



# How to Integrate Milesight's Gateway and Devices into the KaaloT Platform



Version Change Log			
Version	Revision Date	Revision Details	Revised By
V1.0	20250313	Initial	Lockon



# Preface

KaaloT is a technology company focused on IoT platforms and solutions. It offers both open-source and enterprise-level IoT platforms through Kaa, which are used for device management, data collection, remote control, and analytics. The KaaloT platform supports a variety of IoT ecosystems and helps businesses quickly build and deploy scalable IoT applications. Its solutions are widely used in smart manufacturing, smart cities, energy management, remote monitoring, and other fields, providing users with efficient, secure, and flexible IoT connectivity.

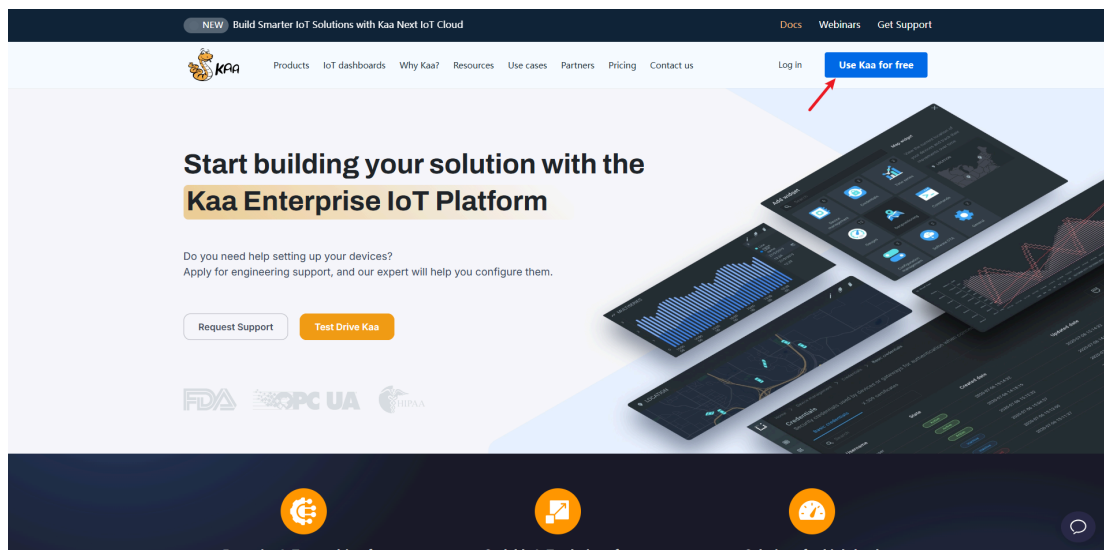
This document primarily describes the complete operational process of integrating the UG65 gateway with the KaaloT platform (utilizing a third-party LNS, specifically the TTN platform) and adding the AM319 ( Any LoRaWAN Node,take Milesight AM319 as example ) device on the KaaloT platform as an example.

## 1. Prerequisites

- **Gateway Model:** UG65 or UG56/UG67/SG50
- **Sensor Model:** AM319, with firmware v1.6.
- **Frequency Band for this Demo:** US915.
- **Gateway:** Must already be connected to the Internet.

## 2. Register a KaaloT Account

Visit [▶ Enterprise IoT Platform with Free Plan | Kaa](#) and click the “Use Kaa for free” button.



The official site allows registration for a free 14-day trial account. Simply fill in the required information as prompted.

The screenshot shows the top navigation bar with links for Docs, Webinars, and Get Support. Below the navigation bar is the Kaa logo. The main heading is "Kaa IoT Platform Free trial" with the subtext "Risk-free trial options, no credit card required". The central content area is titled "Kaa Cloud. Free PaaS plan" and lists features for a 14-day free trial and all Kaa Enterprise features. At the bottom, there are two buttons: "Explore all plans" and "Try for free", with a red arrow pointing to the latter.

NEW

Docs Webinars Get Support

Kaa

## Kaa IoT Platform Free trial

Risk-free trial options, no credit card required

### Kaa Cloud. Free PaaS plan

**14 Days Free Trial**

- Up to 5 devices
- Multi-user access
- In-dashboard chat support

**All Kaa Enterprise features**

- Connectivity: MQTT(S), HTTP(S)
- Rule Engine
- Alerts
- Data Collection
- Device Management
- Data Processing & Analytics
- User Management
- Rich Widgets Set
- Ready-to-Use IoT Dashboards
- Device Configuration
- Command Execution
- OTA (Over-the-Air Updates)

Explore all plans Try for free

The screenshot shows the Kaa IoT registration page. On the left, there's a "Welcome to KaaIoT registration page!" section with four bullet points: "Use the Kaa Cloud and connect up to 5 devices for free", "Access the Kaa resources library", "Get support from our engineers", and "Receive updates". On the right, there's a "Create your account" form with fields for Email, Password, and Confirm password. Below the form, there's a "Linked In" button and a "Public pages of the KaaIoT Technologies, Inc." disclaimer. At the bottom, there's a checkbox for "I have read, understood, and agree with the Privacy Policy."

KaaIoT

Welcome to KaaIoT registration page!

- Use the Kaa Cloud and connect up to 5 devices for free
- Access the Kaa resources library
- Get support from our engineers
- Receive updates

1 Account Credentials 2 Email Verification 3 Registration details

### Create your account

Already have an account? [Log in](#)

Email\*

lockon.wen@mliesight.com

Password\*

Confirm password\*

or continue with:

[Linked In](#)

Public pages of the KaaIoT Technologies, Inc. ("KaaIoT", "Kaa", "KaaIoT" or "Kaa") websites (www.kaa.io, www.kaaproject.org and www.kaacloud.com) can be accessed by anyone without disclosing any Personal Data. However, in order to access certain protected KaaIoT resources and personalized services via our websites, you are required to create an account and select a KaaID.

By providing your corporate email below you expressly agree to submit this information for verification. Please note that you will have to verify your email within 24 hours, otherwise your request and all information you provided will be permanently deleted.

We want you to know exactly why we need your registration details. Please state that you have read and agreed to our [Privacy Policy](#) terms before you continue.

☐ I have read, understood, and agree with the Privacy Policy.

