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COURSE – MCA (REGULAR)
REG. NO – 2019202053

GUIDED BY:-
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DATABASE CONNECTIVITY

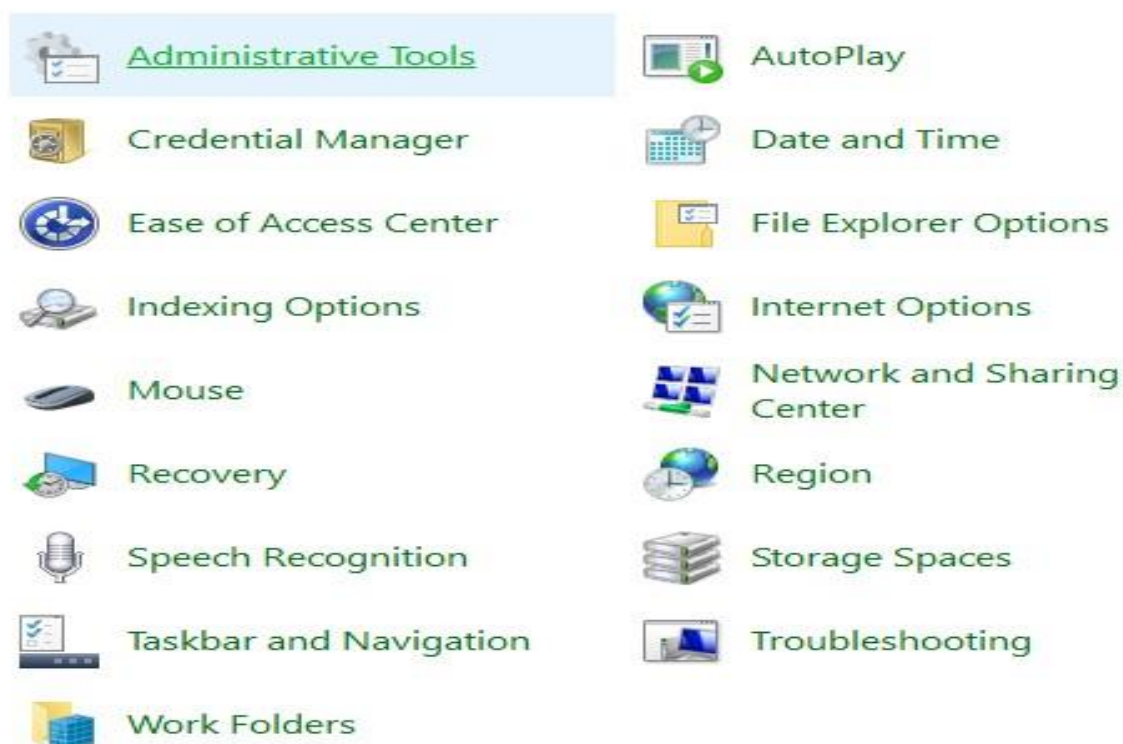
POSTGRES TO ORACLE

DATABASE CONNECTIVITY SOFTWARE USE

1. ORACLE 11G
2. POSTGRESQL
3. ODBC DRIVERS
 - i. POSTGRESQL ANSI (CONNECTING POSTGRES TO ORACLE)

How to Connect

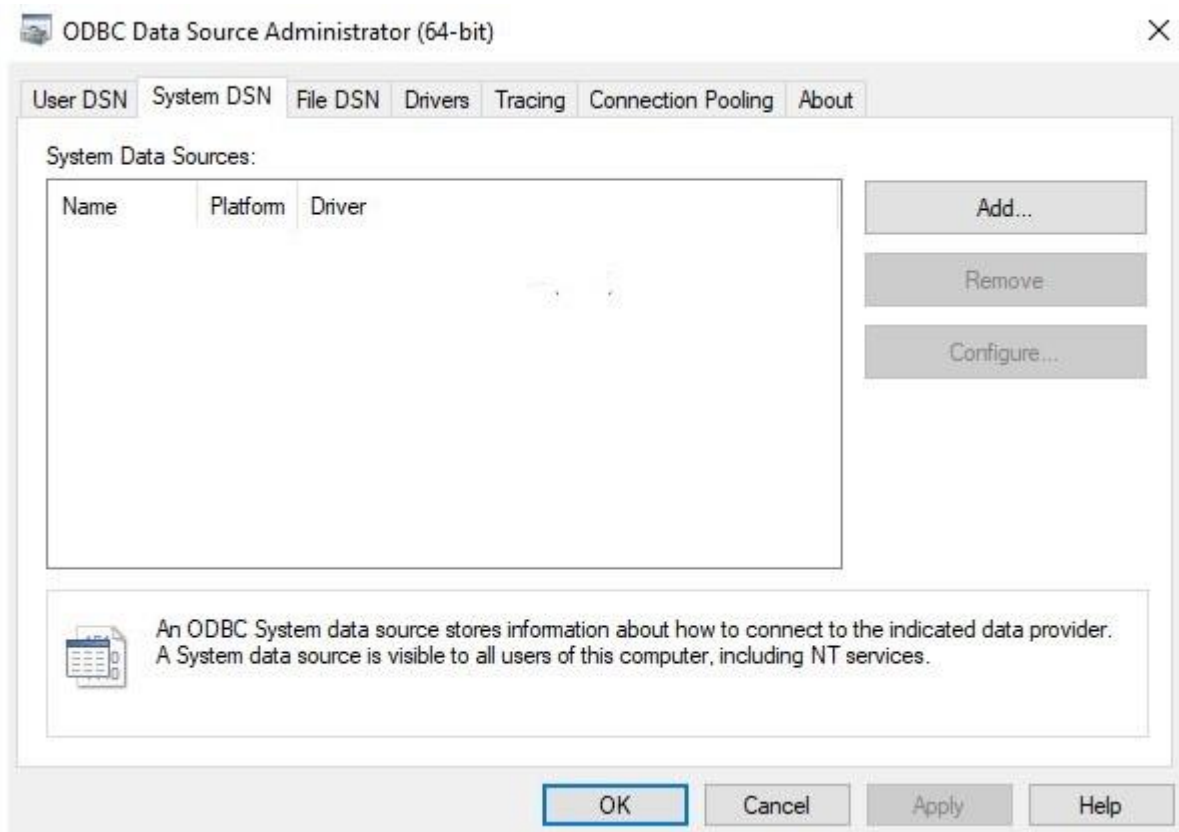
1. Go to Control Panel
2. Select Administrative Tools



