

Overview

This document contains brief instructions and examples of using the SkyCentrics API to access data from the *Super SkyBox installed at PAE Living Building*. Please contact SkyCentrics if you have any questions while working through this guide.

NOTE: All requests to the SkyCentrics API *must be authenticated* in order to be accepted and processed. Requests that do not carry valid authentication or have mandatory fields missing will be rejected. Please contact SkyCentrics to obtain your API keys and refer to the API authentication documentation for more details. *Do not share your API keys publicly.*

Creating API Token

Use the provided helper Python script to create an API token to sign and authenticate API requests as follows. Make sure to include the resulting token in the `x-sc-api-token` HTTP header for each request. Note that your output may differ from the below.

EXAMPLE

```
$ ./create_api_token.py \
-c a2EaBy6DcPyGSzTkWpDU \
-s <REDACTED> \
-r 'GET /api/devices/1592651608/ HTTP/1.1' \
-D 'Thu, 19 Sep 2024 21:05:00 GMT'
a2EaBy6DcPyGSzTkWpDU:Ywrwr/6BQzYCAw3AECTnuE7HRkA=
```

Get Device

This API endpoint is used to retrieve the device object, which contains basic information about the device (e.g., its name, the associated user account, etc).

URL	https://api.skycentrics.com/api/devices/1592651608/
Method	GET
Response Content	JSON

```
{
  "id": {number},
  "user": {number},
  "group": {number},
  "type": {number},
  "mac": {string},
  "name": {string}
}
```

Item	Type	Description
id	number	Device ID.
user	number	User ID.
group	number	Device group.
type	number	Device type.
mac	string	Device MAC address or serial number.
name	string	Device name.

EXAMPLE

```
$ curl -v https://api.skycentrics.com/api/devices/1592651608/ \
-H "Accept: application/json"

> GET /api/devices/1592651608/ HTTP/1.1
> Accept: application/json
>
< HTTP/1.1 200 OK
< Content-Type: application/json
< Content-Length: 119
<
{
  "id": 1592651608,
  "user": 18355,
  "group": 5077,
  "type": 250,
  "client": 0,
  "mac": "2ccf676dadbb",
  "name": "ssb-001-pae-replacement"
}
```

Get Data

The following API endpoint is used to retrieve the most recent data readings from the device along with the timestamp of when each reading was recorded.

URL	https://api.skycentrics.com/api/devices/1592651608/data
Method	GET
Response Content	JSON

```
{
  "device": {number},
  "ct": [],
  "sensors": {array},
  "time": {string}
}
```

Item	Type	Description

device	number	Device ID.
ct	array	Reserved for future use.
sensors	array	Array of sensor objects.
time	string	UTC timestamp.

