AsiaNext

By SBI Digital Asset Holdings and SIX

AsiaNext Binary Bridge to REST (ABBR) Technical Specification

For Crypto Derivatives Market

Version 1.4

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Version History

Version	Date	Description
1.0	Dec 2023	First version
1.1	June 2024	Message Header: Added description Order Add Extended Message: Added RFQSessionId field, RFQ Limit and RFQ Quote orderType Quote Request Message: Added new message Quote Request Notification: Added new message Quote Add Message: Added new message Quote Modify Message: Added new message Quote Cancel Message: Added new message Sequence number reset message: Added new message Book Status message: Added new message Book Entry message: Added new message Security Definition Message (Futures Instruments): Added contractSizeDecimals and underlying fields Security Definition Message (Options Instruments): Added new message Security Status: Added tradingPhase field

		Flow: Updated diagram
1.2	August 2024	Order Add/ Order Add Extended: Updated spec userTag description and Mandatory to Yes Executions API Logout Message: Removed clientSequenceNumber and added reasonText field Heartbeat Messages: Renamed seqNo field to sequenceNo Snapshot Start Messages: Renamed streamSequenceNumber to streamSequenceNo Market Data API Trade Message: Renamed negoIndPreTradeTranWaiver to negoIndPreTradeTransWaiver Cancelled Reason Codes: Added value = 0, for IOC and FOK cancels Modified Reason Codes: Removed value = 9 and value = 11
1.3	January 2025	Order Add/ Order Add Extended Messages: Updated description of price field. Order Modify/ Order Modify Extended Messages: Updated description of price field. Executions API Trade, Trade Bust, Quote Add and Quote Modify Messages: Updated description of price field. Market Data API Order Add, Order Modify, Trade, Trade Bust and Book Entry Messages: Updated description of price field. Reference Data API Tick Table Data Message: Updated description of tickSize field Drop Copy API Execution Report Messages: Updated type and/or description for avgPrice, cumQty, execId, execRefId, lastPrice, lastQty, orderId, orderQty, orderStatus, price, securityId, symbol, leavesQty and TVTIC fields
1.4	October 2025	HTTP Request Header: Added section End Ponts: Updated to show Auth Token in URL and Header Order API Retry Status: Added HTTP 429

1 Introduction

This document contains information on the Representational State Transfer (REST) & WebSocket Secure (WSS) Application Programming Interface (API) connectivity with regards to:

- Authentication
- Sending order and trade messages to AsiaNext
- Receiving execution messages and market data from AsiaNext

The AsiaNext Binary Bridge to Rest (ABBR) is constructed for the purpose of mapping REST and WSS to the Matching Engine's protocol. Hence, please use the specification together with the relevant documents, i.e. AsiaNext Aquis Trading Protocol (ATP), AsiaNext Drop Copy and AsiaNext Market Data Specifications of the respective markets.

1.1 Enquiries / Support

Please contact the AsiaNext support team at onboarding@asianext.com for any questions relating to this document.

2 Overview

2.1 Message Structure

Only fields and values indicated in the specification are valid. Other fields and values are not valid and should not be sent to the exchange.

Numbers are whole number, ie only positive integers are supported unless explicitly indicated.

2.2 Message Header

All outgoing messages from AsiaNext carry a standard message header, as follows:

Field Name	Type	Mandatory	Description
messageId	number	Yes	Message type identifier
messageSequence	number	Yes	Sequence number of this message. For Market Data streams, the sequence number will be reset daily.

2.3 HTTP Request Header

Members are required to include the HTTP Host header in every HTTP request. The Host header value should match the domain portion of the target URL.

Request URL: https://trade-api.asianext.com/auth/v1/account/login

Host: trade-api.asianext.com

3 Authentication

3.1 Authentication Token Creation

Member is required to send a HTTP POST login request to AsiaNext authentication API. The response received by the Trading Member contains the following:

- Authentication Token
- Refresh Token

Example

Request:

A HTTP POST request to the url:

https://trade-api.asianext.com/auth/v1/account/loginBody: (Login details example)

"clientId": “username@company.com”,

"clientSecret": “***********************"

Value* object in the response contains*:

- accessToken (*Please note this is the authentication token, or AuthToken referred to in the WSS endpoints)*
- refreshToken
- data

Field Name	JSON Type	Value	Description
value	JSON object		The object contains the access token, the refresh token and data.
accessToken	string	JWT Token	This contains the JWT token to access the methods on the web API.
refreshToken	string	JWT Token	This contains the JWT refresh token to refresh the Access token.
data	string		Any additional messages
success	boolean	true/false	This shows if the request was successful on a business layer, not the HTTP Request level.
message	string		Custom messages on the API for more detailed errors and response messages.
status	number	Success = 1 Failed = 2	The Status code of the message

3.2 Authentication and Refresh Token Expiry Management

The following are the default values and is subjected to changes.

- Authentication token: 5 minutes
- Refresh Token: 30 minutes

If the authentication token expires, the trading Member is required to send a HTTP POST Refresh request with the refresh token in the authorization section of the request's header.

Example:

Request:

A HTTP POST request to the URL:

https://trade-api.asianext.com/auth/v1/account/refresh

Header.Authorization = Bearer {refreshToken}*Note: There is no body for this request.*

Value* object in the response contains*:

- accessToken (*Please note this is the authentication token, or AuthToken referred to in the WSS endpoints)*
- refreshToken
- data

Field Name	JSON Type	Value	Description
value	JSON object		The object contains the access token, the refresh token and data.

Field Name	JSON Type	Value	Description
accessToken	string	JWT Token	This contains the JWT token to access the methods on the web API.
refreshToken	string	JWT Token	This contains the JWT refresh token to refresh the Access token.
data	string		Any additional messages
success	boolean	true/false	This shows if the request was successful on a business layer, not the HTTP Request level.
message	string		Custom messages on the API for more detailed errors and response messages.
status	number	Success = 1 Failed = 2	The Status code of the message

4 Message Signing

4.1 Overview

The JSON Web Signature (JWS) is a standard used for creating digitally signed and encoded JSON objects. JWS is often used in web applications to ensure the integrity, authenticity, and confidentiality of data.

A JWS consists of three parts:

- Header – contains information about the algorithm used to create the signature, as well as any additional information that is needed.
- Payload – the actual data being transmitted.
- Signature – a hash of the header, payload, and a secret key that is shared between the sender and the receiver.

The JWS standard provides a way for two parties to exchange data in a secure and authenticated manner. The sender can sign the data with a secret key that only they know, and the receiver can verify the signature using the sender's public key. If the signature is valid, the receiver can be sure that the data has not been tampered with and that it was indeed sent by the expected sender.

ABBR uses the HS256 Algorithm to create the JWS.

4.2 Message Signing in ABBR

Each message that is sent through the AsiaNext ABBR API needs to be signed with an authentic Secret Key that will be supplied by AsiaNext to the Trading Member.

<u>The steps used to create a JWS:</u>

1. Define the data that you want to sign and transmit as a JSON string. This is the payload of the JWS.

Example of a payload as a JSON string:

{
  "orderRef": 324,
  "quantity": 123450,
  “price”:300000000,
  "side": 2,
  "userTag": 0,
  "tradeRef": 10
  "timestamp": “1631573491123456789”
}

2. Create a JSON header that contains information about the signing algorithm (**ABBR uses HS256**) and any additional information required. This header is also encoded in JSON format.

   Example of a JWS header in JSON format:

{
   "alg": "HS256",
   "typ": "JWT",
   "iat": "1631573491123456789"
}

3. Create a signature by taking the base64url-encoded header and payload, concatenating them with a period separator, and then signing this concatenated string using a secret key and the algorithm specified in the header.

