

Package ‘IssueTracker’

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Type Package

Title List Things to Do

Version 1.2.0

Description Manage a 'GitHub' problem using R: wrangle issues, labels and milestones. It includes functions for storing, prioritizing (sorting), displaying, adding, deleting, and selecting (filtering) issues based on qualitative and quantitative information. Issues (labels and milestones) are written in lists and categorized into the S3 class to be easily manipulated as datasets in R.

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URL <https://github.com/TanguyBarthelemy/IssueTracker>,
<https://tanguybarthelemy.github.io/IssueTracker/>

BugReports <https://github.com/TanguyBarthelemy/IssueTracker/issues>

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append	<i>Vector Merging</i>
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Description

Add elements to a vector.

Usage

```
append(x, values, after = length(x))

## S3 method for class 'IssuesTB'
append(x, values, after = nrow(x))
```

Arguments

- x the vector the values are to be appended to.
- values a IssueTB or a IssuesTB object.
- after a subscript, after which the values are to be appended.

Value

A vector containing the values in x with the elements of values appended after the specified element of x.

References

Becker, R. A., Chambers, J. M. and Wilks, A. R. (1988) *The New S Language*. Wadsworth & Brooks/Cole.

Examples

```
append(1:5, 0:1, after = 3)
```

format_issues

Format the issue in a simpler format

Description

Format the issue in a simpler format

Usage

```
format_issues(raw_issues, raw_comments, verbose = TRUE)
```

Arguments

raw_issues	a gh_response object output from the function gh which contains all the data and metadata for GitHub issues.
raw_comments	a gh_response object output from the function gh which contains all the data and metadata for GitHub comments.
verbose	A logical value indicating whether to print additional information. Default is TRUE.

Value

a list representing an issue with simpler structure (with number, title, body and labels) of all issues.

Examples

```
raw_issues <- gh::gh(
  repo = "rjdemetra",
  owner = "rjdverse",
  endpoint = "/repos/:owner/:repo/issues",
  .limit = Inf
)
raw_comments <- gh::gh(
  repo = "rjdemetra",
  owner = "rjdverse",
  endpoint = "/repos/:owner/:repo/issues/comments",
  .limit = Inf
)
all_issues <- format_issues(raw_issues = raw_issues,
  raw_comments = raw_comments,
  verbose = FALSE)
```

format_labels	<i>Format the label in a simpler format</i>
---------------	---------------------------------------------

Description

Format the label in a simpler format

Usage

```
format_labels(raw_labels, verbose = TRUE)
```

Arguments

raw_labels	a gh_response object output from the function gh which contains all the data and metadata for GitHub labels.
verbose	A logical value indicating whether to print additional information. Default is TRUE.

Value

a list representing labels with simpler structure (with name, description, colour)

Examples

```
# With labels
raw_labels <- gh::gh(
  repo = "rjdemetra",
  owner = "rjdverse",
  endpoint = "/repos/:owner/:repo/labels",
  .limit = Inf
)
format_labels(raw_labels)
```

format_milestones	<i>Format the milestones in a simpler format</i>
-------------------	--------------------------------------------------

Description

Format the milestones in a simpler format

Usage

```
format_milestones(raw_milestones, verbose = TRUE)
```

Arguments

- `raw_milestones` a `gh_response` object output from the function `gh` which contains all the data and metadata for GitHub milestones.
- `verbose` A logical value indicating whether to print additional information. Default is `TRUE`.

Value

a list representing milestones with simpler structure (with title, description and `due_on`)

Examples

```
# With milestones
milestones_jdplus_main <- gh::gh(
  repo = "jdplus-main",
  owner = "jdemetra",
  endpoint = "/repos/:owner/:repo/milestones",
  state = "all",
  .limit = Inf
)
format_milestones(milestones_jdplus_main)
```

get_issues

Retrieve information from the issues of GitHub

Description

use `gh` to ask the API of GitHub and get a list of issues with their labels and milestones.

