# Brief Introduction to Datastream

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## Content

# 1 About Datastream

Datastream is a global financial and macroeconomic database covering equities, stock market indices, currencies, company fundamentals, fixed income securities and key economic indicators for more than 175 countries and 110 markets. In total, it provides access to data of time series for more than 3.5 million global financial instruments with up to 60 years of history.

# 2 Accessing Datastream

You can use Datastream in Excel via the Datastream Add-in. After opening Excel, turn to the tag “Thomson Reuters” in the top row of navigations. Under the default condition, Datastream is offline. Click the “Sign in” button (the blue box in Figure 2) to activate Datastream.

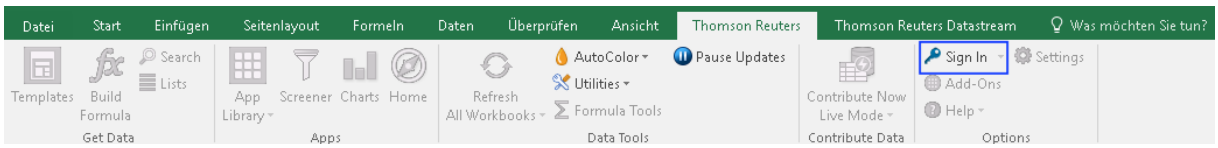


Figure 1 Datastream is offline

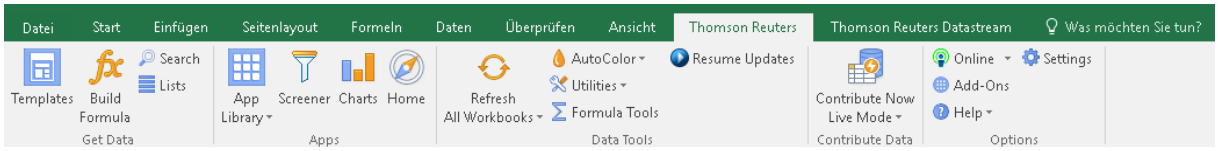


Figure 2 Datastream is online

# 3 Requests with the Excel Add-in

When collecting data with Datastream, you need to channel the corresponding requests through the user interface. In the tag “Thomson Reuters Datastream”, there are mainly three types of requests, “Statistic Request”, “Time Series Request” and “Request Table” (the blue and red boxes in Figure 4).

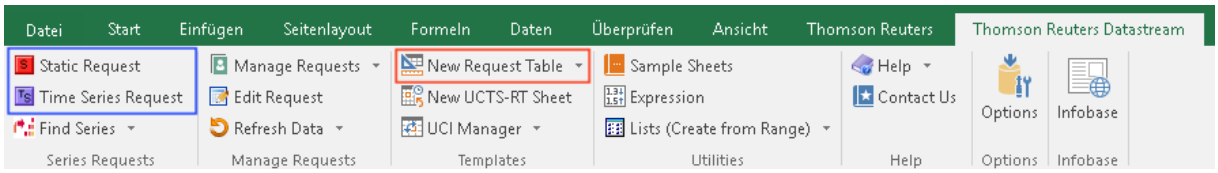


Figure 3 Requests in Datastream

The first step is to select the appropriate type of request. Generally, it depends on whether the data is of static nature or is available as time series only (the blue box in Figure 4).

A time series request is used for datatypes which change with regular frequency (from daily to yearly) and includes a specified date range and frequency. Examples of time series datatypes include share price, market value, GDP and turnover.

A static request is use for datatypes which seldom or never change and are often just the latest value available. Examples of static datatypes include company name, base date, currency of a stock and country of origin.

If you are not sure whether the data is static or a time series, it is always possible to go for time series. It will sporadically work for both static and time series data. The opposite, however, is not true. If the data needed is in complicated structure or is of very large amount, "Request Table" will be a more customized and efficient method (the red box in Figure 4). In the next section, each kind of request will be introduced with an example.

## 3.1 Static Request

In this section, the example task is to collect all the DAX component stocks' name, ISIN, and Industry classification.

**Step 1:** Select the destination cell of the data, before making the request.

**Step 2:** Click the "Static Request" button, the dialog interface will look like Figure 5.

**Step 3:** Click the "Find Series" button (the blue box in Figure 5) to select the target securities. The "Series" needed here are all the DAX component. The "Series" searching dialog is shown in Figure 6 and you can click "Clear All" (the blue box) to start a new filter task.

