Package 'rockr'

October 14, 2022

Type Package
Title 'Rock' R Server Client
Description Connector to the REST API of a 'Rock' R server, to perform operations on a remote R server session, or administration tasks. See 'Rock' documentation at https://rockdoc.obiba.org/ .
Version 1.0.0
Depends R ($>= 3.1$), httr
Imports jsonlite, mime, progress
Suggests knitr, testthat (>= 3.0.0), tibble
License MIT + file LICENSE
LazyData true
Encoding UTF-8
RoxygenNote 7.1.1
Config/testthat/edition 3
NeedsCompilation no
Author Yannick Marcon [aut, cre] (https://orcid.org/0000-0003-0138-2023), OBiBa group [cph]
Maintainer Yannick Marcon <yannick.marcon@obiba.org></yannick.marcon@obiba.org>
Repository CRAN
Date/Publication 2021-03-12 14:00:02 UTC
R topics documented:
rockr.assign rockr.assign.data rockr.assign.expr rockr.close rockr.command rockr.commands rockr.commands

2 rockr.assign

	r.assign Assign an R expression or data	
dex		28
	rockr.version	26
	rockr.stop	26
	rockr.status	
	rockr.start	
	rockr.session_switch	
	rockr.sessions	
	rockr.session	
	rockr.restart	
	rockr.package_rm	
	rockr.package_install	
	rockr.packages_rm	
	rockr.packages_datashield	
	rockr.packages	
	rockr.package	
	rockr.open	
	rockr.log	
	rockr.file_upload	
	rockr.file_download	
	rockr.eval.source	
	rockr.eval	
	rockr.connect	
	rockr.command_rm	
	-	
	rockr.command result	

Description

Assign an R expression or R data to a symbol in the remote R session.

Usage

Index

```
rockr.assign(conn, symbol, value, async = FALSE)
```

Arguments

conn	A rockr connection object.
symbol	Name of the R symbol.
value	Value to assign to the symbol: can be a data value or a R script to execute.
async	R script is executed asynchronously within the session (default is FALSE). If

Value

The command object if async is TRUE

rockr.assign.data 3

See Also

```
Other assignment functions: rockr.assign.data(), rockr.assign.expr()
```

Examples

```
## Not run:
conn <- rockr.connect(username='user', password='password',</pre>
                      url='https://rocker-demo.obiba.org')
rockr.open(conn)
rockr.assign(conn, "mtcars", mtcars)
rockr.assign(conn, "x", 123)
rockr.assign(conn, "y", "abc")
rockr.assign(conn, "z", quote(tibble::tribble(
 ~colA, ~colB,
 'a', 1,
  'b',
         2,
  'c',
         3
rockr.close(conn)
## End(Not run)
```

rockr.assign.data

Assign an R object

Description

Assign an R object to a R symbol in the remote R session.

Usage

```
rockr.assign.data(conn, symbol, value, async = FALSE)
```

Arguments

conn A rockr connection object.
symbol Name of the R symbol.

value The R object to assign (data.frame, vector, etc.).

async R script is executed asynchronously within the session (default is FALSE). If

TRUE, the value returned is the ID of the command to look for.

Value

The command object if async is TRUE

See Also

```
Other assignment functions: rockr.assign.expr(), rockr.assign()
```

4 rockr.assign.expr

Examples

rockr.assign.expr

Assign an R expression

Description

Assign an R expression to a symbol in the remote R session.

Usage

```
rockr.assign.expr(conn, symbol, value, async = FALSE)
```

Arguments

conn A rockr connection object.
symbol Name of the R symbol.

value Value to assign to the symbol: can be a primitive value or a R script to execute.

async R script is executed asynchronously within the session (default is FALSE). If

TRUE, the value returned is the ID of the command to look for.

Value

The command object if async is TRUE

See Also

Other assignment functions: rockr.assign.data(), rockr.assign()

rockr.close 5

Examples

rockr.close

Close the R session

Description

Close the R session, if there is any associated to the connection.

Usage

```
rockr.close(conn)
```

Arguments

conn

A rockr connection object.

