

# ORACLE 19C-RAC DBMS INSTALLATION

## Environment Details:

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**No. of servers** : 2 (node 1 ,node2).

**Version** : Oracle linux 7.9

**ASM configuration** : Yes , refer steps from :

[https://www.linkedin.com/posts/umesh-shinde-989187209\\_oracle-grid-setup-activity-7144377605201231874-owGr?utm\\_source=share&utm\\_medium=member\\_desktop](https://www.linkedin.com/posts/umesh-shinde-989187209_oracle-grid-setup-activity-7144377605201231874-owGr?utm_source=share&utm_medium=member_desktop)

Ssh and network configuration complted on both the node.

**Linux 7.9 installation :**

Follow the steps for configuring Network between two node RAC from below mentioned link:

[https://www.linkedin.com/posts/umesh-shinde-989187209\\_oracle-linux-installation-activity-7141727733537046528-OGsK?utm\\_source=share&utm\\_medium=member\\_desktop](https://www.linkedin.com/posts/umesh-shinde-989187209_oracle-linux-installation-activity-7141727733537046528-OGsK?utm_source=share&utm_medium=member_desktop)

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- Database Installation
  - Database configuration
  - Creating **CDB and PDB** database.
- 

Setting up directories.

```
mkdir -p /oracle/app/oracle
mkdir -p /oracle/app/oracle/product/19.0.0/db_home
chown -R oracle:oinstall /oracle
```

## 1. Setting up bash profile

Node 1:

```
if [ -f ~/.bashrc ]; then
. ~/.bashrc
fi
ORACLE_SID=PRODCDB1; export ORACLE_SID
```

```

ORACLE_BASE=/oracle/app/oracle; export ORACLE_BASE
ORACLE_HOME=/oracle/app/oracle/product/19.0.0/db_home; export ORACLE_HOME
ORACLE_TERM=xterm; export ORACLE_TERM
JAVA_HOME=/usr/bin/java; export JAVA_HOME
TNS_ADMIN=$ORACLE_HOME/network/admin; export TNS_ADMIN
PATH=.:${JAVA_HOME}/bin:${PATH}:${HOME}/bin:$ORACLE_HOME/bin
PATH=${PATH}:/usr/bin:/bin:/usr/local/bin
export PATH

LD_LIBRARY_PATH=$ORACLE_HOME/lib
LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:${ORACLE_HOME/oracm/lib}
LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:/lib:/usr/lib:/usr/local/lib
export LD_LIBRARY_PATH

CLASSPATH=$ORACLE_HOME/JRE:$ORACLE_HOME/jlib:$ORACLE_HOME/rdbms/jlib:$ORACLE_HOM
E/network/jlib
export CLASSPATH

TEMP=/tmp ;export TMP
TMPDIR=$tmp ; export TMPDIR

umask 022

```

=====

Node 2:

```

if [ -f ~/.bashrc ]; then
. ~/.bashrc
fi
ORACLE_SID=PRODCDB2; export ORACLE_SID
ORACLE_BASE=/oracle/app/oracle; export ORACLE_BASE
ORACLE_HOME=/oracle/app/oracle/product/19.0.0/db_home; export ORACLE_HOME
ORACLE_TERM=xterm; export ORACLE_TERM
JAVA_HOME=/usr/bin/java; export JAVA_HOME
TNS_ADMIN=$ORACLE_HOME/network/admin; export TNS_ADMIN
PATH=.:${JAVA_HOME}/bin:${PATH}:${HOME}/bin:$ORACLE_HOME/bin
PATH=${PATH}:/usr/bin:/bin:/usr/local/bin
export PATH

LD_LIBRARY_PATH=$ORACLE_HOME/lib
LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:${ORACLE_HOME/oracm/lib}
LD_LIBRARY_PATH=${LD_LIBRARY_PATH}:/lib:/usr/lib:/usr/local/lib
export LD_LIBRARY_PATH

CLASSPATH=$ORACLE_HOME/JRE:$ORACLE_HOME/jlib:$ORACLE_HOME/rdbms/jlib:$ORACLE_HOM
E/network/jlib
export CLASSPATH