EXAMPLE

```
$ curl -v https://api.skycentrics.com/api/devices/1592651608/data \
-H "Accept: application/json"

> GET /api/devices/1592651608/data HTTP/1.1
> Accept: application/json
>
< HTTP/1.1 200 OK
< Content-Type: application/json
< Content-Length: 7804
<
{
  "device": 1592651608,
  "ct": [],
  "sensors": [
    {
      "data": 30.0,
      "id": "BESS_STATE_OF_CHARGE",
      "name": "BESS_STATE_OF_CHARGE",
      "time": 1753925866,
      "type": "Charge",
      "units": "%"
    },
    {
      "data": 178.5,
      "id": "BESS_AVAILABLE_CHARGE_CAPACITY",
      "name": "BESS_AVAILABLE_CHARGE_CAPACITY",
      "time": 1753925866,
      "type": "Energy",
      "units": "kWh"
    },
    {
      "data": 78.0,
      "id": "BESS_AVAILABLE_DISCHARGE_CAPACITY",
      "name": "BESS_AVAILABLE_DISCHARGE_CAPACITY",
      "time": 1753925866,
      "type": "Energy",
      "units": "kWh"
    },
    {
      "data": 338624512.0,
      "id": "BESS_LIFETIME_CHARGE_COUNTER",
      "name": "BESS_LIFETIME_CHARGE_COUNTER",
      "time": 1753925866,
      "type": "Energy",
      "units": "kWh"
    },
    {
      "data": 679870464.0,
      "id": "BESS_LIFETIME_DISCHARGE_COUNTER",
      "name": "BESS_LIFETIME_DISCHARGE_COUNTER",
      "time": 1753925866,
      "type": "Energy",
      "units": "kWh"
    },
    {
      "data": 500.0,
      "id": "BESS_SYSTEM_AVERAGE_VOLTAGE",
      "name": "BESS_SYSTEM_AVERAGE_VOLTAGE",
      "time": 1753925866,
      "type": "Voltage",
      "units": "V"
    },
    {
      "data": 13.0,
      "id": "BESS_SYSTEM_AVERAGE_CURRENT",
      "name": "BESS_SYSTEM_AVERAGE_CURRENT",
      "time": 1753925866,
      "type": "Current",
      "units": "A"
    },
    {
      "data": 11,
      "id": "BESS_SYSTEM_STATE",
      "name": "BESS_SYSTEM_STATE",
      "time": 1753925866,
      "type": "State",
      "units": ""
    },
    {
      "data": 0,
      "id": "BESS_WARNINGS",
      "name": "BESS_WARNINGS",
      "time": 1753925866,
      "type": "State",
      "units": ""
    },
    {
      "data": 9.9,
      "id": "BESS_PCS_CHARGE_DISCHARGE_REAL_POWER",
      "name": "BESS_PCS_CHARGE_DISCHARGE_REAL_POWER",
      "time": 1753925866,
      "type": "Power",
      "units": "kW"
    },
    {
      "data": 0.0,
      "id": "BESS_PCS_CHARGE_DISCHARGE_REACTIVE_POWER",
      "name": "BESS_PCS_CHARGE_DISCHARGE_REACTIVE_POWER",
      "time": 1753925866,
      "type": "Reactive Power",
      "units": "kVAR"
    },
    {
      "data": 1,
      "id": "BESS_PCS_STATE",
      "name": "BESS_PCS_STATE",
      "time": 1753925866,
      "type": "State",
      "units": ""
    },
    {
      "data": 29.7,
      "id": "PV_SYSTEM_REAL_POWER_SETPOINT_LIMIT_TOTAL",
      "name": "PV_SYSTEM_REAL_POWER_SETPOINT_LIMIT_TOTAL",
      "time": 1753925866,
      "type": "Power",
      "units": "kW"
    },
    {
      "data": 1,
      "id": "UTILITY_GRID_STATE",
      "name": "UTILITY_GRID_STATE",
      "time": 1753925866,
      "type": "State",
      "units": ""
    },
    {
      "data": 1,
      "id": "MICROGRID_OPERATION_MODE",
      "name": "MICROGRID_OPERATION_MODE",
      "time": 1753925866,
      "type": "State",
      "units": ""
    },
    {
      "data": 0,
      "id": "MICROGRID_EPO_STATE",
      "name": "MICROGRID_EPO_STATE",
      "time": 1753925866,
      "type": "State",
      "units": ""
    },
    {
      "data": 0,
      "id": "MICROGRID_LOAD_SHED_SCENE",
      "name": "MICROGRID_LOAD_SHED_SCENE",
      "time": 1753925866,
      "type": "State",
      "units": ""
    },
    {
      "data": 0,
      "id": "MICROGRID_ALARMS",
      "name": "MICROGRID_ALARMS",
      "time": 1753925866,
      "type": "State",
      "units": ""
    }
