# ORACLE 19c New Features DataBase Creation

# 

# *STEPS TO CREATE THE CONTAINER DATABASE NAMED ORCL AND ITS PDB*

# *NAMED pdb1*

Note:

* + Execute xhost + command as root.
  + Login as oracle user using the su – oracle command.
  + Create the directories and grant required privileges to the oracle user (for Oracle software)
    - mkdir -p /u03/app/oracle/fast\_recovery\_area/ORCL
    - chown -R oracle:oinstall /u03
    - chmod -R 775 /u03
    - mkdir -p /u04/app/oracle/redo/ORCL
    - chown -R oracle:oinstall /u04
    - chmod -R 775 /u04
  + If the LISTENER is down then start using this command:

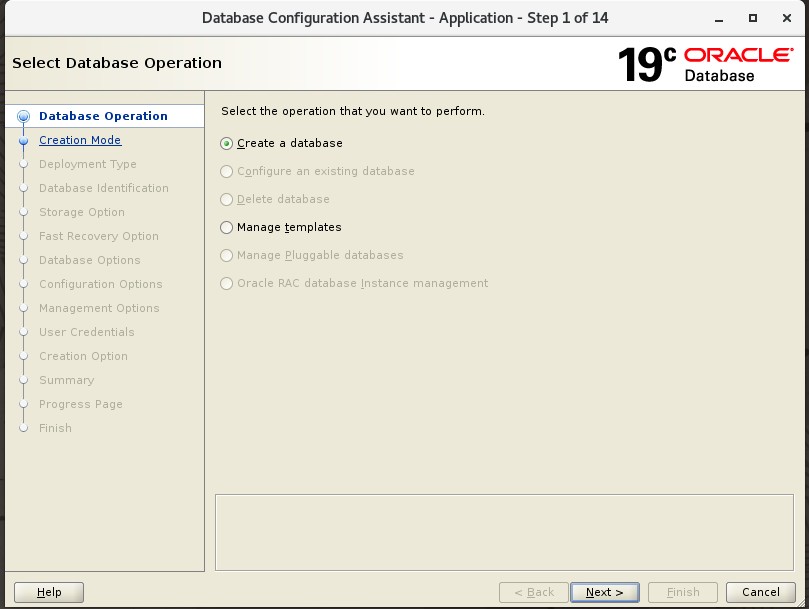
[oracle@host01 ~]$ **lsnrctl status**

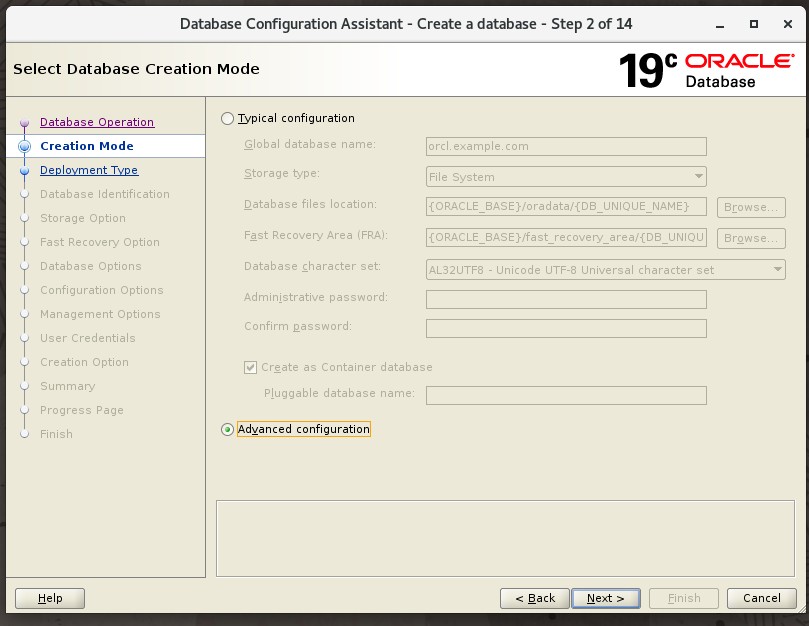
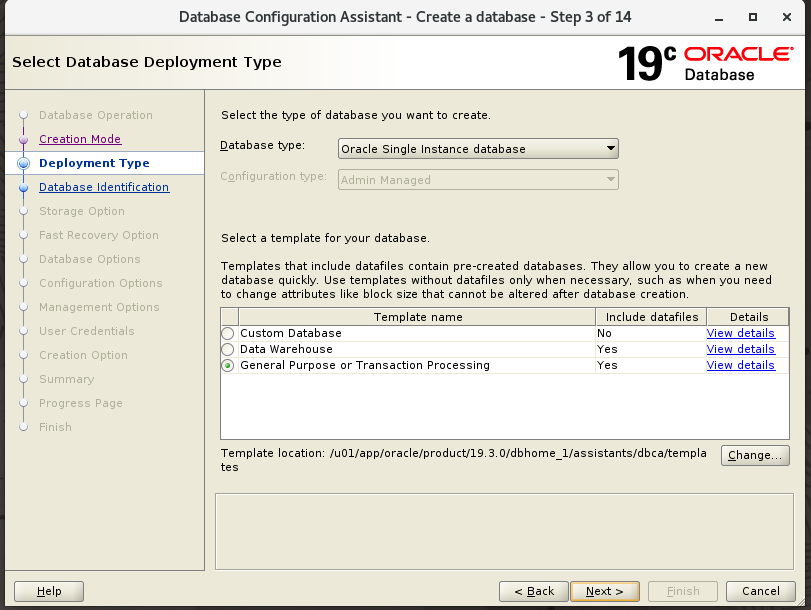
[oracle@host01 ~]$ **lsnrctl start**