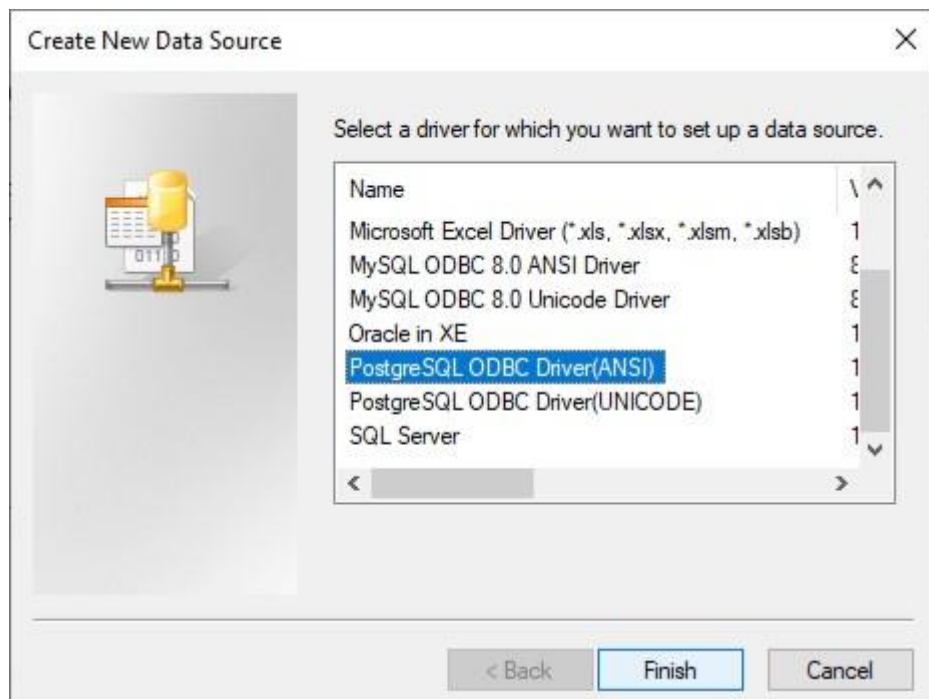
3. Select ODBC DATA SOURCE(x32 OR x64)



4. Select System DSN tab

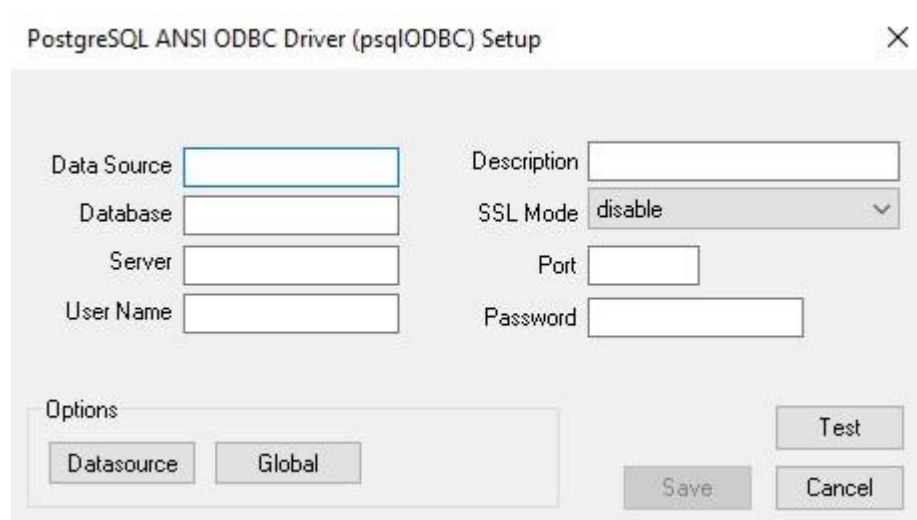


5. Click on Add Button



6. Select Postgresql ODBC Driver(ANSI)

7. Click On Finish Button



8. Configure the PostgreSQL ODBC(ANSI) Driver Setup

- Give a Data Source name for identification of the link
- Enter the name of Database
- Enter the Server IP (here 'localhost')
- Enter the Port Number (default 5432)

- e. Fill Up User Name and Password details of the database
The Description Field is Optional (Why? Find Out)

- f. Click On Test Button



- g. If Successful Click On Save Button
9. Then Click On Ok Button

Edit The Content In Oracle Install Location

1. Goto Oracle Installation Location Directory (Here **C:/oraclexe**)
2. Open **app** directory, Here Find **oracle** directory
3. Open **oracle** directory, Here Find product directory
4. Open **product**→**11.2.0**→**server**, Find **hs** directory
5. Open **hs** Directory, Here you see **admin** directory
6. Open **admin** directory
7. Open **initdg4odbc.ora** in notepad and edit the contents of the file

- i. **HS_FDS_CONNECT_INFO = <odbc data_source_name> to
HS_FDS_CONNECT_INFO = psqlConnect**
- ii. **HS_FDS_TRACE_LEVEL = <trace_level> to HS_FDS_TRACE_LEVEL =
OFF**

After edit the contents of the file its look like

This is a sample agent init file that contains the HS parameters that are

needed for the Database Gateway for ODBC

#

HS init parameters

#

HS_FDS_CONNECT_INFO = psqlConnect

HS_FDS_TRACE_LEVEL = OFF

#

Environment variables required for the non-Oracle system

#

#set <envvar>=<value>

- 8. Save As with new filename **init<data_source_name>.ora**, here **data_source_name** is **psqlConnect**
- 9. Now Goto **product→11.2.0→server**, Find network directory
- 10. Open network directory, Here you see **admin** directory
- 11. Open **admin** directory
- 12. Open **listener.ora** file in notepad and edit the contents
 - a. Add **(SID_DESC =**
(SID_NAME = psqlConnect)

```

(ORACLE_HOME =
C:\oraclexe\app\oracle\product\11.2.0\server)
(PROGRAM = dg4odbc)
) in SID_LIST_LISTENER

```

After edit the contents of the file its look like

```

SID_LIST_LISTENER =
(SID_LIST =
  (SID_DESC =
    (SID_NAME = PLSExtProc)
    (ORACLE_HOME =
C:\oraclexe\app\oracle\product\11.2.0\server)
    (PROGRAM = extproc)
  )
  (SID_DESC =
    (SID_NAME = CLRExtProc)
    (ORACLE_HOME =
C:\oraclexe\app\oracle\product\11.2.0\server)
    (PROGRAM = extproc)
  )
  (SID_DESC =
    (SID_NAME = psqlConnect)
    (ORACLE_HOME =
C:\oraclexe\app\oracle\product\11.2.0\server)
    (PROGRAM = dg4odbc)
  )
)
)

```

LISTENER =

```
(DESCRIPTION_LIST =
  (DESCRIPTION =
    (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1))
    (ADDRESS = (PROTOCOL = TCP)(HOST = DESKTOP-
97NNNGE)(PORT = 1521))
  )
)
```

DEFAULT_SERVICE_LISTENER = (XE)

