# Software Requirements Specification (SRS) Trading Bot on MetaTrader 5

## 1. Business Requirements

BR-1: Provide users with the ability to run an automated trading bot that places and manages trades on crypto instruments via MetaTrader 5 (MT5).

BR-2: Allow users to securely login, configure bot parameters, and start/stop their trading bot as needed.

BR-3: Provide users with real-time crypto market data and curated crypto news to support informed decision-making.

BR-4: Ensure trades are automatically closed based on pre-defined stop loss (SL) and take profit (TP) values.

## 2. Functional Requirements

### 2.1 User Management

- FR: The system shall allow users to create an account and login securely.

- FR: The system shall authenticate users before granting access to trading and market features.

### 2.2 Bot Control

- FR: The system shall allow users to start the trading bot.

- FR: The system shall allow users to stop the trading bot.

- FR: The system shall allow users to configure trading bot parameters (e.g., lot size, stop loss, take profit, strategy rules).

- FR: The bot shall execute trades only on crypto instruments.

- FR: The bot shall place trades via MT5 and automatically apply SL and TP values.

- FR: The bot shall monitor open trades and close them upon reaching SL or TP.

### 2.3 Market Data

- FR: The system shall display real-time price data for selected crypto symbols.

- FR: The system shall allow users to create and manage a watchlist of crypto symbols.

- FR: The system shall update watchlist data continuously with latest ticks.

### 2.4 News Feed

- FR: The system shall provide a news page displaying the latest crypto-related news.

- FR: The system shall fetch, store, and display news from external APIs or feeds.

### 2.5 Trade History

- FR: The system shall maintain a record of trades executed by the bot.

- FR: The system shall display trade history to the user (open, closed, profit/loss).

## 3. Non-Functional Requirements

NFR-1: Performance – Market data must update in near real-time (<1s delay).

NFR-2: Availability – The trading bot and APIs must be available 99.5% of the time during trading hours.

NFR-3: Security – User credentials and MT5 account details must be stored securely (hashed/encrypted).

NFR-4: Scalability – The system must support multiple concurrent users running bots independently.

NFR-5: Usability – The frontend must be responsive and accessible via desktop and mobile.

NFR-6: Auditability – All trade actions (start/stop/configuration) must be logged for traceability.

## 4. Assumptions

A-1: A broker account supporting crypto trading on MT5 is available.

A-2: Users will use demo or real MT5 accounts depending on their preference.

A-3: The trading bot will only handle spot/CFD crypto instruments supported by the broker on MT5.

## 5. Constraints

C-1: The MT5 terminal must be installed and running on the server where the bot is deployed.

C-2: Bot strategies are limited to the functionality exposed by the MT5 Python API.

C-3: The project is limited to crypto assets; no forex, indices, or stocks are included.