The screenshot shows the Kaa IoT registration page at the "Email Verification" step. On the left, there's a "Welcome to KaaIoT registration page!" section with four bullet points: "Use the Kaa Cloud and connect up to 5 devices for free", "Access the Kaa resources library", "Get support from our engineers", and "Receive updates". On the right, there's a "Thank you for signing up!" message with a blue envelope icon. Below the message, there's a "Now check your email and click the link in your email to verify your email address." instruction and a "Didn't receive the email? Resend" link.

KaaIoT

Welcome to KaaIoT registration page!

- Use the Kaa Cloud and connect up to 5 devices for free
- Access the Kaa resources library
- Get support from our engineers
- Receive updates

1 Account Credentials 2 Email Verification 3 Registration details

### Thank you for signing up!

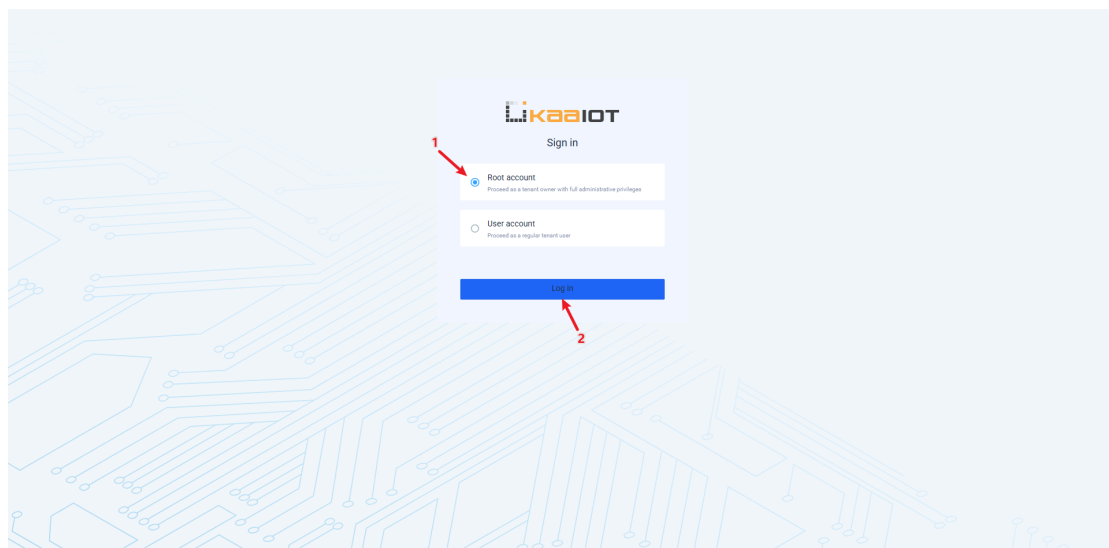
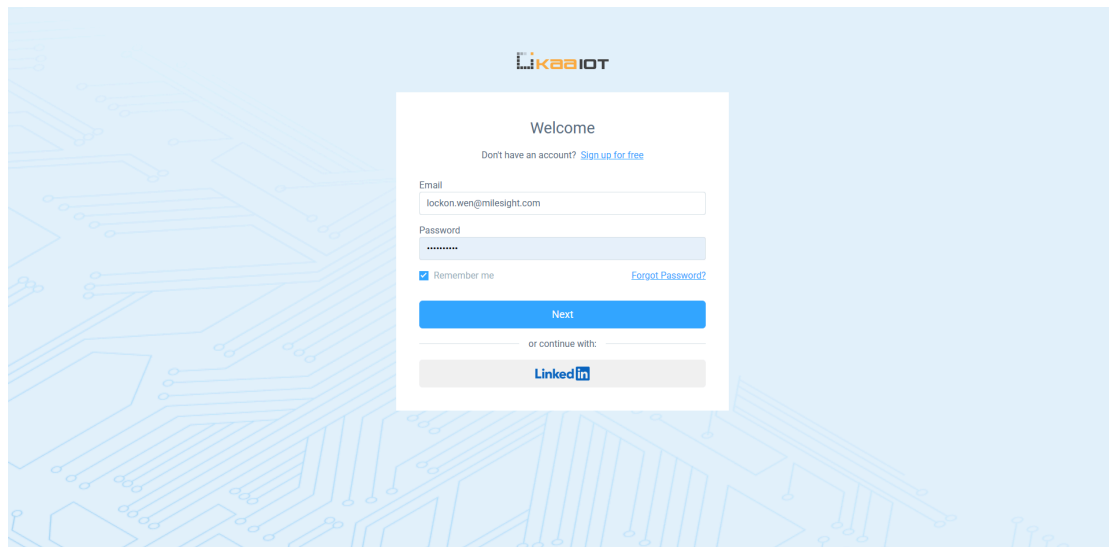
Now check your email and click the link in your email to verify your email address.

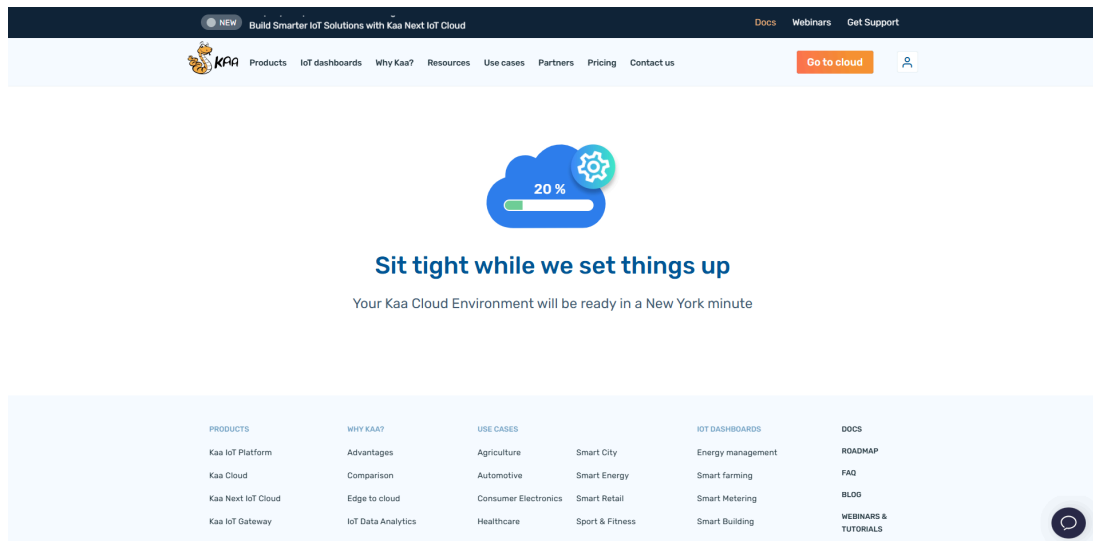
Didn't receive the email? [Resend](#)

After registering, click the activation link in the email, then log in.