   Example of a Secret Key (please note this is an example for comparison):

r/hH9JvOSr9QC1JrEHywhtl79RAiZPt2/wR7xHBVo2o3VuvzAuddBtyAokrFE5aElo+hnS0PUU
nAAIXuKXA9pw==

4. Combine the base64url-encoded header, payload, and signature into a single string separated by periods.

   Example of a JWS:

“eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCIsImlhdCI6IjE2MzE1NzM0OTExMjM0NTY3ODkifQ.ey
JvcmRlclJlZiI6MzI0LCJxdWFudGl0eSI6MTIzNDUwLCJwcmljZSI6MjAwLCJzaWRlIjoyLCJ1c2
VyVGFnIjowLCJ0cmFkZVJlZiI6MTAsInRpbWVzdGFtcCI6IjE2MzE1NzM0OTExMjM0NTY3O
DkifQ.2pL0gdYZDkRqAyYEZfuzJNeU4FYs_Q-3Jh2B0SaKsGA”

5. Once signing has successfully taken place, the JWS (JSON Web Signature) will be sent in the body of the HTTP Request in the form of a JSON string. The ABBR can then verify the signature using the same secret key and algorithm specified in the header. The ABBR can decode the header and payload to access the data transmitted in the JWS.

   Example of an HTTP Request containing a JWS message:

   HTTP Request endpoint: https://trade-api.asianext.com/exchange/v1/order

   HTTP Request Method: POST

   HTTP Request Body:

"eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCIsImlhdCI6IjE2MzE1NzM0OTExMjM0NTY3ODkifQ.eyJvcmRlclJlZiI6MzI0LCJxdWFudGl0eSI6MTIzNDUwLCJwcmljZSI6MjAwLCJzaWRlIjoyLCJ1c2VyVGFnIjowLCJ0cmFkZVJlZiI6MTAsInRpbWVzdGFtcCI6IjE2MzE1NzM0OTExMjM0NTY3ODkifQ.2pL0gdYZDkRqAyYEZfuzJNeU4FYs_Q-3Jh2B0SaKsGA"

It is important to note that the exact implementation of these steps may vary depending on the programming language and libraries used.

4.3 JWS Header Fields

Field Name	Type	Mandatory	Description
typ	string	Yes	Type of JWS
iat	string	Yes	Current Unix epoch time in nanoseconds to signify datetime of JWS creation
alg	string	Yes	Cryptographic algorithm used to sign the JWS. HS256 is used in the ABBR.

5 Order API

The Order API uses token-based Authentication. For the below HTTP calls to be successful it the user needs to populate the “Authorization” header, of the message being sent, with the Authentication token (*accessToken*) received from the Authentication API on Login or Refresh. Note that Host header is required for Order API HTTP RequestExample on adding Authentication to HTTP Request Header:

<u>C# HTTP Client example</u>

var request = new HttpRequestMessage(httpMethod, "");

request.Headers.Authorization = new AuthenticationHeaderValue("Bearer", AuthenticationToken);

request.Headers.Host = trade-api.asianext.com

5.1 Order API Request List

The following is the list of resource paths and their purposes:

https://trade-api.asianext.com/exchange/v1/<resource path>

Message Name	HTTP Request Body	Resource Path	HTTP Method	Purpose
Order Add	Order Add Message	/order	POST	To submit a new order.
Order Modify	Order Modify Message	/order	PUT	To modify an order.
Order Cancel	Order Cancel Message	/order	DELETE	To cancel an order.
Order Add Extended	Order Add Extended Message	/order-extended	POST	To submit a new order with additional attributes.

Order Modify Extended	Order Modify Extended Message	/order-extended	PUT	To modify an extended order.
Order Cancel Extended	Order Cancel Message	/order-extended	DELETE	To cancel an extended order.

5.2 Order API Response Status

Status	Description
200 OK	The HTTP request was successfully received by the Order or OrderExtended API
400 Bad Request	The HTTP request was unsuccessful.
401 Unauthorized	The HTTP client is not authenticated.
424 Failed Dependency	The HTTP request was unsuccessful due to a failed dependency internally.
429 Too Many Requests	If request exceeded the rate limit, please retry after 5 seconds. Note that a maximum of 1000 orders is allowed within each 5-second window.
504 Gateway Timeout	This means that the service is not reachable. The trading member will need to contact AsiaNext for further troubleshooting.

5.3 Order Add Message

The Order Add message is sent by the Trading Member to enter an order for a particular security.

Message Type: 5

Field Name	JSON Type	Mandatory	Description
securityId	number	Yes	Numeric security identifier.
orderType	number	Yes	The type of order that is being placed. 1 = Limit Order 8 = Post-Only Cancel Replace (POCR) 9 = Post-Only (PO) Post Only/Post Only Cancel Replace is for Liquidity Provider only.
timeInForce	number	Yes	1 = Day 2 = Fill or Kill (FOK) 3 = Immediate or Cancel (IOC)
side	number	Yes	1 = Buy Order 2 = Sell Order
quantity	number	Yes	Number of contracts.
price	number	Yes	Limit price of the order. Integer representing price with 5 decimal places implied. For example, the value 1462500 represents a price of 14.625
orderCapacity	number	Yes	1 = AOTC (A), 2 = DEAL (P), 3 = MTCH (R)
account	number	Yes	Clearing account identifier ID for an agreed Client Account code. Account value is assigned by AsiaNext.
userTag	number	Yes	For adding new orders, use this field to identify the order submitted. The Matching Engine will return this value in

Field Name	JSON Type	Mandatory	Description
			the Order Add Response message's userTag field for reference. Note: For modifying or cancelling orders, use the orderRef field to identify the order. The Matching Engine does not verify the uniqueness of userTag field.
liqProv	number	No	Whether the order relates to liquidity provision activity 0 = No 1 = Yes
algoTradeFlag	number	No	Whether the order was generated by an algorithm 0 = No 1 = Yes
DEAFlag	number	No	Whether the order originates from a Direct Electronic Access Client 0 = No 1 = Yes
parties	array	Yes	Please see **Parties Details**

5.4 Order Add Extended Message

The Order Add Extended message is sent by the Trading Member to enter an order for a particular security with additional attributes.

Message Type: 21

Field Name	JSON Type	Mandatory	Description
securityId	number	Yes	Numeric security identifier.
orderType	number	Yes	1 = Limit Order 8 = Post-Only Cancel Replace (POCR) 9 = Post-Only (PO) 15 = RFQ Limit 16 = RFQ Quote
timeInForce	number	Yes	1 = Day 2 = Fill or Kill (FOK) 3 = Immediate or Cancel (IOC) 4 = Good Till Date (GTD) An ExpireTime is mandatory for GTD orders. A timeInForce of 3 (IOC) is mandatory when orderType = 15 (RFQ Limit) A timeInForce of 1 (Day) is mandatory when orderType = 16 (RFQ Quote)
side	number	Yes	1 = Buy Order 2 = Sell Order
quantity	number	Yes	Number of contracts.
price	number	Yes	Limit price of the order. Integer representing price with 5 decimal places implied. For example, the value 1462500 represents a price of 14.625.
orderCapacity	number	Yes	1 = AOTC (A), 2 = DEAL (P), 3 = MTCH (R)
account	number	Yes	Clearing account identifier ID for an agreed Client Account code. Account value is assigned by AsiaNext.

Field Name	JSON Type	Mandatory	Description
userTag	number	Yes	For adding new orders, use this field to identify the order submitted. The Matching Engine will return this value in the Order Add Response message's userTag field for reference. Note: For modifying or cancelling orders, use the orderRef field to identify the order. The Matching Engine does not verify the uniqueness of userTag field.
liqProv	number	No	Whether the order relates to liquidity provision activity 0 = No 1 = Yes
algoTradeFlag	number	No	Whether the order was generated by an algorithm 0 = No 1 = Yes
DEAFlag	number	No	Whether the order originates from a Direct Electronic Access Client 0 = No 1 = Yes
parties	JSON array	Yes	Please see **Parties Details**
displayQuantity	number	No	Reserved. Value must be set to 0.
minQuantity	number	No	Reserved. Value must be set to 0.
expireTime	string	Yes	Expire date/time for *Good Till Date* orders in Unix Epoch Time Format Mandatory if *timeInForce = 4.* If not applicable, value must be set to 0.
RFQSessionId	number	No	ID of RFQ Session, if order should be routed.

