PRACTICAL NO 1

Global Schema in DDB

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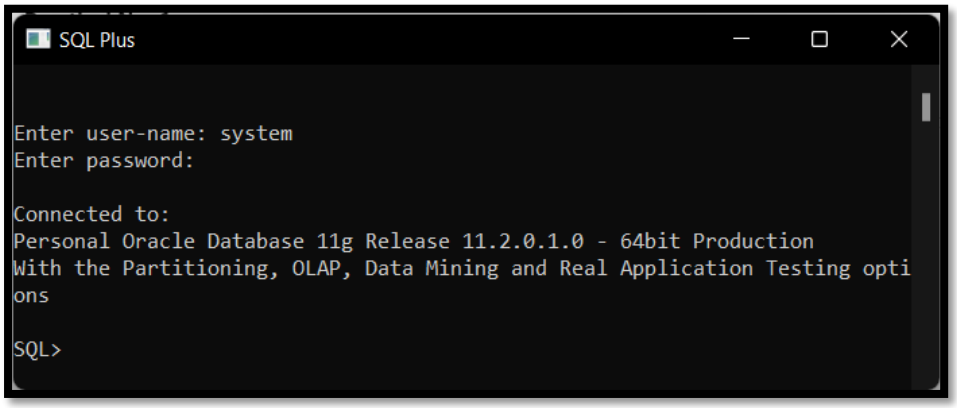
ADVANCED DATABASE

Practical No: 1

Aim: For a given a global conceptual schema, divide the schema into horizontal and vertical fragmentation and place them on different nodes. Execute queries on these fragments that will demonstrate distributed databases environment.

Software Requirement:

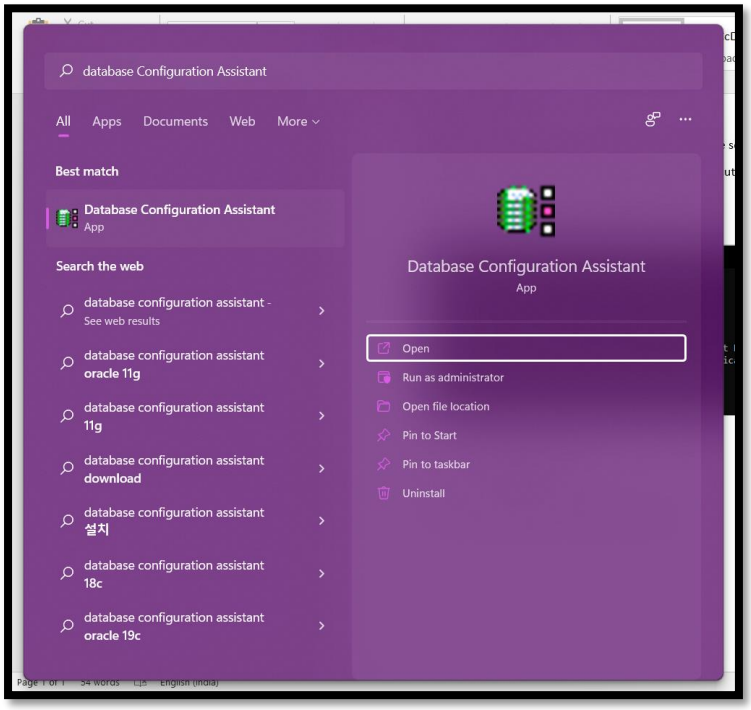
Oracle Database 11g



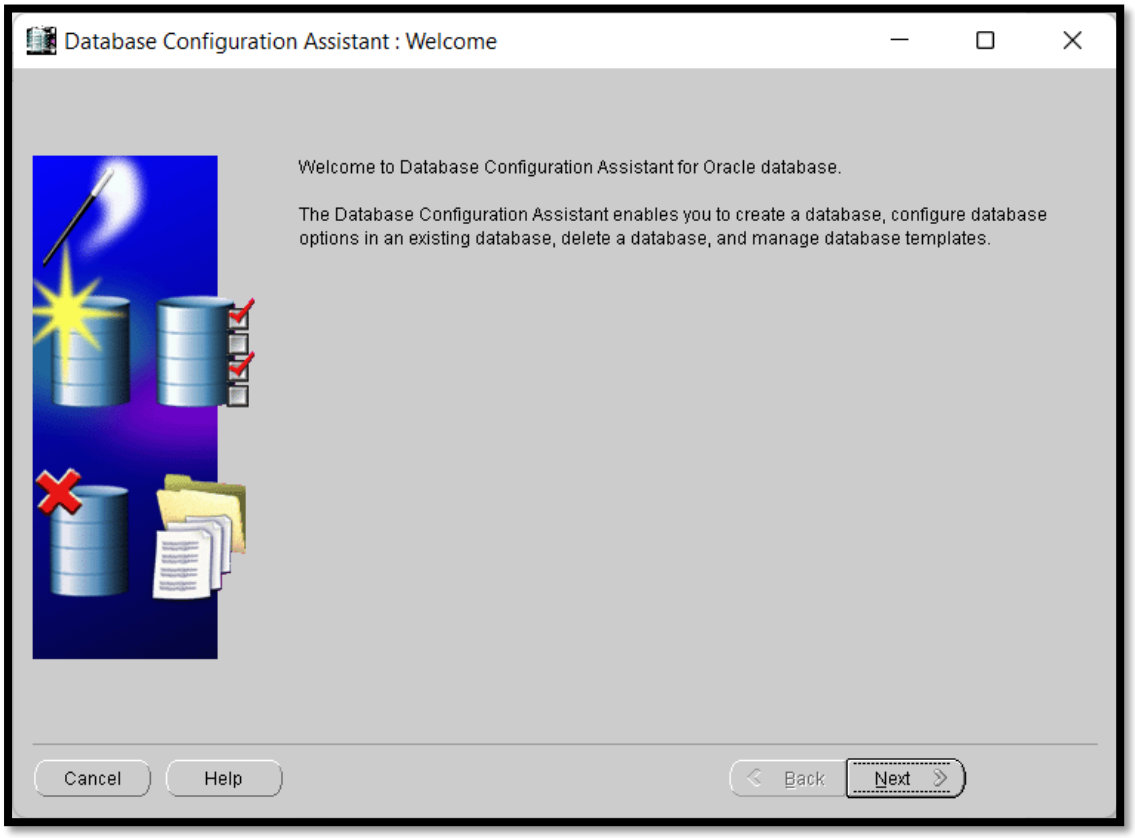
How to Create Two Database

Steps to Create Database db1 and db2

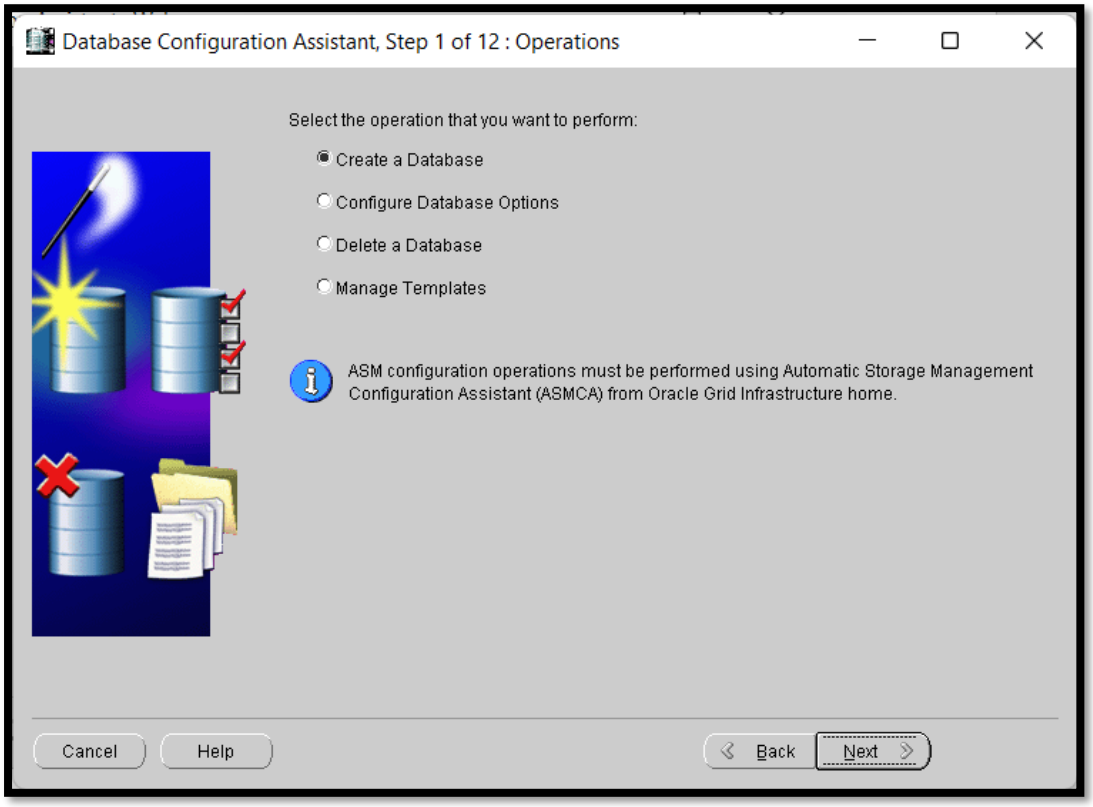
Step 1 :- Open Start Menu on Window Explorer Go to Database Configuration Assistant



