

Binance Futures Trading Bot

Project Report

Submitted by: Keerthi P Kumar

Date: 24 October 2025

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

(Bot) initialization showing

```

File Edit Selection View Go Run Terminal Help <- > binance-trading-bot
EXPLORER OPEN EDITORS .gitignore bot.py
BINANCE-TRADING-BOT _pycache_ bot.py > BasicBot > handle_market_order
> .venv
> logs
> .env
> .gitignore
bot.py config.py orders.py README.md requirements.txt utils.py
OUTPUT DEBUG CONSOLE TERMINAL PORTS
(.venv) C:\Users\hp\projects\binance-trading-bot>python bot.py
=====
CONFIGURATION
=====
Testnet Mode: True
API Key: EHF08PTh...Qtnl
Default Symbol: BTCUSDT
Default Quantity: 0.001
=====
INFO | Initializing Binance Trading Bot
INFO | Using Binance Testnet
✓ Connected to Binance Testnet
INFO | Server time: 176128402159
INFO | Successfully connected to Binance API
✓ API connection successful
=====
BINANCE FUTURES TRADING BOT
=====
Type 'help' for available commands or 'exit' to quit
=====
Enter command: price
=====
Enter command: market
=====
MARKET ORDER
=====
Enter symbol (e.g., BTCUSDT): BTCUSDT
Enter side (BUY/SELL): BUY
Enter quantity: 0.001
Current BTCUSDT price: 111232.0
=====
Order Summary:
Type: MARKET
Symbol: BTCUSDT
Side: BUY
Quantity: 0.001
Estimated Price: 111211.0
=====
Confirm and place order? (yes/no): y
INFO | Placing MARKET BUY order: 0.001 BTCUSDT
Placing MARKET BUY order: 0.001 BTCUSDT
INFO | Market order placed successfully: 6862433712
✓ Market order placed successfully!
=====
| Order ID | 6862433712 |
+-----+-----+
| Symbol | BTCUSDT |
+-----+-----+
| Side | BUY |
+-----+-----+

```

Build with agent mode
Let's get started
Add context (#), extensions (@), com
Build Workspace
Show Config
AI responses may be inaccurate.

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

3.2 Price Query and Market Order Execution

```

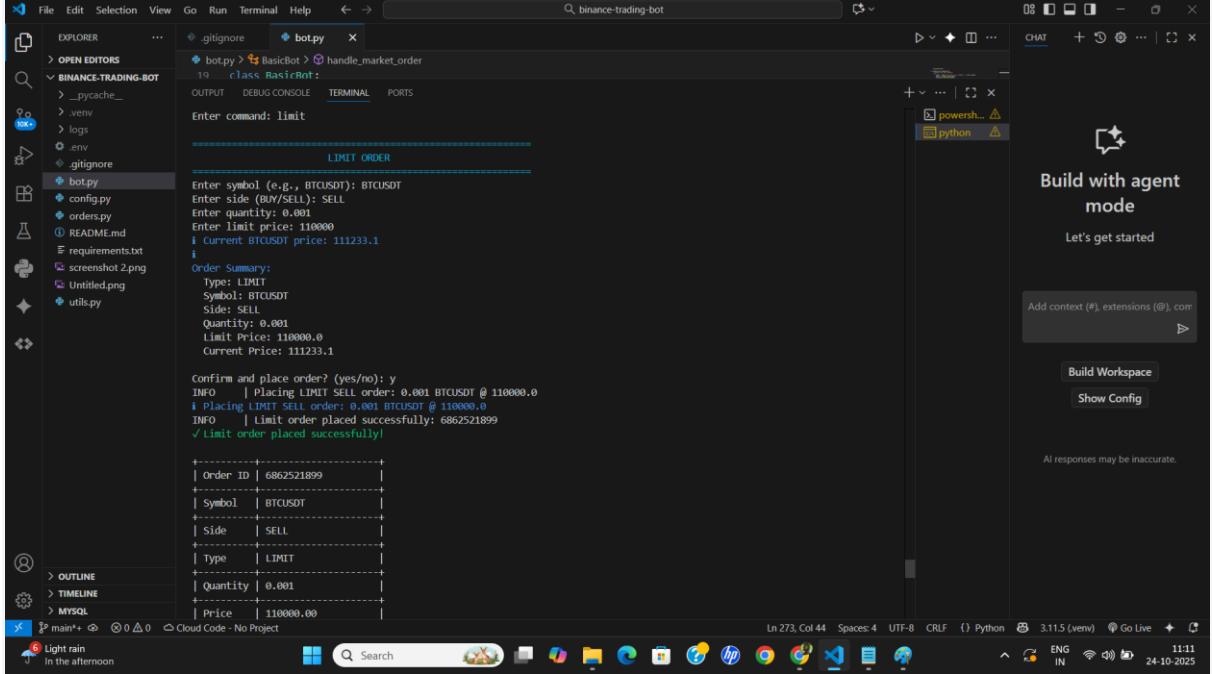
File Edit Selection View Go Run Terminal Help <- > binance-trading-bot
EXPLORER OPEN EDITORS .gitignore bot.py
BINANCE-TRADING-BOT _pycache_ bot.py > BasicBot > handle_market_order
> .venv
> logs
> .env
> .gitignore
bot.py config.py orders.py README.md requirements.txt Untitled.png utils.py
OUTPUT DEBUG CONSOLE TERMINAL PORTS
(.venv) C:\Users\hp\projects\binance-trading-bot>python bot.py
=====
Enter command: price
Enter symbol (e.g., BTCUSDT): BTCUSDT
Current BTCUSDT price: 111232.0
=====
Enter command: market
=====
MARKET ORDER
=====
Enter symbol (e.g., BTCUSDT): BTCUSDT
Enter side (BUY/SELL): BUY
Enter quantity: 0.001
Current BTCUSDT price: 111211.0
=====
Order Summary:
Type: MARKET
Symbol: BTCUSDT
Side: BUY
Quantity: 0.001
Estimated Price: 111211.0
=====
Confirm and place order? (yes/no): y
INFO | Placing MARKET BUY order: 0.001 BTCUSDT
Placing MARKET BUY order: 0.001 BTCUSDT
INFO | Market order placed successfully: 6862433712
✓ Market order placed successfully!
=====
| Order ID | 6862433712 |
+-----+-----+
| Symbol | BTCUSDT |
+-----+-----+
| Side | BUY |
+-----+-----+

