

Package ‘R1010’

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Type Package

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Description A set of functions that help a 1010data user interact with 1010data through R.

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Depends Rcpp,pryr,getPass

LinkingTo Rcpp

Collate onAttach.R util.R valueExprParser.R newSession.R session.R openTable.R query.R color.R getDir.R head.R tail.R info.R sel.R tabu.R willbe.R link.R upload.R makeDir.R deleteDir.R modifyTable.R modifyDir.R getDirMetaInfo.R getTabMetaInfo.R deleteTable.R

R topics documented:

| | |
|----------------------------|----|
| R1010-package | 2 |
| clearCache | 2 |
| deleteDir | 3 |
| deleteTable | 3 |
| dim | 4 |
| getCurrMem | 4 |
| getDir | 5 |
| getSystemVersion | 5 |
| head.R1010 | 6 |
| info | 7 |
| link | 7 |
| logoutSession | 8 |
| makeDir | 9 |
| modifyDir | 10 |
| modifyTable | 11 |

| | |
|----------------------|----|
| newSession | 12 |
| nrow | 14 |
| openTable | 14 |
| posSession | 15 |
| query | 16 |
| sel | 18 |
| tabu | 19 |
| tail.R1010 | 20 |
| upload | 20 |
| willbe | 23 |

Index 25

| | |
|---------------|---------------------------------------------|
| R1010-package | <i>An interface between 1010data and R.</i> |
|---------------|---------------------------------------------|

Description

The functions in R1010 provide a 1010data user the ability to manage sessions, view tables, and run queries.

Details

| | |
|----------|-----------------|
| Package: | R1010 |
| Type: | Package |
| Version: | 0.1.2 |
| Date: | 2014-09-24 |
| License: | see LICENSE.txt |

Author(s)

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References

www.1010data.com

| | |
|------------|---------------------------------|
| clearCache | <i>Clear server-side cache.</i> |
|------------|---------------------------------|

Description

Frees data stored in the cache on the 1010data Insights Platform for the given session.

Usage

```
clearCache(session)
```

Arguments

session A session handle generated using newSession.

Examples

```
## Not run:
s <- posSession("captain_smith")
clearCache(s)

## End(Not run)
```

deleteDir *Delete a folder from the 1010data Insights Platform.*

Description

Deletes a 1010data folder and all of its nested folders and tables from the system.

Usage

```
deleteDir(session, path)
```

Arguments

session A 1010data session handle generated with newSession.
path An object of class character. Accepts a valid 1010data folder path.

deleteTable *Delete a table from the 1010data Insights Platform.*

Description

Deletes a table from the 1010data Insights Platform.

Usage

```
deleteTable(session, path)
```

Arguments

session A 1010data session handle generated with newSession.
path An object of class character. Accepts a valid 1010data table.

dim *Get the number of rows and columns in a 1010data table.*

Description

Returns the number of rows and columns in a table.

Usage

```
dim(df)
```

Arguments

df An object of class R1010.

Examples

```
## Not run:
s <- newSession("captain_smith", "meLike1010")
df <- openTable(s, "pub.demo.retail.item")
dim(df) # [1] 35 8
# 35 rows, 8 columns

## End(Not run)
```

getCurrMem *Get memory allocated to the current session on the 1010data Insights Platform.*

Description

Returns the memory high water mark reached during the current session.

Usage

```
getCurrMem(session)
```

Arguments

session A session handle generated using newSession.

Examples

```
## Not run:
s <- newSession("captain_smith", "meLike1010")
memory.high.watermark <- getCurrMem(s)

## End(Not run)
```

| | |
|--------|-------------------------------------------------------------------------------------------------|
| getDir | <i>Get information about a particular directory (folder) on the 1010data Insights Platform.</i> |
|--------|-------------------------------------------------------------------------------------------------|

Description

Returns a data.frame of the tables and folders visible from the given folder path. The default call provides a data.frame of the current tables and folders visible from the root directory.

