Package ‘rrefine’

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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.
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lateformeeing

a "dirty" data set to demonstrate rrefine features

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

lateformeeing

Format

A data frame with 63 rows and 4 variables

- theDate date of observation in varying formats
- what.day.was.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(lateformeeing)
lfm_clean  
a "clean" version of the lateformeeting sample data set

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

```
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

```
## 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, ...)
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

```r
## 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

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

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", "lateformeeeting.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

```r
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

```r
## 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

```r
## 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

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
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_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 CSFR token with `refine_token`.

Usage

```
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
- **...**: 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

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

Arguments

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>column</td>
<td>Name of the column to be removed</td>
</tr>
<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", "lateformeeting.csv", package = "rrefine")
refine_upload(fp, project.name = "lfm")
refine_remove_column(column = "theDate", project.name = "lfm")
## End(Not run)
```
**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
- `...` 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_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`
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

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",
    project.name = NULL,
    project.id = NULL,
    verbose = FALSE,
    validate = TRUE,
    ...
)
transform

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

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,
  ...
)

refineCollapseWhitespace(
  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
- refineCollapse_whitespace(): 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)
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