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Eze EMS

Release Date: Sep 27, 2023

Eze EMS xAPI Technical Reference Document

This document contains technical details about Eze EMS xAPI.

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Revision History

The table below provides a snap-shot of the updates in each revision of this document. A bar is displayed on the right side of the page to help you identify updates in the current release.

Version No.	Date	Summary of Update
v2023.6.0.723	Sep 27, 2023	Added new fields in OrderDetailsResponse.
v2023.5.0.947	Aug 18, 2023	Added new field in UnSubscribeLevel1DataResponse, AddSymbolsResponse, RemoveSymbolsResponse, UnSubscribeLevel2DataResponse, SubmitBookTradeResponse, SubmitSingleOrderResponse, ChangeSingleOrderResponse, CancelSingleOrderResponse, SubmitPairOrderResponse, ChangePairOrderResponse, CancelPairOrderResponse, SubmitSeedDataResponse, SubscribeOrderInfoResponse, BasketOrderResponse, SubmitAllocationOrderResponse, SubmitTradeReportResponse, ServerAcknowledgement, StartLoginSrpResponse, CompleteLoginSrpResponse, ConnectResponse, DisconnectResponse, and ChangePasswordSRPResponse.
v2023.4.0.809	Jul 12, 2023	Added new fields in OrderInfoFilters. Deleted fields in DailyWeeklyMonthlyBarsRequest, IntradayBarsRequest, TickDataRequest, and OptionsAndGreekDataRequest. Added Level1MarketDataRecordRequest object.
v2023.3.0.638	May 12, 2023	There are no documentation updates in this EMS xAPI release.

Version No.	Date	Summary of Update
v2023.2.0.478	Apr 14, 2023	Added the following API and Custom Data Type: • AllocationDetails • SubmitBookTrade Updated Level2MarketDataRequest to support more then one symbol. Deleted Request and Advise fields from OptionChainRequest and SymbolReferenceDataRequest.
v2023.1.0.2	Feb 16, 2023	Added OrderDetailsResponse Custom Data Type. Added new field in SubmitSingleOrderRequest, SubmitSingleOrderResponse, and TodaysActivityRequest. Updated the key values in SubscribeOrderInfoResponse and OrderResponse.
v2022.8.0.4	Dec 21, 2022	Added new fields in SubscribeOrderInfoRequest, TodaysActivityRequest and TodaysActivityJsonRequest.
v2022.5.0.0	Sep 09, 2022	Added new fields in OrderResponse and Level1MarketDataResponse.
v2022.3.0.0	Jun 10, 2022	Added new fields in TodaysBrokenDownPositionsRequest. Added additional event types in Appendix A: Order Event Types.
v2022.2.3.0	Apr 07, 2022	Added the GetLevel1MarketData API and extended fields in SubscribeOrderInfoResponse.
v2022.2.2.0, v2022.2.1.0, v2022.2.0.0, v2021.9.0.0, v2021.8.1.0, v2021.7.0.0	NA	There are no documentation updates in these EMS xAPI releases.

Version No.	Date	Summary of Update
v2021.5.0.0	Jul 16, 2021	Added the following APIs and Custom Data Type: • SubscribeOrderInfoJson • GetOrderDetailByOrderIdJson • GetOrderDetailByDateRangeJson • ExpirationType • PriceTypeEnum Added **Required?** field information for the Order and Utilities request APIs. Updated API descriptions for the Order and Utilities APIs. Added, Modified, and Deleted Fields in OrderResponse, SubmitSingleOrderRequest, ChangeSingleOrderRequest, SubscribeOrderInfoResponse, OrderInfo, and OrderInfoFilters. Added information related to Extended Fields in OrderResponse and SubscribeOrderInfoResponse. Added new section Appendix A: Order Event Types.
v2021.2.0.0	Mar 31, 2021	Added the GetTodaysActivityJson API. Applied order filters to TodaysActivity APIs and added user defined timeout intervals for Utility APIs.
v2021.1.0.0	Feb 02, 2021	Added the following API and Custom Data Type: • GetStrategyList • StrategyListRow
v2020.9.0.0	Dec 18, 2020	Added the SubscribeHeartBeat API.
v2020.8.0.0	Nov 25, 2020	Added the following APIs and Custom Data Type: • ChangePasswordSRP • SubmitAllocationOrder • SubmitTradeReport • AllocationType • OrderType • TradeType

Version No.	Date	Summary of Update
v2020.7.3.0	Nov 10, 2020	Updated the stable version details of EMS xAPI.
v2020.7.2.0	Oct 30, 2020	Initial release.

Introduction

The new Eze EMS xAPI platform is powered by Google's high performance gRPC framework which allows engineers to quickly build efficient and connected systems.

Clients can now seamlessly connect their proprietary applications, custom models and workflows, built in any gRPC supported language - C/C++, Python, Java, Go, or Ruby, to name a few - with Eze EMS to leverage best-in-class global execution capabilities providing comprehensive trading, data, and risk solutions. Eze EMS xAPI is supported on both Windows and Linux.

While language-agnostic, SS&C Eze expects many clients will want to connect their systems to Eze EMS via Python using the gRPC framework. Python has gained immense traction in the quant trading community, in particular, as it makes it easy to build intricate models due to the availability of scientific libraries. Moreover, it is easier to write and evaluate algo trading structures in Python and the code can be extended to dynamic algorithms for trading.

Eze EMS xAPI Basics

The Eze EMS xAPI operates in conjunction with your existing Eze EMS account permissioning and entitlements. **The Eze EMS xAPI is not a standalone data feed application that is provided to you independent of the Eze EMS.** Please contact Eze Client Service if you need to request or make changes to appropriate permissions for your account.

Eze EMS xAPI Use Restrictions

As an Eze EMS xAPI user, you are prohibited from retransmitting any Eze Market Data using the Eze EMS xAPI, without the express prior written consent of Eze EMS and the exchanges or other third-party data providers (referred to as ***"Sources"*** in your end user agreement). Any unauthorized retransmission of Eze Market Data is a breach of your end user agreement and will cause immediate termination of your use of the Eze EMS, Eze Market Data, and the Eze EMS xAPI.

Any non-display usage of Eze Market Data, such as use of real- time data in algorithmic trading or program trading, is subject to the rules, regulations, and policies of the applicable exchanges and additional exchange fees may apply. In addition, you may have a non-display usage of Eze Market Data even if a display of real-time data occurs. Please review your Eze EMS end user agreement, and the exchanges' and third-party data providers' rules, regulations, and policies that apply to your use of the Eze EMS API (which apply to Eze EMS xAPI) and/or Eze Market Data. It is the sole responsibility of the Eze EMS xAPI user and each user receiving, directly or indirectly accessing or otherwise using Eze Market Data to determine whether your receipt, access or use is reportable and/or fee liable.

Pre-Requisites

- The language of choice that the client wants to use. Example: Python version 3.x
- gRPC tools that contains modules such as protobuf and protoc (proto compiler) that are necessary for generating client/ stub files

- gRPC 2.27.0 and above
- Visit this link to learn about language specific pre-requisites: https://grpc.io/docs/languages/

Version

The current stable version of Eze EMS xAPI is 2023.6.0.723.

Endpoint

Contact your SS&C Eze client service representative for more information on Eze EMS xAPI server address with port number.

Resources

The following APIs are provided as part of Eze EMS xAPI:

Order APIs		
API Name	**Input**	**Output**
Order (Single Order APIs)		
SubmitSingleOrder	SubmitSingleOrderRequest	SubmitSingleOrderResponse
SubmitBookTrade	SubmitBookTradeRequest	SubmitBookTradeResponse
ChangeSingleOrder	ChangeSingleOrderRequest	ChangeSingleOrderResponse
CancelSingleOrder	CancelSingleOrderRequest	CancelSingleOrderResponse
SubmitAllocationOrder	SubmitAllocationOrderRequest	SubmitAllocationOrderResponse
SubmitTradeReport	SubmitTradeReportRequest	SubmitTradeReportResponse
Order (Pair Order APIs)		
SubmitPairOrder	SubmitPairOrderRequest	SubmitPairOrderResponse
ChangePairOrder	ChangePairOrderRequest	ChangePairOrderResponse
CancelPairOrder	CancelPairOrderRequest	CancelPairOrderResponse
Order (Basket Order APIs)		
SubmitBasketOrder	BasketOrderRequest	BasketOrderResponse
Order (Miscellaneous)		
SubmitSeedData	SubmitSeedDataRequest	SubmitSeedDataResponse
GetUserAccounts	UserAccountsRequest	UserAccountsResponse
SubscribeOrderInfo	SubscribeOrderInfoRequest	stream SubscribeOrderInfoResponse
SubscribeOrderInfoJson	SubscribeOrderInfoJsonRequest	stream SubscribeOrderInfoJsonResponse
GetOrderDetailByOrderIdJson	OrderDetailByOrderIdJsonRequest	OrderDetailByOrderIdJsonResponse
GetOrderDetailByDateRangeJson	OrderDetailByDateRangeJsonRequest	stream OrderDetailByDateRangeJsonResponse

MarketData		
API Name	**Input**	**Output**
GetDailyWeeklyMonthlyBars	DailyWeeklyMonthlyBarsRequest	DailyWeeklyMonthlyBarsResponse
GetIntradayBars	IntradayBarsRequest	IntradayBarsResponse
GetOptionChainForUnderlier	OptionChainRequest	OptionChainResponse
GetSymbolReferenceData	SymbolReferenceDataRequest	SymbolReferenceDataResponse
GetTickData	TickDataRequest	TickDataResponse
GetOptionsAndGreekData	OptionsAndGreekDataRequest	OptionsAndGreekDataResponse
GetSecurityData	SecurityDataRequest	SecurityDataResponse
GetOptionSymbolFromDescription	OptionSymbolFromDescriptionRequest	OptionSymbolFromDescriptionResponse
GetDescriptionFromOptionSymbol	DescriptionFromOptionSymbolRequest	DescriptionFromOptionSymbolResponse
SubscribeLevel1Ticks	Level1MarketDataRequest	stream Level1MarketDataResponse
UnSubscribeLevel1Data	UnSubscribeLevel1DataRequest	UnSubscribeLevel1DataResponse
GetLevel1MarketData	Level1MarketDataRecordRequest	Level1MarketDataRecordResponse
SubscribeLevel2Ticks	Level2MarketDataRequest	stream Level2MarketDataResponse
UnSubscribeLevel2Data	UnSubscribeLevel2DataRequest	UnSubscribeLevel2DataResponse
AddSymbols	AddSymbolsRequest	AddSymbolsResponse
RemoveSymbols	RemoveSymbolsRequest	RemoveSymbolsResponse
GetSymbolsFromCompanyName	SymbolsFromCompanyNameRequest	SymbolsFromCompanyNameResponse
GetSymbolFromAlternateSymbology	SymbolFromAlternateSymbologyRequest	SymbolFromAlternateSymbologyResponse

Utilities		
API Name	**Input**	**Output**
Connect	ConnectRequest	ConnectResponse
Disconnect	DisconnectRequest	DisconnectResponse
GetTodaysBalances	TodaysBalancesRequest	TodaysBalancesResponse
GetTodaysActivity	TodaysActivityRequest	TodaysActivityResponse
GetTodaysActivityBook	TodaysActivityBookRequest	TodaysActivityBookResponse
GetTodaysBrokenDownPositions	TodaysBrokenDownPositionsRequest	TodaysBrokenDownPositionsResponse
GetTodaysNetPositions	TodaysNetPositionsRequest	TodaysNetPositionsResponse
SubscribeHeartBeat	SubscribeHeartBeatRequest	SubscribeHeartBeatResponse
GetStrategyList	StrategyListRequest	StrategyListResponse
GetTodaysActivityJson	TodaysActivityJsonRequest	TodaysActivityJsonResponse
Secured Remote Password		
StartLoginSrp	StartLoginSrpRequest	StartLoginSrpResponse
CompleteLoginSrp	CompleteLoginSrpRequest	CompleteLoginSrpResponse
ChangePasswordSRP	ChangePasswordSRPRequest	ChangePasswordSRPResponse

Note: Only the mandatory API fields are provided in this document. Contact your SS&C Eze client service representative for a complete list of extended fields.

