

Package ‘nitrcbot’

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Title Download Image Files from the 'NeuroImaging Tools and Resources Collaboratory'

Version 1.2

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Description Parses and downloads images from various 'NeuroImaging Tools and Resources Collaboratory' <<https://www.nitrc.org>> sets.

Depends R (>= 3.4.0), httr, dplyr, RCurl, jsonlite

BugReports <https://github.com/adigherman/nitrcbot/issues>

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Encoding UTF-8

LazyData true

URL <https://www.nitrc.org>

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Suggests testthat, covr, knitr, rmarkdown

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check_user_session	<i>Check if user is still logged in</i>
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Description

Figures out if the user session is still active and if not it will call `nitrc_login()` to re-establish the session

Usage

```
check_user_session()
```

Value

State of current user login

download_nitrc_dir	<i>Download whole image drectory</i>
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Description

Download entire session or just the files from a particular scan type. If `scan_type` is NULL the function will download a zipped file containing the entire resource folder for that particular `subject_ID` or `session_ID`. If `scan_type` is specified than depending on the zipped the downloaded files will be zipped or not.

Usage

```
download_nitrc_dir(session_ID = NULL, subject_ID = NULL, project = NULL,
  scan_type = NULL, zipped = FALSE, verbose = FALSE, error = FALSE)
```

Arguments

session_ID	Download scan images for this particular session ID
subject_ID	Download scan images for this particular subject ID
project	The project dataset to whom subject_ID belongs to. This is required if subject_ID is specified
scan_type	Download scan images just for this particular type of scan
zipped	Zip the downloaded files
verbose	Should progress be added to download?
error	Should function error if download failed?

Value

List of downloaded file(s) with full paths

Examples

```
## Download the full directory (individual files) of T1 data
## Not run: t1_res <- download_nitrc_dir("NITRC_IR_E10453", scan_type="T1")

## Download a zipped file containing the full directory
## Not run: download_nitrc_dir("NITRC_IR_E10453", scan_type="T1", zipped = TRUE)
```

download_nitrc_file *Download NITRC file*

Description

Download a single file from NITRC

Usage

```
download_nitrc_file(file_path, destfile = NULL, prefix = NULL,
  verbose = FALSE, error = FALSE)
```

Arguments

file_path	Path to the file to be downloaded
destfile	Destination filename
prefix	Prefix the file name with this (prevents overwriting of same name files in case function is used to download multiple scan types at once)
verbose	Should progress be added to download?
error	Should function error if download failed?

Value

Display path to the downloaded file

Examples

```
## file_path is retrieved using the get_scan_resources() function
## Not run: r <- get_scan_resources('NITRC_IR_E10453')
## Not run: download_nitrc_file(r$URI[1])
```

get_scan_params	<i>Get scan parameters data</i>
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Description

Retrieves all the parameters associated with a session ID

Usage

```
get_scan_params(session_ID = NULL, scan_type = NULL, project = NULL,
                jsessionID = NULL)
```

Arguments

session_ID	the session ID identifier, unique for each individual subject
scan_type	the type of scan for which we need to list the acquisition parameters
project	optional, signals the project to which the session_ID belongs
jsessionID	value for the JSESSIONID cookie

Value

Data frame containing all the data for this particular scan session

Examples

```
## Not run: get_scan_params('NITRC_IR_E10469')
```

get_scan_resources *Get scan resources*

Description

Retrieves all the resources(files) associated with a session ID

Usage

```
get_scan_resources(session_ID = NULL, scan_type = NULL, project = NULL,
  jsessionID = NULL)
```

Arguments

session_ID	the session ID identifier, unique for each individual subject
scan_type	the type of scan for which we need to list the acquisition parameters
project	optional, identifies the project to which the session_ID belongs
jsessionID	value for the JSESSIONID cookie

Value

Data frame containing all the resources for this particular scan session

Examples

```
## Get all scan resources for a specific session_ID
## Not run: get_scan_resources('NITRC_IR_E10469')
```

is_this_public *Find out if the provided param is part of public data*

Description

Figure out if the provided subject_ID or session_ID belongs to a public project.

