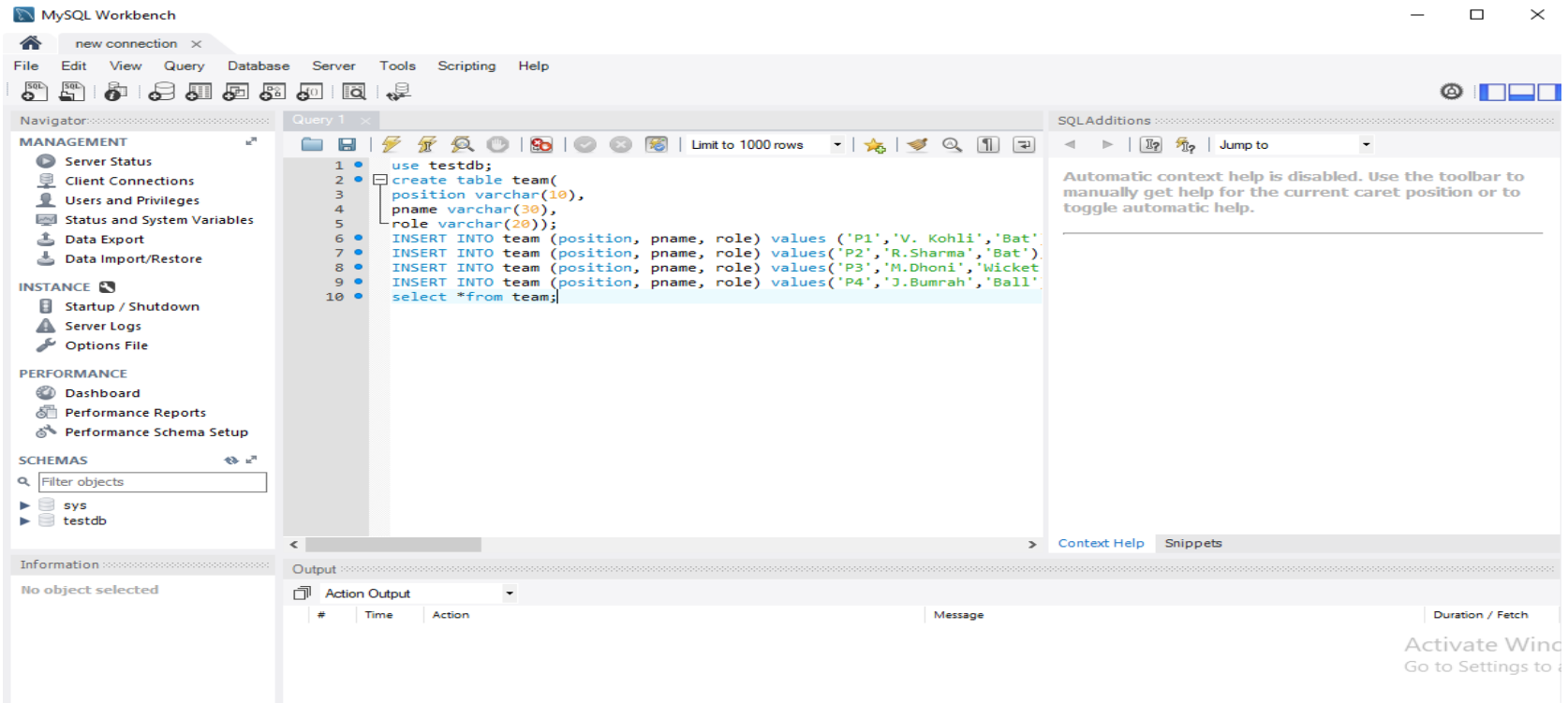


# Connect MySQL with Python

Step-by-Step Instruction




# MySQL Portal



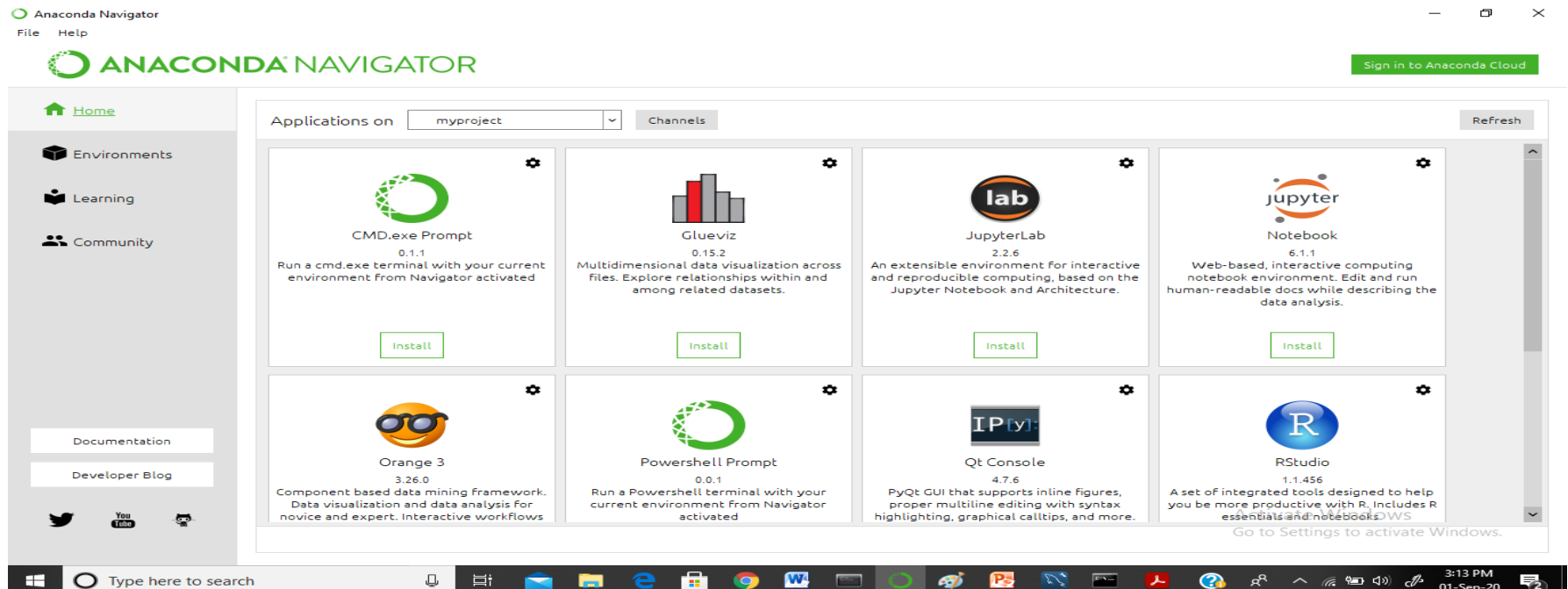
- This is MySQL workbench
- We are working in “**root**” with admin password =“**1234**”
- MySQL should be opened and connected
- We have created a database known as “**testdb**”. We will use this database.
