

# 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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## R topics documented:

MSSQL-package . . . . .	2
dbOverview . . . . .	3
dbStorage . . . . .	4
dbTime . . . . .	5
tableDim . . . . .	6
tableHead . . . . .	7
tableNcol . . . . .	8
tableNrow . . . . .	9
tableOverview . . . . .	10
tableQuote . . . . .	11

<b>Index</b>	<b>12</b>
--------------	-----------

**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:*

<a href="#">dbOverview</a>	Dimensions and column names
<a href="#">dbStorage</a>	Storage size
<a href="#">dbTime</a>	Time created and modified

*Browse table:*

<a href="#">tableDim</a>	Dimensions
<a href="#">tableHead</a>	First rows
<a href="#">tableNcol</a>	Number of columns
<a href="#">tableNrow</a>	Number of rows
<a href="#">tableOverview</a>	Data types and dimensions

*Helper functions:*

<a href="#">tableQuote</a>	Quote table name
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**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.

**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 RODB 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)
```

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dbStorage	<i>Storage Size</i>
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**Description**

Get storage size of tables in a database.

**Usage**

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

**Arguments**

channel	an RODB 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)
```

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dbTime	<i>Time Created and Modified</i>
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**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	<i>Table Dimensions</i>
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---

**Description**

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

**Usage**

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

**Arguments**

channel	an RODB 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)
```

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tableHead
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*First Rows***Description**

Return the first rows of a database table.

**Usage**

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

**Arguments**

channel	an RODB 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	<i>Number of Columns</i>
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**Description**

Return the number of columns in a database table.

**Usage**

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

**Arguments**

channel            an RODB 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	<i>Number of Rows</i>
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**Description**

Return the number of rows in a database table.

**Usage**

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

**Arguments**

channel            an RODB 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*

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**Description**

Show data types and dimensions of a database table.

**Usage**

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

**Arguments**

<code>channel</code>	an RODB connection.
<code>sqtable</code>	a database table or view.
<code>max</code>	number of rows to analyze the resulting data frame columns in R. Pass <code>max = 0</code> 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	<i>Quote Table Name</i>
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**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")
```

# Index

`class`, [10](#)

`dbOverview`, [2, 3, 5, 6](#)

`dbStorage`, [2, 3, 4, 6](#)

`dbTime`, [2, 3, 5, 5](#)

`dim`, [6](#)

`head`, [7](#)

`MSSQL (MSSQL-package)`, [2](#)

`MSSQL-package`, [2](#)

`ncol`, [8](#)

`nrow`, [9](#)

`object.size`, [5](#)

`Quotes`, [11](#)

`sqlColumns`, [2, 3, 8, 10](#)

`sqlQuery`, [5-7, 9-11](#)

`sqlTables`, [2, 3](#)

`Sys.time`, [6](#)

`tableDim`, [2, 3, 6, 8, 9](#)

`tableHead`, [2, 7, 10](#)

`tableNcol`, [2, 6, 8, 9](#)

`tableNrow`, [2, 6, 8, 9, 10](#)

`tableOverview`, [2, 7, 10](#)

`tableQuote`, [2, 7, 11](#)