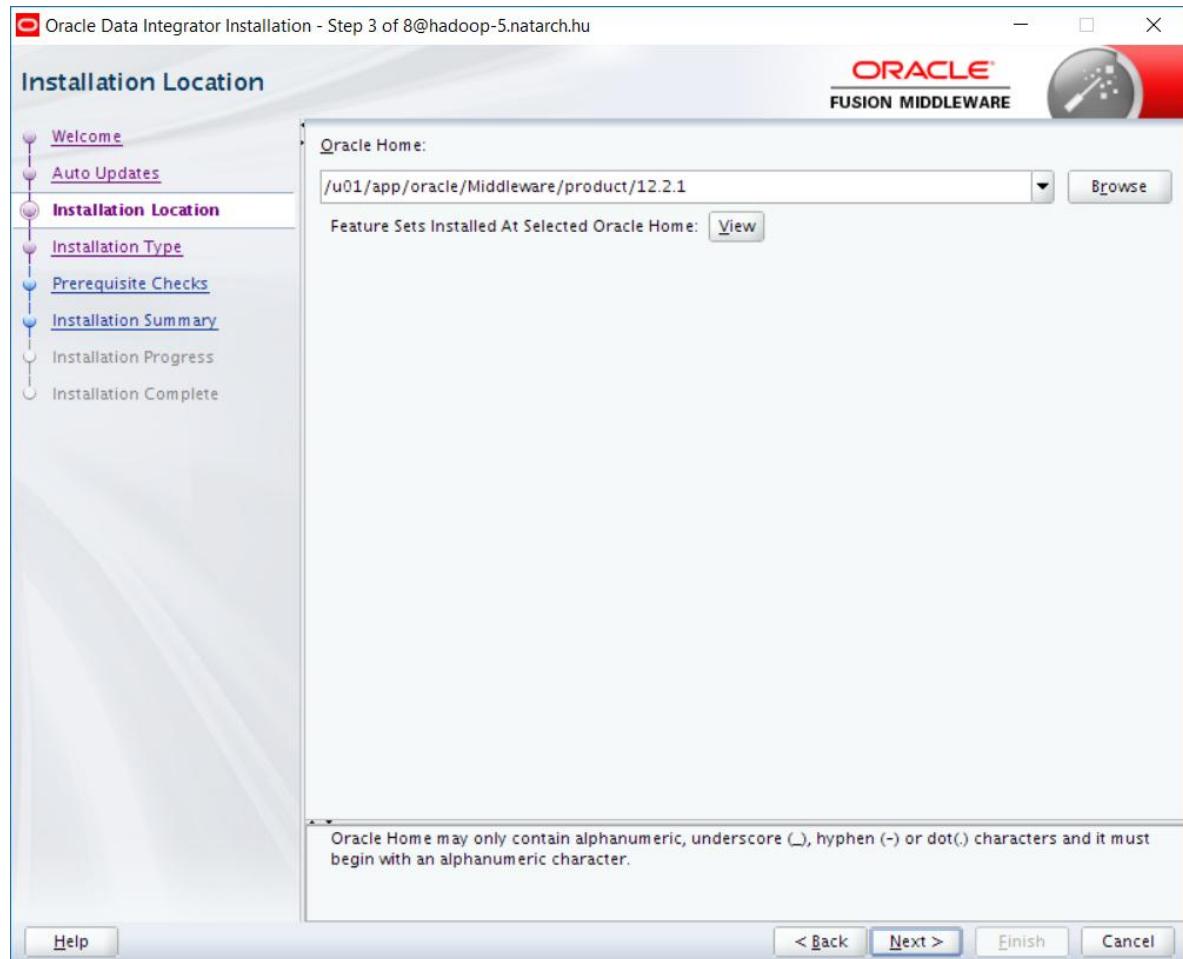
2.5 Oracle Data Integrator

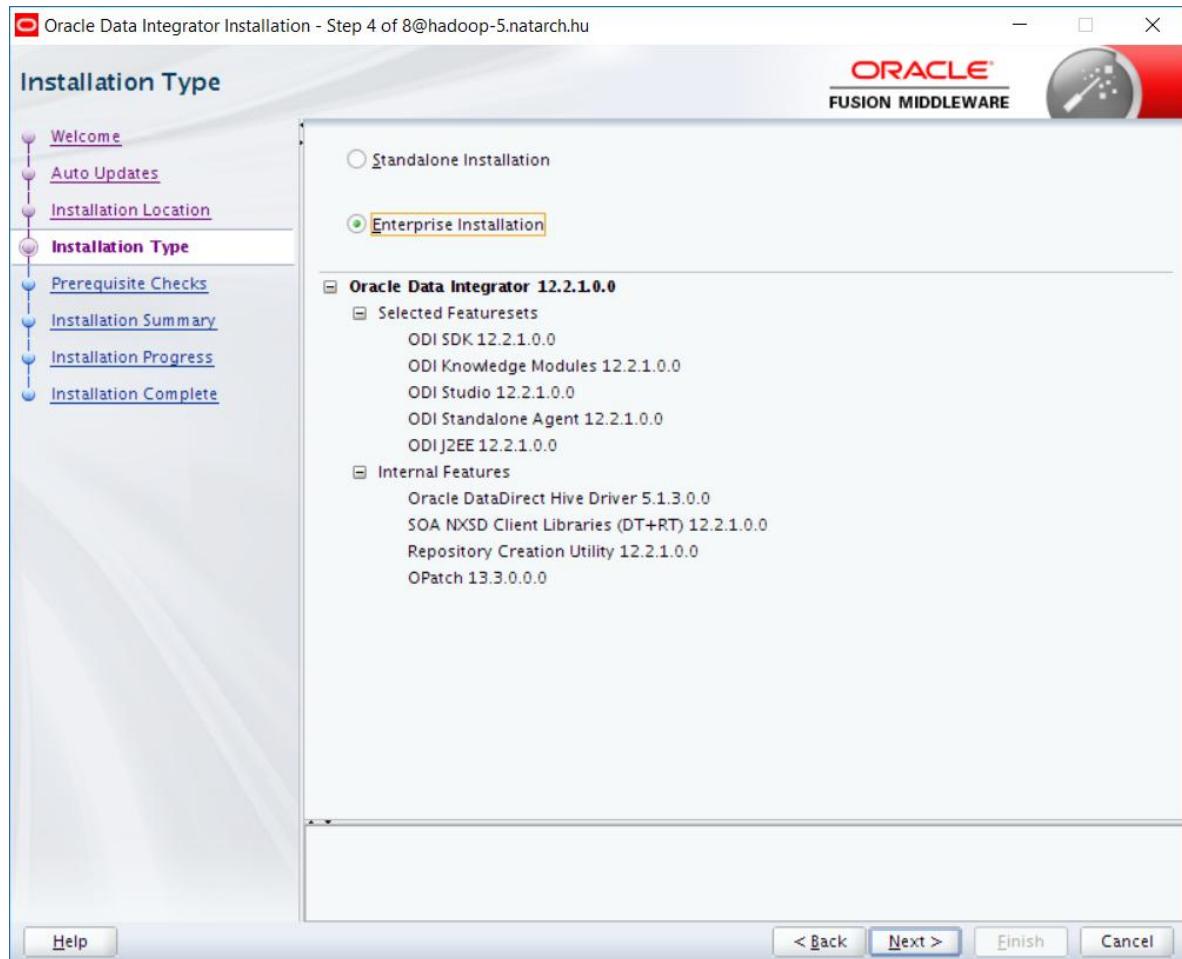
Installed software version: Oracle Data Integrator (ODI) 12.2.1