- We have created a table known as ‘**team**’. Some values are already inserted.

# Python (Anaconda) Portal

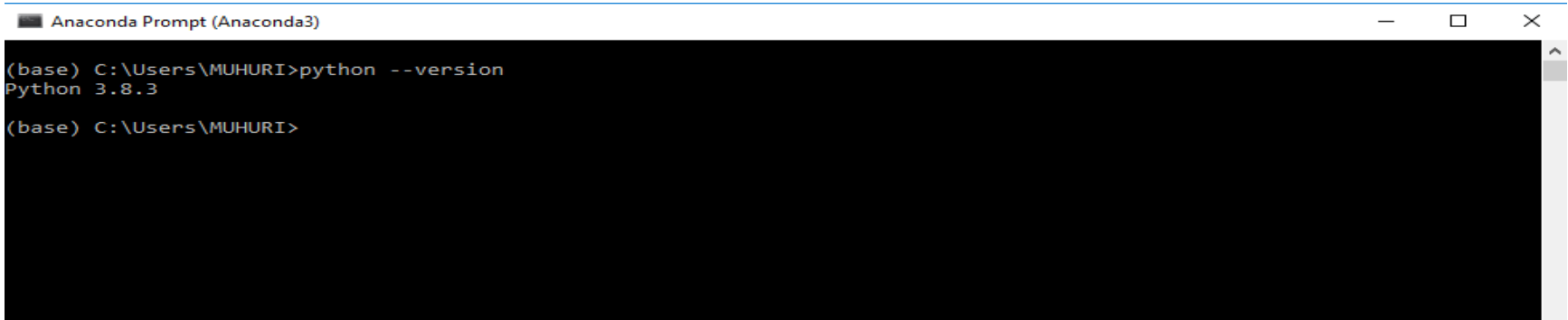
- We have installed Python “**Anaconda**”. The link is as follows: <https://www.anaconda.com/products/individual>
- Scroll down the page. Choose your OS version and download the product

