

Package ‘machina’

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Type Package

Title Machina Time Series Generation and Backtesting

Version 0.1.6

Description Connects to <https://machi.na/> and allows the creation of time series, and running backtests on selected strategy if requested.

Imports httr, jsonlite, lubridate, xts, rhandsontable, DT

License GPL

LazyData TRUE

NeedsCompilation no

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| | |
|--------|---------------|
| addRow | <i>addRow</i> |
|--------|---------------|

Description

This connects to the Machina web service, and adds a row to the open strategy.

Usage

```
addRow(  
  query,  
  updateStrategy = TRUE,  
  includeData = FALSE,  
  startDate = NULL,  
  endDate = NULL,  
  verbose = FALSE  
)
```

Arguments

| | |
|----------------|---|
| query | This is the machina command, wrapped in quotes, adding a new row to the open strategy. Learn more about Machina query language at https://machi.na/docs . |
| updateStrategy | Not required, this will default to TRUE |
| includeData | Not required, this will default to FALSE |
| startDate | Not required, this will default to NULL |
| endDate | Not required, this will default to NULL |
| verbose | Not required, this will default to FALSE |

Details

This connects to Machina web service, and adds a row to the open strategy.

Value

This function adds a row to the open strategy.

Author(s)

Michael Gursky

Examples

```
# addRow("ibm(o) | xavg(25) | ternary")
```

| | |
|---------------|----------------------|
| clearStrategy | <i>clearStrategy</i> |
|---------------|----------------------|

Description

This connects to the Machina web service, and clears all rows from the open strategy.

Usage

```
clearStrategy(updateStrategy = TRUE, verbose = FALSE)
```

Arguments

updateStrategy Not required, whether to update the strategy (default = TRUE)
verbose Not required, whether to produce verbose output (default = FALSE)

Details

This connects to Machina web service, and clears all rows from the open strategy.

Value

This function and clears all rows from the open strategy.

Author(s)

Michael Gursky

Examples

```
# clearStrategy()
```

| | |
|---------------|----------------------|
| closeStrategy | <i>closeStrategy</i> |
|---------------|----------------------|

Description

This connects to Machina web service, and closes the open strategy.

Usage

```
closeStrategy(verbose = FALSE)
```

Arguments

verbose Not required, whether to produce verbose output (default = FALSE)

Details

This connects to Machina web service, and closes the open strategy.

Value

This function closes the open strategy.

Author(s)

Michael Gursky

Examples

```
# closeStrategy()
```

drawRows

drawRows

Description

This adds one or multiple rows to a chart window at <https://account.machi.na>.

Usage

```
drawRows(rowsArray, startDate = NULL, endDate = NULL, chartId=' ', verbose = FALSE)
```

Arguments

| | |
|-----------|---|
| rowsArray | Not required, whether to produce verbose output (default = FALSE) |
| startDate | Not required, start date (default = NULL) |
| endDate | Not required, end date (default = NULL) |
| chartId | Not required, chart ID (default = "") |
| verbose | Not required, whether to produce verbose output (default = FALSE) |

Details

This adds one or multiple rows to a chart window at <https://account.machi.na>.

Value

This adds one or multiple rows to a chart window at <https://account.machi.na>.

Author(s)

Akram Kamal

Examples

```
# chart <- drawRows(c(2,3))
```

| | |
|------------|-------------------|
| endSession | <i>endSession</i> |
|------------|-------------------|

Description

This connects to Machina web service, and ends your Machina session.

Usage

```
endSession(verbose = FALSE)
```

Arguments

verbose Not required, whether to produce verbose output (default = FALSE)

Details

This connects to Machina web service, and ends your Machina session.

Value

This function returns whether the session is successfully closed.

Author(s)

Michael Gursky

Examples

```
# endSession()
```

| | |
|-------------------|--------------------------|
| getRemoteChartUrl | <i>getRemoteChartUrl</i> |
|-------------------|--------------------------|

Description

This opens the chart browser (<https://account.machi.na/>). It's not necessary to do this separately from drawRows, as drawRows will also open a charts browser.

Usage

```
getRemoteChartUrl(chartId='', openBrowser=TRUE)
```

Arguments

| | |
|-------------|--|
| chartId | Not required, specify a chart id (default = "") |
| openBrowser | Not required, whether to open chart browser (https://account.machi.na/) (default = TRUE) |

Details

This opens the chart browser (<https://account.machi.na/>).

Value

This opens the chart browser (<https://account.machi.na/>).

Author(s)

Akram Kamal

Examples

```
# getRemoteChartUrl()
```

getRow

getRow

Description

This connects to the Machina web service, and gets a row, optionally with data.

Usage

```
getRow(
  rowIndex,
  includeData = FALSE,
  startDate = NULL,
  endDate = NULL,
  verbose = FALSE
)
```

Arguments

| | |
|-------------|---|
| rowIndex | This is the row number to get (1-based) |
| includeData | Not required, whether to include data (default = FALSE) |
| startDate | This is the start date |
| endDate | This is the end date |
| verbose | Not required, whether to produce verbose output (default = FALSE) |

Details

This connects to Machina web service, and gets a row, optionally with data.

Value

This function and gets a row, optionally with data.

