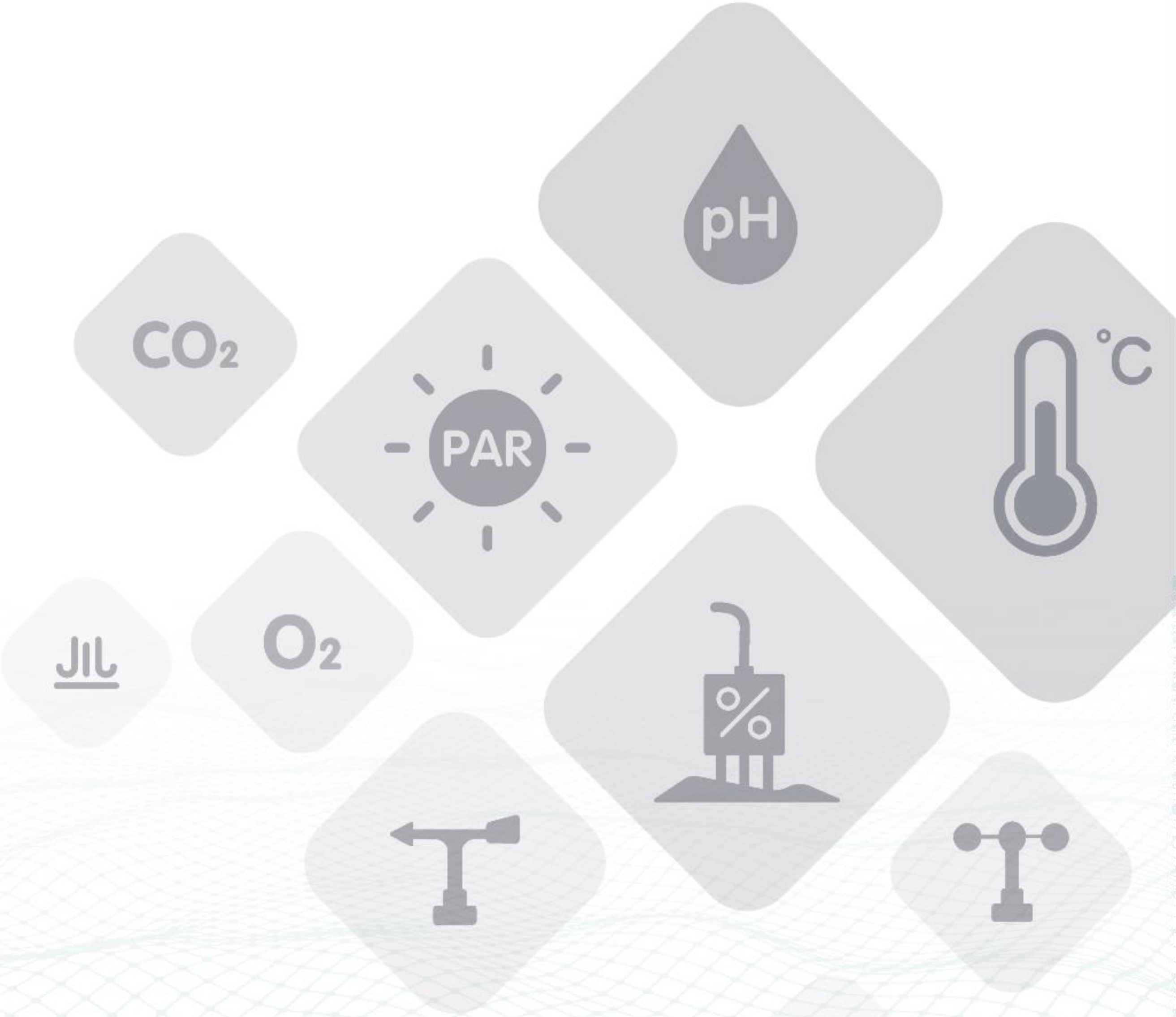
SENSECAP

SenseCAP Node User Guide with Helium Console

Version: V1.1



Content

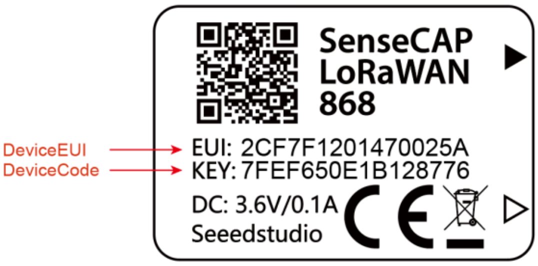
1. Preparation

1.1 Get Device EUI, App EUI and Key

Using the LoRaWAN protocol generally involves the following parameters.

Parameters	Description
Device EUI	Unique identification of device, one of the network join parameters.
Device Code	For device binding and API call.
App EUI	Unique identification of application, one of the network join parameters.
App Key	Application key, one of the network join parameters.

(1) Device EUI and Device Code is on the SenseCAP Sensor’s label.



Tips: Device Code is not the App Key!

(2) SenseCAP Sensor Node’s App EUI and App Key have been flashed into the device by Seeed. Use HTTP API to get App EUI and App Key. You can use a browser to issue an HTTP GET request.

Curl:

```
https://sensecap.seeed.cc/makerapi/device/view_device_info?nodeEui=2CF7F12014700297&deviceCode=34BF25920A4EFBF4
```

In the API, replace the Device EUI and device Code with your own Device EUI and Device Code respectively. And you will get the following response:

dev_eui	Device EUI
app_eui	App EUI
app_key	App Key

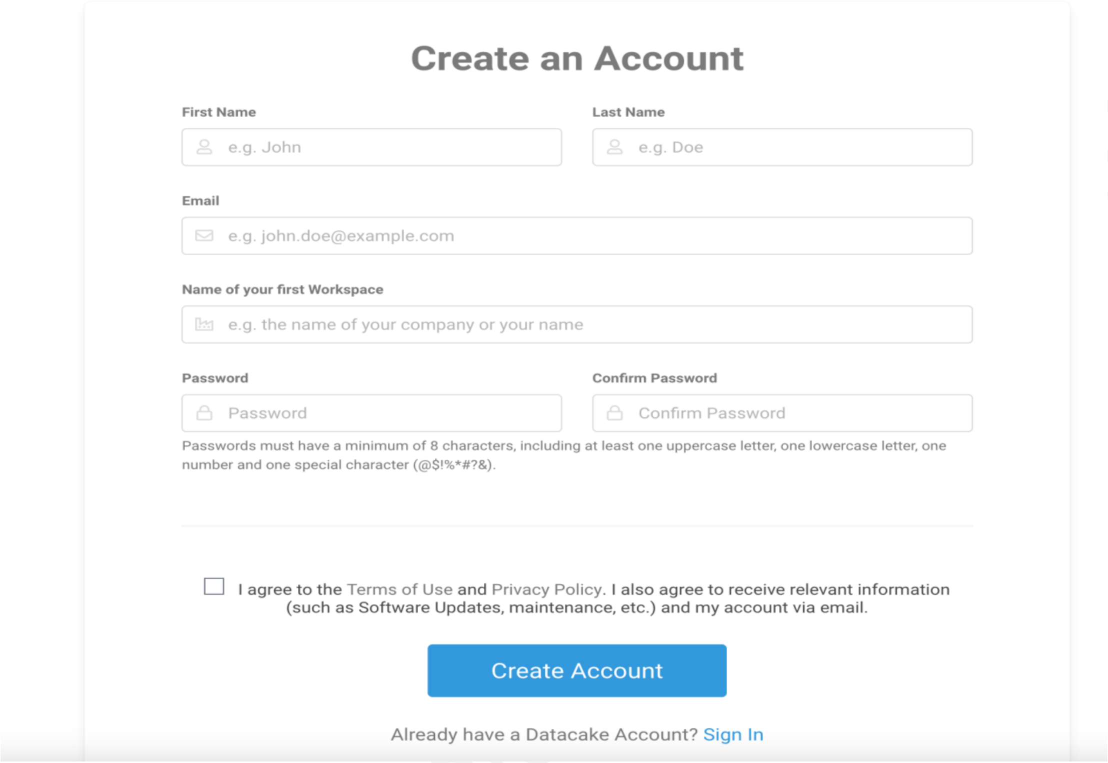
```
{
  "code": "0",
  "data": {
    "nodeEui": "2CF7F12014700297",
    "deviceCode": "34BF25920A4EFBF4",
        "lorawanInformation": {
            "dev_eui": "2CF7F12014700297",
            "app_eui": "8000000000000006",
            "app_key": "6FD0EF47CBC6E00F1921A08C2E94E8E5"
        }
    },
    "time": 0.019
}
```

Tips: The SenseCAP LoRaWAN Sensor can modify to EUI and Key. Please refer to the SenseCAP Sensor User Manual.

1.2 Create a Datacake Account

(1) Create a new account, website: https://datacake.co/

DATACAKE



Create an Account

First Name: e.g. John

Last Name: e.g. Doe

Email: e.g. john.doe@example.com

Name of your first Workspace: e.g. the name of your company or your name

Password: Password

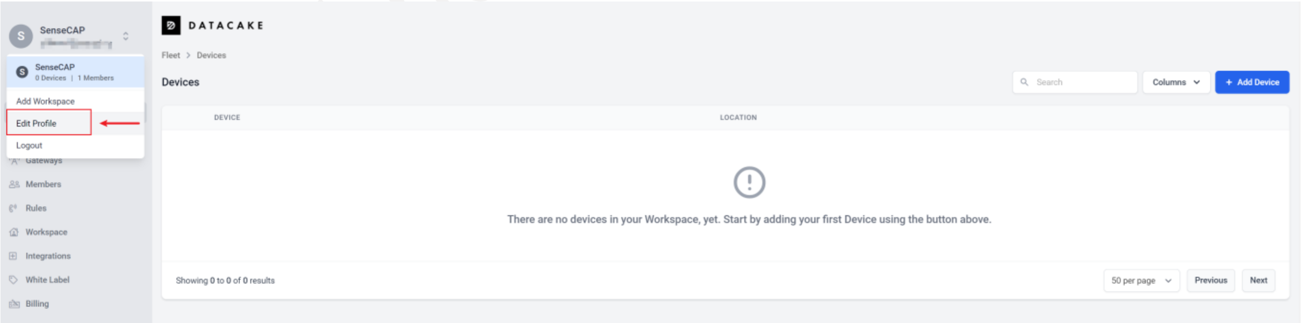
Confirm Password: Confirm Password

Passwords must have a minimum of 8 characters, including at least one uppercase letter, one lowercase letter, one number and one special character (@$!%*#?&).

☐ I agree to the Terms of Use and Privacy Policy. I also agree to receive relevant information (such as Software Updates, maintenance, etc.) and my account via email.

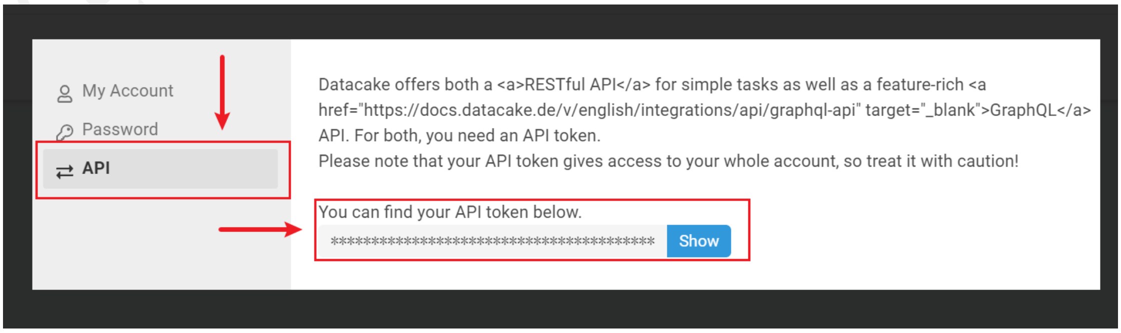
Already have a Datacake Account? Sign In

(2) Click the "Edit Profile"→"API"→Get API token.



There are no devices in your Workspace, yet. Start by adding your first Device using the button above.

Showing 0 to 0 of 0 results



Datacake offers both a <a>RESTful API</a> for simple tasks as well as a feature-rich <a href="https://docs.datacake.de/v/english/integrations/api/graphql-api" target="_blank">GraphQL</a> API. For both, you need an API token.
Please note that your API token gives access to your whole account, so treat it with caution!

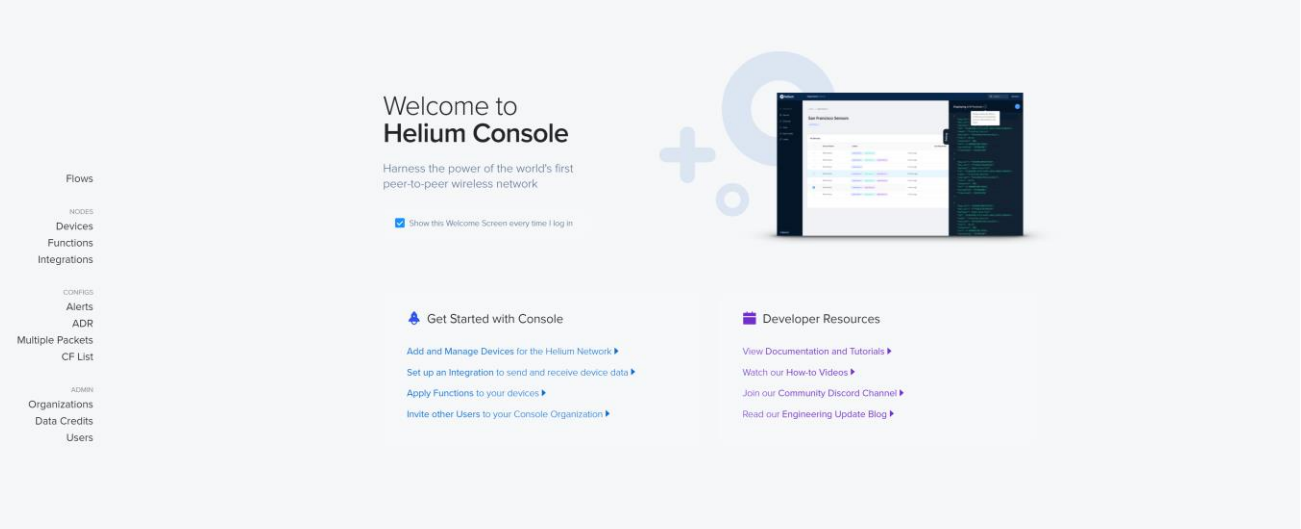
You can find your API token below.

