
FRED Documentation

Release 1.0

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Python client for interfacing with the Federal Reserve Bank's FRED API. Our goal is to provide a simple, well-documented solution for FRED-related programming in Python.

For other ways to interface with FRED in Python, see [mortada/fredapi](#) or [zachwill/fred](#) .

Note: This is a third-party client that is developed and maintained independently of the Federal Reserve Bank. As such, it is not affiliated with or supported by the institution.

Compatibility

The Federal Reserve Bank does not provide a versioned API. We constantly monitor the API to ensure that our client is compatible with FRED. If you notice a compatibility issue, please let us know and we'll work to resolve the issue.

Basic usage

```
from fred import Fred
fr = Fred(api_key='abcdefghijklmnopqrstuvwxyz123456', response_type='dict')

params = {
    'limit':2,
    'tag_names':'trade;goods'
}

res = fr.category.series(125, params=params)

for record in res:
    print(record)
```


This client was built to provide users with an intuitive and effective framework for making requests to the FRED API from within Python. As such, our main feature is the ability to interact with the FRED web-service.

3.1 Comprehensive query support

Request economic data from all 5 data groups available in FRED and ALFRED. For reference, the data groups are included below. See [Federal Reserve Bank of St. Louis](#) for additional documentation, or click on a specific query to go directly to documentation for that query.

- **Categories**

- `fred/category` - Get a category.
- `fred/category/children` - Get the child categories for a specified parent category.
- `fred/category/related` - Get the related categories for a category.
- `fred/category/series` - Get the series in a category.
- `fred/category/tags` - Get the tags for a category.
- `fred/category/related_tags` - Get the related tags for a category.

- **Releases**

- `fred/releases` - Get all releases of economic data.
- `fred/releases/dates` - Get release dates for all releases of economic data.
- `fred/release` - Get a release of economic data.
- `fred/release/dates` - Get release dates for a release of economic data.
- `fred/release/series` - Get the series on a release of economic data.
- `fred/release/sources` - Get the sources for a release of economic data.
- `fred/release/tags` - Get the tags for a release.
- `fred/release/related_tags` - Get the related tags for a release.

- **Series**

- `fred/series` - Get an economic data series.
- `fred/series/categories` - Get the categories for an economic data series.
- `fred/series/observations` - Get the observations or data values for an economic data series.

- [fred/series/search](#) - Get economic data series that match keywords.
- [fred/series/release](#) - Get the release for an economic data series.
- [fred/series/search/tags](#) - Get the tags for a series search.
- [fred/series/search/related_tags](#) - Get the related tags for a series search.
- [fred/series/tags](#) - Get the tags for an economic data series.
- [fred/series/updates](#) - Get economic data series sorted by when observations were updated on the FRED server.
- [fred/series/vintagedates](#) - Get the dates in history when a series' data values were revised or new data values were released.

- **Sources**

- [fred/sources](#) - Get all sources of economic data.
- [fred/source](#) - Get a source of economic data.
- [fred/source/releases](#) - Get the releases for a source.

- **Tags**

- [fred/tags](#) - Get all tags, search for tags, or get tags by name.
- [fred/related_tags](#) - Get the related tags for one or more tags.
- [fred/tags/series](#) - Get the series matching tags.

3.2 Popular response transformations

Transform data from http responses to your preferred format, allowing you to focus more time on data integration and analysis and less on response processing. If you prefer raw responses from FRED, so that you can conduct your own response parsing, simply set `response_type` to `xml` or `json` (standard FRED responses). Otherwise, automatically transform data into comma, tab, or pipe separated values, python dictionaries, pandas dataframes, or numpy arrays.

For dictionary, dataframe, and array responses, an attempt is made to convert data to more useful dtypes. For example, `realtime_start` and `realtime_end` response data are automatically converted from a string to `datetime64` numpy dtype. Similarly, counts and IDs (where appropriate) are converted to `int` while observation measures are converted to `float`.

FRED vs. ALFRED

FRED stands for Federal Reserve Economic Data. FRED contains frequently updated US macro and regional economic time series at annual, quarterly, monthly, weekly, and daily frequencies.

ALFRED stands for Archival Federal Reserve Economic Data. ALFRED archives FRED data by adding the real-time period when values were originally released and later revised.

FRED and ALFRED use the same web-service. As noted in the [Federal Reserve Bank documentation](#), most users are interested in FRED. As such, default parameters have been selected by the bank to cater to FRED users. If you want to access ALFRED for a given period, simply provide the real-time period by passing the relevant `realtime_start` and `realtime_end` parameters to the function handling your request.

5.1 Quickstart Guide

If you're new to the Federal Reserve Economic Data (FRED) API, or if you're new to using our client, this guide should provide you with all you need to know to start requesting economic data.

5.1.1 Installation

Install via pip:

```
pip install FRB
```

Git clone from the command line:

```
git clone http://github.com/avelkoski/FRB.git
```

Download directly from [Github](#).

5.1.2 FRED API Key

Visit the [Federal Reserve Bank of St. Louis](#) to obtain your personalized API Key.

5.1.3 Configuration

Default parameters can be set within `fred/config.py` or optionally when you instantiate `Fred()`. These include `api_key` and `response_type`. In order to request data from FRED, you must configure the client with your `api_key`.

Note: Economic data are revised from time-to-time. A real-time period marks when information was known to be true. In FRED, the real-time period defaults to the current date (e.g. the parameters `realtime_start` and `realtime_end`, which define the real-time period, are set to today's date). Data are interpreted as facts known to be true as of today (most recent figure or revision). The real-time period can be set as an optional parameter in most functions. See our discussion *FRED vs. ALFRED* for additional details.

5.1.4 Usage

Instantiate FRED with your API key and preferred response format:

```
from fred import Fred
fr = Fred(api_key='abcdefghijklmnopqrstuvwxyz123456', response_type='df')
```

If you do not include `response_type`, the default response is `xml`. Available response types include `xml`, `json`, `dict`, `df`, `numpy`, `csv`, `tab`, and `pipe`.

Categories

Economic data categories represent classes of data series that are regarded as having similar characteristics. Categories are often made up of subcategories along with economic data series.

