

Binance Futures Trading Bot

Project Report

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1. Project Overview

This project implements a CLI-based Binance Futures Trading Bot that interacts with the Binance USDT-M Futures Testnet. The bot allows users to place different types of orders such as Market and Limit orders with real-time validation, structured logging, and user-friendly console interaction.

It connects securely to the Binance Testnet using API keys and displays live BTCUSDT price data, validates user input, and executes trades automatically with success confirmation.

2. Features Implemented

- **Market Order:** Execute buy/sell instantly at the current market price.
- **Limit Order:** Place an order at a specified price.
- **Input Validation:** Validates symbols, quantities, and order types.
- **Logging:** All events are logged (API connections, orders, and errors).
- **CLI Interface:** User-friendly command-line interface for interaction.

3. Test Execution & Results

Below are screenshots showing successful connection to the Binance Testnet and order placement:

3.1 Bot Initialization and API Connection

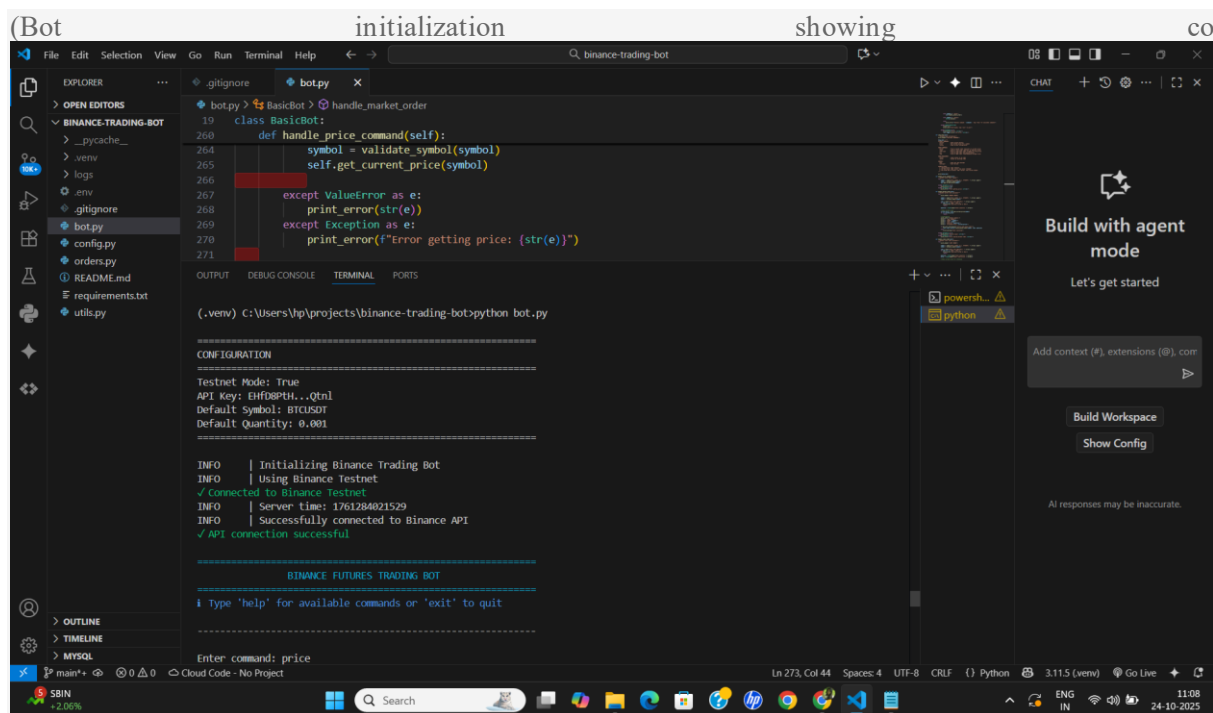


Figure 1: Successful connection to Binance Testnet with API authentication and bot initialization