Usage

```
getDir(session, path = "", recursive = FALSE)
```

Arguments

| | |
|-----------|----------------------------------------------------------------------------------------------------------------------------------|
| session | A 1010data session handle generated with newSession. |
| path | A valid 1010data folder path. |
| recursive | An object of type boolean that specifies whether to return directory information about all subdirectories. The default is FALSE. |

Examples

```
## Not run:  
s <- newSession("captain_smith", "meLike1010")  
getDir(s) # folders at root  
getDir(s, "pub") # folders and tables in pub folder  
dir(s, "pub.demo") # folders and tables in pub.demo folder  
getDir(s, "pub.demo", TRUE) # all folders under pub.demo recursively  
getDir(s, "path.to.table") # error, as tables are not directories  
  
## End(Not run)
```

| | |
|------------------|-------------------------------------------------------------------------------------------|
| getSystemVersion | <i>Get the version of the 1010data Insights Platform associated with a given session.</i> |
|------------------|-------------------------------------------------------------------------------------------|

Description

Returns the version of the 1010data Insights Platform associated with a specific R1010 session handle. The system version is a string that details the most recent version that a handle successfully logged on to.

Usage

```
getSystemVersion(session)
```

Arguments

session A session handle generated using newSession.

Examples

```
## Not run:
s <- newSession("captain_smith", "meLike1010")
system.version <- getSystemVersion(s) # [1] "prime-11.38"

## End(Not run)
```

head.R1010

Display the first n rows of the current R1010 table object.

Description

Displays the current state of a table (possibly transformed by a query).

Usage

```
head(df, nrows = 20)
```

Arguments

df An object of class R1010 and data.frame.

nrows The number of rows to view from the top of the table. The default is 20.

Examples

```
## Not run:
ses <- newSession("moe1010", "P13a5e")
df <- openTable(ses, "pub.demo.weather.stations")

dfq.select <- query(df,
  "<sel value=\"between(i_;5;21)\"/>")

head(df) # shows first 20 rows of pub.demo.weather.stations
head(dfq.select) # shows all 17 rows after <sel> operation
head(dfq.select, 10) # shows first 10 rows after <sel> operation

## End(Not run)
```

| | |
|------|---------------------------------------------------------------------------------------------------|
| info | <i>Get information about the various attributes of a table on the 1010data Insights Platform.</i> |
|------|---------------------------------------------------------------------------------------------------|

Description

Returns the table path, column information, dimensions, current memory high-water mark, and version associated with the given R1010 object.

Usage

```
info(df)
```

Arguments

df An object of class R1010.

Examples

```
## Not run:
s <- newSession("captain_smith", "meLike1010")
df <- openTable(s, "pub.demo.retail.item")
info(df)

## End(Not run)
```

| | |
|------|---------------------------------------|
| link | <i>Link two R1010 table together.</i> |
|------|---------------------------------------|

Description

Links a foreign table of table of class R1010 to a base table of class R1010.

Usage

```
link(df1, df2, by, by2 = NULL, options = NULL, run = FALSE, ...)
```

Arguments

df An object of class R1010 and data.frame that represents the base table.

df2 An object of class R1010 and data.frame that represents the foreign table. Operations on the foreign table are applied prior to effecting the link, so that the current table is linked to the foreign table as transformed by those operations.

by An object of type character that represents the linking column in the base table.

| | |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| by2 | An object of type character that represents the linking column in the foreign table. The by2 parameter may be omitted if the linking column in the foreign table has the same name as the linking column in the base table. |
| options | An object of type list that represents valid link attributes. The default is NULL. See the 1010data Reference Manual for valid attributes. (Note: The attributes table2, col1, and col2 should not be specified via the options argument; they should instead be specified via the df2, by, and by2 parameters.) |
| run | An object of type boolean that specifies whether the tables will be linked. If FALSE, the link is added to the query in the df argument, but the tables are not linked. The default is FALSE. |

Details

The link function requires a table handle for the base table (an object of class R1010), a table handle for the foreign table (an object of class R1010), the name of a linking column in the base table, the name of a linking column in the foreign table (if different from the base table). It returns a table handle containing the results of the link (if run is set to TRUE).

