Lab. MINDS - Machine Intelligence and Data Science
Tutorial - MINDS MT5 Data Downloader

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Introduction

This tutorial teaches how to use the MINDS MT5 Data Downloader, a script written in the MQL5 language for downloading historical data from brokerages in an automated manner. The downloaded data is stored in .csv files. For enjoying it, you must have an account in any brokerage that provides the MetaTrader 5 (MT5) trading platform. Therefore, in this tutorial we consider that you already have an account open and also the MT5 installed and running on your computer. This script was successfully executed in MacOS and in Windows. An usage example is provided in the last section.

Download and Setup

1. Download the file **MINDS-MT5-Data-Downloader.mq5** available on:

    https://github.com/fseniuk/MetaTrader-5-Historical-Data-Downloader

2. Find the directory where the MT5 is installed (probably in *Program Files*). Inside this directory, enter the folder *MQL5*. Inside the *MQL5* folder, enter the folder *Scripts*. Finally, move the downloaded script (.mq5 file) into this folder (*Scripts*). Figure 1 shows the .mq5 file (with a blue background) in the *Scripts* directory.
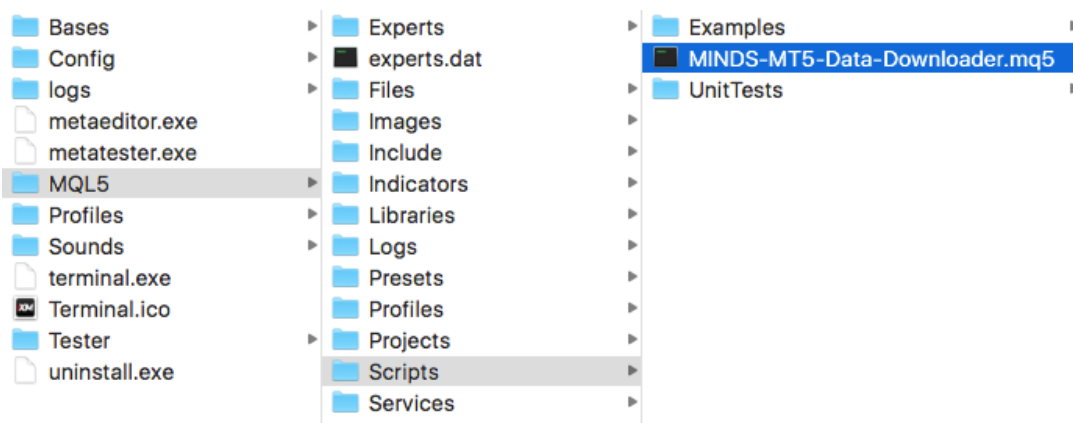

Figure 1 - The .mq5 file after being moved into the *Scripts* directory.

Note: If you write your own MQL5 scripts using the MetaEditor, which is tightly linked with the MT5, your scripts will be automatically saved in this directory (*Scripts*), as shown in figure 1.