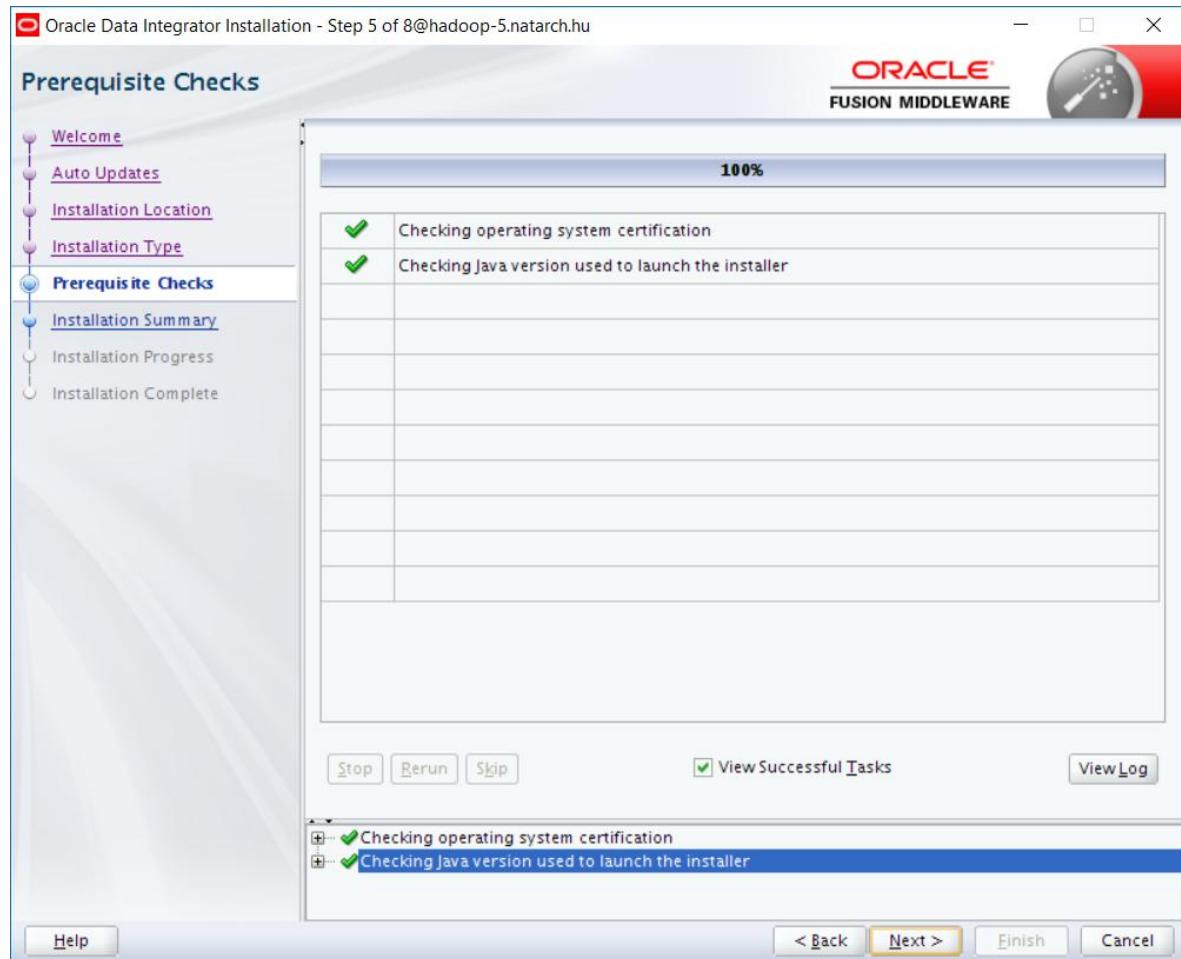
```
java -jar fmw_12.2.1.0.0_odi.jar
```

