**Oracle 19c Administration**

STEPS TO CREATE THE CONTAINER DATABASE AND ITS TWO

PDBS NAMED orclpdb1 AND orclpdb2

Note:

* Execute xhost + command as root.
* Login as oracle user using the su – oracle command.
* Note: If the LISTENER is down then start using this command:

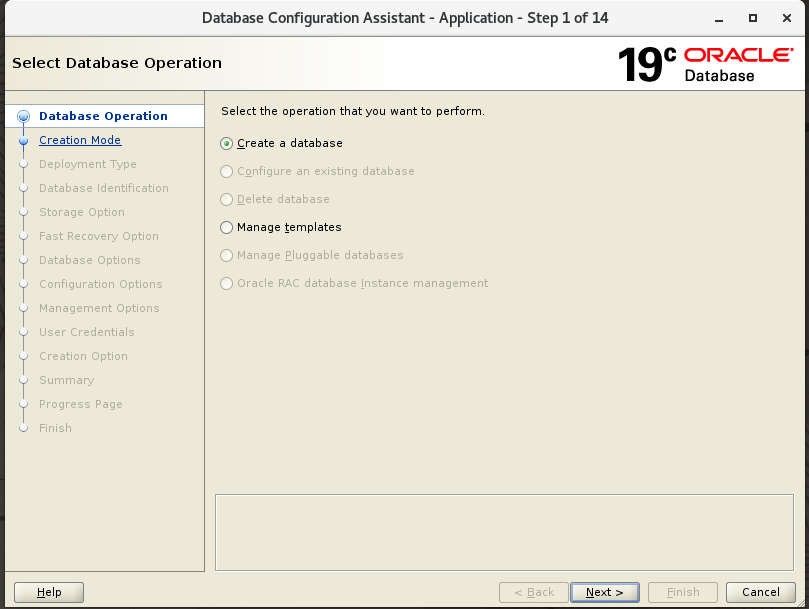
[oracle@host01 ~]$ **lsnrctl status**

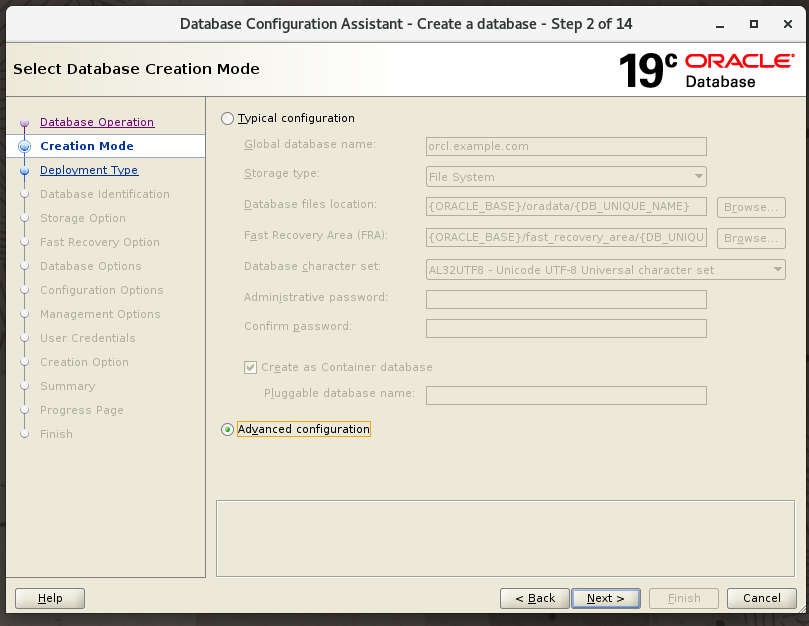
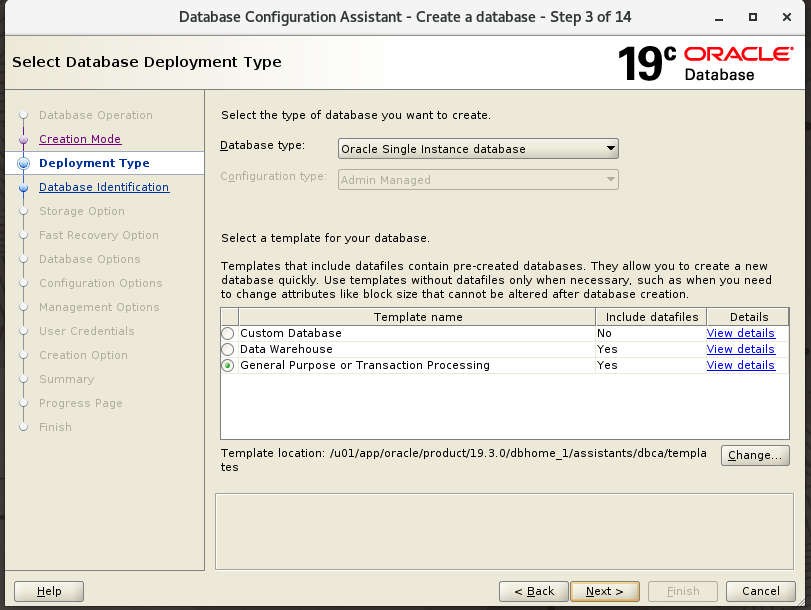
[oracle@host01 ~]$ **lsnrctl start**