```

Build with agent mode
Let's get started
Add context (#), extensions (@), com
Build Workspace
Show Config
AI responses may be inaccurate.

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

3.3 Limit Order Placement

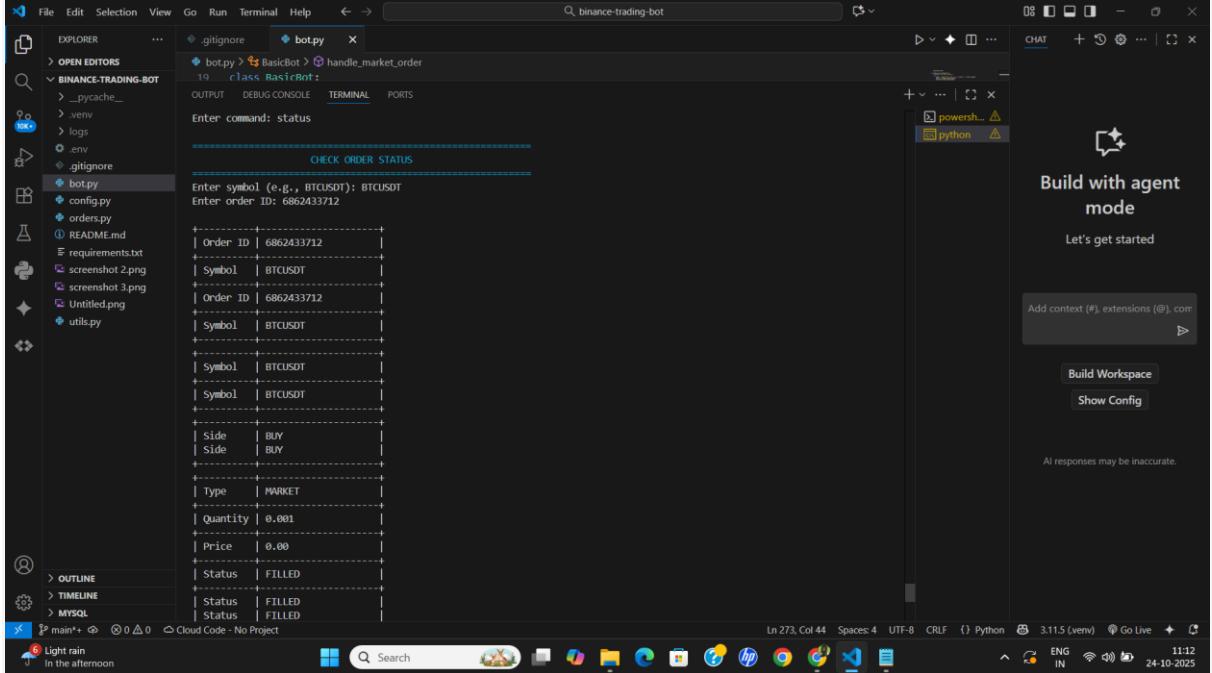


The screenshot shows a terminal window in VS Code with the command `limit` entered. The output shows the placement of a LIMIT SELL order for 0.001 BTCUSDT at 110000.0. The order summary table is as follows:

Order ID	Symbol	Side	Type
6862521899	BTCUSDT	SELL	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



The screenshot shows a terminal window in VS Code with the command `status` entered. The output shows the check order status for an order ID of 6862433712. The order details table is as follows:

Order ID	Symbol	Side	Type
6862433712	BTCUSDT	BUY	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.
