

Step-by-Step Guide to Running the Flask Application with MySQL Connectivity

1. Prerequisites

➤ Before running the application, ensure you have the following installed:

- Python (3.x recommended)
- MySQL Server (Mysql Workbench)
- pip (Python package manager)
- MySQL Connector for Python
- Flask and required libraries

2. Install Required Libraries

➤ Run the following command in your terminal or command prompt to install the necessary dependencies:

- `pip install flask mysql-connector-python bcrypt sqlalchemy werkzeug`

3.Setting Up MySQL Database

3.1 Start MySQL Server

➤ Ensure your MySQL server is running. You can start it manually or via command:

```
mysql -u root -p
```

(Enter your MySQL root password when prompted.)

3.2 Create Database

- Run the following SQL command to create the required database:

- **CREATE DATABASE atm_db;**

3.3 Create Users Table

- Run the following command to create the users table:

```
USE atm_db;
```

```
CREATE TABLE users (  
    user_id INT AUTO_INCREMENT PRIMARY KEY,  
    name2 VARCHAR(50) NOT NULL,  
    bank VARCHAR(30) NOT NULL,  
    card BIGINT UNIQUE NOT NULL,  
    pin int NOT NULL,  
    balance float  
);
```

//You can set max size also

3.4 Create Transactions Table

- **Run the following command to create the transactions table:**

```
CREATE TABLE transactions (  
    id INT AUTO_INCREMENT PRIMARY KEY,  
    user_id INT NOT NULL,  
    transaction_type varchar(30) NOT NULL,  
    amount DECIMAL(12,2) NOT NULL,  
    timestamp TIMESTAMP DEFAULT CURRENT_TIMESTAMP,  
    FOREIGN KEY (user_id) REFERENCES users(user_id) ON DELETE CASCADE );
```

3.5 Verify Database Connection

➤ After creating the database and tables, check if they exist by running:

- SHOW TABLES;

3.6 To describe a table run following command

- describe users;
- describe transactions;

3.7 To fetch a records from database run following command

- select * from users;
- select * from transactions;

4.Configure the Flask Application

4.1 Ensure Database Connection is Set in Flask

➤ In your Flask script, ensure the database connection settings are correct:

```
import mysql.connector

db = mysql.connector.connect(
    host="localhost",
    user="root",
    password="your_password",
    database="atm_db",
    auth_plugin='mysql_native_password'
)
```

```
cursor = db.cursor()

print("Database connected successfully!")
```

- **Set mysql username and password here at the place of user and password**

5. Running the Flask Application

5.1 Navigate to Project Directory

- **Ensure you are in the project folder where your Flask script is located. Use:**
 - `cd /path/to/your/project`
 - (Replace /path/to/your/project with the actual location of your Flask app.)

5.2 Run the Flask Application

- **Run the following command:**

```
python your_script.py # write your filename Ex: python app.py
```

or if using Flask CLI:

```
set FLASK_APP=your_script.py # Windows
```

```
export FLASK_APP=your_script.py # Mac/Linux
```

```
flask run
```

- **If everything is configured correctly, you should see an output like:**

1. To run application on windows/desktop run following URL :

* Running on **http://127.0.0.1:5000/** (Press CTRL+C to quit)

2. To run application on mobile run following URL :

* Running on **http://192.168.0.105:5000/** (Press CTRL+C to quit)

6. Access the Application

- Once the server is running, open a web browser and type URL:

<http://127.0.0.1:5000/>

- Once the server is running, open a mobile and type URL:

<http://192.168.0.105:5000/>

❖ **Note : Please configure server is running ... Ex: python app.py**

7. Testing the Application

- **Sign up:** Register a new user.
- **Login:** Enter your card number and PIN.
- **Check balance:** Navigate to the balance page.
- **Deposit/Withdraw Money:** Perform transactions and verify the balance updates.
- **Change PIN:** Update your security PIN.
- **View Transactions:** Check past transactions.

8. Common Issues and Fixes

8.1 Database Connection Error

- Ensure MySQL is running.
- Verify MySQL username and password.
- Try removing `auth_plugin='mysql_native_password'` if facing authentication issues.

8.2 Flask Not Found

Ensure Flask is installed by running:

```
pip show flask
```

If missing, install it:

```
pip install flask
```

8.3 Port Already in Use

Change the port in `app.run()`:

```
app.run(debug=True, host='0.0.0.0', port=5001)
```

9. Stopping the Application

- To stop the Flask application, press **CTRL+C** in the terminal.