** Show

2. Welcome to Helium Console

2.1 Register

Please go to https://console.helium.com/ , and register your account.



Welcome to
Helium Console

Harness the power of the world's first peer-to-peer wireless network

☑ Show this Welcome Screen every time I log in

Get Started with Console

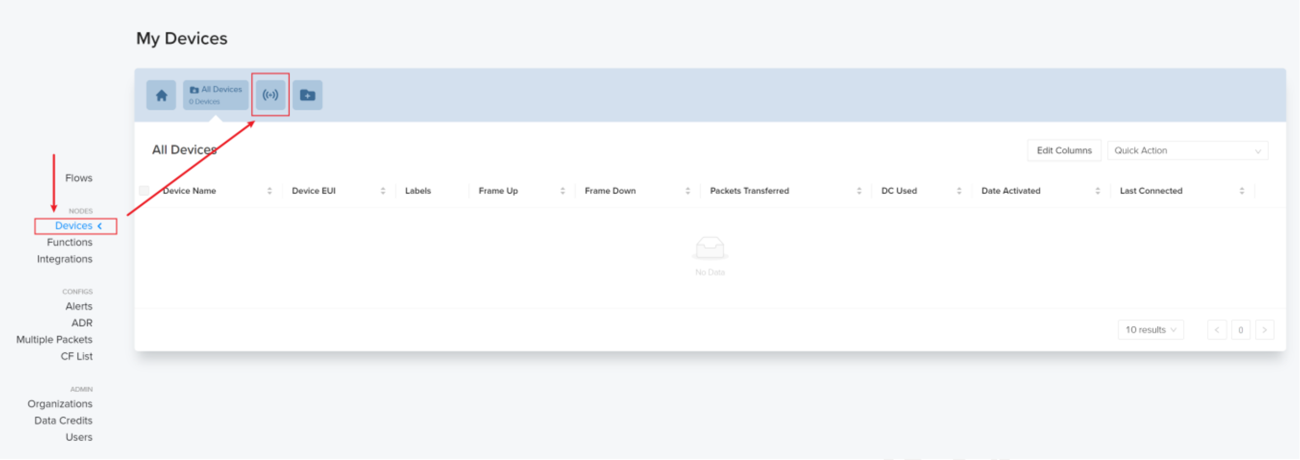
- Add and Manage Devices for the Helium Network ▸
- Set up an Integration to send and receive device data ▸
- Apply Functions to your devices ▸
- Invite other Users to your Console Organization ▸

Developer Resources

- View Documentation and Tutorials ▸
- Watch our How-to Videos ▸
- Join our Community Discord Channel ▸
- Read our Engineering Update Blog ▸

2.2 Add New Device

(1) Click “Devices” –> “Add New Device”

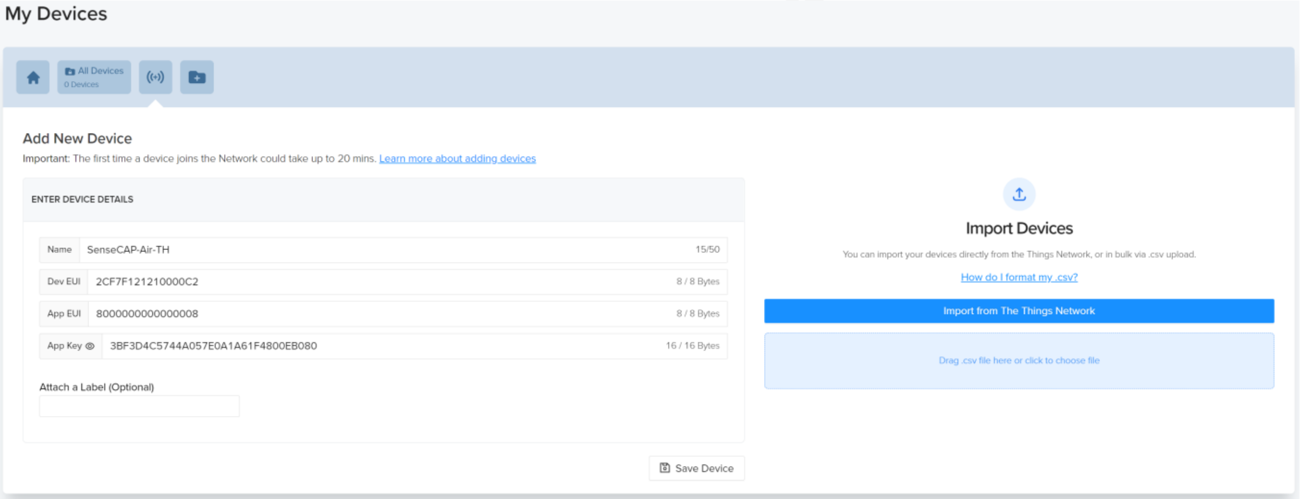


(2) Enter the following information:

Name: custom setup.

Dev EUI: Device EUI, please refer to Section 1.1 for details.

App EUI: App EUI, please refer to Section 1.1 for details.



Add New Device

Important: The first time a device joins the Network could take up to 20 mins. Learn more about adding devices

ENTER DEVICE DETAILS

Name	SenseCAP-Air-TH	15/50
Dev EUI	2CF7F121210000C2	8 / 8 Bytes
App EUI	8000000000000008	8 / 8 Bytes
App Key	3BF3D4C5744A057E0A1A61F4800EB080	16 / 16 Bytes

Attach a Label (Optional)

Save Device

Import Devices

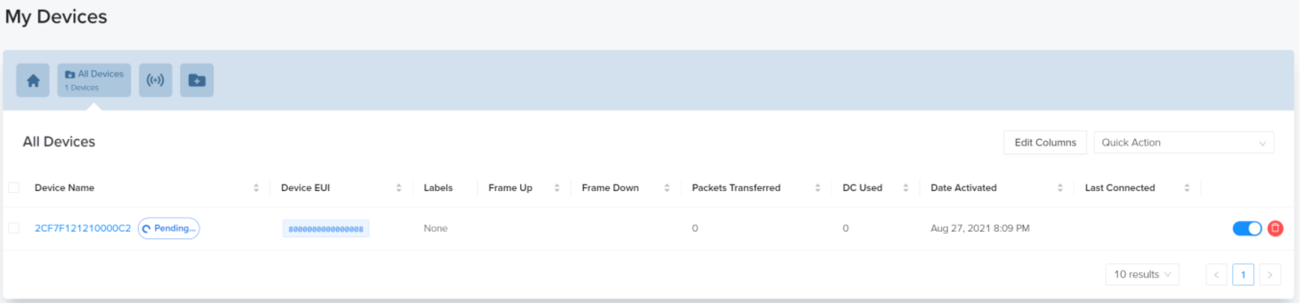
You can import your devices directly from the Things Network, or in bulk via .csv upload.

How do I format my .csv?

Import from The Things Network

Drag .csv file here or click to choose file

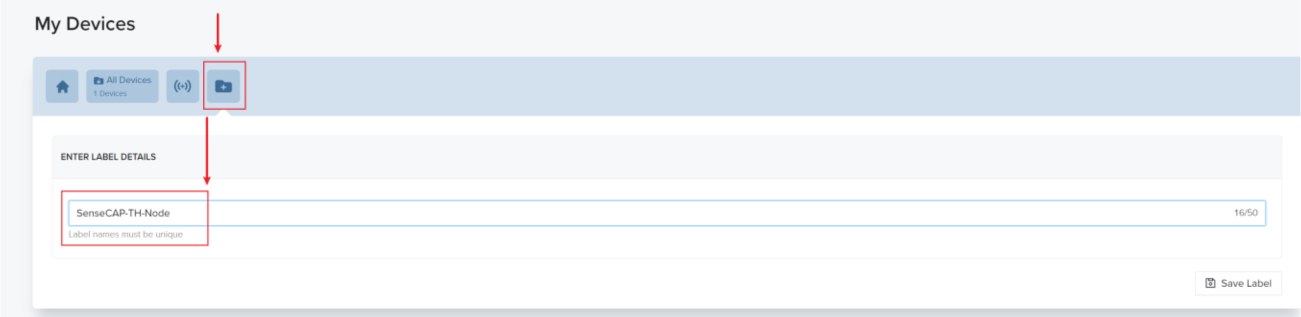
(3) Save device.



All Devices

Device Name	Device EUI	Labels	Frame Up	Frame Down	Packets Transferred	DC Used	Date Activated	Last Connected
2CF7F121210000C2 Pending...	8000000000000008	None			0	0	Aug 27, 2021 8:09 PM	

(4) Add a new label, then add the label to a device.

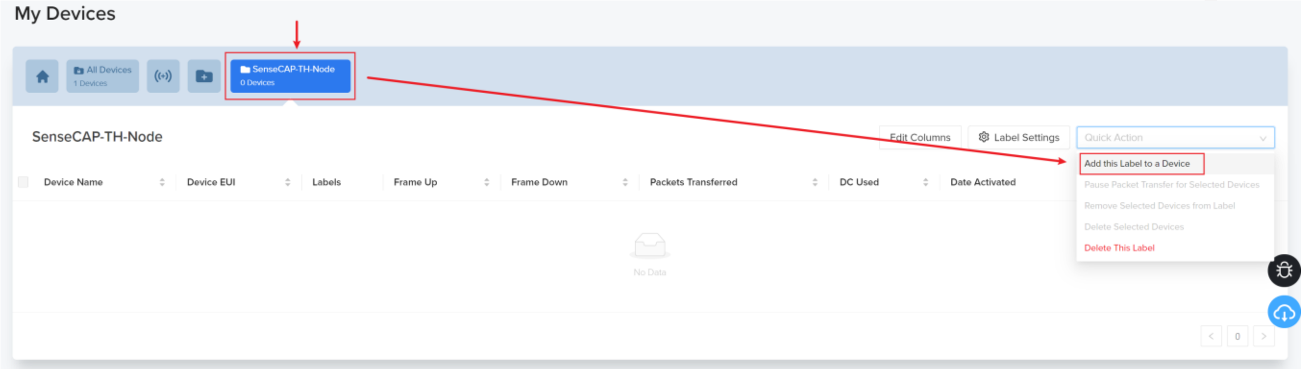


My Devices

ENTER LABEL DETAILS

SenseCAP-TH-Node 16/50

Label names must be unique

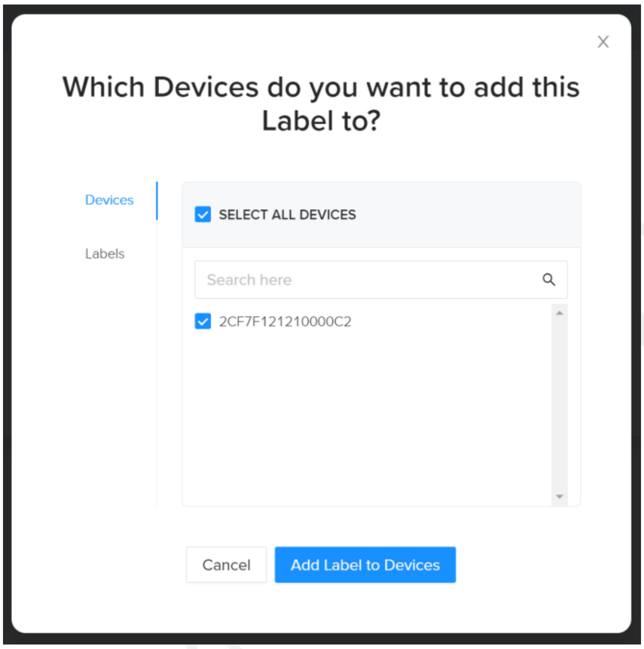


My Devices

SenseCAP-TH-Node

Device Name	Device EUI	Labels	Frame Up	Frame Down	Packets Transferred	DC Used	Date Activated

No Data

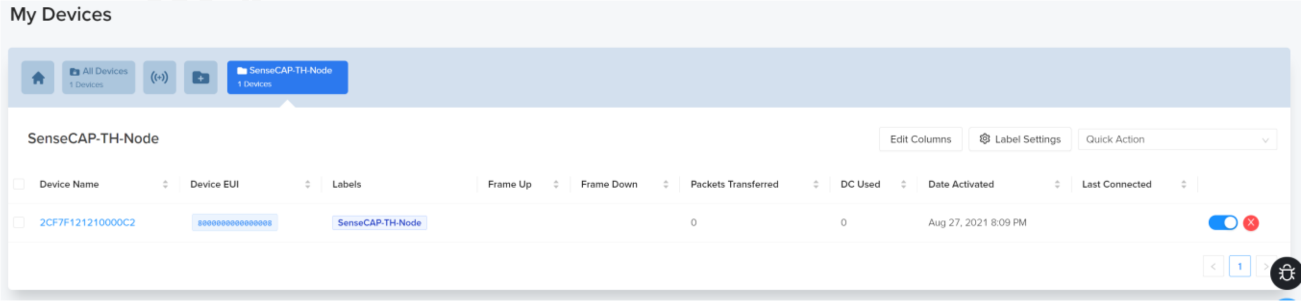


Which Devices do you want to add this Label to?

