

Package ‘mantaRSDK’

January 17, 2014

Type Package

Title Joyent Manta Storage Service R Software Development Kit

Version 0.8.0

Date 2014-01-16

Depends R (>= 3.0.0), PKI, digest, RCurl, RJSONIO, Rbunyan

Description Manta R SDK. Upload, Download and manage files, native R data and R workspaces on the Manta Storage Service. Compute on your data in the cloud with UNIX Map/Reduce from R. Core functions communicate via the Manta REST API using RCurl.
GitHub - github.com/joyent/mantaRSDK

SystemRequirements Node.js, manta-node

Copyright Joyent Inc. 2014

License MIT

URL www.joyent.com

BugReports <https://github.com/joyent/mantaRSDK/issues>

VignetteBuilder knitr

LazyData true

Collate 'mantaAttempt.R' 'mantaDump.R' 'mantaExpandPath.R'
'mantaFind.R' 'mantaGenHeaders.R' 'mantaGenSignature.R'
'mantaGet.R' 'mantaGetwd.R' 'mantaInitialize.R' 'mantaLoad.R'
'mantaLs.R' 'mantaMkdir.R' 'mantaPath.R' 'mantaPut.R'
'mantaRm.R' 'mantaRmdir.R' 'mantaSave.R' 'mantaSetwd.R'
'mantaSnapln.R' 'mantaSource.R' 'mantaWhoami.R' 'mantaOnload.R'
'mantaAccount.R' 'mantaGetLimits.R' 'mantaSetLimits.R'
'mantadusize.R' 'mantagetnames.R' 'mantagetsize.R'
'mantagetime.R' 'mantaliststyle.R' 'mantaunixstyle.R'
'mantaFind.l.R' 'mantaLs.l.R' 'mantaFind.du.R' 'mantaFind.n.R'
'mantaFind.sizepath.R' 'mantaFind.sizes.R' 'mantaFind.url.R'
'mantaLs.du.R' 'mantaLs.n.R' 'mantaLs.paths.R' 'mantaLs.url.R'
'mantaSetwd.jobs.R' 'mantaSetwd.public.R'
'mantaSetwd.reports.R' 'mantaSetwd.stor.R' 'mantaXfer.R'

'mantaJob.cancel.R' 'mantaJobs.running.R' 'mantaSave.image.R'
 'mantaJob.errors.R' 'mantaJob.failures.R' 'mantaJob.setup.R'
 'mantaJob.status.R' 'mantaJobs.R' 'mantaMap.R' 'mantaReduce.R'
 'mantaJob.launch.R' 'mantaJob.done.R' 'mantaJobs.tail.R'
 'mantaJob.inputs.R' 'mantaJob.outputs.R' 'mantaExists.R'
 'mantaLoad.ws.R' 'mantaSave.ws.R' 'mantaSetwd.ws.R' 'mantaCat.R' 'mantaJob.outputs.cat.R'
 'mantaJob.errors.stderr.R' 'mantaRSDK-package.r'

Author Christopher Hogue [aut, cre]

Maintainer Christopher Hogue <christopher.hogue@joyent.com>

R topics documented:

mantaAccount	2
mantaAttempt	3
mantaCat	4
mantaDump	5
mantadusize	6
mantaExists	7
mantaExpandPath	8
mantaFind	8
mantaFind.du	10
mantaFind.l	11
mantaFind.n	12
mantaFind.sizepath	13
mantaFind.sizes	14
mantaFind.url	15
mantaGenHeaders	16
mantaGenSignature	16
mantaGet	16
mantaGetLimits	18
mantagetnames	19
mantagetsize	19
mantagetime	19
mantaGetwd	20
mantaInitialize	20
mantaJob.cancel	21
mantaJob.done	21
mantaJob.errors	22
mantaJob.errors.stderr	23
mantaJob.failures	24
mantaJob.inputs	24
mantaJob.launch	25
mantaJob.outputs	28
mantaJob.outputs.cat	28
mantaJob.setup	29
mantaJob.status	30
mantaJobs	31
mantaJobs.running	31
mantaJobs.tail	32
mantaliststyle	32

mantaLoad	33
mantaLoad.ws	34
mantaLs	35
mantaLs.du	36
mantaLs.l	37
mantaLs.n	38
mantaLs.paths	39
mantaLs.url	40
mantaMap	41
mantaMkdir	42
mantaPath	43
mantaPut	44
mantaReduce	46
mantaRm	48
mantaRmdir	49
mantaRSDK	50
mantaSave	54
mantaSave.image	55
mantaSave.ws	56
mantaSetLimits	57
mantaSetwd	58
mantaSetwd.jobs	59
mantaSetwd.public	60
mantaSetwd.reports	60
mantaSetwd.stor	60
mantaSetwd.ws	61
mantaSnapln	61
mantaSource	62
mantaunixstyle	63
mantaWhoami	64
mantaXfer	65

mantaAccount

Changes current Manta account information

Description

The Manta account is initially obtained from three environment variables:

\$MANTA_USER, \$MANTA_KEY, \$MANTA_URL.

The ssl key location is obtained by default on Unix/Linux from

/ \$HOME/.ssh/id_rsa

or on Windows from:

C:\Users\username\.ssh\ir_rsa

The Manta datacentre enviroment variable is:

\$MANTA_URL

Usage

```
mantaAccount(account, json, verbose = FALSE)
```

Arguments

account	list, optional. Input R account values.
json	character, optional. Input JSON account values.
verbose	logical, optional. Show HTTP communication. FALSE by default.

Value

logical TRUE if account changed and working. Reverts to previous working account if it cannot connect with the new information returns FALSE for both cases - account reverted or account is left in a state where it cannot communicate to the server.

See Also

mantaWhoami

Other mantaAccount: mantaGetLimits, mantaSetLimits, mantaWhoami

Examples

```
## Not run:
## To see/save current account settings:
account <- mantaWhoami(all = TRUE)

## then use:

mantaAccount(account) ## to set the modified account

## Account information may contain 1-4 key-value pairs.

## To see/save current account settings as JSON:
account <- mantaWhoami(all = TRUE, json = TRUE)

## then use:

mantaAccount(json = account) to set that account

## To set a non default SSH private key location on Windows

mysslkey <- list(SSL_KEY_PATH = "C:\\\\Users\\myacct\\.ssh\\my_priv_rsa")
mantaAccount(mysslkey)

## End(Not run)
```

mantaAttempt

raw REST API Manta Caller with exception handling for internal use.

Description

Exported to access HTTPS Manta API and metadata retrieval.

Usage

```
mantaAttempt(action, method, headers, returncode, limit,
             marker, json = TRUE, test = FALSE, silent = FALSE,
             verbose = FALSE)
```

Arguments

<code>action</code>	character, optional. Path to a manta object or directory with optional query terms. When unspecified, uses current Manta Directory and returns JSON listing values for the directory.
<code>method</code>	character, optional. Default is "GET", passed "GET", "POST", "OPTIONS", "PUT", "DELETE" or "HEAD" from higher level library callers.
<code>headers,</code>	array of named characters, optional. The headers follow the Rcurl structure of vector of characters where HTTP header tags are the names, values as named characters, no semicolons or delimiters.
<code>returncode,</code>	character, optional. Set to expected HTTP return code, e.g. "200", "204" - used when test is TRUE.
<code>limit,</code>	numeric, optional. Set to limit number of returned listed JSON lines - number of directory entries Otherwise uses default value in <code>mantaSetLimits</code>
<code>marker,</code>	character, optional. Name or id character value of directory entry to start next listing segment of length <code>limit</code> .
<code>json</code>	logical, optional. FALSE means return R data, TRUE means return JSON data.
<code>test</code>	logical, optional, Set to TRUE to return logical as to whether the request passed or failed. Also affects the behavior of the <code>silent</code> parameter. See Value for output table.
<code>silent</code>	logical, optional. Controls whether > "400" service errors are emitted by <code>cat</code> or <code>stop</code> depending on the value of <code>test</code> . See Value for output table.
<code>verbose</code>	logical, optional. Passed to Rcurl <code>GetURL</code> , Set to TRUE to see background HTTPS REST communication.

Details

If `test == TRUE`, it returns pass/fail logical If passed a Manta subdirectory, it returns the directory JSON according to the length limit set with `mantaSetLimits`

Note `getURL verbose = TRUE` writes to UNIX `stderr` which is invisible on Windows R.

Value

The Manta reply data in JSON or R format, OR a logical value if `test = TRUE`. Return values and Manta server error message display or `stop` behavior depends on values of `test`, `silent`:

```
test = TRUE, silent = TRUE
```

logical - success returned, Errors are logged.

```
test = TRUE, silent = FALSE
```

logical - success returned, Errors are logged, emitted to console.

```
test = FALSE, silent = TRUE
```

data returned, Errors are logged, empty data on error.

```
test = FALSE, silent = FALSE
```

data returned, Errors are logged, `stop()` on 400 series errors.

mantaCat	<i>Retrieves object from Manta and uses cat to print contents to the R console. mantaCat is intended for text files, use at your own risk on binary data.</i>
----------	---

Description

Retrieves object from Manta and uses cat to print contents to the R console. mantaCat is intended for text files, use at your own risk on binary data.

Usage

```
mantaCat(mantapath, sep = "\n")
```

Arguments

mantapath	vector of character, required.
sep	character, required, separator.

See Also

mantaJob.outputs.cat, mantaJob.errors.stderr

Other mantaGet: mantaGet, mantaLoad, mantaLoad.ws, mantaSave, mantaSource

Examples

```
## Not run:
data <- runif(100)
mantaDump("data")
mantaCat("dumpdata.R")
mantaRm("dumpdata.R")

## End(Not run)
```

mantaDump	<i>Uses dump to upload text parsable R data to Manta Storage Service.</i>
-----------	---

Description

mantaDump is a wrapper for dump and mantaXfer, which implements the RCURL transfer

Usage

```
mantaDump(list, mantapath = "dumpdata.R", md5 = FALSE,
  headers, durability = 2, envir = parent.frame(),
  control = "all", evaluate = TRUE, info = TRUE,
  verbose = FALSE)
```

Arguments

<code>list</code>	required. See <code>dump</code> . List of R objects to dump. Name of R object in quotes works as well.
<code>mantapath</code>	optional. Default is <code>dumpdata.R</code> . Specify full Manta path to where uploaded R source will be saved or Manta object name in current working Manta directory. If no extension is provided on the filename, or a non R data style extension, <code>.R</code> is appended to the end of the filename.
<code>md5</code>	logical. Test md5 hash of R dump tempfile before/after upload.
<code>headers</code>	Headers for HTTP transfer, in <code>RCurl</code> style. See <code>mantaPut</code> . User metadata headers may be provided, E.g.: Avoid supplying the <code>content-type</code> header, which is set to the R source code <code>text/R-code</code> and the <code>durability-level</code> header which is handled via the <code>durability</code> parameter.
<code>durability</code>	optional. Number of copies to store on Manta (2-6). If not provided, uses saved value from <code>mantaSetLimits</code> , system default is 2.
<code>envir</code>	optional. See <code>dump</code> . Environment of R object being passed.
<code>control</code>	optional. See <code>dump</code> .
<code>evaluate</code>	optional. See <code>dump</code> .
<code>info</code>	logical required. Set to <code>FALSE</code> to silence console output messages.
<code>verbose</code>	logical, optional. Passed to <code>RCurl GetURL</code> , Set to <code>TRUE</code> to see background HTTPS REST communication on <code>stderr</code> Note this is not visible on Windows.

Value

TRUE or FALSE depending on success of upload.

See Also

`mantaSource`

Other `mantaPut`: `mantaPut`, `mantaSave.image`, `mantaSave.ws`

Examples

```
## Not run:
data <- runif(100)
mantaDump("data")
mantaCat("dumpdata.R")
mantaRm("dumpdata.R")

## End(Not run)
```

mantaduseize	<i>mantaLs and mantaFind callback</i>
--------------	---------------------------------------

Description

mantaLs and mantaFind callback

Usage

```
mantaduseize(line)
```

Arguments

line	R structured directory line
------	-----------------------------

mantaExists	<i>Tests to see if a Manta object or subdirectory exists.</i>
-------------	---

Description

Like a Unix `stat` command. Does not download object contents.

Usage

```
mantaExists(mantapath, d = FALSE)
```

Arguments

mantapath	character, required. A full path specifying a Manta object or directory, or the name of an object/subdir in the current Manta working directory.
d	logical. Set TRUE to confirm that entity specified in mantapath exists and is a directory.

Value

logical.

See Also

Other mantaLs: `mantaLs`, `mantaLs.du`, `mantaLs.l`, `mantaLs.n`, `mantaLs.paths`, `mantaLs.url`

Examples

```
## Not run:
data <- runif(100)
mantaDump("data")
mantaExists("dumpdata.R")
mantaRm("dumpdata.R")
mantaExists("dumpdata.R")
mantaMkdir("testsubidrectory")
mantaExists("testsubidrectory", d = TRUE)
mantaRmdir("testsubidrectory")
mantaExists("testsubidrectory", d = TRUE)
files <- c("file1", "file2", "file3")
sapply(files, mantaExists)

## End(Not run)
```

mantaExpandPath	<i>Checks, expands ~~ to value of \$MANTA_USER, and applies curlEscape.</i>
-----------------	---

Description

Not exported. Returns "" if subdirectory specified incorreictory or if the directory cannot exist on the system as specified.

Usage

```
mantaExpandPath(m_path, verbose = FALSE)
```

Arguments

m_path	character, required.
verbose	logical, optional.

mantaFind	<i>Recursive find tool for retrieving matching objects/subdirs from Manta hierarchy.</i>
-----------	--

Description

Search for object or directory names with regular expressions (using R grep). Sort listings by filename, time, or size. Report entries within a time window. Report disk size, number of objects, number of subdirectories.