Details

To request category details, provide a category ID to the `details` method of the category client:

```
res = fr.category.details(1)
print res
```

The response includes the category ID, name, and parent category ID associated with the requested category. The parent category ID is 0 if the category has no parents.

id	name	parent_id
1	Production & Business Activity	0

Children

Get the child categories for a specified parent category.

```
res = fr.category.children(1)
print res
```

The response includes the category ID, name, and parent category ID associated with a given child category. The parent category ID is 1 because we requested its children.

id	name	parent_id
32262	Business Cycle Expansions & Contractions	1
32436	Construction	1
33490	Finance Companies	1
32216	Health Insurance	1
97	Housing	1
3	Industrial Production & Capacity Utilization	1
32295	Institute for Supply Management Report on Busi...	1
32429	Manufacturing	1
6	Retail Trade	1
33441	Services	1
33492	Technology	1
33202	Transportation	1
33203	Wholesale Trade	1

Related

To request categories related to a given category, provide the category ID to the related method of the category client:

```
res = fr.category.related(32073)
print res
```

The response includes the category ID, name, and parent category ID associated with a given related category.

id	name	parent_id
149	Arkansas	27281
150	Illinois	27281
151	Indiana	27281
152	Kentucky	27281
153	Mississippi	27281
154	Missouri	27281
193	Tennessee	27281

Series

Get economic data series associated with a category. In this request, we add optional parameters to help refine our response. We limit the number of records to 5, request series with the tags trade and goods, order the response by popularity (descending):

```
params = {
    'limit':5,
    'tag_names':'trade;goods',
    'order_by':'popularity',
    'sort_order':'desc'
}

res = fr.category.series(125,params=params)
print res
```

The response includes the series frequency, observation period, and popularity, among other descriptive features.

fre- quency	fre- quency_short	id	last_update date	date ser- va- tion_end	date ob- ser- va- tion_start	pop- u- lar- ity	real- time_end	real- time_start	sea- sonal	sea- sonal adjustment	title	units	units_short
Month	My	BOPCTB	2016-01-07 16:46:02	2016-11-01 00:00:00	2016-01-01 00:00:00	1992	2016-01-09 00:00:00	2016-01-09 00:00:00	Seasonally Adjusted	SA	Trade Balance: Goods, and Services Balance of Payments Basis	Milions of Dollars	Mil. of \$
Month	My	BOPCTB	2016-01-07 16:46:02	2016-11-01 00:00:00	2016-01-01 00:00:00	1992	2016-01-09 00:00:00	2016-01-09 00:00:00	Seasonally Adjusted	SA	Trade Balance: Goods, Balance of Payments Basis	Milions of Dollars	Mil. of \$

Tags

Get the FRED tags associated with a category.

```
params = {
    'limit':10
}

res = fr.category.tags(125,params=params)
print res
```

The response includes the tag group_id, name, and series_count associated with a given category tag.

created	group_id	name	notes	popularity	series_count
2012-02-27 16:18:19	src	bea	US. Bureau of Economic Analysis	86	45
2012-02-27 16:18:19	geot	nation	Country Level	100	45
2012-02-27 16:18:19	geo	usa	United States of America	100	45
2012-02-27 16:18:19	gen	balance		63	39
2012-02-27 16:18:19	seas	nsa	Not seasonally adjusted	97	28
2012-02-27 16:18:19	freq	quarterly		88	28
2012-02-27 16:18:19	gen	discontinued		69	21
2012-02-27 16:18:19	seas	sa	Seasonally adjusted	93	17
2012-02-27 16:18:19	freq	annual		84	14
2012-02-27 16:18:19	gen	services		71	14

Related tags

Get the related FRED tags for one or more FRED tags within a category.

```
params = {
    'tag_group_id':'gen',
    'limit':10,
    'exclude_tag_names':'services',
    'sort_order':'asc'
}

res = fr.category.related_tags(125,tag_names='bea',params=params)
print res
```

The response includes the tag group_id, name, and series_count associated with a given category tag.

created	group_id	name	notes	popularity	series_count
2012-02-27 16:18:19	gen	investment		66	3
2013-11-13 22:08:31	gen	merchandise		33	3
2012-02-27 16:18:19	gen	primary		54	3
2012-02-27 16:18:19	gen	secondary		29	3
2012-02-27 16:18:19	gen	transfers		48	3
2012-02-27 16:18:19	gen	goods		71	4
2012-02-27 16:18:19	gen	trade		59	4
2012-02-27 16:18:19	gen	capital account		47	6
2012-02-27 16:18:19	gen	current account		57	6
2012-02-27 16:18:19	gen	net		67	6

Releases

A release is a distribution of an economic data series. Releases are often maintained by different parties, including the Federal Reserve Bank, Bureau of Labor Statistics, Bureau of Economic Analysis, and Census Bureau.

All releases

Get all releases of economic data.

```
params = {
    'limit':5,
}

res = fr.release.all_releases(params=params)
print res
```

The response includes the release ID, name, and link (among other items) associated with the requested release.

id	link	name	press_release	real-time_end	real-time_start
9	http://www.census.gov/retail/	Advance Monthly Sales for Retail and Food Serv...	True	2016-01-09	2016-01-09
10	http://www.bls.gov/cpi/	Consumer Price Index	True	2016-01-09	2016-01-09
11	http://www.bls.gov/ncs/ect/	Employment Cost Index	True	2016-01-09	2016-01-09
13	http://www.federalreserve.gov/releases/G17/	Industrial Production and Capacity Utiliz...	True	2016-01-09	2016-01-09
14	http://www.federalreserve.gov/releases/G19/	Consumer Credit	True	2016-01-09	2016-01-09

All dates

Get release dates for all releases of economic data.

```
params = {
    'limit':5,
}

res = fr.release.all_dates(params=params)
print res
```

The response includes the date, release ID, name of the release:

date	release_id	release_name
2016-01-08	302	Cleveland Financial Stress Index
2016-01-08	86	Commercial Paper
2016-01-08	72	Daily Treasury Inflation-Indexed Securities
2016-01-08	279	Economic Policy Uncertainty
2016-01-08	50	Employment Situation

