

Package ‘ustfd’

April 18, 2022

Title API Client for US Treasury Fiscal Data

Version 0.1.0

Description Make requests from the US Treasury Fiscal Data API endpoints.

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Encoding UTF-8

RoxygenNote 7.1.2

URL <https://github.com/groditi/ustfd>

BugReports <https://github.com/groditi/ustfd/issues>

Imports dplyr, httr, lubridate, purrr, readr

Depends R (>= 2.10)

Suggests testthat (>= 3.0.0), jsonlite

Config/testthat/edition 3

NeedsCompilation no

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Repository CRAN

Date/Publication 2022-04-18 14:30:02 UTC

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ustfd_endpoints	<i>Return a table of supported and known endpoints</i>
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Description

ustfd_endpoints provides details about 80 known endpoints for Fiscal Data. A data frame with 80 rows and the following 4 columns:

- data_set - name of the source data_set
- table_name - Name of the table within the data set
- endpoint - the serialized version of the URL endpoint (natural key)
- endpoint_description - a description for the data in the endpoint

Usage

```
ustfd_endpoints()
```

Value

tibble

Source

<https://fiscaldata.treasury.gov/api-documentation/#list-of-endpoints>

See Also

Other ustfd_user: [ustfd_field_dictionary\(\)](#), [ustfd_query\(\)](#), [ustfd_simple\(\)](#)

Examples

```
library(ustfd)
unique(ustfd_endpoints())$data_set)
```

`ustfd_field_dictionary`*Return a table of known fields for known endpoints*

Description

`ustfd_endpoints` returns the field dictionaries for the requested endpoint. See `ustfd_endpoints()` for known endpoints.

Usage

```
ustfd_field_dictionary(endpoint)
```

Arguments

`endpoint` a string representing a valid endpoint

Details

The format of a dictionary is a tibble with one row for every field and the following columns:

- `field_name` - the field name recognizable to the API interface
- `label` - a descriptive label
- `data_type` - one of: "DATE", "STRING", "CURRENCY", "NUMBER", "PERCENTAGE", "YEAR", "QUARTER", "MONTH", "DAY"
- `data_format` - a description of the data format returned by the API

Value

tibble

Source

<https://fiscaldata.treasury.gov/api-documentation/#fields-by-endpoint>

See Also

Other `ustfd_user`: `ustfd_endpoints()`, `ustfd_query()`, `ustfd_simple()`

Examples

```
library(ustfd)
ustfd_field_dictionary()[[ustfd_endpoints()$endpoint[4]]]
```

ustfd_json_response *Process JSON Response of a Successful API Query*

Description

ustfd_json_response() will process the response to a successful request from Fiscal Data API and translate a JSON object into a R data structure.

Usage

```
ustfd_json_response(response, ...)
```

Arguments

response	an http response returned by ustfd_request()
...	additional arguments passed to <code>httr::content</code>

Value

a list

See Also

Other `ustfd_low_level`: [ustfd_request\(\)](#), [ustfd_response_meta_object\(\)](#), [ustfd_response_payload\(\)](#), [ustfd_url\(\)](#)

Examples

```
## Not run:
library(ustfd)
query <- ustfd_query('/v1/accounting/dts/dts_table_4', sort =c('-record_date'))
response <- ustfd_request(query)
payload_table <- ustfd_response_payload(response)
payload_meta <- ustfd_response_meta_object(response)

## End(Not run)
```

ustfd_query *Form a Query*

Description

ustfd_query() will verify the endpoint is valid and return a list suitable for passing to [ustfd_url\(\)](#) and [ustfd_request\(\)](#).

Usage

```
ustfd_query(
  endpoint,
  filter = NA,
  fields = NA,
  sort = NA,
  page_size = NA,
  page_number = NA
)
```

Arguments

endpoint	required string representing an API endpoint
filter	optional list used to subset the data. known filter operators are '>', '>=', '<', '<=', '=', and 'in'
fields	optional string vector of the fields to be retrieved
sort	optional string or string vector. Ordering defaults to ascending, to specify descending order precede the field name with '-'
page_size	optional integer for pagination
page_number	optional integer for pagination

Value

a list

See Also

Other `ustfd_user`: [ustfd_endpoints\(\)](#), [ustfd_field_dictionary\(\)](#), [ustfd_simple\(\)](#)

Examples

```
library(ustfd)
ustfd_query(
  '/v2/accounting/od/utf_qtr_yields',
  filter = list(record_date = c('>=' = lubridate::today()-10))
)
ustfd_query(
  '/v2/accounting/od/utf_qtr_yields',
  filter = list(record_date = list('in' = c('2020-03-15', '2020-03-16', '2020-03-17')))
)
ustfd_query(
  '/v2/accounting/od/utf_qtr_yields',
  filter = list(record_date = c('=' = '2020-03-15'))
)
```

ustfd_request

*Retrieve Data From the U.S. Bureau Of the Fiscal Service API***Description**

ustfd_request() will execute queries against the Fiscal Data API. Queries can be generated using [ustfd_query\(\)](#).