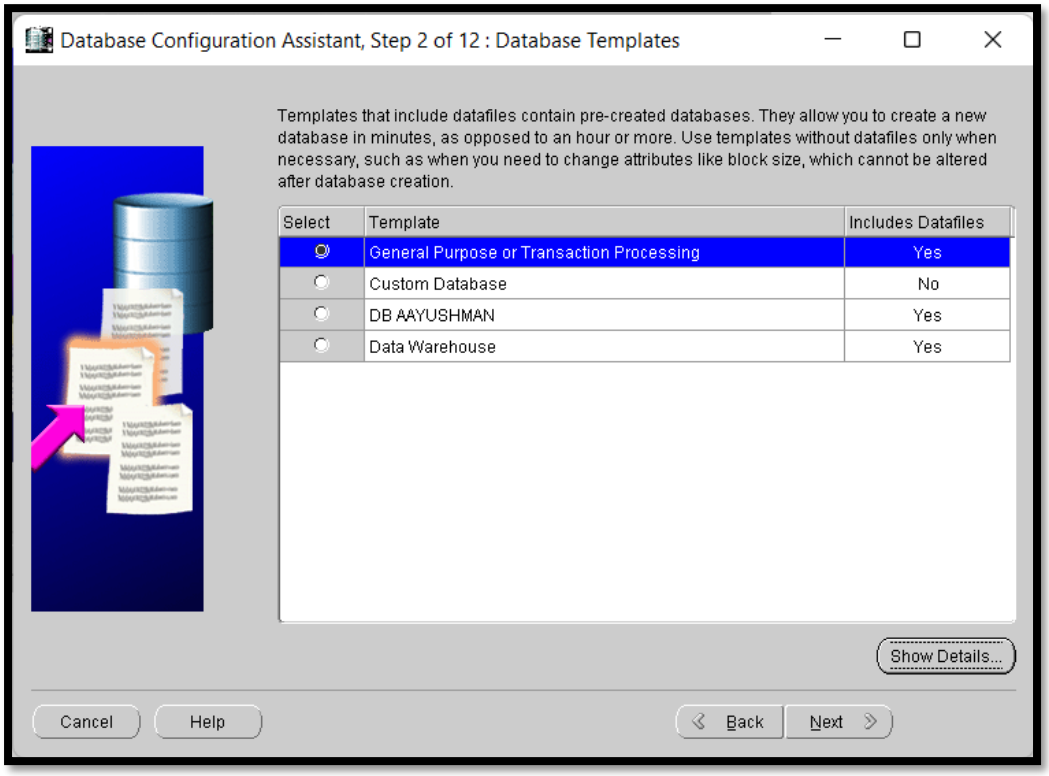
Step 2: Click on Next



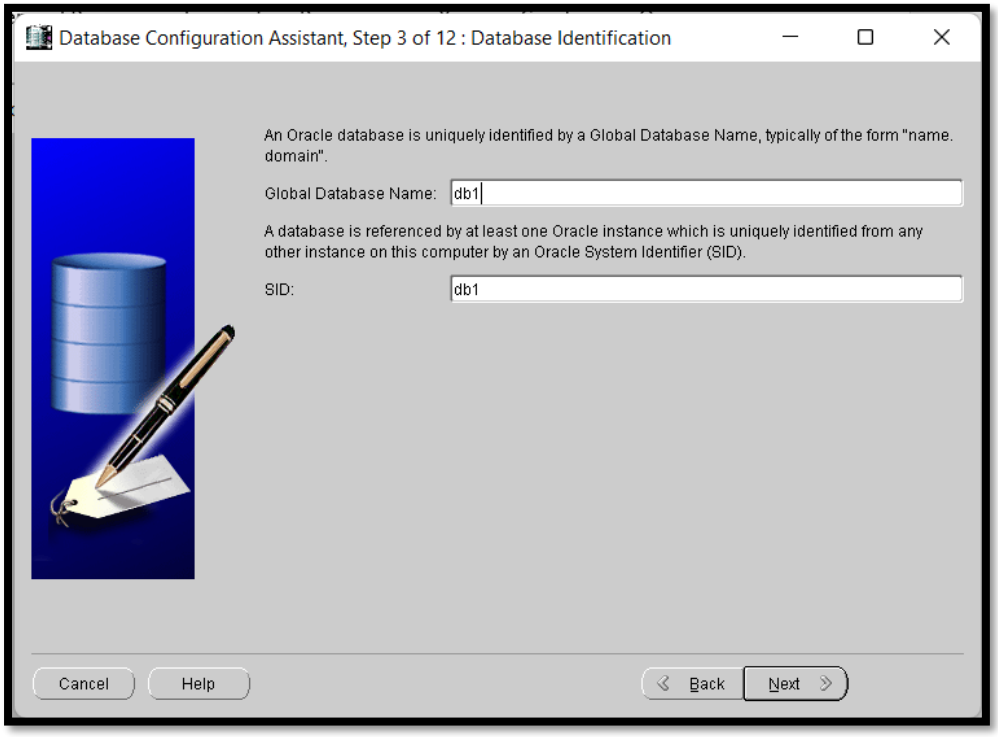
Step 3: Select Option Create a Database

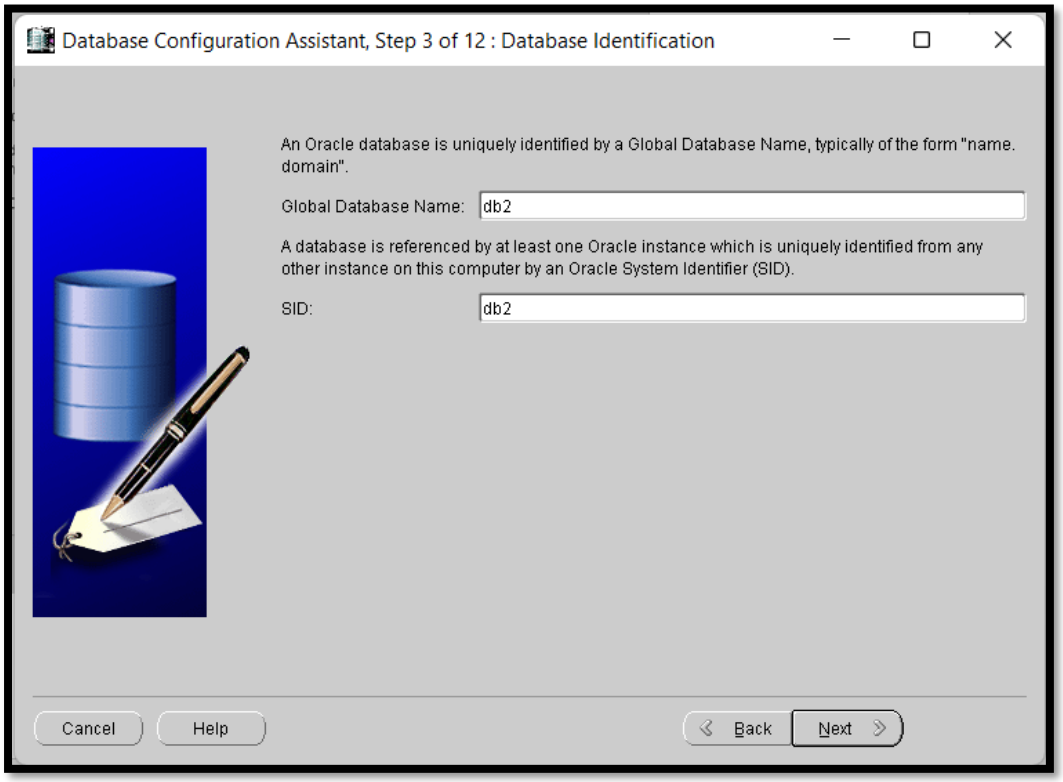


Step 4: Select Option General Purpose or Transaction Processing or You can Create your Own Custom Database.

