

# priceAPI / FIX Protocol 4.4

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## FIX Protocol

### Standard Header

TAG	NAME	REQ	DESCRIPTION
8	BeginString	Y	"FIX.4.4".
9	BodyLength	Y	The length of the message.
35	MsgType	Y	The number indicating the message type.
49	SenderCompID	Y	The ID of the sender.
50	SenderSubID	N*	The sub-ID of the sender. (*) Some servers may require this field.
56	TargetCompID	Y	The ID of the intended recipient.
57	TargetSubID	N*	The sub-ID of the recipient. (*) Some servers may require this field.
128	DeliverToCompID	Y	AlgoId.
129	DeliverToSubID	N*	Trading partner SubID used when sending messages via a third party. The tag is also used to specify Strategy ID on ExecutionReport messages. (*) Required when reporting disclosed sources
115	OnBehalfOfCompID	N*	Trading partner company ID used when delivering messages via a third party. The tag is also used to specify Strategy ID on NewOrderSingle messages. (*) Required when connecting via 3rd party. Must be approved by Price Markets UK.
116	OnBehalfOfSubID	N*	Trading partner SubID used when delivering messages via a third party. (*) Required when connecting via 3rd party. Must be approved by Price Markets UK.
34	MsgSeqNum	Y	The message sequence number.
52	SendingTime	Y	The UTCTimestamp. For example, "19701231-23:59:59.999".

### Standard Trailer

TAG	NAME	REQ	DESCRIPTION
10	Checksum	Y	Three byte checksum of the message. This is always the last tag in the message.

## FIX Session Management

### Logon (A)

The first message of the session must be a Logon (35=A) message sent by the client. If the credentials are accepted, the server will respond with a Logon (35=A). If the credentials are invalid, the connection will be closed.

TAG	NAME	REQ	DESCRIPTION
	Header	Y	Standard header, with 35=A.
98	EncryptMethod	Y	Because it is always unencrypted, the tag is always set to 0.
108	HeartBtInt	Y	The interval in seconds between heartbeats. The tag is always set to 30.
141	ResetSeqNumFlag	N	Supported values:  <b>N</b> = No <b>Y</b> = Yes (reset sequence numbers)
553	Username	N*	The user name on which the server and client agreed. (* ) Not required.
554	Password	Y*	The password assigned to the Username (553). (* ) Not required in a reply sent from the server.
	Trailer	Y	

## Heartbeat (0)

A heartbeat should be sent before the timeout defined in the Logon (35=A) message is expired.

For example, the timeout is set to 30 seconds. A heartbeat must arrive before 29.999999 seconds are elapsed. If the last fraction of the second elapses, and the full 30-second period elapsed with no heartbeat messages, then the timeout occurs. In this case, the other side may close the connection, because the connection will be considered down.

TAG	NAME	REQUIRED	DESCRIPTION
	Header	Y	Standard header, with 35=0.
	Trailer	Y	

## Logout (5)

Before closing the connection, the initiating side must send a Logout message (35=5), and then wait for a Logout message (35=5) sent in the reply before closing the connection.

TAG	NAME	REQUIRED	DESCRIPTION
	Header	Y	Standard header, with 35=5.
58	Text	N	Message
	Trailer	Y	

## Reject (3)

A Reject (35=3) will be sent when a session-level error was detected in the FIX message sent by the client. This usually happens due to malformed data.

TAG	NAME	REQ	DESCRIPTION
	Header	Y	Standard header, with 35=3.
45	RefSeqNum	Y	The MsgSeqNum (34) of the referenced message.
371	RefTagID	N	The tag number of the referenced FIX field.
372	RefMsgType	N	The MsgType (35) of the referenced message.
373	SessionRejectReason	Y	<p>The number that represents the reason for the reject.</p> <p>Supported values:</p> <ul style="list-style-type: none"> <li>0 = Invalid tag number</li> <li>1 = Required tag missing</li> <li>2 = Tag not defined for this message type</li> <li>3 = Undefined tag</li> </ul>

			4 = Tag specified without a value 5 = Value is incorrect (out of range) for this tag 6 = Incorrect data format for value 9 = CompID problem 10 = SendingTime accuracy problem 11 = Invalid MsgType (35) 13 = Tag appears more than once 14 = Tag specified out of required order 15 = Repeating group fields out of order 16 = Incorrect NumInGroup count for repeating group 17 = Non "Data" value includes field delimiter (character) 99 = Other
58	Text	N	Message
	Trailer	Y	

## Business Reject (j)

Apart from malformed FIX messages, there may be combinations of FIX tags with values that do not make sense on a business level. For example, trade orders on currencies that are not supported. These messages will be rejected with a Business Reject (35=j) message.

