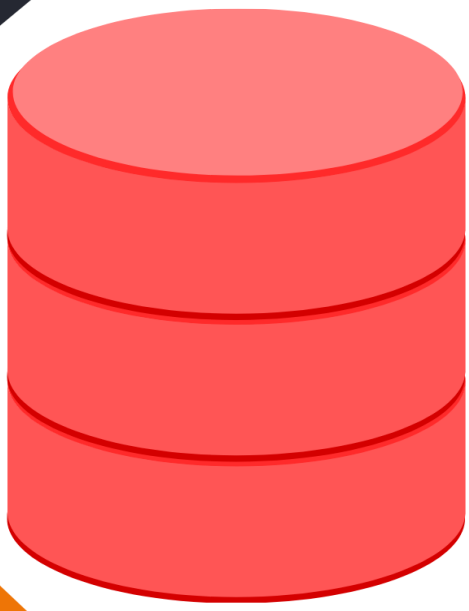
ORACLE 21C DATABASE ADMINISTRATOR

FIRST EDITION



RAVINDRA MALWAL

Topic: Oracle 21C software installation and database creation using DBCA on RHEL 8

In this QuickStart, we learn how to:

- Infrastructure details
- System configuration and **RPM** installation
- Directory and User Creation
- Unzip 12c Software Binaries and installation
- Set oracle user pash profile
- Configure listener and network service
- Install database Using DBCA
- Validation

Step-1 Infrastructure details

OS Details	Host Name	Database Version	ORACLE_HOME
CentOS 8.2	DB21C.example.com	21.0.0.0.0	/u01/app/oracle/product/21.0.0/db_1

Ste-2 System configuration and rpm installation

Install below RPM package

dnf install -y bc
dnf install -y binutils
dnf install -y compat-libstdc++-33
dnf install -y elfutils-libelf
dnf install -y elfutils-libelf-devel
dnf install -y fontconfig-devel
dnf install -y glibc
dnf install -y glibc-devel
dnf install -y ksh
dnf install -y libaio
dnf install -y libaio-devel
dnf install -y libXrender
dnf install -y libXrender-devel
dnf install -y libX11
dnf install -y libXau
dnf install -y libXi
dnf install -y libXtst
dnf install -y libgcc
dnf install -y librdmacm-devel
dnf install -y libstdc++
dnf install -y libstdc++-devel
dnf install -y libxcb
dnf install -y make
dnf install -y net-tools

dnf install -y nfs-utils
dnf install -y smartmontools
dnf install -y sysstat
dnf install -y unixODBC
dnf install -y libnsl
dnf install -y libnsl.i686
dnf install -y libnsl2
dnf install -y libnsl2.i686
dnf install -y xorg-x11*

Step-3 Directory and User Creation

[oracle@DB21C ~]$groupadd oinstall
[oracle@DB21C ~]$groupadd dba
[oracle@DB21C ~]$groupadd oper
[oracle@DB21C ~]$useradd -g oinstall -G dba,oper oracle
[oracle@DB21C ~]$passwd oracle
[oracle@DB21C ~]$mkdir -p /u01/app/oracle/product/21.0.0/db_1
[oracle@DB21C ~]$mkdir -p /u01/archive
[oracle@DB21C ~]$chown -R oracle:oinstall /u01

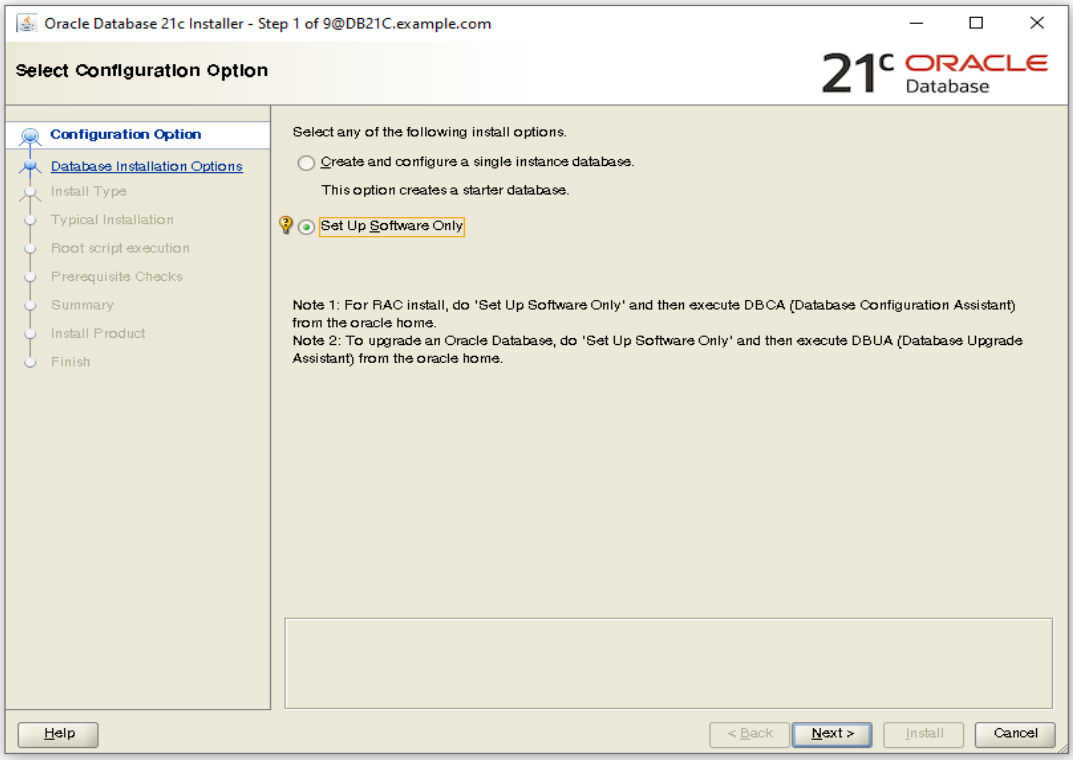
Step-4 Unzip 21c Software Binaries and installation

```
[oracle@DB21C tmp]$
[oracle@DB21C tmp]$ pwd
/tmp
[oracle@DB21C tmp]$ ls -ltr *.zip
-rw-r--r--. 1 oracle oinstall 3109225519 Aug 13 22:32 LINUX.X64_213000_db_home.zip
[oracle@DB21C tmp]$ unzip -q LINUX.X64_213000_db_home.zip -d /u01/app/oracle/product/21.0.0/db_1/
[oracle@DB21C tmp]$
```

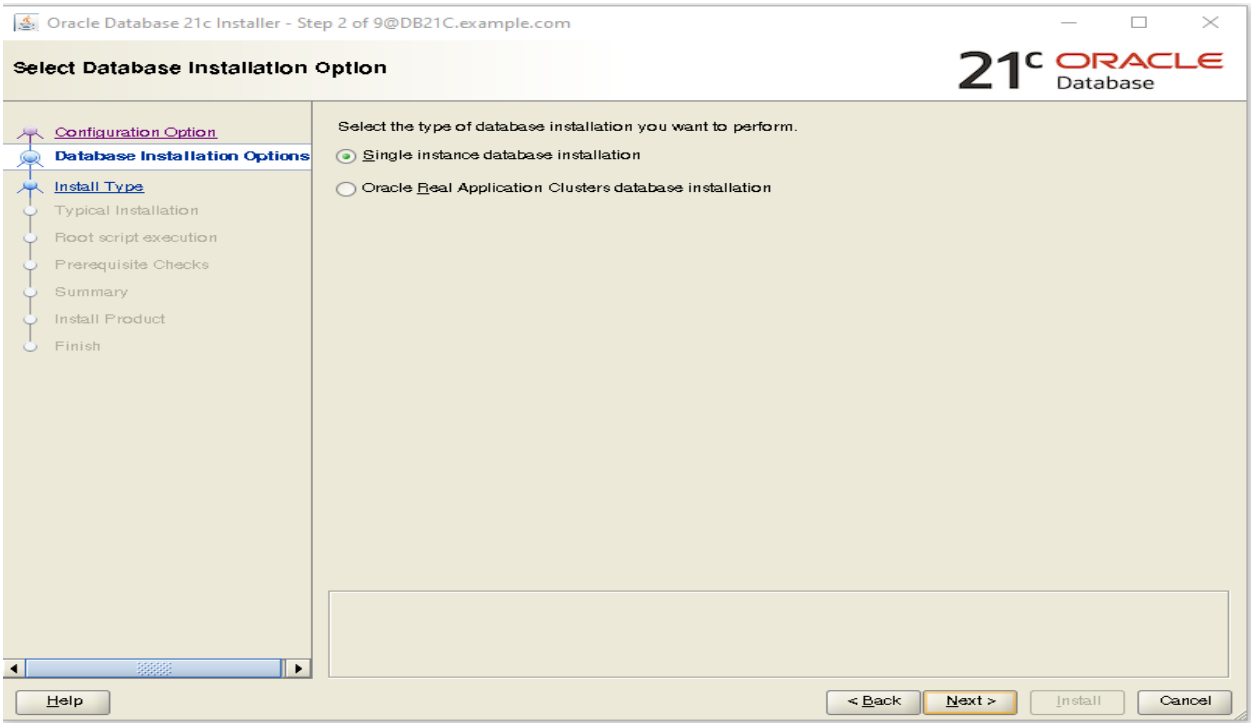
Go to **ORACLE_HOME** location and execute **runInstaller**

```
[oracle@DB21C db_1]$ ./runInstaller
```

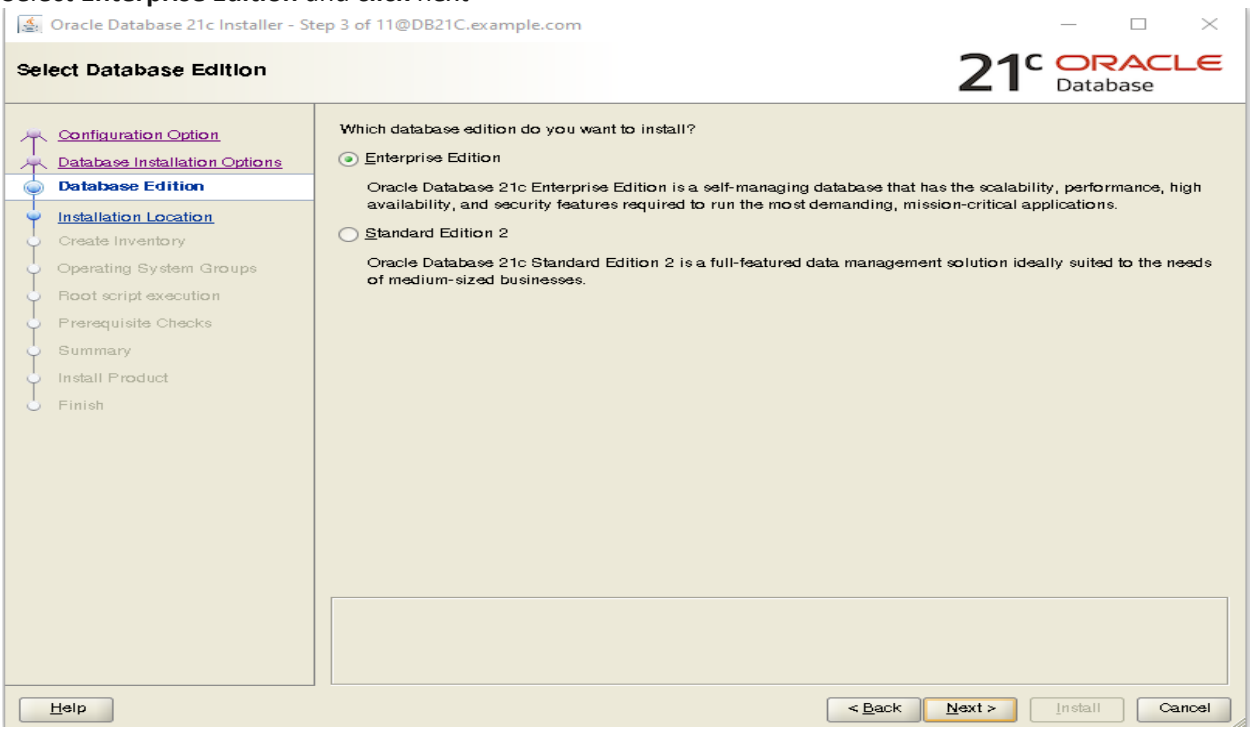
Select **Setup Software Only** and click next



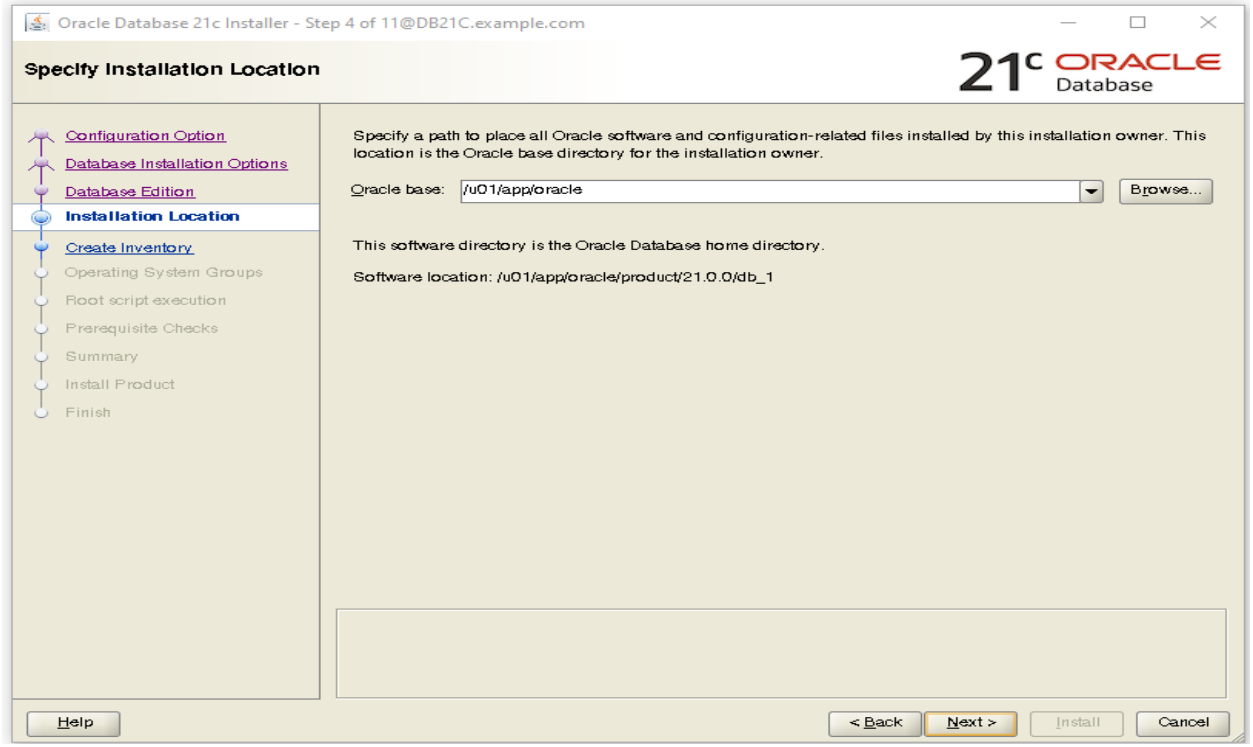
Select **single instance database installation** and click next



