Oracle Administrator Workshop I (LAB)

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DOB: 04 April 1995

Lab 1: Install Oracle

Add domain and change hostname.

```
[root@ol7-19 admin]# cat /etc/hosts
127.0.0.1   localhost localhost.localdomain localhost4 localhost4.localdomain4
::1         localhost localhost.localdomain localhost6 localhost6.localdomain6
10.0.2.15   ol7-19.localhost  ol7-19
[root@ol7-19 admin]# cat /etc/hostname
ol7-19.localhost
[root@ol7-19 admin]#
```

Now we install using Automatic setup.

```
yum install -y oracle-database-preinstall-19c
yum update -y

curl -o oracle-database-preinstall-19c-1.0-1.el7.x86_64.rpm https://yum.ora-
cle.com/repo/OracleLinux/OL7/latest/x86_64/getPackage/oracle-database-preinstall-
19c-1.0-1.el7.x86_64.rpm
yum -y localinstall oracle-database-preinstall-19c-1.0-1.el7.x86_64.rpm
```

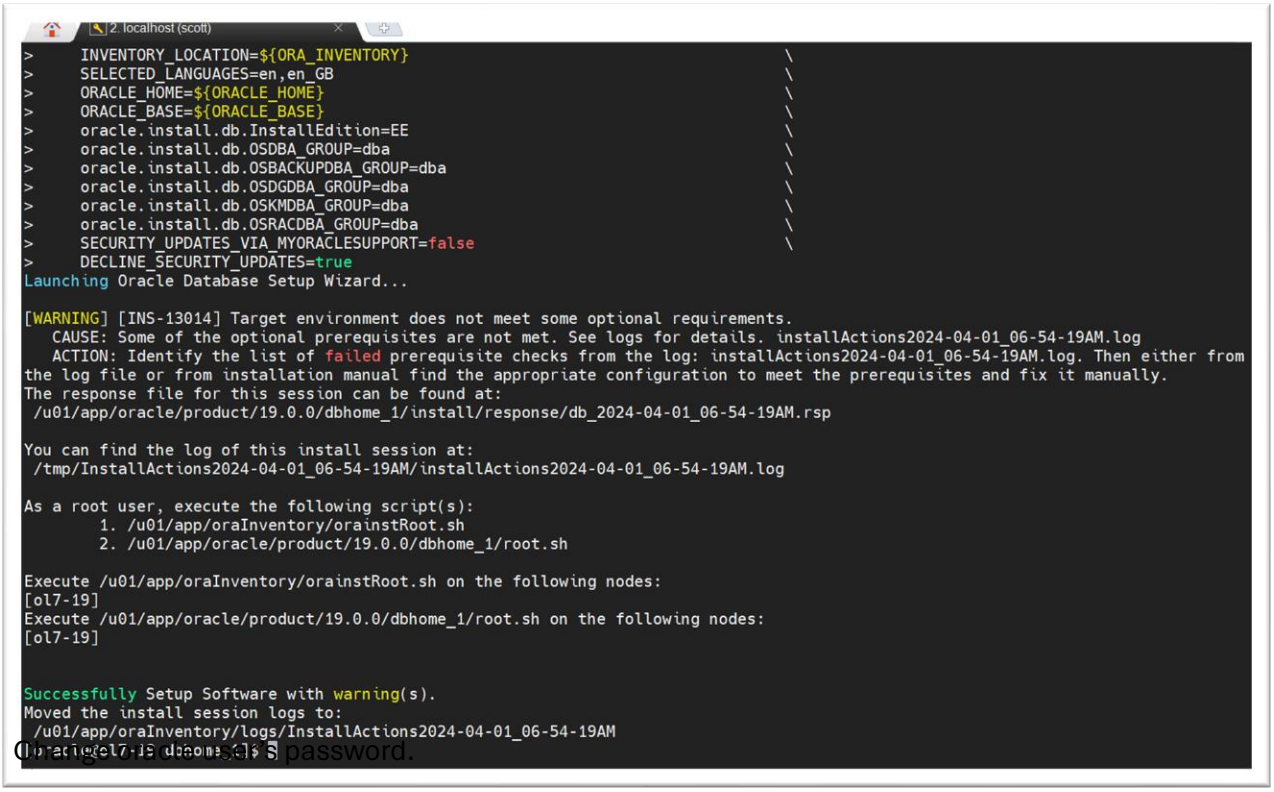


Figure 1. Setting UP Software

```
$ passwd oracle
```

Set secure Linux to permissive.

```
$ vi /etc/selinux/config
```

SELINUX=permissive

Addional configuration

```
systemctl stop firewalld
systemctl disable firewalld
mkdir -p /u01/app/oracle/product/19.0.0/dbhome_1
mkdir -p /u02/oradata
chown -R oracle:oinstall /u01 /u02
chmod -R 775 /u01 /u02
```

Now let's install Oracle Database Using silent mode:

- ❖ Update /home/oracle/scripts/.bash_profile as the following

```
[root@ol7-19 admin]# cat /home/oracle/.bash_profile
# .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:/usr/bin

export PATH



#Oracle Settings
export TMP=/tmp
export TMPDIR=$TMP

export ORACLE_HOSTNAME=ol7-19.localhost
export ORACLE_UNQNAME=cdb1
export ORACLE_BASE=/u01/app/oracle
export ORACLE_HOME=$ORACLE_BASE/product/19.0.0/dbhome_1
export ORA_INVENTORY=/u01/app/oraInventory
export ORACLE_SID=cdb1
export PDB_NAME=pdb1
export DATA_DIR=/u02/oradata

export PATH=/usr/sbin:/usr/local/bin:$PATH
export PATH=$ORACLE_HOME/bin:$PATH

export LD_LIBRARY_PATH=$ORACLE_HOME/lib:/lib:/usr/lib
export CLASSPATH=$ORACLE_HOME/jlib:$ORACLE_HOME/rdbms/jlib
```

Upload LINUX.X64_193000_db_home.zip to Linux server path: /home/scott then unzip the software

```
cd $ORACLE_HOME
. .bash_profile
unzip -oq /home/scott/LINUX.X64_193000_db_home.zip
```

let’s install Oracle Database

```
./runInstaller -ignorePrereq -waitforcompletion -silent                    \
    -responseFile ${ORACLE_HOME}/install/response/db_install.rsp           \
    oracle.install.option=INSTALL_DB_SWONLY                                \
    ORACLE_HOSTNAME=${ORACLE_HOSTNAME}                                     \
    UNIX_GROUP_NAME=oinstall                                               \
    INVENTORY_LOCATION=${ORA_INVENTORY}                                    \
    SELECTED_LANGUAGES=en,en_GB                                            \
    ORACLE_HOME=${ORACLE_HOME}                                             \
    ORACLE_BASE=${ORACLE_BASE}                                             \
    oracle.install.db.InstallEdition=EE                                    \
    oracle.install.db.OSDBA_GROUP=dba                                      \
    oracle.install.db.OSBACKUPDBA_GROUP=dba                                \
    oracle.install.db.OSDGDBA_GROUP=dba                                    \
    oracle.install.db.OSKMDBA_GROUP=dba                                    \
    oracle.install.db.OSRACDBA_GROUP=dba                                   \
    SECURITY_UPDATES_VIA_MYORACLESUPPORT=false                             \
    DECLINE_SECURITY_UPDATES=true
```

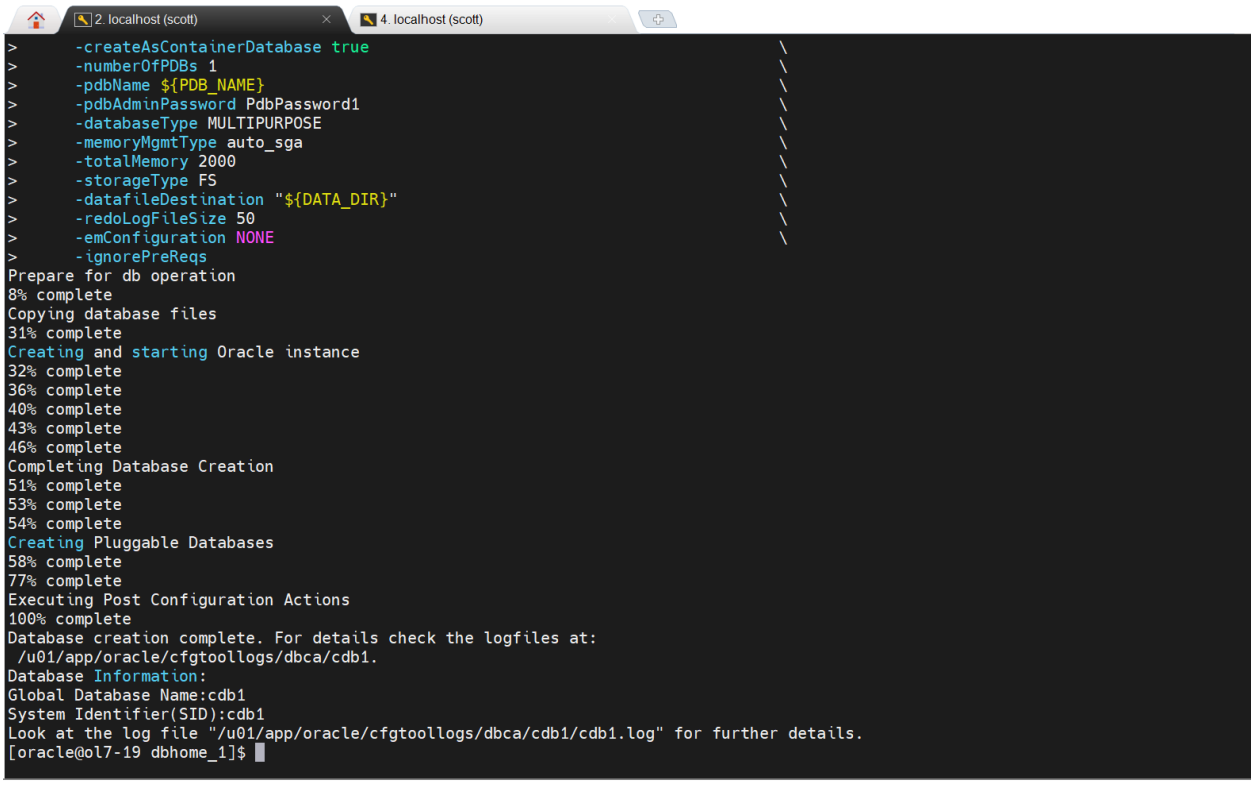


Figure 2. Install Oracle

Create a container Database.

```
dbca -silent -createDatabase                                                \
     -templateName General_Purpose.dbc                                      \
     -gdbname ${ORACLE_SID} -sid  ${ORACLE_SID} -responseFile NO_VALUE      \
     -characterSet AL32UTF8                                                 \
     -sysPassword SysPassword1                                              \
     -systemPassword SysPassword1                                           \
     -createAsContainerDatabase true                                       \
     -numberOfPDBs 1                                                        \
     -pdbName ${PDB_NAME}                                                   \
     -pdbAdminPassword PdbPassword1                                         \
     -databaseType MULTIPURPOSE                                             \
     -memoryMgmtType auto_sga                                               \
     -totalMemory 2000                                                      \
     -storageType FS                                                        \
     -datafileDestination "${DATA_DIR}"                                     \
     -redoLogFileSize 50                                                    \
     -emConfiguration NONE                                                  \
     -ignorePreReqs
```

```
2. localhost (scott)   4. localhost (scott)
[oracle@ol7-19 dbhome_1]$ clear
[oracle@ol7-19 dbhome_1]$ sqlplus

SQL*Plus: Release 19.0.0.0.0 - Production on Mon Apr 1 07:27:55 2024
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle.  All rights reserved.

Enter user-name: system
Enter password:

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL> SELECT USERNAME FROM ALL_USERS ORDER BY USERNAME;

USERNAME
------------------------------------------------------------------------------
ANONYMOUS
APPQOSSYS
AUDSYS
CTXSYS
DBSFWUSER
DBSNMP
DIP
DVF
DVSYS
GGSYS
GSMADMIN_INTERNAL

USERNAME
------------------------------------------------------------------------------
GSMCATUSER
GSMROOTUSER
GSMUSER
LBACSYS
MDDATA
```

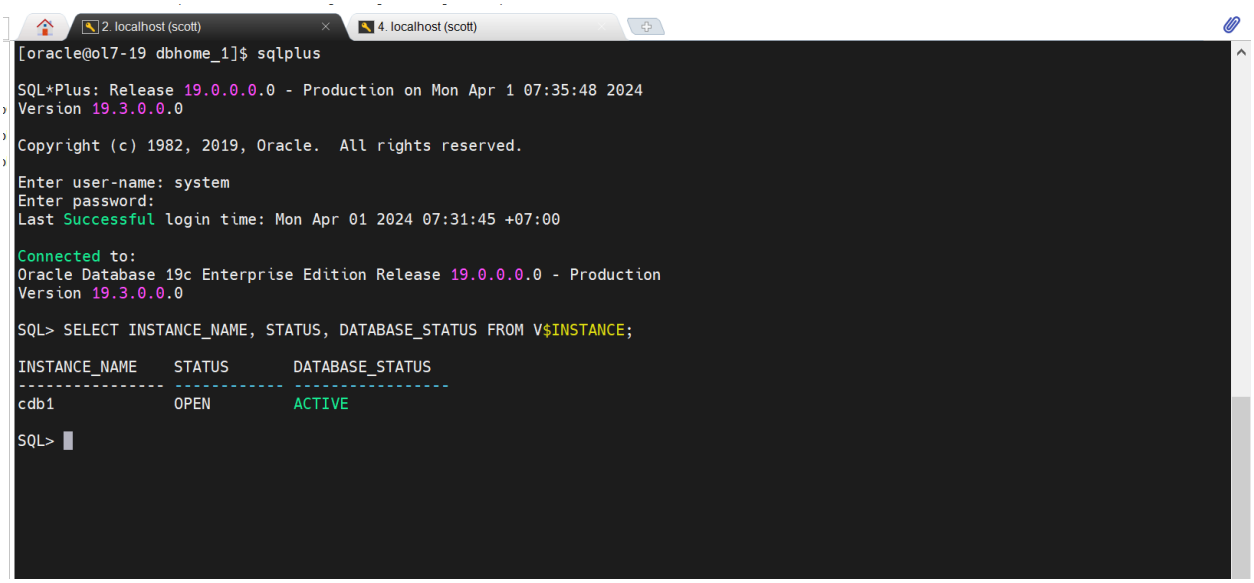


Figure 3. Pluggable Database

Lab 2. Spool Query Results

Snapshot to prevent issue before process the Lab 2.