Details

To request release details, provide a release ID to the details method of the release client:

```
res = fr.release.details(51)
print res
```

The response includes the release ID, name, and link (among other items) associated with the requested release.

id	link	name	press_release	real-time_end	real-time_start
51	http://www.bea.gov/newsreleases/international/usa-international-trade-in-goods-and-services	U.S. International Trade in Goods and Services	True	2016-01-09	2016-01-09

Dates

Get release dates for a release of economic data:

```
params = {
    'limit':5,
}

res = fr.release.dates(51,params=params)
print res
```

The response includes the date of the release and the release_id.

date	release_id
1997-01-17	51
1997-02-19	51
1997-03-20	51
1997-04-17	51
1997-04-25	51

Series

Get the series on a release of economic data:

```
params = {
    'limit':2,
}

res = fr.release.series(51,params=params)
print res
```

The response includes the series frequency, observation period, and popularity, among other descriptive features.

fre- quency	fre- quency_short	id	last_updated	obs- er- va- tion_start	obs- er- va- tion_end	pop- u- lar- ity_start	re- al- time	re- al- time_end	sea- sonal_start	sea- sonal_end	title	units	units_short
Monthly	Mo	BOMTVM	2016-01-07 16:46:01	2015-11-01 00:00:00	2015-01-01 00:00:00	2015-10-10 00:00:00	2016-01-01 00:00:00	2016-01-10 00:00:00	seasonally adjusted		U.S. Imports of Services - Travel	Milions of Dollars	Milions of Dollars
Monthly	Mo	BOMTVM	2014-10-20 14:27:37	2014-12-01 00:00:00	2014-01-01 00:00:00	2014-10-10 00:00:00	2016-01-01 00:00:00	2016-01-10 00:00:00	seasonally adjusted		U.S. Imports of Services: U.S. Government Miscellaneous Services (DISCONTINUED)	Milions of Dollars	Milions of Dollars

Tags

Get the FRED tags associated with a release.

```
params = {
    'limit':10
}

res = fr.release.tags(51,params=params)
print res
```

The response includes the tag group_id, name, and series_count associated with a given release tag.

created	group_id	name	notes	popularity	series_count
2012-02-27 16:18:19	src	bea	US. Bureau of Economic Analysis	86	57
2012-02-27 16:18:19	src	census	US. Bureau of the Census	79	57
2012-02-27 16:18:19	freq	monthly		94	57
2012-02-27 16:18:19	geot	nation	Country Level	100	57
2012-02-27 16:18:19	geo	usa	United States of America	100	57
2012-02-27 16:18:19	seas	sa	Seasonally adjusted	93	41
2012-02-27 16:18:19	gen	services		71	38
2012-02-27 16:18:19	gen	exports		63	27
2012-02-27 16:18:19	gen	imports		61	27
2012-02-27 16:18:19	gen	goods		71	24

Related tags

Get the related FRED tags for one or more FRED tags within a release.

```
params = {
    'tag_group_id': 'gen',
    'limit': 10,
    'exclude_tag_names': 'services',
    'sort_order': 'asc'
}

res = fr.release.related_tags(51, tag_names='bea', params=params)
print res
```

The response includes the tag group_id, name, and series_count associated with a given release tag.

created	group_id	name	notes	popularity	series_count
2012-02-27 16:18:19	gen	balance		63	1
2012-02-27 16:18:19	gen	trade		59	1
2013-01-28 20:10:13	gen	bop	Balance of Payments	56	3
2012-02-27 16:18:19	gen	exports		63	9
2012-02-27 16:18:19	gen	imports		61	9
2012-02-27 16:18:19	gen	goods		71	19

Series

Economic data series are quantitative measures used to describe various components of the economy. Series consist of data measured over a time interval.

Details

To request series details, provide a series ID to the details method of the series client:

```
res = fr.series.details('GNPCA')
print res
```

The response includes the series frequency, observation period, and popularity, among other descriptive features.

fre- quency	fre- quency_short	id	last_update	dates	ob- ser- va- tion_end	ob- ser- va- tion_start	pop- u- lar- ity	real- time_end	real- time_start	sea- sonal	sea- adjust	title	units	units_short
Annual	A	GNPCA	Timestamp('2015-07-30 14:03:15')	Account Code: A001RX1	Timestamp('2001-01-01 00:00:00')	Timestamp('2001-01-01 00:00:00')	1929	Timestamp('2016-01-10 00:00:00')	Timestamp('2016-01-10 00:00:00')	Seasonally Adjusted	USA	Real Gross National Product	Billions of Chained 2009 Dollars	Bil. of Chn. \$

Categories

Get the categories for an economic data series:

```
res = fr.series.categories('GNPCA')
print res
```

The response includes category ID, name, and parent ID:

id	name	parent_id
106	GDP/GNP	18

Release

Get the release for an economic data series:

```
res = fr.series.release('GNPCA')
print res
```

The response includes the release ID, name, and a link to the release:

id	link	name	press_release	realtime_end	realtime_start
53	http://www.bea.gov/national/GrossDomesticProduct.htm	Gross Domestic Product	True	Timestamp('2016-01-10 00:00:00')	Timestamp('2016-01-10 00:00:00')

Observations

Get the observations or data values for an economic data series:

```
params = {
    'limit':5,
    'output_type':1
```

```

    }
res = fr.series.observations('GNPCA',params=params)
print res

```

The response includes the date, real-time period, and value of the observation:

date	realtime_end	realtime_start	value
1929-01-01	2016-01-10	2016-01-10	1066.8
1930-01-01	2016-01-10	2016-01-10	976.3
1931-01-01	2016-01-10	2016-01-10	912.9
1932-01-01	2016-01-10	2016-01-10	794.8
1933-01-01	2016-01-10	2016-01-10	784.0

Tags

Get the tags for an economic data series:

```

res = fr.series.tags('GNPCA')
print res

```

The response includes the tag group_id, name, and series_count associated with a given series search.

created	group_id	name	notes	popularity	series_count
2012-02-27 16:18:19	seas	nsa	Not seasonally adjusted	97	326950
2012-02-27 16:18:19	geo	usa	United States of America	100	248427
2012-02-27 16:18:19	freq	an- nual		84	222080
2012-02-27 16:18:19	geot	nation	Country Level	100	163584
2012-02-27 16:18:19	src	bea	US. Bureau of Economic Analysis	86	22902
2012-08-16 20:21:17	rls	nipa	National Income and Product Accounts	83	11765
2012-02-27 16:18:19	gen	real	Inflation Adjusted Data	82	9282
2012-02-27 16:18:19	gen	gnp	Gross National Product	57	437

Updates

Get economic data series sorted by when observations were updated on the FRED server:

```

params = {
    'limit':2,
}

res = fr.series.updates('GNPCA',params=params)
print res

```

The response includes the tag group_id, name, and series_count associated with a given series search.

