

User Guides: FRED Data Download Application

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Abstract

In this document, we will walk through how to use the FRED data downloader application.

1. Prerequisites

System Requirement Windows/MacOS (This application has only been tested on MacOS)

Programming Environment Python 2.7+ (Recommended to install through Anaconda)

Library Requirement pandas, requests, json, Tk (please visit <http://www.tkdcs.com/tutorial/install.html> for installation instruction)

Internet Good internet connection. (Warning: It may be constraint by company's internet proxy)

2. Walk-Through

2.1. Run Application

Assume we have downloaded the FredAPI.zip file, now we can open either your command line or terminal to direct to the unzipped FredAPI folder. Then type

```
$ python main.py
```

or check Figure 1

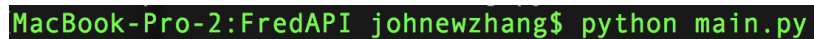
A screenshot of a Mac terminal window. The title bar reads "MacBook-Pro-2: FredAPI johnewzhang\$". The command "python main.py" has been entered and executed, with the prompt changing to "python main.py".

Figure 1: First Step

Then a pop-up window will open as the one in Figure 2.

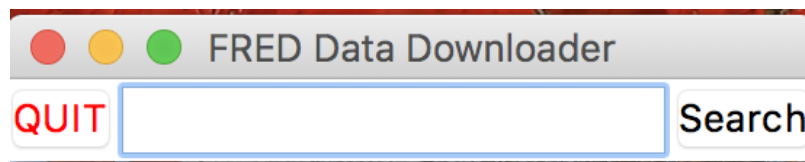


Figure 2: Search Page

2.2. Search Page

Now we have opened the FRED Data Downloader application so let's do some search. in the search phase, we can see three elements, a QUIT button, a search TextBox and a Search Button.

QUIT Button Click to quit the application.

Search TextBox Input our key words. We can press ENTER to start the data query.

Search Button Search Button. We can click this to start the data query.

2.3. Query Result

After we've pressed ENTER or Search Button, we may need to wait a bit to see the search result. If the search is successful, we will see the result as in Figure 3. In Figure 3., we searched "US GDP" and the FRED GDP1 shows up as the top search result. When there is no search result, the page will simply return "No data related to the search key words!".

