Package ‘projects’

October 14, 2022

Title A Project Infrastructure for Researchers

Version 2.1.3

Description Provides a project infrastructure with a focus on manuscript creation. Creates a project folder with a single command, containing subdirectories for specific components, templates for manuscripts, and so on.

License MIT + file LICENSE

URL https://cran.r-project.org/package=projects

Depends R (>= 3.4.0)

Imports dplyr (>= 0.8.5), fs (>= 1.4.1), lubridate (>= 1.7.8), magrittr (>= 1.5), methods, purrr (>= 0.3.4), readr (>= 1.3.1), rlang (>= 0.4.6), rstudioapi (>= 0.11), sessioninfo (>= 1.1.1), stringr (>= 1.4.0), tibble (>= 3.0.1), vctrs (>= 0.2.4), zip (>= 2.0.4)

Suggests forcats, here (>= 0.1), testthat (>= 2.3.2)

Encoding UTF-8

RoxygenNote 7.1.1

Collate 'set_generics.R' 'class-projects_author.R'
'class-projects_stage.R' 'new.R' 'edit.R' 'email_authors.R'
'file_management.R' 'getters.R' 'header.R'
'metadata_manipulation.R' 'projects.R' 'reproducibility.R'
'setup.R' 'update.R' 'utils.R' 'utils-pipe.R'
'validation.R' 'zzz.R'

NeedsCompilation no

Author Nik Krieger [aut, cre],
    Adam Perzynski [aut],
    Jarrod Dalton [aut]

Maintainer Nik Krieger <nk@case.edu>

Repository CRAN

Date/Publication 2021-04-24 13:40:02 UTC
R topics documented:

- projects-package .................................................... 2
- affiliations ............................................................... 3
- email_authors ............................................................ 6
- export_project ........................................................... 7
- file_management ......................................................... 8
- header ................................................................. 11
- new_edit_delete ........................................................ 12
- projects_author ......................................................... 18
- projects_folder ......................................................... 20
- projects_stage ......................................................... 21
- reordering .............................................................. 23
- save_session_info ...................................................... 25
- setup_projects ........................................................... 26
- update_metadata ........................................................ 28

Index 30

projects-package  projects: A project infrastructure for researchers.

Description

The projects package provides a project infrastructure with a focus on manuscript creation. It creates a project folder with a single command, containing subdirectories for specific components, templates for manuscripts, and so on.

Knitting

There are several functions that require interactive user confirmation via the console. Since interactive console input is incompatible with knitting via R Markdown files, the projects package was coded such that user confirmation is bypassed when isTRUE(getOption('knitr.in.progress')) == TRUE. Therefore, all projects package functions are usable when knitting. **Knit with caution!**

Acknowledgements

The authors of this package acknowledge the support provided by members of the Northeast Ohio Cohort for Atherosclerotic Risk Estimation (NEOCARE) investigative team: Claudia Coulton, Douglas Gunzler, Darcy Freedman, Neal Dawson, Michael Rothberg, David Zidar, David Kaehler, Douglas Einstadter, Alex Milinovich, Monica Webb Hooper, Kristen Hassmiller-Lich, Ye Tian (Devin), Kristen Berg, and Sandy Andrukat.

Funding

This work was supported by The National Institute on Aging of the National Institutes of Health under award number R01AG055480. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.
**affiliations**

**See Also**

`setup_projects()` for getting started.

---

**Description**

Returns a table of the projects/authors/affiliations, filtered and joined according to the entirely optional arguments.

**Usage**

```r
affiliations(affiliation, authors = FALSE)

authors(author, affiliations = FALSE, projects = FALSE)

projects(
  project,
  all_stages = FALSE,
  exclude = c(0L, 6L),
  path = NULL,
  archived = FALSE,
  verbose = FALSE,
  authors = FALSE
)

ideas(project, archived = FALSE, verbose = FALSE, authors = FALSE)

manuscripts(project, archived = FALSE, verbose = FALSE, authors = FALSE)
```

**Arguments**

- `projects, authors, affiliations`
  - Logical values indicating whether or not to perform a left join with another metadata tibble. All `FALSE` by default.

- `project, author, affiliation`
  - An optional unique vector of ids and/or names. Only rows matching one or more entries will be returned. This is the one setting in which the package does not return throw an error if user input matches multiple projects.

- `all_stages`
  - Logical, indicating whether or not to include projects of all stages, **overriding the exclude argument**.

- `exclude`
  - A vector of numbers or character strings that can be validated against the list of project stages:
    - `0`: idea
    - `1`: design
affiliations

2: data collection
3: analysis
4: manuscript
5: under review
6: accepted

*Ignored if all_stages = TRUE*

**path**
A single file path of a directory within the main projects folder; only projects whose folder is in this directory will be returned.

**archived**
Logical, indicating whether or not to include projects that have been archived using `archive_project()`. FALSE by default.

**verbose**
Logical, indicating whether or not to return all columns of the `projects()`; if FALSE, only the id, current_owner, status, and stage columns are returned. Defaults to FALSE.

**Details**

`ideas()` is a shortcut for `projects(exclude = 1:6)` (including only projects of stage 0: idea).

`manuscripts()` is a shortcut for `projects(exclude = c(0:3, 6))` (yielding only projects of stage 4: manuscript and 5: under review).

If one or more of the projects, authors, or affiliations arguments is set to TRUE, a `dplyr::left_join()` is performed, with the "left" table being the one sharing the name of the function being used. As such, rows that don’t have matches in any other tables will still show up in the output, and rows that have multiple matches in other tables will yield multiple rows in the output. The "right" table’s id column will be renamed.

**Value**

A tibble.