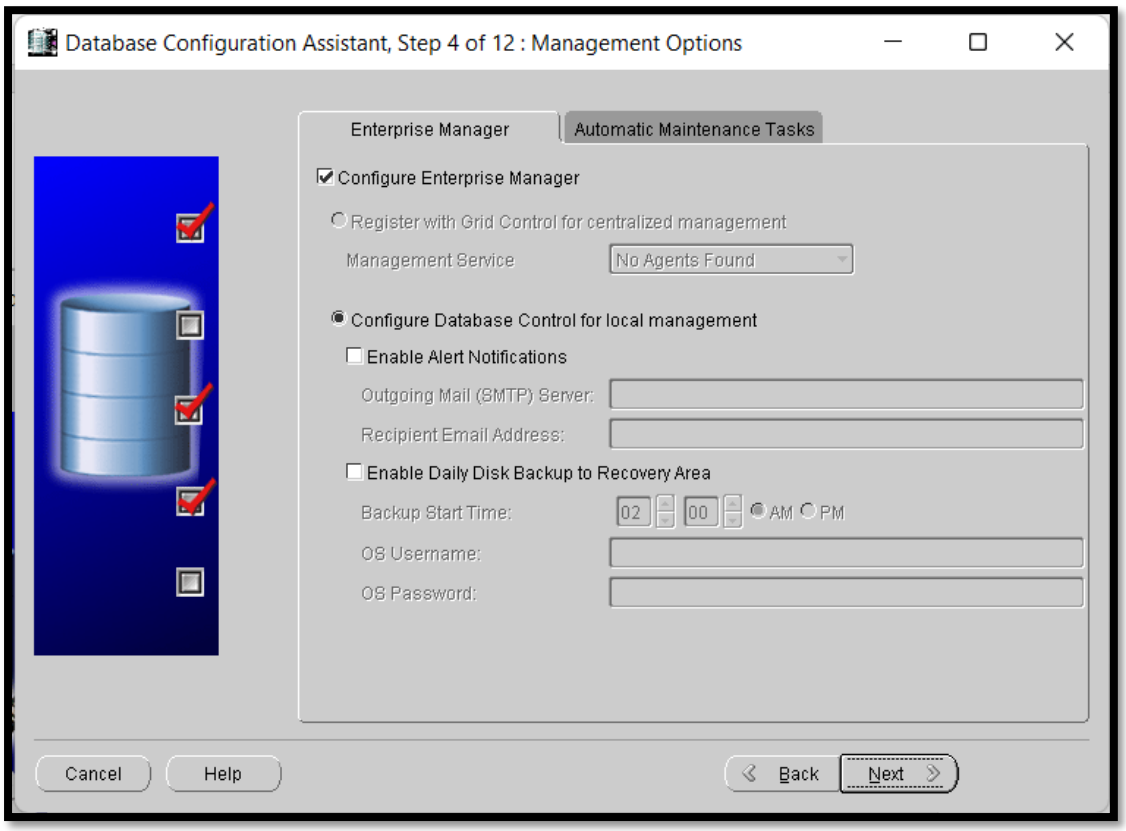


Step 5: Give Database Name as db1 (of your own choice)

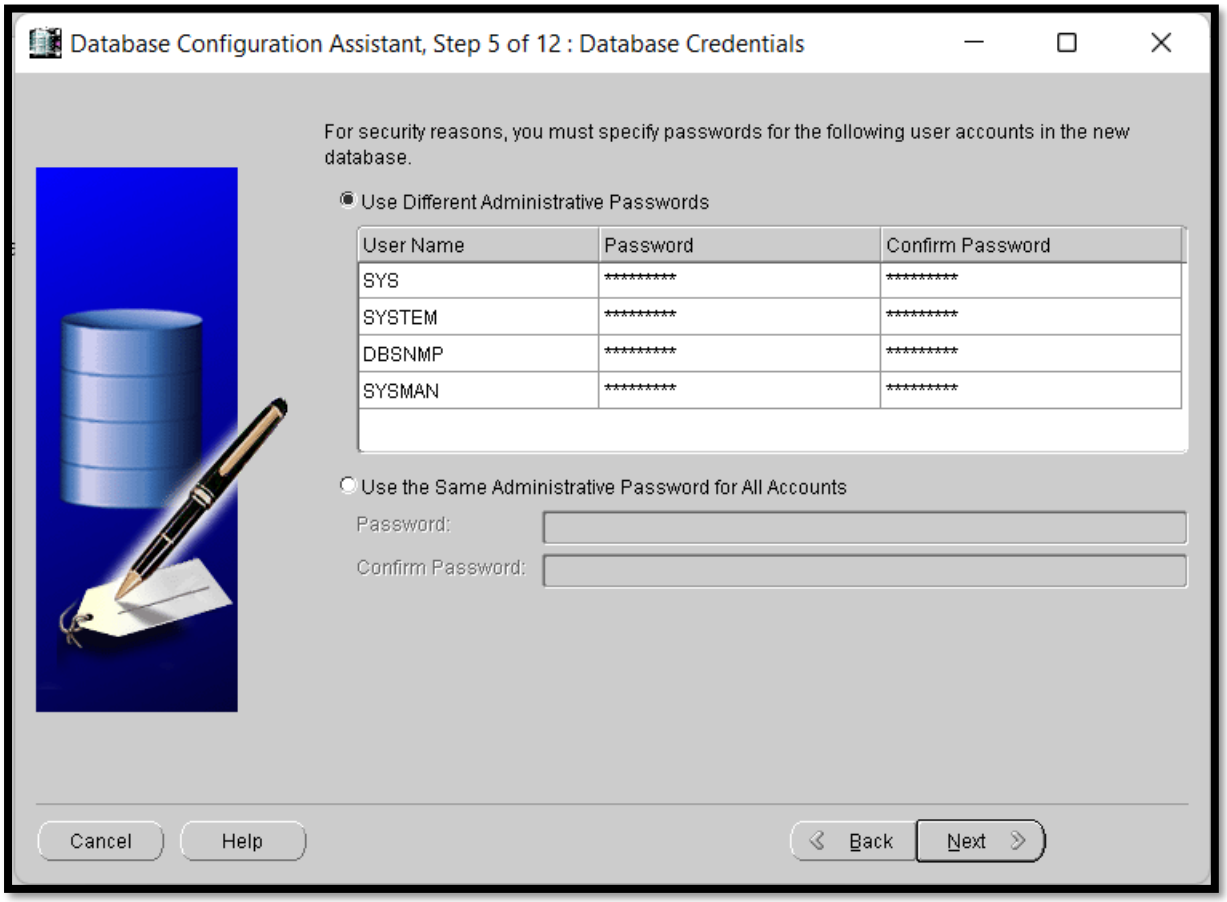




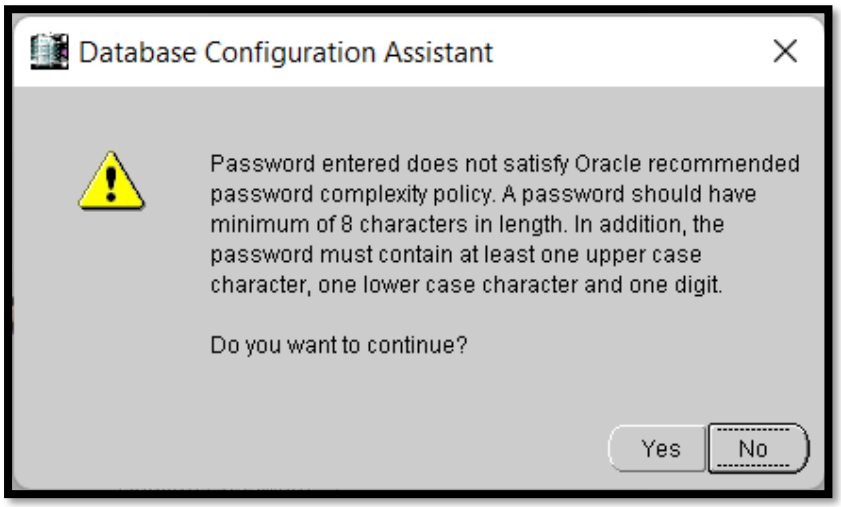
Step 6 : No changes Needed, Click on Next



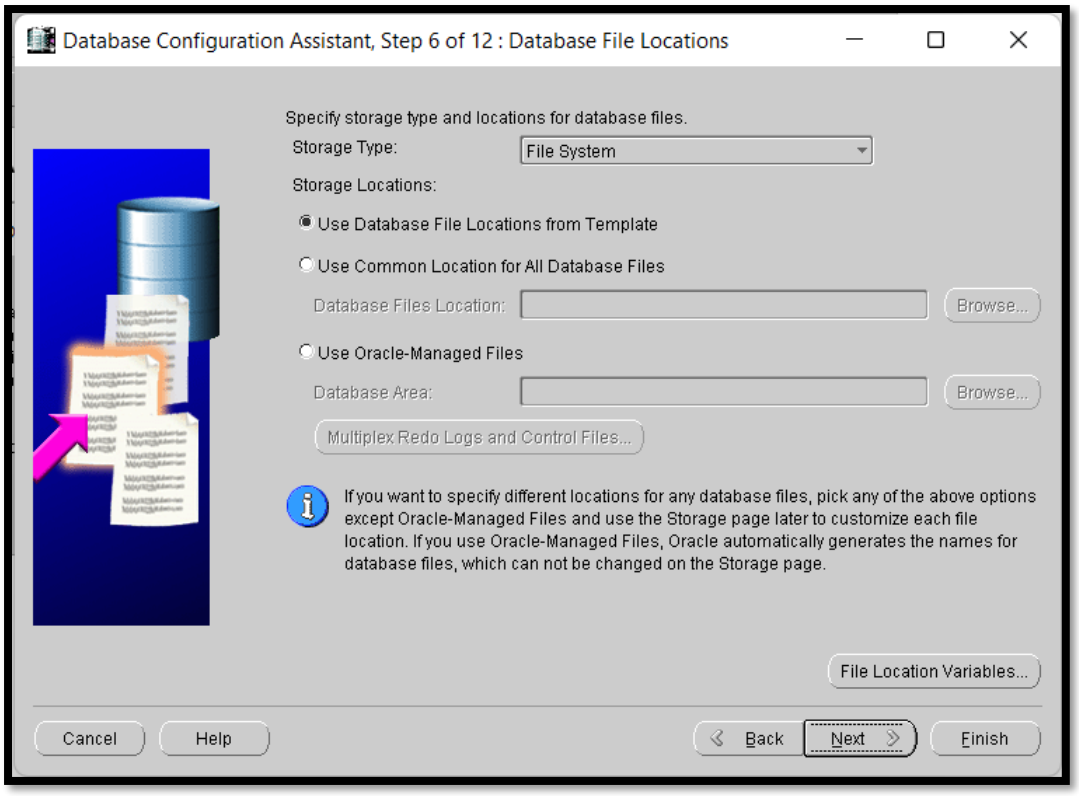
Step 7: Input Password of your choice for Each Fields or Else use your Administrator Credentials for all Profile



