Getting Familiar with Oracle Database 12c **Duration: 30 Minutes**

Prerequisites For the Session – Oracle Database Enterprise edition should be installed and configured with ORCL database.

Activity 1.

Getting familiar with Oracle Installation and database

Open a terminal on Linux and on the shell continue as below.

In below the OS login has been root.

id command will show the current user details including the user id as well as user group

[root@localhost Desktop]# id

uid=0(root) gid=0(root) groups=0(root)
context=unconfined_u:unconfined_r:unconfined_t:s0-s0:c0.c1023

[root@localhost Desktop]#

At the time of Oracle installation it is a must to create a user to manage oracle Software as well as to carry out commands with Oracle database. The standard user under Oracle best practice is 'Oracle'.

Let's switch to Oracle

[root@localhost Desktop]# su - oracle

Last login: Thu Sep 7 01:30:04 EDT 2017 on pts/0

[oracle@localhost ~]$

su - switch user.

Hypen (-) indicates to invoke the .bash_profile as well as to take the user to its home directory.

[oracle@localhost ~]$ pwd

/home/oracle

[oracle@localhost ~]$

It is visible above the prompt has been change to Oracle. As well as pwd - print working directory command shows the user is in its home directory.

Let's take a look at a sample bash profile.

Issue the below command.

[oracle@localhost ~]$ vi .bash_profile

vi - is a linux editor like notepad in windows.

The file name is .bash_profile. Below a sample.

```
# .bash_profile

# Get the aliases and functions
if [ -f ~/.bashrc ]; then
        . ~/.bashrc
fi
# User specific environment and startup programs
PATH=$PATH:$HOME/.local/bin:$HOME/bin
export PATH
# Oracle Settings
export TMP=/tmp
export TMPDIR=$TMP
export ORACLE_HOSTNAME=localhost.localdomain
export ORACLE_UNQNAME=orcl
export ORACLE_BASE=/u01/app/oracle
export ORACLE_HOME=$ORACLE_BASE/product/12.1.0/dbhome_1
export ORACLE_SID=orcl

export PATH=/usr/sbin:$PATH
```

Press esc then : and at prompt type q!(figure 1.1) to exit from the vi editor.

Figure 1.1 – Exit from vi editor

q! – indicates exit without saving.

As per the sample above .bash_profile sets the environment for a user. This bash profile is specific for oracle user.

If it is required to invoke the .bash_profile from a different location other than user's home directory (/oracle/home) please issue below command.

[oracle@localhost ~]$ cd /u01

[oracle@localhost u01]$ pwd

/u01

Now the location has been changed to /u01 which is not Oracle user's home directory.

Please issue below command to invoke .bash_profile

[oracle@localhost u01]$ vi ~/.bash_profile

~ - will call the current user's home directory and will invoke the .bash_profile.

Activity 1 continues…

OFA - Oracle Flexible Architecture.

This is a global standard which defined the rules and best practices on how to govern the software on this disk as well as how to manage the installations.

Oracle HOME and BASE

Issue the below command.

[oracle@localhost u01]$ echo $ORACLE_HOME

/u01/app/oracle/product/12.1.0/dbhome_1

[oracle@localhost u01]$ echo $ORACLE_BASE

/u01/app/oracle

[oracle@localhost u01]$

ORACLE_HOME – as visible above this is the installation path for Oracle Database software

ORACLE_BASE – this the base for any Oracle software installation in the mount point /u01

Echo $ - command will display the content of the preset value of an environment variable.

[oracle@localhost u01]$ echo $ORACLE_HOME

/u01/app/oracle/product/12.1.0/dbhome_1

Above ORACLE_HOME is the Variable name and $ will call the value of the variable.

If the above values are visible, it confirms that and Oracle installation is available in the server.

Let's find out and Oracle database is running or not.

[oracle@localhost u01]$ ps -ef | grep pmon

Oracle 5230 3829 0 02:15 pts/0 00:00:00 grep --color=auto pmon

ps - list process

-ef – extract and filter which is given in the grep. This time process monitor (pmon) back ground process has been filtered.

If and Oracle database is running on Linux or Unix or Solaris (any Linux or Unix flavors) it is a must to have the pmon Oracle back ground process up and running. Above it is not running which means the no database is available.