**Examples**

```r
# SETUP
old_home <- Sys.getenv("HOME")
old_ppath <- Sys.getenv("PROJECTS_FOLDER_PATH")
temp_dir <- tempfile("dir")
dir.create(temp_dir)
Sys.unsetenv("PROJECTS_FOLDER_PATH")
Sys.setenv(HOME = temp_dir)
setup_projects(path = temp_dir)
new_affiliation(department_name = "Math Dept.",
               institution_name = "Springfield College",
               address = "123 College St, Springfield, AB")
new_affiliation(department_name = "Art Department",
               institution_name = "Springfield College",
               address = "321 University Boulevard, Springfield, AB",
               id = 42)
new_affiliation(department_name = "Central Intelligence Agency",
               institution_name = "United States Government",
               address = "100 Central Park West, New York, NY")
```


new_affiliation(department_name = "Pyrotechnics", 
institution_name = "ACME")
new_author(given_names = "Spiro", last_name = "Agnew", degree = "LLB", 
affiliations = "Art D", id = 13)
new_author(given_names = "Plato", id = 303)
new_author(given_names = "Condoleezza", last_name = "Rice", 
affiliations = c(1, 42, "Agency", "ACME"))
new_project(title = "Test project 1", current_owner = "Plato", stage = 1)
new_project(title = "Test project 2", current_owner = "eезza", stage = 2)
new_project(title = "Test project 3", current_owner = "Plato", stage = 3)
new_project(title = "Fun project 4", current_owner = "Rice", stage = 4)
new_project(title = "Fun project 5", current_owner = "Rice", stage = 5)
new_project(title = "Fun project 6", current_owner = "Rice", stage = 6)
new_project(title = "Good idea", current_owner = "Rice", stage = 0)

# View entire affiliations table
affiliations()

# View authors table joined to affiliations table
# Notice that multiple rows are created for each affiliation-author combination
authors(affiliations = TRUE)

# View only active projects with "Fun" in their title.
projects("Fun")

# View all projects with "Rice" as the current_owner
projects(all_stages = TRUE) %>% dplyr::filter(current_owner == "Rice")

# View manuscripts
manuscripts()

# View ideas
ideas()

# Wrapped in if (interactive()) because it requires interactive console input
# and fails automated testing.
if (interactive()) {
  # Archive Fun project 5
  archive_project("Fun project 5")

  # Default behavior is to not include archived projects in projects() table
  projects("Fun")
  projects("Fun", archived = TRUE)
}

# CLEANUP
# (or, the user can just restart R)
Sys.setenv(HOME = old_home, PROJECTS_FOLDER_PATH = old_ppath)
email_authors

Write an email to project authors

Description

Invokes `utils::browseURL("mailto://[author emails]")` for a specified project, or for the currently open project if `project` is left as `NULL`.

Usage

```r
email_authors(
  project = NULL,
  browser = getOption("browser"),
  encodeIfNeeded = FALSE
)
```

Arguments

- `project`: Project id or unambiguous substring of the project name from the `projects()` table. Defaults to `NULL` (see Details).
- `browser`, `encodeIfNeeded`: See `utils::browseURL()`.

Details

The success of this function depends on the platform and the specified browser. See the Details and URL schemes sections of `utils::browseURL()`.

If `project = NULL`, the function selects the project in the `projects()` table whose path is equal to `rstudioapi::getActiveProject()`.

See Also

- `utils::browseURL()`, `rstudioapi::getActiveProject()` for information on browser and `encodeIfNeeded` arguments.

Examples

```r
# Wrapped in if (interactive()) because this function is interactive by nature.
if (interactive()) {

  # If you have a projects() project open, just run it:
  email_authors()

  # Otherwise, specify a project:

  # Setup
  old_home <- Sys.getenv("HOME")
```
old_ppath <- Sys.getenv("PROJECTS_FOLDER_PATH")
temp_dir <- tempfile("dir")
dir.create(temp_dir)
Sys.unsetenv("PROJECTS_FOLDER_PATH")
Sys.setenv(HOME = temp_dir)
setup_projects(path = temp_dir)
new_author("Rhonda", "Rondale", email = "ronda.rondale@co.uk")
new_author("Betty", "Betts", email = "betty@co.uk")
new_project("Inventing the Ring of Power", authors = c("Betty", "Ron"))
###########################################################################
emailauthors("Ring of Power")
###########################################################################
# Cleanup (or just restart R)
Sys.setenv(HOME = old_home, PROJECTS_FOLDER_PATH = old_ppath)
}

export_project

Compress a project folder

Description

Creates a compressed file out of a user-specified project folder for sharing.

Usage

export_project(project, zipfile, include_hidden = FALSE, exclude = NULL)

Arguments

project Project id or unambiguous substring of the project name from the projects() table.
zipfile Desired file path of the resulting compressed folder file, including the file's desired name and file extension. See the zipfile argument for the zip::zipr() function.
include_hidden Logical indicating whether or not to include hidden folders and files (e.g., those with names that begin with a period). Defaults to FALSE.
exclude Character vector of exact names of first-level subdirectories of the project folder to exclude from the resulting compressed folder file.

Details

Currently, this function uses zip::zipr().

Value

The name of the created zip file, invisibly.
**Description**

Tools for Organizing and Managing Project Files

**Usage**

`new_project_group(path)`

`rename_folder(project, new_folder_name, archived = FALSE)`

`move_project(project, path, make_directories = FALSE, archived = FALSE)`

```
copy_project(
    project_to_copy, 
    path, 
    new_id = NA, 
    new_folder_name = paste0("p", stringr::str_pad(new_id, 4, pad = "0")), 
    new_short_title = NA, 
    make_directories = FALSE, 
    archived = FALSE
)
```

`archive_project(project)`

`open_project(project, new_session = FALSE, archived = FALSE)`

`move_projects_folder(
    new_path, 
    make_directories = FALSE, 
    .Renviron_path = file.path(Sys.getenv("HOME"), ".Renviron")
)
```

`rename_projects_folder(
    new_name, 
    .Renviron_path = file.path(Sys.getenv("HOME"), ".Renviron")
)
```

**Arguments**

`path` - A valid path string.

For `copy_project()` only, if left blank, the preexisting project’s directory is used. All other functions here require a valid path.

See the `path` argument in `new_project()` for details on valid paths.
**Projects** can be moved (`move_project()`), copied (`copy_project()`), or archived (`archive_project()`).