```

```
TEMP=/tmp ;export TMP
TMPDIR=$tmp ; export TMPDIR
```

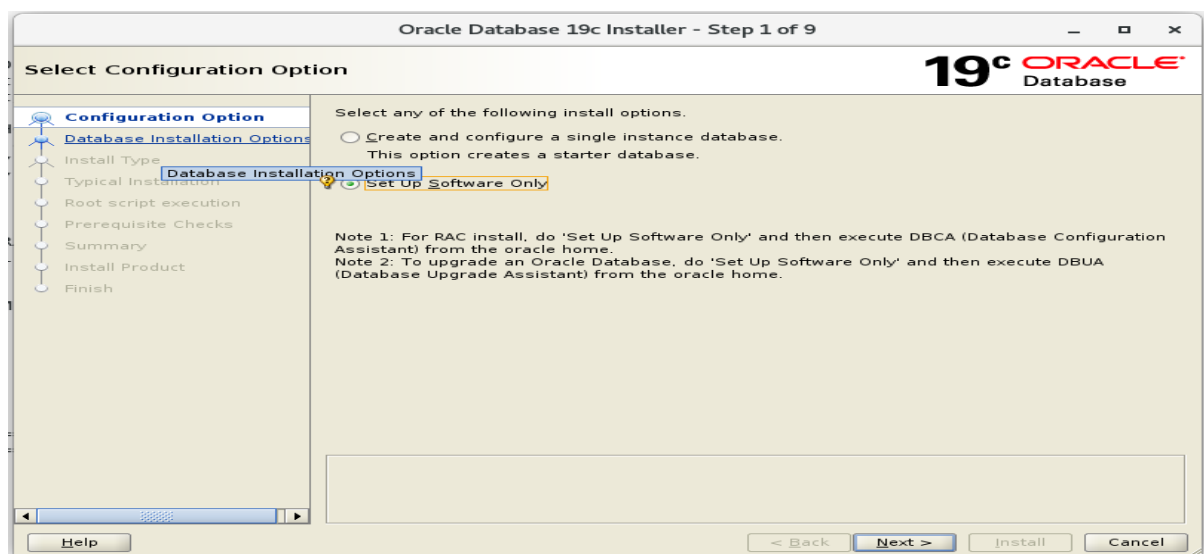
```
umask 022
```

=====

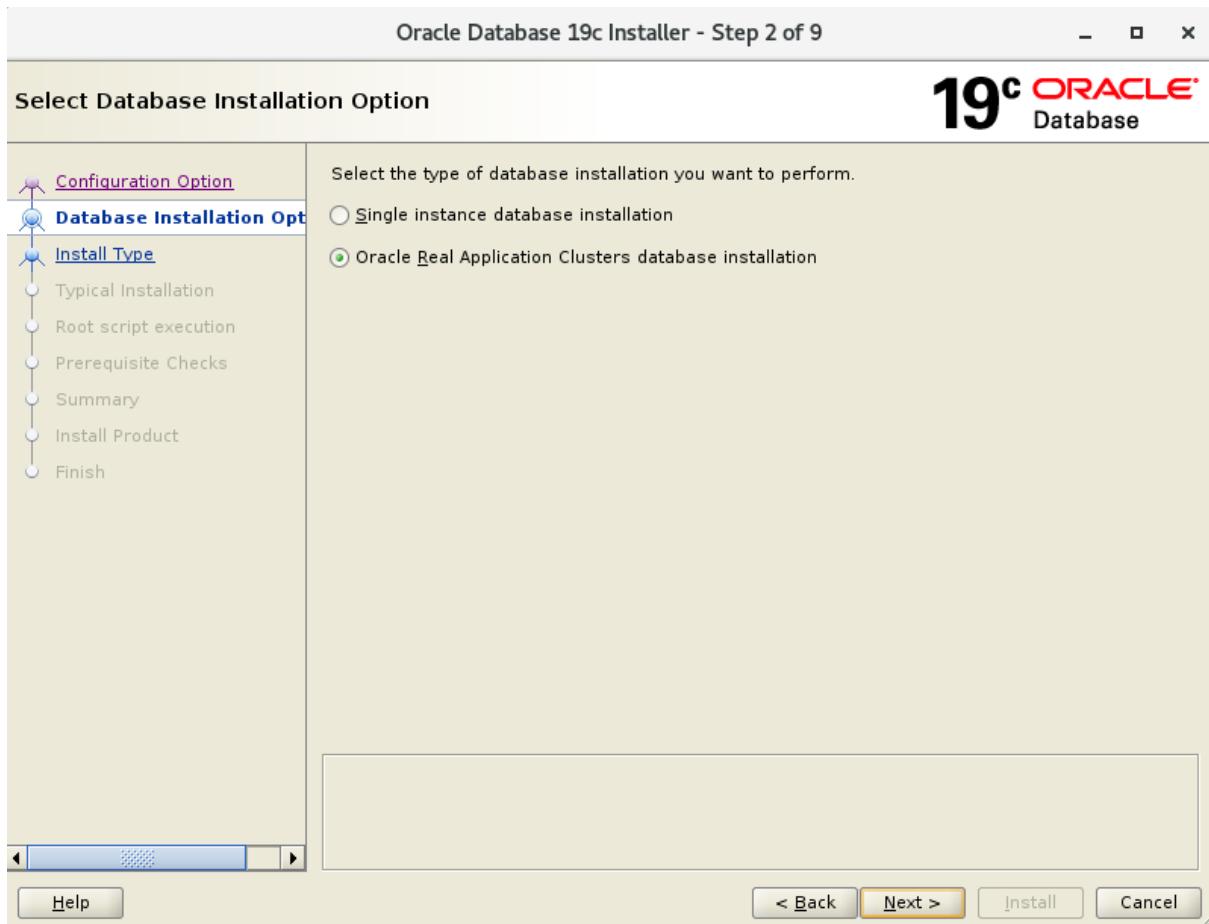
## 2. Install and Configure Oracle 19c Software binary

- copy the database zip file in \$ORACLE\_HOME location and then unzip it.
- cd \$ORACLE\_HOME  
Now run runinstaller for database installation.
- ./runInstaller

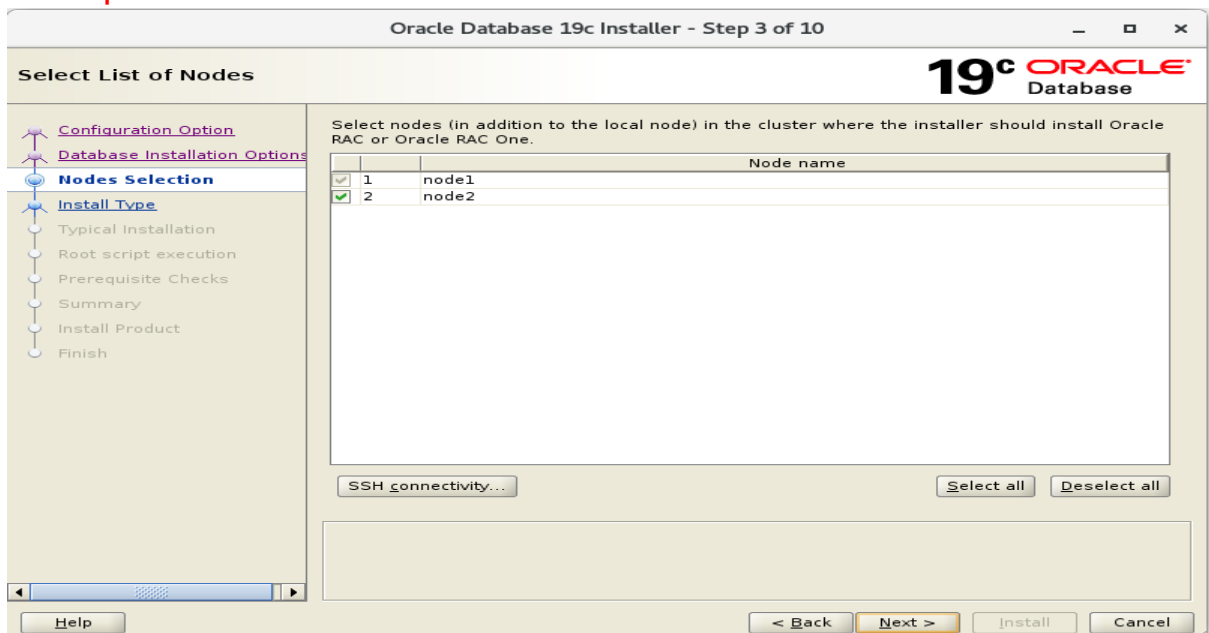
1. Choose 2<sup>nd</sup> option **Install database software only** option and click **Next**.



2. Choose 2nd option Oracle Real Application Clusters database installation and click Next.



3. Make sure all the nodes are selected otherwise software will only install in single nodes and click on SSH connectivity to create password less connections between the nodes



4. Give the Oracle password which you have created and click on setup to create the password less connectivity.

Oracle Database 19c Installer - Step 3 of 11

**19<sup>c</sup> ORACLE<sup>®</sup> Database**

Select List of Nodes

Select nodes (in addition to the local node) in the cluster where the installer should install Oracle RAC or Oracle RAC One.