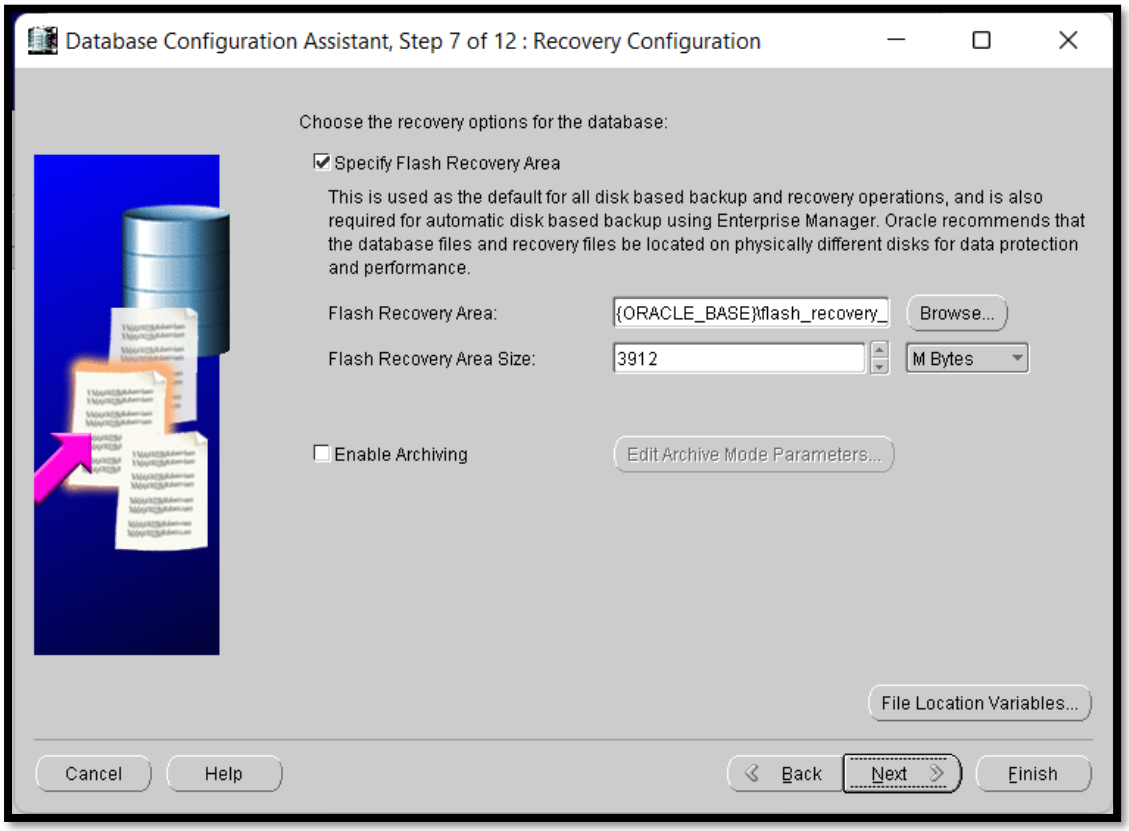
Checks for Password Confirmation, Just Click Yes



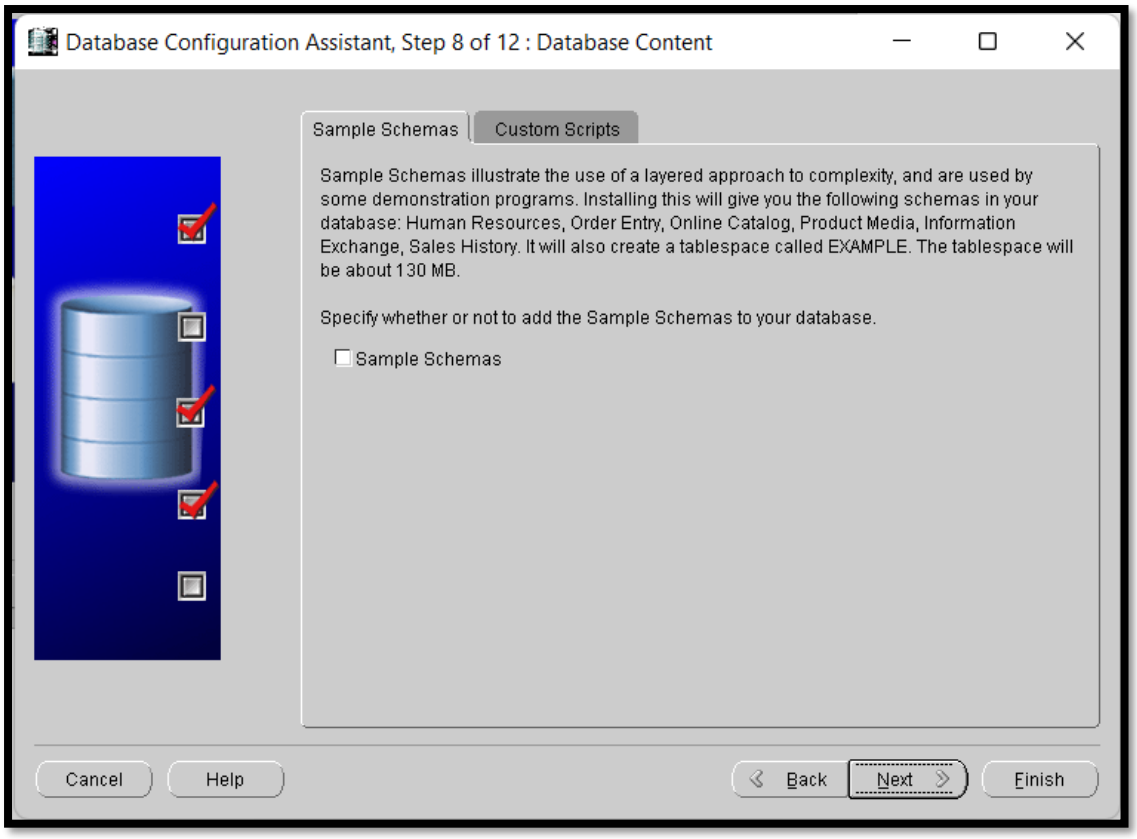
Step 8: No changes Needed, Click on Next