10. Open **tnsnames.ora** file in notepad and edit the contents

i. Add **psqlConnect** =

```
(DESCRIPTION =
  (ADDRESS = (PROTOCOL = TCP)(HOST =
DESKTOP-97NNNGE)(PORT = 1521))
  (CONNECT_DATA =
    (SID = psqlConnect)
  )
  (HS=OK)
) after XE
```

After edit the contents of the file its look like

XE =

```
(DESCRIPTION =
  (ADDRESS = (PROTOCOL = TCP)(HOST = DESKTOP-
97NNNGE)(PORT = 1521))
  (CONNECT_DATA =
    (SERVER = DEDICATED)
```



```

        (SERVICE_NAME = XE)
    )
)

```

```

psqlConnect =
    (DESCRIPTION =
        (ADDRESS = (PROTOCOL = TCP)(HOST = DESKTOP-
97NNNGE)(PORT = 1521))
        (CONNECT_DATA =
            (SID = psqlConnect)
        )
        (HS=OK)
    )

```

```

EXTPROC_CONNECTION_DATA =
(DESCRIPTION =
    (ADDRESS_LIST =
        (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1))
    )
    (CONNECT_DATA =
        (SID = PLSExtProc)
        (PRESENTATION = RO)
    )
)
)

```

```

ORACLR_CONNECTION_DATA =
    (DESCRIPTION =

        (ADDRESS_LIST =

```

(ADDRESS = (PROTOCOL = IPC)(KEY =
EXTPROC1))

)

(CONNECT_DATA =

(SID = CLRExtProc)

(PRESENTATION = RO)

)

)

11. Close all the directory
12. Open Command Prompat (With Admin Privileges)
13. Enter Command lsnrctl press Enter
14. Enter Command stop press Enter
15. Enter Command start press Enter
16. If Successful Enter Command exit press Enter
17. Enter Command tnsping <DSN>, here tnsping psqlConnect press Enter
18. If ping is successful enter command exit and press Enter

Table In PostgreSQL

```
postgres=# SELECT * FROM AUTHOR;
 author_id |  author_name
-----+-----
 AT101    | K.C. SINHA
 AT102    | H.C.VERMA
 AT103    | S.K. GOYAL
 AT104    | G.N. BERMAN
 AT105    | OP TANDON
 AT106    | S.L. LONEY
 AT107    | J.D.LEE
 AT108    | N AWASTHI
 AT109    | R.C.MUKHERJEE
 AT110    | M.KARIM
(10 rows)
```

19. Open Oracle (**sqlplus**), Type Query for Creation a Link

LINK CREATION FOR POSTGRES

**CREATE PUBLIC DATABASE LINK PS_LINK CONNECT TO
"postgres" IDENTIFIED BY "admin" USING 'psqlConnect';**

```
SQL> CREATE PUBLIC DATABASE LINK PS_LINK CONNECT TO "postgres" IDENTIFIED
BY "admin" USING 'psqlConnect';

Database link created.

SQL> _
```

Showing The Table Of PostgreSQL into Oracle

SELECT * FROM "author"@PS_LINK;

```
SQL> SELECT * FROM "author"@PS_LINK;

author_id      author_name
-----
AT101          K.C. SINHA
AT102          H.C.VERMA
AT103          S.K. GOYAL
AT104          G.N. BERMAN
AT105          OP TANDON
AT106          S.L. LONEY
AT107          J.D.LEE
AT108          N AWASTHI
AT109          R.C.MUKHERJEE
AT110          M.KARIM

10 rows selected.

SQL>
```

TABLE IN ORACLE

SELECT * FROM BOOK;

```
SQL> SELECT * FROM BOOK;
```

BOOK_ID	BOOK_TITLE	PUBLISHER_ID	NO_OF_BOOK	AUTHOR_ID
BK201	TRIGONOMETRY	PB201	20	AT101
BK202	CALCULUS	PB201	15	AT101
BK203	CONCEPT OF PHY. 1	PB202	20	AT102
BK204	CONCEPT OF PHY. 2	PB202	20	AT102
BK205	CO-ORDINATE GEO METRY	PB203	15	AT103
BK206	ALGEBRA	PB203	15	AT103
BK207	CALCULUS	PB203	20	AT104
BK208	INORGANIC	PB204	18	AT105
BK209	PHYSICAL	PB204	18	AT105
BK210	CO-ORDINATE GEO METRY	PB203	15	AT106

JOIN POSTGRES TABLE TO ORACLE

SELECT B.book_title,A."author_name" FROM Book B JOIN "author"@PS_LINK A ON B.author_id="author_id"@PS_LINK;

```
SQL> SELECT B.book_title,A."author_name" FROM Book B JOIN "author"@PS_LINK A ON B.author_id="author_id"@PS_LINK;
```

BOOK_TITLE	author_name
CALCULUS	K.C. SINHA
TRIGONOMETRY	K.C. SINHA
CONCEPT OF PHY. 2	H.C.VERMA
CONCEPT OF PHY. 1	H.C.VERMA
ALGEBRA	S.K. GOYAL
CO-ORDINATE GEO METRY	S.K. GOYAL
CALCULUS	G.N. BERMAN
PHYSICAL	OP TANDON
INORGANIC	OP TANDON
CO-ORDINATE GEO METRY	S.L. LONEY

