

# Package ‘d4storagehub4R’

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**Title** Interface to 'D4Science' 'StorageHub' API

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**Depends** R (>= 3.3.0), methods

**Imports** R6, httr, jsonlite, XML, xml2, keyring, tools

**Suggests** testthat, parallel

**Description** Provides an interface to 'D4Science' 'StorageHub' API (<<https://dev.d4science.org/>>). Allows to get user profile, and perform actions over the 'StorageHub' (workspace) including creation of folders, files management (upload/update/deletion/sharing), and listing of stored resources.

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**URL** <https://github.com/ebondel/d4storagehub4R>,  
<https://www.d4science.org/>, <https://dev.d4science.org/>

**BugReports** <https://github.com/ebondel/d4storagehub4R/issues>

**LazyLoad** yes

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d4storagehub4R      *Interface to 'D4Science' 'StorageHub' API*

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### Description

Provides an interface to 'D4Science' 'StorageHub' API (<<https://dev.d4science.org/>>). Allows to get user profile, and perform actions over the 'StorageHub' (workspace) including creation of folders, files management (upload/update/deletion/sharing), and listing of stored resources.

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d4storagehub4RLogger      *d4storagehub4RLogger*

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### Description

d4storagehub4RLogger

d4storagehub4RLogger

### Format

[R6Class](#) object.

### Value

Object of [R6Class](#) for modelling a simple logger

### Abstract Methods

INFO(text) Logger to report information. Used internally

WARN(text) Logger to report warnings. Used internally

ERROR(text) Logger to report errors. Used internally

### Public fields

verbose.info verbose info, default is FALSE

verbose.debug verbose debug, default is FALSE

loggerType logger type

## Methods

### Public methods:

- [d4storagehub4RLogger\\$logger\(\)](#)
- [d4storagehub4RLogger\\$INFO\(\)](#)
- [d4storagehub4RLogger\\$WARN\(\)](#)
- [d4storagehub4RLogger\\$ERROR\(\)](#)
- [d4storagehub4RLogger\\$new\(\)](#)
- [d4storagehub4RLogger\\$getClassName\(\)](#)
- [d4storagehub4RLogger\\$getClass\(\)](#)
- [d4storagehub4RLogger\\$clone\(\)](#)

**Method** `logger()`: Logger function

*Usage:*

```
d4storagehub4RLogger$logger(type, text)
```

*Arguments:*

type type

text text

**Method** `INFO()`: INFO logger function

*Usage:*

```
d4storagehub4RLogger$INFO(text)
```

*Arguments:*

text text

**Method** `WARN()`: WARN logger function

*Usage:*

```
d4storagehub4RLogger$WARN(text)
```

*Arguments:*

text text

**Method** `ERROR()`: ERROR logger function

*Usage:*

```
d4storagehub4RLogger$ERROR(text)
```

*Arguments:*

text text

**Method** `new()`: Initializes a basic logger class

*Usage:*

```
d4storagehub4RLogger$new(logger = NULL)
```

*Arguments:*

logger the type of logger, either NULL (default), INFO, or DEBUG

**Method** `getClassName()`: Get class name

*Usage:*

`d4storagehub4RLogger$getClassName()`

*Returns:* the class name

**Method** `getClass()`: Get class

*Usage:*

`d4storagehub4RLogger$getClass()`

*Returns:* the class

**Method** `clone()`: The objects of this class are cloneable with this method.

*Usage:*

`d4storagehub4RLogger$clone(deep = FALSE)`

*Arguments:*

`deep` Whether to make a deep clone.

#### Note

Logger class used internally by `d4storagehub4R`

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StoragehubManager

*StoragehubManager*

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#### Description

StoragehubManager

StoragehubManager

#### Value

Object of [R6Class](#) for modelling a D4Science StoragehubManager

#### Super class

`d4storagehub4R:d4storagehub4RLogger` -> StoragehubManager

#### Methods

##### Public methods:

- `StoragehubManager$new()`
- `StoragehubManager$getToken()`
- `StoragehubManager$getUserProfile()`
- `StoragehubManager$getUserWorkspace()`
- `StoragehubManager$fetchWSEndpoint()`