Windows 	MacOS 	Linux 
Python 3.8 64-Bit Graphical Installer (466 MB) 32-Bit Graphical Installer (397 MB)	Python 3.8 64-Bit Graphical Installer (462 MB) 64-Bit Command Line Installer (454 MB)	Python 3.8 64-Bit (x86) Installer (550 MB) 64-Bit (Power8 and Power9) Installer (290 MB)

- Install it in normal procedure by clicking next -> next.. Run Anaconda Navigator from WINDOWS start button



# Anaconda Prompt

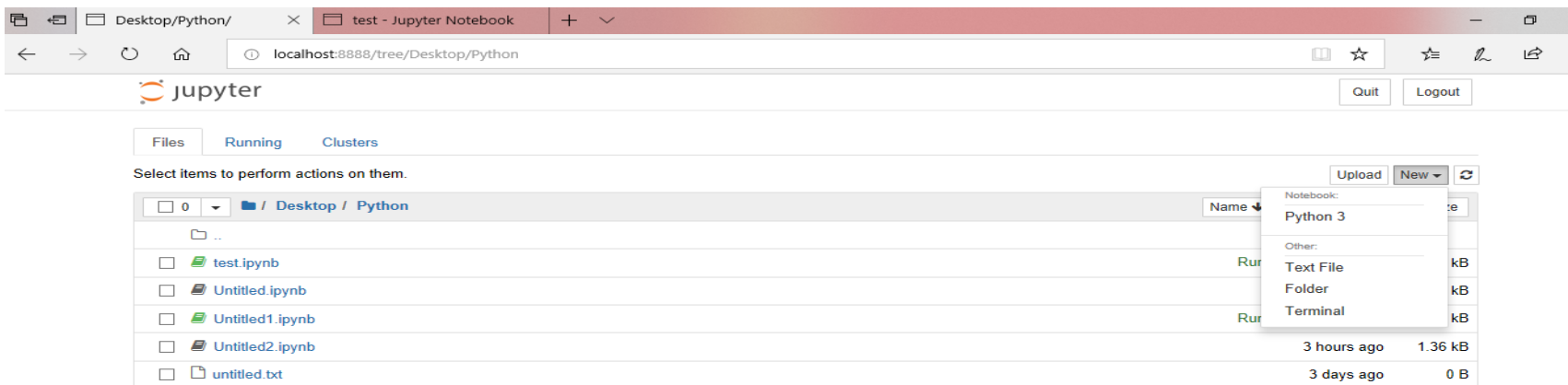


```

Anaconda Prompt (Anaconda3)
(base) C:\Users\MUHURI>python --version
Python 3.8.3
(base) C:\Users\MUHURI>

```

- Also open **Anaconda prompt** from WINDOWS start button
- You can check python version (if successfully installed) by writing the command : **python --version**
- From here you can also open Jupyter Notebook by the following command: **jupyter notebook**
- Jupyter notebook will open in any internet browser
- Choose any folder (or create a new folder) and choose **new -> python3** (as shown in diagram below)



# Install All MySQL Packages

Anaconda Navigator

File Help

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base (root)

myproject

Not installed Channels Update index... mysql

Name	Description	Version
mysql-connector-c	MySQL connector/c, the c interface for communicating with mysql servers.	6.1.11
mysql-connector-python	Python driver for communicating with mysql servers	8.0.18
mysql-python		1.2.5
mysqlclient	Python interface to mysql	1.3.14
pymysql	Pure python mysql driver	0.9.3