Examples

```
## Not run:
ses <- newSession("curly1010", "P13a5e")

df <- openTable(ses, "pub.demo.retail.item")
df.prod <- openTable(ses, "pub.demo.retail.prod")
df.linked <- link(df, df.prod, "sku", run=TRUE)

df.prod.sel <- sel(df.prod, "dept==22", run=TRUE)
df.linked.sel <- link(df, df.prod.sel, "sku", option=list(type="select", suffix="_prod"), run=TRUE)

# Example using pipeR
library(pipeR)
df %>>% link(df.prod.sel, "sku", option=list(type="select", suffix="_prod")) %>>% head

## End(Not run)
```

logoutSession

Log out of a 1010data Insights Platform session.

Description

Logs out of a 1010data Insights Platform session.

Usage

```
logoutSession(session)
```


Examples

```
## Not run:
s <- newSession("bungalow_bill", "meLike1010")
# make a directory with users set to inherit, with default uploaders.
makeDir(s,"path.to.new.directory.my_new_directory",
        permissions=list(users="inherit"))
# make a directory with default users, and a list of IDs for uploaders.
makeDir(s,"path.to.new.directory.my_new_directory",
        uploaders=c("fatima","santiago","jian"))
# can also be: makeDir(s,"path.to.new.directory.my_new_directory",
#                    uploaders="fatima,santiago,jian")

## End(Not run)
```

 modifyDir

Modify directory metadata.

Description

Modifies a directory's title, permissions, descriptions, and ownership.

Usage

```
modifyDir(session, path, title = NULL, sdesc = NULL, ldesc = NULL, owner = NULL,
          users = NULL, uploaders = NULL, permissions = NULL)
```

Arguments

| | |
|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| session | A 1010data session handle generated with newSession. |
| path | An object of class character. Accepts a valid 1010data folder path. |
| title | An object of class character. |
| sdesc | An object of class character. |
| ldesc | An object of class character. |
| owner | An object of class character. |
| users | An object of class character consisting of a set of IDs, either <div style="text-align: center;">"user1,user2,...,usern"</div> or <div style="text-align: center;">c("user1","user2",...,"usern")</div> . Each of the IDs in users will be able to view the directory at path. |
| uploaders | An object of class character consisting of a set of IDs, either <div style="text-align: center;">"uploader1,uploader2,...,uploadern"</div> or <div style="text-align: center;">c("uploader1","uploader2",...,"uploadern")</div>). Each of the IDs in uploaders will be able to write to path. |

permissions An object of class list. The possible keys are {"users", "uploaders"}, and the possible values are {"default", "inherit", "private"}.

Details

A directory can be modified to either have a specific set of users/uploaders or set to one of three possible general settings through the permissions argument. The three possible setting are:

- default : The directory receives default permission defined by the API.
- inherit : The directory inherits key permissions from its parent.
- private : The directory is private. For uploaders, only the owner can upload tables.

Examples

```
## Not run:
s <- newSession("bungalow_bill", "meLike1010")
# modify a directory's title.
modifyDir(s,"path.to.directory.fulla_data",title="New and Improved Title!!!")
# modify a directory's users.
modifyDir(s,"path.to.directory.big_data",users=c("amir","maria","hui"))
# can also be: makeDir(s,"path.to.new.directory.big_data",users="amir,maria,hui")
# add short and long description
short.desc <- "all global transactions"
long.desc <- "All global transactions includes tables for transactions,
and lookup tables for geo, color, size, and promo metadata."
modifyDir(s,"path.to.directory.global_transids",sdesc=short.desc,ldesc=long.desc)

## End(Not run)
```

| | |
|-------------|-------------------------------|
| modifyTable | <i>Modify table metadata.</i> |
|-------------|-------------------------------|

Description

Modifies a table's title, permissions, descriptions, and ownership.

