SOME BASIC COMMANDS USED FOR ESTABLISHING THE CONNECTION BETWEEN THE MYSQL WORKBENCH AND PYTHON:

1. Required library to be installed for making the connection

```
In [1]: ! pip install mysql-connector-python

        Requirement already satisfied: mysql-connector-python in c:\users\hp\anaconda3\anaconda\lib\site-packages (8.0.29)
        Requirement already satisfied: protobuf>=3.0.0 in c:\users\hp\anaconda3\anaconda\lib\site-packages (from mysql-connector-pytho
        n) (3.19.1)

In [2]: import mysql.connector as conn
```

Step 2 : Once the package is installed, we can go ahead with establishing the connection.

```
: import mysql.connector as conn
```

```
: mydb=conn.connect(host= "localhost"  ,  user ="root"   ,   password="agrika@1509", auth_plugin='mysql_native_password')
```

Now as your mysql workbench is running locally on the system so in local we have added local host.

If it was running on the server then there will be server link inplace of local host.

In case of Local system, user and password will be the same while you set during installation of the mysql workbench.

In other cases(corporate cases),it will be provided by respective team members.

Step3: Checking wether sever is being connected with the python.

```
In [17]: mydb.is_connected()
Out[17]: True
```

True indicates that the connection is established.

Step 4: Before making any databases, always try to check how many databases are present in the my sql workbench.

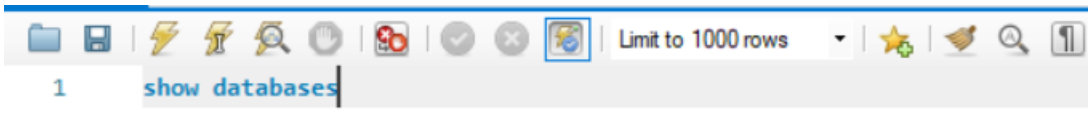
A. Knowing via python command:

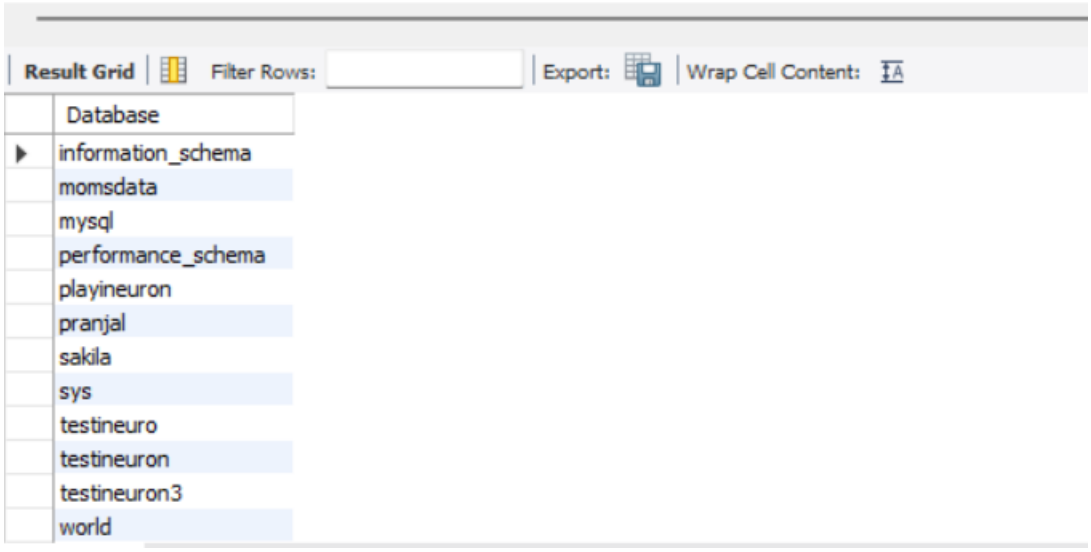
```
In [15]: query=" show databases "

In [5]: cursor=mydb.cursor()
        cursor.execute(query)

In [6]: cursor.fetchall()
Out[6]: [('information_schema',),
         ('momsdata',),
         ('mysql',),
         ('performance_schema',),
         ('playineuron',),
         ('pranjal',),
         ('sakila',),
         ('sys',),
         ('testineuro',),
         ('testineuron',),
         ('testineuron3',),
         ('world',)]
```