	Node name
<input checked="" type="checkbox"/>	1 node1
<input checked="" type="checkbox"/>	2 node2

SSH connectivity... Select all Deselect all

OS Username:  OS Password:

☐ Reuse private and public keys existing in the user home

Test Setup

Help < Back Next > Install Cancel

5. Choose Enterprise Edition and click Next.

Oracle Database 19c Installer - Step 4 of 11

**19<sup>c</sup> ORACLE<sup>®</sup> Database**

Select Database Edition

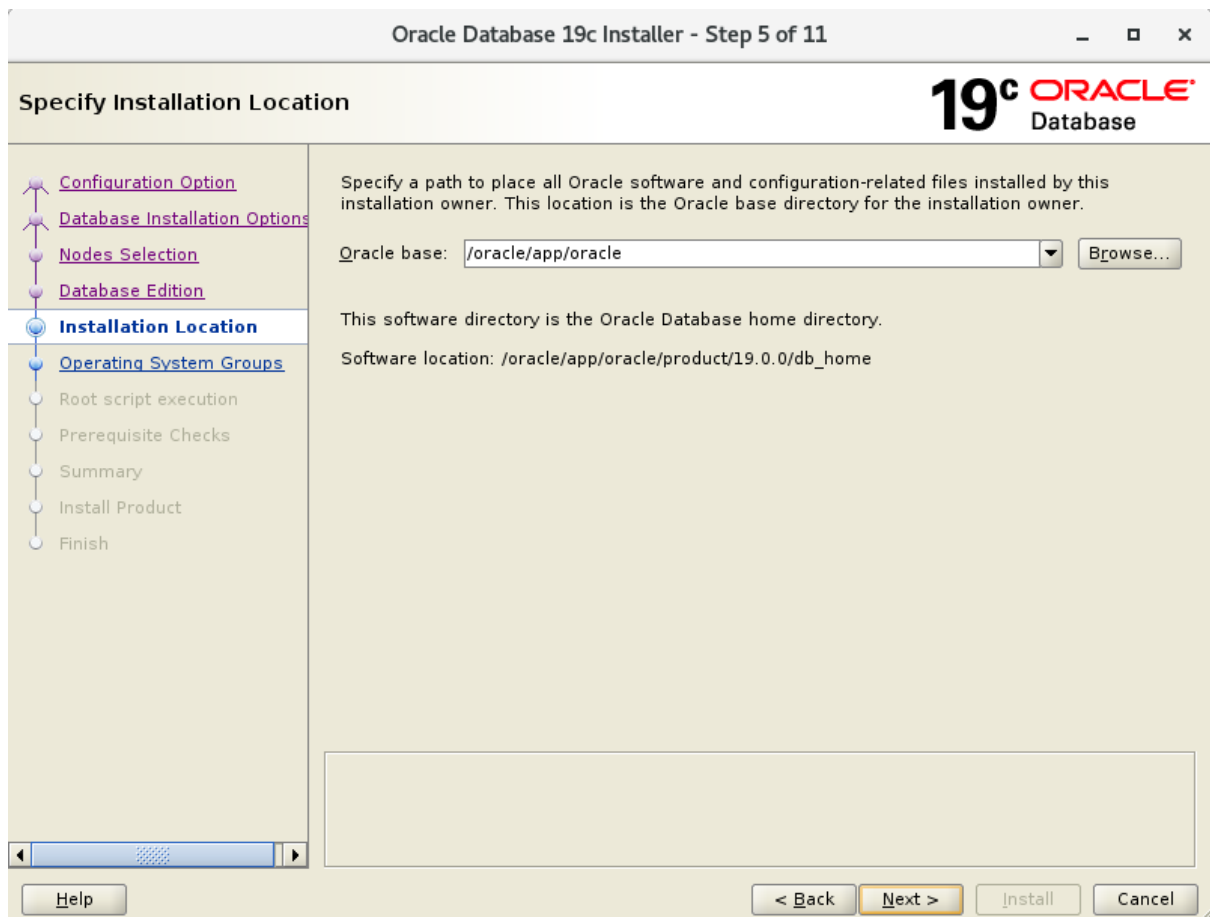
Which database edition do you want to install?

☒ Enterprise Edition  
Oracle Database 19c Enterprise Edition is a self-managing database that has the scalability, performance, high availability, and security features required to run the most demanding, mission-critical applications.

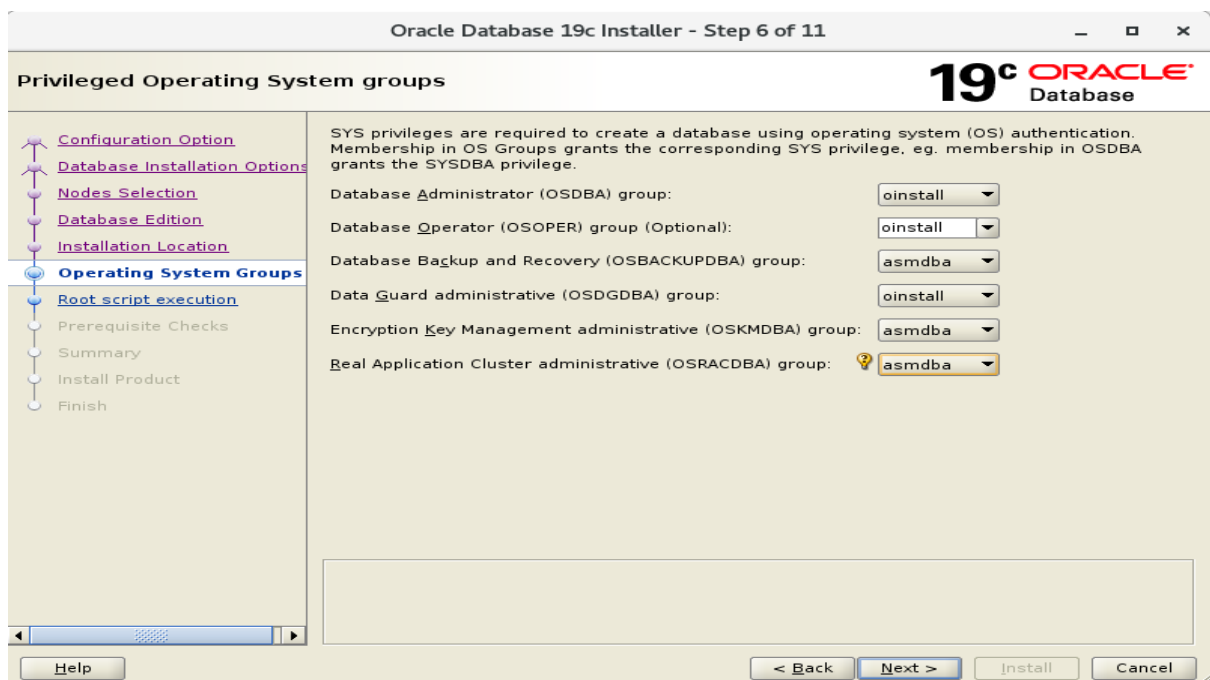
☐ Standard Edition 2  
Oracle Database 19c Standard Edition 2 is a full-featured data management solution ideally suited to the needs of medium-sized businesses.