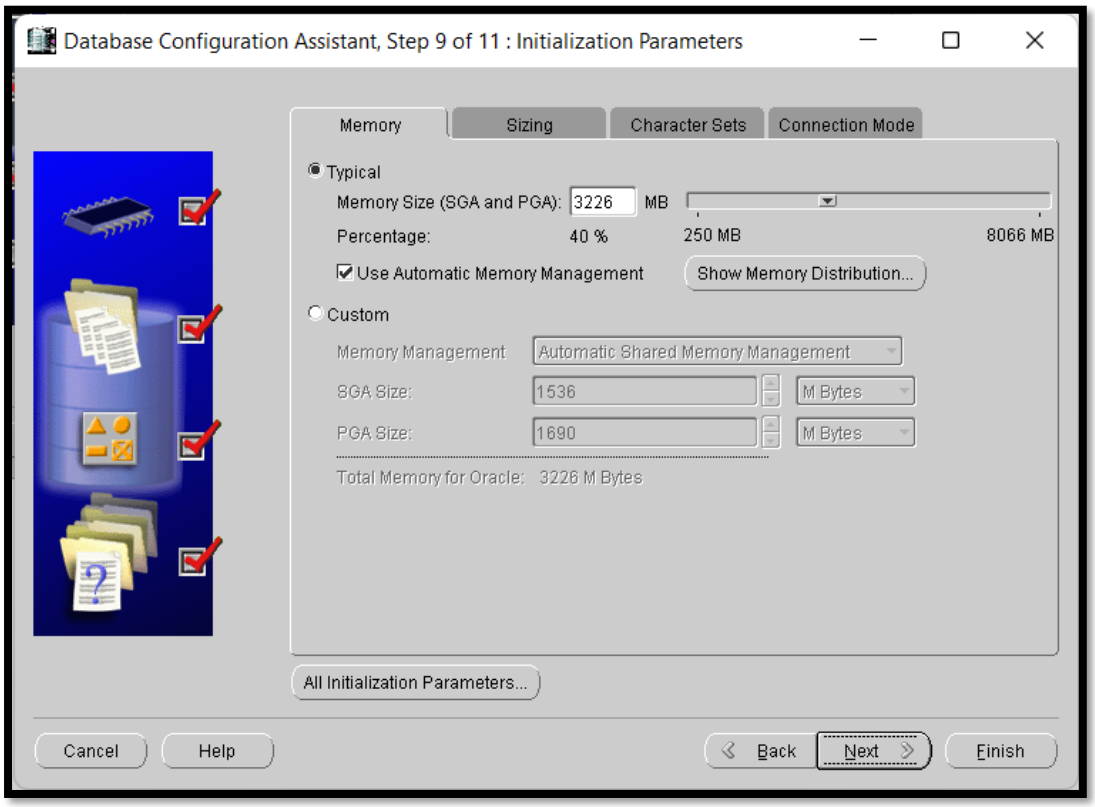
Step 9: No changes Needed, Click on Next



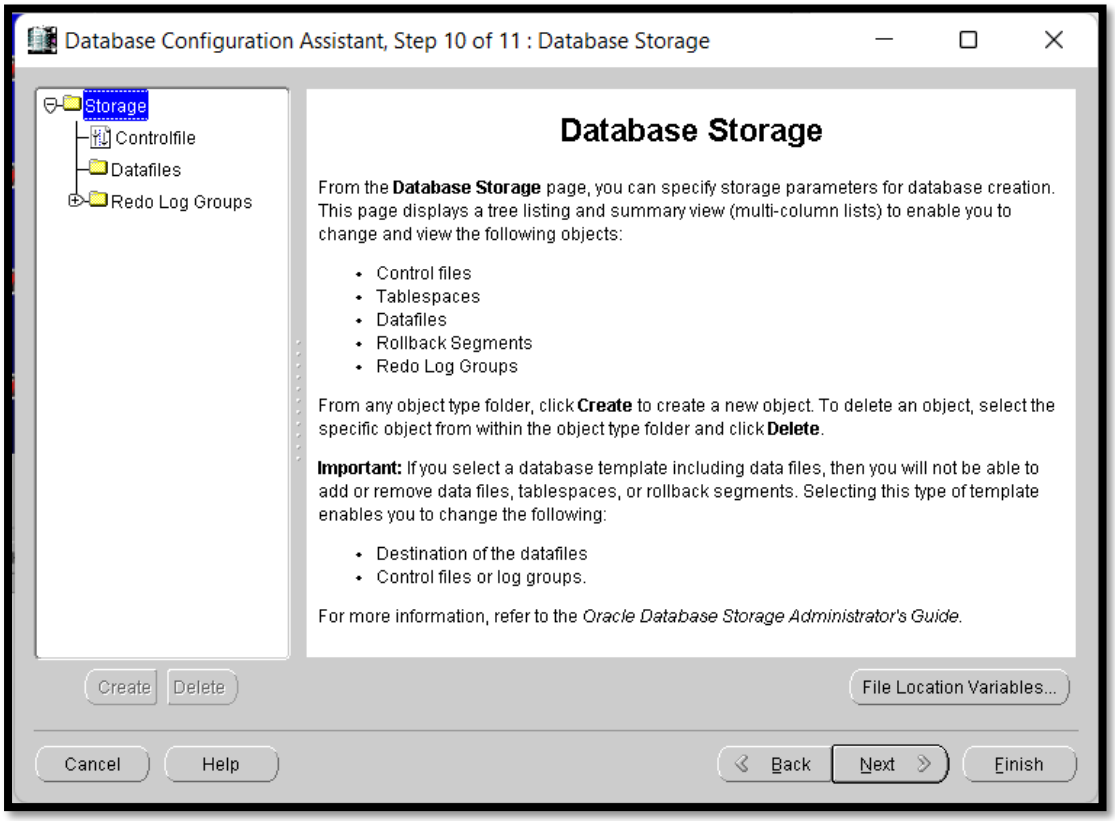
Step 10: No changes Needed, Click on Next



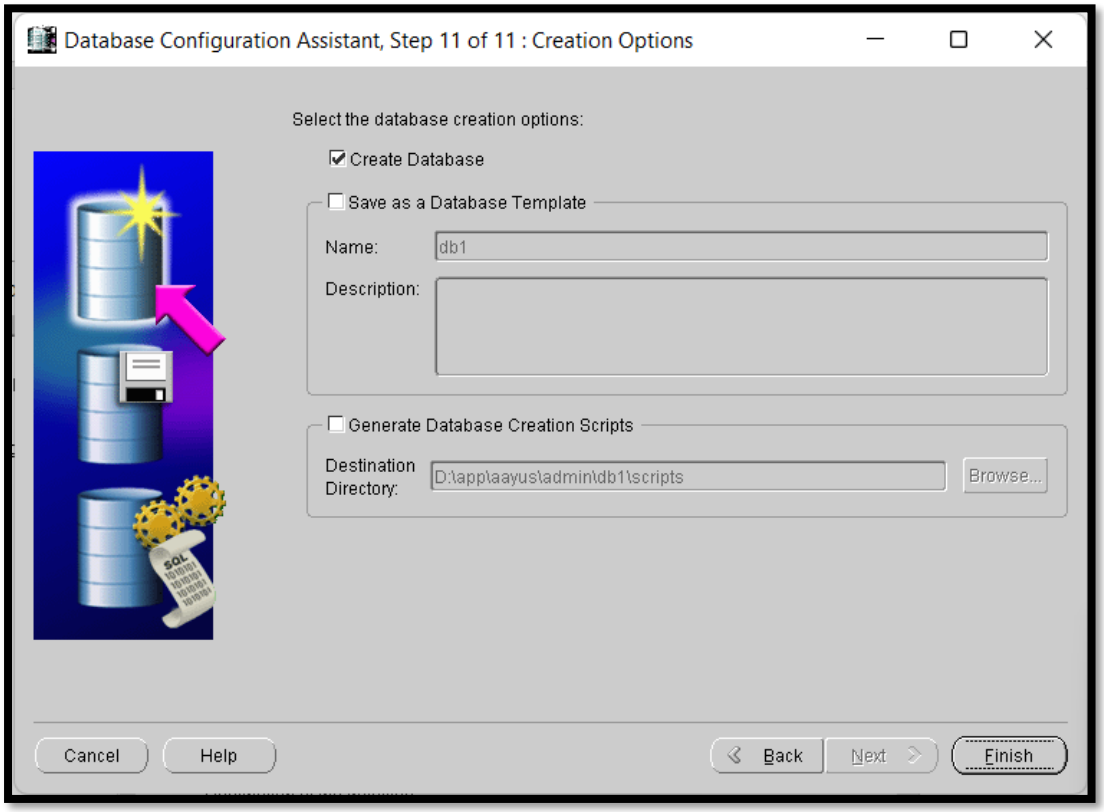
Step 11: No changes Needed, Click on Next



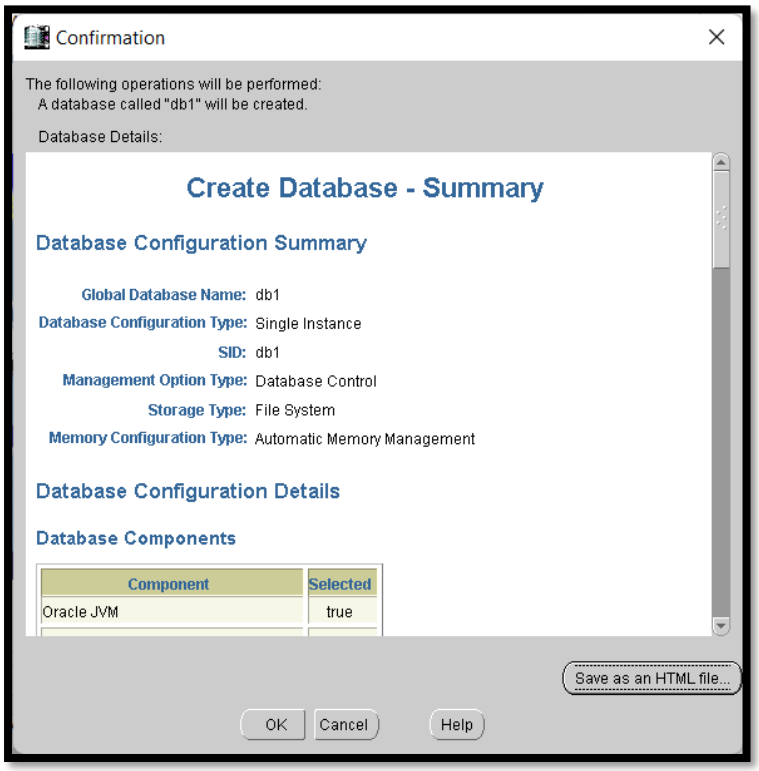
Step 12: No changes Needed, Click on Next

