

Package ‘notebookutils’

February 20, 2023

Title Dummy R APIs Used in 'Azure Synapse Analytics' for Local Developments

Version 1.5.1

Description

This is a pure dummy interfaces package which mirrors 'MsSparkUtils' APIs <<https://learn.microsoft.com/en-us/azure/synapse-analytics/spark/microsoft-spark-utilities? pivots=programming-language-r>> of 'Azure Synapse Analytics' <<https://learn.microsoft.com/en-us/azure/synapse-analytics/>> for R users, customer of Azure Synapse can download this package from CRAN for local development.

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Encoding UTF-8

RoxygenNote 7.2.3

Suggests knitr, rmarkdown

VignetteBuilder knitr

NeedsCompilation no

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Repository CRAN

Date/Publication 2023-02-20 11:00:05 UTC

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display	<i>Set the dataframe info which needs to be visualized.</i>
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Description

Set the dataframe info which needs to be visualized.

Usage

```
display(dataFrame, isSummary = FALSE)
```

Arguments

dataFrame	the dataframe that needs to be visualized.
isSummary	whether show summary info of the dataframe.

Value

No return value, show the first part of passed dataFrame.

Examples

```
data <- list(56,78,90,45,67)
df <- data.frame(t(sapply(data,c)))
display(df)
display(df, TRUE)
```

displayHTML

notebook.R: Utility for visualization Construct an specific html fragment to synapse notebook front-end for rendering based on user-input html content.

Description

notebook.R: Utility for visualization Construct an specific html fragment to synapse notebook front-end for rendering based on user-input html content.

Usage

```
displayHTML(content)
```

Arguments

content html content which user want to render

Value

No return value, print the content to mimic the render behavior when used in azure synapse runtime.

Examples

```
displayHTML('<b>Hello world!</b>')
```

```
mssparkutils.credentials.getConnectionStringOrCreds
```

Take linked service name as input and return connection string or credentials depending on the configuration of the linked service.

Description

Take linked service name as input and return connection string or credentials depending on the configuration of the linked service.

Usage

```
mssparkutils.credentials.getConnectionStringOrCreds(linkedService)
```

Arguments

linkedService Linked service name.

Value

A empty string used to mimic credentials returned by azure synapse runtime for linkedService.

Examples

```
mssparkutils.credentials.getConnectionStringOrCreds('AzureDataLakeStorage1')
```

```
mssparkutils.credentials.getFullConnectionString
```

Take linked service name as input and return full connection string with credentials.

Description

Take linked service name as input and return full connection string with credentials.

Usage

```
mssparkutils.credentials.getFullConnectionString(linkedService)
```

Arguments

linkedService Linked service name.

Value

A empty string used to mimic connection string returned by azure synapse runtime for linkedService.

Examples

```
mssparkutils.credentials.getConnectionStringOrCreds('AzureDataLakeStorage1')
```

```
mssparkutils.credentials.getPropertiesAll
```

Return all the properties of a given linked service in string format.

Description

Return all the properties of a given linked service in string format.

Usage

```
mssparkutils.credentials.getPropertiesAll(linkedService)
```

Arguments

linkedService Linked service name.

Value

A empty string used to mimic properties string returned by azure synapse runtime for linkedService.

Examples

```
mssparkutils.credentials.getPropertiesAll('AzureDataLakeStorage1')
```

```
mssparkutils.credentials.getSecret
```

Return AKV secret.

Description

Return AKV secret.

Usage

```
mssparkutils.credentials.getSecret(akvName, secret, linkedService = NULL)
```

Arguments

akvName Azure Key Vault name.

secret name of the secret being fetched.

linkedService linkedService name of the AKV linked service.

Value

A empty string used to mimic secret returned by azure synapse runtime for given akvName and secret.