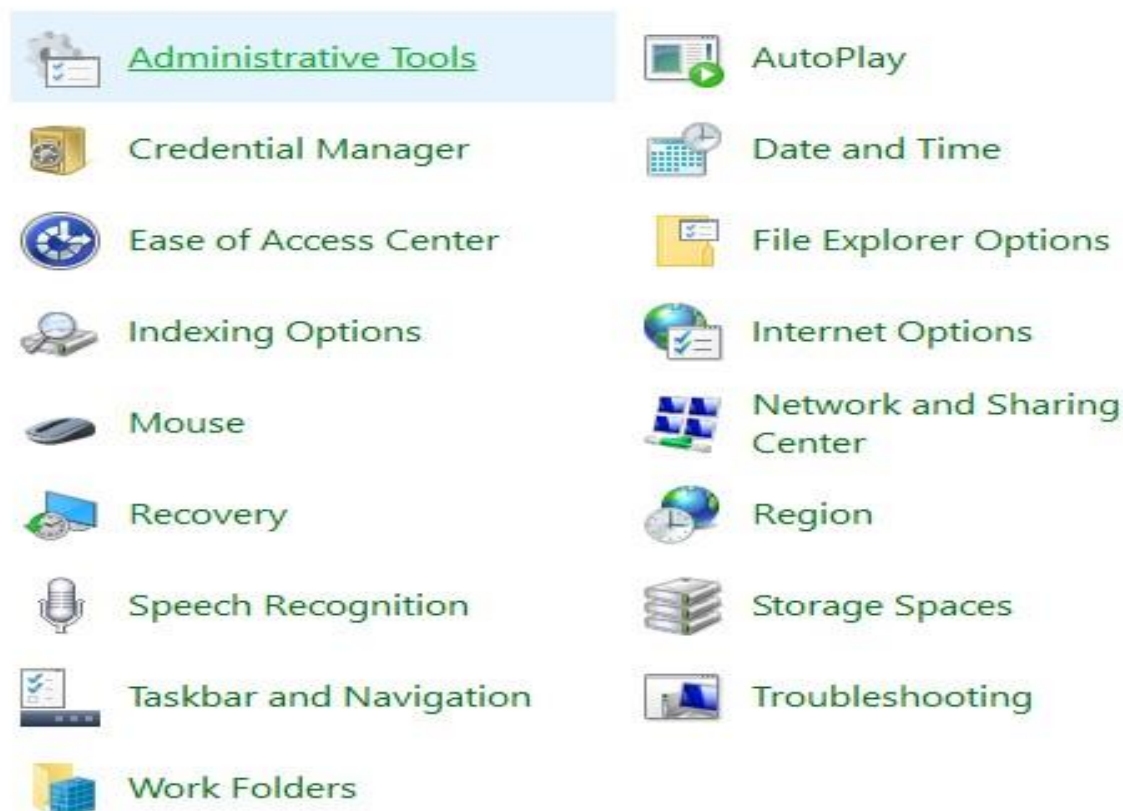
MySQL TO ORACLE

DATABASE CONNECTIVITY SOFTWARE USE

4. ORACLE 11G
5. MySQL 8.0
6. ODBC DRIVERS
 - ii. MySQL ANSI (CONNECTING MySQL TO ORACLE)

How to Connect

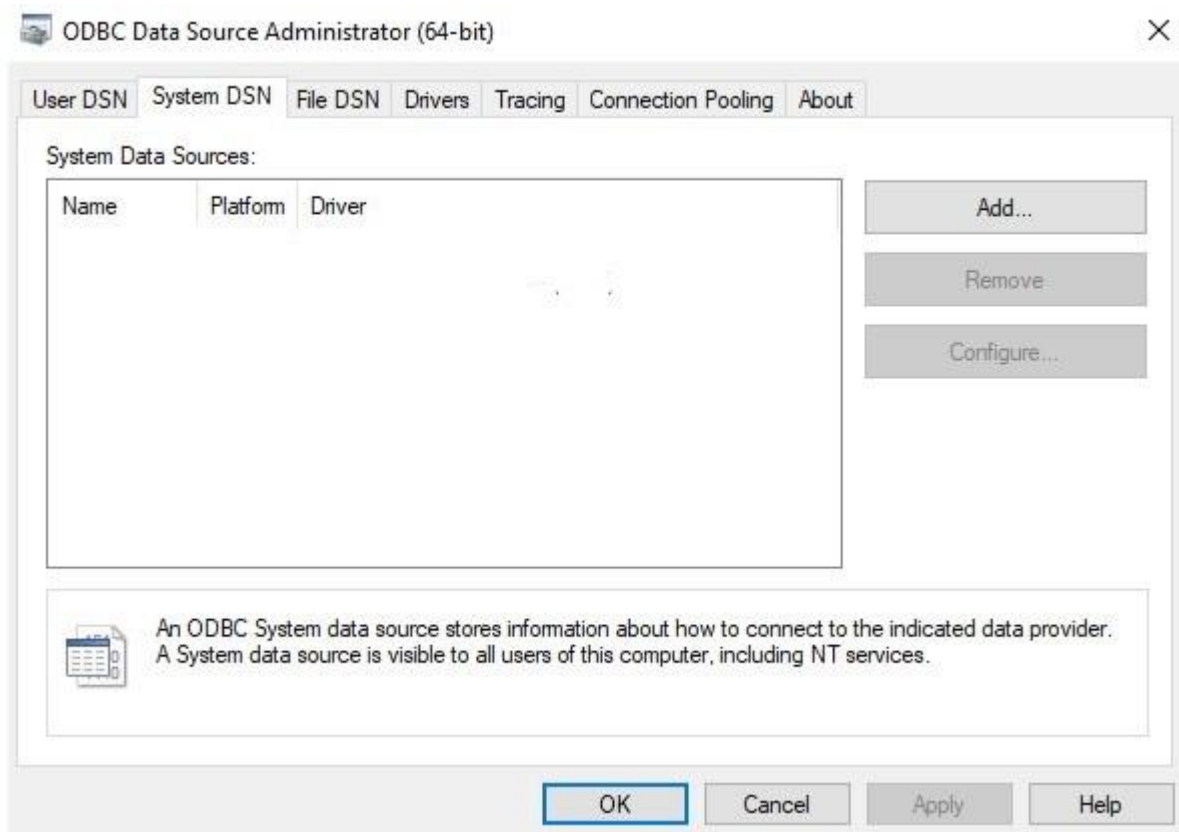
20. Go to Control Panel
21. Select Administrative Tools



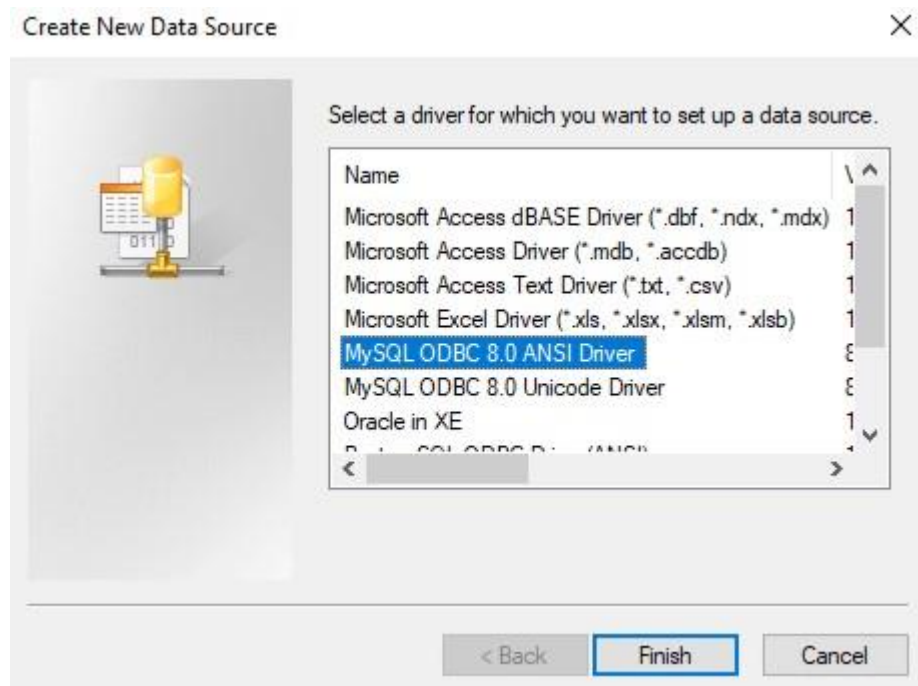
22. Select ODBC DATA SOURCE(x32 OR x64)