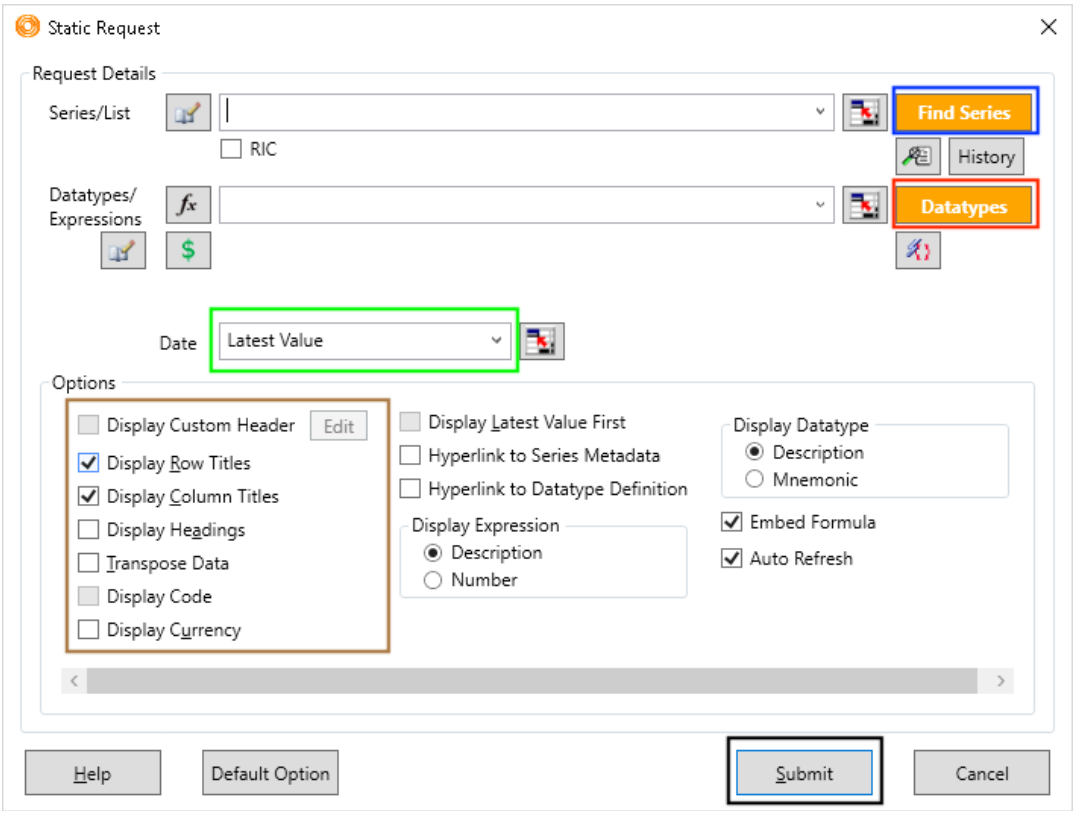



Figure 4 Static request

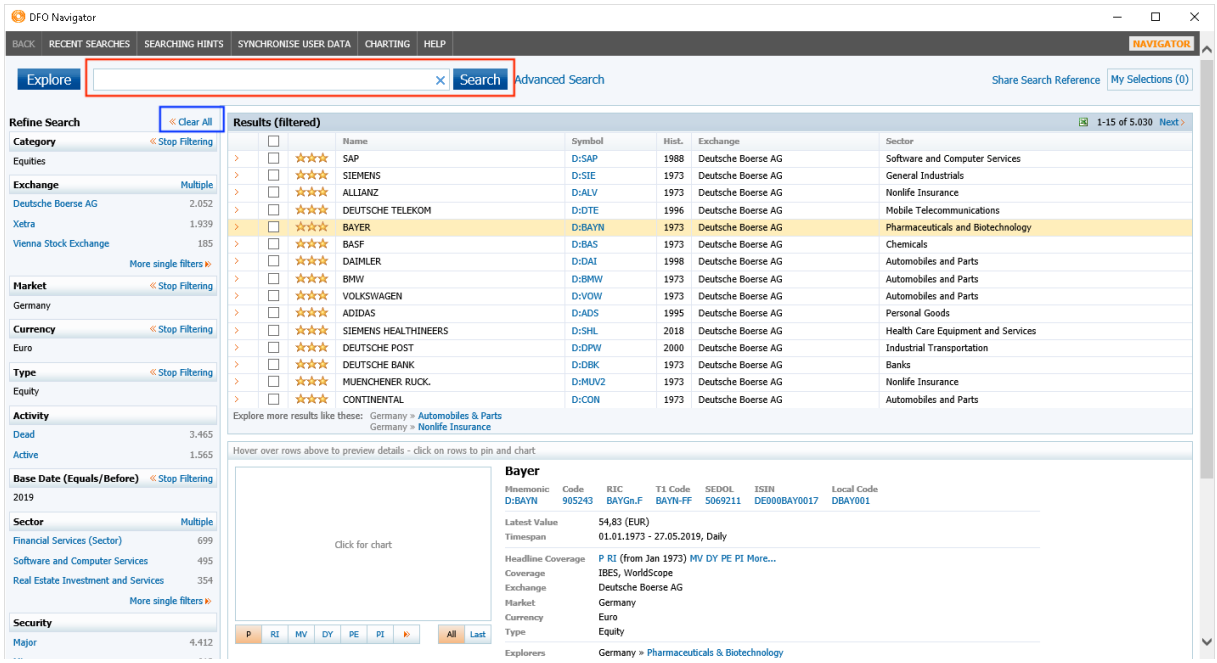



Figure 5 Series searching dialog

**Step 4:** In the filter options, you can firstly choose a general category of the series. As DAX is an index, "Equity Indices" should be the target category (the red box in Figure 7).

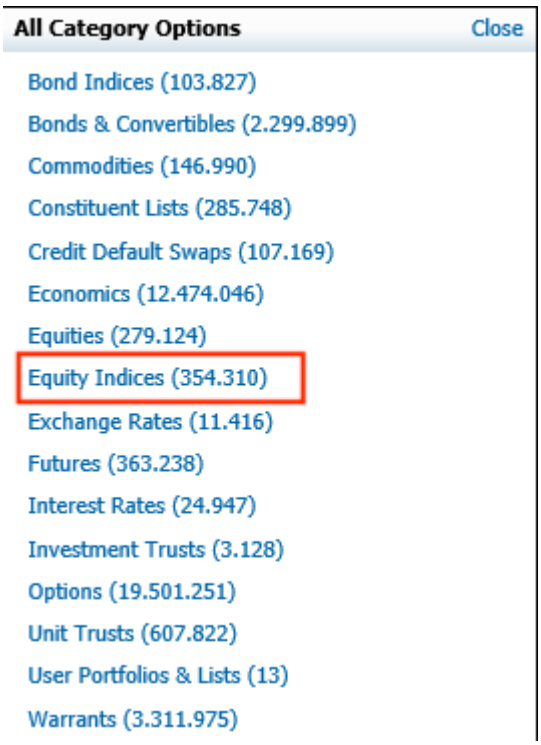



Figure 6 Category filter

**Step 5:** Further filtering conditions can be refined in the blue box in Figure 8 and you can also search the series within the red box in Figure 6.