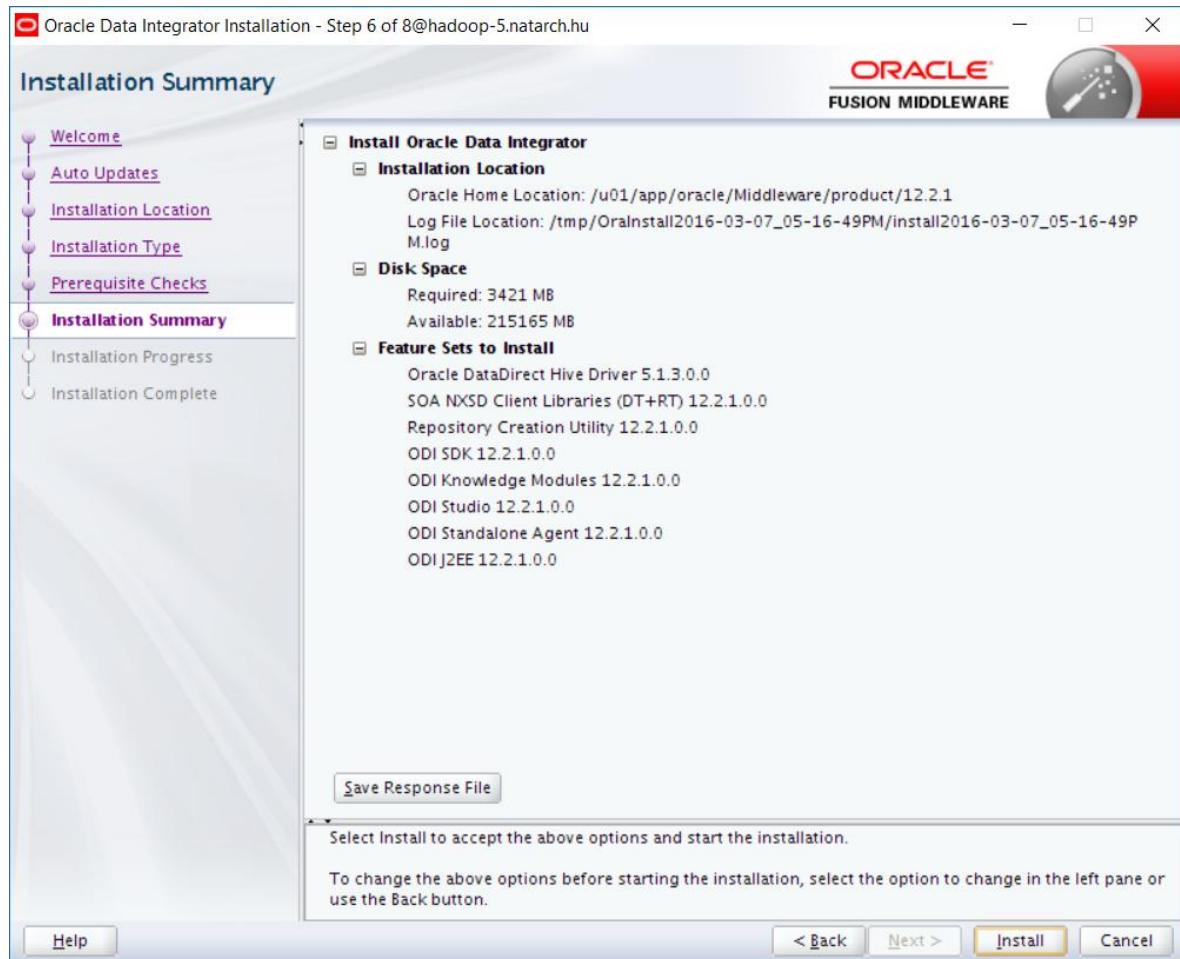


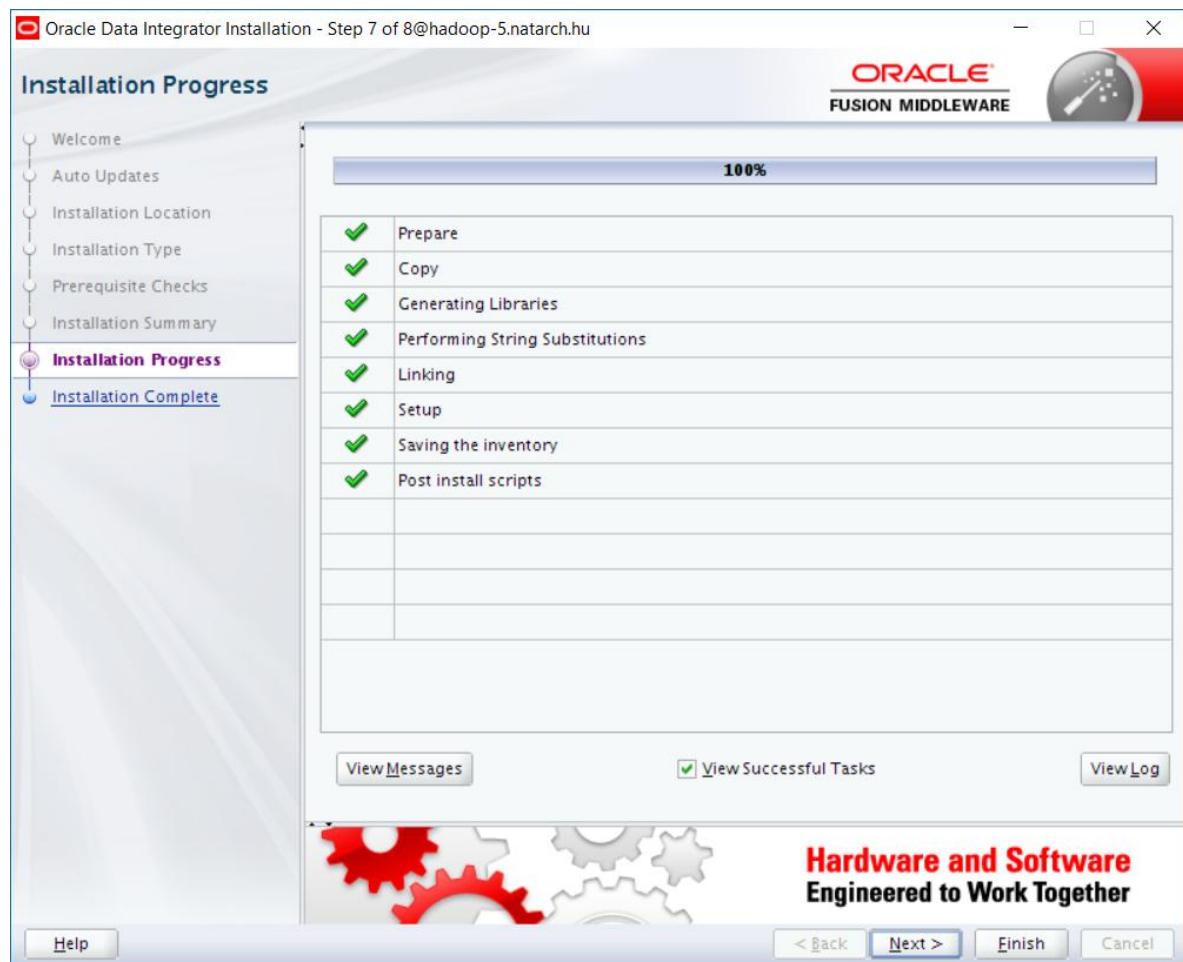