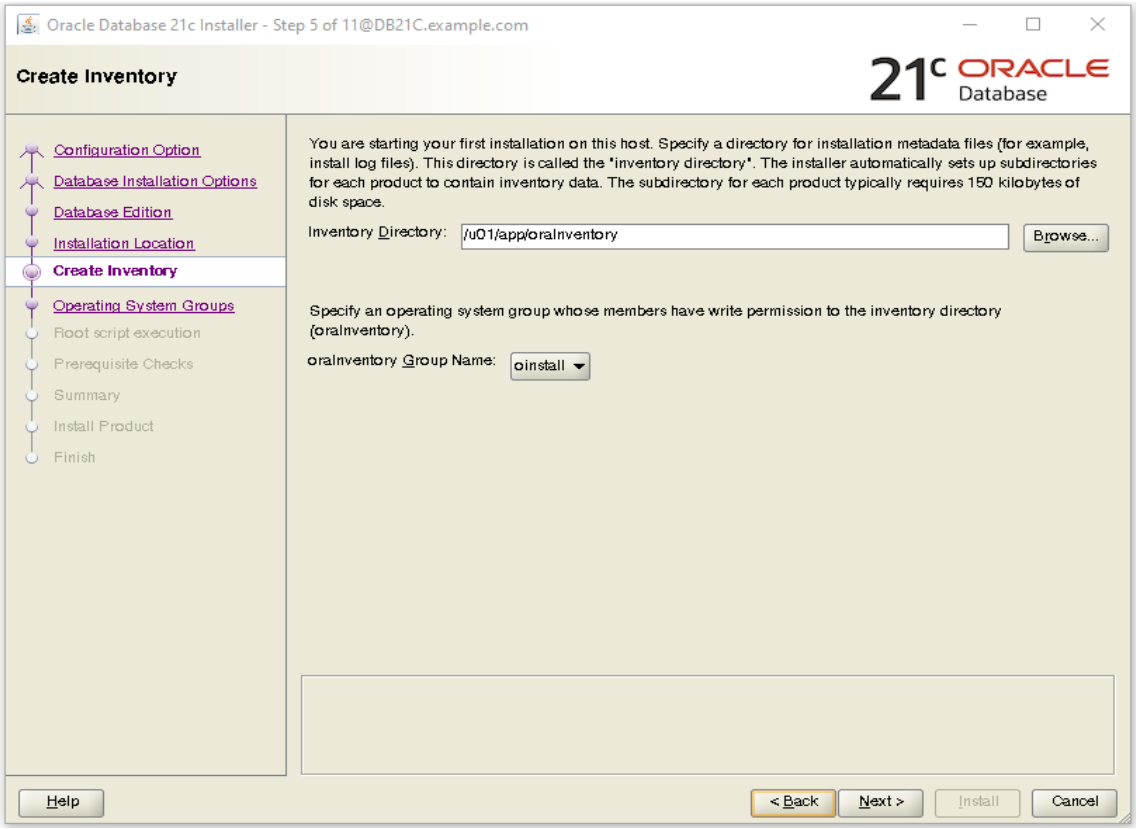
Select **Enterprise Edition** and **click** next



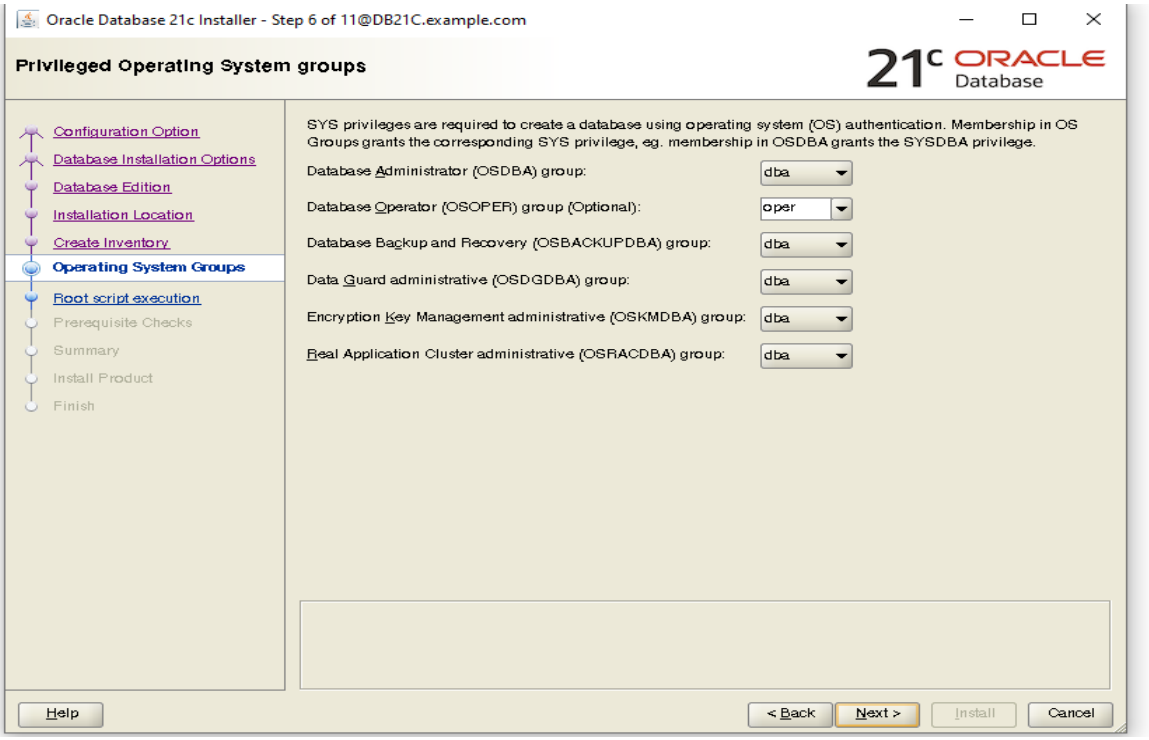
Choose **oracle base location** and click next



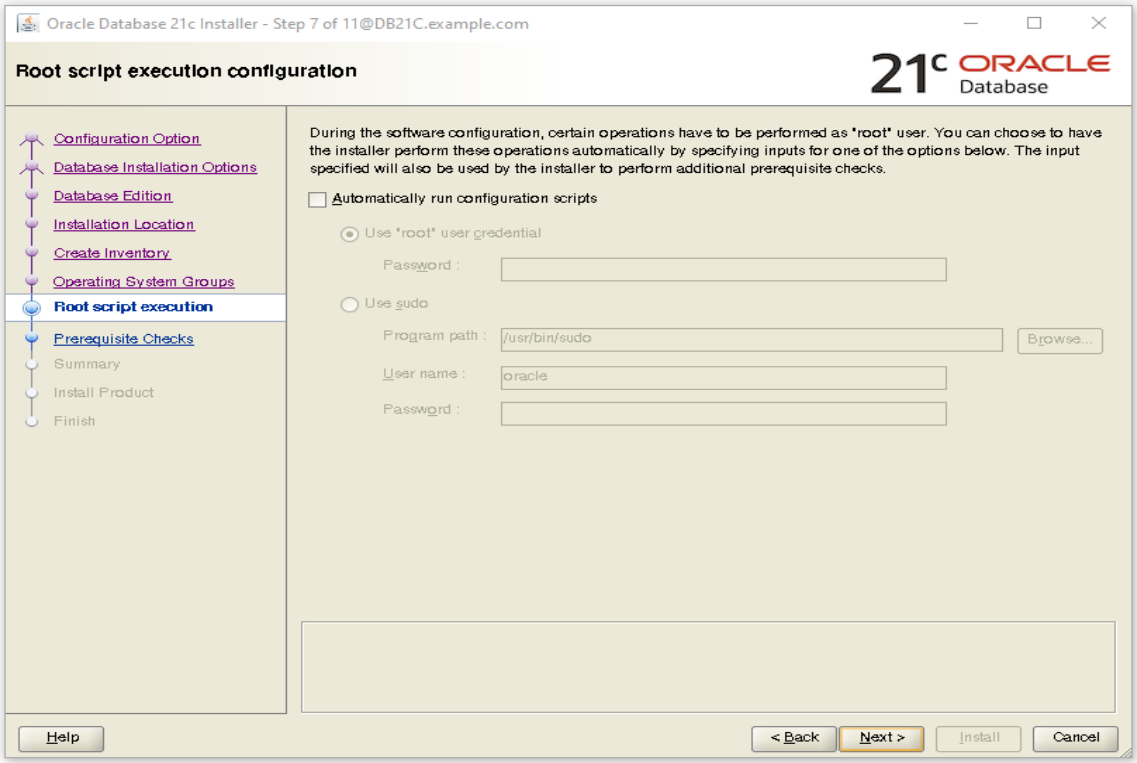
Select **oracle Inventory Location** and specify the **Oinstall** Group for **OraInventory Group Name**



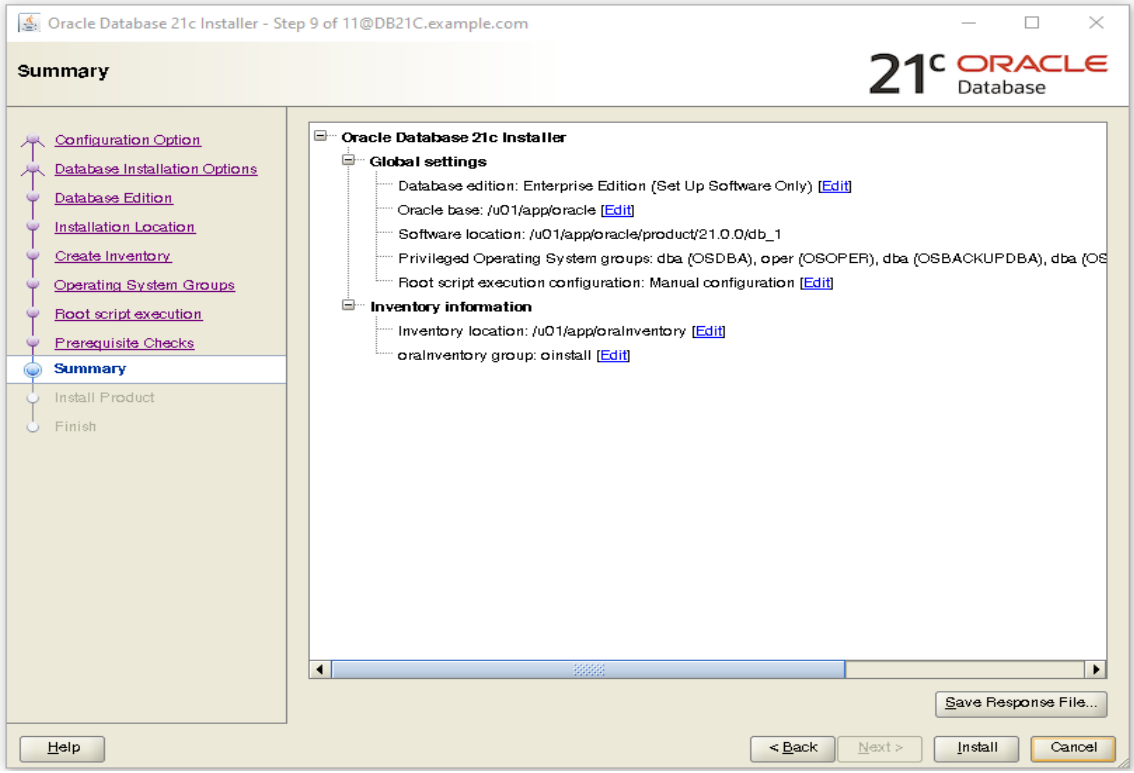
Next screen automatically takes **OS group** name from which we created for oracle user