5.5 Order Modify Message

The Order Modify message is sent when a user wishes to modify an open order. Order quantity and/or limit price may be modified. Both values must be included, even if one of them is unchanged.

Message Type: 21

Field Name	JSON Type	Mandatory	Description
orderRef	number	Yes	Order reference number.
price	number	Yes	The new price of the order. Integer representing price with 5 decimal places . For example, the value 1462500 represents a price of 14.625.
quantity	number	Yes	The new order quantity.
userTag	number	No	Free form tag assigned by trading Member.
liqProv	number	No	Whether the order relates to liquidity provision activity 0 = No 1 = Yes
algoTradeFlag	number	No	Whether the order was generated by an algorithm 0 = No 1 = Yes
DEAFlag	number	No	Whether the order originates from a Direct Electronic Access Client

			0 = No 1 = Yes
parties	array	Yes	Please see **Parties Details**
orderCapacity	number	No	Optional for modify messages, defaults to original value.

5.6 Order Modify Extended Message

The Order Modify Extended message is sent when a user wants to modify an open Order Add Extended. Order quantity and/or limit price and/or display quantity and/or minimum quantity may be modified. All values must be included, even if some are unchanged.

Message Type: 22

Field Name	JSON Type	Mandatory	Description
orderRef	number	Yes	Order reference number.
price	number	Yes	The new price of the order. Integer representing price with 5 decimal places implied. For example, the value 1462500 represents a price of 14.625.
quantity	number	Yes	The new total order quantity (Number of shares).
userTag	number	No	Free form tag assigned by trading Member.
liqProv	number	No	Whether the order relates to liquidity provision activity 0 = No 1 = Yes
algoTradeFlag	number	No	Whether the order was generated by an algorithm 0 = No 1 = Yes
DEAFlag	number	No	Whether the order originates from a Direct Electronic Access Client 0 = No 1 = Yes
parties	array	Yes	Please see **Parties Details**
orderCapacity	number	Yes	1 = AOTC (A), 2 = DEAL (P), 3 = MTCH (R)
displayQuantity	number	No	Reserved. Value must be set to 0.
minQuantity	number	No	Reserved. Value must be set to 0.
expireTime	string	Yes. Please see: “Description” column.	Expire date/time for *Good Till Date* orders in Unix Epoch Time Format Mandatory if *timeInForce = 4.* If not applicable, value must be set to 0.

5.7 Order Cancel Message

The Order Cancel message is sent when a user wishes to cancel an open order.

Message Type: 7

Field Name	Json Type	Mandatory	Description
orderRef	number	Yes	Order reference number.
userTag	number	No	Free form tag assigned by trading Member.
liqProv	number	No	Whether the order relates to liquidity provision activity

Field Name	Json Type	Mandatory	Description
			0 = No 1 = Yes
algoTradeFlag	number	No	Whether the order was generated by an algorithm 0 = No 1 = Yes
DEAFlag	number	No	Whether the order originates from a Direct Electronic Access Client 0 = No 1 = Yes
parties	array	Yes	The Party Roles field is an array consisting of Party Role Details numbers. Please see **Parties Details**

6 Direct Request for Quotes

Message Name	HTTP Request Body	Resource Path	HTTP Method	Purpose
DRFQ	Quote Request Message	/drfq	POST	To submit a new quote request.

6.1 Quote Request Message

The Quote Request Message is sent to commence RFQ session. If no Market Makers are specified in this message, AsiaNext will disseminate the Quote Request details to all configured Market Makers.

Message Type: 30

Field Name	Json Type	Mandatory	Description
securityId	number	Yes	Numeric security identifier
quantity	number	Yes	Number of shares, 0 will be accepted if initiator does not want to disclose quantity.
side	number	Yes	0 = No side specified 1 = Buy Order 2 = Sell Order
userTag	number	Yes	Free form tag as assigned by trading member
marketMakerCode1	string	Yes	Market Maker code of recipient of Quote Request
marketMakerCode2	string	Yes	Market Maker code of recipient of Quote Request
marketMakerCode3	string	Yes	Market Maker code of recipient of Quote Request
marketMakerCode4	string	Yes	Market Maker code of recipient of Quote Request
marketMakerCode5	string	Yes	Market Maker code of recipient of Quote Request

7 Executions API

After connection is established, the client is ready to receive messages.

7.1 Login Response Message

The login Response Message is sent by AsiaNext to acknowledge a login request, and either accept, or reject it.

Message Type: 2

Field Name	JSON Type	Description
data	JSON Object	JSON object containing the resultCode and clientSequenceNumber.
resultCode	Number	Set to 0 for successful login Rejection codes are: 1 = Already Logged In 2 = Sequence Number Error 3 = Unsupported Protocol 4 = Failed Authentication (incorrect password) 5 = Unknown Source Network
clientSequenceNumber	Number	Next sequence number AsiaNext expects to receive. This will be handled by the ABBR service.

7.2 Logout Message

The logout message is usually sent as a response to a Logout Request. However, it may also be sent by AsiaNext for other reasons.

The WebSocket connection does not close after this message has been sent. However, the TCP/IP connection to the Matching Engine is closed immediately after this message has been sent. User will have to reconnect to the WebSocket to initiate a login to the Matching Engine.

Message Type: 4

Field Name	JSON Type	Description
data	JSON Object	Contains the reasonCode and reasonText
reasonCode	number	Reason code for logout 0 = User Requested 1 = Admin (Market Operations) 2 = Disconnect 3 = End of Day 4 = Inactivity Timeout 5 = Protocol Error 6 = Sequence Number Error 8 = Maintenance
reasonText	string	Text describing reason for logout

7.3 Order Add Response Message

AsiaNext sends an Order Add Response message to acknowledge the receipt of an Order Add or an Order Add Extended message.

The message is used to notify the trading Member whether their order was accepted and, if so, whether it executed (partially or fully) and whether any residual quantity has been added to the book or has been cancelled.

Message Type: 6

Field Name	JSON **Type**	**Description**
orderRef	Number	Order reference number.
marketDataId	Number	The ID of this order as seen in the AsiaNext market data. This value will be zero if the order is cancelled (IOC) or fully traded on entry.
status	Number	Status of the order.
reason	number	Indicating the reason if the order status: - Rejected = 4 - Modified = 6 - Cancelled = 3 *For other status values, the reason is 0* Please see **Status Reason Codes**.
tradedQuantity	Number	Number of shares traded, if any.
timestamp	String	Time that the order was accepted or rejected by the AsiaNext system.
userTag	Number	Free form tag as assigned by trading Member on the Order Add message.
flags	Number	Defaulted to 0

7.4 Order Modify Response Message

AsiaNext sends an Order Modify Response to accept or reject an Order Modify or an Order Modify Extended message.

Message Type: 10

Field Name	JSON **Type**	**Description**
orderRef	number	Order reference number
requestRef	number	Sequence number (*msgSeqNo*) of the trading Member's Order Modify message.
status	number	Status of the order.
reason	number	Indicating the reason if the order status: - Rejected = 4 - Modified = 6

Field Name	JSON Type	Description
		- Cancelled = 3 For other status values, the reason is 0 Please see **Status Reason Codes**.
timestamp	string	Time that the modification was accepted or rejected by the AsiaNext system in Unix Epoch Time
userTag	number	Free form tag as assigned by trading Member on the Order Modify message.
flags	number	Defaulted to 0

7.5 Order Cancel Response Message

AsiaNext sends an Order Cancel Response to accept or reject an Order Cancel message. The message is also used if an order is cancelled by Market Operations or due to cancel on disconnect.'

Message Type: 8

Field Name	JSON Type	Description
orderRef	number	Order reference number.
requestRef	number	Sequence number (*msgSeqNo*) of the trading Member's Order Cancel message. Note that this field will be zero in the case of a forced cancel generated by AsiaNext.
status	number	Status of the order.
reason	number	A reason will only be populated if the order status is*:* - Rejected = 4 - Modified = 6 - Cancelled = 3 *For other status values, the reason is 0* Please see **Status Reason Codes**.
timestamp	string	Time that the cancellation was accepted or rejected by the AsiaNext system in Unix Epoch Time
userTag	number	Free form tag as assigned by trading Member on the Order Cancel message.