Vintage dates

Get the dates in history when a series' data values were revised or new data values were released:

```
params = {
    'limit':10,
    'sort_order':'desc'
}

res = fr.series.vintage_dates('GNPCA',params=params)
print res
```

The response includes `vintage_dates`:

0
2015-07-30
2015-03-27
2014-07-30
2014-03-27
2013-07-31
2013-03-28
2012-07-27
2012-03-29
2011-07-29
2011-03-25

Search

Get economic data series that match keywords:

```
params = {
    'limit':2,
}

res = fr.series.search('money service index',params=params)
print res
```

The response includes the series frequency, observation period, and popularity, among other descriptive features.

fre- quency	fre- quency_short	id	last_update	updates	ob- ser- va- tion_enti- on_start	ob- ser- va- tion_start	pop- u- lar- ity	re- al- time	re- al- time	sea- sonal_start	sea- sonal_start	title	units	units_short
Month	My	MSIM17	2016-01-13 16:45	File (M1) measure the flow of monetary services received each period by households and firms from their holdings of monetary assets (levels of the indexes are sometimes referred to as Divisia monetary aggregates).	Timestamp ('1967-01-01 00:00:00')	Timestamp ('1967-01-01 00:00:00')		1967-01-10 00:00:00	1967-01-10 00:00:00	2006-01-01 00:00:00	2006-01-01 00:00:00	Monetary Services Index: M1 (pre-ferred)	Bil- lions of \$ Dol- lars	Bil. of \$
Month	My	MSMZM17	2016-01-13 16:42	File (M1) measure the flow of monetary services received each period by households and firms from their holdings of monetary assets (levels of the indexes are sometimes referred to as Divisia monetary aggregates). Preferred benchmark rate equals 100 basis points plus the largest rate in the set of rates. Alternative benchmark rate equals the larger of the preferred benchmark rate and the Baa corporate bond yield.	Timestamp ('1967-01-01 00:00:00')	Timestamp ('1967-01-01 00:00:00')		1967-01-10 00:00:00	1967-01-10 00:00:00	2006-01-01 00:00:00	2006-01-01 00:00:00	Monetary Services Index: MZM (pre-ferred)	Bil- lions of \$ Dol- lars	Bil. of \$

Search tags

Get the tags for a series search:

```
params = {
    'limit':5
}

res = fr.series.search_tags('money service index',params=params)
print res
```

The response includes the tag group_id, name, and series_count associated with a given series search.

created	group_id	name	notes	popularity	series_count
2012-08-29 15:22:19	gen	academic data	Time series data created mainly by academia to address growing demand in understanding specific concerns in the economy that are not well modeled by ordinary statistical agencies.	62	25
2013-06-21 15:22:49	src	anderson & jones	Richard Anderson and Barry Jones	35	25
2014-11-17 19:34:12	src	anderson, richard g.		37	25
2012-02-27 16:18:19	gen	divisia	Monetary Services Indexes	35	25
2012-02-27 16:18:19	src	frb stl	Federal Reserve Bank of St. Louis (source)	83	25

Search related tags

Get the related tags for a series search:

```
params = {
    'limit':5,
    'order_by':'popularity',
    'sort_order':'desc'
}

res = fr.series.search_related_tags('mortgage rate','30-year;frb',params=params)
```

The response includes the tag group_id, name, and series_count associated with a given series search.

created	group_id	name	notes	popularity	series_count
2012-02-27 16:18:19	geot	nation	Country Level	100	3
2012-02-27 16:18:19	geo	usa	United States of America	100	3
2012-02-27 16:18:19	seas	nsa	Not seasonally adjusted	97	3
2012-02-27 16:18:19	freq	monthly		94	1
2012-05-29 15:14:19	gen	interest rate		91	3

Sources

Economic data series derive from a variety of sources,including the Federal Reserve Bank, Bureau of Labor Statistics,Bureau of Economic Analysis, and Census Bureau.

All sources

Get all sources:

```
params = {
    'limit':10
}

res = fr.source.sources(params=params)
print res
```

The response includes source ID, name, and link to the source:

id	link	name	realtime_end	realtime_start
1	http://www.federalreserve.gov/	Board of Governors of the Federal Reserve System (US)	2016-01-10 00:00:00	2016-01-10 00:00:00
3	http://www.philadelphiafed.org/	Federal Reserve Bank of Philadelphia	2016-01-10 00:00:00	2016-01-10 00:00:00
4	http://www.stlouisfed.org/	Federal Reserve Bank of St. Louis	2016-01-10 00:00:00	2016-01-10 00:00:00
6	http://www.ffiec.gov/	Federal Financial Institutions Examination Council (US)	2016-01-10 00:00:00	2016-01-10 00:00:00
11	http://www.dowjones.com/	Dow Jones & Company	2016-01-10 00:00:00	2016-01-10 00:00:00
13	http://www.ism.ws/	Institute for Supply Management	2016-01-10 00:00:00	2016-01-10 00:00:00
14	https://www.umich.edu/	University of Michigan	2016-01-10 00:00:00	2016-01-10 00:00:00
15	http://www.whitehouse.gov/	Council of Economic Advisers (US)	2016-01-10 00:00:00	2016-01-10 00:00:00
16	http://www.whitehouse.gov/	US Office of Management and Budget	2016-01-10 00:00:00	2016-01-10 00:00:00
17	http://www.cbo.gov/	US Congressional Budget Office	2016-01-10 00:00:00	2016-01-10 00:00:00