Value

Void

See Also

Other connection functions: rockr.connect(), rockr.open()

```
## Not run:
conn <- rockr.connect('administrator', 'password', url='https://rocker-demo.obiba.org')
rockr.open(conn)
rockr.close(conn)
## End(Not run)</pre>
```

6 rockr.command

rockr.command

Get an asynchronous command

Description

Get an asynchronous R commands in the remote R session.

Usage

```
rockr.command(conn, id, wait = FALSE)
```

Arguments

conn A rockr connection object.

id R command ID.

wait Wait for the command to complete.

Value

The command object.

See Also

```
Other command functions: rockr.command_result(), rockr.command_rm(), rockr.commands_rm(), rockr.commands()
```

rockr.commands 7

rockr.commands

List the asynchronous commands

Description

Get the list of asynchronous R commands in the remote R session.

Usage

```
rockr.commands(conn, df = TRUE)
```

Arguments

conn A rockr connection object.

df Return a data.frame (default is TRUE)

Value

The data.frame of command objects, one column per property.

See Also

```
Other command functions: rockr.command_result(), rockr.command_rm(), rockr.commands_rm(), rockr.command()
```

Examples

rockr.commands_rm

Remove all asynchronous commands

Description

Remove all asynchronous R commands in the remote R session.

Usage

```
rockr.commands_rm(conn)
```

rockr.command_result

Arguments

conn A rockr connection object.

Value

Void

See Also

```
Other command functions: rockr.command_result(), rockr.command_rm(), rockr.commands(), rockr.command()
```

Examples

Description

Get the result of an asynchronous R commands in the remote R session. The command is removed from the remote R session after this call.

Usage

```
rockr.command_result(conn, id, wait = FALSE, rm = TRUE)
```

Arguments

conn A rockr connection object.

id R command ID.

wait Wait for the command to complete (default is FALSE).

rm Remove command from the list of asynchronous commands after retrieving the

result (default is TRUE).

Value

The command result as an unserialized object.

rockr.command_rm 9

See Also

```
Other command functions: rockr.command_rm(), rockr.commands_rm(), rockr.commands(), rockr.command()
```

Examples

rockr.command_rm

Remove an asynchronous command

Description

Remove an asynchronous R commands in the remote R session.

Usage

```
rockr.command_rm(conn, id)
```

Arguments

conn A rockr connection object.

id R command ID.

Value

Void

See Also

```
Other command functions: rockr.command_result(), rockr.commands_rm(), rockr.commands(), rockr.command()
```

10 rockr.connect

rockr.connect

Rocker connection

Description

Connect with Rocker.

Usage

```
rockr.connect(
  username = getOption("rock.username"),
  password = getOption("rock.password"),
  url = getOption("rock.url"),
  opts = getOption("rock.opts", list())
)
```

Arguments

username User name in Rocker R server. Can be provided by "rock.username" option.

User password in Rocker R server. Can be provided by "rock.password" option.

url Rocker R server url. Can be provided by "rock.url" option.

opts Curl options as described by httr (call httr::httr_options() for details). Can be

provided by "rock.opts" option.

Value

A rockr connection object.

See Also

```
Other connection functions: rockr.close(), rockr.open()
```

rockr.eval 11

```
rockr.url='https://rocker-demo.obiba.org')
conn <- rockr.connect()

# connect using options and personal access token
options(rockr.token='HYG16L00VaX400UardNbiqmr2ByBpRke',
    rockr.url='https://rocker-demo.obiba.org')
conn <- rockr.connect()

# connect using ssl key pair
options(rockr.opts=list(
    sslcert='my-publickey.pem',
    sslkey='my-privatekey.pem'))
conn <- rockr.connect(url='https://rocker-demo.obiba.org')

## End(Not run)</pre>
```

rockr.eval

Evaluate a R script

Description

Execute a R script in the remote R session.

Usage

```
rockr.eval(conn, script, json = FALSE, async = FALSE)
```

Arguments

conn A rockr connection object.

script R script to execute.

json Response is in JSON format or an object serialized by R. Default is FALSE.

async R script is executed asynchronously within the session (default is FALSE). If

TRUE, the value returned is the command object to look for.

Value

The unserialized result object.

