Package 'kiwisR'

August 19, 2019

Title A Wrapper for Querying KISTERS 'WISKI' Databases via the 'KiWIS' API

Version 0.1.7

Description A wrapper for querying 'WISKI' databases via the 'KiWIS' 'REST' API. 'WISKI' is an 'SQL' relational database used for the collection and storage of water data developed by KISTERS and 'KiWIS' is a 'REST' service that provides access to 'WISKI' databases via HTTP requests (<https://water.kisters.de/en/technology-trends/kisters-and-open-data/>). Contains a list of default databases (called 'hubs') and also allows users to provide their own 'KiWIS' URL. Supports the entire query process- from metadata to specific time series values. All data is returned as tidy tibbles.

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Encoding UTF-8

LazyData true

RoxygenNote 6.1.1

URL https://github.com/rywhale/kiwisR

BugReports https://github.com/rywhale/kiwisR/issues

Depends R (>= 3.2.0)

Imports tibble, jsonlite, lubridate, httr, dplyr

Suggests ggplot2, knitr, rmarkdown, testthat

NeedsCompilation no

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Repository CRAN

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R topics documented:

`kiwisR-package` *kiwisR: A wrapper for querying KISTERS WISKI Databases via the KiWIS API*

Description

kiwisR provides a simplified method for retrieving tidy data from KISTERS WISKI databases via KiWIS API.

Details

A suggested workflow for using this package:

- Get station metadata using `ki_station_list()`
- Get time series metadata using `ki_timeseries_list()`
- Get time series data using `ki_timeseries_values()`

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See Also

Useful links:

- https://github.com/rywhale/kiwisR
- Report bugs at https://github.com/rywhale/kiwisR/issues

ki_group_list *Get list of available groups*

Description

Returns a tibble containing metadata available groups. This can be used to further filter down other queries like ‘ki_station_list‘

Usage

```
ki_group_list(hub)
```

Arguments

hub	The KiWIS database you are querying. Either one of the defaults or a URL. See README.

Value

A tibble with three columns: group_id, group_name and group_type

Examples

```
## Not run:
ki_group_list(hub = 'swmc')

## End(Not run)
```

ki_station_list *Get tibble containing station information.*

Description

Returns all available stations by default and allows for search terms and other filters.

Usage

```
ki_station_list(hub, search_term, bounding_box, group_id, return_fields)
```

Arguments

hub	The KiWIS database you are querying. Either one of the defaults or a URL. See README.
search_term	(Optional) A station name to search for. Supports the use of * as a wildcard. Case doesn't matter.
bounding_box	(Optional) A bounding box to search withhin for stations. Should be a vector or comma separated string
group_id	(Optional) A station group id (see ki_group_list). with the following format: (min_x, min_y, max_x, max_y).
return_fields	(Optional) Specific fields to return. Consult your KiWIS hub services documentation for available options. Should be a comma separate string or a vector.

Value

Tibble containing station metdata.

Examples

```
## Not run:
ki_station_list(hub = "swmc")
ki_station_list(hub = "swmc", search_term = "A*")
ki_station_list(hub = "swmc", bounding_box = "-131.7,-5.4,135.8,75.8")
ki_station_list(hub = "swmc", group_id = "518247")

## End(Not run)
```

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ki_timeseries_list *Get list of available time series for station or list of stations.*

Description

Get list of available time series for station or list of stations.

Usage

```
ki_timeseries_list(hub, station_id, ts_name, coverage = TRUE, group_id,
  return_fields)
```

Arguments

hub	The KiWIS database you are querying. Either one of the defaults or a URL. See README.
station_id	Either a single station id or a vector of station ids. Can be string or numeric. Station ids can be found using the ki_station_list function.

ts_name	(Optional) A specific time series short name to search for. Supports the use of "*" as a wildcard.
coverage	(Optional) Whether or not to return period of record columns. Defaults to TRUE, change to FALSE for faster queries.
group_id	(Optional) A time series group id (see ki_group_list)
return_fields	(Optional) Specific fields to return. Consult your KiWIS hub services documentation for available options. Should be a comma separate string or a vector.

Value

A tibble containing all available time series for selected stations.

Examples

```
## Not run:
ki_timeseries_list(hub = "swmc", station_id = "146775")
ki_timeseries_list(hub = "swmc", ts_name = "Vel*")

## End(Not run)
```

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ki_timeseries_values *Get values for time series id or list of time series ids.*

Description

Returns time series values for given time series id and date range.

Usage

```
ki_timeseries_values(hub, ts_id, start_date, end_date)
```

Arguments

hub	The KiWIS database you are querying. Either one of the defaults or a URL. See README.
ts_id	Either: a single time series id or a vector of time series ids. Time series ids can be found using the ki_timeseries_list function
start_date	A date string formatted "YYYY-MM-DD". Defaults to yesterday.
end_date	A date string formatted "YYYY-MM-DD". Defaults to today.

Value

A tibble with following columns: Timestamp, Value, ts_name, Units, station_name

Examples

```
## Not run:
ki_timeseries_values(
  hub = "swmc",
  ts_id = "1125831042",
  start_date = "2015-12-01",
  end_date = "2018-01-01"
)

## End(Not run)
```

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