Usage

```
modifyTable(session, path, title = NULL, sdesc = NULL, ldesc = NULL, owner = NULL,
            users = NULL, user.permissions = NULL)
```

Arguments

| | |
|---------|------------------------------------------------------|
| session | A 1010data session handle generated with newSession. |
| path | An object of class character. |
| title | An object of class character. |
| sdesc | An object of class character. |

Arguments

| | |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| username | An object of type character that represents a valid 1010data user name. |
| password | An object of type character that represents a valid 1010data password. If an empty string (e.g., "") is passed, the user is prompted to enter a password. The default is an empty string. |
| kill | An object of type character that represents a valid 1010data kill value. If kill = "pos", a live session is possessed or new session is created. If kill = "kill", the current live session is killed, and a new session is created. If kill = "notKill", the current live session is not killed and no new session is created, or if there is no current live session, a new session is created. The default is "notKill". |
| gateway | An object of type character that represents a valid 1010data gateway. The default is "http://www2.1010data.com/cgi-bin/gw.k". |
| xml.log.list | An object of type list with two elements that determines if XML logging should be enabled. The first element may be "off" or "on", and the second element is a filename. |
| log.name | If a non-empty object of type character is passed to log.name, then logging is enabled. This will not enable XML logging. |

Details

A call to the newSession function produces a session handle that points to the location in memory where session information is stored. It is used by other functions in the R1010 package to interact with a 1010data session. It also allows for two different forms of logging.

Examples

```
## Not run:
# basic login
ses <- newSession("Moe1010", "P13A5e")
df <- openTable(ses, "pub.demo.weather.stations")

# Gateway options

# specific version
ses_version <- newSession("tnten_usr",
                          gateway="prod-9.56")

# different in environment
ses_env <- newSession("tnten_usr", "password",
                     gateway="fr.1010data.com/gw")

# proxy examples
gw_proxy = "[http://username:password@my.corporate.proxy:8080]https://www2.1010data.com/cgi-bin/gw.k"
ses_proxy <- newSession("tnten_usr", "password",
                       gateway=gw_proxy)
```

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

| | |
|------|--------------------------------------------------------------|
| nrow | <i>Get number of rows in the 1010data Insights Platform.</i> |
|------|--------------------------------------------------------------|

Description

Returns the nrow attribute of the given table.

Usage

```
nrow(df)
```

Arguments

df An object of class R1010.

Examples

```
## Not run:
s <- newSession("captain_smith", "meLike1010")
df <- openTable(s, "pub.demo.retail.item")
retail.item.rows <- nrow(df)

## End(Not run)
```

| | |
|-----------|---------------------------------------------------------------------------------------|
| openTable | <i>Attach a 1010data session handle to a table on the 1010data Insights Platform.</i> |
|-----------|---------------------------------------------------------------------------------------|

Description

Opens a table stored in the 1010data Insights Platform and returns a data.frame with a session handle.

Usage

```
openTable(session, tab, row.range = NULL, header = "name", cells = 2000000)
```

Arguments

| | |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| session | A session handle generated using newSession. |
| table | An object of type character that represents a path to a table on the 1010data Insights Platform. |
| row.range | An object of type integer (or double) with length equal to 2. This object represent the range of rows to download. The first value specifies the starting row, and the second value specifies the last row. The row.range argument may also take the character values "none" or "all". "none" will return a valid table handle, but with an empty data.frame. "all" will attempt to download all rows. |
| header | An object of class character. Possible values are {"name", "label"}. Columns within a table on the 1010data Insights Platform have the concept of a label, which can be more descriptive than the column name. Note that the label values cannot be used in a query. |
| cells | Approximately, the number of table values to be downloaded at a time. |

Examples

```
## Not run:
s <- newSession("captain_smith", "meLike1010")
df.0 <- openTable(s, "pub.demo.weather.stations")
df.1 <- openTable(s, "pub.demo.weather.stations", row.range=c(1,45))
df.2 <- openTable(s, "uploads.t99956564297_captain_smith", row.range = "none")

# get character vector of all table paths in pub.demo.baseball
paths <- dir(s,"pub.demo.baseball")[,2]
# store table handles for all tables in pub.demo.baseball
baseball.tables <- lapply(paths,function(x) openTable(s,x))
# get number of rows for each table in pub.demo.baseball
sapply(baseball.tables,nrow)
# [1] 78881 15350 32896 59884 3707 2895 7439 2776
# get character vector of all column names in pub.demo.baseball
unique(unlist(sapply(baseball.tables,names)))

## End(Not run)
```

posSession

Possess an existing 1010data session.