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**:

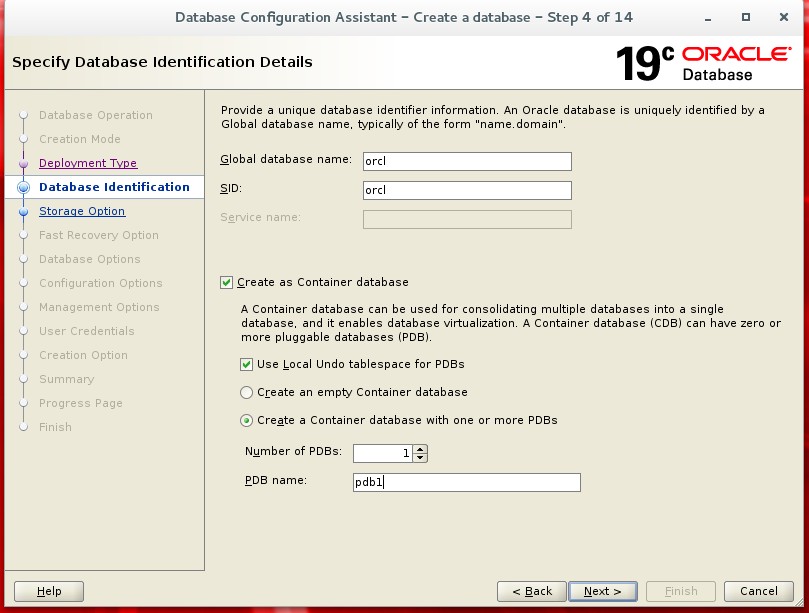
* Global database name: **orcl**
* SID: **orcl**

