Package ‘MSSQL’

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Title Tools to Work with Microsoft SQL Server Databases via 'RODBC'

Imports RODBC

Description Tools that extend the functionality of the 'RODBC' package to work with Microsoft SQL Server databases. Makes it easier to browse the database and examine individual tables and views.

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MSSQL-package *Tools to Work with Microsoft SQL Server Databases via RODBC*

Description

Tools that extend the functionality of the **RODBC** package to work with Microsoft SQL Server databases. Makes it easier to browse the database and examine individual tables and views.

Details

Browse database:

`dbOverview`	Dimensions and column names
`dbStorage`	Storage size
`dbTime`	Time created and modified

Browse table:

`tableDim`	Dimensions
`tableHead`	First rows
`tableNcol`	Number of columns
`tableNrow`	Number of rows
`tableOverview`	Data types and dimensions

Helper functions:

`tableQuote`	Quote table name

Note

`browseVignettes()` shows a vignette with implementation notes.

Author(s)

Arni Magnusson.

See Also

This package complements the **RODBC** package and does not replace the standard query methods.

For example, the user may find `dbOverview` and `tableOverview` more convenient than the underlying `sqlTables` and `sqlColumns`, but to query the database `sqlQuery` or `sqlFetch` are still used in the normal way.

dbOverview — *Overview of Tables and Views*

Description

Get dimensions and first few column names of tables and views in a database.

Usage

```
dbOverview(channel, schema = "dbo", dim = TRUE, peek = 2, ...)
```

Arguments

`channel`	an RODBC connection.
`schema`	database schema.
`dim`	whether to calculate the number of rows and columns for each table/view.
`peek`	how many column names to show. The value `FALSE` has the same effect as zero.
`...`	passed to `sqlTables`.

Details

The `dim = FALSE` option results in faster computation, but the `Rows` and `Cols` columns will only contain `NA` values. Similarly, the `peek = FALSE` results in faster computation, but the `First` column will only contain `NA` values. These options can be useful to get a quick overview of a large database.

Value

Data frame containing six columns:

`Name`	name of table/view.
`Schema`	database schema.
`Type`	type of table/view.
`Rows`	number of rows.
`Cols`	number of columns.
`First`	first column names.

See Also

`sqlTables` is the underlying function used to get the list of tables/views, `tableDim` is used to count rows and columns, and `sqlColumns` is used to peek at the first column names.

`dbStorage` shows the storage size of tables and `dbTime` shows the time when tables/views were created and last modified.

`MSSQL-package` gives an overview of the package.

Examples

```
## Not run:
con <- odbcConnect("myDatabase")

dbOverview(con)

dbOverview(con, dim=FALSE, peek=FALSE)

## End(Not run)
```

`dbStorage` *Storage Size*

Description

Get storage size of tables in a database.

Usage

```
dbStorage(channel, total = TRUE, used = FALSE, unused = FALSE)
```

Arguments

`channel`	an RODBC connection.
`total`	whether to calculate total storage size.
`used`	whether to calculate used storage size.
`unused`	whether to calculate unused storage size.

Value

Data frame containing the following columns:

`Name`	name of table/view.
`Schema`	database schema.
`Type`	type of table/view.
`Rows`	number of rows.
`Cols`	number of columns.

In addition, any of the following columns, depending on which of `total`, `used`, and `unused` are `TRUE`:

`TotalKB`	total storage size.
`UsedKB`	used storage size.
`UnusedKB`	unused storage size.

Note

Based on https://stackoverflow.com/questions/7892334.

See Also

sqlQuery is the underlying function used to query sys.tables, sys.indexes, sys.partitions, sys.allocation_units, and sys.schemas.

dbOverview shows the dimensions of tables/views and the first column names, and dbTime shows the time when tables/views were created and last modified.

object.size is the base function to return the storage size of objects inside the R workspace.

MSSQL-package gives an overview of the package.

Examples

```
## Not run:
con <- odbcConnect("myDatabase")

dbOverview(con)

dbOverview(con, dim=FALSE, peek=FALSE)

## End(Not run)
```

dbTime *Time Created and Modified*

Description

Get time information about tables and views: when they were created and when they were last modified.

Usage

```
dbTime(channel)
```

Arguments

channel	an RODBC connection.

Value

Data frame containing five columns:

Name	name of table/view.
Schema	database schema.
Type	type of table/view.
Created	time created.
Modified	time last modified.

See Also

sqlQuery is the underlying function used to query sys.tables and sys.views.

dbOverview shows the dimensions of tables/views and the first column names, and dbStorage shows the storage size of tables.

