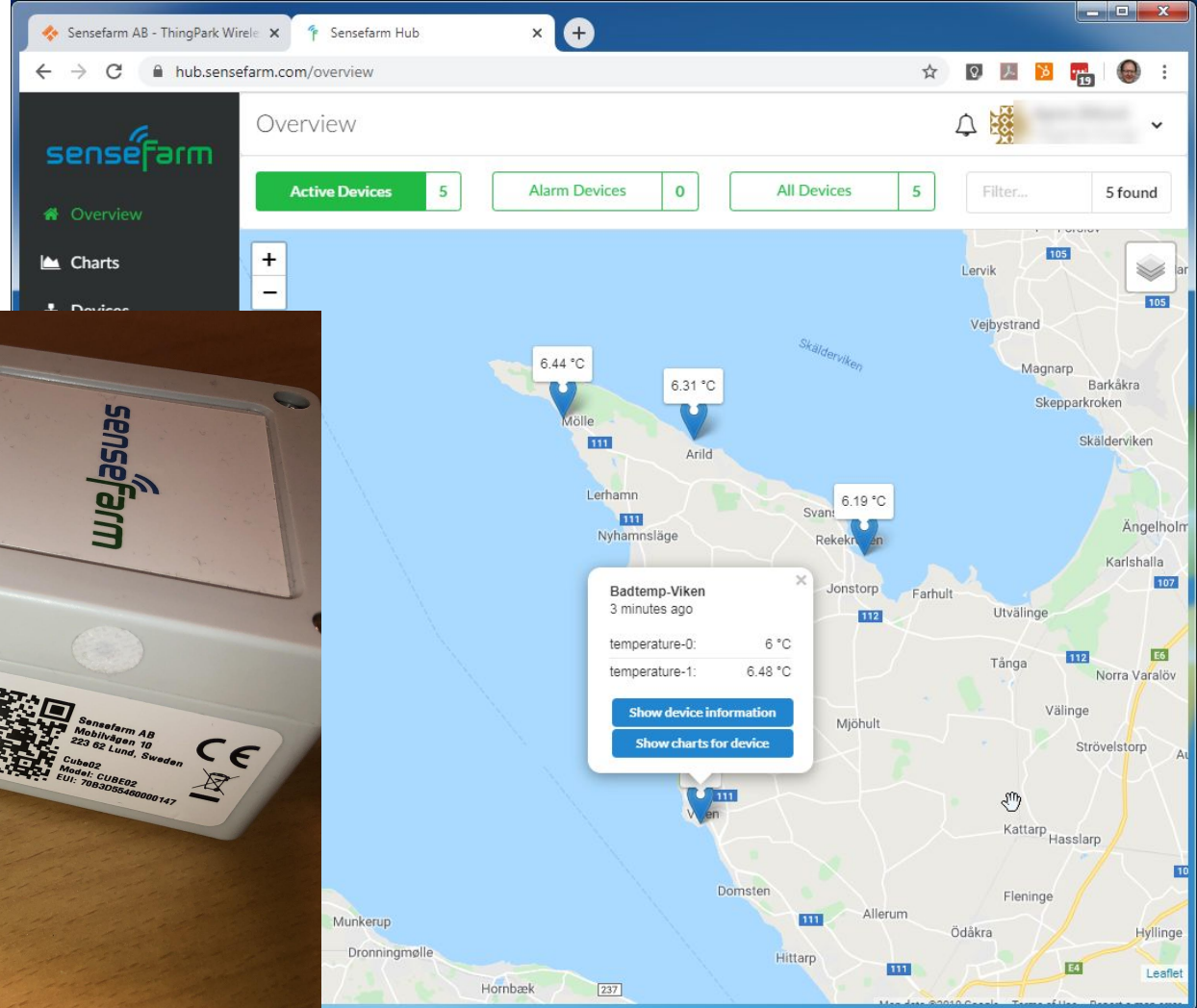


LoRaWAN server configuration towards hub.sensefarm.com