5 packages available matching "mysql" 5 packages selected

Activate Windows  
Go to Settings to activate Windows

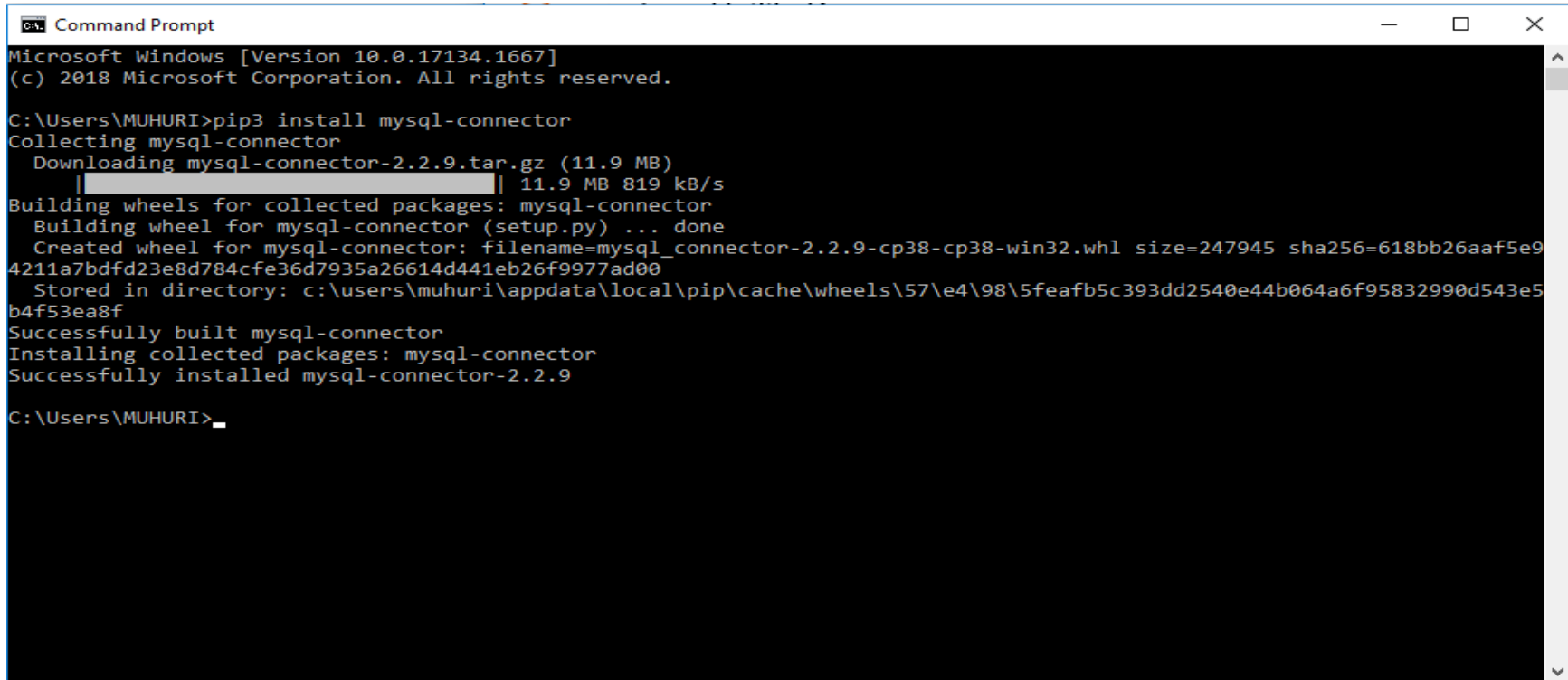
Apply Clear

Type here to search

11:54 AM  
01-Sep-20

- In the Anaconda Navigator, click on environment
- In the below, click on **create** button and create a new project (here we have created myproject)
- In the right hand side, choose **‘not installed’** option and search **“mysql”** (as shown in the diagram)
- Some files will come. You have to select one by one and click on apply. It will install the packages one by one. If it is not visible in **‘not installed’** option, then check it from **“installed”** option. If it is already installed, you can skip this step.