See Also

Other evaluation functions: rockr.eval.source()

12 rockr.eval.source

Examples

```
## Not run:
conn <- rockr.connect(username='user', password='password',</pre>
                       url='https://rocker-demo.obiba.org')
rockr.open(conn)
rockr.eval(conn, "x <- 'foo'")</pre>
rockr.eval(conn, "ls()")
rockr.close(conn)
## End(Not run)
```

rockr.eval.source

Evaluate a R file script

Description

Upload a R file script and execute it in the remote R session with source().

Usage

```
rockr.eval.source(conn, path, json = FALSE, async = FALSE)
```

Arguments

conn A rockr connection object.

path Path to the R file script to execute.

Response is in JSON format or an object serialized by R. Default is FALSE. json R script is executed asynchronously within the session (default is FALSE). If async

TRUE, the value returned is the command object to look for.

Value

The unserialized result object.

See Also

```
Other evaluation functions: rockr.eval()
```

```
conn <- rockr.connect(username='user', password='password',</pre>
                      url='https://rocker-demo.obiba.org')
rockr.open(conn)
rockr.eval.source(conn, "myscript.R")
rockr.close(conn)
## End(Not run)
```

rockr.file_download 13

rockr.file_download Download a file

Description

Download a file or a folder from the Rocker R session working directory.

Usage

```
rockr.file_download(
  conn,
  source,
  destination = NULL,
  overwrite = FALSE,
  temp = FALSE
)
```

Arguments

conn A rockr connection object.

source Path to the file in the R server file system.

destination Path to the file to be written. If omitted, file with same name in the working

directory will be written. Any non-existing parent directories will be created.

overwrite Overwrite the destination file if TRUE. Default is FALSE.

temp Logical to specify whether the root folder is the R session's home or the tempo-

rary folder. Default is FALSE.

Value

Void

See Also

```
Other file functions: rockr.file_upload()
```

14 rockr.file_upload

rockr.file_upload

Upload a file

Description

Upload a file into the Rocker R session working directory.

Usage

```
rockr.file_upload(
  conn,
  source,
  destination = NULL,
  overwrite = FALSE,
  temp = FALSE
)
```

Arguments

conn A rockr connection object.

source Path to the file in the local file system.

destination Path of the destination file in the Rocker R session. Root folder is the session's

home or temporary folder (see 'temp' parameter). If empty (default behavior),

the destination file name will be the same as the source one.

overwrite Overwrite the destination file if TRUE. Default is FALSE.

temp Logical to specify whether the root folder is the R session's home or the tempo-

rary folder. Default is FALSE.

Value

Void

See Also

Other file functions: rockr.file_download()

rockr.log

```
rockr.file_upload(conn, 'input')
rockr.close(conn)
## End(Not run)
```

rockr.log

Log of the R server

Description

Get the tail of the R server log.

Usage

```
rockr.log(conn, limit = 100)
```

Arguments

conn A rockr connection object.

limit The number of lines in the tail.

Value

A vector of character strings, one per log file line.

See Also

```
Other administration functions: rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.package(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.start(), rockr.status(), rockr.stop(), rockr.version()
```

16 rockr.package

rockr.open

Open an R session

Description

Open a R session, and store the session object within the connection object.

Usage

```
rockr.open(conn)
```

Arguments

conn

A rockr connection object.

Value

Void

See Also

```
Other connection functions: rockr.close(), rockr.connect()
```

Examples

```
## Not run:
conn <- rockr.connect('administrator', 'password', url='https://rocker-demo.obiba.org')
rockr.open(conn)
rockr.close(conn)
## End(Not run)</pre>
```

rockr.package

Package description from the R server

Description

Get the package description from the R server.

Usage

```
rockr.package(conn, name)
```

Arguments

conn A rockr connection object.

name The package name.

rockr.packages 17

Value

The R package description object.

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.start(), rockr.status(), rockr.stop(), rockr.version()
```

Examples

rockr.packages

List of the packages in the R server

Description

Get the list of packages from the R server.

Usage

```
rockr.packages(conn)
```

Arguments

conn

A rockr connection object.

Value

The matrix of the R packages, same as the one from install.packages().

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.package(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.start(), rockr.status(), rockr.stop(), rockr.version()
```

Examples

List of the settings of the DataSHIELD packages

Description

Discover the list of DataSHIELD packages and their settings from the R server.