Usage

```
get_issues(
  source = c("local", "online"),
  dataset_dir = getOption("IssueTrackerR.dataset.dir"),
  dataset_name = "open_issues.yaml",
  repo = getOption("IssueTrackerR.repo"),
  owner = getOption("IssueTrackerR.owner"),
  state = c("open", "closed", "all"),
  verbose = TRUE
)

get_labels(
  source = c("local", "online"),
  dataset_dir = getOption("IssueTrackerR.dataset.dir"),
```

```

dataset_name = "list_labels.yaml",
repo = getOption("IssueTracker.repo"),
owner = getOption("IssueTracker.owner"),
verbose = TRUE
)

get_milestones(
  source = c("local", "online"),
  dataset_dir = getOption("IssueTracker.dataset.dir"),
  dataset_name = "list_milestones.yaml",
  repo = getOption("IssueTracker.repo"),
  owner = getOption("IssueTracker.owner"),
  verbose = TRUE
)

```

Arguments

source	a character string that is either "online" if you want to fetch information from GitHub or "local" (by default) if you want to fetch information locally.
dataset_dir	A character string specifying the path which contains the datasets (only taken into account if source is set to "local"). Defaults to the package option IssueTracker.dataset.dir.
dataset_name	A character string specifying the name of the datasets which will be written (only taken into account if source is set to "local"). Defaults to "open_issues.yaml".
repo	A character string specifying the GitHub repository name (only taken into account if source is set to "online"). Defaults to the package option IssueTracker.repo.
owner	A character string specifying the GitHub owner (only taken into account if source is set to "online"). Defaults to the package option IssueTracker.owner.
state	a character string that is either "open" (by default) if you want to fetch only open issues from GitHub, "closed" if you want to fetch only closed issues from GitHub or "all" if you want to fetch all issues from GitHub (closed and open). Only taken into account if source is set to "online".
verbose	A logical value indicating whether to print additional information. Default is TRUE.

Details

The functions of get type are useful to retrieve object related to issues from GitHub. So it's possible to retrieve issues, labels and milestones.

The defaults value for the argument dataset_name depends on the function:

- defaults is "list_issues.yaml" for get_issues()
- defaults is "list_milestones.yaml" for get_milestones()
- defaults is "list_labels.yaml" for get_labels()

Value

The function `get_issues` returns an object of class `IssuesTB`. It is a list composed by object of class `IssueTB`. An object of class `IssueTB` represents an issue with simpler structure (with number, title, body and labels).

The function `get_labels` returns a list representing labels with simpler structure (with name, description, colour).

The function `get_milestones` returns a list representing milestones with simpler structure (with title, description and due_on).

Examples

```
# From online

issues <- get_issues(source = "online")
print(issues)

labels <- get_labels(source = "online")
print(labels)

milestones <- get_milestones(source = "online")
print(milestones)

# From local

path <- system.file("data_issues", package = "IssueTrackerR")
issues <- get_issues(
  source = "local",
  dataset_dir = path,
  dataset_name = "list_issues.yaml"
)
milestones <- get_milestones(
  source = "local",
  dataset_dir = path,
  dataset_name = "list_milestones.yaml"
)
labels <- get_labels(
  source = "local",
  dataset_dir = path,
  dataset_name = "list_labels.yaml"
)
```

new_issue

Create a new IssueTB object

Description

Create a new `IssueTB` object

Usage

```

new_issue(x = NULL, ...)

## S3 method for class 'IssueTB'
new_issue(x, ...)

## S3 method for class 'data.frame'
new_issue(x, ...)

## S3 method for class 'list'
new_issue(x, ...)

## S3 method for class 'IssuesTB'
new_issue(x, ...)

## Default S3 method:
new_issue(
  x,
  title,
  body,
  number,
  state = c("open", "closed"),
  created_at = Sys.Date(),
  labels = NULL,
  milestone = NA_character_,
  repo = NA_character_,
  owner = NA_character_,
  url = NA_character_,
  html_url = NA_character_,
  comments = NULL,
  creator = NA_character_,
  assignee = NA_character_,
  state_reason = NA_character_,
  ...
)

```

Arguments

<code>x</code>	a object representing an issue (IssueTB object, a list or a data.frame)
<code>...</code>	Other information we would like to add to the issue.
<code>title</code>	a string. The title of the issue.
<code>body</code>	a string. The body (text) of the issue.
<code>number</code>	a string. The number of the issue.
<code>state</code>	a string that is either "open" (by default) if the issue is still open or "closed" if the issue is now closed.
<code>created_at</code>	a date (or timestamp). The title of the issue.

labels	a vector string (or missing). The labels of the issue.
milestone	a string (or missing). The milestone of the issue.
repo	A character string specifying the GitHub repository name (only taken into account if source is set to "online"). Defaults to the package option IssueTrackerR.repo.
owner	A character string specifying the GitHub owner (only taken into account if source is set to "online"). Defaults to the package option IssueTrackerR.owner.
url	a string. The URL of the API to the GitHub issue.
html_url	a string. The URL to the GitHub issue.
comments	vector of string (the comments of the issue)
creator	a string. The GitHub username of the creator of the issue.
assignee	a string. The GitHub username of the assignee of the issue.
state_reason	a string. "open", "completed", "reopened" or "not_planned".