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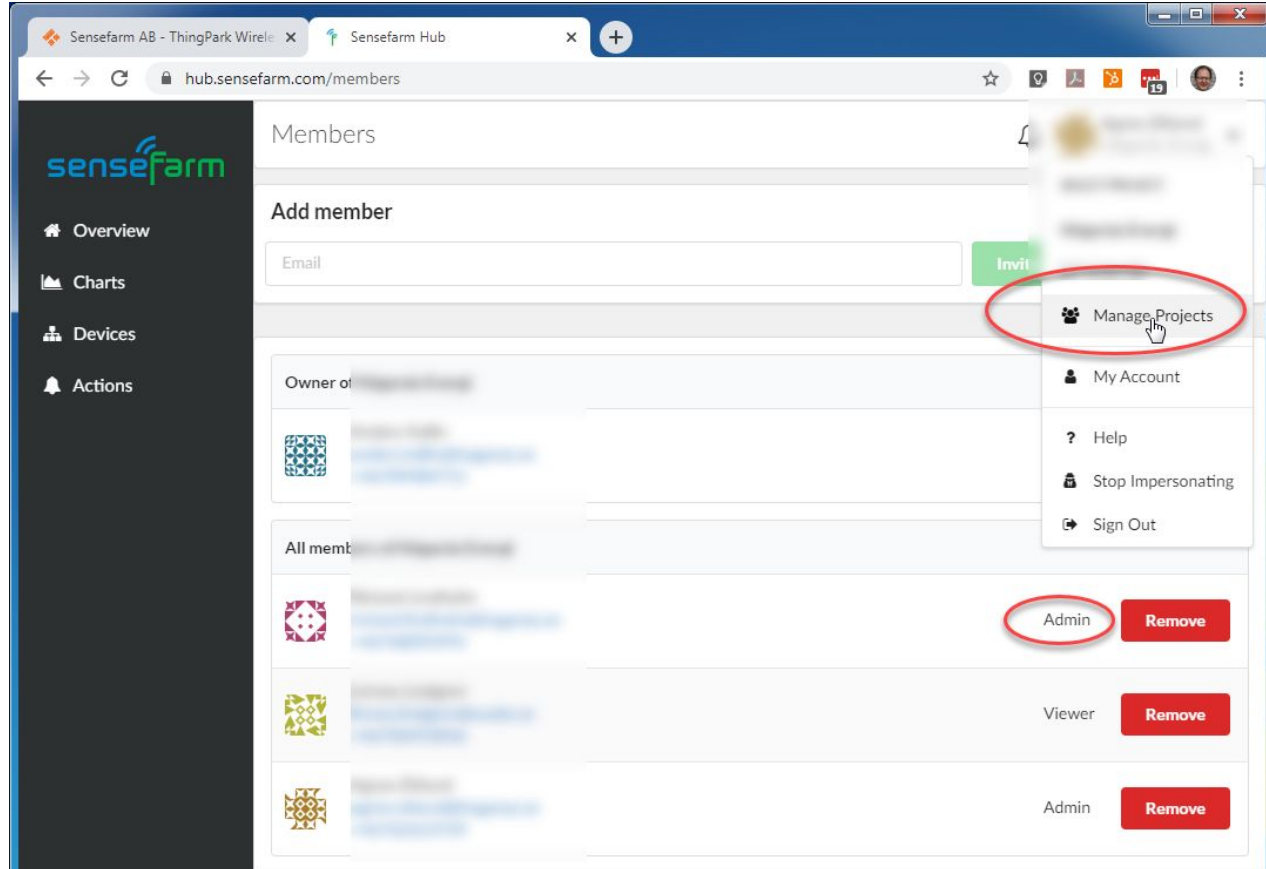
CUBExx series