Description

Returns the session handle for an existing 1010data session.

Usage

```
posSession(username, password = "",
            xml.log.list = list("off", ""), log.name = "")
```

Arguments

| | |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| username | An object of class character that represents a valid 1010data user name. |
| password | An object of class character that represents a valid 1010data password. If an empty string (e.g., "") is passed, the user is prompted to enter a password. The default is an empty string. |
| xml.log.list | An object of class list with two elements that determines if XML logging should be enabled. The first element may be "off" or "on", and the second element is a filename. |
| log.name | If a non-empty object of class character is passed to log.name, then logging is enabled. This will not enable XML logging. |

Details

A call to the posSession function produces a session handle that points to the location in memory where session information is stored. It is used by other functions in the R1010 package to interact with a 1010data session. It also allows for two different forms of logging.

Examples

```
## Not run:
ses <- posSession("Moe1010")
df <- openTable(ses, "pub.demo.weather.stations")

## End(Not run)
```

query

Run a query on the 1010data Insights Platform.

Description

Runs a 1010data Macro Language query on a given table and returns a data.frame.

Usage

```
query(df, q, file = NULL, row.range = NULL, run = TRUE, colord = NULL,
      cells = 2000000, ...)
```

Arguments

| | |
|------|--------------------------------------------------------------------------------------------------------------------------|
| df | An object of class R1010 and data.frame. |
| q | An object of type character that represents a query written in the 1010data Macro Language. |
| file | An object of type character that represents the name of a file in the working directory which contains a 1010data query. |

| | |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| row.range | An object of type integer (or double) with length equal to 2. This object represents the range of rows to download. The first value specifies the starting row, and the second value specifies the last row. The row.range argument may also take the character values "none" or "all". "none" will return a valid table handle, but with an empty data.frame. "all" will attempt to download all rows. |
| run | An object of type boolean that specifies whether the query is to be run. The default is TRUE. |
| colord | May be NULL or a character vector. If colord = NULL the current set of columns in view are returned, else a character vector of length 1 that is delimited with commas or a character vector that has column names as elements. |
| cells | Approximately, the number of values to be downloaded at a time. The exact number of cells downloaded in a single chunk is |

$$\text{floor}(\text{cells}/\text{number of columns}).$$

Details

The query function may be run with either a string containing the query, or a string that specifies the name of a file which contains a valid 1010data query. A data.frame containing session information (attached using openTable) may also be used in the df argument with run=FALSE to prevent unnecessary API requests.

Examples

```
## Not run:
ses <- newSession("moe1010", "P13a5e")
df <- openTable(ses, "pub.demo.weather.stations")

dfq.select <- query(df,
  "<sel value=\"between(i_;5;21)\"/>")

dfq.select.and.willbe.1 <- query(dfq.select,
  "<willbe name=\"is_az\" value=\"state='AZ'\"/>")

dfq.select.and.willbe.2 <- query(df,
  "<sel value=\"between(i_;5;21)\"/>
  <willbe name=\"is_az\" value=\"state='AZ'\"/>")

identical(dfq.select.and.willbe.1,dfq.select.and.willbe.2) # TRUE

dfq.select.and.willbe.3 <- query(
  query(df, "<sel value=\"between(i_;5;21)\"/>" run = FALSE ),
  "<willbe name=\"is_az\" value=\"state='AZ'\"/>")

identical(dfq.select.and.willbe.1,dfq.select.and.willbe.3) # TRUE

# Example use of colord
query(df, "<sel value=\"between(i_;5;21)\"/>", colord="id,state")
query(df, "<sel value=\"between(i_;5;21)\"/>", colord=c("id", "state", "lat", "lon"))

## End(Not run)
```

| | |
|-----|--------------------------------------------------------------------------|
| sel | <i>Perform a selection on a table on the 1010data Insights Platform.</i> |
|-----|--------------------------------------------------------------------------|

Description

Performs a selection on a table on the the 1010data Insights Platform..