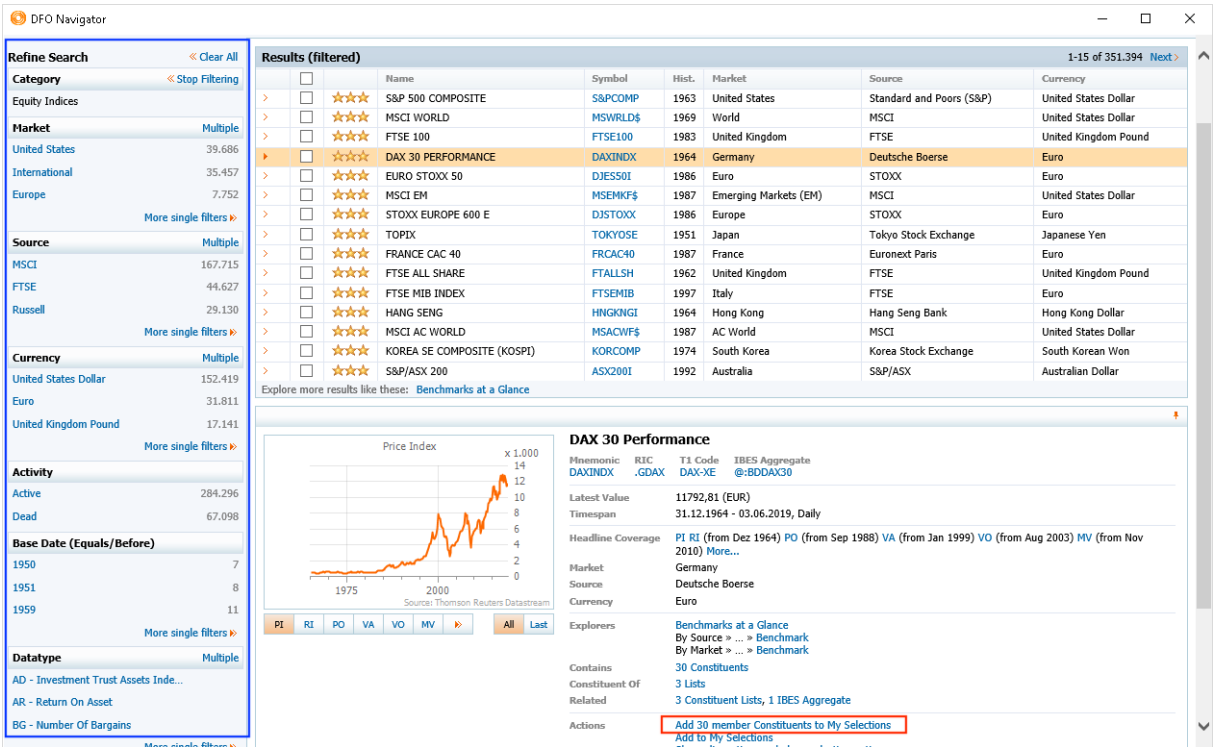



Figure 7 Adding target series

**Step 6:** After filtering out the DAX 30 index, you can check related information in the bottom area of the dialog window. Click the "Add 30 member Constituents to My Selections" (in the red box in Figure 8) to add them to the request.

**Step 7:** Back to the Static Request, the "Datatypes" needed in this example are name, ISIN, and Industry classification. Click the "Datatypes" (in the red box in Figure 5) to select these parameters. The filter dialog is very similar to the "Series" searching. Candidate datatypes can also be refined in the blue box in Figure 9, due to restrictions such as "Static".

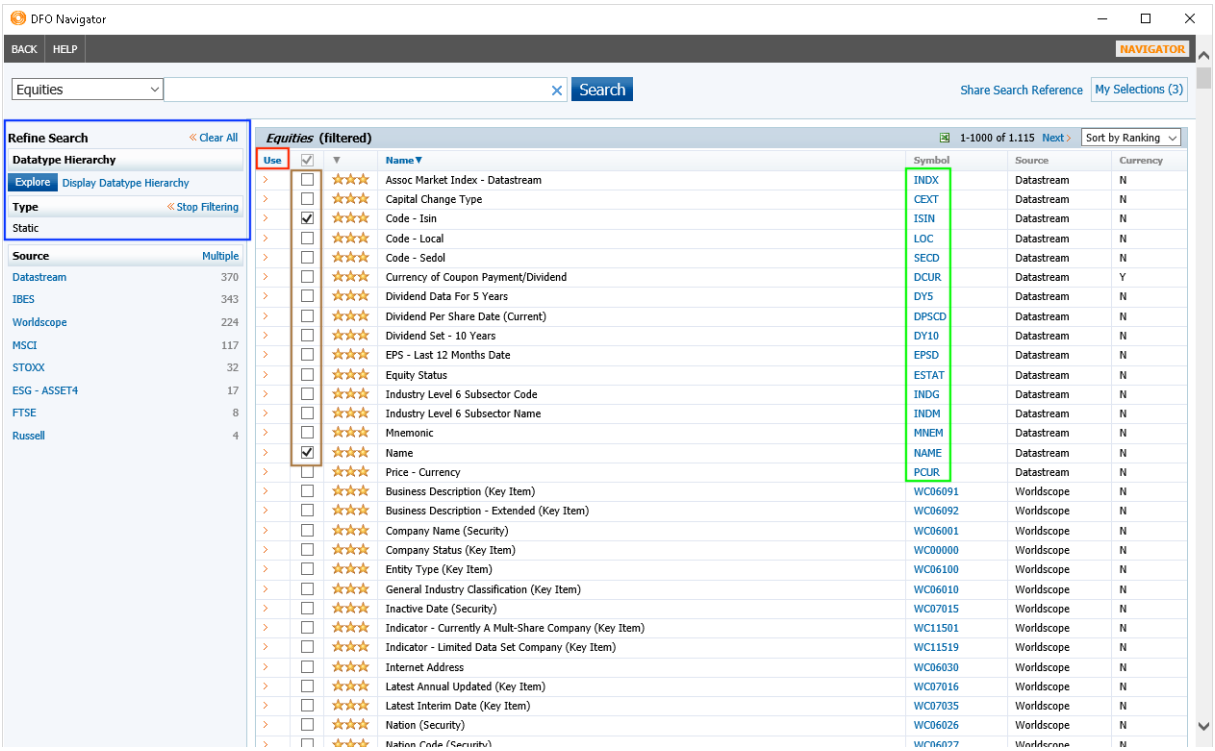



Figure 8 Datatype searching

**Step 8:** Mark the target types, “Name”, “Code – Isin” (in the brown box in Figure 9) to select your datatypes and click the “Use” (in the red box in Figure 9) to fill them in the request window. You can also manually add target “Symbol” (in the green box in Figure 9) to the request.