1. Open a terminal window and invoke **dbca**.



1. Select **Create Database** and click **Next**.



1. Select **Advanced Configuration** and click **Next**.
2. Choose **Oracle Single Instance database** as the Database Type. Choose **General Purpose or Transaction Processing** template. Click **Next**.
3. Verify and update these entries as per screen shot and click **Next**:

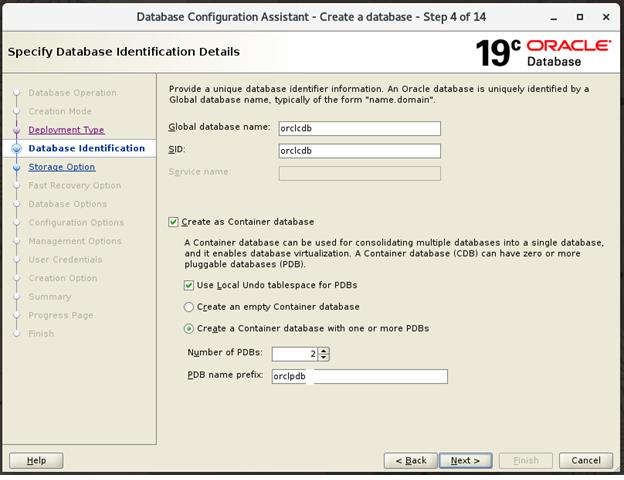
* Global database name: **orclcdb**
* SID: **orclcdb**

# Check Create as Container database

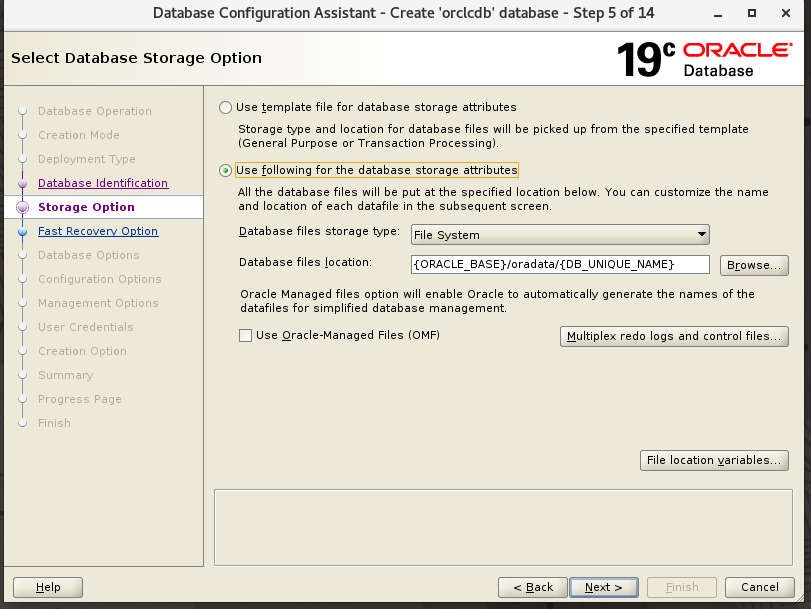
* Check **Use Local Undo Tablespace for PDBs**