3. Open the MT5, select the option *Tools* from the menu bar and then select the option *MetaQuotes Language Editor*. We are opening the MetaEditor, where this script was originally written. Now locate the *Scripts* folder in the *Navigator* tab shown in figure 2, inside the red rectangle. Locate the downloaded script, pointed in figure 2 by the red arrow, and double-click it. The script is now open and you are free to read the code and modify it if you wish. Finally compile the script by clicking on the button *Compile* (orange rectangle - figure 2).
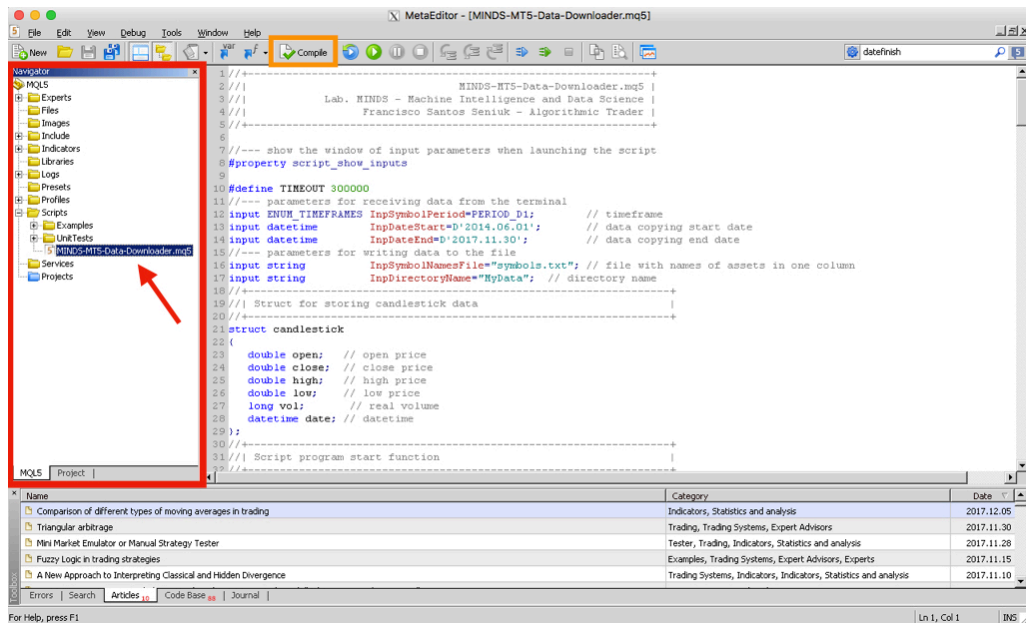

Figure 2 - Opening and compiling the script in the MetaEditor

4. Back to the trading terminal, locate the *Navigator* tab, as shown in figure 3, inside the red rectangle. You should be able now to see the downloaded script in the scripts section, as also shown in figure 3. If you are not, right-click on the scripts section and click on *Refresh*. If it still doesn't work, close and reopen MT5.
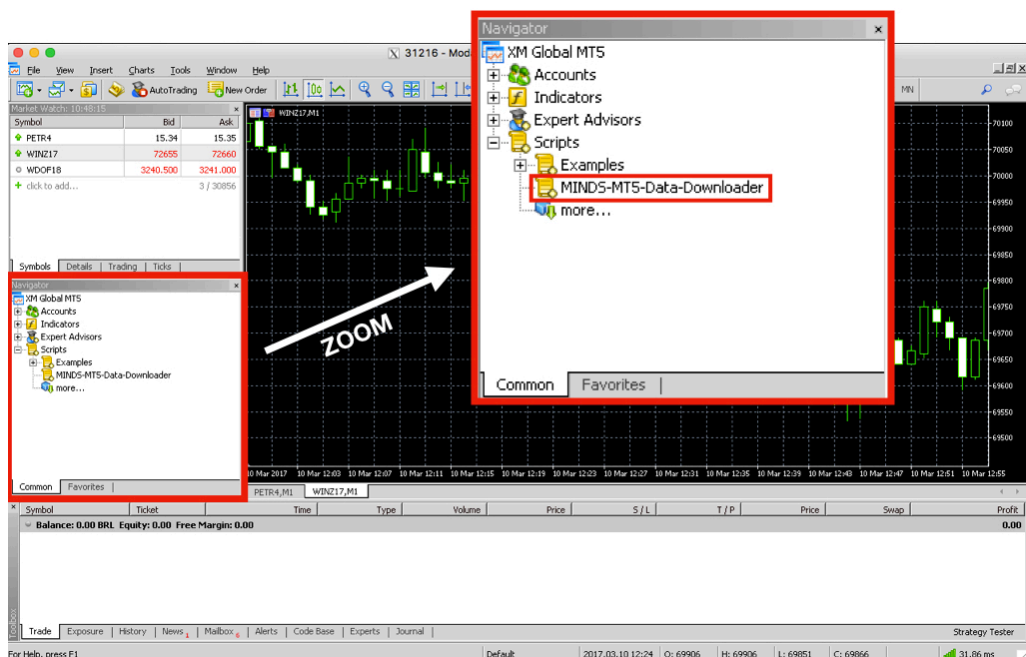