Finding device data, encryption keys - 1 of 2

Hub.sensefarm.com

Project roles needed
for access to keys:
Owner, Admin



Finding device data, encryption keys - 2 of 2

Hub.sensefarm.com

Select device

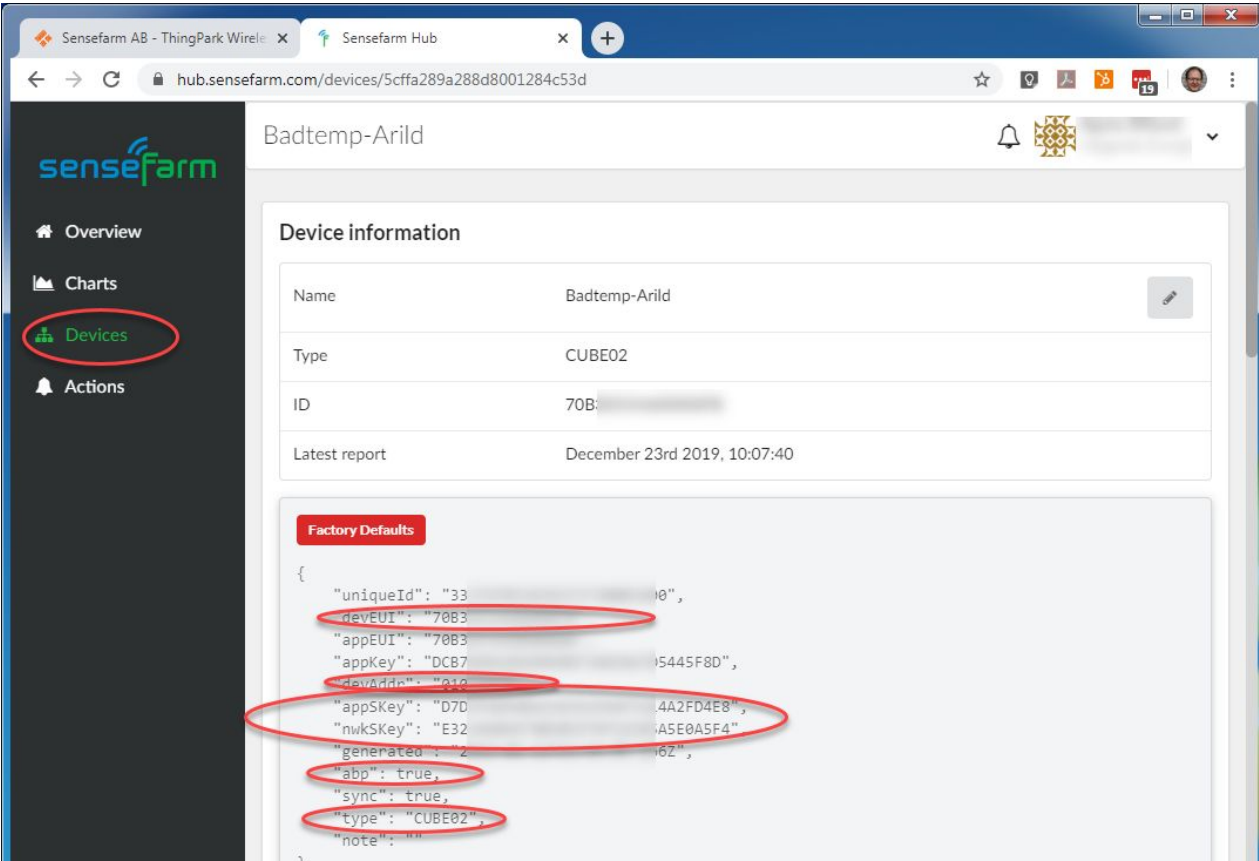
Settings needed for ABP

devEUI

devAddr

appSKey

nwkSKey



The screenshot shows the Sensefarm Hub web interface. The left sidebar contains navigation links: Overview, Charts, **Devices** (highlighted with a red circle), and Actions. The main content area displays the 'Device information' for a device named 'Badtemp-Arild'. The device type is 'CUBE02' and the ID is '70B:'. The latest report is dated 'December 23rd 2019, 10:07:40'. Below the device information, the 'Factory Defaults' section shows a JSON object with the following fields: 'uniqueId', 'devEUI' (highlighted with a red circle), 'appEUI', 'appKey', 'devAddr' (highlighted with a red circle), 'appSKey' (highlighted with a red circle), 'nwkSKey' (highlighted with a red circle), 'generated', 'abp' (set to true), 'sync' (set to true), 'type' (set to 'CUBE02', highlighted with a red circle), and 'note'.

Device information	
Name	Badtemp-Arild
Type	CUBE02
ID	70B:
Latest report	December 23rd 2019, 10:07:40

```
{
  "uniqueId": "33",
  "devEUI": "70B3",
  "appEUI": "70B3",
  "appKey": "DCB7",
  "devAddr": "012",
  "appSKey": "D70",
  "nwkSKey": "E32",
  "generated": "2",
  "abp": true,
  "sync": true,
  "type": "CUBE02",
  "note": ""
}
```

Actility configuration with hub.sensefarm.com

<https://stadshubb.thingpark.com/portal/web/>

Set up connection to Sensefarm's application - 1 of 2

The screenshot shows the 'Application servers' section of the Sensefarm AB ThingPark Wireless device manager. The interface includes a sidebar with a tree view of device settings, a main content area with a table of existing application servers, and a 'New application server' dialog box.

Application servers table:

Name	ID	Status	Type
sensefarm-cube01-tw	TWA_100039957.39645.AS	Active	HTTP Application Server (LoRaWAN)
sensefarm-cube02	TWA_100039957.39642.AS	Active	HTTP Application Server (LoRaWAN)

New application server dialog:

The dialog box has a 'Name' field and a 'Type' dropdown menu. The 'Type' dropdown is open, showing the following options:

- HTTP Application Server (LoRaWAN)
- HTTP Application Server (LoRaWAN)
- HTTP Application Server (Cellular)
- Kafka Cluster

Red circles highlight the '+ Create' button in the 'Add application servers' section and the 'HTTP Application Server (LoRaWAN)' option in the 'Type' dropdown menu.

Set up connection to Sensefarm's application - 2 of 2

Currently implemented
API's -

<https://activity.sensefarm.com/CUBE02>

<https://activity.sensefarm.com/CUBE01-TW>

Use the correct one for the devices you have.
CUBE version is printed on device label and
available on hub.sensefarm.com device page
under "Factory defaults".