7.6 Trade Bust Message

If a trade is invalidated, a Trade Bust message is sent to notify the trading Member.

Message Type: 12

Field Name	JSON Type	Description
orderRef	number	Order reference number.
quantity	number	Number of shares on invalidated trade.

Field Name	JSON Type	Description
price	number	The price of the invalidated trade. Integer representing price with 5 decimal places implied. . For example, the value 1462500 represents a price of 14.625.
side	number	1 = Buy Order 2 = Sell Order
tradeRef	number	Trade reference number for the invalidated trade.
timestamp	string	Time that the trade was busted by AsiaNext in Unix Epoch Time

7.7 Trade Message

The Trade message is published by AsiaNext when an order executes.

Message Type: 11

Field Name	JSON Type	Description
orderRef	number	Order reference number.
quantity	number	Number of shares traded.
price	number	The price of the trade. Integer representing price with 5 decimal places implied. For example, the value 1462500 represents a price of 14.625.
side	number	1 = Buy 2 = Sell
tradeRef	number	Trade reference number.
CCPCode	number	Central counterparty clearing house. AsiaNext = 2
illiqInd	number	Liquidity indicator: 1 = Added liquidity 2 = Removed liquidity
securityId	number	Numeric security identifier.
timestamp	string	Time that the trade occurred on the matching engine in Unix Epoch Time
userTag	number	Free form tag as assigned by trading Member on the Order Add message or the most recent Update Order (Order Modify) message.
flags	number	Defaulted to 0

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7.8 Quote Request Notification

The Quote Request Notification is sent back to requestor to acknowledge the Quote Request. It is also sent to Market Maker to share the Quote Request.

Message Type: 31

Field Name	JSON Type	Description
RFQSessionId	number	RFQ Session ID
securityId	number	Numeric security identifier
quantity	number	Number of shares
side	number	1 = Buy Order 2 = Sell Order
status	number	1 = Acknowledgement 2 = Expired 3 = Rejected
statusDetails	number	0 = Acknowledgement 1 = Security Suspended 2 = Security Halted 3 = Unsupported Security 4 = Invalid Market Maker 5 = Invalid Side 6 = Invalid Quantity 8 = Not Supported 9 = Invalid Order Type 10 = Internal Error 11 = Not Authorised 12 = Market Closed 13 = Session Closed
msgRef	number	Message reference number
userTag	number	Free form tag as assigned by trading member

7.9 Quote Add Message

The Tradable Quote Add Message is used to disseminate quotes sent by Market Makers to the RFQ session initiator.

Message Type: 13

Field Name	JSON Type	Description
securityId	number	Numeric security identifier
aqxOrderId	number	Unique Quote ID
side	number	1 = Buy 2 = Sell

Field Name	JSON Type	Description
quantity	number	Number of shares
price	number	Limit price of the order. Integer representing price with 5 decimal places implied. For example, the value 1462500 represents a price of 14.625.
RFQSessionId	number	RFQ Session ID

7.10 Quote Modify Message

Quote Modify Message is used to disseminate any quote modification submitted by the market makers to the RFQ session requestor.

Message Type: 14

Field Name	JSON Type	Description
aqxOrderId	number	Unique Quote ID
securityId	number	Numeric security identifier
quantity	number	Number of shares
price	number	Limit price of the order. Integer representing price with 5 decimal places implied. For example, the value 1462500 represents a price of 14.625.

7.11 Quote Cancel Message

Quote Cancel Message is used to disseminate any quote cancelation messages submitted by the market makers to the RFQ session requestor.

Message Type: 15

Field Name	JSON Type	Description
securityId	number	Numeric security identifier
aqxOrderId	number	Unique Quote ID

8 Market Data API

The WSS in the Market Data API uses token-based authentication therefore the web socket client requires the Authentication token acquired through Authentication API Login.

8.1 Continuous Feed Messages

8.1.1 Heartbeat

The heartbeat message is only observed in the Orderbook Continuous WebSocket. There are no heartbeat messages in the snapshot feed.

Message Type: 1

Field Name	Type	Description
sequenceNo	number	The sequence number of the next business data message expected on the multicast stream

8.1.2 Sequence Number Reset Message

Message Type: 29

Field Name	Type	Description
nextSequenceNo	Number	Sequence number of the next message published following this message. This value will always be 1.

8.1.3 Order Add Message

The Order Add message is published when order quantity is posted to the order book for a particular security:

Message Type: 2

Field Name	Type	Description
securityId	Number	Numeric identifier of the relevant security.
side	Number	1 = Buy Order, 2 = Sell Order
price	Number	The price of the order. Integer representing price with 5 decimal places implied. For example, the value 1462500 represents a price of 14.625.
quantity	Number	Number of shares being added to the book.
orderRef	Number	Unique order reference number
timestamp	String	Timestamp of this market data event in Unix Epoch Time

8.1.4 Order Cancel Message

The Order Cancel message is published when a visible order is removed from the book.

The order may have been cancelled by the trading Member or by the AsiaNext support team, the market may have closed, or the order's time-in-force may have expired.

Message Type: 3

Field Name	Type	Description
securityId	number	Numeric identifier of the relevant security.

Field Name	Type	Description
orderRef	number	Unique order reference number
timestamp	String	Timestamp of this market data event in Unix Epoch Time

8.1.5 Order Modify Message

The Order Modify message is published when a visible order is modified by the client (change of price and/or quantity). The order reference number remains the same on order modification.

Note that on revision of quantity down, the order retains its position in the book, otherwise the book is re-ordered.

Message Type: 4

Field Name	Type	Description
securityId	Number	Numeric identifier of the relevant security.
quantity	Number	Number of shares being added to the book.
price	Number	The price of the order. Integer representing price with 5 decimal places implied i.e. value 1462500 represents a price of 14.625
orderRef	number	Unique order reference number
timestamp	String	Timestamp of this market data event in Unix Epoch Time

8.1.6 Trade Message

Whenever an order trades, partially or fully, a Trade message is published.

Message Type: 5

Field Name	JSON Type	Description
securityId	number	Numeric identifier of the relevant security.
tradeType	number	Identifies the category of this trade.
quantity	number	Number of shares being added to the book.
price	number	The price of the order. Integer representing price with 5 decimal places implied i.e. value 1462500 represents a price of 14.625

Field Name	JSON Type	Description
orderRef	number	Unique order reference number
tradeRef	number	Trade reference number.
timestamp	string	Timestamp of this market data event in Unix Epoch Time
marketMechanism	number	1 – Central Limit Order Book 2 – Quote Driven Market 3 – Dark Order Book 4 – Off Book 5 – Periodic Auction 6 – RFQ 7 – Other
tradingMode	string	1 – Undefined Auction 2 – Opening Auction 3 – Closing Auction 4 – Intraday Auction 5 – Unscheduled Auction 6 – Continuous Trading 7 – At Market Close 8 – Out of Main Session 9 – On-Exchange Trade Reporting A – Off-exchange Trade Reporting B – Systematic Internalizer Trade Reporting
tansactionCategory	number	1 – Dark trade 2 – Trade that has Received Price Improvement 3 – Package Trade 4 – Exchange for Physicals 5 – None Apply
negoIndPreTradeTransWaiver	number	Negotiation Indicator or Pre-Trade Transparency Waiver 0 – Negotiated Trade 1 – Negotiated Trade in Liquid Instruments 2 – Negotiated Trade in Illiquid Instruments 3 – Negotiated Trade Other Than Current Market Price 4 – No Negotiated trade 5 – SI Illiquid Instruments 6 – SI Above Standard Market

Field Name	JSON Type	Description
		Size 7 – ILQD and SIZE
crossingTrade	number	0 – No 1 – Yes
modificationInd	number	1 – Trade Cancelation 2 – Trade Amendment 3 – New Trade
benchmarkRefPriceInd	number	Benchmark or Reference Price Indicator 1 - Benchmark Trade 2 - Reference Price Trade 3 - No Benchmark or Ref Price
dividend	number	0 – No 1 – Yes
offBookAutomation	number	1 – Unspecified 2 – Off-Book Non-Automated 3 – Off-Book Automated
priceFormDiscProcess	number	Price Formation/Discovery Process 1 – Plain Vanilla 2 – Non-price Forming 3 – Trade Not Contributing to Price Discovery Market Data Technical Specification, v0.1 9 4 – Price Not Currently Available but Pending
algorithmicInd	number	0 – No 1 – Yes
pubModePostTradeDeferral	number	1 – Immediate Publication 2 – Non-Immediate Publication 3 – LRGS (Large in Scale) 4 – ILQD (Illiquid Instrument) 5 – SIZE (Size Specific) 6 – ILQD and SIZE 7 – ILQD and LRGS
deferralType	number	0 – None Apply
duplicativeInd	number	0 – Unique 1 – Duplicative

8.1.7 Trade Bust Message

If a trade has been declared erroneous by AsiaNext then a Trade Bust message is published.

