

output: pdf_document: default html_document: default

API Reference

The API is divided in two sections: sensors, and readings (data gathered by sensors). Unless otherwise noted:

- all datetimes are ISO formatted
- all responses are JSON-formatted

All URLs should be prefixed with the base URL (e.g. <https://example.com>).

Some parameter values may not have been made available to certain endpoints.

Sensors

List sensors

DESCRIPTION

Retrieves all sensors of a specified type.

URL STRUCTURE

`/api/Sensors/GetSensors/:sensor-type`

METHOD

GET

PARAMETERS

Name	Type	Description
sensor-type	string	Type of the sensors to retrieve. e.g.: air, meshed, or visual

RETURNS

Array of sensor objects with at least the following properties:

Key	Type	Description
id	string	ID of the sensor
name	string	Sensor name

Key	Type	Description
description	string	Sensor address
latitude	number	Latitude
longitude	number	Longitude
firstupdated	datetime	Sensor creation date
timestamp	datetime	Last updated date

Additional properties returned based on `sensor-type` .

List all air sensors

PARAMETERS

Name	Value
sensor-type	air

RETURNS

Base properties of sensor object plus:

Key	Type	Description
pm2_5	number	latest data of the PM2.5 counter
pm10	number	latest data of the PM10 counter

Example

```
curl "http://localhost:5000/api/Sensors/GetSensors/air"
```

```
[
  {
    "id": "7dhubfye7495i89e0",
    "name": "aq_01",
    "description": "123 Fake Street",
    "latitude": "-30.1293",
    "longitude": "155.7687",
    "firstupdated": "2005-04-05T14:30",
    "timestamp": "2007-04-05T14:30",
    "pm2_5": "45",
    "pm10": "135"
  }
]
```

List all visual sensors

PARAMETERS

Name	Value
sensor-type	visual

RETURNS

Base properties of sensor object plus:

Key	Type	Description
pedestrian	number	latest data of the pedestrian counter
bicycle	number	latest data of the bicycle counter
vehicle	number	latest data of the vehicle counter

Example

```
curl "http://localhost:5000/api/Sensors/GetSensors/visual"
```

```
[  
  {  
    "id": "MAC-09-67-59-94-04-59",  
    "name": "MAC-09-67-59-94-04-59",  
    "description": "123 Fake Street",  
    "latitude": "-30.1293",  
    "longitude": "155.7687",  
    "firstupdated": "2005-04-05T14:30",  
    "timestamp": "2007-04-05T14:30",  
    "pedestrian": "14",  
    "bicycle": "2",  
    "vehicle": "25"  
  },  
  ...  
]
```

List all meshed sensors

PARAMETERS

Name	Value
sensor-type	meshed

RETURNS

Base properties of sensor object plus:

Name	Type	Description
counter	string	latest data

Example

```
curl "http://localhost:5000/api/Sensors/GetSensors/meshed"
```

```
[
  {
    "id": "SD4",
    "name": "SD4",
    "description": "123 Fake Street",
    "latitude": "-30.1293",
    "longitude": "155.7687",
    "firstupdated": "2005-04-05T14:30",
    "timestamp": "2007-04-05T14:30",
    "counter": "14"
  },
  ...
]
```

Download sensors

DESCRIPTION

Downloads all sensors of a specified type as CSV.

URL STRUCTURE

```
/api/Sensors/GetSensorsAsCsv/:sensor-type?startDate=:start-date
```

```
/api/Sensors/GetSensorsAsCsv/:sensor-type?startDate=:start-date&endDate=:end-date
```

METHOD

GET

PARAMETERS

Name	Type	Description
sensor-type	string	Type of the sensors to retrieve: air, meshed, or visual
start-date	datetime	Returns sensors updated after this date
end-date	datetime	Optional. End date of the data. If not specified, defaults to now

RETURNS

CSV file listing all sensors and their properties.

Readings

Readings is data captured by sensors: air quality data, MAC address counters, etc.

List all readings for a specified sensor

URL STRUCTURE

`/api/Sensors/GetReadings/:sensor-type/:read-type/:sensor-id?startDate=:start-date`

`/api/Sensors/GetReadings/:sensor-type/:read-type/:sensor-id?startDate=:start-date&endDate=:end-date`

METHOD

GET

PARAMETERS

Name	Type	Description
sensor-type	string	Sensor type the data belongs to
read-type	string	Type of the read (e.g. data, counts, etc.)
sensor-id	string	Sensor ID to get the data for
start-date	datetime	Start date to get the data from
end-date	datetime	Optional. End date of the data. If not specified, defaults to now

RETURNS

Array of objects. Properties vary on parameters.