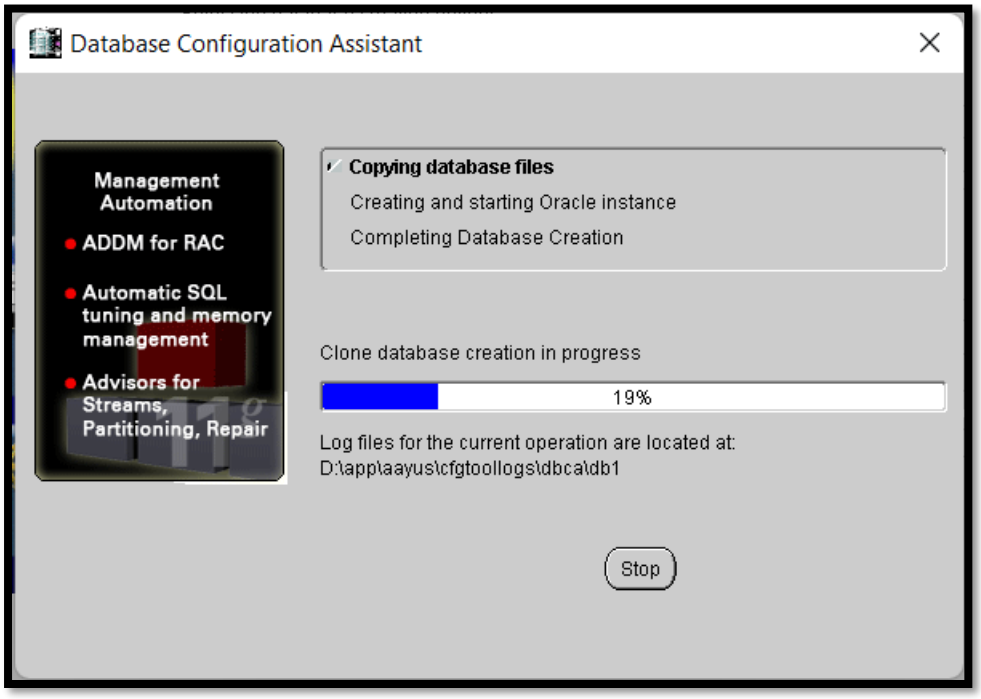


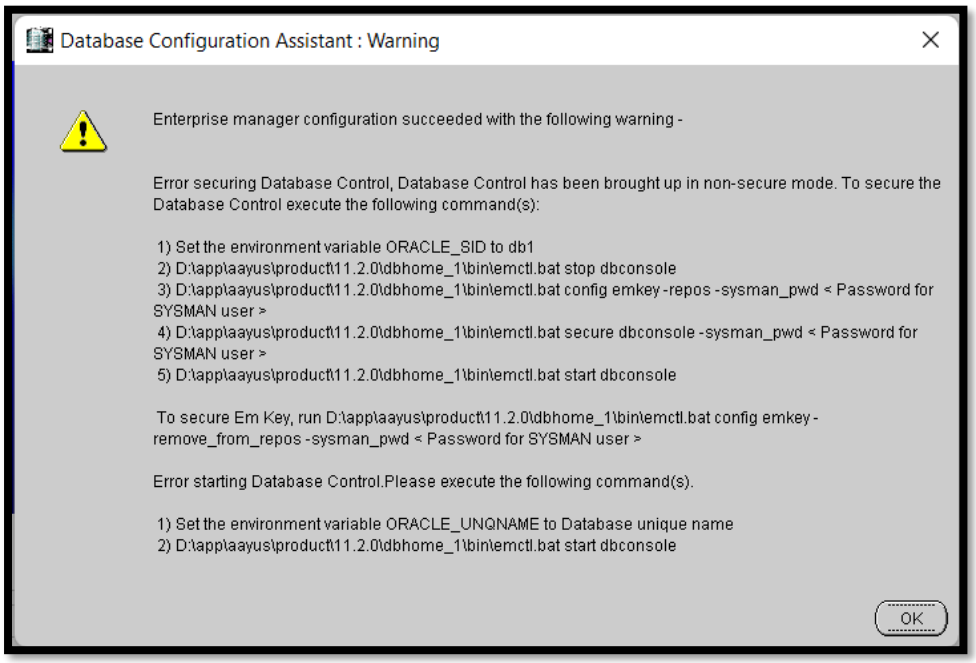
Step 13: No changes Needed, Click on Finish



Confirmation of Creating Database, You can Save it as well for your database details. Incase you forget credentials for your database, you can take help of this file to get access of your database.




Database Configuration Assistant
Management Automation
ADDM for RAC
Automatic SQL tuning and memory management
Advisors for Streams, Partitioning, Repair
Copying database files
Creating and starting Oracle instance
Completing Database Creation
Clone database creation in progress
19%
Log files for the current operation are located at:
D:\app\aayus\cfgtoollogs\dbca\db1
Stop


Database Configuration Assistant : Warning
Enterprise manager configuration succeeded with the following warning -
Error securing Database Control, Database Control has been brought up in non-secure mode. To secure the Database Control execute the following command(s):
1) Set the environment variable ORACLE_SID to db1
2) D:\app\aayus\product\11.2.0\dbhome_1\bin\emctl.bat stop dbconsole
3) D:\app\aayus\product\11.2.0\dbhome_1\bin\emctl.bat config emkey -repos -sysman_pwd < Password for SYSMAN user >
4) D:\app\aayus\product\11.2.0\dbhome_1\bin\emctl.bat secure dbconsole -sysman_pwd < Password for SYSMAN user >
5) D:\app\aayus\product\11.2.0\dbhome_1\bin\emctl.bat start dbconsole
To secure Em Key, run D:\app\aayus\product\11.2.0\dbhome_1\bin\emctl.bat config emkey -remove_from_repos -sysman_pwd < Password for SYSMAN user >
Error starting Database Control.Please execute the following command(s).
1) Set the environment variable ORACLE_UNQNAME to Database unique name
2) D:\app\aayus\product\11.2.0\dbhome_1\bin\emctl.bat start dbconsole
OK

Click on Exit and Done…..