Usage

```
mantaFind(mantapath, grepfor, entries, l = "paths",
  items = "o", level = 0, sortby = "none", starttime,
  endtime, decreasing = FALSE, ignore.case = FALSE,
  perl = FALSE, verbose = FALSE, info = TRUE,
  findroot = 1)
```

Arguments

<code>mantapath</code>	character, optional. Current subdirectory set by <code>mantaSetwd</code> is used, otherwise specify full Manta path to subdirectory. Supports <code>~~</code> expansion to your Manta username, e.g. " <code>~~/public</code> " and UTF-8 encoded characters.
<code>grepfor</code>	character optional. Regular expression for <code>grep</code> name search. Ignored for reprocessed trees. Uses R regexps, N.B. use " <code>[.]txt</code> ", not " <code>*.txt</code> " to match filename extensions.
<code>entries</code>	optional. Saved mantaFind R data. For reprocessing/reformatting retrieved R tree information saved with <code>mantaFind(l='R')->tree</code> .
<code>l</code>	character optional. Specifies listing output format by ' <code>paths</code> ', ' <code>n</code> ', ' <code>du</code> ', ' <code>R</code> '. ' <code>paths</code> ' is a listing of full Manta object pathnames needed for <code>mantaJobs</code> . ' <code>l</code> ' is a Unix-y listing style with full pathnames. ' <code>sizes</code> ' is a listing of sizes in bytes, no pathnames. ' <code>size_path</code> ' is a listing of size [space] path. ' <code>URL</code> ' is a listing of the URLs (only for objects in <code>~/public/</code>). ' <code>n</code> ' is the number of entries found. ' <code>du</code> ' is the number of bytes used by objects (not counting redundancy levels!). ' <code>R</code> ' is the R object collected by <code>mantaFind</code> with <code>mtime</code> parsed, full path names. <code>mantaFind(l='R') -> tree</code> saves the directory tree for reprocessing with <code>mantaFind(mantapath, entries = tree, ...)</code> .
<code>items</code>	character optional. ' <code>a</code> ' for all, ' <code>d</code> ' for directory, ' <code>o</code> ' for object.
<code>level</code>	integer optional. Maximum number of subdirectory child levels to visit, in other words, the depth of the hierarchical directory search. If <code>level <= 0</code> , search depth is unrestricted. Level parameter is ignored on reprocessed search trees.
<code>sortby</code>	character, optional. Specify ' <code>none</code> ', ' <code>name</code> ', ' <code>time</code> ', or ' <code>size</code> '. Sorting selection is independent of time-bounded find.
<code>starttime</code>	POSIXlt time, optional. Start time for time-bounded find. When used without <code>endtime</code> , <code>endtime</code> is set to current UTC time.
<code>endtime</code>	POSIXlt time, optional. End time for time-bounded find. When used without <code>starttime</code> , <code>starttime</code> is set to start of Manta service
<code>decreasing</code>	logical, optional. Argument passed to R <code>order</code> for sorting.
<code>ignore.case</code>	logical, optional. Argument passed to R <code>grep</code> for searching.
<code>perl</code>	logical, optional. Argument passed to R <code>grep</code> for searching.
<code>verbose</code>	logical, optional. Verbose RCurl HTTP data output on Unix.
<code>info</code>	logical, optional. Console status messages about child path progress.
<code>findroot</code>	integer, internal. Indicates nested calls, not to be used.

See Also

`mantaLs`, `mantaLs.paths`, `mantaLs.l`, `mantaLs.n`, `mantaLs.du`, `mantaLs.url`

Other mantaFind: `mantaFind.du`, `mantaFind.l`, `mantaFind.n`, `mantaFind.sizepath`, `mantaFind.sizes`, `mantaFind.url`

Examples

```
## Not run:
## Find all objects stored in the directory tree starting
## at subdirectory specified by mantaSetwd(),
## return full Manta path to each object:
mantaFind()

## Find all objects ending in .jpg or .JPG
## in your Manta ~/public directory and any child sub directories,
## (but not grandchildren), show a UNIX-like result sorted by file size:
mantaFind("~/public", l = 'l', items = 'o', grepfor = "[.]jpg",
level = 2, ignore.case = TRUE, sortby = 'size')

## Download all objects in current Manta directory, non recursive find:
mantaGet(mantaFind(level = 1))

## Plot a histogram of all file sizes in your Manta ~/stor directory tree.
hist(mantaFind("~/stor", l = 'sizes'))

## End(Not run)
```

mantaFind.du	<i>Recursive find tool for retrieving matching objects/subdirs from Manta hierarchy. Output is disk utilized in bytes NOT counting redundancy levels.</i>
--------------	---

Description

Search for object or directory names with regular expressions (using R grep). Reports disk size.

Usage

```
mantaFind.du(mantapath, grepfor, entries, items = "o",
level = 0, starttime, endtime, ignore.case = FALSE,
perl = FALSE, verbose = FALSE, info = TRUE)
```

Arguments

mantapath	character, optional. Current subdirectory set by mantaSetwd is used, otherwise specify full Manta path to subdirectory. Supports ~~ expansion to your Manta username, e.g. "~/public" and UTF-8 encoded characters.
grepfor	character optional. Regular expression for grep name search. Ignored for reprocessed trees. Uses R regexps, N.B. use "[.]txt", not "*.txt" to match filename extensions.
entries	optional. Saved mantaFind R data. For reprocessing/reformatting retrieved R tree information saved with mantaFind(l='R')->tree.
items	character optional. 'a' for all, 'd' for directory, 'o' for object.
level	integer optional. Maximum number of subdirectory child levels to visit, in other words, the depth of the hierarchical directory search. If level <= 0, search depth is unrestricted. Level parameter is ignored on reprocessed search trees.

starttime	POSIXlt time, optional. Start time for time-bounded find. When used without endtime, endtime is set to current UTC time.
endtime	POSIXlt time, optional. End time for time-bounded find. When used without starttime, starttime is set to start of Manta service
ignore.case	logical, optional. Argument passed to R grep for searching.
perl	logical, optional. Argument passed to R grep for searching.
verbose	logical, optional. Verbose RCurl HTTP data output on Unix.
info	logical, optional. Console status messages about child path progress.

See Also

mantaLs.du

Other mantaFind: mantaFind, mantaFind.l, mantaFind.n, mantaFind.sizepath, mantaFind.sizes, mantaFind.url

mantaFind.l	<i>Recursive find tool for retrieving matching objects/subdirs from Manta hierarchy. Output is long ls -o unix-y style listing with full pathnames. Search for object or directory names with regular expressions (using R grep). Sort listings by filename, time, or size.</i>
-------------	---

Description

Recursive find tool for retrieving matching objects/subdirs from Manta hierarchy. Output is long ls -o unix-y style listing with full pathnames. Search for object or directory names with regular expressions (using R grep). Sort listings by filename, time, or size.

Usage

```
mantaFind.l(mantapath, grepfor, entries, items = "o",
  level = 0, sortby = "none", starttime, endtime,
  decreasing = FALSE, ignore.case = FALSE, perl = FALSE,
  verbose = FALSE, info = TRUE)
```

Arguments

mantapath	character, optional. Current subdirectory set by mantaSetwd is used, otherwise specify full Manta path to subdirectory. Supports ~~ expansion to your Manta username, e.g. "~/public" and UTF-8 encoded characters.
grepfor	character optional. Regular expression for grep name search. Ignored for reprocessed trees. Uses R regexps, N.B. use "[.]txt", not "*.txt" to match filename extensions.
entries	optional. Saved mantaFind R data. For reprocessing/reformatting retrieved R tree information saved with mantaFind(l='R')->tree.
items	character optional. 'a' for all, 'd' for directory, 'o' for object.
level	integer optional. Maximum number of subdirectory child levels to visit, in other words, the depth of the hierarchical directory search. If level <= 0, search depth is unrestricted. Level parameter is ignored on reprocessed search trees.

sortby	character, optional. Specify 'none', 'name', 'time', or 'size'. Sorting selection is independent of time-bounded find.
starttime	POSIXlt time, optional. Start time for time-bounded find. When used without endtime, endtime is set to current UTC time.
endtime	POSIXlt time, optional. End time for time-bounded find. When used without starttime, starttime is set to start of Manta service
decreasing	logical, optional. Argument passed to R order for sorting.
ignore.case	logical, optional. Argument passed to R grep for searching.
perl	logical, optional. Argument passed to R grep for searching.
verbose	logical, optional. Verbose RCurl HTTP data output on Unix.
info	logical, optional. Console status messages about child path progress.

See Also

Other mantaFind: mantaFind, mantaFind.du, mantaFind.n, mantaFind.sizepath, mantaFind.sizes, mantaFind.url

mantaFind.n	<i>Recursive find tool for retrieving matching objects/subdirs from Manta hierarchy. Output is number of found entries.</i>
-------------	---

Description

Search for object or directory names with regular expressions (using R grep). Reports number of objects.

Usage

```
mantaFind.n(mantapath, grepfor, entries, items = "o",
            level = 0, starttime, endtime, ignore.case = FALSE,
            perl = FALSE, verbose = FALSE, info = TRUE)
```

Arguments

mantapath	character, optional. Current subdirectory set by mantaSetwd is used, otherwise specify full Manta path to subdirectory. Supports ~~ expansion to your Manta username, e.g. "~/public" and UTF-8 encoded characters.
grepfor	character optional. Regular expression for grep name search. Ignored for reprocessed trees. Uses R regexps, N.B. use "[.]txt", not "*.txt" to match filename extensions.
entries	optional. Saved mantaFind R data. For reprocessing/reformatting retrieved R tree information saved with mantaFind(l='R')->tree.
items	character optional. 'a' for all, 'd' for directory, 'o' for object.
level	integer optional. Maximum number of subdirectory child levels to visit, in other words, the depth of the hierarchical directory search. If level <= 0, search depth is unrestricted. Level parameter is ignored on reprocessed search trees.
starttime	POSIXlt time, optional. Start time for time-bounded find. When used without endtime, endtime is set to current UTC time.

endtime	POSIXlt time, optional. End time for time-bounded find. When used without starttime, starttime is set to start of Manta service
ignore.case	logical, optional. Argument passed to R grep for searching.
perl	logical, optional. Argument passed to R grep for searching.
verbose	logical, optional. Verbose RCurl HTTP data output on Unix.
info	logical, optional. Console status messages about child path progress.

See Also

mantaLs.n

Other mantaFind: mantaFind, mantaFind.du, mantaFind.l, mantaFind.sizepath, mantaFind.sizes, mantaFind.url

mantaFind.sizepath *Recursive find tool for retrieving matching objects/subdirs from Manta hierarchy. Output is R list of size and full Manta pathnames.*

Description

Search for object or directory names with regular expressions (using R grep). Sort listings by filename, time, or size.

Usage

```
mantaFind.sizepath(mantapath, grepfor, entries,
  items = "o", level = 0, sortby = "none", starttime,
  endtime, decreasing = FALSE, ignore.case = FALSE,
  perl = FALSE, verbose = FALSE, info = TRUE)
```

Arguments

mantapath	character, optional. Current subdirectory set by mantaSetwd is used, otherwise specify full Manta path to subdirectory. Supports ~~ expansion to your Manta username, e.g. "~/public" and UTF-8 encoded characters.
grepfor	character optional. Regular expression for grep name search. Ignored for reprocessed trees. Uses R regexps, N.B. use "[.]txt", not "*.txt" to match filename extensions.
entries	optional. Saved mantaFind R data. For reprocessing/reformatting retrieved R tree information saved with mantaFind(l='R')->tree.
items	character optional. 'a' for all, 'd' for directory, 'o' for object.
level	integer optional. Maximum number of subdirectory child levels to visit, in other words, the depth of the hierarchical directory search. If level <= 0, search depth is unrestricted. Level parameter is ignored on reprocessed search trees.
sortby	character, optional. Specify 'none', 'name', 'time', or 'size'. Sorting selection is independent of time-bounded find.
starttime	POSIXlt time, optional. Start time for time-bounded find. When used without endtime, endtime is set to current UTC time.

endtime	POSIXlt time, optional. End time for time-bounded find. When used without starttime, starttime is set to start of Manta service
decreasing	logical, optional. Argument passed to R order for sorting.
ignore.case	logical, optional. Argument passed to R grep for searching.
perl	logical, optional. Argument passed to R grep for searching.
verbose	logical, optional. Verbose RCurl HTTP data output on Unix.
info	logical, optional. Console status messages about child path progress.

See Also

Other mantaFind: mantaFind, mantaFind.du, mantaFind.l, mantaFind.n, mantaFind.sizes, mantaFind.url

mantaFind.sizes	<i>Recursive find tool for retrieving matching objects/subdirs from Manta hierarchy. Output is vector of file sizes in bytes, no file or path names.</i>
-----------------	--

Description

Searching for object or directory names with regular expressions (using R grep). File size information does not use durability calculation (i.e. file size for one copy only)

Usage

```
mantaFind.sizes(mantapath, grepfor, entries, items = "o",
  level = 0, sortby = "none", starttime, endtime,
  decreasing = FALSE, ignore.case = FALSE, perl = FALSE,
  verbose = FALSE, info = TRUE)
```

Arguments

mantapath	character, optional. Current subdirectory set by mantaSetwd is used, otherwise specify full Manta path to subdirectory. Supports ~~ expansion to your Manta username, e.g. "~/public" and UTF-8 encoded characters.
grepfor	character optional. Regular expression for grep name search. Ignored for reprocessed trees. Uses R regexps, N.B. use "[.]txt", not "*.txt" to match filename extensions.
entries	optional. Saved mantaFind R data. For reprocessing/reformatting retrieved R tree information saved with mantaFind(l='R')->tree.
items	character optional. 'a' for all, 'd' for directory, 'o' for object.
level	integer optional. Maximum number of subdirectory child levels to visit, in other words, the depth of the hierarchical directory search. If level <= 0, search depth is unrestricted. Level parameter is ignored on reprocessed search trees.
sortby	character, optional. Specify 'none', 'name', 'time', or 'size'. Sorting selection is independent of time-bounded find.
starttime	POSIXlt time, optional. Start time for time-bounded find. When used without endtime, endtime is set to current UTC time.

endtime	POSIXlt time, optional. End time for time-bounded find. When used without starttime, starttime is set to start of Manta service
decreasing	logical, optional. Argument passed to R order for sorting.
ignore.case	logical, optional. Argument passed to R grep for searching.
perl	logical, optional. Argument passed to R grep for searching.
verbose	logical, optional. Verbose RCurl HTTP data output on Unix.
info	logical, optional. Console status messages about child path progress.

See Also

Other mantaFind: mantaFind, mantaFind.du, mantaFind.l, mantaFind.n, mantaFind.sizepath, mantaFind.url

mantaFind.url	<i>Recursive find tool for retrieving matching objects/subdirs from Manta hierarchy. Output is URL format listing with full pathnames.</i>
---------------	--

Description

Public HTTPS access is to objects in ~/public subdirectory only. ~/stor objects are not accessible. Search for object or directory names with regular expressions (using R grep). Sort listings by filename, time, or size.