Figure 3 - Locate the script in the trading terminal (*Navigator* tab)

Using the Script

At this point, you should be able to locate the script in the MT5 (trading terminal), as shown in step 4 in the previous section. Before running the script, you have to open a chart window of any available asset. This is because scripts in the MT5 can only be executed if they are linked to a chart.

Note: This is not a negotiation script. It is a data acquisition script. Thus the chart you choose to open will not affect the performance or the output of the script. You can choose any available price chart.

With the chart of your choice open, right-click the script in the *Navigator* tab and select *Attach to Chart*. You can also double-click it to do that. The dialog shown in figure 4 will pop up. In the *Inputs* tab, there are 5 input parameters which you will have to set.
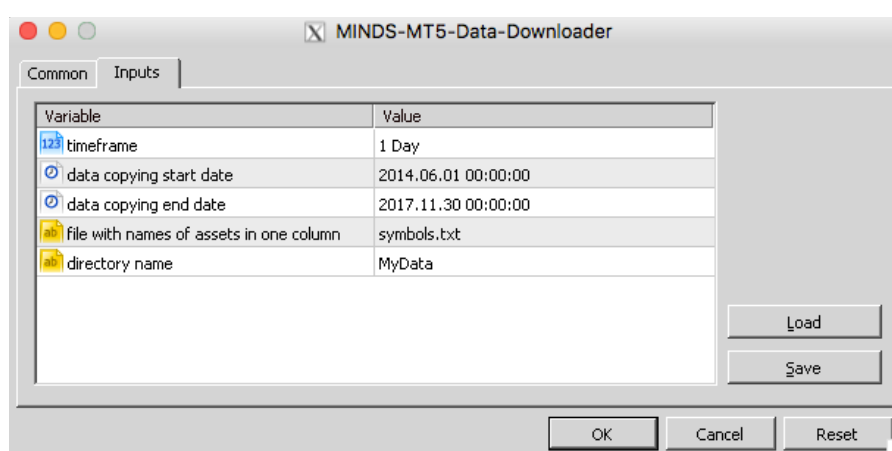

Figure 4 - Input parameters dialog

The first parameter (timeframe) represents the granularity with which you want to download the historical data. This parameter can assume several values from 1 minute to 1 month.

The second and the third parameters allows you to define the start date you want the data from and the end date as well. This means that the script will download all the existing historical data between the start date and the end date.

The fourth parameter is the name of the file which contais the symbols or names of the assets of which you wish to download the data. It must be a .txt file.

Finally, the fifth and last parameter represents the name of the directory to be created in which the downloaded data will be saved.

After defining the input parameters, click OK and enjoy yourself with your new data.

**A question may arise: Where should I put the .txt input file and where should I find the dowloaded data?**

Indeed it is a very relevant question. Both input and output files are located in the same directory, a shared folder for all client terminals: …\Terminal\Common\Files. The easiest way to access this folder is through the MetaEditor. So open the MetaEditor again, click the *File* menu and click on the option *Open Common Data Folder*. This is where you must put the .txt input file and also where your downloaded data will be saved (inside the *Files* folder).

