

Package ‘GitStats’

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Title Standardized Git Repository Data

Version 2.3.3

Description Obtain standardized data from multiple 'Git' services, including 'GitHub' and 'GitLab'.

Designed to be 'Git' service-agnostic, this package assists teams with activities spread across various 'Git' platforms by providing a unified way to access repository data.

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<https://github.com/r-world-devs/GitStats>

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create_gitstats	<i>Create a GitStats object</i>
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Description

Create a GitStats object

Usage

create_gitstats()

Value

A GitStats object.

Examples

```
my_gitstats <- create_gitstats()
```

get_commits

*Get data on commits***Description**

List all commits from all repositories for an organization or a vector of repositories.

Usage

```
get_commits(
  gitstats,
  since = NULL,
  until = Sys.Date() + lubridate::days(1),
  cache = TRUE,
  verbose = is_verbose(gitstats),
  progress = verbose
)
```

Arguments

gitstats	A GitStats object.
since	A starting date.
until	An end date.
cache	A logical, if set to TRUE GitStats will retrieve the last result from its storage.
verbose	A logical, TRUE by default. If FALSE messages and printing output is switched off.
progress	A logical, by default set to verbose value. If FALSE no cli progress bar will be displayed.

Value

A table of tibble and gitstats_commits classes.

Examples

```
## Not run:
my_gitstats <- create_gitstats() %>%
  set_github_host(
    token = Sys.getenv("GITHUB_PAT"),
    repos = c("openpharma/DataFakeR", "openpharma/visR")
  ) %>%
  set_gitlab_host(
    token = Sys.getenv("GITLAB_PAT_PUBLIC"),
    orgs = "mbtests"
  )
get_commits(my_gitstats, since = "2018-01-01")

## End(Not run)
```

get_commits_stats	<i>Get commits statistics</i>
-------------------	-------------------------------

Description

Prepare statistics from the pulled commits data.

Usage

```
get_commits_stats(
  commits,
  time_aggregation = c("year", "month", "week", "day"),
  group_var
)
```

Arguments

commits	A gitstats_commits S3 class table object (output of get_commits()).
time_aggregation	A character, specifying time aggregation of statistics.
group_var	Other grouping variable to be passed to dplyr::group_by() function apart from stats_date and githost. Could be: author, author_login, author_name or organization. Should be passed without quotation marks.

Details

To make function work, you need first to get commits data with GitStats. See examples section.

Value

A table of commits_stats class.

Examples

```
## Not run:
my_gitstats <- create_gitstats() %>%
  set_github_host(
    token = Sys.getenv("GITHUB_PAT"),
    repos = c("r-world-devs/GitStats", "openpharma/visR")
  ) |>
get_commits(my_gitstats, since = "2022-01-01") |>
get_commits_stats(
  time_aggregation = "year",
  group_var = author
)

## End(Not run)
```

`get_files`*Get files*

Description

Pulls text files and their content.

Usage

```
get_files(  
  gitstats,  
  pattern = NULL,  
  depth = Inf,  
  file_path = NULL,  
  cache = TRUE,  
  verbose = is_verbose(gitstats),  
  progress = verbose  
)
```

Arguments

<code>gitstats</code>	A <code>GitStats</code> object.
<code>pattern</code>	A regular expression. If defined, it pulls content of all files in a repository matching this pattern reaching to the level of directories defined by <code>depth</code> parameter. Works only if <code>file_path</code> stays <code>NULL</code> .
<code>depth</code>	Defines level of directories to retrieve files from. E.g. if set to <code>0</code> , it will pull files only from root, if <code>1L</code> , will take data from root directory and directories visible in root directory. If left with no argument, will pull files from all directories.
<code>file_path</code>	A specific path to file(s) in repositories. May be a character vector if multiple files are to be pulled. If defined, the function pulls content of this specific <code>file_path</code> . Can be defined only if <code>pattern</code> stays <code>NULL</code> .
<code>cache</code>	A logical, if set to <code>TRUE</code> <code>GitStats</code> will retrieve the last result from its storage.
<code>verbose</code>	A logical, <code>TRUE</code> by default. If <code>FALSE</code> messages and printing output is switched off.
<code>progress</code>	A logical, by default set to <code>verbose</code> value. If <code>FALSE</code> no cli progress bar will be displayed.

Details

`get_files()` may be used in two ways: either with `pattern` (with optional `depth`) or `file_path` argument defined.

In the first scenario, `GitStats` will pull first a files structure responding to the passed `pattern` and `depth` arguments and afterwards files content for all of these files. In the second scenario, `GitStats` will pull only the content of files for the specific `file_path` of the repository.