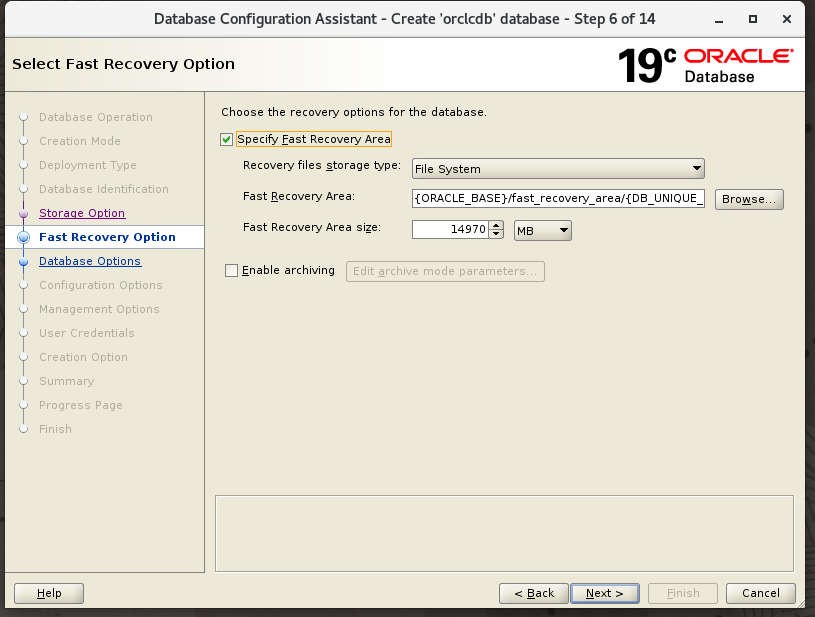
# Choose Create a Container database with one or more PDBs

* Number of PDBS: **2**
* PDB name prefix: **orclpdb**



1. Choose **Use following for the database storage attributes**, verify values as per the screenshot and click **Next**.



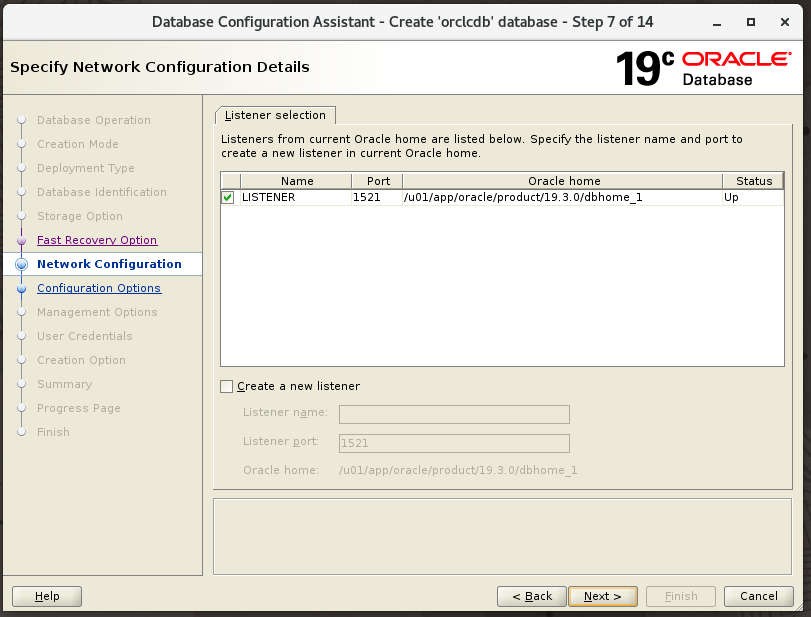
1. Choose **Specify Fast Recovery** and accept the defaults as shown in the screenshot, and click **Next**.
2. Choose settings as per the screenshots and click **Next**.

**Note:** If you do not see LISTENER listed, please verify LISTENER is up and running or check **Create a new listener** to create a listener and provide the listener name as **LISTENER** and **Port 1521 or 1522.**

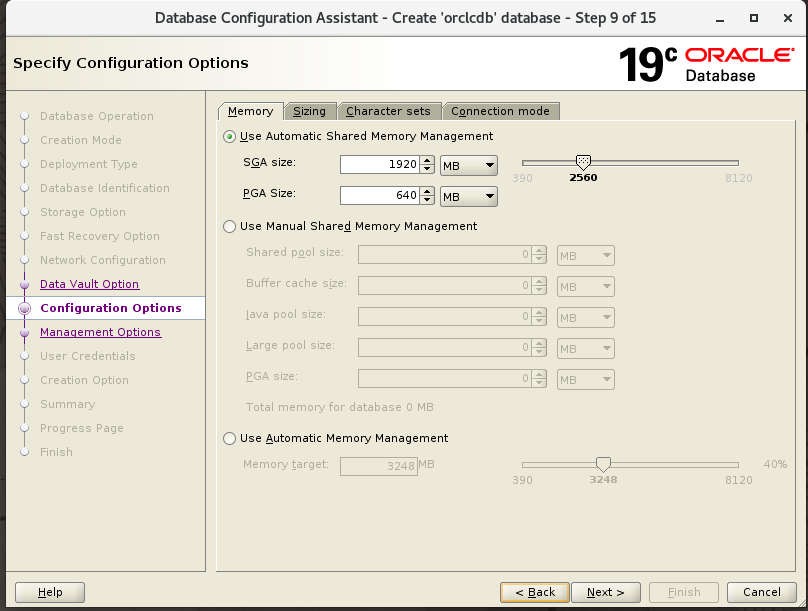
**Note: If the LISTENER is down then start using this command:**