Usage

```
is_this_public(session_ID = NULL, subject_ID = NULL, project = NULL)
```

Arguments

session_ID	the session ID identifier, unique for each individual subject
subject_ID	the subject ID identifier
project	the NITRC project for which we try to identify if it's public

Value

logical value signifying if it's part of a public project

list_image_sets	<i>Get NITRC image sets listing</i>
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Description

Authenticate and retrieve a list of all available datasets

Usage

```
list_image_sets(project = NULL, error = FALSE)
```

Arguments

project	optional, called from other functions in order to figure out if a project is public
error	Should function error if http::GET failed

Value

Dataframe of NITRC projects

Examples

```
## List all available NITRC projects
## Not run: list_image_sets()
```

nitrc_demographics	<i>Get/list project demographics</i>
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Description

Retrieves list of all subjects demographic data

Usage

```
nitrc_demographics(project = NULL, nitrc_projects = NULL,
  jsessionID = NULL)
```

Arguments

project	is the project for which we request demographics data, if project is NULL, we return all available subjects
nitrc_projects	data.frame with all available NITRC projects
jsessionID	value for the JSESSIONID cookie

Value

Dataframe of demographics data

Examples

```
## Get demographic data for the ixi project
## Not run: nitrc_demographics('ixi')

## Get demographic data for all accessible projects
## Not run: nitrc_demographics()
```

nitrc_login	<i>Login to NITRC</i>
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Description

Returns TRUE if NITRC credentials are valid.

Usage

```
nitrc_login()
```

Value

boolean indicating if the login was successful

nitrc_scandata	<i>Get/list scan data</i>
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Description

Retrieves NITRC scan data info

Usage

```
nitrc_scandata(project = NULL, nitrc_projects = NULL, jsessionID = NULL)
```

Arguments

project	is the project for which we request demographics data, if project is NULL, we return all available subjects
nitrc_projects	data.frame with all available NITRC projects
jsessionID	value for the JSESSIONID cookie

Value

Dataframe of scan data

Examples

```
## Get scan data for the ixi project
## Not run: nitrc_scandata('ixi')

## Get scan data for all accessible NITRC projects
## Not run: nitrc_scandata()
```

query_nitrc	<i>Perform RCurl operations</i>
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Description

Queries NITRC website using RCurl functions

Usage

```
query_nitrc(url, jsessionID = NULL)
```

Arguments

url	is the URL for the RCurl request parseHTTPHeader
jsessionID	value for the JSESSIONID cookie

read_nitrc_project	<i>Read NITRC project data</i>
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Description

Reads in all data associated with a project (demographics and scan data)

Usage

```
read_nitrc_project(project = NULL, jsessionID = NULL)
```

Arguments

project	is the project for which we request the aggregated data, if project is NULL, we return all available data for all projects
jsessionID	value for the JSESSIONID cookie

Value

Dataframe of project data

Examples

```
## Read all data for the ixi project
## Not run: ixi_data <- read_nitrc_project('ixi')

## Read data for all available projects
## Not run: nitrc_data <- read_nitrc_project()
```

set_credentials	<i>Set NITRC credentials.</i>
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Description

Sets and returns the NITRC credentials. Should error if it cannot find the environment variables or they are not provided.

Usage

```
set_credentials(username = NULL, password = NULL, error = TRUE)
```

Arguments

username	is the NITRC login user name. If NULL this will should be provided through the NITRC_WEB_USER system variable.
password	is the NITRC login user password If NULL this will should be provided through the NITRC_WEB_PASS system variable.
error	Should this function error if variables are not specified?

Value

List of username and password

Examples

```
## Not run: set_credentials(username = "user", password = "pass")
```

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