Details

To request source details, provide a source ID to the details method of the source client:

```
res = fr.source.details(1)
print res
```

The response includes the series frequency, observation period, and popularity, among other descriptive features.

id	link	name	realtime_end	realtime_start
1	http://www.federalreserve.gov/	Board of Governors of the Federal Reserve System (US)	2016-01-10 00:00:00	2016-01-10 00:00:00

Releases

To request source details, provide a source ID to the details method of the source client:

```
params = {
    'limit':10
}

res = fr.source.releases(1,params=params)
print res
```

The response includes the source ID, name, and a link to the source:

id	link	name	notes	press_release	realtime_end	realtime_start
13	http://www.federalreserve.gov/releases/g17/	G17 Industrial Production and Capacity Utilization		True	2016-01-10 00:00:00	2016-01-10 00:00:00
14	http://www.federalreserve.gov/releases/g19/	G19 Consumer Credit		True	2016-01-10 00:00:00	2016-01-10 00:00:00
15	http://www.federalreserve.gov/releases/g5/	G5 Foreign Exchange Rates		True	2016-01-10 00:00:00	2016-01-10 00:00:00
17	http://www.federalreserve.gov/releases/h10/	H10 Foreign Exchange Rates		True	2016-01-10 00:00:00	2016-01-10 00:00:00
18	http://www.federalreserve.gov/releases/h15/	H15 Selected Interest Rates		True	2016-01-10 00:00:00	2016-01-10 00:00:00
19	http://www.federalreserve.gov/releases/h3/	H3 Aggregate Reserves of Depository Institutions and the Monetary Base		True	2016-01-10 00:00:00	2016-01-10 00:00:00
20	http://www.federalreserve.gov/releases/h41/	H41 Factors Affecting Reserve Balances		True	2016-01-10 00:00:00	2016-01-10 00:00:00
21	http://www.federalreserve.gov/releases/h6/	H6 Money Stock Measures		True	2016-01-10 00:00:00	2016-01-10 00:00:00
22	http://www.federalreserve.gov/releases/h8/	H8 Assets and Liabilities of Commercial Banks in the United States		True	2016-01-10 00:00:00	2016-01-10 00:00:00
52	http://www.federalreserve.gov/releases/z1/	Z1 Financial Accounts of the United States	The Financial Accounts (formerly known as the Flow of Funds accounts) Sectors are compiled into three categories: households, nonfinancial businesses, and banks. The sources of funds for a sector are its internal funds (savings from income after consumption) and external funds (loans	True	2016-01-10 00:00:00	2016-01-10 00:00:00
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Tags

Economic data series derive from a variety of sources, including the Federal Reserve Bank, Bureau of Labor Statistics, Bureau of Economic Analysis, and Census Bureau.

All tags

Get all tags:

```
params = {
    'limit':10
}

res = fr.tag.tags(params=params)
print res
```

The response includes the group ID, name, and popularity:

created	group_id	name	notes	popularity	series_count
2012-02-27 16:18:19	seas	nsa	Not seasonally adjusted	97	326950
2012-02-27 16:18:19	geo	usa	United States of America	100	248427
2012-02-27 16:18:19	freq	annual		84	222080
2012-02-27 16:18:19	geot	nation	Country Level	100	163584
2012-02-27 16:18:19	src	census	US. Bureau of the Census	79	121069
2012-02-27 16:18:19	geot	county	County, Parish, or Borough Level	68	100793
2012-02-27 16:18:19	src	bls	US. Bureau of Labor Statistics	86	100575
2012-02-27 16:18:19	freq	monthly		94	94751
2012-02-27 16:18:19	gen	employment		77	88557
2015-12-30 19:26:34	rls	saipe	Small Area Income and Poverty Estimates (SAIPE)	50	80957

Series

Get series associated with tags:

```
params = {
    'limit':2
}

res = fr.tag.series('slovenia;food',params=params)
print res
```

The response includes the series details:

Related tags

Get related tags:

```
params = {
    'limit':5,
    'exclude_tag_names':'goods',
    'sort_order':'desc'
}

res = fr.tag.related_tags('services;quarterly',params=params)
print res
```

The response includes the group ID, name, and popularity:

created	group_id	name	notes	popularity	series_count
2012-02-27 16:18:19	geot	na- tion	Country Level	100	1752
2012-02-27 16:18:19	seas	nsa	Not seasonally adjusted	97	1230
2012-02-27 16:18:19	geo	usa	United States of America	100	1200
2012-08-16 20:21:17	rls	mei	Main Economic Indicators	77	1172
2012-02-27 16:18:19	src	oecd	Organisation for Economic Co-operation and Development	77	1172

5.2 API Documentation

All API calls map the raw REST api as closely as possible, including the distinction between required and optional arguments to the calls. This means that the code makes distinction between positional and keyword arguments; we, however, recommend that people **use keyword arguments for all calls for consistency and safety**.

5.2.1 Fred

class `fred.Fred` (*api_key*='abcdefghijklmnopqrstuvwxy123456', *response_type*='xml')

Fred client. Provides a straightforward mapping from Python to FRED REST endpoints. The instance has attributes `category`, `release`, `series`, `tag` and `source` that provide access to instances of `fred.clients.categories.CategoriesClient`, `fred.clients.releases.ReleasesClient`, `fred.clients.eseries.ESeriesClient`, `fred.clients.tags.TagsClient` and `fred.clients.sources.SourcesClient` respectively. This is the preferred (and only supported) way to get access to those classes and their methods.