Usage

```
mantaFind.url(mantapath, grepfor, entries, items = "o",
  level = 0, sortby = "none", starttime, endtime,
  decreasing = FALSE, ignore.case = FALSE, perl = FALSE,
  verbose = FALSE, info = TRUE)
```

Arguments

mantapath	character, optional. Current subdirectory set by mantaSetwd is used, otherwise specify full Manta path to subdirectory. Supports ~~ expansion to your Manta username, e.g. "~/public" and UTF-8 encoded characters.
grepfor	character optional. Regular expression for grep name search. Ignored for reprocessed trees. Uses R regexps, N.B. use "[.]txt", not "*.txt" to match filename extensions.
entries	optional. Saved mantaFind R data. For reprocessing/reformatting retrieved R tree information saved with mantaFind(l='R')->tree.
items	character optional. 'a' for all, 'd' for directory, 'o' for object.
level	integer optional. Maximum number of subdirectory child levels to visit, in other words, the depth of the hierarchical directory search. If level <= 0, search depth is unrestricted. Level parameter is ignored on reprocessed search trees.
sortby	character, optional. Specify 'none', 'name', 'time', or 'size'. Sorting selection is independent of time-bounded find.
starttime	POSIXlt time, optional. Start time for time-bounded find. When used without endtime, endtime is set to current UTC time.

endtime	POSIXIt time, optional. End time for time-bounded find. When used without starttime, starttime is set to start of Manta service
decreasing	logical, optional. Argument passed to R order for sorting.
ignore.case	logical, optional. Argument passed to R grep for searching.
perl	logical, optional. Argument passed to R grep for searching.
verbose	logical, optional. Verbose RCurl HTTP data output on Unix.
info	logical, optional. Console status messages about child path progress.

See Also

mantaLs.url

Other mantaFind: mantaFind, mantaFind.du, mantaFind.l, mantaFind.n, mantaFind.sizepath, mantaFind.sizes

mantaGenHeaders	<i>Create Headers for Manta HTTPS REST requests</i>
-----------------	---

Description

Not exported. Creates User-Agent, Authorization, date headers. Calls mantaGenSignature to generate date and Authorization signature using openssl.

Usage

```
mantaGenHeaders()
```

Value

manta_headers HTTP headers as specified for RCurl

mantaGenSignature	<i>Get time, digest and encrypt for HTTPS authentication</i>
-------------------	--

Description

Not exported. Gets system time and converts to web time format. Implements HTTPS Signature according to Mark Cavage Draft <http://tools.ietf.org/html/draft-cavage-http-signatures-00> using system2 calls to openssl binary. Under certain conditions, Windows system2 will still have a lock on "temp_digest.bin", despite using wait = TRUE generating a permissions Warning on the file.remove command. This function is slated for replacement.

Usage

```
mantaGenSignature()
```

Value

signed time and rsa-sha256 signature

mantaGet

Downloads specified Manta object(s), to file(s) or buffer.

Description

One limitation of the `mantaRSDK` is that it is not designed to handle large (multi-Gigabyte or larger) objects. Uploads - `mantaPut` - work from files, but Downloads - `mantaGet` - fill the R memory space to their completion before being written to a file. To download files larger than your R memory, use the Manta Node.js command line tool `mget`. The Node.js based Manta command line tools employ streams, so object size is not a limitation.

Usage

```
mantaGet(mantapath, filename, buffer = FALSE,
         metadata = FALSE, info = TRUE, verbose = FALSE)
```

Arguments

<code>mantapath</code>	vector of character, optional. Path to a manta object or object name in current working Manta directory for retrieval. Vectorized,
<code>filename</code>	optional. Assumes this is the target filename in the current path. Downloads file to the local path specified by <code>getwd</code> if full path not specified. If <code>filename</code> is absent, downloads to a file with same name as Manta object.
<code>buffer</code>	logical required. When <code>TRUE</code> return a buffer with data. Not supported for vectorized <code>mantapath</code> input.
<code>metadata</code>	logical optional. Set <code>TRUE</code> to retrieve R metadata.
<code>info</code>	logical. Set <code>FALSE</code> to suppress Downloading console messages.
<code>verbose</code>	logical, optional. Passed to <code>RCurl GetURL</code> , Set to <code>TRUE</code> to see background HTTPS REST communication on <code>stderr</code> . Note this is not visible on Windows.

Value

`TRUE` or `FALSE` depending on success of GET transfer

See Also

`mantaPut`

Other `mantaGet`: `mantaCat`, `mantaLoad`, `mantaLoad.ws`, `mantaSave`, `mantaSource`

Examples

```
## Not run:
data <- runif(100)
mantaDump("data")
rm(data)
mantaGet("dumpdata.R")
mantaRm("dumpdata.R")
source("dumpdata.R")
ls()
```

```
#mantaGet(mantaLs.paths(items = 'o'))
## Downloads the objects in your Manta working directory to your local working R director
## the same filenames.

#mantaGet(mantaLs.paths(items = 'o'), metadata = TRUE)
## Downloads and return just the metadata in R format for the Manta working directory con

## End(Not run)
```

mantaGetLimits	<i>Returns Manta durability level, connection timeouts and limits currently active.</i>
----------------	---

Description

Reports the mantaRSDK settings structure and default/current values. Includes the number of copies of an object stored on the Manta service `durability_level` which can be from 2 to 6, the number of directory entries retrieved in one HTTPS call `max_limit` set to the maximum of 1000 by default. The other settings `recieve_timeout`, `send_timeout` and `connect_timeout` are for HTTPS transfer sessions and are set with values in seconds.

Usage

```
mantaGetLimits(all = TRUE, durability_level = FALSE,
  connect_timeout = FALSE, send_timeout = FALSE,
  receive_timeout = FALSE, max_limit = FALSE,
  json = FALSE)
```

Arguments

<code>all</code>	logical, optional. Get all limits values
<code>durability_level</code>	logical, optional. Get durability level.
<code>connect_timeout</code>	logical, optional. Get connect timeout.
<code>send_timeout</code> ,	logical, optional. Get send timeout.
<code>receive_timeout</code> ,	logical, optional. Get recieve timeout.
<code>max_limit</code>	logical, optional. Get the maximum number of directory entries transferred in one HTTPS call (upper limit 1000 is the default)
<code>json</code>	logical, optional. Set TRUE to return values in JSON

Value

JSON or R values as specified.

See Also

`mantaSetLimits`

Other `mantaAccount`: `mantaAccount`, `mantaSetLimits`, `mantaWhoami`

Examples

```
## Not run:
## Save all current settings with:
limits <- mantaGetLimits(all = TRUE)
limits
## Change one or all settings, set with:
mantaSetLimits(limits)

## End(Not run)
```

mantagetnames	<i>mantaLs and mantaFind callback</i>
---------------	---------------------------------------

Description

mantaLs and mantaFind callback

Usage

```
mantagetnames(line)
```

Arguments

line	R structured directory line
------	-----------------------------

mantagetsize	<i>mantaLs and mantaFind callback</i>
--------------	---------------------------------------

Description

mantaLs and mantaFind callback

Usage

```
mantagetsize(line)
```

Arguments

line	R structured directory line
------	-----------------------------

mantagettime	<i>mantaLs and mantaFind callback</i>
--------------	---------------------------------------

Description

mantaLs and mantaFind callback

Usage

```
mantagettime(line)
```

Arguments

line	R structured directory line
------	-----------------------------

mantaGetwd	<i>Gets current working directory on Manta.</i>
------------	---

Description

The current working directory is stored internally in mantaRSDK on your local system and is not saved. between sessions. It initializes to the root directory of private Manta storage: `~/stor`.

Usage

```
mantaGetwd()
```

See Also

Other Directory: `mantaMkdir`, `mantaRm`, `mantaRmdir`, `mantaSetwd`, `mantaSetwd.public`, `mantaSetwd.reports`, `mantaSetwd.stor`, `mantaSnapln`

Examples

```
## Not run:
## Manta working directory
mantaGetwd()
mantaGetwd() -> tempdir
mantaSetwd.public()
mantaLs.l()
mantaSetwd(tempdir)

## End(Not run)
```

mantaInitialize	<i>Initialize Manta user variables, check SSH key file exists.</i>
-----------------	--

Description

Not Exported. Initialization of manta_globals with environment variables checks SSH private key file, sets manta cwd to ~/stor.

Usage

```
mantaInitialize(useEnv = TRUE)
```

Arguments

useEnv	logical: TRUE unless called from mantaAccount - skips getting env/system settings.
--------	--

Value

TRUE or FALSE on warn, stop on errors: missing env variables, SSH key.

mantaJob.cancel	<i>Sends Manta a cancel message to stop running job.</i>
-----------------	--

Description

Sends Manta a cancel message to stop running job.

Usage

```
mantaJob.cancel(jobid)
```

Arguments

jobid	character optional. Manta job identifier such as "70c30bab-873b-66da-ebc8-ced12bd35a0". Default uses mantaJobs.tail to fetch the jobid of the last Manta Job run on the service.
-------	--

See Also

Other mantaJobs: mantaJob.done, mantaJob.errors, mantaJob.errors.stderr, mantaJob.failures, mantaJob.inputs, mantaJob.launch, mantaJob.outputs, mantaJob.outputs.cat, mantaJob.setup, mantaJob.status, mantaJobs, mantaJobs.running, mantaJobs.tail, mantaMap, mantaReduce

Examples

```
## Not run:
# Send cancel signal for last run Manta job.
mantaJob.cancel()

## End(Not run)
```

mantaJob.done	<i>Checks or polls status of a Manta job. Returns done or not as logical.</i>
---------------	---

Description

Checks or polls status of a Manta job. Returns done or not as logical.

Usage

```
mantaJob.done(jobid, poll = FALSE, sleep = 30,
              timeout = 600, silent = FALSE)
```

Arguments

jobid	character optional. Manta job identifier such as "70c30bab-873b-66da-ebc8-ced12bd35ac". Default uses <code>mantaJobs.tail</code> to fetch the jobid of the last Manta Job run on the service
poll	logical. Set to TRUE to poll. Returns FALSE when poll timeout exceeded and job still running, TRUE when job finished.
sleep	integer. Sleep interval used when polling. Default is 30 seconds.
timeout	integer. Seconds after which function stops polling. Default is 600 seconds.
silent	logical required. Set to TRUE for non-interactive use of the function. N.B. Errors are logged to the bunyan buffer.

Value

TRUE when job is no longer running.
 FALSE when job running.
 NULL if job status not found.
 N.B. TRUE return does not imply job success/failure/errors, only running/done state.

See Also

Other `mantaJobs`: `mantaJob.cancel`, `mantaJob.errors`, `mantaJob.errors.stderr`, `mantaJob.failures`, `mantaJob.inputs`, `mantaJob.launch`, `mantaJob.outputs`, `mantaJob.outputs.cat`, `mantaJob.setup`, `mantaJob.status`, `mantaJobs`, `mantaJobs.running`, `mantaJobs.tail`, `mantaMap`, `mantaReduce`

Examples

```
## Not run:
## Test if last run job is done
mantaJob.done()
## Poll a running job till done or timed out.
mantaJob.done(poll = TRUE, sleep = 10, timeout = 60)

## End(Not run)
```

mantaJob.errors	<i>Returns JSON Manta error messages given Manta job identifier.</i>
-----------------	--

Description

JSON error message return values:

Name : Type. Description.

id : String. Job id.

phase : Number. Phase number of the failure.

what : String. A human readable summary of what failed.

code : String. Programmatic error code.

message : String. Human readable error message.

stderr : String (optional). A key that saved the stderr for the given command.

key : String (optional). The input key being processed when the task failed (if the service can determine it).

Usage

```
mantaJob.errors(jobid, readable = TRUE)
```

Arguments

jobid	character optional. Manta job identifier such as "70c30bab-873b-66da-ebc8-ced12bd35a". Default uses <code>mantaJobs.tail</code> to fetch the jobid of the last Manta Job run on the service.
readable	logical. Set to FALSE to return the JSON error strings, or NULL if no errors found. Default TRUE pretty prints JSON to the console.

See Also

Other mantaJobs: `mantaJob.cancel`, `mantaJob.done`, `mantaJob.errors.stderr`, `mantaJob.failures`, `mantaJob.inputs`, `mantaJob.launch`, `mantaJob.outputs`, `mantaJob.outputs.cat`, `mantaJob.setup`, `mantaJob.status`, `mantaJobs`, `mantaJobs.running`, `mantaJobs.tail`, `mantaMap`, `mantaReduce`

Examples

```
## Not run:
## Check if the last run Manta job had errors:
mantaJob.errors()

## End(Not run)
```

```
mantaJob.errors.stderr
```

Retrieves stderr messages given Manta job identifier.

Description

When you run a Manta job, any errors that the UNIX command attempted that are written to `stderr` are archived. This function retrieves the JSON errors messages and then all `stderr` message archives for each process, then uses `mantaCat` to print contents of each `stderr` message to the console.

Usage

```
mantaJob.errors.stderr(jobid)
```

Arguments

<code>jobid</code>	character optional. Manta job identifier such as "70c30bab-873b-66da-ebc8-ced12bd35ac". Default uses <code>mantaJobs.tail</code> to fetch the jobid of the last Manta Job run on the service
--------------------	--

See Also

Other `mantaJobs`: `mantaJob.cancel`, `mantaJob.done`, `mantaJob.errors`, `mantaJob.failures`, `mantaJob.inputs`, `mantaJob.launch`, `mantaJob.outputs`, `mantaJob.outputs.cat`, `mantaJob.setup`, `mantaJob.status`, `mantaJobs`, `mantaJobs.running`, `mantaJobs.tail`, `mantaMap`, `mantaReduce`

Examples

```
## Not run:
# Show all stderr messages emitted by processes of last run Manta job.
mantaJob.errors.stderr()

## End(Not run)
```

```
mantaJob.failures
```

Returns list of failures given Manta job identifier.

Description

Returns list of failures given Manta job identifier.

Usage

```
mantaJob.failures(jobid)
```

Arguments

<code>jobid</code>	character optional. Manta job identifier such as "70c30bab-873b-66da-ebc8-ced12bd35ac". Default uses <code>mantaJobs.tail</code> to fetch the jobid of the last Manta Job run on the service.
--------------------	---

See Also

Other mantaJobs: mantaJob.cancel, mantaJob.done, mantaJob.errors, mantaJob.errors.stderr, mantaJob.inputs, mantaJob.launch, mantaJob.outputs, mantaJob.outputs.cat, mantaJob.setup, mantaJob.status, mantaJobs, mantaJobs.running, mantaJobs.tail, mantaMap, mantaReduce

Examples

```
## Not run:
## Check if the last run Manta job had failures:
mantaJob.failures()

## End (Not run)
```

mantaJob.inputs	<i>Returns list of input Manta objects given Manta job identifier.</i>
-----------------	--

Description

Returns list of input Manta objects given Manta job identifier.

