

Strategy Studio: Nomura (Instinet) Execution Handler

NomuraExecutionHandler is Strategy Studio's FIX adapter to Nomura/Instinet NXT Connect and CORE gateways. Orders can be submitted to many US equity venues, including several dark pools. It also has handling for Nomura's SMART, SmartDark and SmartDMA SOR strategies. The available order parameters include several route-specific settings.

This execution handler may be selected by including the following line in the server's main configuration file:

- **EXECUTION_HANDLER_MODE=NomuraExecutionHandler**

Session Level Settings

Many of the session-level settings are specified in the file `execution_handler-conf/nomura_fix.config`. Notable settings include:

- **StartTime=HH:MM:SS**
- **EndTime=HH:MM:SS**
 - Required. Sets the window that the execution handler will attempt a connection, in UTC.
- **SocketConnectHost=host**
 - Required. Specifies the IP of the Nomura NXT server for this session.
- **SocketConnectHost[n]=host**
 - Optional. Allows additional hosts to be specified for failover purposes. After connection failure, the next host is tried in a round-robin fashion.
- **ReconnectInterval=seconds**
 - Sets the wait period before a disconnected session attempts a reconnect.
- **SenderCompID=senderCompID**
 - Required.
- **TargetCompID=targetCompID**
 - Required.
- **StrategyStudioAccount=accountName1[,accountName2,...accountNameN]**
 - Required. Sets the account names (FIX tag 1) to associate to a FIX session.
- **StrategyStudioFirm=firm**
 - Required. Sets the firm this session will be associated with for auto-marking purposes.
- **AutoMarkSide=true/false**
 - Optional. Determines whether new sell orders will automatically have their side marked based on the firm's position. The default value is true.
- **DefaultSession=true/false**
 - Optional. Sets a default session for accounts that aren't explicitly listed in any session's StrategyStudioAccount variable. This should only be set true for one session.
- **Rule80A=character**
 - Optional. Sets the value for OrderCapacity (FIX tag 47) for all outgoing orders. The tag is omitted if not set.
- **LocateBroker=broker**
 - Optional. Sets the string that will be sent in LocateBroker (FIX tag 5700) on short sell orders. The tag is omitted if not set.

Route Level Settings

The `execution_handler-conf/nomura_route.config` configuration file maps Strategy Studio Market Center ID's to Nomura route strings, and allows configuring default route-specific order properties for the server. The format is:

`#MarketCenter,RouteString,ExecInst,DisplayInst,SpecialOrdType,RoutingInstructions,Strategy`

- **MarketCenter** is a string value that represents the Strategy Studio MarketCenterID, and the rest of the settings specify settings for orders routed to this MarketCenterID. A value of DEFAULT defines a catch-all route.

- **RouteString** corresponds to Instinet tag 100, and should be a value from the Exchange Destinations tables in their "Specifications for US" FIX document.
- **ExecInst** corresponds to Instinet tag 18; multiple values may be set with a space delimiter. This field exposes access to a variety of order properties, including PEG types and NMS routing behavior, so we treat any default entry here as a value to append to values set from built in normalization and custom_params. See Instinet NXT Connect FIX documentation for more information.
- **DisplayInst** corresponds to Instinet tag 9140, used to elect display instructions on Nasdaq.
- **SpecialOrdType** corresponds to Instinet tag 9202, used to elect EDGA/EDGX midpoint match or Reg NMS reprising options.
- **RoutingInstructions** corresponds to Instinet tag 9303, used to set routing instructions on EDGA and EDGX
- **Strategy** is interpreted based on the value of RouteString:
 - If RouteString is EDGA or EDGX, it corresponds to Instinet tag 9400, used to elect a routing algorithm for routable EDGA/EDGX orders.
 - If RouteString is XNMA, it corresponds to Instinet tag 76, used to elect a routing algorithm for routable Nasdaq orders.
 - If RouteString is NMRA, it corresponds to an Instinet routing strategy and will be translated to Instinet tags 847 and 57. The value must be one of SmartDMA, DarkPing, DarkPingMid, NYSEQuote, NYSEQuote, or SmartDark. The default is SmartDMA.

For CORE sessions, only the first three columns (MarketCenter, RouteString, and ExecInst) have any meaning.

Custom Order Parameters

Common 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. For a full list of FIX tags supported by Instinet NXT Connect, please refer to their "Specifications for US" FIX document, and for Instinet CORE please refer to their "Instinet's North American Equity Trading Solutions" FIX document.

OrderParams's custom_params may be used on both new orders and cancel replaces. Note that custom_params are not automatically cleared after submission of a new order; Nomura expects clients to resend all FIX fields in a cancel replace request, so we recommend copying from the existing order's params object when submitting a Cancel/Replace to Nomura.

Usually tags specified via custom_params will override any built-in normalization and nomura_route.config defaults. An exception is ExecInst (tag 18); as this field covers several independent order properties, we append to tag 18 rather than overwrite it.