Customer Orders Analysis Application

This application is a Streamlit-based dashboard that analyses customer order data from a MySQL database. It provides visualisations, metrics, and predictive analytics for customer purchasing behaviour.

## **Prerequisites**

* Python 3.10 or higher
* MySQL Server
* pip (Python package manager)

Install required packages

pip install -r requirements.txt

## **Database Setup**

1. Install MySQL if not already installed
2. Create a new MySQL database:

CREATE DATABASE customer\_orders\_db;

CREATE USER 'user'@'localhost' IDENTIFIED BY 'User@cc98!';

GRANT ALL PRIVILEGES ON customer\_orders\_db.\* TO 'user'@'localhost';

FLUSH PRIVILEGES;

**Configuration**

1. Update the DATABASE\_URL in your code if needed

DATABASE\_URL = "mysql+pymysql://user:User@cc98!@localhost/customer\_orders\_db"

1. Prepare your data files:

* Place customers.csv and order.csv in the project root directory
* Required columns for customers.csv:
  + customer\_id
  + customer\_name
* Required columns for order.csv:
  + order\_id
  + customer\_id
  + total\_amount
  + order\_date

## **Running the Application**

1. Load data into the database

python Data\_Engineering.py

2. Start the Streamlit application

streamlit run StrmApplication.py

## **Application Structure**

### Main Components:

1. Data Loading (Data\_Engineering.py)

* Handles database connection
* Creates database schema
* Imports data from CSV files

1. Streamlit Application (StrmApplication.py)

* Main dashboard interface
* Data visualization
* Machine learning predictions