

Package ‘Rthingsboard’

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Type Package

Title 'ThingsBoard' API

Version 0.2.4

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Description The goal of 'Rthingsboard' is to provide interaction with the API of 'ThingsBoard' (<<https://thingsboard.io/>>), an open-source IoT platform for device management, data collection, processing and visualization.

License AGPL-3

Encoding UTF-8

LazyData true

Imports httr, logger, methods, dplyr

Suggests ggplot2, testthat

RoxygenNote 7.1.1

URL <https://github.com/DDorch/Rthingsboard>

BugReports <https://github.com/DDorch/Rthingsboard/issues>

NeedsCompilation no

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Date2EpochMilli *Convert a date into an epoch in milliseconds*

Description

This function allows to convert epoch timestamp in seconds to an epoch in milliseconds

Usage

```
Date2EpochMilli(ts)

## S3 method for class 'POSIXt'
Date2EpochMilli(ts)

## S3 method for class 'numeric'
Date2EpochMilli(ts)
```

Arguments

ts a [numeric](#) representing an epoch in seconds or a [POSIXt](#) date

Value

a [character](#) of the epoch in milliseconds

Examples

```
Date2EpochMilli(as.numeric(Sys.time()))
```

EpochMilli2Date *Convert an epoch in milliseconds into a date*

Description

Convert an epoch in milliseconds into a date

Usage

```
EpochMilli2Date(x, timezone = "GMT")
```

Arguments

x A [character](#) or a [numeric](#) representing an epoch in milliseconds
 timezone A [character](#) with the time zone used for the conversion

Value

A [POSIXct](#), the date corresponding to the epoch

Examples

```
epoch <- Date2EpochMilli(as.numeric(Sys.time()))
EpochMilli2Date(epoch)
```

ThingsboardApi-class *Thingboard API Class*

Description

Thingboard API Class

Fields

url [character](#) URL of the 'ThingsBoard' IoT platform.

publicId [character](#) the public ID of the device

token [character](#) the current token

tokenTimeOut A [numeric](#) contains the time out of a token in seconds (default 300)

tokenExpiration A [numeric](#) with the Epoch of the expiration date time of current token

Examples

```
thinksboard_api = tryCatch(
  {
    ThingsboardApi(url="http://scada.g-eau.fr",
                  publicId="299cedc0-f3e9-11e8-9dbf-cbc1e37c11e3")
  },
  error = function(e) {
    message("An error occured:\n", e)
    return(FALSE)
  }
)
```

ThingsboardApi_checkToken

Check if the token is timeouted and refresh it if necessary

Description

Check if the token is timeouted and refresh it if necessary

Value

NULL

ThingsboardApi_getKeys

Fetch data keys for an entity

Description

Fetch data keys for an entity

Arguments

entityId **character** entity ID
entityType **character** (default "DEVICE")

Details

The description of this operation in API documentation is here: <https://thingsboard.io/docs/user-guide/telemetry/#get-telemetry-keys>

Value

A vector of **character** with the keys available for the requested device.

ThingsboardApi_getTelemetry
Fetch telemetry

Description

Fetch telemetry data for an entity. See [ThingsboardApi_getValues](#) for the arguments.

See: <https://thingsboard.io/docs/user-guide/telemetry/#get-telemetry-values>

Arguments

... Parameters passed through method [ThingsboardApi_getValues](#)

endTs A [numeric](#) or a [POSIXct](#) representing respectively the epoch or the date of the end of data extraction period

Value

A [data.frame](#) with one row per data and 3 columns:

- key: a [character](#) with the key
- ts: a [POSIXct](#) with the timestamp of the data
- value: a [numeric](#) with the value of the data

ThingsboardApi_getToken
Get authorisation token from thingsboard server for a specific device

Description

Get authorisation token from thingsboard server for a specific device

Arguments

timeOut [numeric](#) number of second before token timeout (default field tokenTimeOut)

Value

A [list](#) with keys 'token' and 'refreshToken'

ThingsboardApi_getValues

Fetch values from an entity

Description

See: <https://thingsboard.io/docs/user-guide/telemetry/#get-telemetry-values>

This method has a strong limitation as the 'ThingsBoard' API only send the 100 last values of each key. Use the method getTelemetry to override this limitation.

Arguments

entityId	A character with the entity ID given (See https://thingsboard.io/docs/user-guide/entity-views/)
keys	Vector of character with the list of keys from which getting the telemetry values
entityType	A character (default "DEVICE")
startTs	A numeric or a POSIXct representing respectively the epoch or the date of the start of data extraction period
endTs	A numeric or a POSIXct representing respectively the epoch or the date of the end of data extraction period

Value

A [data.frame](#) with one row per data and 3 columns: key: A [character](#) with the key, ts: A [POSIXct](#) with the timestamp of the data, value: A [numeric](#) with the value of the data

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