## Check Create as Container database

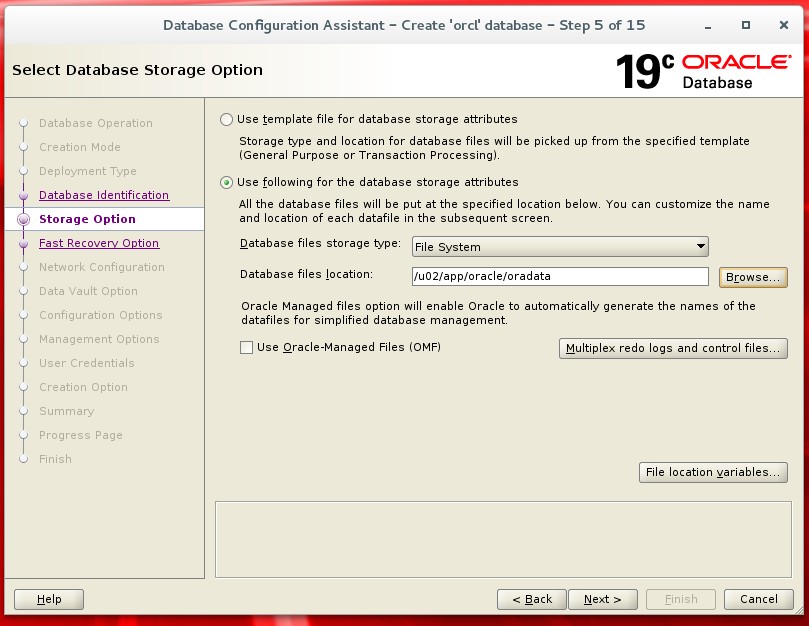
* Check **Use Local Undo Tablespace for PDBs**

## Choose Create a Container database with one or more PDBs

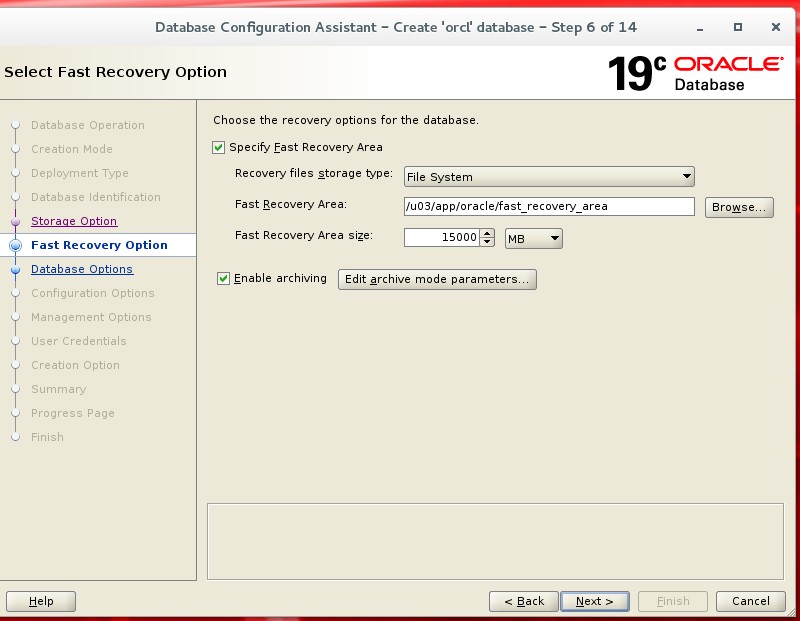
* Number of PDBS: **1**
* PDB name : **pdb1**



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



1. Choose **Specify Fast Recovery**, in **Fast Recovery Area** attribute enter the location as per the screenshot, and check **Enable Archiving** as shown in the screenshot, and click **Next**.

