

IBrokers Reference Card

IBrokers 0.2-7; TWS API 9.62

IBrokers R API Overview

The IBrokers API parallels the official Java API provided by Interactive Brokers, LLC to access data and execution services provided to IB clients. Commands can be run interactively or automated.

The official API documentation is grouped by *EClientSocket* methods, *EWrapper* methods, and *SocketClient* objects. This document combines all related objects and methods into groups by functionality.

Where appropriate, *eWrapper* methods for processing incoming messages from related calls are listed.

Connection and Server

Connecting to either the TWS or IB Gateway requires setting connection parameters external to IBrokers. Once enabled, the following commands can be used for connections and details.

connect	twConnect
disconnect	twDisconnect , close
is a tws connection	is.twConnection
set logging level	setServerLogLevel
check server version	serverVersion
request current time	reqCurrentTime
request connection time	twConnectionTime

Contracts

All requests require validly constructed *twContract* objects. The basic function to create a valid object is **twContract**, though IBrokers implements wrapper functions to simplify commonly requested types such as equity, cash, and futures. Depending on the context the constructors may need more or less detail.

create any contract	twContract
create equity contract	twEquity , twSTK
create equity option contract	twOption , twOPT
create future contract	twFuture , twFUT
create future option contract	twFutureOpt , twFOP
create currency contract	twCurrency , twCASH

Contract Details

Given a full or partial *twContract*, returns a list of *twContractDetails* objects; named lists containing contract details including a **contract** element of class *twContract*. Many IBrokers calls will accept **Contract** arguments of *twContract* or *twContractDetails*.

request contract(s) description	reqContractDetails
extract <i>twContract</i> from details	as.twContract

Market Data

Market Data provides for nearly real-time data from Interactive Brokers. Data is actually aggregated into one-third second 'snapshot' data from the exchange, and subsequently passed along to the client.

request market data and process	reqMktData
request market data (only)	.reqMktData
cancel market data	cancelMktData

eWrapper methods:

tickPrice, *tickSize*, *tickOptionComputation*, *tickGeneric*
tickString, *tickEFP*, *tickSnapshotEnd*

Market Depth

Depth of book varies according to contract, and may not be available for all security types.

request market depth data	reqMktDepth
cancel market depth data	cancelMktDepth

eWrapper methods:

updateMktDepth, *updateMktDepthL2*

Real Time Bars

Real-time bars are limited to 5-second bars by the official API. All other **barSize** values will fail. Realtime bars may not be available for all security types.

request real-time bars	reqRealTimeBars
cancel real-time bars	cancelRealTimeBars

eWrapper methods:

realtimeBars

Historical Data

Depending on the contract, only specific combinations of **barSize** and **duration** arguments are valid, and some security types have no historical data. **reqHistory** is an IBrokers only call, allowing for one year of 1 minute bars, respecting IB timeouts (10 seconds) and maximum bars per request (2000).

request historical data	reqHistoricalData
request maximum history	reqHistory
cancel historical request	cancelHistoricalData

Valid **barSize** values include: 1 secs, 15 secs, 1 min, 2 mins, 3 mins, 5 mins, 15 mins, 30 mins, 1 hour, 1 day, 1 week, 1 month, 3 months, 1 year.

Valid **duration** form is '*n S*', where *n* is the number of periods of *S*. The second argument may be S (seconds), D (days), W (weeks), M (months), Y (year). Year requests are limited to 1 year.

Orders

Orders via the IB API, and the IBrokers API, require three primary components: A *twContract* object, a *twOrder* object, and a **placeOrder** call. Additionally, a valid **orderId** is required to the *twOrder* object. This is found by calling **reqIds** on the *twConnection* object. **reqIds** operates directly on the connection object by retrieving and then incrementing the next valid order id in the connection object.

next valid order id	reqIds
create order object	twOrder

place order and process	placeOrder
place order (only)	.placeOrder
cancel order	cancelOrder

eWrapper methods:

orderStatus, *openOrder*, *nextValidId*, *execDetails*

Account

Account data is requested on a subscription basis. The user subscribes to a continuously updated feed from the TWS by passing the connection object and the **subscribe** argument set to **TRUE**; unsubscribe with **FALSE**.

subscribe and process	reqAccountUpdates
subscribe (only)	.reqAccountUpdates

eWrapper methods:

updateAccountValue, *updatePortfolio*, *updateAccountTime*

Executions

Returns execution details in a *twExecution* object. This method is currently only implemented as a request, with no built-in mechanism to manage response data apart from it being discarded.

request execution data	reqExecutions
filter argument	reqExecutionFilter

eWrapper methods:

execDetails, *execDetailsEnd*

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