MySQL Data Import Application

This application imports customer and order data from CSV files into a MySQL database and provides a setup guide for configuring the database and running the application.

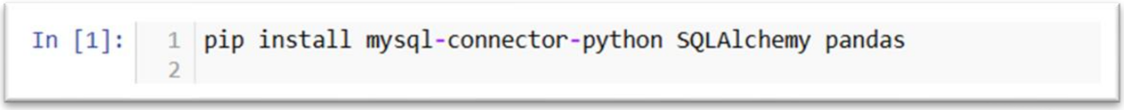
Prerequisites

- **Python** (Install Python 3.7 or higher)
- **MySQL Database** (Ensure MySQL is installed and running)
- **Jupyter Notebook** (To run the Python code in a notebook environment)

Setup Instructions

Step 1: Install Required Libraries & create database in MYSQL

- Open Jupyter Notebook and install the necessary libraries by running:

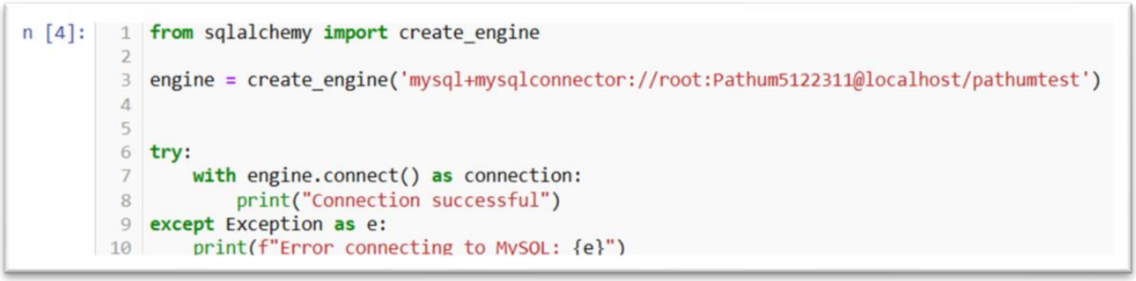


```
In [1]: pip install mysql-connector-python SQLAlchemy pandas

```

- Open MYSQL 9.1 Command line client "**CREATE DATABASE pathumtest**"

Step 2: Set Up MySQL Database Connection

- Use the following Python code to establish a connection to the MySQL database:

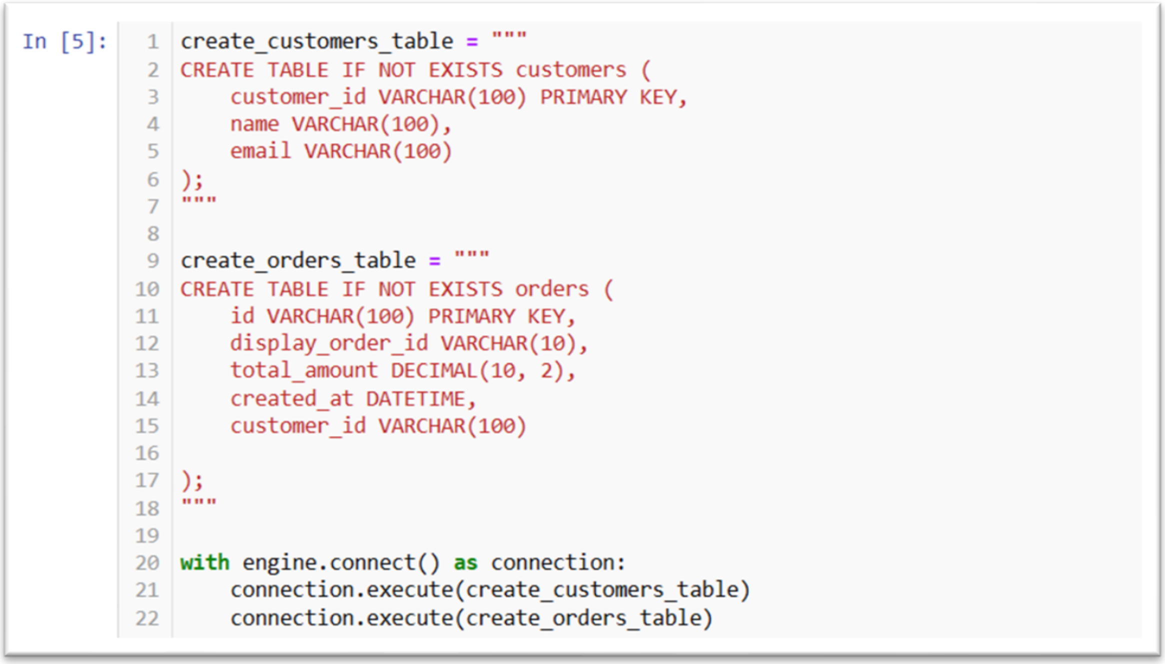


```
n [4]: from sqlalchemy import create_engine

       engine = create_engine('mysql+mysqlconnector://root:Pathum5122311@localhost/pathumtest')


       try:
           with engine.connect() as connection:
               print("Connection successful")
       except Exception as e:
           print(f"Error connecting to MySQL: {e}")
```