Examples

```
mssparkutils.credentials.getSecret('akvName', 'secretName')  
mssparkutils.credentials.getSecret('akvName', 'secretName', 'AzureDataLakeStorage1')
```

```
mssparkutils.credentials.getSecretWithLS  
    Return AKV secret using linkedService.
```

Description

Return AKV secret using linkedService.

Usage

```
mssparkutils.credentials.getSecretWithLS(linkedService, secret)
```

Arguments

linkedService	linkedService name of the AKV linked service.
secret	name of the secret being fetched.

Value

A empty string used to mimic secret returned by azure synapse runtime for given linkedService and secret.

Examples

```
mssparkutils.credentials.getSecretWithLS('AzureDataLakeStorage1', 'secretName')
```

```
mssparkutils.credentials.getToken
```

Get AAD token for a resource.

Description

Get AAD token for a resource.

Usage

```
mssparkutils.credentials.getToken(audience, name = "")
```

Arguments

audience	token audience.
name	token audience.

Value

A empty string used to mimic token returned by azure synapse runtime for accessing resource audience.

Examples

```
mssparkutils.credentials.getToken('synapse')  
mssparkutils.credentials.getToken('storage')  
mssparkutils.credentials.getToken('storage', 'storage')
```

```
mssparkutils.credentials.help
```

Get help message.

Description

Get help message.

Usage

```
mssparkutils.credentials.help()
```

Value

No return value, print empty string to mimic the behavior of help method of mssparkutils credentials module when used in azure synapse runtime.

Examples

```
mssparkutils.credentials.help()
```

```
mssparkutils.credentials.isValidToken
```

Returns true if the input token is valid (i.e, hasn't expired).

Description

Returns true if the input token is valid (i.e, hasn't expired).

Usage

```
mssparkutils.credentials.isValidToken(token)
```

Arguments

token token to validate.

Value

FALSE to mimic the result if token is invalid.

Examples

```
mssparkutils.credentials.isValidToken('dummyToken')
```

```
mssparkutils.credentials.putSecret
```

Put AKV secret using with or without linkedService.

Description

Put AKV secret using with or without linkedService.

Usage

```
mssparkutils.credentials.putSecret(  
  akvName,  
  secretName,  
  secretValue,  
  linkedService = NULL  
)
```


Arguments

akvName	Azure Key Vault name.
secretName	name of the secret being written.
secretValue	value of the secret being written.
linkedService	name of the AKV linked service.

Value

The secretValue been written.

Examples

```
mssparkutils.credentials.putSecret('akvName', 'secretName', 'secretValue')
mssparkutils.credentials.putSecret('akvName', 'secretName', 'secretValue', 'AzureDataLakeStorage1')
```

```
mssparkutils.credentials.putSecretWithLS
    Put AKV secret using linkedService.
```

Description

Put AKV secret using linkedService.

Usage

```
mssparkutils.credentials.putSecretWithLS(
    linkedService,
    secretName,
    secretValue
)
```

Arguments

linkedService	name of AKV linked service.
secretName	name of the secret being written.
secretValue	value of the secret being written.

Value

The secretValue been written.

Examples

```
mssparkutils.credentials.putSecretWithLS('AzureDataLakeStorage1', 'secretName', 'secretValue')
```

```
mssparkutils.env.getClusterId
```

Get cluster id.

Description

Get cluster id.

Usage

```
mssparkutils.env.getClusterId()
```

Value

A empty string used to mimic cluster id of azure synapse runtime.

Examples

```
mssparkutils.env.getClusterId()
```

```
mssparkutils.env.getJobId
```

Get job Id.

Description

Get job Id.

Usage

```
mssparkutils.env.getJobId()
```

Value

A empty string used to mimic the id of spark job been submitted to azure synapse runtime.

Examples

```
mssparkutils.env.getJobId()
```

mssparkutils.env.getPoolName
Get pool name.

Description

Get pool name.

Usage

mssparkutils.env.getPoolName()

Value

A empty string used to mimic the name of user's azure synapse spark pool.