If user wants to pull a particular file or files, a `file_path` approach seems more reasonable, as it is a faster way since it omits pulling the whole file structure from the repo.

For example, if user wants to pull content of `README.md` and/or `NEWS.md` files placed in the root directories of the repositories, he should take the `file_path` approach as he already knows precisely paths of the files.

On the other hand, if user wants to pull specific type of files (e.g. all `.md` or `.Rmd` files in the repository), without knowing their path, it is recommended to use a `pattern` approach, which will trigger `GitStats` to find all the files in the repository on the given level of directories (`pattern` argument) and afterwards pull their content.

The latter approach is slower than the former but may be more useful depending on users' goals. Both approaches return data in the same format: tibble with data on files, namely their path and their content.

Value

A `data.frame`.

Examples

```
## Not run:
git_stats <- create_gitstats() |>
  set_github_host(
    token = Sys.getenv("GITHUB_PAT"),
    orgs = c("r-world-devs")
  ) |>
  set_gitlab_host(
    token = Sys.getenv("GITLAB_PAT_PUBLIC"),
    orgs = "mbtests"
  )

rmd_files <- get_files(
  gitstats = git_stats,
  pattern = "\\R\\.Rmd",
  depth = 2L
)

app_files <- get_files(
  gitstats = git_stats,
  file_path = c("R/app.R", "R/ui.R", "R/server.R")
)

## End(Not run)
```

Description

List all issues from all repositories for an organization or a vector of repositories.

Usage

```
get_issues(  
  gitstats,  
  since = NULL,  
  until = Sys.Date() + lubridate::days(1),  
  state = NULL,  
  cache = TRUE,  
  verbose = is_verbose(gitstats),  
  progress = verbose  
)
```

Arguments

gitstats	A GitStats object.
since	A starting date.
until	An end date.
state	An optional character, by default NULL, may be set to "open" or "closed" if user wants one type of issues.
cache	A logical, if set to TRUE GitStats will retrieve the last result from its storage.
verbose	A logical, TRUE by default. If FALSE messages and printing output is switched off.
progress	A logical, by default set to verbose value. If FALSE no cli progress bar will be displayed.

Value

A table of tibble and gitstats_issues classes.

Examples

```
## Not run:  
my_gitstats <- create_gitstats() %>%  
  set_github_host(  
    token = Sys.getenv("GITHUB_PAT"),  
    repos = c("openpharma/DataFakeR", "openpharma/visR")  
  ) %>%  
  set_gitlab_host(  
    token = Sys.getenv("GITLAB_PAT_PUBLIC"),  
    orgs = "mbtests"  
  )  
get_issues(my_gitstats, since = "2018-01-01", state = "open")  
  
## End(Not run)
```

get_issues_stats	<i>Get issues statistics</i>
------------------	------------------------------

Description

Prepare statistics from the pulled issues data.

Usage

```
get_issues_stats(
  issues,
  time_aggregation = c("year", "month", "week", "day"),
  group_var
)
```

Arguments

issues	A gitstats_issue S3 class table object (output of get_issues()).
time_aggregation	A character, specifying time aggregation of statistics.
group_var	Other grouping variable to be passed to dplyr::group_by() function apart from stats_date and githost. Could be: author, state or organization. Should be passed without quotation marks.

Details

To make function work, you need first to get issues data with GitStats. See examples section.

Value

A table of issues_stats class.

Examples

```
## Not run:
my_gitstats <- create_gitstats() %>%
  set_github_host(
    token = Sys.getenv("GITHUB_PAT"),
    repos = c("r-world-devs/GitStats", "openpharma/visR")
  ) |>
  get_issues(my_gitstats, since = "2022-01-01") |>
  get_issues_stats(
    time_aggregation = "month",
    group_var = state
  )

## End(Not run)
```

`get_orgs`*Get data on organizations*

Description

Pulls data on all organizations from a Git host and parses it into table format.

Usage

```
get_orgs(gitstats, cache = TRUE, verbose = is_verbose(gitstats))
```

Arguments

<code>gitstats</code>	A GitStats object.
<code>cache</code>	A logical, if set to TRUE GitStats will retrieve the last result from its storage.
<code>verbose</code>	A logical, TRUE by default. If FALSE messages and printing output is switched off.

Value

A data.frame.