- **Purpose:** This step verifies that the connection to the MySQL database is established successfully.

Step 3: Create Tables in MySQL

- Run the following code to create the **customers** and **orders** tables in the database:

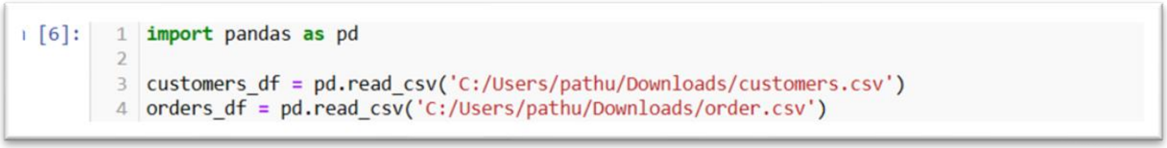


```
create_customers_table = """
CREATE TABLE IF NOT EXISTS customers (
    customer_id VARCHAR(100) PRIMARY KEY,
    name VARCHAR(100),
    email VARCHAR(100)
);
"""

create_orders_table = """
CREATE TABLE IF NOT EXISTS orders (
    id VARCHAR(100) PRIMARY KEY,
    display_order_id VARCHAR(10),
    total_amount DECIMAL(10, 2),
    created_at DATETIME,
    customer_id VARCHAR(100)

);
"""

with engine.connect() as connection:
    connection.execute(create_customers_table)
    connection.execute(create_orders_table)
```

- **Purpose:** This code creates the necessary tables **(customers and orders)** in the MySQL database if they do not already exist.

Step 4: Import Data from CSV Files

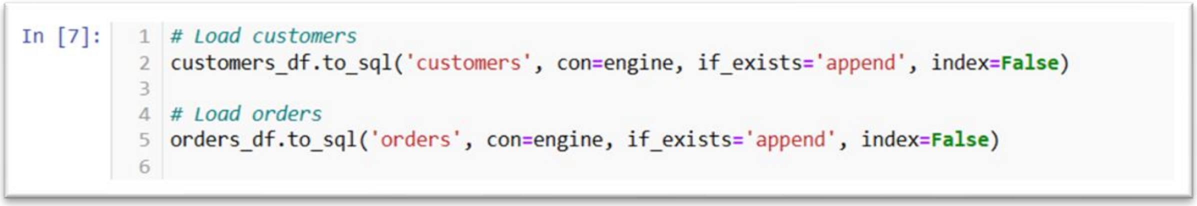
- Load the customer and order data from CSV files using **pandas**:



```
import pandas as pd

customers_df = pd.read_csv('C:/Users/pathu/Downloads/customers.csv')
orders_df = pd.read_csv('C:/Users/pathu/Downloads/order.csv')
```