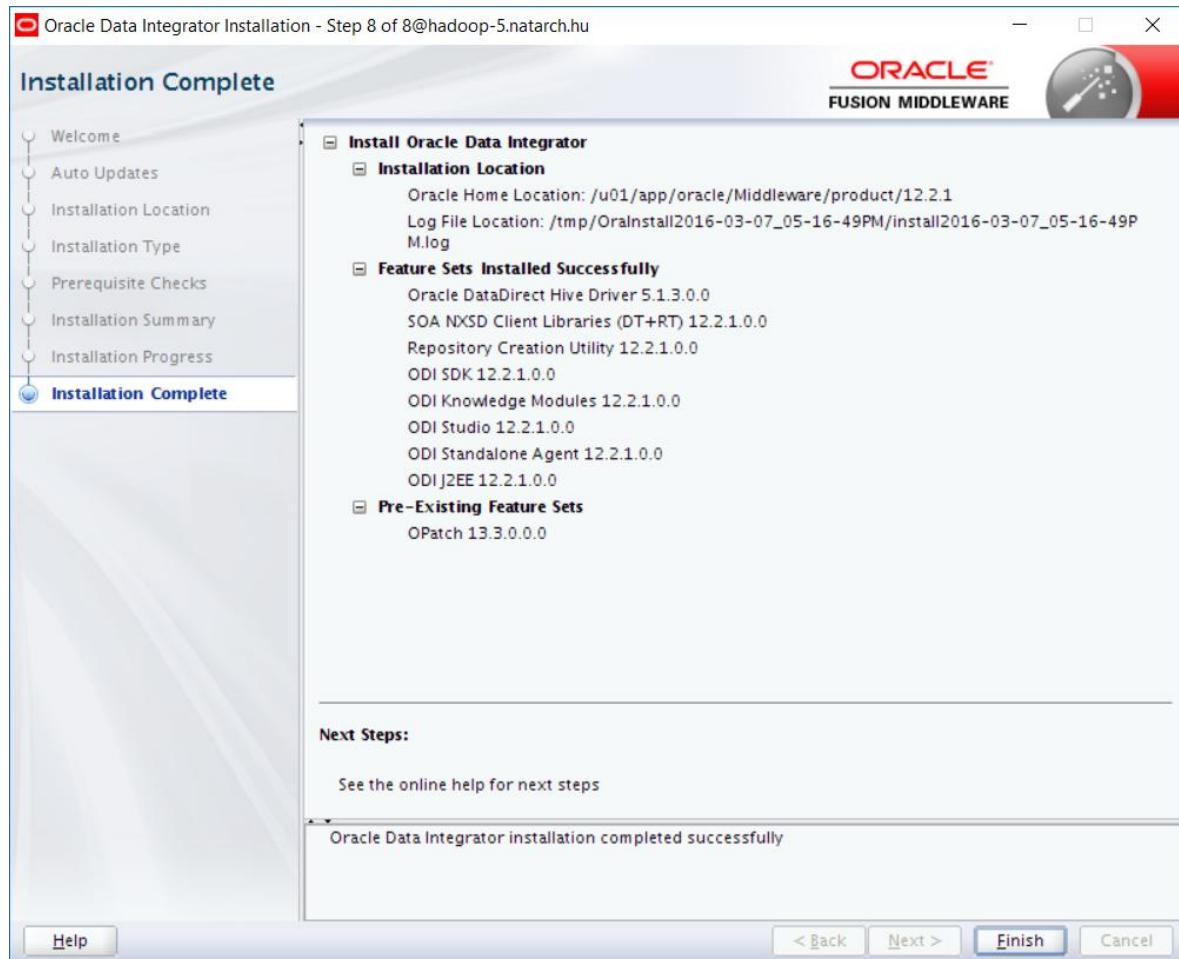






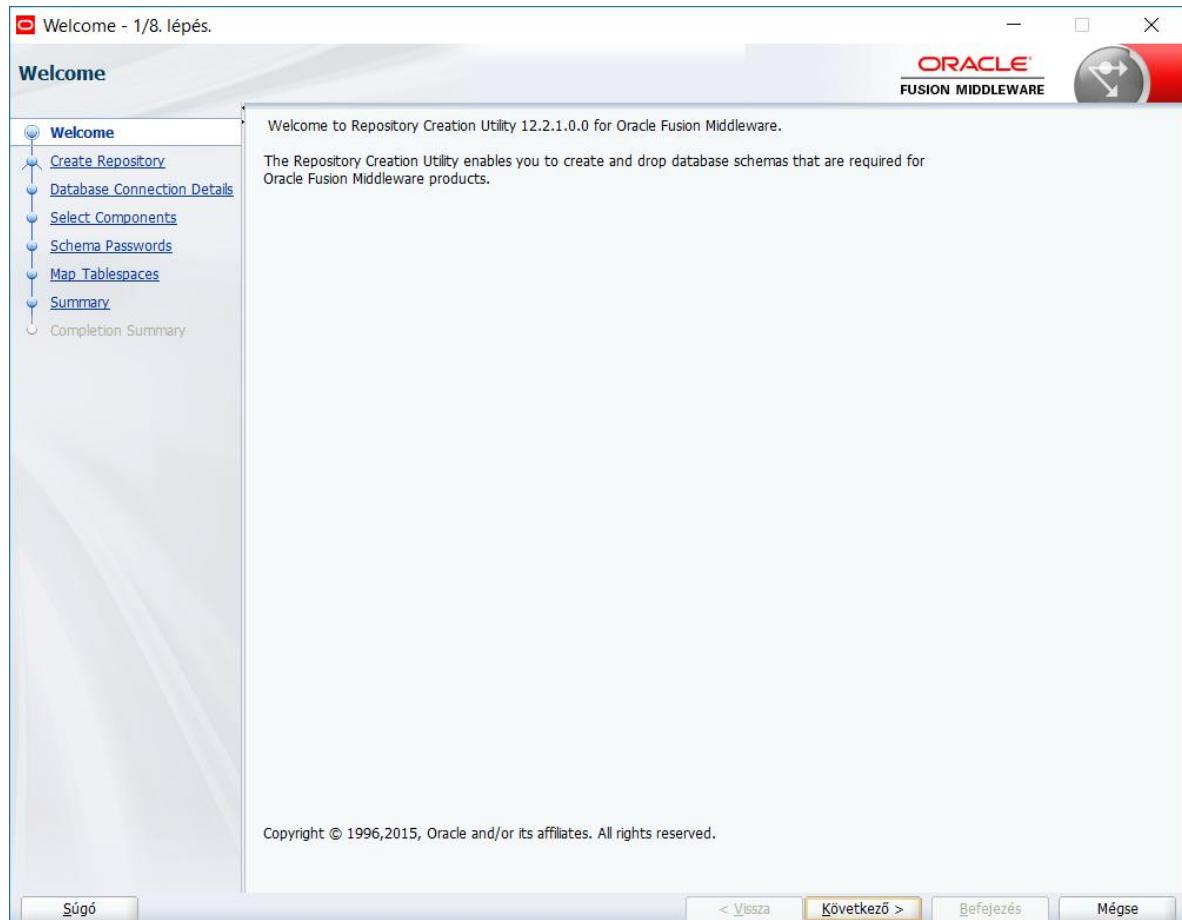


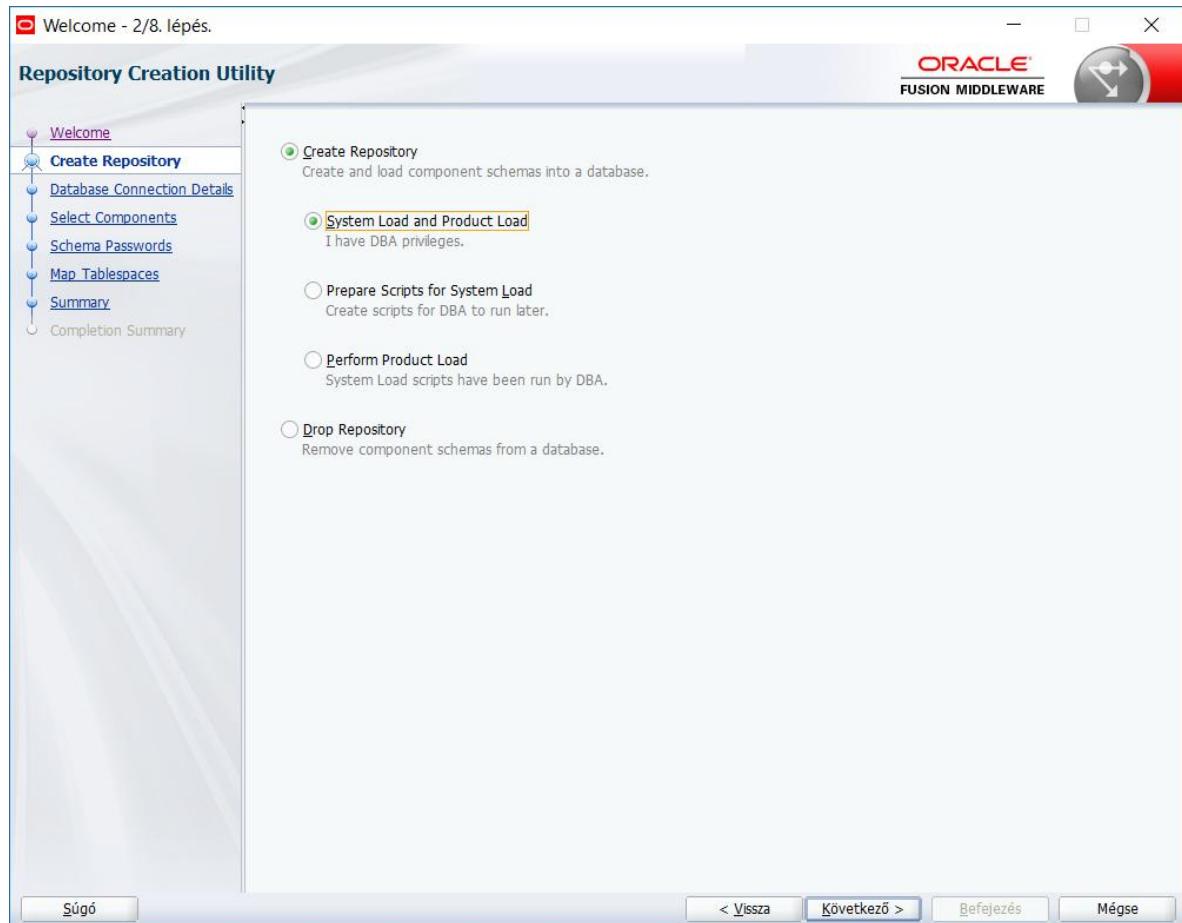


