Package ‘rrefine’

November 15, 2022

Type Package
Title r Client for OpenRefine API
Version 2.1.0
Date 2022-11-01
Maintainer VP Nagraj <nagraj@nagraj.net>
Description 'OpenRefine' (formerly 'Google Refine') is a popular, open source data cleaning software. This package enables users to programmatically trigger data transfer between R and 'OpenRefine'. Available functionality includes project import, export and deletion.
License GPL-3
LazyData TRUE
RoxygenNote 7.1.1
Imports httr (>= 1.1.0), readr, jsonlite
Suggests knitr, rmarkdown
VignetteBuilder knitr
URL https://github.com/vpnagraj/rrefine
BugReports https://github.com/vpnagraj/rrefine/issues
Encoding UTF-8
NeedsCompilation no
Author VP Nagaj [aut, cre]
Repository CRAN
Date/Publication 2022-11-15 19:30:10 UTC

R topics documented:

lateformeeting .................................................. 2
lfm_clean ......................................................... 3
refine_add_column ............................................. 3
refine_check ..................................................... 5
refine_delete ................................................... 5
lateformeting

Description

This data is a simulated collection of dates, days of the week, numbers of hours slept and indicators of whether or not the subject was on time for work. All observations appearing in this data set are fictitious, and any resemblance to actual arrival times for work is purely coincidental.

Usage

lateformeting

Format

A data frame with 63 rows and 4 variables

• theDate date of observation in varying formats
• what.day.whas.it day of the week in varying formats
• sleephours number of hours slept
• was.i.on.time.for.work indicator of on-time arrival to work

Examples

head(lateformeting)
Description
This data is a simulated collection of dates, days of the week, numbers of hours slept and indicators of whether or not the subject was on time for work. All observations appearing in this data set are fictitious, and any resemblance to actual arrival times for work is purely coincidental.

Usage
lfm_clean

Format
A data frame with 63 rows and 4 variables

• date date of observation in POSIXct format
• dotw day of the week in consistent format
• hours.slept number of hours slept
• on.time indicator of on-time arrival to work

Examples
head(lfm_clean)

refine_add_column Add column to OpenRefine project

Description
This function will add a column to an existing OpenRefine project via an API query to /command/core/apply-operations and the core/column-addition operation. The value for the new column can be specified in this function either based on value of an existing column. The value can be defined using an expression written in General Refine Expression Language (GREL) syntax.

Usage
refine_add_column(
    new_column,
    new_column_index = 0,
    base_column = NULL,
    value,
    mode = "row-based",
    on_error = "set-to-blank",
)
refine_add_column

```r
project.name = NULL,
project.id = NULL,
verbose = FALSE,
validate = TRUE,
...
)
```

Arguments

- **new_column** Name of the new column
- **new_column_index** Index at which the new column should be placed in the project; default is 0 to position the new column as the first column in the project
- **base_column** Name of the column on which the value will be based; default is NULL, which means that the value will not be based off of a value in an existing column
- **value** Definition of the value for the new column; can accept a GREL expression
- **mode** Mode of operation; must be one of "row-based" or "record-based"; default is "row-based"
- **on_error** Behavior if there is an error on new column creation; must be one of "set-to-blank", "keep-original", or "store-error"; default is "set-to-blank"
- **project.name** Name of project
- **project.id** Unique identifier for project
- **verbose** Logical specifying whether or not query result should be printed; default is FALSE
- **validate** Logical as to whether or not the operation should validate parameters against existing data in project; default is TRUE
- ... Additional parameters to be inherited by `refine_path`; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than http://127.0.0.1:3333

Value

Operates as a side-effect passing operations to the OpenRefine instance. However, if `verbose=TRUE` then the function will return an object of the class "response".