### 3. First Login

On the first login, the interface will prompt an initialization process. Wait a moment until it fully loads so that you can start using it normally.



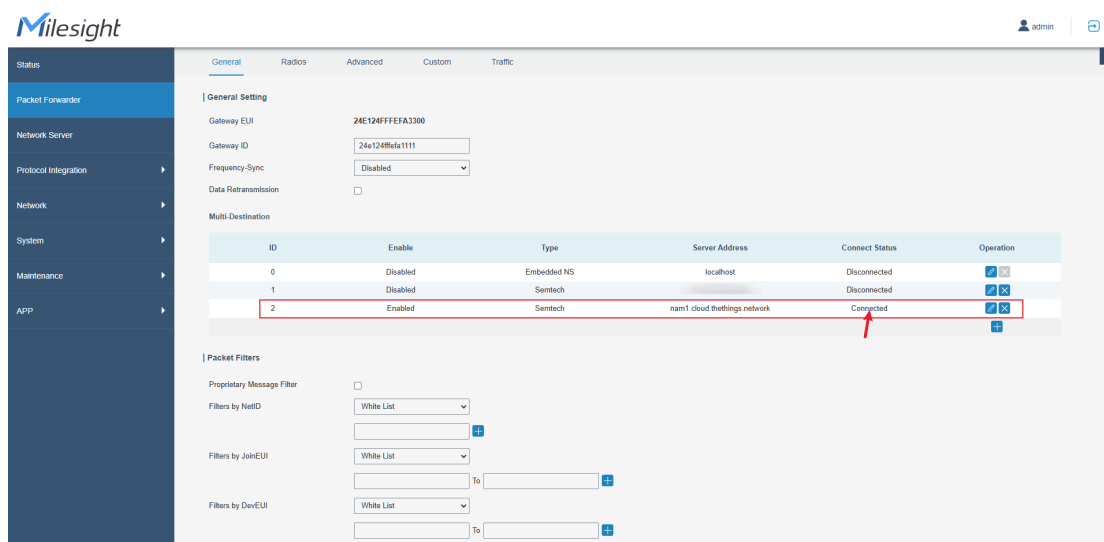


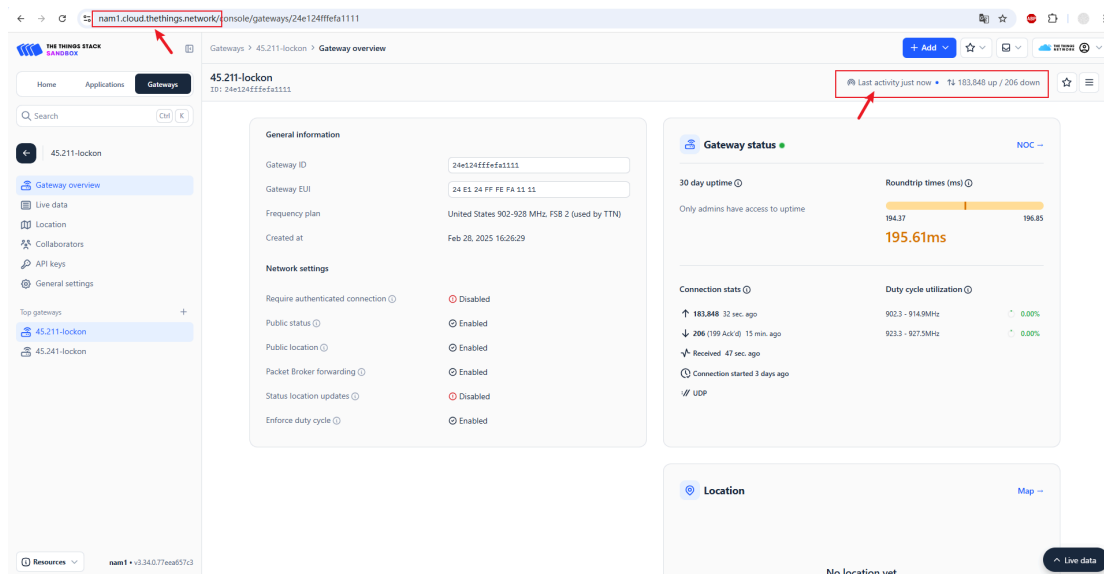
At this point, the account registration process is complete.

## 4. Integrate the Gateway with TTN

Since the KaaloT platform does not natively support LNS functionality, it is necessary to use the TTN platform for integration. According to the KaaloT official website, operations such as adding sensors must be performed on TTN beforehand. The following sections detail how to integrate the gateway with TTN, add sensors, and create an MQTT interface in TTN.