Order

The following APIs are provided as part of Order:

API Name	Input	Output
Single Order APIs		
SubmitSingleOrder	SubmitSingleOrderRequest	SubmitSingleOrderResponse
SubmitBookTrade	SubmitBookTradeRequest	SubmitBookTradeResponse
ChangeSingleOrder	ChangeSingleOrderRequest	ChangeSingleOrderResponse
CancelSingleOrder	CancelSingleOrderRequest	CancelSingleOrderResponse
SubmitAllocationOrder	SubmitAllocationOrderRequest	SubmitAllocationOrderResponse
SubmitTradeReport	SubmitTradeReportRequest	SubmitTradeReportResponse
Pair Order APIs		
SubmitPairOrder	SubmitPairOrderRequest	SubmitPairOrderResponse
ChangePairOrder	ChangePairOrderRequest	ChangePairOrderResponse
CancelPairOrder	CancelPairOrderRequest	CancelPairOrderResponse
Basket Order APIs		
SubmitBasketOrder	BasketOrderRequest	BasketOrderResponse
Miscellaneous		
SubmitSeedData	SubmitSeedDataRequest	SubmitSeedDataResponse
GetUserAccounts	UserAccountsRequest	UserAccountsResponse
SubscribeOrderInfo	SubscribeOrderInfoRequest	stream SubscribeOrderInfoResponse
GetOrderDetailByOrderIdJson	OrderDetailByOrderIdJsonRequest	OrderDetailByOrderIdJsonResponse
GetOrderDetailByDateRangeJson	OrderDetailByDateRangeJsonRequest	stream OrderDetailByDateRangeJsonResponse

Custom Data Type

OrderRow

Field Name	Data Type	Accepted Values/Examples
ExpirDate	google.protobuf.Timestamp	Date of expiration for an option
NewsDate	google.protobuf.Timestamp	Date of most recent news story
AllocatedValue	google.protobuf.DoubleValue	Allocated value
AvgPrice	google.protobuf.DoubleValue	Average execution price for order so far
Basisvalue	google.protobuf.DoubleValue	Currency value of a unit move
Commission	google.protobuf.DoubleValue	Net of commissions for today's trades for a symbol
CommissionRate	google.protobuf.DoubleValue	Commission rate
EcnFee	google.protobuf.DoubleValue	ECN fee
Latency3	google.protobuf.DoubleValue	Latency
Latency6	google.protobuf.DoubleValue	Latency
PairCash	google.protobuf.DoubleValue	Pair cash component
PairImbalanceLimit	google.protobuf.DoubleValue	Pair imbalance limit
PairLeg1Benchmark	google.protobuf.DoubleValue	Pair Leg 1 benchmark
PairLeg2Benchmark	google.protobuf.DoubleValue	Pair Leg 2 benchmark
PairRatio	google.protobuf.DoubleValue	Pair ratio
PairSpread	google.protobuf.DoubleValue	Pair spread
PairTarget	google.protobuf.DoubleValue	Pair target
SpreadClip	google.protobuf.DoubleValue	Spread clip
AcctType	google.protobuf.Int32Value	Type of account for a position
BookId	google.protobuf.Int32Value	Book ID
CommissionRateType	google.protobuf.Int32Value	Commission rate type
CrossFlag	google.protobuf.Int32Value	Cross flag

Field Name	Data Type	Accepted Values/Examples
DateIndex	google.protobuf.Int32Value	Date index
ExecutionState	google.protobuf.Int32Value	Execution state
ExtendedStateFlags	google.protobuf.Int32Value	Extended state information for internal use
ExtendedStateFlags2	google.protobuf.Int32Value	Extended state flags 2
ExternalAcceptanceFlag	google.protobuf.Int32Value	External acceptance flag
FornexSourceFlags	google.protobuf.Int32Value	Forex source
GwBookSeqNo	google.protobuf.Int32Value	Gateway book sequence number
LinkedOrderCancellation	google.protobuf.Int32Value	Linked order cancellation
LinkedOrderRelationship	google.protobuf.Int32Value	Linked order relationship
Minmove	google.protobuf.Int32Value	Minimum movement
OmsClientType	google.protobuf.Int32Value	OMS client type
OrderFlags	google.protobuf.Int32Value	Order flags
OrderFlags2	google.protobuf.Int32Value	Order flag 2
OrderResidual	google.protobuf.Int32Value	Residual volume
OriginalVolume	google.protobuf.Int32Value	Original volume of trade
PairImbalanceLimitType	google.protobuf.Int32Value	Pair imbalance limit type
PairLeg1BenchmarkType	google.protobuf.Int32Value	Pair Leg 1 benchmark
PairLeg2BenchmarkType	google.protobuf.Int32Value	Pair Leg 2 benchmark
PairSpreadType	google.protobuf.Int32Value	Pair spread type
Rank	google.protobuf.Int32Value	Rank
RemainingVolume	google.protobuf.Int32Value	Remaining volume
SharesAllocated	google.protobuf.Int32Value	Shares allocated
SpreadClipType	google.protobuf.Int32Value	Spread clip type
SpreadLegCount	google.protobuf.Int32Value	Number of legs this spread contains

Field Name	Data Type	Accepted Values/Examples
SpreadLegLeanPriority	google.protobuf.Int32Value	Spread leg lean priority
SpreadLegNumber	google.protobuf.Int32Value	Number of legs this spread contains
SpreadLegPriceType	google.protobuf.Int32Value	Spread leg price type
SpreadNumLegs	google.protobuf.Int32Value	Spread number of legs
Styp	google.protobuf.Int32Value	Security type
TboAccountId	google.protobuf.Int32Value	Account ID
UtcOffset	google.protobuf.Int32Value	UTC offset
Volume	google.protobuf.Int32Value	Order quantity
VolumeTraded	google.protobuf.Int32Value	Volume traded so far by the order
WorkingQty	google.protobuf.Int32Value	Quantity out in the market
Ask	string	Last ask price for symbol
Bid	string	Last bid price for symbol
OriginalPrice	string	Original price
Price	string	Limit price submitted in order
StopPrice	string	Stop price
StrikePrc	string	Price at which option can be exer-cised
Bank	string	Bank of trading account for selected position
Branch	string	Branch of trading account for selec-ted position
Buyorsell	string	BUY, SELL, or SELLSHORT
ClaimedByClerk	string	Claimed by clerk
ClientOrderId	string	Client order ID
CommissionCode	string	Broker code

Field Name	Data Type	Accepted Values/Examples
Currency	string	Currency of symbol being traded or Currency of position
CurrentStatus	string	Current status of order (PENDING, LIVE, COMPLETED, or DELETED)
Customer	string	Customer name of trading account for selected position
Deposit	string	Deposit or account name for selec-ted position
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your feed handler help file for the correct format.)
Exchange	string	Three-letter acronym for listing exchange
Route	string	Route name as shown in Eze EMS. Note: This field is also referred to as **Exit Vehicle**
FixTraderId	string	FIX trader ID
GoodFrom	string	Time at which order is first valid for execution
GoodUntil	string	Time at which order is no longer valid (DAY, DAYPLUS, or custom value supported by destination)
LinkedOrderId	string	ID of linked order
NewRemoteId	string	New remote identification code
OppositeParty	string	Contra (used by ARCAEX to signify liquidity added or removed)
OrderId	string	A unique id associated to every order. This is the identifier to lookup the specific order to cancel
OrderTag	string	Order tag
OriginalOrderId	string	Original order identification code

Field Name	Data Type	Accepted Values/Examples
OriginalTraderId	string	USERNAME@DOMAIN of the trader who placed the trade originally
PriceType	string	By default the price type is set to **Market**, in case no value is provided. Refer to the section PriceTypeEnum
Putcallind	string	Option type (P = put, C = call, U = underlier) for symbol
Reason	string	Reason given by user or destination for changing, cancelling, or deleting the order
RefersToId	string	Refers to the identification code
RemoteId	string	Remote ID
ShortLocateId	string	ID assigned to short sell orders as required by regulation SHO
Table	string	Table
TicketId	string	Ticket ID
TimeStamp	string	Timestamp applied to order by trad-ing system
TraderCapacity	string	Trader capacity
TraderId	string	USERNAME@DOMAIN of the mes-sage recipient
Type	string	Order Event Type. Refer to the sec-tion Appendix A
Undersym	string	Underlier symbol
UserMessage	string	User message/notes
VolumeType	string	Indicates the fill type of the position for the symbol
NewsTime	google.protobuf.Duration	Time of most recent news story
TrdTime	google.protobuf.Duration	Time of last trade

AllocationDetails

Field Name	Data Type	Accepted Values/Examples
TargetAccount	string	Destination account for the alloc-ated order
TargetQuantity	int32	Volume of the ticket if the ticket is live, or the Traded Amount if the order has been canceled before completion
TargetPrice	google.protobuf.DoubleValue	Limit price of allocated order
AllocationDestinationRoute	string	Destination route for the allocated order
CommissionRate	google.protobuf.DoubleValue	Commission rate
CommissionRateType	google.protobuf.Int32Value	Commission rate type
NetPrice	google.protobuf.DoubleValue	Net price
GeneralMessage	string	User provided general text

AllocationType

Field Name	Data Type	Accepted Values/Examples
Allocation	enum	UserSubmitAllocation = 0; UserSubmitAllocationEx = 1

OrderType

Field Name	Data Type	Accepted Values/Examples
Type	enum	UserSubmitOrder = 0; ForeignExecution = 1

TradeType

Field Name	Data Type	Accepted Values/Examples
TypeofOrder	enum	UserSubmitTradeReport = 0; ForeignExecution = 1

OrderInfoFilters

Field Name	Data Type	Accepted Values/Examples
IncludeOrders	bool	If set to **True** you get UserSubmitOrder, User-SubmitStagedOrder, UserSubmitCompoundOrder, User-SubmitChange, UserSubmitCancel, UserSubmitAllocation, UserSubmitAllocationEx, For-eignExecution order events in a DataFrame with row by row format as response If you wish to learn more about these order event types refer to the section Appendix A: Order Event Types
IncludeExecutions	bool	If set to **True** you get ExchangeAcceptOrder, ExchangeTradeOrder, ExchangeBustOrder events in a DataFrame with row by row format as response If you wish to learn more about these order event types refer to the section Appendix A: Order Event Types
IncludeClerkReject	bool	Boolean flag to filter the order responses based on order type ClerkReject
IncludeExchangeKillOrder	bool	Boolean flag to filter the order responses based on order type ExchangeKillOrder

OrderDetailsResponse

Field Name	Data Type	Accepted Values/Examples
OrderId	string	A unique id associated to every order. This is the identifier to lookup the specific order to modify
RefersToId	string	Refers to the identification code
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
Type	string	Order Event Type. Refer to the section Appendix A
CurrentStatus	string	Current status of order (PENDING, LIVE, COMPLETED, or DELETED)
Volume	int32	Order quantity
Price	google.protobuf.DoubleValue	Limit price submitted in order

Field Name	Data Type	Accepted Values/Examples
PriceType	PriceTypeEnum	By default the price type is set to Market, in case no value is provided. Refer to the section PriceTypeEnum
Buyorsell	string	BUY, SELL, or SELLSHORT. This field will soon be deprecated. Alternatively, you can use the field Side
OrderTag	string	Order tag
VolumeTraded	int32	Volume traded so far by the order
OriginalOrderId	string	Original order identification code

SubmitSingleOrder

The **SubmitSingleOrderRequest** object is used as an input in **SubmitSingleOrder** API. This API is used to place a single leg buy/sell order (either staged or live).

SubmitSingleOrderRequest

Field Name	Required?	Data Type	Accepted Values/Examples
Symbol	Yes	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
Side	Yes	string	BUY, SELL, SELLSHORT Note: To send an order with side SELLSHORT, the extended field **SHORT_LOCATE_ID** must be assigned. The **SHORT_LOCATE_ID** is an ID assigned to short sell orders. Similarly, to send a **Buy To Cover** order, set the side to **BUY** and assign the extended field **TO_OPEN_POS** to the required volume
Quantity	Yes	int32	Value > 0
Route	Yes	string	Route name as shown in Eze EMS. Note: This field is also referred to as **Exit Vehicle**

Field Name	Required?	Data Type	Accepted Values/Examples
Account	Yes	string	Semi-colon separated values that represent either Trade or Neutral accounts the user has permission to e.g., TAL;TEST;USER1;TRADE or TAL;TEST;USER2;NEUTRAL
OrderTag	No	string	Order tag
TicketId	No	string	Ticket ID
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
Staged	No	bool	TRUE or FALSE (Note: in order to send a staged order, this field becomes mandatory and has to be set as TRUE only)
ClaimRequire	No	bool	TRUE or FALSE (Note: setting TRUE value envisages a user running Eze EMS who then claims the Order so it can switch from Pending to Live State)
GoodFrom	No	google.protobuf.Timestamp	Time at which order is first valid for execution
TimeInForce	No	ExpirationType	Time or date at which order is no longer valid. In case no value is provided, DAY expiration type is set by default. Refer to the section ExpirationType
PriceType	No	PriceTypeEnum	By default the price type is set to **Market**, in case no value is provided. Refer to the section PriceTypeEnum

Field Name	Required?	Data Type	Accepted Values/Examples
Price	No	google.protobuf.DoubleValue	Limit price submitted in order
StopPrice	No	google.protobuf.DoubleValue	Stop price
UserMessage	No	string	User message/notes
ExpirationDate	No	google.protobuf.Timestamp	Date at which order is no longer valid
ReturnResult	No	bool	If set to **True**, a current snapshot of all the order event fields is retrieved

SubmitSingleOrderResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes suc-cessfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OrderDetails	OrderDetailsResponse	Refer to the section OrderDetailsResponse
OptionalFields	map<string, string>	This is additional information given to the client in cases of fail-ure. The field OptionalFields ["ErrorMessage"] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

SubmitBookTrade

The **SubmitBookTradeRequest** object is used as an input in **SubmitBookTrade** API. This API can be used to fetch post trade details (e.g., commission, commission type, allocations, allocated quantity etc.) using the order ID.