☑ SELECT ALL DEVICES

Search here

☑ 2CF7F121210000C2



My Devices

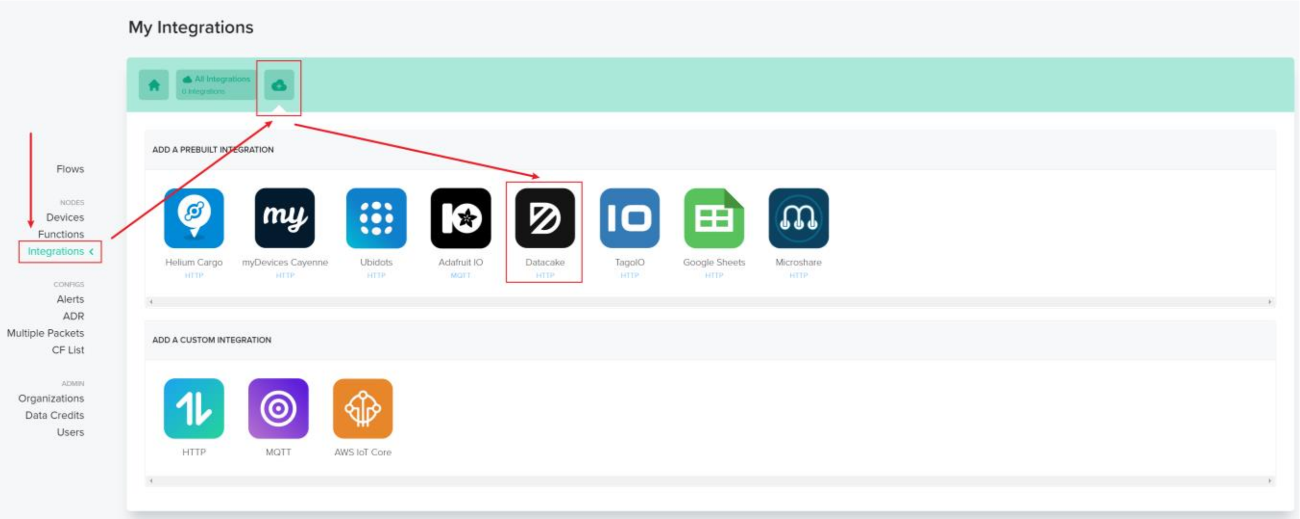
SenseCAP-TH-Node

Device Name	Device EUI	Labels	Frame Up	Frame Down	Packets Transferred	DC Used	Date Activated	Last Connected
2CF7F121210000C2	8000000000000008	SenseCAP-TH-Node			0	0	Aug 27, 2021 8:09 PM	

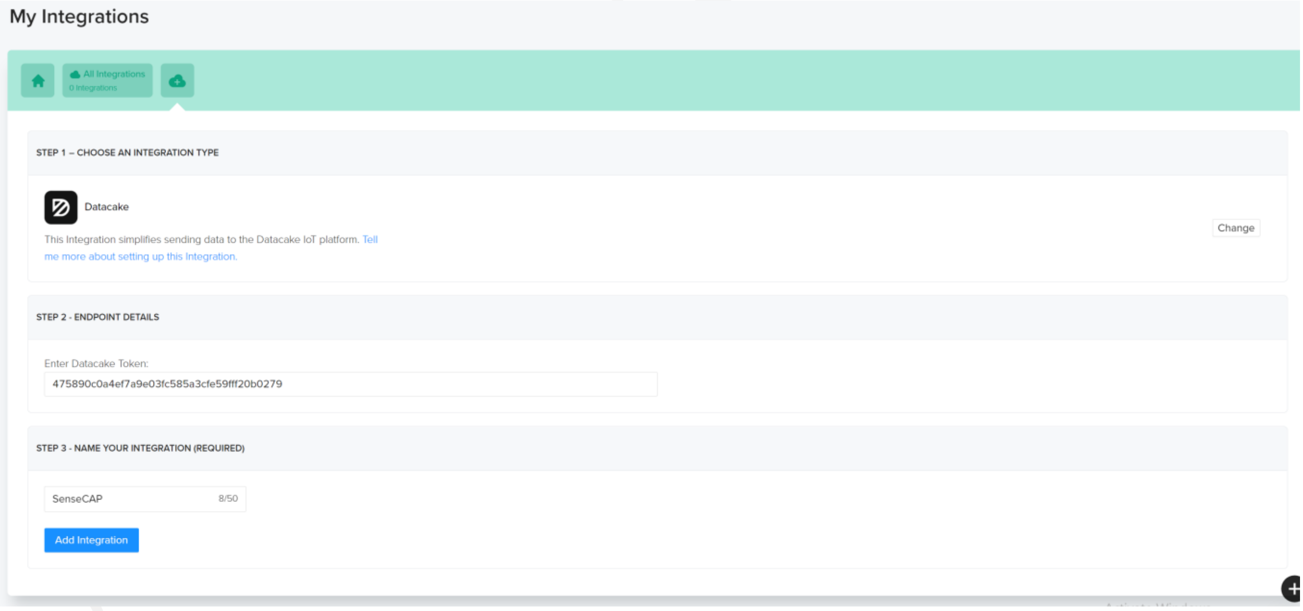
2.3 Add New Integration

(1) Click “Integrations”→”Add New Integration”→”Datacake”.

Tips: the Guide uses Datacake as an example.



(2) Enter Datacake Token (Refer to Section 1.2) and name your integration.


My Integrations

STEP 1 – CHOOSE AN INTEGRATION TYPE

Datacake

This Integration simplifies sending data to the Datacake IoT platform. Tell me more about setting up this Integration.

STEP 2 - ENDPOINT DETAILS

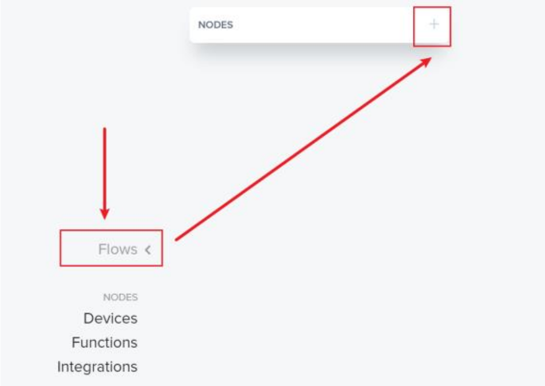
Enter Datacake Token: 475890c0a4ef7a9e03fc585a3cfe59fff20b0279

STEP 3 - NAME YOUR INTEGRATION (REQUIRED)

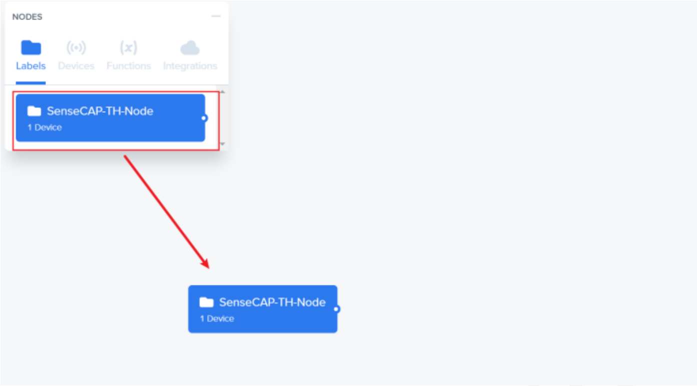
SenseCAP 8/50

2.4 Configure the Flows

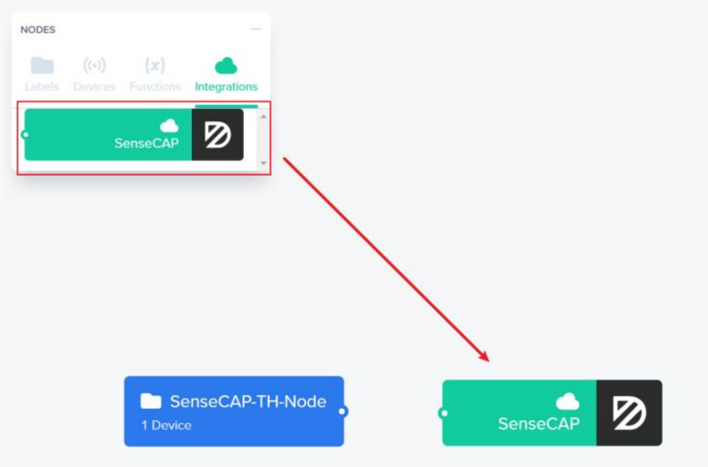
(1) Click “Flows”.



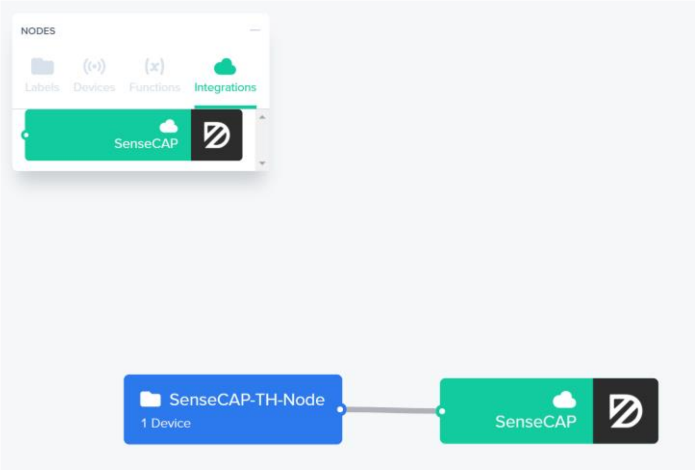
(2) Drag the Label into a blank place.



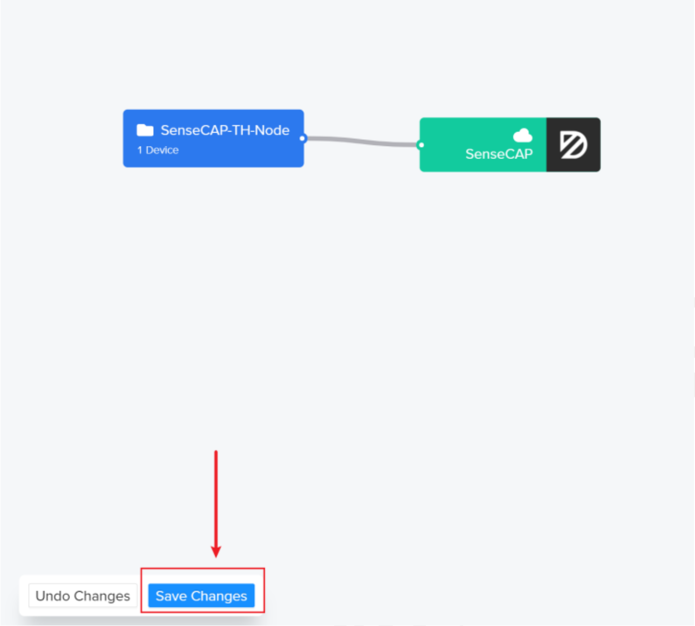
(3) Drag the Integration in to a blank place.



(4) Connect the two blocks.



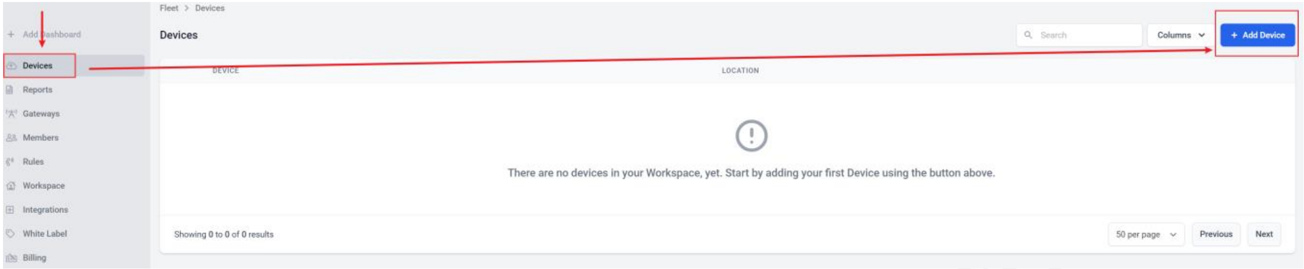
(5) Save Changes.



3. Add the device to Datacake

3.1 Create a SenseCAP Template Sensor

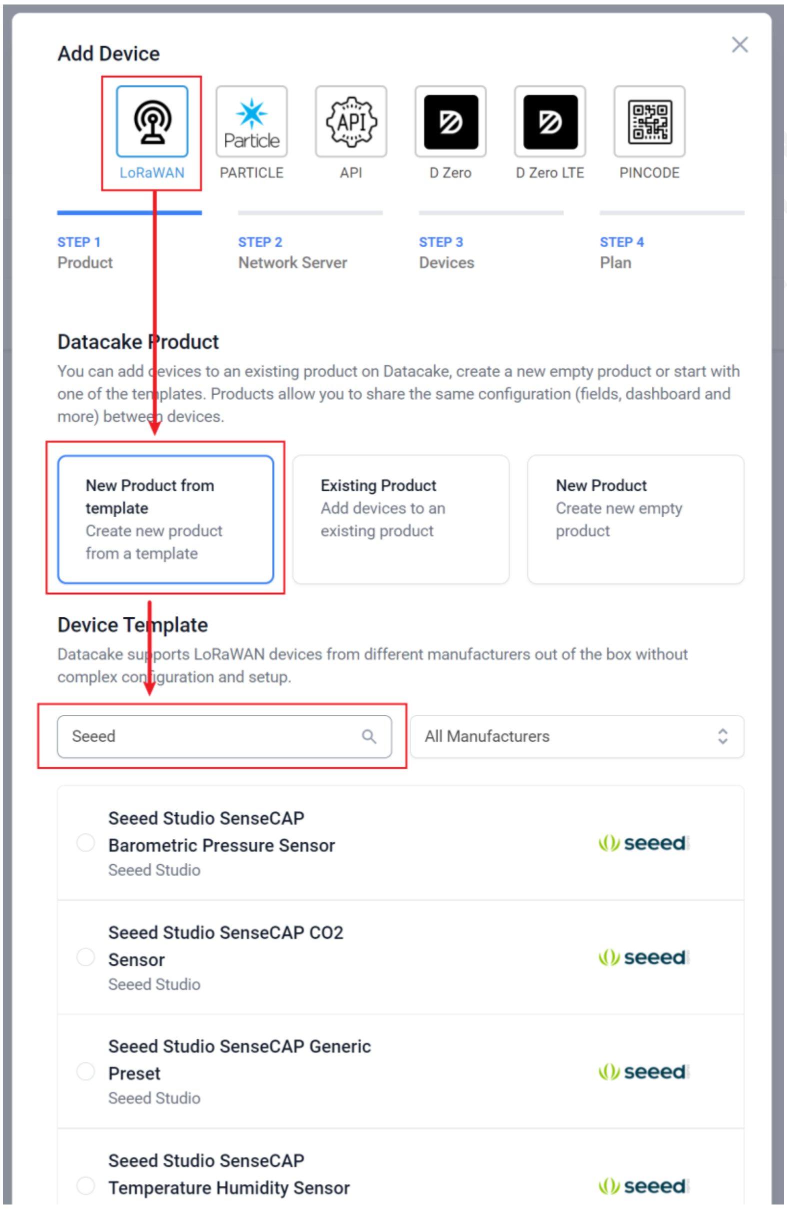
(1) Return Datacake Dashboard, and click “Device”→”Add Device”



There are no devices in your Workspace, yet. Start by adding your first Device using the button above.

