LYNX

Handleiding

Instructies voor het gebruik van RTD-Excel met het LYNX Handelsplatform (TWS)

29 januari 2019

Inhoudsopgave

Inleiding

TWS RTD Server API stelt de gebruiker in staat real-time marktdata te ontvangen, vanuit het LYNX Handelsplatform, in Excel. De TWS RTD Server API maakt direct gebruik van de C# API Client source, welke via de socket verbinding maakt met het Handelspaltform. De RTD biedt mogelijkheid live, alsmede 15-minuten vertraagd, data in te zien. Hiertoe wordt gebruikt gemaakt van een speciale syntax.

Let wel: De RTD is nog in ontwikkeling. In de huidige staat is het alleen mogelijk marktdata in te laden via RTD. Er bestaat (nog) geen mogelijkheid tot het verzenden van orders of het ontvangen van huidige posities.

Vereisten:

- Windows Operating Systeem

Since the TWS RTD Server API technology directly refers to the C# API client source functions, it is supported on Windows Environment only.

- API version 9.73.03+

De API versie kan worden gecontroleerd in het volgende bestand: *C:\TWS API\API_VersionNum.txt* by default.

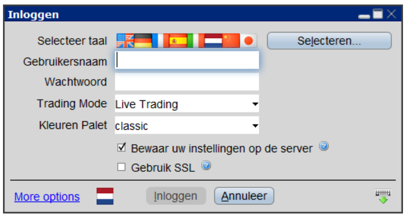
- Handelsplatform TWS (or IB Gateway) Versie 963+

De versie van uw Handelsplatform kunt u inzien via **Help** en daarna **Over LYNX Handelsplatform**.

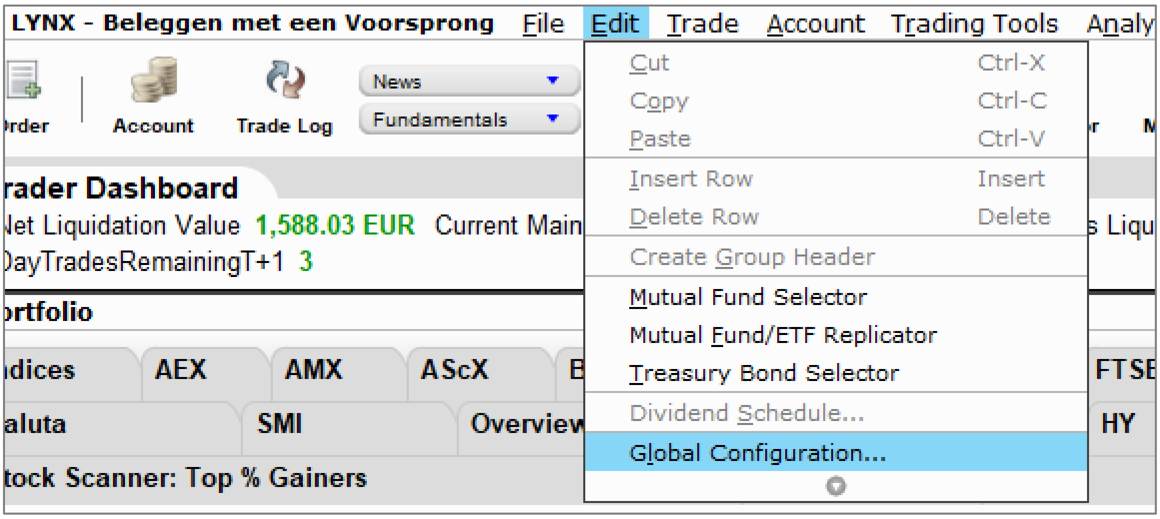
- Enable Socket Client in TWS (of IB Gateway)

Gegeven de TWS RTD Server API direct refereert aan de C# API source, worden RTD market data verzoeken via de Socket verzonden. Hiertoe dient deze instelling ‘aan’ te staan. Dit doet u via de volgende stappen:

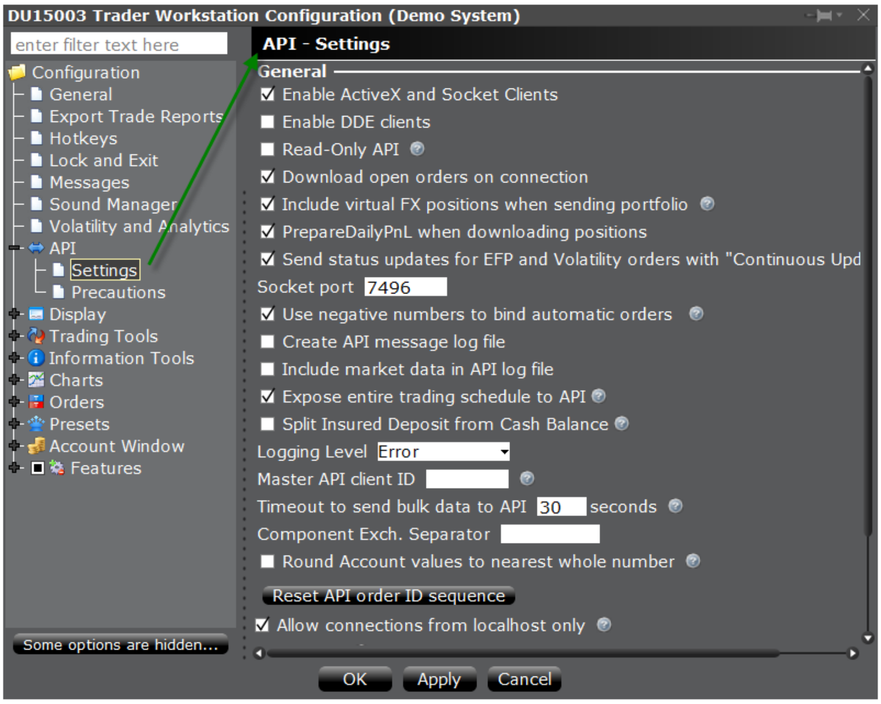
4.1 Start het LYNX handelsplatform op en log in met uw gebruikersnaam en wachtwoord.



4.2 Klik vervolgens bovenin op **Edit** en kies voor **Global Configuration**



4.3 Kies aan de linkerzijde van het hoofdmenu voor **API** en vervolgens voor **Settings**



4.4 Controleer of de instellingen zoals op de afbeelding aangegeven juist staan. Dit betekent dat u het volgende onderdeel dient aan te vinken:

- Enable ActiveX and Socket Clients

4.5 Klik op **OK** om de wijzigingen te bevestigen

- Microsoft Excel®

De standaardversie van het RTD-Excel werkblad vereist Microsoft Excel 32-bits. Indien er gebruik wordt gemaakt van een 64-bits versie van Excel dient de RTD library file (*C:\TWS API\source\csharpclient\TwsRtdServer\bin\Release\TwsRtdServer.dll* by default) opnieuw gecompiled worden voor 64-bits, via Visual Studio. Naar verwachting wordt, vanaf API-versie v973.07*, 32 bit en 64 Excel standaard ondersteund.

TWS RTD Server Formule Syntax

Om een verzoek te plaatsen dient er een formule met de onderstaande parameters te worden aangemaakt in een cell:

=RTD(**ProgID**, **Server**, **String1**, **String2**, ...)

waarin

- **ProgID** = "Tws.TwsRtdServerCtrl"
- **Server** = "" (empty string)
- **String1**, **String2**, ... is a list of strings representing **Ticker**, **Topic**, **Connection Parameters** or other **Complex Syntax** strings.

Let wel: *TWS RTD Server API formules zijn* ***niet hoofdlettergevoelig****.*

Onderstaand de meest eenvoudige manier om verschillende onderliggende waarden op te vragen:

Forex Pairs

- Simple Syntax

=RTD("Tws.TwsRtdServerCtrl",,"EUR.USD/CASH", "Bid")

Comment: Forex Ticker is defined in format "CURRENCY1.CURRENCY2/CASH".

Stocks

- Simple Syntax

=RTD("Tws.TwsRtdServerCtrl",,"IBM")

Comment: Default values are used: ***Exchange*** *= "SMART",* ***Currency*** *= "USD",* ***Security Type*** *= "STK",* ***Topic*** *= "Last".*

=RTD("Tws.TwsRtdServerCtrl",,"IBM@ISLAND", "Bid")

Indexes

- Simple Syntax

=RTD("Tws.TwsRtdServerCtrl",,"SPX@CBOE//IND", "Last")

*Comment: Default **Currency** = "USD" is used.*

=RTD("Tws.TwsRtdServerCtrl",,"DAX@DTB//IND////EUR", "Last")

CFDs

- Simple Syntax

=RTD("Tws.TwsRtdServerCtrl",,"IBDE30@SMART//CFD////EUR", "Bid")

Futures

- Simple Syntax

=RTD("Tws.TwsRtdServerCtrl",,"ES@GLOBEX//FUT/201712///USD", "Bid")

*Comment: Use underlying **Symbol** and **LastTradeDateOrContractMonth** to define futures contract.*

Options

- Simple Syntax

=RTD("Tws.TwsRtdServerCtrl",,"GOOG@SMART//OPT/20170421/C/835/USD", "Bid")