Examples

```r
## Not run:
fp <- system.file("extdata", "lateformeeting.csv", package = "rrefine")
refine_upload(fp, project.name = "lfm")

refine_add_column(new_column = "date_type",
    value = "grel:value.type()",
    base_column = "theDate",
    project.name = "lfm")

refine_add_column(new_column = "example_value",
    ...
)```
refine_check

Helper function to check if rrefine can connect to OpenRefine

Description

This function will check that rrefine is able to access the running OpenRefine instance. Used internally prior to upload, delete, and export operations.

Usage

refine_check(...)

Arguments

... Additional parameters to be inherited by refine_path; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than http://127.0.0.1:3333

Value

Error message if rrefine is unable to connect to OpenRefine, otherwise is invisible

refine_delete

Delete project from OpenRefine

Description

This function allows users to delete a project in OpenRefine by name or unique project identifier. By default users are prompted to confirm deletion. The function wraps the OpenRefine API/command/core/delete-project query.

Usage

refine_delete(project.name = NULL, project.id = NULL, force = FALSE, ...)

new_column_index = 0,
value = "1",
project.name = "lfm")

## End(Not run)
refine_export

Arguments

project.name Name of project to be deleted
project.id Unique identifier for open refine project to be deleted
force Boolean indicating whether or not the prompt to confirm deletion should be skipped; default is FALSE

... Additional parameters to be inherited by refine_path; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than http://127.0.0.1:3333

Value

Operates as a side-effect to delete the project. Issues a message that the project has been deleted.

References

https://docs.openrefine.org/technical-reference/openrefine-api#delete-project

Examples

## Not run:
fp <- system.file("extdata", "lateformeeting.csv", package = "rrefine")
refine_upload(fp, project.name = "lfm")
refine_delete("lfm", force = TRUE)

## End(Not run)

refine_export Export data from OpenRefine

Description

This function allows users to pull data from a running OpenRefine instance into R. Users can specify project by name or unique identifier. The function wraps the OpenRefine API query to /command/core/export-rows and currently only supports export of data in tabular format.

Usage

refine_export(
  project.name = NULL,
  project.id = NULL,
  format = "csv",
  col.names = TRUE,
  encoding = "UTF-8",
  col_types = NULL,
  ...
)
Arguments

- **project.name**: Name of project to be exported
- **project.id**: Unique identifier for project to be exported
- **format**: File format of project to be exported; note that the only current supported options are 'csv' or 'tsv'
- **col.names**: Logical indicator for whether column names should be included; default is TRUE
- **encoding**: Character encoding for exported data; default is UTF-8
- **col_types**: One of NULL, a cols() specification, or a string; default is NULL. Used by `read_csv` to specify column types.
- **...**: Additional parameters to be inherited by `refine_path`; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than http://127.0.0.1:3333

Value

A tibble that has been parsed and read into memory using `read_csv`. If `col.names=TRUE` then the tibble will have column headers.

References

https://docs.openrefine.org/technical-reference/openrefine-api#export-rows

Examples

```r
## Not run:
fp <- system.file("extdata", "lateformeeting.csv", package = "rrefine")
refine_upload(fp, project.name = "lfm")
refine_export("lfm", format = "csv")
## End(Not run)
```

---

**refine_id**  
*Helper function to get OpenRefine project.id by project.name*

Description

For functions that allow either a project name or id to be passed, this function is used internally to resolve the project id from name if necessary. It also validates that values passed to the 'project.id" argument match an existing project id in the running OpenRefine instance.

Usage

`refine_id(project.name, project.id, ...)"
Arguments

- project.name: Name of project
- project.id: Unique identifier for project
- ... Additional parameters to be inherited by `refine_path`; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than `http://127.0.0.1:3333`

Value

Unique id of project

---

`refine_metadata` Get all project metadata from OpenRefine

Description

This function is included internally to help retrieve metadata from the running OpenRefine instance. The query uses the OpenRefine API `/command/core/get-all-project-metadata` endpoint.

Usage

```
refine_metadata(...)  
```

Arguments

... Additional parameters to be inherited by `refine_path`; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than `http://127.0.0.1:3333`

Value

Parsed list object with all project metadata including identifiers, names, dates of creation and modification, tags and more.

References

https://docs.openrefine.org/technical-reference/openrefine-api#get-all-projects-metadata

Examples