Usage

```
rockr.packages_datashield(conn)
```

Arguments

conn

A rockr connection object.

Value

The list of the DataSHIELD R packages properties (AggregateMethods, AssignMethods, Options)

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_rm(), rockr.packages(), rockr.package(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.start(), rockr.status(), rockr.stop(), rockr.version()
```

rockr.packages_rm 19

rockr.packages_rm

Remove some packages from the R server

Description

Remove some packages from the R server.

Usage

```
rockr.packages_rm(conn, names)
```

Arguments

conn A rockr connection object.
names The package names.

Value

Void

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages(), rockr.package(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.start(), rockr.status(), rockr.stop(), rockr.version()
```

Examples

rockr.package_install Install a package in the R server

Description

Install a package in the R server. Package can be in different kind of repositories: CRAN, GitHub or Bioconductor.

Usage

```
rockr.package_install(conn, name, ref = NULL, manager = "cran")
```

20 rockr.package_rm

Arguments

conn A rockr connection object.

name The package name or identifier in the source code repository.

ref The branch/commit number of the source code repositories.

manager The package manager: cran, github (gh), bioconductor (bioc).

Value

Void

See Also

```
Other administration functions: rockr.log(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.package(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.start(), rockr.status(), rockr.stop(), rockr.version()
```

Examples

rockr.package_rm

Remove a package from the R server

Description

Remove a package from the R server.

Usage

```
rockr.package_rm(conn, name)
```

Arguments

conn A rockr connection object.

name The package name.

Value

Void

rockr.restart 21

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.package(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.start(), rockr.status(), rockr.stop(), rockr.version()
```

Examples

rockr.restart

Restart the R server

Description

Stop and start the R server. Any R sessions will be closed.

Usage

```
rockr.restart(conn)
```

Arguments

conn

A rockr connection object.

Value

Logical indicating wether the R server is running (invisible).

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.packages(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.start(), rockr.status(), rockr.stop(), rockr.version()
```

22 rockr.sessions

rockr.session

Get a R session

Description

Get a specific R session. Users with administrator or manager role can get any R sessions. Regular users can only get their own.

Usage

```
rockr.session(conn, id)
```

Arguments

conn A rockr connection object.

id The R session id to look for.

Value

The R session object.

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.package(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.start(), rockr.status(), rockr.stop(), rockr.version()
```

Examples

rockr.sessions

List of the R sessions

Description

Get the list of the R sessions. Users with administrator or manager role can list the R sessions. Regular users can only list their own.

rockr.session_switch 23

Usage

```
rockr.sessions(conn, subject = NULL)
```

Arguments

conn A rockr connection object.

subject Filter by subject name owning the sessions (requires administrator or manager

role to be effective).

Value

The list of the R session objects.

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.packages(), rockr.packages(), rockr.restart(), rockr.session_switch(), rockr.session(), rockr.start(), rockr.status(), rockr.stop(), rockr.version()
```

Examples

rockr.session_switch Switch R session

Description

Change the R session that is attached to the connection object. This allows to interact with a R session after another. Of course proper permission apply when executing R operations on this R session.

Usage

```
rockr.session_switch(conn, session)
```

Arguments

conn A rockr connection object.

session A R session object.

24 rockr.start

Value

Void

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.packages(), rockr.packages(), rockr.restart(), rockr.sessions(), rockr.session(), rockr.start(), rockr.status(), rockr.stop(), rockr.version()
```

Examples

```
## Not run:
conn <- rockr.connect(username='administrator', password='password',</pre>
                      url='https://rocker-demo.obiba.org')
# open several R sessions
rockr.open(conn)
rockr.open(conn)
sessions <- rockr.sessions(conn)</pre>
# switch to first one
rockr.session_switch(conn, sessions[[1]])
conn$session
rockr.close(conn)
# switch to 2nd one
rockr.session_switch(conn, sessions[[2]])
conn$session
rockr.close(conn)
## End(Not run)
```

rockr.start

Start the R server

Description

Start the R server, if not already running.

Usage

```
rockr.start(conn)
```

Arguments

conn

A rockr connection object.

Value

Logical indicating wether the R server is running (invisible).

rockr.status 25

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.package(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.status(), rockr.stop(), rockr.version()
```

Examples

rockr.status

Status of the R server

Description

Get the status of the R server, including information about the server node.