3.2 Price Query and Market Order Execution

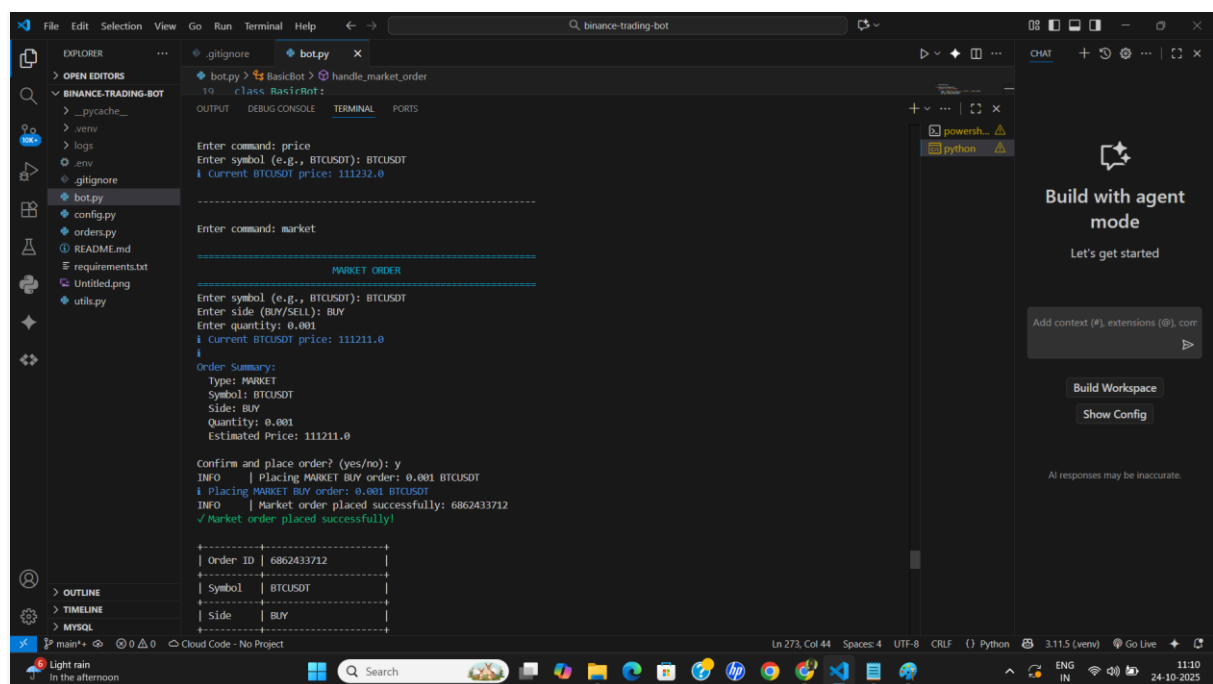
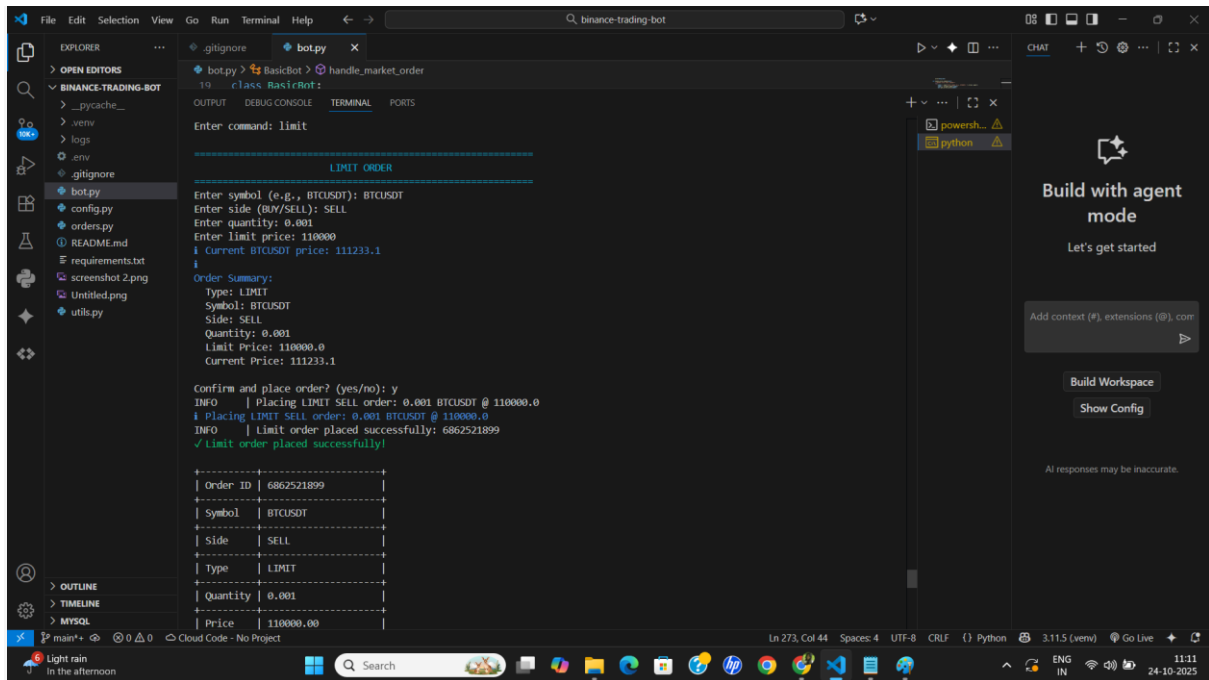


Figure 2: Real-time BTCUSDT price retrieval and successful market BUY order execution