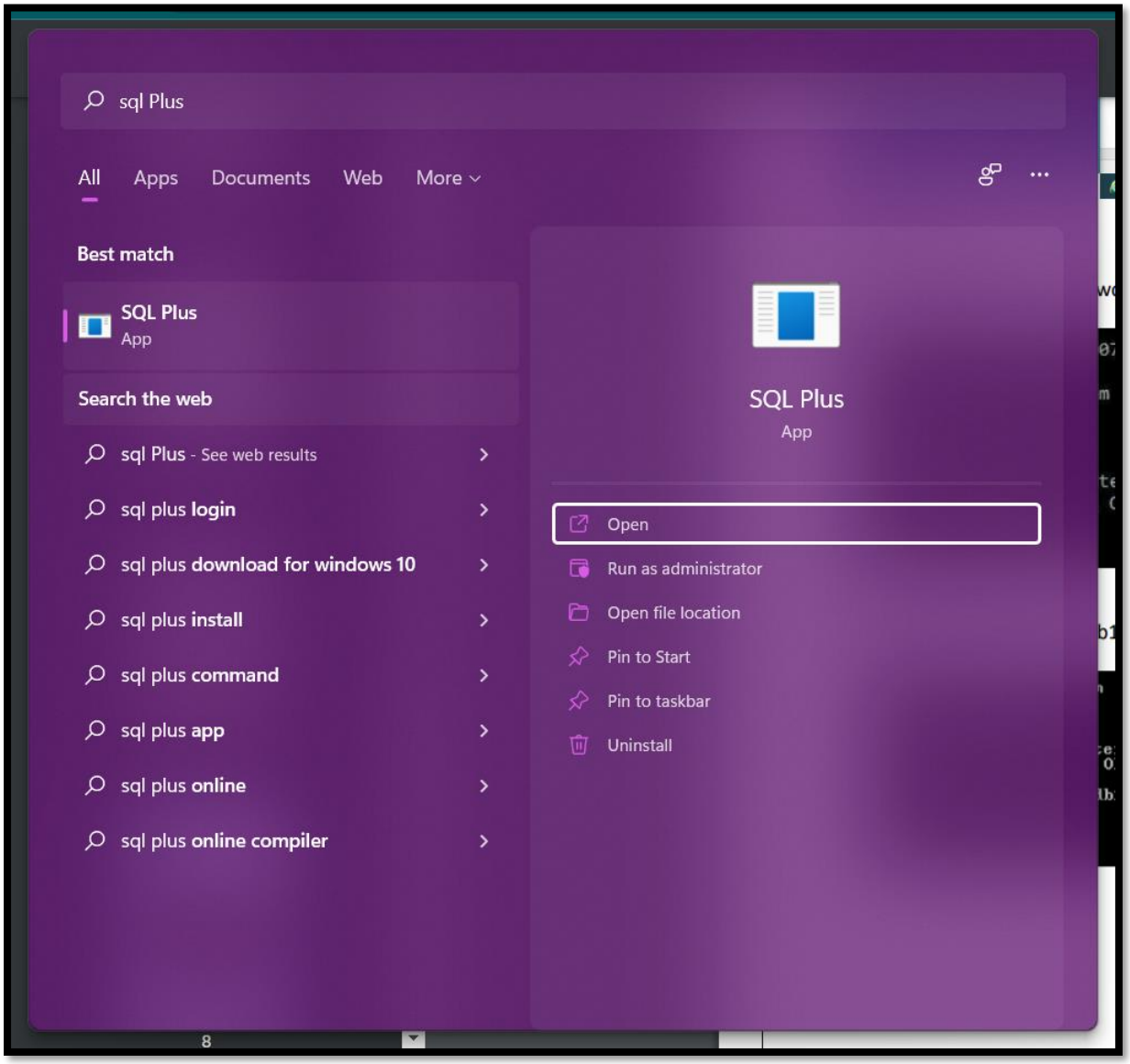
Follow the Same Steps to create db2,

Once done with Creating db1 and db2

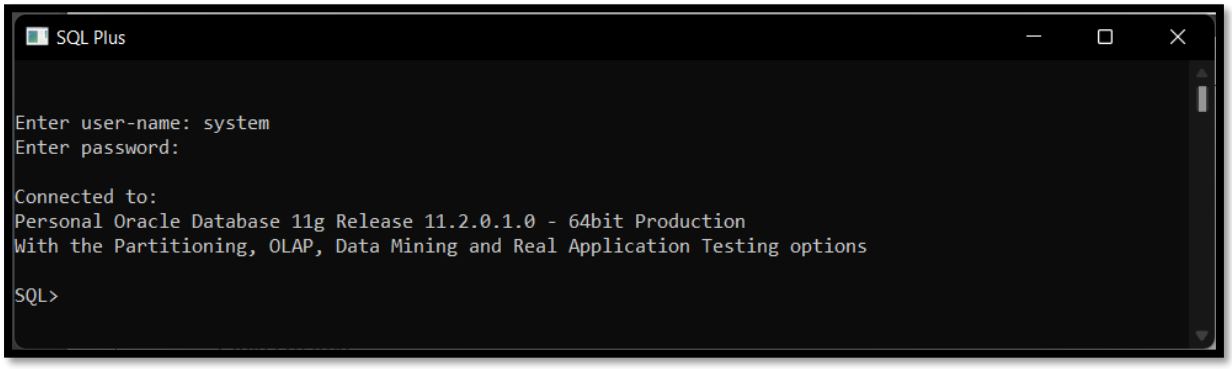
ADVANCED DATABASE

Practical Implementation Steps :

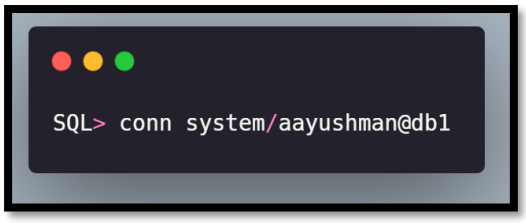
- ✓ **Step 1:-** Open SQLPlus



- ✓ **Step 2:** Connect to Your Database

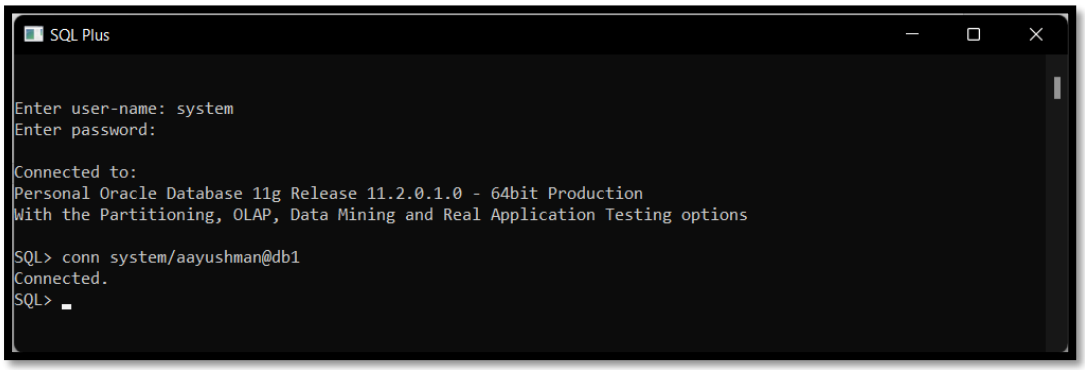


✓ **Step 3:** Connect your db1 While executing the Command



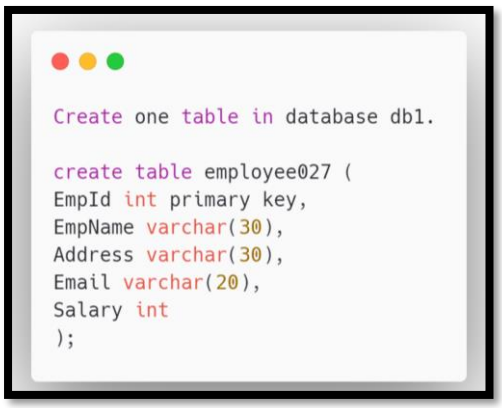
```
SQL> conn system/aayushman@db1
```

[Where "aayushman" is password of your database, and "db1" is database name]

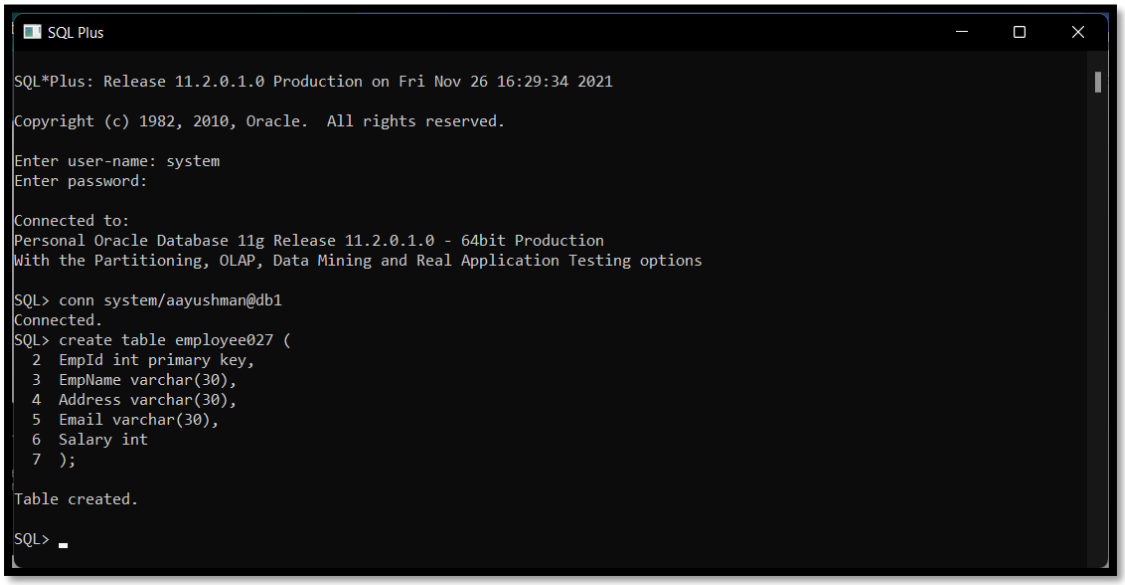


```
SQL Plus

Enter user-name: system
Enter password:

Connected to:
Personal Oracle Database 11g Release 11.2.0.1.0 - 64bit Production
With the Partitioning, OLAP, Data Mining and Real Application Testing options

SQL> conn system/aayushman@db1
Connected.
SQL>
```