The difference between `delete_project()` and `archive_project()` is that the latter will just move the project to a directory called `archive`, located in the same parent directory as the project. This directory gets created if it doesn’t yet exist. Most functions that perform actions on projects will exclude archived projects by default in order to make it easier for the user to enter a nonambiguous string that will match an active (i.e., non-archived) project.

Projects can also be organized into groups. By default, all projects are created within the main `projects` folder. To create a project group, which is essentially a subfolder of the main `projects` folder, use `new_project_group()`.

`open_project()` is a wrapper around `rstudioapi::openProject()`, but the user only needs to know the project’s id, title, or short_title instead of the file path of the project’s `.Rproj` file. If there is no `.Rproj` file in the project’s folder, the user has the option to restore a default `.Rproj` file. If there are multiple `.Rproj` files, an error is thrown.

`move_projects_folder()` allows the user to move the entire projects folder created by `setup_projects()` into a different directory, and `rename_projects_folder()` changes its name.
See Also

`new_project()` and `delete_project()` for other functions that write and delete files.

Examples

```r
# SETUP
old_home <- Sys.getenv("HOME")
old_ppath <- Sys.getenv("PROJECTS_FOLDER_PATH")
temp_dir <- tempfile("dir")
dir.create(temp_dir)
Sys.unsetenv("PROJECTS_FOLDER_PATH")
Sys.setenv(HOME = temp_dir)
setup_projects(path = temp_dir)

# setting up a simple project directory tree
new_project_group("kidney/clinical")
new_project_group("kidney/genomics")
new_project_group("prostate/clinical")
new_project_group("prostate/genomics")

# Wrapped in if (interactive()) because it requires interactive console input
# and fails automated package checking and testing.
if (interactive()){
  new_project(title = "Sample Authorless Project", parent_directory = "kidney")

  # Moving the project folder, then moving it again.
  move_project(project = 1, "kidney/genomics")
  move_project(project = "Sample Authorless Project", "prostate/clinical")

  # Copying the project
  copy_project(project_to_copy = 1, "kidney/clinical")

  # Renaming the folder of the copy of the project
  rename_folder(project = 2, "copy")

  # Archiving the copy of the project
  archive_project(2)

  # Moving and renaming the entire projects folder
  temp_dir2 <- tempfile("dir")
dir.create(temp_dir2)
move_projects_folder(temp_dir2)
projects_folder()
rename_projects_folder("foobar")
projects_folder()

  # Opens the project in same session
  open_project("Sample")

  # Opens the project in a new session
```
header

Print project header to console

Description

Prints a header to the console to be copied and pasted into the YAML of a project protocol or manuscript R Markdown file. These lines essentially produce a title page when the R Markdown file is knitted.

Usage

header(project, archived = FALSE)

Arguments

project Project id or unambiguous substring of the project name from the projects() table.
archived Logical, indicating whether or not the function should consider archived projects when determining which project the user is referring to in the project argument. FALSE by default. See the Details section of archive_project() for more information on the "archived" status of a project.

Details

The project header consists of:

1. the project title
2. the author list
3. the list of author affiliations
4. corresponding author information

Examples

#############################################################################
# SETUP
old_home &lt;- Sys.getenv("HOME")
old_ppath &lt;- Sys.getenv("PROJECTS_FOLDER_PATH")
temp_dir &lt;- tempfile("dir")
dir.create(temp_dir)
Sys.unsetenv("PROJECTS_FOLDER_PATH")

open_project(1, new_session = TRUE)
}

# CLEANUP
Sys.setenv(HOME = old_home, PROJECTS_FOLDER_PATH = old_ppath)

Sys.setenv(HOME = temp_dir)
ssetup_projects(path = temp_dir)
new_affiliation(department_name = "Math Dept.",
institution_name = "Springfield College",
address = "123 College St, Springfield, AB")
new_affiliation(department_name = "Art Department",
institution_name = "Springfield College",
address = "321 University Boulevard, Springfield, AB", id = 42)
new_affiliation(department_name = "Central Intelligence Agency",
institution_name = "United States Government",
address = "888 Classified Dr, Washington DC")
new_affiliation(department_name = "Pyrotechnics",
institution_name = "ACME")
new_author(given_names = "Rosetta", last_name = "Stone",
affiliations = c(42, "Math"), degree = "PhD",
email = "slab@rock.net", phone = "867-555-5309", id = 8888)
new_author(given_names = "Spiro", last_name = "Agnew", degree = "LLB",
affiliations = "Art D", id = 13)
new_author(given_names = "Plato", id = 303)
new_project(title = "Test Project 1", authors = c(13, "303", "Stone"), corresp_auth = "Stone")

#############################################################################
header(1)

#############################################################################
# CLEANUP
Sys.setenv(HOME = old_home, PROJECTS_FOLDER_PATH = old_ppath)

new_edit_delete            Create, edit or delete projects, authors and affiliations

Description

These functions create, edit, or delete rows in the projects(), authors(), and affiliations() tables, which are stored in the .metadata subdirectory of the main projects folder.

Usage

new_project(
  title = NA,
  current_owner = NA,
  stage = c("1: design", "2: data collection", "3: analysis", "4: manuscript",
            "5: under review", "6: accepted", "0: idea"),
  status = "just created",
  short_title = NA,
  authors = NULL,
  corresp_auth = NA,
)
creator = NA,
deadline_type = NA,
deadline = NA,
id = NA,
folder_name = paste0("p", stringr::str_pad(id, 4, pad = "0")),
parent_directory = projects_folder(),
make_directories = FALSE,
template_folder = "default_folder"
)

new_idea(title, status = "just an idea", ...)