Examples

```
## Not run:
my_gitstats <- create_gitstats() |>
  set_github_host(
    orgs = c("r-world-devs", "openpharma"),
    token = Sys.getenv("GITHUB_PAT")
  ) |>
  set_gitlab_host(
    orgs = "mbtests",
    token = Sys.getenv("GITLAB_PAT_PUBLIC")
  )
get_orgs(my_gitstats)

## End(Not run)
```

`get_release_logs`*Get release logs*

Description

Pull release logs from repositories.

Usage

```
get_release_logs(  
  gitstats,  
  since = NULL,  
  until = Sys.Date() + lubridate::days(1),  
  cache = TRUE,  
  verbose = is_verbose(gitstats),  
  progress = verbose  
)
```

Arguments

gitstats	A GitStats object.
since	A starting date.
until	An end date.
cache	A logical, if set to TRUE GitStats will retrieve the last result from its storage.
verbose	A logical, TRUE by default. If FALSE messages and printing output is switched off.
progress	A logical, by default set to verbose value. If FALSE no cli progress bar will be displayed.

Value

A data.frame.

Examples

```
## Not run:  
my_gitstats <- create_gitstats() %>%  
  set_github_host(  
    token = Sys.getenv("GITHUB_PAT"),  
    orgs = c("r-world-devs", "openpharma")  
  )  
  get_release_logs(my_gistats, since = "2024-01-01")  
  
## End(Not run)
```

get_repos	<i>Get data on repositories</i>
-----------	---------------------------------

Description

Pulls data on all repositories for an organization, individual user or those with a given text in code blobs (with_code parameter) or a file (with_files parameter) and parse it into table format.

Usage

```
get_repos(
  gitstats,
  add_contributors = TRUE,
  with_code = NULL,
  in_files = NULL,
  with_files = NULL,
  cache = TRUE,
  verbose = is_verbose(gitstats),
  progress = verbose
)
```

Arguments

gitstats	A GitStats object.
add_contributors	A logical parameter to decide whether to add information about repositories' contributors to the repositories output (table). If set to FALSE it makes function run faster as, in the case of org search mode, it reaches only GraphQL endpoint with a query on repositories, and in the case of code search mode it reaches only repositories REST API endpoint. However, the pitfall is that the result does not convey information on contributors. When set to TRUE (by default), GitStats iterates additionally over pulled repositories and reaches to the contributors APIs, which makes it slower, but gives additional information.
with_code	A character vector, if defined, GitStats will pull repositories with specified code phrases in code blobs.
in_files	A character vector of file names. Works when with_code is set - then it searches code blobs only in files passed to in_files parameter.
with_files	A character vector, if defined, GitStats will pull repositories with specified files.
cache	A logical, if set to TRUE GitStats will retrieve the last result from its storage.
verbose	A logical, TRUE by default. If FALSE messages and printing output is switched off.
progress	A logical, by default set to verbose value. If FALSE no cli progress bar will be displayed.

Value

A data.frame.

Examples

```
## Not run:
my_gitstats <- create_gitstats() %>%
  set_github_host(
    token = Sys.getenv("GITHUB_PAT"),
```

```

    orgs = c("r-world-devs", "openpharma")
  ) %>%
  set_gitlab_host(
    token = Sys.getenv("GITLAB_PAT_PUBLIC"),
    orgs = "mbtests"
  )
  get_repos(my_gitstats)
  get_repos(my_gitstats, add_contributors = FALSE)
  get_repos(my_gitstats, with_code = "Shiny", in_files = "renv.lock")
  get_repos(my_gitstats, with_files = "DESCRIPTION")

## End(Not run)

```

get_repos_trees

Get data on files trees across repositories

Description

Pulls files tree (structure) per repository. Files trees are then stored as character vectors in `files_tree` column of output table.

Usage

```

get_repos_trees(
  gitstats,
  pattern = NULL,
  depth = Inf,
  cache = TRUE,
  verbose = is_verbose(gitstats),
  progress = verbose
)

```

Arguments

<code>gitstats</code>	A GitStats object.
<code>pattern</code>	A regular expression. If defined, it pulls structure of files in a repository matching this pattern reaching to the level of directories defined by <code>depth</code> parameter.
<code>depth</code>	Defines level of directories to reach for files structure from. E.g. if set to 0, it will pull files tree only from root, if 1L, will take data from root directory and directories visible in root directory. If left with no argument, will pull files tree down to every directory in a repo.
<code>cache</code>	A logical, if set to TRUE GitStats will retrieve the last result from its storage.
<code>verbose</code>	A logical, TRUE by default. If FALSE messages and printing output is switched off.
<code>progress</code>	A logical, by default set to verbose value. If FALSE no cli progress bar will be displayed.