Showing 0 to 0 of 0 results

(2) Search “Seeed”, You can select some sensors directly.



Datacake Product

You can add devices to an existing product on Datacake, create a new empty product or start with one of the templates. Products allow you to share the same configuration (fields, dashboard and more) between devices.

New Product from template
Create new product from a template

Existing Product
Add devices to an existing product

New Product
Create new empty product

Device Template

Datacake supports LoRaWAN devices from different manufacturers out of the box without complex configuration and setup.

Seeed

All Manufacturers

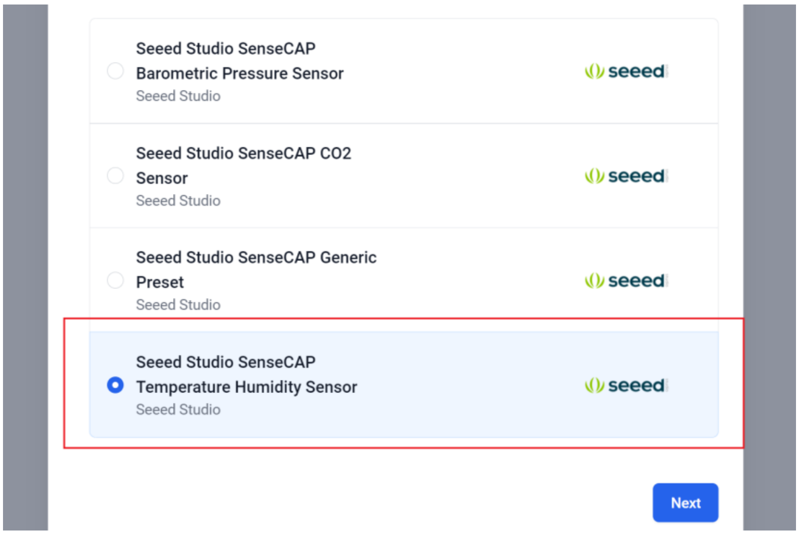
○ Seeed Studio SenseCAP Barometric Pressure Sensor
Seeed Studio

○ Seeed Studio SenseCAP CO2 Sensor
Seeed Studio

○ Seeed Studio SenseCAP Generic Preset
Seeed Studio

○ Seeed Studio SenseCAP Temperature Humidity Sensor

(3) Select the Sensor Template.



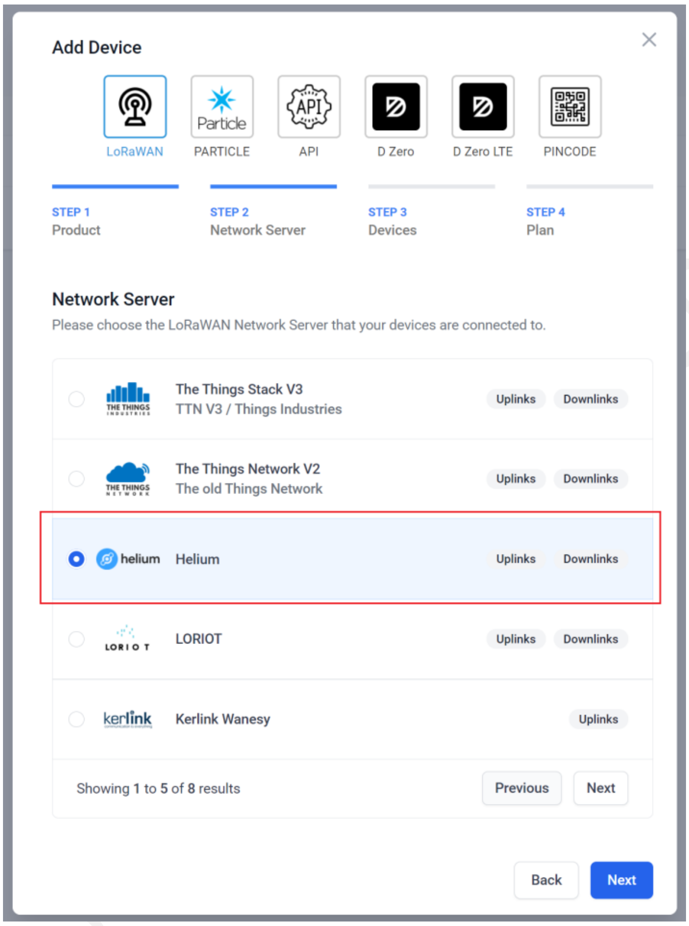
○ Seeed Studio SenseCAP Barometric Pressure Sensor
Seeed Studio

○ Seeed Studio SenseCAP CO2 Sensor
Seeed Studio

○ Seeed Studio SenseCAP Generic Preset
Seeed Studio

● Seeed Studio SenseCAP Temperature Humidity Sensor
Seeed Studio

(4) Select “Helium”.



Add Device

STEP 1 Product
STEP 2 Network Server
STEP 3 Devices
STEP 4 Plan

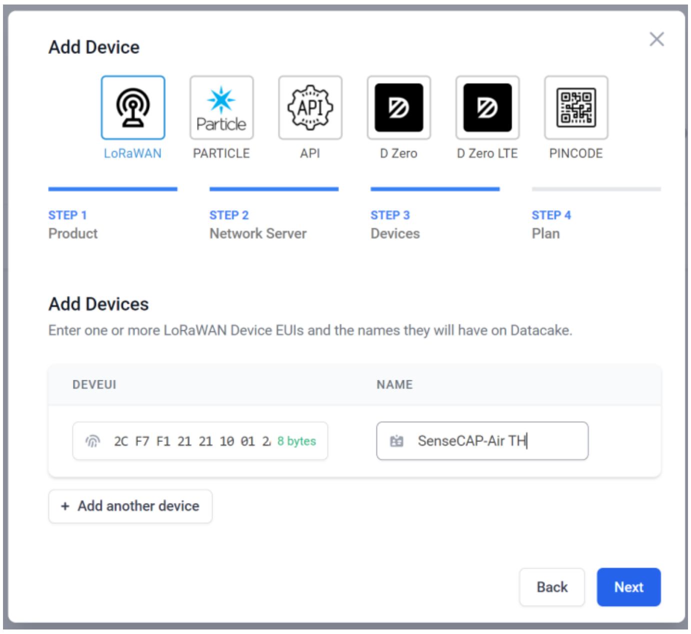
Network Server

Please choose the LoRaWAN Network Server that your devices are connected to.

○	The Things Stack V3 TTN V3 / Things Industries	Uplinks	Downlinks
○	The Things Network V2 The old Things Network	Uplinks	Downlinks
●	helium Helium	Uplinks	Downlinks
○	LORIOT	Uplinks	Downlinks
○	kerlink Kerlink Wanesy	Uplinks	

Showing 1 to 5 of 8 results

(5) Enter your Device EUI and Name.



Add Device

STEP 1 Product
STEP 2 Network Server
STEP 3 Devices
STEP 4 Plan

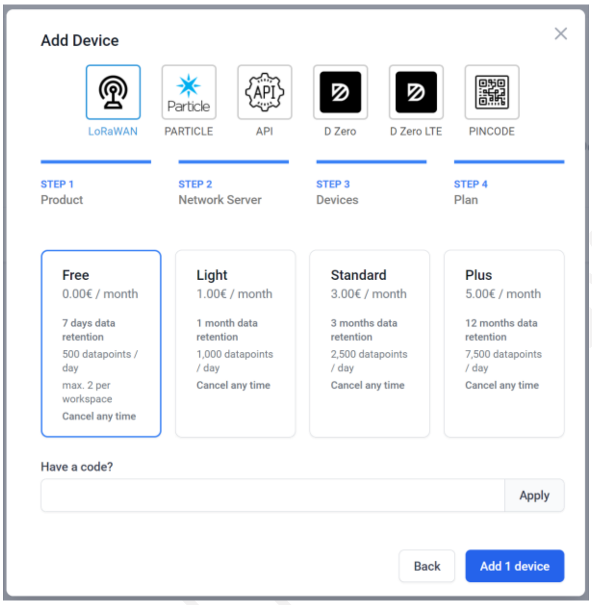
Add Devices

Enter one or more LoRaWAN Device EUIs and the names they will have on Datacake.

DEVEUI	NAME
2C F7 F1 21 21 10 01 2 8 bytes	SenseCAP-Air TH

+ Add another device

(6) Select your Plan and add device.



Add Device

STEP 1 Product
STEP 2 Network Server
STEP 3 Devices
STEP 4 Plan

Free
0.00€ / month
7 days data retention
500 datapoints / day
max. 2 per workspace
Cancel any time

Light
1.00€ / month
1 month data retention
1,000 datapoints / day
Cancel any time

Standard
3.00€ / month
3 months data retention
2,500 datapoints / day
Cancel any time

Plus
5.00€ / month
12 months data retention
7,500 datapoints / day
Cancel any time

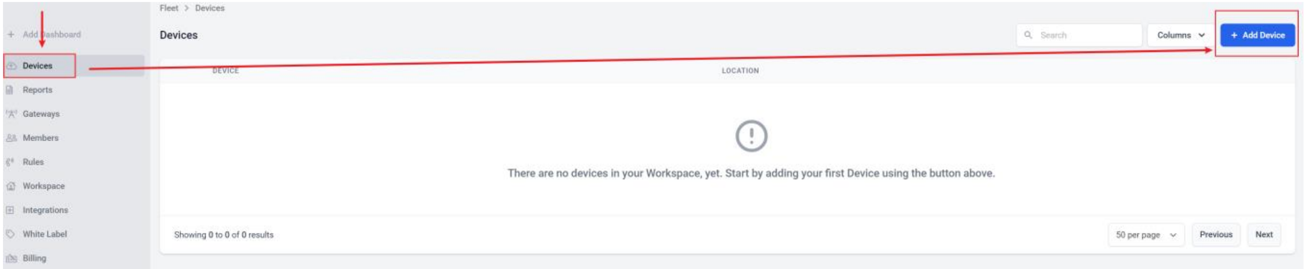
Have a code?

(7) Jump to the section 4, and turn on sensor.

3.2 Create a New Device

Some sensors do not have templates. You can follow this process to create a new device.

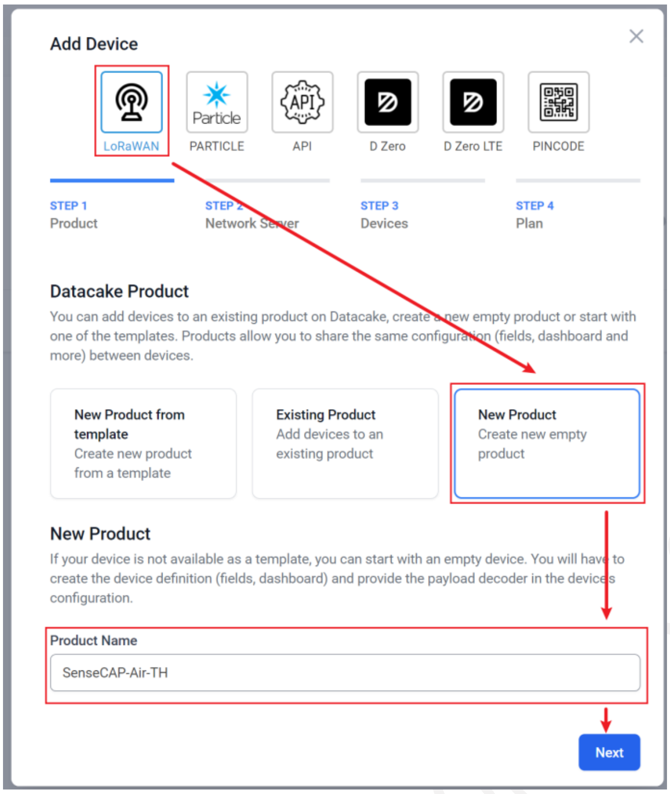
(1) Return Datacake Dashboard, and click "Device"→"Add Device"



There are no devices in your Workspace, yet. Start by adding your first Device using the button above.

Showing 0 to 0 of 0 results

(2) Select the “New Product”.



Datacake Product

You can add devices to an existing product on Datacake, create a new empty product or start with one of the templates. Products allow you to share the same configuration (fields, dashboard and more) between devices.

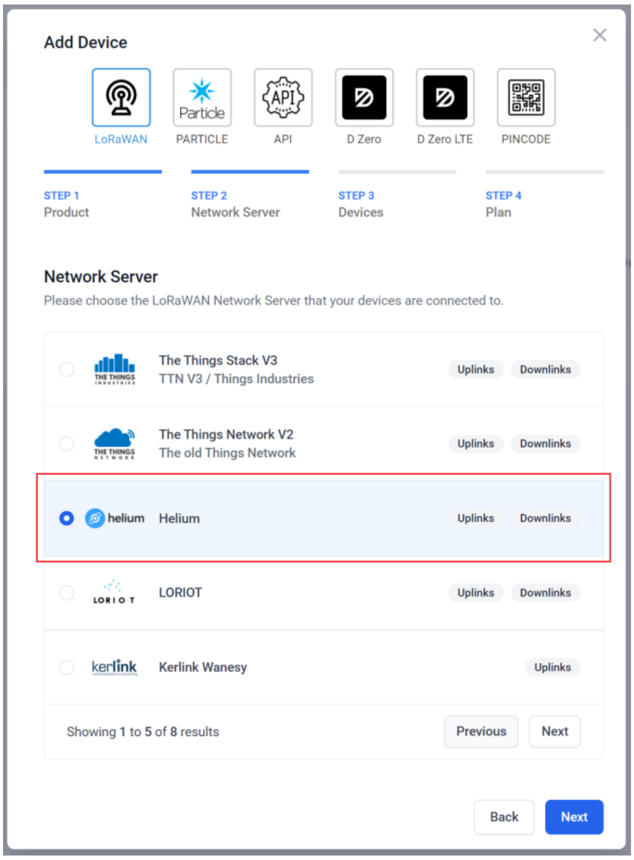
New Product from template
Create new product from a template
Existing Product
Add devices to an existing product
New Product
Create new empty product

New Product

If your device is not available as a template, you can start with an empty device. You will have to create the device definition (fields, dashboard) and provide the payload decoder in the devices configuration.