[oracle@host01 ~]$ **lsnrctl status**

[oracle@host01 ~]$ **lsnrctl start**

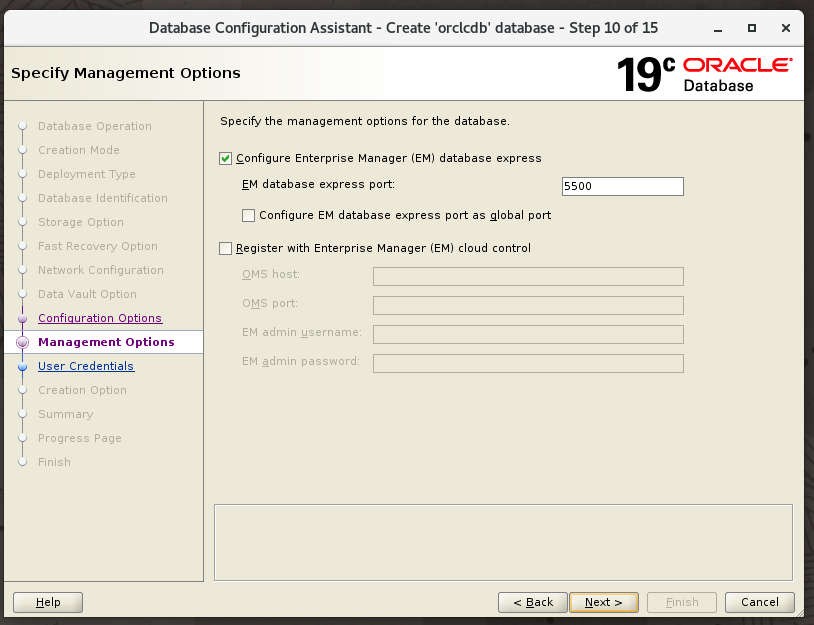


1. No changes on Database Vault or Label Security. Click **Next.**
2. In the **Specify Configuration Options** screen, under the **Memory** tab, enter settings as per the screenshot. Click **Next**.