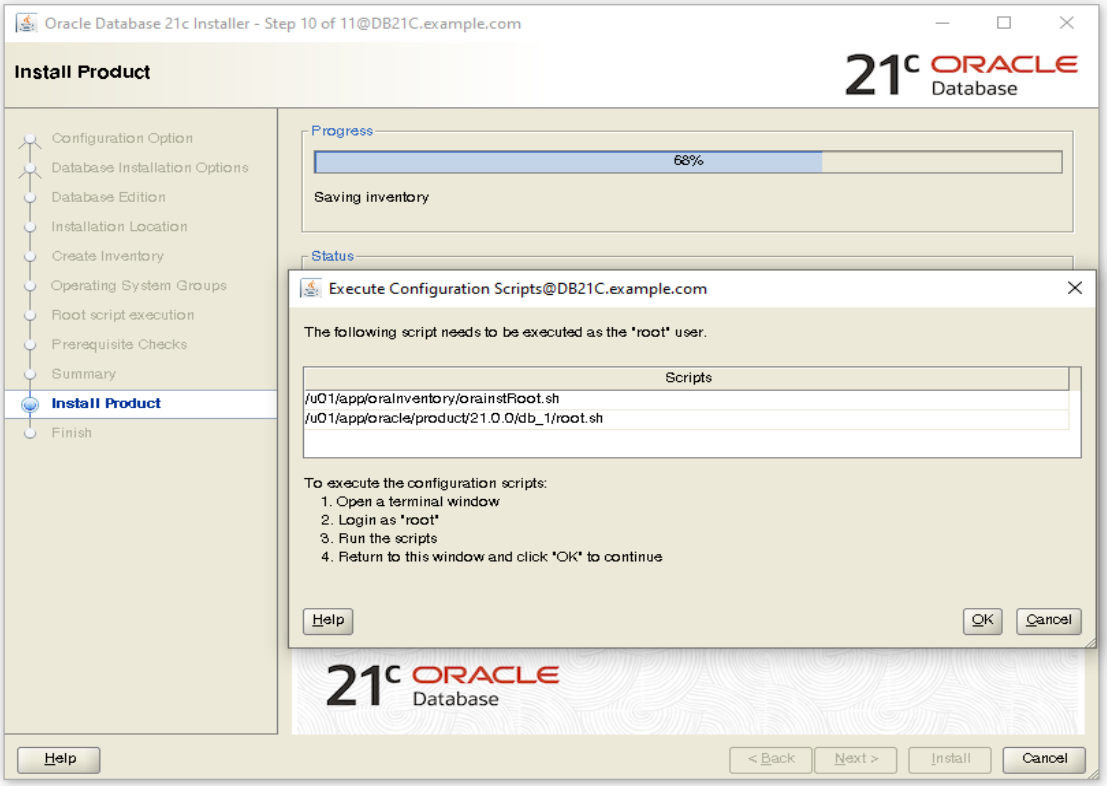
Click **next**



Click **install**

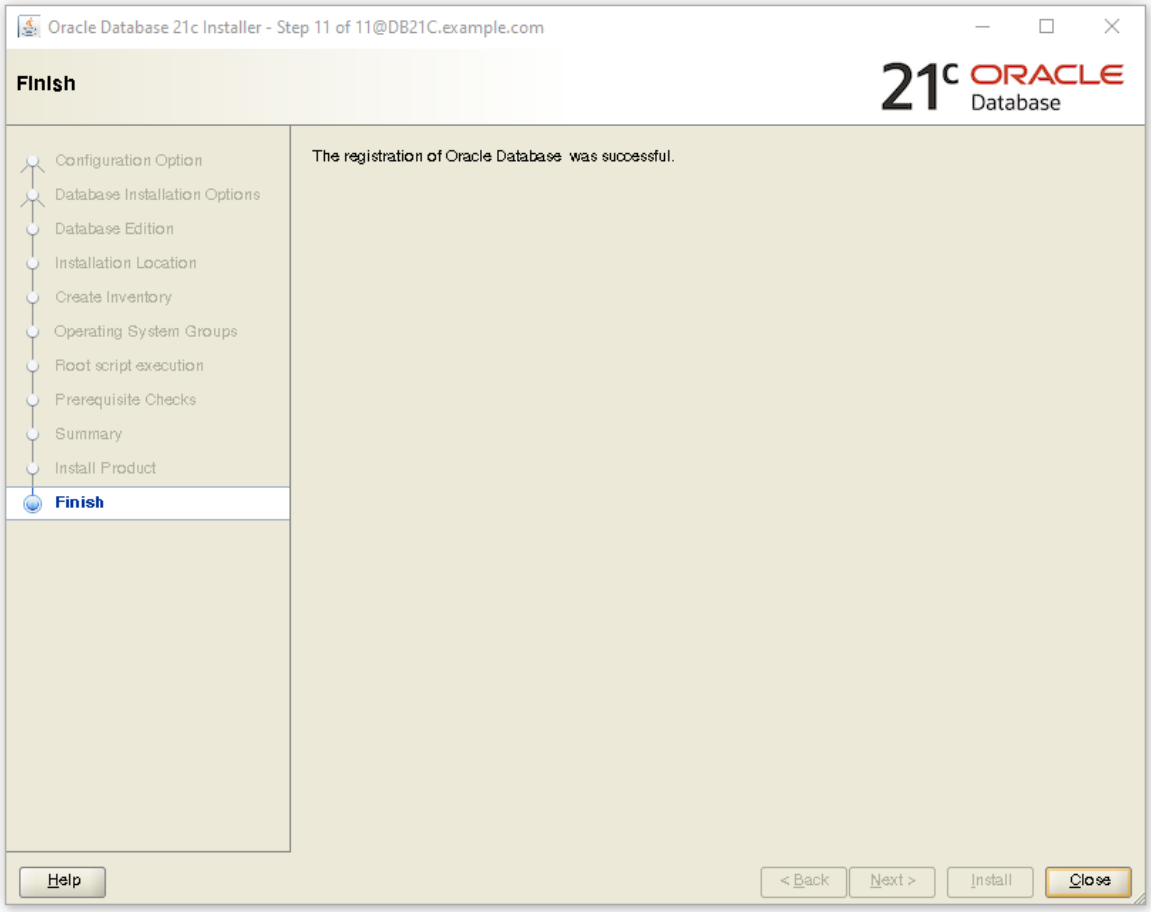


Login to **Root** user and execute **both scripts**, once script executed successfully then click on **OK**




```
[root@DB21C ~]#
[root@DB21C ~]# /u01/app/oraInventory/orainstRoot.sh
Changing permissions of /u01/app/oraInventory.
Adding read,write permissions for group.
Removing read,write,execute permissions for world.

Changing groupname of /u01/app/oraInventory to oinstall.
The execution of the script is complete.
[root@DB21C ~]# /u01/app/oracle/product/21.0.0/db_1/root.sh
Performing root user operation.

The following environment variables are set as:
    ORACLE_OWNER= oracle
    ORACLE_HOME=  /u01/app/oracle/product/21.0.0/db_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 ...


Creating /etc/oratab file...
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.
[root@DB21C ~]#
```

Click on **Close**




```
[oracle@DB21C db_1]$ ./runInstaller
Launching Oracle Database Setup Wizard...

The response file for this session can be found at:
 /u01/app/oracle/product/21.0.0/db_1/install/response/db_2021-08-14_00-25-41AM.rsp

You can find the log of this install session at:
 /tmp/InstallActions2021-08-14_00-25-41AM/installActions2021-08-14_00-25-41AM.log
Moved the install session logs to:
 /u01/app/oraInventory/logs/InstallActions2021-08-14_00-25-41AM
[oracle@DB21C db_1]$
```

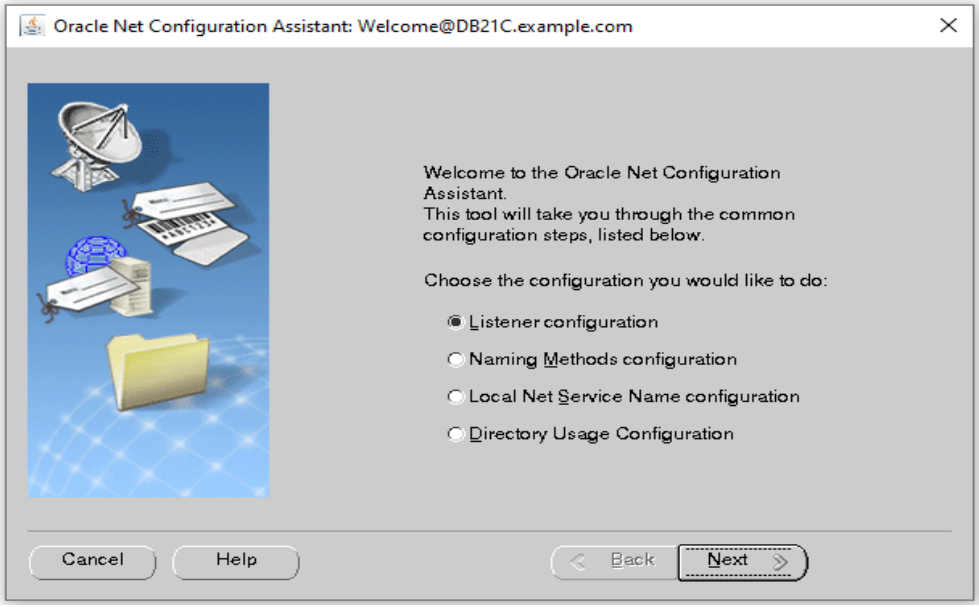
Step-5 Set oracle user pash profile

```
[oracle@DB21C ~]$
[oracle@DB21C ~]$ cat .bash_profile
# .bash_profile

# Get the aliases and functions
if [ -f ~/.bashrc ]; then
        . ~/.bashrc
fi

# User specific environment and startup programs
# Oracle Settings
TMP=/tmp; export TMP
TMPDIR=$TMP; export TMPDIR

ORACLE_HOSTNAME=DB21C.example.com; export ORACLE_HOSTNAME
ORACLE_UNQNAME=DB21C; export ORACLE_UNQNAME
ORACLE_BASE=/u01/app/oracle; export ORACLE_BASE
ORACLE_HOME=$ORACLE_BASE/product/21.0.0/db_1; export ORACLE_HOME
ORACLE_SID=DB21C; export ORACLE_SID
PATH=/usr/sbin:$PATH; export PATH
PATH=$ORACLE_HOME/bin:$PATH; export PATH
LD_LIBRARY_PATH=$ORACLE_HOME/lib:/lib:/usr/lib; export LD_LIBRARY_PATH
CLASSPATH=$ORACLE_HOME/jlib:$ORACLE_HOME/rdbms/jlib; export CLASSPATH
[oracle@DB21C ~]$
[oracle@DB21C ~]$ . .bash_profile
[oracle@DB21C ~]$ echo $ORACLE_SID
DB21C
[oracle@DB21C ~]$
```

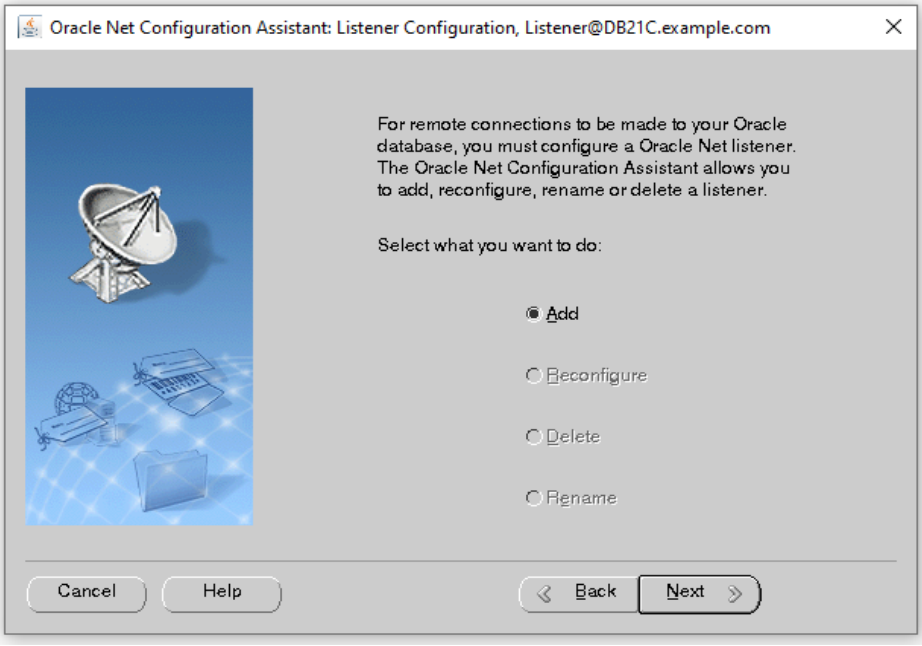
Step-6 Configure listener and network service

Create **Listener** for database configuration

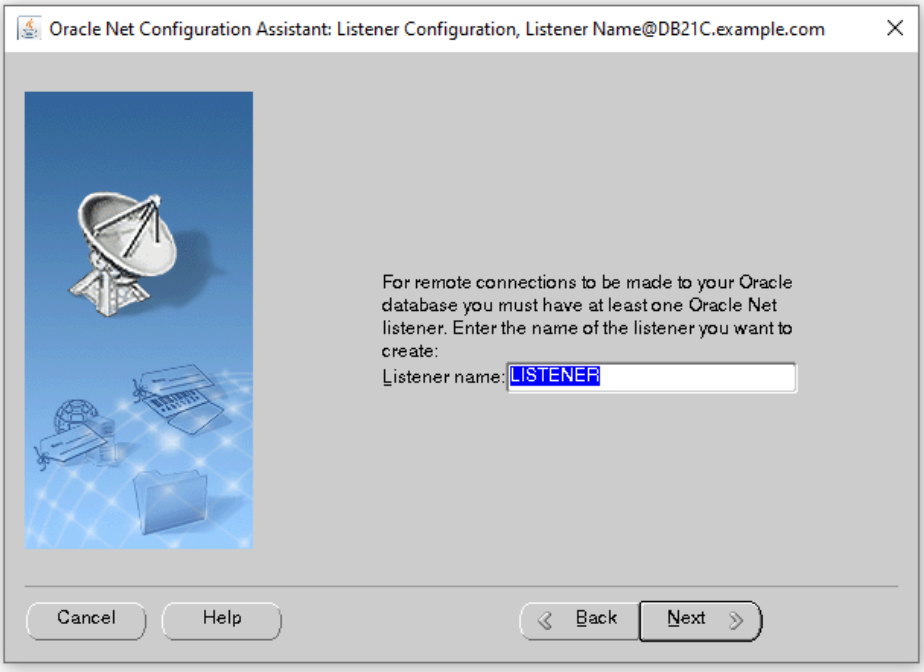
```
[oracle@DB21C ~]$ netca
```



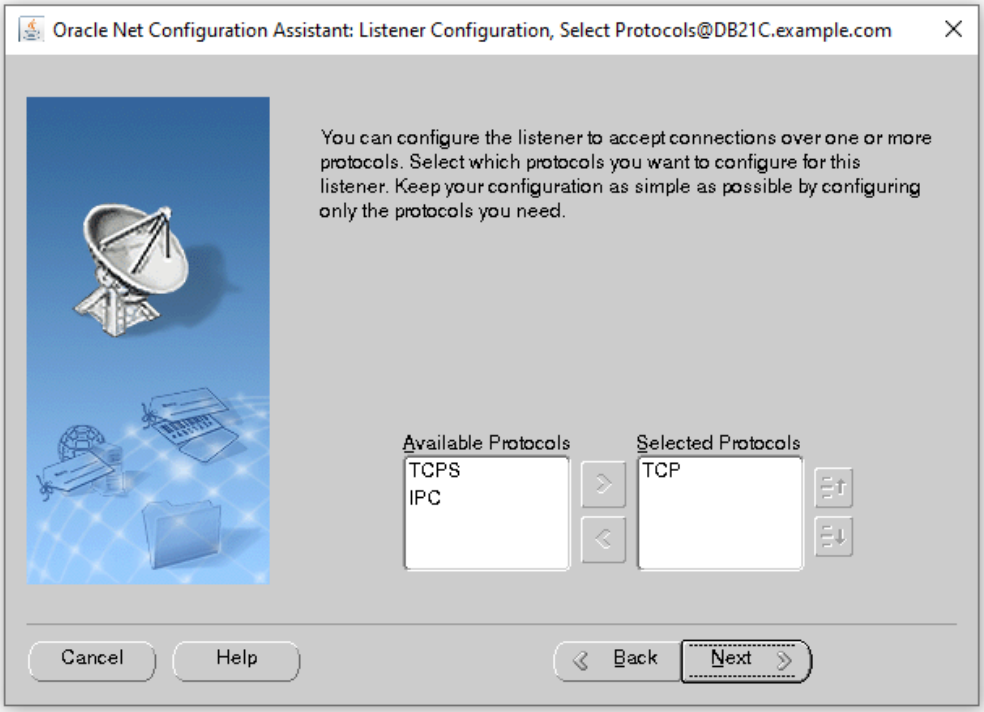
Select **Add**



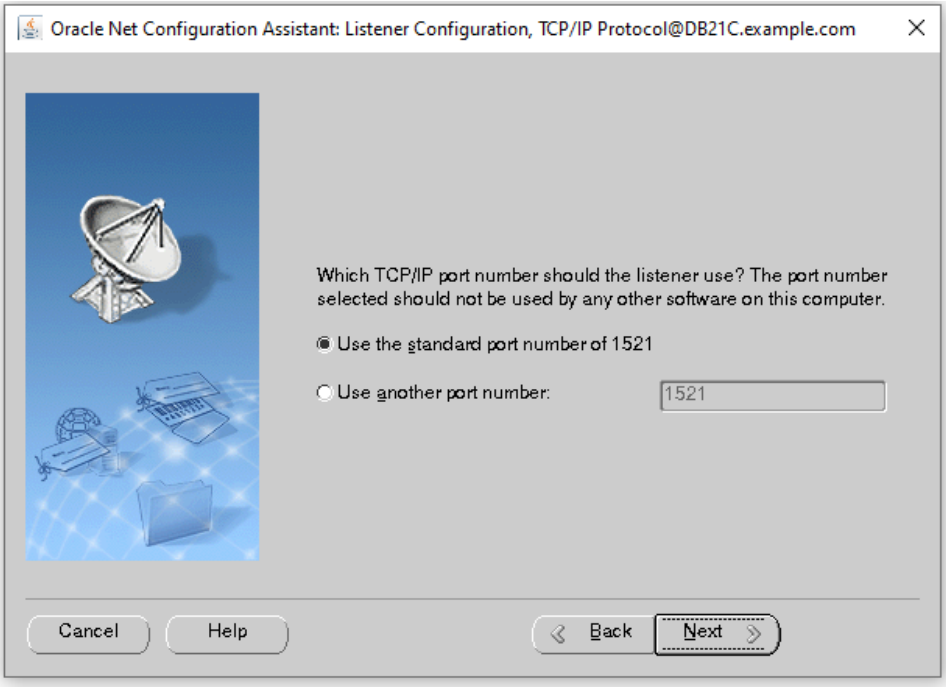
Keep default **Listener** name, if you want you change it