# Installing MySQL connector



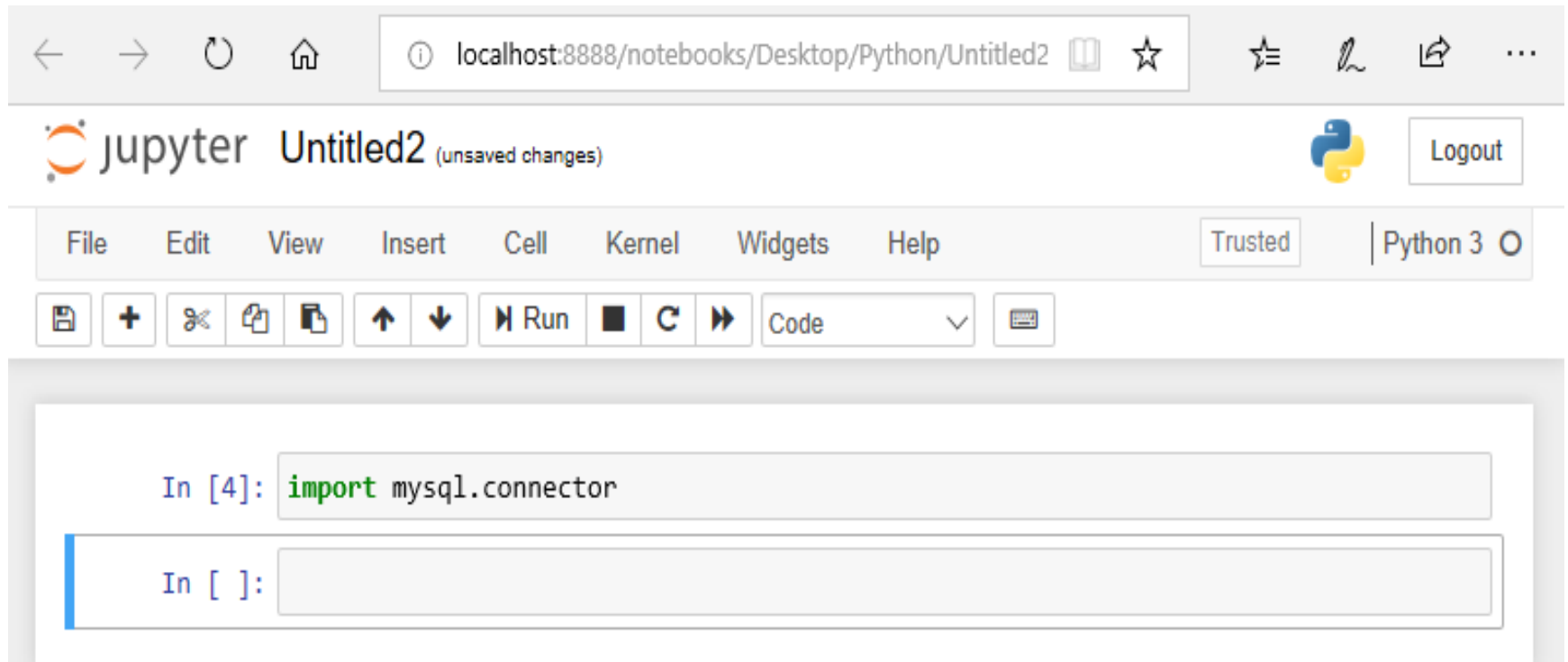
```
Command Prompt
Microsoft Windows [Version 10.0.17134.1667]
(c) 2018 Microsoft Corporation. All rights reserved.

C:\Users\MUHURI>pip3 install mysql-connector
Collecting mysql-connector
  Downloading mysql-connector-2.2.9.tar.gz (11.9 MB)
    | 11.9 MB 819 kB/s
Building wheels for collected packages: mysql-connector
  Building wheel for mysql-connector (setup.py) ... done
  Created wheel for mysql-connector: filename=mysql_connector-2.2.9-cp38-cp38-win32.whl size=247945 sha256=618bb26aaf5e94211a7bdfd23e8d784cfe36d7935a26614d441eb26f9977ad00
  Stored in directory: c:\users\muhuri\appdata\local\pip\cache\wheels\57\e4\98\5fea5c393dd2540e44b064a6f95832990d543e5b4f53ea8f
Successfully built mysql-connector
Installing collected packages: mysql-connector
Successfully installed mysql-connector-2.2.9

C:\Users\MUHURI>
```

- Open command prompt from WINDOWS start button (command: **cmd**)
- You have to install MySQL connector for python using the following code: **pip3 install mysql-connector**
- If it is installed successfully, then you will get completion message.
- Now again open Jupyter Notebook for writing the code

# Import MySQL Connector



- You have to import mysql connector. The command is : **import mysql.connector**
- Click on 'run'. If it is successful, you will not get any message.

# Establish Connection

```
In [4]: import mysql.connector
```

```
In [5]: mydb=mysql.connector.connect(host="localhost",user="root",passwd="1234")
```

```
In [ ]:
```

- 
- Now we have to connect mysql.
  - User is “**root**”, and password “**1234**”
  - You have to create a variable which will store the connection
  - The function is: **mysql.connector.connect**
  - You have to pass **3 parameters (compulsory)**, 1)Host name, 2) User name 3)password
  - 4<sup>th</sup> parameter is optional i.e. **database name**. If you want to access any particular database, then database name should be passed with these values.
  - If successful connection has established, no error message will appear.