10. Deploying the Application (Optional)

- If you want to deploy this application on a production server, consider using **Gunicorn** (for Linux servers) or **mod_wsgi** (for Apache).

```
pip install gunicorn
```

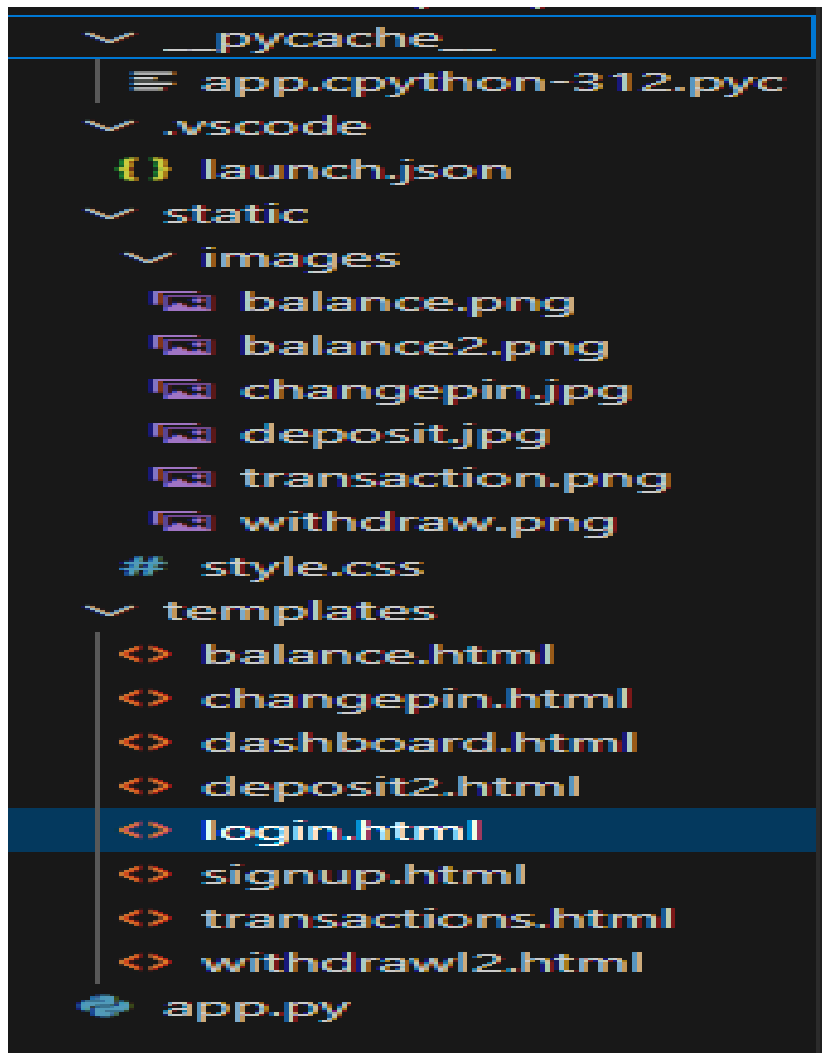
Run Flask with Gunicorn:

```
gunicorn -w 4 -b 0.0.0.0:5000 your_script:app
```

