

Package ‘TSsdmx’

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Title 'TSdbi' Extension to Connect with 'SDMX'

Description Methods to retrieve data in the Statistical Data and Metadata Exchange ('SDMX') format from several database. (For example, 'EuroStat', the European Central Bank, the Organisation for Economic Co-operation and Development, the 'Unesco' Institute for Statistics, and the International Labor Organization.) This is a wrapper for package 'RJSdmx'. Comprehensive examples of all the 'TS*' packages is provided in the vignette Guide.pdf with the 'TSdata' package.

Depends R (>= 2.8.0), TSdbi (>= 2015.1-1)

Imports methods, DBI (>= 0.3.1), tframe, tframePlus, RJSdmx(>= 1.3), rJava

Suggests tfplot

BuildVignettes true

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hasData

Functions to Check a Returned Time Series Data Object

Description

Check a time series (matrix) for returned data and metadata.

Usage

```
hasData(x, quiet=FALSE)
hasDataCount(x)
hasDataNames(x)
hasDataDescriptions(x)
```

Arguments

x	A time series (matrix) as returned by TSget using an sdmx connection.
quiet	Suppress warnings and just return the logical result.

Details

These functions check data returned from SDMX databases such as Eurostat to verify if data and metadata has been returned by a query specification. This is a useful check because wildcard specifications may often result in no data being returned.

hasData returns a logical vector, one element for each series in x, indication TRUE if there is numeric data in that series or FALSE if all the data in the series is NA or NaN. If quiet=FALSE (the default) then a warning is issued for each series that has completely missing data.

hasDataCount prints a count of the number of series with actual data, and returns the number (invisibly).

hasDataNames returns the names of series with actual data.

hasDataDescriptions returns the descriptions of series with actual data.

Value

Depends.

See Also

[TSget](#)

Examples

```
## Not run:
require("TSsdmx")
eurostat <- TSconnect("sdmx", dbname="EUROSTAT")

# 28 series, 23 with data
z <- TSget("ei_nama_q.Q.MIO-EUR.NSA.CP.*.IT", eurostat)

sum(hasData(z, quiet=TRUE))

hasDataCount(z)
hasDataNames(z)

hasDataDescriptions(z)

## End(Not run)
```

TSsdmxMethods

Methods to wrap sdmx for TSdbi Generics

Description

Get a time series (matrix) using SDMX, for example, from the OECD database.

Usage

```
sdmx(...)
## S4 method for signature 'sdmxConnection,missing'
TSconnect(
q, dbname, user="", password = "", host="", ...)
## S4 method for signature 'character,TSsdmxConnection'
TSget(
serIDs, con, TSrepresentation = options()$TSrepresentation,
tf = NULL, start = tfstart(tf), end = tfend(tf), names=serIDs,
quiet = TRUE, ...)
## S4 method for signature 'character,TSsdmxConnection'
TSdates(
serIDs, con, vintage=NULL, panel=NULL, ... )
## S4 method for signature 'character,TSsdmxConnection'
TSdescription(x, con, ... )
## S4 method for signature 'character,TSsdmxConnection'
TSdoc(x, con, ... )
## S4 method for signature 'character,TSsdmxConnection'
TSlabel(x, con, ... )
## S4 method for signature 'character,TSsdmxConnection'
TSsource(x, con, ... )
```

Arguments

q	A character string indicating the query interface to use, or a database connection object.
dbname	The name of the database to which the connection should be established, omitted if q is a database connection object.
con	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. See details.
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 .)
quiet	logical to suppress progress report.
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 other methods or to sdmxCall.

