

Strategy Studio: TTExecutionHandler (Execution Handler)

TTExecutionHandler is Strategy Studio's FIX interface to TT's FIX Adapter and newer TT-FIX order entry gateways. The adapter is currently certified for execution of futures and multi-leg instruments on the CME, CFE, Eurex and ICE exchanges.

This execution handler is enabled by adding the following setting to the server's main configuration file:

- **EXECUTION_HANDLER_MODE=TTExecutionHandler**

Session Level Settings

Session-level settings are specified in the file `execution_handler-conf/tt_fix.config`. Notable settings include:

- **StartDay=Sunday**
- **EndDay=Sunday**
 - Start and End Day are required if a weekly session is configured with TT.
- **StartTime=19:00:00**
- **EndTime=17:00:00**
 - Required. Sets the session period defining sequence number reset.
- **SocketConnectHost=host**
 - Required. Target host IP.
- **SocketConnectPort=port**
 - Required. Target host port.
- **ReconnectInterval=seconds**
 - Reconnect wait period for a disconnected session. This should not be set lower than 60.
- **SenderCompID=sendercompid**
 - Required; issued by TT.
- **TargetCompID=targetcompid**
 - Required; issued by TT.
- **UseDataDictionary=Y**
- **DataDictionary= execution_handler-conf/TT_FIX42.xml**
 - Required. May be obtained from TT's FIX Adapter or TT-FIX support pages.
- **Password=password**
 - Required. Session password provided by TT.
- **StrategyStudioAccount=accountName**
 - Required. Sets the Strategy Studio account that will be associated with this session.
- **Account=tag1value**
 - Required. The value will be passed through tag 1 on each order.
- **AttributeExternalOrdersTo=strategyName**
 - Optional. If a strategy named strategyName exists, external fills will be sent to this strategy. If tag 16105 ('Order Tag' field in X_TRADER) contains an instance name the fill will be routed to that instance instead.
- **IsV7Session=Y/N**
 - Optional, default 'N'. Sets whether the session connects to a TT v7.x gateway or the newer TT FIX gateway.

Message validation should be disabled by setting **ValidateUserDefinedFields=N** and **ValidateFieldsOutOfOrder=N**.

Custom Order Parameters

Most order properties are set using OrderParams's fields. Order properties that are not included in OrderParams can be set via OrderParams's custom_params member, which is a `std::vector<boost::any>`. The values are expected to be of type `std::pair<int, std::string>`, with the first specifying the FIX tag number and the second specifying the string value for the FIX field. A full description of supported FIX tags is available on TT's FIX Adapter and TT-FIX documentation sites.

OrderParams's custom_params may be used on both new orders and replaces. Note that custom_params are not automatically cleared after submission of a new order; thus, care should be taken that the desired values are present in custom_params if the OrderParams is copied from an existing object.

Reference Data

Reference data should be produced on a regular basis in order to ensure correct price representation, price rounding, PnL calculation, and symbol translation.

The TTReferenceDBPopulator produces a tt_security_ids.csv that maps the LSS symbol to the FIX fields representing that symbol and the TT gateways available to trade it. The file also includes a multiplicative factor that is applied to each price as it is read from the FIX connection. This price factor defaults to 1.0 but can be set via the tt_price_factor_overrides.csv file. Note that TT may have global price adjustments configured on their side.

TTReferenceDBPopulator uses the following files:

- > **tt_fix.config**
 - Required. This has the same form as the main tt_fix.config above, but should be in the same directory as TTReferenceDBPopulator.
 - **StrategyStudioAccount** should be set to "PriceSession".
 - **Account** and **AttributeExternalOrdersTo** are not used.
 - **ResetOnLogout** and **ResetOnDisconnect** should be set to "Y".
 - **SecurityDefinitionList** should be a comma separated list of <TTEExchange | ProductType> pairs.
- > **tt_price_factor_overrides.csv**
 - Format: Exchange,ProductCode,SymbolRegex,InboundPriceAdjustmentFactor
 - Example: "CME,RSV,RSV\u\d,.01" will set price factors for all RSV outright to 0.01 (e.g., RSVH7).

Symbology

Instrument symbols are expected to match the first column from tt_security_ids.csv (typically this is the exchange's symbology). Note that ICE's symbols are constructed by combining the Product Code and exchange symbol; refer to tt_security_ids.csv for examples. Spryware's futures symbols are automatically converted, i.e., the forward slash is stripped and futures contracts in the form "/XX YYM" are converted to "XXMY".

TT-FIX Specific Behavior

Cancel-all-on-disconnect is set at the order level in TT-FIX using a value of 'o' in the ExecInst field of the NewOrderSingle message. This field may be set on a per-order basis from the API using OrderParams::custom_params as outlined above. If all orders should be marked cancel-all-on-disconnect, TT's flexible 'FIX Profile' system may be used to configure this flag to be added to all orders automatically.