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Interactive Brokers: Streaming Market Data
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Streaming Market Data

It is possible to fetch different kinds market data from the TWS:

-    [Top Market Data (Level I)](https://interactivebrokers.github.io/
tws-api/top_data.html)
-    [Market Depth (Level II)](https://interactivebrokers.github.io/
tws-api/market_depth.html)
-    [5 Second Real Time Bars](https://interactivebrokers.github.io/
tws-api/realtime_bars.html)

Live Market Data

In order to receive real time top-of-book, depth-of-book, or
historical market data from the API it is necessary have live market
data subscriptions for the requested instruments in TWS. The full list
of requirements for real time data:

(1) trading permissions for the specified instruments

(2) a funded account (except with forex and bonds), and

(3) market data subscriptions for the specified username

To subscribe to live market data:

Login to your [Account Management](https://
gdcdyn.interactivebrokers.com/sso/Login), navigate to Manage Account
-> Trade Configuration -> Market Data and select the relevant packages
and/or subscription you wish to subscribe to based on the products you
require.

One way to determine which market data subscriptions are required for
a given security is to enter the contract into a TWS watchlist and the
right-click on the contract to select "Launch Market Data Subscription
Manager". This will launch a browser window to the market data
subscription page of a subscription covering the indicated instrument.

Alternatively, there is also a "Market Data Assistant" utility for
determining market data subscriptions:

![am_market_data_subscription.png](https://
interactivebrokers.github.io/tws-api/am_market_data_subscription.png)

Once you have selected the relevant packages, click on the "Continue"

button and confirm you have made the right choices in the following
screen.

Important: Market Data subscriptions are billable at the full
month's rate and will not be pro-rated.

![am_subscription_confirm.png](https://interactivebrokers.github.io/
tws-api/am_subscription_confirm.png)

Sharing Market Data Subscriptions

Market data subscriptions are done at a **TWS user name** level, not
per account. This implies that live market data subscriptions need to
be purchased per every live TWS user. The only exception to this rule
are paper trading users. To share the market data subscriptions simply
access your [Account Management](https://
gdcdyn.interactivebrokers.com/sso/Login) and navigate to Manage
Account -> Settings -> Paper Trading where you will be presented to
the screen below. It will take up to 24 hours until the market data
sharing takes effect.

![am_md_sharing.png](https://interactivebrokers.github.io/tws-api/
am_md_sharing.png)

Important: since your paper trading market data permissions are
bound to your live one, you can only obtain live market data on your
paper trading user if;

-   You have shared the market data subscriptions accordingly as
described above.
-   You are NOT logged in with your live user name at the same time on
a **different** computer.

Market Data Lines

Whenever a user requests an instrument's real time (top-of-book)
market data either from within the TWS or through the TWS API, the
user is making use of a market data line. Market data lines therefore
 represent the **active** market data requests a user has.

Example: To clarify this concept further, let us assume a user has
a maxTicker Limit of **ten** market data lines and is already
observing the real time data of say **five** stocks within the TWS
itself. When the user connects his TWS API client application to the
TWS, he then requests the real time market data for another
different five instruments. At a later point while all 10
requests are still active, the user tries to subscribe to the live
real time market data of an eleventh product. Since the user is
already making use of ten market data lines (five in the TWS and
another five in his client application), the TWS will respond with an

error message telling the client application it has reached the maximum number of simultaneous requests. In order to request the market data of the eleventh product, the user will have to cancel at least one of the currently active subscriptions (either within TWS or from his client program.)

By default, every user has a maxTicker Limit of 100 market data lines and as such can obtain the real time market data of up to 100 instruments **simultaneously**. This limit however can be further extended either through the purchase of quote booster packs or by increasing the equity and/or commissions of the user's account. For further details on how to increment the number of market data lines or how is your market data lines' entitlement calculated, please refer to our website's "Market Data Display" section within the [Research, News and Market Data](https://www.interactivebrokers.com/en/index.php?f=14193) page.

Note: It is important to understand the concept of market data lines since it has an impact not only on the live real time requests but also for requesting market depth and real time bars.

Quotes in shares

Previously, US stock size quotes were displayed in round lots (of 100 shares).
Effective with TWS release 985 and above, the bid, ask, and last size quotes are displayed in shares instead of lots.
API users have the option to configure the TWS API to work in compatibility mode for older programs, but we recommend migrating to "quotes in shares" at your earliest convenience.
To use compatibility mode, from the Global Configuration > API > Settings page, check "Bypass US Stocks market data in shares warning for API orders."

![bypass_usstk_api_shares.png](https://interactivebrokers.github.io/tws-api/bypass_usstk_api_shares.png)