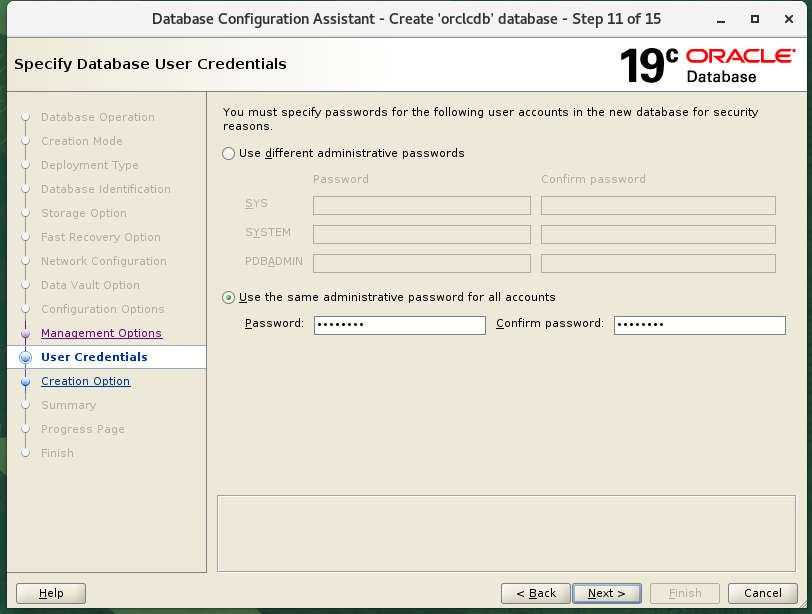


1. Check **Configure Enterprise Manager (EM) database express**. Specify the port **5500**

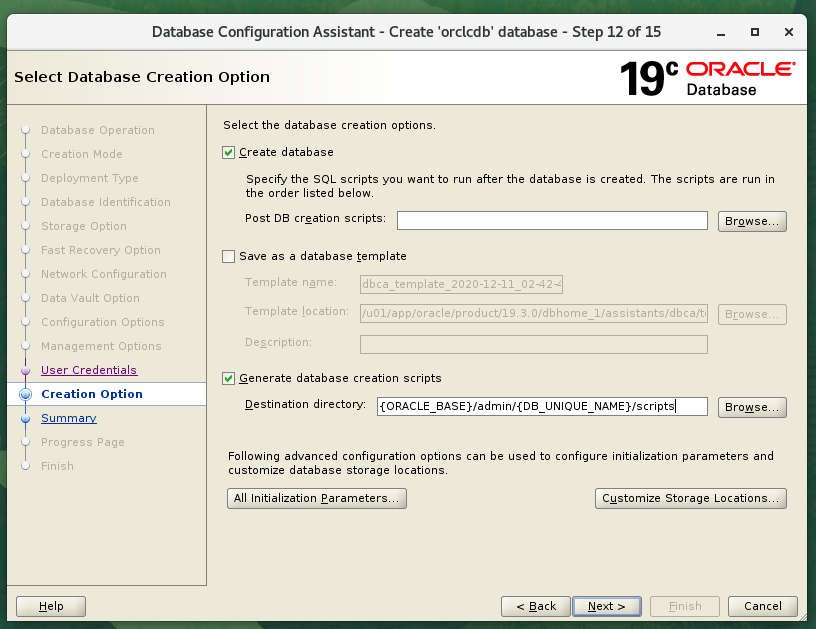
and click **Next .**



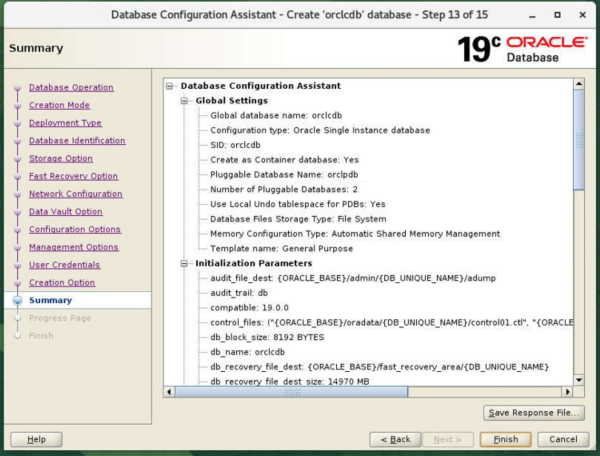
1. Check **Use the same administrative password for all accounts** Password: **fenago.**

Click **Next.**

1. Choose settings as per the screenshot. Click **Next**.



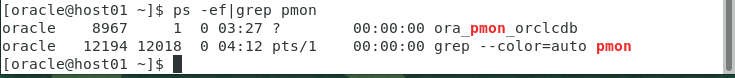
1. Click **Finish**.



Click **Close** once database creation is complete. This competes the **ORCLCDB** database creation.

1. Verify that the instance is started by checking whether the PMON background process is running.

$ ps –ef|grep pmon



1. Change to the $HOME directory.
2. Connect to the orclcdb database instance as the SYS user with SYSDBA privilege.

[oracle@host01 ~]$ . oraenv ORACLE\_SID = [oracle] ? **orclcdb**

The Oracle base remains unchanged with value /u01/app/oracle [oracle@host01 ~]$ **sqlplus**

SQL\*Plus: Release 19.0.0.0.0 - Production on Fri Dec 11 06:30:36 2020

Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle. All rights reserved. Enter user-name: /as sysdba

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

Version 19.3.0.0.0 SQL>

1. Check the current state of PDBs.

SQL> SHOW PDBS

CON\_ID CON\_NAME

OPEN MODE RESTRICTED

- - - -

1. PDB$SEED
2. ORCLPDB1
3. ORCLPDB2

READ ONLY

NO

READ WRITE NO

READ WRITE NO

* 1. If the PDBs are not open, open them. If it is open, you can skip this step. Note**: Do not run this command if your PDB is already opened.**

SQL> **ALTER PLUGGABLE DATABASE ORCLPDB1 OPEN;**

Pluggable database altered.

SQL> **ALTER PLUGGABLE DATABASE ORCLPDB2 OPEN;**

Pluggable database altered.

* 1. Save the state so that PDB1 is opened every time the CDB is opened. Exit SQL\*Plus.

SQL> **ALTER PLUGGABLE DATABASE orclpdb1 SAVE STATE;**

Pluggable database altered.