Examples

mssparkutils.env.getPoolName()

mssparkutils.env.getUserId
Get user Id.

Description

Get user Id.

Usage

mssparkutils.env.getUserId()

Value

A empty string used to mimic the id of user.

Examples

mssparkutils.env.getUserId()

```
mssparkutils.env.getUserName
```

Get user name.

Description

Get user name.

Usage

```
mssparkutils.env.getUserName()
```

Value

A empty string used to mimic the name of user.

Examples

```
mssparkutils.env.getUserName()
```

```
mssparkutils.env.getWorkspaceName
```

Get workspace name.

Description

Get workspace name.

Usage

```
mssparkutils.env.getWorkspaceName()
```

Value

A empty string used to mimic the id of the user's azure synapse workspace.

Examples

```
mssparkutils.env.getWorkspaceName()
```

mssparkutils.env.help *Get help message.*

Description

Get help message.

Usage

```
mssparkutils.env.help()
```

Value

No return value, print empty string to mimic the behavior of help method of mssparkutils env module when used in azure synapse runtime.

Examples

```
mssparkutils.env.help()
```

mssparkutils.fs.append

Append the given String to a file, encoded in UTF-8.

Description

Append the given String to a file, encoded in UTF-8.

Usage

```
mssparkutils.fs.append(file, content, createFileIfNotExists = FALSE)
```

Arguments

file	FileSystem URI
content	Content needs to be append to file, encoded in System default charset.
createFileIfNotExists	If set to true, will firstly try to create file if not exists.

Value

FALSE to mimic the result if file content append fail.

Examples

```
mssparkutils.fs.append("/tmp/my-file", "Hello world!")
mssparkutils.fs.append("/tmp/my-file", "Hello world!", TRUE)
```

```
mssparkutils.fs.cp      Copies a file or directory, possibly across FileSystems.
```

Description

Copies a file or directory, possibly across FileSystems.

Usage

```
mssparkutils.fs.cp(from, to, recurse = FALSE)
```

Arguments

from	FileSystem URI of the source file or directory
to	FileSystem URI of the destination file or directory
recurse	if TRUE, all files and directories will be recursively copied

Value

FALSE to mimic the result if file or directory from fail to copy to to.

Examples

```
mssparkutils.fs.cp("/tmp/my-folder/a", "adls://xxx/tmp/b")
mssparkutils.fs.cp("/tmp/my-folder/a", "adls://xxx/tmp/b", TRUE)
```

```
mssparkutils.fs.getMountPath
      Gets the local path of the mount point.
```

Description

Gets the local path of the mount point.

Usage

```
mssparkutils.fs.getMountPath(mountPoint, scope = "job")
```

Arguments

mountPoint	The directory that was previously mounted.
scope	Mount point level, job or workspace, default is job.

Value

Empty string to mimic the local mounted path related to mountPoint.

Examples

```
mssparkutils.fs.getMountPath("/mnt")  
mssparkutils.fs.getMountPath("/mnt", "job")
```

mssparkutils.fs.head *Returns up to the first 'maxBytes' bytes of the given file as a String encoded in UTF-8.*

Description

Returns up to the first 'maxBytes' bytes of the given file as a String encoded in UTF-8.

Usage

```
mssparkutils.fs.head(file, maxBytes = 65535)
```

Arguments

file	FileSystem URI
maxBytes	Maximum number of bytes to read

Value

Empty string to mimic the returned content of file.

Examples

```
mssparkutils.fs.head("/tmp/my-folder/my-file")  
mssparkutils.fs.head("/tmp/my-folder/my-file", 1000)
```

mssparkutils.fs.help *mssparkutils.fs provides utilities for working with various FileSystems.*

Description

Below is overview about the available methods:

Usage

```
mssparkutils.fs.help(methodName = "")
```

Arguments

methodName method name to get more information.

