

Package ‘PurpleAir’

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Title Query the 'PurpleAir' Application Programming Interface

Version 1.0.1

Description Send requests to the 'PurpleAir' Application Programming Interface (API; <<https://community.purpleair.com/c/data/api/18>>). Check a 'PurpleAir' API key and get information about the related organization. Download real-time data from a single 'PurpleAir' sensor or many sensors by sensor identifier, geographical bounding box, or time since modified. Download historical data from a single sensor.

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Encoding UTF-8

RoxygenNote 7.3.2

Suggests sf, testthat (>= 3.0.0)

Config/testthat/edition 3

URL <https://github.com/cole-brokamp/PurpleAir>

BugReports <https://github.com/cole-brokamp/PurpleAir/issues>

Imports httr2, purrr, tibble, rlang, cli, dplyr, glue

NeedsCompilation no

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check_api_key	<i>Check Purple Air API Key</i>
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Description

Use the PurpleAir API to validate your Purple Air API Key. Find more details on this function at <https://api.purpleair.com/#api-keys-check-api-key>. Storing your key in the environment variable PURPLE_AIR_API_KEY is safer than storing it in source code and is used by default in each PurpleAir function.

Usage

```
check_api_key(purple_air_api_key = Sys.getenv("PURPLE_AIR_API_KEY"))
```

Arguments

purple_air_api_key
A character that is your PurpleAir API READ key

Value

If the key is valid, a message is emitted and the input is invisibly returned; invalid keys will throw an R error which utilizes information from the underlying http error to inform the user.

See Also

get_organization_data

Examples

```
## Not run:  
check_api_key()  
try(check_api_key("foofy"))  
  
## End(Not run)
```

get_organization_data	<i>Get Organization Data</i>
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Description

Use the PurpleAir API to retrieve information for the organization containing the provided api_key Find more details on this function at <https://api.purpleair.com/#api-organization-get-organization-data>

Usage

```
get_organization_data(purple_air_api_key = Sys.getenv("PURPLE_AIR_API_KEY"))
```

Arguments

purple_air_api_key
A character that is your PurpleAir API READ key

Value

A list of organization info

See Also

check_api_key

Examples

```
## Not run:  
get_organization_data()  
  
## End(Not run)
```

get_sensors_data	<i>Get Sensors Data</i>
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Description

Retrieves the latest data of multiple sensors matching the provided parameters. Find more details on sensor fields at <https://api.purpleair.com/#api-sensors-get-sensors-data>.

Usage

```
get_sensors_data(  
  x,  
  fields,  
  location_type = c("both", "inside", "outside"),  
  max_age = as.integer(604800),  
  purple_air_api_key = Sys.getenv("PURPLE_AIR_API_KEY"),  
  read_keys = NULL  
)
```

Arguments

<code>x</code>	an input object used to define multiple sensors: • an integer (or numeric or character) vector will select sensors based on <code>sensor_index</code> (API: <code>show_only</code>) • a <code>st_bbox</code> object will select sensors geographically (API: <code>nwlat</code>, <code>nwlon</code>, <code>selat</code>, <code>selon</code>) • a <code>POSIXct</code> object will select sensors modified since the given time (API: <code>modified_since</code>)
<code>fields</code>	A character vector of which 'sensor data fields' to return
<code>location_type</code>	character; restrict to only "outside" or "inside" sensors (Outside: 0, Inside: 1)
<code>max_age</code>	integer; filter results to only include sensors modified or updated within the last number of seconds
<code>purple_air_api_key</code>	Your PurpleAir API READ key
<code>read_keys</code>	A character vector of keys required to read data from private devices

Value

A list of sensor data, named by the provided fields

See Also

`get_sensor_data`

Examples

```
## Not run:
# get sensors data by integer, numeric, or character vector of `sensor_index`
get_sensors_data(
  x = as.integer(c(175257, 175413)),
  fields = c("name", "last_seen", "pm2.5_cf_1", "pm2.5_atm")
)
get_sensors_data(
  x = c(175257, 175413),
  fields = c("name", "last_seen", "pm2.5_cf_1", "pm2.5_atm")
)
get_sensors_data(
  x = c("175257", "175413"),
  fields = c("name"), location_type = "outside"
)
# get sensors by bounding box around Hamilton County, OH
sf::st_bbox(c("xmin" = -84.82030, "ymin" = 39.02153,
              "xmax" = -84.25633, "ymax" = 39.31206),
  crs = 4326) |>
  get_sensors_data(fields = c("name"))
# sensors modified in the last 60 seconds
get_sensors_data(as.POSIXct(Sys.time()) - 60, fields = "name")

## End(Not run)
```

`get_sensor_data`*Get Sensor Data*

Description

Retrieves the latest data of a single sensor matching the provided `sensor_index`. Find more details on sensor fields at <https://api.purpleair.com/#api-sensors-get-sensor-data>.

Usage

```
get_sensor_data(  
  sensor_index,  
  fields,  
  purple_air_api_key = Sys.getenv("PURPLE_AIR_API_KEY"),  
  read_key = NULL  
)
```

Arguments

<code>sensor_index</code>	Integer (or numeric, character object coerceable to integer) <code>sensor_index</code>
<code>fields</code>	A character vector of which 'sensor data fields' to return
<code>purple_air_api_key</code>	A character that is your PurpleAir API READ key
<code>read_key</code>	A character key required to read data from private devices

Value

A list of sensor data, named by the provided fields

See Also

`get_sensors_data` `get_sensor_history`

Examples

```
## Not run:  
get_sensor_data(sensor_index = 175413, fields = c("name", "last_seen", "pm2.5_cf_1", "pm2.5_atm"))  
get_sensor_data(sensor_index = "175413", fields = c("name", "last_seen", "pm2.5_cf_1", "pm2.5_atm"))  
  
## End(Not run)
```

get_sensor_history	<i>get sensor history</i>
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Description

Retrieves the latest history of a single sensor matching the provided sensor_index. Find more details on sensor fields at <https://api.purpleair.com/#api-sensors-get-sensor-history>.

Usage

```
get_sensor_history(
  sensor_index,
  fields,
  start_timestamp,
  end_timestamp,
  average = c("10min", "30min", "60min", "6hr", "1day", "1week", "1month", "1year",
    "real-time"),
  purple_air_api_key = Sys.getenv("PURPLE_AIR_API_KEY"),
  read_key = NULL
)
```

Arguments

sensor_index	Integer (or numeric, character object coerceable to integer) sensor_index
fields	A character vector of which 'sensor data fields' to return
start_timestamp	time stamp of first required history entry (inclusive)
end_timestamp	end time stamp of history to return (exclusive)
average	time frame to request averaged results for
purple_air_api_key	A character that is your PurpleAir API READ key
read_key	A character key required to read data from private devices

Value

a list of sensor data, named by the provided fields

Examples

```
## Not run:
get_sensor_history(
  sensor_index = 175413,
  fields = c("pm1.0_cf_1", "pm1.0_atm", "pm2.5_cf_1", "pm2.5_atm"),
  start_timestamp = as.POSIXct("2024-07-02"),
  end_timestamp = as.POSIXct("2024-07-05")
)

## End(Not run)
```

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