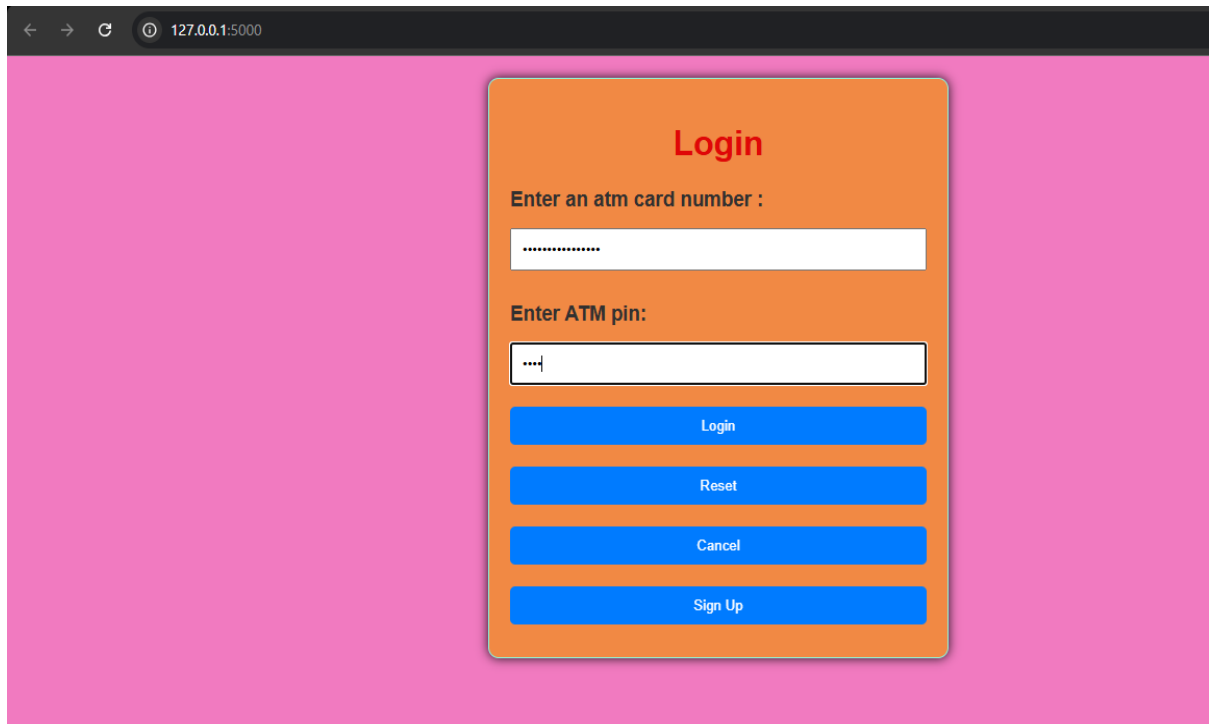
IMAGES

❖ File Structure :

➤ ATM Project



❖ Login :



← → ↻ 127.0.0.1:5000

Login

Enter an atm card number :

Enter ATM pin:

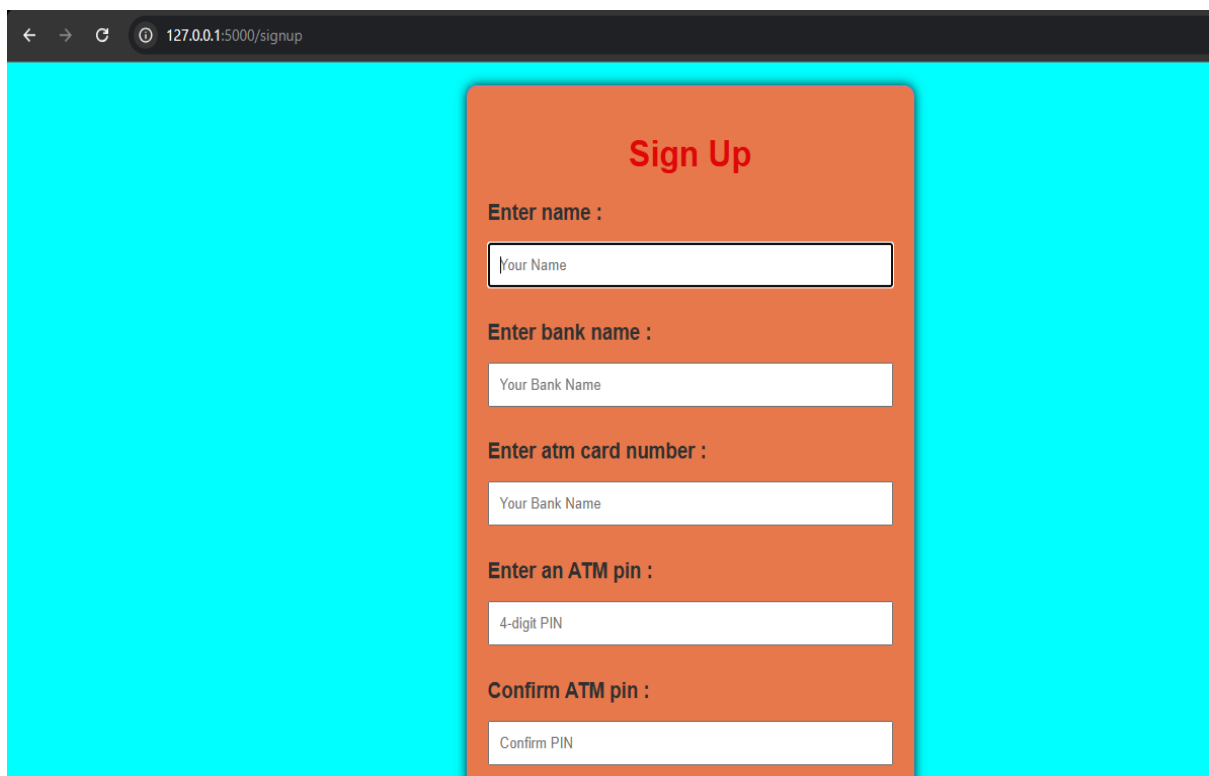
Login

Reset

Cancel

Sign Up

❖ Signup :



← → ↻ 127.0.0.1:5000/signup

Sign Up

Enter name :

Enter bank name :

Enter atm card number :

Enter an ATM pin :