**Step 9:** The date and other options can also be refined in the green and brown boxes in Figure 5. The finished request is shown in Figure 10. Click “Submit” (in the black box) to start this static data request. A few seconds later, you will get the data in the Excel sheet. (as in figure 11)

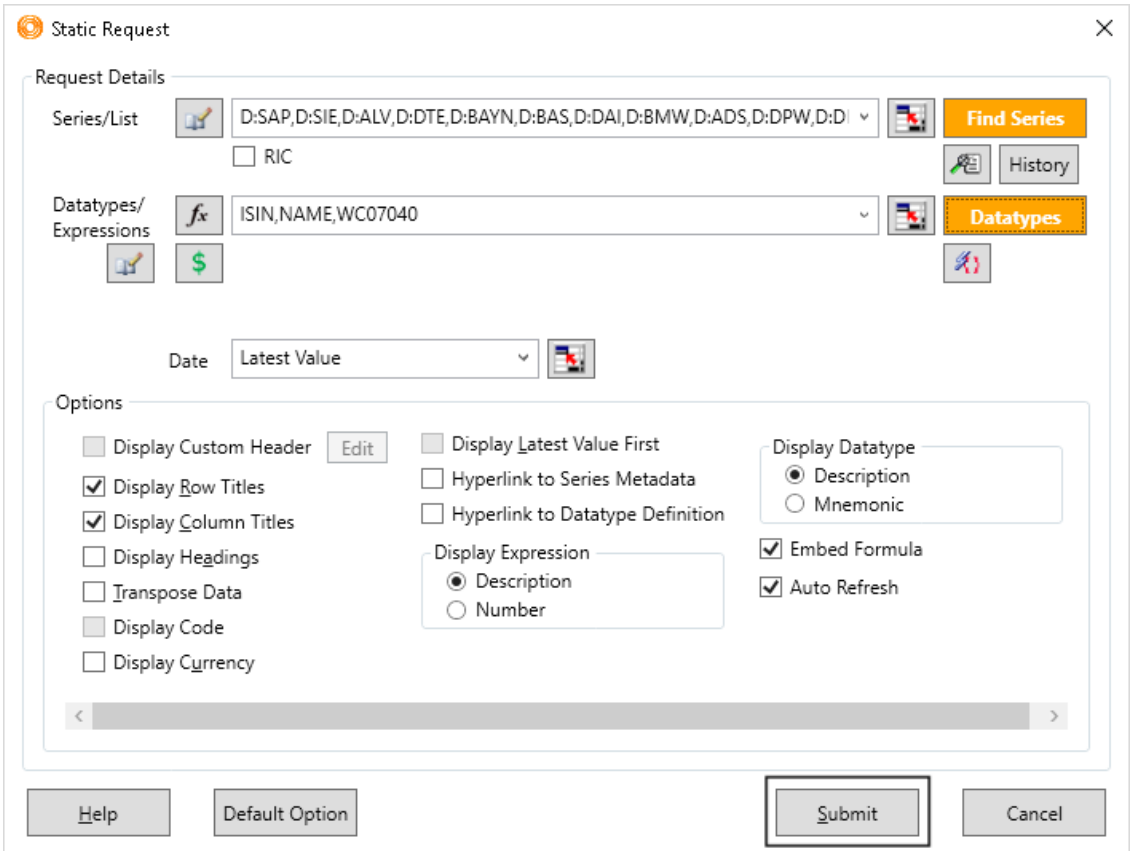



Figure 9 Finished static request

| | A | B | C | D | E | F |
|---|---|---|---|---|---|---|
| 1 | Type | ISIN CODE | NAME | ICB CODE | | |
| 2 | D:SAP | DE000716460 | SAP | 9537 | | |
| 3 | D:SIE | DE000723610 | SIEMENS | 2727 | | |
| 4 | D:ALV | DE000840400 | ALLIANZ | 8532 | | |
| 5 | D:DTE | DE000555750 | DEUTSCHE TE | 6575 | | |
| 6 | D:BAYN | DE000BAY00 | BAYER | 4577 | | |
| 7 | D:BAS | DE000BASF1 | BASF | 1353 | | |
| 8 | D:DAI | DE000710000 | DAIMLER | 3353 | | |
| 9 | D:BMW | DE000519000 | BMW | 3353 | | |
| 10 | D:ADS | DE000A1EW | ADIDAS | 3765 | | |
| 11 | D:DPW | DE000555200 | DEUTSCHE P | 2771 | | |
| 12 | D:DBK | DE000514000 | DEUTSCHE BA | 8355 | | |
| 13 | D:CON | DE000543900 | CONTINENTA | 3357 | | |
| 14 | D:MUV2 | DE000843002 | MUENCHENE | 8538 | | |
| 15 | D:BEI | DE000520000 | BEIERSDORF | 3767 | | |
| 16 | D:EOAN | DE000ENAG9 | E ON N | 7575 | | |
| 17 | D:IFX | DE000623100 | INFINEON TE | 9576 | | |
| 18 | D:VNA | DE000A1ML7 | VONOVIA | 8633 | | |
| 19 | D:DB1 | DE000581005 | DEUTSCHE B | 8777 | | |
| 20 | D:FRE | DE000578560 | FRESENIUS | 4533 | | |
| 21 | D:FME | DE000578580 | FRESENIUS M | 4533 | | |
| 22 | D:WDI | DE000747206 | WIRECARD | 2795 | | |
| 23 | D:LHA | DE000823212 | DEUTSCHE LU | 5751 | | |
| 24 | D:MRK | DE000659990 | MERCK KGAA | 4577 | | |
| 25 | D:RWE | DE000703712 | RWE | 7575 | | |
| 26 | D:TKA | DE000750000 | THYSSENKRU | 2727 | | |
| 27 | D:HEI | DE000604700 | HEIDELBERG | 2353 | | |
| 28 | D:1COV | DE000606214 | COVESTRO | 1353 | | |
| 29 | D:LIN | IE00BZ12WP | LINDE (FRA) | 1353 | | |
| 30 | D:VOW3 | DE000766403 | VOLKSWAGE | 3353 | | |
| 31 | D:HEN3 | DE000604843 | HENKEL PREF | 3724 | | |
| 32 | | | | | | |

Figure 10 Sample static data

## 3.2 Time Series Request

The time series example task is to collect all the DAX component stocks' daily closing price and EPS (earning per share) in the first quarter in 2019.

**Step 1:** Select the destination cell of the data, before making the request.

**Step 2:** Click the "Time Series Request" button, the dialog interface will look like Figure 12. The Time Series Request dialog interface is pretty similar to the Static Request, but there is a different design for time period selection as shown in the red box in Figure 12.