Product Name: SenseCAP-Air-TH

(3) Select “Helium”.



Add Device

STEP 1 Product
STEP 2 Network Server
STEP 3 Devices
STEP 4 Plan

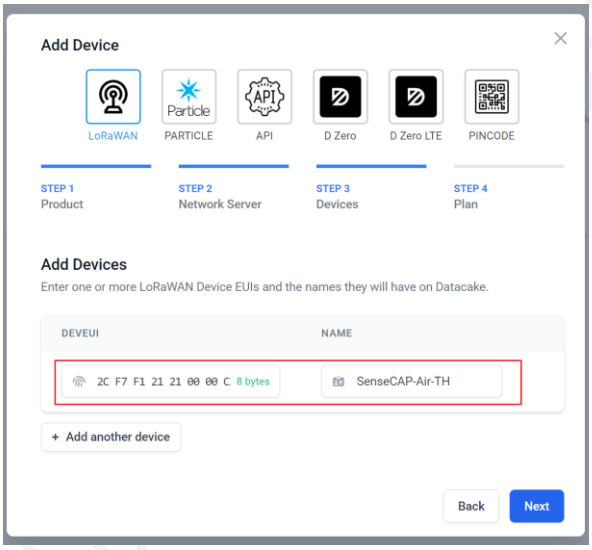
Network Server

Please choose the LoRaWAN Network Server that your devices are connected to.

○	The Things Stack V3 TTN V3 / Things Industries	Uplinks	Downlinks
○	The Things Network V2 The old Things Network	Uplinks	Downlinks
●	Helium	Uplinks	Downlinks
○	LORIOT	Uplinks	Downlinks
○	Kerlink Wanesy	Uplinks	

Showing 1 to 5 of 8 results

(4) Write your Device EUI and name it.



Add Device

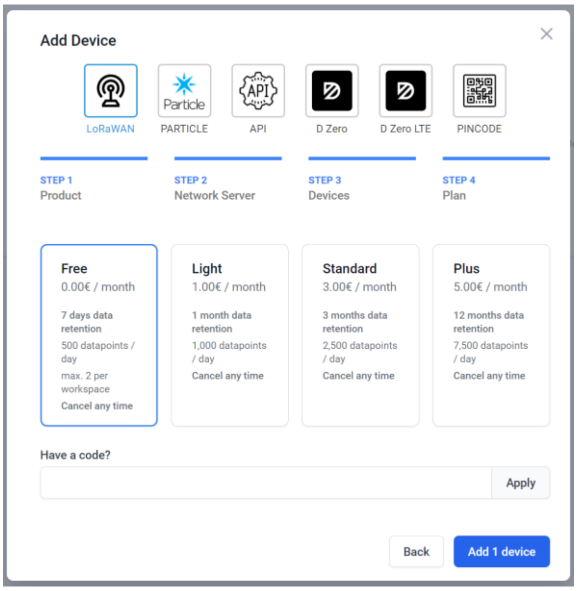
STEP 1 Product
STEP 2 Network Server
STEP 3 Devices
STEP 4 Plan

Add Devices

Enter one or more LoRaWAN Device EUIs and the names they will have on Datacake.

DEVEUI	NAME
2C F7 F1 21 21 00 00 C 8 bytes	SenseCAP-Air-TH

(5) It’s up to you. Datacake support two device for free.

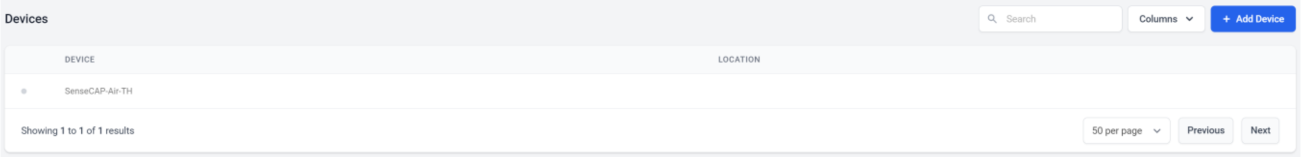


Add Device

STEP 1 Product
STEP 2 Network Server
STEP 3 Devices
STEP 4 Plan

Free	Light	Standard	Plus
0.00€ / month	1.00€ / month	3.00€ / month	5.00€ / month
7 days data retention	1 month data retention	3 months data retention	12 months data retention
500 datapoints / day	1,000 datapoints / day	2,500 datapoints / day	7,500 datapoints / day
max. 2 per workspace	Cancel any time	Cancel any time	Cancel any time
Cancel any time			

Have a code?



Devices

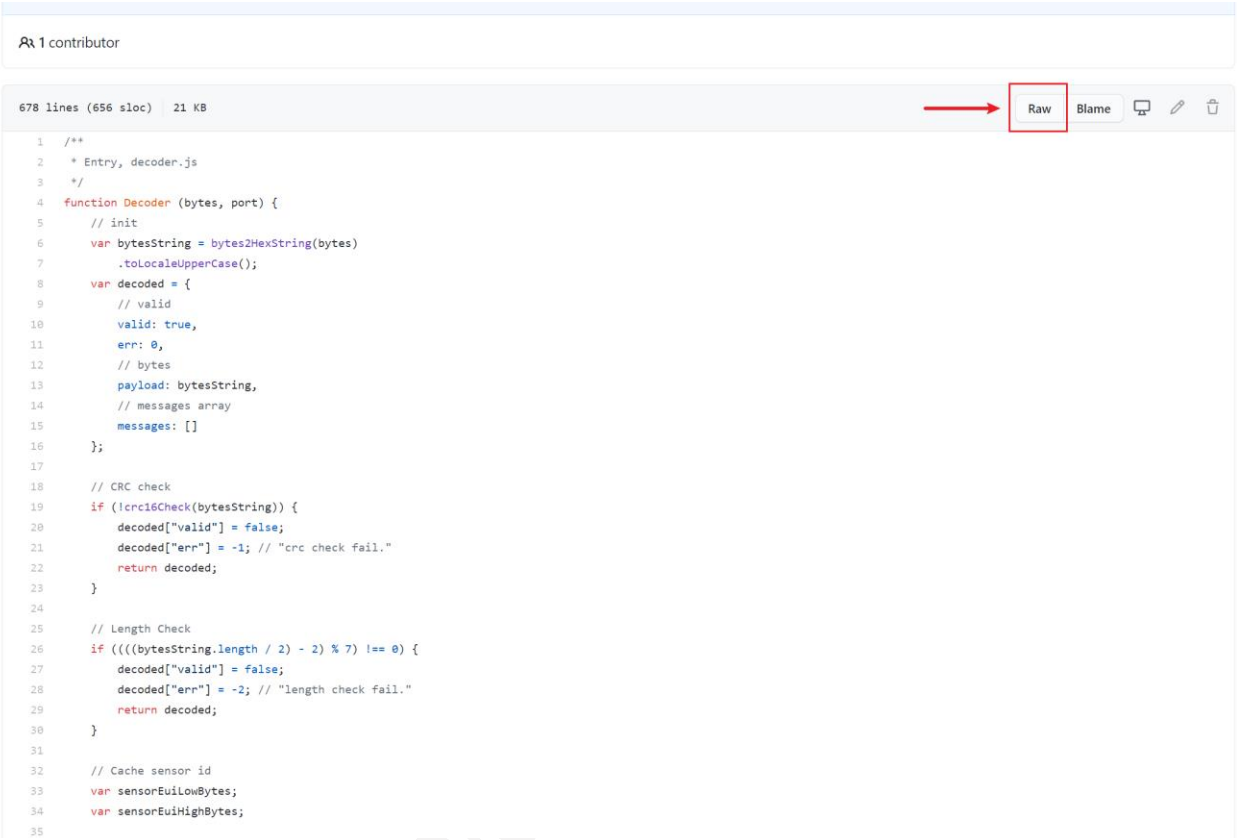
DEVICE	LOCATION
SenseCAP-Air-TH	

Showing 1 to 1 of 1 results

3.3 Set the Decoder and Fields

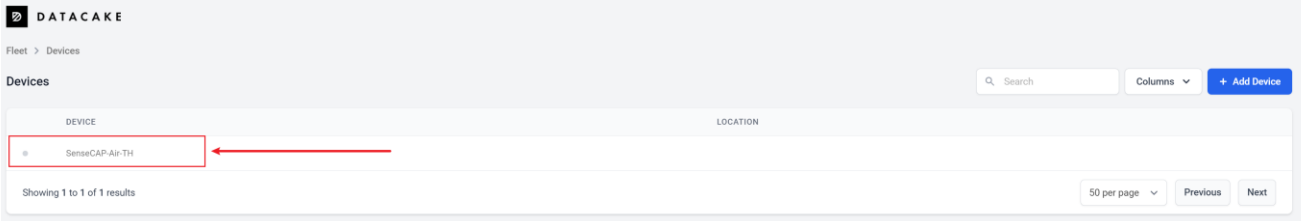
(1) Open the link: https://github.com/Seeed-Solution/TTN-Payload-Decoder/blob/master/datacake/decoder.js

Click the “Raw” button and Copy the full decoder.



```
/**
 * Entry, decoder.js
 */
function Decoder (bytes, port) {
    // init
    var bytesString = bytes2HexString(bytes)
        .toLocaleUpperCase();
    var decoded = {
        // valid
        valid: true,
        err: 0,
        // bytes
        payload: bytesString,
        // messages array
        messages: []
    };

    // CRC check
    if (!crc16Check(bytesString)) {
        decoded["valid"] = false;
        decoded["err"] = -1; // "crc check fail."
        return decoded;
    }

    // Length Check
    if ((((bytesString.length / 2) - 2) % 7) !== 0) {
        decoded["valid"] = false;
        decoded["err"] = -2; // "length check fail."
        return decoded;
    }

    // Cache sensor id
    var sensorEuiLowBytes;
    var sensorEuiHighBytes;

```

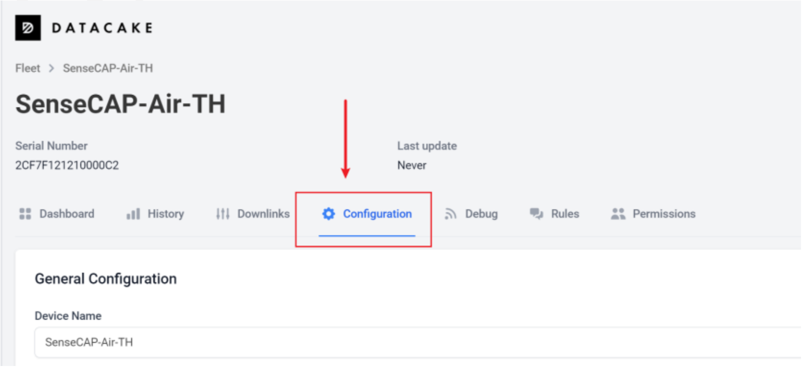
(2) Click device for detail.



DEVICE	LOCATION
SenseCAP-Air-TH	

Showing 1 to 1 of 1 results

(3) Select the “Configuration”, and find the “Payload Decoder” input box.