Follow the instructions provided in the reference document < [The Things Stack-Milesight Gateway Integration via Semtech Packet Forwarder](#) >. Below is a screenshot of the completed setup:



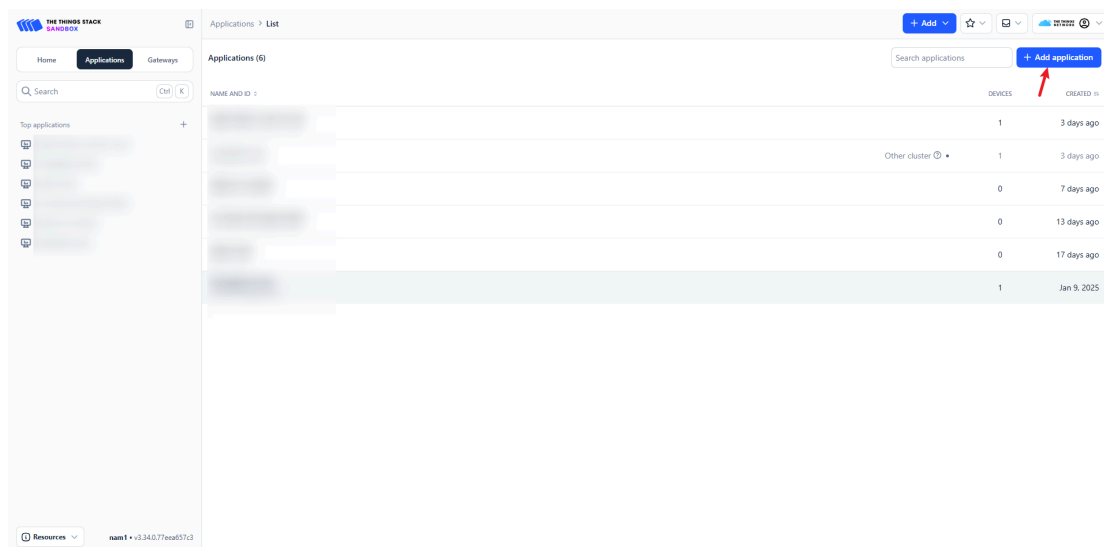


At this point, the gateway has been integrated with TTN.

Note that the TTN region used is **nam1.cloud.thethings.network** as it will be needed later.

## 5. Create an Application on TTN

Follow the instructions as shown in the screenshot :



THE THINGS STACK  
SANDBOX

Applications > Create application

Home Applications Gateways

Search

Top applications

Create application

Within applications, you can register and manage end devices and their network data. After setting up your device fleet, use one of our many integration options to pass relevant data to your external services.  
Learn more in our guide on [Adding Applications](#).

Application ID\* 1  
kaaio-demo-use-for-now

Application name 2  
kaaio-demo-use-for-now

Description  
Description for my new application

Optional application description: can also be used to save notes about the application

Create application 3

Resources nam 1 • v3.34.0.77ea057c3

Note: In this demo, the Application ID is **kaaio-demo-use-for-now**, which will be used later.

## 6. Add a Device on TTN

For this demonstration, we are using the AM308. It is necessary to add this device on TTN. Follow the instructions shown in the screenshot :

THE THINGS STACK  
SANDBOX

Applications > kaaio-demo-use-for-now > End devices

Home Applications Gateways

Search

kaaio-demo-use-for-now

Application overview

End devices 1

Live data

Payload formatters

Integrations

Collaborators

API keys

General settings

Top end devices

am308-demo-device

Resources nam 1 • v3.34.0.77ea057c3

kaaio-demo-use-for-now

ID: kaaio-demo-use-for-now

Last activity 27 seconds ago • 1 End devices

End devices (1)

NAME AND ID

DEVICE

JOINER

LAST ACTIVITY

Import end devices

Register end device 2

Live data



Applications > kaaiot-demo-use-for-now > End devices > Register end device

**End device type**

Input method

☒ Select the end device in the LoRaWAN Device Repository  
☐ Enter end device specifics manually

End device brand Model Hardware Ver. Firmware Ver. Profile (Region)

Milesight IoT Co... Milesight AM308... 1.x 1.x US\_902\_928

**Milesight AM308-LoRaWAN Indoor Air Quality Sensor (7 in 1)**  
 LoRaWAN Specification 1.0.3, RP001 Regional Parameters 1.0.3 revision A, Over the air activation (OTAA), Class A

Milesight AM308 collects various indoor ambience conditions through 7 built-in sensors and delivers the data to the mobile App and its 4.2-inch E-ink screen. It supports batteries or DC power supply and can be easily equipped via NFC. It features a tri-color LED indicator, anti-theft design, and emotion indication. am308 is widely used for offices, stores, classrooms, hospitals, etc.

[Product website](#) | [Data sheet](#)

Frequency plan

United States 902-928 MHz, FSB 2 (used by TTN)

**Provisioning information**

JoinEUI

.. . . . . Confirm

To continue, please enter the JoinEUI of the end device so we can determine onboarding options

Step by step, fill in the parameters for the AM308.

**Important:** Ensure that you select the correct Frequency Plan as shown in the screenshot.

After adding, you will see the basic device information on TTN :

Applications > kaaiot-demo-use-for-now > End devices

kaaiot-demo-use-for-now  
 ID: kaaiot-demo-use-for-now

Last activity 1 minute ago • 1 End devices

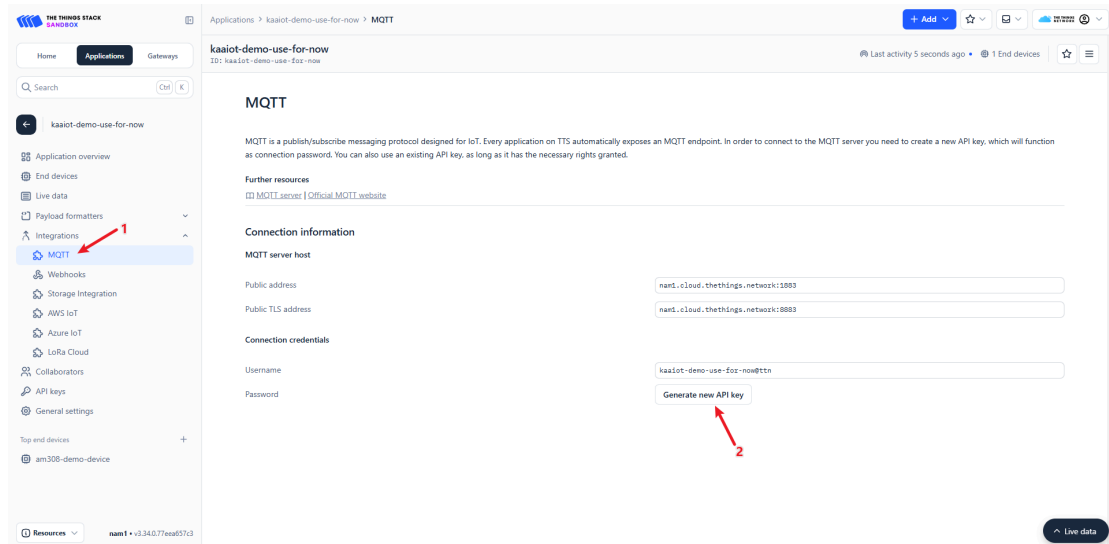
**End devices (1)**

NAME AND ID	DEVICE	JOINER	LAST ACTIVITY
am308-demo-device	24 E1 24 78 7E 84 39 23	24 E1 24 C8 68 2A 98 76	1 min. ago

At this point, adding the device on TTN is complete.