Usage Example

Well, nothing as an example to make everything clearer. Suppose we need the historical data of the following Brazilian companies shares:

➡ Petrobras (PETR4)
➡ Vale (VALE3)
➡ Bovespa (BOVA11)
➡ Itaú (ITUB4)
➡ Bradesco (BBDC4)
➡ Ambev (ABEV3)
➡ Usiminas (USIM5)

In the common data folder and inside the *Files* folder, we will create a .txt file with the share symbols of the companies listed above. We will give it the name *symbols.txt*. Figure 5 shows how the symbols must be written in the .txt input file. They must be written in <u>one column</u>, no matter how many symbols there are.
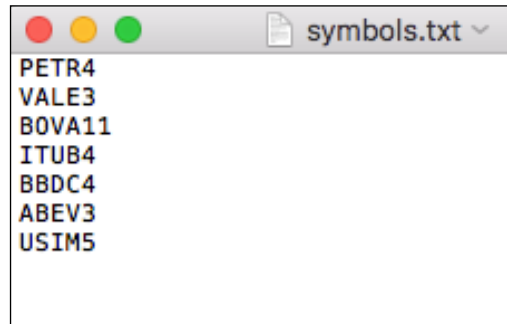

Figure 5 - Input .txt file with the asset symbols in one column

Now we open MT5 and double-click the MINDS-MT5-Data-Downloader script, located in the *Navigator* tab (see figure 3). The input parameters dialog is now open (see figure 4), in which we define the initial values as follows:

▸ Granularity: 1 day
▸ Start-date: 2014.06.01
▸ End-date: 2017.11.30
▸ Input file name: symbols.txt
▸ Output folder: MyData

Now we just have to click OK and wait for the download to finish. When the download finishes, open again the *Files* folder inside the common data folder and check the dowloaded data in there. Figure 6 shows the .csv files inside the *MyData* folder, which is inside the *Files* folder.

The historical data written in the .csv files is shown in figure 7, which is the ABEV3.csv file open, as an example, showing a part of its content. Note that there is a header indicating the names of each column, that is, what each column represents.
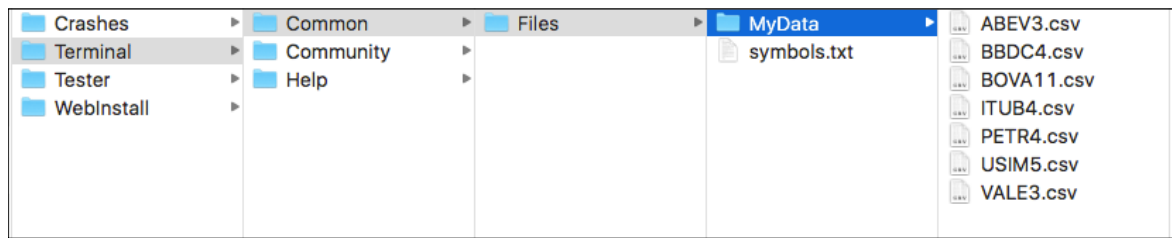
Figure 6 - Downloaded data (.csv files)
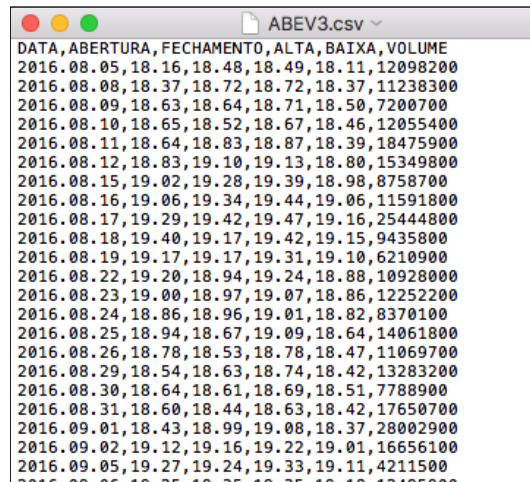
Figure 7 - Part of the historical data inside one of the .csv files

Although the header is in Portuguese, this is not a problem at all. Check the translation below:

- DATA = DATE
- ABERTURA = OPEN
- FECHAMENTO = CLOSE
- ALTA = HIGH
- BAIXA = LOW
- VOLUME = VOLUME

Feel free to modify these words in the code if you wish.