Parameters

- **api_key** (*str*) – 32 character alpha-numeric lowercase string. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”

5.2.2 Categories

class `fred.clients.categories.CategoriesClient` (*client, api_key, url_root, response_type*)
Class for working with FRED categories

children (**args, **kwargs*)

Function to request a particular category's children https://research.stlouisfed.org/docs/api/fred/category_children.html

Parameters

- **category_id** (*int*) – The id for a category. Required.
- **response_type** (*str*) – File extension of response. Options are 'xml', 'json', 'dict', 'df', 'numpy', 'csv', 'tab', 'pipe'. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format "YYYY-MM-DD"
- **realtime_end** (*str*) – The end of the real-time period. Format "YYYY-MM-DD"

details (**args, **kwargs*)

Function to request a particular category's high-level details <https://research.stlouisfed.org/docs/api/fred/category.html>

Parameters

- **category_id** (*int*) – The id for a category. Required.
- **response_type** (*str*) – File extension of response. Options are 'xml', 'json', 'dict', 'df', 'numpy', 'csv', 'tab', 'pipe'. Required.

related (**args, **kwargs*)

Function to request a particular category's related categories. Related categories are A related category is a one-way relation between 2 categories that is not part of a parent-child category hierarchy. Most categories do not have related categories. https://research.stlouisfed.org/docs/api/fred/category_related.html

Parameters

- **category_id** (*int*) – The id for a category. Required.
- **response_type** (*str*) – File extension of response. Options are 'xml', 'json', 'dict', 'df', 'numpy', 'csv', 'tab', 'pipe'. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format "YYYY-MM-DD"
- **realtime_end** (*str*) – The end of the real-time period. Format "YYYY-MM-DD"

related_tags (**args, **kwargs*)

Function to request FRED related tags for a particular category. FRED tags are attributes assigned to series. Series are assigned tags and categories. Indirectly through series, it is possible to get the tags for a category. No tags exist for a category that does not have series. https://research.stlouisfed.org/docs/api/fred/category_tags.html

Parameters

- **category_id** (*int*) – The id for a category. Required.
- **response_type** (*str*) – File extension of response. Options are 'xml', 'json', 'dict', 'df', 'numpy', 'csv', 'tab', 'pipe'. Required.
- **tag_names** (*str*) – Tag names that series match. Required. Separate with semicolon as in "income;bea"
- **realtime_start** (*str*) – The start of the real-time period. Format "YYYY-MM-DD"
- **realtime_end** (*str*) – The end of the real-time period. Format "YYYY-MM-DD"
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000

- **offset** (*int*) – Data offset. Options ≥ 0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_id’, ‘title’, ‘units’, ‘frequency’, ‘seasonal_adjustment’, ‘realtime_start’, ‘realtime_end’, ‘last_updated’, ‘observation_start’, ‘observation_end’, ‘popularity’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **exclude_tag_names** (*str*) – Tag names to exclude. Separate with semicolon as in “income;bea”
- **tag_group_id** (*str*) – Tag ID to filter tags by. Options are ‘freq’, ‘gen’, ‘geo’, ‘geot’, ‘rls’, ‘seas’, ‘src’
- **search_text** (*str*) – The words to find matching tags with. For example ‘mortgage rates’

series (**args, **kwargs*)

Function to request a particular category’s data series https://research.stlouisfed.org/docs/api/fred/category_series.html

Parameters

- **category_id** (*int*) – The id for a category. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options ≥ 0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_id’, ‘title’, ‘units’, ‘frequency’, ‘seasonal_adjustment’, ‘realtime_start’, ‘realtime_end’, ‘last_updated’, ‘observation_start’, ‘observation_end’, ‘popularity’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **filter_variable** (*str*) – The attribute to filter results by. Options are ‘frequency’, ‘units’, ‘seasonal_adjustment’
- **filter_value** (*str*) – The value of the filter_variable attribute to filter results by.
- **tag_names** (*str*) – Tag names used to match series. Separate with semicolon as in “income;bea”
- **exclude_tag_names** (*str*) – Tag names used to exclude series. Separate with semicolon as in “income;bea”

tags (**args, **kwargs*)

Function to request a particular category’s FRED tags. FRED tags are attributes assigned to series. Series are assigned tags and categories. Indirectly through series, it is possible to get the tags for a category. No tags exist for a category that does not have series. https://research.stlouisfed.org/docs/api/fred/category_tags.html

Parameters

- **category_id** (*int*) – The id for a category. Required.

- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_id’, ‘title’, ‘units’, ‘frequency’, ‘seasonal_adjustment’, ‘realtime_start’, ‘realtime_end’, ‘last_updated’, ‘observation_start’, ‘observation_end’, ‘popularity’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **tag_names** (*str*) – Tag names to only include in the response. Separate with semicolon as in “income;bea”
- **tag_group_id** (*str*) – Tag ID to filter tags by. Options are ‘freq’, ‘gen’, ‘geo’, ‘geot’, ‘rls’, ‘seas’, ‘src’
- **search_text** (*str*) – The words to find matching tags with. For example ‘mortgage rates’

5.2.3 Releases

class fred.clients.releases.ReleasesClient (*client, api_key, url_root, response_type*)

Class for working with FRED releases

all_dates (**args, **kwargs*)

Function to request release dates for all releases of economic data. https://research.stlouisfed.org/docs/api/fred/releases_dates.html

Parameters

- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘release_date’, ‘release_id’, ‘release_name’.
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **include_release_dates_with_no_data** (*str*) – Determines whether release dates with no data available are returned. Options are ‘true’, ‘false’

all_releases (**args, **kwargs*)

Function to request all releases of economic data. <https://research.stlouisfed.org/docs/api/fred/releases.html>

Parameters

- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘release_id’, ‘name’, ‘press_release’, ‘realtime_start’, ‘realtime_end’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’

dates (*args, **kwargs)

Function to request release dates for a particular release of economic data. Note that release dates are published by data sources and do not necessarily represent when data will be available on the FRED or ALFRED websites. https://research.stlouisfed.org/docs/api/fred/release_dates.html

Parameters

- **release_id** (*int*) – The id for a release. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **sort_order** (*str*) – Sort results is ascending or descending release date order. Options are ‘asc’, ‘desc’
- **include_release_dates_with_no_data** (*str*) – Determines whether release dates with no data available are returned. Options are ‘true’, ‘false’

details (*args, **kwargs)

Function to request the high-level details for a particular release of economic data.. <https://research.stlouisfed.org/docs/api/fred/release.html>

Parameters

- **release_id** (*int*) – The id for a release. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”

related_tags (*args, **kwargs)

Function to request FRED related tags for a particular release. FRED tags are attributes assigned to series. Series are assigned tags and releases. Indirectly through series, it is possible to get the tags for a category. No tags exist for a release that does not have series. https://research.stlouisfed.org/docs/api/fred/release_related_tags.html