SQL> **ALTER PLUGGABLE DATABASE orclpdb2 SAVE STATE;**

Pluggable database altered. SQL> **exit**

1. Check whether the listener is started and if not, start the listener.

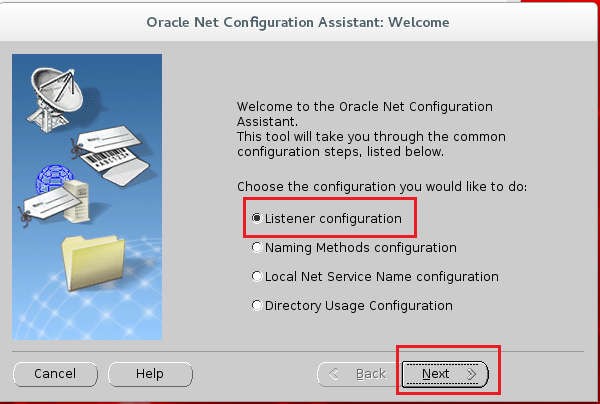
[oracle@host01 ~]$ **lsnrctl status**

[oracle@host01 ~]$ **lsnrctl start**

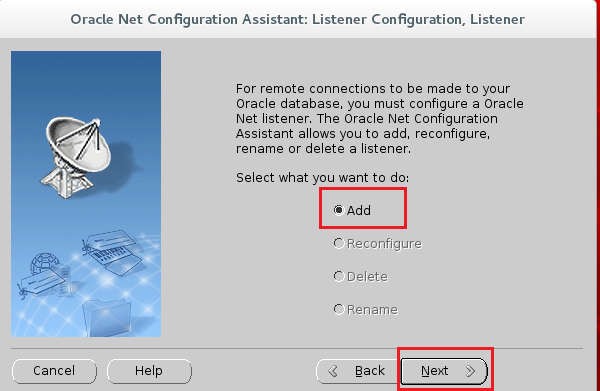
# If LISTENER fails to start then execute these steps else skip them:

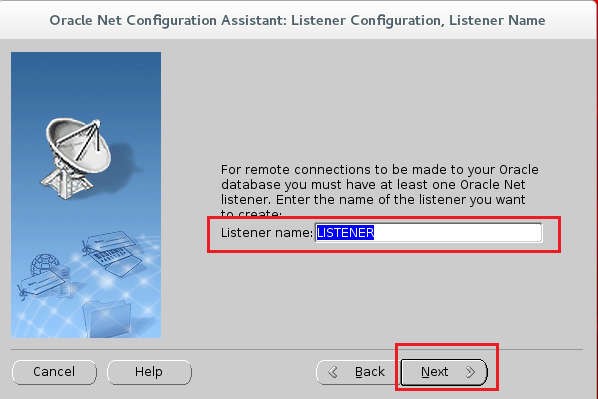
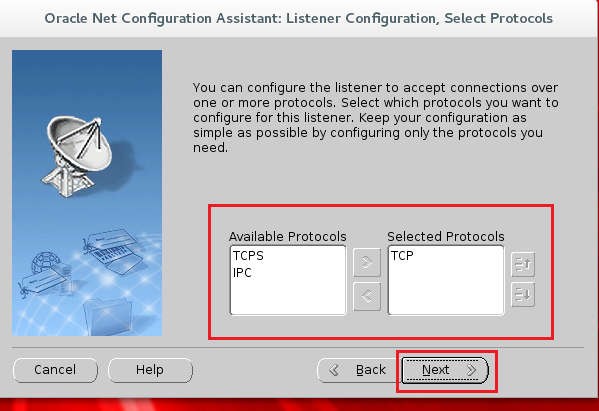
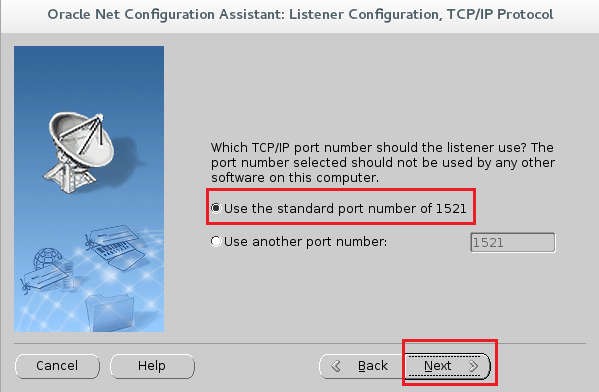
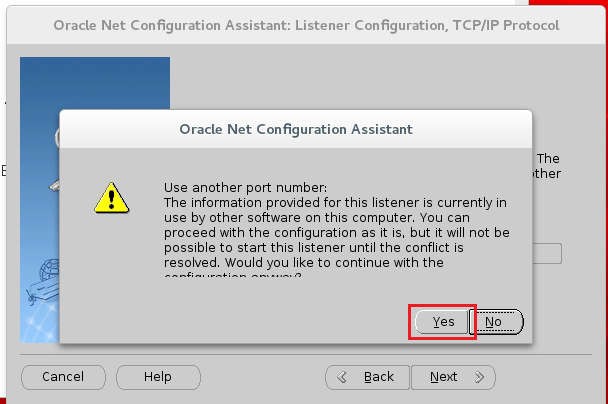
* 1. Invoke netca (Oracle Net Configuration Assistant).