```
## Not run:
refine_metadata()

## End(Not run)
```
refine_move_column

Move a column in OpenRefine project

Description

This function allows users to move an existing column in an OpenRefine project via an API query to /command/core/apply-operations and the core/column-move operation.

Usage

refine_move_column(
  column,
  index = 0,
  project.name = NULL,
  project.id = NULL,
  verbose = FALSE,
  validate = TRUE,
  ...
)

Arguments

column Name of the column to be removed
index Index to which the column should be placed in the project; default is 0 to position the new column as the first column in the project
project.name Name of project
project.id Unique identifier for project
verbose Logical specifying whether or not query result should be printed; default is FALSE
validate Logical as to whether or not the operation should validate parameters against existing data in project; default is TRUE
... Additional parameters to be inherited by refine_path; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than http://127.0.0.1:3333

Value

Operates as a side-effect passing operations to the OpenRefine instance. However, if verbose=TRUE then the function will return an object of the class "response".

Examples

## Not run:
fp <- system.file("extdata", "lateformeeting.csv", package = "rrefine")
refine_upload(fp, project.name = "lfm")
refine_operations

refine_move_column("sleephours", index = 0, project.name = "lfm")

## End(Not run)

---

**refine_operations**  
*Apply operations to OpenRefine project*

### Description

This function allows users to pass arbitrary operations to an OpenRefine project via an API query to `/command/core/apply-operations`. The operations to perform must be formatted as valid JSON and passed to this function as a list object.

### Usage

```r
refine_operations(
  project.name = NULL,
  project.id = NULL,
  verbose = FALSE,
  operations,
  ...
)
```

### Arguments

- **project.name**: Name of project  
- **project.id**: Unique identifier for project  
- **verbose**: Logical specifying whether or not query result should be printed; default is FALSE  
- **operations**: List of operations to perform  
- **...**: Additional parameters to be inherited by `refine_path`; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than `http://127.0.0.1:3333`

### Value

Operates as a side-effect passing operations to the OpenRefine instance. However, if `verbose=TRUE` then the function will return an object of the class "response".

### References

[https://docs.openrefine.org/technical-reference/openrefine-api#apply-operations](https://docs.openrefine.org/technical-reference/openrefine-api#apply-operations)
refine_path

Examples

```r
## Not run:
fp <- system.file("extdata", "lateformeeting.csv", package = "rrefine")
refine_upload(fp, project.name = "lfm")

ops <-
  list(
    op = "core/text-transform",
    engineConfig = list(mode = "row-based", facets = list()),
    columnName = "was i on time for work",
    expression = "value.toUppercase()",
    onError = "set-to-blank")

refine_operations(project.name = "lfm", operations = list(ops), verbose = TRUE)

## End(Not run)
```

---

**refine_path**  
*Helper function to configure and call path to OpenRefine*

**Description**

This function is a helper that is used throughout rrefine to construct the path to the OpenRefine instance. By default this points to the localhost (http://127.0.0.1:3333).

**Usage**

```r
refine_path(host = "http://127.0.0.1", port = "3333")
```

**Arguments**

- **host**  
  Host for running OpenRefine instance; default is http://127.0.0.1

- **port**  
  Port number for running OpenRefine instance; default is 3333

**Value**

Character vector with path to running OpenRefine instance
refine_project_summary

Get project summary data

Description

This function retrieves high-level project summary data (such as id, name, date created, date modified, description, and row count) from all projects in the OpenRefine instance. Internally this function uses `refine_metadata` to pull information from project metadata.

Usage

`refine_project_summary(...)`

Arguments

... Additional parameters to be inherited by `refine_path`; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than http://127.0.0.1:3333

Value

A `data.frame` with observations containing high-level summary metadata for all projects in the OpenRefine instance. Columns include: project id ("id"), project name ("name"), project description ("description"), count of number of project rows ("rowCount"), date created ("created"), and date modified ("modified").

References

[https://docs.openrefine.org/technical-reference/openrefine-api#get-all-projects-metadata](https://docs.openrefine.org/technical-reference/openrefine-api#get-all-projects-metadata)

Examples