new_author(
  given_names = NA,
  last_name = NA,
  title = NA,
  affiliations = NULL,
  degree = NA,
  email = NA,
  phone = NA,
  id = NA
)

new_affiliation(
  department_name = NA,
  institution_name = NA,
  address = NA,
  id = NA
)

edit_project(
  project,
  title = NULL,
  short_title = NULL,
  authors = NULL,
  current_owner = NULL,
  status = NULL,
  deadline_type = NULL,
  deadline = NULL,
  stage = NULL,
  corresp_auth = NULL,
  creator = NULL,
  archived = FALSE
)

edit_author(
  author,
  given_names = NULL,
last_name = NULL,
affiliations = NULL,
title = NULL,
degree = NULL,
email = NULL,
phone = NULL
)

edit_affiliation(
    affiliation,
    department_name = NULL,
institution_name = NULL,
    address = NULL
)

delete_project(project, archived = FALSE)

delete_author(author)

delete_affiliation(affiliation)

Arguments

title For new_project(), new_idea(), and edit_project(), the title of the project.
For new_author() and edit_author(), the job title of the author.

current_owner, corresp_auth, creator
    An id or unambiguous last_name/given_names of one of the authors in the
authors() table, which will be coerced into a projects_author-class object.
    If corresp_auth is specified, this author's contact information will be espe-
cially included in the output of header().
    If creator is left blank, the numeric portion of the resulting projects_author-
class object will be 0:, followed by the value of Sys.info()"("user""\) (e.g., 0: 
user_j_smith).

stage A number or string that will partially match exactly one of c("1: design", "2: 
data collection", "3: analysis", "4: manuscript", "5: under review", 
"6: accepted", "0: ideas"), communicating the stage the project is in. This 
will be coerced to be a character vector of class projects_stage.
    For new_project(), defaults to "1: design".
    See projects_stage-class.

status A free text field, intended to communicate the most current condition the project 
is in.
    For new_project(), default is "just created". For new_idea(), default is 
"just an idea".

short_title A nickname for the project. Can be used in other projects package functions 
whenever needing to specify a project.
authors, affiliations
For `new_project()`/`new_author()`, a vector of ids or unambiguous given_names/last_name or department_name/institution_name of authors/affiliations. Order will be preserved.
For `edit_project()`/`edit_author()`, a formula specifying authors/affiliations to add or remove from the project/author. Formulas must have no left-hand side (i.e., begin with `~`) and use `+` to add and `-` to remove (see formula). Authors and affiliations may be specified by id or name. Each element must match an existing row in the authors()/affiliations() table.
deadline_type A free text field, intended to communicate the meaning of the next field, deadline.
deadline A POSIXct object or something coercible to one (via lubridate::as_datetime()).
id An integer that will become the item’s permanent identification number. Must be in the range 1-9999 or left blank. If left blank, the lowest available integer in the aforementioned range will be selected.
folder_name A character string that can serve as a valid directory name. By default, it is "p" followed by the project id number left-filled with "0" until the number is four digits long.
parent_directory A character string that can be read as a file path. Can be either:
1. the absolute path of the projects folder (i.e., the value of projects_folder(), which is the default)
2. an absolute path pointing to a subfolder within the projects folder
3. a relative path (leading "." optional) that will be appended onto the end of the value of projects_folder().
In any case, the result is that the new project folder will be a subdirectory of the main projects folder. See also setup_projects().
make_directories Logical, indicating whether or not `new_project()` should create subdirectories specified in the path argument that do not already exist. Ignored if path is left as the default or if all directories in path already exist.
template_folder A character string naming a folder in the .templates folder that will be copied into the projects folder as the new project folder, renamed according to the value of the folder_name argument. See also Details below.
... Additional arguments to be passed to `new_project()`
given_names, last_name, department_name, institution_name Each a single character string. Can be used whenever needing to specify a specific author/affiliation.
degree A character string (preferably an abbreviation) denoting the author’s academic degree(s). Will be written next to author names when header() is run.
email, phone A character string denoting the email/phone of the author. Email will be coerced to lowercase. When a project is given a corresp_auth, email will be included in "Corresponding author:" section written by header().
address A character string indicating the address of the affiliation.
**new_edit_delete**

project, author, affiliation

The id or unambiguous name(s) of a project/author/affiliation to edit_*() or to delete_*().

archived

Logical indicating whether or not the function should consider archived projects when determining which project the user is referring to in the project argument. FALSE by default.

See the Details section of `archive_project()` for more information on the "archived" status of a project.

**Details**

`new_project()` copies the folder in the `.templates` folder named by the `template_name` argument into the `projects` folder, giving it the name specified by the `folder_name` argument. It then creates a line in the `projects()` table for the newly created project, filling many of its fields with the contents of corresponding arguments of this function. See `setup_projects()` for more information on the `.templates` folder.

`delete_project()` deletes project folders and removes their line from the `projects()` table.

The edit_*() functions and the other new_*() and delete_*() functions only create or edit rows in the `.metadata` tables.

`new_idea()` is a convenience function for quickly creating projects in the "0: idea" stage.

**Value**

`new_affiliation()` and `edit_affiliation()` simply return the new or edited row of the `affiliations()` tibble.

`new_project()`, `new_author()`, `edit_project()`, `edit_author()`, and the delete_*() functions invisibly return the row of the corresponding metadata tibble that was added/edited/deleted, although the contents of this row are printed as a side-effect along with the other relevant information where applicable (e.g., project authors, author affiliations, project file paths).

`new_idea()` returns the id, title, and status columns of the newly created row of the `projects()` tibble.