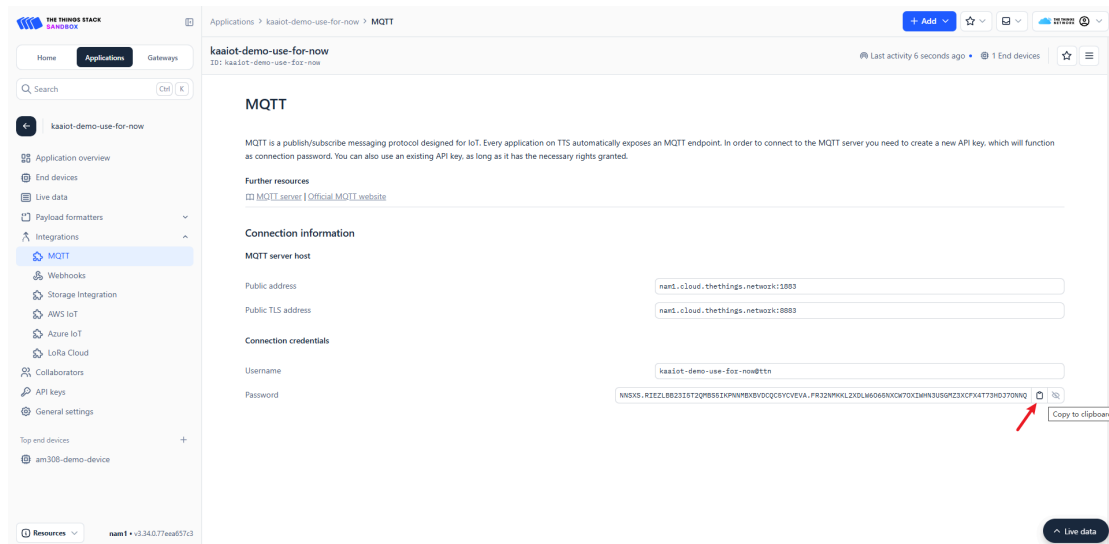
## 7. Create MQTT Integration on TTN

Follow the steps as shown in the screenshot:



Click **"Generate new API key."**

The plaintext key information will be displayed temporarily, make sure to save this value as it is only shown once.



For example, the plaintext key information is as follows (for demonstration purposes only).

This information is very important and will be needed later:

NNSXS.RIEZLB2315T2QMBS5IKPNNMBXBVDCQC5YCVEVA.FRJ2NMKKL2XDLW6O65NXCW7OXIWHN3USGMZ3XCFX4T73HDJ7ONNQ

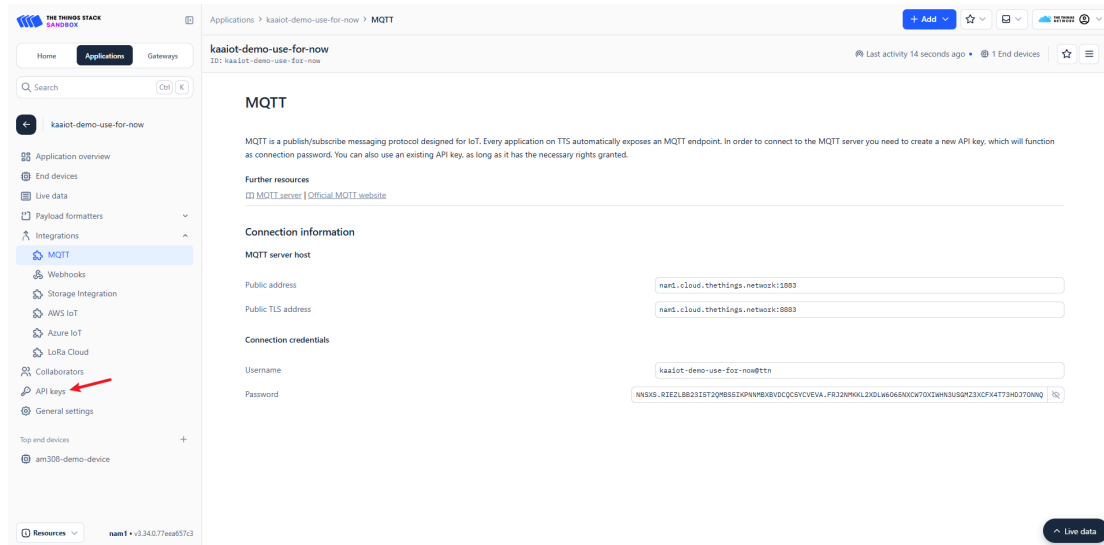
Also, note down TTN's MQTT address and Username:

**MQTT Address:** nam1.cloud.thethings.network:1883  
**Username:** kaaiot-demo-use-for-now@ttn

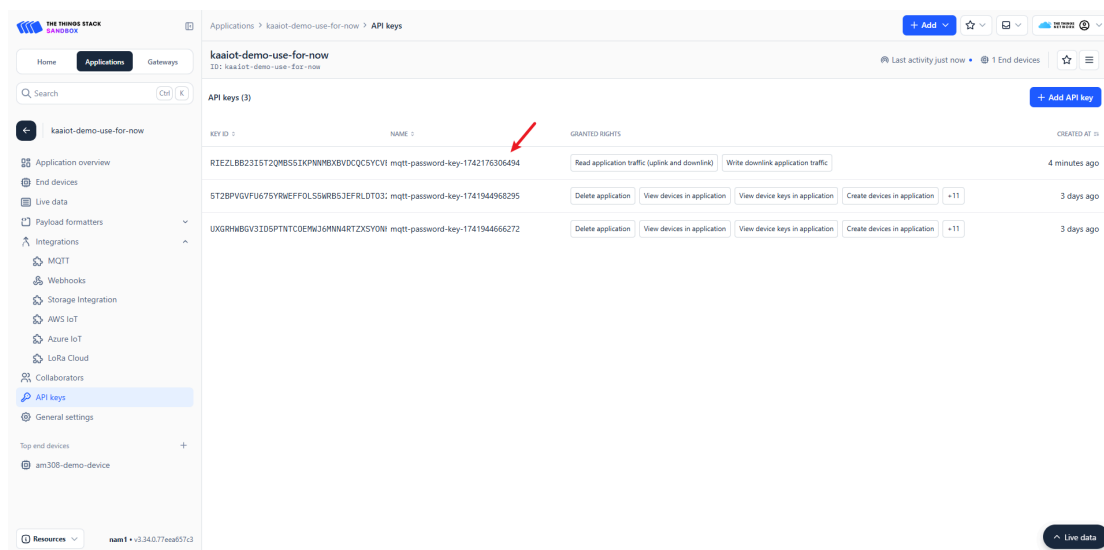
**Important:** The KaaloT platform uses port **1883**, not port 8883.

Next, configure the permissions for this key (**this step must be done; otherwise, it will not work later**).

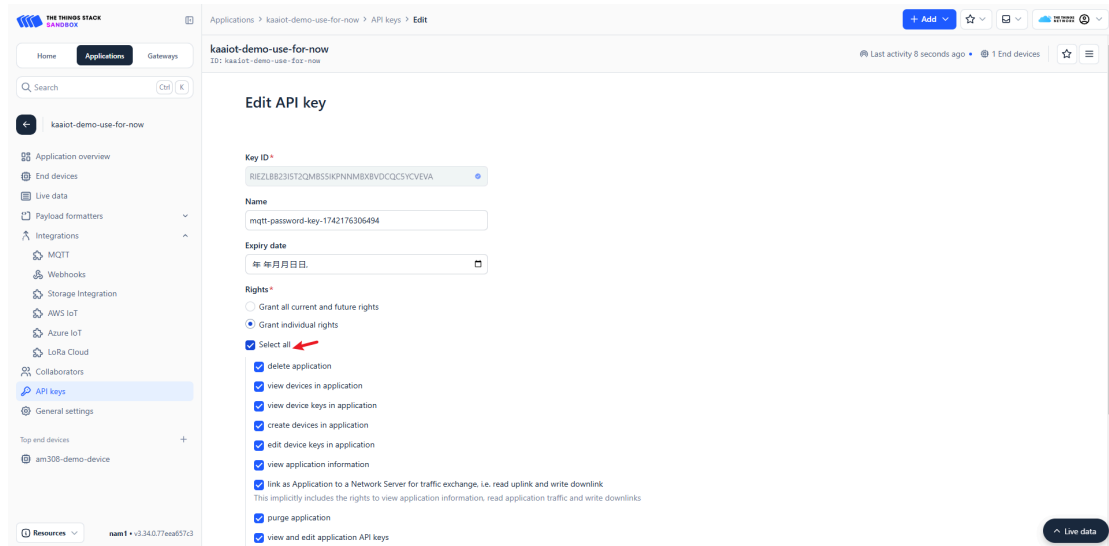
Follow the instructions shown in the screenshot:



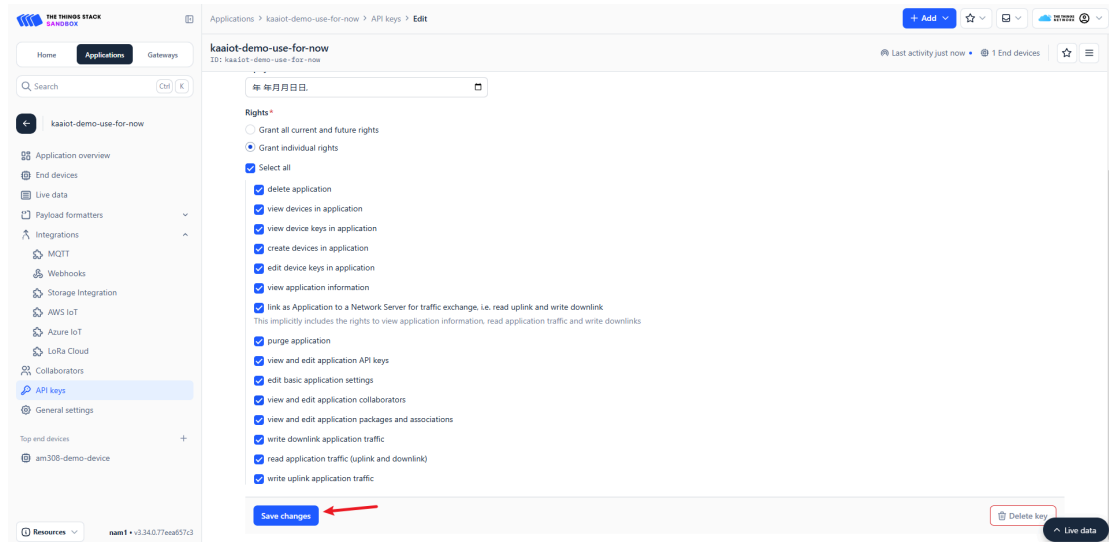
Locate the key information you just created (usually the most recent record is the one you need) :



Click into it, then check all the permissions as shown in the screenshot.