FRED Data Downloader

QUIT

US GDP

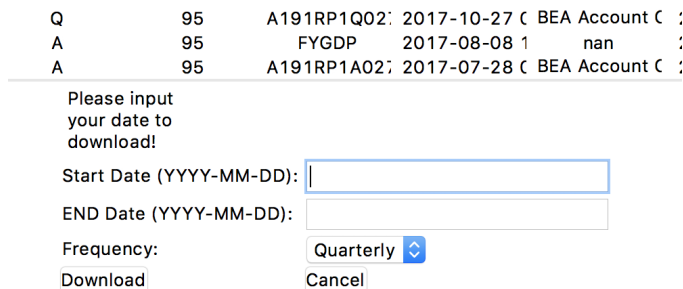
Search

	frequency	frequency_short	group	popularity	id	last_updated	notes	observation_end	observation_start	popularity	seasonal_adjustment	seasonal_adjuster	title	units	units_short
G1PC1	Quarterly	Q		100	G1PC1	2017-10-27	BEA Account C	2017-07-01	1947-01-01	97	Seasonally Adj	SAAR	Real Gross Do	Billions of Cha	Bil. of Chn. 20
A191RL1Q225SBEA	Quarterly	Q		100	A191RL1Q225SBEA	2017-10-27	BEA Account C	2017-07-01	1947-04-01	91	Seasonally Adj	SAAR	Real Gross Do	Percent Chang	% Chg. from P
G1PCA	Annual	A		100	G1PCA	2017-10-27	BEA Account C	2016-01-01	1929-01-01	72	Not Seasonally	NSA	Real Gross Do	Billions of Cha	Bil. of Chn. 20
A191RL1A225NBEA	Annual	A		100	A191RL1A225NBEA	2017-07-28	BEA Account C	2016-01-01	1930-01-01	69	Not Seasonally	NSA	Real Gross Do	Percent Chang	% Chg. from P
A191RO1Q156NBEA	Quarterly	Q		100	A191RO1Q156NBEA	2017-10-27	BEA Account C	2017-07-01	1948-01-01	67	Seasonally Adj	SA	Real Gross Do	Percent Chang	% Chg. from Q
GDP	Quarterly	Q		95	GDP	2017-10-27	BEA Account C	2017-07-01	1947-01-01	95	Seasonally Adj	SAAR	Gross Domestic	Billions of Doll	Bil. of \$
GDPA	Annual	A		95	GDPA	2017-10-27	BEA Account C	2016-01-01	1929-01-01	70	Not Seasonally	NSA	Gross Domestic	Billions of Doll	Bil. of \$
A191RP1Q027SBEA	Quarterly	Q		95	A191RP1Q027SBEA	2017-10-27	BEA Account C	2017-07-01	1947-04-01	64	Seasonally Adj	SAAR	Gross Domestic	Percent Chang	% Chg. from P
FYGDP	Annual, Fiscal	A		95	FYGDP	2017-08-08	nan	2016-09-30	1930-06-30	56	Not Seasonally	NSA	Gross Domestic	Billions of Doll	Bil. of \$
A191RP1A027NBEA	Annual	A		95	A191RP1A027NBEA	2017-07-28	BEA Account C	2016-01-01	1930-01-01	53	Not Seasonally	NSA	Gross Domestic	Percent Chang	% Chg. from P

Figure 3: Query Result Page

2.4. Download Data

We've obtained our search result so how can we download the data? It is simple. We just need to double click the data we are interested in the list and then a download section will show up below the query table. It is shown as in Figure 4.



The screenshot shows the download section of the application. It includes a table with three rows of data. Below the table, there is a text prompt 'Please input your date to download!' followed by two input fields for 'Start Date (YYYY-MM-DD):' and 'END Date (YYYY-MM-DD):'. There is also a 'Frequency:' dropdown menu set to 'Quarterly' and a 'Download' button next to a 'Cancel' button.

Q	95	A191RP1Q027	2017-10-27	BEA Account C	:
A	95	FYGDP	2017-08-08	1	nan
A	95	A191RP1A027	2017-07-28	BEA Account C	:

Please input your date to download!

Start Date (YYYY-MM-DD):

END Date (YYYY-MM-DD):

Frequency: Quarterly

Download Cancel

Figure 4: Download Page

We can specify the start data, end data and frequency of our data here. Next we can click "Download" to get the data and save it on our local drive. Figure 5 shows the save as dialog after we clicked "Download" and we need to provide a file name for the application to save the data we are interested. If we made a mistake in our input, a Error dialog will show up to let us know.

if everything goes smoothly, after we clicked save, the download section will disappear and our file will be in the local drive.

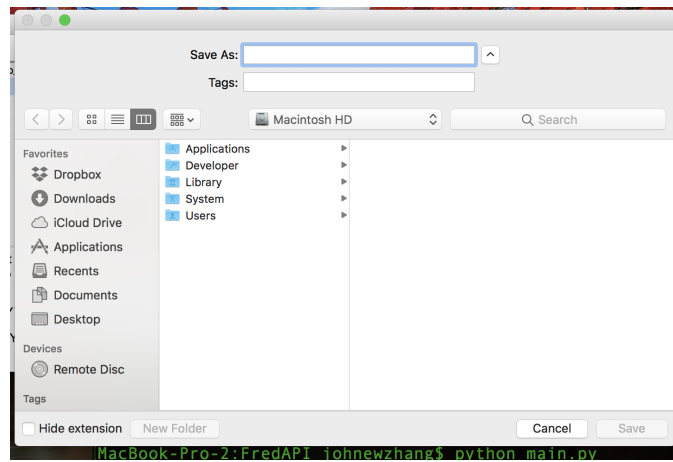


Figure 5: Save as Page

3. Future Improvement

- Include logging to trace any potential errors.
- Use a calendar to select data in the Start Date and End Date input sections.
- Add loading screen when querying and downloading data.