Let's check further

[oracle@localhost u01]$ echo $ORACLE_SID

Orcl

ORACLE_SID – Oracle system identification

The value above is orcl.

This variable indicates the name of the database. At the moment there should be a database called orcl but it may be not started.

Let's check.

[oracle@localhost u01]$ sqlplus sys as sysdba

Connected to an idle instance.

Sqlplus is a command line tool to manage the oracle database with DDL, DCL, and DML etc... Commands.

Sys – is the super user or the owner of the oracle database

As sysdba – sysdba is a special role where it is used when sys user is logged.

It will prompt for the password, just press enter as an OS authentication is done.

(Will be discussed in activity 2)

Above there is very important message "Connected to Idle instance"

This means the database is down.

Let's start the db

SQL> startup

ORACLE instance started.

Total System Global Area 1560281088 bytes

Fixed Size 2924784 bytes

Variable Size 1006636816 bytes

Database Buffers 536870912 bytes

Redo Buffers 13848576 bytes

Database mounted.

Database opened.

Oracle database started in three stages

Instance started

Mounted

opened.

More details will be there on Activity 2.

Now let's run the ps command again

[oracle@localhost u01]$ ps -ef |grep pmon

oracle 6622 1 0 02:46 ? 00:00:00 ora_pmon_orcl

oracle 6921 3829 0 02:48 pts/0 00:00:00 grep --color=auto pmon

Now it is clear 'ora_pmon_orcl' is running meaning a database called orcl is running.

Let's check the database status and the name

[oracle@localhost u01]$ sqlplus sys as sysdba

Connected to:

Oracle Database 12c Enterprise Edition Release 12.1.0.2.0 - 64bit Production

With the Partitioning, OLAP, Advanced Analytics and Real Application Testing options

SQL> select name from v$database;

NAME

ORCL

SQL> select status from v$instance;

STATUS

OPEN

Let's check the database Version

Brief History:

The Letter after the main product release number denotes the technology behind the DB.

7, 8, 8i – Internet
9i
10g – Grid
11g
12 c – Cloud – 12.2.0.2 = 18c
18 c - Aligned the release with the year
19 c
20 c
21 c

```
SQL> select banner from v$version
  2  ;

BANNER
--------------------------------------------------------------------------------
Oracle Database 12c Enterprise Edition Release 12.2.0.1.0 - 64bit Production
PL/SQL Release 12.2.0.1.0 - Production
CORE    12.2.0.1.0      Production
TNS for Linux: Version 12.2.0.1.0 - Production
NLSRTL Version 12.2.0.1.0 - Production
```

Select *From product_component_version;

Ref :

https://docs.oracle.com/en/database/oracle/oracle-database/12.2/upgrd/about-oracle-database-release-numbers.html#GUID-1E2F3945-C0EE-4EB2-A933-8D1862D8ECE2

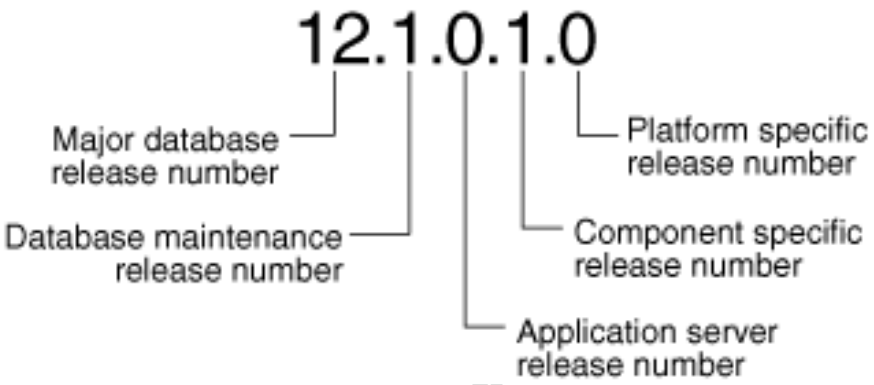

Figure 1.2 – Database Version Digits

In this activity competency was built on

- Getting familiar with Oracle software organization on disk
- Finding out a database is available
- Finding out a database is up and running
- Database Version Basics

Next:

Database Login process and Oracle Database Instance - CP 2