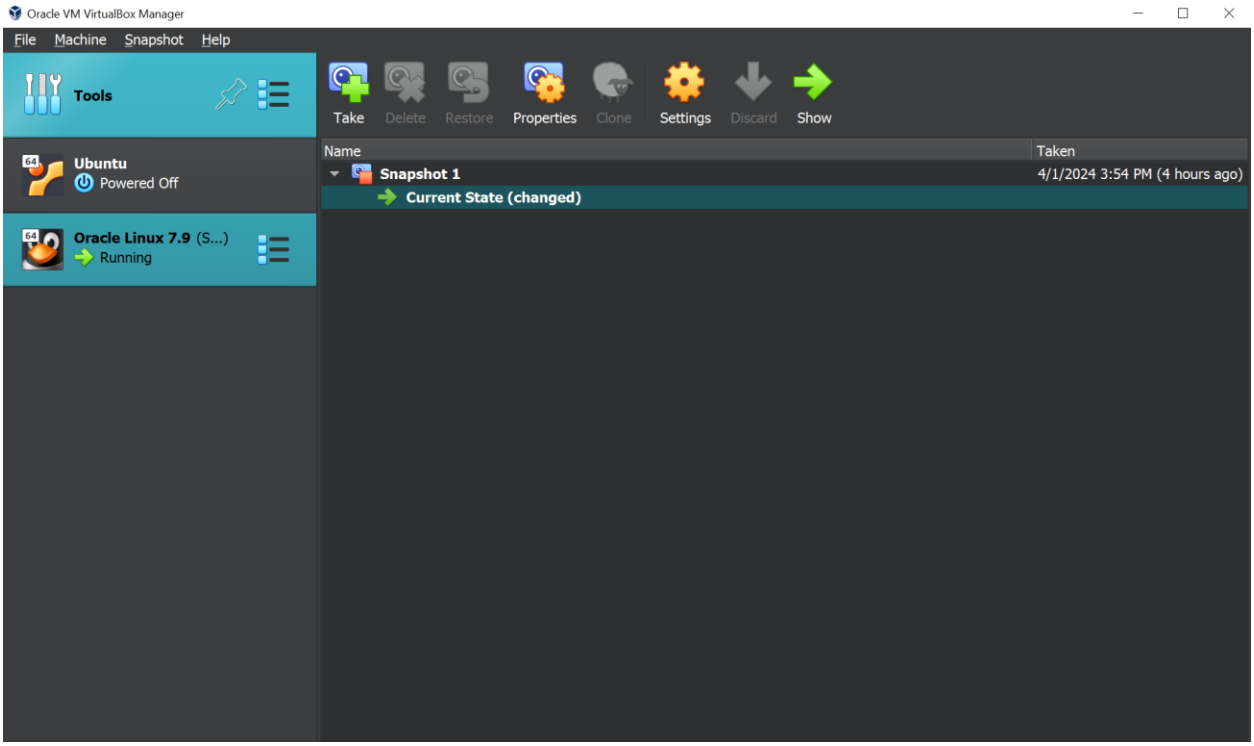


Figure 4. VM Snapshot

Create non-container database.

```
[oracle@ol7-19 ~]$ vi .bash_profile
[oracle@ol7-19 ~]$ cat .bash_profile
# .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:/usr/bin

export PATH



#Oracle Settings
export TMP=/tmp
export TMPDIR=$TMP

export ORACLE_HOSTNAME=ol7-19.localhost
export ORACLE_UNQNAME=SDB
export ORACLE_BASE=/u01/app/oracle
export ORACLE_HOME=$ORACLE_BASE/product/19.0.0/dbhome_1
export ORA_INVENTORY=/u01/app/oraInventory
export ORACLE_SID=SDB
export PDB_NAME=pdb1
export DATA_DIR=/u02/oradata

export PATH=/usr/sbin:/usr/local/bin:$PATH
export PATH=$ORACLE_HOME/bin:$PATH

export LD_LIBRARY_PATH=$ORACLE_HOME/lib:/lib:/usr/lib
export CLASSPATH=$ORACLE_HOME/jlib:$ORACLE_HOME/rdbms/jlib

[oracle@ol7-19 ~]$ . .bash_profile
```

```
dbca -silent -createDatabase                                                \
     -templateName General_Purpose.dbc                                      \
     -gdbname ${ORACLE_SID} -sid  ${ORACLE_SID} -responseFile NO_VALUE      \
     -characterSet AL32UTF8                                                 \
     -sysPassword SysPassword1                                              \
     -systemPassword SysPassword1                                           \
     -createAsContainerDatabase false                                       \
     -numberOfPDBs 1                                                        \
     -pdbName ${PDB_NAME}                                                   \
     -pdbAdminPassword PdbPassword1                                         \
     -databaseType MULTIPURPOSE                                             \
     -memoryMgmtType auto_sga                                               \
     -totalMemory 2000                                                      \
     -storageType FS                                                        \
     -datafileDestination "${DATA_DIR}"                                     \
     -redoLogFileSize 50                                                    \
     -emConfiguration NONE                                                  \
     -ignorePreReqs
```

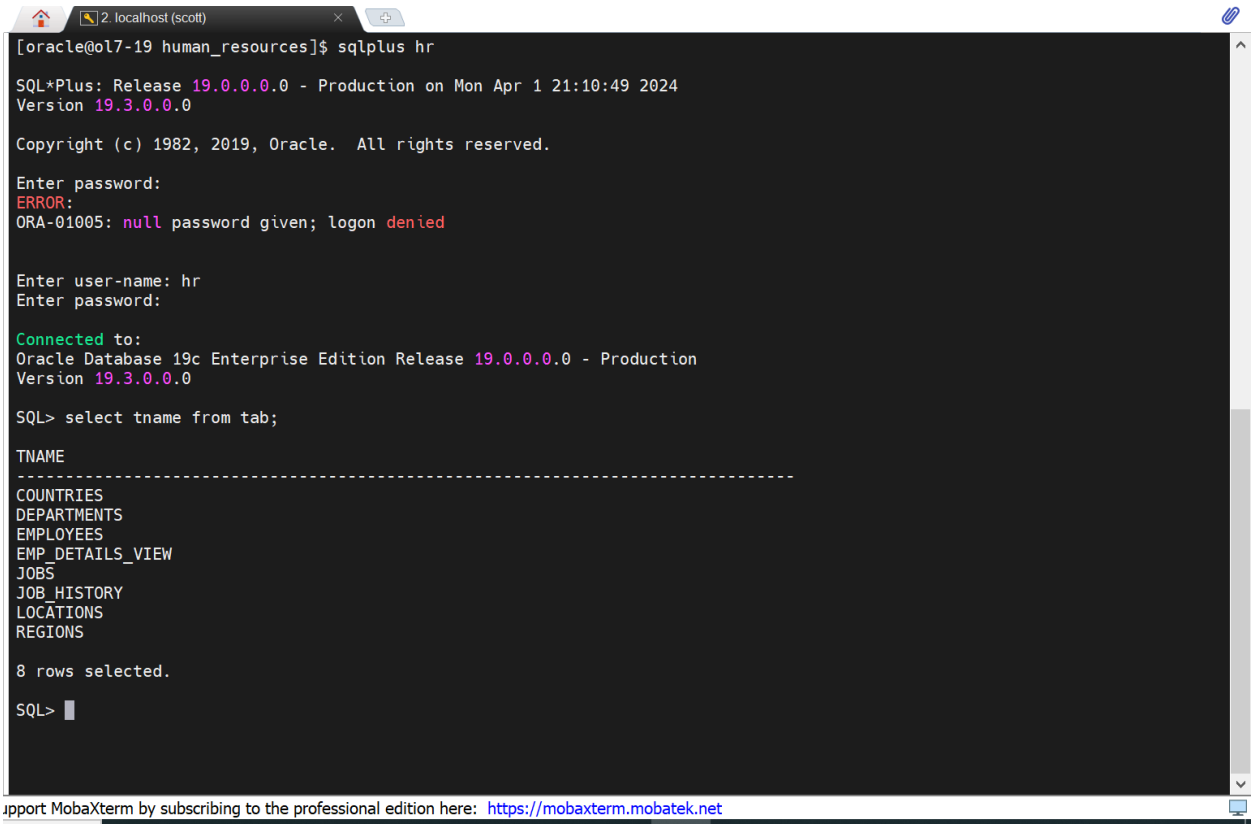


Figure 5. Demo Table

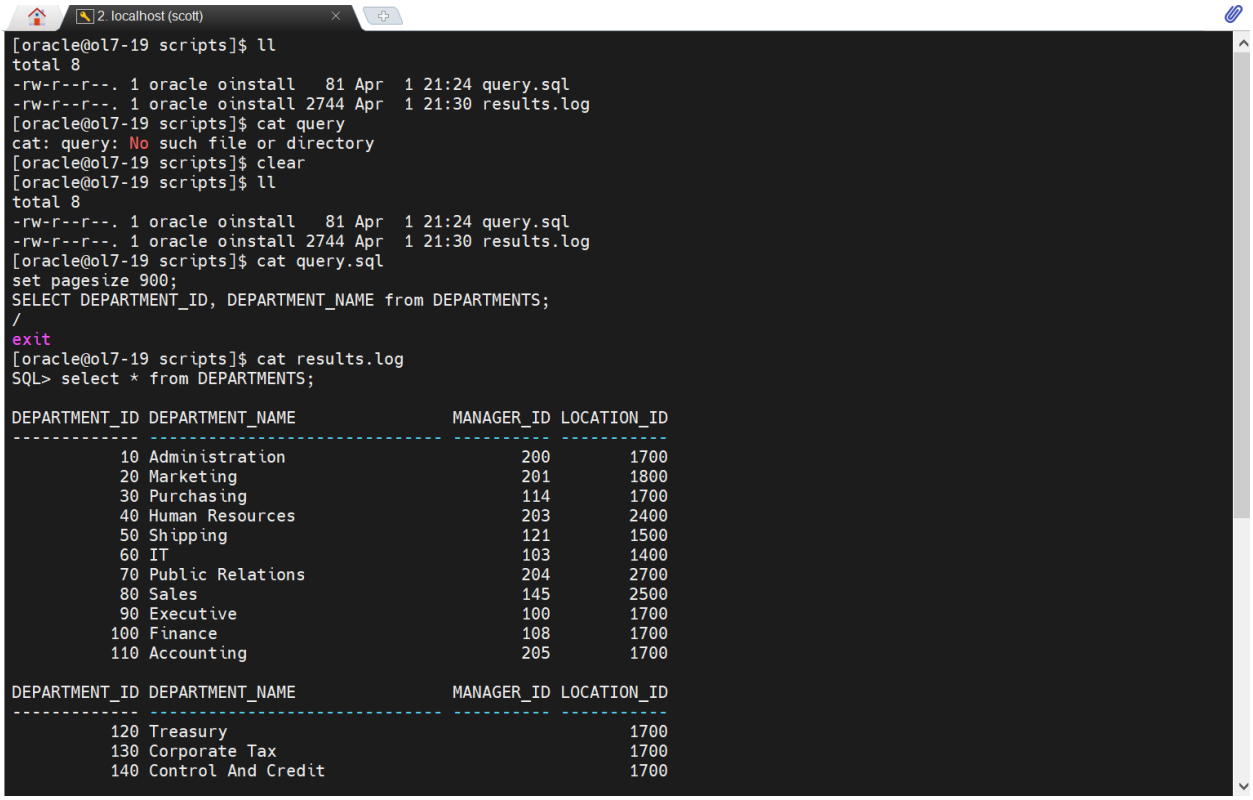


Figure 6. Query Select

Lab 3. PDB Clone

Restore from the previous snapshot.