Confirm ATM pin :

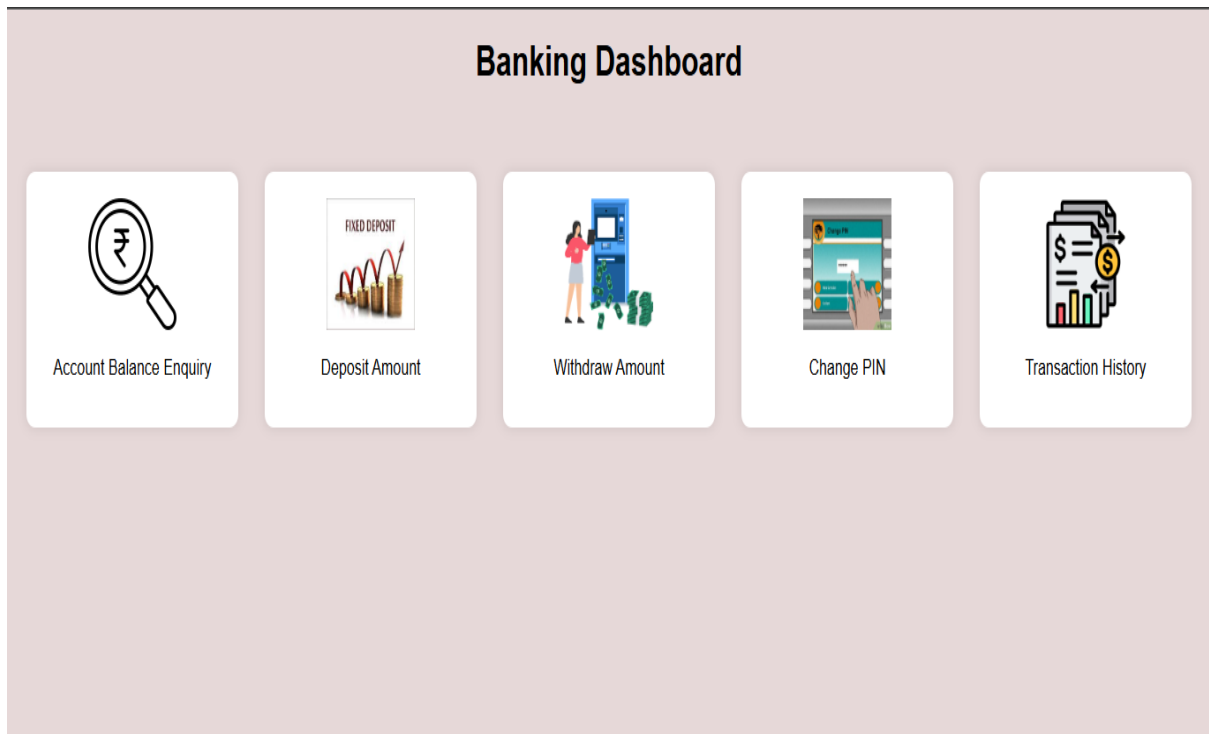
Login

Reset

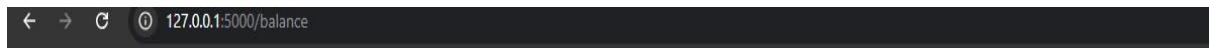
Cancel

Sign Up

❖ Dashboard :



❖ Balance Enquiry :



Your Current Balance



Balance: \$550.0

[Go Back](#)

❖ Deposit Amount :

← → ↻ ⓘ 127.0.0.1:5000/deposit2

Login successfull!

Deposit an amount

Enter an amount :

Submit

Cancel

❖ WithdrawAmount :

← → ↻ ⓘ 127.0.0.1:5000/withdrawl2

Amount deposited successfully!

Withdraw an amount

Enter an amount :

Submit

Cancel

❖ **Change a pin :**

←→🔍127.0.0.1:5000/chagepin

Amount withdrawn successfully!

Change a pin

Old Pin :

New Pin :

Submit

Cancel

❖ **Transaction History :**

←→🔍127.0.0.1:5000/transactions☆

Transaction History

ID	Type	Amount	Date
11	Withdrawal	100.00	2025-02-03 19:50:32
10	Deposit	200.00	2025-02-03 19:49:55
9	Deposit	250.00	2025-02-03 19:49:44
6	Withdrawal	50.00	2025-02-03 19:25:43
5	Deposit	100.00	2025-02-03 19:25:34
4	Withdrawal	490.00	2025-02-03 19:21:54
3	Withdrawal	500.00	2025-02-03 19:11:21
2	Withdrawal	100.00	2025-02-03 19:10:18
1	Withdrawal	100.00	2025-02-03 19:05:21