TAG	NAME	REQ	DESCRIPTION
	Header	Y	Standard header, with 35=j.
45	RefSeqNum	N	The MsgSeqNum (34) of the referenced message.
372	RefMsgType	Y	The MsgType (35) of the referenced message.
380	BusinessRejectReason	Y	The number that represents the reason for the reject.  Supported values:  0 = Other 1 = Unknown ID 2 = Unknown Security 3 = Unsupported Message Type 4 = Application not available 5 = Conditionally Required Field Missing 6 = Not authorized 7 = DeliverTo firm not available at this time 18 = Invalid price increment
58	Text	N	Message
	Trailer	Y	

# FIX (Taker)

## Market Data

### Market Data Request (V)

The client may send a Market Data Request (35=V) in order to subscribe to market data updates.

Servers may send market data in snapshots (35=W). To achieve the best network performance, the server should send a single snapshot on receiving a subscription request followed by incremental refreshes only. Servers may allow client-specific configurations to deviate from this behavior. Incremental refreshes (35=X) are not currently Supported.

Market data requests are reset when the client is disconnected. When the client is reconnected, the client must request the market data again.

TAG	NAME	REQ	DESCRIPTION
	Header	Y	Standard header, with 35=V.
262	MDReqID	Y	The ID of the Market Data Request. It must be new and unique unless 263=2 and refers to the previous market data request.
263	SubscriptionRequestType	Y	Supported values:  1 = Snapshot + Updates (e.g. "subscribe") 2 = Stop updates (e.g. "unsubscribe")
264	MarketDepth	Y	The book depth to report.  Supported values:  0 = Full book, unlimited depth <sup>1</sup> 1 = Top of Book only N = Number of layers to deliver <sup>2</sup>  Note: If the server does not support the requested depth, it may send a Market Data Request Reject with one of the supported values. It may also accept the request and silently reduce the depth of the delivered market data.
265	MDUpdateType	Y	The format of market data updates.  Supported values:  0 = Full refresh (e.g. snapshot) 1 = Incremental refresh
547	MDImplicitDelete	N	Specifies whether the client needs to implicitly delete layers in the truncated book.

<sup>1</sup> The server may artificially limit the size of the book to limit resources spent by the priceCLOUD machine and improve performance.

<sup>2</sup> The server responds to an invalid MarketDepth value with a Business Reject.

			The tag is required when MarketDepth (264) >= 2 and MDUpdateType = Incremental Refresh(1).  Supported values:  Y = The client needs to implicitly delete bids or offers falling outside the MarketDepth of the request.
267	NoMDEntryTypes	Y	The tag must always be set to at least 2. When requesting for the last trade, set it to 3.  Both 269=0 (bid) and 269=1 (ask) must be specified. 269=2 (trade) is optional.
			<u>Begin Repeating Group</u>
269	MDEntryType	Y	Supported values:  0 = Bid 1 = Ask 2 = Trade
			<u>End Repeating Group</u>
146	NoRelatedSym	Y	The number of symbols in the request. The tag must be always set to <b>1</b> .
			<u>Begin Repeating Group</u>
55	Symbol	Y	The currency pair symbol expressed as CCY1/CCY2. For example, "EUR/USD".
			<u>End Repeating Group</u>
	Trailer	Y	

This specification requires NoRelatedSym (146) to be set to 1. This means that the client can subscribe only to a single symbol in a FIX message.

The MDReqID defines a sort of domain for snapshots and updates of market data. Market Data Snapshots (35=W) sent for an MDReqID will effectively cancel all outstanding quotes sent for that MDReqID.

## Market Data Request Reject (Y)

The server may respond to Market Data Requests (35=V) with a rejection (35=Y). For example, if an unrecognized currency pair was requested.

TAG	NAME	REQUIRED	DESCRIPTION
	Header	Y	Standard header, with 35=Y.
262	MDReqID	Y	The ID of the Market Data Request.

281	MDReqRejReason	N	The reason for the rejection of the Market Data request.
	Trailer	Y	



## Market Data Snapshot (W)

Market Data Snapshots (W) represent a full snapshot of the market for a given MDReqID (252). Each snapshot replaces all the market data related to that MDReqID, regardless of whether it was sent by a Market Data Snapshot or by a Market Data Incremental Refresh (X).