**Examples**

```r
# SETUP
old_home <- Sys.getenv("HOME")
old_ppath <- Sys.getenv("PROJECTS_FOLDER_PATH")
 temp_dir <- tempfile("dir")
dir.create(temp_dir)
Sys.unsetenv("PROJECTS_FOLDER_PATH")
Sys.setenv(HOME = temp_dir)
setup_projects(path = temp_dir)

# Creating affiliations
new_affiliation(department_name = "Math Dept.",
                institution_name = "Springfield College",
```

```r
```
new_edit_delete

    address = "123 College St, Springfield, AB")
new_affiliation(department_name = "Art Department",
    institution_name = "Springfield College",
    address = "321 University Boulevard, Springfield, AB",
    id = 42)

# Editing an affiliation
edit_affiliation("Math Dept", department_name = "Mathematics Department")

# Creating authors
new_author(
    given_names = "Rosetta",
    last_name = "Stone",
    affiliations = c(42, "Math"),
    degree = "PhD",
    email = "slab@rock.net",
    phone = "867-555-5309",
    id = 8888
)
new_author(
    given_names = "Spiro",
    last_name = "Agnew",
    degree = "LLB",
    affiliations = "Art D", id = 13
)
new_author(last_name = "Plato", id = 303)

# Editing an author, showcasing the removal of a text element (last_name)
edit_author(author = 303, given_names = "Plato", last_name = NA)

# Editing an author, showcasing the addition and removal of affiliations
edit_author("Spiro", affiliations = ~ -"Art D" + Math)

# Creating a project
new_project(
    title = "Understanding the Construction of the United States",
    short_title = "USA",
    authors = c(13, "Stone"),
    stage = 4,
    deadline = "2055-02-28",
    deadline_type = "submission",
    parent_directory = "famous_studied/philosophers/rocks",
    corresp_auth = "Stone",
    current_owner = "agnew",
    make_directories = TRUE,
    status = "waiting on IRB"
)

# Editing a project, showcasing the addition and removal of authors
edit_project(
    "Understanding",
    short_title = "usa1",
    authors = ~ + "303" - 13 - Stone


```r
new_idea(title = "Boiling the Ocean")

# Wrapped in if (interactive()) because it requires interactive console input
# and fails automated package checking and testing.
if (interactive()) {
  delete_project("usa1")
  delete_author(303)
  delete_affiliation("Math")
}

# CLEANUP
Sys.setenv(HOME = old_home, PROJECTS_FOLDER_PATH = old_ppath)
```

---

**projects_author**

**projects_author vector**

**Description**

Objects of this class contain both the id and the last_name of an author so that the package and the user, respectively, can easily identify the author.

**Usage**

```r
projects_author(x = character())

match.projects_author(x, table, nomatch = NA_integer_, incomparables = NULL)
```

```r
# S4 method for signature 'projects_author,ANY'
match(x, table, nomatch = NA_integer_, incomparables = NULL)
```

```r
# S4 method for signature 'ANY,projects_author'
match(x, table, nomatch = NA_integer_, incomparables = NULL)
```

```r
# S4 method for signature 'projects_author,projects_author'
match(x, table, nomatch = NA_integer_, incomparables = NULL)
```

```r`
%in%.projects_author(x, table)
```

```r
# S4 method for signature 'projects_author'
x %in% table
```

**Arguments**

- **x**
  - For `projects_author()`, an integer or character vector. For
  - For `match()` and `%in%`, an integer, a character string, or a `projects_author` object. See `match()` and **Equality and value matching methods** below.
table

An integer number, a character string, or a `projects_author` object. See `match()` and **Equality and value matching methods** below.

nomatch

See `match()`.

incomparables

An integer number, a character string, or a `projects_author` object. See `match()`.

**Details**

Essentially, this is a character string of the form:

```
id: last_name
```

`projects_author()` coerces an integer or character vector to a `projects_author` object, validating each element against the existing `authors()` table.

**Numeric coercion methods**

`as.integer()`, `as.double()`, and `as.numeric()` return the id portion of the `projects_author` object as an integer/double. The methods for the equality and value matching functions described below make use of these numeric coercion methods. Users desiring to apply value matching functions other than the ones described below may similarly take advantage of these.

**Equality and value matching methods**

Methods for `==`, `!=`, `match()`, and `%in%` enable users to test equality and to value match among `projects_author` objects and as well as between `projects_author` objects and unclassed numbers/characters. When testing or matching against a numeric vector, the `projects_author` object is first coerced to an integer with the `as.integer()` method described above. When testing or matching against a character vector, the character vector is validated against the `authors()` table.

**See Also**

`Ops`; `Methods_for_Nongenerics`.

**Examples**

```
# SETUP
old_home <- Sys.getenv("HOME")
old_ppath <- Sys.getenv("PROJECTS_FOLDER_PATH")
temp_dir <- tempfile("dir")
dir.create(temp_dir)
Sys.unsetenv("PROJECTS_FOLDER_PATH")
Sys.setenv(HOME = temp_dir)
setup_projects(path = temp_dir)
new_author("chuck", "jonesman", id = 33)
new_author("Hattie", "Hatsman", id = 45)

jones <- projects_author("33: Jones")

jones
```
as.integer(jones) # 33
jones == 33       # TRUE
jones == 10      # FALSE
jones != 33      # FALSE

jones %in% c(20:40) # TRUE
match(jones, c(31:40)) # 3

# Comparing a projects_author object to a character vector results in the
# character strings being validated against the authors() table. Then, the id
# numbers are compared.
jones == c("jOnES", "hat") # TRUE FALSE

##########################################################################
# Cleanup (or just restart R)
Sys.setenv(HOME = old_home, PROJECTS_FOLDER_PATH = old_ppath)

description

Description

Returns the file path of the main projects folder if it has been established via setup_projects().

Usage

projects_folder()

details

Details

The file path is returned as a simple character string. It simply returns the value of Sys.getenv("PROJECTS_FOLDER_PATH"), provided that its value is a file path of a directory that actually exists (i.e., setup_projects() has been successfully run).

If it can’t find a directory with that path, it returns this string:

projects folder not found. Please run setup_projects()

See Also

setup_projects() for setting up the projects folder.

Examples

projects_folder()
Description

Objects of this class are merely a character string containing a number and a name of one of seven project development stages.