Value

A tibble.

Examples

```
## Not run:
my_gitstats <- create_gitstats() %>%
  set_github_host(
    token = Sys.getenv("GITHUB_PAT"),
    orgs = c("r-world-devs", "openpharma")
  )

get_repos_trees(
  gitstats = my_gitstats,
  pattern = "\\\\.md"
)

## End(Not run)
```

get_repos_urls	<i>Get repository URLs</i>
----------------	----------------------------

Description

Pulls a vector of repositories URLs (web or API): either all for an organization or those with a given text in code blobs (with_code parameter) or a file (with_files parameter).

Usage

```
get_repos_urls(
  gitstats,
  type = "api",
  with_code = NULL,
  in_files = NULL,
  with_files = NULL,
  cache = TRUE,
  verbose = is_verbose(gitstats),
  progress = verbose
)
```

Arguments

gitstats	A GitStats object.
type	A character, choose if api or web (html) URLs should be returned. api type is set by default as setting web results in parsing which may be time consuming in case of large number of repositories.
with_code	A character vector, if defined, GitStats will pull repositories with specified code phrases in code blobs.

in_files	A character vector of file names. Works when with_code is set - then it searches code blobs only in files passed to in_files parameter.
with_files	A character vector, if defined, GitStats will pull repositories with specified files.
cache	A logical, if set to TRUE GitStats will retrieve the last result from its storage.
verbose	A logical, TRUE by default. If FALSE messages and printing output is switched off.
progress	A logical, by default set to verbose value. If FALSE no cli progress bar will be displayed.

Value

A character vector.

Examples

```
## Not run:
my_gitstats <- create_gitstats() %>%
  set_github_host(
    token = Sys.getenv("GITHUB_PAT"),
    orgs = c("r-world-devs", "openpharma")
  ) %>%
  set_gitlab_host(
    token = Sys.getenv("GITLAB_PAT_PUBLIC"),
    orgs = "mbtests"
  )
get_repos_urls(my_gitstats, with_files = c("DESCRIPTION", "LICENSE"))

## End(Not run)
```

```
get_repos_with_R_packages
```

Get data on package usage across repositories

Description

Wrapper over searching repositories by code blobs related to loading package (library(package) and require(package) in all files) or using it as a dependency (package in DESCRIPTION and NAMESPACE files).

Usage

```
get_repos_with_R_packages(
  gitstats,
  packages,
  only_loading = FALSE,
  split_output = FALSE,
  cache = TRUE,
  verbose = is_verbose(gitstats)
)
```

Arguments

gitstats	A GitStats object.
packages	A character vector, names of R packages to look for.
only_loading	A boolean, if TRUE function will check only if package is loaded in repositories, not used as dependencies.
split_output	Optional, a boolean. If TRUE will return a list of tables, where every element of the list stands for the package passed to packages parameter. If FALSE, will return only one table with name of the package stored in first column.
cache	A logical, if set to TRUE GitStats will retrieve the last result from its storage.
verbose	A logical, TRUE by default. If FALSE messages and printing output is switched off.

Value

A tibble or list of tibbles depending on split_output parameter.

Examples

```
## Not run:
my_gitstats <- create_gitstats() %>%
  set_github_host(
    token = Sys.getenv("GITHUB_PAT"),
    orgs = c("r-world-devs", "openpharma")
  )

get_repos_with_R_packages(
  gitstats = my_gitstats,
  packages = c("purrr", "shiny"),
  split_output = TRUE
)

## End(Not run)
```

get_storage

Get data from GitStats storage

Description

Retrieves whole or particular data (see storage parameter) pulled earlier with GitStats.

Usage

```
get_storage(gitstats, storage = NULL)
```

Arguments

- gitstats A GitStats object.
- storage A character, type of the data you want to get from storage: commits, repositories, release_logs, users, files, files_structure, R_package_usage or release_logs.

Value

A list of tibbles (if storage set to NULL) or a tibble (if storage defined).

Examples

```
## Not run:
my_gitstats <- create_gitstats() %>%
  set_github_host(
    token = Sys.getenv("GITHUB_PAT"),
    orgs = c("r-world-devs", "openpharma")
  )
get_release_logs(my_gistats, since = "2024-01-01")
get_repos(my_gitstats)

release_logs <- get_storage(
  gitstats = my_gitstats,
  storage = "release_logs"
)

## End(Not run)
```

get_users	<i>Get users data</i>
-----------	-----------------------

Description

Get users data

Usage

```
get_users(gitstats, logins, cache = TRUE, verbose = is_verbose(gitstats))
```

Arguments

- gitstats A GitStats object.
- logins A character vector of logins.
- cache A logical, if set to TRUE GitStats will retrieve the last result from its storage.
- verbose A logical, TRUE by default. If FALSE messages and printing output is switched off.