Usage

```
ustfd_request(
  query,
  user_agent = "http://github.com/groditi/ustfd",
  process_response = ustfd_json_response,
  ...
)
```

Arguments

query	list generated by one of the query generating functions
user_agent	string, optional
process_response	function, optional. processes the http response object. Defaults to ustfd_json_response() which will return the JSON payload parsed into a list
...	further arguments will be passed to process_response when called

Value

a http response object

See Also

Other `ustfd_low_level`: [ustfd_json_response\(\)](#), [ustfd_response_meta_object\(\)](#), [ustfd_response_payload\(\)](#), [ustfd_url\(\)](#)

Examples

```
## Not run:
library(ustfd)
query <- ustfd_query('/v1/accounting/dts/dts_table_4', sort =c('-record_date'))
response <- ustfd_request(query)
payload_table <- ustfd_response_payload(response)
payload_meta <- ustfd_response_meta_object(response)

## End(Not run)
```

`ustfd_response_meta_object`*Extract Metadata From Parsed API Response*

Description

`ustfd_response_meta_object()` will return the meta object included in a successful API response. The meta object is a list with the following items:

- `count` - the number of records in the response
- `labels` - a named list of labels for each field
- `dataTypes` - a named list describing the data type for each field
- `dataFormats` - a named list describing the data format for each field
- `total-count` - the total number of records matching the query
- `total-pages` - the total number of pages of records matching the query

Usage

```
ustfd_response_meta_object(response)
```

Arguments

`response` a parsed response returned by [ustfd_json_response\(\)](#)

Value

a list

See Also

Other `ustfd_low_level`: [ustfd_json_response\(\)](#), [ustfd_request\(\)](#), [ustfd_response_payload\(\)](#), [ustfd_url\(\)](#)

Examples

```
## Not run:
library(ustfd)
query <- ustfd_query('/v1/accounting/dts/dts_table_4', sort =c('-record_date'))
response <- ustfd_request(query)
payload_table <- ustfd_response_payload(response)
payload_meta <- ustfd_response_meta_object(response)

## End(Not run)
```

`ustfd_response_payload`*Extract Payload as Table From Parsed API Response*

Description

`ustfd_response_payload()` will return the results of the query in tabular format in the form of a tibble with one column for each field returned and one row for every record returned in the same order they were returned.

Usage

```
ustfd_response_payload(response)
```

Arguments

`response` a parsed response returned by [ustfd_json_response\(\)](#)

Value

a tibble

See Also

Other `ustfd_low_level`: [ustfd_json_response\(\)](#), [ustfd_request\(\)](#), [ustfd_response_meta_object\(\)](#), [ustfd_url\(\)](#)

Examples

```
## Not run:
library(ustfd)
query <- ustfd_query('/v1/accounting/dts/dts_table_4', sort =c('-record_date'))
response <- ustfd_request(query)
payload_table <- ustfd_response_payload(response)
payload_meta <- ustfd_response_meta_object(response)

## End(Not run)
```

`ustfd_simple`*Retrieve Fiscal Data API in a single call*

Description

`ustfd_simple()` aggregates the workflow for retrieving data from the API into a single call.

Usage

```
ustfd_simple(  
  endpoint,  
  filter = NA,  
  fields = NA,  
  sort = NA,  
  page_size = NA,  
  page_number = NA,  
  user_agent = "http://github.com/groditi/ustfd"  
)
```

Arguments

<code>endpoint</code>	required string representing an API endpoint
<code>filter</code>	optional list used to subset the data. known filter operators are '>', '>=', '<', '<=', '=', and 'in'
<code>fields</code>	optional string vector of the fields to be retrieved
<code>sort</code>	optional string or string vector. Ordering defaults to ascending, to specify descending order precede the field name with '-'
<code>page_size</code>	optional integer for pagination
<code>page_number</code>	optional integer for pagination
<code>user_agent</code>	optional string

Value

a list containing the following items

- `meta` - the metadata returned by the API
- `data` - the payload returned by the API in table form. See [ustfd_response_payload\(\)](#)

See Also

Other `ustfd_user`: [ustfd_endpoints\(\)](#), [ustfd_field_dictionary\(\)](#), [ustfd_query\(\)](#)

Examples

```
## Not run:
library(ustfd)

exchange_rates <- ustfd_simple(
  '/v1/accounting/od/rates_of_exchange',
  fields = c(
    'country_currency_desc', 'exchange_rate', 'record_date', 'effective_date'
  ),
  filter = list(
    record_date = c('>=' = '2020-01-01'),
    country_currency_desc = list('in' = c('Canada-Dollar', 'Mexico-Peso'))
  )
)

## End(Not run)
```

ustfd_url

Generate URL To Access US Treasury Fiscal Data API

Description

ustfd_url() will generate a URL suitable for querying the Fiscal Data API.

Usage

```
ustfd_url(query)
```

Arguments

query required list

Value

a httr url object

See Also

Other ustfd_low_level: [ustfd_json_response\(\)](#), [ustfd_request\(\)](#), [ustfd_response_meta_object\(\)](#), [ustfd_response_payload\(\)](#)

Examples

```
library(ustfd)
ustfd_url(ustfd_query('/v1/accounting/dts/dts_table_4'))
```

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