Usage

```
mantaJob.inputs(jobid)
```

Arguments

jobid	character optional. Manta job identifier such as "70c30bab-873b-66da-ebc8-ced12bd35ac". Default uses mantaJobs.tail to fetch the jobid of the last Manta Job run on the service.
-------	--

See Also

Other mantaJobs: mantaJob.cancel, mantaJob.done, mantaJob.errors, mantaJob.errors.stderr, mantaJob.failures, mantaJob.launch, mantaJob.outputs, mantaJob.outputs.cat, mantaJob.setup, mantaJob.status, mantaJobs, mantaJobs.running, mantaJobs.tail, mantaMap, mantaReduce

Examples

```
## Not run:
## See the list of of the last run Manta job inputs:
mantaJob.inputs()

## End (Not run)
```

mantaJob.launch	<i>The interface from which compute Jobs are launched.</i>
-----------------	--

Description

Submits R format Manta Job specification, runs Job, sends `inputs` if specified, closes `inputs`, polls Job status, returns Job status JSON.

Usage

```
mantaJob.launch(inputs, job, batchsize = 500,
  watch = TRUE, sleep = 15, watchtimeout = 600,
  silent = FALSE, verbose = FALSE)
```

Arguments

<code>inputs</code>	vector of character optional. List of <code>inputs</code> as a vector of character, each containing valid paths to Manta objects as the intended job input files. You may use output from <code>mantaFind</code> or <code>mantaLs.paths</code> here. If you have no <code>inputs</code> , your initial Job task must be a <code>mantaReduce</code> step.
<code>job</code>	required. The R job structure as created with <code>mantaJob.setup</code> and Map and Reduce job tasks as defined therein by one or more <code>mantaMap</code> and/or <code>mantaReduce</code> steps. More information and parameters are explained in the help for these three functions.
<code>batchsize</code>	numeric. Maximum number of input object paths to upload in one batch to the running job. This function sends <code>inputs</code> in batches until they are all sent. Default is 500.
<code>watch</code>	logical. When TRUE calls <code>mantaJob.done</code> in polling mode, after job is initiated, sleeping for for <code>sleep</code> seconds up to the duration of the <code>watchtimeout</code> value in seconds. This causes the function to wait until the job is done to return, or until timed out. Timeout does not imply job success or failure.
<code>sleep</code>	integer. Number of seconds to wait between status requests in polling mode when <code>watch</code> is TRUE. Default is 15 seconds.
<code>watchtimeout</code>	integer. Number of seconds after which polling ends. Passed to <code>mantaJob.done</code> when <code>watch</code> is set to TRUE. Default is 10 minutes (600 seconds).. If <code>watchtimeout</code> is exceeded, it means the job is still running or queued on Manta. <code>mantaJob.done(poll = TRUE)</code> or <code>mantaJob.status</code> can be called afterward for more monitoring.
<code>silent</code>	logical. Supress console messages, does not affect verbose setting.
<code>verbose</code>	logical optional. Passed to RCURL to reveal HTTP communication.

Details

Job is created by `mantaJob.setup` and tasks as defined therein by `mantaMap`, and/or `mantaReduce` functions. Note that Manta tasks are UNIX shell commands, not native R commands.

Value

Returns a Manta status JSON structure. The Manta Job identifier is the "id": field - like this "70c30bab-873b-66da-ebc8-ced12bd35ac4". This value is the `jobid` parameter to be used used by other `mantaJob` functions for `inputs`, `status`, `errors` and `outputs` as Job lookup key. This key can also be used by Node.js Manta command-line `mjob` commands.

See Also

Other mantaJobs: mantaJob.cancel, mantaJob.done, mantaJob.errors, mantaJob.errors.stderr, mantaJob.failures, mantaJob.inputs, mantaJob.outputs, mantaJob.outputs.cat, mantaJob.setup, mantaJob.status, mantaJobs, mantaJobs.running, mantaJobs.tail, mantaMap, mantaReduce

Examples

```
## Not run:
## Example - Map/Reduce Unix Word Count

## Part 1.
## Job to download all of Shakespeare's plays to your account
plays <-
c("1kinghenryiv.txt", "1kinghenryvi.txt", "2kinghenryiv.txt",
  "2kinghenryvi.txt", "3kinghenryvi.txt", "allswellthatendswell.txt",
  "antonyandcleopatra.txt", "asyoulikeit.txt", "comedyoferrors.txt",
  "coriolanus.txt", "cymbeline.txt", "hamlet.txt", "juliuscaesar.txt",
  "kinghenryv.txt", "kinghenryviii.txt", "kingjohn.txt", "kinglear.txt",
  "kingrichardii.txt", "kingrichardiii.txt", "loverscomplaint.txt",
  "loveslabourslost.txt", "macbeth.txt", "measureforemeasure.txt",
  "merchantofvenice.txt", "merrywivesofwindsor.txt",
  "midsummersnightsdream.txt",
  "muchadoaboutnothing.txt", "othello.txt", "periclesprinceof tyre.txt",
  "rapeoflucrece.txt", "romeoandjuliet.txt", "sonnets.txt",
  "tamingoftheshrew.txt",
  "tempest.txt", "timonofathens.txt", "titusandronicus.txt",
  "troilusandcressida.txt",
  "twelfthnight.txt", "twogentlemenofverona.txt", "various.txt",
  "venusandadonis.txt", "winterstale.txt")

file <- file("plays_list.txt", "wb")
# Important: This forces Windows to use /n instead of /r/n on write()
write(plays, file)
close(file)
rm(file)

mantaSetwd.stor()
mantaPut("plays_list.txt")

inputlist <- mantaLs.paths(grepfor = "plays_list.txt")

mantaMkdir("shakespeare")
mantaSetwd("shakespeare")
fileslocation <-
"https://us-east.manta.joyent.com/cwvhogue/public/shakespeare/"
destination <- mantaGetwd()
mantaJob.setup("Get Plays",
  mantaMap(paste("xargs -I {} sh -c 'curl -ksL ",
    fileslocation,
    "{} | mput ",
    destination,
    "/{}'",
    sep="")) -> moveplays

## Launch the first job to download the plays:
```

```

mantaJob.launch(inputlist, moveplays)

## See if they arrived.
mantaIs()
mantaIs.n()
mantaIs.du()

## Copy all the plays to your local drive?
# mantaGet(mantaFind())

## Speedread all of Shakespeare?
# mantaCat(mantaFind())

## Part 2.
## Map/Reduce Count all the words with wc and awk

inputs <- mantaFind()
job <- mantaJob.setup(
  name = "Word Count",
  mantaMap("wc"),
  mantaReduce("awk '{ l += $1; w += $2; c += $3 } END { print l, w, c }'")
)

mantaJob.launch(inputs, job) -> status
## Getting Job Results:
## These functions find the last Job run if no jobid provided.
# mantaJob.status() ## check to see if job is complete, as JSON information
# mantaJob.done()   ## returns logical job done (TRUE/FALSE)
# mantaJob.inputs() ## returns list of inputs
mantaJob.outputs() ## retrieve list of paths to Manta output objects
# mantaJob.errors() ## retrieve JSON formatted job error information
mantaJob.outputs.cat() ## Print job output (text files) to console
# mantaJob.errors.stderr() ## Print any stderr messages to console

## End(Not run)

```

mantaJob.outputs *Returns list of output Manta objects given Manta job identifier.*

Description

Outputs have hashed file names as saved by the Manta service.

Usage

```
mantaJob.outputs(jobid, silent = FALSE)
```

Arguments

jobid	character optional. Manta job identifier such as "70c30bab-873b-66da-ebc8-ced12bd35a". Default uses <code>mantaJobs.tail</code> to fetch the jobid of the last Manta Job run on the service.
silent	logical required. Set to TRUE for non-interactive use of the function to suppress stop on Manta Service error messages, and return an empty data set. N.B. Errors are logged and in the bunyan buffer.

See Also

Other mantaJobs: mantaJob.cancel, mantaJob.done, mantaJob.errors, mantaJob.errors.stderr, mantaJob.failures, mantaJob.inputs, mantaJob.launch, mantaJob.outputs.cat, mantaJob.setup, mantaJob.status, mantaJobs, mantaJobs.running, mantaJobs.tail, mantaMap, mantaReduce

Examples

```
## Not run:
## List the outputs of the last job run on Manta:
mantaJob.outputs()
## Download the output files of the last job run on Manta, to current R working
## directory, keeping hashed filenames.
mantaGet(mantaJob.outputs())

## End(Not run)
```

```
mantaJob.outputs.cat
```

Prints contents of all job output objects to the R console.

Description

Avoid using this on binary output data.

Usage

```
mantaJob.outputs.cat(jobid)
```

Arguments

jobid	character optional. Manta job identifier such as "70c30bab-873b-66da-ebc8-ced12bd35ac". Default uses mantaJobs.tail to fetch the jobid of the last Manta Job run on the service.
-------	--

See Also

Other mantaJobs: mantaJob.cancel, mantaJob.done, mantaJob.errors, mantaJob.errors.stderr, mantaJob.failures, mantaJob.inputs, mantaJob.launch, mantaJob.outputs, mantaJob.setup, mantaJob.status, mantaJobs, mantaJobs.running, mantaJobs.tail, mantaMap, mantaReduce

Examples

```
## Not run:
## Print all the output files to the console.
mantaJob.outputs.cat()

## End(Not run)
```

mantaJob.setup	<i>Constructor for R format Manta Job including name, and UNIX command line tasks as defined by mantaMap, and/or mantaReduce functions.</i>
----------------	---

Description

Function to construct R structure for `mantaJob.launch`. Specify a name for the Manta job and tasks to execute via one or more calls to `mantaMap` and/or `mantaReduce` which define and parameterize each task.

Usage

```
mantaJob.setup(name, ...)
```

Arguments

name	character, optional.
...	One or more <code>mantaMap</code> <code>mantaReduce</code> functions with arguments listed in order of task execution.

Details

`mantaJob.setup` combines multiple tasks into a job pipeline structure for `mantaJob.launch`. See `mantaMap` and `mantaReduce` for parameter details. Their `exec` parameter must be a valid generic UNIX command line, not an R function.

See Also

Other mantaJobs: `mantaJob.cancel`, `mantaJob.done`, `mantaJob.errors`, `mantaJob.errors.stderr`, `mantaJob.failures`, `mantaJob.inputs`, `mantaJob.launch`, `mantaJob.outputs`, `mantaJob.outputs.cat`, `mantaJob.status`, `mantaJobs`, `mantaJobs.running`, `mantaJobs.tail`, `mantaMap`, `mantaReduce`

Examples

```
## Not run:
## Map/Reduce Unix Word Count Job description
job <- mantaJob.setup("Word Count",
  mantaMap("wc"),
  mantaReduce("awk '\{ l += $1; w += $2; c += $3 \} END \{ print l, w, c \}'"))
## Launch the Job with some text files as input:
inputs <- mantaLs.paths("~/stor/shakespeare", grepfor = "[.]txt")
mantaJob.launch(inputs, job)
## Check output
mantaJob.outputs()
## Check errors
mantaJob.errors()

## End(Not run)
```

<code>mantaJob.status</code>	<i>Returns JSON Manta job status data given Manta job identifier.</i>
------------------------------	---

Description

Returns JSON Manta job status data given Manta job identifier.

Usage

```
mantaJob.status(jobid, readable = TRUE)
```

Arguments

<code>readable</code>	logical. Set to <code>FALSE</code> to return the JSON Job as <code>character()</code> , or <code>NULL</code> if no Job status found. Default <code>TRUE</code> pretty prints JSON Job status to the console.
<code>jobid</code>	character optional. Manta job identifier such as "70c30bab-873b-66da-ebc8-ced12bd35ac". Default uses <code>mantaJobs.tail</code> to fetch the jobid of the last Manta Job run on the service.

See Also

Other `mantaJobs`: `mantaJob.cancel`, `mantaJob.done`, `mantaJob.errors`, `mantaJob.errors.stderr`, `mantaJob.failures`, `mantaJob.inputs`, `mantaJob.launch`, `mantaJob.outputs`, `mantaJob.outputs.cat`, `mantaJob.setup`, `mantaJobs`, `mantaJobs.running`, `mantaJobs.tail`, `mantaMap`, `mantaReduce`

Examples

```
## Not run:
## Retrieve JSON status of the last run Manta job:
mantaJob.status(readable = FALSE) -> status
## Show JSON status of last run Manta job:
mantaJob.status()

## End(Not run)
```

<code>mantaJobs</code>	<i>Lists all Manta job identifiers, sorted by time.</i>
------------------------	---

Description

Clean out your Manta job directory regularly to avoid paying storage costs and having the archive grow to large numbers of files.

Usage

```
mantaJobs()
```


See Also

Other mantaJobs: mantaJob.cancel, mantaJob.done, mantaJob.errors, mantaJob.errors.stderr, mantaJob.failures, mantaJob.inputs, mantaJob.launch, mantaJob.outputs, mantaJob.outputs.cat, mantaJob.setup, mantaJob.status, mantaJobs.running, mantaJobs.tail, mantaMap, mantaReduce

Examples

```
## Not run:
## List all the Manta jobs you have run so far:
mantaJobs()

## End(Not run)
```

mantaJobs.running *Lists identifiers of any running Manta jobs.*

Description

Lists identifiers of any running Manta jobs.

Usage

```
mantaJobs.running()
```

See Also

Other mantaJobs: mantaJob.cancel, mantaJob.done, mantaJob.errors, mantaJob.errors.stderr, mantaJob.failures, mantaJob.inputs, mantaJob.launch, mantaJob.outputs, mantaJob.outputs.cat, mantaJob.setup, mantaJob.status, mantaJobs, mantaJobs.tail, mantaMap, mantaReduce

Examples

```
## Not run:
## List any running Manta jobs:
mantaJobs.running()

## End(Not run)
```

mantaJobs.tail *Returns identifier of last run Manta job identifier, or from offset n up from end of list.*

Description

Returns identifier of last run Manta job identifier, or from offset n up from end of list.

Usage

```
mantaJobs.tail(n = 1)
```

Arguments

n integer. Index into most recently run Jobs list. n = 1 default is last Manta Job run. n = 2 is second last, and so on.

See Also

Other mantaJobs: mantaJob.cancel, mantaJob.done, mantaJob.errors, mantaJob.errors.stderr, mantaJob.failures, mantaJob.inputs, mantaJob.launch, mantaJob.outputs, mantaJob.outputs.cat, mantaJob.setup, mantaJob.status, mantaJobs, mantaJobs.running, mantaMap, mantaReduce

Examples

```
## Not run:
## Get the Job Id of the last run Manta job:
mantaJobs.tail()
## Fifth last Manta job id:
mantaJobs.tail(n = 5)

## End (Not run)
```

mantaliststyle	<i>mantaLs and mantaFind callback</i>
----------------	---------------------------------------

Description

mantaLs and mantaFind callback

Usage

```
mantaliststyle(line)
```

Arguments

line R structured directory line

mantaLoad	<i>Downloads specified Manta object containing R data and uses R function load.</i>
-----------	---

Description

Used to download .rda .Rdata files and load their R data into the workspace or specified envir.