Value

A data.frame.

Examples

```
## Not run:
my_gitstats <- create_gitstats() %>%
  set_github_host(
    token = Sys.getenv("GITHUB_PAT"),
    orgs = c("r-world-devs")
  ) %>%
  set_gitlab_host(
    token = Sys.getenv("GITLAB_PAT_PUBLIC"),
    orgs = "mbtests"
  )
get_users(my_gitstats, c("maciekabanas", "marcinkowskak"))

## End(Not run)
```

is_verbose	<i>Is verbose mode switched on</i>
------------	------------------------------------

Description

Is verbose mode switched on

Usage

```
is_verbose(gitstats)
```

Arguments

gitstats A GitStats object.

set_github_host	<i>Set GitHub host</i>
-----------------	------------------------

Description

Set GitHub host

Usage

```
set_github_host(
  gitstats,
  host = NULL,
  token = NULL,
  orgs = NULL,
  repos = NULL,
  verbose = is_verbose(gitstats),
  .error = TRUE
)
```

Arguments

gitstats	A GitStats object.
host	A character, optional, URL name of the host. If not passed, a public host will be used.
token	A token.
orgs	An optional character vector of organisations. If you pass it, repos parameter should stay NULL.
repos	An optional character vector of repositories full names (organization and repository name, e.g. "r-world-devs/GitStats"). If you pass it, orgs parameter should stay NULL.
verbose	A logical, TRUE by default. If FALSE messages and printing output is switched off.
.error	A logical to control if passing wrong input (repositories and organizations) should end with an error or not.

Details

If you do not define orgs and repos, GitStats will be set to scan whole Git platform (such as enterprise version of GitHub or GitLab), unless it is a public platform. In case of a public one (like GitHub) you need to define orgs or repos as scanning through all organizations may take large amount of time.

Value

A GitStats object with added information on host.

Examples

```
## Not run:
my_gitstats <- create_gitstats() %>%
  set_github_host(
    orgs = c("r-world-devs", "openpharma", "pharmaverse")
  )

## End(Not run)
```

set_gitlab_host	<i>Set GitLab host</i>
-----------------	------------------------

Description

Set GitLab host

Usage

```
set_gitlab_host(  
  gitstats,  
  host = NULL,  
  token = NULL,  
  orgs = NULL,  
  repos = NULL,  
  verbose = is_verbose(gitstats),  
  .error = TRUE  
)
```

Arguments

gitstats	A GitStats object.
host	A character, optional, URL name of the host. If not passed, a public host will be used.
token	A token.
orgs	An optional character vector of organisations. If you pass it, repos parameter should stay NULL.
repos	An optional character vector of repositories full names (organization and repository name, e.g. "r-world-devs/GitStats"). If you pass it, orgs parameter should stay NULL.
verbose	A logical, TRUE by default. If FALSE messages and printing output is switched off.
.error	A logical to control if passing wrong input (repositories and organizations) should end with an error or not.

Details

If you do not define orgs and repos, GitStats will be set to scan whole Git platform (such as enterprise version of GitHub or GitLab), unless it is a public platform. In case of a public one (like GitHub) you need to define orgs or repos as scanning through all organizations may take large amount of time.

Value

A GitStats object with added information on host.

Examples

```
## Not run:
my_gitstats <- create_gitstats() %>%
  set_gitlab_host(
    token = Sys.getenv("GITLAB_PAT_PUBLIC"),
    orgs = "mbtests"
  )

## End(Not run)
```

show_orgs	Show organizations set in GitStats
-----------	------------------------------------

Description

Retrieves organizations set or pulled by GitStats. Especially helpful when user is scanning whole git platform and wants to have a glimpse at organizations.

Usage

```
show_orgs(gitstats)
```

Arguments

gitstats A GitStats object.

Value

A vector of organizations.

verbose_off	Switch off verbose mode
-------------	-------------------------

Description

Stop printing messages and output.

Usage

```
verbose_off(gitstats)
```

Arguments

gitstats A GitStats object.

Value

A GitStats object.

verbose_on	<i>Switch on verbose mode</i>
------------	-------------------------------

Description

Print all messages and output.

Usage

```
verbose_on(gitstats)
```

Arguments

gitstats	A GitStats object.
----------	--------------------

Value

A GitStats object.

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