REFINITIV™

Datastream Web Service
Getting started with MATLAB®

Introducing Datastream Web Service via MATLAB®

Datastream is the world's leading time series database, enabling strategists, economists and research communities' access to the most comprehensive financial information available. With histories back to the 1950's, you can explore relationships between data series; perform correlation analysis, test investment and trading ideas and research countries, regions and industries.

Datastream content is available via the MATLAB Toolbox using the Datastream Web Service tool. MATLAB® created by MathWorks, combines a desktop environment tuned for iterative analysis and design processes with programming language that expresses matrix and array mathematics directly.   MATLAB apps let you see how different algorithms work with your data. Iterate until you've got the results you want, then automatically generate a MATLAB program to reproduce or automate your work.

This document provides examples on how to establish connection to Datastream Web Service (DSWS) and retrieve historical data for one or more instruments. It also gives basic information on usage and search of the desired instruments.

Requirements

•   A Datastream Child ID, with access to DSWS API

•   MATLAB 2018b (or above)

•   Access to Datastream Navigator for code look up would be recommended, either via DFO or Eikon

Running simple commands within MATLAB

To communicate with DSWS, you need to first use the function datastreamws():

d=datastreamws("EnterDatastreamIDHere","EnterDatastreamPasswordHere")

Datastream ID and Password need to be entered in capital letters, while Datastream ID format must be entered with four letters and 3 numbers. For example:

d=datastreamws("ZXXX000","PASSWORD123")

The returned object, here named d, is then used in a function history() for all type of data requests. To get the complete time series for UK GDP constant prices from the Base Date (BDATE) to latest value (TIME) on a quarter basis use:

>> Q = history(d,"UKGDP...D","X","BDATE","TIME","Q")

This creates a timetable named q. You can get a quick plot using:

plot(q2.X)

Other Time Series Request Examples

To get the last 3 years of historic values for 3 Chinese economic series on a monthly basis you can use:

q=history(d,["CHM1....A", "CHCNFCONR", "CHXRUSD."],"","-3Y","-0D","M"

Running a static request

A simple static request of one equity and two data types:

qstat = history(d,"STOB",["P","MV"],"-0D")

A static request for the latest market capitalization and index weights for the FTSE100 constituents:

qstat = history(d,"LFTSE100",["MVC","WTIDX"],"-0D")

This returns a table of tables. The weights, WTIDX, are not usable directly as numbers but one can convert them via:

qstatnum = str2double(qstat.WTIDX{:,4})

The weight distribution is seen via:

plot(qstatnum)

Size of requests

Users are advised of the maximum size limits of DSWS requests via EViews:

- Maximum instruments per request 50
- Maximum datatypes per request 50
- Maximum items (instrument x datatypes) per request not to exceed 100