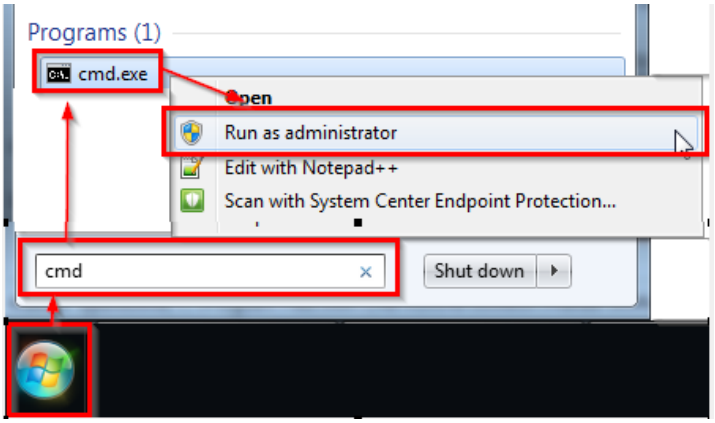
MATLAB/R RealTime

The realtime function allows users to stream realtime exchange data. Multiple securities can be streamed at once and the streaming data can be referenced through the variables that are created. The FactSet Workstation must be running for this function to work and the FactSet Datafeed Toolkit 2.5.0+ must be installed when using MATLAB.

Note: *Requires an additional subscription and FactSet plugin version 3.2+*

Installation & Setup

1) Install the C++/COM Developer API/Toolkit http://www.factset.com/download/exchangedatafeed
2) Register (as administrator) the FactSet workstation dll by running "*regsvr32 FDSRTCOM.FVM"* in the CMD window following the steps below:
    a. Click on the "Start" menu
    b. Type "cmd" into the search box
    c. Right-Click on the cmd.exe icon
    d. Click "Run as administrator"



    e. When cmd window launches, change the directory to C:\Program Files (x86)\FactSet\DataFeed\fdsrt-2\bin
        i. Type "cd C:\Program Files (x86)\FactSet\DataFeed\fdsrt-2\bin"
    f. Then type "regsvr32 FDSRTCom_x64.dll". You should receive a message saying that registration was successful.
    g. Then type "regsvr32 FDSRTComd_x64.dll". You should receive a message saying that registration was successful.

Requesting Data

Note: Access to streaming data is determined by exchange entitlements set in the FactSet workstation.

Note: FactSet workstation must be open to stream data.

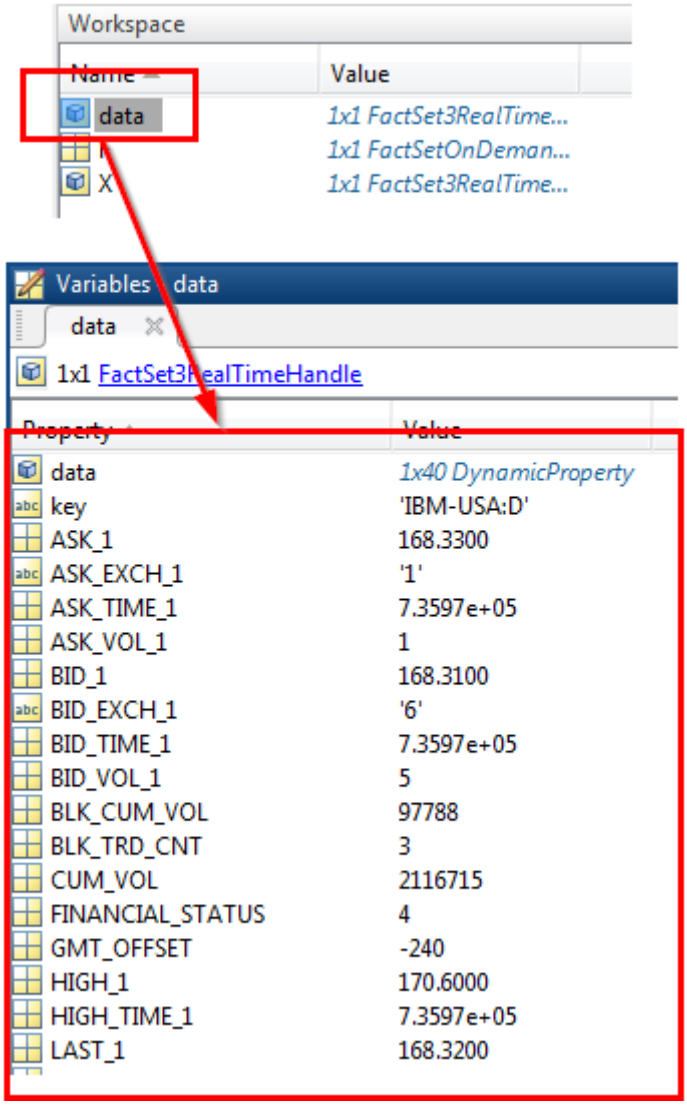
Sample Code: data=F.RealTime('IBM')