The screenshot shows the 'Application server' configuration page in the Sensefarm AB ThingPark Wireless device manager. The browser address bar shows 'stadshubb.thingpark.com/deviceManager/'. The left sidebar shows a tree view of the device configuration, with 'Application servers' expanded and 'sensefarm-cube02' selected. The main configuration area has the following fields:

- Name:** sensefarm-cube02
- ID:** TWA_100039957.39642.AS
- Content Type:** JSON
- Type:** HTTP Application Server (LoRaWAN)
- Status:** Active

Below the application server configuration, there is a section for 'Uplink/downlink security' with the following fields:

- Status:** Active
- AS ID:** hub-cube02
- Max timestamp deviation:** 60 seconds

At the bottom, there is a 'Route' configuration section with the following fields:

- Source ports:** *
- Routing strategy:** Sequential

A 'Destinations' table is also present, with one entry:

Destination
https://activity.sensefarm.com/CUBE02

The 'Destinations' table has a red circle around the URL 'https://activity.sensefarm.com/CUBE02'. At the bottom of the page, there are buttons for 'Edit', 'Add', 'Delete', 'Up', and 'Down'.

Adding a device

Manufacturer - Generic
Model - very important to
get correct, many similar
variants:

LoRaWAN 1.0.2 rev B
Class A
Rx2_SF12
eu868

The screenshot displays the 'Sensefarm AB - ThingPark Wirel...' browser window at the URL 'stadshubb.thingpark.com/deviceManager/'. The interface includes a sidebar with a 'Devices' menu item circled in red. The main area shows a 'New device' form with several sections: 'Administrative data', 'Device identification', 'Network parameters', and 'Application layer handling'. Red circles highlight the following fields: the 'Create' button, 'Device name' (Test - 70B3D55460000EFB), 'Marker' (location pin), 'Administrative location' (55° 43' 1" N 13° 13' 30" E), 'Manufacturer' (Generic), 'Model' (LoRaWAN 1.0.2 revB - class A - Rx2_SF12 eu868), 'Device activation' (Activation By Personalization (ABP)), 'DevEUI' (70B3D55460000EFB), 'DevAddr' (01000EFB), 'NwkSKey' (E32), 'Connectivity plan' (ORESUNDSKRAFT Connectivity Supplier / ORESUNDSKRAFT Bas (999)), 'Application server routing profile' (sensefarm-cube02), and 'AppSKeys' (D7D!). The bottom right corner shows the version 'v10.18.3-8337ec824' and copyright '©2019 Activity'.

Name	Type	Identifiers	Connec
LoRa			
CUBE01-TW-70B3D554600	Testing	70B3D554600	ORESUNDSKRAFT
LoRaWAN 1.0 revB - class A		2DF3D4D9	sensefarm-cube01
Rx2_SF12			
LoRa			
CUBE01-TW-70B3D554600	Testing	70B3D554600	ORESUNDSKRAFT
LoRaWAN 1.0 revB - class A		2D280C2D	sensefarm-cube01
Rx2_SF12			
LoRa			
CUBE01-TW-70B3D554600	Testing	70B3D554600	ORESUNDSKRAFT
LoRaWAN 1.0 revB - class A		6A0AF032	sensefarm-cube01
Rx2_SF12			
LoRa			
CUBE01-TW-70B3D554600	Testing	70B3D554600	ORESUNDSKRAFT
LoRaWAN 1.0 revB - class A		D9239A74	sensefarm-cube01
Rx2_SF12			

Security

The device frame counter used by the crypto inside the device is reset to Zero upon reset of CUBE01 and CUBE02 (usually done when battery is changed).

Thus options such as “Disable frame-counter validation” should be set on all LoRa-WAN servers for easy operation.

Actility has a button called “Reset security context” for this.

The screenshot shows the 'Sensefarm AB - ThingPark Wireless' interface. On the left, a sidebar lists various device settings, with 'Settings' highlighted under the 'CUBE02-70B3D554600000C8' device. The main panel displays 'Node settings' for this device. Under the 'Alarm Settings' tab, there are two sections: 'No uplink activity alarm settings.' and 'Troubleshooting'. The 'Troubleshooting' section contains a button labeled 'Reset security context', which is circled in red. The 'Alarm Settings' section also has two subsections: 'Activate threshold1' and 'Activate threshold2', each with a 'Trigger' dropdown and an 'Action' dropdown. The 'Trigger' dropdowns are set to 'After 2 days of inactivity' and 'After 7 days of inactivity' respectively. The 'Action' dropdowns are set to 'Raise Alarm Level to Warni' and 'Raise Alarm Level to Major' respectively.