Message Type: 6

Field Name	JSON Type	Description
securityId	number	Numeric identifier of the relevant security.
quantity	number	Number of shares being added to the book.
price	number	The price of the order. Integer representing price with 5 decimal places implied i.e. value 1462500 represents a price of 14.625.
tradeRef	number	Trade reference number.
timestamp	string	Timestamp of this market data event in Unix Epoch Time
marketMechanism	number	1 – Central Limit Order Book 2 - Quote Driven Market 3 - Dark Order Book 4 - Off Book 5 - Periodic Auction 6 - RFQ 7 - Other
tradingMode	string	1 – Undefined Auction 2 – Opening Auction 3 – Closing Auction 4 – Intraday Auction 5 – Unscheduled Auction 6 – Continuous Trading 7 – At Market Close 8 – Out of Main Session 9 – On-Exchange Trade Reporting A – Off-exchange Trade Reporting B – Systematic Internalizer Trade Reporting
transactionCategory	number	1 – Dark trade 2 – Trade that has Received Price Improvement 3 – Package Trade 4 – Exchange for Physicals 5 – None Apply
negoIndPreTradeTransWaiver	number	Negotiation Indicator or Pre-Trade Transparency Waiver 0 - Negotiated Trade 1 - Negotiated Trade in Liquid Instruments 2 - Negotiated Trade in Illiquid Instruments 3 - Negotiated Trade Other Than Current Market Price 4 - No Negotiated trade 5 - SI Illiquid Instruments 6 - SI Above Standard Market

Field Name	JSON Type	Description
		Size 7 - ILQD and SIZE
crossingTrade	number	0 – No 1 – Yes
modificationInd	number	1 – Trade Cancelation 2 – Trade Amendment 3 – New Trade
benchmarkRefPriceInd	number	Benchmark or Price Indicator 1 – Benchmark Trade 2 – Reference Price Trade 3 – No Benchmark or Ref Price
dividend	number	0 – No 1 – Yes
offBookAutomation	number	1 – Unspecified 2 – Off-Book Non-Automated 3 – Off-Book Automated
priceFormDiscProcess	number	Price Formation / Discovery Process 1 – Plain Vanilla 2 – Non-price Forming 3 – Trade Not Contributing to Price Discovery Market Data Technical Specification, v0.1 9 4 – Price Not Currently Available but Pending
algorithmicInd	number	0 – No 1 – Yes
pubModePostTradeDeferral	number	1 – Immediate Publication 2 – Non-Immediate Publication 3 – LRGS (Large in Scale) 4 – ILQD (Illiquid Instrument) 5 – SIZE (Size Specific) 6 – ILQD and SIZE 7 – ILQD and LRGS
deferralType	number	0 – None Apply
duplicativeInd	number	0 – Unique 1 – Duplicative

8.2 Snapshot Feed Messages

8.2.1 Snapshot Start Message

A Snapshot Start message is published as the first message in a snapshot to identify the sequence number in the continuous stream that this snapshot relates to. It also states the number of securities being reported in this snapshot.

Message Type: 10

Field Name	JSON Type	Description
streamSequenceNo	number	The sequence number of the last message in the continuous stream which relates to this snapshot.

Field Name	JSON Type	Description
securityCount	number	Number of securities reported in this snapshot.
timestamp	String	Timestamp of this snapshot in Unix Epoch Time

8.2.2 Book Status Message

A Book Status message is published to report the trading and market status of each security and the number of open orders on the order book for the security at the time of the snapshot.

Message Type: 11

Field Name	JSON Type	Description
securityId	number	Numeric identifier of the relevant security.
tradingStatus	number	Number of securities reported in this snapshot.
trading	number	0 = Continuous Trading Closed 1 = Continuous Trading Open
entries	number	Number of open orders in the book for this security.
closingBuyQty	number	Total order quantity on the buy side during the closing market, otherwise set to 0. Not applicable to AsiaNext
closingSellQty	number	Total order quantity on the sell side during the closing market, otherwise set to 0. Not applicable to AsiaNext
indicativePrice	string	Indicative auction price. Not applicable to AsiaNext

8.2.3 Book Entry Message

An appropriate number of Book Entry messages is published after each Book Status message to provide details of each order and allow the book to be built. Orders are published in price/time priority for one side of the book and then the other.

Message Type: 12

Field Name	JSON Type	Description
securityId	number	Numeric identifier of the relevant security.
side	number	Side of the order or trade.

Field Name	JSON Type	Description
quantity	number	Number of open contract
price	number	The price of the order. Integer representing price with 5 decimal places implied i.e. value 1462500 represents a price of 14.625.
orderRef	number	Unique order reference number for the session.

9 Reference Data API

The WSS in the Reference Data API uses token-based authentication therefore the web socket client requires the Authentication token acquired through Authentication API Login.

9.1 Continuous Feed Messages

9.1.1 Heartbeat

The heartbeat message is only observed in the Reference Data Continuous WebSocket. There are no heartbeat messages in the snapshot feed.

Message Type: 1

Field Name	Type	Description
sequenceNo	number	The sequence number of the next business data message expected on the multicast stream

9.1.2 Sequence Number Reset Message

Message Type: 29

Field Name	Type	Description
nextSequenceNo	Number	Sequence number of the next message published following this message. This value will always be 1.

9.1.3 Security Definition Message

Security Definition messages are published to identify the securities traded on AsiaNext. Note that this message may be sent at any point if a change or correction is necessary for a particular security.

Message Type: 8

Field Name	Type	Description
securityId	Number	Numeric identifier of the relevant security.
UMTF	String	Uniform UMTF code for the security.
ISIN	String	ISIN for the security.
currency	String	Trading currency for the security.
MIC	String	MIC for the security's market of listing.
tickTableId	Number	Numeric identifier for this security's tick table.
testStock	Number	0 = Security is not a test stock 1 = Security is a test stock
illiquid	Number	0 = Security is liquid 1 = Security is illiquid
live	Number	0 = Security is not live 1 = Security is live
exchangeSymbol	String	Exchange symbol for the security.

9.1.4 Security Definition Message (Futures Instruments)

Security Definition messages are published to identify the Futures securities traded on AsiaNext. Note that this message may be sent at any point if a change or correction is necessary for a particular security.

Message Type: 30

Field Name	Type	Description
securityId	Number	Numeric identifier of the relevant security.
UMTF	String	Uniform UMTF code for the security.
ISIN	String	ISIN for the security.
currency	String	Trading currency for the security.
MIC	String	MIC for the security's market of listing.
tickTableId	Number	Numeric identifier for this security's tick table.
testStock	Number	0 = Security is not a test stock 1 = Security is a test stock
illiquid	Number	0 = Security is liquid 1 = Security is illiquid
live	Number	0 = Security is not live 1 = Security is live
exchangeSymbol	String	Exchange symbol for the security.
maturityDate	String	The date and time a futures instrument will expire in Unix Epoch Time
settlementType	Number	Settlement type of the instrument. 1= Cash 2= Physical

Field Name	Type	Description
contractSize	Number	The contract size by which a price must be adjusted to determine the nominal value of a futures contract.
contractSizeDecimals	Number	Number of decimal places implied in contractSize
underlying	String	The asset or security on which the contract is based.