Author(s)

Michael Gursky

Examples

```
# rowData <- getRow(21, includeData = TRUE)
```

getStrategy

getStrategy

Description

This connects to the Machina web service, and gets all the rows in the open strategy.

Usage

```
getStrategy(verbose = FALSE)
```

Arguments

verbose Not required, whether to produce verbose output (default = FALSE)

Details

This connects to Machina web service, and gets all the rows in the open strategy.

Value

This function and gets all the rows in the open strategy.

Author(s)

Michael Gursky

Examples

```
# getStrategy()
```

| | |
|-----------------------------|-------------------|
| <code>listStrategies</code> | <i>listModels</i> |
|-----------------------------|-------------------|

Description

This connects to the Machina web service, and gets a list of your models.

Usage

```
listStrategies(verbose = FALSE)
```

Arguments

`verbose` Not required, whether to produce verbose output (default = FALSE)

Details

This connects to Machina web service, and and gets a list of your strategies.

Value

This function returns a list of your models.

Author(s)

Michael Gursky

Examples

```
# listStrategies()
```

| | |
|----------------------|---|
| <code>machina</code> | <i>Machina Time Series Generation and Backtesting</i> |
|----------------------|---|

Description

Machina is an engine that allows for quick delivery of time series data, such as stock pricing info, fundamental data, and more, along with a smart backtester.

Getting Connected

To get connected to Machina engine, use this syntax:

```
myDemo <-startSession("userName", "pwd")
```

startSession: opens a session enabling you to create new strategys, or modify existing ones. "userName" and "pwd" are your username and password for Machina. They must be wrapped in quotes("").

Open a strategy

A strategy contains an algo or groups of algos, that you are building into an integrated strategy.

```
openstrategy("myFirststrategy")
```

openstrategy: specifies the name of an existing strategy, or creates a new one if the strategy name used is either blank or not found. In this example, the strategy "myFirststrategy" is either opened, or a new one with that name is created.

Add an algo row

Adding an algo to your strategy is as simple as using addRow with your query.

```
addRow("spy | savg(10)")
```

addRow: This adds a row to your strategy. In quotes use Machina query language. Learn more about Machina query language at <https://machi.na/docs>.

Get more help

Visit our quick-start guide and more documentation at <https://machi.na/community>. Don't see what you are looking for? Post your questions by clicking the 'Ask a Question' button.

Author(s)

Machina

openStrategy

openStrategy

Description

This connects to Machina web service, and opens a strategy to work in.

Usage

```
openStrategy(
  strategyName = NULL,
  updateStrategy = TRUE,
  verbose = FALSE
)
```

Arguments

| | |
|----------------|--|
| strategyName | If you know the name of the strategy, you can put it here. Not required, this will default to NULL |
| updateStrategy | Not required, default to TRUE. |
| verbose | Not required, whether to produce verbose output (default = FALSE) |

Details

This connects to Machina web service, and opens your strategy.

Value

This function returns the Machina strategy object.

Author(s)

Michael Gursky

Examples

```
# openStrategy(strategyName = "default")
```

| | |
|--------------|---------------------|
| startSession | <i>startSession</i> |
|--------------|---------------------|

Description

This connects to Machina web service, sending user credentials and other parameters if desired, and returns the machi.na session object to R.

Usage

```
startSession(  
  userName = NULL,  
  password = NULL,  
  serviceHost = "account.machi.na",  
  protocol = "https",  
  strategyCallback = viewStrategy,  
  verbose = FALSE  
)
```

Arguments

| | |
|------------------|---|
| userName | Your Machi.na user ID |
| password | Your password |
| serviceHost | Not required, this will default to 'account.machi.na' |
| protocol | Not required, defaults to 'https' |
| strategyCallback | Not required, this will default to viewStrategy |
| verbose | Not required, this will default to FALSE |

Details

This connects to Machina web service, sending user credentials and other parameters if desired, and returns the Machina session object to R.

Value

This function returns the Machina session object.

Author(s)

Michael Gursky

Examples

```
# startSession("billy@email.com", "password")
```

| | |
|---------------------------|---------------------|
| <code>undoStrategy</code> | <i>undoStrategy</i> |
|---------------------------|---------------------|

Description

This connects to the Machina web service, and undoes last operation on the open strategy (addRow or clear).

Usage

```
undoStrategy(updateStrategy = TRUE, verbose = FALSE)
```

Arguments

`updateStrategy` Not required, whether to update the strategy (default = TRUE)
`verbose` Not required, whether to produce verbose output (default = FALSE)

Details

This connects to Machina web service, and undoes last operation on the open strategy (addRow or clear).

Value

This function and undoes last operation on the open strategy (addRow or clear).

Author(s)

Michael Gursky

Examples

```
# undoStrategy()
```

| | |
|---------------------------|---------------------|
| <code>viewStrategy</code> | <i>viewStrategy</i> |
|---------------------------|---------------------|

Description

This outputs the open strategy rows in a data frame.

Usage

```
viewStrategy(verbose = FALSE)
```

Arguments

`verbose` Not required, whether to produce verbose output (default = FALSE)

Details

This outputs the open strategy rows in a data frame.

Value

This outputs the open strategy rows in a data frame.

Author(s)

Michael Gursky

Examples

```
# viewStrategy()
```

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