

SYNTHETA DATA -----> **MySQL Database**

Open XAMPP :

START MY SQL & APACHE

OPEN SQL Workbench :

Click on 'root' to access database

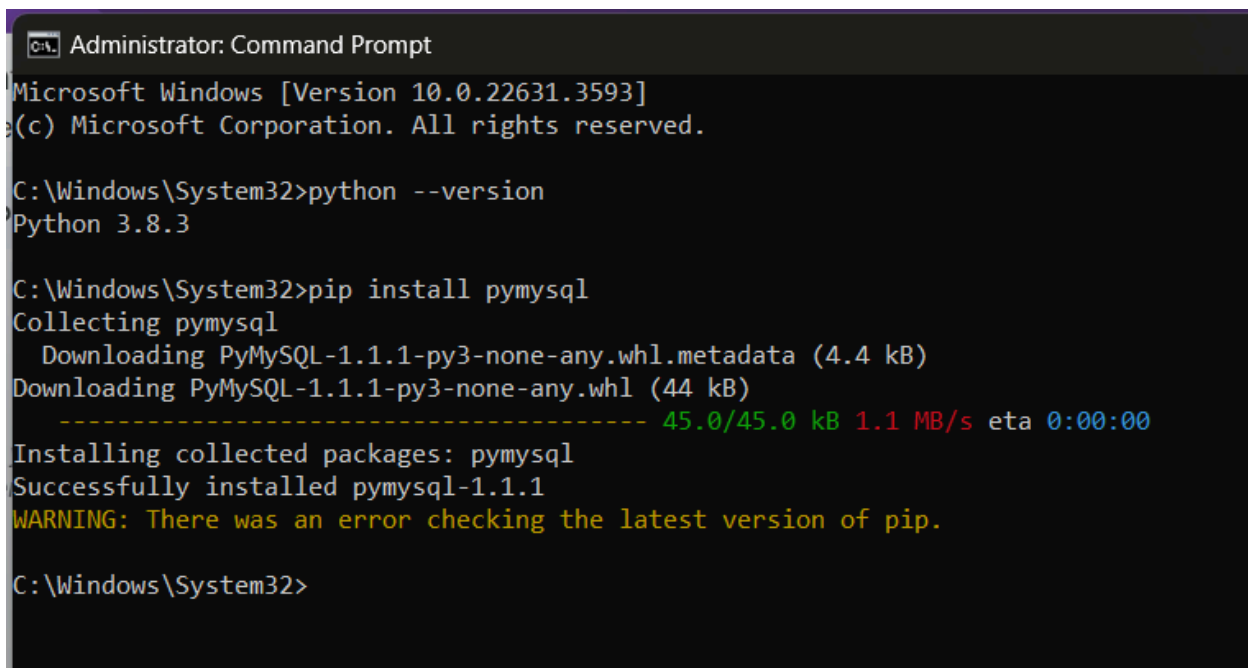
On the Navigator panel click, right-click -> Create Schema

Name it : 'patient_data'

OPEN Command Prompt :

Check python version - 'python -- version'

Then type 'pip install pymysql'



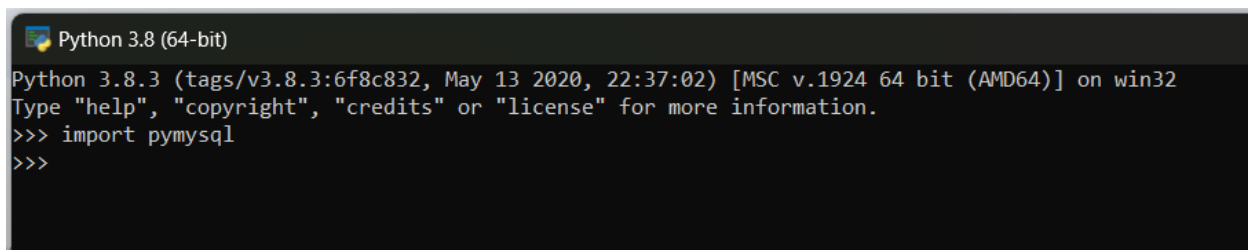
```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.22631.3593]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\System32>python --version
Python 3.8.3

C:\Windows\System32>pip install pymysql
Collecting pymysql
  Downloading PyMySQL-1.1.1-py3-none-any.whl.metadata (4.4 kB)
  Downloading PyMySQL-1.1.1-py3-none-any.whl (44 kB)
----- 45.0/45.0 kB 1.1 MB/s eta 0:00:00
Installing collected packages: pymysql
Successfully installed pymysql-1.1.1
WARNING: There was an error checking the latest version of pip.

C:\Windows\System32>
```