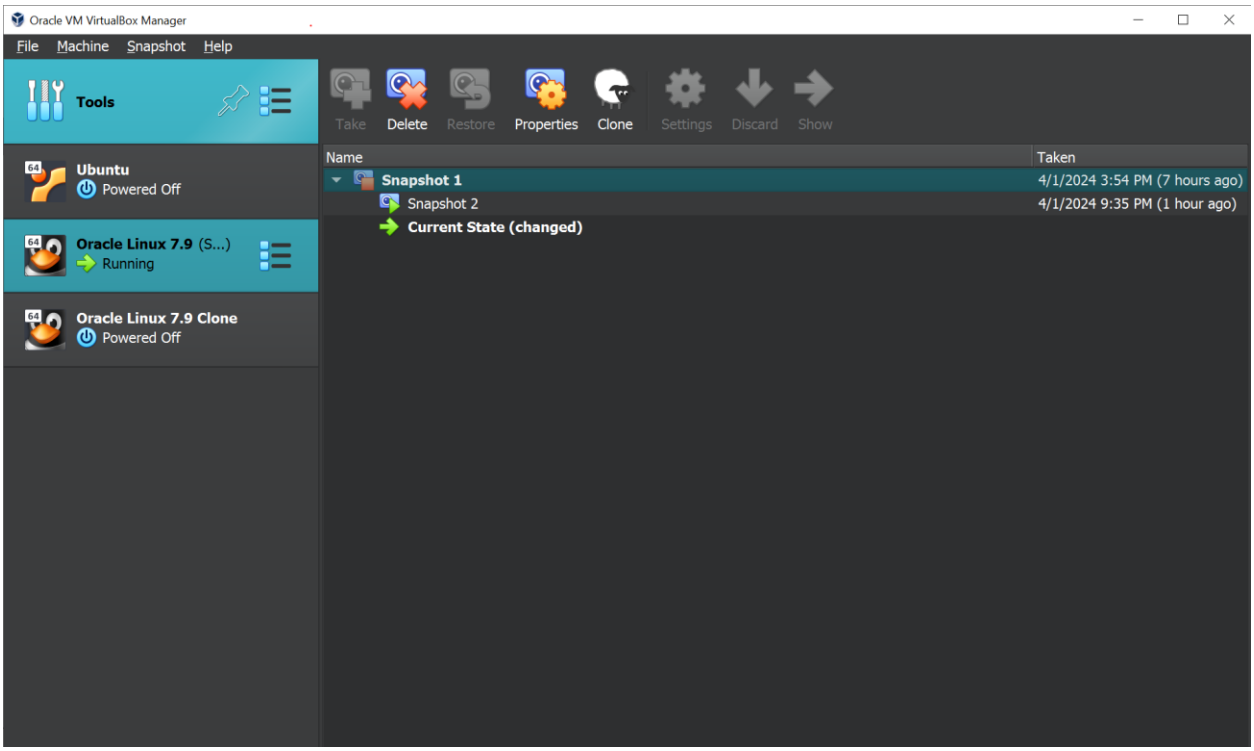


Figure 7. The previous snapshot

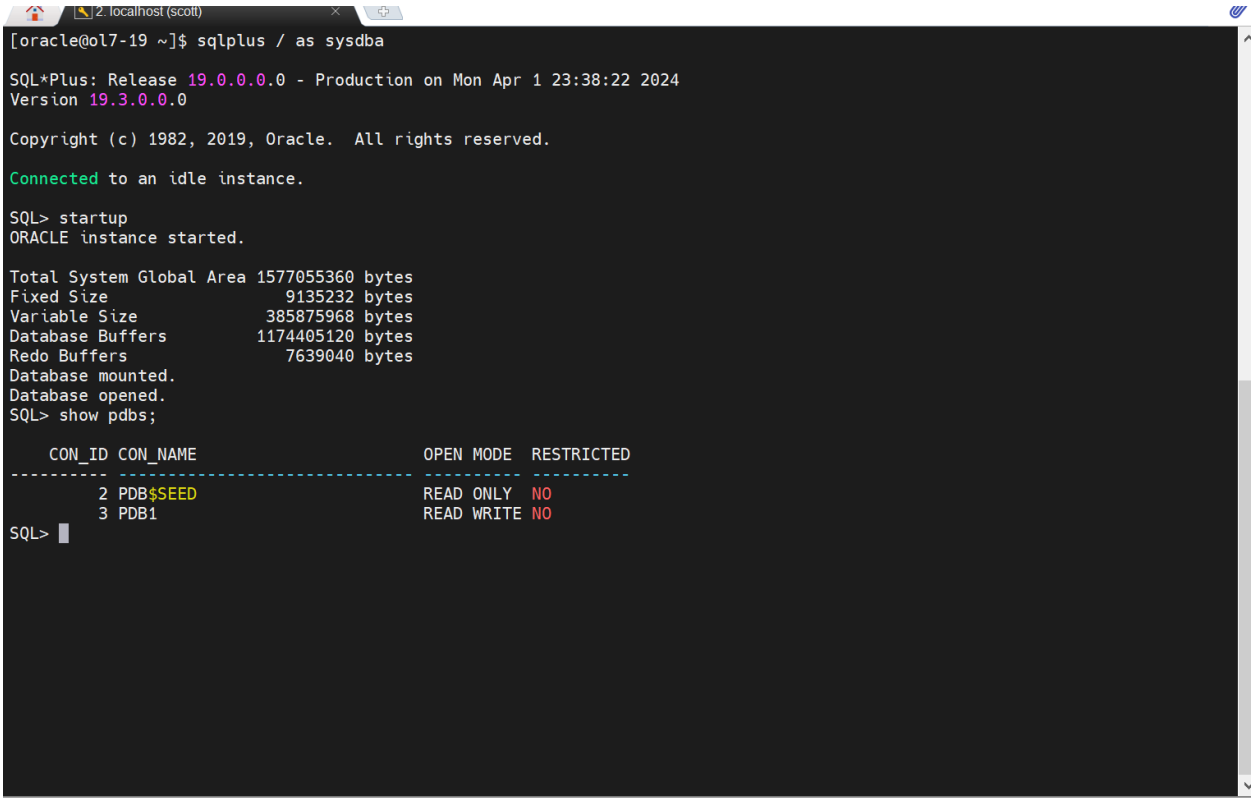
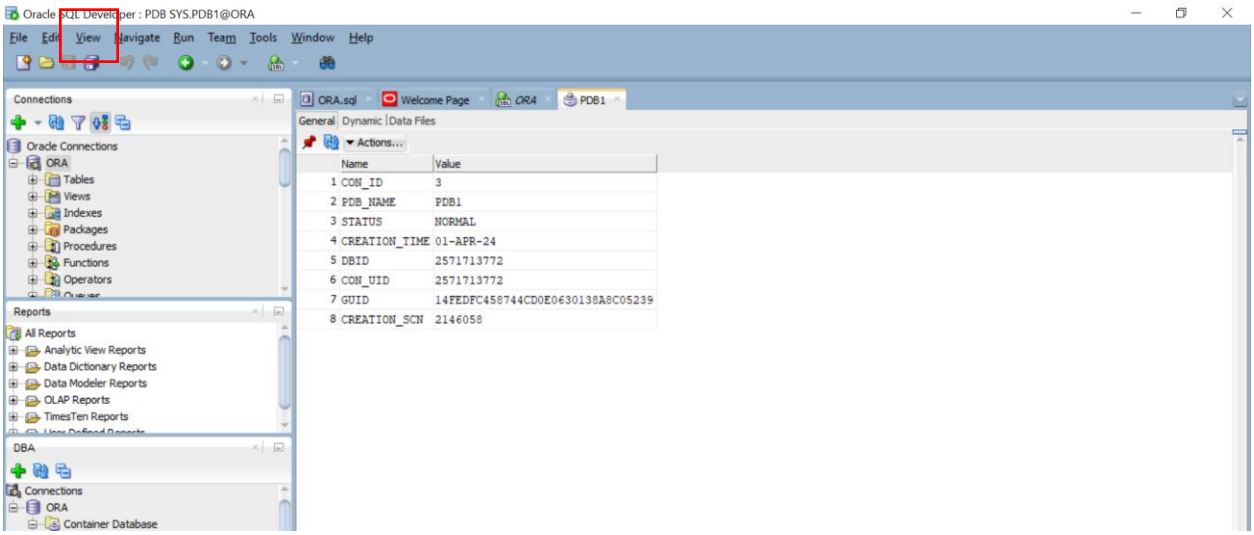
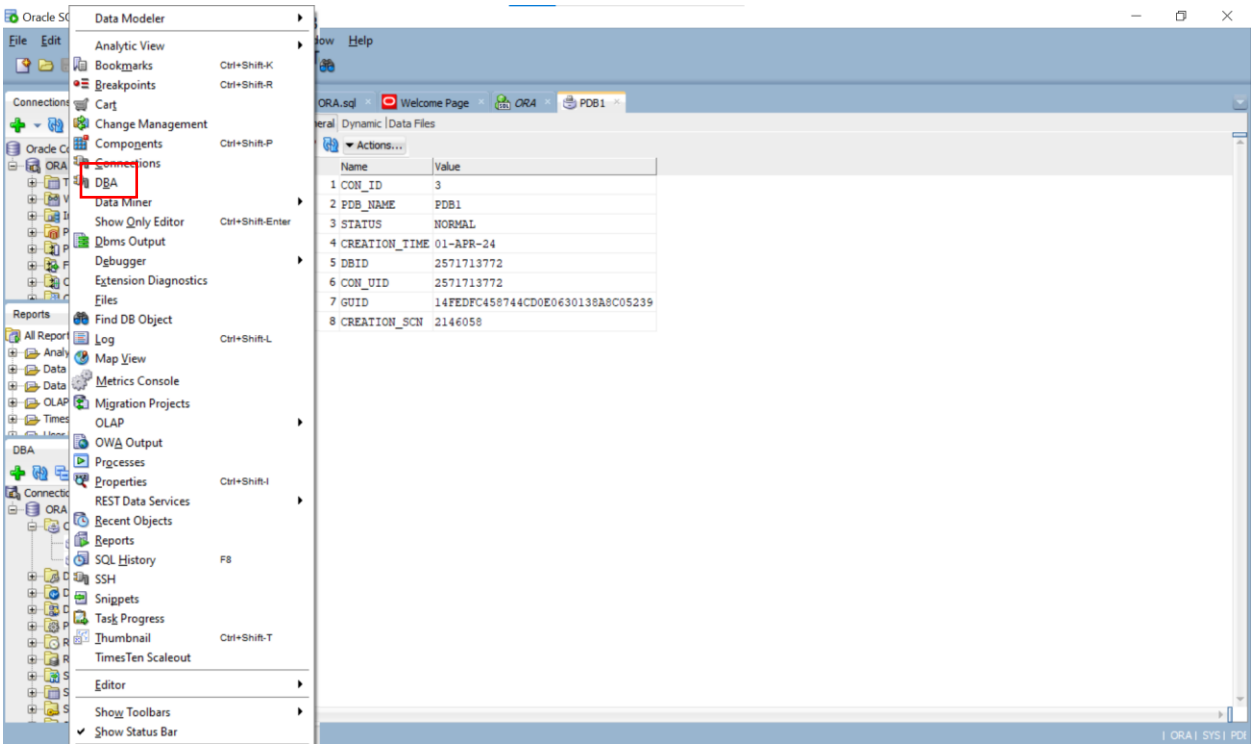


Figure 8. Pluggable Database

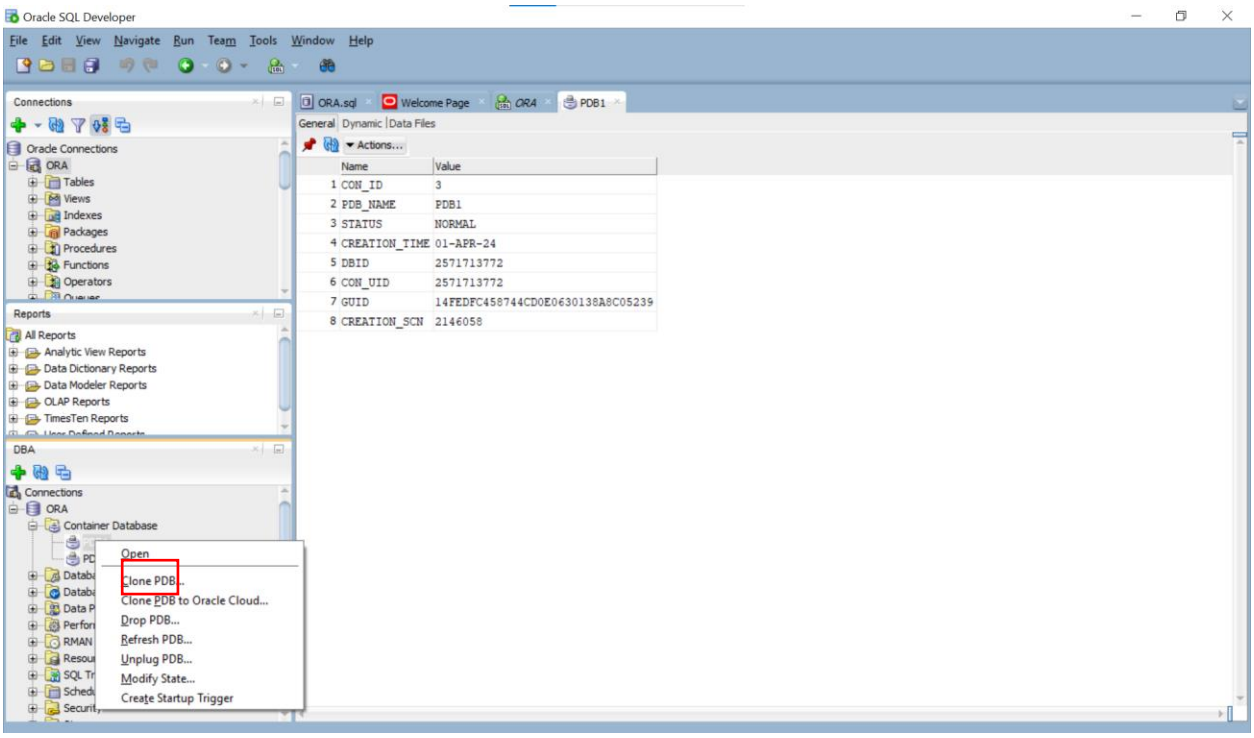
Clone Using SQL Developer by Click on “View”



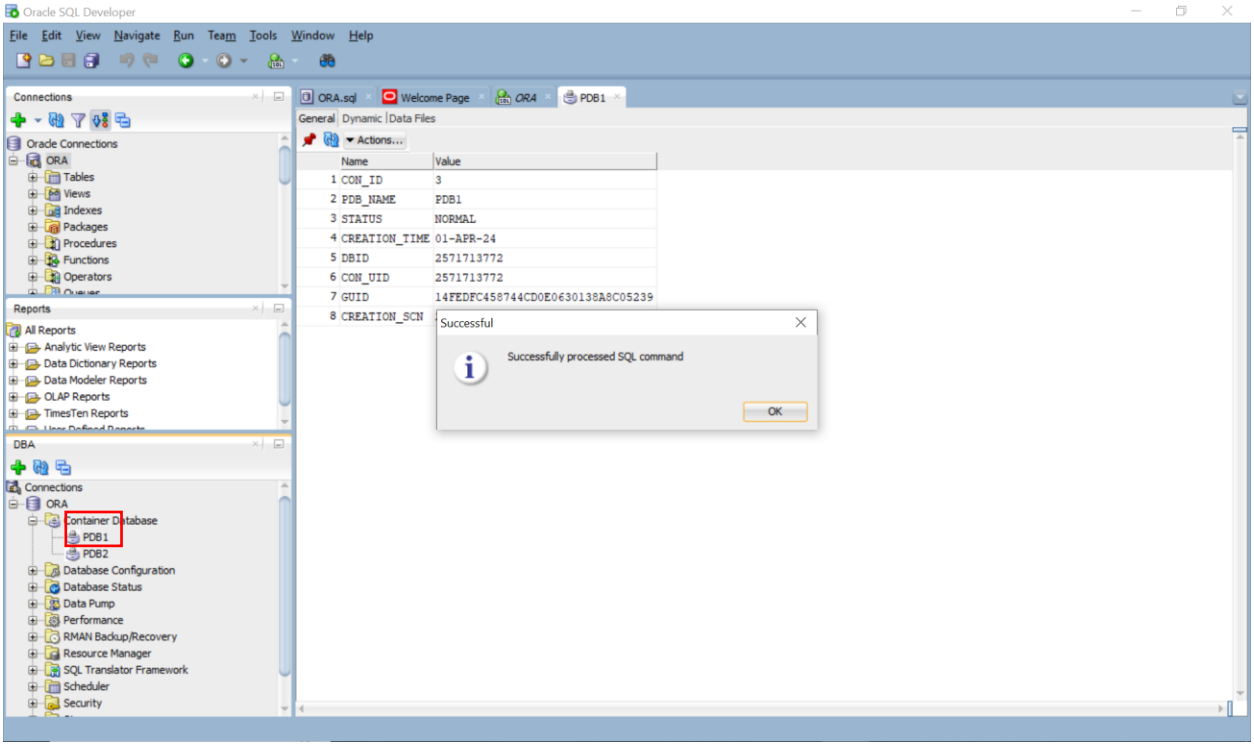
Click on “DBA”



Extent Container Database and Right Click on “PDB1” then Clone PDB



Now We Clone PDB successfully.