9.1.5 Security Definition Message (Options Instruments)

Security Definition messages are published to identify the Futures securities traded on AsiaNext. Note that this message may be sent at any point if a change or correction is necessary for a particular security.

Message Type: 32

Field Name	Type	Description
securityId	Number	Numeric identifier of the relevant security.
UMTF	String	This is used to represent the exchange Symbol
ISIN	String	ISIN for the security. This is not applicable to AsiaNext
currency	String	Trading currency for the security.
MIC	String	MIC for the security's market of listing.
tickTableId	Number	Numeric identifier for this security's tick table.
testStock	Number	0 = Security is not a test stock 1 = Security is a test stock
illiquid	Number	0 = Security is liquid 1 = Security is illiquid
live	Number	0 = Security is not live 1 = Security is live
exchangeSymbol	String	Exchange symbol for the security.
maturityDate	String	The date and time a futures instrument will expire in Unix Epoch Time
settlementType	Number	Settlement type of the instrument. 1= Cash 2= Physical
contractSize	Number	The standardized quantity or volume of the underlying asset that is specified in each individual derivatives contract.

Field Name	Type	Description
contractSizeDecimals	Number	Number of decimal places implied in contractSize.
underlying	String	The asset or security on which the contract is based.
optionType	Number	The option type of the contract 1 = Call 2 = Put
exerciseStyle	Number	The exercise style of the contract 1 = American 2 = European 3 = Asian 4 = Bermudan
strikePrice	Number	The strike price of the contract.

9.1.6 Security Status Message

The Security Status message is published when the trading status of a security changes or when there is a change to the status of the market on AsiaNext to which the security belongs.

Message Type: 9

Field Name	Type	Description
securityId	Number	Numeric identifier of the relevant security.
tradingStatus	Number	Possible values: 1 = Active 2 = Halted 3 = Suspended
trading	number	0 = Continuous Trading Closed 1 = Continuous Trading Open
timestamp	String	Timestamp of this market data event in Unix Epoch Time
tradingPhase	Number	Possible values 0=Closed 1=Continuous trading 2=Opening auction 3=Closing auction 4=Volatility auction

9.1.6.1 Trading Status

If a security's *tradingStatus* is 'halted' or 'suspended' then the security cannot be traded.

If a security's *tradingStatus* is 'active', orders for this security can only be entered if the market for this security on AsiaNext is open.

9.1.7 Tick Table Data Message

A series of Tick Table Data messages are published to specify the ticks that apply to the securities traded on AsiaNext. This data controls the valid price increments at which orders may be entered onto the AsiaNext order book.

For dynamic tick tables, there are a set of messages carrying the id and name of the table; these define the tick size (price increment) that applies at increasing price levels. For static ticks, there is a single message.

Message Type: 7

Field Name	Type	Description
tickTableId	number	Numeric identifier for this tick table or static tick.
name	string	Short Name
threshold	number	The price threshold at which this tick data applies.
tickSize	number	The tick size (price increment). Integer representing price with 5 decimal places implied i.e. value 1462500 represents a price of 14.625

9.2 Snapshot Feed Messages

9.2.1 Snapshot Start Message

Message Type: 10

Field Name	JSON Type	Description
streamSequenceNo	number	The sequence number of the last message in the continuous stream which relates to this snapshot.
securityCount	number	Number of securities reported in this snapshot.
timestamp	String	Timestamp of this snapshot in Unix Epoch Time

9.2.2 Tick Table Data Message

Please see structure under Continuous Feed Messages

9.2.3 Security Definition Message

Please see structure under Continuous Feed Message

9.2.4 Security Definition (Futures Instruments) Message

Please see structure under Continuous Feed Message

9.2.5 Security Definition (Options Instruments) Message

Please see structure under Continuous Feed Message

9.2.6 Security Status Message

Please see structure under Continuous Feed Message

10 Replay Service API

The replay service allows recipients to recover messages that they have missed from the continuous feed, described in the Continuous Feed Messages for both the Market Data API and Reference Data API.

Note that the *messageSequence* field in the standard message header will not be relevant for these replay services messages. AsiaNext will set the field to zero and will ignore the field on messages from data recipients.

The maximum replay limit is configured by AsiaNext.

10.1.1 Request Body

The Replay Request is sent to request a particular message or range of messages from the replay server. This is a POST request with the following request body:

Message Type: 14

Field Name	JSON Type	Mandatory	Description
beginSeqNo	number	Yes	Stream sequence number of first message requested, 0 for the earliest available.
endSeqNo	number	Yes	Stream sequence number of last message requested, 0 for the last available.
beginTimestamp	string	Yes	In case of intermediate sequence-resets and related ambiguous beginSeqNo, last received timestamp before beginSeqNo in Unix Epoch Time

10.1.2 Replay Response

AsiaNext will not send a Replay Response message to the recipient to acknowledge a successful Login or to report problems with a Resend Request.

If a Resend Request is accepted, AsiaNext will send a Replay Response message and the requested messages over the WebSocket connection to the recipient.

Message Type: 15

Field Name	JSON Type	Description
responseCode	number	0= Login successful 1= Bad beginSeqNo in Resend Request 2= Bad endSeqNo in Resend Request 3 = Max replay quota encountered. Please indicate smaller range in request

11 Drop Copy API

The WSS in the Drop Copy API uses token-based authentication therefore the web socket client requires the Authentication token acquired through Authentication API Login.

11.1 Logon Message

Message Type: 65

Field Name	JSON Type	Description
data	JSON Object	Contains the *heartbeatInterval*
heartbeatInterval	number	The heartbeat intervals in seconds

11.2 Execution Report Message

Message Type: 8

Field Name	JSON Type	Description
account	number	Account Information.
avgPrice	string	Average price of quantity so far traded on this order (zero if not a trade).
clOrdId	string	Encodes the related trading session and the FIX order ID or the ATP order reference (depending on how order was entered) Format is <sessionID>#<orderID> e.g., FIRM01#123A07
cumQty	string	Cumulative quantity traded on this order.
execId	string	ID for the report.
execRefId	string	Sent for a trade bust (*ExecTransType* = 1) to identify the earlier trade.
execTransType	number	0 = New (for order related messages and trade reports) 1 = Cancel (for a trade bust)
idSource	number	4 = ISIN 5 = RIC 8 = Exchange Symbol
lastMarket	string	Provides the AsiaNext MIC for execution: XAND - for AsiaNext Derivatives Exchange.
lastPrice	string	Price of a trade report.
lastQty	string	Quantity of a trade report.
orderId	string	AsiaNext order reference number.
orderQty	string	Quantity of original order.
orderStatus	string	Status of the order: 0 = New 1 = Partially Filled 2 = Filled 4 = Cancelled 5 = Replaced 8 = Rejected C = Expired
orderType	number	Type of Order
origClOrdID	string	Encodes the related trading session and the previous FIX order ID (for a solicited FIX Cancel or Cancel/Replace) Format is <sessionID>#<orderID> e.g., FIRM01#101A06
price	string	Limit price, if provided on the original order.
orderCapacity	string	The order capacity of the order.
securityId	string	Security ID of the contract traded on AsiaNext

Field Name	JSON Type	Description
text	string	
side	number	Side of the order or trade.
symbol	string	Symbol of the contract. Not applicable to AsiaNext
timeInForce	number	0 – Day 3 = Immediate or Cancel (IOC) 4 = Fill or Kill (FOK) 6 = Good Till Date
transactTime	string	Time of this event in UTC
expireTime	string	Date/time in UTC of order expiry for a *Good Till Date* order, with *TimeInForce* (59) = 6
execType	string	Reason for this report.
leavesQty	string	Quantity still open for execution.
contraBroker	string	The BIC code of the clearer or 'SELF' for self-clearing.
noContraBroker	number	If present, the value will be 1.
lastLiquidityInd	number	Trade liquidity indicator.
TVTIC	string	The trading venue transaction identification code (TVTIC) required for transaction reporting purposes
DEAFlag	number	Whether the order originates from a Direct Electronic Access.
orderAttributeTypes	number	2 = Liquidity provision activity 4 = Algorithmic order

11.3 Resend Request Message

Message Type: 5

The Resend Request message is sent when a user wishes to request for a single message, a range of messages, or all messages after a particular message.