Details

mssparkutils.fs.cp: Copies a file or directory, possibly across FileSystems
mssparkutils.fs.mv: Moves a file or directory, possibly across FileSystems
mssparkutils.fs.ls: Array -> Lists the contents of a directory
mssparkutils.fs.mkdirs: Creates the given directory if it does not exist, also creating any necessary parent directories
mssparkutils.fs.put: Writes the given String out to a file, encoded in UTF-8
mssparkutils.fs.head: Returns up to the first 'maxBytes' bytes of the given file as a String encoded in UTF-8
mssparkutils.fs.append: Append the content to a file
mssparkutils.fs.rm: Removes a file or directory

Value

No return value, print empty string to mimic the behavior of help method of mssparkutils fs module when used in azure synapse runtime.

Examples

```
mssparkutils.fs.help()  
mssparkutils.fs.help("ls")
```

mssparkutils.fs.ls *Lists the contents of a directory.*

Description

Lists the contents of a directory.

Usage

```
mssparkutils.fs.ls(dir)
```


Arguments

dir FileSystem URI

Value

Empty list to mimic the file list under dir.

Examples

```
mssparkutils.fs.ls("/tmp/my-folder/")
```

```
mssparkutils.fs.mkdirs
```

*Creates the given directory if it does not exist, also creating any necessary parent * directories. Attach remote storage (Blob, Gen2, Azure File Share) to all working nodes (driver node and worker nodes)*

Description

Creates the given directory if it does not exist, also creating any necessary parent * directories. Attach remote storage (Blob, Gen2, Azure File Share) to all working nodes (driver node and worker nodes)

Usage

```
mssparkutils.fs.mkdirs(dir)
```

Arguments

dir FileSystem URI

Value

FALSE to mimic the result if dir creation fail.

Examples

```
mssparkutils.fs.mkdirs("/tmp/a/b/c")
```

mssparkutils.fs.mount *Attach remote storage (Blob, Gen2, Azure File Share) to all working nodes (driver node and worker nodes)*

Description

Attach remote storage (Blob, Gen2, Azure File Share) to all working nodes (driver node and worker nodes)

Usage

```
mssparkutils.fs.mount(source, mountPoint, extraConfigs = NULL)
```

Arguments

source	FileSystem URI that contains the source data.
mountPoint	The directory of remote source to mount the source.
extraConfigs	Extra configurations.

Value

FALSE to mimic the result if mountPoint creation fail.

Examples

```
mssparkutils.fs.mount("abfss://xxx.dfs.core.windows.net", "/mnt")
mssparkutils.fs.mount("abfss://xxx.dfs.core.windows.net", "/mnt", { "accountKey": "xxx" })
```

mssparkutils.fs.mv *Moves a file or directory, possibly across FileSystems. For intra-FileSystem, it is implemented by hadoop fs rename operation. For inter-FileSystem, This is implemented as a copy followed by delete.*

Description

Moves a file or directory, possibly across FileSystems. For intra-FileSystem, it is implemented by hadoop fs rename operation. For inter-FileSystem, This is implemented as a copy followed by delete.

Usage

```
mssparkutils.fs.mv(from, to, createPath = FALSE, overwrite = FALSE)
```

Arguments

from	FileSystem URI of the source file or directory.
to	FileSystem URI of the destination file or directory.
createPath	if TRUE, will firstly create the parent dir if not exists before move op.
overwrite	if TRUE, will overwrite the destination folder if exists.

Value

FALSE to mimic the result of mv operation fail.

Examples

```
mssparkutils.fs.mv("/tmp/my-folder/", "adls:/xxx/tmp/b")
```

mssparkutils.fs.put *Writes the given String out to a file, encoded in UTF-8.*

Description

Writes the given String out to a file, encoded in UTF-8.