Value

a IssueTB object.

Examples

```
# Empty issue
issue1 <- new_issue()

# Custom issue
issue1 <- new_issue(
  title = "Nouvelle issue",
  body = "Un nouveau bug pour la fonction...",
  number = 47,
  created_at = Sys.Date()
)

issue2 <- new_issue(x = issue1)
```

new_issues	<i>Create a new IssuesTB object</i>
------------	-------------------------------------

Description

Create a new IssuesTB object

Usage

```
new_issues(x = NULL, ...)

## S3 method for class 'IssueTB'
new_issues(x, ...)
```

```

## S3 method for class 'IssuesTB'
new_issues(x, ...)

## S3 method for class 'data.frame'
new_issues(x, ...)

## S3 method for class 'list'
new_issues(x, ...)

## Default S3 method:
new_issues(
  x,
  title,
  body,
  number,
  state,
  created_at = Sys.Date(),
  labels = list(),
  comments = list(),
  milestone = NA_character_,
  repo = NA_character_,
  owner = NA_character_,
  url = NA_character_,
  html_url = NA_character_,
  creator = NA_character_,
  assignee = NA_character_,
  state_reason = NA_character_,
  ...
)

```

Arguments

<code>x</code>	a object representing a list of issues (IssuesTB object, a <code>list</code> or a <code>data.frame</code>)
<code>...</code>	Other information we would like to add to the issue.
<code>title</code>	a vector of string. The titles of the issues.
<code>body</code>	a vector of string. The bodies (text) of the issues.
<code>number</code>	a vector of string. The numbers of the issues.
<code>state</code>	a vector of string that is either "open" (by default) if the issues are still open or "closed" if the issues are now closed.
<code>created_at</code>	a vector of date (or timestamp). The creation dates of the issues.
<code>labels</code>	a list of vector string (or missing). The labels of the issues.
<code>comments</code>	a list of vector string. The comments of the issues.
<code>milestone</code>	a vector of string (or missing). The milestones of the issues.
<code>repo</code>	A character string specifying the GitHub repository name (only taken into account if source is set to "online"). Defaults to the package option <code>IssueTrackerR.repo</code> .

owner	A character string specifying the GitHub owner (only taken into account if source is set to "online"). Defaults to the package option <code>IssueTrackerR.owner</code> .
url	a vector of string. The URLs of the API to the GitHub issues.
html_url	a vector of string. The URLs to the GitHub issues.
creator	a vector of string. The GitHub usernames of the creator of the issues.
assignee	a vector of string. The GitHub usernames of the assignee of the issues.
state_reason	a vector of string. "open", "completed", "reopened" or "not_planned".

Value

a `IssuesTB` object.

Examples

```
# Empty list of issues
issues1 <- new_issues()

# List of issues from issue
issue1 <- new_issue(
  title = "Une autre issue",
  state = "open",
  body = "J'ai une question au sujet de...",
  number = 2,
  created_at = Sys.Date()
)
issues2 <- new_issues(x = issue1)

# Custom issues
issues3 <- new_issues(
  title = "Une autre issue",
  state = "open",
  body = "J'ai une question au sujet de...",
  number = 2,
  created_at = Sys.Date()
)

issues4 <- new_issues(
  title = c("Nouvelle issue", "Une autre issue"),
  body = c("Un nouveau bug pour la fonction...",
           "J'ai une question au sujet de..."),
  state = c("open", "closed"),
  number = 1:2,
  created_at = Sys.Date()
)
```

print.IssueTB	<i>Display IssueTB and IssuesTB object</i>
---------------	--------------------------------------------

Description

Display IssueTB and IssuesTB with formatted output in the console

Usage

```
## S3 method for class 'IssueTB'
print(x, ...)

## S3 method for class 'IssuesTB'
print(x, ...)

## S3 method for class 'summary.IssueTB'
print(x, ...)

## S3 method for class 'summary.IssuesTB'
print(x, ...)
```

Arguments

x	a IssueTB or IssuesTB object.
...	Unused argument

Details

This function displays an issue (IssueTB object) or a list of issues (IssuesTB object) with a formatted output.

