

Package ‘TSjson’

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Version 2014.4-1

Title TSdbi extension for importing time series from web sources via JSON

Description Provides methods for generics in the TSdbi package to retrieve data from web data sources, importing them using Javascript object notation. Direct connections or a proxy connection are possible. (Only Statistics Canada connections are currently supported.) Comprehensive examples of all the TS* packages is provided in the vignette Guide.pdf with the TSdata package.

Depends R (>= 2.14.0), TSdbi (>= 2012.8-1), findpython

Imports methods, DBI, tframe (>= 2011.11-1), tframePlus, rjson

Suggests tfplot, zoo

SystemRequirements

python 2, python-sys, python-json,python-mechanize, python-re, python-csv, python-urllib2

BuildVignettes FALSE

License GPL-2

Author Paul Gilbert <pgilbert.ttv9z@ncf.ca>

Maintainer Paul Gilbert <pgilbert.ttv9z@ncf.ca>

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| json | <i>TSdbi methods to importing time series from web sources via JSON</i> |
|------|---|

Description

Get time series data from web data sources, importing them using Javascript object notation. Direct connections or a proxy connection are possible. (Only Statistics Canada connections are currently supported.)

Usage

```

jsonCall()
## S4 method for signature 'character,TSjsonConnection'
TSget(
  serIDs, con=getOption("TSconnection"),
  TSrepresentation=getOption("TSrepresentation"),
  tf = NULL, start = tfstart(tf), end = tfend(tf), names=serIDs,
  TSdescription=FALSE, TSdoc=FALSE, TSlabel=FALSE, TSsource=TRUE,
  quiet = TRUE, repeat.try=3, ...)
## S4 method for signature 'jsonDriver,character'
TSconnect(
  drv, dbname, user=NULL, password = NULL, host=NULL, ...)
## S4 method for signature 'character,TSjsonConnection'
TSdates(
  serIDs, con, vintage=NULL, panel=NULL, ... )
## S4 method for signature 'character,TSjsonConnection'
TSdescription(x, con, ... )
## S4 method for signature 'character,TSjsonConnection'
TSdoc(x, con, ... )
## S4 method for signature 'character,TSjsonConnection'
TSlabel(x, con, ... )
## S4 method for signature 'character,TSjsonConnection'
TSsource(x, con, ... )

## S4 method for signature 'TSjsonConnection'
dbDisconnect(conn,...)

```

Arguments

| | |
|--------|---|
| con | a database connection object. |
| conn | a database connection object. |
| serIDs | identifiers for series on the database. |

| | |
|------------------|---|
| vintage | character string indicating vintage of the series on the database (not supported by this database). |
| panel | character string indicating panel of the series on the database (not supported by this database). |
| x | time series data(TSput), or identifiers for series on the database (TSdoc and TSdescription). |
| names | optional character vector to use for series names in the R object. |
| drv | a database driver object. |
| dbname | a character string indicating the name of a database. |
| tf | time frame for trimming data, passed to tfwindow. |
| start | time frame for trimming data, passed to tfwindow. |
| end | time frame for trimming data, passed to tfwindow. |
| TSrepresentation | time representation for returned series. (See TSget in package TSdbi .) |
| TSdescription | logical to indicate if description should be retrieved. |
| TSdoc | logical to indicate if documentation should be retrieved. |
| TSlabel | logical to indicate if label should be retrieved. |
| TSsource | logical to indicate if source information should be retrieved. |
| quiet | logical to suppress progress report. |
| repeat.try | integer number of times to attempt retrieval before giving up. |
| user | (unused) a character string indicating a user id. |
| password | (unused) a character string indicating a password. |
| host | (unused) a character string indicating a host computer. |
| ... | Arguments passed to jsonCall. |

Details

These functions interface to web time series databases and import data using simple JavaScript Object Notation (JSON). The web source can be a proxy portal to the real database, simply providing an intermediate server that contacts the real server. The proxy retrieves and relays the data. This can be convenient in some cases, for example, when all the necessary Python cannot be installed on the client machine.

The function `TSconnect` establishes the source of the web data, and whether a proxy server will be used or not. Argument `dbname` specifies a recognized database (e.g "cansim") which is expanded to an appropriate string to find the database.

If a proxy server is to be used, the `dbname` should specify the proxy server, for example, `dbname="proxy-cansim"`. In this case credentials will be needed. The `user`, `password`, and `host`, can be specified as arguments. If specified as `NULL` (the default) then they will be determined by reading a file `~/TSjson.cfg` which should have a line with four fields:

```
[proxy-cansim] user password host
```

The first field should match the `dbname` specification. Currently only a single line is supported, starting with "[proxy-cansim]", but the format is intended for extension to support proxies to different web databases.

If the file does not exist then environment variables "TSJSONUSER", "TSJSONPASSWORD", and "TSJSONHOST" will be used.

For unrecognized databases specified in dbname, the value of dbname is simply appended to the URL specification, allowing for an arbitrary database host. (But the value returned by the host must be a time series in the recognized format in order for this to work. The URL specification is expanded using other arguments to "http://user:password@host/dbname/serID".

TSget calls Python code to extract the data. The Python code returns a simple JSON format which is decoded by fromJSON. The TSget function argument serId specifies the series to return.

TSjson does not support writing data to the source.

The classes jsonDriver and TSjsonConnection extend classes DBIDriver and DBIConnection in the DBI package.

See the vignette for package **TSdata** for additional examples.

Value

Depends.

See Also

[TSdates](#), [TSget](#), [tfwindow](#),

Examples

```
require("TSjson")
require("findpython")
if(can_find_python_cmd(
  minimum_version="2.6",
  maximum_version="2.9",
  required_modules=c("sys", "re", "urllib2", "csv", "mechanize", "json"),
  silent=TRUE)){

  con <- TSconnect("json", dbname="cansim")

  TSdates(c("v498086", "v498087", "v122746", "v687341", "v36610", "v141"), con)

  TSdescription(c("v687341", "v687342"), con)

  x <- TSget("v498086", con)
  require("tfplot")
  tfplot(x)
}
```

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