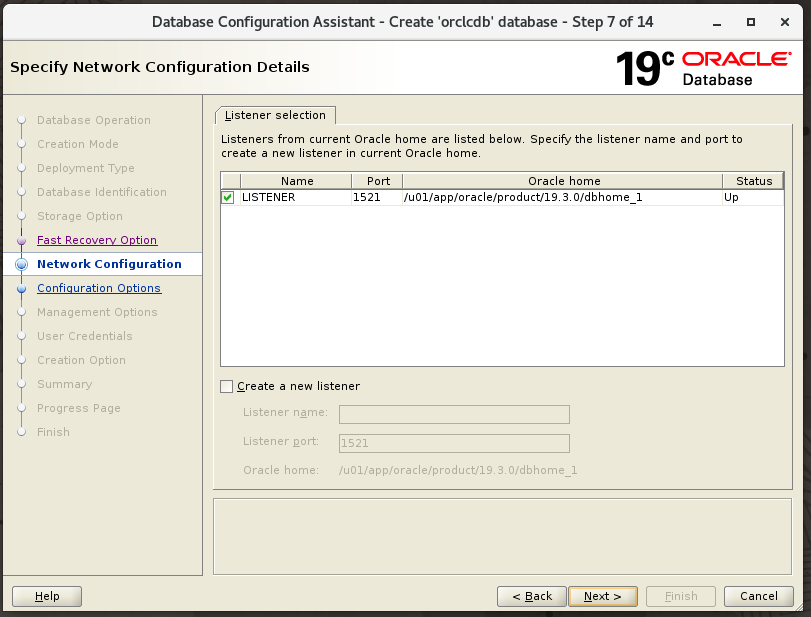


1. Choose settings as per the screenshots and click **Next**.

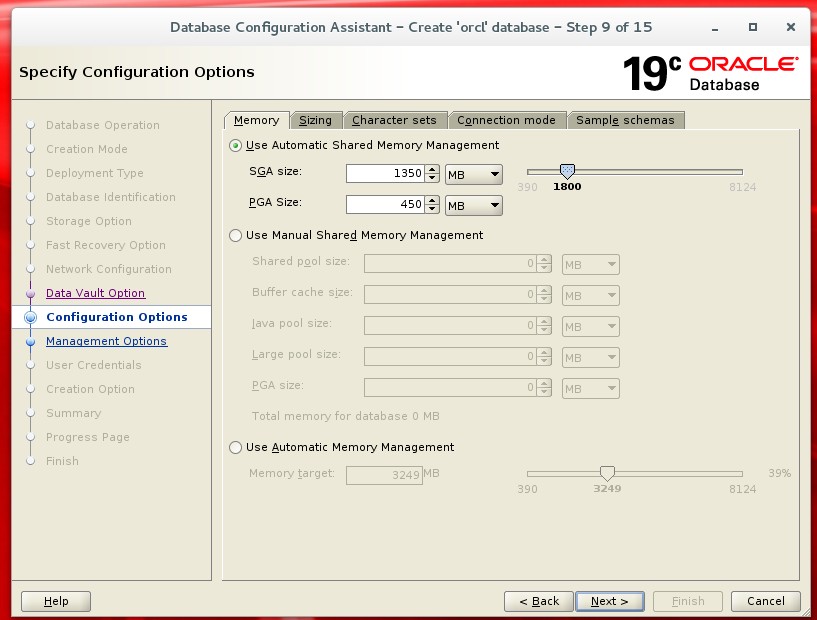
**Note:** If you do not see LISTENER listed, please verify LISTENER is up and running or check **Create a new listener** to create a listener and provide the listener name as **LISTENER** and **Port 1521 or 1522.**

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

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

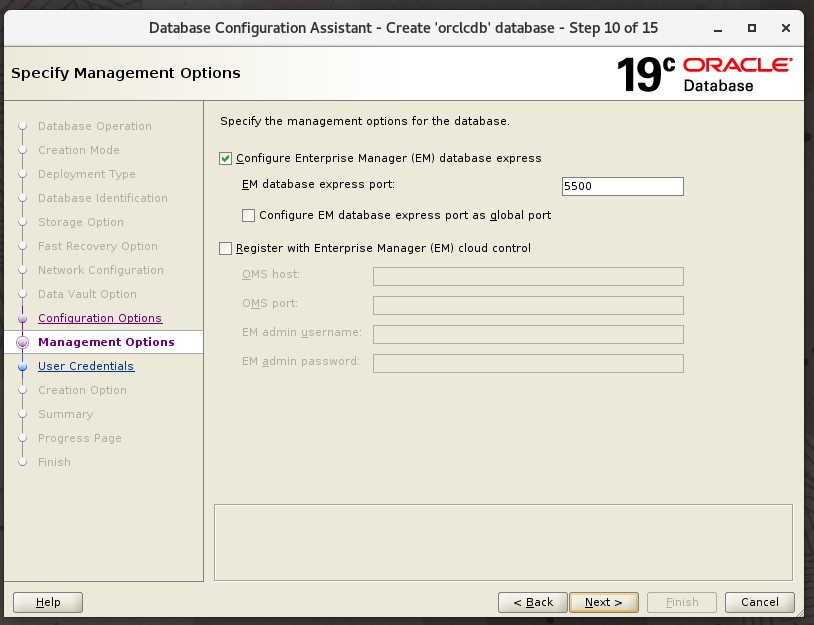


1. No changes on Database Vault or Label Security. Click **Next.**
2. In the **Specify Configuration Options** screen, under the **Memory** tab, enter settings as per the screenshot. Click **Next**.