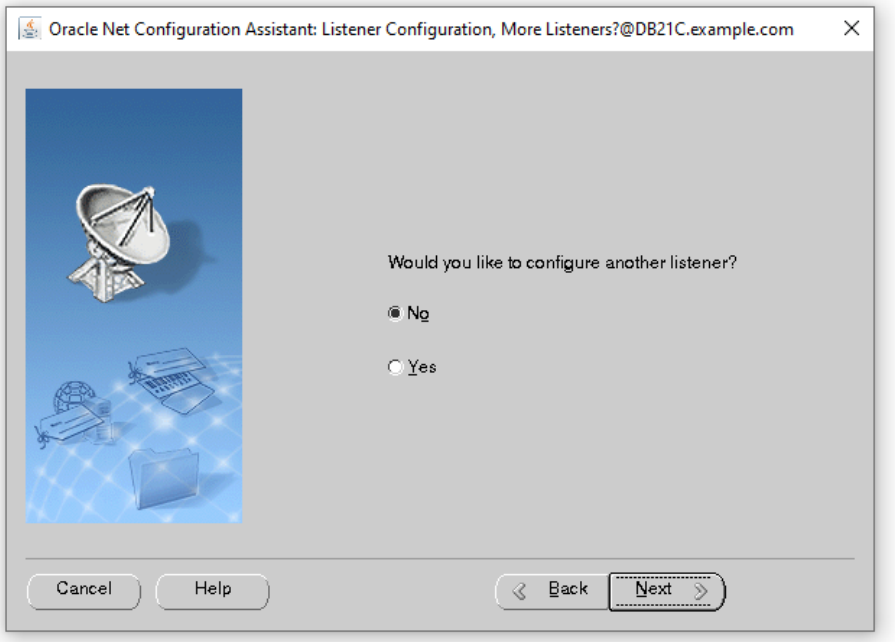
Click on **next**



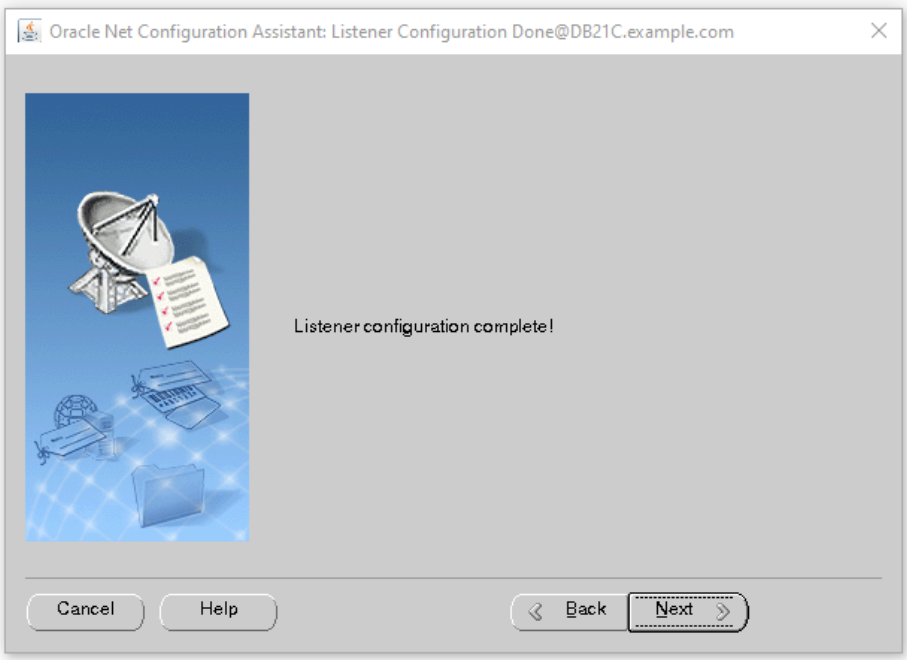
Set the **port** number for **listener**, if you don't want default port you can change it



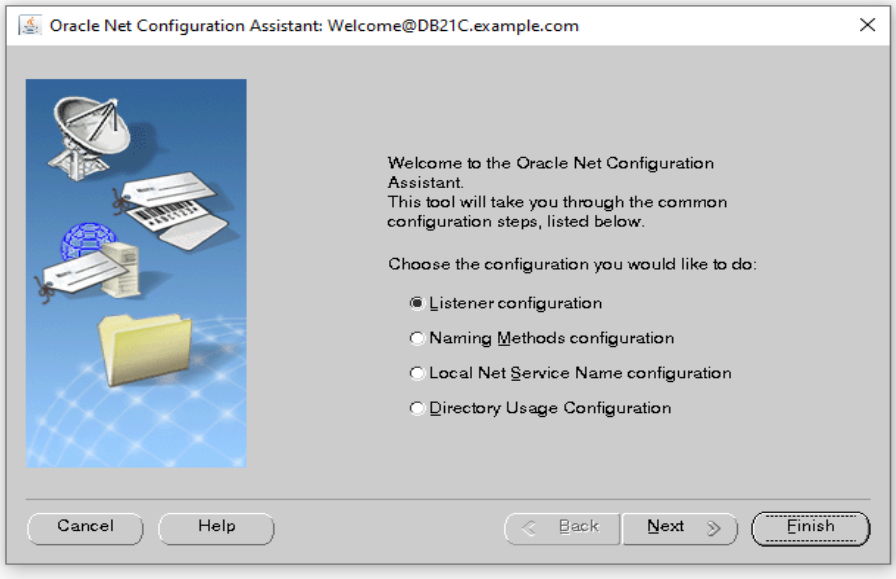
Select **No** and click **next**



Click on **next**



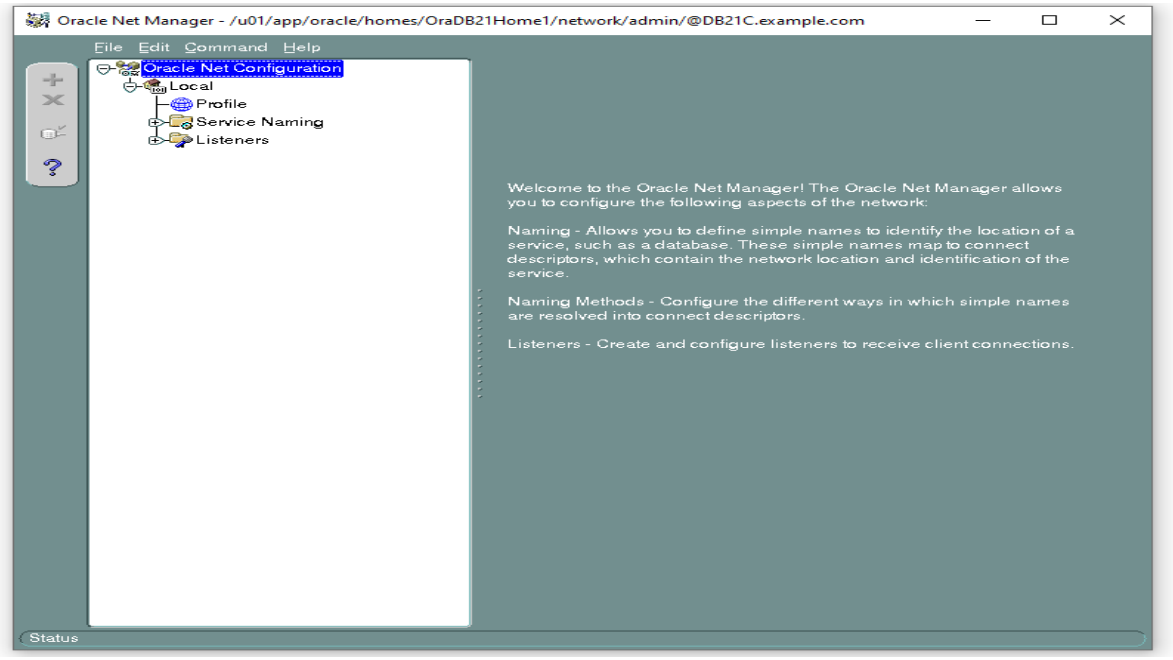
Click on **Finish**



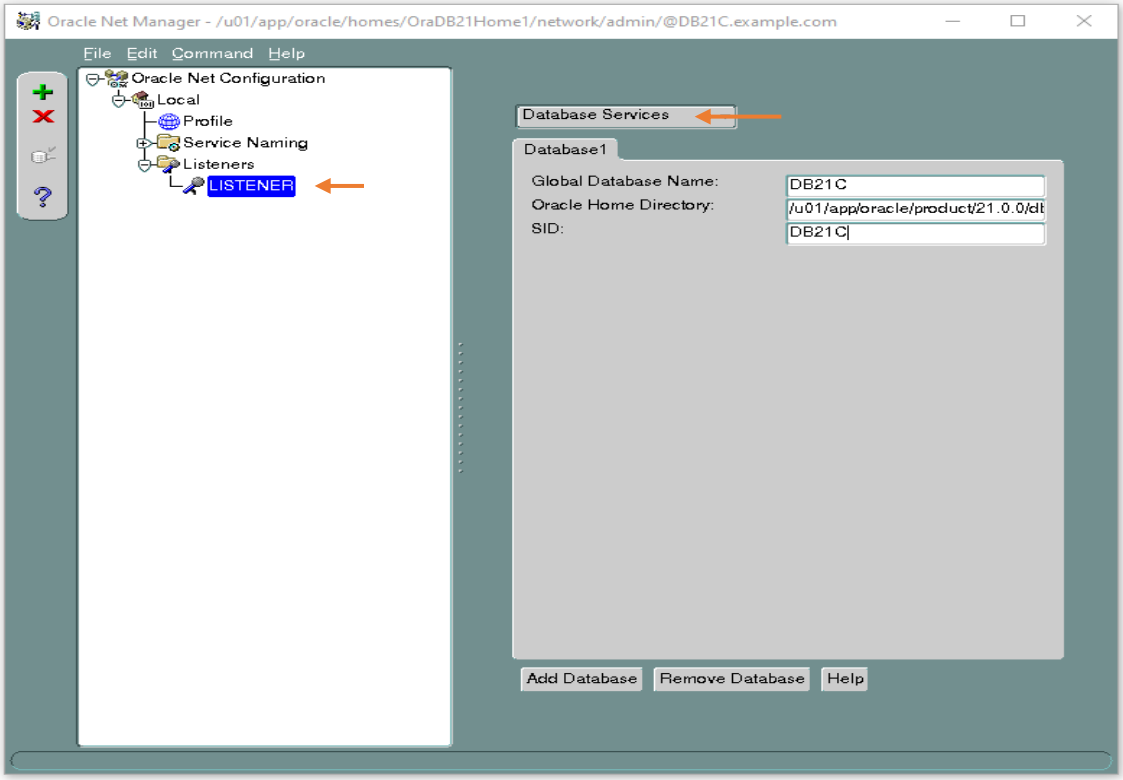

```
[oracle@DB21C ~]$
[oracle@DB21C ~]$ netca

Oracle Net Services Configuration:
Configuring Listener:LISTENER
Listener configuration complete.
Oracle Net Listener Startup:
    Running Listener Control:
      /u01/app/oracle/product/21.0.0/db_1/bin/lsnrctl start LISTENER
    Listener Control complete.
    Listener started successfully.
Oracle Net Services configuration successful. The exit code is 0
[oracle@DB21C ~]$
```

Create **Service** for Database

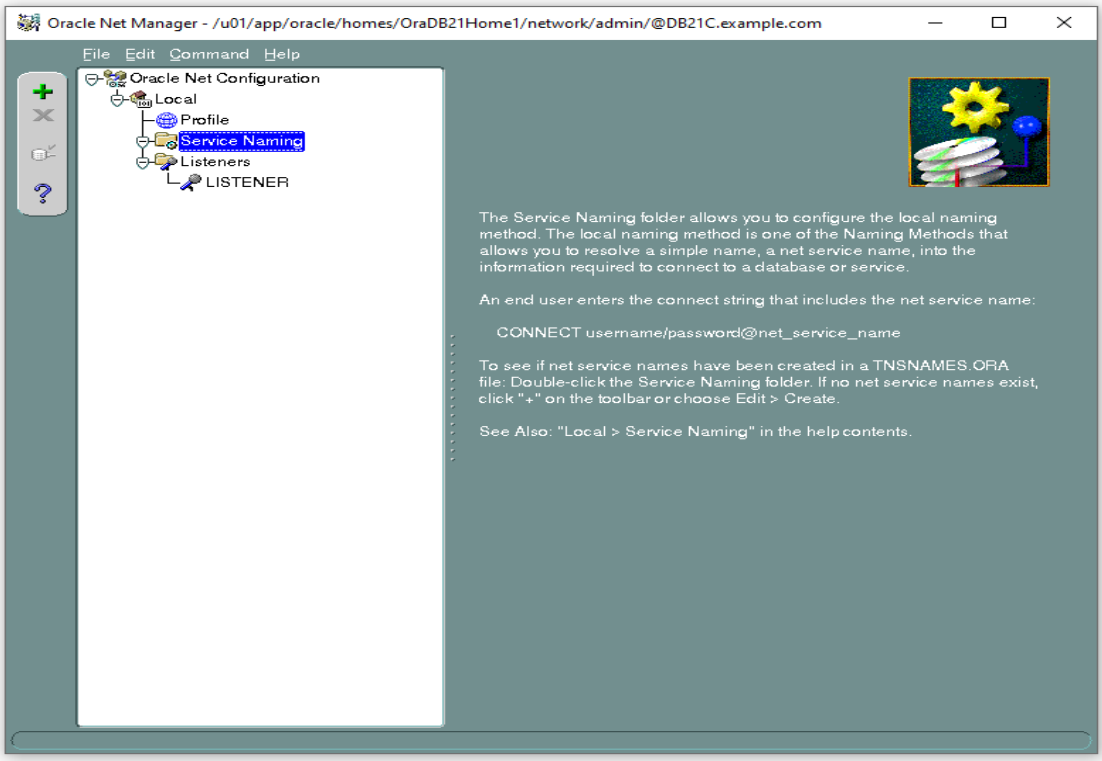
[oracle@DB21C ~]$ netmgr



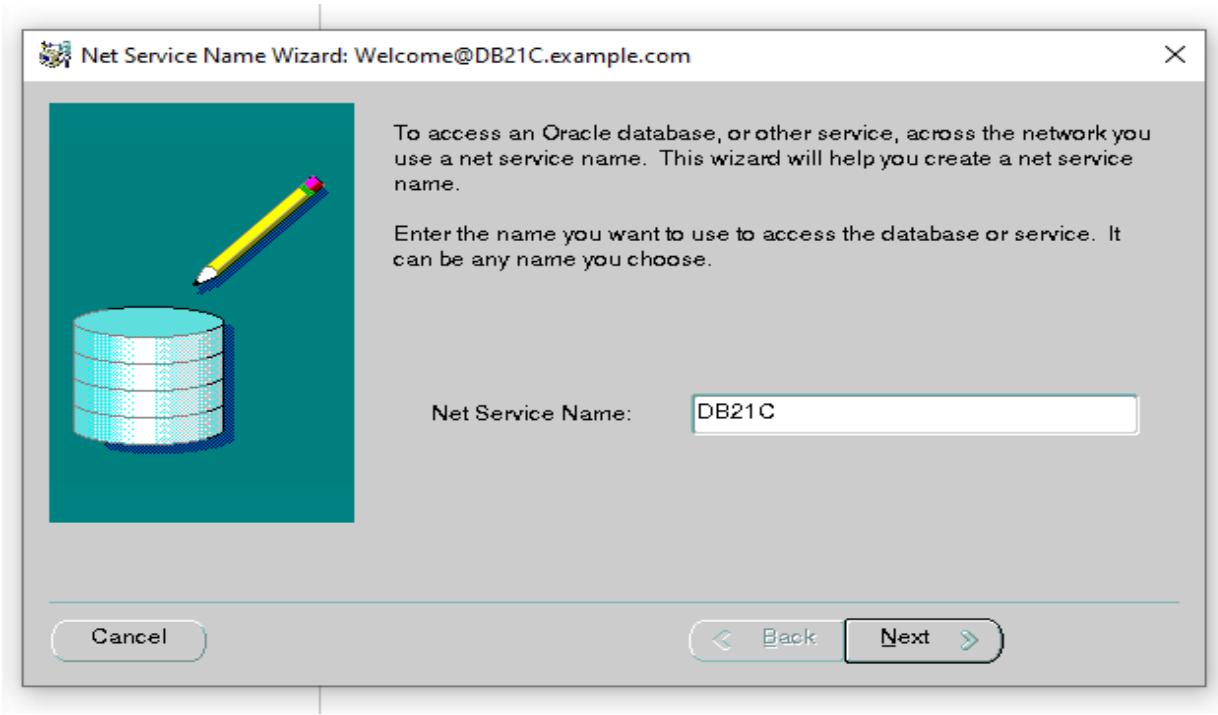
Click on **listener**, select **database service** and mention **database details**