Usage

```
mantaLoad(mantapath, envir = parent.frame(), info = TRUE,
          verbose = FALSE)
```

Arguments

mantapath	character, optional. Path to a manta R data file or file name in current working Manta directory for retrieval. Not vectorized.
envir	optional. Environment in which to load, See load.
info	optional. Print information messages to console.
verbose	logical, optional. Passed to RCurl GetURL, Set to TRUE to see background REST communication on stderr Note this is invisible on Windows.

Details

Checks for appropriate `content-type` HTTP header, which is set by `mantaSave` or `mantaSave.ws` to `"application/x-r-data"`.

Value

TRUE or FALSE depending on success of download.

See Also

`mantaSave`

Other `mantaGet`: `mantaCat`, `mantaGet`, `mantaLoad.ws`, `mantaSave`, `mantaSource`

Examples

```
## Not run:
somedata <- runif(100)
ls()
mantaSave("somedata", mantapath = "~/stor/somedata.rda")
rm(somedata)
mantaLoad("somedata.rda")
ls()

## End(Not run)
```

`mantaLoad.ws`

Loads last current R workspace from Manta R workspace directory.

Description

Downloads Manta `"current.Rdata"` object stored in users' workspace directory containing R workspace and uses R function `load` to load the R workspace.

Usage

```
mantaLoad.ws(envir = parent.frame())
```

Arguments

`envir` optional. Environment in which to load, See `load`.

Details

Together with `mantaSave.ws` this function works from an audit trail of workspaces maintained in a Manta subdirectory created by `mantaSave.ws` made by R version and `mantaRSDK` client hostname, that looks like these:

```
~/stor/R-3.0.1/cwvh-macbookpro/
~/stor/R-3.0.2/CHOGUE-HPDV7/
```

These workspace archive subdirectories are made by `mantaSave.ws`. The last saved R workspace from these two systems in each directory is named `"current.Rdata"`. Previously saved R workspaces are renamed to their original GMT creation date/time stamp on Manta and archived with SnapLinks before writing a new workspace.

Archived workspaces are named like this:

`"2014-01-07_14:53:05_GMT.Rdata"` To retrieve an older workspace or a workspace saved from a different `mantaRSDK` client and version, use this form:

```
mantaLoad("~/stor/R-3.0.0/hostname/2014-01-07_14:53:05_GMT.Rdata")
```

Checks for appropriate `content-type` HTTP header, which is set by `mantaSave` or `mantaSave.ws` to `"application/x-r-data"`.

Value

TRUE or FALSE depending on success of download.

See Also

`mantaSave.ws` `mantaLoad` `mantaSetwd.ws`

Other `mantaGet`: `mantaCat`, `mantaGet`, `mantaLoad`, `mantaSave`, `mantaSource`

Examples

```
## Not run:
somedata <- runif(100)
somechar <- "My current workspace"
ls()
mantaSave.ws()
rm(somedata)
rm(somechar)
mantaLoad.ws()
ls()
## What is my workspace subdirectory?
mantaGetwd() -> tempdir
mantaSetwd.ws()
mantaGetwd()    ## this one
mantaLs.l()     ## Inspect workspace archives
mantaSetwd(tempdir)

## End(Not run)
```

mantaLs

Lists, searches, filters, sorts and formats Manta directory listings.

Description

Used for getting disk size, number of objects, number of subdirectories. Searching for filenames with regular expressions (using R `grep`). Sorting listings by filename, time, or size.

Usage

```
mantaLs(mantapath, grepfor, json, l = "names",
        items = "a", sortby = "none", decreasing = FALSE,
        ignore.case = FALSE, perl = FALSE, verbose = FALSE,
        internal = FALSE)
```

Arguments

mantapath	character, optional. Current subdirectory set by mantaSetwd is used, otherwise specify full Manta path to subdirectory. Supports ~~ expansion to your Manta username, e.g. "~/public" and UTF-8 encoded characters.
grepfor	character optional. Regular expression for grep name search. Uses R regexps, N.B. use "[.]txt", not "*.txt" to match filename extensions.
json	optional. Input saved JSON data from mantaLs(format='json') used for reprocessing previously retrieved listings. Include previously specified mantapath if you wish to recover true paths.
l	character optional. Specifies listing output format by 'names', 'l', 'paths', 'URL', 'n', 'du', 'R' 'names' returns object/directory names. 'l' is a long unix ls -o style of directory listing. 'paths' is a listing of full Manta object pathnames. 'n' is the number of entries in the directory only. 'du' is the number of bytes used by objects (not counting redundancy levels!). 'R' is normalized R structures from JSON with size = 0 for directories, mtime in R time format. 'URL' is the browser format URL for objects, applies to ~/public objects only. 'Rraw' is R struct unparsed, unsorted, unnormalized, can convert back to json with toJSON. 'json' is exactly what the server replies - sorting/filtering are not applied.
items	character optional. 'a' for all, 'd' for directory, 'o' for object.
sortby	character, optional. Specify 'none', 'name', 'time', or 'size'.
decreasing	logical, optional. Argument passed to R order for sorting.
ignore.case	logical, optional. Argument passed to R grep for searching.
perl	logical, optional. Argument passed to R grep for searching.
verbose	logical, optional. Verbose HTTPS RCurl data output on Unix.
internal	logical, Internal use by mantaFind.

See Also

mantaFind

Other mantaLs: mantaExists, mantaLs.du, mantaLs.l, mantaLs.n, mantaLs.paths, mantaLs.url

Examples

```
## Not run:
## List names of all objects stored in the directory
```

```
## specified by mantaSetwd(),
mantaLs()

## List all objects ending in .jpg or .JPG
## in your Manta ~/public/images directory,
## Show a UNIX-like result sorted by file size:
mantaLs("~/public/images", l = 'l', items = 'o', grepfor = "[.]jpg",
ignore.case = TRUE, sortBy = 'size')

## Download all objects in current Manta directory, non recursive find:
#mantaGet(mantaLs.paths(items = 'o'))

## End(Not run)
```

mantaLs.du	<i>Returns disk used in bytes of directory listings, NOT counting redundancy levels</i>
------------	---

Description

Used for getting number of bytes occupied by objects matching directory query.

Usage

```
mantaLs.du(mantapath, grepfor, json, items = "a",
ignore.case = FALSE, perl = FALSE, verbose = FALSE)
```

Arguments

mantapath	character, optional. Current subdirectory set by mantaSetwd is used, otherwise specify full Manta path to subdirectory. Supports <code>~~</code> expansion to your Manta username, e.g. <code>"~/public"</code> and UTF-8 encoded characters.
grepfor	character optional. Regular expression for <code>grep</code> name search. Uses R regexps, N.B. use <code>"[.]txt"</code> , not <code>"*.txt"</code> to match filename extensions.
json	optional. Input saved JSON data from <code>mantaLs(format='json')</code> used for reprocessing previously retrieved listings. Include previously specified mantapath if you wish to recover true paths.
items	character optional. <code>'a'</code> for all, <code>'d'</code> for directory, <code>'o'</code> for object.
ignore.case	logical, optional. Argument passed to R <code>grep</code> for searching.
perl	logical, optional. Argument passed to R <code>grep</code> for searching.
verbose	logical, optional. Verbose HTTPS Rcurl data output on Unix.

See Also

mantaFind.du

Other mantaLs: mantaExists, mantaLs, mantaLs.l, mantaLs.n, mantaLs.paths, mantaLs.url

mantaLs.l	<i>Lists, searches, filters, sorts and formats Manta directory listings Output is long ls -o unix style of directory listing.</i>
-----------	---

Description

Used for listing Manta subdirectory. Uses current working Manta directory or one supplied in mantapath. Searches for filenames with regular expressions (using R `grep`). Sorts listings by filename, time, or size.

Usage

```
mantaLs.l(mantapath, grepfor, json, items = "a",
          sortby = "none", decreasing = FALSE,
          ignore.case = FALSE, perl = FALSE, verbose = FALSE)
```

Arguments

mantapath	character, optional. Current subdirectory set by <code>mantaSetwd</code> is used, otherwise specify full Manta path to subdirectory. Supports <code>~~</code> expansion to your Manta username, e.g. <code>~~/public</code> and UTF-8 encoded characters.
grepfor	character optional. Regular expression for <code>grep</code> name search. Uses R regexps, N.B. use <code>"[.]txt"</code> , not <code>"*.txt"</code> to match filename extensions.
json	optional. Input saved JSON data from <code>mantaLs(format='json')</code> used for reprocessing previously retrieved listings. Include previously specified mantapath if you wish to recover true paths.
items	character optional. 'a' for all, 'd' for directory, 'o' for object.
sortby	character, optional. Specify 'none', 'name', 'time', or 'size'.
decreasing	logical, optional. Argument passed to R <code>order</code> for sorting.
ignore.case	logical, optional. Argument passed to R <code>grep</code> for searching.
perl	logical, optional. Argument passed to R <code>grep</code> for searching.
verbose	logical, optional. Verbose HTTPS <code>RCurl</code> data output on Unix.

See Also

`mantaFind.l`

Other mantaLs: `mantaExists`, `mantaLs`, `mantaLs.du`, `mantaLs.n`, `mantaLs.paths`, `mantaLs.url`

mantaLs.n	<i>Returns number of files matched in Manta directory listing.</i>
-----------	--

Description

Used for getting number of objects/subdir in a directory. Default uses current Manta directory.

Usage

```
mantaLs.n(mantapath, grepfor, json, items = "a",
  ignore.case = FALSE, perl = FALSE, verbose = FALSE)
```

Arguments

mantapath	character, optional. Current subdirectory set by mantaSetwd is used, otherwise specify full Manta path to subdirectory. Supports <code>~~</code> expansion to your Manta username, e.g. " <code>~~/public</code> " and UTF-8 encoded characters.
grepfor	character optional. Regular expression for <code>grep</code> name search. Uses R regexps, N.B. use " <code>[.]txt</code> ", not " <code>*.txt</code> " to match filename extensions.
json	optional. Input saved JSON data from <code>mantaLs(format='json')</code> used for reprocessing previously retrieved listings. Include previously specified mantapath if you wish to recover true paths.
items	character optional. ' <code>a</code> ' for all, ' <code>d</code> ' for directory, ' <code>o</code> ' for object.
ignore.case	logical, optional. Argument passed to R <code>grep</code> for searching.
perl	logical, optional. Argument passed to R <code>grep</code> for searching.
verbose	logical, optional. Verbose HTTPS R <code>Curl</code> data output on Unix.

See Also

`mantaFind.n`

Other `mantaLs`: `mantaExists`, `mantaLs`, `mantaLs.du`, `mantaLs.l`, `mantaLs.paths`, `mantaLs.url`

mantaLs.paths	<i>Lists, searches, filters, sorts and formats Manta directory listings Output is full Manta pathnames of directory listing.</i>
---------------	--

Description

Searches for filenames with regular expressions (using R `grep`). Sorts listings by filename, time, or size. Use this dotted form of `mantaLs` for passing `mantapath` parameters into vectorized functions like `mantaJob.launch`, `mantaGet`, `mantaSnapln`, etc.

Usage

```
mantaLs.paths(mantapath, grepfor, json, items = "a",
  sortby = "none", decreasing = FALSE,
  ignore.case = FALSE, perl = FALSE, verbose = FALSE)
```


Arguments

<code>mantapath</code>	character, optional. Current subdirectory set by <code>mantaSetwd</code> is used, otherwise specify full Manta path to subdirectory. Supports <code>~~</code> expansion to your Manta username, e.g. " <code>~/public</code> " and UTF-8 encoded characters.
<code>grepfor</code>	character optional. Regular expression for <code>grep</code> name search. Uses R regexps, N.B. use " <code>[.]txt</code> ", not " <code>*.txt</code> " to match filename extensions.
<code>json</code>	optional. Input saved JSON data from <code>mantaLs(format='json')</code> used for reprocessing previously retrieved listings. Include previously specified <code>mantapath</code> if you wish to recover true paths.
<code>items</code>	character optional. <code>'a'</code> for all, <code>'d'</code> for directory, <code>'o'</code> for object.
<code>sortby</code>	character, optional. Specify <code>'none'</code> , <code>'name'</code> , <code>'time'</code> , or <code>'size'</code> .
<code>decreasing</code>	logical, optional. Argument passed to R <code>order</code> for sorting.
<code>ignore.case</code>	logical, optional. Argument passed to R <code>grep</code> for searching.
<code>perl</code>	logical, optional. Argument passed to R <code>grep</code> for searching.
<code>verbose</code>	logical, optional. Verbose HTTPS <code>RCurl</code> data output on Unix.

See Also

`mantaFind`

Other `mantaLs`: `mantaExists`, `mantaLs`, `mantaLs.du`, `mantaLs.l`, `mantaLs.n`, `mantaLs.url`

<code>mantaLs.url</code>	<i>Lists, searches, filters, sorts and formats Manta directory listings Output is URL path to <code>~/public</code> Manta objects in the specified subdirectory</i>
--------------------------	---

Description

Used for getting URLs for links to object in Manta `~/public` area. Searching for filenames with regular expressions (using R `grep`). Sorting listings by filename, time, or size.

Usage

```
mantaLs.url(mantapath, grepfor, json, items = "o",
            sortby = "none", decreasing = FALSE,
            ignore.case = FALSE, perl = FALSE, verbose = FALSE)
```

Arguments

<code>mantapath</code>	character, optional. Current subdirectory set by <code>mantaSetwd</code> is used, otherwise specify full Manta path to subdirectory. Supports <code>~~</code> expansion to your Manta username, e.g. " <code>~/public</code> " and UTF-8 encoded characters.
<code>grepfor</code>	character optional. Regular expression for <code>grep</code> name search. Uses R regexps, N.B. use " <code>[.]txt</code> ", not " <code>*.txt</code> " to match filename extensions.
<code>json</code>	optional. Input saved JSON data from <code>mantaLs(format='json')</code> used for reprocessing previously retrieved listings. Include previously specified <code>mantapath</code> if you wish to recover true paths.

items	character optional. 'a' for all, 'd' for directory, 'o' for object.
sortby	character, optional. Specify 'none', 'name', 'time', or 'size'.
decreasing	logical, optional. Argument passed to R order for sorting.
ignore.case	logical, optional. Argument passed to R grep for searching.
perl	logical, optional. Argument passed to R grep for searching.
verbose	logical, optional. Verbose HTTPS RCurl data output on Unix.