List all air quality sensor data

PARAMETERS

Name	Value
sensor-type	air
read-type	data
sensor-id	...

RETURNS

Array of objects with the following properties:

Key	Type	Description
pm2_5	string	PM2.5

Key	Type	Description
pm10	string	PM10
ts	string	Time of read

Example

```
curl "http://localhost:5000/api/Sensors/GetSensors/air/data/AQ6?startDate=2000-01-10"
```

```
[
  {
    "pm2_5": "5",
    "pm10": "20",
    "ts": "2005-03-49T11:49"
  },
  ...
]
```

List all meshed sensor data

PARAMETERS

Name	Value
sensor-type	meshed
read-type	data
sensor-id	...

RETURNS

Array of objects with the following properties:

Key	Type	Description
count	string	Number of MAC addresses detected
timestamp	string	Time of read

Example

```
curl "http://localhost:5000/api/Sensors/GetSensors/meshed/data/SD4?startDate=2000-01-10"
```

```
[
  {
    "count": "5",
    "timestamp": "2005-03-49T11:49"
  },
  ...
]
```

```
] ...
```

List all visual sensor counts

PARAMETERS

Name	Value
sensor-type	meshed
read-type	data
sensor-id	...

RETURNS

Array of objects with the following properties:

Key	Type	Description
type	string	Type of the object detected (bicycle, pedestrian, or vehicle)
count	string	Number of detections
timestamp	string	Time of read

Example

```
curl "http://localhost:5000/api/Sensors/GetSensors/visual/count/VS5?startDate=2000-01-10"
```

```
[  
  {  
    "type": "bicycle",  
    "count": "3",  
    "timestamp": "2005-03-49T11:49"  
  },  
  ...  
]
```

List visual sensor detections [DEPRECATED]

DESCRIPTION

List detections captured by a visual sensor. This API is deprecated and may be refactored in the future.

URL STRUCTURE

```
/api/VisualSensors/GetDetections/:sensor-id?startDate=:start-date
```

```
/api/VisualSensors/GetDetections/:sensor-id?startDate=:start-date&endDate=:end-date
```

METHOD

GET

PARAMETERS

Name	Type	Description
sensor-id	string	Sensor ID to get the data for
start-date	datetime	Start date to get the data from
end-date	datetime	Optional. End date of the data. If not specified, defaults to now

RETURNS

Array of objects containing the following properties:

Key	Type	Description
x1	number	X coordinate of the first point
y1	number	Y coordinate of the first point
x2	number	X coordinate of the second point
y2	number	Y coordinate of the second point

List visual sensor trajectories [DEPRECATED]

DESCRIPTION

List detections captured by a visual sensor. This API is deprecated and may be refactored in the future.

URL STRUCTURE

`/api/VisualSensors/GetTrajectories/:sensor-id?startDate=:start-date`

`/api/VisualSensors/GetTrajectories/:sensor-id?startDate=:start-date&endDate=:end-date`

METHOD

GET

PARAMETERS

Name	Type	Description
sensor-id	string	Sensor ID to get the data for
start-date	datetime	Start date to get the data from
end-date	datetime	Optional. End date of the data. If not specified, defaults to now

RETURNS

Array of objects containing the following properties:

Key	Type	Description
objectID	string	ID of object
type	string	Type of the object detected
x	number	array of x-coordinates of object centre in sequential order
y	number	array of y-coordinates of object centre in sequential order
max	number	

Download sensor readings

DESCRIPTION

Downloads all sensor readings of the specified type as CSV.

URL STRUCTURE

`/api/Sensors/GetReadingsAsCsv/:sensor-type/:read-type?startDate=:start-date`

`/api/Sensors/GetReadingsAsCsv/:sensor-type/:read-type?startDate=:start-date&endDate=:end-date`

METHOD

GET

PARAMETERS

Name	Type	Description
sensor-type	string	Type of the sensors to retrieve: air, meshed, or visual
read-type	string	Type of the read (e.g. data, counts, etc.)
start-date	datetime	Start date to get the data from
end-date	datetime	Optional. End date of the data. If not specified, defaults to now

RETURNS

CSV file listing all sensor readings and their properties.

NOTES

Detections and trajectories are unavailable for download at this time.