Help < Back Next > Install Cancel

6. Choose the location for Oracle base and Software location as per the requirement.

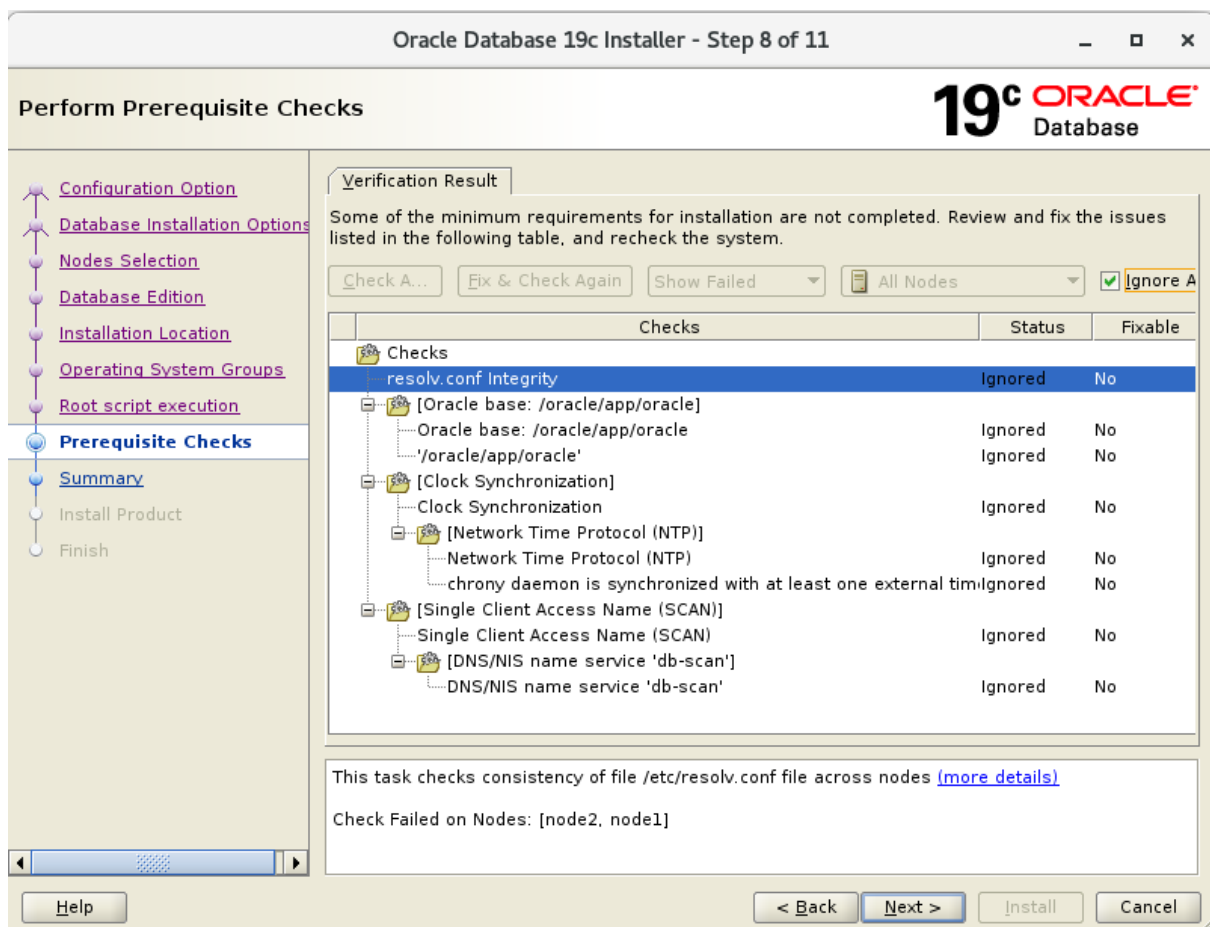


7. Give the **privileged** Operating system groups as per your requirement.

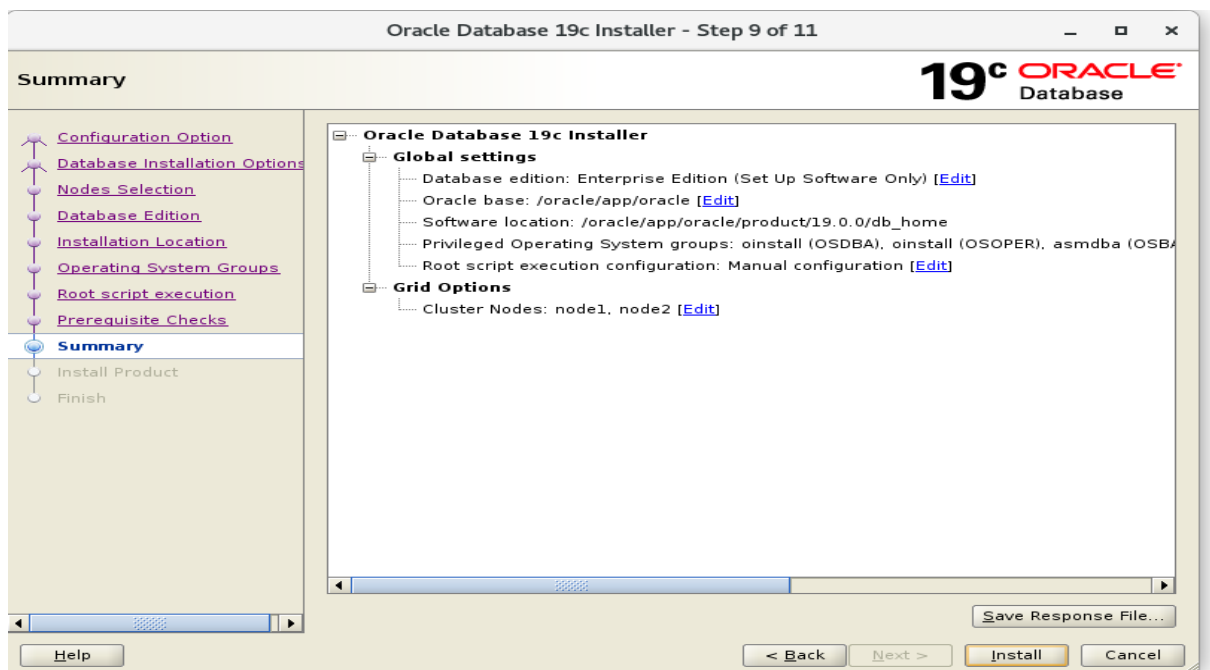