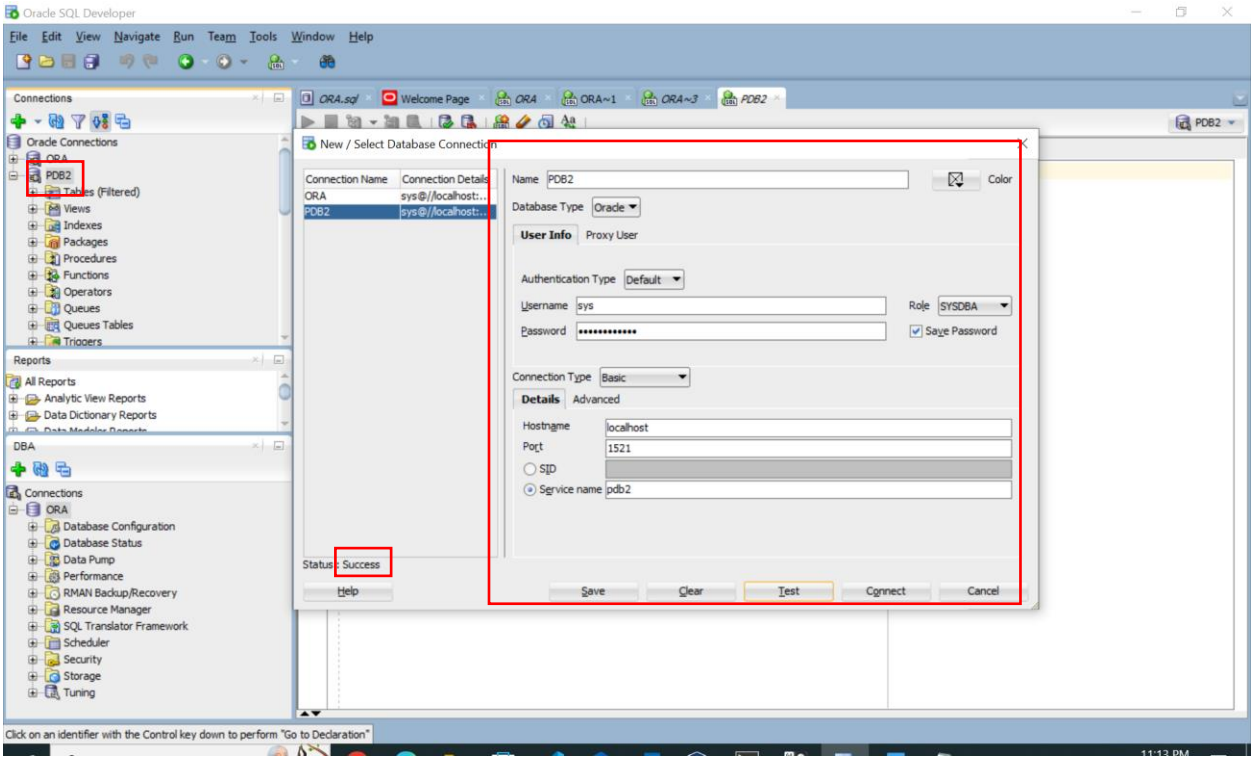
Add tns entry to tnsnames.ora

```
PDB2 =
(DESCRIPTION =
  (ADDRESS_LIST =
    (ADDRESS = (PROTOCOL = TCP)(HOST = ol7-19.localhost)(PORT = 1521))
  )
  (CONNECT_DATA =
    (SERVICE_NAME = pdb2)
  )
)
```

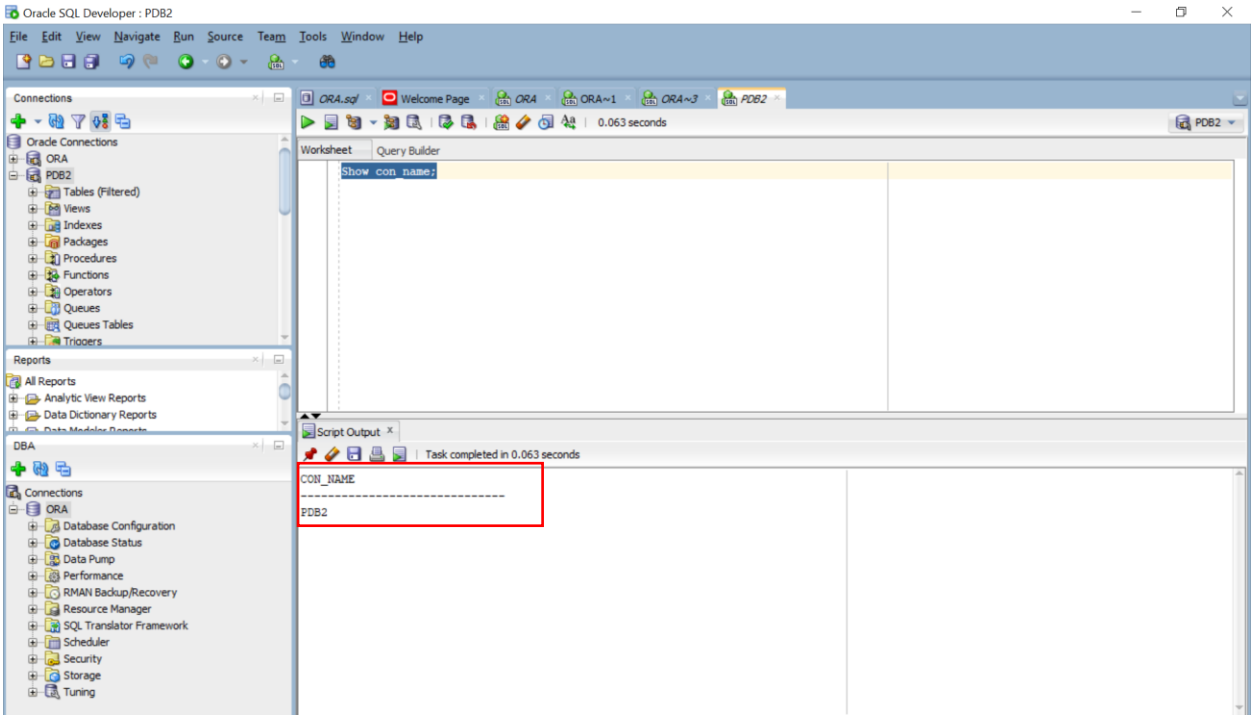
```
[oracle@ol7-19 admin]$ ll
total 20
-rw-r--r--. 1 oracle oinstall 4377 Apr  3 23:08 listener.ora
drwxr-xr-x. 2 oracle oinstall 4096 Apr  1 11:30 samples
-rw-r--r--. 1 oracle oinstall 1536 Feb 14  2018 shrept.lst
-rw-r--r--. 1 oracle oinstall  166 Apr  3 22:15 tnsnames.ora
[oracle@ol7-19 admin]$ cat tnsnames.ora

PDB2 =
(DESCRIPTION =
  (ADDRESS_LIST =
    (ADDRESS = (PROTOCOL = TCP)(HOST = ol7-19.localhost)(PORT = 1521))
  )
  (CONNECT_DATA =
    (SERVICE_NAME = pdb2)
  )
)
[oracle@ol7-19 admin]$
```

Add new connection to test in SQL Developer

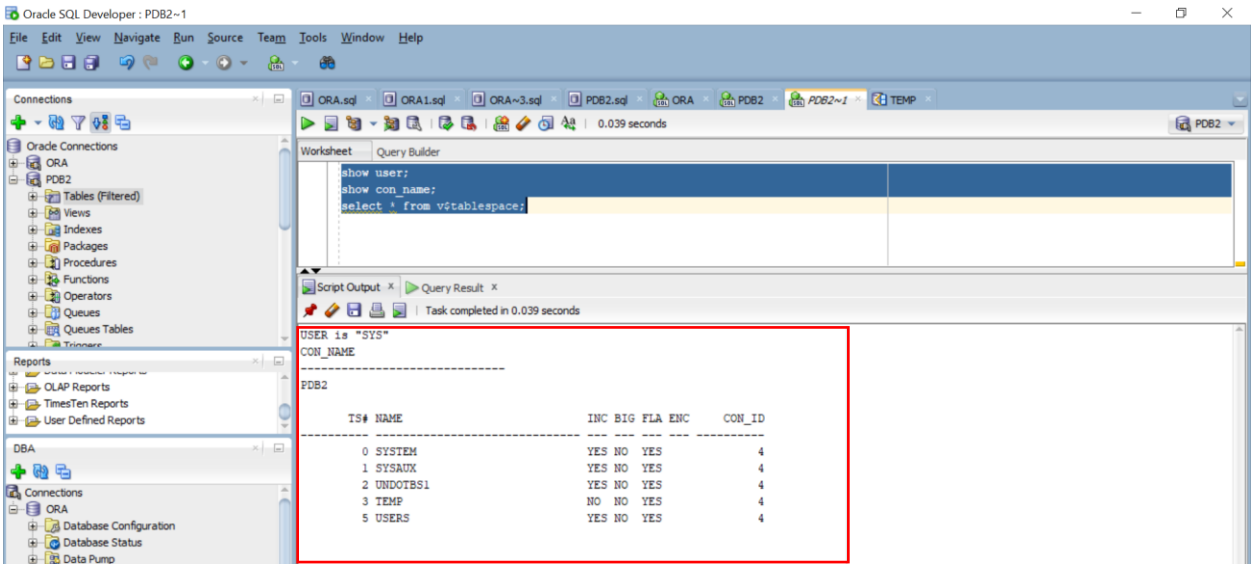


Show connection name.

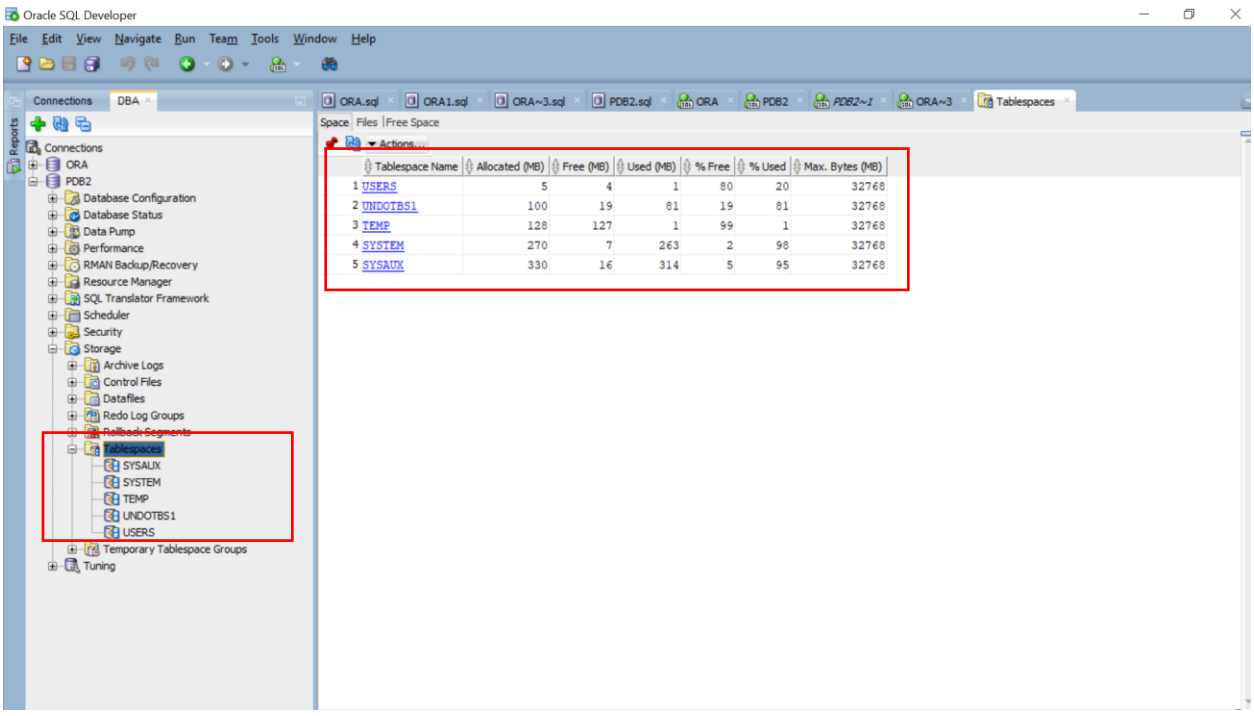


Lab 4. Tablespace + RAM

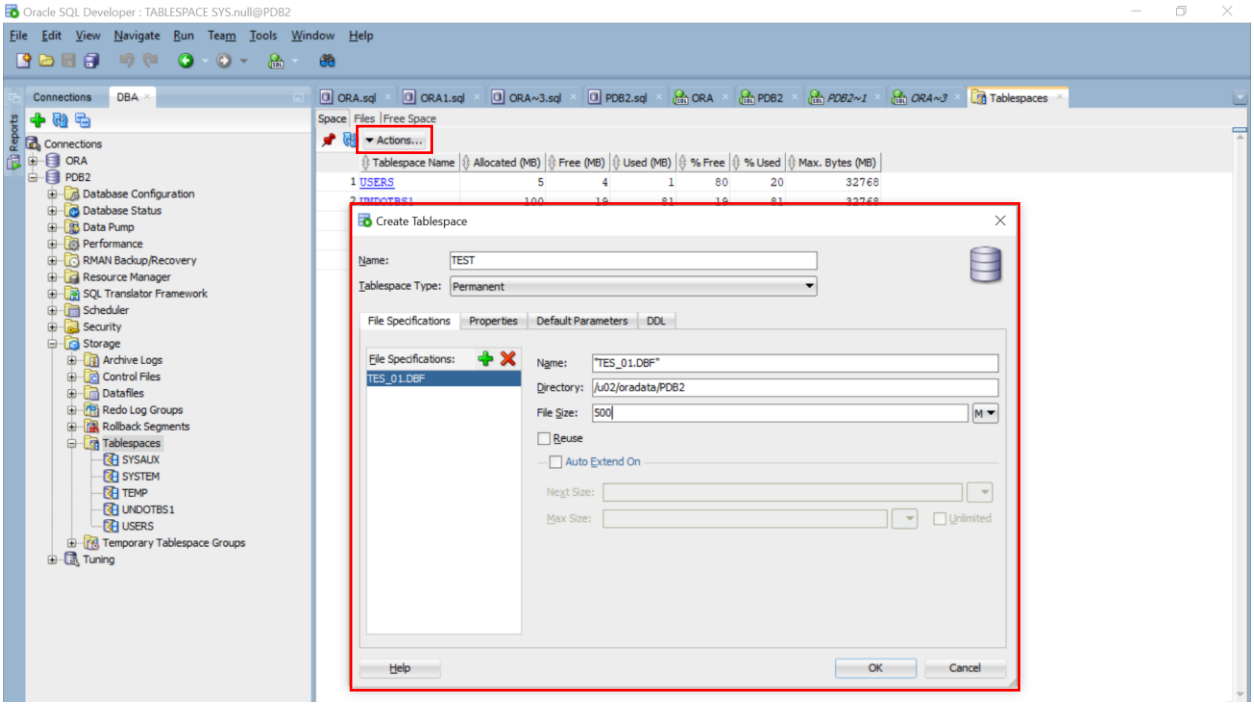
Check default tablespace of PDB2.