Market data within the snapshot is identified by MDEntryID (278). Previously published market data (such as quotes) that is not included into the snapshot was implicitly deleted. Similarly, previously publis

TAG	NAME	REQUIRED	DESCRIPTION
	Header	Y	Standard header, with 35=W.
262	MDReqID	Y	The ID of the Market Data Request that triggered sending this snapshot.
55	Symbol	Y	The currency pair symbol expressed as CCY1/CCY2. For example, "EUR/USD".
268	NoMDEntries	Y	The number of market data entries in this message.
			<i>Begin Repeating Group</i>
269	MDEntryType	Y	Supported values: 0 = Bid 1 = Ask 2 = Trade
270	MDEntryPx	Y	The market data entry price.
271	MDEntrySize	Y	The market data entry volume.
64	SettlDate	Y	The Settlement date expressed as YYYYMMDD. For example, "19701231" <sup>3</sup>
278	MDEntryID	Y	The unique ID for this market data.
			<i>End Repeating Group</i>
	Trailer	Y	

<sup>3</sup> Sent out with each Market Data Snapshot message.

## Orders

## New Order Single (D)

TAG	NAME	REQUIRED	DESCRIPTION
	Header	Y	Standard header, with 35=D.
11	ClOrdID	Y	The client-assigned unique ID for the order. Notice that the maximum size of this tag is 58 bytes.
110	MinQty	N	The minimum quantity that should be executed, specified in the units of the base currency (15).  NOTE: This value is not supported for all LPs.
55	Symbol	Y	The currency pair symbol expressed as CCY1/CCY2. For example, "EUR/USD".
15	Currency	Y	The fixed currency of the trade, either CCY1 or CCY2.
54	Side	Y	Supported values:  1 = Buy 2 = Sell
60	TransactTime	Y	The UTCTimestamp when the order was sent by the client.
38	OrderQty	Y	The order quantity in the base currency (15).
40	OrdType	Y	The order type.  Supported values:  1 = Market 2 = Limit 3 = Stop D =Previously Quoted  Servers may support any subset of these order types. All servers support Limit (2).
44	Price	N*	The price at which the limit order should be executed. (* ) Required for all Limit OrdTypes (2)
59	TimeInForce	Y	Supported values:  0 = Day 3 = Immediate or Cancel (IOC) 4 = Fill or Kill (FOK)  Servers may implement any subset of these TIF values, but must implement Day (0).

99	StopPx	N*	The price at which the stop order should be executed. (* Required for all Stop OrdTypes (3)
	Trailer	Y	

## Execution Report (8)

TAG	NAME	REQ	DESCRIPTION
	Header	Y	Standard header, with 35=8.
37	OrderId	Y	The unique ID for the order assigned by the server.
11	ClOrdID	Y	The unique ID of the order assigned by the client as specified in the ClOrdID (11) field in a New Order Single(35=D), Order Cancel Request (35=F), or Order Cancel/Replace Request (35=G).
41	OrigClOrdID	N*	The unique client assigned ID of the original order that was subject to an Order Cancel Request (35=F) or Order Cancel/Replace Request (35=G).  (* Required in Execution Report sent in response to an Order Cancel Request (35=F) or Order Cancel/Replace Request (35=G).
103	OrdRejReason	N	Code to identify reason for order rejection.  For optional use with ExecType = 8 (Rejected)
17	ExecID	Y	The unique ID of the execution.
150	ExecType	Y	The type of execution that was reported.  Supported values:  0 = New 4 = Canceled 5 = Replace 6 = Pending Cancel 8 = Rejected A = Pending New E = Pending Replace F = Trade (fill or partial fill) I = Order Status J = Trade in a Clearing Hold (reflects pending match message in EBS)
39	OrdStatus	Y	The current status of the order.  Supported values:  0 = New 1 = Partially Filled 2 = Filled 4 = Canceled 6 = Pending Cancel 8 = Rejected A = Pending New E = Pending Replace
55	Symbol	Y	Currency pair symbol expressed as CCY1/CCY2. For example, "EUR/USD".

54	Side	Y	Supported values: 1 = Buy 2 = Sell
59	TimeInForce	N	Supported values: 0 = Day 3 = Immediate or Cancel (IOC) 4 = Fill or Kill (FOK)
38	OrderQty	Y	The Quantity of the order specified in the units of the Currency (15).
44	Price	N*	The price of the order. (* Required if Price (44) was specified on the order.
15	Currency	N	The fixed currency of the trade. This is the currency in which the Price (44) is specified.
32	LastQty	N*	The quantity bought/sold on this (last) fill. (* Required if ExecType (150) = Trade ('F').
31	LastPx	N*	Price of this (last) fill. (* Required if ExecType (150) = Trade ('F').
151	LeavesQty	Y	The quantity remaining to be executed in the order specified in the units of the Currency (15).
14	CumQty	Y	The executed amount of the order specified in the units of the Currency (15).
6	AvgPx	N*	The average price at which the order was executed. (* Required if ExecType (150) = Trade ('F').
60	TransactTime	Y	The UTCTimestamp of the execution time on the server.
99	StopPx	N*	The Stop price of the order. (* Required if StopPx(99) was specified on the order.
58	Text	N	Message
	Trailer	Y	

## Order Cancel Request (F)

Cancel an existing order.