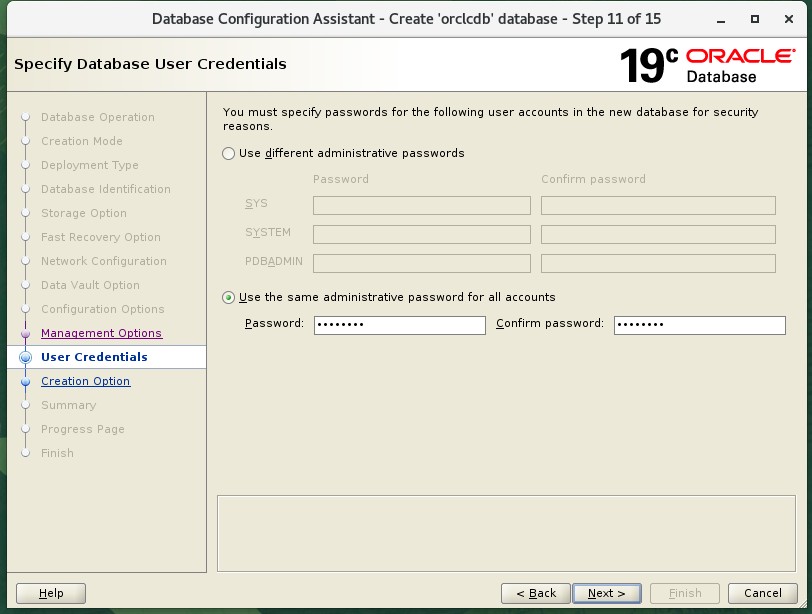
1. Check **Configure Enterprise Manager (EM) database express**. Specify the port **5500**