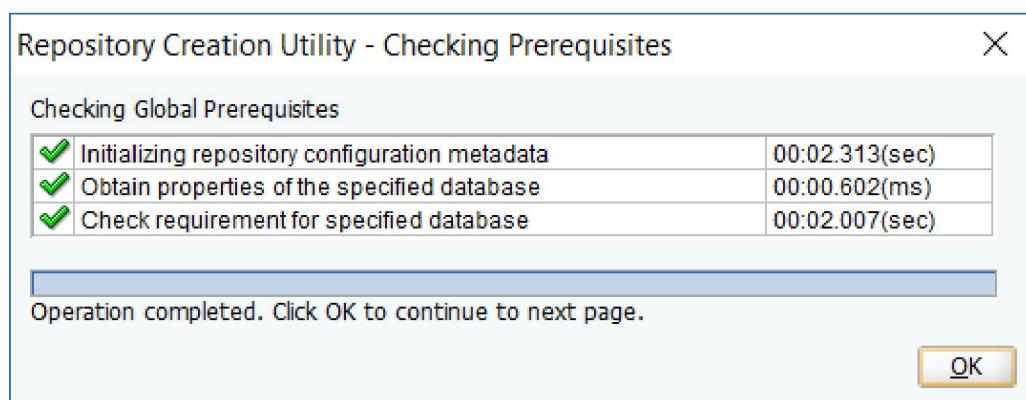
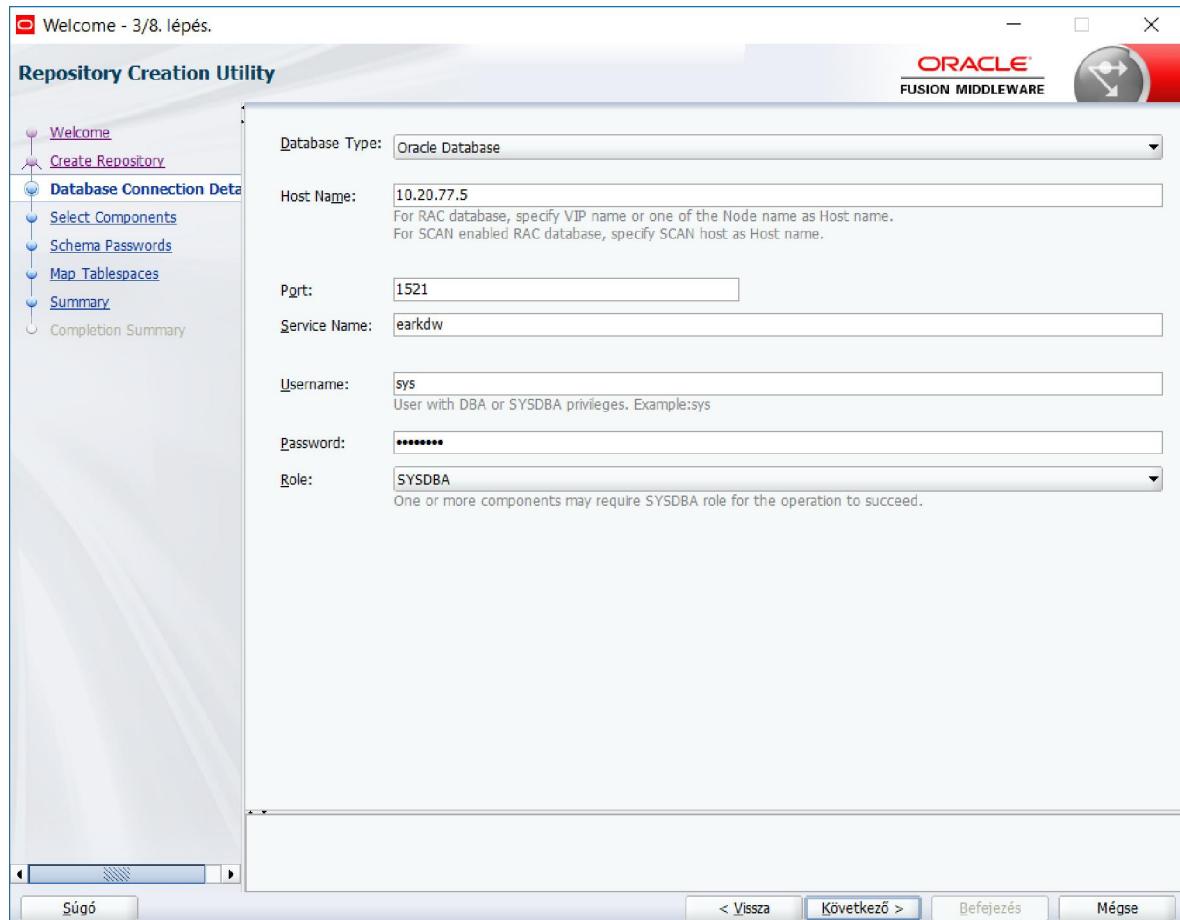