Parameters

- **release_id** (*int*) – The id for a release. Required.
- **tag_names** (*str*) – Tag names that series match. Separate with semicolon as in “income;bea”. Required
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_count’, ‘popularity’, ‘created’, ‘name’, ‘group_id’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **exclude_tag_names** (*str*) – Tag names to exclude. Separate with semicolon as in “income;bea”
- **tag_group_id** (*str*) – Tag ID to filter tags by. Options are ‘freq’, ‘gen’, ‘geo’, ‘geot’, ‘rls’, ‘seas’, ‘src’
- **search_text** (*str*) – The words to find matching tags with. For example ‘mortgage rates’

series (*args, **kwargs)

Function to request the series on a release of economic data.
https://research.stlouisfed.org/docs/api/fred/release_series.html

Parameters

- **release_id** (*int*) – The id for a release. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_id’, ‘title’, ‘units’, ‘frequency’, ‘seasonal_adjustment’, ‘realtime_start’, ‘realtime_end’, ‘last_updated’, ‘observation_start’, ‘observation_end’, ‘popularity’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **filter_variable** (*str*) – The attribute to filter results by. Options are ‘frequency’, ‘units’, ‘seasonal_adjustment’
- **filter_value** (*str*) – The value of the filter_variable attribute to filter results by.
- **tag_names** (*str*) – Tag names used to match series. Separate with semicolon as in “income;bea”

- **exclude_tag_names** (*str*) – Tag names used to exclude series. Separate with semi-colon as in “income;bea”

sources (**args, **kwargs*)

Function to request the sources for a particular release of economic data. <https://research.stlouisfed.org/docs/api/fred/release.html>

Parameters

- **release_id** (*int*) – The id for a release. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”

tags (**args, **kwargs*)

Function to request FRED tags for a particular release. FRED tags are attributes assigned to series. Series are assigned tags and releases. Indirectly through series, it is possible to get the tags for a category. No tags exist for a release that does not have series. https://research.stlouisfed.org/docs/api/fred/release_tags.html

Parameters

- **release_id** (*int*) – The id for a release. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_count’, ‘popularity’, ‘created’, ‘name’, ‘group_id’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **tag_names** (*str*) – Tag names that series match. Separate with semicolon as in “income;bea”
- **tag_group_id** (*str*) – Tag ID to filter tags by. Options are ‘freq’, ‘gen’, ‘geo’, ‘geot’, ‘rls’, ‘seas’, ‘src’
- **search_text** (*str*) – The words to find matching tags with. For example ‘mortgage rates’

5.2.4 Series

class `fred.clients.eseries.ESeriesClient` (*client, api_key, url_root, response_type*)

Class for working with FRED series

categories (**args, **kwargs*)

Function to request the categories for an economic data series. <https://research.stlouisfed.org/docs/api/fred/release.html>

Parameters

- **series_id** (*int*) – The id for a series. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”

details (*args, **kwargs)

Function to request a series of economic data. <https://research.stlouisfed.org/docs/api/fred/release.html>

Parameters

- **series_id** (*int*) – The id for a series. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”

observations (*args, **kwargs)

Function to request the observations or data values for an economic data series. https://research.stlouisfed.org/docs/api/fred/series_observations.html

Parameters

- **series_id** (*int*) – The id for a series. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 100000
- **offset** (*int*) – Data offset. Options >=0
- **sort_order** (*str*) – Sort results is ascending or descending observation_date order. Options are ‘asc’, ‘desc’
- **observation_start** (*str*) – The start of the observation period. Format “YYYY-MM-DD”
- **observation_end** (*str*) – The end of the observation period. Format “YYYY-MM-DD”
- **units** (*str*) – A key that indicates a data value transformation. Options are ‘lin’, ‘chg’, ‘ch1’, ‘pch’, ‘pc1’, ‘pca’, ‘cch’, ‘cca’, ‘log’
- **frequency** (*str*) – Indicates a lower frequency to aggregate values. Options are ‘d’, ‘w’, ‘bw’, ‘m’, ‘q’, ‘sa’, ‘a’, ‘wef’, ‘weth’, ‘wew’, ‘wetw’, ‘wem’, ‘wesw’, ‘wesa’, ‘bwew’, ‘bwem’
- **aggregation_method** (*str*) – Indicates the aggregation method used for frequency aggregation. Options are ‘avg’, ‘sum’, ‘eop’
- **output_type** (*int*) – Output type. Options are 1, 2, 3, 4
- **vintage_dates** (*str*) – Date(s) in history. Format “YYYY-MM-DD”. Example for multiple dates “2000-01-01,2005-02-24,...”

release (*args, **kwargs)

Function to request the release for an economic data series.
https://research.stlouisfed.org/docs/api/fred/series_release.html

Parameters

- **series_id** (*int*) – The id for a series. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”

search (*args, **kwargs)

Function to request economic data series that match search text.
https://research.stlouisfed.org/docs/api/fred/series_search.html

Parameters

- **search_text** (*str*) – The words to match against economic data series. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **search_type** (*str*) – Determines the type of search to perform. Options are ‘full_text’, ‘series_id’
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘search_rank’, ‘series_id’, ‘title’, ‘units’, ‘frequency’, ‘seasonal_adjustment’, ‘realtime_start’, ‘realtime_end’, ‘last_updated’, ‘observation_start’, ‘observation_end’, ‘popularity’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **filter_variable** (*str*) – The attribute to filter results by. Options are ‘frequency’, ‘units’, ‘seasonal_adjustment’
- **filter_value** (*str*) – The value of the filter_variable attribute to filter results by.
- **tag_names** (*str*) – Tag names used to match series. Separate with semicolon as in “income;bea”
- **exclude_tag_names** (*str*) – Tag names used to exclude series. Separate with semicolon as in “income;bea”

search_related_tags (*args, **kwargs)

Function to request the related FRED tags for one or more FRED tags matching a series search.
https://research.stlouisfed.org/docs/api/fred/series_search_related_tags.html

Parameters

- **series_search_text** (*str*) – The words to match against economic data series. Required.