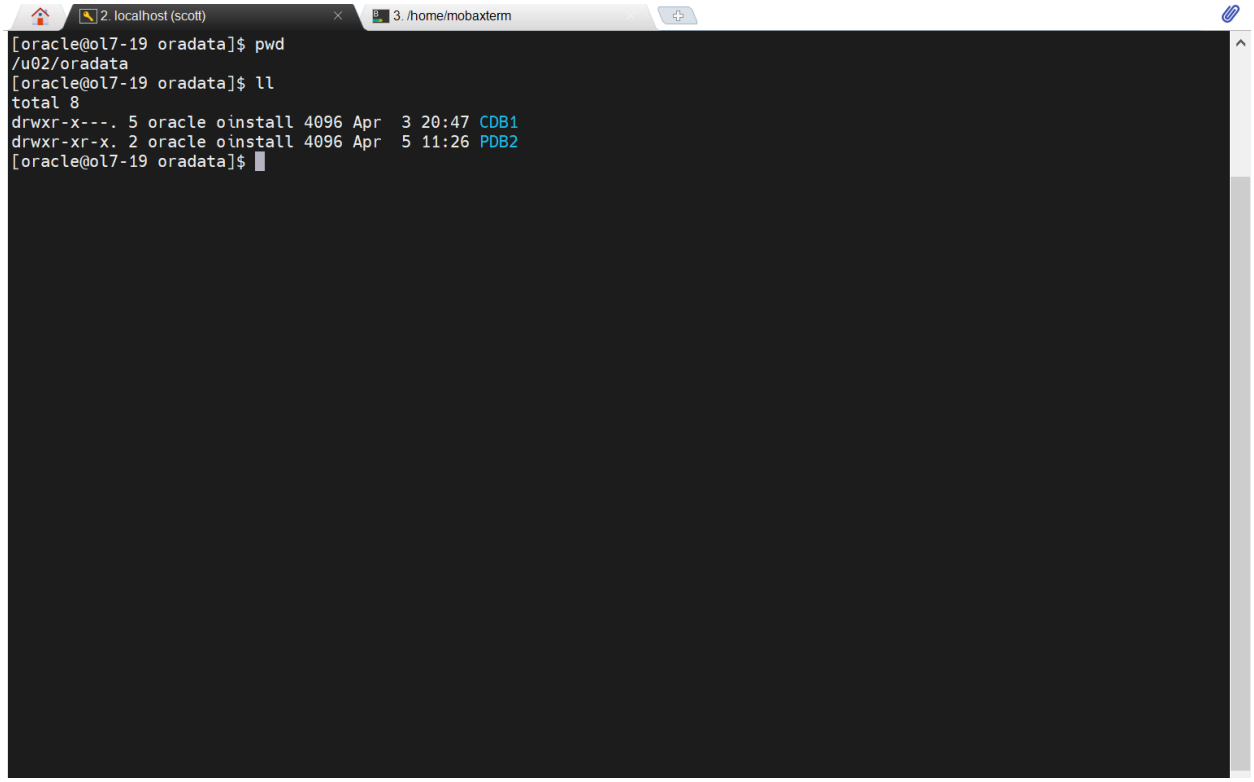


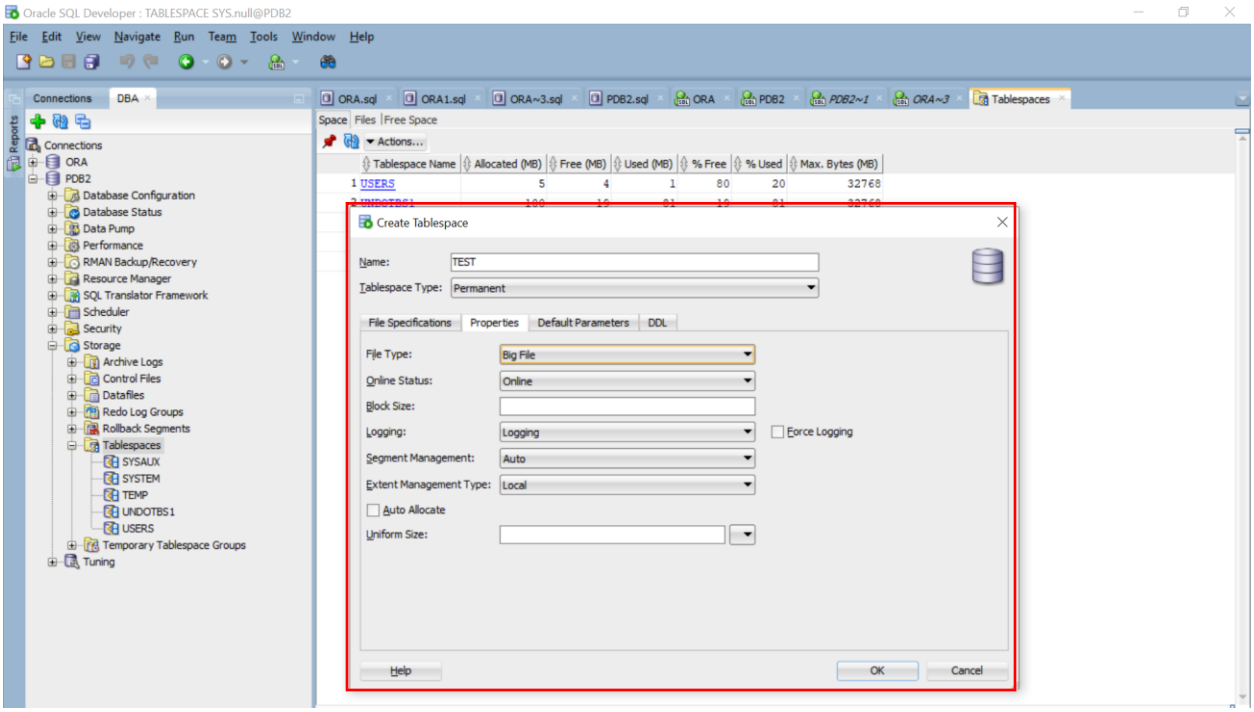
View as DBA

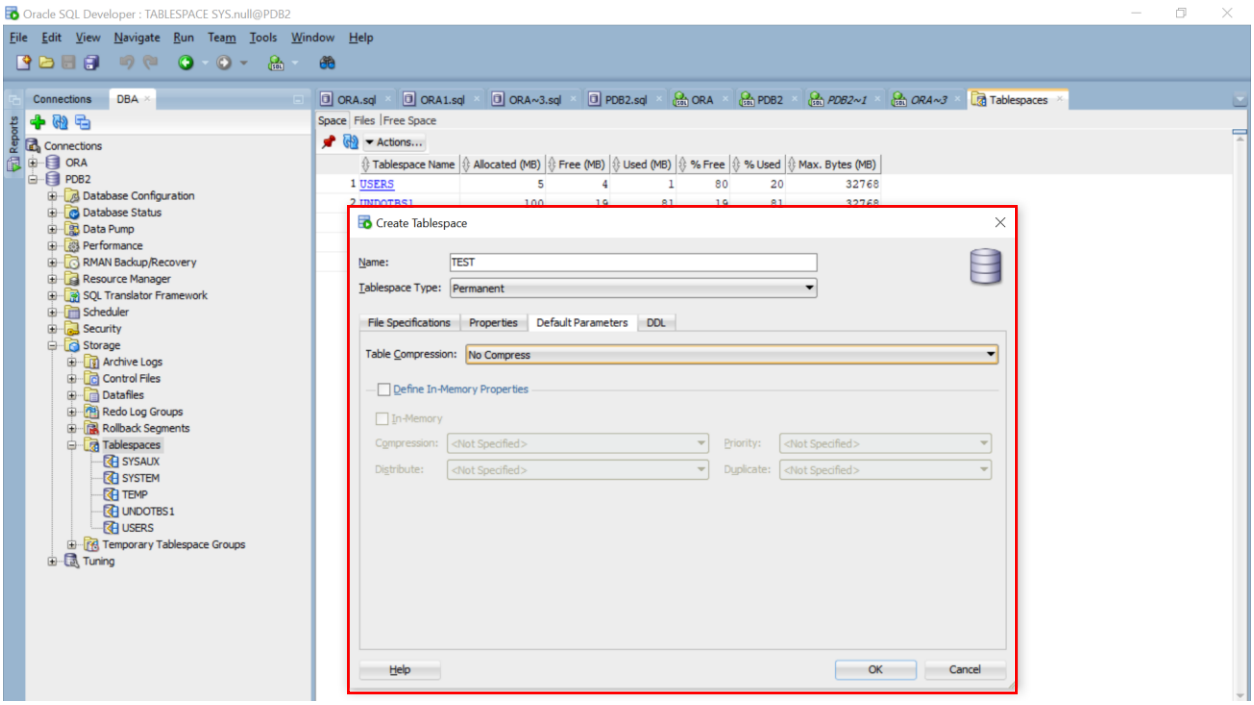


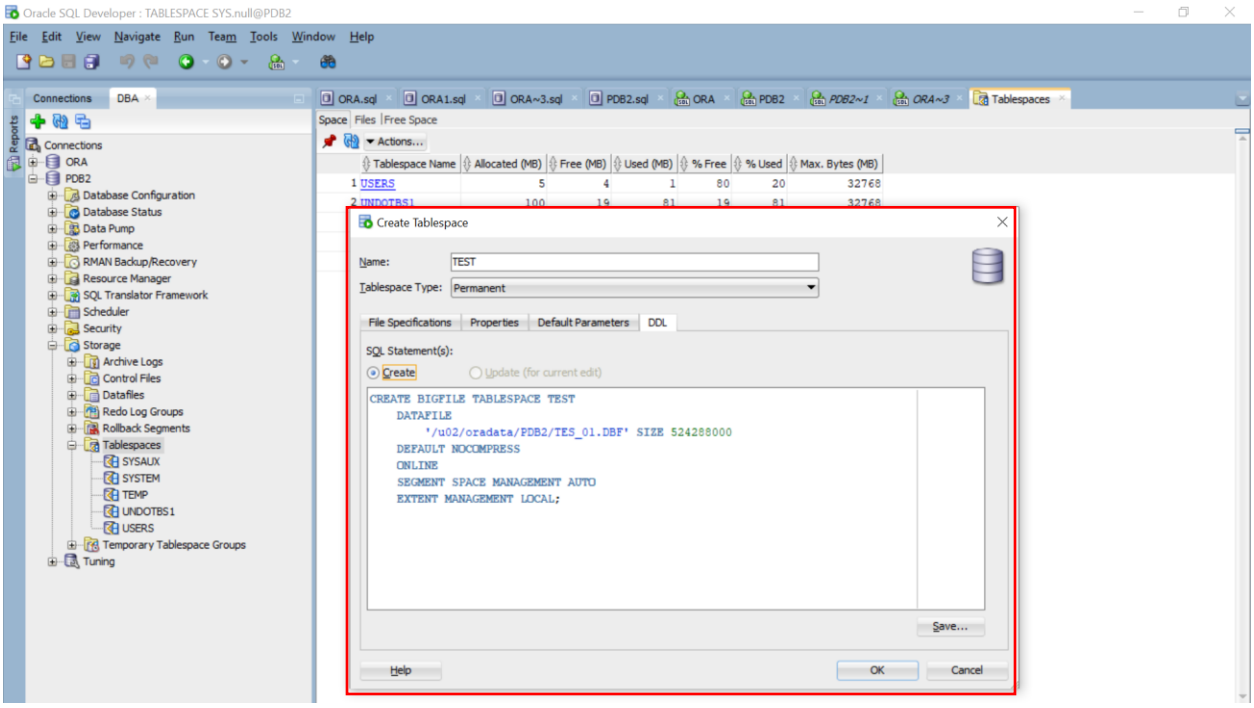
Create new tablespace using SQL Developer



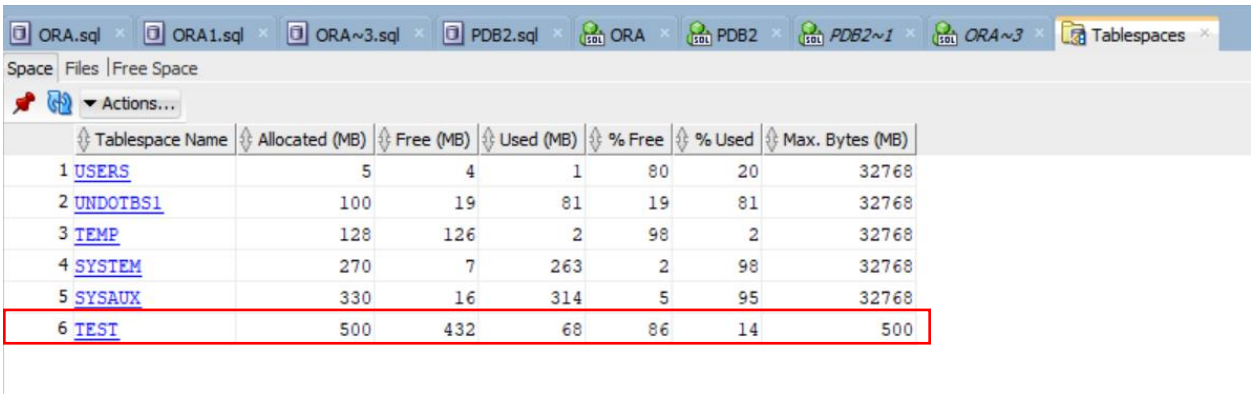



Oracle SQL Developer : TABLESPACE SYS.null@PDB2
File Edit View Navigate Run Team Tools Window Help
Connections DBA
ORA.sql ORA1.sql ORA~3.sql PDB2.sql ORA PDB2 PDB2~1 ORA~3 Tablespaces
Space Files Free Space
Actions...
Tablespace Name Allocated (MB) Free (MB) Used (MB) % Free % Used Max. Bytes (MB)
1 USERS 5 4 1 80 20 32768
Create Tablespace
Name: TEST
Tablespace Type: Permanent
File Specifications Properties Default Parameters DDL
File Type: Big File
Online Status: Online
Block Size:
Logging: Logging
Force Logging
Segment Management: Auto
Extent Management Type: Local
Auto Allocate
Uniform Size:
Help
OK
Cancel
Connections
ORA
PDB2
Database Configuration
Database Status
Data Pump
Performance
RMAN Backup/Recovery
Resource Manager
SQL Translator Framework
Scheduler
Security
Storage
Archive Logs
Control Files
Datafiles
Redo Log Groups
Rollback Segments
Tablespaces
SYSAUX
SYSTEM
TEMP
UNDOTBS1
USERS
Temporary Tablespace Groups
Tuning