Usage

```
sel(df, expr, run = FALSE, ...)
```

Arguments

| | |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| df | An object of class R1010 and data.frame. |
| expr | An object of type character that is a valid 1010data expression. See the 1010data Reference Manual . |
| run | An object of type boolean that specifies whether the selection is to be run. If FALSE, the selection is added to the query in the df argument, but the selection is not performed. The default is FALSE. |

Details

The sel function requires a table handle (an object of class R1010) and an expression, and it returns a table handle containing the results of the selection (if run is set to TRUE).

Examples

```
## Not run:
ses <- newSession("moe1010", "P13a5e")
df <- openTable(ses, "pub.demo.retail.item")

sel(df, "account=957", run=TRUE)

sel(df, "between(date; 20120515; 20120516)", run=T)

sel(df, "g_first1(store date; ; )", run=T)

## End(Not run)
```

| | |
|------|---------------------------------------------------------------------------|
| tabu | <i>Perform a tabulation on a table on the 1010data Insights Platform.</i> |
|------|---------------------------------------------------------------------------|

Description

Performs a tabulation or cross-tabulation on a table on the 1010data Insights Platform.

Usage

```
tabu(df, breaks, tcols = NULL, cbreaks = NULL, run = FALSE)
```

Arguments

| | |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| df | An object of class R1010. |
| breaks | An object of class string or symbol that represents columns on which to group the summarizations. |
| tcols | An object of class list, where each element defines a result column in the tabulation. See the examples below for details. If nothing is specified, the cnt function is applied to each group on the 1010data table. A list of available functions that can be specified for the result column can be found in the 1010data Reference Manual . |
| cbreaks | An object of class string or symbol that represents a list of names of the column-break columns (real or computed). All records that have the same values for these columns will be grouped together. If omitted, the result is a straight tabulation. |
| run | An object of class boolean that specifies whether the tabulation is to be run. If FALSE, the tabulation is added to the query in the df argument, but is not computed. The default is set to FALSE. |

Details

The tabu function requires a table handle (an object of class R1010) and a set of break columns, and it returns a table handle containing the results of the tabulation.

Examples

```
## Not run:
ses <- newSession("moe1010", "P13a5e")
df <- openTable(ses, "pub.demo.retail.item")

tabu(df, breaks=c("store"), run=TRUE)

tabu(df, breaks=c(store,date), run=TRUE)

tabu(df, breaks=store, tcols=list(ucnt_sku=ucnt(sku),fd=first(date),ld=last(date)), run=TRUE)

## End(Not run)
```

`tail.R1010`*Display the last n rows of the current R1010 table object.*

Description

Display the current state of a table (possibly transformed by a query).

Usage

```
tail.R1010(df, nrows = 20)
```

Arguments

| | |
|--------------------|-----------------------------------------------------------------------------------|
| <code>df</code> | An object of class R1010. |
| <code>nrows</code> | The number of rows from the bottom of a table to be displayed. The default is 20. |

Examples

```
## Not run:
ses <- newSession("moe1010", "P13a5e")
df <- openTable(ses, "pub.demo.weather.stations")

dfq.select <- query(df,
                    "<sel value=\"between(i_;5;21)\"/>")

tail(df) # shows last 20 rows of pub.demo.weather.stations
tail(dfq.select) # shows all 17 rows after <sel> operation
tail(dfq.select, 10) # shows last 10 rows after <sel> operation

## End(Not run)
```

`upload`*Upload a data.frame.*

Description

Uploads a data.frame to the 1010data Insights Platform with a set of specific options.