- **tag_names** (*str*) – Tag names that series match. Separate with semicolon as in “income;bea”. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_count’, ‘popularity’, ‘created’, ‘name’, ‘group_id’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **tag_group_id** (*str*) – Tag ID to filter tags by. Options are ‘freq’, ‘gen’, ‘geo’, ‘geot’, ‘rls’, ‘seas’, ‘src’
- **tag_search_text** (*str*) – The words to find matching tags with.
- **exclude_tag_names** (*str*) – Tag names to exclude. Separate with semicolon as in “income;bea”

search_tags (**args, **kwargs*)

Function to request the FRED tags for a series search. https://research.stlouisfed.org/docs/api/fred/series_search_tags.html

Parameters

- **series_search_text** (*str*) – The words to match against economic data series. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_count’, ‘popularity’, ‘created’, ‘name’, ‘group_id’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **tag_names** (*str*) – Tag names that series match. Separate with semicolon as in “income;bea”
- **tag_group_id** (*str*) – Tag ID to filter tags by. Options are ‘freq’, ‘gen’, ‘geo’, ‘geot’, ‘rls’, ‘seas’, ‘src’
- **tag_search_text** (*str*) – The words to find matching tags with.

tags (**args, **kwargs*)

Function to request FRED tags for a particular series. FRED tags are attributes assigned to series. https://research.stlouisfed.org/docs/api/fred/series_tags.html

Parameters

- **series_id** (*int*) – The id for a series. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_count’, ‘popularity’, ‘created’, ‘name’, ‘group_id’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’

updates (*args, **kwargs)

Function to request economic data series sorted by when observations were updated on the FRED server (attribute last_updated). Results are limited to series updated within the last two weeks. https://research.stlouisfed.org/docs/api/fred/series_updates.html

Parameters

- **series_id** (*int*) – The id for a series. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **filter_value** (*str*) – Limit results by geographic type of economic data series. Options are ‘macro’, ‘regional’, and ‘all’

vintage_dates (*args, **kwargs)

Function to request the dates in history when a series’ data values were revised or new data values were released. Vintage dates are the release dates for a series excluding release dates when the data for the series did not change. https://research.stlouisfed.org/docs/api/fred/series_vintagedates.html

Parameters

- **series_id** (*int*) – The id for a series. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **sort_order** (*str*) – Sort results by vintage_date. Options are ‘asc’, ‘desc’

5.2.5 Sources

class fred.clients.sources.SourcesClient (*client, api_key, url_root, response_type*)
 Class for working with FRED sources

details (*args, **kwargs)

Function to request a particular source of economic data. <https://research.stlouisfed.org/docs/api/fred/source.html>

Parameters

- **source_id** (*int*) – The id for a source. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”

releases (*args, **kwargs)

Function to request all releases of economic data. <https://research.stlouisfed.org/docs/api/fred/releases.html>

Parameters

- **source_id** (*int*) – The id for a source. Required.
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘source_id’, ‘name’, ‘realtime_start’, ‘realtime_end’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’

sources (*args, **kwargs)

Function to request all sources of economic data. <https://research.stlouisfed.org/docs/api/fred/sources.html>

Parameters

- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘source_id’, ‘name’, ‘realtime_start’, ‘realtime_end’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’

5.2.6 Tags

class fred.clients.tags.TagsClient (*client, api_key, url_root, response_type*)

Class for working with FRED tags

related_tags (*args, **kwargs)

Function to request FRED related tags. FRED tags are attributes assigned to series.
https://research.stlouisfed.org/docs/api/fred/related_tags.html

Parameters

- **tag_names** (*str*) – Tag names that series match. Required. Separate with semicolon as in “income;bea”
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_count’, ‘popularity’, ‘created’, ‘name’, ‘group_id’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **exclude_tag_names** (*str*) – Tag names to exclude. Separate with semicolon as in “income;bea”
- **tag_group_id** (*str*) – Tag ID to filter tags by. Options are ‘freq’, ‘gen’, ‘geo’, ‘geot’, ‘rls’, ‘seas’, ‘src’
- **search_text** (*str*) – The words to find matching tags with. For example ‘mortgage rates’

series (*args, **kwargs)

Function to request series matching all tags in the tag_names parameter.
https://research.stlouisfed.org/docs/api/fred/category_series.html

Parameters

- **tag_names** (*str*) – Tag names that series match. Required. Separate with semicolon as in “income;bea”
- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_id’, ‘title’, ‘units’, ‘frequency’, ‘seasonal_adjustment’, ‘realtime_start’, ‘realtime_end’, ‘last_updated’, ‘observation_start’, ‘observation_end’, ‘popularity’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **exclude_tag_names** (*str*) – Tag names used to exclude series. Separate with semicolon as in “income;bea”

tags (*args, **kwargs)

Function to request FRED tags. FRED tags are attributes assigned to series.
<https://research.stlouisfed.org/docs/api/fred/tags.html>

Parameters

- **response_type** (*str*) – File extension of response. Options are ‘xml’, ‘json’, ‘dict’, ‘df’, ‘numpy’, ‘csv’, ‘tab’, ‘pipe’. Required.
- **realtime_start** (*str*) – The start of the real-time period. Format “YYYY-MM-DD”
- **realtime_end** (*str*) – The end of the real-time period. Format “YYYY-MM-DD”
- **limit** (*int*) – The maximum number of results to return. Options 1 to 1000
- **offset** (*int*) – Data offset. Options >=0
- **order_by** (*str*) – Order results by values of the specified attribute. Options are ‘series_count’, ‘popularity’, ‘created’, ‘name’, ‘group_id’
- **sort_order** (*str*) – Sort results for attribute values specified by order_by. Options are ‘asc’, ‘desc’
- **tag_names** (*str*) – Tag names to only include in the response. Separate with semicolon as in “income;bea”
- **tag_group_id** (*str*) – Tag ID to filter tags by. Options are ‘freq’, ‘gen’, ‘geo’, ‘geot’, ‘rls’, ‘seas’, ‘src’
- **search_text** (*str*) – The words to find matching tags with. For example ‘mortgage rates’

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Affiliation

The author is affiliated with the Data Science division of the National Association of REALTORS.

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