**$ netca**

Choose settings as per the screenshot and click **Next**.

* 1. Choose settings as per the screenshot and click **Next.**



* 1. Choose the settings as per the screenshot and click **Next.**
  2. Choose settings as per the screenshot and click **Next**:
  3. Choose settings as per the screenshot and click **Next.**
  4. Click **Yes** if you get this warning:
  5. Click No and then **Next**.
  6. Click **Next** and **Finish**.

This completes your LISTENER configuration.

1. Verify that you can connect to the orclpdb1 and orclpdb2 PDBs by using the service name. Exit SQL\*Plus.

**Note: If you get an error then proceed to the next step.**

[oracle@host01 ~]$ **. oraenv**

ORACLE\_SID = [orclcdb] ?

The Oracle base remains unchanged with value /u01/app/oracle [oracle@host01 ~]$

[oracle@host01 ~]$ **sqlplus system/fenago@orclpdb1**

…

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…

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

Version 19.3.0.0.0

SQL>

SQL> **exit;**

[oracle@host01 ~]$ **sqlplus system/fenago@orclpdb2**

…

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…

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

Version 19.3.0.0.0

SQL>

SQL> **exit;**

1. If you are unable to connect to orclpdb1 and orclpdb2 using the service name then add these lines to tnsnames.ora, else skip these steps.
   1. Navigate to $ORACLE\_HOME/network/admin and open tnsnames.ora :

[oracle@host01 /]$ cd $ORACLE\_HOME

[oracle@host01 dbhome\_1]$ cd network/admin/ [oracle@host01 dbhome\_1]$ vi tnsnames.ora

* 1. Add these lines to tnsnames.ora, if not already present:

ORCLPDB1 = (DESCRIPTION =

(ADDRESS\_LIST =

(ADDRESS = (PROTOCOL = TCP)(HOST = )(PORT = 1521))

) (CONNECT\_DATA =

(SERVICE\_NAME = ORCLPDB1)

)

)

ORCLCDB = (DESCRIPTION =

(ADDRESS = (PROTOCOL = TCP)(HOST = )(PORT = 1521))

(CONNECT\_DATA = (SERVER = DEDICATED)

(SERVICE\_NAME = orclcdb)

)

)

ORCLPDB2 = (DESCRIPTION =

(ADDRESS\_LIST =

(ADDRESS = (PROTOCOL = TCP)(HOST = )(PORT = 1521))

) (CONNECT\_DATA =

(SERVICE\_NAME = ORCLPDB2)

)

)

* 1. Save the file and quit the vi editor (:wq).

1. Verify that the HR (sample schemas) user was created and there is data in the database.

[oracle@host01 /]$ **. oraenv**

ORACLE\_SID = [orclcdb] ? **orclcdb**

The Oracle base remains unchanged with value /u01/app/oracle [oracle@host01 /]$ **sqlplus**

SQL\*Plus: Release 19.0.0.0.0 - Production on Thu Dec 12 06:43:10 2019

Version 19.3.0.0.0

Copyright (c) 1982, 2018, Oracle. All rights reserved.

Enter user-name: **/as sysdba**

Connected to:

Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production

Version 19.3.0.0.0

# SQL> conn sys/fenago@orclpdb1 as sysdba

Connected.

# SQL> ALTER USER hr IDENTIFIED BY fenago account unlock;

User altered.

Note: If you encounter an error “ORA-01918: user 'HR' does not

exist” then follow these steps to install HR schema.

# SQL> conn sys/fenago@orclpdb1

Connected.

# SQL> @?/demo/schema/human\_resources/hr\_main.sql

specify password for HR as parameter 1: Enter value for 1:

SP2-0137: DEFINE requires a value following equal sign

specify default tablespeace for HR as parameter 2: Enter value for 2: **users**

specify temporary tablespace for HR as parameter 3:

Enter value for 3: **temp**

specify log path as parameter 4:

Enter value for 4: **$ORACLE\_HOME/demo/schema/log**

PL/SQL procedure successfully completed. Enter value for pass: **fenago**

SQL> **Select count(\*) from employees;**

COUNT(\*)

-

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**Note: Execute the above steps for PDB ORCLPDB2 too**. This completes the network and schema configuration.