Usage

```
upload(session, df, path, title, col.titles = NULL, options = NULL,
        stringsAsFactors = FALSE)
```

Arguments

| | |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <code>session</code> | A 1010data session handle generated with <code>newSession</code> . |
| <code>df</code> | An object of class <code>data.frame</code> that will be uploaded. |
| <code>path</code> | An object of class <code>character</code> that specifies where to upload the <code>data.frame</code> . <code>path</code> must be a valid 1010data table path. |
| <code>title</code> | An object of class <code>character</code> that specifies the title of the new table on the 1010data Insights Platform. |
| <code>col.titles</code> | An object of class <code>character</code> that are the column titles in the table on the 1010data Insights Platform. The length of <code>col.titles</code> must be the same length as the number of columns in <code>df</code> . If <code>col.titles = NULL</code> , <code>names(df)</code> will be used to set the column titles in the 1010data table. |
| <code>options</code> | An object of class <code>list</code> . See Details for possible keys and values. |
| <code>stringsAsFactors</code> | An object of class <code>bool</code> . If <code>TRUE</code> , factor columns are uploaded as integers based on their R internal representation. If <code>FALSE</code> , factor columns are uploaded as text. |

Details

`upload` takes a 1010data session object and a `data.frame` in the current R session and uploads the `data.frame` to a path. Using `upload`, various table metadata and table options may be set. Options are specified via the `options` argument, which is a `list` of key/value pairs. Possible keys are:

- `sdesc` - Short description of the new table. The default is no short description.
- `ldesc` - Long description of the new table. The default is no long description.
- `link.header` - The `link.header` will be used as the table's default link header, which is prepended to each column's label when the table is used in a link.
- `download.max` - The maximum number of cells that a user interacting with this table can download in a single transaction. The default is 100,000,000 cells.
- `segsize` - Segments stored on the server will each be `segsize` records. If you append to an existing table, `segsize` is ignored for existing segments.
- `segby` - A object of class `character` consisting of a set of column names, either

`"segby1, segby2, . . . , segbyn"`

or

`c("segby1", "segby2", . . . , "segbyn")`.

After loading the table, the content of all segments will be reorganized so that the table is `segby`

`"segby1, segby2, . . . segbyn"`.

This can improve performance in some forms of analysis.

- `sortseg` - A object of class `character` consisting of a set of column names, either

`"sortseg1, sortseg2, . . . , sortsegn"`

or

`c("sortseg1", "sortseg2", . . . , "sortsegn")`.

After loading the table, the content of all segments will be reorganized so that the table is sortseg by

```
"sortseg1,sortseg2,...,sortsegn".
```

This can improve performance in some forms of analysis. This option cannot be used in conjunction with segby.

- `segbyadvise` - If `segby` or `sortseg` is used, it is possible that the table is implicitly `segby` / `sortseg` other sets of columns, based on assumptions about the data. For example, if a table is `segby month` then you can assume it is also `segby date`. This option can be repeated, must be used in conjunction with either `segby` or `sortseg`, and can also be used in conjunction with `sortsegadvise`.
- `sortsegadvise` - If `segby` or `sortseg` is used, it is possible that the table is implicitly `segby` / `sortseg` other sets of columns, based on assumptions about the data. For example, if a table is `sortseg by date` then you can assume it is also `sortseg by year`. This option can be repeated, must be used in conjunction with either `segby` or `sortseg`, and can also be used in conjunction with `segbyadvise`.
- `timeseries` - An object of class character that specifies a column on which to sort the segments and generate time series metadata. This option can only be used in conjunction with `segby` or `sortseg` and cannot be used with `sort`.
- `links` - An object of class character where each element is a `<link>` op. Each `<link>` op will result in a prelink unless `denormalize="1"` is an attribute/value pair in the `<link>`. If `denormalize="1"` is specified in the `<link>`, the columns in `cols` will be denormalized into the uploaded table. Note that links to be prelinked cannot have nested ops.
- `sort` - A object of class character consisting of a set of columns, either

```
"sort1,sort2,...,sortn"
```

or

```
c("sort1","sort2",...,"sortn").
```

After loading this table, the content of each segment will be sorted first by `sortn` then by `sortn-1` until it is sorted by `sort1`. This can improve performance in some forms of analysis.

- `sendcompress` - If `sendcompress=1` data will be compressed when uploading.
- `users` - A object of class character consisting of a set of IDs, either

```
"user1,user2,...,usern"
```

or

```
c("user1","user2",...,"usern").
```

Each of the IDs in `users` will be able to view the uploaded table.