SubmitBookTradeRequest

Field Name	Required?	Data Type	Accepted Values/Examples
OrderId	Yes	string	A unique ID associated with each order. This is the identifier to lookup the specific order to modify
SourceAccount	Yes	string	Source account for the allocated order
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
OrderTag	Yes	string	Order tag
AllocDetails	Yes	repeated AllocationDetails	Refer to the section AllocationDetails

SubmitBookTradeResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields ["ErrorMessage"] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

ChangeSingleOrder

The **ChangeSingleOrderRequest** object is used as an input in **ChangeSingleOrder** API. This API can be used to modify the parameters (volume, price type, expiration type etc.) of a single order using its order ID.

ChangeSingleOrderRequest

Field Name	Required?	Data Type	Accepted Values/Examples
OrderId	Yes	string	A unique id associated to every order. This is the identifier to lookup the specific order to modify
Quantity	No	int32	Value > 0
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
GoodFrom	No	google.protobuf.Timestamp	Time at which order is first valid for execution
TimeInForce	No	ExpirationType	Time or date at which order is no longer valid. In case no value is provided, **DAY** expiration type is set by default. Refer to the section ExpirationType
PriceType	No	PriceTypeEnum	By default the price type is set to **Market**, in case no value is provided. Refer to the section PriceTypeEnum
Price	No	google.protobuf.DoubleValue	Limit price submitted in order
StopPrice	No	google.protobuf.DoubleValue	Stop price
UserMessage	No	string	User message/notes
ExpirationDate	No	google.protobuf.Timestamp	Date at which order is no longer valid
OrderTag	No	string	Order tag

ChangeSingleOrderResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception

Field Name	Data Type	Retrieves
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields ["ErrorMessage"] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

CancelSingleOrder

The **CancelSingleOrderRequest** object is used as an input in **CancelSingleOrder** API. This API is used to cancel a single order using its order ID.

CancelSingleOrderRequest

Field Name	Required?	Data Type	Accepted Values/Examples
OrderId	Yes	string	A unique id associated to every order. This is the identifier to lookup the specific order to cancel
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login

CancelSingleOrderResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields ["ErrorMessage"] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

SubmitPairOrder

The **SubmitPairOrderRequest** object is used as an input in **SubmitPairOrder** API. This API is used to place a broker specific pair algo order. A Pair order is a multi-leg (two) order, these legs are sent out to the exchange or broker as one unit.

SubmitPairOrderRequest

Field Name	Required?	Data Type	Accepted Values/Examples
Leg1_Symbol	Yes	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
Leg1_Side	Yes	string	BUY, SELL, SELLSHORT
Leg1_Quantity	Yes	int32	Value > 0
Route	Yes	string	Route name as shown in Eze EMS. Note: This field is also referred to as **Exit Vehicle**
Leg2_Symbol	Yes	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
Leg2_Side	Yes	string	BUY, SELL, SELLSHORT
Leg2_Quantity	Yes	int32	Value > 0
Account	Yes	string	Semi-colon separated values that represent either Trade or Neutral accounts the user has permission to e.g., TAL;TEST;USER1;TRADE or TAL;TEST;USER2;NEUTRAL
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
OrderTag	No	string	Order tag
TicketId	No	string	Ticket ID
Staged	No	bool	TRUE or FALSE (Note: in order to send a staged order, this field becomes mandatory and has to be set as TRUE only)
ClaimRequire	No	bool	TRUE or FALSE (Note: setting TRUE value envisages a user running Eze EMS who then claims the Order so it can switch from Pending to Live State)

SubmitPairOrderResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields ["ErrorMessage"] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

ChangePairOrder

The **ChangePairOrderRequest** object is used as an input in **ChangePairOrder** API. This API can be used to modify a broker specific pair algo order using its order ID.

ChangePairOrderRequest

Field Name	Required?	Data Type	Accepted Values/Examples
PairOrderId	Yes	string	A unique id associated to every order. This is the identifier to lookup the specific pair order to modify
Leg1OrderId	Yes	string	A unique id associated to every order. This is the identifier to lookup the specific Leg1 order to modify
Leg2OrderId	Yes	string	A unique id associated to every order. This is the identifier to lookup the specific Leg2 order to modify
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
Leg1_Quantity	No	int32	Value > 0
Leg2_Quantity	No	int32	Value > 0

ChangePairOrderResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields [“ErrorMessage”] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

CancelPairOrder

The **CancelPairOrderRequest** object is used as an input in **CancelPairOrder** API. This API is used to cancel a pair order using its order ID.

CancelPairOrderRequest

Field Name	Required?	Data Type	Accepted Values/Examples
OrderId	Yes	string	A unique id associated to every order. This is the identifier to lookup the specific order to cancel. Note: In case of **CancelPairOrder** the value of OrderId will be that of the **Pair** and not that of the individual orders
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login

CancelPairOrderResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception

Field Name	Data Type	Retrieves
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields ["ErrorMessage"] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

SubmitSeedData

The **SubmitSeedDataRequest** object is used as an input in **SubmitSeedData** API. This API is used to validate and synchronize the symbol with exchange and seed the symbol with your account initially, when you are trying to use a symbol for the first time on your account.

SubmitSeedDataRequest

Field Name	Required?	Data Type	Accepted Values/Examples
Account	Yes	string	Semi-colon separated values that represent either Trade or Neutral accounts the user has permission to e.g., TAL;TEST;USER1;TRADE or TAL;TEST;USER2;NEUTRAL
Symbol	Yes	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login

SubmitSeedDataResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields ["ErrorMessage"] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

SubscribeOrderInfo

The **SubscribeOrderInfoRequest** object is used as an input in **SubscribeOrderInfo** API. This API is used to fetch the order activity (submit, change, cancel etc.) during the day.

SubscribeOrderInfoRequest

Field Name	Required?	Data Type	Accepted Values/Examples
SubscriptionLevel	No	enum	FILL = 0; STATUS = 1 (This Field is deprecated)
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
IncludeUserSubmitOrder	No	bool	Boolean flag to filter the order responses based on order type UserSubmitOrder
IncludeUserSubmitStagedOrder	No	bool	Boolean flag to filter the order responses based on order type UserSubmitStagedOrder
IncludeUserSubmitCompoundOrder	No	bool	Boolean flag to filter the order responses based on order type UserSubmitCompoundOrder
IncludeForeignExecution	No	bool	Boolean Flag to filter the order responses based on order type ForeignExecution
IncludeUserSubmitChange	No	bool	Boolean flag to filter the order responses based on order type UserSubmitChange
IncludeUserSubmitCancel	No	bool	Boolean flag to filter the order responses based on order type UserSubmitCancel
IncludeExchangeAcceptOrder	No	bool	Boolean flag to filter the order responses based on order type ExchangeAcceptOrder
IncludeExchangeTradeOrder	No	bool	Boolean flag to filter the order responses based on order type ExchangeTradeOrder

Field Name	Required?	Data Type	Accepted Values/Examples
IncludeUserSubmitTradeReport	No	bool	Boolean flag to filter the order responses based on order type UserSubmitTradeReport
IncludeUserSubmitAllocation	No	bool	Boolean flag to filter the order responses based on order type UserSubmitAllocation
IncludeUserSubmitAllocationEx	No	bool	Boolean flag to filter the order responses based on order type UserSubmitAllocationEx
IncludeClerkReject	No	bool	Boolean flag to filter the order responses based on order type ClerkReject

SubscribeOrderInfoResponse

Field Name	Data Type	Retrieves
submitTime	google.protobuf.Timestamp	The time when the trade was submitted
OrderId	string	A unique id associated to every order. This is the identifier to lookup the specific order to cancel
LinkedOrderId	string	ID of linked order
RefersToId	string	Refers to the identification code
TicketId	string	Ticket ID
OriginalOrderId	string	Original order identification code
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
Type	string	Order Event Type. Refer to the section Appendix A
CurrentStatus	string	Current status of order (PENDING, LIVE, COMPLETED, or DELETED)
TraderId	string	USERNAME@DOMAIN of the message recipient

Field Name	Data Type	Retrieves
ClaimedByClerk	string	Claimed by clerk
Volume	int32	Order quantity
Price	google.protobuf.DoubleValue	Limit price submitted in order
PriceType	PriceTypeEnum	By default the price type is set to **Market**, in case no value is provided. Refer to the section PriceTypeEnum
Buyorsell	string	BUY, SELL, or SELLSHORT. This field will soon be deprecated. Alternatively, you can use the field **Side**
PairSpreadType	string	Pair spread type
Reason	string	Reason given by user or destination for changing, cancelling, or deleting the order
TimeStamp	string	Timestamp applied to order by trading system
GoodFrom	google.protobuf.Timestamp	Time at which order is first valid for execution
TimeInForce	ExpirationType	Time or date at which order is no longer valid. Refer to the section ExpirationType
StopPrice	google.protobuf.DoubleValue	Stop price
UserMessage	string	User message/notes
ExpirationDate	google.protobuf.Timestamp	Date at which order is no longer valid
Side	string	BUY, SELL, SELLSHORT Note: To send an order with side SELLSHORT, the extended field **SHORT_LOCATE_ID** must be assigned. The **SHORT_LOCATE_ID** is an ID assigned to short sell orders. Similarly, to send a **Buy To Cover** order, set the side to **BUY** and assign the extended field **TO_OPEN_POS** to the required volume

Field Name	Data Type	Retrieves
Route	string	Route name as shown in Eze EMS. Note: This field is also referred to as **Exit Vehicle**
Account	string	Semi-colon separated values that represent either Trade or Neutral accounts the user has permission to e.g., TAL;TEST;USER1;TRADE or TAL;TEST;USER2;NEUTRAL
OrderTag	string	Order tag
VolumeTraded	int32	Volume traded so far by the order
Acknowledgement	ServerAcknowledgement	Response from the server (success or fail-ure). Refer to the section Server-Acknowledgement

The following table provides you the Extended Fields details for Data Type **map<string, string>** used in SubscribeOrderInfoResponse.

Key	Expected Values
SpreadNumLegs	Spread number of legs
SpreadLegCount	Number of legs this spread contains
LinkedOrderCancellation	Linked order cancellation
LinkedOrderRelationship	Linked order relationship
CommissionRateType	Commission rate type
Minmove	Minimum movement
RemainingVolume	Remaining volume
OrderResidual	Residual volume
SpreadLegNumber	Number of legs this spread contains
SpreadLegPriceType	Spread leg price type
SpreadLegLeanPriority	Spread leg lean priority
OrderFlags	Order flags

Key	Expected Values
FornexSourceFlags	Forex source
ExternalAcceptanceFlag	External acceptance flag
ExtendedStateFlags2	Extended state flags 2
ExtendedStateFlags	Extended state information for internal use
CrossFlag	Cross flag
WorkingQty	Quantity out in the market
SpreadClipType	Spread clip type
PairLeg2BenchmarkType	Pair Leg 2 benchmark
PairLeg1BenchmarkType	Pair Leg 1 benchmark
SharesAllocated	Shares allocated
PairImbalanceLimitType	Pair imbalance limit type
UtcOffset	UTC offset
OrderFlags2	Order flag 2
AcctType	Type of account for a position
Rank	Rank
GwBookSeqNo	Gateway book sequence number
DateIndex	Date index
BookId	Book ID
TboAccountId	Account ID
OmsClientType	OMS client type
ExecutionState	Execution state
OriginalVolume	Original volume of trade
Styp	Security type
CommissionCode	Broker code
ShortLocateId	ID assigned to short sell orders as required by regulation SHO

Key	Expected Values
Undersym	Underlier symbol
Putcallind	Option type (P = put, C = call, U = underlier) for symbol
OppositeParty	Contra (used by ARCAEX to signify liquidity added or removed)
Currency	Currency of symbol being traded or Currency of position
RemoteId	Remote ID
OriginalTraderId	USERNAME@DOMAIN of the trader who placed the trade originally
ClientOrderId	Client order ID
NewRemoteId	New remote identification code
VolumeType	Indicates the fill type of the position for the symbol
Table	Table
TraderCapacity	Trader capacity
FixTraderId	FIX trader ID
Exchange	Three-letter acronym for listing exchange
CommissionRate	Commission rate
Commission	Net of commissions for today's trades for a symbol
AvgPrice	Average execution price for order so far
PairSpread	Pair spread
AllocatedValue	Allocated value
EcnFee	ECN fee
PairTarget	Pair target
PairLeg2Benchmark	Pair Leg 2 benchmark
PairLeg1Benchmark	Pair Leg 1 benchmark
PairImbalanceLimit	Pair imbalance limit
PairCash	Pair cash component

Key	Expected Values
PairRatio	Pair ratio
SpreadClip	Spread clip
Latency6	Latency
Latency3	Latency
Basisvalue	Currency value of a unit move
Ask	Last ask price for symbol
Bid	Last bid price for symbol
OriginalPrice	Original price
StrikePrc	Price at which option can be exercised
NewsDate	Date of most recent news story
NewsTime	Time of most recent news story
TrdTime	Time of last trade
BLOOMBERG_CODE_FULL	Full bloomberg symbol code
REGION	Region associated with the listed exchanges for a symbol
BOOKING_TYPE	Booking type
FREE_QTY	Target quantity - Committed quantity (the amount of the ticket that has not filled and is not in the market)
TRD_TIME	Time of trade
EXTERNAL_TRADER	External trader
EXTERNAL_CUSTOMER	External customer
SERVER_ARRIVAL_PRICE	Arrival price as stamped by server. Will be 0 when order arrives outside core trading hours

GetUserAccounts

The **UserAccountsRequest** object is used as an input in **GetUserAccounts** API. This API is used to fetch all the user accounts linked to your account in Eze EMS.

UserAccountsRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login

UserAccountsResponse

Field Name	Data Type	Retrieves
Accounts	map<string, string>	This provides a list of all existing user accounts for the requested client. Example: <Account0, “TAL;TEST;USER1;TRADE”><Account1, “TAL;TEST;USER2;NEUTRAL”>
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

SubmitBasketOrder

The **BasketOrderRequest** object is used as an input in **SubmitBasketOrder** API. Using this API you can stage and execute a basket of orders in EMS xAPI.

BasketOrderRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
Orders	Yes	repeated Order-Row	Refer to the section OrderRow

BasketOrderResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes suc-cessfully on the server side Failed: In case the invoked API throws an error or lands in an exception

Field Name	Data Type	Retrieves
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields [“ErrorMessage”] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

SubmitAllocationOrder

The **SubmitAllocationOrderRequest** object is used as an input in **SubmitAllocationOrder** API. This API is used to allocate partial or full order volume from your account to multiple sub-accounts by sending allocation instructions over Allocations API.

SubmitAllocationOrderRequest

Field Name	Required?	Data Type	Accepted Values/Examples
OrderId	Yes	string	A unique id associated to every order. This is the identifier to lookup the specific order to allocate
Symbol	Yes	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
Exchange	Yes	string	Three-letter acronym for list-ing exchange
SourceAccount	Yes	string	Source account for the alloc-ated order
TargetAccount	Yes	string	Destination account for the allocated order
TargetQuantity	Yes	int32	Volume of the ticket if the ticket is live, or the Traded Amount if the order has been canceled before completion
TargetPrice	No	google.protobuf.DoubleValue	Limit price of allocated order
UserToken	Yes	string	A server generated GUID that is given as response to the cli-ent during the first login

Field Name	Required?	Data Type	Accepted Values/Examples
TypeOfAllocation	Yes	AllocationType	Refer to the section Alloc-ationType
OrderTypes	Yes	OrderType	Refer to the section Order-Type

SubmitAllocationOrderResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes suc-cessfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields ["ErrorMessage"] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

SubmitTradeReport

The **SubmitTradeReportRequest** object is used as an input in **SubmitTradeReport** API. This API allows you to update execution and fills info of an orders manually. Only the orders with **Foreign Execution** flag are reported to exchange/clearing firm.

SubmitTradeReportRequest

Field Name	Required?	Data Type	Accepted Values/Examples
Symbol	Yes	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
Side	Yes	string	BUY, SELL, SELLSHORT Note: To send an order with side SELLSHORT, the extended field **SHORT_LOCATE_ID** must be assigned. The **SHORT_LOCATE_ID** is an ID assigned to short sell orders. Similarly, to send a **Buy To Cover** order, set the side to **BUY** and assign the extended field **TO_OPEN_POS** to the required volume

Field Name	Required?	Data Type	Accepted Values/Examples
Quantity	Yes	int32	Value > 0
Account	Yes	string	Semi-colon separated values that represent either Trade or Neutral accounts the user has permission to e.g., TAL;TEST;USER1;TRADE or TAL;TEST;USER2;NEUTRAL
OrderType	Yes	TradeType	Refer to the section TradeType
Route	Yes	string	Route name as shown in Eze EMS. Note: This field is also referred to as **Exit Vehicle**
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login

SubmitTradeReportResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields ["ErrorMessage"] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

SubscribeOrderInfoJson

The **SubscribeOrderInfoJsonRequest** object is used as an input in **SubscribeOrderInfoJson** API. This API can stream order updates in JSON format and helps in building the DataFrame row by row.

SubscribeOrderInfoJsonRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
Filters	Yes	OrderInfoFilters	Refer to the section OrderInfoFilters

SubscribeOrderInfoJsonResponse

Field Name	Data Type	Retrieves
OrderInfoJson	string	OrderInfo object is retrieved in JSON format
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure) Refer to the section ServerAcknowledgement

GetOrderDetailByOrderIdJson

The **OrderDetailByOrderIdJsonRequest** object is used as an input in **GetOrderDetailByOrderIdJson** API. This API is used to fetch order details by providing order ID. You can fetch the order details ranging back up to three years.

OrderDetailByOrderIdJsonRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
OrderId	Yes	string	A unique id associated to every order

OrderDetailByOrderIdJsonResponse

Field Name	Data Type	Retrieves
OrderDetail	string	OrderInfo object is retrieved in JSON format
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure) Refer to the section ServerAcknowledgement

GetOrderDetailByDateRangeJson

The **OrderDetailByDateRangeJsonRequest** object is used as an input in **GetOrderDetailByDateRangeJson** API. This API is used to fetch list of orders placed between the given date range. The maximum date range that can be provided in a single request is three months. Order detail history is maintained up to three years.

OrderDetailByDateRangeJsonRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
StartDate	Yes	google.protobuf.Timestamp StartDate	Indicate the start date for your order search query. Response to this query contains orders originating from StartDate
StartTime	No	google.protobuf.Duration StartTime	Provide the start time for your order search query. In case none is given, by default StartTime is taken as "00:00:00"
EndDate	Yes	google.protobuf.Timestamp EndDate	Indicate the end date for your order search query. Response to this query contains orders till the EndDate
EndTime	No	google.protobuf.Duration EndTime	Provide the end time for your order search query. In case none is given, by default EndTime is taken as "23:59:59"
TimeoutInSeconds	No	int32	Time out interval for the API request

OrderDetailByDateRangeJsonResponse

Field Name	Data Type	Retrieves
OrderDetail	string	OrderInfo object is retrieved in JSON format
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure) Refer to the section ServerAcknowledgement

Utilities

The following APIs are provided as part of Utilities:

API Name	Input	Output
GetTodaysBalances	TodaysBalancesRequest	TodaysBalancesResponse
GetTodaysActivity	TodaysActivityRequest	TodaysActivityResponse
GetTodaysActivityBook	TodaysActivityBookRequest	TodaysActivityBookResponse
GetTodaysBrokenDownPositions	TodaysBrokenDownPositionsRequest	TodaysBrokenDownPositionsResponse
GetTodaysNetPositions	TodaysNetPositionsRequest	TodaysNetPositionsResponse
Connect	ConnectRequest	ConnectResponse
SubscribeHeartBeat	SubscribeHeartBeatRequest	SubscribeHeartBeatResponse
Disconnect	DisconnectRequest	DisconnectResponse
StartLoginSrp	StartLoginSrpRequest	StartLoginSrpResponse
CompleteLoginSrp	CompleteLoginSrpRequest	CompleteLoginSrpResponse
ChangePasswordSRP	ChangePasswordSRPRequest	ChangePasswordSRPResponse
GetStrategyList	StrategyListRequest	StrategyListResponse
GetTodaysActivityJson	TodaysActivityJsonRequest	TodaysActivityJsonResponse

Secured Remote Password

Secured Remote Password (SRP) is a mechanism using which a client can encrypt sensitive information such as password by making use of public and private keys. By implementing the SRP support in EMS xAPI server, the clients can be equipped to send hash coded password during login.

StartLoginSrp

The **StartLoginSrpRequest** object is used as an input in **StartLoginSrp** API. This API is used to login to EMS xAPI using the SRP method which utilizes hash coded strings to exchange the password.

StartLoginSrpRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserName	Yes	string	A valid user name
Domain	Yes	string	A valid domain name

StartLoginSrpResponse

Field Name	Data Type	Retrieves
Status	string	Success or Failure of API call
srpTransactId	string	Unique transaction ID per user
srpSalt	string	This field is specific to SRP6 Protocol
srpN	string	This field is specific to SRP6 Protocol
srpg	string	This field is specific to SRP6 Protocol
srpb	string	This field is specific to SRP6 Protocol
Response	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

Note: StartLoginSrp has to be followed by a call to **CompleteLoginSrp**. The output from **StartLoginSrp** is used as a direct/indirect input to **CompleteLoginSrp**.

CompleteLoginSrp

The **CompleteLoginSrpRequest** object is used as an input in **CompleteLoginSrp** API. This API is used to complete login to SRP using your identity, transactionId, strEphA and strMc parameters.

CompleteLoginSrpRequest

Field Name	Required?	Data Type	Accepted Values/Examples
Identity	Yes	string	A valid user identity (combination of username@domain)
srpTransactId	Yes	string	Unique transaction ID per user

Field Name	Required?	Data Type	Accepted Values/Examples
strEphA	Yes	string	This field is specific to SRP6 Protocol
strMc	Yes	string	This field is specific to SRP6 Protocol
UserName	Yes	string	A valid user name
Domain	Yes	string	A valid domain name
Locale	Yes	string	The region the user wants to connect (e.g., AMERICAS, ASIA)

CompleteLoginSrpResponse

Field Name	Data Type	Retrieves
UserToken	string	A server generated GUID that is given as response to the client during the first login
Response	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

ChangePasswordSRP

The **ChangePasswordSRPRequest** object is used as an input in **ChangePasswordSRP** API. You can use this API to change your password. The updated password is applicable to both EMS xAPI and EMS.

ChangePasswordSRPRequest

Field Name	Required?	Data Type	Accepted Values/Examples
TransactId	Yes	string	A server generated GUID that is given as response to the client during the first login
UserName	Yes	string	A valid user name
Domain	Yes	string	A valid domain name
OldPassword	Yes	string	Enter current password
NewPassword	Yes	string	Enter new password

ChangePasswordSRPResponse

Field Name	Data Type	Retrieves
status	string	A server generated GUID that is given as response to the client during the first login
message	string	Server response to change password SRP API
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

Custom Data Type

Price

Field Name	Data Type	Accepted Values/Examples
DecimalValue	double	Decimal value of the price
Denominator	int32	Denominator
Numerator	int32	Numerator
Base	uint32	Base
Int	int32	Integer value of the price
BaseCode	int32	Base code
IntegerValue	int32	Integer value
Isnull	bool	Indicates if the price is null or not

Position

Field Name	Data Type	Accepted Values/Examples
AverageShort0	double	The average price of the overnight short position for the sym-bol
HistShortPrc0	double	Historic basis price of overnight short position
Shortpos0	double	Remaining overnight short position
OrigShortpos0	double	Start of day short position
ScalpedProfit	double	Realized profit/loss for a position

Field Name	Data Type	Accepted Values/Examples
Mmr	double	Maintenance margin required for a position
BoughtQty	double	Bought order quantity
SoldQty	double	Total number of shares sold
SoldShortQty	double	Total number of short shares sold for the symbol
BoughtAvgPrc	double	Average price for order so far
SoldAvgPrc	double	Sold average price
SoldShortAvgPrc	double	Average price of Short shares sold for the symbol
Commission	double	Net of commissions for today's trades for a symbol
Shortpos	double	Short position
AverageShort	double	Average price short
OrigLongpos0	double	Start of day long position
Longpos0	double	Remianing overnight long position
AverageLong	double	Average price long
Longpos	double	Long Pposition
AverageLong0	double	The average prize of the overnight long position for the symbol
HistLongPrc0	double	Historic basis price of overnight long position
NetFees	double	Sum of all trading fees for a position from today's trades
HistScalpedProfit	double	The sum of hist scalped profit and hist net P&L, plus any commissions and fees for the position
Table	string	Table
Bank	string	Bank of trading account for selected position
Branch	string	Branch of trading account for selected position
Customer	string	Customer name of trading account for selected position
Deposit	string	Deposit or account name for selected position
Currency	string	Currency of symbol being traded or Currency of position

Field Name	Data Type	Accepted Values/Examples
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your feed handler help file for the correct format.)
Undersym	string	Underlier symbol
AcctType	int32	Type of account for a position
TboAccountId	int32	Account ID
Rank	int32	Rank
Styp	int32	Security type