Step 5: Load Data into MySQL Tables

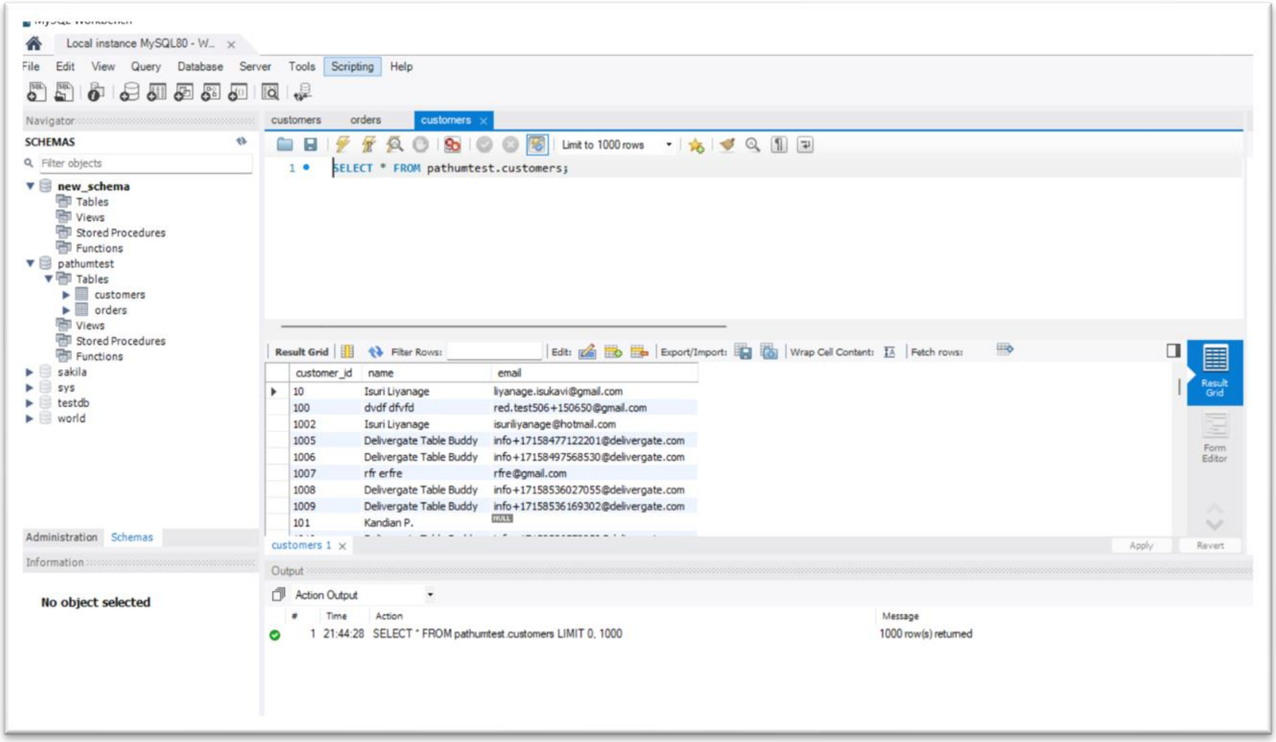
- Insert the data from the CSV files into the MySQL tables:



```
# Load customers
customers_df.to_sql('customers', con=engine, if_exists='append', index=False)

# Load orders
orders_df.to_sql('orders', con=engine, if_exists='append', index=False)

```

After executing the Python script, the customers and orders tables in the MySQL database are structured as follows:

Customers:



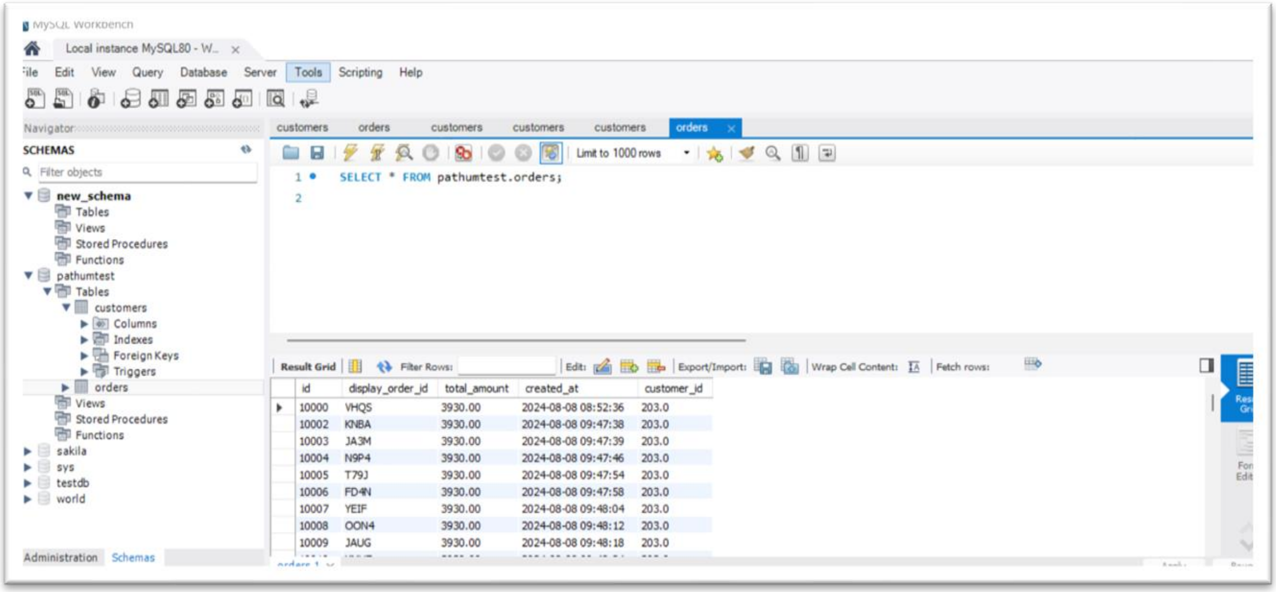
```
1 • SELECT * FROM pathumtest.customers;
```

customer_id	name	email
10	Isuri Liyanage	liyanage.isukavi@gmail.com
100	dvdf dfvfd	red.test506+150650@gmail.com
1002	Isuri Liyanage	isuriliyanage@hotmail.com
1005	Delivergate Table Buddy	info+17158477122201@delivergate.com
1006	Delivergate Table Buddy	info+17158497568530@delivergate.com
1007	rfr erfre	rfre@gmail.com
1008	Delivergate Table Buddy	info+17158536027055@delivergate.com
1009	Delivergate Table Buddy	info+17158536169302@delivergate.com
101	Kandian P.	NULL

No object selected

#	Time	Action	Message
1	21:44:28	SELECT * FROM pathumtest.customers LIMIT 0, 1000	1000 row(s) returned

Orders:



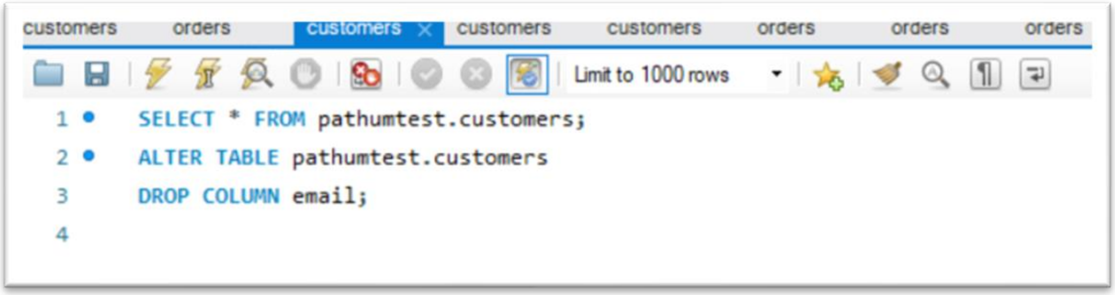
```
1 • SELECT * FROM pathumtest.orders;
2
```

id	display_order_id	total_amount	created_at	customer_id
10000	VHQS	3930.00	2024-08-08 08:52:36	203.0
10002	KNBA	3930.00	2024-08-08 09:47:38	203.0
10003	JA3M	3930.00	2024-08-08 09:47:39	203.0
10004	N9P4	3930.00	2024-08-08 09:47:46	203.0
10005	T79J	3930.00	2024-08-08 09:47:54	203.0
10006	FD4N	3930.00	2024-08-08 09:47:58	203.0
10007	YEIF	3930.00	2024-08-08 09:48:04	203.0
10008	OON4	3930.00	2024-08-08 09:48:12	203.0
10009	JAUG	3930.00	2024-08-08 09:48:18	203.0