See Also

mantaFind.url

Other mantaLs: mantaExists, mantaLs, mantaLs.du, mantaLs.l, mantaLs.n, mantaLs.paths

mantaMap	<i>Constructor for R format Manta Job for Map Unix task.</i>
----------	--

Description

Helper function to construct R structure describing a Map task. To be used to satisfy the ... argument of mantaJob.setup and specify the Unix command line task, any initialization tasks, an array of Manta asset objects, and the memory/disk size to be used for the compute instance on Manta.

Usage

```
mantaMap(exec, init, assets, memory, disk)
```

Arguments

exec	character required. The Unix shell command to be executed in the Map task operating on the input Manta objects specified when the job is launched. exec may be any valid Unix shell command capable of running on the Manta compute node at execution time. Use the Node.js command mlogin to test out commands. Pipelines and shell syntax escaping and substitution are all supported. You can also execute your own programs stored as Manta objects by including them with the assets parameter and referencing them from the exec command from the /assets folder. See: http://apidocs.joyent.com/manta/jobs-reference.html for more details.
init	character optional. A Unix shell command executed prior to the exec command. Used to run initialization steps on the Manta compute node prior to task execution. init can also execute programs stored as Manta objects mounted as POSIX read-only files mounted at /assets. For example it can unpack a tar asset before running exec.
assets	array of character, optional. Specify Manta objects that are to be accessed by the compute node at job runtime. Include shell scripts, installation steps configuration steps, custom executables compiled for SmartOS, or tar files as you require here. At job runtime, each node will provide the specified Manta objects as POSIX files at the /assets directory for read-only access from your exec or

	<p><code>init</code> shell commands. For example a Manta object listed as an asset that lives at <code>~/stor/data.tgz</code> will be found by your script on the Manta compute node as a mounted read-only POSIX file at <code>/assets/~/stor/data.tgz</code> where <code>~~</code> is your Manta username.</p>
memory	<p>integer optional. Amount of memory requested for Manta compute node instance. 128, 256, 512, 1024, 2048, 8192, or 16384 are valid values in MB. Default is 1024 MB.</p>
disk	<p>integer optional. Amount of temporary working disk (not Manta storage space) to be used by the compute node when executing the task. Valid values are: 2, 4, 8, 16, 32, 64, 128, 256, 512, or 1024 GB. Default is 8 GB. Writeable disk on each compute node is found at the <code>/var/tmp</code> directory during <code>init</code> or <code>exec</code> job runtime. To save data from this space onto permanent Manta storage, use the Node.js command <code>mput</code> in your <code>exec</code> script to upload the files from <code>/var/tmp</code> onto Manta storage.</p>

Details

On Manta, a Map task phase executes a generic UNIX command given some input Manta object list which is specified in `mantaJob.launch`, which distributes the jobs to compute instances local to the Manta object location. The `exec` argument must be a valid generic UNIX command line, not an R function. The `exec` argument may call executables or runtime language scripts that are hosted on Manta and specified as `assets`. The `init` argument is called before the `exec` argument and is not passed input. The `init` argument may be used, for example to extract scripts from an asset on Manta saved as a `tar` file.

Value

Returns an R list describing a Map task phase for consumption by `mantaJob.setup`

See Also

Other `mantaJobs`: `mantaJob.cancel`, `mantaJob.done`, `mantaJob.errors`, `mantaJob.errors.stderr`, `mantaJob.failures`, `mantaJob.inputs`, `mantaJob.launch`, `mantaJob.outputs`, `mantaJob.outputs.cat`, `mantaJob.setup`, `mantaJob.status`, `mantaJobs`, `mantaJobs.running`, `mantaJobs.tail`, `mantaReduce`

Examples

```
## Not run:
# Example - Map/Reduce Unix Word Count
job <- mantaJob.setup("word count",
  mantaMap("wc"),
  mantaReduce("awk '{ l += $1; w += $2; c += $3 } END { print l, w, c }'"))

## End(Not run)
```

mantaMkdir	<i>Makes a Manta subdirectory, optionally with parent directories.</i>
------------	--

Description

Makes subdirectory on Manta. Specify absolute (e.g. `~/stor`) or relative path from the current Manta directory. Supports creation of parent directories with `p = TRUE`. New directories can be created in `~/stor` your private space or `~/public` a publically accessible HTTPS directory.

Usage

```
mantaMkdir(mantapath, p = FALSE, info = TRUE)
```

Arguments

<code>mantapath</code>	character, required. Path or name of new subdirectory to create. Not vectorized.
<code>p</code>	logical, optional. Make all the parent directories too.
<code>info</code>	logical. Set FALSE to suppress console messages.

Value

TRUE or FALSE depending on success of upload.

See Also

`mantaRmdir`

Other Directory: `mantaGetwd`, `mantaRm`, `mantaRmdir`, `mantaSetwd`, `mantaSetwd.public`, `mantaSetwd.reports`, `mantaSetwd.stor`, `mantaSnapln`

Examples

```
## Not run:
## Make absolute path subdirectory
mantaMkdir("~/stor/testdirectory")
mantaLs.l("~/stor")
mantaRmdir("~/stor/testdirectory")

## Make with parent directories,
mantaGetwd() -> tempdir
mantaMkdir("~/stor/a_test/b_test/c_test", p = TRUE)
mantaSetwd("~/stor/a_test/b_test/c_test")
mantaMkdir("d_test") # Relative path
data <- runif(100)
mantaDump("data")
mantaSetwd("..")
mantaDump("data")
mantaSetwd("..")
mantaDump("data")
mantaLs.l()
mantaFind()
## Recursive Rm Subdirectory Contents
mantaSetwd.stor()
```

```

mantaRm("~/stor/a_test", r = TRUE)
mantaSetwd("~/stor/a_test")
mantaLs.l()
mantaFind()
mantaSetwd.stor()
mantaRmdir("~/stor/a_test")
mantaLs.l("~/stor")
mantaSetwd(tempdir)

## End(Not run)

```

mantaPath	<i>Given a user typed path or object name, returns full path, does not validate object is there, assumes it is in current subdir. Not exported.</i>
-----------	---

Description

Given a user typed path or object name, returns full path, does not validate object is there, assumes it is in current subdir. Not exported.

Usage

```
mantaPath(m_path)
```

Arguments

m_path character, required. Manta object

Value

character with full Manta path to object or empty string "" as processed by curlEscape with / left in

mantaPut	<i>Uploads file(s) (vectorized), or raw R buffer data to Manta Storage Service.</i>
----------	---

Description

Transfers file, buffer to Manta Storage Object specified in mantapath. To save a file, specify the filename. It will go into the current working Manta directory with the same name unless absolute Manta path or relative object name is specified with the mantapath argument. To see the current directory on Manta use mantaGetwd, and mantaSetwd to change it.

Usage

```

mantaPut(filename, mantapath, buffer, md5 = FALSE,
          headers, info = TRUE, verbose = FALSE)

```

Arguments

<code>mantapath</code>	character, optional. Path to where uploaded data will go on Manta or Manta Object file name in current working Manta directory. If <code>mantapath</code> ends in "/" it is assumed to be specifying a Manta subdirectory and the filename portion is appended to it. Memory data uploads using <code>buffer</code> parameter require <code>mantapath</code> to have a destination file name at the end of the path with an extension for proper guessing of <code>Content-Type</code> header information.
<code>filename</code>	vector of character, optional. Path to local file to upload. If only a filename is given, assumes file is in path specified by <code>getwd</code> . Vectorized.
<code>buffer</code>	optional. Raw buffer of data to put. If <code>filename</code> is specified, <code>buffer</code> is ignored and <code>filename</code> contents are uploaded. Not vectorized.
<code>md5</code>	logical optional. Test md5 hash of file/raw buffer with OpenSSL before/after upload. TRUE by default, setting FALSE will speed up transfers a bit.
<code>headers</code>	optional. Headers including R structured metadata (up to 4k in user metadata) as array of named character E.g. <code>headers = c('content-type' = "image/jpg", 'x-durability-level' = "m-")</code> , E.g. <code>headers = c('content-type' = "x-chemical/x-pdb", 'm-molecule-class' = "m-")</code>
<code>info</code>	logical required. FALSE silences output messages while downloading.
<code>verbose</code>	logical, optional. Passed to <code>RCurl::GetURL</code> , Set to TRUE to see background REST communication on <code>stderr</code> Note this is not visible on Windows.

Details

To save a raw R buffer, pass the string with its name e.g. `buffer = "myRawBuffer"`

One limitation of the `mantaRSDK` is that it is not designed to handle large (multi-Gigabyte or larger) objects. Uploads - `mantaPut` - work from files, but Downloads - `mantaGet` - fill the R memory space to their completion before being written to a file. To download files larger than your R memory, use the Manta Node.js command line tool `mget`. The Node.js based Manta command line tools employ streams, so object size is not a limitation.

The Content-Type information metadata for the file is obtained using the `RCurl` library function `guessMIMEtype` on the filename extension provided, e.g. `.jpg` or it can be set by passing a `header` parameter, which is an `RCurl` style HTTP header - a list of named character values like this:

`header = c('content-type' = "image/jpg")`. The default Content-Type header is `"application/octet-stream"`. The number of copies (durability level) saved is by default 2. This can be changed by using headers like this:

`headers = c('x-durability-level' = 4)` for one-time use.

For larger operations use `mantaSetLimits` to change the default durability level for the current `mantaRSDK` session. The number of copies stored can range from 2 to 6. This function does not support streaming uploads, for that use the Node.js Manta command line interface (CLI). Other Manta operations involving HTTP conditional request semantics and CORS headers are not implemented in this R library, but can be used with the Node.js CLI which can be called from R with the `system2` command shell. `mantaPut` is a wrapper for `mantaXfer`, which implements the actual `RCURL` data upload.

Value

TRUE or FALSE depending on success of upload.

See Also

mantaGet

Other mantaPut: mantaDump, mantaSave.image, mantaSave.ws

Examples

```
## Not run:
## Save a static hello world HTML page
htmlpage <- paste("<!DOCTYPE html>\n<html>\n<body>\n\n",
                  "<h1>Hello from Joyent Manta.</h1>\n\n",
                  "<p>Hello world! from ",
                  mantaWhoami(),
                  ".</p>\n\n",
                  "</body>\n</html>", sep="")
file <- file("test_index.html", "wb")
write(htmlpage, file)
close(file)
rm(file)
rm(htmlpage)

## Upload the HTML file to Manta in your public area
mantaSetwd.public()
mantaPut("test_index.html")
mantaExists("test_index.html")
mantaCat("test_index.html")

ls()
buffer <- mantaGet("test_index.html", buffer = TRUE)
cat(rawToChar(buffer))

## Upload the raw buffer
mantaPut(mantapath = "~/public/buffer_index.html", buffer = buffer)
mantaLs.l(grepfor = "[.]html")
mantaCat("buffer_index.html")

## Check file metadata to see Content-type
mantaGet("test_index.html", metadata = TRUE)
mantaGet("buffer_index.html", metadata = TRUE)

## copy and paste URL into browser.
mantaLs.url("~/public", grepfor = "[.]html")

## Cleanup this demo
#mantaRm("~/public/test_index.html")
#mantaRm("~/public/buffer_index.html")
#file.remove("test_index.html")
#rm(buffer)

## End(Not run)
```

Description

Helper function to construct R structure describing a Reduce task. To be used to satisfy the ... argument of `mantaJob.setup` and specify the Unix command line task, any initialization tasks, an array of Manta filesystem `asset` files, and the memory/disk size to be used for the compute instance on Manta.

Usage

```
mantaReduce(exec, init, assets, reducers, memory, disk)
```

Arguments

<code>reducers</code>	integer. Number of reducers to use from 1 to 1024. Use with caution.
<code>exec</code>	character required. The Unix shell command to be executed in the Map task operating on the input Manta objects specified when the job is launched. <code>exec</code> may be any valid Unix shell command capable of running on the Manta compute node at execution time. Use the Node.js command <code>mlogin</code> to test out commands. Pipelines and shell syntax escaping and substitution are all supported. You can also execute your own programs stored as Manta objects by including them with the <code>assets</code> parameter and referencing them from the <code>exec</code> command from the <code>/assets</code> folder. See: http://apidocs.joyent.com/manta/jobs-reference.html for more details.
<code>init</code>	character optional. A Unix shell command executed prior to the <code>exec</code> command. Used to run initialization steps on the Manta compute node prior to task execution. <code>init</code> can also execute programs stored as Manta objects mounted as POSIX read-only files mounted at <code>/assets</code> . For example it can unpack a <code>tar</code> asset before running <code>exec</code> .
<code>assets</code>	array of character, optional. Specify Manta objects that are to be accessed by the compute node at job runtime. Include shell scripts, installation steps configuration steps, custom executables compiled for SmartOS, or <code>tar</code> files as you require here. At job runtime, each node will provide the specified Manta objects as POSIX files at the <code>/assets</code> directory for read-only access from your <code>exec</code> or <code>init</code> shell commands. For example a Manta object listed as an asset that lives at <code>~/stor/data.tgz</code> will be found by your script on the Manta compute node as a mounted read-only POSIX file at <code>/assets/~/stor/data.tgz</code> where <code>~~</code> is your Manta username.
<code>memory</code>	integer optional. Amount of memory requested for Manta compute node instance. 128, 256, 512, 1024, 2048, 8192, or 16384 are valid values in MB. Default is 1024 MB.
<code>disk</code>	integer optional. Amount of temporary working disk (not Manta storage space) to be used by the compute node when executing the task. Valid values are: 2, 4, 8, 16, 32, 64, 128, 256, 512, or 1024 GB. Default is 8 GB. Writeable disk on each compute node is found at the <code>/var/tmp</code> directory during <code>init</code> or <code>exec</code> job runtime. To save data from this space onto permanent Manta storage, use the Node.js command <code>mput</code> in your <code>exec</code> script to upload the files from <code>/var/tmp</code> onto Manta storage.

Details

On Manta, a Reduce task phase executes a generic UNIX command when specified in `mantaJob.launch`, or from the output pipelined from a previous step. Use `mantaReduce` to run a job that has no Manta object input data.

The `exec` argument must be a valid generic UNIX command line, not an R function. The `exec` argument may call executables or runtime language scripts that are hosted on Manta and specified as assets. The `init` parameter command is called before the `exec` argument and is not passed input. The `init` argument may be used, for example to extract scripts from an asset on Manta saved as a `tar` object.

Note that you do not have to specify the input for a Reduce task for `mantaJob.launch`, the service pipes the output of the previous Map task phase as input to the Reduce task. Note also that the piped input for a Reduce task may arrive in any order, no sorting is done by the service to the pipe between Map and Reduce tasks.

