SESSIONS 1

Access Database Using Python

Data Science Program

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Python MySQL Connector

- MySQL Connector Python enables Python to access MySQL databases
- To connect Python with MySQL, you need to first install **mysql-connector-python**.
- One of the way to install it, is by entering this code on your command prompt/terminal:

```
pip install mysql-connector-python
```

```
C:\Users\Your Name\AppData\Local\Programs\Python\Python36-32\Scripts>python -m pip install mysql-connector-python
```

- Full documentation link: https://dev.mysql.com/doc/connector-python/en/connector-python-introduction.html

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Python MySQL Connector

- Open your VSCode or Jupyter Lab
- Try this code to connect your databases**.** This code open ‘world’ databases

Import Libraries

[1]:
```
import mysql.connector
import pandas as pd
```

Create Connection

[2]:
```
mydb = mysql.connector.connect(
    host = 'localhost',
    user = 'root',
    passwd = 'YourPassword',
    database = 'world'
)
```

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Python MySQL Connector

Access **world** database and open **city** table

Access to Database (1st Method)

[4]:
```
# First Method

# Create access to database
mycursor = mydb.cursor()

# Write query
query = 'select * from city'

# Execute query
mycursor.execute(query)

# save the result in 'result' variable
result = mycursor.fetchall()

# Convert to dataframe and open it
df = pd.DataFrame(result, columns = mycursor.column_names)
df.head(5)
```

[4]:

	ID	Name	CountryCode	District	Population
0	1	Kabul	AFG	Kabol	1780000
1	2	Qandahar	AFG	Qandahar	237500
2	3	Herat	AFG	Herat	186800
3	4	Mazar-e-Sharif	AFG	Balkh	127800
4	5	Amsterdam	NLD	Noord-Holland	731200

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Python MySQL Connector

- Create function to open database and table.
- All you have to do is write query inside function.

Access to Database (2nd Method)

[5]:
```
#Second Method

mycursor = mydb.cursor()

# create function
def sql_df(yourQuery):
    mycursor.execute(yourQuery)
    myresult = mycursor.fetchall()
    df = pd.DataFrame(myresult, columns = mycursor.column_names)
    return df
```

[6]:
```
# trying function
sql_df(
    '''
    select * from city limit 5
    '''
)
```

[6]:

	ID	Name	CountryCode	District	Population
0	1	Kabul	AFG	Kabol	1780000
1	2	Qandahar	AFG	Qandahar	237500
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4	5	Amsterdam	NLD	Noord-Holland	731200

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Reference

- https://www.w3schools.com/python/python_mysql_getstarted.asp
- https://dev.mysql.com/doc/connector-python/en/connector-python-introduction.html

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