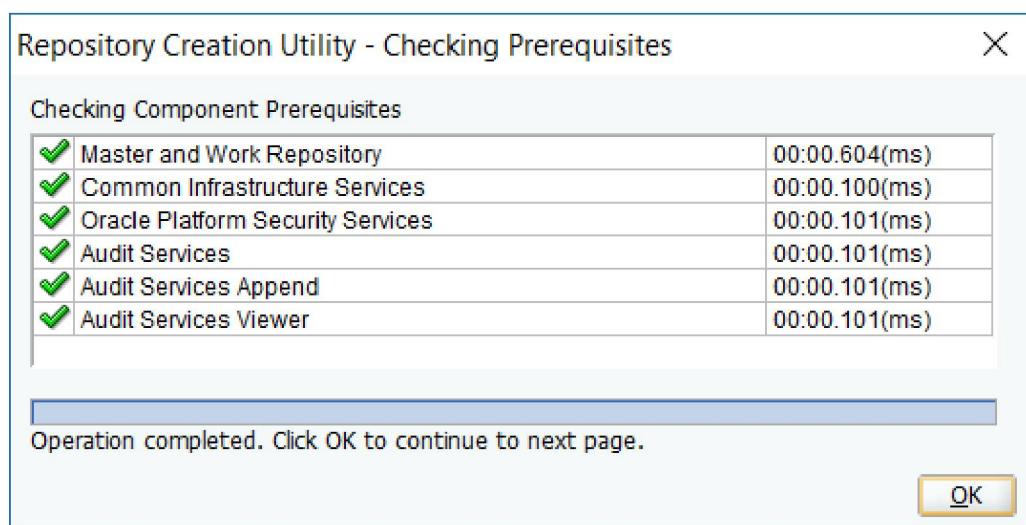
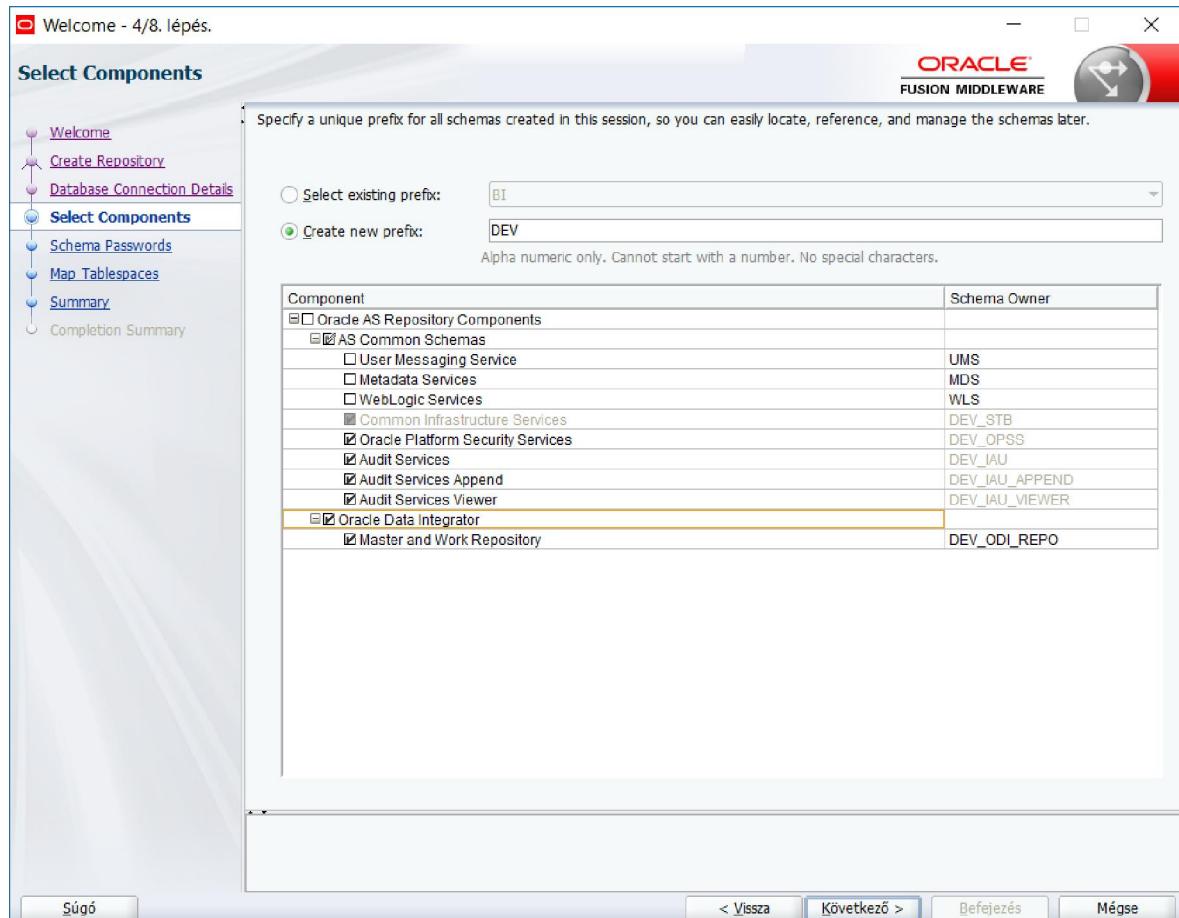
2.5.1 ODI repository

