Avvento FIX Adapter Specification

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Table of Contents

1. References

Document	Author	Version	Issue Date

Please note that documents could take the form of discussions, interviews, presentations, workshops, white papers, etc.

2. Version Control

Version	Author	Date	Reason for Changes
Ver.01 Rev.00	P. Maphike	3 March 2020	Creation of document.
Ver.01 Rev.01	P. Maphike	22 April 2021	Updated document.
Ver.01 Rev.02	P. Maphike	21 June 2021	Updated document.
Ver 01 Rev.03	P. Maphike	3 November 2021	Updated document

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4. Introduction

The purpose of this document is to provide participants with the knowledge and technical details necessary for accessing and using the Avvento trading system *via* API.

5. Session Initialisation Setup

This section defines the FIX Session Initialisation setup and also describes the FIX Session establishment actions to connect to the API for data access.

The ETG House Name should be **DSECC**, which will enable the ETG to start the FIX Acceptor Interface to access the data.

The Acceptor Configuration file must be updated to register allowed compIDs on the FIX Acceptor Interface. The configuration file is located in the root directory of the ETG and can be located by filename: **AcceptorConfiguration.cfg**

5.1 Acceptor Configuration

Please see an example of the Acceptor Configuration file (**AcceptorConfiguration.cfg**) file below.

```
# default settings for sessions
[DEFAULT]
ConnectionType=acceptor
SocketAcceptPort=8814
SocketReuseAddress=Y
UseLocalTime=Y
StartTime=09:00:00
EndTime=15:30:00
FileStorePath=store
FileLogPath=log
UseDataDictionary=Y
ResetOnLogon=N
ResetOnLogout=N
ResetOnDisconnect=N
EnableLastMsgSeqNumProcessed=Y
SendLogoutBeforeDisconnectFromTimeout=Y
CheckGeneralSequenceNumbers=1
RejectUnsupportedMessages=1
ShouldSendLogon=1

[SESSION]
BeginString=FIX.4.2
HeartBtInt=30
SenderCompID=STTCQG
TargetCompID=CLIENT1
DataDictionary=.\Handlers\FIX42.xml

[SESSION]
BeginString=FIX.4.2
HeartBtInt=30
SenderCompID=STTCQG
TargetCompID=CLIENT2
DataDictionary=.\Handlers\FIX42.xml
```

5.1.1   Acceptor Configuration Fields

Fields under [DEFAULT] are used by the system to initialise FIX.

The [SESSIONS] setup is used for configuring users required to connect.

By default, the system sets up two sessions and the Server CompID is defaulted to STTCQG (this can be changed to the user preference). The two default client compIDs are CLIENT1 and CLIENT2.

6.   Infrastructure Messages

This section defines the FIX Session and Infrastructure messages and also describes the FIX Session establishment actions.

The application uses FIX 4.2.

The FIX Session Level messages are:

- Establish Connection
- Placing Order message
- Subscribe to Trades
- Subscribe to Unmatched Trades
- Request Completed Orders

6.1   FIX Session Establishment

6.1.1   Connection Example

Please note that all values displayed in screens below are only examples; you would need to supply the applicable values in order to connect to your own environment.
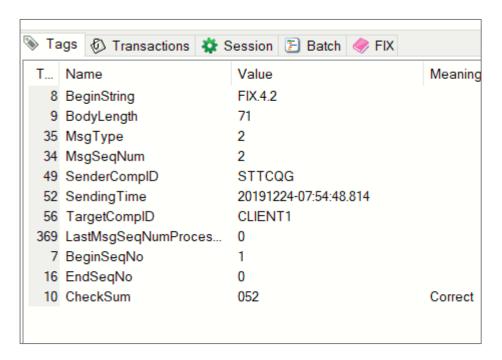
To test the connection, the example below shows the setup on the **Session** tab in the Mini-FIX application.
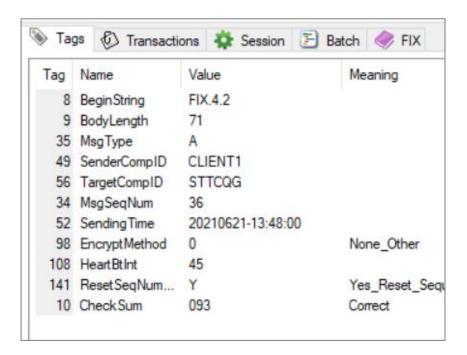
Connection reply message:

6.1.2   Login message(A)

The login message:

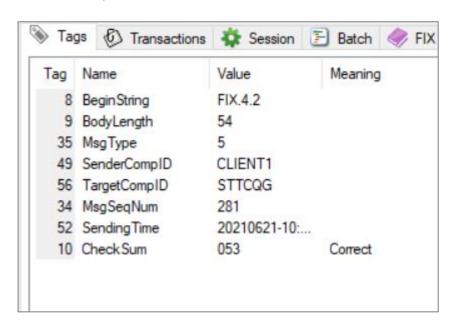| TAG	Field Name	Required	Comments	Format
Standard Header		Y	MsgType = A	
141	ResetSeqNumFlag	Y	Reset Sequence Number Flag ie Y	Boolean
108	HandlInst	Y	Heartbeat interval (seconds) ie 45 seconds	Integer
98	EncryptMethod	Y	Method of encryption. ie 0 = None	String

Mini-FIX example:

6.1.3   Logout message(5)

The logout message:

TAG	Field Name	Required	Comments	Format
Standard Header		Y	MsgType = 5	

Mini-FIX example:

6.2 Place Order message (D)

The Place Order message uses the FIX 4.2 **NewOrderSingle** message.

The new order message type is used by institutions wishing to electronically submit instruments orders for execution.

TAG	Field Name	Required	Comments	Format
Standard Header		Y	MsgType = D	
1	Account	Y	Executing Principal i.e. Broker or Client	String
11	ClOrdID	Y	Client Order Id i.e. Reference Number	String
21	HandlInst	Y	Indicates if both sides of a FIX session should reset sequence numbers.	Boolean
22	IDSource	Y	Only valid value is '8' – FIX50SP1	String
38	OrderQty	Y	Order quantity	Integer
40	OrdType	Y	Order Types, DAY = '0'; GOOD_TILL_CANCEL = '1'; AT_THE_OPENING = '2'; IMMEDIATE_OR_CANCEL = '3'; FILL_OR_KILL = '4'; AT_THE_CLOSE = '7'; GOOD_THROUGH_CROSSING = '8';	Char
44	Price	Y	Price	String
54	Side	Y	Principal Buy or Sell - BUY = 1, SELL =2	Integer
55	Symbol	Y	Security	String
59	TimeInForce	Y	Specifies how long the order remains in effect, only '0 = Day' is allowed.	Integer
167	SecurityType	Y	Indicates type of security, only 'FUT' is allowed.	String
200	MaturityMonthYear	Y	Security expiry date, Format: YYYYMM (e.g. 201912)	String
76	ExecBroker	Y	Executing broker	String

Order Types Allowed:

- DAY

- IMMEDIATE_OR_CANCEL

- FILL_OR_KILL

- GOOD_TILL_CANCEL

- AT_THE_OPENING

- AT_THE_CLOSE

- GOOD_THROUGH_CROSSING which is sent as MARKET_ORDER

6.3 Cancel Order (F)

The cancel order message uses the FIX 4.2 **OrderCancelRequest** message.

The order cancel request is used to change the parameters of an existing order.

TAG	Field Name	Required	Comments	Format
Standard Header		Y	MsgType = D	
11	ClOrdID	Y	Client Order Id i.e. Reference Number	String
41	OrigClOrdID	Y	ClOrdID (11) of the previous order (NOT the initial order of the day) as assigned by the institution, used to identify the previous order in cancel and cancel/replace requests.	String
55	Symbol	Y	Security	String
200	MaturityMonthYear	Y	Security expiry date, Format: YYYYMM (e.g. 201912)	String

6.4 Order Cancel Replace (G)

The Order Cancel Replace message uses the FIX 4.2 **OrderCancelReplace** message.

The order cancel replace message type is used by institutions wishing to electronically submit instruments orders amend for execution.