AggregatePositionRecord

Field Name	Data Type	Accepted Values/Examples
SoldShortQty	double	Total number of short shares sold for the symbol
SoldQty	double	Sold order quantity
BoughtAvgPrc	double	Average price shares bought
BoughtQty	double	Bought order quantity
IntradayShortAvgPrc	double	Average intraday execution price for short order
IntradayShortPos	double	Intraday short position
ShortAvgPrc	double	Short average price
ShortPos	double	Short position
IntradayLongAvgPrc	double	Intraday average price long
IntradayLongPos	double	Intraday long position
LongAvgPrc	double	Average price long
LongPos	double	Long position
IntradayAvgPrc	double	Intraday average price
IntradayPos	double	Intraday position
TotalAvgPrc	double	Total average execution price for order so far
TotalPos	double	Total position

Field Name	Data Type	Accepted Values/Examples
SoldAvgPrc	double	Sold average price
SoldShortAvgPrc	double	Sold short average price
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your feed handler help file for the correct format.)
Deposit	string	Deposit or account name for selected position
Customer	string	Customer name of trading account for selected position
Branch	string	Branch of trading account for selected position
Bank	string	Bank of trading account for selected position

OrderResponse

Field Name	Data Type	Retrieves
submitTime	google.protobuf.Timestamp	The time when the trade was submitted
OrderId	string	A unique id associated to every order. This is the identifier to lookup the specific order to cancel
LinkedOrderId	string	ID of linked Oorder
RefersToId	string	Refers to identification cCode
TicketId	string	Ticket ID
OriginalOrderId	string	Original order identification code
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
Type	string	Order Event Type. Refer to the section Appendix A
CurrentStatus	string	Current status of order (e.g., PENDING, LIVE, COMPLETED, DELETED)
TraderId	string	USERNAME@DOMAIN of the message recip-ient
ClaimedByClerk	string	Claimed by clerk
Volume	int32	Order quantity

Field Name	Data Type	Retrieves
Price	google.protobuf.DoubleValue	Limit price submitted in order
PriceType	PriceTypeEnum	By default the price type is set to **Market**, in case no value is provided. Refer to the section PriceTypeEnum
Buyorsell	string	BUY, SELL, or SELLSHORT. This field will soon be deprecated. Alternatively, you can use the field **Side**
PairSpreadType	string	Pair spread type
Reason	string	Reason given by user or destination for changing, cancelling, or deleting the order
TimeStamp	string	Timestamp applied to order by trading system
GoodFrom	google.protobuf.Timestamp	Time at which order is first valid for execution
TimeInForce	ExpirationType	Time or date at which order is no longer valid. Refer to the section ExpirationType
StopPrice	google.protobuf.DoubleValue	Stop price
UserMessage	string	User message/notes
ExpirationDate	google.protobuf.Timestamp	Date at which order is no longer valid
Side	string	BUY, SELL, SELLSHORT Note: To send an order with side SELLSHORT, the extended field **SHORT_LOCATE_ID** must be assigned. The **SHORT_LOCATE_ID** is an ID assigned to short sell orders. Similarly, to send a **Buy To Cover** order, set the side to **BUY** and assign the extended field **TO_OPEN_POS** to the required volume
Route	string	Route name as shown in Eze EMS. Note: This field is also referred to as **Exit Vehicle**
Account	string	Semi colon separated values that represent either Trade or Neutral accounts the user has permission to e.g., TAL;TEST;USER1;TRADE or TAL;TEST;USER2;NEUTRAL

Field Name	Data Type	Retrieves
OrderTag	string	Order tag
VolumeTraded	int32	Volume traded so far by the order

The following table provides you the Extended Fields details for Data Type **map<string, string>** used in OrderResponse.

Key	Expected Values
SpreadNumLegs	Spread number of legs
SpreadLegCount	Number of legs this spread contains
LinkedOrderCancellation	Linked order cancellation
LinkedOrderRelationship	Linked order relationship
CommissionRateType	Commission rate type
Minmove	Minimum movement
RemainingVolume	Remaining volume
OrderResidual	Residual volume
SpreadLegNumber	Number of legs this spread contains
SpreadLegPriceType	Spread leg price type
SpreadLegLeanPriority	Spread leg lean priority
OrderFlags	Order flags
FornexSourceFlags	Forex source
ExternalAcceptanceFlag	External acceptance flag
ExtendedStateFlags2	Extended state flags 2
ExtendedStateFlags	Extended state information for internal use
CrossFlag	Cross flag
WorkingQty	Quantity out in the market
SpreadClipType	Spread clip type
PairLeg2BenchmarkType	Pair Leg 2 benchmark

Key	Expected Values
PairLeg1BenchmarkType	Pair Leg 1 benchmark
SharesAllocated	Shares allocated
PairImbalanceLimitType	Pair imbalance limit type
UtcOffset	UTC offset
OrderFlags2	Order flag 2
AcctType	Type of account for a position
Rank	Rank
GwBookSeqNo	Gateway book sequence number
DateIndex	Date index
BookId	Book ID
TboAccountId	Account ID
OmsClientType	OMS client type
ExecutionState	Execution state
OriginalVolume	Original volume of trade
Styp	Security type
CommissionCode	Broker code
ShortLocateId	ID assigned to short sell orders as required by regulation SHO
Undersym	Underlier symbol
Putcallind	Option type (P = put, C = call, U = underlier) for symbol
OppositeParty	Contra (used by ARCAEX to signify liquidity added or removed)
Currency	Currency of symbol being traded or Currency of position
RemoteId	Remote ID
OriginalTraderId	USERNAME@DOMAIN of the trader who placed the trade originally
ClientOrderId	Client order ID

Key	Expected Values
NewRemoteId	New remote identification code
VolumeType	Indicates the fill type of the position for the symbol
Table	Table
TraderCapacity	Trader capacity
FixTraderId	FIX trader ID
Exchange	Three-letter acronym for listing exchange
CommissionRate	Commission rate
Commission	Net of commissions for today's trades for a symbol
AvgPrice	Average execution price for order so far
PairSpread	Pair spread
AllocatedValue	Allocated value
EcnFee	ECN fee
PairTarget	Pair target
PairLeg2Benchmark	Pair Leg 2 benchmark
PairLeg1Benchmark	Pair Leg 1 benchmark
PairImbalanceLimit	Pair imbalance limit
PairCash	Pair cash component
PairRatio	Pair ratio
SpreadClip	Spread clip
Latency6	Latency
Latency3	Latency
Basisvalue	Currency value of a unit move
Ask	Last ask price for symbol
Bid	Last bid price for symbol
OriginalPrice	Original price

Key	Expected Values
StrikePrc	Price at which option can be exercised
NewsDate	Date of most recent news story
NewsTime	Time of most recent news story
TrdTime	Time of last trade
BLOOMBERG_CODE_FULL	Full bloomberg symbol code
REGION	Region associated with the listed exchanges for a symbol
BOOKING_TYPE	Booking type
WorkingQty	Quantity out in the market
FREE_QTY	Target quantity - Committed quantity (the amount of the ticket that has not filled and is not in the market)
TRD_TIME	Time of trade
EXTERNAL_TRADER	External trader
EXTERNAL_CUSTOMER	External customer
SERVER_ARRIVAL_PRICE	Arrival price as stamped by server. Will be 0 when order arrives outside core trading hours
RootOrderID	A unique ID associated with each USO child order event, helping you to trace the staged order (USSO)

OrderInfo

Field Name	Data Type	Retrieves
AveragePrice	double	Average execution price for order so far
AccountType	int	Type of account used in trade (cash, long, or short)
SecurityType	int	Security type for the symbol being traded
Volume	int	Order quantity
VolumeTraded	int	Volume traded so far by the order
Price	decimal	Limit price submitted in order

Field Name	Data Type	Retrieves
StopPrice	decimal	Stop price
StrikePrc	decimal	Price at which option can be exercised
Account	string	Semi colon separated values that represent either Trade or Neutral accounts the user has permission to e.g., TAL;TEST;USER1;TRADE or TAL;TEST;USER2;NEUTRAL
Side	string	BUY, SELL, SELLSHORT Note: To send an order with side SELLSHORT, the extended field **SHORT_LOCATE_ID** must be assigned. The **SHORT_ LOCATE_ID** is an ID assigned to short sell orders. Similarly, to send a **Buy To Cover** order, set the side to **BUY** and assign the extended field **TO_OPEN_POS** to the required volume
ClaimedByClerk	string	Claimed by clerk
Currency	string	Currency of symbol being traded or Currency of position
CurrentStatus	string	Current status of order (PENDING, LIVE, COMPLETED, or DELETED)
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
Exchange	string	Three-letter acronym for listing exchange
Route	string	Route name as shown in Eze EMS. Note: This field is also referred to as **Exit Vehicle**
GoodFrom	string	Time at which order is first valid for execution
TimeInForce	ExpirationType	Time at which order is no longer valid. Refer to the section ExpirationType
LinkedOrderId	string	ID of linked order
OrderId	string	A unique id associated to every order. This is the identifier to lookup the specific order to cancel
OrderTag	string	Order tag
OriginalOrderId	string	Original order identification code
PriceType	PriceTypeEnum	By default the price type is set to **Market**, in case no value is provided. Refer to the section PriceTypeEnum

Field Name	Data Type	Retrieves
OptionType	string	Option type (Put/Call) for symbol
Reason	string	Reason given by user or destination for changing, canceling, or deleting the order
RefersToId	string	Refers to the identification code
ShortLocateId	string	ID assigned to short sell orders as required by regulation SHO
TicketId	string	Ticket ID
TimeStamp	string	Timestamp applied to order by trading system
TraderId	string	USERNAME@DOMAIN of the message recipient
OrderEventType	string	Order event type (e.g., UserSubmitOrder, UserSubmitStagedOrder, UserSubmitCompoundOrder)
UnderlierSymbol	string	Underlier symbol
UserMessage	string	User message/notes
VolumeType	string	Indicates the fill type of the position for the symbol
TradeTime	TimeSpan	Time of trade
ExpirationDate	DateTime?	Date at which order is no longer valid

DepositRow

Field Name	Data Type	Accepted Values/Examples
Mmr0Adj	double	Overnight maintenance margin release amount
Sma0	double	Uploaded information for special memorandum account requirement
Sma0Adj	double	Adjustment to overnight SMA requirement
HouseExcess0	double	Overnight house excess
Orq0	double	Morning Orq
Cost	double	Cost

Field Name	Data Type	Accepted Values/Examples
Mmr0NonDaytradeAdj	double	Adjustment to overnight maintenance margin requirement
SrvPendingMargin	double	Margin for outstanding trades as calculated by tradeserver. Only available for accounts that are configured for this feature
Commission	double	Net of commissions for today's trades for a symbol
NetFees	double	Sum of all trading fees for a position from today's trades
HistScalpedProfit	double	Historical realized P&L
CashBalanceAdj	double	Cash balance adjustment
ScalpedProfit	double	Realized profit/loss for a position
Mmr	double	Maintenance margin required for a position
Mmr0	double	Margin requirement for a overnight position
Marketvalue0	double	Start of day market value
CashBalance	double	Cash balance
EquityBalance	double	Equity balance
ExtraCbp	double	Cash credit for the account
MinBalance	double	Minimum amount of excess equity to trade
MaxOrderSize	double	Maximum order size allowed in an account
ExcessEq0	double	Start of day excess equity
ExcessEq	double	Excess equity
PendingMargin	double	Pending margin for this order
CbpRemaining	double	Available funds (Funds - Margin requirements)
Table	string	Table
Bank	string	Bank of trading account for selected position
Branch	string	Branch of trading account for selected position
Customer	string	Customer name of trading account for selected position

Field Name	Data Type	Accepted Values/Examples
Deposit	string	Deposit or account name for selected position
Currency	string	Currency of symbol being traded or Currency of position
TboAccountId	int32	Account ID
DaysBack	int32	The number of days worth of bars to retrieve
Rank	int32	Rank

BookOrder

Following is the structure of "BookOrder".