Viewing the Streaming Data

Note: In MATLAB the variable window will display actively streaming data. In R, it is request-response driven and will only return the updated data when it is called again.

MATLAB

- When data=F.RealTime('IBM') is run, a new Workspace variable will be created. Double-Click on the data variable to launch the variable.



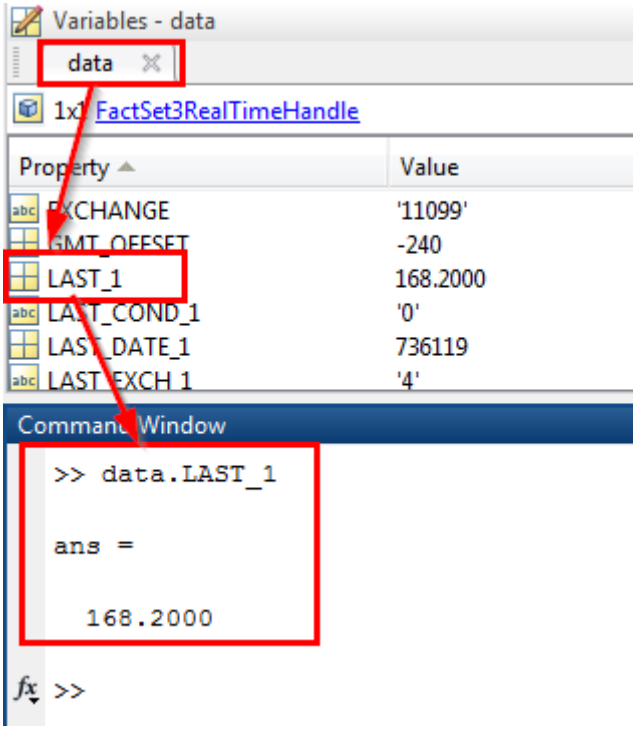
R

- When data=F.RealTime('IBM') is run, you can return the “data” variable by typing “data”.
-