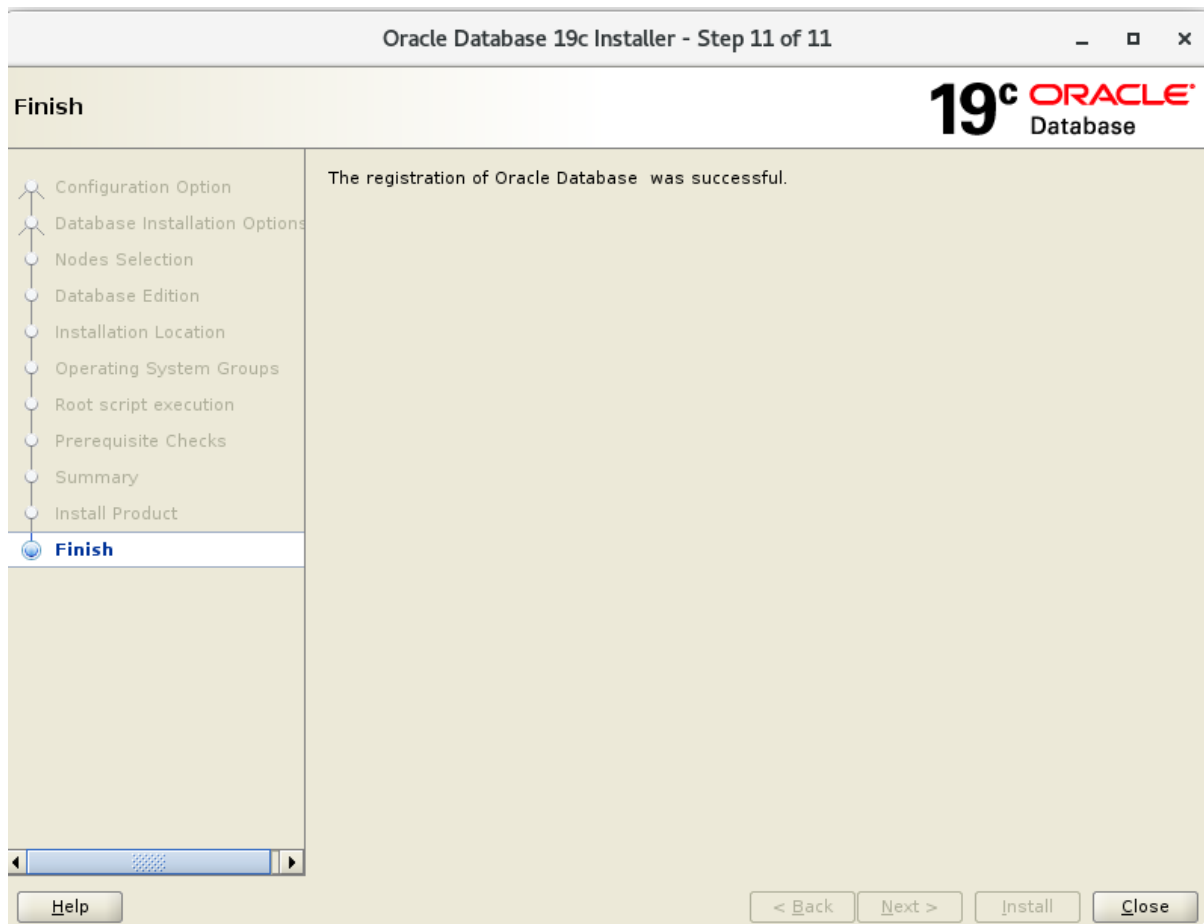
8. Uncheck auto execution of root Script >NEXT>

9. Ignore all and next



10. Check the **Summary** and click on **Next** to proceed with the installation.





Database Installation Completed.

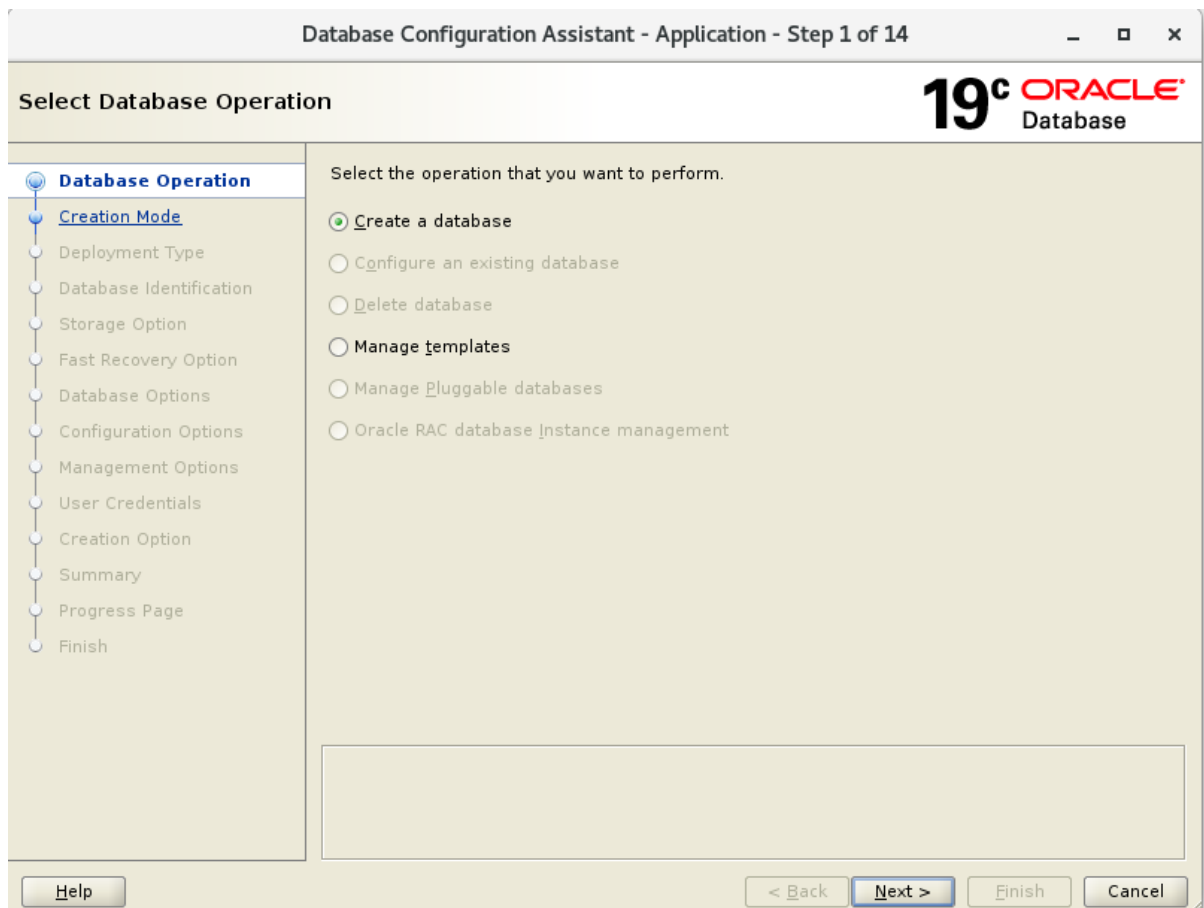
## Database Creation Steps:

1. Login as oracle User and go to ORACLE\_HOME/bin directory and execute ./dbca command.

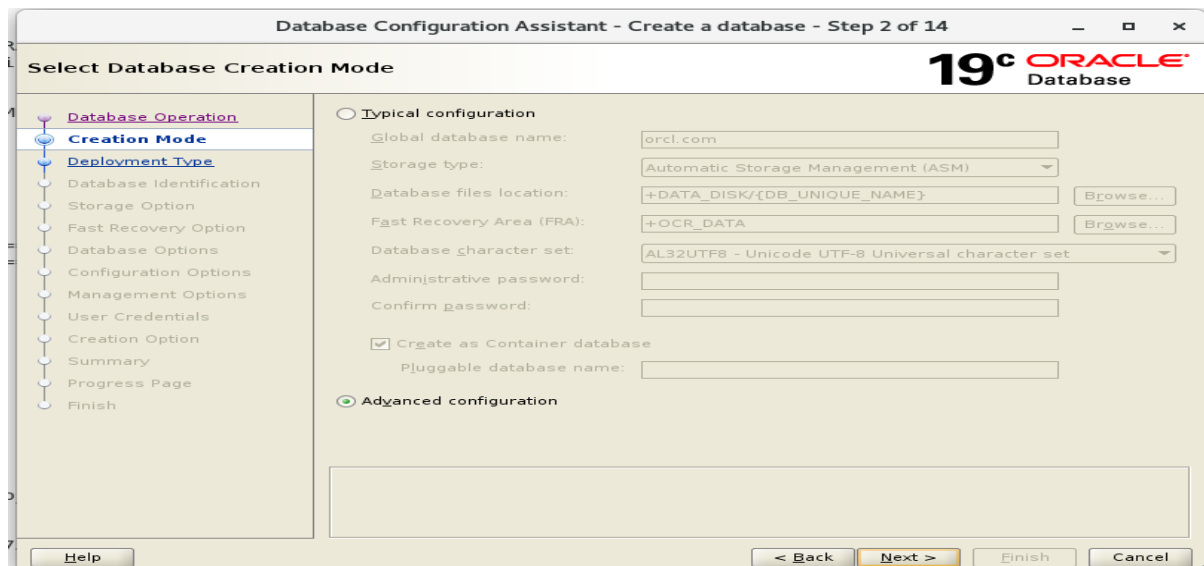
```
oracle 15433 5697 0 11:25 pts/0 00:00:00 {  
[oracle@node1 db_home]$  
[oracle@node1 db_home]$  
[oracle@node1 db_home]$ dbca
```

1. Choose the **Create a Database** Option and Click on **Next** button.





2. Choose Option **Advanced Configuration** and Click on **Next** Button.



3. Choose **General purpose or Transaction processing** Option and Click on **Next** button.

Database Configuration Assistant - Create a database - Step 3 of 14

19<sup>c</sup> ORACLE<sup>®</sup> Database

### Select Database Deployment Type

Database Operation
Creation Mode
**Deployment Type**
Database Identification
Storage Option
Fast Recovery Option
Database Options
Configuration Options
Management Options
User Credentials
Creation Option
Summary
Progress Page
Finish

Select the type of database you want to create.

Database type: Oracle Real Application Cluster (RAC) datab...

Configuration type: Admin Managed

Select a template for your database.

Templates that include datafiles contain pre-created databases. They allow you to create a new database quickly. Use templates without datafiles only when necessary, such as when you need to change attributes like block size that cannot be altered after database creation.

	Template name	Include datafiles	Details
<input checked="" type="radio"/>	General Purpose or Transaction Processing	Yes	<a href="#">View details</a>
<input type="radio"/>	Custom Database	No	<a href="#">View details</a>
<input type="radio"/>	Data Warehouse	Yes	<a href="#">View details</a>

Template location: /oracle/app/oracle/product/19.0.0/db\_home/assistants/dbca/templates Change...

Help
< Back
Next >
Finish
Cancel

4. Select all the nodes and click on Next.

Database Configuration Assistant - Create a database - Step 4 of 16

19<sup>c</sup> ORACLE<sup>®</sup> Database

### Select List of Nodes

Database Operation
Creation Mode
Deployment Type
**Nodes Selection**
Database Identification
Storage Option
Fast Recovery Option
Database Options
Configuration Options
Management Options
User Credentials
Creation Option
Prerequisite Checks
Summary
Progress Page
Finish

Select the nodes on which you want to create the cluster database. The local node "node1" should always be selected.

		Node name
<input checked="" type="checkbox"/>	1	node1
<input checked="" type="checkbox"/>	2	node2

Select all Deselect all

Help
< Back
Next >
Finish
Cancel

## 5. Choose your **Global Database name** and select both the nodes.

**Note:** Here we are creating container database with one Pluggable database.

Database Configuration Assistant - Create a database - Step 5 of 16

### Specify Database Identification Details

19<sup>c</sup> ORACLE Database

Provide a unique database identifier information. An Oracle database is uniquely identified by a Global database name, typically of the form "name.domain".

Global database name:

SID Prefix:

Service name:

☒ Create as Container database

A Container database can be used for consolidating multiple databases into a single database, and it enables database virtualization. A Container database (CDB) can have zero or more pluggable databases (PDB).

☒ Use Local Undo tablespace for PDBs

☐ Create an empty Container database

☒ Create a Container database with one or more PDBs

Number of PDBs:

PDB name:

Help < Back Next > Finish Cancel

## 6. Choose **ASM** as a storage type and click on **Next** button

Database Configuration Assistant - Create 'PRODCDB' database - Step 6 of 16

### Select Database Storage Option

19<sup>c</sup> ORACLE Database

☐ Use template file for database storage attributes

Storage type and location for database files will be picked up from the specified template (General Purpose or Transaction Processing).

☒ Use following for the database storage attributes

All the database files will be put at the specified location below. You can customize the name and location of each datafile in the subsequent screen.

Database files storage type:

Database files location:

Oracle Managed files option will enable Oracle to automatically generate the names of the datafiles for simplified database management.

☒ Use Oracle-Managed Files (OMF) 

Help < Back Next > Finish Cancel

## 7. Select the FRAas per your requirement

Database Configuration Assistant - Create 'PRODCDB' database - Step 7 of 16

**19c ORACLE Database**

### Select Fast Recovery Option

Choose the recovery options for the database.

☐ Specify Fast Recovery Area

Recovery files storage type: Automatic Storage Management (ASM)

Fast Recovery Area: +OCR\_DATA [Browse...](#)

Fast Recovery Area size: 13332 MB

☒ Enable archiving [Edit archive mode parameters...](#)

Database Operation

Creation Mode

Deployment Type

Nodes Selection

Database Identification

Storage Option

**Fast Recovery Option**

Database Options

Configuration Options

Management Options

User Credentials

Creation Option

Prerequisite Checks

Summary

Progress Page

Finish

[Help](#) [< Back](#) [Next >](#) [Finish](#) [Cancel](#)

Change the archive file extension.

Database Configuration Assistant - Create 'PRODCDB' database - Step 7 of 16

**19c ORACLE Database**

### Select Fast Recovery Option

Archive mode parameters

☒ Automatic archiving

Archive log file format: %t\_%s\_%r.arc

Archive log destination may be specified below. It is recommended that archive log files be written to multiple locations spread across different disks. If archive log destination is not specified, Fast Recovery Area location will be used for archive log files.