1. Symlink has been created from path /headles/Desktop/oracle19c-administration/labs to

/home/oracle/labs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| [oracle@host01 /]$ cd /home/oracle/labs  [oracle@host01 ~]$ ls -ltr | | | | |
|  |  |  |  |  |
|  |  |  |  |  |

1. Execute these to configure EM Express**:**
   1. Configure EM Express by running these commands:

$sqlplus / as sysdba

SQL> @?/rdbms/admin/execemx omx

SQL> alter session set container=orclpdb1; SQL> @?/rdbms/admin/execemx omx

SQL> alter session set container=orclpdb2;

SQL> @?/rdbms/admin/execemx omx

* 1. Check oracle Shell Environment**. Execute these commands as oracle user:**

$ echo $ORACLE\_HOME

$ echo $ORACLE\_SID

* 1. Configure EM Express for Global Port Use. Execute these commands:

$ sqlplus / as sysdba

SQL> exec dbms\_xdb\_config.setglobalportenabled(TRUE);

* 1. Configure Firefox Browser for EM Express. Execute these steps: Navigate to https://localhost:5500/em

Note: If you get a security exception then follow these steps:

Your connection is not secure dialog appears. Navigate through: Advanced

Add exception

Confirm Security Exception

Navigate through Firefox -> Preferences -> Home Page Use Current Page: https://localhost:5500/em/login

Install full GitHub sample schemas into each PDB

1. Download sample schemas from this location: https://github.com/oracle/db-sample-schemas/releases/tag/v19.2
2. Copy the downloaded file to **$ORACLE\_HOME/demo/schema/** and unzip.
3. Execute **cd $ORACLE\_HOME/demo/schema/**

su - oracle

wget https://github.com/oracle/db-sample-schemas/archive/refs/tags/v19.2.zip  
unzip v19.2.zip   
ls -ltr  
cd db-sample-schemas-19.2/  
 ls -ltr  
yes | cp -rf \* $ORACLE\_HOME/demo/schema/  
cd $ORACLE\_HOME/demo/schema

# Execute perl -p -i.bak -e 's#\_\_SUB\_\_CWD\_\_#'$(pwd)'#g' \*.sql \*/\*.sql \*/\*.dat

# sqlplus / as sysdba

1. Execute SQL> **@?/demo/schema/mksample fenago fenago fenago fenago fenago fenago fenago fenago users temp**

# /home/oracle/setup/schema1/ localhost:1521/orclpdb1

1. Execute SQL> **@?/demo/schema/mksample fenago fenago fenago fenago fenago fenago fenago fenago users temp**

# /home/oracle/setup/schema1/ localhost:1521/orclpdb2

**Start Database After Reboot**

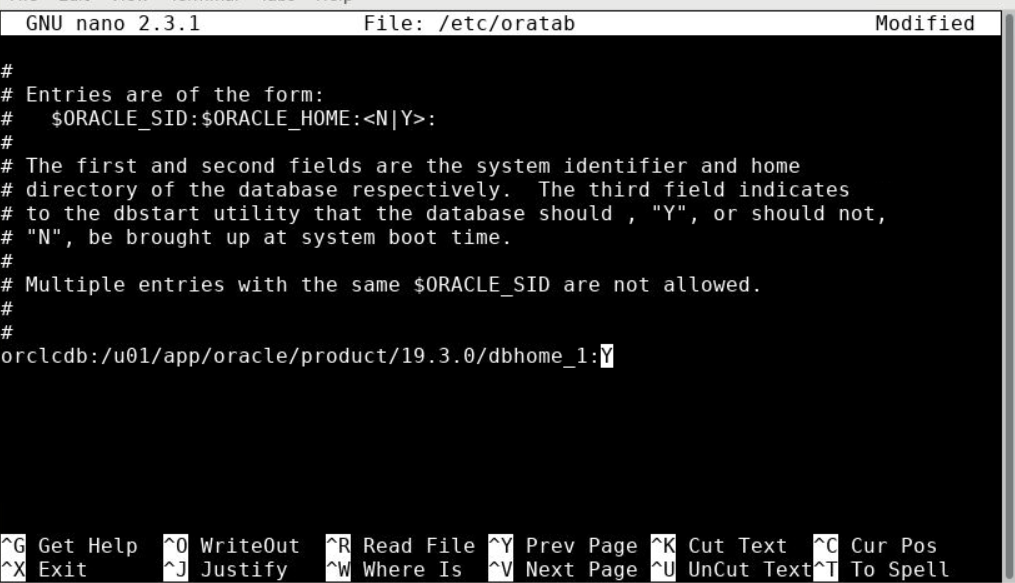
Edit /etc/oratab and set orclcdb as **Y** and running following commands:

$ su - oracle

$ lsnrctl status

$ lsnrctl start

$ dbstart $ORACLE\_HOME



**Oracle User Environment**

Following script is being called in /home/oracle/.bashrc

