

Package: zentracloud (via r-universe)

November 11, 2024

Title Access to METER ZentraCloud API

Version 0.4.9

Description Provides functions to access the METER ZENTRACLOUD API.

License MIT + file LICENSE

URL <https://meter-group-inc.gitlab.io/pubpackages/zentracloud>,
<https://gitlab.com/meter-group-inc/pubpackages/zentracloud>

BugReports <https://gitlab.com/meter-group-inc/pubpackages/zentracloud/issues>

Depends R (>= 4.1)

Imports arrow, chron, dplyr, httr2, jsonlite, lubridate, memoise,
purrr, snakecase, stringr, tibble, tidyr, uuid

Suggests covr, httptest2, knitr, rmarkdown, testthat (>= 3.0.0)

VignetteBuilder knitr

Config/testthat/edition 3

Encoding UTF-8

LazyData true

Roxygen list(markdown = TRUE)

RoxygenNote 7.2.3

Repository <https://cct-datascience.r-universe.dev>

RemoteUrl <https://gitlab.com/meter-group-inc/pubpackages/zentracloud>

RemoteRef HEAD

RemoteSha da3bb813674389445aa465d8e6a954ab8aeec871

Contents

clearCache	2
getReadings	2
options	4
queryDeviceSettings	5
readCache	5
zentra_data	6

Index[7](#)

clearCache	<i>Clear Zentracloud Package Cache</i>
------------	--

Description

Clear package cache of files older then the specified number of days.

Usage

```
clearCache(
  cache_dir = getOption("ZENTRACLOUD_CACHE_DIR"),
  file_age = getOption("ZENTRACLOUD_CACHE_MAX_AGE")
)
```

Arguments

cache_dir	character Cache folder. Defaults to the cache directory stored in options, but can be changed if files were saved somewhere else. MUST be the highest level of the cache to run properly.
file_age	integer Number of days since today. Files older than this date will be deleted. If file_age = 0L, files from the current day will be also included.

Details

clearCache is automatically called when the package is attached.

getReadings	<i>Query Data from ZENTRACLOUD API</i>
-------------	--

Description

Query data from the ZENTRA Cloud API for a specific device serial number and time period.

Usage

```
getReadings(
  device_sn,
  start_time,
  end_time,
  force_api = FALSE,
  ignore_cache = FALSE
)
```

Arguments

device_sn	character device serial number of interest.
start_time, end_time	character datetime strings in the format "YYYY-MM-DD hh:mm:ss" specifying the start/end of the requested time period. Must be in logger time zone!
force_api	logical If TRUE, API call is forced irrespective of existing cached data. Cache directory is updated with fetched API results. Default FALSE.
ignore_cache	logical If TRUE, directory path set in ZENTRACLOUD_CACHE_DIR is ignored. No data are read or permanently written to disk. Default FALSE.

Details

Options

To use `getReadings()`, valid values for the ZENTRACLOUD options must be set (see `setZentracloudOptions()`). Make sure that the token and domain match.

Cache

Per default, a cache directory is created at the location specified in the ZENTRACLOUD_CACHE_DIR option at first function-call. Here, the data are saved, sorted by device, sensor, year and month. For subsequent calls, the cache is checked for already existing data before the API is called again.

Value

A list of `data.frames` for the queried time period with columns for datetime and all values. One list entry for each logger. Unit and precision of each value are stored as attributes of the respective columns.

Examples

```
## Not run:
setZentracloudOptions(
  token = Sys.getenv("ZENTRACLOUD_TOKEN")
)

dat = getReadings(
  device_sn = "06-01185"
  , start_time = "2022-03-20 00:00:00"
  , end_time = "2022-03-26 23:59:00"
)

## End(Not run)
```

options

*Write Package Settings to Global Options***Description**

Five package options are set, see **Arguments**. For retrieving the current set of options use `getZentracloudOptions()`.

Usage

```
setZentracloudOptions(
    token,
    domain = "default",
    cache_dir = NULL,
    cache_max_age = NULL,
    cache_max_size = NULL
)

getZentracloudOptions()
```

Arguments

<code>token</code>	valid token for the ZENTRA Cloud API that is to be saved to the options.
<code>domain</code>	character The domain for which the token is valid. One of "default" (<i>zentracloud.com</i>), "tahmo", "aroya", "skala", "EU", "CN". Corresponds to the <i>URL</i> where the token is created.
<code>cache_dir</code>	directory for setting up the cache. If NULL, default is set depending on the operating system.
<code>cache_max_age</code>	the maximum file age allowed to be cached (in days). If NULL, set to default 7.
<code>cache_max_size</code>	the maximum cache size (in Kb). If NULL, set to default 500.

Details

tokens are only valid for a specific domain. Currently, the match is not verified here.

Examples

```
setZentracloudOptions(
  token = "tkn1!$"
  , domain = "default"
)
str(
  getZentracloudOptions()
)
```

queryDeviceSettings *Get settings from API*

Description

The function accesses the v.1 ZENTRA Cloud API to read the device settings for the given serial number. Settings include information on measurement intervals, device location and time settings.

Usage

```
queryDeviceSettings(device_sn)
```

Arguments

device_sn character serial number of the device that should be queried.

Details

To use this function, valid values for the ZENTRACLOUD options must be set (see setZentracloudOptions()). Make sure that the token and domain match.

Value

A list object with three entries, containing device settings and meta information.

Examples

```
## Not run:
set = queryDeviceSettings(
  device_sn = "06-01185"
)

## End(Not run)
```

readCache *Read all Data from Cache*

Description

Load all files that are saved in the cache.

Usage

```
readCache(cache_dir = getOption("ZENTRACLOUD_CACHE_DIR"))
```

Arguments

cache_dir character Cache folder. Defaults to the cache directory stored in options, but can be changed if files were saved somewhere else. **MUST** be the highest level of the cache to run properly.

Value

A list with entries for each device that was found and all associated data, sorted by logger.

Examples

```
## Not run:
all_cached = readCache(cache_dir = getOption("ZENTRA_CLOUD_CACHE_DIR"))

## End(Not run)
```

zentra_data	<i>ZENTRA Data Example</i>
-------------	----------------------------

Description

Subset of example data return from getReadings.

Usage

```
zentra_data
```

Format

A list with 6 elements for different sensor/port combinations, each containing a time series of the respective measurements.

Source

```
METERGROUP
```

Examples

```
## Not run:
zentra_data = getReadings(
  device_sn = "06-01185"
  , start_time = "2022-06-01 00:00:00"
  , end_time = "2022-06-14 23:59:00"
  , force = FALSE
)

## End(Not run)
```

Index

* datasets

zentra_data, 6

clearCache, 2

getReadings, 2

getZentracloudOptions (options), 4

options, 4

queryDeviceSettings, 5

readCache, 5

setZentracloudOptions (options), 4

zentra_data, 6