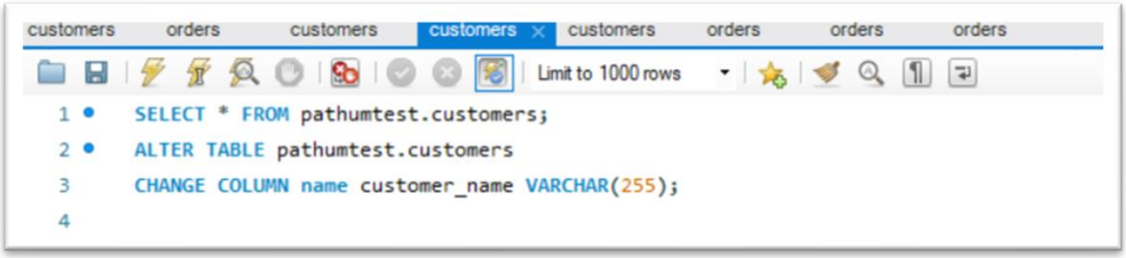
Step 6: Modify MySQL Tables Using Queries

To finalize the tables, execute these SQL commands in MySQL Workbench:

1. For the **customers** table:
   - Remove the **email** column
   - Rename **name** to **customer_name**

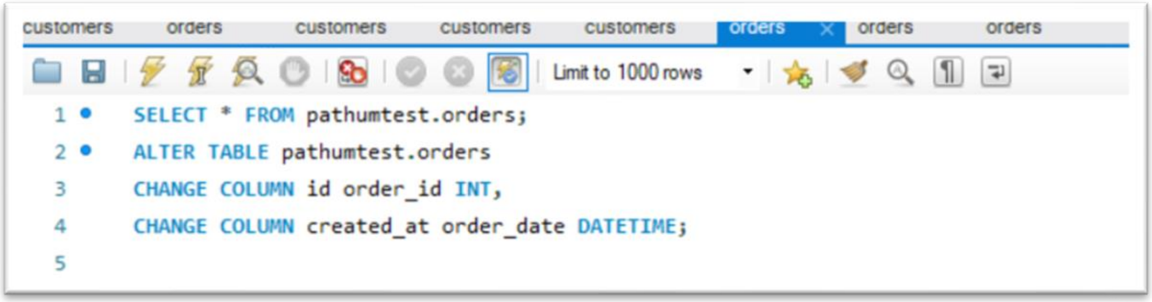


```
SELECT * FROM pathumtest.customers;
ALTER TABLE pathumtest.customers
DROP COLUMN email;
```

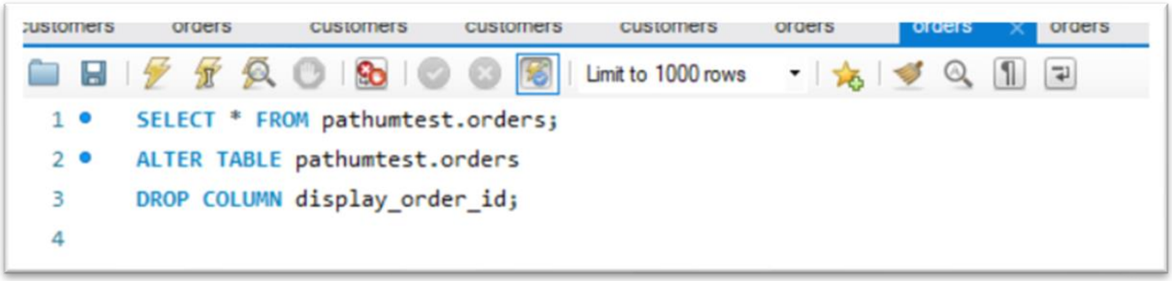


```
SELECT * FROM pathumtest.customers;
ALTER TABLE pathumtest.customers
CHANGE COLUMN name customer_name VARCHAR(255);
```