TAG	Field Name	Required	Comments	Format
Standard Header		Y	MsgType = G	
1	Account	Y	Executing Principal i.e., Broker or Client	String
11	ClOrdID	Y	Client Order Id i.e. Reference Number	String
41	OrigClOrdID	Y	ClOrdID (11) of the previous order (NOT the initial order of the day) as assigned by the institution, used to identify the previous order in cancel and cancel/replace requests.	String
21	HandlInst	Y	Indicates if both sides of a FIX session should reset sequence numbers.	Boolean
22	IDSource	Y	Only valid value is '8'	String
38	OrderQty	Y	Order quantity	Integer

TAG	Field Name	Required	Comments	Format
40	OrdType	Y	Order Types, DAY = '0'; GOOD_TILL_CANCEL = '1'; AT_THE_OPENING = '2'; IMMEDIATE_OR_CANCEL = '3'; FILL_OR_KILL = '4'; AT_THE_CLOSE = '7'; GOOD_THROUGH_CROSSING = '8';	Char
44	Price	Y	Price	String
54	Side	Y	Principal Buy or Sell - BUY = 1, SELL =2	Integer
55	Symbol	Y	Security	String
59	TimeInForce	Y	Specifies how long the order remains in effect, only '0 = Day' is allowed.	Integer
167	SecurityType	Y	Indicates type of security, only 'FUT' is allowed.	String
200	MaturityMonthYear	Y	Security expiry date, Format: YYYYMM (e.g. 201912)	String
76	ExecBroker	Y	Executing broker	String

6.5   Execution Report (8)

The Execution Report message uses the FIX 4.2 **ExecutionReport** message.

The Execution Report message is sent to users in respond to place order, amend order and trades received.

TAG	Field Name	Required	Comments	Format
Standard Header		Y	MsgType = 8	
1	Account	Y	Executing Principal i.e., Broker or Client	String
6	AvgPx	N	Traded Price	Decimal
11	ClOrdID	Y	Unique identifier for Order	String
14	CumQty	Y	Total quantity	Decimal
17	ExecID	Y	Unique identifier of execution message	Integer
19	ExecRefID	Y	Exchange reference identifier used with Trade	String
20	ExecTransType	Y	Executed transaction type	Char
31	LastPx	Y	Price of this (last) fill	Decimal
32	LastShares	Y	LastQty - Quantity (e.g., shares) bought/sold on this (last) fill	Decimal
37	OrderID	Y	Unique identifier for Order as assigned by sell-side	String
38	OrderQty	Y	Quantity ordered.	Decimal

TAG	Field Name	Required	Comments	Format
39	OrdStatus	Y	Identifies current status of order. I.e. 0 = New 1 = Partially filled 2 = Filled 3 = Done for day 4 = Cancelled 5 = Replaced (No longer used) 6 = Pending Cancel 7 = Stopped 8 = Rejected 9 = Suspended A = Pending New B = Calculated C = Expired D = Accepted for Bidding E = Pending Replace	Char
40	OrdType	Y	Order Types, DAY = '0'; GOOD_TILL_CANCEL = '1'; AT_THE_OPENING = '2'; IMMEDIATE_OR_CANCEL = '3'; FILL_OR_KILL = '4'; AT_THE_CLOSE = '7'; GOOD_THROUGH_CROSSING = '8';	Char
44	Price	Y	Price per unit of quantity broker	Decimal
54	Side	Y	Side of order i.e. Buy or Sell	Char
55	Symbol	Y	Security	String
58	Text	N	Free format text string used for rejecting message	String
60	TransactTime	Y	Timestamp when the business transaction represented by the message occurred	UTCTimestamp
76	ExecBroker	Y	Executing broker	String
150	ExecType	Y	Describes the specific ExecutionRpt i.e. New = 0 Partial Fill = 1 Fill = 2 Cancelled = 4 Done For Day = 3 Replaced = 5 Pending Cancelreplace = 6 Stopped = 7 Rejected = 8 Suspended = 9 Pending New = A Sync = S Calculated = B Expired = C Restated = D Pending Replace = E	Char

TAG	Field Name	Required	Comments	Format
151	LeavesQty	Y	Quantity open for further execution	Decimal
167	SecurityType	Y	Indicates type of security i.e. only FUT allowed	String
200	MaturityMonthYear	Y	Security future expiry date i.e., YYYYMM	MonthYear

7. Sign-off

All parties signing this document acknowledge that they have read, understood and are committed to this document, including all attached schedules and diagrams.

Name: _____   **Name:** _____

Designation: _____   **Designation:** _____

Project Role: _____   **Project Role:** _____

Signature: _____   **Signature:** _____

Date: _____   **Date:** _____

Name: _____   **Name:** _____

Designation: _____   **Designation:** _____

Project Role: _____   **Project Role:** _____

Signature: _____   **Signature:** _____

Date: _____   **Date:** _____