23. Select System DSN tab

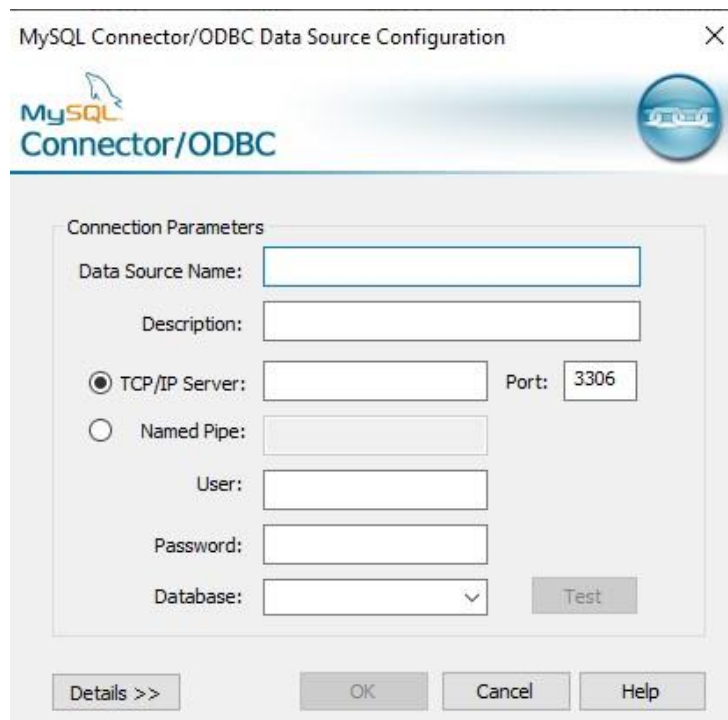


24. Click on Add Button



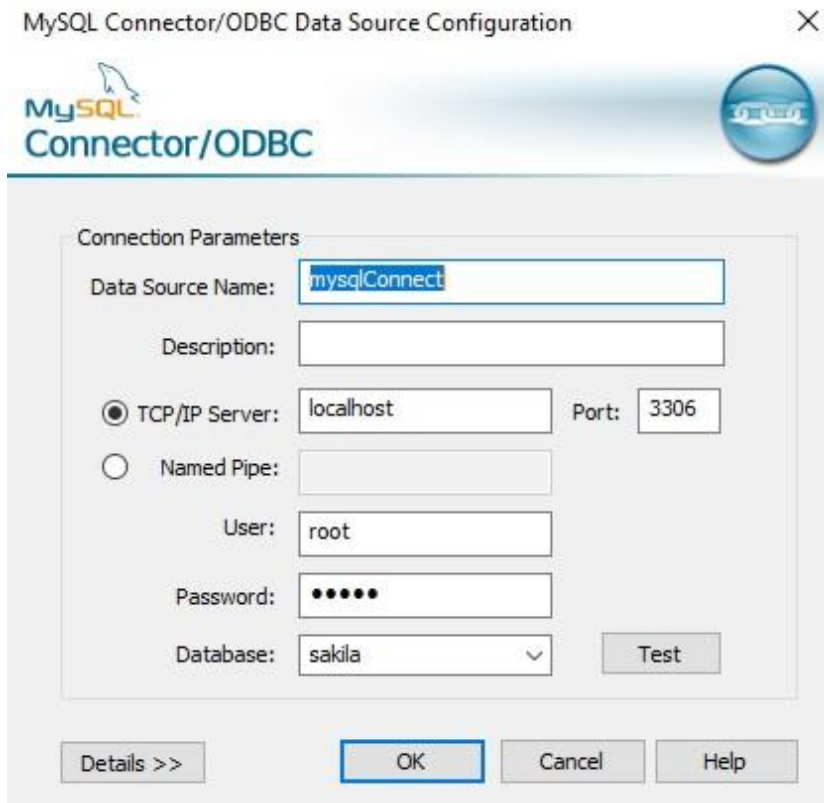
25. Select MySQL ODBC 8.0 Driver(ANSI)

26. Click On Finish Button



27. Configure the MySQL ODBC(ANSI) Driver Setup
- Give a Data Source name for identification of the link
 - Enter the TCP/IP Server (here '**localhost**')
 - Enter the Port Number (default **3306**)
 - Fill Up User Name and Password details of the database
 - Enter Database name, here **sakila**

The Description Field is Optional (Why? Find Out)



The screenshot shows the 'MySQL Connector/ODBC Data Source Configuration' dialog box. The 'Connection Parameters' section is active. The 'Data Source Name' field contains 'mysqlConnect'. The 'Description' field is empty. The 'TCP/IP Server' radio button is selected, with 'localhost' in the text box and '3306' in the 'Port' text box. The 'Named Pipe' radio button is unselected. The 'User' field contains 'root'. The 'Password' field is masked with dots. The 'Database' dropdown menu shows 'sakila'. A 'Test' button is located to the right of the 'Database' dropdown. At the bottom, there are buttons for 'Details >>', 'OK', 'Cancel', and 'Help'.

- f. Click On Test Button



- g. If Successful Click On Save Button
- 28. Then Click On Ok Button

Edit The Content In Oracle Install Location

13. Goto Oracle Installation Location Directory (Here **C:/oraclexe**)
 14. Open **app** directory, Here Find **oracle** directory
 15. Open **oracle** directory, Here Find product directory
 16. Open **product→11.2.0→server**, Find **hs** directory
 17. Open **hs** Directory, Here you see **admin** directory
 18. Open **admin** directory
 19. Open **initdg4odbc.ora** in notepad and edit the contents of the file
- iii. **HS_FDS_CONNECT_INFO = <odbc data_source_name> to
HS_FDS_CONNECT_INFO = mysqlConnect**
 - iv. **HS_FDS_TRACE_LEVEL = <trace_level> to HS_FDS_TRACE_LEVEL =
OFF**

After edit the contents of the file its look like

This is a sample agent init file that contains the HS parameters that are

needed for the Database Gateway for ODBC

#

HS init parameters

#

HS_FDS_CONNECT_INFO = mysqlConnect

HS_FDS_TRACE_LEVEL = OFF

#

Environment variables required for the non-Oracle system

#

#set <envvar>=<value>

20. Save As with new filename **init<data_source_name>.ora**, here **data_source_name** is **mysqlConnect**
21. Now Goto **product→11.2.0→server**, Find network directory
22. Open network directory, Here you see **admin** directory
23. Open **admin** directory
24. Open **listener.ora** file in notepad and edit the contents
 - a. Add **(SID_DESC =**
 - (SID_NAME = mysqlConnect)**
 - (ORACLE_HOME =**
 - C:\oracle\app\oracle\product\11.2.0\server)**
 - (PROGRAM = dg4odbc)**
 -) in SID_LIST_LISTENER**