Usage

```
mssparkutils.fs.put(file, content, overwrite = FALSE)
```

Arguments

file	FileSystem URI.
content	Content of file to write, encoded in System default charset.
overwrite	If set to TRUE, the file will be overwritten if it existed already. Note that if overwrite is TRUE and the the write fails, the original file. may still be deleted.

Value

FALSE to mimic the result of file put operation fail.

Examples

```
mssparkutils.fs.put("/tmp/my-file", "Hello world!", TRUE)
```

mssparkutils.fs.refreshMounts
Refresh workspace level mount points.

Description

Refresh workspace level mount points.

Usage

```
mssparkutils.fs.refreshMounts()
```

Value

FALSE to mimic the refreshMounts fail to refresh mount info.

Examples

```
mssparkutils.fs.refreshMounts()
```

mssparkutils.fs.rm *Removes a file or directory.*

Description

Removes a file or directory.

Usage

```
mssparkutils.fs.rm(dir, recurse = FALSE)
```

Arguments

dir	FileSystem URI for a single file or a directory.
recurse	if TRUE, all files and directories will be recursively deleted.

Value

FALSE to mimic the result of dir deletion fail.

Examples

```
mssparkutils.fs.rm("/tmp/my-folder/", TRUE)
```

```
mssparkutils.fs.unmount
```

Removes a mount point.

Description

Removes a mount point.

Usage

```
mssparkutils.fs.unmount(mountPoint)
```

Arguments

mountPoint The directory that was previously mounted.

Value

FALSE to mimic the result of unmount mountPoint fail.

Examples

```
mssparkutils.fs.unmount("/mnt")
```

```
mssparkutils.help
```

Get help message for this module.

Description

Get help message for this module.

Usage

```
mssparkutils.help(methodName = "")
```

Arguments

methodName method name to get more information.

Value

No return value, print empty string to mimic the behavior of help method of mssparkutils module when used in azure synapse runtime.

Examples

```
mssparkutils.help()
```

mssparkutils.notebook.exit

This method lets you exit a notebook with a value.

Description

This method lets you exit a notebook with a value.

Usage

```
mssparkutils.notebook.exit(value)
```

Arguments

value the value to return when exiting.

Value

No return value, mimic behavior to set the notebook run exit value using value.

Examples

```
mssparkutils.notebook.exit('exitVal')
```

mssparkutils.notebook.help

The notebook module.

Description

mssparkutils.exit(value: String): void -> This method lets you exit a notebook with a value. mssparkutils.run(path: String, timeoutSeconds: int, arguments: Map): String -> This method runs a notebook and returns its exit value.

Usage

```
mssparkutils.notebook.help(methodName = "")
```

Arguments

methodName method name to get more information.

Value

No return value, print empty string to mimic the behavior of help method of mssparkutils notebook module when used in azure synapse runtime.

Examples

```
mssparkutils.notebook.help()
mssparkutils.notebook.help("run")
```

```
mssparkutils.notebook.run
```

Runs a notebook and returns its exit value. The notebook will run in the current livy session context by default.

Description

Runs a notebook and returns its exit value. The notebook will run in the current livy session context by default.

Usage

```
mssparkutils.notebook.run(path, timeoutSeconds = 90, arguments = NULL)
```

Arguments

path	absolute path to the notebook, e.g. /path/to/notebook.
timeoutSeconds	timeout in seconds for the called notebook.
arguments	string map of arguments to pass to the notebook.

Value

Empty string to mimic the exitVal set by mssparkutils.notebook.exit.

Examples

```
mssparkutils.notebook.run('NB1')
mssparkutils.notebook.run('NB1', 200)
mssparkutils.notebook.run('NB1', 200, list("input"=30))
```

```
mssparkutils.runtime.context
```

Get runtime properties

Description

Get runtime properties

Usage

```
mssparkutils.runtime.context()
```

Value

A dummy env object to mimic the result of runtime context method when used in azure synapse runtime.

Examples

```
mssparkutils.runtime.context()
```


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