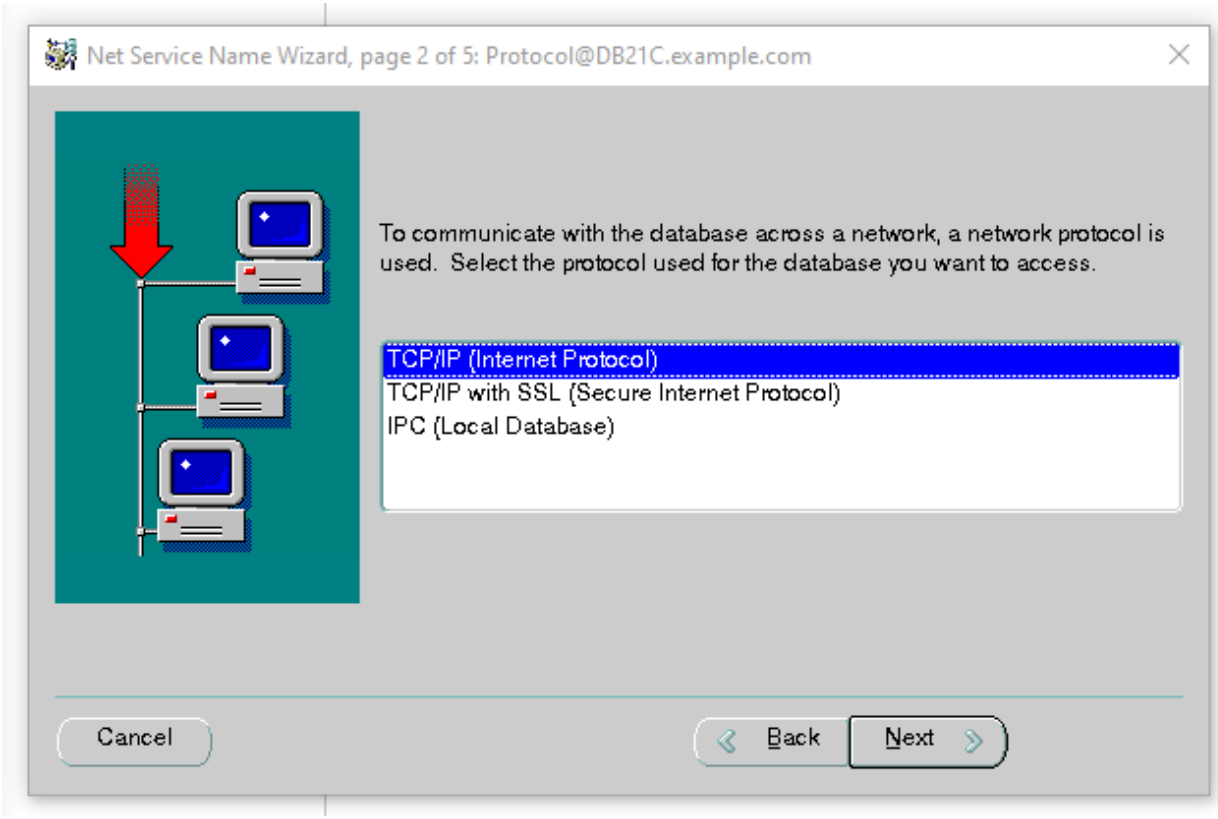
Click on **Service Naming**



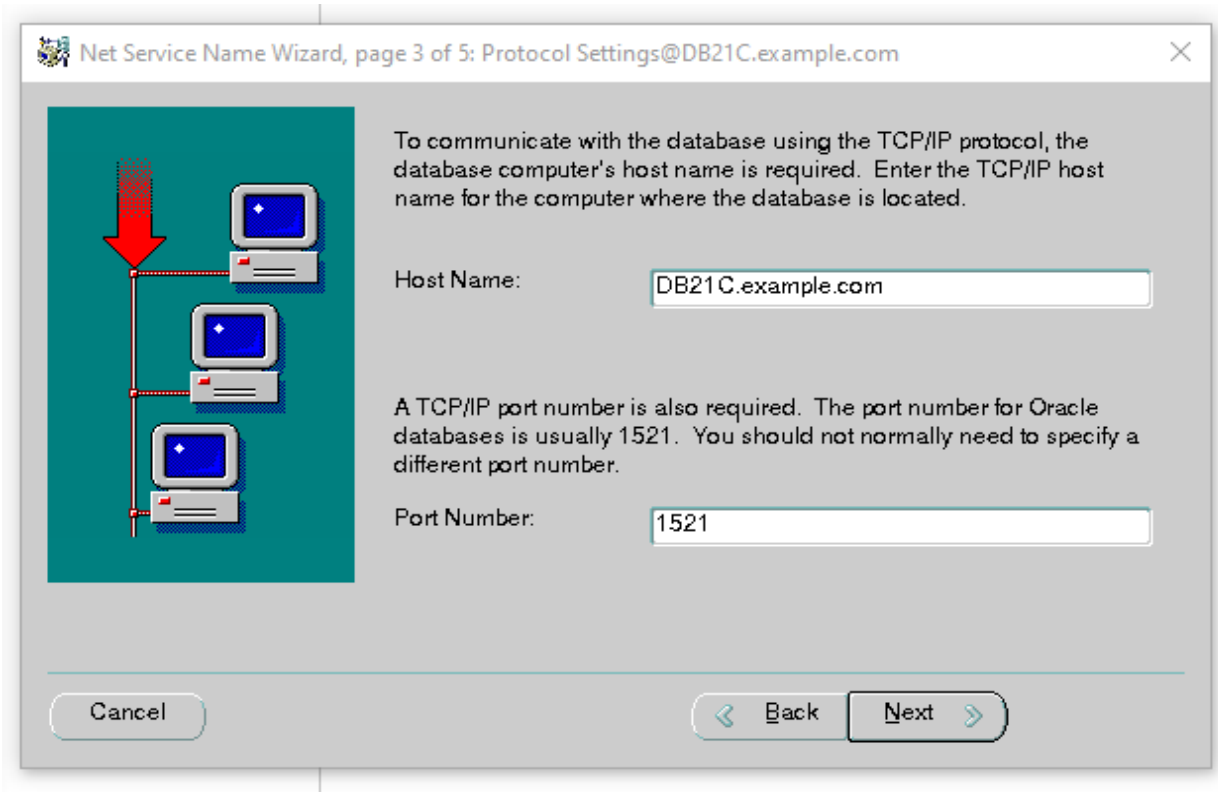
Enter **service name**, using same **service name** you will access database