*Comment: Use **Symbol**, **LastTradeDateOrContractMonth**, **Right** and **Strike** to define options contract.*

Futures Options

- Simple Syntax

=RTD("Tws.TwsRtdServerCtrl",,"ES@GLOBEX//FOP/20180316/C/1000/USD", "Close")

Commodities

- Simple Syntax

=RTD("Tws.TwsRtdServerCtrl",,"XAUUSD@SMART//CMDTY", "Bid")

Tick Typen:

Basic Tick Types

Een specifieke Tick kan worden opgevraagd door deze als Topic toe te voegen aan het verzoek. Hieronder een voorbeeld met BidSize als topic:

=RTD("Tws.TwsRtdServerCtrl",,"IBM@ISLAND", "BidSize")

Indien er geen **Topic** string is gedefinieerd, wordt er standaard gebruik gemaakt van *"Last"*.

De table hieronder laat een volledige lijst van ticks zien die beschikbaar zijn als **Topic** binnen RTD.

Tick Name	Topic String	Description
Bid Size	"BidSize"	Number of contracts (or lots) offered at the bid price.
Bid Price	"Bid"	Highest bid price for the contract.
Ask Price	"Ask"	Lowest offer price for the contract.
Ask Size	"AskSize"	Number of contracts (or lots) offered at the ask price.
Last Price	"Last"	Last price at which the contract traded.
Last Size	"LastSize"	Number of contracts or lots traded at the last price.
High	"High"	High price for the day.
Low	"Low"	Low price for the day.
Volume	"Volume"	Trading volume for the day for the selected contract (Volume for US Stocks are quoted in lots. The actual number of shares in volume can be calculated by multiplying 100).
Close Price	"Close"	The last available closing price for the previous day. For US Equities, we use corporate action processing to get the closing price, so the close price is adjusted to reflect forward and reverse splits and cash and stock dividends.
Open Price	"Open"	Today's opening price. The official opening price requires a market data subscription to the native exchange of a contract.

Last Exchange	"LastExch"	The exchange where the Last Price is provided from.
Bid Exchange	"BidExch"	The exchange where the Bid Price is provided from.
Ask Exchange	"AskExch"	The exchange where the Ask Price is provided from.
Last Timestamp	"LastTime"	Time of the last trade (in UNIX time).
Halted	"Halted"	Indicates if a contract is halted.
Bid Implied Volatility	"BidImpliedVol"	Implied volatility calculated from option bid prices.
Bid Delta	"BidDelta"	Delta calculated from the option bid prices.
Bid Option Price	"BidOptPrice"	Current bid price for the option contract.
Bid PV Dividend	"BidPvDividend"	The present value of dividends expected on the option's underlying.
Bid Gamma	"BidGamma"	The option gamma value calculated from the option bid prices.
Bid Vega	"BidVega"	The option vega value calculated from the option bid prices.
Bid Theta	"BidTheta"	The option theta value calculated from the option bid prices.
Bid Price of Underlying	"BidUndPrice"	The current bid price of the option underlying.
Ask Implied Volatility	"AskImpliedVol"	Implied volatility calculated from option ask prices.
Ask Delta	"AskDelta"	Delta calculated from the option ask prices.
Ask Option Price	"AskOptPrice"	Current ask price for the option contract.
Ask PV Dividend	"AskPvDividend"	The present value of dividends expected on the option's underlying.
Ask Gamma	"AskGamma"	The option gamma value calculated from the option ask prices.

Ask Vega	"AskVega"	The option vega value calculated from the option ask prices.
Ask Theta	"AskTheta"	The option theta value calculated from the option ask prices.
Ask Price of Underlying	"AskUndPrice"	The current ask price of the option underlying.
Last Implied Volatility	"LastImpliedVol"	Implied volatility calculated from option last prices.
Last Delta	"LastDelta"	Delta calculated from the option last prices.
Last Option Price	"LastOptPrice"	Current last price for the option contract.
Last PV Dividend	"LastPvDividend"	The present value of dividends expected on the option's underlying.
Last Gamma	"LastGamma"	The option gamma value calculated from the option last prices.
Last Vega	"LastVega"	The option vega value calculated from the option last prices.
Last Theta	"LastTheta"	The option theta value calculated from the option last prices.
Last Price of Underlying	"LastUndPrice"	The current last price of the option underlying.
Model Implied Volatility	"ModelImpliedVol"	Implied volatility calculated from option model prices.
Model Delta	"ModelDelta"	Delta calculated from the option model prices.
Model Option Price	"ModelOptPrice"	Current model price for the option contract.
Model PV Dividend	"ModelPvDividend"	The present value of dividends expected on the option's underlying.
Model Gamma	"ModelGamma"	The option gamma value calculated from the option model prices.
Model Vega	"ModelVega"	The option vega value calculated from the option model prices.