- StoragehubManager\$fetchUserProfile()
- StoragehubManager\$getWSRoot()
- StoragehubManager\$getWSRootID()
- StoragehubManager\$getWSItem()
- StoragehubManager\$getWSItemID()
- StoragehubManager\$getWSVREFolder()
- StoragehubManager\$getWSVREFolderID()
- StoragehubManager\$listWSItems()
- StoragehubManager\$listWSItemsByPath()
- StoragehubManager\$searchWSItem()
- StoragehubManager\$searchWSItemID()
- StoragehubManager\$createFolder()
- StoragehubManager\$uploadFile()
- StoragehubManager\$deleteItem()
- StoragehubManager\$shareItem()
- StoragehubManager\$unshareItem()
- StoragehubManager\$downloadItem()
- StoragehubManager\$downloadItemByPath()
- StoragehubManager\$getPublicFileLink()
- StoragehubManager\$clone()

**Method new():** Method is used to instantiate the [StoragehubManager](#).

*Usage:*

```
StoragehubManager$new(
  token,
  token_type = "gcube",
  logger = NULL,
  keyring_backend = "env"
)
```

*Arguments:*

token user access token

token\_type token type, either 'gcube' (default) or 'jwt'

logger logger can be either NULL, "INFO" (with minimum logs), or "DEBUG" (for complete curl http calls logs)

keyring\_backend keyring backend to use.it can be set to use a different backend for storing the D4science gcube token with **keyring** (Default value is 'env').

**Method getToken():** Get token

*Usage:*

```
StoragehubManager$getToken()
```

*Returns:* the user access token

**Method getUserProfile():** Get user profile

*Usage:*

```
StoragehubManager$getUserProfile()
```

*Returns:* the user profile

**Method** `getUserWorkspace():` Get user workspace

*Usage:*

```
StoragehubManager$getUserWorkspace()
```

*Returns:* the user workspace root path

**Method** `fetchWSEndpoint():` Fetches the workspace endpoint from the D4Science ICProxy service

*Usage:*

```
StoragehubManager$fetchWSEndpoint()
```

**Method** `fetchUserProfile():` Fetches the user profile

*Usage:*

```
StoragehubManager$fetchUserProfile()
```

**Method** `getWSRoot():` Get workspace root

*Usage:*

```
StoragehubManager$getWSRoot()
```

*Returns:* the workspace root, as list

**Method** `getWSRootID():` Get workspace root ID

*Usage:*

```
StoragehubManager$getWSRootID()
```

*Returns:* the workspace root ID, as character

**Method** `getWSItem():` Get workspace item given a `itemPath` in a parent folder

*Usage:*

```
StoragehubManager$getWSItem(  
  parentFolderID = NULL,  
  itemPath,  
  showHidden = FALSE  
)
```

*Arguments:*

`parentFolderID` parent folder ID

`itemPath` item path

`showHidden` show hidden files

*Returns:* the workspace item, NULL if no workspace item existing

**Method** `getWSItemID():` Get workspace item ID given a `itemPath` in a parent folder

*Usage:*

```
StoragehubManager$getWSItemID(  
  parentFolderID = NULL,  
  itemPath,  
  showHidden = FALSE  
)
```

*Arguments:*

parentFolderID parent folder ID  
itemPath item path  
showHidden show hidden files

*Returns:* the workspace item ID, NULL if no workspace item existing

**Method** getWSVREFolder(): Get VRE Folder

*Usage:*

```
StoragehubManager$getWSVREFolder()
```

*Returns:* the VRE folder, as list

**Method** getWSVREFolderID(): Get VRE Folder ID

*Usage:*

```
StoragehubManager$getWSVREFolderID()
```

*Returns:* the VRE folder ID, as character

**Method** listWSItems(): Lists workspace items given a parentFolder ID

*Usage:*

```
StoragehubManager$listWSItems(parentFolderID = NULL, showHidden = FALSE)
```

*Arguments:*

parentFolderID parent folder ID  
showHidden show hidden files

*Returns:* an object of class data.frame

**Method** listWSItemsByPath(): Lists workspace items given a folder path

*Usage:*

```
StoragehubManager$listWSItemsByPath(folderPath, showHidden = FALSE)
```