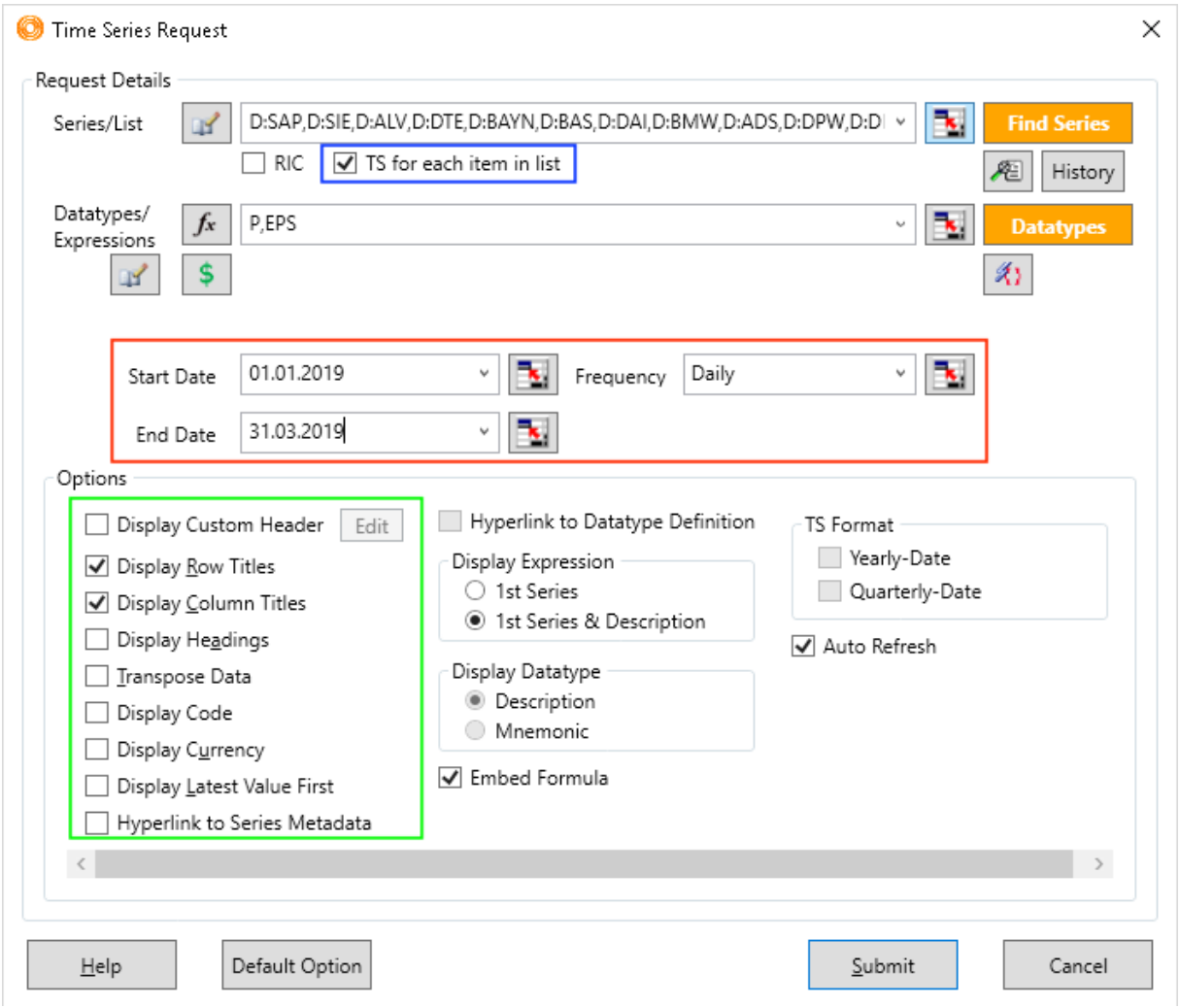



Figure 11 Time series request

**Step 3:** Building on he Static Request, the example here is to collect DAX component stocks' information. Same procedure as step 3 to 6 in "Static Request" can be done here to find needed "Series". As all these items' time series data is needed, the "TS for each item in list" should also be marked in the blue box in Figure 12.

**Step 4:** Datatype selection follows the same logic as before in Static Request. But this time, you can use the "Time Series" filter (in the red box in Figure 13) to show all the time series datatypes. After selecting all the datatypes needed, click the "use" button in the blue box in Figure 13.

**Step 5:** Set the starting and ending time of the time series period. In this example, the first quarter is from 01.01.2019 to 31.03.2019, and it should be daily frequency (as in the red box in Figure 12).

**Step 6:** Other options are listed in the green box in Figure 12.

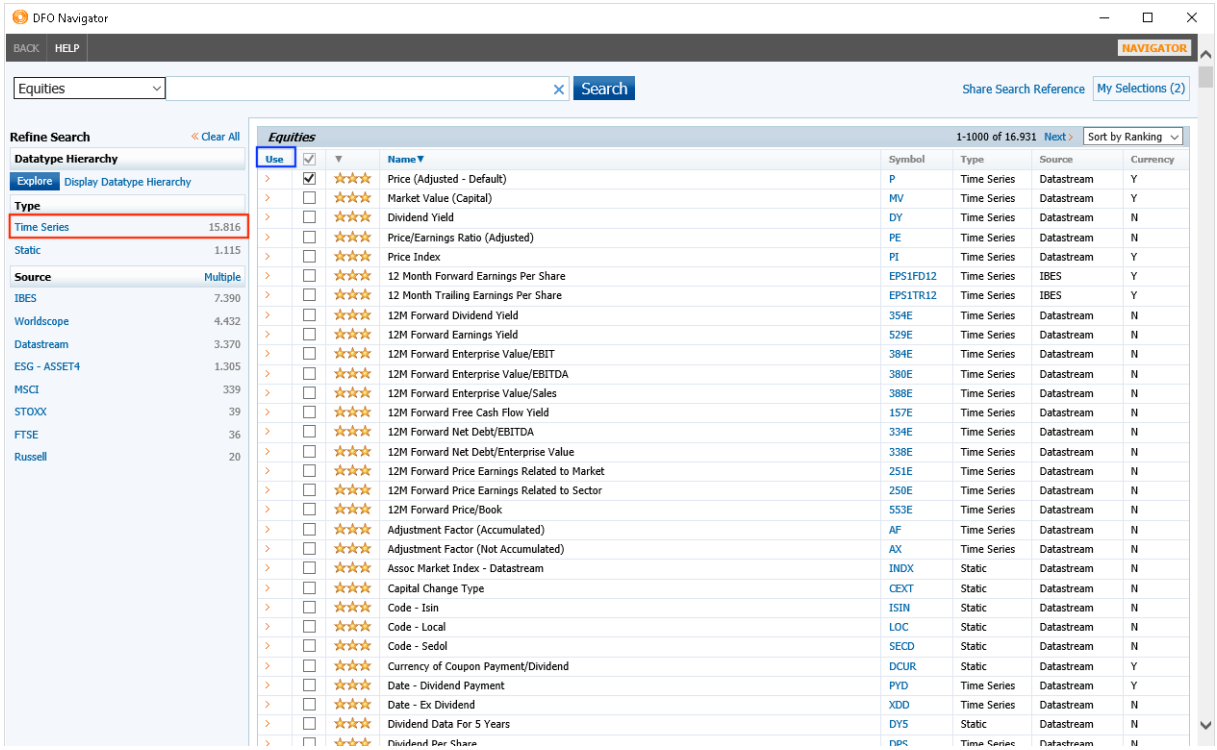



Figure 12 Time series datatype

**Step 7:** After finishing all the setups in the request, click the "Submit" button in Figure 12. A few seconds later, you will have the data in your Excel sheet (see Figure 14).

| | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Name | SAP | SAP - EARNI | SIEMENS | SIEMENS - EA | ALLIANZ | ALLIANZ - EA | DEUTSCHE TE | DEUTSCHE TE | BAYER |
| 2 | 01.01.2019 | 87.19 | 3.37 | 97.73 | 6.59 | 175.74 | 16.7 | 14.8 | 0.83 | 60.75 |
| 3 | 02.01.2019 | 87.46 | 3.37 | 98.44 | 6.59 | 175.44 | 16.7 | 14.855 | 0.83 | 61.61 |
| 4 | 03.01.2019 | 84.17 | 3.37 | 95.83 | 6.59 | 173.68 | 16.7 | 14.98 | 0.83 | 61.1 |
| 5 | 04.01.2019 | 86.79 | 3.37 | 99.19 | 6.59 | 177.54 | 16.7 | 15.105 | 0.83 | 65.05 |
| 6 | 07.01.2019 | 87.27 | 3.37 | 98.15 | 6.59 | 176.36 | 16.7 | 15.095 | 0.83 | 64.35 |
| 7 | 08.01.2019 | 88.64 | 3.37 | 98.83 | 6.59 | 176.84 | 16.7 | 14.87 | 0.83 | 65.51 |
| 8 | 09.01.2019 | 89.15 | 3.37 | 98.71 | 6.59 | 177.38 | 16.7 | 14.75 | 0.83 | 65.72 |
| 9 | 10.01.2019 | 89.28 | 3.37 | 98.92 | 6.59 | 177.9 | 16.7 | 14.745 | 0.83 | 66.2 |
| 10 | 11.01.2019 | 88.86 | 3.37 | 97.72 | 6.59 | 178.68 | 16.7 | 14.725 | 0.83 | 65.54 |
| 11 | 14.01.2019 | 88.48 | 3.37 | 97.84 | 6.59 | 179.18 | 16.7 | 14.725 | 0.83 | 65.15 |
| 12 | 15.01.2019 | 89.89 | 3.37 | 98.48 | 6.59 | 179.18 | 16.7 | 14.695 | 0.83 | 65.34 |
| 13 | 16.01.2019 | 89.69 | 3.37 | 97.64 | 6.59 | 180.1 | 16.7 | 14.72 | 0.83 | 65.08 |
| 14 | 17.01.2019 | 90.84 | 3.37 | 98.23 | 6.59 | 180.34 | 16.7 | 14.6 | 0.83 | 64.32 |
| 15 | 18.01.2019 | 93.04 | 3.37 | 100.74 | 6.59 | 184.1 | 16.7 | 14.87 | 0.83 | 67.02 |
| 16 | 21.01.2019 | 92.09 | 3.37 | 100.7 | 6.59 | 184.82 | 16.7 | 14.54 | 0.83 | 66.14 |
| 17 | 22.01.2019 | 90.89 | 3.37 | 99.14 | 6.59 | 182.4 | 16.7 | 14.485 | 0.83 | 65.66 |
| 18 | 23.01.2019 | 91.31 | 3.37 | 98.87 | 6.59 | 183.62 | 16.7 | 14.455 | 0.83 | 66.12 |
| 19 | 24.01.2019 | 92.7 | 3.37 | 99.21 | 6.59 | 185.04 | 16.7 | 14.215 | 0.83 | 66 |
| 20 | 25.01.2019 | 93.08 | 3.37 | 100.44 | 6.59 | 185.68 | 16.7 | 14.11 | 0.83 | 68.07 |

Figure 13 Sample Time series data

## 3.3 Request Table

Sometimes you need to collect a large amount of data, for example all the stocks listed in a specific exchange, or you prefer to customize the data collection formation. The request table will be a more flexible and powerful choice. Actually, all the functions in the above “Static Request” and “Time Series Request” can be realized in the request table with proper setups.

Our example here is searching all the stocks listed in German market to collect their daily closing prices from 30.06.2012 to 31.03.2019.

**Step 1:** Click the “New Request Table” button in red box in Figure 4 to set up a new request table. A new Excel file will be automatically opened. All the parameters needed will be filled in the working area. (Figure 15)

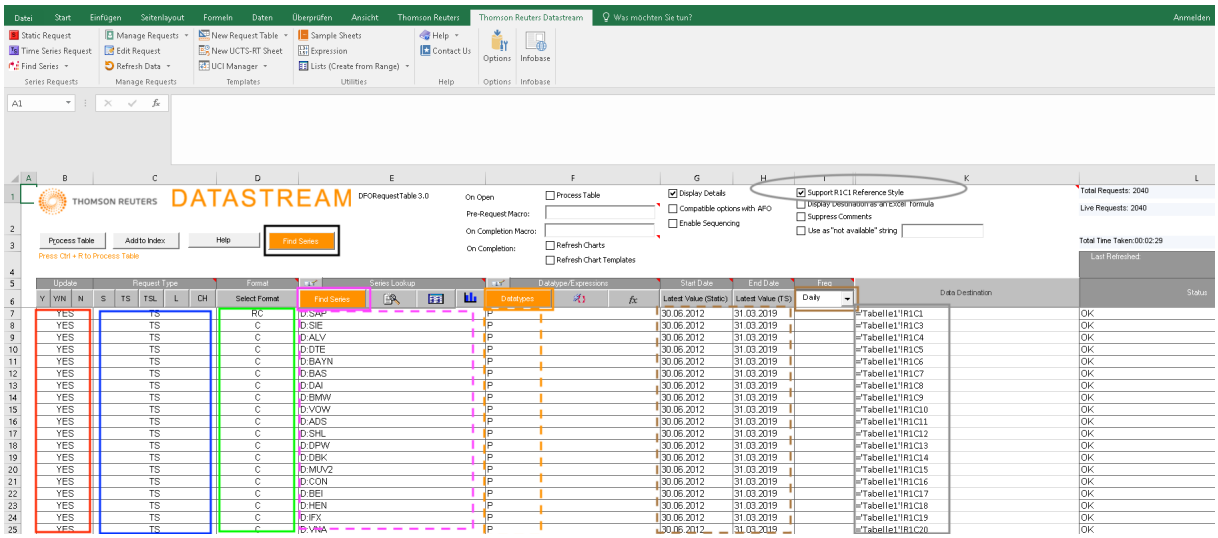



Figure 14 Request table

**Step 2:** In the request table, each row of parameter represents a single request we need for a single series. In our example, each row should be a time series request for a stock listed in the German market. So, we need to fill the series code of all the stocks in the purple dash box in Figure 15. Click the “Find Series” in the purple box in Figure 16 to open the series searching dialog as before.

