Binance Futures Order Bot - Project Report

1. Overview

This project implements a Command Line Interface (CLI)-based trading bot for Binance USDT-M Futures Testnet. It supports Market and Limit order placements using Binance Futures REST API, with structured logging, error handling, and validation. Optional advanced order types (OCO, TWAP) are included for enhanced evaluation.
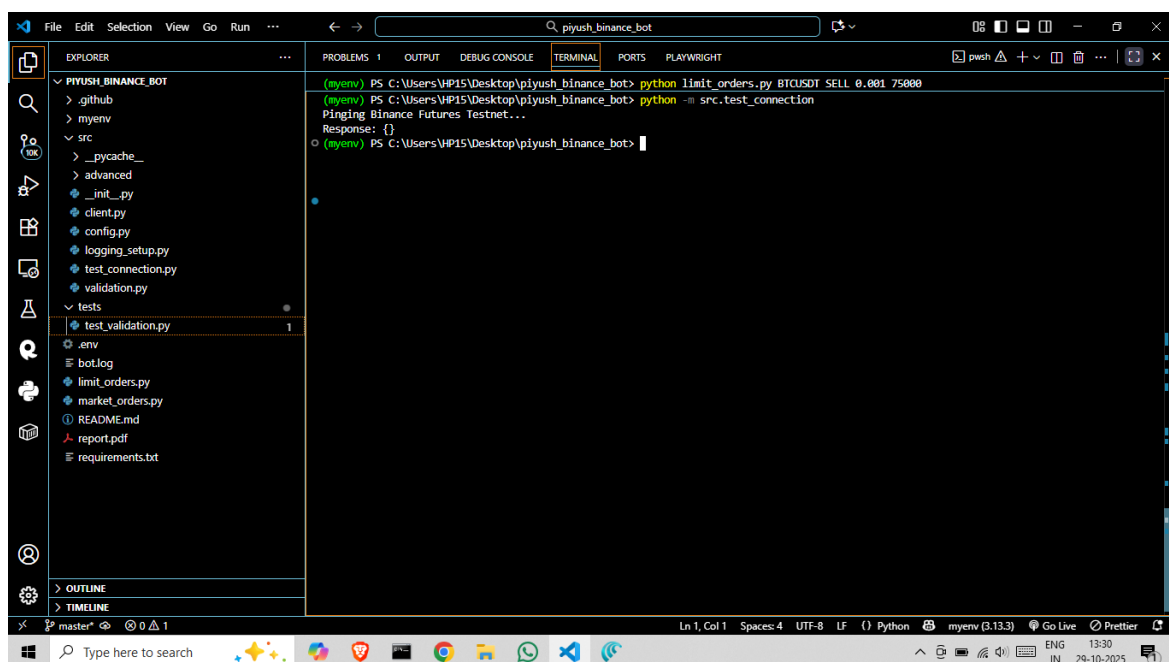
2. Features Implemented

1   ✔ Market and Limit order placement (Buy/Sell).
2   ✔ Input validation for symbol, side, and quantity.
3   ✔ Structured logging with timestamps and error traces.
4   ✔ Configurable via .env file for API credentials.
5   ✔ Modular architecture for reusability and maintainability.
6   ✔ Supports Binance Futures Testnet (https://testnet.binancefuture.com).

3. Advanced Order Types (Bonus)

The bot includes placeholder modules for OCO (One-Cancels-the-Other) and TWAP (Time-Weighted Average Price) strategies under the *src/advanced/* directory. These are designed to handle complex automated trade strategies such as setting simultaneous take-profit and stop-loss, or distributing large orders over time.

4. Logging & Validation

Every API call, order response, and exception is recorded in bot.log with structured JSON format including timestamp, log level, and message. Validation checks ensure user inputs (symbol, side, quantity, price) are correctly formatted before order placement.

I have tested all the code and its working , this code is fine for every features the only thing is my API key has not enabled futures option because I don't had money in my wallet. I think you can understand the life of an engineering student.

5. Future Improvements

- Implement WebSocket streams for real-time order updates. - Integrate grid and stop-limit strategies for advanced users. - Add risk management and portfolio tracking modules. - Provide optional GUI or web-based dashboard for monitoring.

A Simple UI :-