Archive log destinations	
1	+DATA_DISK
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	

[OK](#) [Cancel](#)

Database Operation

Creation Mode

Deployment Type

Nodes Selection

Database Identification

Storage Option

**Fast Recovery Option**

Database Options

Configuration Options

Management Options

User Credentials

Creation Option

Prerequisite Checks

Summary

Progress Page

Finish

[Help](#) [< Back](#) [Next >](#) [Finish](#) [Cancel](#)

8. Choose **“Database Vault”** and **“Oracle Label Security”** as per your requirement

Database Configuration Assistant - Create 'PRODCDB' database - Step 8 of 16

Select Oracle Data Vault Config Option

**19c ORACLE Database**

- Database Operation
- Creation Mode
- Deployment Type
- Nodes Selection
- Database Identification
- Storage Option
- Fast Recovery Option
- Data Vault Option**
  - Configuration Options**
  - Management Options
  - User Credentials
  - Creation Option
  - Prerequisite Checks
  - Summary
  - Progress Page
  - Finish

☐ Configure Oracle Database Vault

Database Vault owner:

Password:  Confirm password:

☐ Create a separate account manager

Account manager:

Password:  Confirm password:

☐ Configure Oracle Label Security

☐ Configure Oracle Label Security with OJD

9. Define **Memory, Character sets, Connection mode, Sample schemas** as per your requirements.

Database Configuration Assistant - Create 'PRODCDB' database - Step 9 of 16

**Specify Configuration Options**

19<sup>c</sup> ORACLE Database

Database Operation  
Creation Mode  
Deployment Type  
Nodes Selection  
Database Identification  
Storage Option  
Fast Recovery Option  
Data Vault Option  
**Configuration Options**  
Management Options  
User Credentials  
Creation Option  
Prerequisite Checks  
Summary  
Progress Page  
Finish

Memory Sizing Character sets Connection mode Sample schemas

☒ Use Automatic Shared Memory Management

SGA size: 1176 MB

PGA Size: 393 MB

☐ Use Manual Shared Memory Management

Shared pool size: 0 MB

Buffer cache size: 0 MB

Java pool size: 0 MB

Large pool size: 0 MB

PGA size: 0 MB

Total memory for database 0 MB

☐ Use Automatic Memory Management

Memory target: 1569 MB

< Back Next > Finish Cancel

10. Choose EM options as per your requirement,

Database Configuration Assistant - Create 'PRODCDB' database - Step 10 of 16

**Specify Management Options**

19<sup>c</sup> ORACLE Database

Database Operation  
Creation Mode  
Deployment Type  
Nodes Selection  
Database Identification  
Storage Option  
Fast Recovery Option  
Data Vault Option  
Configuration Options  
**Management Options**  
User Credentials  
Creation Option  
Prerequisite Checks  
Summary  
Progress Page  
Finish

Specify the management options for the database.

☐ Run Cluster Verification Utility (CVU) checks periodically

☐ **Configure Enterprise Manager (EM) database express**

EM database express port: 5500

☐ Configure EM database express port as global port

☐ Register with Enterprise Manager (EM) cloud control

O\_M host:

O\_M port:

EM admin username:

EM admin password:

ASMSNMP user password:

< Back Next > Finish Cancel

11. Set the password of SYS

Database Configuration Assistant - Create 'PRODCDB' database - Step 11 of 16

### Specify Database User Credentials

**19c ORACLE Database**

You must specify passwords for the following user accounts in the new database for security reasons.

☐ Use different administrative passwords

	Password	Confirm password
SYS		
SYSTEM		
PDBADMIN		

☒ Use the same administrative password for all accounts

Password:  Confirm password:

**Messages:**

Password: [DBT-06208] The 'ADMIN' password entered does not conform to the Oracle recommended standards.

Help < Back Next > Finish Cancel

12. Select "CREATE DATABASE " option.

Database Configuration Assistant - Create 'PRODCDB' database - Step 12 of 16

### Select Database Creation Option

**19c ORACLE Database**

Select the database creation options.

☒ Create database

Specify the SQL scripts you want to run after the database is created. The scripts are run in the order listed below.

Post DB creation scripts:  Browse...

☐ Save as a database template

Template name:

Template location:  Browse...

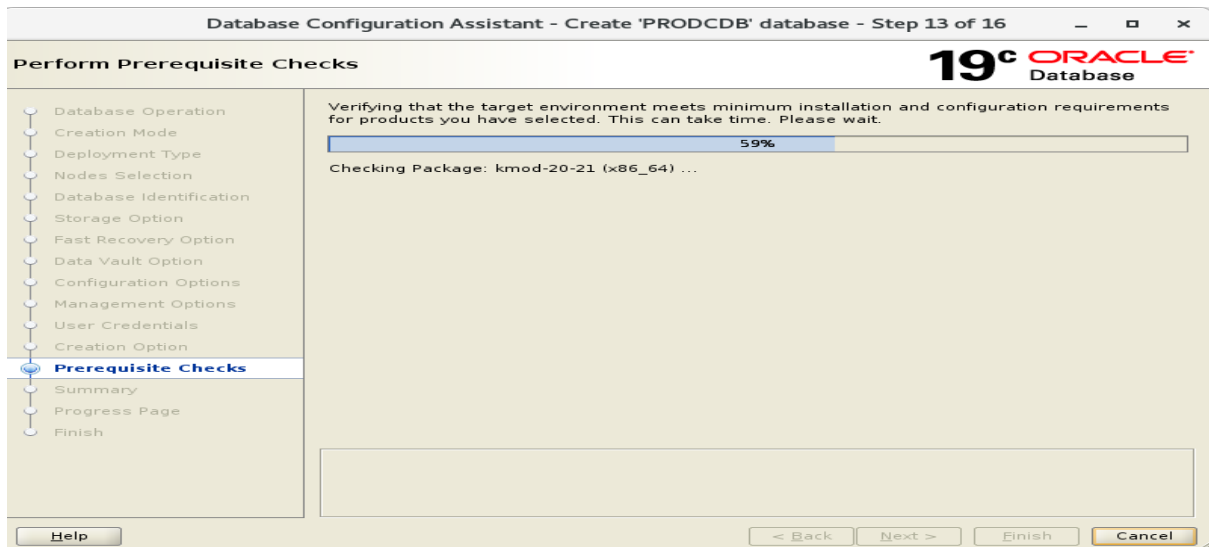
Description:

☐ Generate database creation scripts

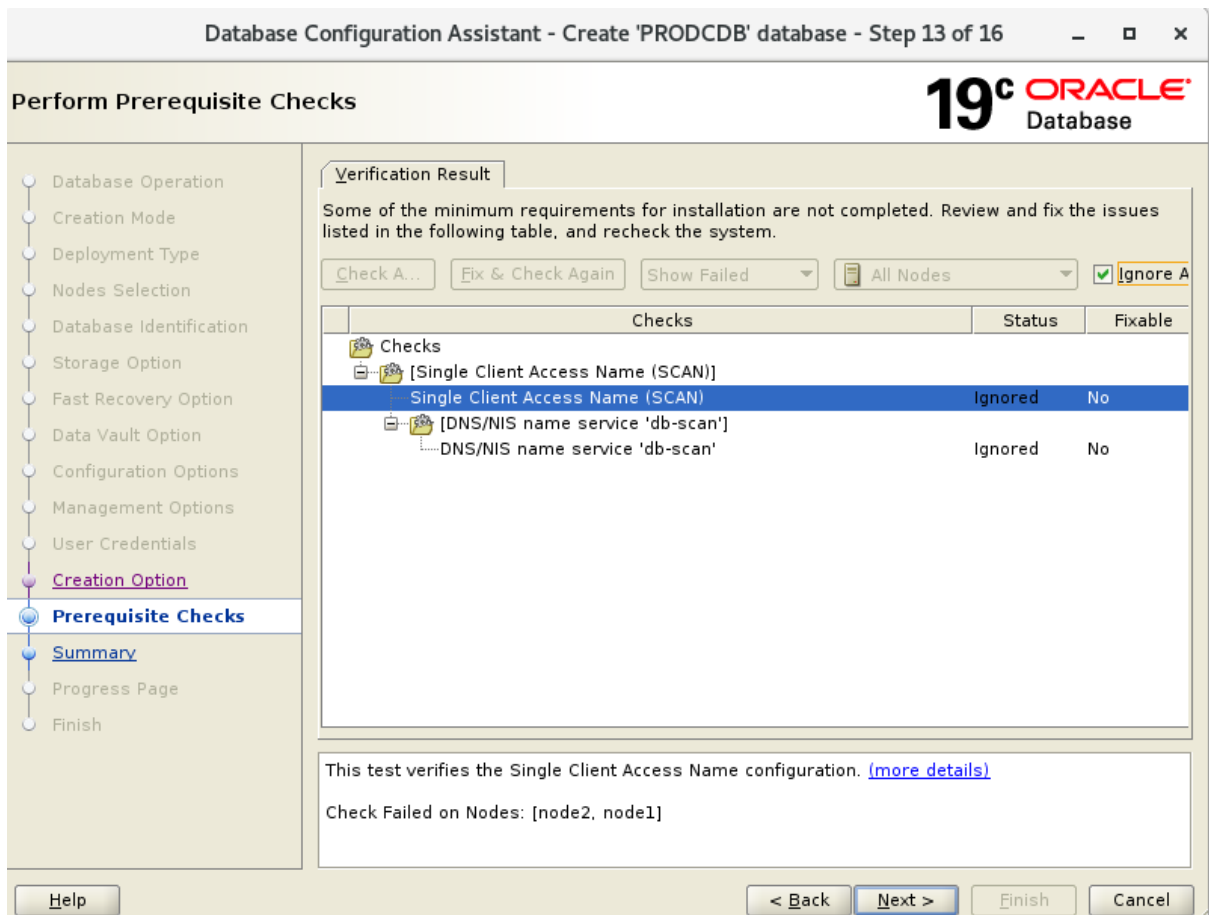
Destination directory:  Browse...

Following advanced configuration options can be used to configure initialization parameters and customize database storage locations.

Help < Back Next > Finish Cancel

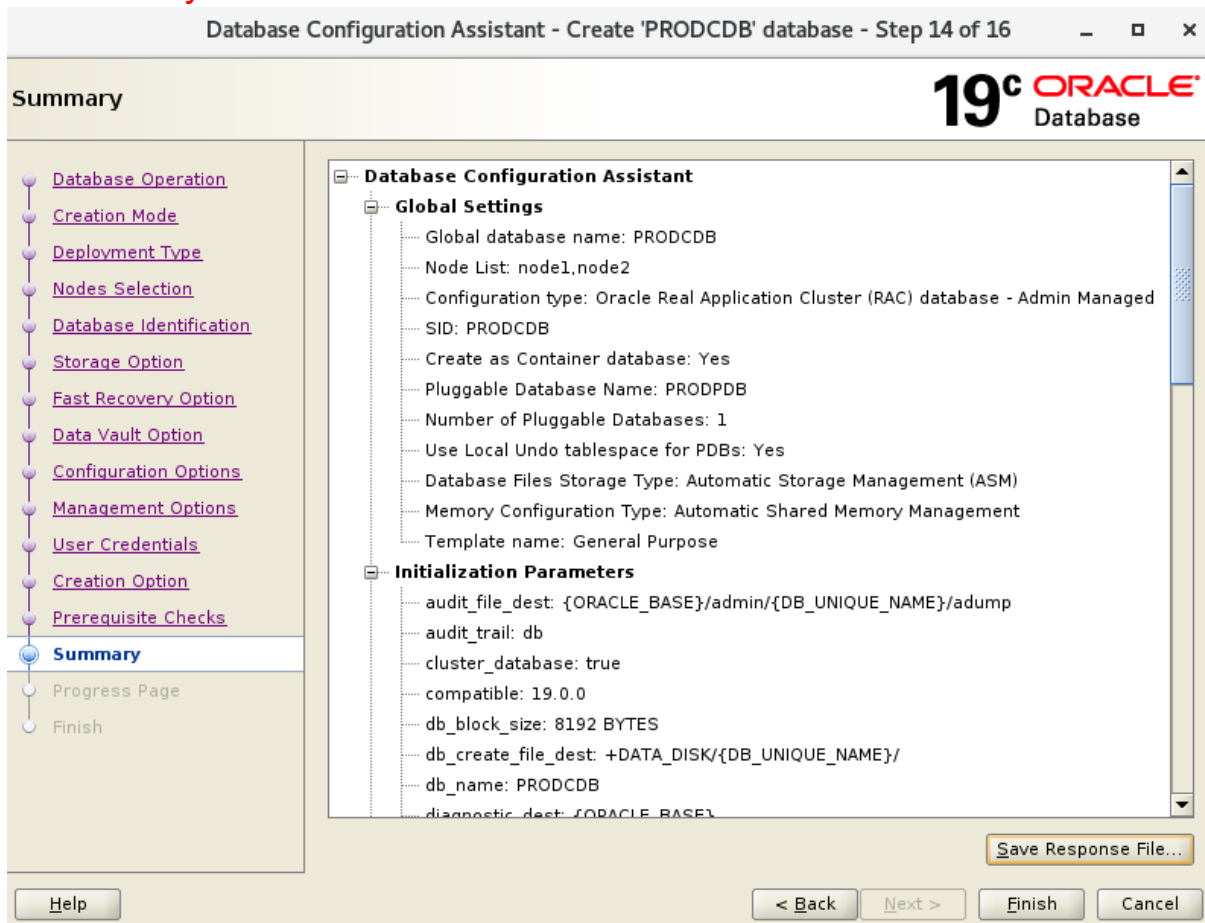


13. Click Ignore all and next > .





14. Check the Summary report, if something went wrong you can rectify and resolve it.



After Progress page complete the configuration by clicking on >FINISH.

**Database has been created successfully**

Connect to server as oracle oracle:

- Sqlplus / as sysdba.

```
SQL> show pdbs
```

CON_ID	CON_NAME	OPEN MODE	RESTRICTED
2	PDB\$SEED	READ ONLY	YES
3	PRODPDB	READ WRITE	YES

```
SQL>
```

Container Database **PRODCDB** with pluggable database **PRODPDB** has been created.

----- **FINISH** -----