Usage

projects_stage(x = character())
match.projects_stage(x, table, nomatch = NA_integer_, incomparables = NULL)

## S4 method for signature 'projects_stage,ANY'
match(x, table, nomatch = NA_integer_, incomparables = NULL)

## S4 method for signature 'ANY,projects_stage'
match(x, table, nomatch = NA_integer_, incomparables = NULL)

## S4 method for signature 'projects_stage,projects_stage'
match(x, table, nomatch = NA_integer_, incomparables = NULL)

`%in%` projects_stage`\`(x, table)

## S4 method for signature 'projects_stage'
x %in% table

Arguments

x For projects_stage(), an integer or character vector. For
For match() and %in%, an integer, a character string, or a projects_stage object. See match() and Comparison and value matching methods below.

table An integer number, a character string, or a projects_stage object. See match() and Comparison and value matching methods below.

nomatch See match().
incomparables An integer number, a character string, or a projects_stage object. See match().

Details

A projects_stage object is either a missing value (NA) or one of:

0: idea
1: design
2: data collection
3: analysis
4: manuscript
projects_stage

5: under review
6: accepted

projects_stage() validates and coerces a vector of the above integers or strings to a projects_stage S3 vector.

Value

For projects_stage(), an S3 vector of class projects_stage.

Numeric coercion methods

as.integer(), as.double(), and as.numeric() return the stage number of the projects_stage object as an integer/double. The methods for the comparison and value matching functions described below make use of these numeric coercion methods. Users desiring to apply value matching functions other than the ones described below may similarly take advantage of these.

Comparison and value matching methods

Methods for the Comparison operators as well as match() and %in% enable users to test equality and to value match among projects_stage objects and as well as between projects_stage objects and unclassed numbers/characters. When comparing or value matching against a numeric vector, the projects_stage object is first coerced to an integer with the as.integer() method described above. When testing or value matching against a character vector, the character vector is validated against the list of project stages enumerated above.

See Also

Ops: Methods_for_Nongenerics.

Examples

stage <- projects_stage("4: manuscript")
as.integer(stage) # 4

stage == 4 # TRUE
stage != 4 # FALSE
stage < 6 # TRUE

stage %in% c(3:6) # TRUE
match(stage, 0:4) # 5

stage %in% c("design", "manusc", "idea") # TRUE

more_stages <- projects_stage(c("0: idea", "4: manuscript", "1: design"))

match("MAnuscRIPT", more_stages) # 2
reordering  

Reordering authors and affiliations

Description

These functions allow the user to reorder a project’s authors or an author’s affiliations.

Usage

reorder_authors(project, ..., after = 0L, archived = FALSE)

reorder_affiliations(author, ..., after = 0L)

Arguments

- project, author
  - The id or unambiguous names of a project/author whose authors/affiliations you want to reorder.
- ...
  - The ids or names of authors/affiliations you want to reorder, optionally with their new ranks explicitly stated. See Details.
- after
  - If not specifying explicit ranks in ..., the position you want the elements to come after. Works like the after argument in \texttt{append} or \texttt{forcats::fct_relevel}(). Ignored if ranks are explicitly provided in ....
- archived
  - Logical indicating whether or not the function should consider archived projects when determining which project the user is referring to in the project argument. FALSE by default.

Details

The order of authors and affiliations affects the order in which these items appear in the output of \texttt{header}().

When specifying explicit ranks, enter ... as name-value pairs (e.g., Johnson = 2, "Baron Cohen" = 4). You can even enumerate authors/affiliations by their corresponding (quoted) id numbers (e.g., ‘7’ = 2, ACME = 4, ‘22’ = 6). If entering an integer greater than the total number of authors/affiliations, the element will be put at the end. The after argument will be ignored in this case.

When not specifying explicit ranks, simply enter author/affiliations ids or names in the order you want them, and the ones you entered will be inserted after the position specified by the after argument. By default (after = 0), the authors/affiliations in ... will be moved to the front. This behavior corresponds to that of \texttt{append}() or \texttt{forcats::fct_relevel}().
Examples

`# SETUP`

```r
old_home <- Sys.getenv("HOME")
old_ppath <- Sys.getenv("PROJECTS_FOLDER_PATH")
temp_dir <- tempfile("dir")
dir.create(temp_dir)
Sys.unsetenv("PROJECTS_FOLDER_PATH")
Sys.setenv(HOME = temp_dir)
setup_projects(path = temp_dir)

new_affiliation(department_name = "Math Dept.",
                 institution_name = "Springfield College",
                 address = "123 College St, Springfield, AB")
new_affiliation(department_name = "Art Department",
                 institution_name = "Springfield College",
                 address = "321 University Boulevard, Springfield, AB",
                 id = 42)
new_affiliation(department_name = "Central Intelligence Agency",
                 institution_name = "United States Government",
                 address = "888 Classified Dr, Washington DC")
new_affiliation(department_name = "Pyrotechnics",
                 institution_name = "ACME")
new_author(given_names = "Rosetta",
            last_name = "Stone",
            affiliations = c(42, "Math"),
            degree = "PhD",
            email = "slab@rock.net",
            phone = "867-555-5309",
            id = 8888)
new_author(given_names = "Spiro",
            last_name = "Agnew",
            degree = "LLB",
            affiliations = "Art D",
            id = 13)
new_author(given_names = "Plato",
            last_name = "Stone",
            id = 303)
new_author(given_names = "Condoleezza",
            last_name = "Rice",
            degree = "PhD",
            affiliations = c(1, 42, "Agency", "ACME"),
            phone = "555-555-5555",
            email = "condoleezza@ri.ce")
new_author(given_names = "Jane",
            last_name = "Goodall",
            degree = "PhD",
            affiliations = 3,
            id = 5)
new_project(title = "Understanding the Construction of the United States",
            short_title = "USA",
            authors = c(13, "Stone", "zz", "303", "Jane Goodall"),
            stage = 4,
            deadline = "2055-02-28",
            deadline_type = "submission",
            parent_directory = "famous_studied/philosophers/rocks",
            corresp_auth = "Stone",
            current_owner = "agnew",
            make_directories = TRUE,
            status = "waiting on IRB")
```

`# Rice's affiliations before reordering:
authors("rice", affiliations = TRUE)`

`# Reordering (with unnamed arguments)
reorder_affiliations(author = "RICE", "ACME", 42, after = 1)`

`# Rice's affiliations after reordering:
authors("rice", affiliations = TRUE)`
save_session_info

# Project 1 header before reordering authors:
header(1)

# Reordering (with named arguments)
reorder_authors(project = 1, "Rosetta" = 99, `303` = 2, "5" = 1)

# Project 1 header after reordering authors:
header(1)

# CLEANUP
Sys.setenv(HOME = old_home, PROJECTS_FOLDER_PATH = old_ppath)

save_session_info  Save R session information

Description

Creates a dated text file (.txt) containing the contents of sessioninfo::session_info().