Value

invisibly (with invisible()) NULL.

Examples

```
all_issues <- get_issues(
  source = "local",
  dataset_dir = system.file("data_issues", package = "IssueTracker"),
  dataset_name = "list_issues.yaml"
)

# Display one issue
print(all_issues[1, ])

# Display several issues
print(all_issues[1:10, ])
```

```
# Display the summary of one issue
summary(all_issues[2, ])

# Display the summary of
summary(all_issues[1:10, ])
```

sample

*Random Samples and Permutations***Description**

sample takes a sample of the specified size from the elements of x using either with or without replacement.

Usage

```
sample(x, size, replace = FALSE, prob = NULL)

## S3 method for class 'IssuesTB'
sample(x, size = nrow(x), replace = FALSE, prob = NULL)
```

Arguments

x	either a vector of one or more elements from which to choose, or a positive integer. See ‘Details.’
size	a non-negative integer giving the number of items to choose.
replace	should sampling be with replacement?
prob	a vector of probability weights for obtaining the elements of the vector being sampled.

Details

If x has length 1, is numeric (in the sense of `is.numeric`) and $x \geq 1$, sampling *via* sample takes place from $1:x$. *Note* that this convenience feature may lead to undesired behaviour when x is of varying length in calls such as `sample(x)`. See the examples.

Otherwise x can be any R object for which length and subsetting by integers make sense: S3 or S4 methods for these operations will be dispatched as appropriate.

For sample the default for size is the number of items inferred from the first argument, so that `sample(x)` generates a random permutation of the elements of x (or $1:x$).

It is allowed to ask for $\text{size} = 0$ samples with $n = 0$ or a length-zero x, but otherwise $n > 0$ or positive `length(x)` is required.

Non-integer positive numerical values of n or x will be truncated to the next smallest integer, which has to be no larger than `.Machine$integer.max`.

The optional prob argument can be used to give a vector of weights for obtaining the elements of the vector being sampled. They need not sum to one, but they should be non-negative and not all

zero. If `replace` is true, Walker's alias method (Ripley, 1987) is used when there are more than 200 reasonably probable values: this gives results incompatible with those from $R < 2.2.0$.

If `replace` is false, these probabilities are applied sequentially, that is the probability of choosing the next item is proportional to the weights amongst the remaining items. The number of nonzero weights must be at least `size` in this case.

`sample.int` is a bare interface in which both `n` and `size` must be supplied as integers.

Argument `n` can be larger than the largest integer of type `integer`, up to the largest representable integer in type `double`. Only uniform sampling is supported. Two random numbers are used to ensure uniform sampling of large integers.

Value

For `sample` a vector of length `size` with elements drawn from either `x` or from the integers `1:x`.

For `sample.int`, an integer vector of length `size` with elements from `1:n`, or a double vector if $n \geq 2^{31}$.

References

Becker, R. A., Chambers, J. M. and Wilks, A. R. (1988) *The New S Language*. Wadsworth & Brooks/Cole.

Ripley, B. D. (1987) *Stochastic Simulation*. Wiley.

See Also

`RNGkind(sample.kind = ..)` about random number generation, notably the change of `sample()` results with R version 3.6.0.

CRAN package **sampling** for other methods of weighted sampling without replacement.

Examples

```
x <- 1:12
# a random permutation
sample(x)
# bootstrap resampling -- only if length(x) > 1 !
sample(x, replace = TRUE)

# 100 Bernoulli trials
sample(c(0,1), 100, replace = TRUE)

## More careful bootstrapping -- Consider this when using sample()
## programmatically (i.e., in your function or simulation)!

# sample()'s surprise -- example
x <- 1:10
  sample(x[x > 8]) # length 2
  sample(x[x > 9]) # oops -- length 10!
  sample(x[x > 10]) # length 0

## safer version:
```

```

resample <- function(x, ...) x[sample.int(length(x), ...)]
resample(x[x > 8]) # length 2
resample(x[x > 9]) # length 1
resample(x[x > 10]) # length 0

## R 3.0.0 and later
sample.int(1e10, 12, replace = TRUE)
sample.int(1e10, 12) # not that there is much chance of duplicates

```

summary.IssueTB

Compute a summary of an issue or a list of issues

Description

Compute a summary of an issue or a list of issues

Usage

```

## S3 method for class 'IssueTB'
summary(object, ...)

## S3 method for class 'IssuesTB'
summary(object, ...)

