Crypto DCA Alert Bot

A Python-based cryptocurrency trading bot that monitors multiple crypto pairs on Binance and sends DCA (Dollar Cost Average) entry signals via Telegram when specific technical conditions are met.

Features

- Multi-symbol monitoring (Currently configured for BTCUSDT and PAXGUSDT)
- Technical analysis using multiple indicators:
  - EMA (7, 14, and 50 periods)
  - RSI (Relative Strength Index)
  - ATR (Average True Range) for volatility measurement
- Buy signals with DCA (Dollar Cost Average) level calculations
- Sell signals for taking profits
- Real-time Telegram notifications for both buy and sell signals
- Configurable parameters for strategy customization
- Timezone-aware timestamps (Asia/Jakarta - UTC+7)

Prerequisites

- Python 3.8 or higher
- Binance Account with API access
- Telegram Bot Token and Chat ID

Dependencies

The project requires the following Python packages:

- pandas >= 2.0.0
- numpy >= 1.24.0
- python-binance >= 1.0.19
- python-telegram-bot >= 20.6
- TA-Lib >= 0.4.28
- requests >= 2.31.0
- certifi >= 2025.4.26
- python-dotenv >= 1.0.0
- pytz >= 2023.3

Installation

1. Clone the repository or download the source code

2. Create a virtual environment (recommended):

```
python -m venv venv
.\venv\Scripts\activate
```

3. Install the required packages:

```
pip install -r requirements.txt
```

Configuration

1. Create a `.env` file in the project root directory with the following variables:

```
BINANCE_API_KEY=your_binance_api_key
BINANCE_API_SECRET=your_binance_api_secret
TELEGRAM_BOT_TOKEN=your_telegram_bot_token
TELEGRAM_CHAT_ID=your_telegram_chat_id
```

2. Adjust the strategy parameters in `main.py` if needed:

- `RSI_BUY_THRESHOLD`: RSI level for buy signals (default: 30)
- `RSI_SELL_THRESHOLD`: RSI level for sell signals (default: 80)
- `DCA_LEVELS`: Number of DCA levels (default: 3)
- `DCA_PERCENTAGE`: Percentage difference between DCA levels (default: 5.0%)
- `SYMBOLS`: List of cryptocurrency pairs to monitor
- `INTERVAL`: Timeframe for analysis (default: 4 hours)

Usage

Run the bot using:

```
python main.py
```

The bot will:

1. Monitor the specified cryptocurrency pairs
2. Calculate technical indicators
3. Check for entry conditions
4. Send Telegram alerts when conditions are met
5. Include DCA levels in the alerts

Alert Conditions

The bot generates two types of alerts:

Buy Signals

Triggered when:

1. Price is below EMA7 and EMA14
2. RSI is below the buy threshold (default: 30)
3. No buy alert has been sent for the same symbol in the last hour

Sell Signals

Triggered when:

1. Price is above EMA7 and EMA14
2. RSI is above the sell threshold (default: 80)
3. No sell alert has been sent for the same symbol in the last hour

Telegram Alert Format

Buy Alerts (🚨)

- Symbol and timeframe
- Current price
- Technical indicator values (EMAs, RSI)
- Volatility measurement
- DCA entry levels

Sell Alerts (💰)

- Symbol and timeframe
- Current price
- Technical indicator values (EMAs, RSI)
- Volatility measurement

Error Handling

- Comprehensive error logging
- Automatic retry mechanism
- Connection error handling for both Binance and Telegram APIs

Notes

- The bot uses proper SSL verification for Binance API connections
- Timestamps are converted to Asia/Jakarta timezone (UTC+7)
- The bot includes a cooldown period of 1 hour between alerts for the same symbol
- Data is checked every 5 minutes for new signals

Disclaimer

This bot is for educational purposes only. Always do your own research and use at your own risk.
Cryptocurrency trading involves substantial risk of loss and is not suitable for all investors.