After edit the contents of the file its look like

SID_LIST_LISTENER =

(SID_LIST =

(SID_DESC =

(SID_NAME = PLSExtProc)

(ORACLE_HOME =

C:\oracle\app\oracle\product\11.2.0\server)

(PROGRAM = extproc)

)

(SID_DESC =

(SID_NAME = CLRExtProc)

(ORACLE_HOME =

C:\oracle\app\oracle\product\11.2.0\server)

```

        (PROGRAM = extproc)
    )
    (SID_DESC =
        (SID_NAME = mysqlConnect)
        (ORACLE_HOME =
            C:\oracle\app\oracle\product\11.2.0\server)
        (PROGRAM = dg4odbc)
    )
)

LISTENER =
    (DESCRIPTION_LIST =
        (DESCRIPTION =
            (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1))
            (ADDRESS = (PROTOCOL = TCP)(HOST = DESKTOP-
                97NNNGE)(PORT = 1521))
        )
    )
)

```

DEFAULT_SERVICE_LISTENER = (XE)

29. Open **tnsnames.ora** file in notepad and edit the contents

- i. Add **mysqlConnect** =


```

                (DESCRIPTION =
                    (ADDRESS = (PROTOCOL = TCP)(HOST =
                        DESKTOP-97NNNGE)(PORT = 1521))
                    (CONNECT_DATA =
                        (SID = mysqlConnect)
                    )
                (HS=OK)
            
```

) after **XE**

After edit the contents of the file its look like

XE =

```
(DESCRIPTION =
  (ADDRESS = (PROTOCOL = TCP)(HOST = DESKTOP-
    97NNNGE)(PORT = 1521))
  (CONNECT_DATA =
    (SERVER = DEDICATED)
    (SERVICE_NAME = XE)
  )
)
```

mysqlConnect =

```
(DESCRIPTION =
  (ADDRESS = (PROTOCOL = TCP)(HOST = DESKTOP-
    97NNNGE)(PORT = 1521))
  (CONNECT_DATA =
    (SID = mysqlConnect)
  )
  (HS=OK)
)
```

EXTPROC_CONNECTION_DATA =

```
(DESCRIPTION =
  (ADDRESS_LIST =
    (ADDRESS = (PROTOCOL = IPC)(KEY = EXTPROC1))
```

```

)
(CONNECT_DATA =
  (SID = PLSExtProc)
  (PRESENTATION = RO)
)
)

```

```

ORACLR_CONNECTION_DATA =
  (DESCRIPTION =
    (ADDRESS_LIST =
      (ADDRESS = (PROTOCOL = IPC)(KEY =
        EXTPROC1))
    )
    (CONNECT_DATA =
      (SID = CLRExtProc)
      (PRESENTATION = RO)
    )
  )
)

```

30. Close all the directory
31. Open **Command Prompat (With Admin Privileges)**
32. Enter Command **lsnrctl** press **Enter**
33. Enter Command **stop** press **Enter**
34. Enter Command **start** press **Enter**
35. If **Successful** Enter Command **exit** press **Enter**
36. Enter Command **tnsping <DSN>**, here **tnsping mysqlConnect**
press **Enter**
37. If Ping is Successful enter command **exit** and press **Enter**

Table In MySQL

```
mysql> SELECT * FROM BOOK;
```

book_id	book_title	publisher_id	no_of_book	author_id
BK201	TRIGONOMETRY	PB201	20	AT101
BK202	CALCULUS	PB201	15	AT101
BK203	CONCEPT OF PHY.1	PB202	20	AT102
BK204	CONCEPT OF PHY.2	PB202	20	AT102
BK205	CO-ORDINATE GEOMETRY	PB203	15	AT103
BK206	ALGEBRA	PB203	15	AT103
BK207	CALCULUS	PB203	20	AT104
BK208	INORGANIC	PB204	18	AT105
BK209	PHYSICAL	PB204	18	AT105
BK210	CO-ORDINATE GEOMETRY	PB203	15	AT106
BK211	INORGANIC	PB205	20	AT107
BK212	PHYSICAL & INORGANIC	PB206	15	AT108
BK213	CHEMICAL CALCULATION	PB202	10	AT109
BK214	NUMERICAL PROBLEM	PB201	10	AT110

```
14 rows in set (0.02 sec)
```

1. Open Oracle (**sqlplus**), Type Query for Creation a Link

2. LINK CREATION FOR POSTGRES

CREATE PUBLIC DATABASE LINK MYSQL_LINK CONNECT TO "root" IDENTIFIED BY "admin" using 'mysqlConnect';

```
SQL> CREATE PUBLIC DATABASE LINK MYSQL_LINK CONNECT TO "root" IDENTIFIED
BY "admin" using 'mysqlConnect';

Database link created.

SQL>
```

Showing The Table Of MySQL into Oracle

SELECT * FROM "book"@MYSQL_LINK;

```
SQL> SELECT * FROM "book"@MYSQL_LINK;
```

book_id	book_title	publisher_id	no_of_book	author_id
BK201	TRIGONOMETRY	PB201	20	AT101
BK202	CALCULUS	PB201	15	AT101
BK203	CONCEPT OF PHY. 1	PB202	20	AT102
BK204	CONCEPT OF PHY. 2	PB202	20	AT102
BK205	CO-ORDINATE GEO METRY	PB203	15	AT103
BK206	ALGEBRA	PB203	15	AT103
BK207	CALCULUS	PB203	20	AT104
BK208	INORGANIC	PB204	18	AT105
BK209	PHYSICAL	PB204	18	AT105
BK210	CO-ORDINATE GEO METRY	PB203	15	AT106
BK211	INORGANIC	PB205	20	AT107

TABLE IN ORACLE

SELECT * FROM BOOK;

```
SQL> SELECT * FROM BOOK;
```

BOOK_ID	BOOK_TITLE	PUBLISHER_ID	NO_OF_BOOK	AUTHOR_ID
BK201	TRIGONOMETRY	PB201	20	AT101
BK202	CALCULUS	PB201	15	AT101
BK203	CONCEPT OF PHY. 1	PB202	20	AT102
BK204	CONCEPT OF PHY. 2	PB202	20	AT102
BK205	CO-ORDINATE GEO METRY	PB203	15	AT103
BK206	ALGEBRA	PB203	15	AT103
BK207	CALCULUS	PB203	20	AT104
BK208	INORGANIC	PB204	18	AT105
BK209	PHYSICAL	PB204	18	AT105
BK210	CO-ORDINATE GEO METRY	PB203	15	AT106