Oracle SQL Developer : TABLESPACE SYS.null@PDB2
File Edit View Navigate Run Team Tools Window Help
Connections DBA
ORA.sql ORA1.sql ORA~3.sql PDB2.sql ORA PDB2 PDB2~1 ORA~3 Tablespaces
Space Files Free Space
Actions...
Tablespace Name Allocated (MB) Free (MB) Used (MB) % Free % Used Max. Bytes (MB)
1 USERS 5 4 1 80 20 32768
Create Tablespace
Name: TEST
Tablespace Type: Permanent
File Specifications Properties Default Parameters DDL
Table Compression: No Compress
Define In-Memory Properties
In-Memory
Compression: <Not Specified>
Priority: <Not Specified>
Distribute: <Not Specified>
Duplicate: <Not Specified>
Help
OK
Cancel
Connections
ORA
PDB2
Database Configuration
Database Status
Data Pump
Performance
RMAN Backup/Recovery
Resource Manager
SQL Translator Framework
Scheduler
Security
Storage
Archive Logs
Control Files
Datafiles
Redo Log Groups
Rollback Segments
Tablespaces
SYSAUX
SYSTEM
TEMP
UNDOTBS1
USERS
Temporary Tablespace Groups
Tuning

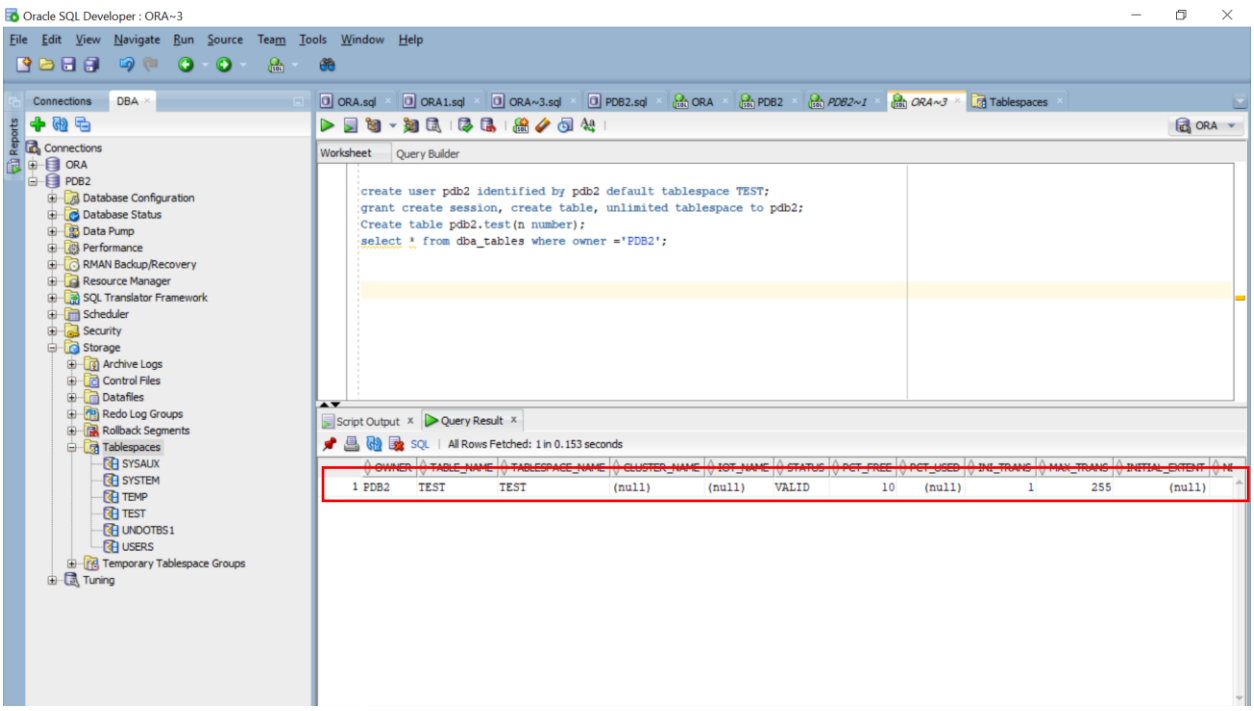


Click On Ok



Create a user and assign tablespace to the user.

```
CREATE USER PDB2 IDENTIFIED BY PDB2 DEFAULT TABLESPACE TEST;
GRANT CREATE SESSION, CREATE TABLE, UNLIMITED TABLESPACE TO PDB2;
CREATE TABLE PDB2.TEST(N NUMBER);
SELECT * FROM DBA_TABLES WHERE OWNER ='PDB2';
```



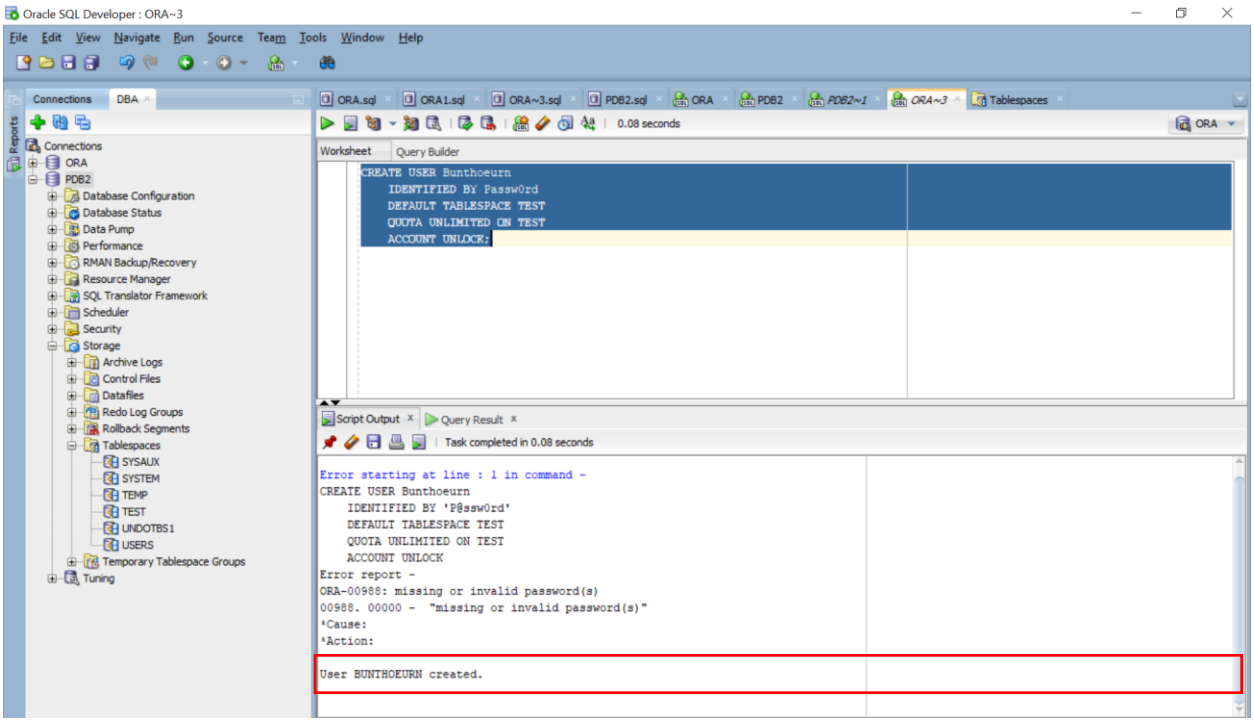
Lab 5. User Creation

Basic syntax:

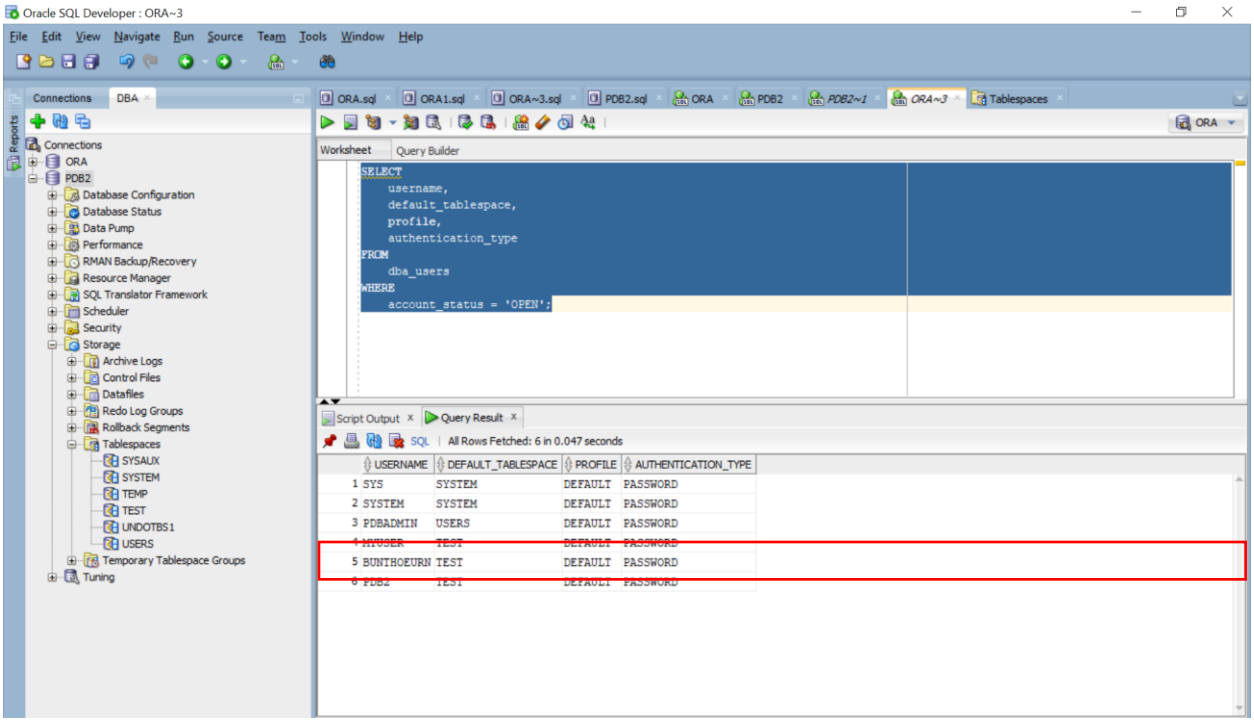
```
CREATE USER username
    IDENTIFIED BY password
    [DEFAULT TABLESPACE tablespace]
    [QUOTA {size | UNLIMITED} ON tablespace]
    [PROFILE profile]
    [PASSWORD EXPIRE]
    [ACCOUNT {LOCK | UNLOCK}];
```

Example 1:

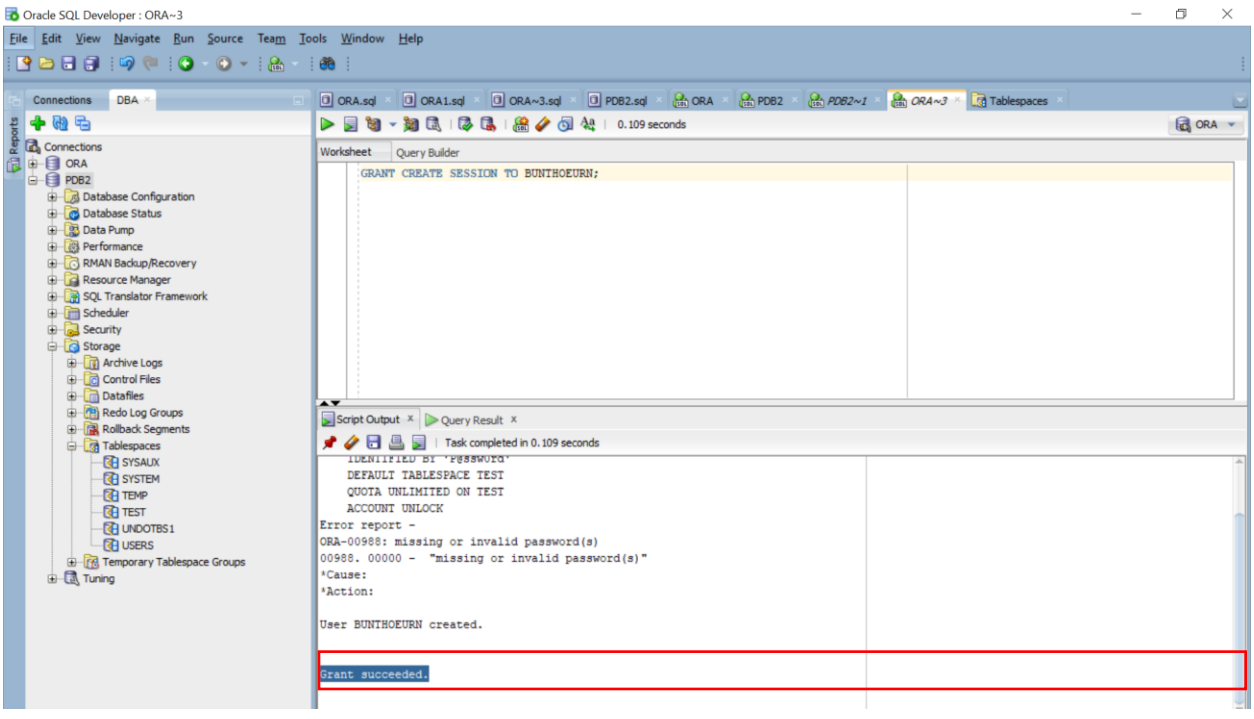
```
CREATE USER Bunthoeurn
    IDENTIFIED BY Passw0rd
    DEFAULT TABLESPACE TEST
    QUOTA UNLIMITED ON TEST
    ACCOUNT UNLOCK;
```




```sql
SELECT
    username,
    default_tablespace,
    profile,
    authentication_type
FROM
    dba_users
WHERE
    account_status = 'OPEN';
```