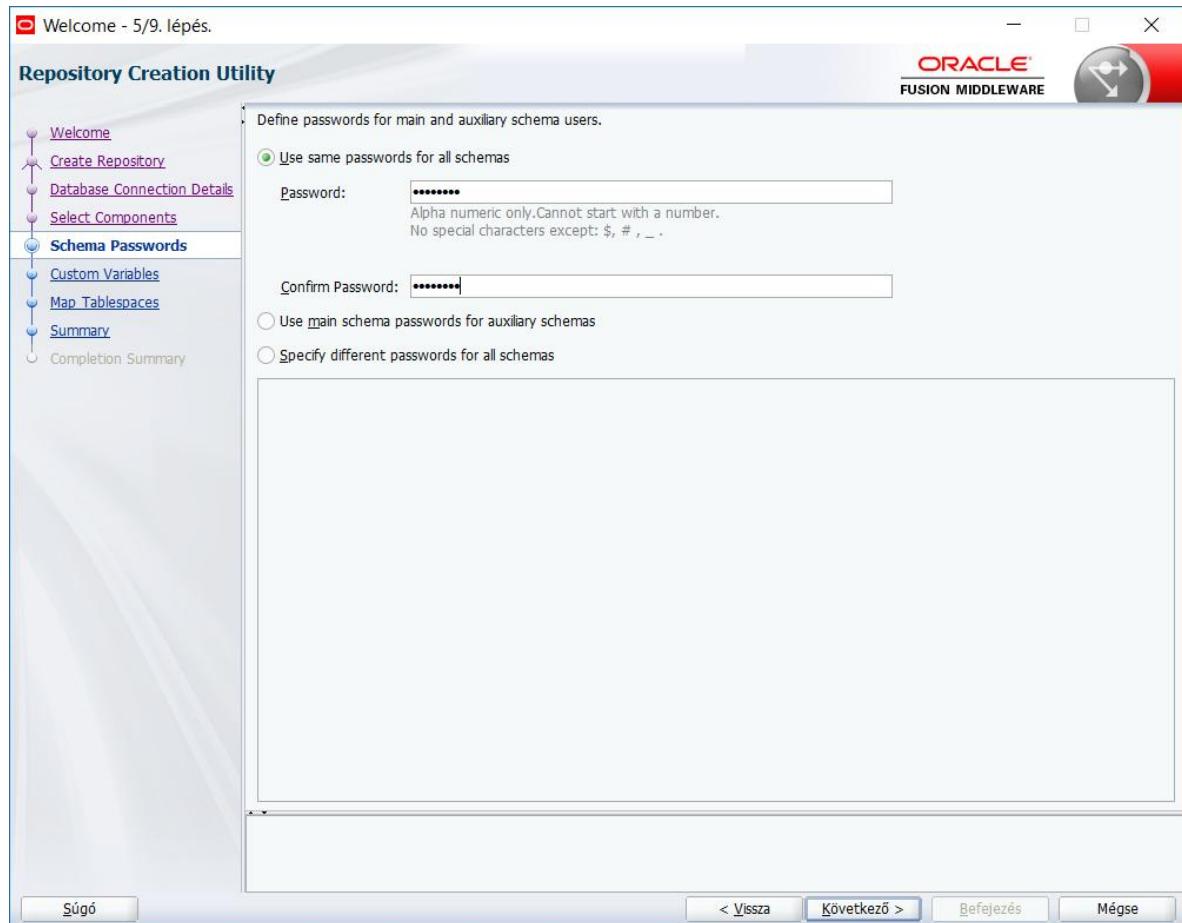
\$ORACLE_HOME/oracle_common/bin/rcu

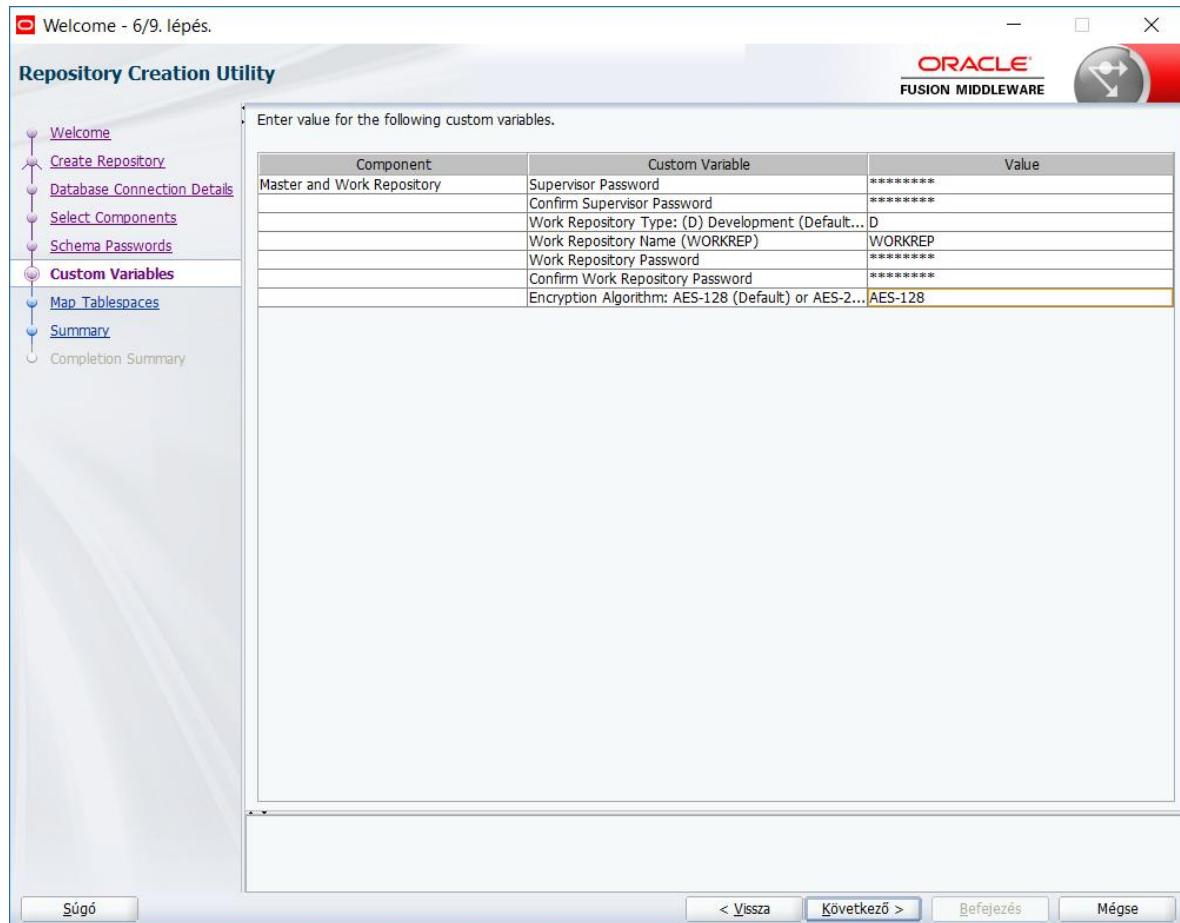


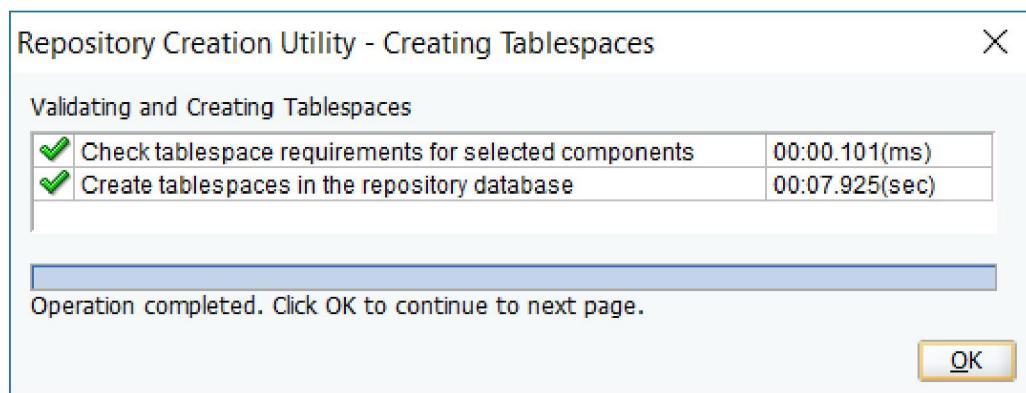
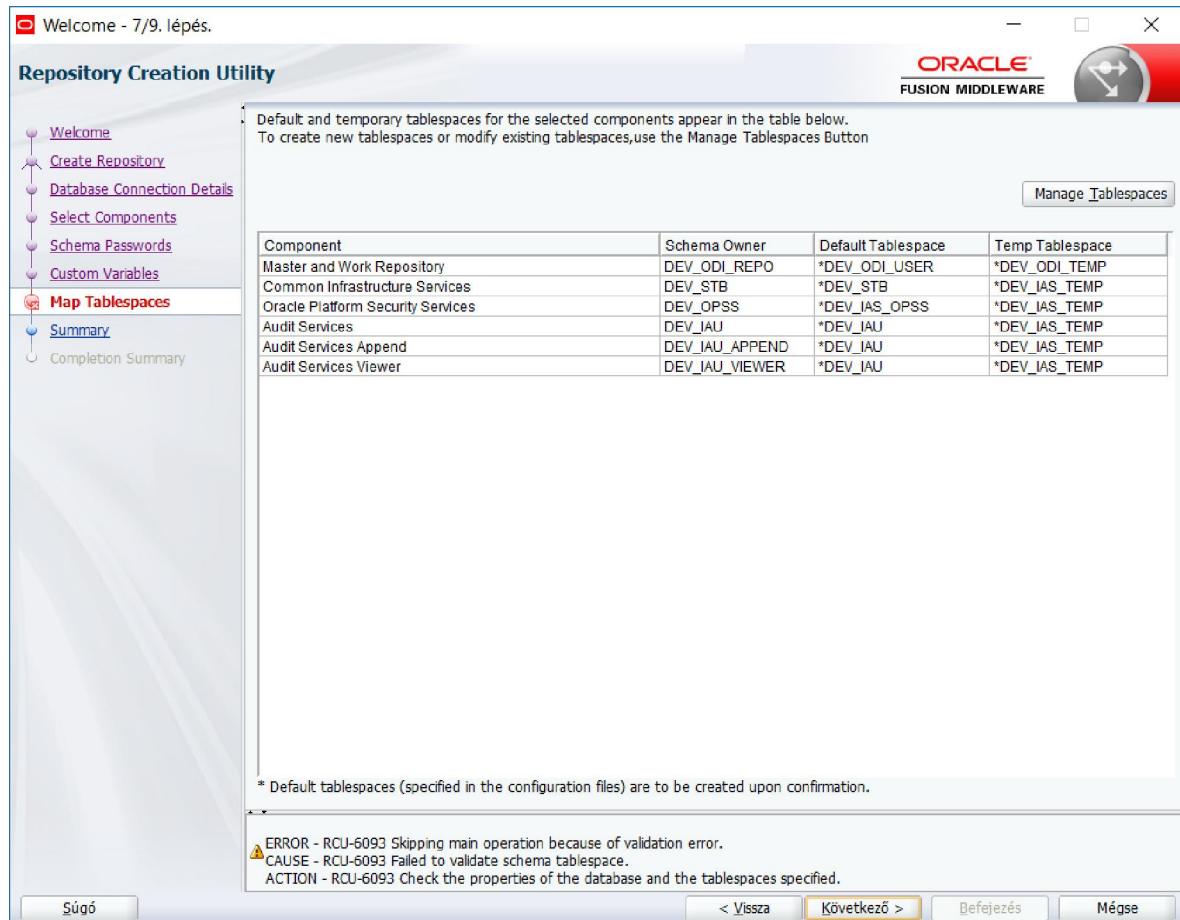


