

# Package ‘pxweb’

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**Type** Package

**Title** R Interface to PXWEB APIs

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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 (>= 3.5.0)

**Imports** checkmate, httr (>= 1.1), jsonlite

**License** BSD\_2\_clause + file LICENSE

**Suggests** knitr, remotes, rmarkdown, testthat (>= 0.11)

**RoxygenNote** 7.1.1

**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/> The official home page of PXWEB can be found here: <https://www.scb.se/en/services/statistical-programs-for-px-files/px-web/>

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api_catalogue	<i>Defunct functions</i>
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**Description**

These function has as from version 0.10.0 become defunct. Call the functions to get information on new functions to use.

**Usage**

```
api_catalogue()
```

```
update_pxweb_apis()
```

```
api_parameters(url = NULL)
```

```
ApiData(  
  urlToData,  
  ...,  
  getDataByGET = FALSE,  
  returnMetaData = FALSE,  
  returnMetaValues = FALSE,  
  returnMetaFrames = FALSE,  
  returnApiQuery = FALSE,  
  defaultJSONquery = c(1, -2, -1),  
  verbosePrint = FALSE,  
  use_factors = FALSE,  
  urlType = "SSB"  
)
```

```
MakeUrl(id, urlType = "SSB", getDataByGET = FALSE)
```

```
base_url(api, version = NULL, language = NULL)
```

```
get_pxweb_data(url, dims, clean = FALSE, encoding = NULL)
```

```
get_pxweb_dims(node, verbose = TRUE)
```

```
get_pxweb_levels(baseURL, descriptions = FALSE, quiet = FALSE, ...)
```

```
get_pxweb_metadata(  
  path = NULL,  
  node = NULL,  
  topnodes = NULL,  
  quiet = TRUE,  
  baseURL = NULL,  
  ...
```

```
)  
  
pxweb_api  
  
checkForLevels(url)
```

### Arguments

url	Defunct argument.
urlToData	Defunct argument.
...	Defunct argument.
getDataByGET	Defunct argument.
returnMetaData	Defunct argument.
returnMetaValues	Defunct argument.
returnMetaFrames	Defunct argument.
returnApiQuery	Defunct argument.
defaultJSONquery	Defunct argument.
verbosePrint	Defunct argument.
use_factors	Defunct argument.
urlType	Defunct argument.
id	Defunct argument.
api	Defunct argument.
version	Defunct argument.
language	Defunct argument.
dims	Defunct argument.
clean	Defunct argument.
encoding	Defunct argument.
node	Defunct argument.
verbose	Defunct argument.
baseURL	Defunct argument.
descriptions	Defunct argument.
quiet	Defunct argument.
path	Defunct argument.
topnodes	Defunct argument.

### Format

An object of class list of length 1.

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 assert\_query\_can\_be\_split\_to\_batches

*Assert that a given pxweb query can be split*


---

### Description

Assert that a given pxweb query can be split

### Usage

```
assert_query_can_be_split_to_batches(pxq, pxmd, mxv)
```

### Arguments

pxq	a [pxweb_query] object
pxmd	a [pxweb_metadata] object
mxv	maximum batch size

---

 pxweb\_advanced\_get

*Do a GET call to PXWEB API for advanced users*


---

### 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 httr::POST (for queries) or httr::GET (for query = NULL). If used with query, also supply a pxweb\_metadata object. Otherwise the same parameters are sent to both httr::POST and httr::GET.

### 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.

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pxweb_cite	<i>Cite a PXWEB data object</i>
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---

### 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	<i>Do a GET call to PXWEB API</i>
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---

### 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**

```
## Not run:
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)

# 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)
```

## 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

```
## Not run:  
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)  
  
## End(Not run)
```



---

pxweb\_interactive      *Find and download data interactively from a PXWEB API*

---

**Description**

Wrapper function (for [pxweb\\_get](#)) to simply find and download data to the current R session.

**Usage**

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

```
interactive_pxweb(x = NULL)
```

**Arguments**

x                      The name or alias of the pxweb api to connect to, a pxweb object or an url.

**Value**

The function returns a list with three slots: url: The URL to the data query: The query to access the data data: The downloaded data (if chosen to download data)

**See Also**

[pxweb\\_get](#)

**Examples**

```
pxweb_api_catalogue() # List apis

## The examples below can only be run in interactive mode
## 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/")
```

---

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	<i>Test a full or a part of a PXWEB api.</i>
----------------	--

---

**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 <- "https://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**

```
## Not run:
url <- "http://api.scb.se/0V0104/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))

## End(Not run)
```

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