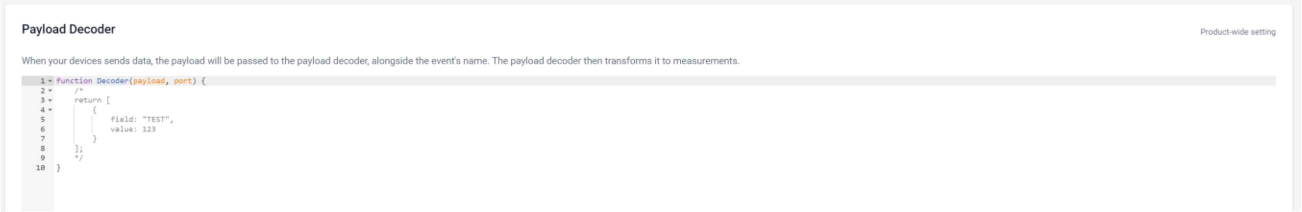
SenseCAP-Air-TH

Serial Number: 2CF7F121210000C2

Last update: Never

General Configuration

Device Name: SenseCAP-Air-TH

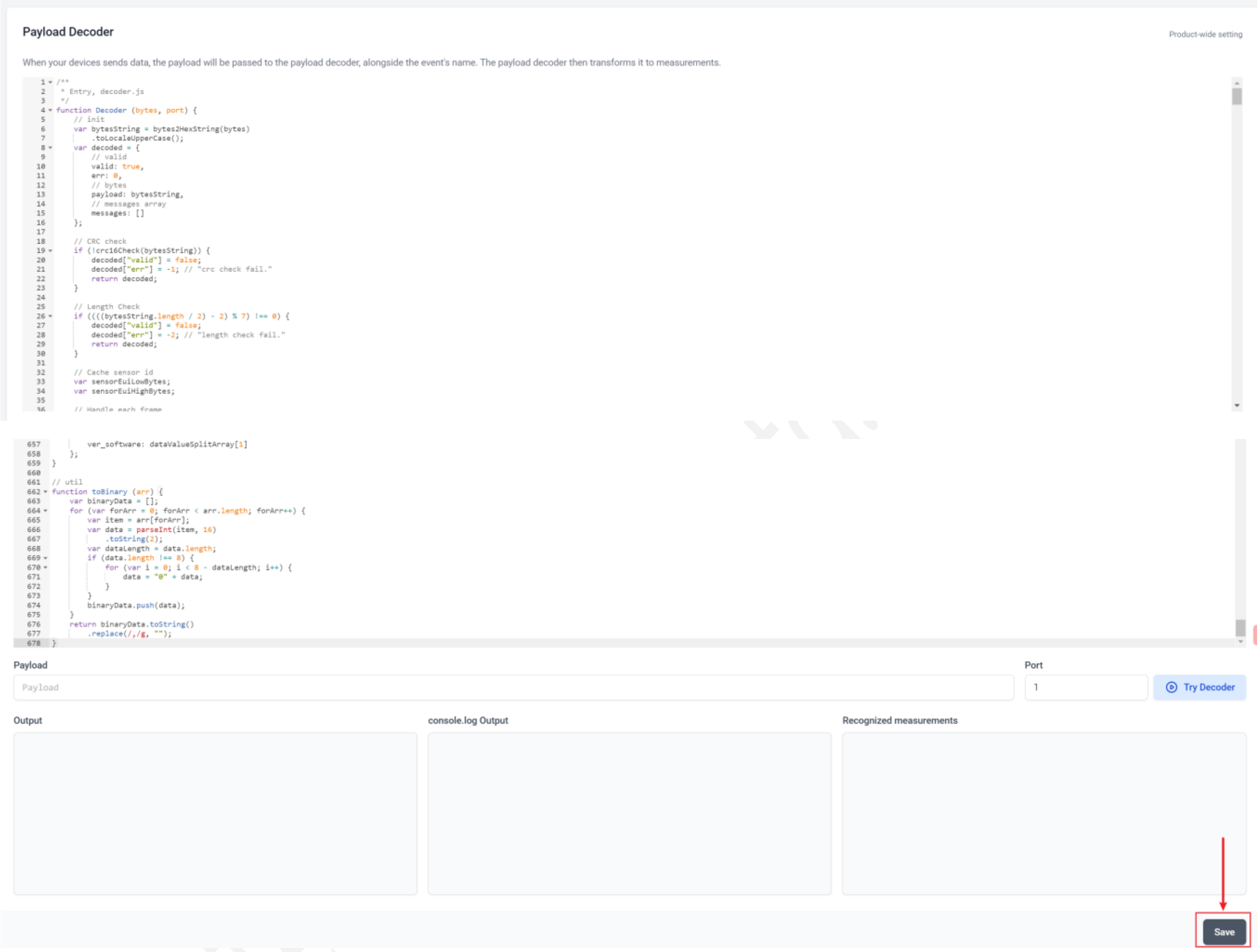


Payload Decoder

When your devices sends data, the payload will be passed to the payload decoder, alongside the event's name. The payload decoder then transforms it to measurements.

```
function Decoder(payload, port) {
    /*
    return [
        {
            field: "TEST",
            value: 123
        }
    ];
    */
}
```

(4) Copy decoder and replace the default, click “Save”.



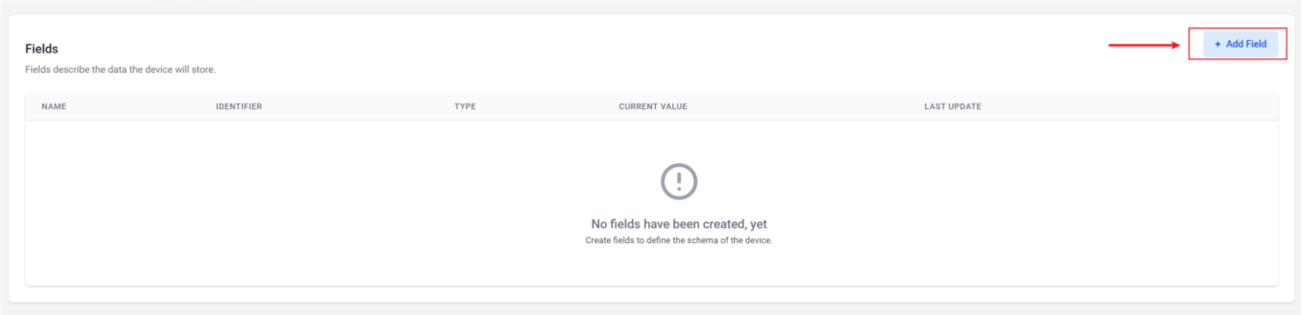
Payload Decoder

When your devices sends data, the payload will be passed to the payload decoder, alongside the event's name. The payload decoder then transforms it to measurements.

```
/**
 * Entry, decoder.js
 */
function Decoder (bytes, port) {
    // init
    var bytesString = bytes2HexString(bytes)
        .toLocaleUpperCase();
    var decoded = {
        // valid
        valid: true,
        err: 0,
        // bytes
        payload: bytesString,
        // messages array
        messages: []
    };

    // CRC check
    if (!crc16Check(bytesString)) {
        decoded["valid"] = false;
        decoded["err"] = -1; // "crc check fail."
        return decoded;
    }

    // Length Check
    if ((((bytesString.length / 2) - 2) % 7) !== 0) {
        decoded["valid"] = false;
        decoded["err"] = -2; // "length check fail."
        return decoded;
    }

    // Cache sensor id
    var sensorEuiLowBytes;
    var sensorEuiHighBytes;

    // Handle each frame
```

```
            ver_software: dataValueSplitArray[1]
        };
}

// util
function toBinary (arr) {
    var binaryData = [];
    for (var forArr = 0; forArr < arr.length; forArr++) {
        var item = arr[forArr];
        var data = parseInt(item, 16)
            .toString(2);
        var dataLength = data.length;
        if (data.length !== 8) {
            for (var i = 0; i < 8 - dataLength; i++) {
                data = "0" + data;
            }
        }
        binaryData.push(data);
    }
    return binaryData.toString()
        .replace(/,/g, "");
}
```

(5) Add Field, the field is sensor measurement.



Fields

Fields describe the data the device will store.

NAME	IDENTIFIER	TYPE	CURRENT VALUE	LAST UPDATE

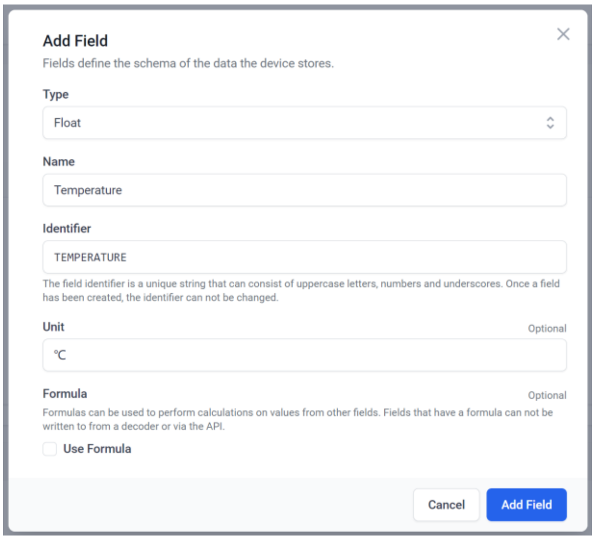
No fields have been created, yet

Create fields to define the schema of the device.

Name	The name to display, which can be provided in a widget on the dashboard or elsewhere.
Identifier	An identifier is a unique name (automatically generated) used to store data in the database
Type	The data type.

Unit	Data Unit (optional)

For example: add Temperature and Humidity measurement.



Add Field

Fields define the schema of the data the device stores.

Type: Float

Name: Temperature

Identifier: TEMPERATURE

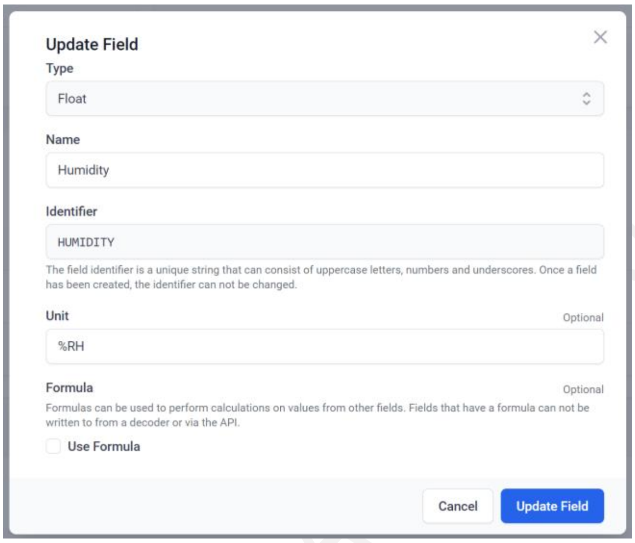
The field identifier is a unique string that can consist of uppercase letters, numbers and underscores. Once a field has been created, the identifier can not be changed.

Unit (Optional): ℃

Formula (Optional)

Formulas can be used to perform calculations on values from other fields. Fields that have a formula can not be written to from a decoder or via the API.

□ Use Formula



Update Field

Type: Float

Name: Humidity

Identifier: HUMIDITY

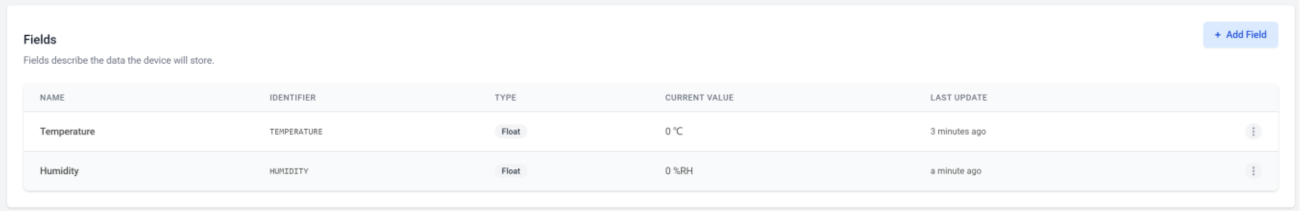
The field identifier is a unique string that can consist of uppercase letters, numbers and underscores. Once a field has been created, the identifier can not be changed.

Unit (Optional): %RH

Formula (Optional)

Formulas can be used to perform calculations on values from other fields. Fields that have a formula can not be written to from a decoder or via the API.

□ Use Formula



Fields

Fields describe the data the device will store.

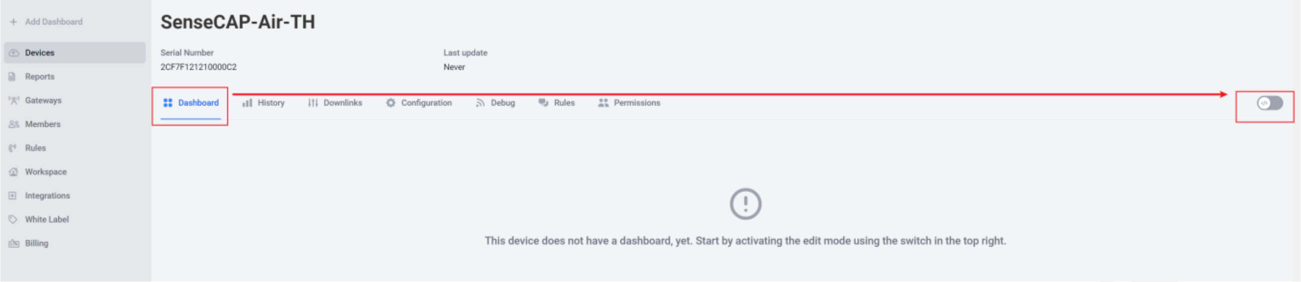
NAME	IDENTIFIER	TYPE	CURRENT VALUE	LAST UPDATE
Temperature	TEMPERATURE	Float	0 ℃	3 minutes ago
Humidity	HUMIDITY	Float	0 %RH	a minute ago

Different sensors add different values, these are the reference tables:

Sensor	Name	Unit
Air Temperature and Humidity Sensor	Temperature	℃
	Humidity	%RH
Light Intensity Sensor	Light Intensity	Lux
CO2 Sensor	CO2	ppm
Barometric Pressure Sensor	Barometric Pressure	Pa
Soil Moisture and Temperature Sensor	Soil Moisture	%
	Soil Temperature	℃
Soil Temperature, VWC & EC Sensor	Soil Temperature	℃
	Soil Electrical Conductivity	dS/m
	Soil Volumetric Water Content	%

3.4 Add Charts to Dashboard

(1) Click the device’s Dashboard.



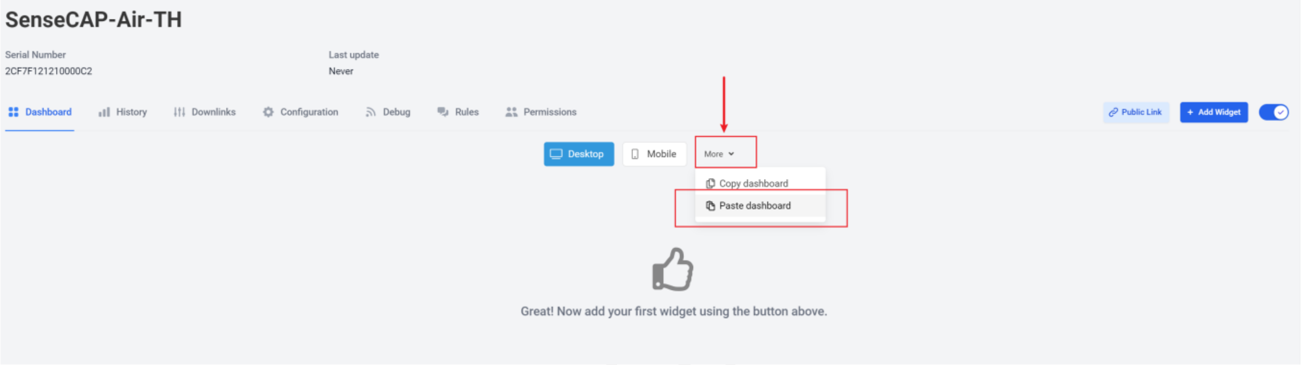
SenseCAP-Air-TH

Serial Number 2CF7F12121000C2

Last update Never

This device does not have a dashboard, yet. Start by activating the edit mode using the switch in the top right.

