Package 'SNBdata'

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Type Package

Title Download Data from the Swiss National Bank (SNB)

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Description Download data (tables and datasets) from the Swiss
National Bank (SNB; <https://www.snb.ch/en>), the Swiss
central bank. The package is lightweight and comes with few
dependencies; suggested packages are used only if data is to
be transformed into particular data structures, for instance
into 'zoo' objects. Downloaded data can optionally be
cached, to avoid repeated downloads of the same files.

Suggests jsonlite, zoo

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URL <http://enricoschumann.net/R/packages/SNBdata/> ,

<https://git.sr.ht/~enricoschumann/SNBdata>

LazyLoad yes

NeedsCompilation no

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SNBdata   *Download Data from the Swiss National Bank (SNB)*

Description

Download data ('tables' and 'datasets') from the Swiss National Bank (SNB) and convert to dataframes.

Usage

```
fetch_data(id,
           type = "table", dest.dir = NULL,
           return.class = NULL, verbose = TRUE,
           language = "en",
           name.sep = " :: ",
           method,
           na.drop = TRUE,
           time.series = FALSE, ...)

fetch_last_update(id,
                  type = "table", dest.dir = NULL,
                  verbose = TRUE, language = "en", ...)

fetch_info(id,
           type = "table", dest.dir = NULL,
           verbose = TRUE,
           language = "en",
           name.sep = " :: ",
           method, ...)
```

Arguments

dest.dir	file path: where to store the downloaded files? See Details.
id	string: identifier of the table/dataset
type	string: 'table' or 'dataset'
method	see download.file
verbose	logical: print messages, e.g. about download progress?
return.class	NULL or character: not yet implemented (but in future versions, zoo will be supported)
language	string: en, fr or de
...	passed on to read.table
name.sep	string used when pasting description hierarchies
time.series	logical. If TRUE, data are transformed into time-series.
na.drop	logical. If TRUE, rows with no finite values at all are dropped. Only used if time.series is TRUE.

Details

The Swiss National Bank (SNB) provides data as either so-called tables or datasets. fetch_table can handle both, but the type argument must be specified.

fetch_table downloads data, which typically are in CSV format, from the SNB's website and stores them, with a date prefix, in directory dest.dir. If the latter is NULL, a temporary directory is used (through tempdir); but much better is to use a more-persistent storage location. If a file with today's date exists in dest.dir, that file is read, and nothing is downloaded.

For downloading, function download.file is used. See download.file for options; in particular, see the hints about timeout when downloading large files.

When argument time.series is TRUE, fetch_table will rearrange the data into time-series. This requires columns named "Date" and "Value" in the particular dataset/table. If the "Date" column has a YYYY-MM-DD pattern, it will will be transformed with as.Date.

Value

typically a data.frame, potentially with attributes additional attributes:

info information about identifiers used by the SNB

columns if time.series is TRUE, the names of the columns used for grouping the rows

Should the download fail, the function returns NULL invisibly.

Author(s)

Enrico Schumann

References

https://data.snb.ch/en

for help on the API, seehttps://data.snb.ch/en/help#data_api

Examples

```
## (Internet connection required)

### set directory for storing the files.  This is
### only an example: Much better is to use a permanent
### storage-location, such as '~/Downloads/SNBdata'
data.dir <- tempdir()

rates <- fetch_data("rendoblim",
                    type = "table",
                    dest.dir = data.dir,
                    language = "en")

### ==> have data transformed into time-series
rates <- fetch_data("rendoblim",
                    type = "table",
                    dest.dir = data.dir,
```

```
                       language = "en",
                       time.series = TRUE)

   if (!is.null(rates))  ## check: if download failed, results
                       ##            are NULL
       attr(rates, "info")


   stock.markets <- fetch_data("capchstocki",
                               type = "table",
                               dest.dir = data.dir,
                               time.series = TRUE)
   ## e.g.: stock.markets[, "GDR"]  ## total return index
```

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