Protocol Documentation (v0.1)

Overview

The server communicates using a structured byte-code format:

- `FXXX^Y^<parameters>`
  - `FXXX` represents the command identifier.
  - `Y` denotes a sub-command or parameter.
  - `<parameters>` represents additional data required for the command execution.

This protocol enables interaction with MT4/MT5 trading platforms via a custom *socket* API. Communication occurs over two distinct server ports:

- **REST Server** → Handles request-reply operations.

- **Stream Server** → Broadcasts real-time events such as tick data and new bars.

This API supports commands for account management, market data retrieval, trade execution, and error handling. The following sections outline the available commands and corresponding error codes.

This document serves as a reference for developers implementing or interacting with this API. It is crucial to adhere to the specified format and interpret the returned codes correctly to ensure proper communication with the server(which is written in MQL5 in this case).

Further details regarding specific command parameters and their data types will be provided in subsequent sections.

Commands

The commands are structured in a specific format, typically starting with a function identifier (e.g., `F000`, `F001`, etc.), followed by parameters separated by `^`. The commands are used to perform various operations such as retrieving account information, managing orders, and fetching market data.

General Commands

- **F000^1^**: Check connection with the MT terminal/EA bot.

- **F001^1^**: Retrieve static account information.

- **F002^1^**: Retrieve dynamic account information.

- **F003^2^[instrument]^**: Retrieve instrument information.

- **F004^2^[instrument]^**: Check if an instrument is in the market watch.

- **F005^1^**: Retrieve broker server time.

- **F006^1^**: Check the license type (Demo or Licensed).

- **F007^1^**: Retrieve broker instrument names.

- **F008^2^[instrument]^**: Check if trading is allowed for a specific instrument.

- **F011^1^**: Check if the terminal is connected to the broker server.

- **F012^1^**: Check the terminal type (MT4 or MT5).

Market Data Commands

- **F020^2^[instrument]^**: Retrieve the last tick information for an instrument.

- **F021^4^[instrument]^[start]^[nbrofticks]^**: Retrieve the last `nbrofticks` ticks from the current time.

- **F041^3^[instrument]^[timeframe]^**: Retrieve the last actual bar information for an instrument.

- **F042^5^[instrument]^[timeframe]^[start]^[nbrofbars]^**: Retrieve the last `nbrofbars` bars from the current time.

- **F045^3^[instrument_list]^[specific_bar_index]^[timeframe]^**: Retrieve specific bar information for a list of instruments.

Order and Position Management Commands

- **F060^1^**: Retrieve all pending orders.
- **F061^1^**: Retrieve all open positions.
- **F062^3^[date_from]^[date_to]^**: Retrieve all closed positions within a time window.
- **F063^1^**: Retrieve all closed positions.
- **F064^3^[date_from]^[date_to]^**: Retrieve all deleted pending orders within a time window.
- **F065^1^**: Retrieve all deleted pending orders.
- **F070^9^[instrument]^[ordertype]^[volume]^[openprice]^[slippage]^[magicnumber]^[stoploss]^[takeprofit]^[comme** Open an order.
- **F071^2^[ticket]^**: Close a position by ticket.
- **F072^3^[ticket]^[volume_to_close]^**: Close a position partially by ticket.
- **F073^2^[ticket]^**: Delete a pending order by ticket.
- **F074^3^[ticket]^[opposite_ticket]^**: Close a position by opposite position.
- **F075^4^[ticket]^[stoploss]^[takeprofit]^**: Set stop loss and take profit for a position.
- **F076^4^[ticket]^[stoploss]^[takeprofit]^**: Set stop loss and take profit for a pending order.
- **F077^2^[ticket]^**: Reset stop loss and take profit for a position.
- **F078^2^[ticket]^**: Reset stop loss and take profit for a pending order.
- **F079^5^[ticket]^[price]^[stoploss]^[takeprofit]^**: Change settings for a pending order.
- **F080^3^[global_name]^[global_value]^**: Set a global variable.
- **F081^2^[global_name]^**: Get a global variable.
- **F084^2^[on_off]^**: Switch auto trading on or off.
- **F091^3^[instrument]^[magic_number]^**: Close positions asynchronously.

Error Codes

The error codes are defined in the `ERROR_DICT` dictionary, which maps error codes to their descriptions. Below are some of the key error codes:

General Errors

- **00001**: Undefined check connection error.
- **00101**: IP address error.
- **00102**: Port number error.
- **00103**: Connection error with license EA.
- **00104**: Undefined answer from license EA.
- **99900**: Wrong authorization code.
- **99901**: Undefined error.
- **99999**: Dummy error.

Instrument Errors

- **00301**: Unknown instrument for broker.

- **00302**: Instrument not in demo.
- **00304**: Unknown instrument for broker.
- **00401**: Instrument not in demo.
- **00402**: Instrument not exists for broker.
- **00501**: No instrument defined/configured.
- **02001**: Instrument not in demo.
- **02002**: Unknown instrument for broker.
- **02003**: Unknown instrument for broker.
- **02004**: Time out error.

Trading Errors

- **07001**: Trading not allowed, check MT terminal settings.
- **07002**: Instrument not in demo.
- **07003**: Instrument not in market watch.
- **07004**: Instrument not known at broker.
- **07005**: Unknown order type.
- **07006**: Wrong SL value.
- **07007**: Wrong TP value.
- **07008**: Wrong volume value.
- **07009**: Error opening / placing order.
- **07101**: Trading not allowed.
- **07102**: Position not found/error.
- **07201**: Trading not allowed.
- **07202**: Position not found/error.
- **07203**: Wrong volume.
- **07204**: Error in partial close.
- **07301**: Trading not allowed.
- **07302**: Error in delete.
- **07401**: Trading not allowed, check MT terminal settings.
- **07402**: Error check number.
- **07403**: Position does not exist.
- **07404**: Opposite position does not exist.
- **07405**: Both positions of same type.
- **07501**: Trading not allowed.
- **07502**: Position not open.
- **07503**: Error in modify.
- **07601**: Trading not allowed.
- **07602**: Position not open.
- **07603**: Error in modify.

- **07701**: Trading not allowed.

- **07702**: Position not open.

- **07703**: Error in modify.

- **07801**: Trading not allowed.

- **07802**: Position not open.

- **07803**: Error in modify.

- **07901**: Trading not allowed.

- **07902**: Instrument not in demo.

- **07903**: Order does not exist.

- **07904**: Wrong order type.

- **07905**: Wrong price.

- **07906**: Wrong TP value.

- **07907**: Wrong SL value.

- **07908**: Check error code.

- **07909**: Something wrong.

Global Variable Errors

- **08101**: Unknown global variable.

Log File Errors

- **08201**: Log file not existing.

- **08202**: Log file empty.

- **08203**: Error in reading log file.

- **08204**: Function not implemented.

Miscellaneous Errors

- **09101**: Trading not allowed.

- **09102**: Unknown instrument for broker.

- **09103**: Function not implemented.

Summary

The protocol defines a set of commands for interacting with the MT4/MT5 trading platforms(EA server), covering account information, market data, order management, and more. Each command is associated with specific parameters and can return various error codes, which are mapped to descriptive messages in the `ERROR_DICT` . This allows for robust error handling and debugging when using the API.