Usage

```
rockr.status(conn)
```

Arguments

conn

A rockr connection object.

Value

The R server status object.

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.packages(), rockr.packages(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.start(), rockr.stop(), rockr.version()
```

26 rockr.version

rockr.stop

Stop the R server

Description

Stop the R server, if running. Any R sessions will be closed.

Usage

```
rockr.stop(conn)
```

Arguments

conn

A rockr connection object.

Value

Logical indicating wether the R server is running (invisible).

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.packages(), rockr.packages(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.start(), rockr.status(), rockr.version()
```

Examples

rockr.version

Version of the R server

Description

Get the version object of the R server.

Usage

```
rockr.version(conn)
```

rockr.version 27

Arguments

conn

A rockr connection object.

Value

A simple.list, same as R.version.

See Also

```
Other administration functions: rockr.log(), rockr.package_install(), rockr.package_rm(), rockr.packages_datashield(), rockr.packages_rm(), rockr.packages(), rockr.packages(), rockr.packages(), rockr.restart(), rockr.session_switch(), rockr.sessions(), rockr.session(), rockr.start(), rockr.status(), rockr.stop()
```

Index

* administration functions	rockr.close, 5, 10, 16
rockr.log, 15	rockr.command, 6, 7-9
rockr.package, 16	rockr.command_result, $6-8$, 8 , 9
<pre>rockr.package_install, 19</pre>	$rockr.command_rm, 6-9, 9$
rockr.package_rm,20	rockr.commands, 6 , 7 , 8 , 9
rockr.packages, 17	$rockr.commands_rm, 6, 7, 7, 9$
rockr.packages_datashield, 18	rockr.connect, <i>5</i> , 10, <i>16</i>
rockr.packages_rm,19	rockr.eval, 11, <i>12</i>
rockr.restart, 21	rockr.eval.source, 11, 12
rockr.session,22	<pre>rockr.file_download, 13, 14</pre>
rockr.session_switch, 23	rockr.file_upload, 13, 14
rockr.sessions, 22	rockr.log, 15, <i>17</i> –27
rockr.start, 24	rockr.open, 5, 10, 16
rockr.status, 25	rockr.package, 15, 16, 17–27
rockr.stop, 26	rockr.package_install, <i>15</i> , <i>17–19</i> , 19,
rockr.version,26	21–27
* assignment functions	rockr.package_rm, 15, 17-20, 20, 21-27
rockr.assign,2	rockr.packages, <i>15</i> , <i>17</i> , 17, <i>18–27</i>
rockr.assign.data,3	rockr.packages_datashield, 15, 17, 18,
rockr.assign.expr,4	19–27
* command functions	rockr.packages_rm, 15, 17, 18, 19, 20-27
rockr.command,6	rockr.restart, <i>15</i> , <i>17</i> – <i>21</i> , 21, 22–27
${\sf rockr.command_result,8}$	rockr.session, <i>15</i> , <i>17</i> – <i>21</i> , 22, 23–27
rockr.command_rm,9	rockr.session_switch, <i>15</i> , <i>17–23</i> , 23,
rockr.commands,7	25–27
rockr.commands_rm,7	rockr.sessions, <i>15</i> , <i>17</i> –22, 22, 24–27
* connection functions	rockr.start, <i>15</i> , <i>17–24</i> , 24, 25–27
rockr.close, 5	rockr.status, <i>15</i> , <i>17</i> – <i>25</i> , 25, <i>26</i> , <i>27</i>
rockr.connect, 10	rockr.stop, <i>15</i> , <i>17</i> – <i>25</i> , 26, 27
rockr.open, 16	rockr.version, <i>15</i> , <i>17</i> – <i>26</i> , 26
* evaluation functions	
rockr.eval, 11	
rockr.eval.source, 12	
* file functions	
rockr.file_download,13	
rockr.file_upload,14	
rockr.assign, 2, 3, 4	
10CK1 . assigii, 2, 3, 4	
rockr.assign.data, 3, 3, 4	
— · · · · · · · · · · · · · · · · · · ·	