Usage

save_session_info(path_dir = here::here("progs", "session_info"))

Arguments

path_dir

The full path of the directory where the session information text file shall be written. If it doesn’t exist, it is written with fs::dir_create().

Details

The date and time when this function was run is included in the resulting .txt file’s name and first line. This date and time is obtained from Sys.time().

For the file name, hyphens (-) are removed from the date, spaces are replaced with underscores (_), and colons (:) are replaced with a modifier letter colon (U+A789).

Value

A list of two:

$ time : the value of Sys.time() that the function used

$ session_info() : the value of sessioninfo::session_info() that the function used
setup_projects

Set up the projects folder

Description

Creates or restores the projects folder at the user-specified path.

Usage

```r
setup_projects(
  path,
  folder_name = "projects",
  overwrite = FALSE,
  make_directories = FALSE,
  .Renviron_path = file.path(Sys.getenv("HOME"), ".Renviron")
)
```

Arguments

- **path**: The file path of the directory inside of which the user would like the projects folder to be created. Do not include the name of the projects folder itself (i.e., the value of the argument `folder_name` below).
- **folder_name**: The name of the projects folder that will be created in the directory specified by the argument `path` above. Defaults to "projects".
- **overwrite**: Logical indicating whether or not to abandon any previously stored projects folders stored in the system.
- **make_directories**: Logical indicating whether or not the function should write any directories specified in the `path` argument that don’t already exist.
- **.Renviron_path**: The full file path of the .Renviron file where the user would like to store the `projects_folder()` path. Default is the home .Renviron file. If the file doesn’t exist it will be created.

Details

The `projects` package remembers where the `projects_folder` is located by storing its file path in a .Renviron file (the home .Renviron file by default). The entry is named PROJECTS_FOLDER_PATH.

Note that changing the `.Renviron_path` argument may create an .Renviron file that R will not notice or use. See Startup for more details.

Value

The project folder’s path, invisibly.
Default contents

The projects folder automatically contains the subdirectories .metadata and .templates, which are hidden by default on some operating systems.

The .metadata folder and its contents should never be manually moved or modified.

The .templates folder is where template project files and folders should be stored. When this function is successfully run, the default projects folder template is created (as "default_folder") alongside a few other template files. When a new project is created, new_project() looks here for the folder named by its template_folder argument ("default_folder" by default), and this folder is copied into the projects folder (with name specified by the folder_name argument) as the new project folder. Users are able and encouraged to customize the default_folder to suit their research needs, and may even create multiple project folder templates for different situations.

The default templates are in the folder located at the path produced by running: system.file("templates", package = "projects")

Behavior when projects folder already exists

If overwrite = TRUE, the function will run no matter what. Use with caution.

If the user has a pre-existing projects folder and runs this command with the pre-existing projects folder’s path, nothing will be deleted.

Therefore, if the user "broke" the projects folder (e.g., by deleting metadata; by changing the "PROJECTS_FOLDER_PATH" line in the .Renviron file), the user can "fix" the projects folder to some degree by running this function with the folder’s actual file path (e.g., restore all default templates; restore missing metadata files).

See Also

new_project() for information on templates

Startup for more information on how .Renviron files work.

Examples

# Setup
# Any existing "projects" folder is left totally untouched,
# and the user's home directory and .Renviron file are also left untouched.
old_home <- Sys.getenv("HOME")
old_ppath <- Sys.getenv("PROJECTS_FOLDER_PATH")
temp_dir <- tempfile("dir")
dir.create(temp_dir)
Sys.setenv(HOME = temp_dir)
Sys.unsetenv("PROJECTS_FOLDER_PATH")

# Creating the projects folder
setup_projects(path = temp_dir)

# Viewing the projects folder path:
path1 <- projects_folder()
# Viewing the contents of the projects folder:
list.files(path1, full.names = TRUE, recursive = TRUE, all.files = TRUE)

# Create an arbitrary subfolder in temp_dir:
subfolder_path <- file.path(temp_dir, "test")
dir.create(subfolder_path)

# Wrapped in if (interactive()) because it requires user input
if (interactive()) {
  # The function won't let the user abandon the old projects folder...
  setup_projects(path = subfolder_path)
  # ...unless overwrite = TRUE
  setup_projects(path = file.path(temp_dir, "test"), overwrite = TRUE)
  # Even then, only the stored location of the projects folder is overwritten.
  # The old projects folder still exists:
  list.files(path1, full.names = TRUE, recursive = TRUE, all.files = TRUE)
  # Giving the "projects" folder a different name:
  setup_projects(path = temp_dir, folder_name = "studies", overwrite = TRUE)
}

# Cleanup
# (or, the user can just restart R)
Sys.setenv(HOME = old_home, PROJECTS_FOLDER_PATH = old_ppath)

update_metadata  Update the project metadata

Description

Safely updates existing project metadata to be compatible with projects 1.X.X.

Usage

update_metadata(ask = TRUE)

Arguments

ask Logical, indicating whether or not the user would be asked at the command line whether or not to proceed. Defaults to TRUE.
Details

Prior to projects 1.0.1, the stage, current_owner, corresp_auth, and creator columns of the projects() table were different.

The stage column was a factor, and users had to type stage names exactly, down to the integer, colon, and space. Now, this column is of class projects_stage-class.

The latter three columns were integers corresponding to ids in the authors() table, so users would have to query that table if they did not remember which author was denoted by the integer id.