2. For the **orders** table:
   - Rename id to **order_id**
   - Remove **display_order_id** and rename **created_at** to **order_date**:

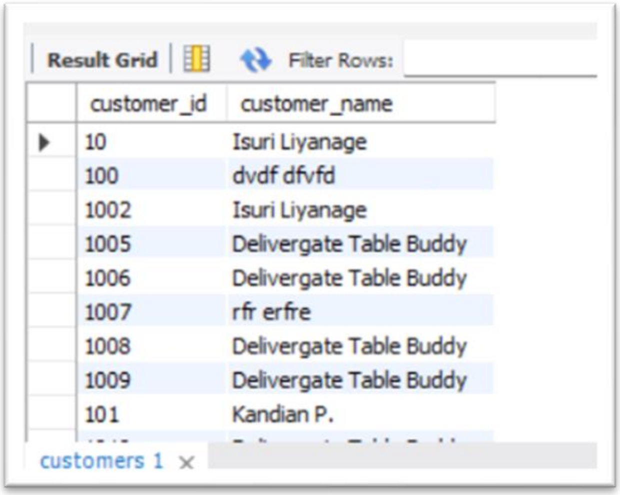


```
SELECT * FROM pathumtest.orders;
ALTER TABLE pathumtest.orders
CHANGE COLUMN id order_id INT,
CHANGE COLUMN created_at order_date DATETIME;
```

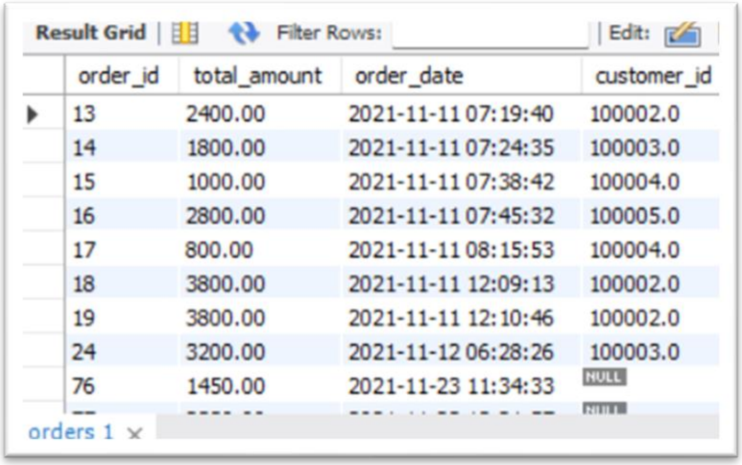


```
SELECT * FROM pathumtest.orders;
ALTER TABLE pathumtest.orders
DROP COLUMN display_order_id;
```

After completing the above steps, the tables look like below:



customer_id	customer_name
10	Isuri Liyanage
100	dvdf dfvfd
1002	Isuri Liyanage
1005	Delivergate Table Buddy
1006	Delivergate Table Buddy
1007	rfr erfre
1008	Delivergate Table Buddy
1009	Delivergate Table Buddy
101	Kandian P.



order_id	total_amount	order_date	customer_id
13	2400.00	2021-11-11 07:19:40	100002.0
14	1800.00	2021-11-11 07:24:35	100003.0
15	1000.00	2021-11-11 07:38:42	100004.0
16	2800.00	2021-11-11 07:45:32	100005.0
17	800.00	2021-11-11 08:15:53	100004.0
18	3800.00	2021-11-11 12:09:13	100002.0
19	3800.00	2021-11-11 12:10:46	100002.0
24	3200.00	2021-11-12 06:28:26	100003.0
76	1450.00	2021-11-23 11:34:33	NULL

- **Running the Application**

After completing the above steps, your application will be configured to run using the data in the MySQL database. You can now query and analyze the data within the MySQL database, no longer relying on the CSV files.

Notes

- Make sure MySQL is running and accessible.
- Replace **'root:Pathum5122311@localhost/pathumtest'** in the connection string with your MySQL credentials if different.
- Run SQL queries in MySQL Workbench if any manual adjustments are needed.