JOIN MySQL TABLE TO ORACLE

```
SELECT B.book_title,A."publisher_name" FROM Book B JOIN
"publication"@MYSQL_LINK A ON
B.publisher_id="publisher_id"@MYSQL_LINK;
```

```
SQL> SELECT B.book_title,A."publisher_name" FROM Book B JOIN "publication"@MYSQL_LINK A ON B.publisher_
id="publisher_id"@MYSQL_LINK;
```

BOOK_TITLE	publisher_name
NUMERICAL PROBL EM	STUDENT FRIENDS
CALCULUS	STUDENT FRIENDS
TRIGONOMETRY	STUDENT FRIENDS
CHEM CALCUL	BHARTI BHAWAN
CONCEPT OF PHY. 2	BHARTI BHAWAN
CONCEPT OF PHY. 1	BHARTI BHAWAN
BOOK_TITLE	publisher_name
CO-ORDINATE GEO METRY	ARIHANT
CALCULUS	ARIHANT
ALGEBRA	ARIHANT

JOIN POSTGRES TABLE TO MySQL TABLE IN ORACLE

```
SELECT B."book_title",A."author_name" FROM "book"@PS_LINK B
JOIN "author"@MYSQL_LINK A ON
"author_id"@PS_LINK="author_id"@MYSQL_LINK;
```

```
SQL> SELECT B."book_title",A."author_name" FROM "book"@PS_LINK B JOIN "author"@MYSQL_LINK A ON "author_
id"@PS_LINK="author_id"@MYSQL_LINK;
```

book_title	author_name
CALCULUS	K.C. SINHA
TRIGONOMETRY	K.C. SINHA
CONCEPT OF PHY.	H.C.VERMA
2	
CONCEPT OF PHY.	H.C.VERMA
1	
ALGEBRA	S.K. GOYAL
CO-ORDINATE GEO	S.K. GOYAL
METRY	

book_title	author_name
CALCULUS	G.N. BERMAN
PHYSICAL	OP TANDON
INORGANIC	OP TANDON
CO-ORDINATE GEO	S.L. LONEY
METRY	

JOIN POSTGRES TABLE, ORCALE TABLE AND MySQL TABLE IN ORACLE

```
SELECT B."book_title",a."author_name",p.publisher_nameFROM
"book"@PS_LINK B,"author"@MYSQL_LINK A,publication P WHERE
B."author_id"=A."author_id" and B."publisher_id"=P.publisher_id;
```

```
SQL> SELECT B."book_title",a."author_name",p.publisher_name from "book"@PS_LINK B,"author"@MYSQL_LINK A
,publication p WHERE B."author_id"=A."author_id" and B."publisher_id"=p.publisher_id;
```

book_title	author_name	PUBLISHER_NAME
CALCULUS	K.C. SINHA	STUDENT FRIENDS
TRIGONOMETRY	K.C. SINHA	STUDENT FRIENDS
CONCEPT OF PHY.	H.C.VERMA	BHARTI BHAWAN
2		
CONCEPT OF PHY.	H.C.VERMA	BHARTI BHAWAN
1		
ALGEBRA	S.K. GOYAL	ARIHANT
CO-ORDINATE GEO	S.K. GOYAL	ARIHANT
METRY		

book_title	author_name	PUBLISHER_NAME
CALCULUS	G.N. BERMAN	ARIHANT
PHYSICAL	OP TANDON	GRB BOOKS
INORGANIC	OP TANDON	GRB BOOKS
CO-ORDINATE GEO	S.L. LONEY	ARIHANT
METRY		

ORACLE TO POSTGRES

DATABASE CONNECTIVITY SOFTWARE USE

1. POSTGRESQL
2. ORACLE 11G
3. ODBC DRIVERS
 - I. POSTGRESQL ANSI (CONNECTING POSTGRES TO ORACLE)
4. Download oracle_fdw-2.2.0-pg12-win64.zip

How to Connect

1. Extract the oracle_fdw-2.2.0-pg12-win64.zip file
2. Open lib directory copy all file and paste into C:\Program Files\PostgreSQL\12\lib directory
3. Open share → Extension directory copy all file and paste into C:\Program Files\PostgreSQL\12\share\extension directory

Open Postgres Type Query:

EXTENSION CREATION:

```
CREATE EXTENSION oracle_fdw;
```

SERVER CREATION

```
CREATE SERVER oradb FOREIGN DATA WRAPPER oracle_fdw
OPTIONS (dbserver 'localhost');
```

GRANT USAGE ON FOREIGN SERVER oradb to postgres;

USER CREATION:

CREATE USER MAPPING FOR postgres SERVER oradb OPTIONS (USER 'SYSTEM', PASSWORD 'admin');

FOREIGN TABLE CREATION:

CREATE FOREIGN TABLE O_AUTHOR(author_id VARCHAR(5), author_name VARCHAR(30)) SERVER oradb OPTIONS (table 'AUTHOR');

```
postgres=# CREATE EXTENSION oracle_fdw;
CREATE EXTENSION
postgres=# CREATE SERVER oradb FOREIGN DATA WRAPPER oracle_fdw OPTIONS (dbserver 'localhost');
CREATE SERVER
postgres=# GRANT USAGE ON FOREIGN SERVER oradb to postgres;
GRANT
postgres=# CREATE USER MAPPING FOR postgres SERVER oradb OPTIONS (USER 'SYSTEM', PASSWORD 'admin');
CREATE USER MAPPING
postgres=# CREATE FOREIGN TABLE O_AUTHOR(author_id VARCHAR(5), author_name VARCHAR(30)) SERVER oradb OP
TIONS (table 'AUTHOR');
CREATE FOREIGN TABLE
postgres=# _
```

a. SELECT * FROM O_AUTHOR;

```
postgres=# SELECT * FROM O_AUTHOR;
 author_id | author_name
-----+-----
 AT101    | K.C. SINHA
 AT102    | H.C.VERMA
 AT103    | S.K. GOYAL
 AT104    | G.N. BERMAN
 AT105    | OP TANDON
 AT106    | S.L. LONEY
 AT107    | J.D.LEE
 AT108    | N AWASTHI
 AT109    | R.C.MUKHERJEE
 AT110    | M.KARIM
(10 rows)

postgres=# SELECT * FROM O_PUBLICATION;
 publisher_id | publisher_name
-----+-----
 PB201       | STUDENT FRIENDS
 PB202       | BHARTI BHAWAN
 PB203       | ARIHANT
 PB204       | GRB BOOKS
 PB205       | MAESTRO
 PB206       | BALAJI
(6 rows)
```