```r
## Not run:
refine_project_summary()

## End(Not run)
```
**refine_query**

*Helper function to build OpenRefine API query*

**Description**

Starting with the path to the running instance, this function will add a query command and (optionally) a CSRF token with `refine_token`.

**Usage**

```r
refine_query(query, use_token = TRUE, ...)
```

**Arguments**

- `query` Character vector specifying the API endpoint to query
- `use_token` Boolean indicating whether or not the query string should include a CSRF Token (see `refine_token`; default is `TRUE`)
- `...` Additional parameters to be inherited by `refine_path`; allows users to specify `host` and `port` arguments if the OpenRefine instance is running at a location other than `http://127.0.0.1:3333`

**Value**

Character vector with query based on parameter entered

---

**refine_remove_column**

*Remove column from OpenRefine project*

**Description**

This function will remove a column from an existing OpenRefine project via an API query to `/command/core/apply-operations` and the `core/column-removal` operation.

**Usage**

```r
refine_remove_column(
  column,
  project.name = NULL,
  project.id = NULL,
  verbose = FALSE,
  validate = TRUE,
  ...
)
```
refine_rename_column

Arguments

<table>
<thead>
<tr>
<th>column</th>
<th>Name of the column to be removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>project.name</td>
<td>Name of project</td>
</tr>
<tr>
<td>project.id</td>
<td>Unique identifier for project</td>
</tr>
<tr>
<td>verbose</td>
<td>Logical specifying whether or not query result should be printed; default is FALSE</td>
</tr>
<tr>
<td>validate</td>
<td>Logical as to whether or not the operation should validate parameters against existing data in project; default is TRUE</td>
</tr>
<tr>
<td>...</td>
<td>Additional parameters to be inherited by refine_path; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than <a href="http://127.0.0.1:3333">http://127.0.0.1:3333</a></td>
</tr>
</tbody>
</table>

Value

Operates as a side-effect passing operations to the OpenRefine instance. However, if verbose=TRUE then the function will return an object of the class "response".

Examples

```r
## Not run:
fp <- system.file("extdata", "lateformeeeting.csv", package = "rrefine")
refine_upload(fp, project.name = "lfm")
refine_remove_column(column = "theDate", project.name = "lfm")
## End(Not run)
```

refine_rename_column  
Rename a column in OpenRefine project

Description

This function allows users to rename an existing column in an OpenRefine project via an API query to /
command/core/apply-operations and the core/column-rename operation.

Usage

```r
refine_rename_column(
  original_name,
  new_name,
  project.name = NULL,
  project.id = NULL,
  verbose = FALSE,
  validate = TRUE,
  ...
)
```
Arguments

original_name  Original name for the column
new_name       New name for the column
project.name   Name of project
project.id     Unique identifier for project
verbose        Logical specifying whether or not query result should be printed; default is FALSE
validate       Logical as to whether or not the operation should validate parameters against existing data in project; default is TRUE
...

Value

Operates as a side-effect passing operations to the OpenRefine instance. However, if verbose=TRUE then the function will return an object of the class "response".

Examples

```r
## Not run:
fp <- system.file("extdata", "lateformeeting.csv", package = "rrefine")
refine_upload(fp, project.name = "lfm")
refine_rename_column("what day whas it", "what_day_was_it", project.name = "lfm")
## End(Not run)
```

---

`refine_token`

*Helper function to retrieve CSFR token*

Description

Helper function to retrieve CSFR token

Usage

`refine_token(...)`

Arguments

... Additional parameters to be inherited by `refine_path`; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than http://127.0.0.1:3333
**refine_upload**

**Value**

Character vector with OpenRefine CSFR token

---

**refine_upload**  
Upload a file to OpenRefine

---

**Description**

This function attempts to upload contents of a file and create a new project in OpenRefine. Users can optionally navigate directly to the running instance to interact with the project. The function wraps the OpenRefine API `/command/core/create-project-from-upload` query.

**Usage**

