

Package ‘pxweb’

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Type Package

Title R Interface to PXWEB APIs

Version 0.9.1

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Description Generic interface for the PX-Web/PC-Axis API. The PX-Web/PC-Axis API is used by organizations such as Statistics Sweden and Statistics Finland to disseminate data. The R package can interact with all PX-Web/PC-Axis APIs to fetch information about the data hierarchy, extract metadata and extract and parse statistics to R data.frame format. PX-Web is a solution to disseminate PC-Axis data files in dynamic tables on the web. Since 2013 PX-Web contains an API to disseminate PC-Axis files.

VignetteBuilder knitr

URL <https://github.com/rOpenGov/pxweb/>

BugReports <https://github.com/rOpenGov/pxweb/issues>

Depends R (>= 3.2), methods

Imports checkmate, httr (>= 1.1), jsonlite

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Suggests rjstat, data.table (>= 1.9.6), plyr, stringr, RJSONIO, ggplot2, knitr, rmarkdown, roxygen2, testthat (>= 0.11)

RoxygenNote 6.1.0

NeedsCompilation no

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pxweb-package	<i>Interface to PX-WEB APIs from R</i>
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Description

PXWEB is a common web API used by many European Statistical agencies to disseminate official statistics. The pxweb package facilitates connections and usage of these APIs.

References

The description of the PXWEB API here: <https://www.scb.se/en/About-us/about-the-website-and-terms-of-use/open-data-api/api-for-the-statistical-database/> The official home page of PXWEB can be found here: https://www.scb.se/sv_/PC-Axis/Programs/PX-Web/

pxweb_advanced_get	<i>Do a GET call to PXWEB API for advanced users</i>
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Description

Do a GET call to PXWEB API for advanced users

Usage

```
pxweb_advanced_get(url, query = NULL, verbose = TRUE,
  log_http_calls = FALSE, pxmdo = NULL, ...)
```

Arguments

url	a pxweb object or url that can be coerced to a pxweb object.
query	a json string, json file or list object that can be coerced to a pxweb_query object.
verbose	should large queries print out progress.
log_http_calls	Should the http calls to the API be logged (for debugging reasons). If TRUE, all calls and responses are logged and written to "log_pxweb_api_http_calls.txt" in the working directory.
pxmdo	A pxweb_metadata object to use for query.
...	Further arguments sent to <code>httr::POST</code> (for queries) or <code>httr::GET</code> (for query = NULL). If used with query, also supply a pxweb_metadata object. Otherwise the same parameters are sent to both <code>httr::POST</code> and <code>httr::GET</code> .

Details

This function is intended for more advanced users that want to supply specific arguments in `httr` calls or what to debug `httr` calls.

`pxweb_get()` is a wrapper for standard use.

pxweb_cite

Cite a PXWEB data object

Description

Cite a PXWEB data object

Usage

```
pxweb_cite(x, style = "citation")
```

Arguments

x	a pxweb_data object to cite.
style	see bibentry .

Details

Functionality to automatic cite PXWEB data objects.

pxweb_get

*Do a GET call to PXWEB API***Description**

Do a GET call to PXWEB API

Usage

```
pxweb_get(url, query = NULL, verbose = TRUE)
```

Arguments

url	a pxweb object or url that can be coerced to a pxweb object.
query	a json string, json file or list object that can be coerced to a pxweb_query object.
verbose	should large queries print out progress.

Examples

```
url <- "http://api.scb.se/OV0104/v1/doris/sv/ssd/BE/BE0101/BE0101A/BefolkningNy"
px_meta_data <- pxweb_get(url)

url <- "http://api.scb.se/OV0104/v1/doris/sv/ssd/BE/BE0101"
px_levels <- pxweb_get(url)

url <- "http://api.scb.se/OV0104/v1/doris/sv"
px_levels <- pxweb_get(url)

url <- "http://api.scb.se/OV0104/v1/doris/sv/ssd/BE/BE0101/BE0101A/BefolkningNy"
query <- file.path(system.file(package = "pxweb"),
                   "extdata", "examples", "json_query_example.json")
px_data <- pxweb_get(url = url, query = query)

# Convert to data.frame
as.data.frame(px_data, column.name.type = "text", variable.value.type = "text")

# Get raw data
as.matrix(px_data, column.name.type = "code", variable.value.type = "code")

# Get data comments
pxweb_data_comments(px_data)

# Get jsonstat data
jstat <- query <- file.path(system.file(package = "pxweb"),
                           "extdata", "examples", "json-stat_query_example.json")
jstat_data <- pxweb_get(url = url, query = query)
```

```
## Not run:
# Get very large datasets (multiple downloads needed)
big_query <- file.path(system.file(package = "pxweb"),
                       "extdata", "examples", "json_big_query_example.json")
px_data <- pxweb_get(url = url, query = big_query)

## End(Not run)
```

pxweb_get_data *Do a GET call to PXWEB API and return a data.frame*

Description

Do a GET call to PXWEB API and return a data.frame

Usage

```
pxweb_get_data(url, query, verbose = TRUE, column.name.type = "text",
               variable.value.type = "text")
```