```

Arguments

object	a IssueTB or IssuesTB object.
...	Unused argument

Details

This function compute the summary of an issue (IssueTB object) with adding some information (number of comments, ...). For a list of issues (IssuesTB object), it just summarise the information with statistics by modalities.

Value

invisibly (with invisible()) NULL.

Examples

```

all_issues <- get_issues(
  source = "local",
  dataset_dir = system.file("data_issues", package = "IssueTracker"),
  dataset_name = "list_issues.yaml"
)

# Summarise one issue
summary(all_issues[1, ])

```

```
# Summarise several issues
summary(all_issues[1:10, ])
```

update_database	<i>Update database</i>
-----------------	------------------------

Description

Update the different local database (issues, labels and milestones) with the online reference.

Usage

```
update_database(
  dataset_dir = getOption("IssueTrackerR.dataset.dir"),
  datasets_name = c(open = "open_issues.yaml", closed = "closed_issues.yaml", labels =
    "list_labels.yaml", milestones = "list_milestones.yaml"),
  verbose = TRUE,
  ...
)
```

Arguments

dataset_dir	A character string specifying the path which contains the datasets (only taken into account if source is set to "local"). Defaults to the package option IssueTrackerR.dataset.dir.
datasets_name	A named character string of length 4, specifying the names of the different datasets which will be written. The names datasets_name have to be "open", "closed", "labels" and "milestones". Defaults to c(open = "open_issues.yaml", closed = "closed_issues.yaml", labels = "list_labels.yaml", milestones = "list_milestones.yaml").
verbose	A logical value indicating whether to print additional information. Default is TRUE.
...	Additional arguments for connecting to the GitHub repository: <ul style="list-style-type: none"> • repo A character string specifying the GitHub repository name. Defaults to the package option IssueTrackerR.repo. • owner A character string specifying the GitHub owner. Defaults to the package option IssueTrackerR.owner. (See the documentation of get to have more information on theses parameters):

Value

invisibly (with invisible()) TRUE.

Examples

```
update_database()
```

```
write_issues_to_dataset
```

Save datasets in a yaml file

Description

Save datasets in a yaml file

Usage

```
write_issues_to_dataset(issues, ...)
```

```
## S3 method for class 'IssuesTB'
```

```
write_issues_to_dataset(  
  issues,  
  dataset_dir = getOption("IssueTrackerR.dataset.dir"),  
  dataset_name = "list_issues.yaml",  
  verbose = TRUE,  
  ...  
)
```

```
## Default S3 method:  
write_issues_to_dataset(issues, ...)
```

```
write_labels_to_dataset(  
  labels,  
  dataset_dir = getOption("IssueTrackerR.dataset.dir"),  
  dataset_name = "list_labels.yaml",  
  verbose = TRUE  
)
```

```
write_milestones_to_dataset(  
  milestones,  
  dataset_dir = getOption("IssueTrackerR.dataset.dir"),  
  dataset_name = "list_milestones.yaml",  
  verbose = TRUE  
)
```

Arguments

issues	a IssuesTB object.
...	Unused parameter.
dataset_dir	A character string specifying the path which contains the datasets (only taken into account if source is set to "local"). Defaults to the package option IssueTrackerR.dataset.dir.
dataset_name	A character string specifying the name of the datasets which will be written (only taken into account if source is set to "local"). Defaults to "open_issues.yaml".
verbose	A logical value indicating whether to print additional information. Default is TRUE.
labels	a list representing all labels with simpler structure (with name, description, colour)
milestones	a list representing milestones with simpler structure (with title, description and due_on).

Details

Depending on the object, the defaults value of the argument dataset_name is:

- "list_issues.yaml" for issues;
- "list_labels.yaml" for labels;
- "list_milestones.yaml" for milestones.

Value

invisibly (with invisible()) TRUE if the export was successful and an error otherwise.

Examples

```
path <- system.file("data_issues", package = "IssueTrackerR")
issues <- get_issues(
  source = "local",
  dataset_dir = path,
  dataset_name = "list_issues.yaml"
)
milestones <- get_milestones(
  source = "local",
  dataset_dir = path,
  dataset_name = "list_milestones.yaml"
)
labels <- get_labels(
  source = "local",
  dataset_dir = path,
  dataset_name = "list_labels.yaml"
)

write_issues_to_dataset(issues)
write_labels_to_dataset(labels)
```

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