```r
refine_upload(file, project.name = NULL, open.browser = FALSE, ...)
```

**Arguments**

- **file**
  Path to file to upload; upload format is inferred from the file extension, and currently only ".csv" and ".tsv" files are allowed.

- **project.name**
  Optional parameter to specify name of the project to be created upon upload; default is NULL and project will be named 'Untitled' in OpenRefine

- **open.browser**
  Boolean for whether or not the browser should open on successful upload; default is FALSE

- **...**
  Additional parameters to be inherited by `refine_path`; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than `http://127.0.0.1:3333`

**Value**

Operates as a side-effect, either opening a browser and pointing to the OpenRefine instance (if `open.browser=TRUE`) or issuing a message.

**References**

https://docs.openrefine.org/technical-reference/openrefine-api#create-project

**Examples**

```r
## Not run:
fp <- system.file("extdata", "lateformeeting.csv", package = "rrefine")
refine_upload(fp, project.name = "lfm")
write.table(x = mtcars, file = "mtcars.tsv", sep = "\t")
refine_upload(file = "mtcars.tsv", project.name = "mtcars")
## End(Not run)
```
Text transformation for OpenRefine project

Description

The text transform functions allow users to pass arbitrary text transformations to a column in an existing OpenRefine project via an API query to /command/core/apply-operations and the core/text-transform operation. Besides the generic refine_transform(), the package includes a series of transform functions that apply commonly used text operations. For more information on these functions see 'Details'.

Usage

refine_transform(
  column_name,
  expression,
  mode = "row-based",
  on_error = "set-to-blank",
  project.name = NULL,
  project.id = NULL,
  verbose = FALSE,
  validate = TRUE,
  ...
)

refine_to_lower(
  column_name,
  mode = "row-based",
  on_error = "set-to-blank",
  project.name = NULL,
  project.id = NULL,
  verbose = FALSE,
  validate = TRUE,
  ...
)

refine_to_upper(
  column_name,
  mode = "row-based",
  on_error = "set-to-blank",
  project.name = NULL,
  project.id = NULL,
  verbose = FALSE,
  validate = TRUE,
  ...
)
refine_to_title(
    column_name,
    mode = "row-based",
    on_error = "set-to-blank",
    project.name = NULL,
    project.id = NULL,
    verbose = FALSE,
    validate = TRUE,
    ...
)

refine_to_null(
    column_name,
    mode = "row-based",
    on_error = "set-to-blank",
    project.name = NULL,
    project.id = NULL,
    verbose = FALSE,
    validate = TRUE,
    ...
)

refine_to_empty(
    column_name,
    mode = "row-based",
    on_error = "set-to-blank",
    project.name = NULL,
    project.id = NULL,
    verbose = FALSE,
    validate = TRUE,
    ...
)

refine_to_text(
    column_name,
    mode = "row-based",
    on_error = "set-to-blank",
    project.name = NULL,
    project.id = NULL,
    verbose = FALSE,
    validate = TRUE,
    ...
)

refine_to_number(
    column_name,
    mode = "row-based",
    on_error = "set-to-blank",
    ...
refine_to_date(
    column_name,
    mode = "row-based",
    on_error = "set-to-blank",
    project.name = NULL,
    project.id = NULL,
    verbose = FALSE,
    validate = TRUE,
    ...
)

refine_trim_whitespace(
    column_name,
    mode = "row-based",
    on_error = "set-to-blank",
    project.name = NULL,
    project.id = NULL,
    verbose = FALSE,
    validate = TRUE,
    ...
)

refine_collapse_whitespace(
    column_name,
    mode = "row-based",
    on_error = "set-to-blank",
    project.name = NULL,
    project.id = NULL,
    verbose = FALSE,
    validate = TRUE,
    ...
)

refine_unescape_html(
    column_name,
    mode = "row-based",
    on_error = "set-to-blank",
    project.name = NULL,
    project.id = NULL,
    verbose = FALSE,
    validate = TRUE,
Arguments

- **column_name**: Name of the column on which text transformation should be performed
- **expression**: Expression defining the text transformation to be performed
- **mode**: Mode of operation; must be one of "row-based" or "record-based"; default is "row-based"
- **on_error**: Behavior if there is an error on new column creation; must be one of "set-to-blank", "keep-original", or "store-error"; default is "set-to-blank"
- **project.name**: Name of project
- **project.id**: Unique identifier for project
- **verbose**: Logical specifying whether or not query result should be printed; default is FALSE
- **validate**: Logical as to whether or not the operation should validate parameters against existing data in project; default is TRUE
- **...**: Additional parameters to be inherited by `refine_path`; allows users to specify host and port arguments if the OpenRefine instance is running at a location other than http://127.0.0.1:3333

Details

The `refine_transform()` function allows the user to pass arbitrary text transformations to a given column in an OpenRefine project. The package includes a set of functions that wrap `refine_transform()` to execute common transformations:

- `refine_to_lower()`: Coerce text to lowercase
- `refine_to_upper()`: Coerce text to uppercase
- `refine_to_title()`: Coerce text to title case
- `refine_to_null()`: Set values to NULL
- `refine_to_empty()`: Set text values to empty string ("")
- `refine_to_text()`: Coerce value to string
- `refine_to_number()`: Coerce value to numeric
- `refine_to_date()`: Coerce value to date
- `refine_trim_whitespace()`: Remove leading and trailing whitespaces
- `refineCollapseWhitespace()`: Collapse consecutive whitespaces to single whitespace
- `refine_unescape_html()`: Unescape HTML in string

Value

Operates as a side-effect passing operations to the OpenRefine instance. However, if `verbose=TRUE` then the function will return an object of the class "response".
Examples