Model Theta	"ModelTheta"	The option theta value calculated from the option model prices.
Model Price of Underlying	"ModelUndPrice"	The current model price of the option underlying.

Generieke Tick Types

Ook Generieke Tick Types dienen te worden gespecificieerd als **Topic**. Hieronder een voorbeeld met 52-Week High Price als topic:

`=RTD("Tws.TwsRtdServerCtrl",,"IBM@SMART", "Week52Hi")`

De table hieronder laat een volledige lijst van **Generic Tick Types** zien die beschikbaar zijn als **Topic**.

Generic Tick Type Name	Topic String	Description	Generic Tick Required
Auction Volume	"AuctionVolume"	The number of shares that would trade if no new orders were received and the auction were held now.	225
Auction Imbalance	"AuctionImbalance"	The number of unmatched shares for the next auction; returns how many more shares are on one side of the auction than the other.	225
Auction Price	"AuctionPrice"	The price at which the auction would occur if no new orders were received and the auction were held now. The indicative price for the auction.	225
Regulatory Imbalance	"RegulatoryImbalance"	The imbalance that is used to determine which at-the-open or at-the-close orders can be entered following the publishing of the regulatory imbalance.	225
PL Price	"PlPrice"	The PL Price, also known as the Mark Price, is the current theoretical calculated value of an instrument. Since it is a calculated value, it will typically have many digits of precision.	232

Creditmanager Mark Price	"CreditmanMarkPrice"	Not currently available.	221
Creditmanager Slow Mark Price	"CreditmanSlowMarkPrice"	Slow Mark Price update used in system calculations (same as Mark Price update in TWS Account Window -> Portfolio).	619
Call Option Volume	"CallOptionVolume"	Call option volume for the trading day.	100
Put Option Volume	"PutOptionVolume"	Put option volume for the trading day.	100
Call Option Open Interest	"CallOptionOpenInterest"	Call option open interest.	101
Put Option Open Interest	"PutOptionOpenInterest"	Put option open interest.	101
Option Historical Volatility	"OptionHistoricalVol"	The 30-day historical volatility (currently for stocks).	104
RT Historical Volatility	"RTHistoricalVol"	30-day real time historical volatility (Futures only).	411
Option Implied Volatility	"OptionImpliedVol"	A prediction of how volatile an underlying will be in the future. The IB 30-day volatility is the at-market volatility estimated for a maturity thirty calendar days forward of the current trading day, and is based on option prices from two consecutive expiration months.	106
Index Future Premium	"IndexFuturePremium"	The number of points that the index is over the cash index (Indexes only).	162
Shortable	"Shortable"	Describes the level of difficulty with which the contract can be sold short.	236
Fundamental Ratios	"Fundamentals"	Provides the available Reuter's Fundamental Ratios.	258

Trade Count	"TradeCount"	Trade count for the day.	293
Trade Rate	"TradeRate"	Trade count per minute.	294
Volume Rate	"VolumeRate"	Volume per minute.	295
Last RTH Trade	"LastRthTrade"	Last Regular Trading Hours traded price.	318
IB Dividends	"IBDividends"	Contract's dividends.	456
Bond Factor Multipler	"BondMultiplier"	Not currenctly available.	460
Average Volume	"AvgVolume"	The average daily trading volume over 90 days (multiply this value times 100).	165
High 13 Weeks	"Week13Hi"	Highest price for the last 13 weeks.	165
Low 13 Weeks	"Week13Lo"	Lowest price for the last 13 weeks.	165
High 26 Weeks	"Week26Hi"	Highest price for the last 26 weeks.	165
Low 26 Weeks	"Week26Lo"	Lowest price for the last 26 weeks.	165
High 52 Weeks	"Week52Hi"	Highest price for the last 52 weeks.	165
Low 52 Weeks	"Week52Lo"	Lowest price for the last 52 weeks.	165
Short-Term Volume 3 Minutes	"ShortTermVolume3Min"	The past three minutes volume. Interpolation may be applied.	595
Short-Term Volume 5 Minutes	"ShortTermVolume5Min"	The past five minutes volume. Interpolation may be applied.	595
Short-Term Volume 10 Minutes	"ShortTermVolume10Min"	The past ten minutes volume. Interpolation may be applied.	595
Futures Open Interest	"FuturesOpenInterest"	Total number of outstanding futures contracts (TWS Build 965+ is required)	588

Average Option Volume	"AvgOptVolume"	Average volume of the corresponding option contracts (TWS Build 970+ is required)	105