Field Name	Data Type	Accepted Values/Examples
Order	OrderResponse	Refer to the section OrderResponse
ChangeOrders	TodaysActivityResponse	Refer to the section TodaysActivityResponse
CancelOrders	TodaysActivityResponse	Refer to the section TodaysActivityResponse
Executions	TodaysActivityResponse	Refer to the section TodaysActivityResponse
Allocations	TodaysActivityResponse	Refer to the section TodaysActivityResponse
OrderHistory	TodaysActivityResponse	Refer to the section TodaysActivityResponse
IsChangeOrCancelPending	bool	Is change or cancel pending
ExecutedVolume	int64	Executed volume
RemainingVolume	int64	Remaining volume
AveragePrice	double	Average execution price for order so far

StrategyListRow

Field Name	Data Type	Accepted Values/Examples
FirmName	string	Firm name

Field Name	Data Type	Accepted Values/Examples
UserName	string	A valid user name
AlgoName	string	Algo route
StrategyName	string	Name of user saved strategy
StratCreateDate	string	Date of creation of strategy

ServerAcknowledgement

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
Message	string	Server response to change password SRP API
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields[“ErrorMessage”] would contain the reason for error or exception
ResponseCode	enum	SUCCESS = 0; WARNING = 1; FAILED = 2; ERROR = 3; TIMED_OUT = 4; SESSION_NOT_FOUND = 5

ExpirationType

Field Name	Data Type	Accepted Values/Examples
ExpirationTypes	enum	DAY = 0; GTC = 1; GTX = 2; CLO = 3; OPG = 4; IOC = 5; GTD = 6; OTHER = 7 **Day**: Expiration is set for 24 hours after order submission **GTC**: Good Till Cancel Order. As the name suggests, this type of order will theoretically stay live forever until canceled or filled **GTX**: An order to buy or sell that is canceled prior to the market entering into an auction, or crossing phase. Typically, markets that support continuous trading will have an auction phase at the beginning and sometimes also at the end of trading to match up orders that have been entered into the exchange's order book during the pre- or post-trading phase (i.e. where no continuous trading was available). A GTX order automatically expires immediately prior to the commencement of a crossing session, i.e. the party originating the order wants to make sure it gets filled during the current continuous auction, and any remaining open quantity should be discarded at the end of the current continuous auction period **CLO**: Closing order. Commonly known as MOC i.e., a non-limit market order, which is executed as near to the closing price as possible- either exactly at, or slightly after the market close **OPG**: Opening order. Commonly known as MOO i.e., an order that will be executed at the day's opening price. **IOC**: A market or limit-price order that is to be executed in whole or in part as soon as it is placed. Any portion not executed immediately will be cancelled **GTD**: Good Till Date order. User must specify the expiration date in the field **ExpirationDate** in order to place a GTD order **OTHER**: Any expiry type that is not mentioned above, but is present on EMS

PriceTypeEnum

Field Name	Data Type	Accepted Values/Examples
PriceTypesEnum	enum	Market = 0; Limit = 1; StopMarket = 2; StopLimit = 3; Other = 4; **Market**: An order to buy/sell a security at the most recent market price **Limit**: An order to buy a security at or below a stated price, or to sell a security at or above a stated price **StopMarket**: This order allows the trader to lock in a certain profit and loss (P&L) by deciding a specific range in which a market order can be executed. The stop market order executes a market order immediately when the "stop" price set by a trader is hit by the opposite side of the market (the ask if buying, bid if selling) **StopLimit**: This order declares a "stop" price set by the trader. Once this price is hit by the opposite side of the market, a limit order is immediately placed at a price specified by the trader **Other**: Any price type that is not mentioned above, but is present on EMS

Connect

The **ConnectRequest** object is used as an input in **Connect** API. This API is used to login to EMS xAPI to connect to the server.

ConnectRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserName	Yes	string	A valid user name
Domain	Yes	string	A valid domain name
Password	Yes	string	A valid password
Locale	Yes	string	The region the user wants to connect (e.g., AMERICAS, ASIA)

ConnectResponse

Field Name	Data Type	Retrieves
UserToken	string	A server generated GUID that is given as response to the client during the first login
Response	string	A valid user token
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

Disconnect

The **DisconnectRequest** object is used as an input in **Disconnect** API. This API is used to disconnect EMS xAPI server and end the session.

DisconnectRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login

DisconnectResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields [“ErrorMessage”] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

GetTodaysBalances

The **TodaysBalancesRequest** object is used as an input in **GetTodaysBalances** API. This API is used to fetch your account balance details (CashBalance, EquityBalance, Margin etc.) for the current day.

TodaysBalancesRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
TimeoutInSeconds	No	int32	Time out interval for the API request

TodaysBalancesResponse

Field Name	Data Type	Retrieves
DepositList	repeated DepositRow	Refer to the section DepositRow
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

GetTodaysActivity

The **TodaysActivityRequest** object is used as an input in **GetTodaysActivity** API. This API is used to fetch your order related details (submit, change, cancel etc.) for the current day.

TodaysActivityRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
TimeoutInSeconds	No	int32	Time out interval for the API request
IncludeUserSubmitOrder	No	bool	Boolean flag to filter the order responses based on order type UserSubmitOrder
IncludeUserSubmitStagedOrder	No	bool	Boolean flag to filter the order responses based on order type UserSubmitStagedOrder
IncludeUserSubmitCompoundOrder	No	bool	Boolean flag to filter the order responses based on order type UserSubmitCompoundOrder

Field Name	Required?	Data Type	Accepted Values/Examples
IncludeForeignExecution	No	bool	Boolean flag to filter the order responses based on order type ForeignExecution
IncludeUserSubmitChange	No	bool	Boolean flag to filter the order responses based on order type UserSubmitChange
IncludeUserSubmitCancel	No	bool	Boolean flag to filter the order responses based on order type UserSubmitCancel
IncludeExchangeAcceptOrder	No	bool	Boolean flag to filter the order responses based on order type ExchangeAcceptOrder
IncludeExchangeTradeOrder	No	bool	Boolean flag to filter the order responses based on order type ExchangeTradeOrder
IncludeUserSubmitTradeReport	No	bool	Boolean flag to filter the order responses based on order type UserSubmitTradeReport
IncludeUserSubmitAllocation	No	bool	Boolean flag to filter the order responses based on order type UserSubmitAllocation
IncludeUserSubmitAllocationEx	No	bool	Boolean flag to filter the order responses based on order type UserSubmitAllocationEx
IncludeClerkReject	No	bool	Boolean flag to filter the order responses based on order type ClerkReject
IncludeOnlyCompleted	No	bool	Boolean flag to filter the order responses based on order event type Completed
UserSubmitStagedOrderFullInfo	No	bool	Boolean flag to filter all the child events associated with the parent order

TodaysActivityResponse

Field Name	Data Type	Retrieves
OrderRecordList	repeated OrderResponse	Refer to the section OrderResponse
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

GetTodaysBrokenDownPositions

The **TodaysBrokenDownPositionsRequest** object is used as an input in **GetTodaysBrokenDownPositions** API. This API is used to fetch the broken-down position details for the current day.

TodaysBrokenDownPositionsRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
TimeoutInSeconds	No	int32	Time out interval for the API request
BBCDFilter	No	string	To filter based on a single BBCD level, BBCDFil-ter parameter must be added to the request before API call. Use semi-colon to separate the BBCD (e.g.; BANK;BRANCH;CUSTOMER;DEPOSIT). Example: To filter for a particular Deposit add BANK;BRANCH;CUSTOMER;DEPOSIT. Similarly, to filter for a particular Customer add BANK;BRANCH;CUSTOMER and BANK;BRANCH or BANK accordingly for Branch or Bank level filter.
TickerFilter	No	string	To filter based on a single or multiple Symbol, TickerFilter parameter must be added to the request before API call. Use semi-colon to add more symbols (e.g.; AAPL;IBM;VOD.LSE).

TodaysBrokenDownPositionsResponse

Field Name	Data Type	Retrieves
PositionRecords	repeated Position	Refer to the section Position

Field Name	Data Type	Retrieves
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

GetTodaysNetPositions

The **TodaysNetPositionsRequest** object is used as an input in **GetTodaysNetPositions** API. This API is used to fetch the net position details for the current day.

TodaysNetPositionsRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
TimeoutInSeconds	No	int32	Time out interval for the API request

TodaysNetPositionsResponse

Field Name	Data Type	Retrieves
AggregatePositionsList	repeated AggregatePositionRecord	Refer to the section Aggreg-atePositionRecord
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

GetTodaysActivityBook

The **TodaysActivityBookRequest** object is used as an input in **GetTodaysActivityBook** API. This API is used to request all your activities during the trading day.

TodaysActivityBookRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
OrderTypeFlags	No	int32	Deprecated
TimeoutInSeconds	No	int32	Time out interval for the API request

TodaysActivityBookResponse

Field Name	Data Type	Retrieves
BookList	repeated BookOrder	Refer to the section BookOrder
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

SubscribeHeartBeat

The **SubscribeHeartBeatRequest** object is used as an input in **SubscribeHeartBeat** API. On subscribing to this API, you will be intimated and requested to reconnect if an active connection with the server is terminated.

SubscribeHeartBeatRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
TimeoutInSeconds	No	int32	Time out interval for the API request

SubscribeHeartBeatResponse

Field Name	Data Type	Retrieves
HeartBeatStatus	enum	LIVE = 0; DEAD = 1; UNKNOWN = 2
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

GetStrategyList

The **StrategyListRequest** object is used as an input in **GetStrategyList** API. This API is used to fetch the saved stratagies (on Eze EMS) mapped to a broker algo.

StrategyListRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
FirmName	Yes	string	Firm name

StrategyListResponse

Field Name	Data Type	Retrieves
StrategyList	repeated StrategyListRow	Refer to the section StrategyListRow
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

GetTodaysActivityJson

The **TodaysActivityJsonRequest** object is used as an input in **GetTodaysActivityJson** API. This API provides your today's order activity details in the JSON format.

TodaysActivityJsonRequest

Field Name	Required?	Data Type	Accepted Values/Examples
UserToken	Yes	string	A server generated GUID that is given as response to the client during the first login
TimeoutInSeconds	No	int32	Time out interval for the API request
IncludeUserSubmitOrder	No	bool	Boolean flag to filter the order responses based on order type UserSubmitOrder
IncludeUserSubmitStagedOrder	No	bool	Boolean flag to filter the order responses based on order type UserSubmitStagedOrder
IncludeUserSubmitCompoundOrder	No	bool	Boolean flag to filter the order responses based on order type UserSubmitCompoundOrder
IncludeForeignExecution	No	bool	Boolean flag to filter the order responses based on order type ForeignExecution
IncludeUserSubmitChange	No	bool	Boolean flag to filter the order responses based on order type UserSubmitChange

Field Name	Required?	Data Type	Accepted Values/Examples
IncludeUserSubmitCancel	No	bool	Boolean flag to filter the order responses based on order type UserSubmitCancel
IncludeExchangeAcceptOrder	No	bool	Boolean Flag to filter the order responses based on order type ExchangeAcceptOrder
IncludeExchangeTradeOrder	No	bool	Boolean flag to filter the order responses based on order type ExchangeTradeOrder
IncludeUserSubmitTradeReport	No	bool	Boolean flag to filter the order responses based on order type UserSubmitTradeReport
IncludeUserSubmitAllocation	No	bool	Boolean flag to filter the order responses based on order type UserSubmitAllocation
IncludeUserSubmitAllocationEx	No	bool	Boolean flag to filter the order responses based on order type UserSubmitAllocationEx
IncludeClerkReject	No	bool	Boolean flag to filter the order responses based on order type ClerkReject
IncludeOnlyCompleted	No	bool	Boolean flag to filter the order responses based on order event type Completed

TodaysActivityJsonResponse

Field Name	Data Type	Retrieves
TodaysActivityJson	string	OrderInfo object is retrieved in JSON format
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

MarketData

The following APIs are provided as part of MarketData:

API Name	Input	Output
GetDailyWeeklyMonthlyBars	DailyWeeklyMonthlyBarsReques-t	DailyWeeklyMonthlyBarsRe-sponse
GetIntradayBars	IntradayBarsRequest	IntradayBarsResponse
GetOptionChainForUnderlier	OptionChainRequest	OptionChainResponse
GetSymbolReferenceData	SymbolReferenceDataRequest	SymbolReferenceDataResponse
GetTickData	TickDataRequest	TickDataResponse
GetOptionsAndGreekData	OptionsAndGreekDataRequest	OptionsAndGreekDataResponse
GetSecurityData	SecurityDataRequest	SecurityDataResponse
GetOp-tionSymbolFromDescription	OptionSym-bolFromDescriptionRequest	OptionSym-bolFromDescriptionResponse
GetDe-scriptionFromOptionSymbol	Descrip-tionFromOptionSymbolRequest	Descrip-tionFromOptionSymbolResponse
SubscribeLevel1Ticks	Level1MarketDataRequest	stream Level1Mar-ketDataResponse
UnSubscribeLevel1Data	UnSubscribeLevel1DataRequest	UnSubscribeLevel1DataResponse
GetLevel1MarketData	Level1Mar-ketDataRecordRequest	Level1Mar-ketDataRecordResponse
SubscribeLevel2Ticks	Level2MarketDataRequest	stream Level2Mar-ketDataResponse
UnSubscribeLevel2Data	UnSubscribeLevel2DataRequest	UnSubscribeLevel2DataResponse
AddSymbols	AddSymbolsRequest	AddSymbolsResponse
RemoveSymbols	RemoveSymbolsRequest	RemoveSymbolsResponse
GetSym-bolsFromCompanyName	Sym-bolsFromCompanyNameRequest	Sym-bolsFromCom-panyNameResponse

API Name	Input	Output
GetSym-bolFromAlternateSymbology	Sym-bolFromAl-ternateSymbologyRequest	Sym-bolFromAl-ternateSymbologyResponse