```r
## Not run:
fp <- system.file("extdata", "lateformeeting.csv", package = "rrefine")
refine_upload(fp, project.name = "lfm")

refine_add_column(new_column = "dotw",
                   base_column = "what day was it",
                   value = "grel:value",
                   project.name = "lfm")

refine_export("lfm")$dotw
refine_to_lower("dotw", project.name = "lfm")
refine_to_upper("dotw", project.name = "lfm")
refine_to_title("dotw", project.name = "lfm")
refine_to_null("dotw", project.name = "lfm")
refine_remove_column("dotw", project.name = "lfm")

refine_add_column(new_column = "date",
                   base_column = "theDate",
                   value = "grel:value",
                   project.name = "lfm")

refine_export("lfm")$date
refine_to_date("date", project.name = "lfm")
refine_remove_column("date", project.name = "lfm")
```

## End(Not run)
Index

* datasets
  lateformeeting, 2
  lfm_clean, 3

lateformeeting, 2
lfm_clean, 3

read_csv, 7
refine_add_column, 3
refine_check, 5
refineCollapse_Whitespace (transform), 17
refine_delete, 5
refine_export, 6
refine_id, 7
refine_metadata, 8, 12
refine_move_column, 9
refine_operations, 10
refine_path, 4–10, 11, 12–16, 20
refine_project_summary, 12
refine_query, 13
refine_remove_column, 13
refine_rename_column, 14
refine_to_date (transform), 17
refine_to_empty (transform), 17
refine_to_lower (transform), 17
refine_to_null (transform), 17
refine_to_number (transform), 17
refine_to_text (transform), 17
refine_to_title (transform), 17
refine_to_upper (transform), 17
refine_token, 13, 15
refine_transform (transform), 17
refine_trim_whitespace (transform), 17
refine_unescape_html (transform), 17
refine_upload, 16

transform, 17