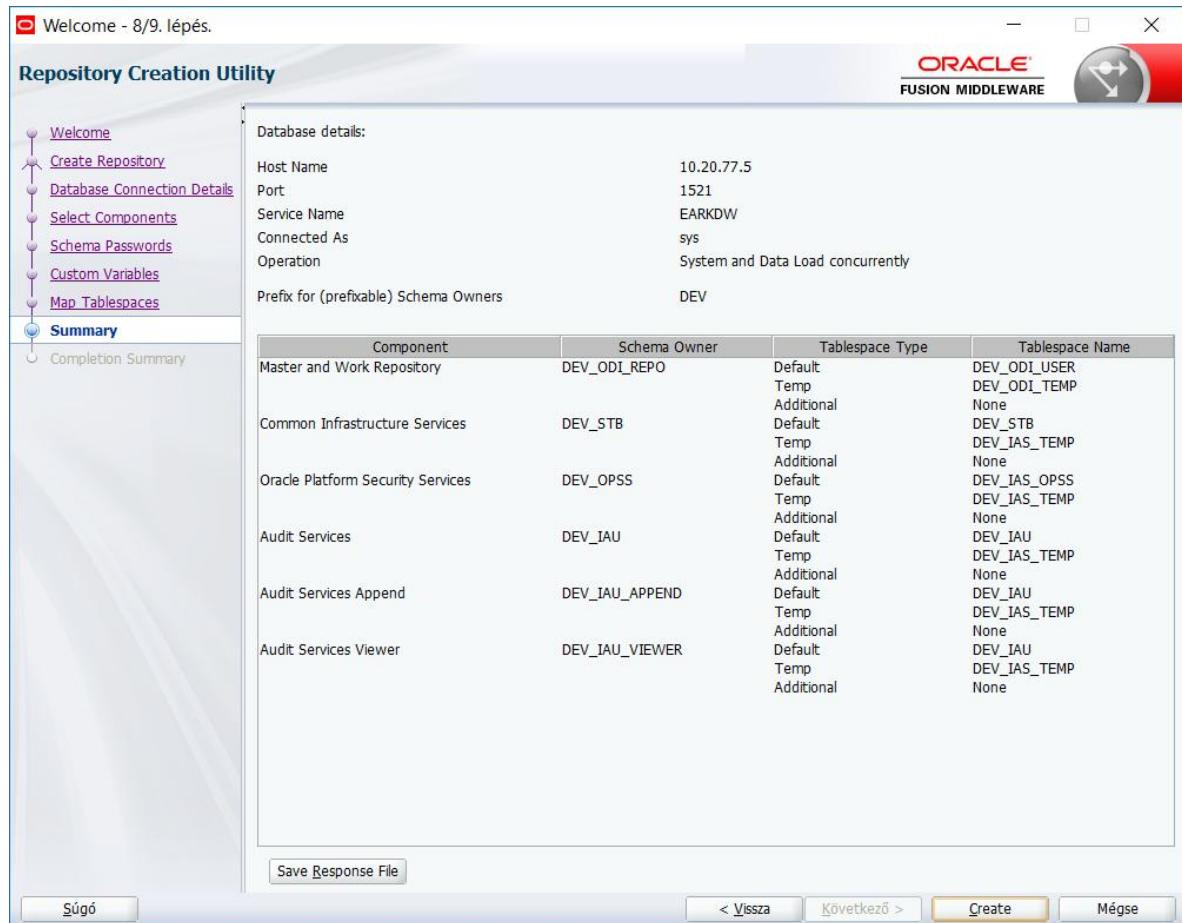


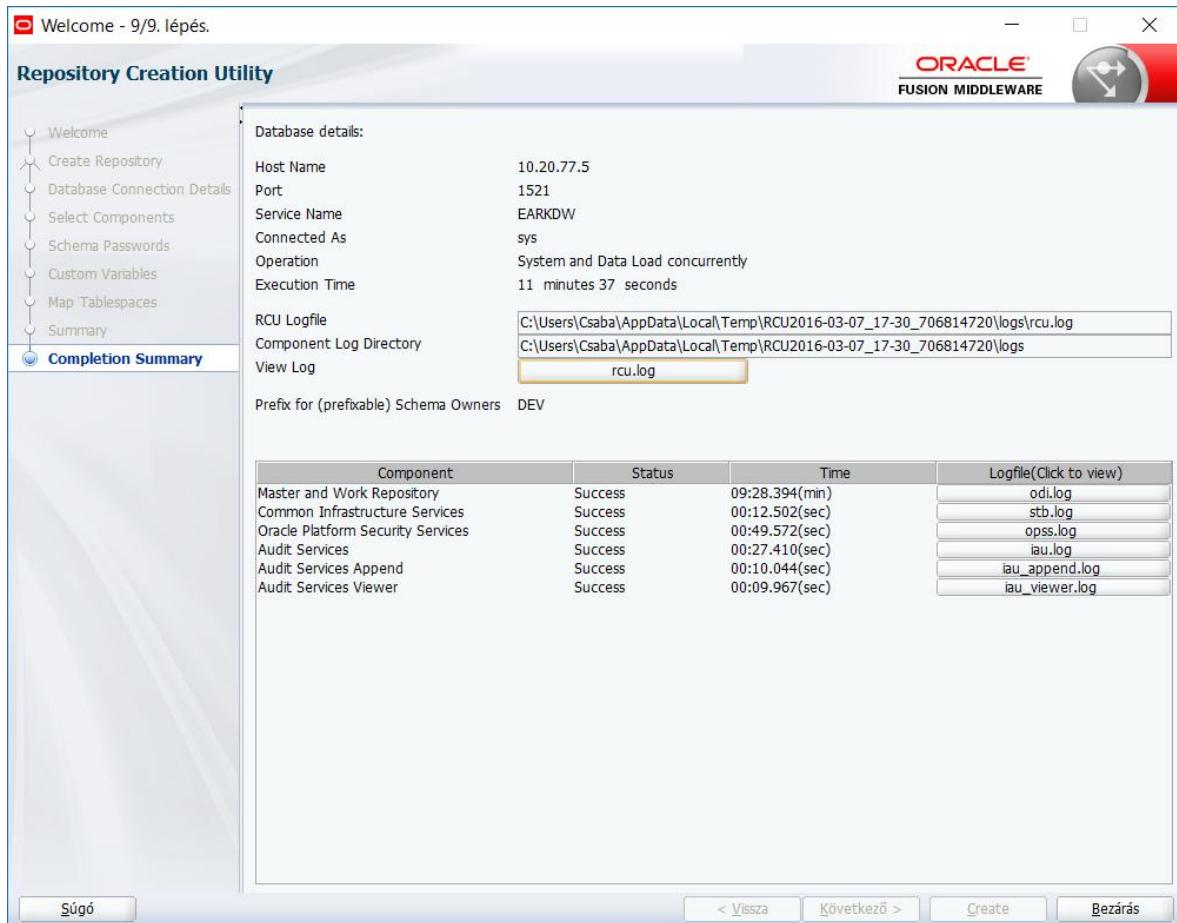












2.6 Oracle Rest Data Services

Installed software version: Oracle Rest Data Services (ORDS) 3.0.4

`java -jar ords.war`

Location to store configuration data - Enter the location where you want to store Oracle REST Data Services configuration data. There is no default value.

`/u01/app/oracle/Middleware/ords/3.0.4`

Name of the database server - Enter the name of the database server. The default value is localhost.

`hadoop-5`

Database listener port - Enter the port number that database is listening on. The default value is 1521.

`1521`

Database service name or database SID - Options include:

Database service name - Enter 1 to specify the database service name (the default value).

Database SID - Enter 2 to specify the database SID.

`earkdw`

Database user name - Enter the database user name to use for all PL/SQL Gateway operations. The default value is APEX_PUBLIC_USER.

`APEX_PUBLIC_USER`

Database user password - Enter the database password for the user specified in the previous step. There is no default value.

Passwords for RESTful Services Database Accounts - Options include:

- Choose passwords - Enter 1 to specify passwords for APEX_LISTENER and APEX_REST_PUBLIC_USER accounts (the default value).
- Re-use APEX_PUBLIC_USER password - Enter 2 to use the same password for APEX_LISTENER and APEX_REST_PUBLIC_USER as used for APEX_PUBLIC_USER.
- Skip passwords - Enter 3 to skip configuring RESTful Services. Note that entering 3 disables RESTful Services.

2

2.6.1 Configuring Oracle Application Express Images

Create i.war file, which holds the APEX web components like images, css and java script libraries.

```
java -jar ords.war static /u01/app/oracle/Middleware/apex/5.0.3/images
```

2.6.2 Install ORDS to Oracle WebLogic Server

The ords.war and i.war must be installed into Oracle Weblogic server before APEX can be used.

The location of war files:

/u01/app/oracle/Middleware/ords/3.0.4

Open the Weblogic console typing the URL below in a web browser:

<http://10.20.77.5:7001/console>

Go to the WebLogic Server Home Page, click **Lock & Edit**.

Select Deployments, click **Install**.

[Back](#) [Next](#) | [Finish](#) | [Cancel](#)

Locate deployment to install and prepare for deployment

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

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

Path:	/u01/app/oracle/Middleware/ords/3.0.4/ords.war
Recently Used Paths:	/u01/app/oracle/Middleware/ords/3.0.4 /home/oracle/install/src/ords
Current Location:	10.20.77.5 / u01 / app / oracle / Middleware / ords / 3.0.4
ords <input type="radio"/> i.war <input checked="" type="radio"/> ords.war	

[Back](#) [Next](#) | [Finish](#) | [Cancel](#)

Install Application Assistant

[Back](#) [Next](#) | [Finish](#) | [Cancel](#)

Choose installation type and scope

Select if the deployment should be installed as an application or library. Also decide the scope of this deployment.

The application and its components will be targeted to the same locations. This is the most common usage.

Install this deployment as an application

Application libraries are deployments that are available for other deployments to share. Libraries should be available on all of the targets running their referencing applications.

Install this deployment as a library

Select a scope in which you want to install the deployment.

Scope: [Global](#)

[Back](#) [Next](#) | [Finish](#) | [Cancel](#)

Install Application Assistant

Select deployment targets

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

Available targets for ords-1 :

Servers

AdminServer

Clusters

bi_cluster
 All servers in the cluster
 Part of the cluster
 bi_server1

Virtual Hosts

bi_internal_virtualhost1

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

Install Application Assistant

Optional Settings

You can modify these settings or accept the defaults.
* Indicates required fields

General

What do you want to name this deployment?

* Name:

Security

What security model do you want to use with this application?

DD Only: Use only roles and policies that are defined in the deployment descriptors.

Custom Roles: Use roles that are defined in the Administration Console; use policies that are defined in the deployment descriptor.

Custom Roles and Policies: Use only roles and policies that are defined in the Administration Console.

Advanced: Use a custom model that you have configured on the realm's configuration page.

Source Accessibility

How should the source files be made accessible?

Use the defaults defined by the deployment's targets

Click **Finish**.

Repeat the previous steps to deploy the i.war file.

Change Center click **Activate Changes**.