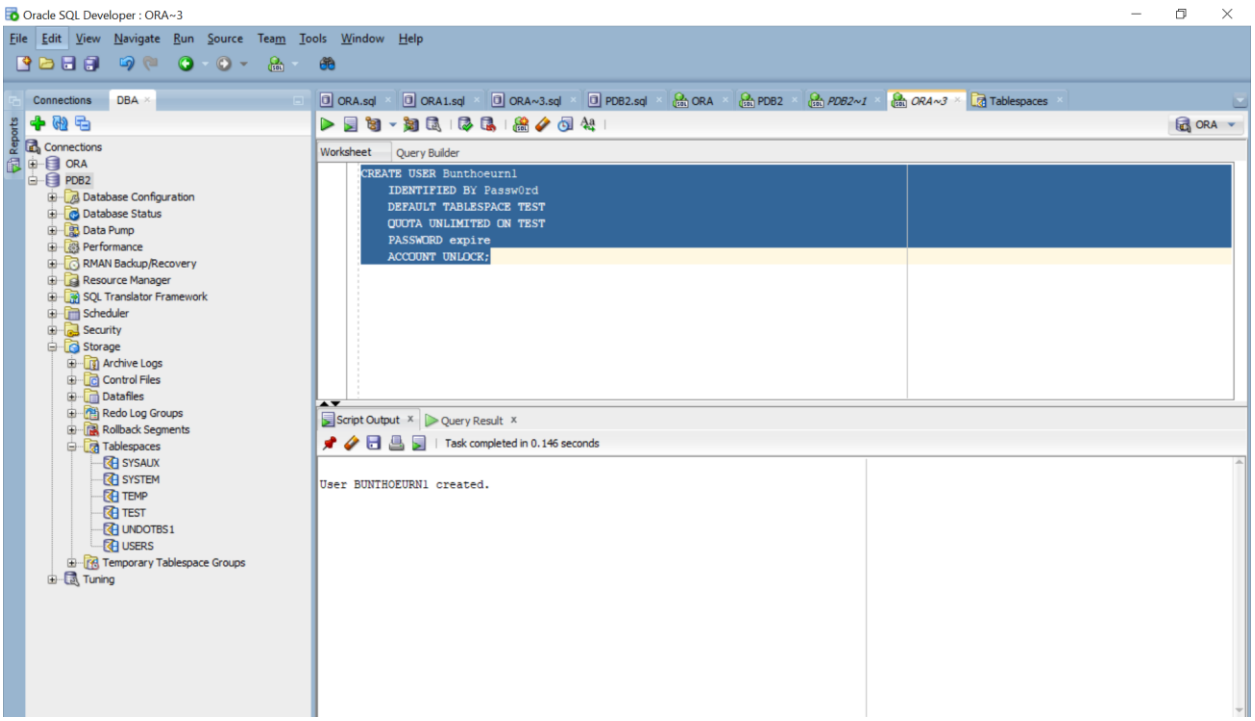


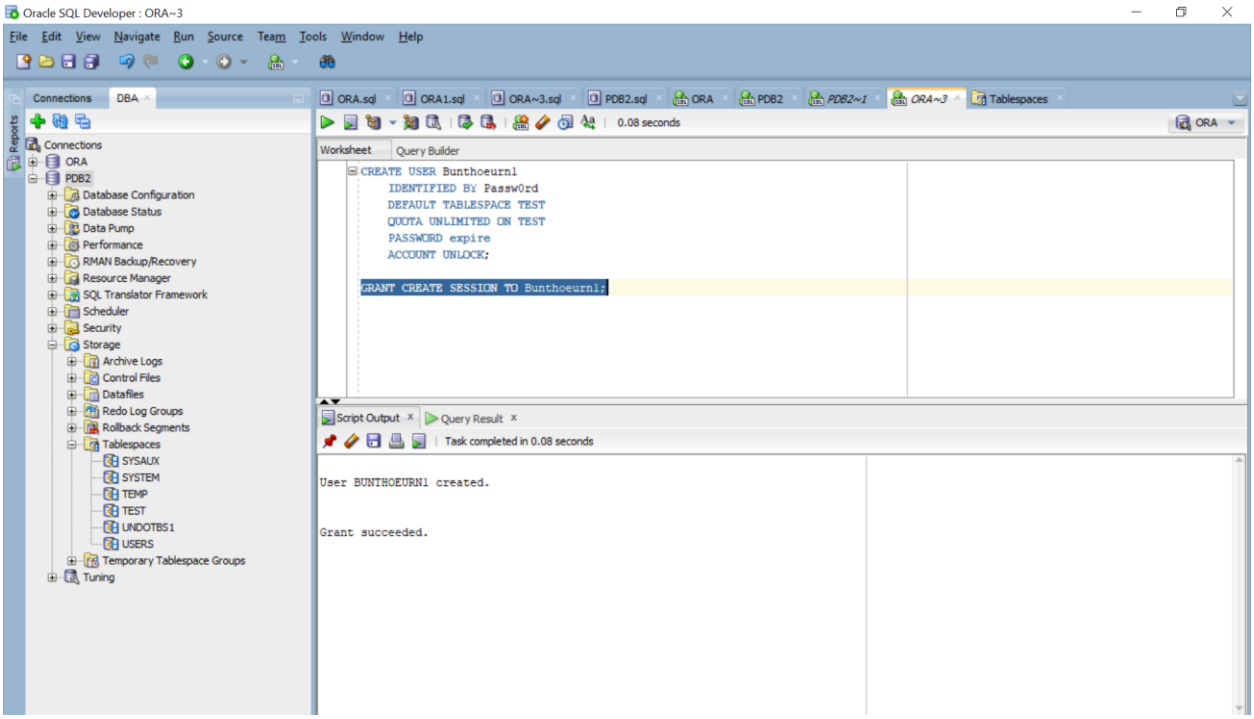

```
GRANT CREATE SESSION TO BUNTHOEURN;
```

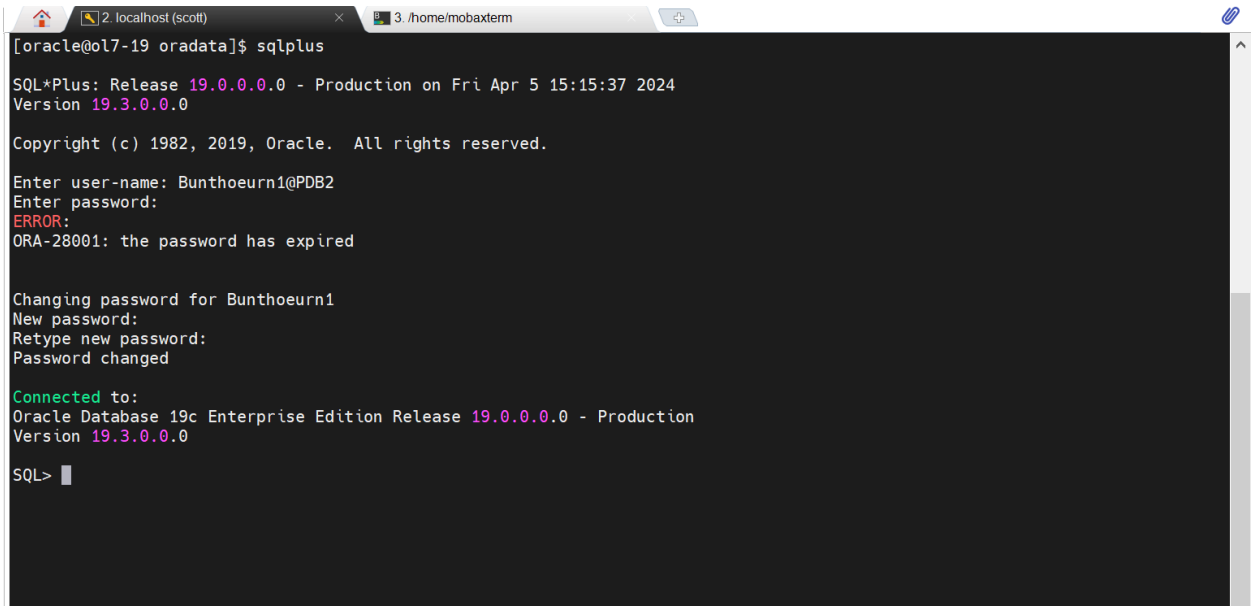


Example 2:

```
CREATE USER Bunthoeurn1
    IDENTIFIED BY Passw0rd
    DEFAULT TABLESPACE TEST
    QUOTA UNLIMITED ON TEST
    PASSWORD EXPIRE
    ACCOUNT UNLOCK;
```







Lab 6: Move Segment

Lab 7: User Role & Profile Policy

Now we are working on PDB4.

```
[oracle@ol7-19 schema]$ cd $ORACLE_HOME/demo/schema/human_resources
[oracle@ol7-19 human_resources]$ clear
[oracle@ol7-19 human_resources]$ sqlplus / as sysdba

SQL*Plus: Release 19.0.0.0.0 - Production on Sat Apr 6 18:06:35 2024
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle.  All rights reserved.


Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL> show pdbs

    CON_ID CON_NAME                       OPEN MODE  RESTRICTED
---------- ------------------------------ ---------- ----------
         2 PDB$SEED                       READ ONLY  NO
         3 PDB3                           MOUNTED
         4 PDB4                           READ WRITE NO
SQL> alter session set container = PDB4;

Session altered.

SQL> @hr_main.sql
```

Then input value:

```
1 value=hr
2 value=user
3 value=temp
4 value= $ORACLE_HOME/demo/schema/log
```

Go to login on SQL developer:

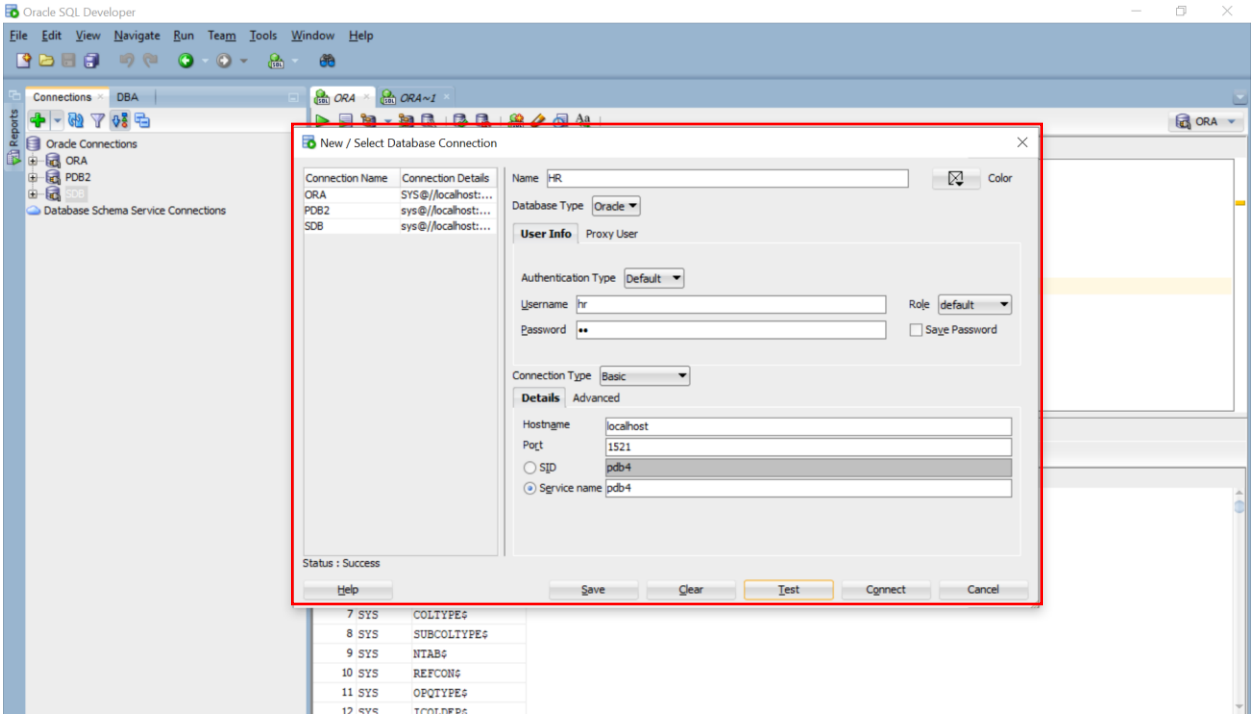


Figure 9. Connect to database

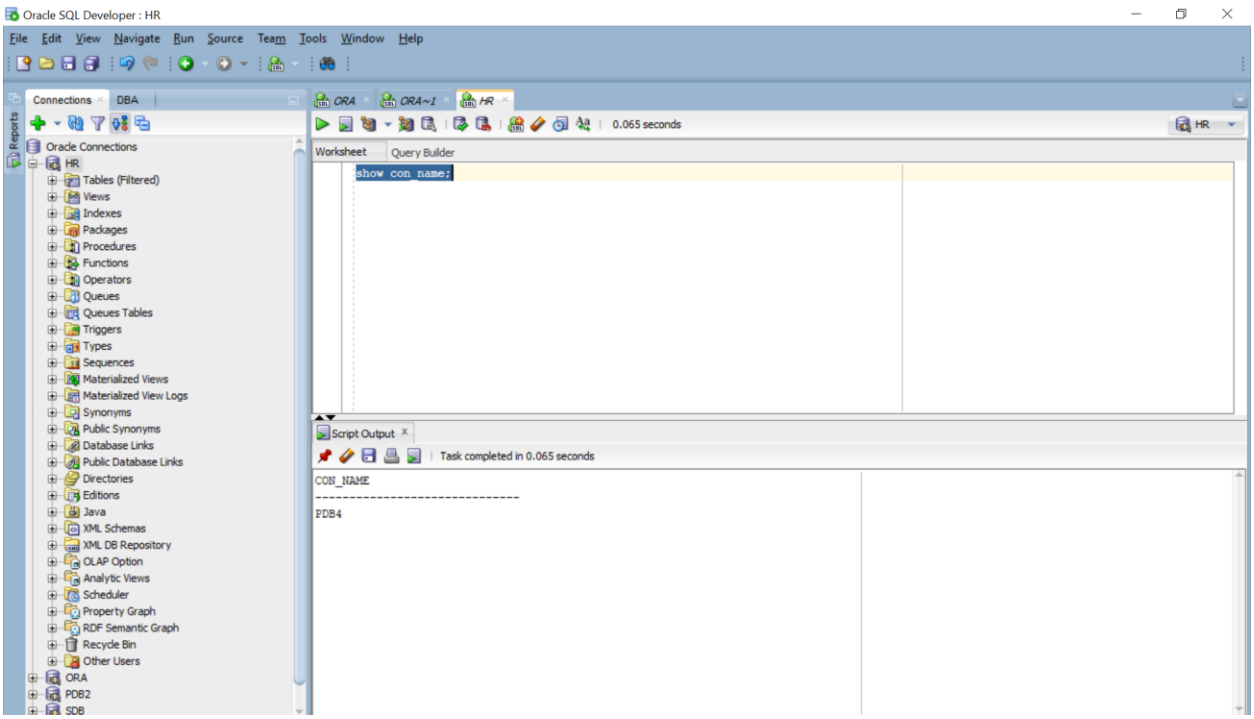


Figure 10. Connect to database

Show all privileges.