*Arguments:*

folderPath folder path where to list items  
showHidden show hidden files

*Returns:* an object of class data.frame

**Method** searchWSItem(): Searches for a workspace item given a item path

*Usage:*

```
StoragehubManager$searchWSItem(  
  itemPath,  
  includeVreFolder = TRUE,  
  showHidden = FALSE  
)
```

*Arguments:*

itemPath path of the item  
 includeVreFolder search also in VRE folder  
 showHidden show hidden files

*Returns:* the item, NULL if nothing found

**Method** searchWSItemID(): Searches for a workspace item ID given a item path

*Usage:*

```
StoragehubManager$searchWSItemID(
    itemPath,
    includeVreFolder = TRUE,
    showHidden = FALSE
)
```

*Arguments:*

itemPath path of the item  
 includeVreFolder search also in VRE folder  
 showHidden show hidden files

*Returns:* the item, NULL if nothing found

**Method** createFolder(): Creates a folder, given a folder path, a folder name/description. By default recursive = TRUE meaning that a folder path matching nested folders will trigger all nested folders. Setting recursive = FALSE, the folder creation will work only if the folder path matches an existing folder. The hidden (default FALSE) argument can be used to set hidden folders on the workspace. Using folderID, recursive will be set to FALSE.

*Usage:*

```
StoragehubManager$createFolder(
    folderPath = NULL,
    folderID = NULL,
    name,
    description = "",
    hidden = FALSE,
    recursive = TRUE
)
```

*Arguments:*

folderPath parent folder path where to create the folder  
 folderID parent folder ID where to create the folder  
 name name of the folder  
 description description of the folder  
 hidden hidden, default is FALSE  
 recursive recursive, default is TRUE

*Returns:* the ID of the created folder

**Method** uploadFile(): Uploads a file to a folder (given a folder path). The argument description can be used to further describe the file to upload. The argument archive (default = FALSE) indicates the type of item (FILE or ARCHIVE) to be uploaded.



*Usage:*

```
StoragehubManager$uploadFile(  
  folderPath = NULL,  
  folderID = NULL,  
  file,  
  description = basename(file),  
  archive = FALSE  
)
```

*Arguments:*

folderPath folder path where to upload the file

folderID folder ID where to upload the file

file file to upload

description file description, default would be the file basename

archive archive, default is FALSE

*Returns:* the ID of the uploaded file

**Method deleteItem():** Deletes an item given its path on the workspace

*Usage:*

```
StoragehubManager$deleteItem(itemPath, force = FALSE)
```

*Arguments:*

itemPath item path

force whether to force deletion, default is FALSE

*Returns:* TRUE if deleted, FALSE otherwise

**Method shareItem():** Shares an item with users

*Usage:*

```
StoragehubManager$shareItem(itemPath, defaultAccessType, users)
```

*Arguments:*

itemPath item path

defaultAccessType access type to use for sharing, among 'WRITE\_ALL', 'WRITE\_OWNER',  
'READ\_ONLY', 'ADMINISTRATOR'

users one or more user names with whom the item has to be shared

*Returns:* TRUE if shared, FALSE otherwise

**Method unshareItem():** unshare an item

*Usage:*

```
StoragehubManager$unshareItem(itemPath, users)
```

*Arguments:*

itemPath item path

users users

*Returns:* TRUE if unshared, FALSE otherwise

**Method downloadItem():** Download item

*Usage:*

```
StoragehubManager$downloadItem(item = NULL, wd = NULL)
```

*Arguments:*

item item

wd working directory where to download the item

**Method** downloadItemByPath(): Download item by path

*Usage:*

```
StoragehubManager$downloadItemByPath(path, wd = NULL)
```

*Arguments:*

path path

wd working directory where to download the item

**Method** getPublicFileLink(): Get public file link

*Usage:*

```
StoragehubManager$getPublicFileLink(path)
```

*Arguments:*

path file path

*Returns:* the public file URL

**Method** clone(): The objects of this class are cloneable with this method.

*Usage:*

```
StoragehubManager$clone(deep = FALSE)
```

*Arguments:*

deep Whether to make a deep clone.

**Note**

Main user class to be used with **d4storagehub4R**

Deprecated

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**Examples**

```
## Not run:
manager <- StoragehubManager$new(
  token = "<your token>",
  logger = "DEBUG"
)

## End(Not run)
```

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