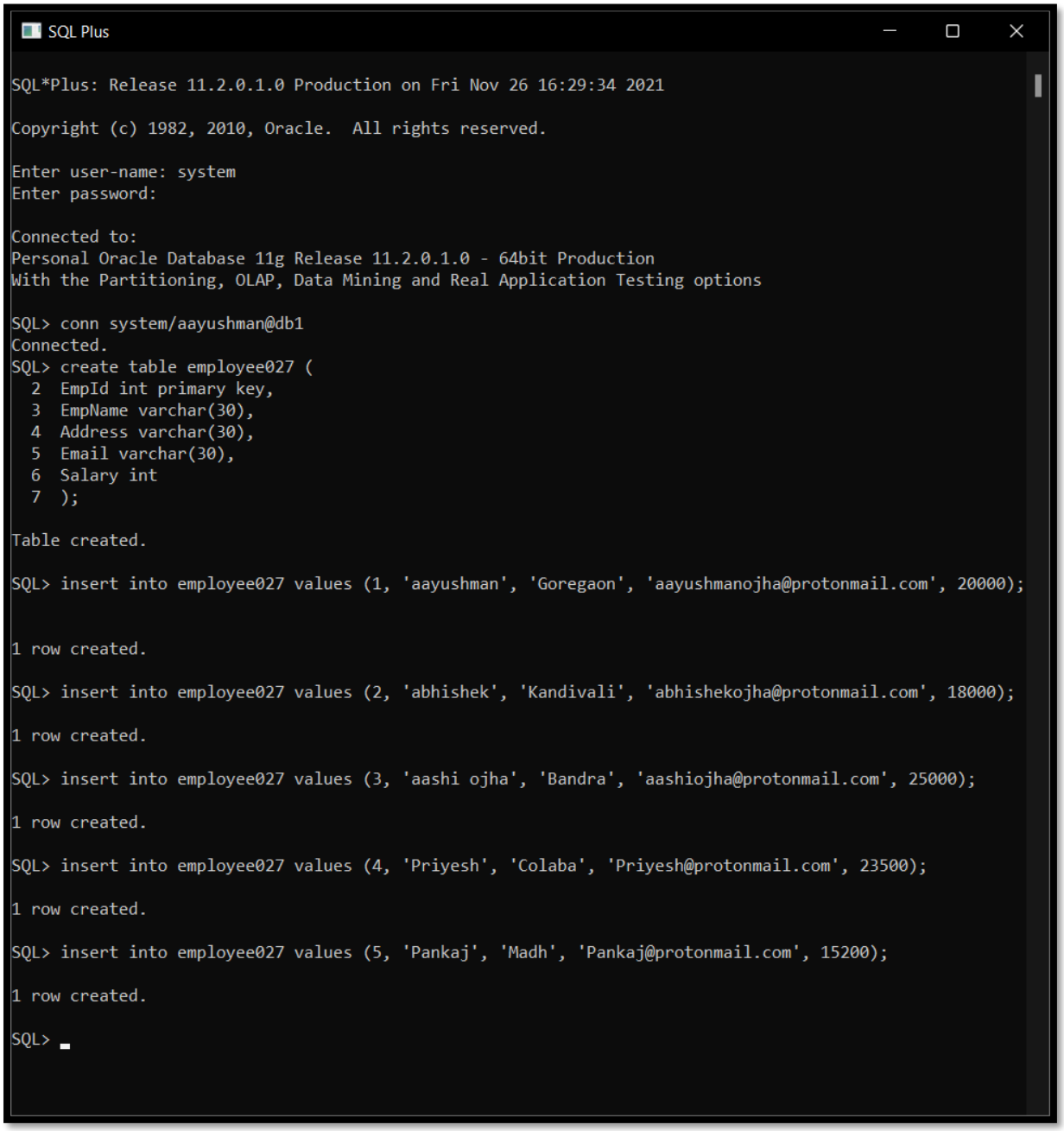
✓ **Step 4:** Create one table in database db1



```
Create one table in database db1.

create table employee027 (
EmpId int primary key,
EmpName varchar(30),
Address varchar(30),
Email varchar(20),
Salary int
);
```



- ✓ **Step 5:** Insert Some values in Created Table.



✓ **Step 6:**

```
Show all tables in employee.

SQL> Select * from employee027;
```

```
SQL Plus
SQL> select * from employee027;

     EMPID EMPNAME                        ADDRESS                        EMAIL                          SALARY
---------- ------------------------------ ------------------------------ ------------------------------ ----------
         6 kyara                          Borivali                       kyara@protonmail.com                15000
         1 aayushman                      Goregaon                       aayushmanojha@protonmail.com        20000
         2 abhishek                       Kandivali                      abhishekojha@protonmail.com         18000
         3 aashi ojha                     Bandra                         aashiojha@protonmail.com            25000
         4 Priyesh                        Colaba                         Priyesh@protonmail.com              23500
         5 Pankaj                         Madh                           Pankaj@protonmail.com               15200

6 rows selected.

SQL>
```

✓ **Step 7:** Enter following command to create link between two databases.

```
Enter following command to create link between two databases.

SQL> create database link db1todb2 connect system identified by aayushman using 'db2';
```

```
SQL Plus
SQL> create database link db1todb2 connect to system identified by aayushman using 'db2';

Database link created.

SQL>
```

✓ **Step 8:** Connect to Db2.

```
SQL Plus
SQL> conn system/aayushman@db2
Connected.
SQL>
```

✓ **Step 9:** Create link to connect db1.

```
Create link to connect db1.

SQL> create database link db2todb1 connect system identified by aayushman using 'db1';
```

```
SQL Plus
SQL> create database link db2todb1 connect to system identified by aayushman using 'db1';

Database link created.

SQL>
```

✓ **Step 10:** Create emp1 select where salary<18000.

```
Create emp1 select where salary<18000.

SQL> create table emp1 as select * from employee027@db2todb1 where salary<18000;
```

```
SQL Plus

SQL> create table emp1 as select * from employee027@db2todb1 where salary < 18000;

Table created.

SQL> set linesize 1000
SQL> select * from emp1;

     EMPID EMPNAME                        ADDRESS                        EMAIL                          SALARY
---------- ------------------------------ ------------------------------ ------------------------------ ----------
         6 kyara                          Borivali                       kyara@protonmail.com                15000
         5 Pankaj                         Madh                           Pankaj@protonmail.com               15200

SQL>
```

✓ **Step 11:** Create table emp2 where address='Bandra'.

```
Create table emp2 where address='Bandra'.

SQL> > create table emp2 as select * from employee027@db2todb1 where address='Bandra';
```

```
SQL Plus

SQL> create table emp2 as select * from employee027@db2todb1 where address='Bandra';

Table created.

SQL> select * from emp2;

     EMPID EMPNAME                        ADDRESS                        EMAIL                          SALARY
---------- ------------------------------ ------------------------------ ------------------------------ ----------
         3 aashi ojha                     Bandra                         aashiojha@protonmail.com            25000

SQL>
```

✓ **Step 12:** Select salary from employee

```
Select salary from employee

SQL> conn system/aayushman@db2
SQL> select salary from employee027@db2todb1;
```

```
SQL Plus
SQL> conn system/aayushman@db2
Connected.
SQL> select salary from employee027@db2todb1;

    SALARY
----------
     15000
     20000
     18000
     25000
     23500
     15200

6 rows selected.

SQL>
```

✓ **Step 13:** Select mail whose salary>16000.

```
Select email whose salary>16000.

SQL> select email from employee027@db2todb1 where salary > 16000
```

```
SQL Plus
SQL> select Email from employee027@db2todb1 where salary > 16000;

EMAIL
------------------------------
aayushmanojha@protonmail.com
abhishekojha@protonmail.com
aashiojha@protonmail.com
Priyesh@protonmail.com

SQL>
```

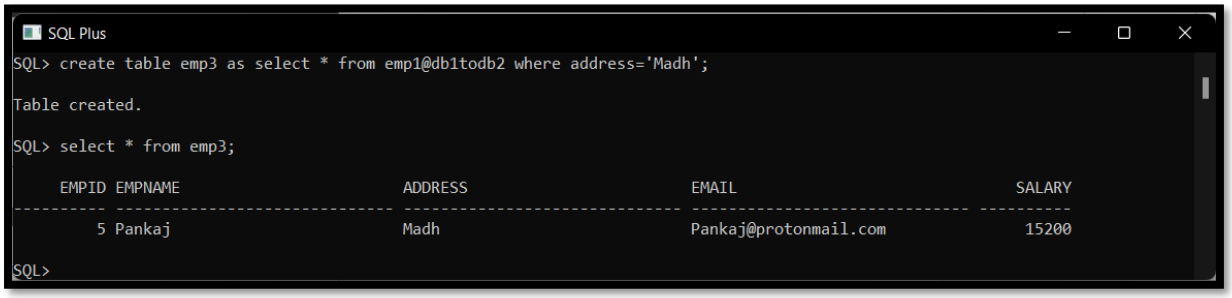
✓ **Step 14:** Select Employee Name and Email from Employee table where eid=2.

```
Select ename, email from employee where eid=2.

SQL> select EmpName,Email from employee027@db2todb1 where eid=2;
```

```
SQL Plus
SQL> select EmpName, Email from employee027@db2todb1 where EmpId=2;

EMPNAME                        EMAIL
------------------------------ ------------------------------
abhishek                       abhishekojha@protonmail.com

SQL>
```

✓ **Step 15:** Create table emp3 where address='Madh'.

```
Create table emp3 where address='Madh'.

SQL> create table emp3 as select * from employee027@db2todb1 where address='Madh';
```



Conclusion: Successfully Execution of Schema into horizontal and vertical Fragmentation on different nodes in Distributed Database Environment.