# Check All the Databases

```
In [6]: mycursor=mydb.cursor()
mycursor.execute("show databases")
for i in mycursor:
    print(i)

('information_schema',)
('mysql',)
('performance_schema',)
('sys',)
('testdb',)
```

```
In [ ]: |
```

- A **cursor** has to be created. The cursor will act like a **container** to hold the data.
- For fetching any data, we have to print it from **cursor**.
- Cursor will be connected with the connection established variable “**mydb**” (any name)
- For writing any mysql command, we have to write it in between **mycursor.execute** (“ command”)
- Here, **no “;”** is needed as per the rule of python.
- We have written the code for “**show databases**”. If you want to work in mysql, you have to choose any particular database. The name of the database should be passed in the time of connection establishment.

# Select Command

```
In [7]: mydb=mysql.connector.connect(host="localhost",user="root",passwd="1234",database="testdb")
mycursor=mydb.cursor()
mycursor.execute("select * from team")
for i in mycursor:
    print(i)
```

```
('P1', 'V. Kohli', 'Bat')
('P2', 'R.Sharma', 'Bat')
('P3', 'M.Dhoni', 'Wicket')
('P4', 'J.Bumrah', 'Ball')
```

In [ ]: |

Activate Windows

Go to Settings to activate

- Here, we have chosen “**testdb**” database and it has been passed as the 4<sup>th</sup> parameter in the time of connection.
- We have fetched all the data from “**team**” table using select command.
- The mysql command has to be written within “**execute**” function.
- The fetched data is shown from cursor.

# Store Fetched Data

```
In [8]: mydb=mysql.connector.connect(host="localhost",user="root",passwd="1234",database="testdb")
        mycursor=mydb.cursor()
        mycursor.execute("select * from team")
        result=mycursor.fetchall()
        for i in result:
            print(i)
```

```
('P1', 'V. Kohli', 'Bat')
('P2', 'R.Sharma', 'Bat')
('P3', 'M.Dhoni', 'Wicket')
('P4', 'J.Bumrah', 'Ball')
```

In [ ]:

Activate Windows

- For storing the result, cursor can be attached with other variable (say **“result”**)
- **“fetchall”** function will return all the data.

# All the codes

```
import mysql.connector
mydb=mysql.connector.connect(host="localhost",user="root",passwd="1234")
mycursor=mydb.cursor()
mycursor.execute("show databases")
for i in mycursor:
    print(i)
```

```
mydb=mysql.connector.connect(host="localhost",user="root",passwd="1234",database="testdb")
mycursor=mydb.cursor()
mycursor.execute("select * from team")
for i in mycursor:
    print(i)
```

```
mydb=mysql.connector.connect(host="localhost",user="root",passwd="1234",database="testdb")
mycursor=mydb.cursor()
mycursor.execute("select * from team")
result=mycursor.fetchall()
for i in result:
    print(i)
```

# Insert Data

```
In [9]: mycursor.execute("INSERT INTO team (position, pname, role) values ('P5','H.Pandia','All')")
mycursor.execute("select * from team")
result=mycursor.fetchall()
for i in result:
    print(i)
```

```
('P1', 'V. Kohli', 'Bat')
('P2', 'R.Sharma', 'Bat')
('P3', 'M.Dhoni', 'Wicket')
('P4', 'J.Bumrah', 'Ball')
('P5', 'H.Pandia', 'All')
```

```
mycursor.execute("INSERT INTO team (position, pname, role) values
('P5','H.Pandia','All')")
mycursor.execute("select * from team")
result=mycursor.fetchall()
for i in result:
    print(i)
```

# For your Reference

- You can use any MySQL command through the mentioned method.
- You can use other Python IDEs (like **Pycharm, Sublime Text etc.**).
- How to install Anaconda:  
<https://www.youtube.com/watch?v=5mDYijMfSzs&t=323s>
- How to connect python with MySQL:
  - 1) <https://www.youtube.com/watch?v=vR5utJvN4JY&t=94s>
  - 2) <https://www.youtube.com/watch?v=i2Gky9VZDsw>
- Web Pages
  - [https://www.w3schools.com/python/python\\_mysql\\_getstarted.asp](https://www.w3schools.com/python/python_mysql_getstarted.asp)
  - <https://dev.mysql.com/doc/connector-python/en/connector-python-example-connecting.html>