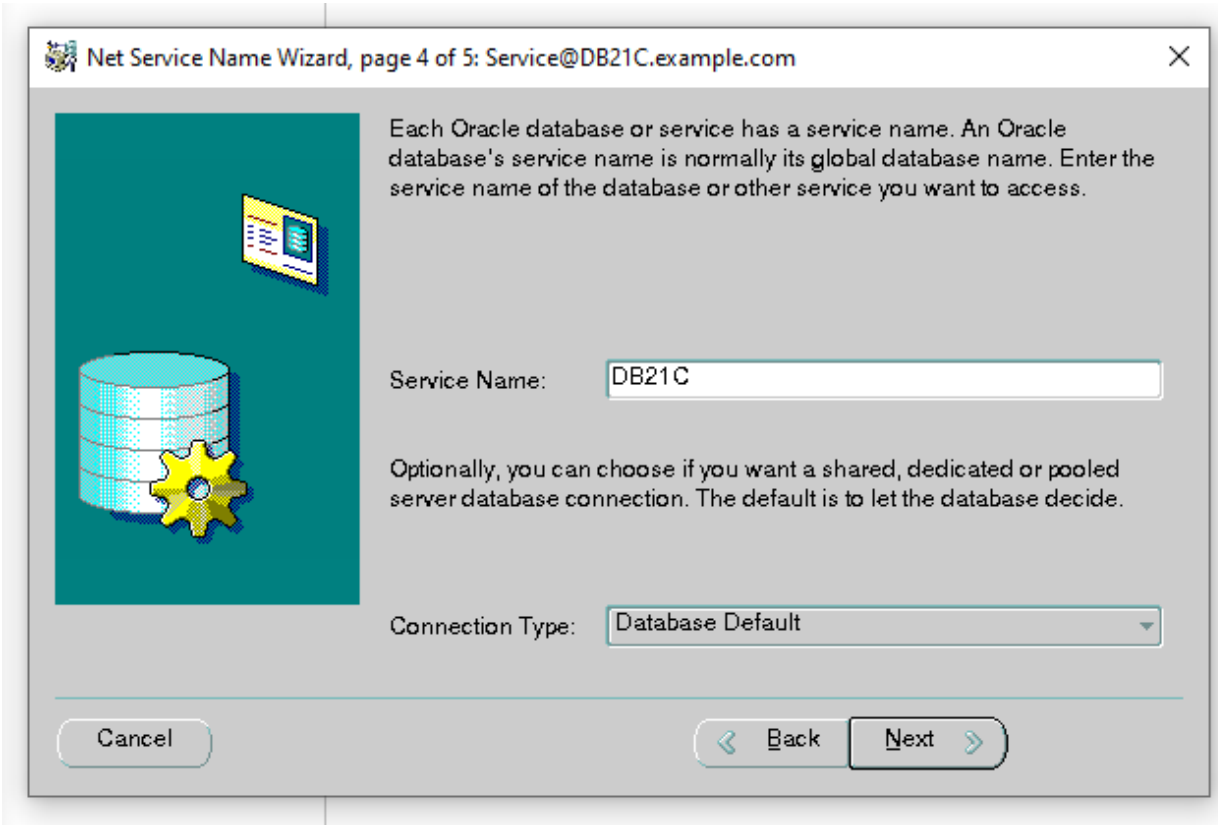
Click on **Next**



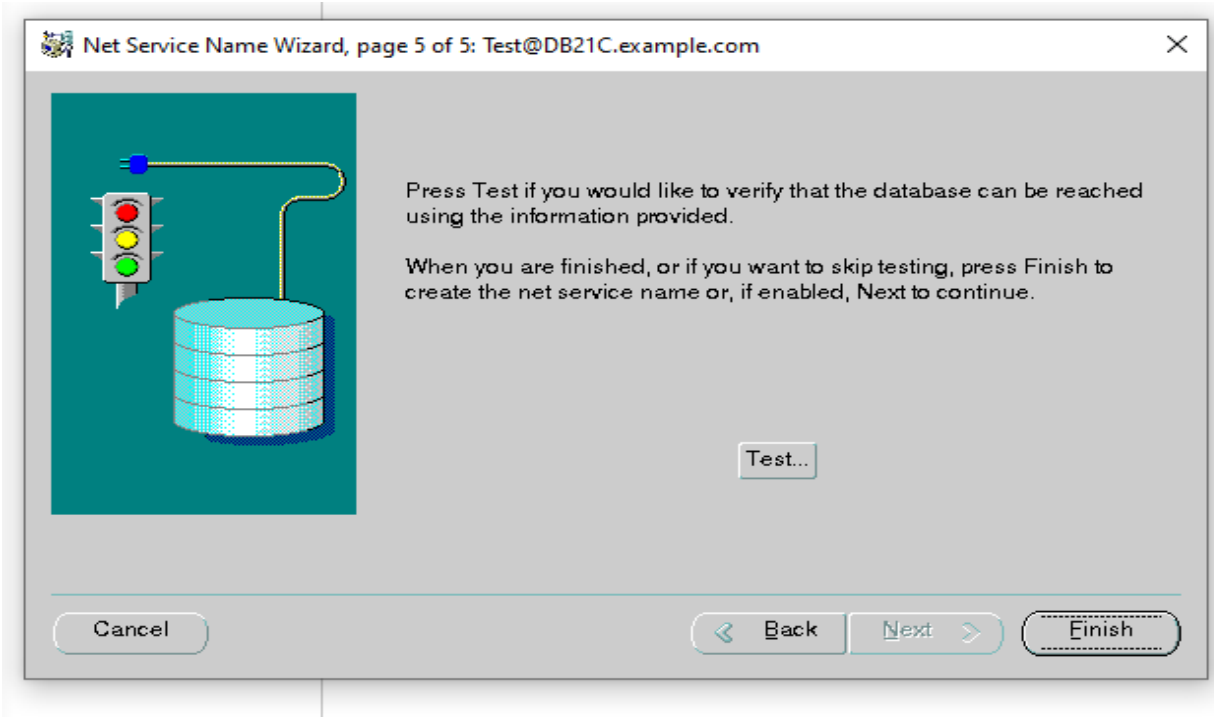
Enter **Host Name** and **Port** Number



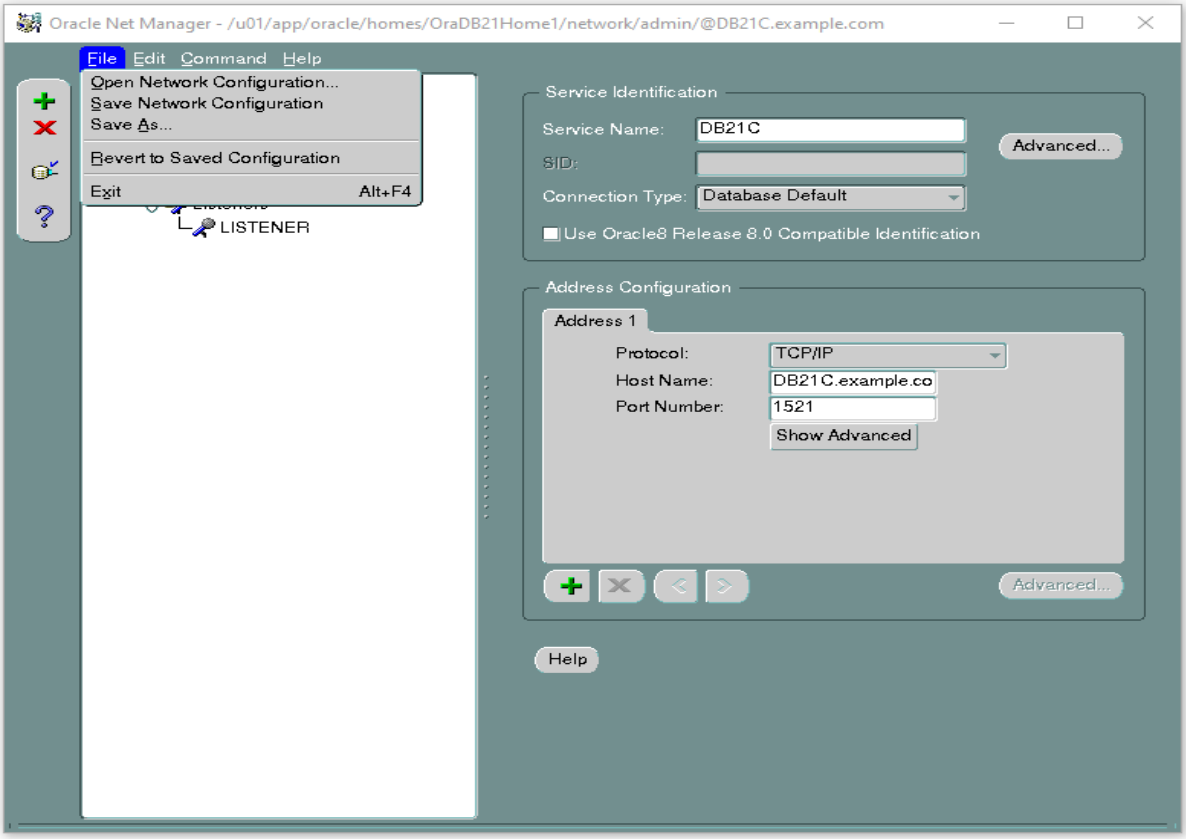
Enter **Service** Name



Click on **Finish**



Save **network configuration** and **exit**

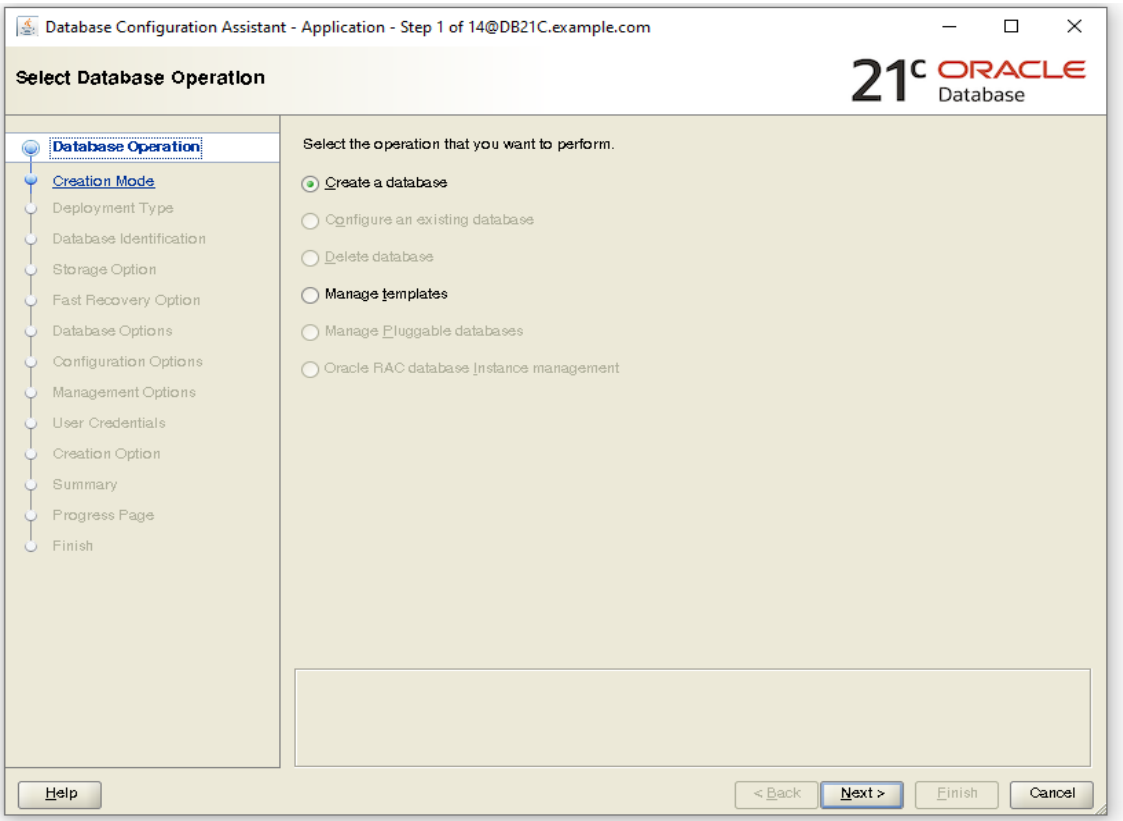


```
[oracle@DB21C samples]$
[oracle@DB21C samples]$ tnsping DB21C

TNS Ping Utility for Linux: Version 21.0.0.0.0 - Production on 14-AUG-2021 01:11:54

Copyright (c) 1997, 2021, Oracle.  All rights reserved.

Used parameter files:


Used TNSNAMES adapter to resolve the alias
Attempting to contact (DESCRIPTION = (ADDRESS_LIST = (ADDRESS = (PROTOCOL = TCP)(HOST = DB21C.example.com)(PORT = 1521))) (CONNECT_DATA = (SERVICE_NAME = DB21C)))
OK (0 msec)
[oracle@DB21C samples]$
```

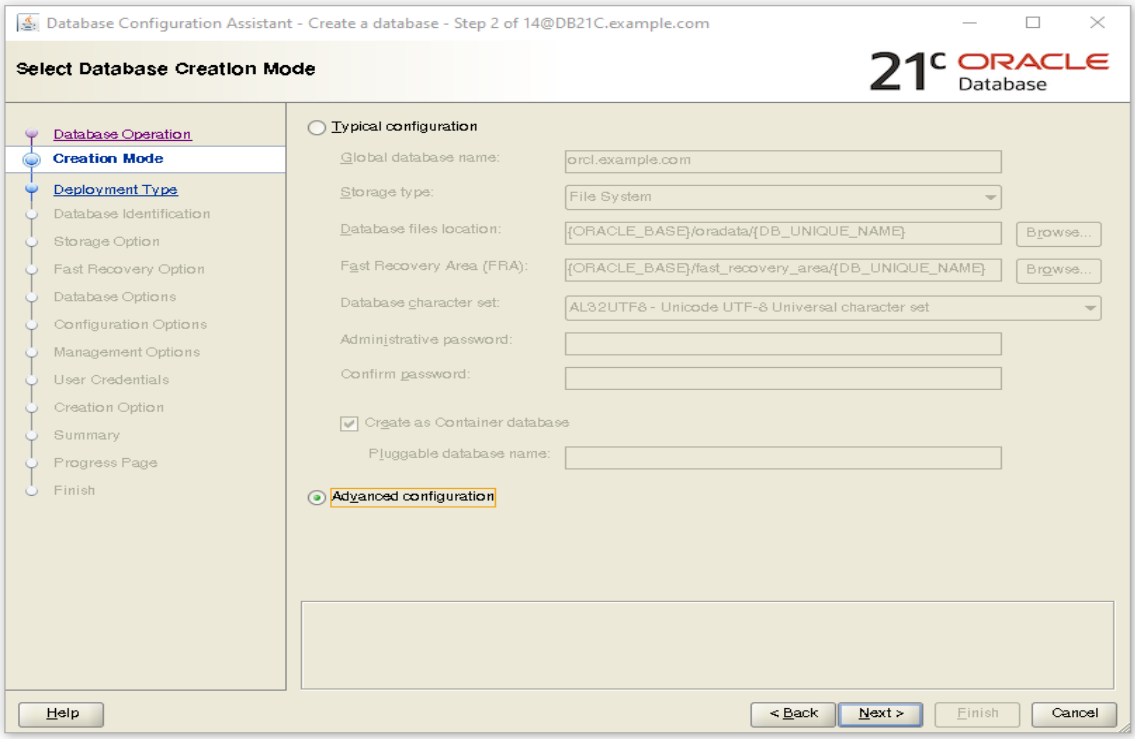
Step-7 Install database Using DBCA

[oracle@DB21C ~]$ dbca

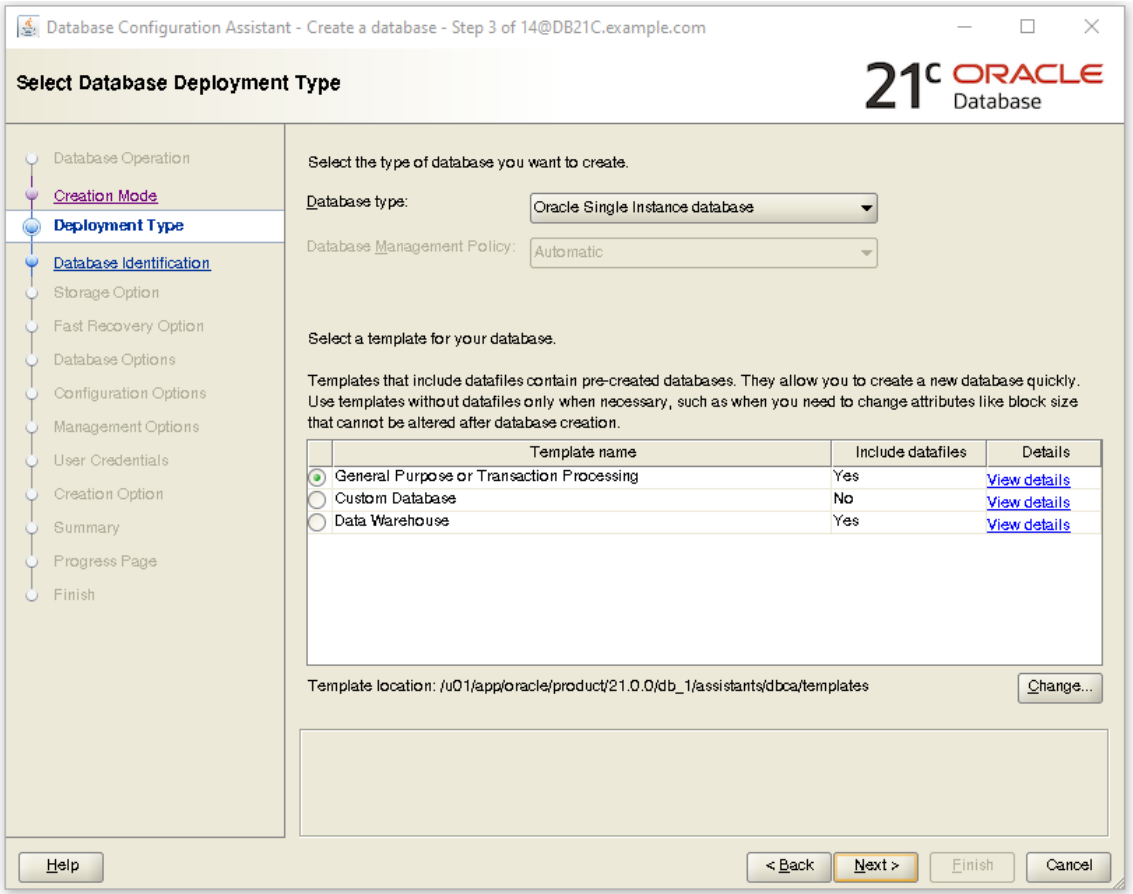
Select **Create Database**



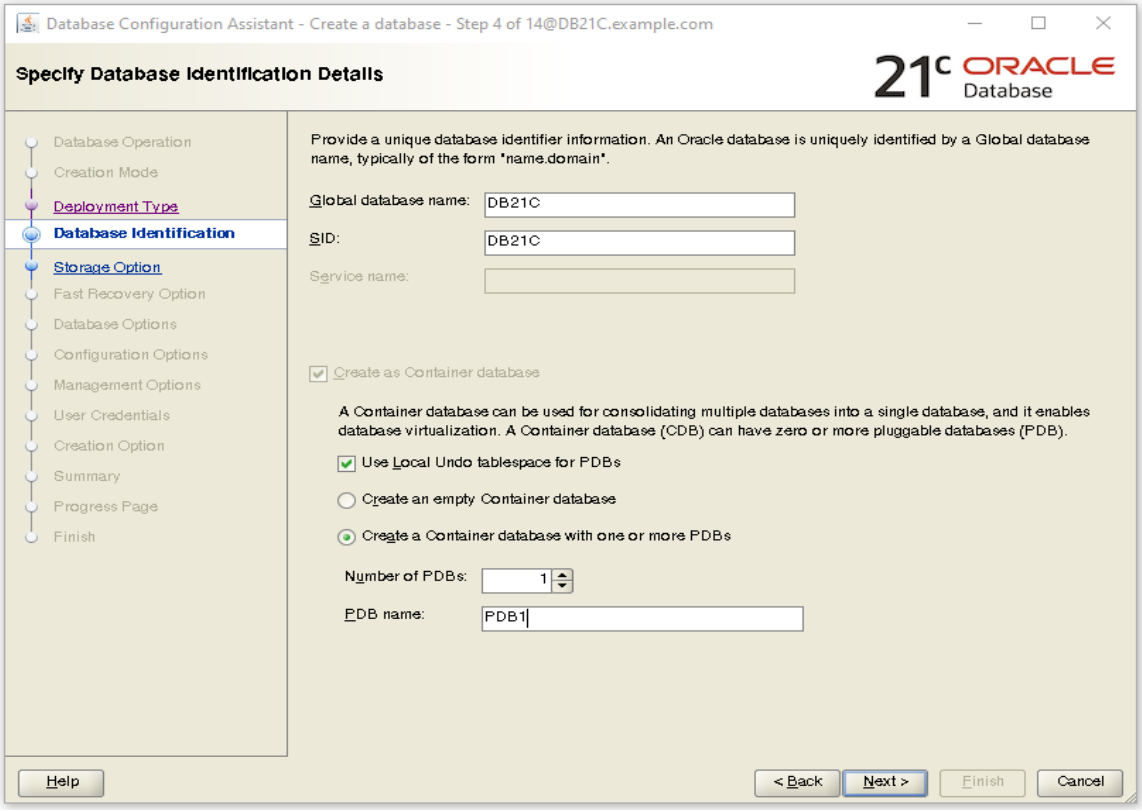
Select **Advance Configuration** and **click next**