Sys.time is the base function to show the current time.

MSSQL-package gives an overview of the package.

Examples

```
## Not run:
con <- odbcConnect("myDatabase")

dbTime(con)

## End(Not run)
```

tableDim *Table Dimensions*

Description

Return the number of rows and columns in a database table.

Usage

```
tableDim(channel, sqtable)
```

Arguments

channel	an RODBC connection.
sqtable	a database table or view.

Value

Vector of length two, containing the number of rows and columns.

See Also

tableNrow and tableNcol are the underlying functions to get the number of rows and columns in a database table.

dim is the base function to return the dimensions for data frames inside the R workspace.

MSSQL-package gives an overview of the package.

Examples

```
## Not run:
con <- odbcConnect("myDatabase")

tableDim(con, "sysusers")

## End(Not run)
```

`tableHead` *First Rows*

Description

Return the first rows of a database table.

Usage

```
tableHead(channel, sqtable, n = 3)
```

Arguments

`channel`	an RODBC connection.
`sqtable`	a database table or view.
`n`	number of rows to get.

Value

Data frame with the first `n` rows of the database table or view.

Note

This function can be used to examine the structure of a table or view, along with some example data values.

See Also

`sqlQuery` with `tableQuote` are the underlying functions used to query the table/view.

`head` is the base function to return the first parts of an object inside the R workspace.

`tableOverview` shows the data types and dimensions of a database table.

`MSSQL-package` gives an overview of the package.

Examples

```
## Not run:
con <- odbcConnect("myDatabase")

tableHead(con, "sysusers")

t(tableHead(con, "sysusers", 1))

## End(Not run)
```

tableNcol *Number of Columns*

Description

Return the number of columns in a database table.

Usage

```
tableNcol(channel, sqtable)
```

Arguments

`channel`	an RODBC connection.
`sqtable`	a database table or view.

Value

Number of columns as integer.

See Also

`tableDim` and `tableNrow` also return the dimensions of a database table.

`sqlColumns` is the underlying function used to examine the table columns.

`ncol` is the base function to return the number of columns for data frames inside the R workspace.

`MSSQL-package` gives an overview of the package.

Examples

```
## Not run:
con <- odbcConnect("myDatabase")

tableNcol(con, "sysusers")

## End(Not run)
```

tableNrow *Number of Rows*

Description

Return the number of rows in a database table.

Usage

```
tableNrow(channel, sqtable)
```

Arguments

`channel`	an RODBC connection.
`sqtable`	a database table or view.

Value

Number of rows as integer.

See Also

`tableDim` and `tableNcol` also return the dimensions of a database table.

`sqlQuery` is the underlying function used to examine the table rows.

`nrow` is the base function to return the number of rows for data frames inside the R workspace.

`MSSQL-package` gives an overview of the package.

Examples

```
## Not run:
con <- odbcConnect("myDatabase")

tableNrow(con, "sysusers")

## End(Not run)
```

tableOverview *Data Types and Dimensions*

Description

Show data types and dimensions of a database table.

Usage

```
tableOverview(channel, sqtable, max = 1000)
```

Arguments

`channel`	an RODBC connection.
`sqtable`	a database table or view.
`max`	number of rows to analyze the resulting data frame columns in R. Pass `max = 0` to analyze the entire database table.

Value

List containing `Cols` and `Rows`, describing column data types and the number of rows.

See Also

`sqlColumns`, `sqlQuery`, and `tableNrow` are the underlying functions used to examine the table/view.

`class` is the base function to show the class of an object inside the R workspace.

`tableHead` returns the first rows of a database table.

`MSSQL-package` gives an overview of the package.

Examples

```
## Not run:
con <- odbcConnect("myDatabase")

tableOverview(con, "sysusers")

tableOverview(con, "sysusers")$Cols

## End(Not run)
```

`tableQuote` *Quote Table Name*

Description

Add special quotes around table name.

Usage

```
tableQuote(sqtable)
```

Arguments

`sqtable`	table name, with or without schema name.

Value

String with special quotes.

Note

The `sqlQuery` function requires special quotes if the table name has spaces. Furthermore, the schema name must not be inside the special quotes.

See Also

`sqlQuery` requires special quotes if the table name has spaces.

`Quotes` in base R.

`MSSQL-package` gives an overview of the package.

Examples

```
tableQuote("table")
tableQuote("table name")
tableQuote("schema.table")
tableQuote("schema.table name")
```

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