Value

Returns an R list for consumption by `mantaJob.setup`

See Also

Other `mantaJobs`: `mantaJob.cancel`, `mantaJob.done`, `mantaJob.errors`, `mantaJob.errors.stderr`, `mantaJob.failures`, `mantaJob.inputs`, `mantaJob.launch`, `mantaJob.outputs`, `mantaJob.outputs.cat`, `mantaJob.setup`, `mantaJob.status`, `mantaJobs`, `mantaJobs.running`, `mantaJobs.tail`, `mantaMap`

Examples

```
## Not run:
# Example - Map/Reduce Unix Word Count
job <- mantaJob.setup("word count",
  mantaMap("wc"),
  mantaReduce("awk '{ l += $1; w += $2; c += $3 } END { print l, w, c }'"))

## End(Not run)
```

`mantaRm`

Removes specified Manta object, optionally recursive, not vectorized.

Description

Removes object. Specify absolute (e.g. `~/stor/myobject.txt`) or relative path from the current Manta directory. Supports recursive removal of child contents objects and directories with `r = TRUE`. You can use `mantaFind` to prepare a list of absolute Manta pathnames to objects with detailed searching and filtering specifications and then use `lapply(pathnamelist, mantaRm)` to delete the items.

Usage

```
mantaRm(mantapath, r = FALSE, info = TRUE)
```

Arguments

<code>mantapath</code>	character, required. Not vectorized.
<code>r,</code>	logical optional. Set TRUE for recursive delete of all objects within all child subdirectories, and the directories.
<code>info</code>	logical. Set FALSE to suppress console messages.

Value

TRUE or FALSE depending on success of remove.

See Also

Other Directory: `mantaGetwd`, `mantaMkdir`, `mantaRmdir`, `mantaSetwd`, `mantaSetwd.public`, `mantaSetwd.reports`, `mantaSetwd.stor`, `mantaSnapln`

Examples

```
## Not run:
data <- runif(100)
mantaDump("data")
mantaCat("dumpdata.R")
mantaRm("dumpdata.R")

## Make a hierarchical directory set, for removal:
mantaGetwd() -> tempdir
mantaMkdir("~/stor/a_test/b_test/c_test", p = TRUE)
mantaSetwd("~/stor/a_test/b_test/c_test")
mantaMkdir("d_test") # Relative path
mantaDump("data")
mantaSetwd("../")
mantaDump("data")
mantaSetwd("../")
mantaDump("data")
mantaLs.l()
mantaFind()

## Recursive Rm Subdirectory Contents
mantaSetwd.stor()
mantaRm("~/stor/a_test", r = TRUE)
mantaSetwd("~/stor/a_test")
mantaLs.l()
mantaFind()
mantaSetwd.stor()
mantaRmdir("~/stor/a_test")
mantaLs.l("~/stor")
mantaSetwd(tempdir)

## End(Not run)
```

mantaRmdir	<i>Removes Manta subdirectory.</i>
------------	------------------------------------

Description

Removes specified Manta subdirectory. Non-recursive, not vectorized.

Usage

```
mantaRmdir(mantapath, info = TRUE)
```

Arguments

mantapath	character, required. Not vectorized.
info	logical. Set FALSE to suppress console messages.

Details

Removes directory. Specify absolute (e.g. `~/stor/myobject.txt`) or relative path from the current working Manta directory.

Value

TRUE or FALSE depending on success of remove.

See Also

Other Directory: `mantaGetwd`, `mantaMkdir`, `mantaRm`, `mantaSetwd`, `mantaSetwd.public`, `mantaSetwd.reports`, `mantaSetwd.stor`, `mantaSnapln`

Examples

```
## Not run:
## Save current working Manta directory
mantaGetwd() -> tempdir
## Relative mantapath use:
mantaSetwd.stor()
mantaMkdir("a_test")
mantaLs.l()
mantaRmdir("a_test")
mantaLs.l()
## Absolute mantapath use:
mantaMkdir("~/public/b_test")
mantaLs.l("~/public")
mantaRmdir("~/public/b_test")
mantaLs.l("~/public")
## Restore current working Manta directory
mantaSetwd(tempdir)

## End(Not run)
```

mantaRSDK

mantaRSDK

Description

R functions to transmit/receive native R data and files to the Manta Storage Service for object storage.

Manta jobs can compute on stored objects with Map/Reduce and UNIX shell commands in the cloud. Core functions communicate via the Manta REST API using RCurl. OpenSSL is required for authentication support, and must be installed separate from R.

To use this library you require a Joyent Manta account <http://www.joyent.com>

Configuration requires 3 environment variables \$MANTA_USER, \$MANTA_KEY, and \$MANTA_URL and your SSH keys as registered with Joyent.

FOR COMPLETE INSTALLATION INSTRUCTIONS - SEE:

<https://github.com/joyent/mantaRSDK/blob/master/README.md>

Details

Joyent Manta Storage Service R Software Development Kit

RSDK Functions

Manta Account Management

mantaAccount mantaWhoami mantaGetLimits mantaSetLimits

Manta Hierarchical Directory Operations

mantaGetwd mantaSetwd mantaSetwd.jobs mantaSetwd.public mantaSetwd.reports
mantaSetwd.stor mantaSetwd.ws mantaMkdir mantaRmdir mantaLs mantaLs.du
mantaLs.l mantaLs.n mantaLs.paths mantaLs.url mantaFind mantaFind.du
mantaFind.l mantaFind.n mantaFind.sizepath mantaFind.sizes mantaFind.url

Manta Object Store Operations

mantaExists mantaPut mantaGet mantaCat mantaRm mantaSnapln mantaDump
mantaSource mantaSave mantaLoad mantaSave.ws mantaLoad.ws

Manta Compute Job Operations

mantaJob.setup mantaMap mantaReduce mantaJob.launch mantaJob.status
mantaJob.done mantaJob.cancel mantaJob.errors mantaJob.errors.stderr
mantaJob.failures mantaJob.inputs mantaJob.outputs mantaJob.outputs.cat
mantaJobs mantaJobs.running mantaJobs.tail

Exposed Low Level Calls

mantaAttempt mantaXfer mantaSave.image

Useful Bunyan Debug/Log Utilities

bunyanSetLog bunyanBuffer bunyanTraceback

Details**Manta Account Management**`mantaAccount`**Changes current Manta account information.**`mantaWhoami`**Report the active Manta account settings.**`mantaGetLimits`**Returns Manta durability level, connection timeouts and limits currently active.**`mantaSetLimits`**Sets Manta durability level, connection timeouts and limits currently active.****Manta Hierarchical Directory Operations**`mantaGetwd`**Gets Manta working directory.**`mantaSetwd``mantaSetwd.public``mantaSetwd.stor``mantaSetwd.ws``mantaSetwd.jobs``mantaSetwd.reports`**Sets Manta working directory. Dotted forms are top-level (public, stor, jobs, reports) or workspace (as set by `mantaSave.ws`).**`mantaMkdir`**Makes a Manta subdirectory, optionally with parent directories.**`mantaRmdir`**Removes a Manta subdirectory.**`mantaLs``mantaLs.du``mantaLs.l``mantaLs.n``mantaLs.paths``mantaLs.url`**Lists, searches, filters, sorts and formats Manta directory listings. Dotted forms alter the format of the output. Numerical values are returned by n (number) and du (disk used).**`mantaFind``mantaFind.du``mantaFind.l``mantaFind.n``mantaFind.sizepath``mantaFind.sizes``mantaFind.url`**Recursive find tool for retrieving matching objects/subdirs from Manta hierarchy. Dotted forms alter the format of the output. Numerical values are returned by n (number) and du (disk used).****Manta Object Storage Operations**`mantaExists`**Tests to see if a Manta object or subdirectory exists.**`mantaPut`**Uploads file(s) (vectorized), or raw R buffer data to Manta Storage Service.**

`mantaGet`

Downloads Manta object(s) (vectorized) specified to file(s) or buffer.

`mantaCat`

Retrieves object from Manta and uses `cat` to print contents to the R console.

`mantaRm`

Removes specified Manta object, optionally recursive.

`mantaSnapln`

Makes a Snaplink - combination snapshot and symbolic link.

`mantaDump`

Uses `dump` to upload text parsable R data to Manta Storage Service.

`mantaSource`

Downloads specified Manta object and applies `source` to parse R code file.

`mantaSave`

Uploads R data to Manta Storage Service using R function `save`.

`mantaLoad`

Downloads specified Manta object containing R data and uses R function `load`.

`mantaSave.ws`

Saves R workspace to Manta R workspace directory with an audit trail of backups.

`mantaLoad.ws`

Loads last current R workspace from Manta R workspace directory.

Compute Job Operations

`mantaJob.setup`

`mantaMap`

`mantaReduce`

Constructors for R format Manta Job including name, and UNIX command line tasks as defined by `mantaMap`, and/or `mantaReduce` functions.

`mantaJob.launch`

Submits list of input Manta objects and R format Manta Job specification, runs job optionally polls job status. Returns job status.

`mantaJob.cancel`

Sends Manta a cancel message to stop running job.

`mantaJob.status`

Returns JSON Manta job status data given Manta job identifier.

`mantaJob.done`

Checks or polls status of a Manta job. Returns done or not as logical.

`mantaJob.errors`

Returns JSON Manta error messages given Manta job identifier.

`mantaJob.errors.stderr`

Retrieves JSON errors given Manta job identifier, then retrieves each `stderr` message archived on Manta (if any) and uses `mantaCat` to print contents of `stderr` to the console.

`mantaJob.failures`

Returns list of failures given Manta job identifier.

`mantaJob.inputs`

Returns list of input Manta objects given Manta job identifier.

`mantaJob.outputs`

Returns list of output Manta objects given Manta job identifier.

`mantaJob.outputs.cat`

Retrieves list of Manta output objects given Manta job identifier, then retrieves each object from Manta and uses `cat` to print contents to the R console.

`mantaJobs`

Lists all Manta job identifiers, sorted by time.

`mantaJobs.running`

Lists identifiers of any running Manta jobs.

`mantaJobs.tail`

Returns identifier of last run Manta job identifier, or from offset `n` up from end of list.

Exposed Low Level Calls

`mantaAttempt`

raw REST API Manta Caller with exception handling, used by many functions.

`mantaXfer`

raw REST API Manta Caller for `mantaPut` `mantaGet` and related data transfer routines.

`mantaSave.image`

Workspace Upload function that calls `R save.image`; used by `mantaSave.ws`.

Useful Bunyan Debug/Log Utilities

`bunyanSetLog`

Starts bunyan JSON message logging at supplied logging threshold to file or memory buffer.

`bunyanBuffer`

Returns memory buffer.

`bunyanTraceback`

Get messages from memory after last `bunyanSetpoint`

References

<http://apidocs.joyent.com/manta/>

`mantaSave`

Uploads R data to Manta Storage Service using R function `save`.

Description

Uploads to R data files `.rda` `.Rdata` `.RData` files. If no file extension is provided, `.rda` is appended. `mantaSave` is a wrapper for `save` and `mantaXfer`, which implements the RCURL upload.

Usage

```
mantaSave(..., list = character(),
  mantapath = stop("'mantapath' destination file or full path must be specified"),
  md5 = FALSE, headers, durability = 2, ascii = FALSE,
  version = NULL, envir = parent.frame(),
  compress = !ascii, compression_level,
  eval.promises = TRUE, precheck = TRUE, info = TRUE,
  verbose = FALSE)
```

Arguments

<code>...</code>	See <code>save</code> R objects to be saved
<code>list</code>	required. See <code>save</code> List of R objects to be saved.
<code>mantapath</code>	required. Path/filename to where uploaded data will go on Manta or Manta object/file name in current working Manta directory. If no extension is provided on the filename, or a non R data style extension <code>.rda</code> is appended to the end of the filename.
<code>md5</code>	logical. Test md5 hash of R data tempfile with OpenSSL before/after PUT transfer. Default is <code>TRUE</code> . Setting <code>FALSE</code> will speed up transfers a bit by skipping this step.
<code>headers</code>	optional. Headers for HTTPS transfer, in <code>RCurl</code> style. See <code>mantaPut</code> . User metadata headers may be provided, E.g.: Avoid supplying the <code>content-type</code> header, which is set to the R data type <code>"application/x-r-data"</code> , and the <code>durability-level</code> header which is handled via the <code>durability</code> parameter.
<code>durability</code>	optional. Number of copies to store on Manta (2-6). If not provided, uses saved value from <code>mantaSetLimits</code> , system default is 2.
<code>ascii</code>	optional. See <code>save</code> .
<code>version</code>	optional. See <code>save</code> .
<code>envir</code>	optional. See <code>save</code> . Environment of R object being passed.
<code>compress</code>	optional. See <code>save</code> .
<code>compression_level</code>	optional. See <code>save</code> .
<code>eval.promises</code>	optional. See <code>save</code> .
<code>precheck</code>	optional. See <code>save</code> .
<code>info</code>	logical required. Set to <code>FALSE</code> to silence output messages while downloading.
<code>verbose</code>	logical, optional. Passed to <code>RCurl GetURL</code> , Set to <code>TRUE</code> to see background REST communication on <code>stderr</code> . Note this is not visible on Windows.

Value

`TRUE` or `FALSE` depending on success of transfer.

See Also

`mantaLoad`

Other `mantaGet`: `mantaCat`, `mantaGet`, `mantaLoad`, `mantaLoad.ws`, `mantaSource`

Examples

```
## Not run:
data <- runif(100)
mantaSave("data", mantapath = "~/stor/data")
rm(data)
mantaExists("~/stor/data.rda")
mantaLoad("~/stor/data.rda")
ls()
rm(data)

## End(Not run)
```

mantaSave.image	<i>Workspace Upload function that uses R save.image.</i>
-----------------	--

Description

mantaSave.image uses mantaSave, mantaXfer, which implements the RCURL transfer. This function is wrapped by mantaSave.ws for audit trail management of current and time-stamped older R workspaces.

Usage

```
mantaSave.image(mantapath, md5 = TRUE, headers,
  durability = 2, version = NULL, ascii = FALSE,
  compress = !ascii, info = TRUE, verbose = FALSE)
```

Arguments

mantapath	required. Path/filename to where uploaded data will go on Manta or Manta object/file name in current working Manta directory. If no extension is provided on the filename, or a non R data style extension <code>.rda</code> is appended to the end of the filename.
md5	logical. Test md5 hash of R data tempfile with OpenSSL before/after PUT transfer. Default is TRUE. Setting FALSE will speed up transfers a bit by skipping this step.
headers	optional. Headers for HTTPS transfer, in RCurl style. See mantaPut. User metadata headers may be provided, E.g.: Avoid supplying the <code>content-type</code> header, which is set to the R data type <code>"application/x-r-data"</code> , and the <code>durability-level</code> header which is handled via the <code>durability</code> parameter.
durability	optional. Number of copies to store on Manta (2-6). If not provided, uses saved value from mantaSetLimits, system default is 2.
version	optional. See save.
ascii	optional. See save.
compress	optional. See save.
info	logical required. Set to FALSE to silence output messages while downloading.
verbose	logical, optional. Passed to RCurl GetURL, Set to TRUE to see background REST communication on stderr. Note this is not visible on Windows.