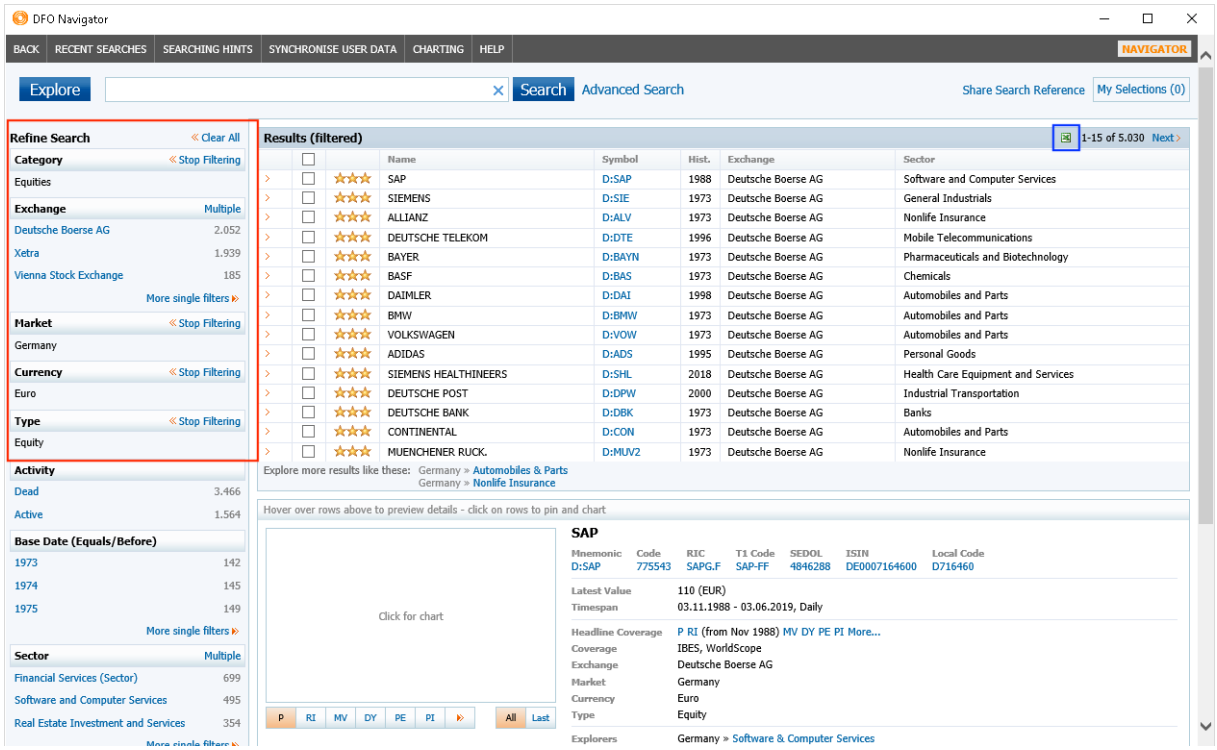



Figure 15 Series searching for request table

**Step 3:** According to the example, the filter should be set as in the red box in Figure 16. Then click the Excel icon in the blue box in Figure 16 to save all the searching results in another Excel file (Figure 17).

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | Name | Symbol | RIC | Start Date | Hist. | Category | Exchange | Market |
| 2 | SAP | D:SAP | SAPG.F | 03.11.1988 | 1988 | Equities | Deutsche Boerse AG | Germany |
| 3 | SIEMENS | D:SIE | SIEGn.F | 01.01.1973 | 1973 | Equities | Deutsche Boerse AG | Germany |
| 4 | ALLIANZ | D:ALV | ALVG.F | 01.01.1973 | 1973 | Equities | Deutsche Boerse AG | Germany |
| 5 | DEUTSCHE TELEKOM | D:DTE | DTEGn.F | 15.11.1996 | 1996 | Equities | Deutsche Boerse AG | Germany |
| 6 | BAYER | D:BAYN | BAYGn.F | 01.01.1973 | 1973 | Equities | Deutsche Boerse AG | Germany |
| 7 | BASF | D:BAS | BASFn.F | 01.01.1973 | 1973 | Equities | Deutsche Boerse AG | Germany |
| 8 | DAIMLER | D:DAI | DAIGn.F | 26.10.1998 | 1998 | Equities | Deutsche Boerse AG | Germany |
| 9 | BMW | D:BMW | BMWG.F | 01.01.1973 | 1973 | Equities | Deutsche Boerse AG | Germany |
| 10 | VOLKSWAGEN | D:VOW | VOWG.F | 01.01.1973 | 1973 | Equities | Deutsche Boerse AG | Germany |
| 11 | ADIDAS | D:ADS | ADSGn.F | 17.11.1995 | 1995 | Equities | Deutsche Boerse AG | Germany |
| 12 | SIEMENS HEALTHINEERS | D:SHL | SHLG.F | 15.03.2018 | 2018 | Equities | Deutsche Boerse AG | Germany |
| 13 | DEUTSCHE POST | D:DPW | DPWGn.F | 17.11.2000 | 2000 | Equities | Deutsche Boerse AG | Germany |
| 14 | DEUTSCHE BANK | D:DBK | DBKGn.F | 01.01.1973 | 1973 | Equities | Deutsche Boerse AG | Germany |
| 15 | MUENCHENER RUCK. | D:MUV2 | MUVGn.F | 01.01.1973 | 1973 | Equities | Deutsche Boerse AG | Germany |
| 16 | CONTINENTAL | D:CON | CONG.F | 01.01.1973 | 1973 | Equities | Deutsche Boerse AG | Germany |
| 17 | BEIERSDORF | D:BEI | BEIG.F | 01.01.1973 | 1973 | Equities | Deutsche Boerse AG | Germany |
| 18 | HENKEL | D:HEN | HNKG.F | 02.07.1996 | 1996 | Equities | Deutsche Boerse AG | Germany |
| 19 | INFINEON TECHNOLOGIES | D:IFX | IFXGn.F | 10.03.2000 | 2000 | Equities | Deutsche Boerse AG | Germany |
| 20 | VONOVIA | D:VNA | VNAn.F | 10.07.2013 | 2013 | Equities | Deutsche Boerse AG | Germany |

Figure 16 Searching results

**Step 4:** Copy all the series codes in the "Symbol" column (in the red box in Figure 17) and paste them in the purple dash box in Figure 15.