Custom Data Type

OptionTypes

Field Name	Data Type	Accepted Values/Examples
Options	enum	CALL = 0; PUT = 1

Interval

Field Name	Data Type	Accepted Values/Examples
Options	enum	DAILY = 0; WEEKLY = 1; MONTHLY = 2

TickTypes

Field Name	Data Type	Accepted Values/Examples
Ticks	enum	TRADE = 0; BID = 1; ASK = 2; REGIONAL_BID = 3; REGIONAL_ASK = 4; DELETED = 11; INSERTED = 12; IRREGULAR_DELETE = 44; FORM_T_TRADE = 32

CommonBarsFields

Field Name	Data Type	Accepted Values/Examples
AcVol1	repeated int32	Total volume
High1	repeated Price	Value of highest transaction for current session. Refer to the section Price
Low1	repeated Price	Value of lowest transaction for current session. Refer to the section Price
OpenPrc	repeated Price	Open price of current session. Refer to the section Price

Field Name	Data Type	Accepted Values/Examples
Settle	repeated Price	Last settlement price. Refer to the section Price

SecurityData

Field Name	Data Type	Accepted Values/Examples
Divpaydate	google.protobuf.Timestamp	Date on which dividend is paid
Exdivdate	google.protobuf.Timestamp	Ex-div date
High52Date	google.protobuf.Timestamp	Date on which 52-week high was reached
Low52Date	google.protobuf.Timestamp	Date on which 52-week low was reached
ProcDate	google.protobuf.Timestamp	Process date
SplitDate1	google.protobuf.Timestamp	Date of first split
Adx14d1d	google.protobuf.DoubleValue	ADX 14d
BollingerLower21d1d	google.protobuf.DoubleValue	Bollinger lower 21d
BollingerUpper21d1d	google.protobuf.DoubleValue	21-day upper envelope
Close10davg1d	google.protobuf.DoubleValue	10-day average price
Close200davg1d	google.protobuf.DoubleValue	200-day average price
Close20davg1d	google.protobuf.DoubleValue	20-day average price
Close50davg1d	google.protobuf.DoubleValue	50-day average price
Close5davg1d	google.protobuf.DoubleValue	5-day average price
High15dmax1d	google.protobuf.DoubleValue	15-day high
Hlvolatility10d1d	google.protobuf.DoubleValue	10-day high/low volatility
Low15dmin1d	google.protobuf.DoubleValue	15-day low
Minusdi14d1d	google.protobuf.DoubleValue	14-day minus directional indicator
Plusdi14d1d	google.protobuf.DoubleValue	14-day plus directional indicator

Field Name	Data Type	Accepted Values/Examples
Rsi14d1d	google.protobuf.DoubleValue	Value of 14-day relative strength index
Rsi25d1d	google.protobuf.DoubleValue	Value of 25-day relative strength index
Rsi9d1d	google.protobuf.DoubleValue	Value of 9-day relative strength index
SplitFactor1	google.protobuf.DoubleValue	Factor of most recent split for symbol
Volume10davg1d	google.protobuf.DoubleValue	10-day average volume
Volume200davg1d	google.protobuf.DoubleValue	200-day average volume
Volume20davg1d	google.protobuf.DoubleValue	20-day average volume
Volume50davg1d	google.protobuf.DoubleValue	50-day average volume
Volume5davg1d	google.protobuf.DoubleValue	5-day average volume
DividendFreqN	google.protobuf.Int32Value	Dividend frequency (per year)
SecurityCategory	google.protobuf.Int32Value	SIC code
SharesOut	google.protobuf.Int32Value	Shares outstanding
Beta	Price	Calculated using data from the S&P 500 portfolio for 12 months prior to the current month
Dividend	Price	Last reported dividend to be paid to shareholders (per share)
DividendRate	Price	Indicated annual dividend rate based on latest payment
DividendYield	Price	Dividend paid per share vs. share price
Earnings	Price	Net income for the company represented by the selected symbol
High52	Price	Highest traded price for a share in the last 52 weeks

Field Name	Data Type	Accepted Values/Examples
Low52	Price	Lowest traded price for a share in the last 52 weeks
MgSicm	Price	Short interest for current month
MktCap	Price	Market capitalization
Peratio	Price	A ratio which calculates current share price vs. per-share earnings
BloombergCode	string	Bloomberg symbol code associated with order
BloombergCodeComposite	string	Bloomberg code composite
CompanyName	string	Company name represented by symbol
Country	string	Country of exchange where stock is listed
Cusip	string	ID assigned to all North American stocks and registered bonds
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your feed handler help file for the correct format.)
GicsIndustry	string	Industry code as specified by Global Industry Classification Standard (GICS)
GicsSector	string	Sector code as specified by Global Industry Classification Standard (GICS)
GicsSubindustry	string	Sub-industry code as specified by Global Industry Classification Standard (GICS)
IsinNo	string	International ID assigned to all securities foreign or domestic
IssuersSectorStr	string	Indicates the market sector to which the security belongs, in relation to type

Field Name	Data Type	Accepted Values/Examples
PrimaryExchange	string	Primary exchange
RicCode	string	Reuters instrument code
Sedol	string	(Stock Exchange Daily Official List) 7-digit ID assigned to all securities trading on LSE and other smaller UK exchanges

SymbolData

Field Name	Data Type	Accepted Values/Examples
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your feed handler help file for the correct format.)
ExchName	string	Three-letter acronym for listing exchange
Styp	google.protobuf.Int32Value	Security type
SymbolDesc	string	Symbol description
IsinNo	string	International ID assigned to all securities foreign or domestic
Country	string	Country of exchange where stock is listed
CommodityName	string	Name of the contract for a commodity
BloombergCode	string	Bloomberg symbol code associated with order
BloombergCodeFull	string	Full bloomberg code
BloombergCodeComposite	string	Bloomberg code composite
RicCode	string	Reuters instrument code
Sedol	string	(Stock Exchange Daily Official List) 7-digit ID assigned to all securities trading on LSE and other smaller UK exchanges

Field Name	Data Type	Accepted Values/Examples
GicsSector	string	Sector code as specified by Global Industry Classification Standard (GICS)
GicsIndustry	string	Industry code as specified by Global Industry Classification Standard (GICS)
GicsSubindustry	string	Sub-industry code as specified by Global Industry Classification Stand-ard (GICS)
Cusip	string	ID assigned to all North American stocks and registered bonds

AlternateSymbology

Field Name	Data Type	Accepted Values/Examples
Symbology	enum	ISIN = 0; SEDOL = 1; RIC = 2; CUSIP = 3; BBG = 4;
SymbolOption	Symbology	Option series symbol 1

QuoteChainResponse

Field Name	Data Type	Retrieves
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your feed handler help file for the cor-rect format.)
ExchName	string	Three-letter acronym for listing exchange
SymbolDesc	string	Symbol description
TrdUnits	string	Units for expressing prices for this symbol
CommodityName	string	Name of the contract for a commodity
Styp	google.protobuf.Int32Value	Security type
Session	google.protobuf.Int32Value	Session indicator (specified by data feed)
Minmove	google.protobuf.Int32Value	Minimum movement
Basisvalue	google.protobuf.DoubleValue	Currency value of a unit move

SymInfoResponse

Field Name	Data Type	Retrieves
Styp	google.protobuf.Int32Value	Security type
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your feed handler help file for the correct format.)
BloombergCode	string	Bloomberg symbol code associated with order
BloombergCodeFull	string	Full bloomberg code
BloombergCodeComposite	string	Bloomberg code composite
ExchName	string	Three-letter acronym for listing exchange
SymbolDesc	string	Symbol description

TicksResponse

Field Name	Data Type	Retrieves
TrdPrc1	repeated Price	Last traded price
TrdDate	repeated google.-protobuf.Timestamp	Date of last trade
TickType	repeated int32	Tick type
TrdXid1	repeated string	Exchange ID of last trade
TrdVol1	repeated int32	Volume of last reported trade
TrdTim1	repeated google.-protobuf.Duration	Time of last trade
DispName	repeated string	'IBM' (Symbol formats are datafeed-specific. Check your feed handler help file for the correct format.)

OptionCalculationResponse

Field Name	Data Type	Retrieves
Model	google.protobuf.Int32Value	Option model used in the calculation
Theta	google.protobuf.DoubleValue	A measure of a rate of decline in the value of an option due to the passage of time
Gamma	google.protobuf.DoubleValue	Rate of change for delta with respect to the underlying asset's price
Vega	google.protobuf.DoubleValue	The amount that the price of an option changes compared to a 1% change in volatility
Delta	google.protobuf.DoubleValue	The ratio which compares the change in price of an underlying asset to the corresponding change in the price of a derivative
Premium	google.protobuf.DoubleValue	Displays a calculated theoretical value for an option or warrant
ImpliedVol	google.protobuf.DoubleValue	The estimated volatility of a security's price
DividendAmout6	google.protobuf.DoubleValue	6th dividend amount
DividendAmout5	google.protobuf.DoubleValue	5th dividend amount
DividendAmout4	google.protobuf.DoubleValue	4th dividend amount
DividendAmout3	google.protobuf.DoubleValue	3rd dividend amount
DividendAmout2	google.protobuf.DoubleValue	2nd dividend amount
DividendAmout1	google.protobuf.DoubleValue	1st dividend amount
Rate	google.protobuf.DoubleValue	Interest rate used in the calculation
TimeToExpire	google.protobuf.DoubleValue	Time to expiration
UnderlierPrice	Price	Underlier price at time of order placement
OriginalPrice	Price	Original price
StrikePrice	Price	Price at which option can be exercised
DividendDate6	google.protobuf.Timestamp	6th dividend date
DividendDate5	google.protobuf.Timestamp	5th dividend date

Field Name	Data Type	Retrieves
DividendDate4	google.protobuf.Timestamp	4th dividend date
DividendDate3	google.protobuf.Timestamp	3rd dividend date
DividendDate2	google.protobuf.Timestamp	2nd dividend date
DividendDate1	google.protobuf.Timestamp	1st dividend date
PutCallId	string	Put/Call ID
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your feed handler help file for the correct format.)
UnderSym	string	Underlier symbol
OptionRoot	string	Option root for all exiration months and instrument types

The **Level1MarketDataRequest** object is used as an input in **GetLevel1MarketData** API. This is an unary API used to fetch level 1 market data snapshot (e.g., Bid, Ask, Last traded price). You can request one or more symbols data at a time.

Level1MarketDataRecord

Field Name	Data Type	Accepted Values/Examples
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your Feed Handler help file for the correct format.)
Trdprc1	Price	Last traded price
Trdtim1	google.protobuf.Duration	Trade time
SymbolDesc	string	Symbol description
CompanyName	string	Company name represented by symbol
BidTick2	string	"Bid tick" for NASDAQ Short Sale Rule
ArcaImbalanceVolume	google.protobuf.Int32Value	Pre-Open Imbalance Volume (positive is Bid, negative is Offer)
ArcaMatchVolume	google.protobuf.Int32Value	Total number of shares to be executed

Field Name	Data Type	Accepted Values/Examples
SaleConditionVolume	google.protobuf.Int32Value	Volume of the most recent pre-market, post-market, or irregular trade
IntradayHighCount	google.protobuf.Int32Value	Number of intraday highs
VwapVol	google.protobuf.Int32Value	VWAP Volume from the trade server
Vwap	google.protobuf.DoubleValue	VWAP from the trade server
LrpBid	Price	NYSE liquidity replenishment point for bids
Bid	Price	Last bid price for symbol
LrpAsk	Price	NYSE liquidity replenishment point for Asks
Ask	Price	Last ask price for symbol
ChangeLast	Price	Change from last price
High1	Price	Value of highest transaction for current session
High52	Price	Highest traded price for a share in the last 52 weeks
Low1	Price	Value of lowest transaction for current session
Low52	Price	Lowest traded price for a share in the last 52 weeks

GetDailyWeeklyMonthlyBars

The **DailyWeeklyMonthlyBarsRequest** object is used as an input in **GetDailyWeeklyMonthlyBars** API. This API is used to request for daily, weekly and monthly bars.

DailyWeeklyMonthlyBarsRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)

Field Name	Data Type	Accepted Values/Examples
Interim	Interval	Refer to the section Interval
StopDate	google.protobuf.Timestamp	Stop date (LME - used with start date only)
DaysBack	google.protobuf.Int32Value	The number of days worth of bars to retrieve
RequestId	google.protobuf.Int32Value	A user-supplied request ID that can be used to disambiguate response data

DailyWeeklyMonthlyBarsResponse

Field Name	Data Type	Retrieves
BarFields	CommonBarsFields	Refer to the section CommonBarsFields
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your Feed Handler help file for the correct format.)
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

GetIntradayBars

The **IntradayBarsRequest** object is used as an input in **GetIntradayBars** API. This API is used to acquire intraday bars.

IntradayBarsRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
BarInterval	int32	Bar interval in minutes
DaysBack	int32	The number of days worth of bars to retrieve
StartAtMidnight	bool	If set to **True**, the first bar of the day includes all data since midnight, otherwise the first bar of the day includes all data since the session open time

Field Name	Data Type	Accepted Values/Examples
Date	google.protobuf.Timestamp	The end date for the query, i.e. the most recent date for which bars should be retrieved. If null, defaults to the current date
StartTime	google.protobuf.Duration	Bars earlier than this time will be excluded. If null, there is no restriction
StopTime	google.protobuf.Duration	Bars later than this time will be excluded. If null, there is no restriction
requestId	google.protobuf.Int32Value	A user-supplied request ID that can be used to disambiguate response data

IntradayBarsResponse

Field Name	Data Type	Retrieves
Bars	CommonBarsFields	Refer to the section CommonBarsFields
TrdTim1	repeated string	Trade time
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

GetOptionSymbolFromDescription

The **OptionSymbolFromDescriptionRequest** object is used as an input in **GetOptionSymbolFromDescription** API. This API is used to request option symbol from description.

OptionSymbolFromDescriptionRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Root	string	Symbol root for option
Expiration	string	Time at which order is no longer valid (DAY, DAYPLUS, or custom value supported by destination)
OptionType	OptionTypes	Refer to the section OptionTypes
StrikePrice	double	Price at which option can be exercised

OptionSymbolFromDescriptionResponse

Field Name	Data Type	Retrieves
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section Server-Acknowledgement

GetDescriptionFromOptionSymbol

The **DescriptionFromOptionSymbolRequest** object is used as an input in **GetDescriptionFromOptionSymbol** API. This API is used to request description from option symbol.

DescriptionFromOptionSymbolRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)

DescriptionFromOptionSymbolResponse

Field Name	Data Type	Retrieves
Root	string	Symbol root for option
Expiration	string	Time at which order is no longer valid (DAY, DAYPLUS, or custom value supported by des-tination)
OptionType	OptionTypes	Refer to the section OptionTypes
StrikePrice	double	Price at which option can be exercised
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

SubscribeLevel1Ticks

The **Level1MarketDataRequest** object is used as an input in **SubscribeLevel1Ticks** API. This API is used to fetch the level 1 market data snapshot.

Level1MarketDataRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbols	repeated string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
RegionalExchangeIds	repeated string	Regional exchange ID
Request	bool	If set to **True**, a current snapshot of the data will be retrieved
Advise	bool	If set to **True**, real-time updates from the server will be registered for

Level1MarketDataResponse

Field Name	Data Type	Retrieves
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section Server-Acknowledgement
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your Feed Handler help file for the correct format.)
Trdprc1	Price	Last traded price
Trdtim1	google.protobuf.Duration	Trade time
SymbolDesc	string	Symbol description
CompanyName	string	Company name represented by symbol
BidTick2	string	"Bid tick" for NASDAQ short sale rule
ArcaImbalanceVolume	google.protobuf.Int32Value	Pre-Open imbalance volume (positive is bid, negative is offer)
ArcaMatchVolume	google.protobuf.Int32Value	Total number of shares to be executed
SaleConditionVolume	google.protobuf.Int32Value	Volume of the most recent pre-market, post-market, or irregular trade
IntradayHighCount	google.protobuf.Int32Value	Number of intraday highs

Field Name	Data Type	Retrieves
VwapVol	google.protobuf.Int32Value	VWAP Volume from the trade server
Vwap	google.protobuf.DoubleValue	VWAP from the trade server
LrpBid	Price	NYSE liquidity replenishment point for bids
Bid	Price	Last bid price for symbol
LrpAsk	Price	NYSE liquidity replenishment point for Asks
Ask	Price	Last ask price for symbol
ChangeLast	Price	Change from last price
High1	Price	Value of highest transaction for current session
High52	Price	Highest traded price for a share in the last 52 weeks
Low1	Price	Value of lowest transaction for current session
Low52	Price	Lowest traded price for a share in the last 52 weeks
Open Interest	Long	Open interest

UnSubscribeLevel1Data

The **UnSubscribeLevel1DataRequest** object is used as an input in **UnSubscribeLevel1Data** API. This API is used to unsubscribe the level 1 data.

UnSubscribeLevel1DataRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login

UnSubscribeLevel1DataResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields ["ErrorMessage"] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

GetLevel1MarketData

The **Level1MarketDataRecordRequest** object is used as an input in **GetLevel1MarketData** API. This is an unary API used to fetch level 1 market data snapshot (e.g., Bid, Ask, Last traded price). You can request one or more symbols data at a time.

Level1MarketDataRecordRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbols	repeated string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
RegionalExchangeIds	repeated string	Regional exchange ID

Level1MarketDataRecordResponse

Field Name	Data Type	Retrieves
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement
DataRecord	repeated Level1MarketDataRecord	Refer to the section Level1MarketDataRecord

AddSymbols

The **AddSymbolsRequest** object is used as an input in **AddSymbols** API. This API is used to add the symbols to your account.

AddSymbolsRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbols	repeated string	Valid ticker symbols
MarketDataLevel	string	Level1 or Level2

AddSymbolsResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields ["ErrorMessage"] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

RemoveSymbols

The **RemoveSymbolsRequest** object is used as an input in **RemoveSymbols** API. This API is used to remove symbols from your account.

RemoveSymbolsRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbols	repeated string	Valid ticker symbols

Field Name	Data Type	Accepted Values/Examples
MarketDataLevel	string	Level1 or Level2

RemoveSymbolsResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields [“ErrorMessage”] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

SubscribeLevel2Ticks

The **Level2MarketDataRequest** object is used as an input in **SubscribeLevel2Ticks** API. This API is used to acquire the level 2 market data information.

Level2MarketDataRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbols	repeated string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
RequestId	google.protobuf.Int32Value	A user-supplied request ID that can be used to disambiguate response data
MarketSource	repeated string	A list of market sources to which the returned data should be restricted. If empty, all sources are included
Request	bool	If set to **True**, a current snapshot of the data will be retrieved
Advise	bool	If set to **True**, real-time updates from the server will be registered for

Level2MarketDataResponse

Field Name	Data Type	Retrieves
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section Server-Acknowledgement
MktSource	string	Market maker quote source
MktMkrId	string	Market maker ID
DispName	string	'IBM' (Symbol formats are datafeed-specific. Check your feed handler help file for the correct format.)
MktMkrStatus	string	Market maker status
ExchName	string	Three-letter acronym for listing exchange
MktMkrDisplay	string	Market maker display
MktMkrBidsize	google.protobuf.Int32Value	Market maker bid size (LME)
MktMkrAsksize	google.protobuf.Int32Value	Market maker ask size (LME)
SymbolId	google.protobuf.Int32Value	Symbol ID
SymbolError	google.protobuf.Int32Value	Symbol error
TableId	google.protobuf.Int32Value	Table ID
Styp	google.protobuf.Int32Value	Security type
QuoteUpdateType	google.protobuf.Int32Value	Type of update (live, refresh, or recovery)
MktMkrDate	google.protobuf.Timestamp	Market maker date (LME)
MktMkrBidTime	google.protobuf.Duration	Market maker bid time (LME)
MktMkrAskTime	google.protobuf.Duration	Market maker ask time (LME)
MktMkrBid	Price	Market maker bid price (LME)
MktMkrChangeLastAsk	Price	Ask change
MktMkrAsk	Price	Market maker ask price (LME)

UnSubscribeLevel2Data

The **UnSubscribeLevel2DataRequest** object is used as an input in **UnSubscribeLevel2Data** API. This API is used to unsubscribe the level 2 data.

UnSubscribeLevel2DataRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login

UnSubscribeLevel2DataResponse

Field Name	Data Type	Retrieves
ServerResponse	string	Success: In case the invoked API executes successfully on the server side Failed: In case the invoked API throws an error or lands in an exception
OptionalFields	map<string, string>	This is additional information given to the client in cases of failure. The field OptionalFields [“ErrorMessage”] would contain the reason for error or exception
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement

GetOptionChainForUnderlier

The **OptionChainRequest** object is used as an input in **GetOptionChainForUnderlier** API. This API is used to acquire the option chain.

OptionChainRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
SymbolRoot	string	Symbol root for options
RequestId	google.protobuf.Int32Value	A user-supplied request ID that can be used to disambiguate response data

OptionChainResponse

Field Name	Data Type	Retrieves
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement
Derivative	repeated QuoteChainResponse	Underlier information

GetSymbolReferenceData

The **SymbolReferenceDataRequest** object is used as an input in **GetSymbolReferenceData** API. This API is used to request symbol reference data.

SymbolReferenceDataRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)

SymbolReferenceDataResponse

Field Name	Data Type	Retrieves
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement
SymInfoList	repeated SymInfoResponse	Refer to the section SymInfoResponse

GetTickData

The **TickDataRequest** object is used as an input in **GetTickData** API. This API is used to request tick data.

TickDataRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
Date	google.protobuf.Timestamp	Trade date

Field Name	Data Type	Accepted Values/Examples
StartTime	google.protobuf.Duration	The time trading started for the current session
StopTime	google.protobuf.Duration	The time trading ended
RequestId	google.protobuf.Int32Value	A user-supplied request ID that can be used to dis-ambiguate response data
TickTypes	repeated TickTypes	Refer to the section TickTypes

TickDataResponse

Field Name	Data Type	Retrieves
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement
TickInfo	repeated TicksResponse	Refer to the section TicksResponse

GetOptionsAndGreekData

The **OptionsAndGreekDataRequest** object is used as an input in **GetOptionsAndGreekData** API. This API is used to request the options and greek data.

OptionsAndGreekDataRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client dur-ing the first login
Symbols	repeated string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)

OptionsAndGreekDataResponse

Field Name	Data Type	Retrieves
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement
OptionsList	repeated OptionCal-culationResponse	Refer to the section OptionCal-culationResponse

GetSecurityData

The **SecurityDataRequest** object is used as an input in **GetSecurityData** API. This API is used to request security data.

SecurityDataRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)

SecurityDataResponse

Field Name	Data Type	Retrieves
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement
SecurityInfoList	repeated SecurityData	Refer to the section SecurityData

GetSymbolsFromCompanyName

The **SymbolsFromCompanyNameRequest** object is used as an input in **GetSymbolsFromCompanyName** API. This API is used to fetch symbols for a company you entered.

SymbolsFromCompanyNameRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
CompanyName	string	Company name represented by symbol

SymbolsFromCompanyNameResponse

Field Name	Data Type	Retrieves
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement
SymbolDatalist	repeated SymbolData	Refer to the section SymbolData

GetSymbolFromAlternateSymbology

The **SymbolFromAlternateSymbologyRequest** object is used as an input in **GetSymbolFromAlternateSymbology** API. This API is used to fetch Symbols using SEDOL, CUSIP or ISIN code.

SymbolFromAlternateSymbologyRequest

Field Name	Data Type	Accepted Values/Examples
UserToken	string	A server generated GUID that is given as response to the client during the first login
Symbol	string	Valid ticker symbol (e.g., AAPL, IBM, VOD.LSE)
SymbolInfo	AlternateSymbology	Refer to the section AlternateSymbology

SymbolFromAlternateSymbologyResponse

Field Name	Data Type	Retrieves
Acknowledgement	ServerAcknowledgement	Response from the server (success or failure). Refer to the section ServerAcknowledgement
SymbolInfolist	repeated SymbolData	Refer to the section SymbolData

Exceptions and Error Handling

For every successful response from the server, the ServerAcknowledgement will yield a ServerResponse called “success”. For any exception or error, the server will respond with ServerResponse “failed” along with the reason for the error in the OptionalField[“ErrorMessage”].

Also, all the standard errors provided by gRPC are supported by default. More info on the topic can be found here.

Appendix A: Order Event Types

Event Types	Description
ClerkReject	Eze EMS rejects a user order
ExchangeAcceptOrder	Destination accepts event submitted
ExchangeBustOrder	Order that was busted by the Exchange
ExchangeKillOrder	Trade is busted by the destination
ExchangeReportStatus	Exchange reports the status of an order
ExchangeTradeOrder	Exchange executes a fill
ForeignExecution	Doneaway trade and allocation events • Allocation: Executed in another account on the EMS • Doneaway: Executed outside of the EMS but recorded in EMS
UserSubmitAllocation	User submitted allocation
UserSubmitAllocationEx	Outbound allocation
UserSubmitBust	Submission of a bust (trade or allocation) by a user
UserSubmitCancel	User submitted cancellation of a fill
UserSubmitChange	Change to an order by a user
UserSubmitCompoundOrder	Submission of a pair order by a user to an exchange
UserSubmitOrder	Submission of an order by a user to an exchange
UserSubmitStagedOrder	Submission of a staged order by user
UserSubmitTradeReport	User enters a trade through the trade report functionality (but does not mark it as a foreign execution)

Note: More information can be found in the **Reason** field in case of a Order rejection or failure.