Arguments

url	a pxweb object or url that can be coerced to a pxweb object.
query	a json string, json file or list object that can be coerced to a pxweb_query object.
verbose	should large queries print out progress.
column.name.type	character: should code or text be used as column names?
variable.value.type	character: should code or text be used as values in columns?

Details

The functions use will do a pxweb_query to a PXWEB url and return a data.frame. This is a wrapper for the pxweb_get function.

See Also

See [pxweb_get](#) for mor general usage and [pxweb_query](#) for details on PXWEB queries.

Examples

```
url <- "http://api.scb.se/0V0104/v1/doris/sv/ssd/BE/BE0101/BE0101A/BefolkningNy"
query <- file.path(system.file(package = "pxweb"),
                  "extdata", "examples", "json_query_example.json")
df <- pxweb_get_data(url = url, query = query)
```

pxweb_interactive *Find and download data interactively from a PXWEB API*

Description

Wrapper function (for [get_pxweb_data](#) and [get_pxweb_metadata](#)) to simply find and download data to the current R session.

Usage

```
pxweb_interactive(x = NULL)
```

Arguments

x The name or alias of the pxweb api to connect to, a pxweb object or an url. Use [api_catalogue](#) to get a list of apis.

See Also

[get_pxweb_metadata](#), [get_pxweb_data](#)

Examples

```
pxweb_api_catalogue() # List apis
## Not run:
x <- pxweb_interactive()
x <- pxweb_interactive(x = "api.scb.se")
x <- pxweb_interactive(x = "http://api.scb.se/OV0104/v1/doris/en/ssd/BE/BE0101/")
x <- pxweb_interactive(x = "http://api.scb.se/OV0104/v1/doris/en/ssd/BE/BE0101/BE0101A/")

## End(Not run)
```

pxweb_query_as_json *Convert a pxweb_query object to a json string*

Description

Convert a pxweb_query object to a json string

Usage

```
pxweb_query_as_json(pxq, ...)
```

Arguments

pxq a pxweb_query object.
 ... further argument to `jsonlite::toJSON()`.

Examples

```

json_query <- file.path(system.file(package = "pxweb"),
                        "extdata", "examples", "json_query_example.json")
pxq <- pxweb_query(json_query)
json <- pxweb_query_as_json(pxq, pretty = TRUE)

```

pxweb_test_api *Test a full or a part of a PXWEB api.*

Description

The function can be used to test a whole pxweb api by using the api base url. By using a branch in a tree the api is tested below this branch.

Usage

```

pxweb_test_api(url, test_type = "first", n = 1, verbose = TRUE,
              time_limit = Inf)

```

Arguments

url	The base url to the pxweb api (or a branch of the metadata tree)
test_type	What type of test should be done. The first observation of each table. A random sample of size n. Download all full tables. touch the api by only downloading the first table metadata. This is minimal testing of the API.
n	sample size if test_type is sample.
verbose	The function will print information.
time_limit	Time limit in second the API is allowed to be tested.

Value

Function returns a data.frame with information on each node Two variables are added: checked :
 The node has been checked error : Whether there were errors encountered with the call download_error
 : Whether there were errors encountered during download

Examples

```

## Not run:
url <- "http://bank.stat.gl/api/v1/en/Greenland/BE/BE01"
res <- pxweb_test_api(url)
res <- pxweb_test_api(url, test_type="touch")

## End(Not run)

```

`pxweb_validate_query_with_metadata`*Validate a pxweb_query with a pxweb_metadata object*

Description

Validate a pxweb_query with a pxweb_metadata object

Usage

```
pxweb_validate_query_with_metadata(pxq, pxmd)
```

Arguments

pxq	a pxweb_query object.
pxmd	a pxweb_metadata object.

Details

Validate a query with a metadata object to asses that the query can be used to query the table.

Examples

```
url <- "http://api.scb.se/OV0104/v1/doris/sv/ssd/BE/BE0101/BE0101A/BefolkningNy"
json_query <- file.path(system.file(package = "pxweb"),
                        "extdata", "examples", "json_query_example.json")
pxq <- pxweb_query(json_query)
pxweb_validate_query_with_metadata(pxq, pxweb_get(url))
```


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