Select **General Purpose Database** option

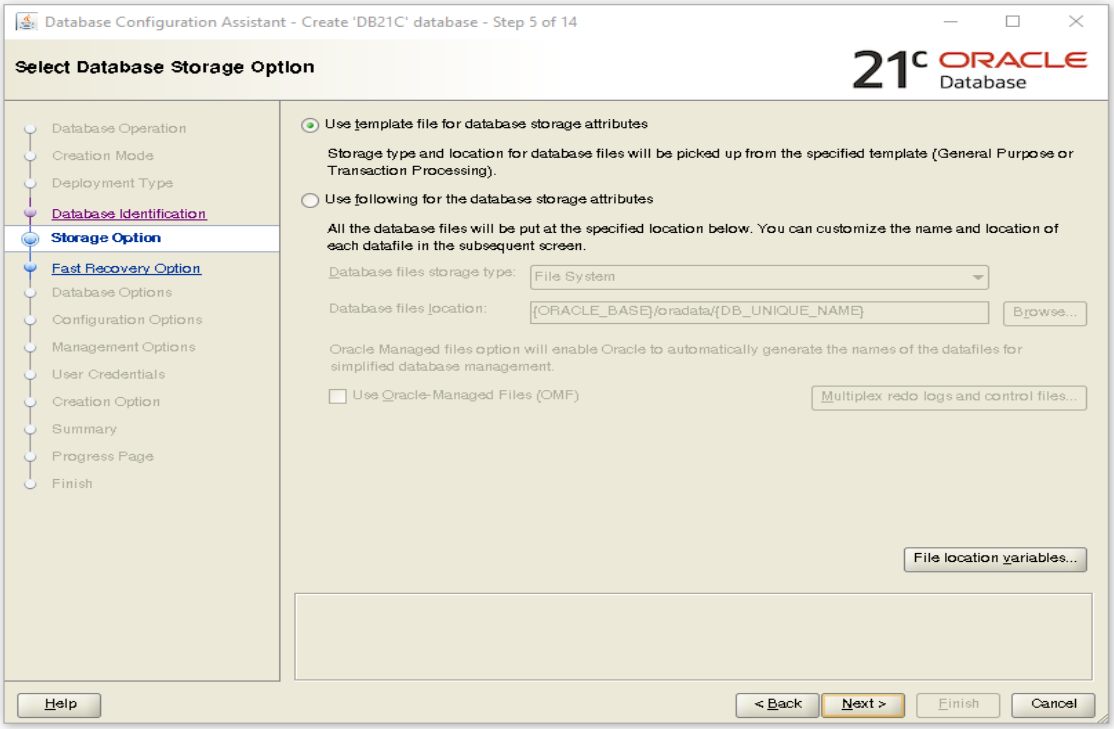


Enter **Database SID**, **Global Database Name** and **Pluggable** Database

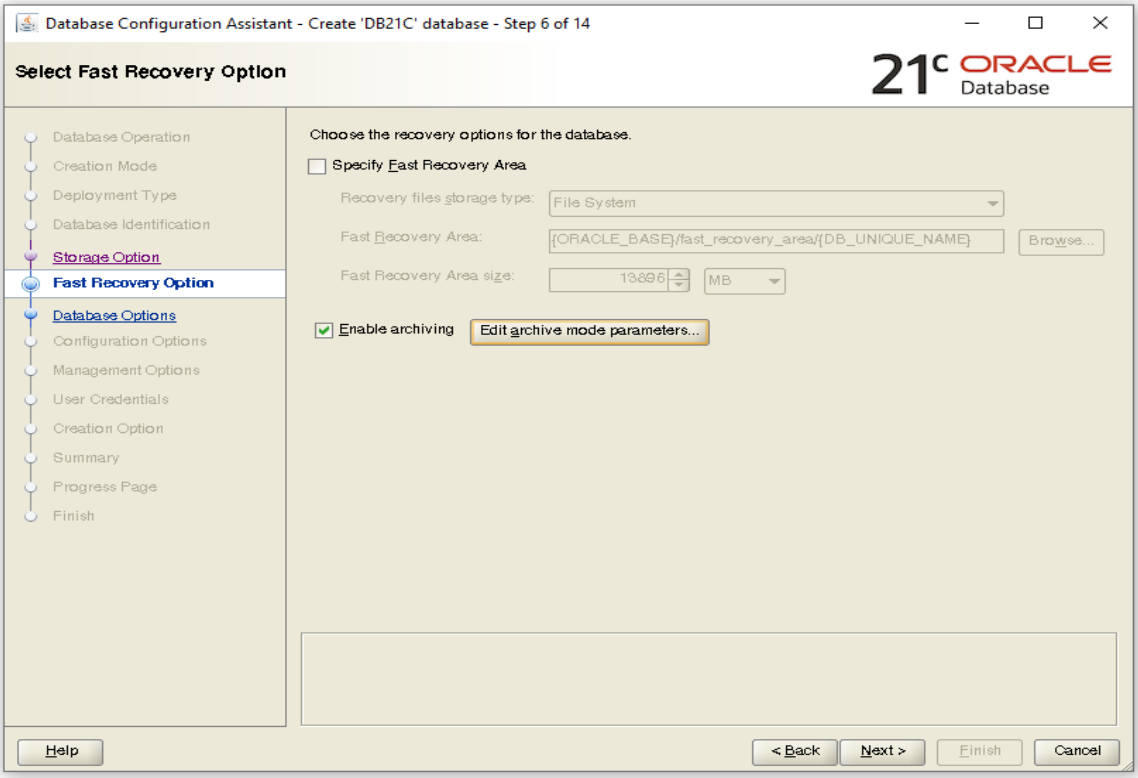


INFORMATION: 21C onwards container database option not available, you have to create at least one pluggable database.

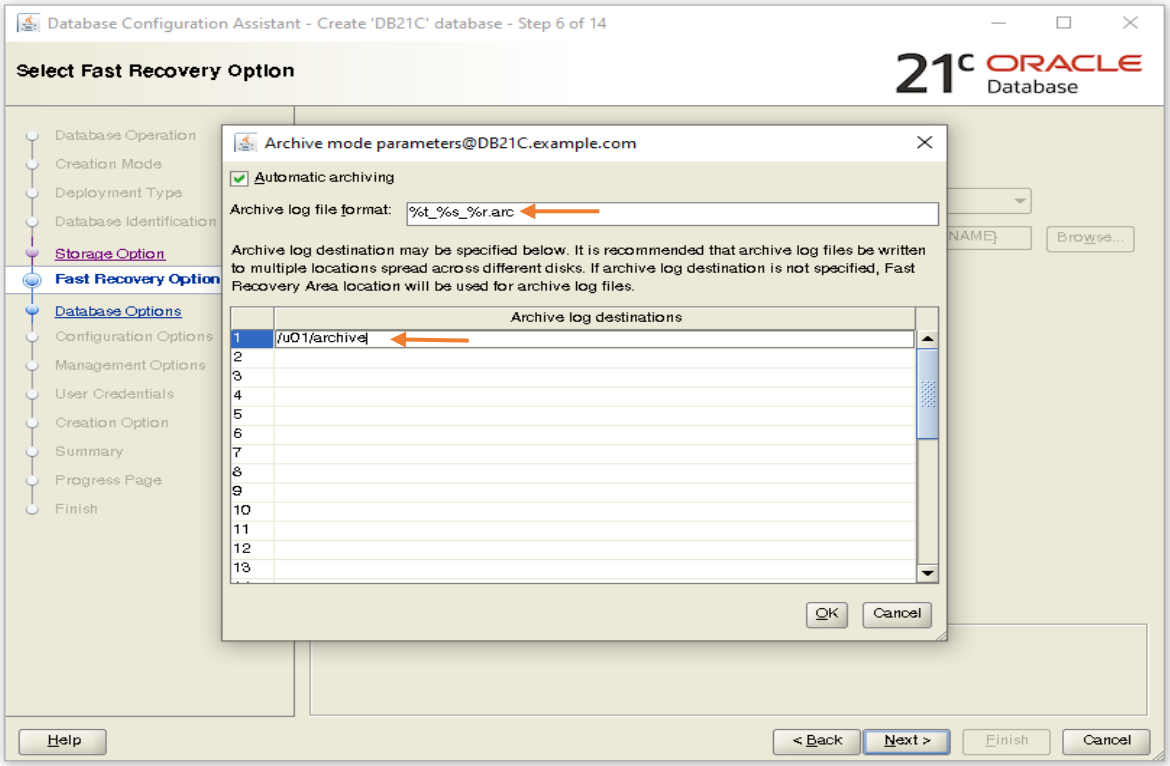
Click on **next**



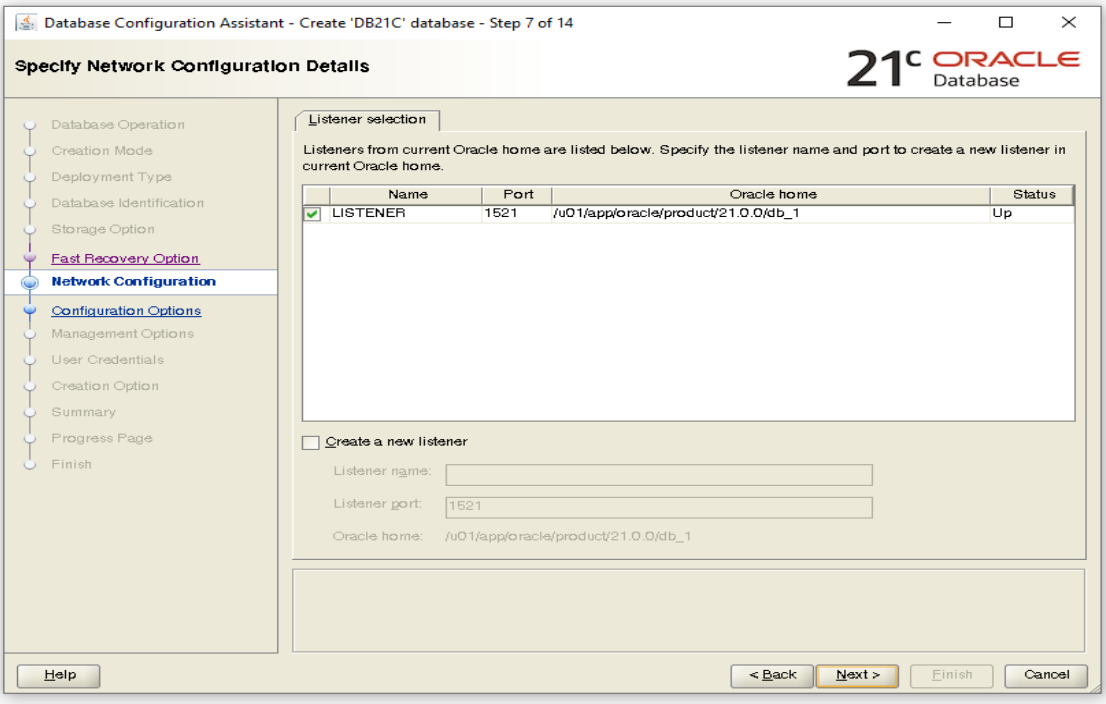
Click on **Enable archiving**



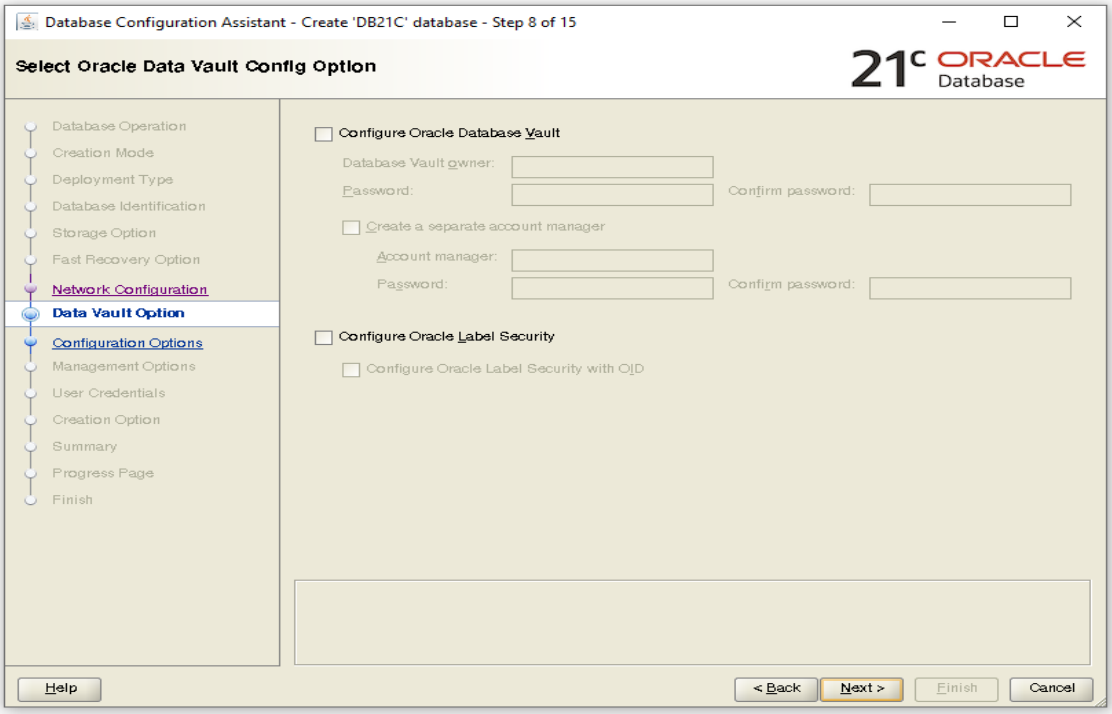
Enter **Archive log** format and **archive Destination**



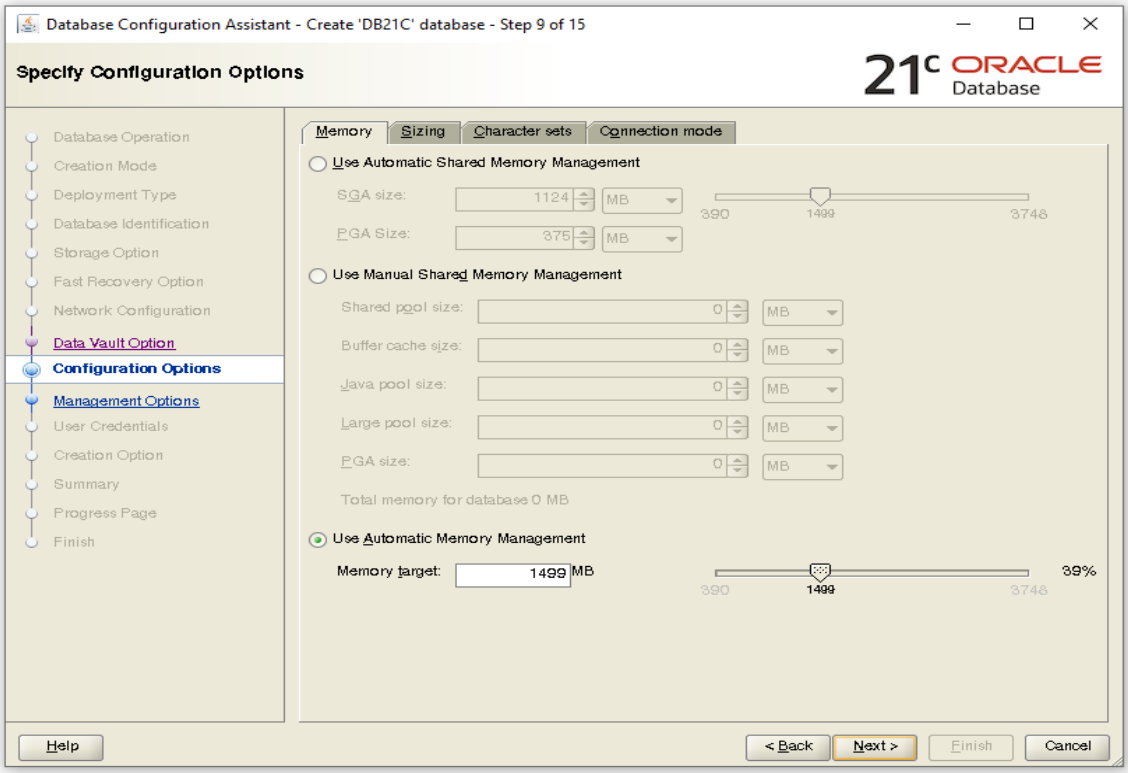
Next screen automatically displays the running **listener**, if listener Not created you create it or skip it