TAG	NAME	REQUIRED	DESCRIPTION
	Header	Y	Standard header, with 35=F.
41	OrigClOrdID	Y	The unique ID of the last non-cancelled order assigned by the client. Notice that the maximum size of this tag is 58 bytes.
37	OrderId	N	The unique ID of the order, as returned to the client in the Execution Report in the OrderId field (37).
11	ClOrdID	Y	The unique ID of the cancel request as assigned by the Client.  Note: This is not the ClOrdID of the order being cancelled, but rather an identifier of the cancel request. However, much like a Cancel/Replace request, from this point onward, the ClOrdID (11) in all following execution reports Execution Report (35=8) will be the value from this field. In essence, this Order to perform a Cancel will replace the previous Order.  Notice that the maximum size of this tag is 58 bytes.
55	Symbol	Y	The same as in the original order.
54	Side	Y	The same as in the original order.
60	TransactTime	Y	UTCTimestamp of the request from the client.
38	OrderQty	N	The quantity being cancelled. This must be the total remaining quantity in the order.
58	Text	N	Message
	Trailer	Y	

## Order Cancel/Replace Request (G)

Modify an existing order.

TAG	NAME	REQUIRED	DESCRIPTION
	Header	Y	Standard header, with 35=G.
37	OrderId	N	The unique ID of the order, as returned to the client in the Execution Report in the OrderId field (37).
11	ClOrdID	Y	The unique ID of the order assigned by the client. This ID will be replace the previous ClOrdID, which must be specified in OrigClOrdID (41). Notice that the maximum size of this tag is 58 bytes.
41	OrigClOrdID	Y	The unique ID of the last non-cancelled order assigned by the client. This ID is the one replaced by ClOrdID (11). Notice that the maximum size of this tag is 58 bytes.
1	Account	N	The same as in the original order.
55	Symbol	Y	The same as in the original order.
15	Currency	N	The same as in the original order.
59	TimeInForce	Y	Supported values:  0 = Day 3 = Immediate or Cancel (IOC) 4 = Fill or Kill (FOK)  Servers may implement any subset of these TIF values, but must implement Day (0).
54	Side	Y	The same as in the original order.
64	SettlDate	N	The same as in the original order.
38	OrderQty	Y	The amended quantity of the order in the units specified by the Currency (15).
40	OrdType	Y	The same as in the original order.
44	Price	N*	The amended price of the order.  (* ) Required for limit orders.
99	StopPx	N*	The amended stop price of the order.  (* ) Required for stop orders.
60	TransactTime	Y	The UTCTimestamp of the request from the client.
110	MinQty	N	The minimum quantity that should be executed, specified in the units of the base currency

			(15). NOTE: This value is not supported for all LPs.
58	Text	N	Message
	Trailer	Y	



## Order Cancel Reject (9)

TAG	NAME	REQ	DESCRIPTION
	Header	Y	Standard header, with 35=9.
37	OrderId	Y	The unique ID of the order, as returned to the client in the Execution Report in the OrderId field (37).  If the rejection occurred because of unknown order, this tag is set to NONE.
11	ClOrdID	Y	The unique ID of the order assigned by the client. This ID would have been the new ClOrdID.  When CxlRejResponseTo is "Order Cancel Request", this is identical to the ClOrdID (11) in the Order Cancel Request (35=F).  When CxlRejResponseTo is "Order Cancel/Replace Request", this is identical to the ClOrdID (11) in the Order Cancel/Replace Request (35=F).
41	OrigClOrdID	Y	The ID of the order assigned by the client that could not be modified or canceled.
39	OrdStatus	Y	The order status after the Cancel Reject.  Note: If CxlRejReason is "Unknown order", the OrdStatus should be Rejected (8).
434	CxlRejResponseTo	Y	The type of request that has been rejected.  Supported values:  1 = Order Cancel Request 2 = Order Cancel/Replace Request
102	CxlRejReason	N	The reason for the rejection.
58	Text	N	Message
	Trailer	Y	