Details

These functions interface to the SDMX databases such as the OECD web portal. `TSget` is a wrapper to `RJSdmx::getSDMX` to provided an interface that is consistent with **TSdbi**. The **TSdbi** function argument `serIDs` is passed as the series to return, and `dbname` indicates the data provider (e.g. "OECD"). The SDMX query syntax allows for the possibility of indicating several series by using `+`, `|` and `*` characters. For example, `'G20_PRICES.CAN+MEX.CPALTT01.IXOB.M'` would indicate Canada and Mexico, while `'G20_PRICES.*.CPALTT01.IXOB.M'` would indicate all countries. By default, `TSget` will uses series names as returned by the SDMX call. The argument `names` can be used to replace names, but only in some situations. If `*` is used in `serIDs` then `names` will be ignored because the number and order of the returned series cannot be guaranteed. If `+` or `|` are used in more than one field then `names` will be ignored. If `+` or `|` are used in only one field then `names` will applied, but this requires that `TSget` sort the series in the specified order since the SDMX call does not guarantee the return order. (This may change, an enhancement request has been made.) Thus, specifying `serIDs` as `'G20_PRICES.CAN+MEX.CPALTT01.IXOB.M'` or specifying it as `c('G20_PRICES.CAN.CPALTT01.IXOB.M', 'G20_PRICES.MEX.CPALTT01.IXOB.M')` should return the same result, but the mechanism is different. In the first case the `getSdmx` call returns both series and then the `TSget` sorts the result into the proper order to apply the names. In the second case the `TSget` code makes two separate calls to `getSdmx`.

The treatment of start and end dates also differs in a subtle way depending on the specification. A character specification is assumed to be an SDMX specification, so `start="1990-Q1"` is passed unchanged as part of the `getSdmx` call whereas `start=c(1990,1)` cannot determine the frequency, so uses `getSdmx` to return the whole series, then truncates at the appropriate start date.

(See `TSget` in **TSdbi** for more details on `TSget`.)

TSsdmx does not support writing data to the source.

The class `TSsdmxConnection` extends class `DBIConnection` in the DBI package.

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

When the **TSsdmx** method `TSconnect` is first used the underlying code reads a configuration file that sets, among other things, the amount of printout done during retrieval. The default is useful for debugging but will be more than typically expected in an R session. A system wide default location for this file can be set. A user's default will be found in the users home directory (`~/.SdmxClient` in Linux). More details on this file can be found at <https://github.com/amattioc/SDMX/wiki/Configuration>. R users will probably want to specify `SDMX.level = OFF` and `java.util.logging.ConsoleHandler.level = OFF` to suppress most printed output. Otherwise, R programs that use `try()` will not suppress printed error messages as they should. With the levels set OFF, the error and warning messages are still returned to the R to deal with as appropriate.

Value

Depends.

See Also

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

Examples

```
require("TSsdmx")
require("tfplot")
## Not run:
oecd <- TSconnect("sdmx", dbname="OECD")
x <- TSget('G20_PRICES.CAN.CPALTT01.IXOB.M', oecd)
tfplot(x)

## End(Not run)
```

verifyQuery

Check Query Against a Provider

Description

Check validity of fields of a query against a provider.

Usage

```
verifyQuery(provider, Q, verbose = TRUE)
```

Arguments

provider	Character string indicating a provider.
Q	Character string indicating fields of a query.
verbose	Logical indicating if problems should be printed out. If FALSE only return the logical result.

Details

This functions check fields of the query Q against those expected by the provider indicated by provider. If all fields check ok then TRUE is returned, otherwise the result is FALSE. If verbose is TRUE then the first error found will be printed.

Note that, even though the query is valid, the provider may not have data for the specified combination of fields, in which case a data request will not return data.

As of February 2015, the WB provider is not responding to queries in the same way as it indicates they should be, so this utility is not very useful with this provider. That is, even if the declared structure is `FREQ.SERIES.REF_AREA`, you have to build the WB query as `REF_AREA.SERIES`.

Value

TRUE/FALSE returned invisibly

See Also

[getProviders](#), [getFlows](#), [getDimensions](#), [getCodes](#)

Examples

```
## Not run:
print(verifyQuery('IMFx', 'PGI.CA.*.*.*'))# returns FALSE

print(verifyQuery('IMF', 'PGI.CA.*.*.*', verbose = FALSE)) # returns TRUE

print(verifyQuery('IMF', 'PGI.CAN.*.*.*'))# returns FALSE

#print(verifyQuery('NBB', 'HICP.000000.*.*'))
#print(verifyQuery('NBB', 'HICP.000000.BE.M'))

## End(Not run)
```

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