and click **Next .**

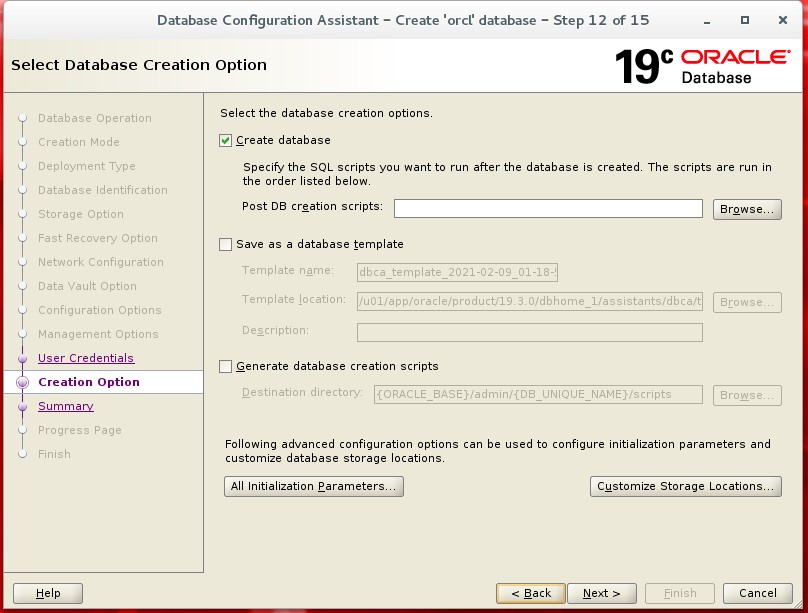


1. Check **Use the same administrative password for all accounts** Password:

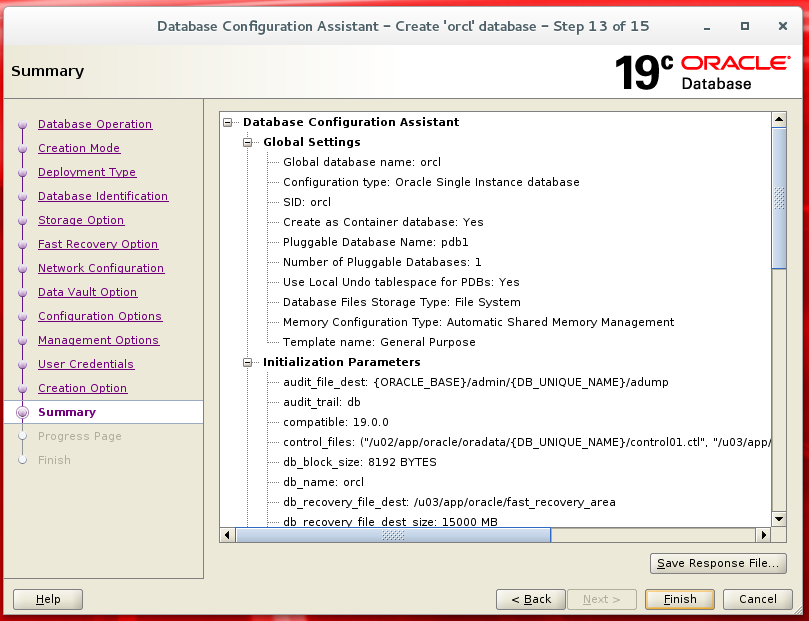
**Welcome\_1.** Click **Next.**



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



1. Click **Finish**.



Click **Close** once database creation is complete. This competes the **ORCL** 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 orcl database instance as the SYS user with SYSDBA privilege.

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

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

SQL\*Plus: Release 19.0.0.0.0

…

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 PDB.

SQL> **SHOW PDBS;**

CON\_ID CON\_NAME

OPEN MODE RESTRICTED

1. PDB$SEED
2. PDB1

READ ONLY 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 PDB1 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 pdb1 SAVE STATE;**

Pluggable database altered. SQL> **exit**

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

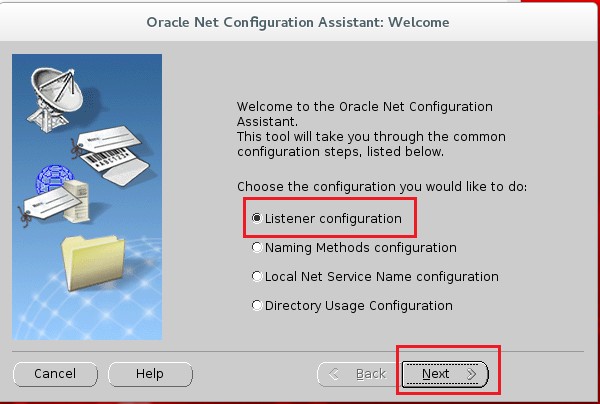
[oracle@host01 ~]$ **lsnrctl status**

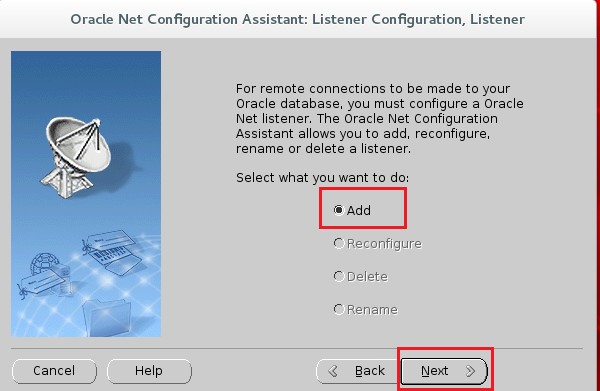
[oracle@host01 ~]$ **lsnrctl start**

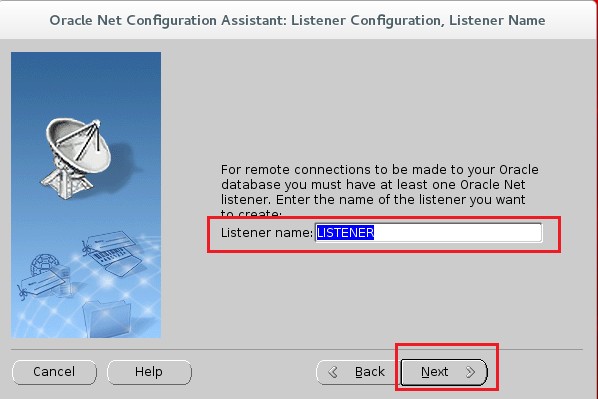
## If LISTENER fails to start then execute these steps else skip them:

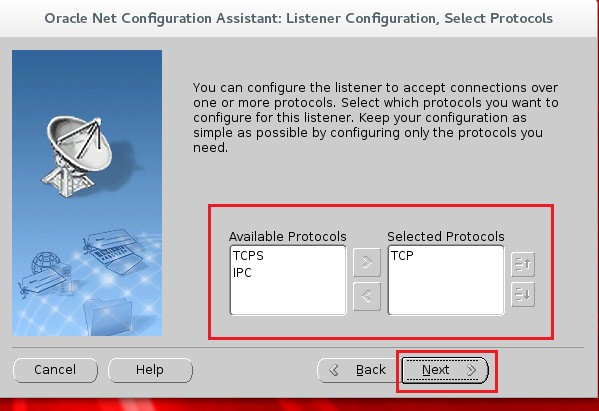
* 1. Invoke netca (Oracle Net Configuration Assistant).

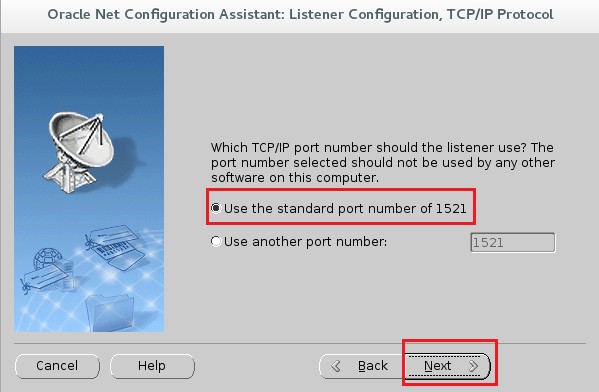
**$ netca**

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

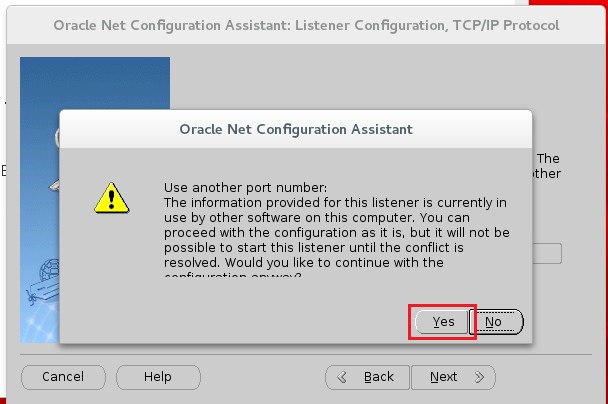
* 1. Choose settings as per the screenshot and click **Next.**
  2. Choose the settings as per the screenshot and click **Next.**



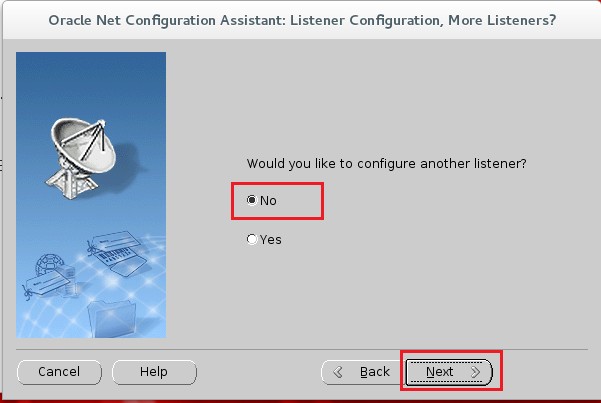
* 1. Choose settings as per the screenshot and click **Next**:
  2. Choose settings as per the screenshot and click **Next.**



* 1. Click **Yes** if you get this warning:



* 1. Click No and then **Next**.



* 1. Click **Next** and **Finish**.

This completes your LISTENER configuration.

Verify that you can connect to the pdb1 PDB by using the service name.

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

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

ORACLE\_SID = [orcl] ?