Field Name	JSON Type	Mandatory	Description
beginSeqNo	number	Yes	Stream sequence number of first message requested, 0 for the earliest available
endSeqNo	number	Yes	Stream sequence number of last message requested, 0 for the last available

12 Enumerations and Codes

12.1 Parties Details Table

Field Name	JSON Type	Description
partyRole	Number	None = 0, Algo = 1, Firm = 2, Person = 3
partyRoleQualifier	Number	None = 0, ClientID = 1,

Field Name	JSON Type	Description
		ExecutiveDecisionID = 2, InvestingDecisionID = 3
shortCode	Number	Minimum: 0 Maximum: 2,147,483,647

12.2 Status Reason Codes

12.2.1 Order Status Codes

The Order Status field is provided in the Order Add Response, Order Cancel Response and Order Modify Response messages.

Value	Reason
1	Pending New (internal use only)
2	Acknowledged
3	Cancelled
4	Rejected
5	Filled
6	Modified

12.2.2 Cancelled Reason Codes

If the Status field is Cancelled = 3

Value	Reason
0	Cancelled due to IOC or FOK orders not filled
1	Member request
2	AsiaNext forced cancel
3	Market close
4	Expired
5	Reserved
6	Aborted
7	Self-trade prevention
8	Cancel on disconnect
9	Post-only cancel (cancel to prevent aggressive trade)
10	Cancel residual quantity
11	Post-only cancel resting (cancel to prevent aggressive trade)
12	Minimum resting value

12.2.3 Modified Reason Codes

If the Status field is Modified = 6

Value	Reason
1	Accepted
2	Order cancelled because of modification which updates the remaining quantity to zero.

12.2.4 Rejected Reason Codes

If the Status field is **Rejected** = 4

Value	Reason
1	Not Authorised to Trade
2	Invalid Quantity
3	Invalid Price
4	Unknown Security
5	Price Does Not Conform to Tick
6	Invalid Order Type
7	Invalid Side
8	Invalid Order Capacity
9	Market Is Closed
10	Halted
11	Suspended
12	Invalid TimeInForce
13	Order Not Found / Not Open
15	Failed Price Range Check
16	Invalid Clearing Account
17	Not Supported
18	Max Value Exceeded
19	Auction Ended
20	Drop Feed Down
21	Technical Reject
23	Stock Restricted
24	Minimum Consideration
27	Invalid
29	Bad Date
30	Duplicate
31	Reject Internal

13 End Points

Type	End Point	Description
Drop copy Resend Request A	https://trade-api1.asianext.com/drop-copy/v1/connection/resend-request	To request drop copy resend request
Drop copy Resend Request B	https://trade-api2.asianext.com/drop-copy/v1/connection/resend-request	To request drop copy resend request
Drop copy Resend Request C	https://trade-api3.asianext.com/drop-copy/v1/connection/resend-request	To request drop copy resend request
Drop Copy A	AuthToken in URL wss://trade-api1.asianext.com/drop-copy/v1/continuous?authorization=+AuthToken Auth Token in Header wss://trade-api1.asianext.com/drop-copy/v1/continuous Headers.Authorization = AuthToken	To receive drop-copy
Drop Copy B	AuthToken in URL wss://trade-api2.asianext.com/drop-copy/v1/continuous?authorization=+AuthToken Auth Token in Header wss://trade-api2.asianext.com/drop-copy/v1/continuous	To receive drop-copy

Type	End Point	Description
	Headers.Authorization = AuthToken	
Drop Copy C	AuthToken in URL wss://trade-api3.asianext.com/drop-copy/v1/continuous?authorization=+AuthToken Auth Token in Header wss://trade-api3.asianext.com/drop-copy/v1/continuous Headers.Authorization = AuthToken	To receive drop-copy
Authentication	https://trade-api.asianext.com/auth/v1/account/login	To get the authentication token
Refresh	https://trade-api.asianext.com/auth/v1/account/refresh	To get the refresh token, in the event the authentication token expires
Market Data A (Continuous)	AuthToken in URL wss://md-api1.asianext.com/market/v1/continuous?authorization=+AuthToken Auth Token in Header wss://md-api1.asianext.com/market/v1/continuous Headers.Authorization = AuthToken	To receive continuous market data
Market Data B (Continuous)	AuthToken in URL wss://md-api2.asianext.com/market/v1/continuous?authorization=+AuthToken Auth Token in Header wss://md-api2.asianext.com/market/v1/continuous Headers.Authorization = AuthToken	To receive continuous market data
Market Data C (Continuous)	AuthToken in URL wss://md-api3.asianext.com/market/v1/continuous?authorization=+AuthToken Auth Token in Header wss://md-api3.asianext.com/market/v1/continuous Headers.Authorization = AuthToken	To receive continuous market data
Market Data A (Snapshot)	AuthToken in URL wss://md-api1.asianext.com/market/v1/snapshot?authorization=+AuthToken Auth Token in Header wss://md-api1.asianext.com/market/v1/snapshot Headers.Authorization = AuthToken	To receive snapshot market data
Market Data B (Snapshot)	AuthToken in URL	To receive snapshot market data

Type	End Point	Description
	wss://md-api2.asianext.com/market/v1/snapshot?authorization=+AuthToken Auth Token in Header wss://md-api2.asianext.com/market/v1/snapshot Headers.Authorization = AuthToken	
Market Data C (Snapshot)	AuthToken in URL wss://md-api3.asianext.com/market/v1/snapshot?authorization=+AuthToken Auth Token in Header wss://md-api3.asianext.com/market/v1/snapshot Headers.Authorization = AuthToken	To receive snapshot market data
Market Data A (Replay)	AuthToken in URL wss://trade-api1.asianext.com/market/v1/replay?authorization=+AuthToken Auth Token in Header wss://trade-api1.asianext.com/market/v1/replay Headers.Authorization = AuthToken	To receive replay market data
Market Data B (Replay)	AuthToken in URL wss://trade-api2.asianext.com/market/v1/replay?authorization=+AuthToken Auth Token in Header wss://trade-api2.asianext.com/market/v1/replay Headers.Authorization = AuthToken	To receive replay market data
Market Data C (Replay)	AuthToken in URL wss://trade-api3.asianext.com/market/v1/replay?authorization=+AuthToken Auth Token in Header wss://trade-api3.asianext.com/market/v1/replay Headers.Authorization = AuthToken	To receive replay market data
Market Data A (Replay)	https://trade-api1.asianext.com/market/v1/replay/replay-request	To submit a replay request to the AsiaNext Market Data Replay service.
Market Data B (Replay)	https://trade-api2.asianext.com/market/v1/replay/replay-request	To submit a replay request to the AsiaNext Market Data Replay service.
Market Data C (Replay)	https://trade-api3.asianext.com/market/v1/replay/replay-request	To submit a replay request to the AsiaNext Market Data Replay service.

