



TeleTrader Web service - Your choice for web-based solutions and financial portals



The **TeleTrader Financial Web Service** is a REST / RPC-style Web service which provides request-based access to the TeleTrader data universe. In addition, our Web service provides a rich set of middleware functionality such as chart generation, virtual portfolios, watch lists, alarms and many

more. It is one of the most advanced financial Web services worldwide and serves more than 150 million requests per month, including more than 25 million chart requests.

Available Data:

- ▶ Stocks
- ▶ Bonds
- ▶ Funds
- ▶ Derivatives
- ▶ Indices
- ▶ Currencies
- ▶ News
- ▶ Analyst Recommendations
- ▶ Economic Data
- ▶ Historic Data
- ▶ Company Profiles and Calendars

Features:

- ▶ Arbitrage Lists
- ▶ User Accounts
- ▶ Stock Exchange Games
- ▶ Charts
- ▶ Virtual Portfolios
- ▶ Search
- ▶ Top/Flop Lists
- ▶ Watch Lists

Use case example:

General Electric Co / US3696041033 / NYSE :

Last	Change	Change (%)	Volume	Bid	Ask	Type
20.21	USD	+0.17	+0.85%	24.82 mill.	20.21	20.22
			Turnover: 454.73 mil.	Bid Size: 26,000	Ask Size: 21,300	Stock

Financial Web Service - Request:

```
http://[tws-server]/tws-net/?action=getSymbols&id=tts-824756&symbolInfo=name isin stockExchangeName typeNameEng currency&showQuote=1&quoteInfo=last change changePercent volume bid bidSize ask askSize
```

Financial Web Service - Response:

```
<Result errorNumber="0">
  <SymbolList xsi:type="Symbols" totalRecords="1">
    <Symbol name="General Electric Co" isin="US3696041033"
      stockExchangeName="NYSE" typeNameEng="Stock"
      currency="USD" id="tts-824756">
      <Quote last="20.27" change="0.23" changePercent="1.14271"
        volume="27146125" bid="20.26"
        bidSize="29600" ask="20.27" askSize="14700"/>
    </Symbol>
  </SymbolList>
</Result>
```

TeleTrader HTTP Streaming - Brings real-time ticks into your web-based terminal, web portal or chart

TeleTrader's HTTP Push Server is a streaming data service designed for real-time data delivery over HTTP connections. It can stream market data directly to web pages, without the need for Java, Flash or any other components. A very lightweight JavaScript client is responsible for receiving data and displaying changes in the web browser, immediately as they occur. The push solution is compatible with virtually all existing browsers and can be used to deliver live data to any HTML page. The HTTP Push server targets primarily web pages, but it can also be used for real-time data delivery to any kind of fat client (i.e. a Java desktop application).

JSON Message:

```
{
  "symbolId" : "12345678",
  "last" : 14.45,
  "dateTime" : "12.01.2009 11:18:33",
  "volume" : 4450
}
```



The service is based on Bayeux, an open-source protocol for asynchronous transfer of messages with low latency, and is fully compatible with all existing Bayeux client libraries. Clients that wish to integrate the TeleTrader HTTP Push server into their applications can use existing libraries in Java,

Python and Flash/Flex or even write their own client library by following the rather simple protocol specification.

HTTP Streaming Features:

- ▶ Subscription to price updates
- ▶ News Subscription

TeleTrader Data Streaming APIs - Direct and low latency access to tick data from exchanges all over the world



The TeleTrader data streaming APIs provide low-latency access to the TeleTrader market data universe. APIs are available in C++/C# (Windows platform) and Java. Data Streaming APIs support both a request-response (pull) and subscription-based (push) model. The API's authentication and authorization mechanism is based on username and password security. The communication is based on a fast TCP/IP protocol that directly connects to our data streaming servers.

Data Streaming API Features:

- ▶ Requesting data-fields
- ▶ Subscription to price updates
- ▶ Search
- ▶ Historic data (ticks, intraday, daily data)

C++:

```
int userID = LoginToServer( mds, MDS_USERNAME, MDS_PASSWORD,
    reqID++ );
if( userID != 0 )
    cout << "Login ok" << endl;
else
    cout << "Login failed" << endl;
// Create SymbolQuote request message.
IMessagePtr request = RequestFactory::MakeQuoteRequest(
    reqID++, userID, "*****" )
->AddFieldFilter( FID::Open )
->AddFieldFilter( FID::High )
->AddFieldFilter( FID::Low );
// Send the message to the server.
cs = mds->Send( request );
CheckForError( cs, mds );
cout << endl << "SymbolQuote message sent ok" << endl;
```

C#:

```
int userID = CommonHelper.LoginToServer( mds,
    ExampleMDSClient.MDS_USERNAME,
    ExampleMDSClient.MDS_PASSWORD, reqID++ );
if( userID != 0 )
    Console.WriteLine( "Login ok" );
else
    Console.WriteLine( "Login failed" );
// Create SymbolQuote request message.
IMessage request = RequestFactory.MakeQuoteRequest(
    reqID++, userID, "*****" );
// Send the message to the server.
cs = mds.Send( request );
CommonHelper.CheckForError( cs, mds );
Console.WriteLine( "\nSymbolQuote message sent ok" );
```

TeleTrader File Exports - Back testing your trading strategy? No problem with TeleTrader tick histories

File exports from the TeleTrader data universe (time series, master data, end-of-day price data, etc.) are possible in all common formats and protocols.

Formats:

- ▶ ASCII
- ▶ XML
- ▶ Excel
- ▶ CSV File

Protocols:

- ▶ HTTP
- ▶ HTTPS
- ▶ FTP



TeleTrader Flash Tools



TeleTrader Flash tools can be used with or without TeleTrader data. Flexible APIs allow you to connect the tools to the data source of your choice.

TeleTrader offers a powerful set of tools based on Flash technology. This includes:

- ▶ a feature-rich flash charting tool
- ▶ a flash ticker
- ▶ a bonus or discount cloud
- ▶ and a world map to combine stock market and geographical information

The TeleTrader Flash tools can be provided for integration in:

- ▶ Web pages
- ▶ .NET Applications
- ▶ Flash/Flex Applications
- ▶ Java Applications