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

[oracle@host01 ~]$ **sqlplus system/Welcome\_1@pdb1**

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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 pdb1 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:

ORCL =

(DESCRIPTION = (ADDRESS\_LIST =

(ADDRESS = (PROTOCOL = TCP)(HOST =

host01.example.com)(PORT = 1521))

) (CONNECT\_DATA =

(SERVICE\_NAME = ORCL)

)

)

PDB1 =

(DESCRIPTION = (ADDRESS\_LIST =

(ADDRESS = (PROTOCOL = TCP)(HOST =

host01.example.com)(PORT = 1521))

) (CONNECT\_DATA =

(SERVICE\_NAME = PDB1)

)

)

* 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 = [orcl] ? **orcl**

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

SQL\*Plus: Release 19.0.0.0.0

…

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/Welcome\_1@pdb1 as sysdba

Connected.

## SQL> ALTER USER hr IDENTIFIED BY Welcome\_1 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/Welcome\_1@pdb1**

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: **Welcome\_1**

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

COUNT(\*)

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This completes the network and schema configuration.

1. Execute these SQL commands in ORCL

$ORACLE\_HOME/bin/sqlplus / AS SYSDBA

SQL> ALTER USER dbsnmp IDENTIFIED BY Welcome\_1 ACCOUNT UNLOCK CONTAINER=ALL;

SQL> ALTER SYSTEM SWITCH LOGFILE; SQL> ALTER SYSTEM SWITCH LOGFILE; SQL> ALTER SYSTEM SWITCH LOGFILE; SQL> ALTER PROFILE DEFAULT LIMIT

PASSWORD\_LIFE\_TIME UNLIMITED PASSWORD\_GRACE\_TIME UNLIMITED PASSWORD\_REUSE\_TIME UNLIMITED PASSWORD\_REUSE\_MAX UNLIMITED FAILED\_LOGIN\_ATTEMPTS UNLIMITED PASSWORD\_LOCK\_TIME UNLIMITED INACTIVE\_ACCOUNT\_TIME UNLIMITED IDLE\_TIME UNLIMITED PASSWORD\_VERIFY\_FUNCTION NULL;

SQL> ALTER PROFILE ORA\_STIG\_PROFILE LIMIT PASSWORD\_LIFE\_TIME UNLIMITED PASSWORD\_GRACE\_TIME UNLIMITED PASSWORD\_REUSE\_TIME UNLIMITED PASSWORD\_REUSE\_MAX UNLIMITED FAILED\_LOGIN\_ATTEMPTS UNLIMITED PASSWORD\_LOCK\_TIME UNLIMITED INACTIVE\_ACCOUNT\_TIME UNLIMITED IDLE\_TIME UNLIMITED PASSWORD\_VERIFY\_FUNCTION NULL;

SQL> Exit;

1. Execute these SQL commands in PDB1

$ORACLE\_HOME/bin/sqlplus SYS/Welcome\_1@pdb1 AS SYSDBA SQL> ALTER PROFILE DEFAULT LIMIT

PASSWORD\_LIFE\_TIME UNLIMITED PASSWORD\_GRACE\_TIME UNLIMITED PASSWORD\_REUSE\_TIME UNLIMITED PASSWORD\_REUSE\_MAX UNLIMITED FAILED\_LOGIN\_ATTEMPTS UNLIMITED PASSWORD\_LOCK\_TIME UNLIMITED INACTIVE\_ACCOUNT\_TIME UNLIMITED

IDLE\_TIME UNLIMITED PASSWORD\_VERIFY\_FUNCTION NULL;

SQL> ALTER PROFILE ORA\_STIG\_PROFILE LIMIT PASSWORD\_LIFE\_TIME UNLIMITED PASSWORD\_GRACE\_TIME UNLIMITED PASSWORD\_REUSE\_TIME UNLIMITED PASSWORD\_REUSE\_MAX UNLIMITED FAILED\_LOGIN\_ATTEMPTS UNLIMITED PASSWORD\_LOCK\_TIME UNLIMITED INACTIVE\_ACCOUNT\_TIME UNLIMITED IDLE\_TIME UNLIMITED PASSWORD\_VERIFY\_FUNCTION NULL;

SQL> Exit;

1. Move into labs directory as shown below:

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

**This completes the setup**