  ]
}
```

```

a":0.0,"id":"BESS_ACTIVE_POWER_SETPOINT","name":"BESS_ACTIVE_POWER_SETPOINT","time":1753925866,"type":"Power","units":"kW"}, {"data":0.0,"id":"BESS_REACTIVE_POWER_SETPOINT","name":"BESS_REACTIVE_POWER_SETPOINT","time":1753925866,"type":"Reactive Power","units":"kVAR"}, {"data":0,"id":"BESS_ALARMS_BITFIELD_1","name":"BESS_ALARMS_BITFIELD_1","time":1753925866,"type":"State","units":""}, {"data":0,"id":"BESS_ALARMS_BITFIELD_1_5","name":"BESS_ALARMS_BITFIELD_1_5","time":1753925866,"type":"State","units":""}, {"data":0,"id":"BESS_ALARMS_BITFIELD_2","name":"BESS_ALARMS_BITFIELD_2","time":1753925866,"type":"State","units":""}, {"data":0,"id":"SEL_RELAY_TRIP_STATUS_POWER_ELEMENT","name":"SEL_RELAY_TRIP_STATUS_POWER_ELEMENT","time":1753925866,"type":"Power","units":""}, {"data":23,"id":"SETPOINT_SOLAR_EDGE_INVERTER_1","name":"SETPOINT_SOLAR_EDGE_INVERTER_1","time":1753925866,"type":"Power Setpoint","units": "% of Wmax"}, {"data":22,"id":"SETPOINT_SOLAR_EDGE_INVERTER_1_DUP","name":"SETPOINT_SOLAR_EDGE_INVERTER_1_DUP","time":1753925866,"type":"Power Setpoint","units": "% of Wmax"}, {"data":28.0,"id":"SOLAR_INVERTER_BREAKER_ACTIVE_POWER","name":"SOLAR_INVERTER_BREAKER_ACTIVE_POWER","time":1753925866,"type":"Power","units":"kW"}, {"data":14.31,"id":"SOLAR_INVERTER_1_ACTIVE_POWER","name":"SOLAR_INVERTER_1_ACTIVE_POWER","time":1753925866,"type":"Power","units":"kW"}, {"data":13.84,"id":"SOLAR_INVERTER_2_ACTIVE_POWER","name":"SOLAR_INVERTER_2_ACTIVE_POWER","time":1753925866,"type":"Power","units":"kW"}, {"data":190025.0,"id":"SOLAR_INVERTER_1_ENERGY","name":"SOLAR_INVERTER_1_ENERGY","time":1753925866,"type":"Energy","units":"kWh"}, {"data":187793.0,"id":"SOLAR_INVERTER_2_ENERGY","name":"SOLAR_INVERTER_2_ENERGY","time":1753925866,"type":"Energy","units":"kWh"}, {"data":0,"id":"EXPORT_REGULATION_ONGOING","name":"EXPORT_REGULATION_ONGOING","time":1753925866,"type":"State","units":""}, {"data":60.03,"id":"E30A_3_Frequency","name":"E30A_3_Frequency","time":1753925866,"type":"Frequency","units":"Hz"}, {"data":124.72,"id":"E30A_3_VOLTS_L-N:_3ph_Ave","name":"E30A_3_VOLTS_L-N:_3ph_Ave","time":1753925866,"type":"Voltage","units":"V"}, {"data":216.03,"id":"E30A_3_VOLTS_L-L:_3ph_Ave","name":"E30A_3_VOLTS_L-L:_3ph_Ave","time":1753925866,"type":"Voltage","units":"V"}, {"data":125.07,"id":"E30A_3_VOLTS_A-N","name":"E30A_3_VOLTS_A-N","time":1753925866,"type":"Voltage","units":"V"}, {"data":124.19,"id":"E30A_3_VOLTS_B-N","name":"E30A_3_VOLTS_B-N","time":1753925866,"type":"Voltage","units":"V"}, {"data":124.89,"id":"E30A_3_VOLTS_C-N","name":"E30A_3_VOLTS_C-N","time":1753925866,"type":"Voltage","units":"V"}, {"data":215.64,"id":"E30A_3_VOLTS_A-B","name":"E30A_3_VOLTS_A-B","time":1753925866,"type":"Voltage","units":"V"}, {"data":215.45,"id":"E30A_3_VOLTS_B-C","name":"E30A_3_VOLTS_B-C","time":1753925866,"type":"Voltage","units":"V"}, {"data":216.99,"id":"E30A_3_VOLTS_A-C","name":"E30A_3_VOLTS_A-C","time":1753925866,"type":"Voltage","units":"V"}, {"data":0.0,"id":"E30A_3_kWh_Energy:_3ph_Total","name":"E30A_3_kWh_Energy:_3ph_Total","time":1753925866,"type":"Energy","units":"kWh"}, {"data":0.0,"id":"E30A_3_kW:_3ph_Total","name":"E30A_3_kW:_3ph_Total","time":1753925866,"type":"Power","units":"kW"}, {"data":0.0,"id":"E30A_3_Power_Factor:_3ph_Total","name":"E30A_3_Power_Factor:_3ph_Total","time":1753925866,"type":"State","units":""}, {"data":0.0,"id":"E30A_3_A"

```

```

mps:_3ph_Average_(phases_1_2_3)","name":"E30A_3 Amps: 3ph Average (phases 1 2
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AO1000431_ShReq","time":1753925866,"type":"Power","units": "W"}], "time": "2025-0
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```