**Step 5:** The "Data Type" we need here is closing price. Click the "Datatype" button in the orange box in Figure 15 to open the datatype search dialog as before. Figure 13 shows that the "Symbol" for price is "P", so fill "P" in the "Datatype/Expressions" column for each row as in the orange dash box in Figure 15.

**Step 6:** As all the data we need is time series data, fill “TS” in “Request Type” column in each row. Further explanations about this column are shown when you place the cursor on the column’s title cell “Request Type”.

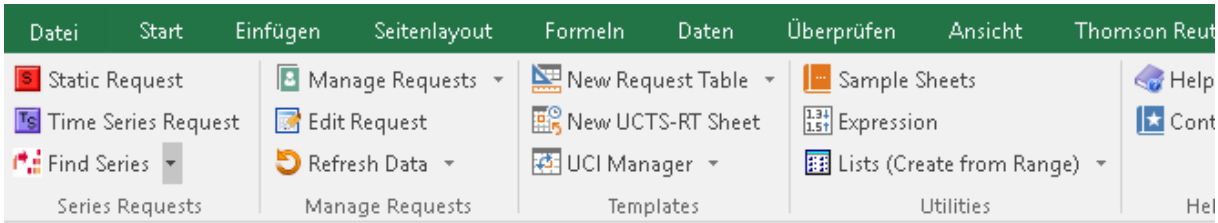
**Step 7:** This example requires daily data from 30.06.2012 to 31.03.2019. Fill the time in the “Start Date” and “End Date” columns in each row in the brown dash box in Figure 15 and pick a “Daily” frequency in the brown box.

**Step 8:** As Datastream will store time series data in columns, we just need the first column to store the date for each closing price and the later columns to only hold prices. In the “Format” column (in the green box in Figure 15), fill “RC” in the first row to display both row title and column title and fill only “C” in the other rows to display the column title only.

**Step 9:** “Data Destination” describes the starting cell of the outcomes. In this example, we save all data in a sheet named “Tabelle1”. The first column is the date, subsequent columns are the prices for each stock and the first row is the title for each column. Fill the destination cell references in each row as in the grey box in Figure 15. When using the “R1C1” cell reference format, the “Support R1C1 Reference Style” in the grey circle should also be marked (remember to set up a new sheet in advance and name it accordingly, e.g. “Tabelle1”).

**Step 10:** The “Update” column marks which row of requests will be active. The first time you collect data, you need to fill “YES” in all rows (as in the red box in Figure 15). Next time, if you would like to skip a row’s request, just replace “YES” with “NO” in that row.

**Step 11:** After finishing all the requests, click “Find Series” in the black box in Figure 15 to start searching this request table. It might take several minutes when there are many requests in this table. If all the requests go well, you should see an “OK” in the “Status” column.




A1 | Name

| | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| 1 | Name | SAP | SIEMENS | ALLIANZ | DEUTSCHE TE | BAYER | BASF | DAIMLER |
| 2 | 29.06.2012 | 46.823 | 64.037 | 79 | 8.635 | 55.631 | 54.7 | 35.344 |
| 3 | 02.07.2012 | 47.451 | 64.861 | 80.3 | 8.69 | 56.576 | 55.3 | 36.316 |
| 4 | 03.07.2012 | 48.05 | 65.52 | 80.9 | 8.688 | 57.146 | 56.5 | 37.057 |
| 5 | 04.07.2012 | 47.58 | 65.52 | 80.4 | 8.65 | 57.137 | 57.179 | 37.003 |
| 6 | 05.07.2012 | 47.655 | 65.423 | 79.2 | 8.677 | 56.721 | 56.744 | 36.52 |
| 7 | 06.07.2012 | 45.58 | 64.783 | 78.08 | 8.49 | 56.091 | 56.3 | 35.436 |
| 8 | 09.07.2012 | 44.824 | 64.648 | 78.2 | 8.558 | 56.257 | 55.573 | 35.384 |
| 9 | 10.07.2012 | 45.389 | 64.767 | 78.6 | 8.604 | 56.477 | 55.1 | 35.705 |
| 10 | 11.07.2012 | 46.41 | 65.229 | 78.35 | 8.693 | 56.411 | 55.2 | 35.401 |
| 11 | 12.07.2012 | 48.15 | 64.696 | 77.68 | 8.7 | 56.182 | 54.7 | 35.5 |
| 12 | 13.07.2012 | 49.3 | 66.005 | 78.95 | 9.105 | 57.26 | 56.1 | 36.39 |
| 13 | 16.07.2012 | 48.856 | 65.927 | 79.9 | 9.136 | 56.635 | 56.197 | 36.581 |
| 14 | 17.07.2012 | 49.3 | 66.586 | 80 | 9.186 | 57.436 | 57.121 | 36.869 |
| 15 | 18.07.2012 | 51.18 | 66.935 | 80.55 | 9.325 | 58.052 | 57.45 | 37.497 |
| 16 | 19.07.2012 | 51 | 67.827 | 80.85 | 9.459 | 58.652 | 58.591 | 37.98 |
| 17 | 20.07.2012 | 50.6 | 67.1 | 79.8 | 9.08 | 57.633 | 57.892 | 37.454 |
| 18 | 23.07.2012 | 49.3 | 65.326 | 76.136 | 8.909 | 55.94 | 56.269 | 36.651 |
| 19 | 24.07.2012 | 50.295 | 64.551 | 73.95 | 8.762 | 55.208 | 55.7 | 36.019 |
| 20 | 25.07.2012 | 50.55 | 65.908 | 74.7 | 8.81 | 56.192 | 56.8 | 37.818 |

Figure 17 Request table outcomes