JOIN ORACLE TABLE TO POSTGRES

b. SELECT B.book_title,A.author_id FROM O_BOOK B,O_AUTHOR A
WHERE B.author_id=A.author_id;

```
postgres=# SELECT B.book_title,A.author_name FROM O_BOOK B,O_AUTHOR A WHERE B.author_id=A.author_id;
```

book_title	author_name
TRIGONOMETRY	K.C. SINHA
CALCULUS	K.C. SINHA
CONCEPT OF PHY.1	H.C.VERMA
CONCEPT OF PHY.2	H.C.VERMA
CO-ORDINATE GEOMETRY	S.K. GOYAL
ALGEBRA	S.K. GOYAL
CALCULUS	G.N. BERMAN
INORGANIC	OP TANDON
PHYSICAL	OP TANDON
CO-ORDINATE GEOMETRY	S.L. LONEY
INORGANIC	J.D.LEE
NUMERICAL PROBLEM	M.KARIM
PHY_L	N AWASTHI
CHEM CALCUL	R.C.MUKHERJEE

(14 rows)

c. INSERT INTO O_AUTHOR VALUES('AT111','E. BALAGURUSWAMY');

```
postgres=# INSERT INTO O_AUTHOR VALUES('AT111','E. BALAGURUSWAMY');
INSERT 0 1
```

Open Oracle(SQLPLUS)

d. SELECT * FROM AUTHOR

```
SQL> SELECT * FROM AUTHOR;
```

AUTHO	AUTHOR_NAME
AT101	K.C. SINHA
AT102	H.C.VERMA
AT103	S.K. GOYAL
AT104	G.N. BERMAN
AT105	OP TANDON
AT106	S.L. LONEY
AT107	J.D.LEE
AT108	N AWASTHI
AT109	R.C.MUKHERJEE
AT110	M.KARIM
AT111	E. BALAGURUSWAMY

MySQL TO POSTGRES

DATABASE CONNECTIVITY SOFTWARE USE

5. POSTGRESQL

6. ORACLE 11G

7. ODBC DRIVERS

II. POSTGRESQL ANSI (CONNECTING POSTGRES TO ORACLE)

8. Download fdw_win64_12.zip

How to Connect

4. Extract the fdw_win64_12.zip.zip file

5. Open lib directory copy all file and paste into C:\Program Files\PostgreSQL\12\lib directory

6. Open share → Extension directory copy all file and paste into C:\Program Files\PostgreSQL\12\share\extension directory

Open Postgres Type Query:

EXTENSION CREATION:

```
CREATE EXTENSION odbc_fdw;
```

SERVER CREATION:

```
CREATE SERVER odbc_server FOREIGN DATA WRAPPER odbc_fdw
OPTIONS (dsn 'mysqlconnect');
```

```
GRANT USAGE ON FOREIGN SERVER odbc_server to postgres;
```

USER CREATION:

```
CREATE USER MAPPING FOR postgres SERVER odbc_server OPTIONS
(odbc_UID 'root', ODBC_PWD '');
```

```
postgres=# CREATE EXTENSION odbc_fdw;
CREATE EXTENSION
postgres=# CREATE SERVER odbc_server FOREIGN DATA WRAPPER odbc_fdw OPTIONS (dsn 'mysqlconnect');
CREATE SERVER
postgres=# CREATE USER MAPPING FOR postgres SERVER odbc_server OPTIONS (odbc_UID 'root', ODBC_PWD '');
CREATE USER MAPPING
```

FOREIGN TABLE CREATION:

```
CREATE FOREIGN TABLE M_AUTHOR(author_id VARCHAR(5),
author_name VARCHAR(30)) SERVER odbc_server
OPTIONS(odbc_DATABASE 'sakila', table 'AUTHOR');
```

```
CREATE FOREIGN TABLE M_PUBLICATION(publisher_id
VARCHAR(5),publisher_name VARCHAR(30)) SERVER odbc_server
OPTIONS(odbc_DATABASE 'sakila', table 'PUBLICATION');
```

```
CREATE FOREIGN TABLE M_BOOK(book_id VARCHAR(5),book_title
VARCHAR(30),publisher_id VARCHAR(5),no_of_book INT,author_id
VARCHAR(5)) SERVER odbc_server OPTIONS(odbc_DATABASE 'sakila',
table 'BOOK');
```

JOIN MySQL TABLE TO POSTGRES

```
SELECT B.book_title,A.author_id FROM M_BOOK B,M_AUTHOR A
WHERE B.author_id=A.author_id;
```

```
postgres=# SELECT B.book_title,A.author_name FROM M_BOOK B,M_AUTHOR A WHERE B.author_id=A.author_id;
 book_title | author_name
-----+-----
TRIGONOMETRY | K.C. SINHA
CALCULUS | K.C. SINHA
CONCEPT OF PHY.1 | H.C.VERMA
CONCEPT OF PHY.2 | H.C.VERMA
CO-ORDINATE GEOMETRY | S.K. GOYAL
ALGEBRA | S.K. GOYAL
CALCULUS | G.N. BERMAN
INORGANIC | OP TANDON
PHYSICAL | OP TANDON
CO-ORDINATE GEOMETRY | S.L. LONEY
INORGANIC | J.D.LEE
PHYSICAL & INORGANIC | N AWASTHI
CHEMICAL CALCULATION | R.C.MUKHERJEE
NUMERICAL PROBLEM | M.KARIM
(14 rows)
```

JOIN MySQL TABLE AND ORACLE TABLE TO POSTGRES TABLE

```
SELECT P.book_title,M.author_name,O.publisher_name FROM BOOK
P,M_AUTHOR M,O_PUBLICATION O WHERE P.author_id= M.author_id
AND P.publisher_id=O.publisher_id;
```

```
postgres=# SELECT P.book_title,M.author_name,O.publisher_name FROM BOOK P,M_AUTHOR M,O_PUBLICATION O WH
ERE P.author_id= M.author_id AND P.publisher_id=O.publisher_id
postgres=# ;
 book_title | author_name | publisher_name
-----+-----+-----
NUMERICAL PROBLEM | M.KARIM | STUDENT FRIENDS
CALCULUS | K.C. SINHA | STUDENT FRIENDS
TRIGONOMETRY | K.C. SINHA | STUDENT FRIENDS
CHEMICAL CALCULATION | R.C.MUKHERJEE | BHARTI BHAWAN
CONCEPT OF PHY.2 | H.C.VERMA | BHARTI BHAWAN
CONCEPT OF PHY.1 | H.C.VERMA | BHARTI BHAWAN
CO-ORDINATE GEOMETRY | S.L. LONEY | ARIHANT
CALCULUS | G.N. BERMAN | ARIHANT
ALGEBRA | S.K. GOYAL | ARIHANT
CO-ORDINATE GEOMETRY | S.K. GOYAL | ARIHANT
PHYSICAL | OP TANDON | GRB BOOKS
INORGANIC | OP TANDON | GRB BOOKS
INORGANIC | J.D.LEE | MAESTRO
PHYSICAL & INORGANIC | N AWASTHI | BALAJI
(14 rows)
```