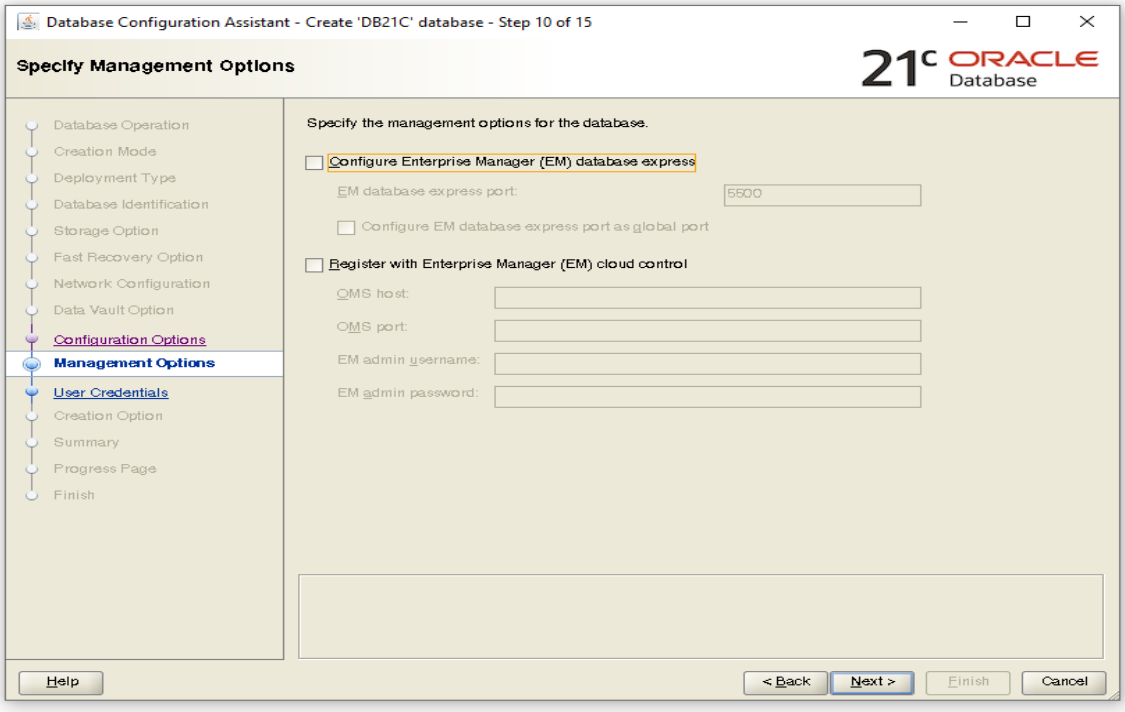
Click on **Next**



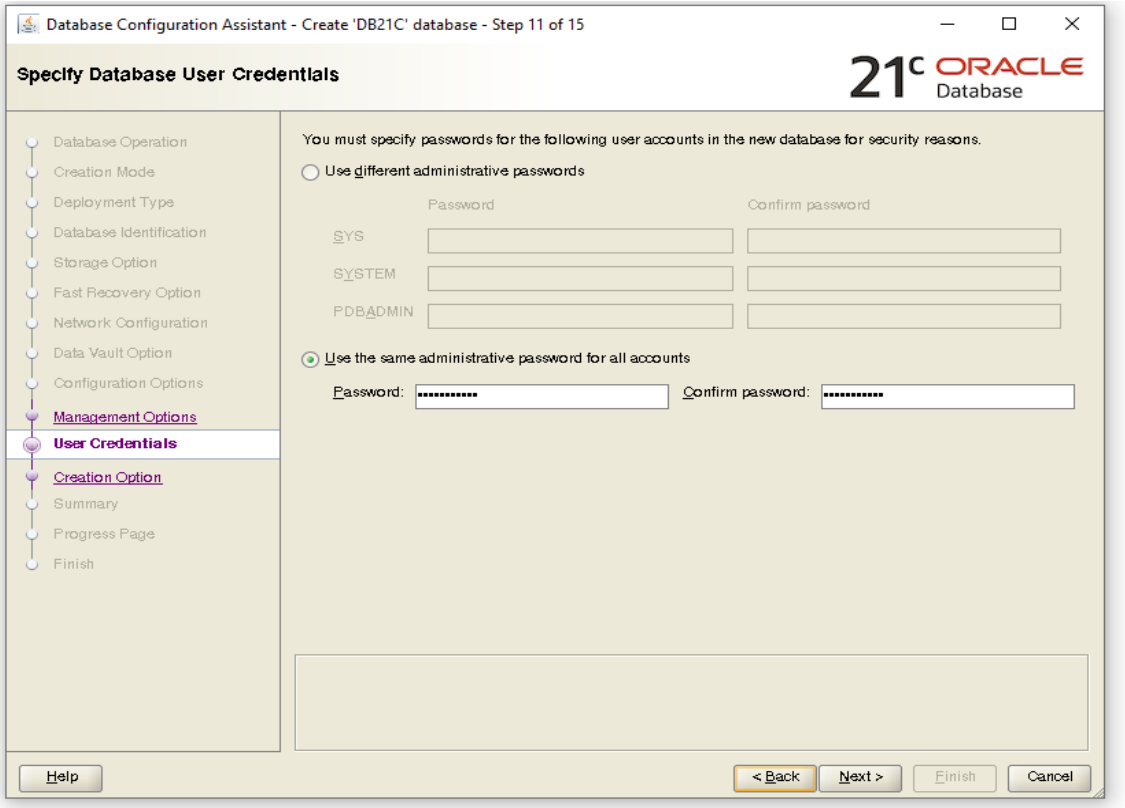
Keep all setting as it is and click **next**



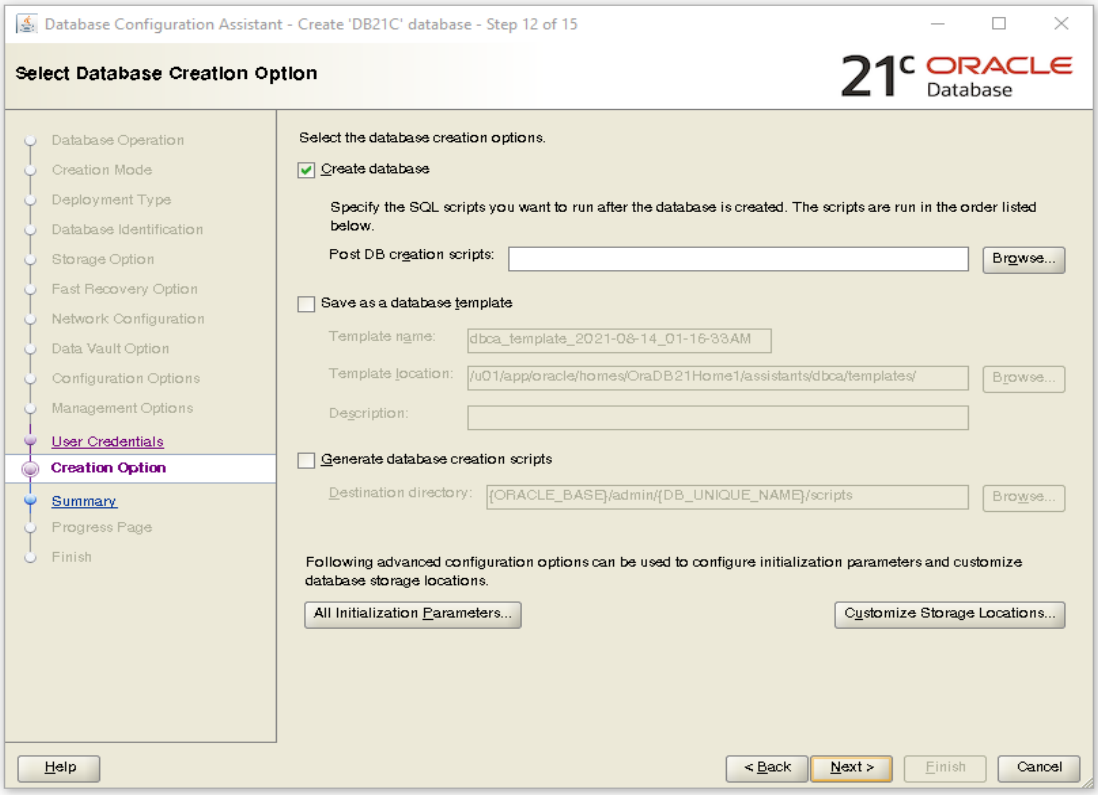
Unclick on **EM database express** option and click next



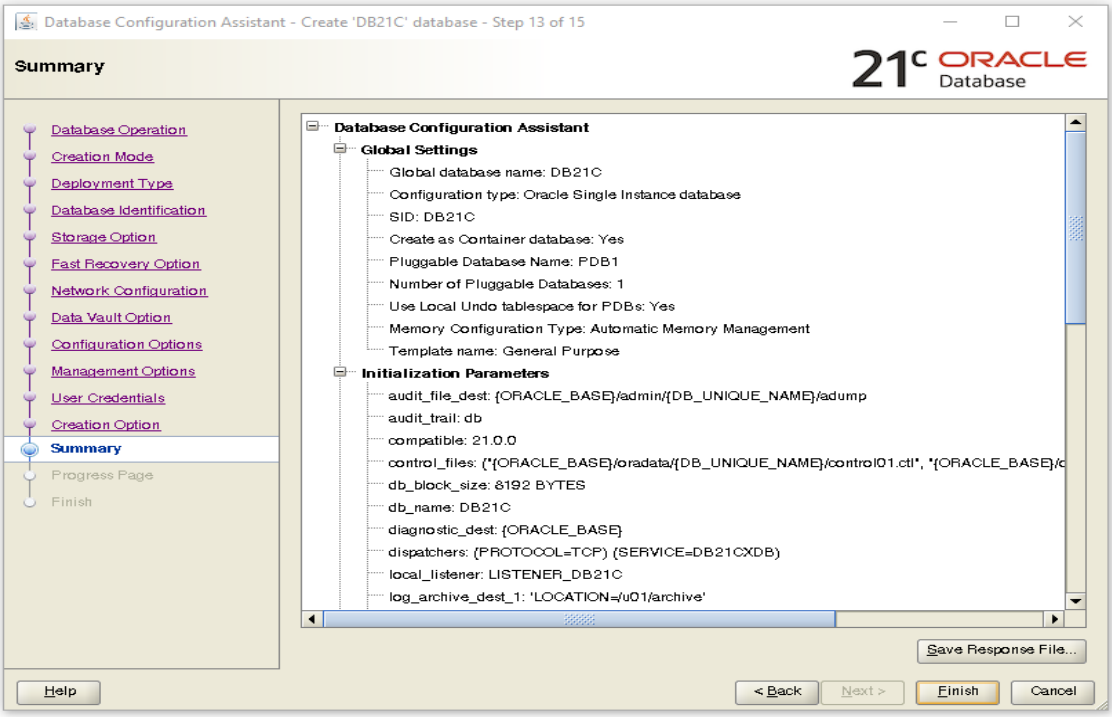
Enter **Administrator** password

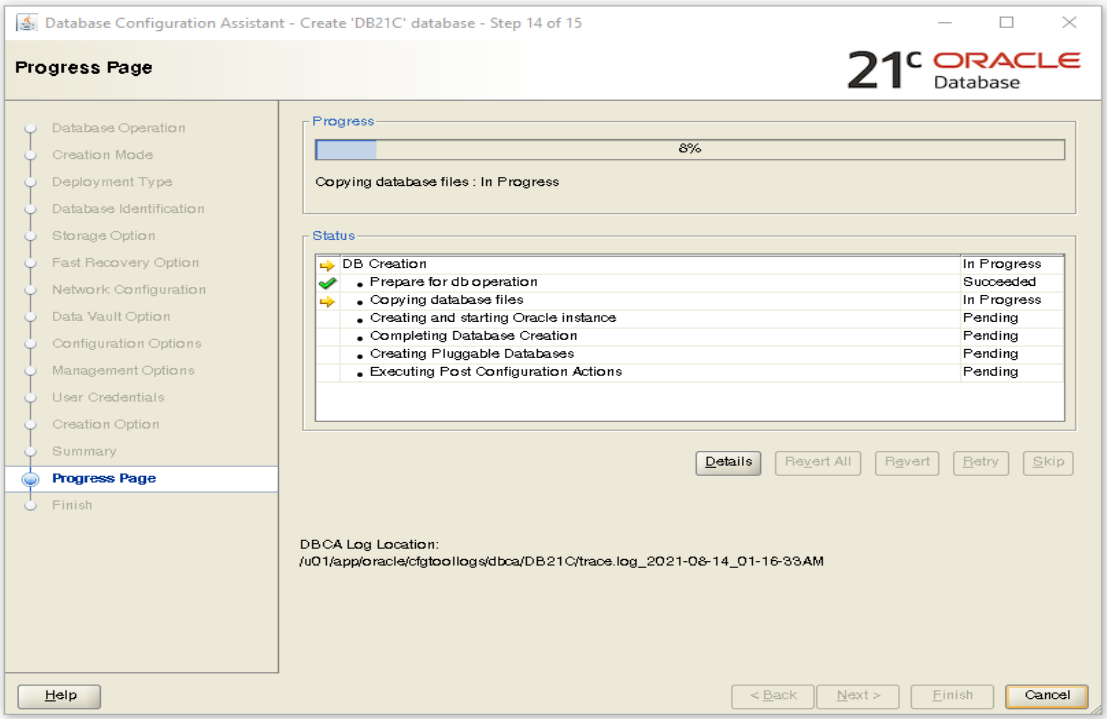


Click on **Next**

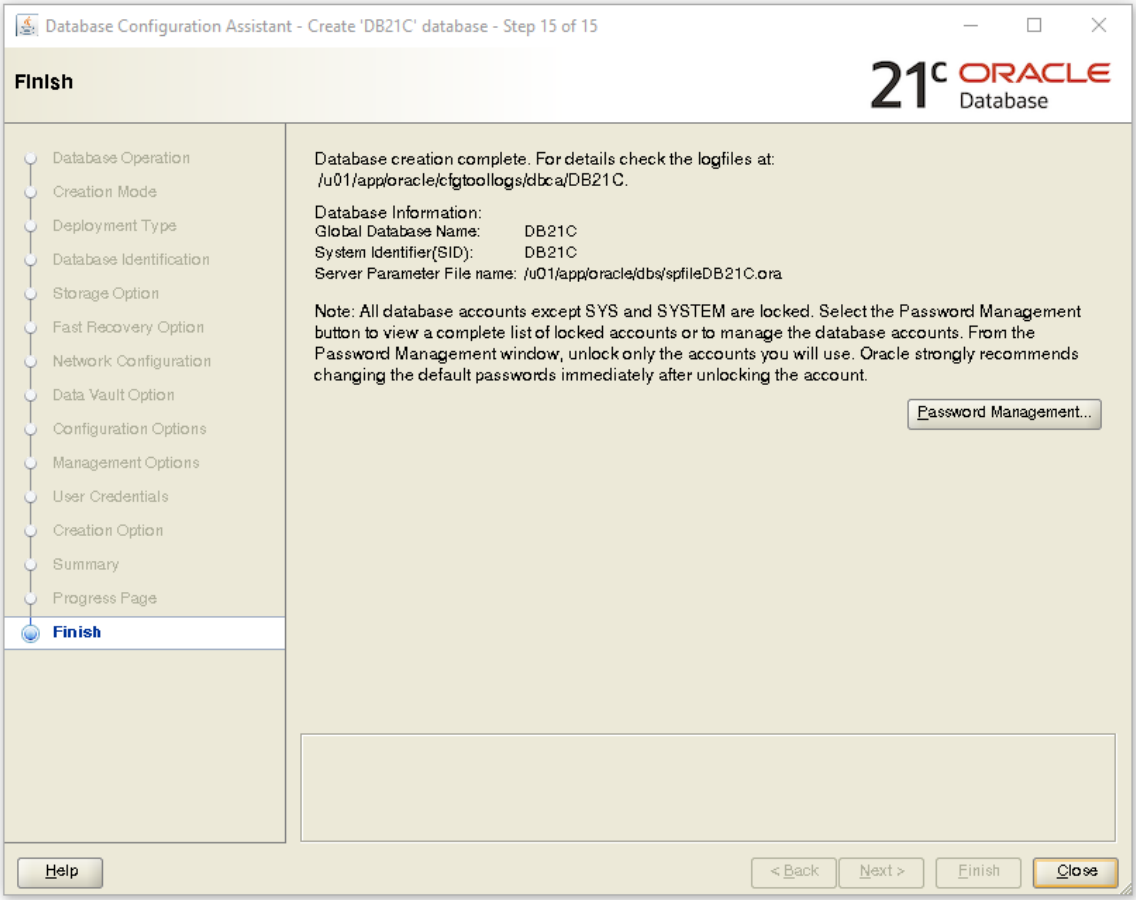


Click on **Finish**





Click on **Close**



Step-8 Validation

```
[oracle@DB21C ~]$
[oracle@DB21C ~]$ sqlplus

SQL*Plus: Release 21.0.0.0.0 - Production on Sat Aug 14 01:41:29 2021
Version 21.3.0.0.0

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Enter user-name: /as sysdba

Connected to:
Oracle Database 21c Enterprise Edition Release 21.0.0.0.0 - Production
Version 21.3.0.0.0

SQL> select banner from v$version;

BANNER
--------------------------------------------------------------------------------
Oracle Database 21c Enterprise Edition Release 21.0.0.0.0 - Production

SQL>
```