See Also

projects_stage-class; projects_author-class.
Index

<table>
<thead>
<tr>
<th>Function</th>
<th>Page(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>.Renviron</td>
<td>26</td>
</tr>
<tr>
<td>==</td>
<td>19</td>
</tr>
<tr>
<td>%in%,projects_author-method (projects_author)</td>
<td>18</td>
</tr>
<tr>
<td>%in%,projects_stage-method (projects_stage)</td>
<td>21</td>
</tr>
<tr>
<td>%in%,projects_author (projects_author)</td>
<td>18</td>
</tr>
<tr>
<td>%in%,projects_stage (projects_stage)</td>
<td>21</td>
</tr>
<tr>
<td>%in%,18,19,21,22</td>
<td>-</td>
</tr>
<tr>
<td>affiliations,3,12,15,16</td>
<td></td>
</tr>
<tr>
<td>append,23</td>
<td></td>
</tr>
<tr>
<td>archive_project,4,11,16,23</td>
<td></td>
</tr>
<tr>
<td>archive_project (file_management),8</td>
<td></td>
</tr>
<tr>
<td>as.double,19,22</td>
<td></td>
</tr>
<tr>
<td>as.integer,19,22</td>
<td></td>
</tr>
<tr>
<td>as.numeric,19,22</td>
<td></td>
</tr>
<tr>
<td>as_datetime,15</td>
<td></td>
</tr>
<tr>
<td>authors,12,14,15,19,29</td>
<td></td>
</tr>
<tr>
<td>authors (affiliations),3</td>
<td></td>
</tr>
<tr>
<td>browseURL,6</td>
<td></td>
</tr>
<tr>
<td>Comparison,22</td>
<td></td>
</tr>
<tr>
<td>copy_project (file_management),8</td>
<td></td>
</tr>
<tr>
<td>delete_affiliation (new_edit_delete),12</td>
<td></td>
</tr>
<tr>
<td>delete_author (new_edit_delete),12</td>
<td></td>
</tr>
<tr>
<td>delete_project,10</td>
<td></td>
</tr>
<tr>
<td>delete_project (new_edit_delete),12</td>
<td></td>
</tr>
<tr>
<td>dir_create,25</td>
<td></td>
</tr>
<tr>
<td>display_metadata (affiliations),3</td>
<td></td>
</tr>
<tr>
<td>edit_affiliation (new_edit_delete),12</td>
<td></td>
</tr>
<tr>
<td>edit_author (new_edit_delete),12</td>
<td></td>
</tr>
<tr>
<td>edit_project (new_edit_delete),12</td>
<td></td>
</tr>
<tr>
<td>email_authors,6</td>
<td></td>
</tr>
<tr>
<td>export_project,7</td>
<td></td>
</tr>
<tr>
<td>factor,29</td>
<td></td>
</tr>
<tr>
<td>fct_relevel,23</td>
<td></td>
</tr>
<tr>
<td>file_management,8</td>
<td></td>
</tr>
<tr>
<td>formula,15</td>
<td></td>
</tr>
<tr>
<td>getActiveProject,6</td>
<td></td>
</tr>
<tr>
<td>header,11,14,15,23</td>
<td></td>
</tr>
<tr>
<td>ideas (affiliations),3</td>
<td></td>
</tr>
<tr>
<td>invisibly,16</td>
<td></td>
</tr>
<tr>
<td>left_join,4</td>
<td></td>
</tr>
<tr>
<td>manuscripts (affiliations),3</td>
<td></td>
</tr>
<tr>
<td>match,18,19,21,22</td>
<td></td>
</tr>
<tr>
<td>match,ANY,projects_author-method (projects_author),18</td>
<td></td>
</tr>
<tr>
<td>match,ANY,projects_stage-method (projects_stage),21</td>
<td></td>
</tr>
<tr>
<td>match,projects_author,ANY-method (projects_author),18</td>
<td></td>
</tr>
<tr>
<td>match,projects_author,projects_author-method (projects_author),18</td>
<td></td>
</tr>
<tr>
<td>match,projects_stage,ANY-method (projects_stage),21</td>
<td></td>
</tr>
<tr>
<td>match,projects_stage,projects_stage-method (projects_stage),21</td>
<td></td>
</tr>
<tr>
<td>match,projects_author (projects_author),18</td>
<td></td>
</tr>
<tr>
<td>match,projects_stage (projects_stage),21</td>
<td></td>
</tr>
<tr>
<td>Methods_for_Nongenerics,19,22</td>
<td></td>
</tr>
<tr>
<td>move_project (file_management),8</td>
<td></td>
</tr>
<tr>
<td>move_projects_folder (file_management),8</td>
<td></td>
</tr>
<tr>
<td>new_affiliation (new_edit_delete),12</td>
<td></td>
</tr>
<tr>
<td>new_author (new_edit_delete),12</td>
<td></td>
</tr>
<tr>
<td>new_edit_delete,12</td>
<td></td>
</tr>
<tr>
<td>new_idea (new_edit_delete),12</td>
<td></td>
</tr>
</tbody>
</table>
new_project, 8, 10, 27
new_project (new_edit_delete), 12
new_project_group (file_management), 8

open_project (file_management), 8
openProject, 9
Ops, 19, 22

path_sanitize, 9
POSIXct, 15
projects, 4, 6, 7, 9, 11, 12, 16, 26, 28, 29
projects (affiliations), 3
projects_folder, 9, 12, 15, 16, 26, 27
projects-package, 2
projects_author, 18
projects_author-class, 14
projects_author-class
  (projects_author), 18
projects_folder, 9, 15, 20, 26
projects_stage, 21
projects_stage-class, 14
projects_stage-class (projects_stage), 21

rename_folder (file_management), 8
rename_projects_folder
  (file_management), 8
reorder_affiliations (reordering), 23
reorder_authors (reordering), 23
reordering, 23

save_session_info, 25
session_info, 25
setup_projects, 3, 9, 15, 16, 20, 26
Startup, 26, 27
Sys.getenv, 20
Sys.info, 14
Sys.time, 25
system.file, 27

tibble, 4

update_metadata, 28

zipr, 7