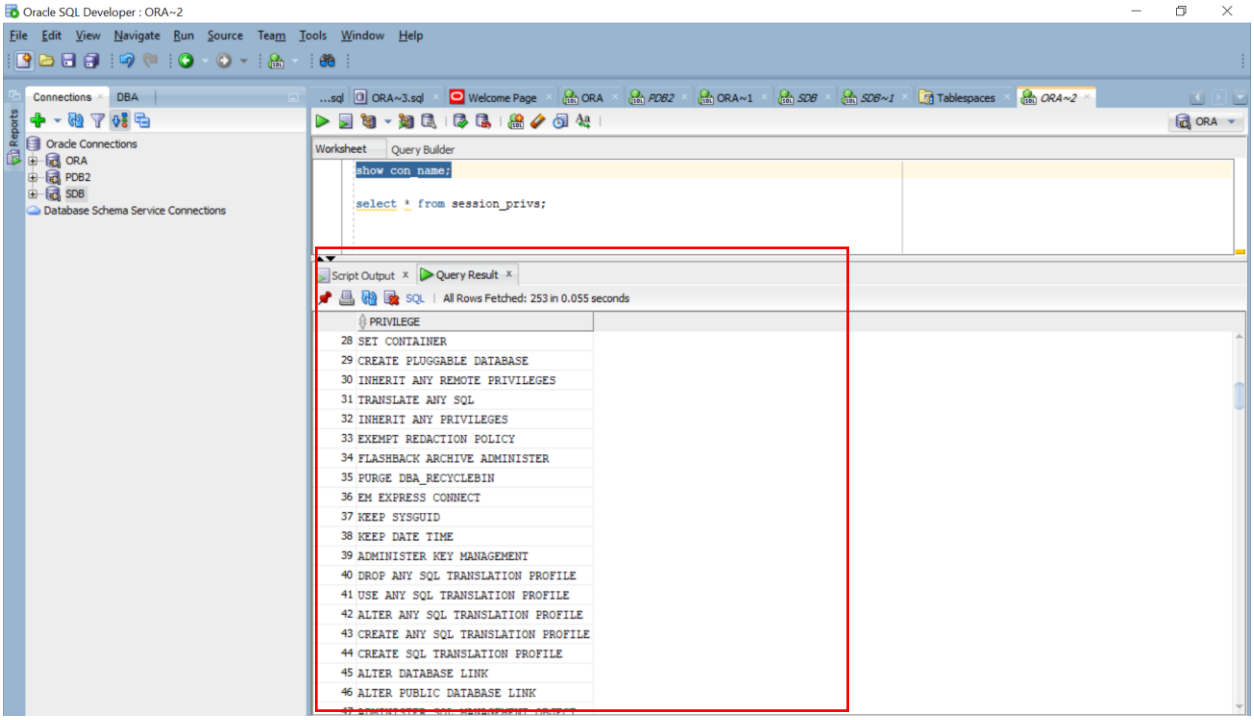


Figure 11. Show all privileges

Let's dev into create user roles base on Figure 2 below.

B	C	D	E
Role :	Developer	- can be connect to db - manage own resource - select, update all exclude salaray on EMP table - select on table DEPT	
Role :	BI_report	- can be connect to db - manage own resource - select on all table & view in HR schema	
User :	dev01 , dev02 , dev03	with Role dev	
User :	Bi01	with Role BI	
User :	dba_jonh	role Dba	
User:	Bi01	Password must be complex : min(10char)	
		Password need to be change on next 90days	
		Fail attempt login 3time	
		session idle only 5mins	
		Password grace 3 days	

Figure 12. User Role and Profile Policy

```
[oracle@ol7-19 human_resources]$ sqlplus / as sysdba

SQL*Plus: Release 19.0.0.0.0 - Production on Sat Apr 6 18:14:21 2024
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle.  All rights reserved.


Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL> Create role BI_report;
Create role BI_report
            *
ERROR at line 1:
ORA-65096: invalid common user or role name
```

```
SQL> alter session set container=PDB4;

Session altered.

SQL> CREATE ROLE BI_report;

Role created.

SQL> Create role Developer;

Role created.

SQL>
```

We also can go to SQL Developer to grant permission to **Developer**.

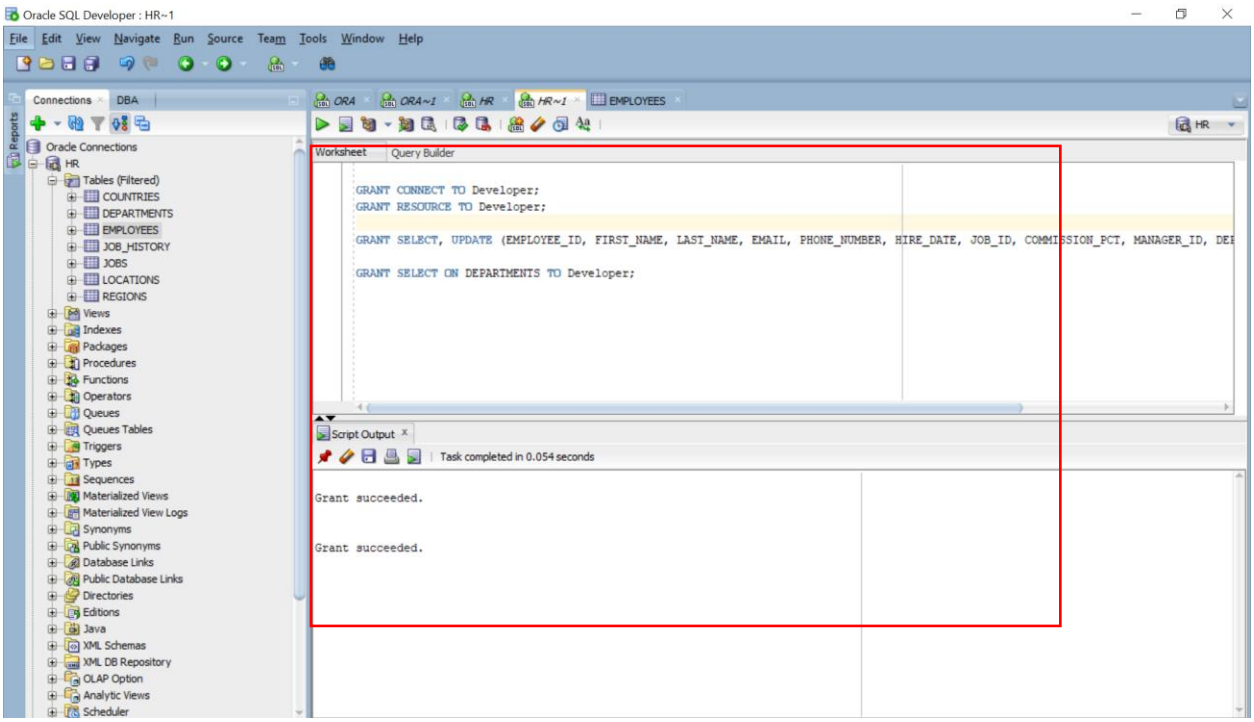


Figure 13. Grant permission to role Developer

```
GRANT CONNECT TO Developer;
GRANT RESOURCE TO Developer;

GRANT SELECT, UPDATE (EMPLOYEE_ID, FIRST_NAME, LAST_NAME, EMAIL, PHONE_NUMBER,
HIRE_DATE, JOB_ID, COMMISSION_PCT, MANAGER_ID, DEPARTMENT_ID) ON EMPLOYEES TO
Developer;
GRANT SELECT ON DEPARTMENTS TO Developer;
```

Grant permission to **BI_report**.

```
SQL> GRANT CONNECT TO BI_report;

Grant succeeded.

SQL> GRANT RESOURCE TO BI_report;

Grant succeeded.

SQL> BEGIN
  2    FOR tab IN (SELECT table_name FROM all_tables WHERE owner = 'HR')
  LOOP
    EXECUTE IMMEDIATE 'GRANT SELECT ON HR.' || tab.table_name || ' TO BI_report';
  END LOOP;

  FOR view_tab IN (SELECT view_name FROM all_views WHERE owner = 'HR')
  LOOP
    EXECUTE IMMEDIATE 'GRANT SELECT ON HR.' || view_tab.view_name || ' TO BI_report';
  END LOOP;
END;
/  3    4    5    6    7    8    9   10   11   12

PL/SQL procedure successfully completed.

SQL>
```

```
GRANT CONNECT TO BI_report;
GRANT RESOURCE TO BI_report;
BEGIN
  FOR tab IN (SELECT table_name FROM all_tables WHERE owner = 'HR')
  LOOP
    EXECUTE IMMEDIATE 'GRANT SELECT ON HR.' || tab.table_name || ' TO BI_report';
  END LOOP;

  FOR view_tab IN (SELECT view_name FROM all_views WHERE owner = 'HR')
  LOOP
    EXECUTE IMMEDIATE 'GRANT SELECT ON HR.' || view_tab.view_name || ' TO
BI_report';
  END LOOP;
END;
/
```

Create user:

User: **dev01 , dev02 , dev03** with role **Developer**

```
CREATE USER dev01 IDENTIFIED BY password01;
CREATE USER dev02 IDENTIFIED BY password02;
CREATE USER dev03 IDENTIFIED BY password03;

GRANT Developer TO dev01;
GRANT Developer TO dev02;
GRANT Developer TO dev03;
```

```
SQL> CREATE USER dev01 IDENTIFIED BY password01;

User created.

SQL> CREATE USER dev02 IDENTIFIED BY password02;

User created.

SQL> CREATE USER dev03 IDENTIFIED BY password03;

User created.

SQL> GRANT Developer TO dev01;
GRANT Developer TO dev02;
GRANT Developer TO dev03;
Grant succeeded.

SQL>
Grant succeeded.
```

Figure 14. Assign permission

User**: Bi01**

```
CREATE USER Bi01 IDENTIFIED BY password01;
GRANT BI_report TO Bi01;
```

```
SQL> CREATE USER Bi01 IDENTIFIED BY password01;

User created.

SQL> GRANT BI_report TO Bi01;

Grant succeeded.
```

Figure 15. Assign permission

User: **dba_jonh** role **DBA**

```
CREATE USER dba_jonh IDENTIFIED BY password01;
GRANT SYSDBA TO dba_jonh;
```

```
SQL> CREATE USER dba_jonh IDENTIFIED BY password01;

User created.

SQL> GRANT SYSDBA TO dba_jonh;

Grant succeeded.
```

Figure 16. Assign permission

Profile Policy user "Bi01"

- Password must be complex : min(10char)
- Fail attempt login 3time
- session idle only 5mins
- Password grace 3 days

```
CREATE PROFILE bi_user_profile LIMIT
  PASSWORD_LIFE_TIME 90
  FAILED_LOGIN_ATTEMPTS 3
  PASSWORD_GRACE_TIME 3
```

```
  IDLE_TIME 5;
```

```
SQL> CREATE PROFILE bi_user_profile LIMIT
  PASSWORD_LIFE_TIME 90
  FAILED_LOGIN_ATTEMPTS 3
  PASSWORD_GRACE_TIME 3
  IDLE_TIME 5;
  2    3    4    5
Profile created.

SQL> ALTER USER Bi01 PROFILE bi_user_profile;

User altered.
```

Figure 17. Apply profile

```
[oracle@ol7-19 admin]$ sqlplus

SQL*Plus: Release 19.0.0.0.0 - Production on Sat Apr 6 20:08:04 2024
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle.  All rights reserved.

Enter user-name: Bi01@pdb4
Enter password:

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Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL>
```

Figure 18. Try to login

Complex password

```
SQL> CREATE OR REPLACE FUNCTION verify_function_name(
  username VARCHAR2,
  password VARCHAR2,
  old_password VARCHAR2
) RETURN BOOLEAN IS
BEGIN
  IF LENGTH(password) < 10 THEN
    RETURN FALSE;
  ELSE
    RETURN TRUE;
  END IF;
END;
/  2    3    4    5    6    7    8    9   10   11   12   13

Function created.

SQL> ALTER PROFILE bi_user_profile LIMIT PASSWORD_VERIFY_FUNCTION verify_function_name;

Profile altered.
```

Figure 19. Apply complexity password

```
CREATE OR REPLACE FUNCTION verify_function_name(
  username VARCHAR2,
  password VARCHAR2,
  old_password VARCHAR2
) RETURN BOOLEAN IS
BEGIN
  IF LENGTH(password) < 10 THEN
    RETURN FALSE;
  ELSE
    RETURN TRUE;
```

```
  END IF;
END;
/


ALTER PROFILE bi_user_profile LIMIT PASSWORD_VERIFY_FUNCTION
verify_function_name;
```

Now force user to reset password

```
ALTER USER Bi01 PASSWORD EXPIRE;
```

```
[oracle@ol7-19 admin]$ sqlplus

SQL*Plus: Release 19.0.0.0.0 - Production on Sat Apr 6 20:09:51 2024
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle.  All rights reserved.

Enter user-name: Bi01@pdb4
Enter password:
ERROR:
ORA-28001: the password has expired


Changing password for Bi01
New password:
Retype new password:
ERROR:
ORA-28003: password verification for the specified password failed


Password unchanged
Enter user-name:
```

Figure 20. Check Result

Lab 8: User OS/Password File

```
useradd osuser
passwd osuser
```

```
2. localhost (scott)   3. /home/mobaxterm
[root@ol7-19 scott]#
[root@ol7-19 scott]#
[root@ol7-19 scott]#
[root@ol7-19 scott]# useradd osuser
[root@ol7-19 scott]# passwd osuser
Changing password for user osuser.
New password:
BAD PASSWORD: The password is shorter than 8 characters
Retype new password:
passwd: all authentication tokens updated successfully.
[root@ol7-19 scott]#
```

Remove prefixes for the oracle user.

```
[oracle@ol7-19 ~]$ sqlplus / as sysdba

SQL*Plus: Release 19.0.0.0.0 - Production on Fri Apr 5 17:05:37 2024
Version 19.3.0.0.0

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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> create pfile='/tmp/pfile.txt' from spfile;

File created.

SQL> shutdown immediate;
Database closed.
Database dismounted.
ORACLE instance shut down.
SQL> startup
ORACLE instance started.

Total System Global Area 1577055360 bytes
Fixed Size                  9135232 bytes
Variable Size             385875968 bytes
Database Buffers         1174405120 bytes
Redo Buffers                7639040 bytes
Database mounted.
Database opened.
SQL> show parameter os_authent_prefix

NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------------
os_authent_prefix                    string      ops$
SQL> create spfile from pfile='/tmp/pfile.txt';
create spfile from pfile='/tmp/pfile.txt'
*
ERROR at line 1:
ORA-32002: cannot create SPFILE already being used by the instance


SQL> shutdown immediate;
Database closed.
Database dismounted.
```

```
ORACLE instance shut down.
SQL> create spfile from pfile='/tmp/pfile.txt';

File created.

SQL> startup
ORACLE instance started.

Total System Global Area 1577055360 bytes
Fixed Size                  9135232 bytes
Variable Size             385875968 bytes
Database Buffers         1174405120 bytes
Redo Buffers                7639040 bytes
Database mounted.
Database opened.
SQL> show parameter os_authent_prefix

NAME                                 TYPE        VALUE
------------------------------------ ----------- ------------------------------
os_authent_prefix                    string
SQL>
```

Create User and Login to Oracle

```
SQL> ALTER SESSION SET CONTAINER = PDB2;
SQL> CREATE USER osuser IDENTIFIED EXTERNALLY;
SQL> GRANT CREATE SESSION TO osuser;
SQL> exit
$ su osuser
$ sqlplus /

SQL*Plus: Release 19.0.0.0.0 - Production on Sat Apr 6 16:21:28 2024
Version 19.3.0.0.0

Copyright (c) 1982, 2019, Oracle.  All rights reserved.

Last Successful login time: Sat Apr 06 2024 15:18:41 +07:00

Connected to:
Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 - Production
Version 19.3.0.0.0

SQL>
```