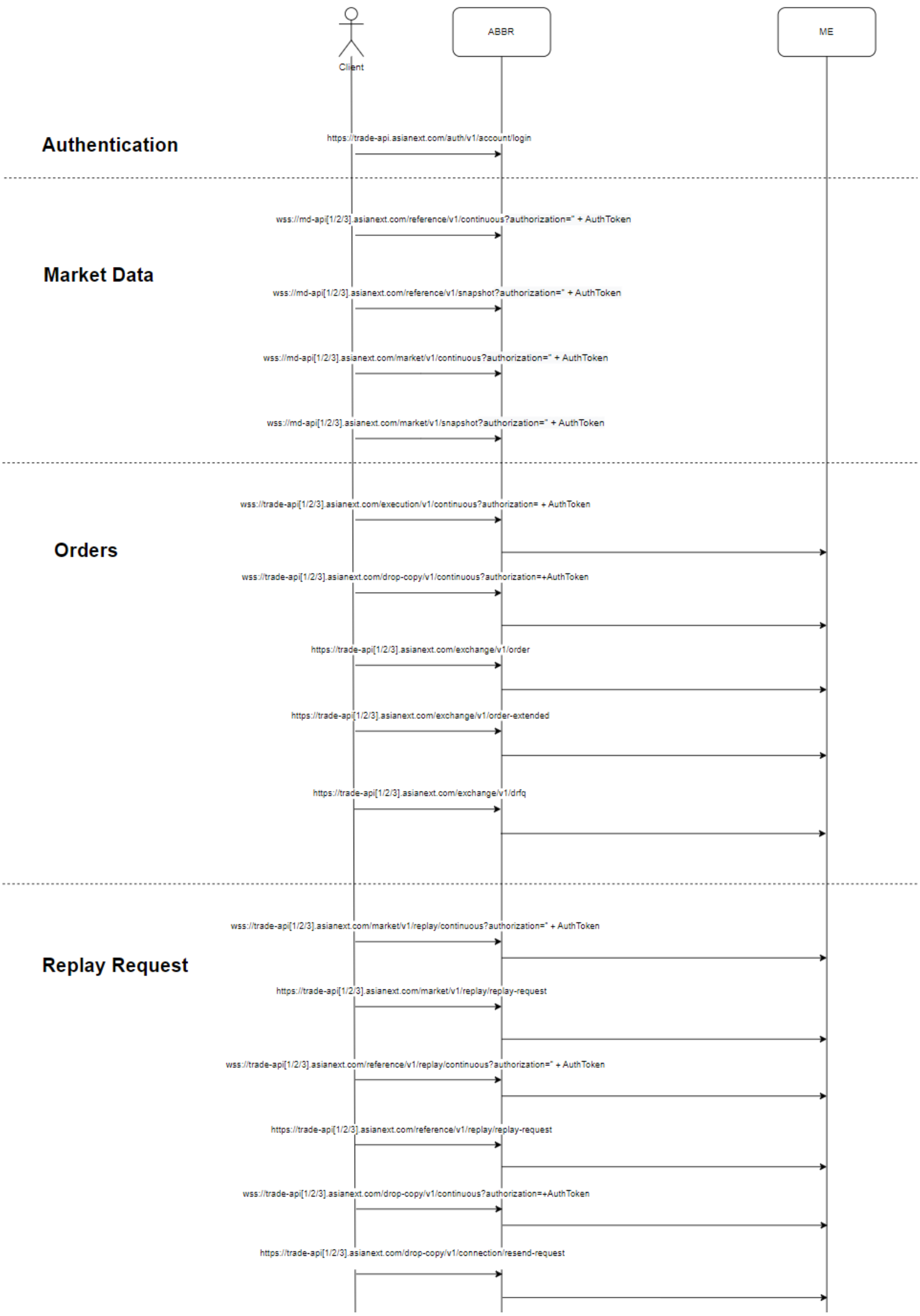
Type	End Point	Description
Reference Data A (Continuous)	AuthToken in URL wss://md-api1.asianext.com/reference/v1/continuous?authorization=+AuthToken Auth Token in Header wss://md-api1.asianext.com/reference/v1/continuous Headers.Authorization = AuthToken	To receive continuous reference data
Reference Data B (Continuous)	AuthToken in URL wss://md-api2.asianext.com/reference/v1/continuous?authorization=+AuthToken Auth Token in Header wss://md-api2.asianext.com/reference/v1/continuous Headers.Authorization = AuthToken	To receive continuous reference data
Reference Data C (Continuous)	AuthToken in URL wss://md-api3.asianext.com/reference/v1/continuous?authorization=+AuthToken Auth Token in Header wss://md-api3.asianext.com/reference/v1/continuous Headers.Authorization = AuthToken	To receive continuous reference data
Reference Data A (Snapshot)	AuthToken in URL wss://md-api1.asianext.com/reference/v1/snapshot?authorization=+AuthToken Auth Token in Header wss://md-api1.asianext.com/reference/v1/snapshot Headers.Authorization = AuthToken	To receive snapshot reference data
Reference Data B (Snapshot)	AuthToken in URL wss://md-api2.asianext.com/reference/v1/snapshot?authorization=+AuthToken Auth Token in Header wss://md-api2.asianext.com/reference/v1/snapshot Headers.Authorization = AuthToken	To receive snapshot reference data
Reference Data C (Snapshot)	AuthToken in URL wss://md-api3.asianext.com/reference/v1/snapshot?authorization=+AuthToken Auth Token in Header	To receive snapshot reference data

Type	End Point	Description
	wss://md-api3.asianext.com/reference/v1/snapshot Headers.Authorization = AuthToken	
Reference Data A (Replay)	AuthToken in URL wss://trade-api1.asianext.com/reference/v1/replay?authorization=+AuthToken Auth Token in Header wss://trade-api1.asianext.com/reference/v1/replay Headers.Authorization = AuthToken	To receive replay of reference data
Reference Data B (Replay)	AuthToken in URL wss://trade-api2.asianext.com/reference/v1/replay?authorization=+AuthToken Auth Token in Header wss://trade-api2.asianext.com/reference/v1/replay Headers.Authorization = AuthToken	To receive replay of reference data
Reference Data C (Replay)	AuthToken in URL wss://trade-api3.asianext.com/reference/v1/replay?authorization=+AuthToken Auth Token in Header wss://trade-api3.asianext.com/reference/v1/replay Headers.Authorization = AuthToken	To receive replay of reference data
Reference Data A (Replay)	https://trade-api1.asianext.com/reference/v1/replay/replay-request	To submit a replay request to the AsiaNext Reference Data Replay service.
Reference Data B (Replay)	https://trade-api2.asianext.com/reference/v1/replay/replay-request	To submit a replay request to the AsiaNext Reference Data Replay service.
Reference Data C (Replay)	https://trade-api3.asianext.com/reference/v1/replay/replay-request	To submit a replay request to the AsiaNext Reference Data Replay service.
Executions A	AuthToken in URL wss://trade-api1.asianext.com/execution/v1/continuous?authorization=+AuthToken Auth Token in Header wss://trade-api1.asianext.com/execution/v1/continuous Headers.Authorization = AuthToken	To receive execution report
Executions B	AuthToken in URL wss://trade-api2.asianext.com/execution/v1/continuous?authorization=+AuthToken Auth Token in Header	To receive execution report

Type	End Point	Description
	wss://trade-api2.asianext.com/execution/v1/continuous Headers.Authorization = AuthToken	
Executions C	AuthToken in URL wss://trade-api3.asianext.com/execution/v1/continuous?authorization=+AuthToken Auth Token in Header wss://trade-api3.asianext.com/execution/v1/continuous Headers.Authorization = AuthToken	To receive execution report
Order A	https://trade-api1.asianext.com/exchange/v1/order	To add, modify, and cancel orders
Order B	https://trade-api2.asianext.com/exchange/v1/order	To add, modify, and cancel orders
Order C	https://trade-api3.asianext.com/exchange/v1/order	To add, modify, and cancel orders
Order – Extended A	https://trade-api1.asianext.com/exchange/v1/order-extended	To add, modify, and cancel extended orders
Order – Extended B	https://trade-api2.asianext.com/exchange/v1/order-extended	To add, modify, and cancel extended orders
Order – Extended C	https://trade-api3.asianext.com/exchange/v1/order-extended	To add, modify, and cancel extended orders
Direct Request for Quotes A	https://trade-api1.asianext.com/exchange/v1/drfq	To request for quotes
Direct Request for Quotes B	https://trade-api2.asianext.com/exchange/v1/drfq	To request for quotes
Direct Request for Quotes C	https://trade-api3.asianext.com/exchange/v1/drfq	To request for quotes

14 Flow

The following diagram shows the connectivity from Member to ABBR and the Matching Engine (ME).



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