- `owner` - The user owner will be set as the owner of this table. By default, the current session is the owner, unless a SAM pool is being used in which case the group name is the owner.
- `replace` - If `replace=TRUE` and the table specified by path already exists, upload will replace it.
- `append` - If `append=TRUE` and table path already exists, upload will append to it.
- `colspersbundle` - When uploading data, upload `colspersbundle` columns at a time. You may set `colspersbundle=-1` to load all the columns in a single bundle. The default is 32.

- chunk - Uploads the specified number of records at a time. The default is 16,777,216 (2^{24}).

Valid column names in the 1010data Insights Platform are a little different than in R. While column names in R can contain dots, in Insights Platform they cannot. To generate names for uploading, the column names are transformed with `make.names`, trimmed, converted to lowercase, and then dots are replaced with underscores. In the 1010data Insights Platform, a column has both a name and title; if `col.title` is not supplied, then the column name is used as the title. 1010data does not have the same concept of a factor. The `stringsAsFactors` option is there to allow for either the integer representation or character representation to be uploaded. If `stringsAsFactors=FALSE`, (the default) factors are first coerced to character before uploading.

Examples

```
## Not run:
# get session variable "ses"
ses <- newSession("user_goes_here", "password_goes_here")

# upload iris data set with kmeans clusters
iris_to_upload <- iris
iris_to_upload$kmeans_clusts <- kmeans(iris[-5],3)$cluster
upload(ses,iris_to_upload,"tnten.path.to.iris","Iris data set (with R kmeans clusters)")
# directory/path search for new table
"tnten.path.to.iris" %in% dir(ses,"demos")$path # TRUE

# upload iris data with options replace = TRUE, and add some descriptions (sdesc, ldesc)
ldescription = "Iris Data with an additional cluster column.
                The call to kmeans was 'kmeans(iris[-5],3)'."
opts = list(replace = TRUE,
            sdesc = "iris data",
            ldesc = ldescription,
            )
upload(ses,iris_to_upload,"path.to.iris","Iris data set (with R kmeans clusters)",opts)

#
## End(Not run)
```

willbe

Create a computed column within an R1010 table.

Description

Creates a computed column within an R1010 table.

Usage

```
willbe(df, name, value, run = FALSE, ...)
```

Arguments

| | |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| df | An object of class R1010. |
| name | An object of class character that will be used to name the computed column. The name may only contain alphanumeric characters or underscores and must begin with an alphabetic character (e.g., percent_total_sales). It may not contain any spaces or other special characters. |
| value | An object of class character that is a valid expression. See the 1010data Reference Manual . |
| run | An object of class boolean that specifies whether the computed column will be created. If FALSE, the willbe is added to the query in the df argument, but the computed column is not created. The default is FALSE. |

Details

The willbe function requires a table handle (an object of class R1010), a name, and an expression, and it returns a table handle containing the results of the willbe (if run is set to TRUE).

Examples

```
## Not run:
ses <- newSession("larry1010", "P13a5e")
df <- openTable(ses, "pub.demo.retail.item")

willbe(df, "margin", "sales-cost", run=TRUE)

willbe(df, "store_sales", "g_sum(store; ; sales)", run=T)

willbe(df, "store_sales_by_date", "g_sum(store date; ; sales)", run=T)

## End(Not run)
```


Index

*Topic **1010data**

R1010-package, 2

clearCache, 2

deleteDir, 3

deleteTable, 3

dim, 4

dir (getDir), 5

getCurrMem, 4

getDir, 5

getSystemVersion, 5

head (head.R1010), 6

head.R1010, 6

info, 7

link, 7

logoutSession, 8

makeDir, 9

modifyDir, 10

modifyTable, 11

newSession, 12

nrow, 14

openTable, 14

posSession, 15

query, 16

R1010-package, 2

sel, 18

tabu, 19

tail (tail.R1010), 20

tail.R1010, 20

upload, 20

willbe, 23