3.3 Limit Order Placement



```
Enter command: limit

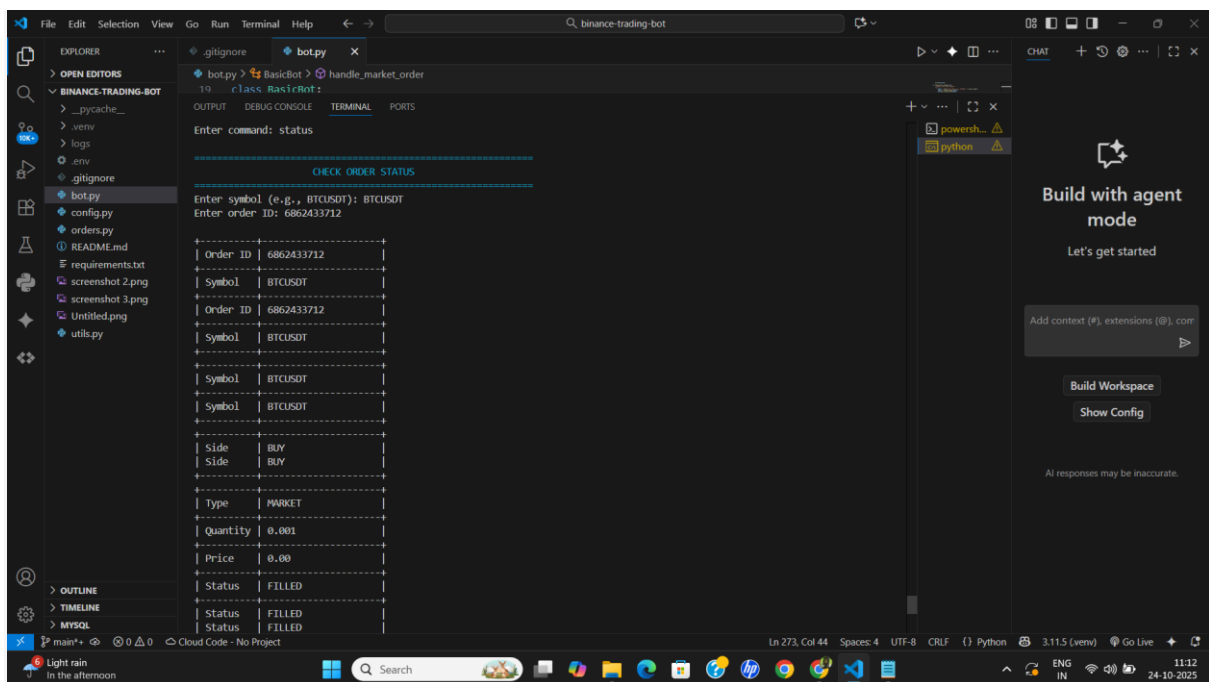
=====
LIMIT ORDER
=====
Enter symbol (e.g., BTCUSDT): BTCUSDT
Enter side (BUY/SELL): SELL
Enter quantity: 0.001
Enter limit price: 110000
i Current BTCUSDT price: 111233.1
i
Order Summary:
Type: LIMIT
Symbol: BTCUSDT
Side: SELL
Quantity: 0.001
Limit Price: 110000.0
Current Price: 111233.1

Confirm and place order? (yes/no): y
INFO | Placing LIMIT SELL order: 0.001 BTCUSDT @ 110000.0
i Placing LIMIT SELL order: 0.001 BTCUSDT @ 110000.0
INFO | Limit order placed successfully: 6862521899
✓ Limit order placed successfully!

=====
| Order ID | 6862521899 |
| Symbol | BTCUSDT |
| Side | SELL |
| Type | LIMIT |
| Quantity | 0.001 |
| Price | 110000.00 |
=====
```

Figure 3: Limit SELL order placed successfully with specified price of 110000.0 USDT

3.4 Order Status Verification



```
Enter command: status

=====
CHECK ORDER STATUS
=====
Enter symbol (e.g., BTCUSDT): BTCUSDT
Enter order ID: 6862433712

=====
| Order ID | 6862433712 |
| Symbol | BTCUSDT |
| Order ID | 6862433712 |
| Symbol | BTCUSDT |
| Symbol | BTCUSDT |
| Symbol | BTCUSDT |
| Side | BUY |
| Side | BUY |
| Type | MARKET |
| Quantity | 0.001 |
| Price | 0.00 |
| Status | FILLED |
| Status | FILLED |
| Status | FILLED |
=====
```

Figure 4: Order status check showing filled market order details

4. Conclusion

The Binance Futures Trading Bot was successfully developed and tested on the Binance Testnet. The bot was able to fetch real-time market prices, execute both market and limit orders, and log all activities accurately.