B. Knowing via MySQL Workbench command





Step 5 :Creating the new databases

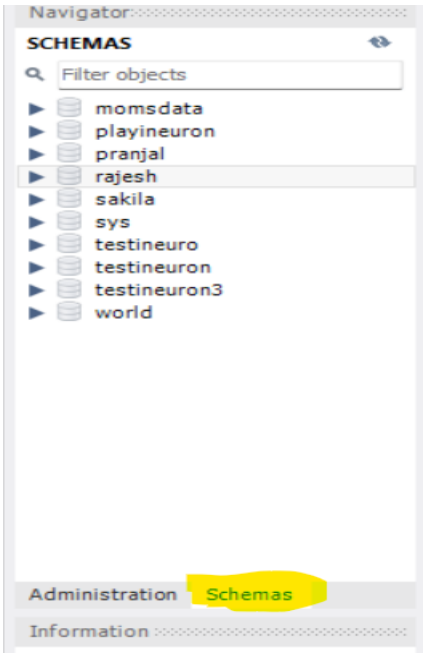
A. via python commands

```
]: query ="create database pranjal"
```

```
]: cursor = mydb.cursor()
   cursor.execute(query)
```

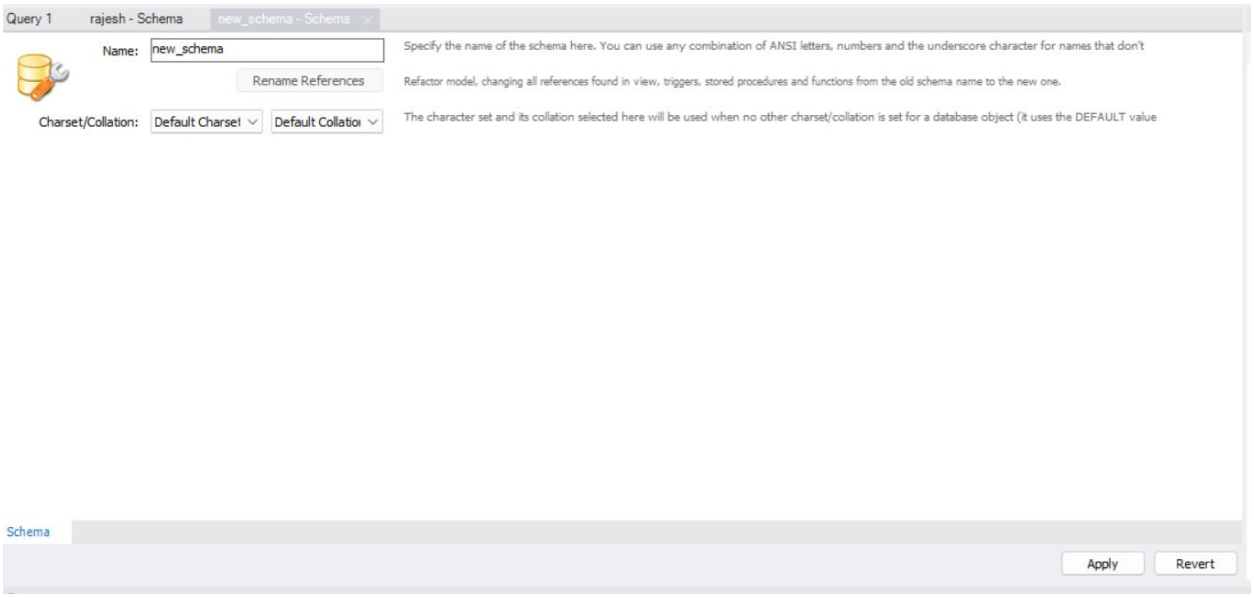
B. via SQL Workbench

Step 1 : On the left hand side of My Sql workbench, go to schema as shown in the below screenshot.



Step 2: Right click on the above area and select the option create schema.

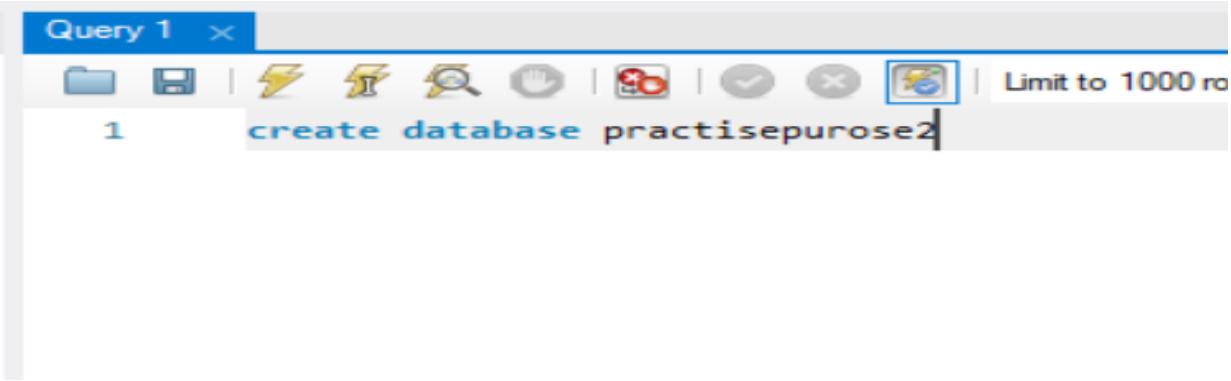
The dialog box will appear as shown in the below screenshot:



Give the name you want to give as per your convenience and click on apply option present in the right side of the dialog box.

The new data base will be created.

Alternate way to create the database using the MySQL Workbench.



import mysql.connector as conn will always be included in any of the operations by default.

Step 6: Creating the tables in the data bases.

A. **via python commands**

```
mydb=conn.connect(host= "localhost"  ,  user ="root"   ,   password="agrika@1509", database = "playineuron")
```

```
query="create table playineuron.studentdetails(studentname VARCHAR(50),studentid DECIMAL(10))"
```

Here we want to create table in the database playineuron that's why we have added it in the database.

If we want to add table to other database then we have to include the name of that database.

Step7: Confirming Wether the tables has been created or not

A. **via python commands**

```
]: query ="show tables"

]: cursor=mydb.cursor()
   cursor.execute(query)

]: cursor.fetchall()

]: [('practisepurpose',), ('student2details',), ('studentdetails',)]
```

Here 3 tables are present in the MySql workbench:

1.practisepurpose 2. student2details 3. studentdetails.

Step8: Inserting the data in the tables that has been created.

A. via python

1st data has been inserted :

```
# Inserting the data into the existing table:

# 1st dataset

query="insert into studentdetails values('RajeshMehrotra',567.89)"

cursor=mydb.cursor()
cursor.execute(query)
```

2nd data has been inserted:

```
# 2nd dataset
```

```
query='insert into studentdetails values("NishiMehrotra",567.89)'
```

```
cursor=mydb.cursor()
cursor.execute(query)
```

3rd data has been inserted:

```
# 3rd dataset
```

```
query='insert into studentdetails values("PranjalMehrotra",567.89)'
```

```
cursor=mydb.cursor()
cursor.execute(query)
```

An imp point after inserting the required datas we have to commit in order to reflect those datas in the mysql tables.

```
cursor.execute('insert into student2details values("Rajesh Mehrotra",568.89)')
```

```
mydb.commit()
```

Step9: Showing all the data that has been input in the tables

A. **via Python**

```
70]: # Fetching the data of studentdetails

71]: cursor.execute("select * from studentdetails")

72]: cursor.fetchall()

72]: [('RajeshMehrotra', 568),
      ('NishiMehrotra', 568),
      ('PranjalMehrotra', 568),
      ('NandiMehrotra', 568),
      ('RajeshMehrotra', 568),
      ('NishiMehrotra', 568),
      ('PranjalMehrotra', 568),
      ('NandiMehrotra', 568),
      ('RajeshMehrotra', 568),
      ('NishiMehrotra', 568),
      ('PranjalMehrotra', 568),
      ('NandiMehrotra', 568),
      ('RajeshMehrotra', 568),
      ('NishiMehrotra', 568),
      ('PranjalMehrotra', 568),
      ('NandiMehrotra', 568)]
```

- **Here we have inserted the data in the studentdetails table that's why we have used studentdetails.**
- **If we want any specific table name, then we can replace the studentdetails with that table name.**

Extra: Merging the concept of pandas and sql.

Connection string is : mydb =conn.connect(host= "localhost" , user ="root" , password="agrika@1509", database = "playineuron")

1.Converting the data present in the table into the dataframe using pandas.

```
In [74]: import pandas as pd
```

```
In [75]: pd.read_sql("select * from studentdetails", mydb)
         # Here mydb is a connection string which connects the python with MySql Workbench.
```

Out[75]:

	studentname	studentid
0	RajeshMehrotra	568
1	NishiMehrotra	568
2	PranjalMehrotra	568
3	NandiMehrotra	568
4	RajeshMehrotra	568
5	NishiMehrotra	568
6	PranjalMehrotra	568
7	NandiMehrotra	568
8	RajeshMehrotra	568
9	NishiMehrotra	568

Here mydb is a connection string which has to be passed as a parameter when trying to execute the pandas operation.