(2) Click “More” and select “Paste Dashboard”



SenseCAP-Air-TH

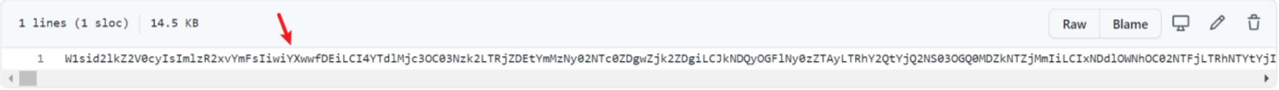
Serial Number 2CF7F121210000C2

Last update Never

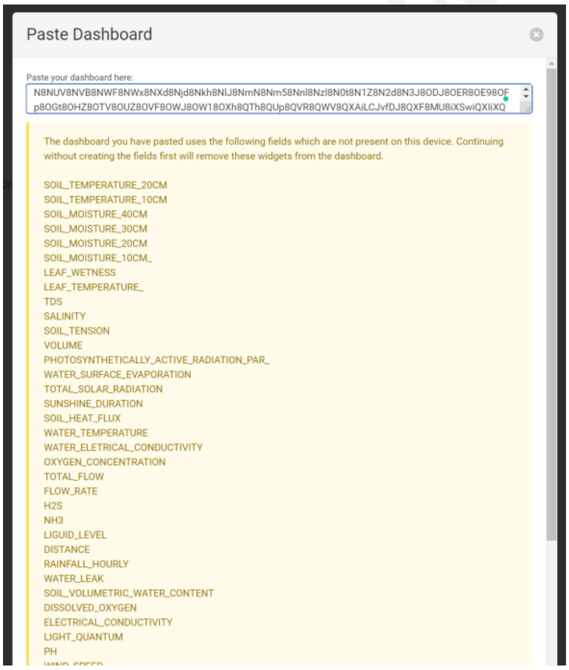
Great! Now add your first widget using the button above.

(3) Open the link: https://github.com/Jenkinlu001/SenseCAP/blob/master/Example-Dashboard.txt

Copy the full content to input box.



```
W1sid2lkZ2V0cyIsImlzR2xvYmFsIiwiYXwwfDEiLCI4YTdlMjc3OC03Nzk2LTRjZDEtYmMzNy02NTc0ZDgwZjk2ZDgiLCJkNDQyOGFlNy0zZTAyLTRhY2QtYjQ2NS03OGQ0MDZkNTZjMmIiLCIxNDdlOWNhOC02NTFjLTRhNTYtYjI
```



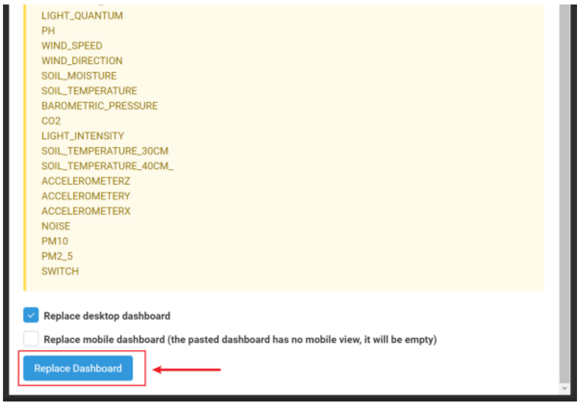
Paste Dashboard

Paste your dashboard here:

```
N8NUV8NVB8NWF8NWx8NXd8Njd8Nkh8NlJ8NmN8Nm58Nnl8Nzl8N0t8N1Z8N2d8N3J8ODJ8OER8OE98OF
p8OGt8OHZ8OTV8OUZ8OVF8OWJ8OW18OXh8QTh8QUp8QVR8QWV8QXAiLCJvfDJ8QXF8MU8iXSwiQXliXQ
```

The dashboard you have pasted uses the following fields which are not present on this device. Continuing without creating the fields first will remove these widgets from the dashboard.

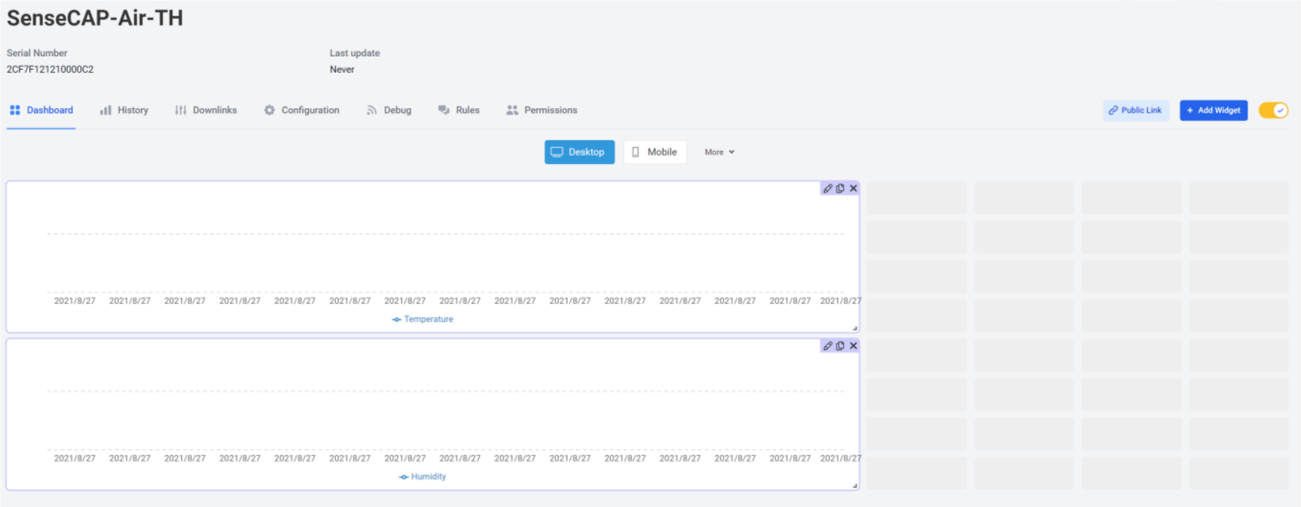
SOIL_TEMPERATURE_20CM
SOIL_TEMPERATURE_10CM
SOIL_MOISTURE_40CM
SOIL_MOISTURE_30CM
SOIL_MOISTURE_20CM
SOIL_MOISTURE_10CM_
LEAF_WETNESS
LEAF_TEMPERATURE_
TDS
SALINITY
SOIL_TENSION
VOLUME
PHOTOSYNTHETICALLY_ACTIVE_RADIATION_PAR_
WATER_SURFACE_EVAPORATION
TOTAL_SOLAR_RADIATION
SUNSHINE_DURATION
SOIL_HEAT_FLUX
WATER_TEMPERATURE
WATER_ELETRICAL_CONDUCTIVITY
OXYGEN_CONCENTRATION
TOTAL_FLOW
FLOW_RATE
H2S
NH3
LIGUID_LEVEL
DISTANCE
RAINFALL_HOURLY
WATER_LEAK
SOIL_VOLUMETRIC_WATER_CONTENT
DISSOLVED_OXYGEN
ELECTRICAL_CONDUCTIVITY
LIGHT_QUANTUM
PH
WIND_SPEED



LIGHT_QUANTUM
PH
WIND_SPEED
WIND_DIRECTION
SOIL_MOISTURE
SOIL_TEMPERATURE
BAROMETRIC_PRESSURE
CO2
LIGHT_INTENSITY
SOIL_TEMPERATURE_30CM
SOIL_TEMPERATURE_40CM_
ACCELEROMETERZ
ACCELEROMETERY
ACCELEROMETERX
NOISE
PM10
PM2_5
SWITCH

☑ Replace desktop dashboard

□ Replace mobile dashboard (the pasted dashboard has no mobile view, it will be empty)



SenseCAP-Air-TH

Serial Number: 2CF7F121210000C2

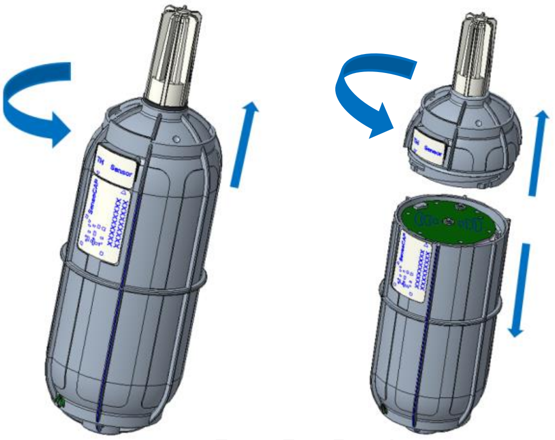
Last update: Never

4. Turn on Sensors

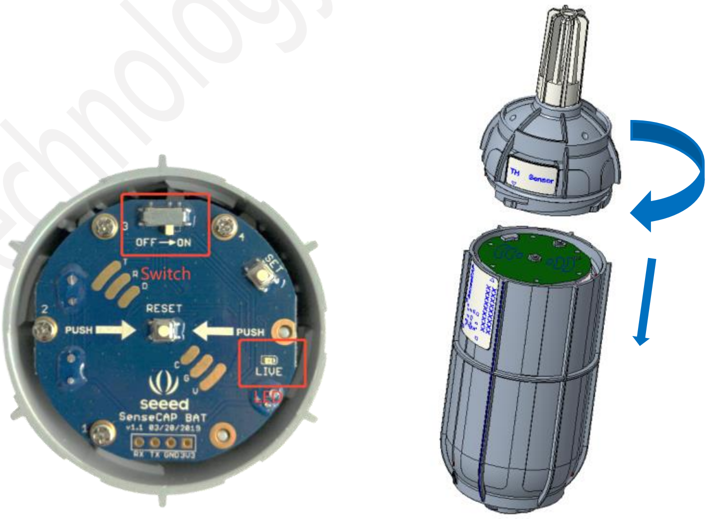
4.1 Power on

(1) The power switch is hidden inside the device. Open the device and turn on the power before installing the sensors. Here is the step-by-step instruction:

(2) Loosen the Sensor Probe by turning the cap counterclockwise. Use the white cap opener to make this process easier. The image below uses TH Sensor as an example and applies to all other SenseCAP sensors.

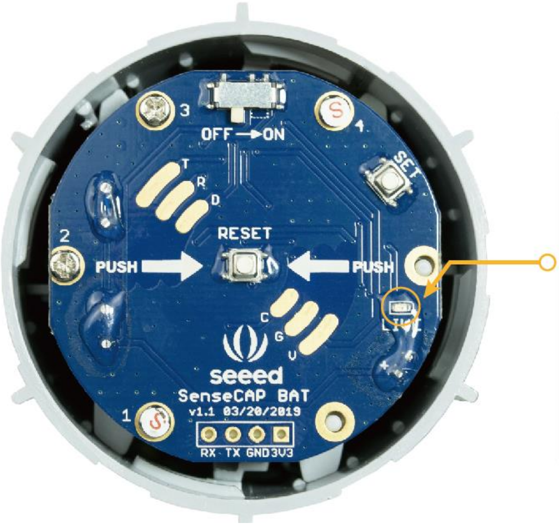


(3) After opening the device, turn the switch to “ON”, and the LED on the lower right corner will flash, indicating that the power is on. Wait for about 10 seconds, then the LED will flash quickly for 2 seconds, indicating that the device is connected to the network.



(4) After the device is connected to the network, connect the Sensor Probe back with the Sensor Node Controller by turning it clockwise. Please note that the labels on both parts should be aligned as shown in the image below, otherwise the two parts will not be attached to function properly and data will not be uploaded.

(5) You can refer to the LED indicator for the Sensor Node for its working status. Please see the status explanations in the image below:



LED Status

After powering on the device

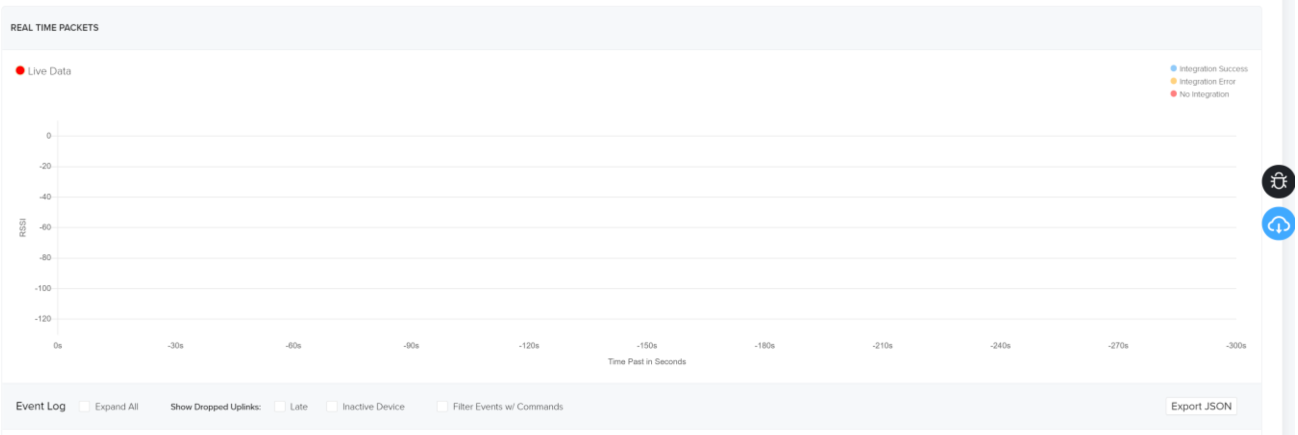
1. LED flashes once after powering on, then turn OFF
2. After 10 seconds, LED flashes quickly for 2 seconds, indicating it has joined the network
3. After joining the network, the LED stays off to save energy
4. Push the reset button to re-join the network if the LED does not start flashing 15 seconds after powering on

Note:

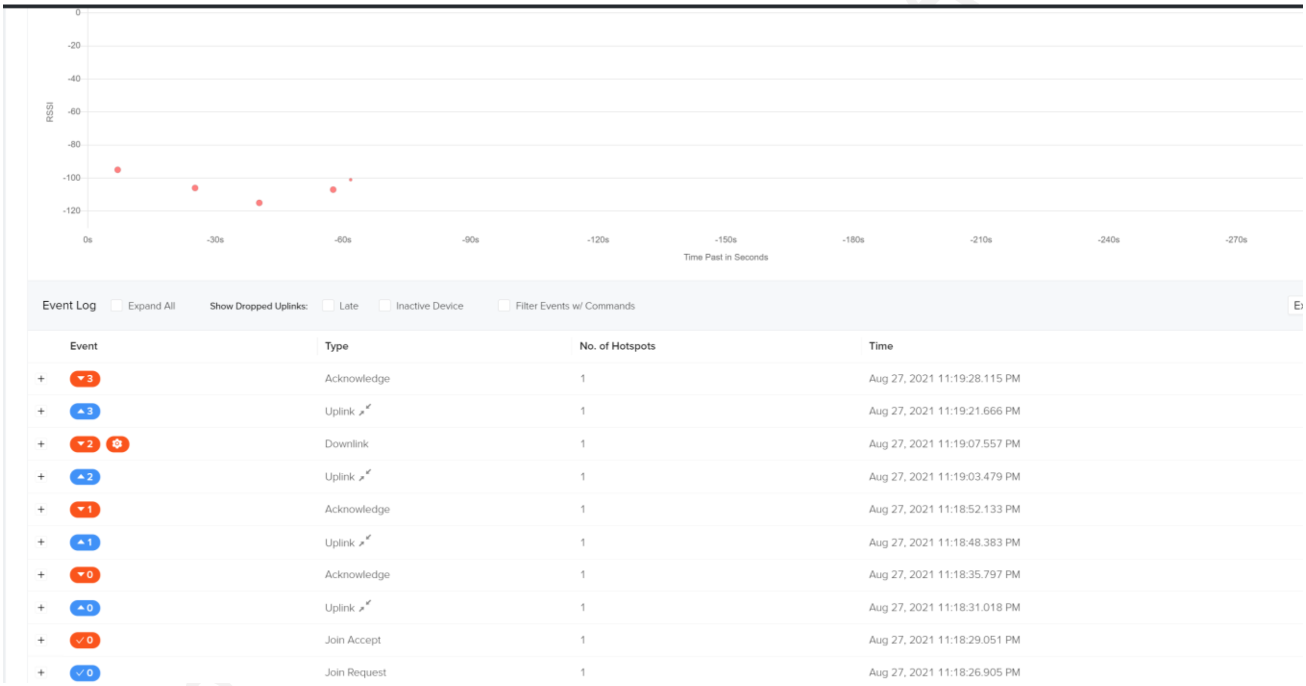
Probe and Node labels need to be aligned otherwise they cannot communicate.