Value

TRUE or FALSE depending on success of upload.

See Also

mantaLoad mantaSave.ws mantaLoad.ws

Other mantaPut: mantaDump, mantaPut, mantaSave.ws

Examples

```
## Not run:
data <- runif(100)
myusername <- mantaWhoami()
ls()
mantaSave.image(mantapath = "~/stor/myworkspace")
rm(data)
rm(myusername)
mantaExists("~/stor/myworkspace.Rdata")
mantaLoad("~/stor/myworkspace.Rdata")
ls()
rm(data)
rm(myusername)
mantaRm("~/stor/myworkspace.Rdata")

## End(Not run)
```

mantaSave.ws	<i>Save current R workspace and uploads to a Manta R workspace directory with audit trail.</i>
--------------	--

Description

Uploads Manta "current.Rdata" object to an audit-trail workspace directory using mantaSave.image.

Usage

```
mantaSave.ws()
```

Details

Together with mantaLoad.ws this function works with an audit trail of workspaces maintained in a Manta subdirectory created by mantaSave.ws made by R version and mantaRSDK client hostname, that looks like these:

```
~/stor/R-3.0.1/cwvh-macbookpro/
~/stor/R-3.0.2/CHOGUE-HPDV7/
```

These workspace archive subdirectories are made by mantaSave.ws when first run.

The last saved R workspace from these two systems in each directory is named "current.Rdata".

Previously saved R workspaces are renamed to their original GMT creation date/time stamp on Manta and archived with SnapLinks before writing a new workspace.

Archived workspaces are named like this:

"2014-01-07_14:53:05_GMT.Rdata" To retrieve an older workspace or a workspace saved from a different mantaRSDK client and version, use this form:

```
mantaLoad("~/stor/R-3.0.0/hostname/2014-01-07_14:53:05_GMT.Rdata")
```

If you wish to save your workspace to a different location use mantaSave.image Adds appropriate content-type HTTP header, which is set to "application/x-r-data".

Value

TRUE or FALSE depending on success of download.

See Also

mantaSave.image mantaLoad mantaSetwd.ws mantaLoad.ws

Other mantaPut: mantaDump, mantaPut, mantaSave.image

Examples

```
## Not run:
somedata <- runif(100)
somechar <- "My current workspace"
ls()
mantaSave.ws()
rm(somedata)
rm(somechar)
mantaLoad.ws()
ls()
## What is my workspace subdirectory?
mantaGetwd() -> tempdir
mantaSetwd.ws()
mantaGetwd()    ## this one
mantaLs.l()     ## Inspect workspace archives
mantaSetwd(tempdir)

## End(Not run)
```

mantaSetLimits	<i>Sets Manta durability level, connection timeouts and limits currently active</i>
----------------	---

Description

Use mantaGetLimits to see the settings structure and default values. Pass a structure in R or JSON to mantaSetLimits to change values. This is where the Manta default connection parameters are changed, including the number of copies of an object stored on the Manta service "durability_level" which can be from 2 to 6, the number of directory entries retrieved in one HTTPS call max_limit which is set to the maximum of 1000 by default. The other settings recieve_timeout, sent_timeout and connect_timeout are for HTTPS transfer sessions and are set with values in seconds.

Usage

```
mantaSetLimits(limits, json, verbose = FALSE)
```

Arguments

limits	list, optional. New R limits values.
json	character, optional. New JSON limits values.
verbose	logical, optional. Show HTTPS traffic in RCURL and console output.

Value

logical TRUE if values changed FALSE if values unchanged

See Also

Other mantaAccount: mantaAccount, mantaGetLimits, mantaWhoami

Examples

```
## Not run:
## Save all current settings with:
limits <- mantaGetLimits(all = TRUE)
## Change one or all settings, set with:
mantaSetLimits(limits)

## End(Not run)
```

mantaSetwd	<i>Sets current working directory on Manta.</i>
------------	---

Description

This sets the current working directory in Manta. Supports `~~` expansion to `$MANTA_USER` setting, i.e. for my account `~~/stor` expands to `/cwhvogue/stor`. There are 4 top level Manta subdirectories:

`~~/stor` Your private storage.

`~~/public` Your public storage.

`~~/jobs` Your job archive.

`~~/reports` Your account report information.

Specify the full path (absolute) or start from current working directory (relative). All mantaRSDK functions assume unprefixed filenames are in the current working directory on Manta. To move UP one directory at a time use `".."` but note that `"../.."` forms are NOT supported as there are no parent directory `".."` object links on Manta. Returns FALSE if directory specified incorrect or if the directory does not exist. The current working directory is stored internally in mantaRSDK on your local system and is not saved. between sessions. It initializes to the root directory of private Manta storage: `~~/stor`.

Usage

```
mantaSetwd(mantapath)
```

Arguments

`mantapath` character, required. Absolute or relative subdirectory name to set to.

See Also

Other Directory: mantaGetwd, mantaMkdir, mantaRm, mantaRmdir, mantaSetwd.public, mantaSetwd.reports, mantaSetwd.stor, mantaSnapln

Examples

```
## Not run:
## Show current Manta working directory
mantaGetwd()
## Save current subdirectory
mantaGetwd() -> tempdir
## Absolute path with ~~ expansion
mantaSetwd("~/public")
mantaGetwd()
## Dotted forms for 4 top level subdirectories:
mantaSetwd.public()
mantaGetwd()
mantaLs.l()
mantaSetwd.stor()
mantaGetwd()
mantaLs.l()
mantaSetwd.jobs()
mantaGetwd()
mantaLs.l()
mantaSetwd.reports()
mantaGetwd()
mantaLs.l()
## Restore saved subdirectory
mantaSetwd(tempdir)

## End(Not run)
```

mantaSetwd.jobs	<i>Sets Manta working directory to ~/jobs</i>
-----------------	---

Description

Sets Manta working directory to ~/jobs

Usage

```
mantaSetwd.jobs()
```

mantaSetwd.public	<i>Sets current Manta working directory to ~/public</i>
-------------------	---

Description

See mantaSetwd.

Usage

```
mantaSetwd.public()
```

See Also

Other Directory: mantaGetwd, mantaMkdir, mantaRm, mantaRmdir, mantaSetwd, mantaSetwd.reports, mantaSetwd.stor, mantaSnapln

```
mantaSetwd.reports
```

Sets current Manta working directory to ~/reports

Description

See mantaSetwd.

Usage

```
mantaSetwd.reports()
```

See Also

Other Directory: mantaGetwd, mantaMkdir, mantaRm, mantaRmdir, mantaSetwd, mantaSetwd.public, mantaSetwd.stor, mantaSnapln

```
mantaSetwd.stor
```

Sets current Manta working directory to ~/stor

Description

See mantaSetwd.

Usage

```
mantaSetwd.stor()
```

See Also

Other Directory: mantaGetwd, mantaMkdir, mantaRm, mantaRmdir, mantaSetwd, mantaSetwd.public, mantaSetwd.reports, mantaSnapln

```
mantaSetwd.ws
```

*Sets the current Manta working directory to the R workspace.
E.g. ~/stor/R-3.0.1/myworkstation*

Description

Sets the current Manta working directory to the R workspace.
E.g. ~/stor/R-3.0.1/myworkstation

Usage

```
mantaSetwd.ws()
```

Value

logical.

mantaSnapln	<i>Makes a Snaplink - combination ZFS snapshot and Symbolic link.</i>
-------------	---

Description

As a persistent object store, there are no copy or move commands on Manta. Instead the `mantaSnapln` command is used to add an object's name into another subdirectory without physically moving data on the service. Internally the system takes a ZFS snapshot of the data and the new object entry is the snapshot. If the original data is overwritten, the SnapLink still points to the original snapshot. The R workspace audit trail used by `mantaSave.ws` and `mantaLoad.ws` is implemented using `mantaSnapln`.

Usage

```
mantaSnapln(from, to, info = TRUE)
```

Arguments

<code>from</code>	character, required. Object in current subdirectory or full Manta path to stored object. Vectorized.
<code>to</code>	character, required. Snaplink name in current subdirectory, existing Manta subdirectory or full Manta object path to the new SnapLink. If <code>from</code> is a vector of Manta paths, then <code>to</code> must specify a single valid Manta subdirectory.
<code>info</code>	logical. When FALSE suppresses messages on the console.

See Also

`mantaSave.ws` `mantaLoad.ws`

Other Directory: `mantaGetwd`, `mantaMkdir`, `mantaRm`, `mantaRmdir`, `mantaSetwd`, `mantaSetwd.public`, `mantaSetwd.reports`, `mantaSetwd.stor`

Examples

```
## Not run:
## Save a static hello world HTML page
htmlpage <- paste("<!DOCTYPE html>\n<html>\n<body>\n\n",
                  "<h1>Hello from Joyent Manta.</h1>\n\n",
                  "<p>Hello world! from ",
                  mantaWhoami(),
                  ".</p>\n\n",
                  "</body>\n</html>", sep="")
file <- file("test_index.html", "wb")
write(htmlpage, file)
close(file)
rm(file)
rm(htmlpage)

## Upload the HTML file to Manta in your private area
mantaSetwd.stor()
mantaPut("test_index.html")
mantaCat("test_index.html")
```

```
## Make it public
mantaMkdir("~/public/test")
mantaSnapln("test_index.html", "~/public/test")
mantaSnapln("test_index.html", "~/public/test/index.html")

## copy and paste URL into browser.
mantaLs.url("~/public/test", grepfor = "[.]html")

## Delete the original in private area
mantaRm("~/stor/test_index.html")
mantaExists("~/stor/test_index.html")

## Snaplink copies is still there in ~/public
mantaExists("~/public/test/test_index.html")
mantaExists("~/public/test/index.html")
mantaCat("~/public/test/index.html")

## Cleanup this demo
# mantaRm("~/public/test/index.html")
# mantaRm("~/public/test/test_index.html")
# mantaRmdir("~/public/test")
# file.remove("test_index.html")

## End(Not run)
```

mantaSource	<i>Downloads specified Manta R source code file and applies source to parse/load it.</i>
-------------	--

Description

Downloads specified Manta R source code file and applies source to parse/load it.

Usage

```
mantaSource(mantapath, local = FALSE, verbose = FALSE,
  max.deparse.length = 150,
  encoding = getOption("encoding"),
  keep.source = getOption("keep.source"))
```

Arguments

mantapath	character, optional. Path to a manta R code file or file name in current working Manta directory for retrieval. Not vectorized.
local	logical optional. See source.
verbose	logical, optional. Passed to RCurl GetURL, Set to TRUE to see background REST communication on stderr. Note this is not visible on Windows.
max.deparse.length	optional. See source.
encoding	optional. See source.
keep.source	optional. See source.

Value

TRUE or FALSE depending on success of download.

See Also

mantaDump

Other mantaGet: mantaCat, mantaGet, mantaLoad, mantaLoad.ws, mantaSave

Examples

```
## Not run:
data <- runif(100)
ls()
mantaDump("data")
rm(data)
mantaCat("dumpdata.R")
ls()
mantaSource("dumpdata.R")
ls()
mantaRm("dumpdata.R")
rm(data)

## End(Not run)
```

mantaunixstyle	<i>mantaLs and mantaFind callback - Unix like listings mimic of ln -o but some of this is static</i>
----------------	--

Description

mantaLs and mantaFind callback - Unix like listings mimic of ln -o but some of this is static

Usage

```
mantaunixstyle(line)
```

Arguments

line	R structured directory line
------	-----------------------------

mantaWhoami

Reports the active Manta account information.

Description

The active Manta account is initially obtained from environment variables `$MANTA_USER`, `$MANTA_KEY`, and `$MANTA_URL`. Retrieve account settings, data center as JSON with this function. Change/restore account settings with `mantaAccount`.

Usage

```
mantaWhoami(all = FALSE, user = TRUE, dc_url = FALSE,
            key_id = FALSE, ssl_key = FALSE, json = FALSE)
```

Arguments

<code>all</code>	logical, optional. TRUE returns all account settings.
<code>user</code>	logical, optional. TRUE by default to report Manta user.
<code>dc_url</code>	logical, optional. Set TRUE to get Manta data center.
<code>key_id</code>	logical, optional. Set TRUE to get the current key id.
<code>ssl_key</code>	logical, optional. Set TRUE to get the private key path.
<code>json</code>	logical, optional. Set TRUE to get JSON output

Value

JSON or R values as specified.

See Also

Other `mantaAccount`: `mantaAccount`, `mantaGetLimits`, `mantaSetLimits`

Examples

```
## Not run:
mantaWhoami()
## To see/save current account settings:
account <- mantaWhoami(all = TRUE)

## then use:

mantaAccount(account) ## to set the modified account

## Account information may contain 1-4 key-value pairs.

## To see/save current account settings as JSON:
account <- mantaWhoami(all = TRUE, json = TRUE)

## then use:

mantaAccount(json = account) to set that account
```

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

mantaXfer	<i>raw REST API Manta Caller for mantaPut mantaGet and related data transfer routines. Not exported.</i>
-----------	--

Description

Note getURL verbose = TRUE writes to stderr - invisible on Windows R.

Usage

```
mantaXfer(action, method, filename, buffer,
  returnmetadata = FALSE, returnbuffer = FALSE,
  md5 = FALSE, headers, verbose = FALSE)
```

Arguments

action	character, optional. curlEscaped path to a manta object.
method	character, required. "GET", or "PUT" or "HEAD"
filename	optional. Path to local file for PUT or GET
buffer	optional. Raw buffer to put.
returnmetadata	logical required. For GET function returns metadata.
returnbuffer	logical required. For GET function returns buffer.
md5	logical optional. Test md5 hash of data before/after transfer
headers,	array of named characters, optional. The headers follow the RCurl structure of vector of characters where HTTP header tags are the names, values as named characters, no semicolons or delimiters.
verbose	logical, optional. Passed to RCurl GetURL, Set to TRUE to see background REST communication on stderr which is invisible on Windows

Value

TRUE or FALSE depending on success of PUT transfer on GET buffer=TRUE it returns the downloaded buffer