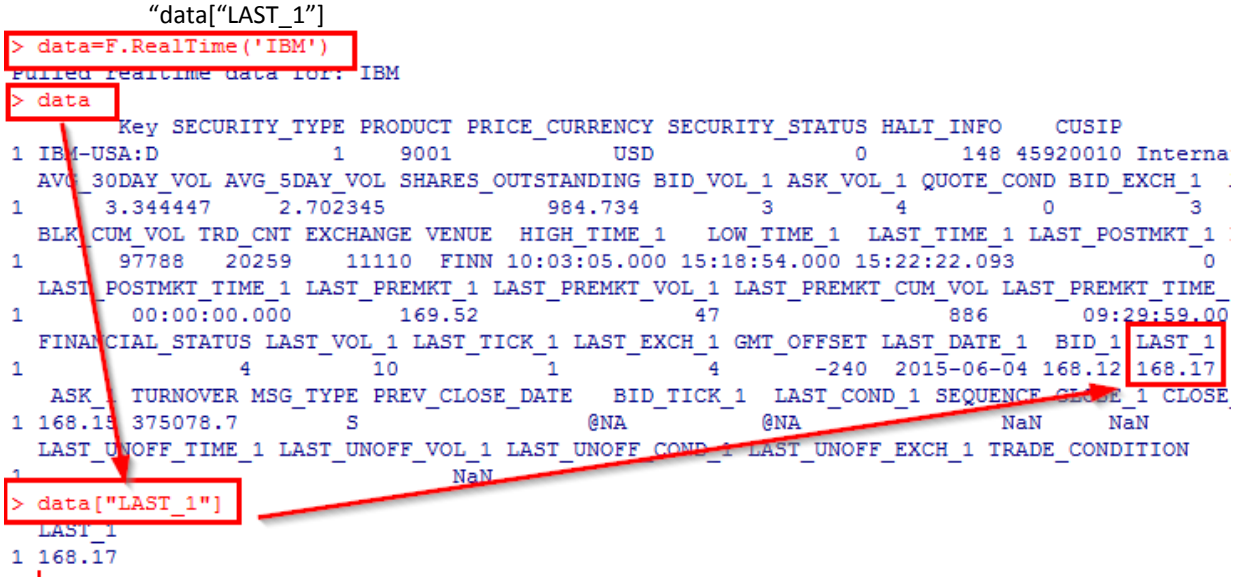
```
> data=F.RealTime('IBM')
Pulled realtime data for: IBM
> data
        Key SECURITY_TYPE PRODUCT PRICE_CURRENCY SECURITY_STATUS I
1 IBM-USA:D             1    9001            USD               0
  AVG_30DAY_VOL AVG_5DAY_VOL SHARES_OUTSTANDING BID_VOL_1 ASK_VOL_
1      3.344447     2.702345             984.734         3
  BLK_CUM_VOL TRD_CNT EXCHANGE   HIGH_TIME_1   LOW_TIME_1  LAST_TI
1       97788   19671    11110 10:03:05.000 15:15:36.000 15:16:06
  LAST_POSTMKT_TIME_1 LAST_PREMKT_1 LAST_PREMKT_VOL_1 LAST_PREMKT_
1        00:00:00.000        169.52                47
  FINANCIAL_STATUS LAST_VOL_1 LAST_TICK_1 LAST_EXCH_1 GMT_OFFSET I
1                4        100           2           1       -240
   ASK_1 TURNOVER MSG_TYPE PREV_CLOSE_DATE   BID_TICK_1  LAST_CONI
1 168.23 365655.6        S                @NA          @NA
  LAST_UNOFF_TIME_1 LAST_UNOFF_VOL_1 LAST_UNOFF_COND_1 LAST_UNOFF_
1                                NaN
```

Referencing Real-Time Data

- To reference the data in MATLAB, simply request by using “variable.field” syntax. For example, “data.LAST_1”



- To reference the data in R, request by using the variable[“Field”] syntax. For example, “data[“LAST_1”]




```
> data=F.RealTime('IBM')
Pulled realtime data for: IBM
> data
        Key SECURITY_TYPE PRODUCT PRICE_CURRENCY SECURITY_STATUS HALT_INFO    CUSIP
1 IBM-USA:D             1    9001            USD               0       148 45920010 Interna
  AVG_30DAY_VOL AVG_5DAY_VOL SHARES_OUTSTANDING BID_VOL_1 ASK_VOL_1 QUOTE_COND BID_EXCH_1
1      3.344447     2.702345            984.734         3         4          0          3
  BLK_CUM_VOL TRD_CNT EXCHANGE VENUE  HIGH_TIME_1   LOW_TIME_1  LAST_TIME_1 LAST_POSTMKT_1
1       97788   20259    11110  FINN 10:03:05.000 15:18:54.000 15:22:22.093             0
  LAST_POSTMKT_TIME_1 LAST_PREMKT_1 LAST_PREMKT_VOL_1 LAST_PREMKT_CUM_VOL LAST_PREMKT_TIME_
1        00:00:00.000        169.52                47                 886       09:29:59.00
  FINANCIAL_STATUS LAST_VOL_1 LAST_TICK_1 LAST_EXCH_1 GMT_OFFSET LAST_DATE_1  BID_1 LAST_1
1                4         10           1           4       -240  2015-06-04 168.12 168.17
   ASK_1 TURNOVER MSG_TYPE PREV_CLOSE_DATE   BID_TICK_1  LAST_COND_1 SEQUENCE_CLOSE_1 CLOSE
1 168.15 375078.7        S                @NA          @NA                 NaN     NaN
  LAST_UNOFF_TIME_1 LAST_UNOFF_VOL_1 LAST_UNOFF_COND_1 LAST_UNOFF_EXCH_1 TRADE_CONDITION
1                                NaN
> data["LAST_1"]
  LAST_1
1 168.17
```