4.2 Check Data from Helium Console

(1) Enter device details page, and find the REAL TIME PACKETS.



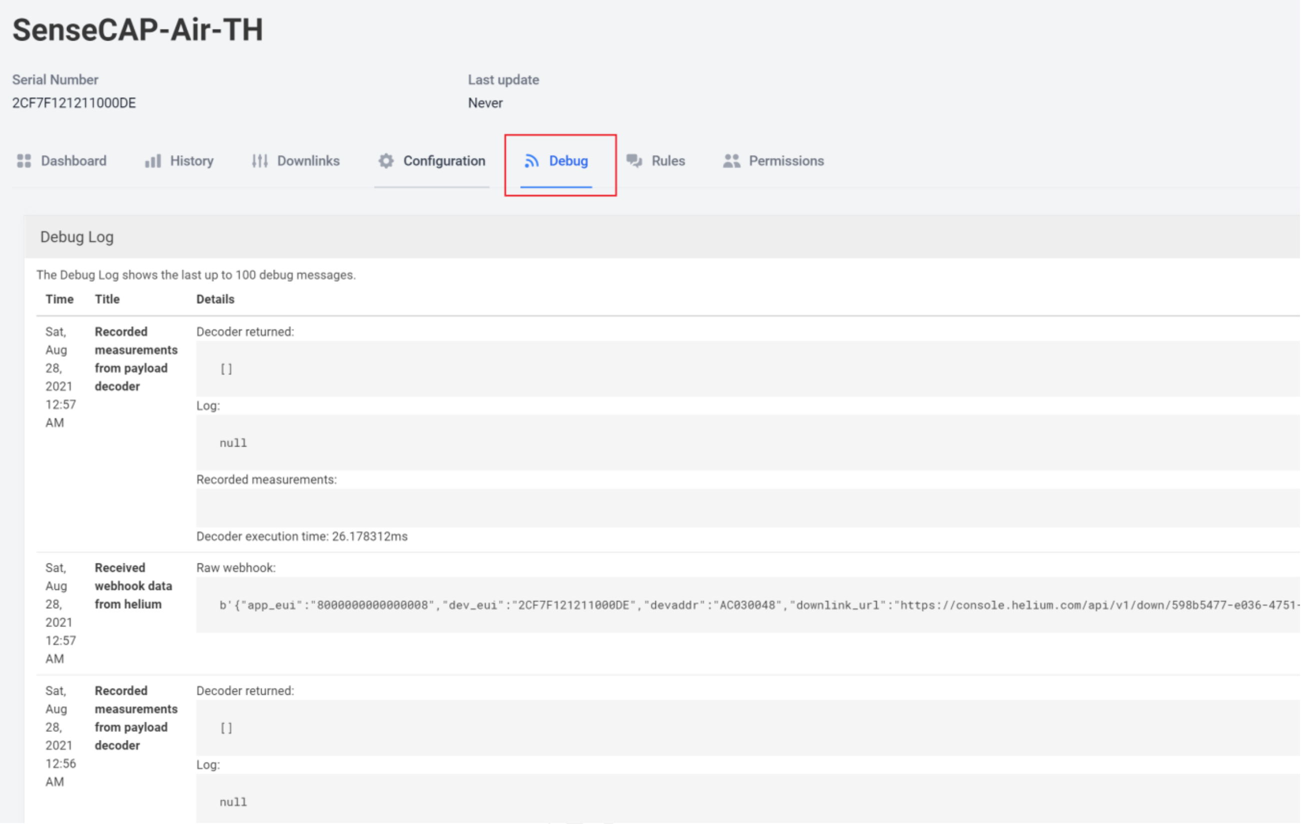
(2) Power on the Sensor, it will display raw data.



	Event	Type	No. of Hotspots	Time
+	▼3	Acknowledge	1	Aug 27, 2021 11:19:28.115 PM
+	▲3	Uplink	1	Aug 27, 2021 11:19:21.666 PM
+	▼2 ⚙	Downlink	1	Aug 27, 2021 11:19:07.557 PM
+	▲2	Uplink	1	Aug 27, 2021 11:19:03.479 PM
+	▼1	Acknowledge	1	Aug 27, 2021 11:18:52.133 PM
+	▲1	Uplink	1	Aug 27, 2021 11:18:48.383 PM
+	▼0	Acknowledge	1	Aug 27, 2021 11:18:35.797 PM
+	▲0	Uplink	1	Aug 27, 2021 11:18:31.018 PM
+	✓0	Join Accept	1	Aug 27, 2021 11:18:29.051 PM
+	✓0	Join Request	1	Aug 27, 2021 11:18:26.905 PM

4.3 Check Data from Datacake

(3) Click Debug button, it will display debug log.



SenseCAP-Air-TH

Serial Number
2CF7F121211000DE

Last update
Never

Debug Log

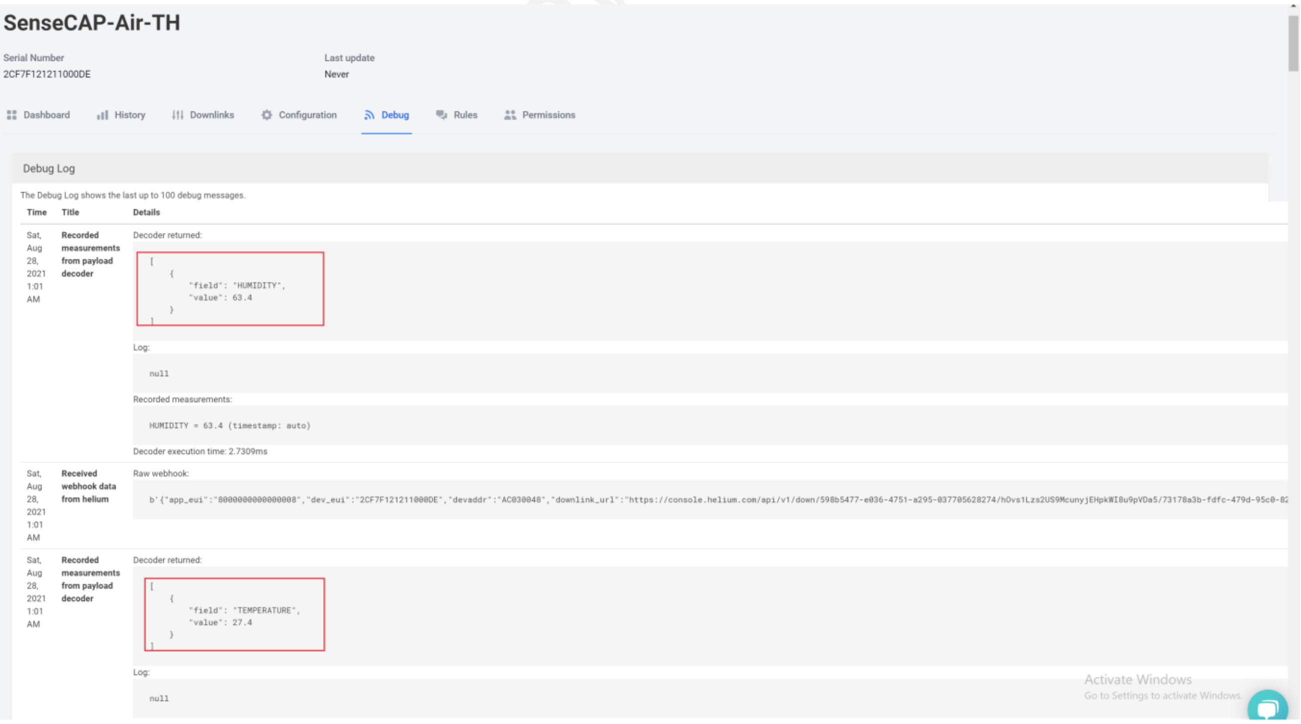
The Debug Log shows the last up to 100 debug messages.

Time	Title	Details

Sat, Aug 28, 2021 12:57 AM	**Recorded measurements from payload decoder**	Decoder returned:
		`[]`
		Log:
		`null`
		Recorded measurements:
		Decoder execution time: 26.178312ms

Sat, Aug 28, 2021 12:57 AM	**Received webhook data from helium**	Raw webhook: `b'{"app_eui":"8000000000000008","dev_eui":"2CF7F121211000DE","devaddr":"AC030048","downlink_url":"https://console.helium.com/api/v1/down/598b5477-e036-4751-`

Sat, Aug 28, 2021 12:56 AM	**Recorded measurements from payload decoder**	Decoder returned:
		`[]`
		Log:
		`null`



SenseCAP-Air-TH

Serial Number
2CF7F121211000DE

Last update
Never

Debug Log

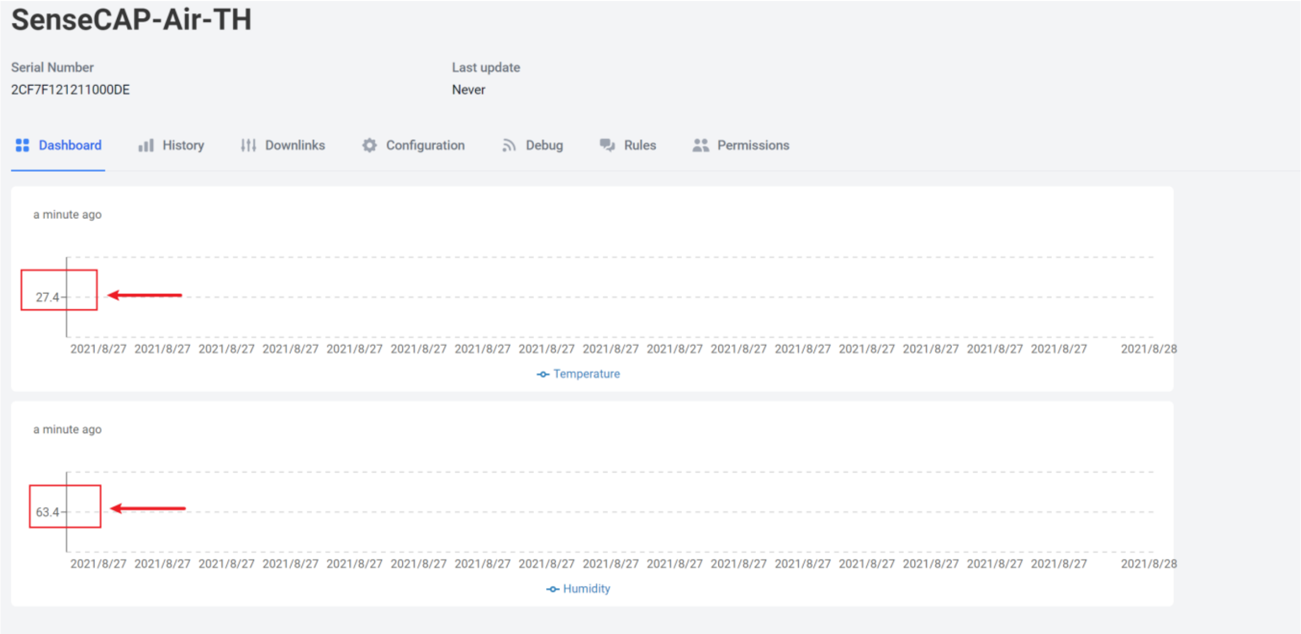
The Debug Log shows the last up to 100 debug messages.

Time	Title	Details

Sat, Aug 28, 2021 1:01 AM	**Recorded measurements from payload decoder**	Decoder returned:
		`[ { "field": "HUMIDITY", "value": 63.4 } ]`
		Log:
		`null`
		Recorded measurements:
		`HUMIDITY = 63.4 (timestamp: auto)`
		Decoder execution time: 2.7309ms

Sat, Aug 28, 2021 1:01 AM	**Received webhook data from helium**	Raw webhook: `b'{"app_eui":"8000000000000008","dev_eui":"2CF7F121211000DE","devaddr":"AC030048","downlink_url":"https://console.helium.com/api/v1/down/598b5477-e036-4751-a295-037705628274/hOvs1Lzs2US9McunyjEHpkWI8u9pVDa5/73178a3b-fdfc-479d-95c0-82`

Sat, Aug 28, 2021 1:01 AM	**Recorded measurements from payload decoder**	Decoder returned:
		`[ { "field": "TEMPERATURE", "value": 27.4 } ]`
		Log:
		`null`



SenseCAP-Air-TH

Serial Number
2CF7F121211000DE

Last update
Never