Then open a python shell and check if it's installed



```
Python 3.8 (64-bit)
Python 3.8.3 (tags/v3.8.3:6f8c832, May 13 2020, 22:37:02) [MSC v.1924 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
>>> import pymysql
>>>
```

No errors, so it's installed

In VS Code :

Import necessary libraries

```
import os          # import to interact with the OS
import pymysql     # import to connect to MySQL database
```

Database connection details

```
db_host = 'localhost'
db_user = 'root'
db_password = " # Replace with your MySQL root password if any
db_name = 'patient_data'
```

Directory containing CSV files

```
csv_dir = "C:/Users/Nahid/OneDrive/Desktop/Nahid/Synthe_sample_data"
```

Connect to the database

```
conn = pymysql.connect(
    host=db_host,
    user=db_user,
    password=db_password,
    database=db_name,
    local_infile=1 # Enable local infile option
)
cursor = conn.cursor()
```

lines establish a connection to the MySQL database using the connection details provided earlier. It also creates a **cursor object** to execute SQL queries.

A Cursor object is a mechanism provided by database connection libraries, like pymysql. Cursors act as a pointer to a specific row within a set of data returned by a query. They allow you to traverse the result set and perform operations like fetching individual rows or executing data manipulation statements.

A cursor creates a 'SESSION' , for each schema to access it.

Function to create a table if it doesn't exist

```
def create_table(table_name, columns):
    col_defs = ", ".join([f"`{col}` TEXT" for col in columns])
    create_sql = f"CREATE TABLE IF NOT EXISTS `{table_name}` ({col_defs});"
    cursor.execute(create_sql)
    conn.commit()
```

```

# Iterate over CSV files and load them into the database
for csv_file in os.listdir(csv_dir):
    if csv_file.endswith('.csv'):
        table_name = os.path.splitext(csv_file)[0]
        file_path = os.path.join(csv_dir, csv_file).replace("\\", "/")

        # Read the first line to get the column names
        with open(file_path, 'r') as f:
            columns = f.readline().strip().split(',')

# Create the table with appropriate columns if it doesn't exist
        create_table(table_name, columns)

# Load CSV data into MySQL table
        load_sql = f"""
        LOAD DATA LOCAL INFILE '{file_path}'
        INTO TABLE `{table_name}`
        FIELDS TERMINATED BY ','
        ENCLOSED BY '"'
        LINES TERMINATED BY '\n'
        IGNORE 1 ROWS;
        """
        cursor.execute(load_sql)
        conn.commit()

# Close the connection
    cursor.close()
    conn.close()

print("CSV files have been successfully uploaded to the database.")

```

PYTHON CODE FOR UPLOADING EACH INDIVIDUAL FILE data into SQL table :

```

import os
import config
#import pymysql

db_host = 'localhost'
db_user = 'root'
db_password = " # Replace with your MySQL root password if any
db_name = 'ehr'

# Directory containing CSV files

```

```

csv_file = "C:/Users/Nahid/OneDrive/Desktop/Nahid/Synthe_sample_data/allergies.csv"

conn = config.mysql_conneccion(db_host,db_name,db_user,db_password)
# conn = pymysql.connect(
#     host=db_host,
#     user=db_user,
#     password=db_password,
#     database=db_name
#     local_infile=1 # Enable local infile option cz I have my file in a random directory instead of
#                   XAMPP directory
# )
cursor = conn.cursor()

table_name = 'allergies'

# Read the first line to get the column names
with open(csv_file, 'r') as f:

    # Load CSV data into MySQL table
    load_sql = f"""
    LOAD DATA LOCAL INFILE '{csv_file}'
    INTO TABLE `{table_name}`
    FIELDS TERMINATED BY ','
    ENCLOSED BY '"'
    LINES TERMINATED BY '\n'
    IGNORE 1 ROWS;
    """

    cursor.execute(load_sql)
    conn.commit()

# Close the connection
cursor.close()
conn.close()

print("CSV files have been successfully uploaded to the database.")

```