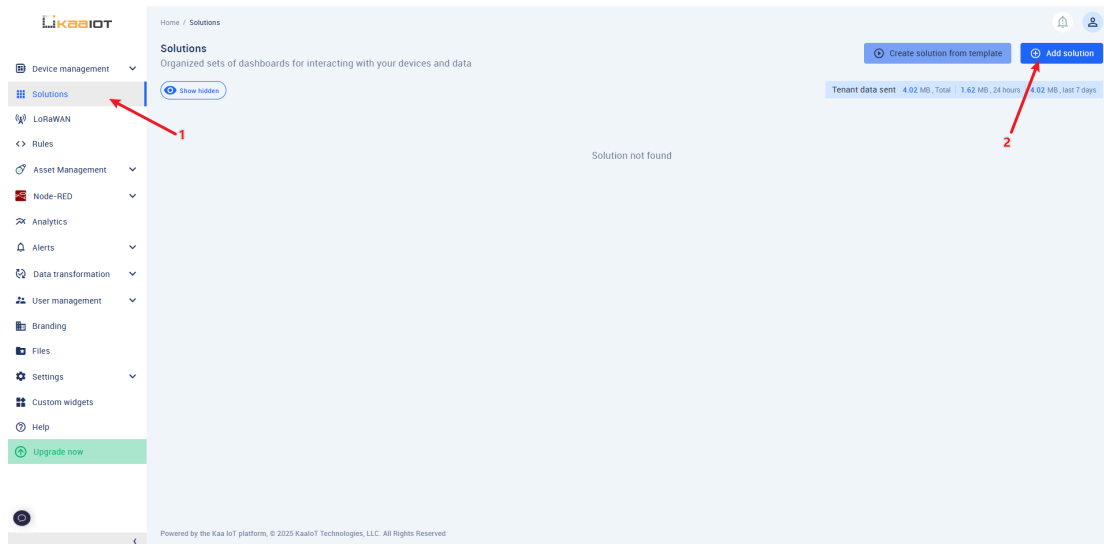
After selecting the permissions, click **"Save changes."**



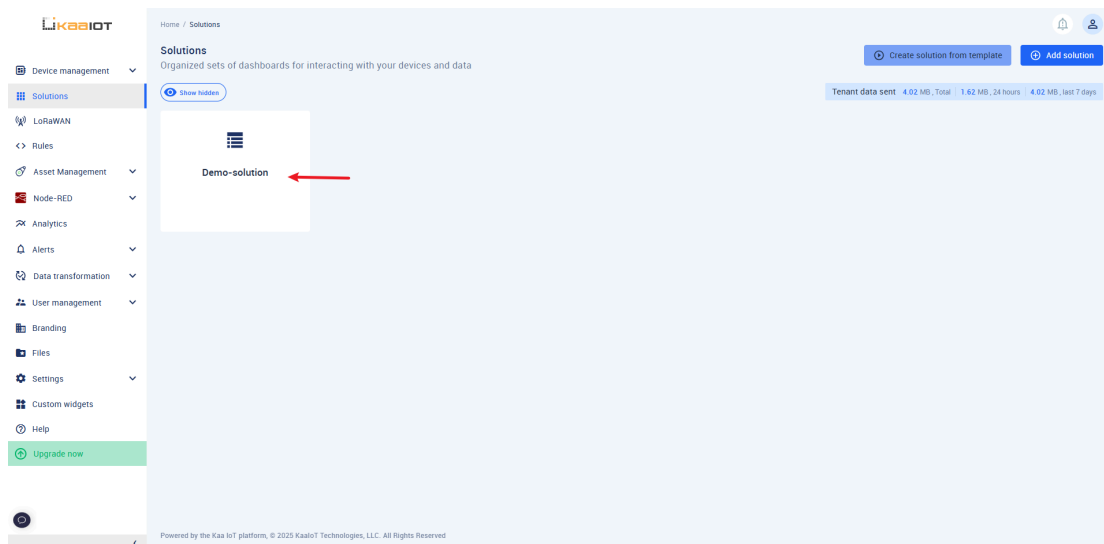
At this point, the MQTT key parameter configuration on TTN is complete. The next steps will be performed on the KaaloT platform. Operations on TTN end here.

## 8. Create a Solution on KaaloT

After logging into the KaaloT platform, follow the instructions shown in the screenshot to create your first **Demo Solution**.



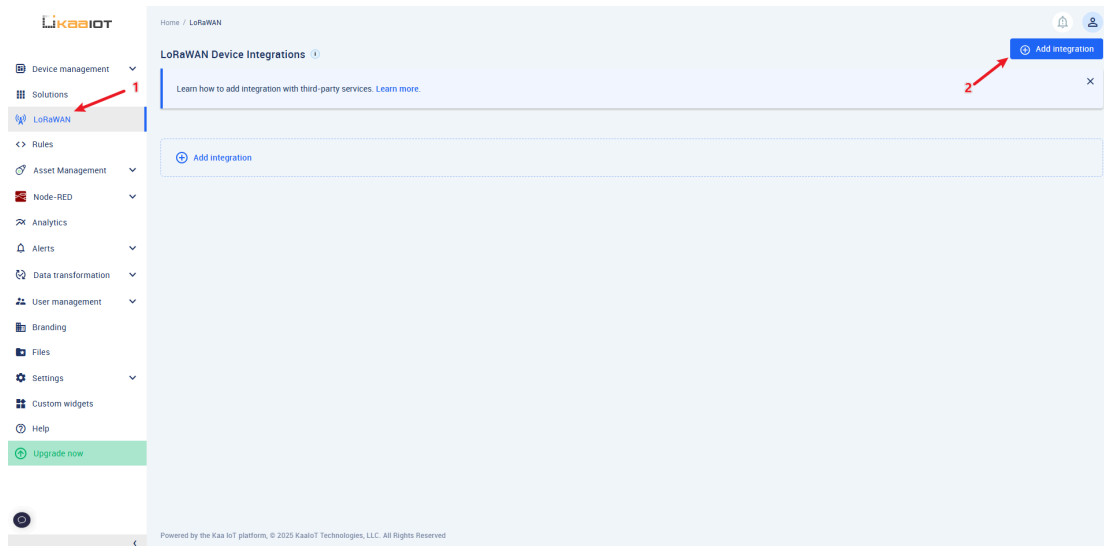
After creation, the interface will display the solution as shown:



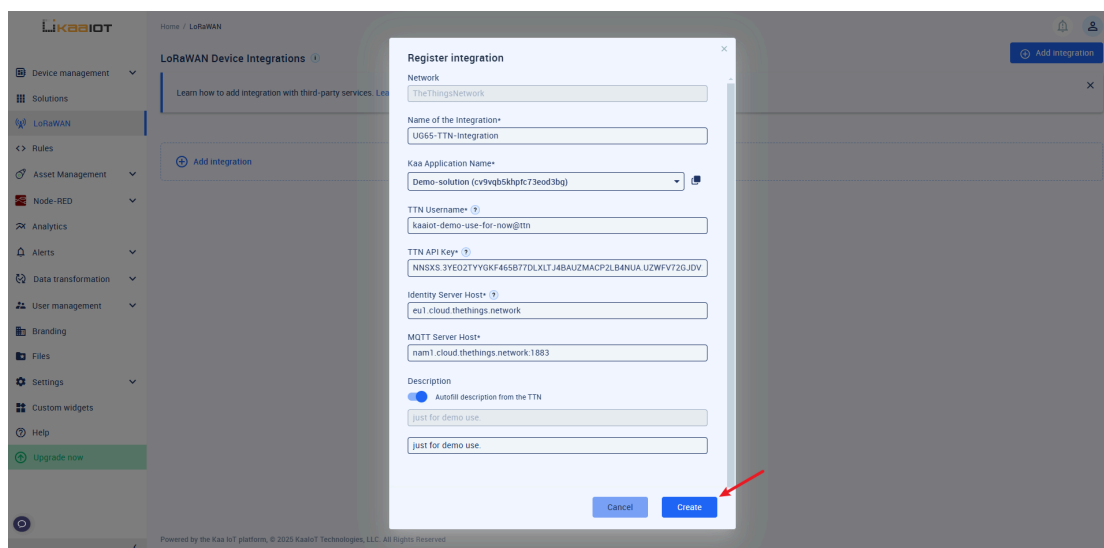
## 9. Add TTN Integration on KaaloT

Follow the instructions shown in the screenshot:





In the pop-up interface, fill in the information as follows:



### **Name of the Integration:**

Enter "UG65-TTN-Integration" (it is recommended to name it based on the gateway).

### **Kaa Application Name:**

Select the Solution you just created from the dropdown.

### **TTN Username:**

Enter the parameter from step 7, which is {application id}@ttn.

### **TTN API Key:**

Enter the parameter from step 7.

### **Identity Server Host:**

Must be entered as eu1.cloud.thethings.network (fixed value).

### **MQTT Server Host:**

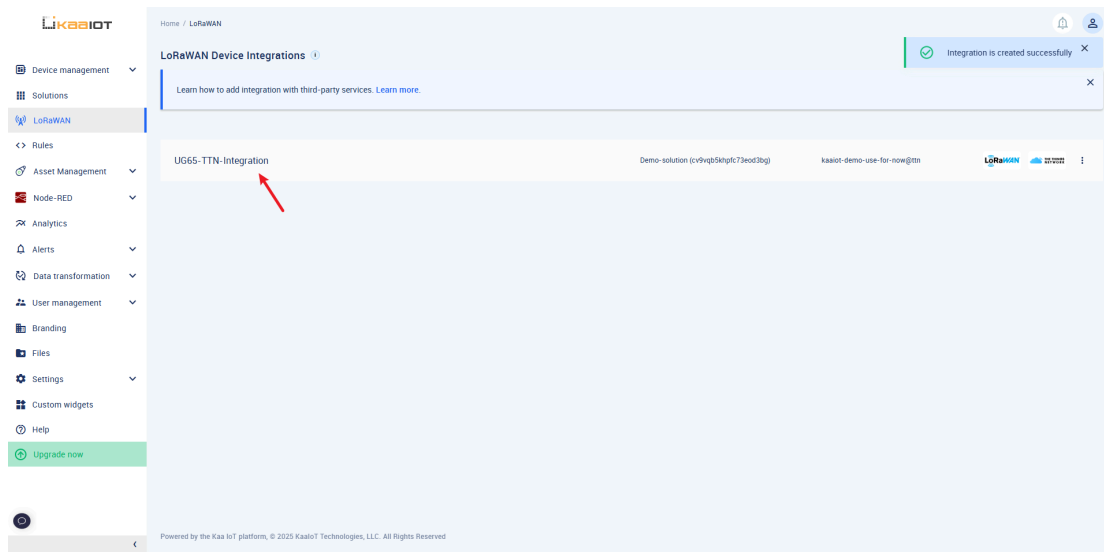
Enter the parameter from step 7.

**Note:** The value for Identity Server Host is fixed and does not depend on the TTN region



you registered.

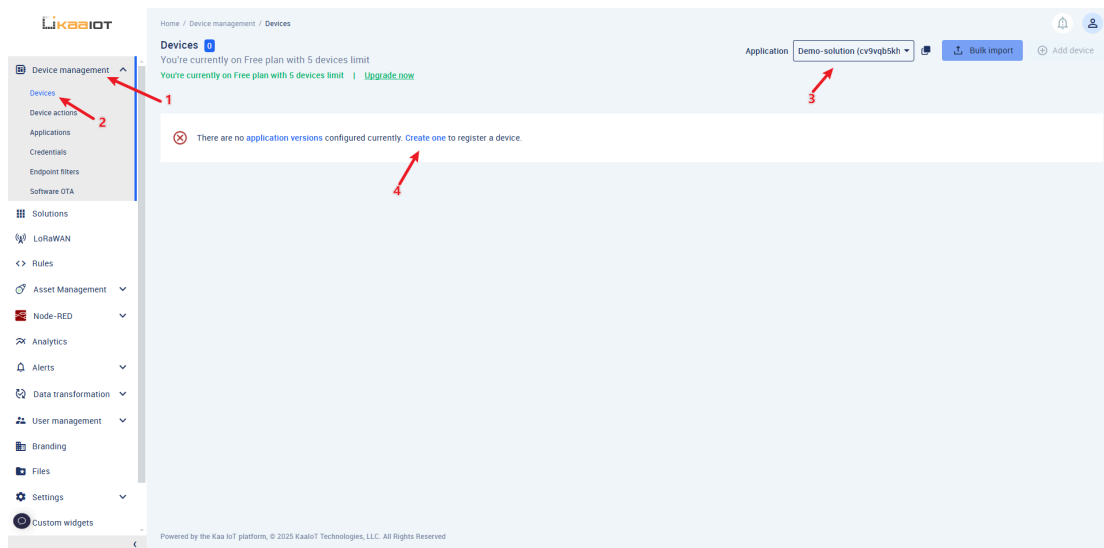
After clicking **"Create,"** the interface will display as shown:

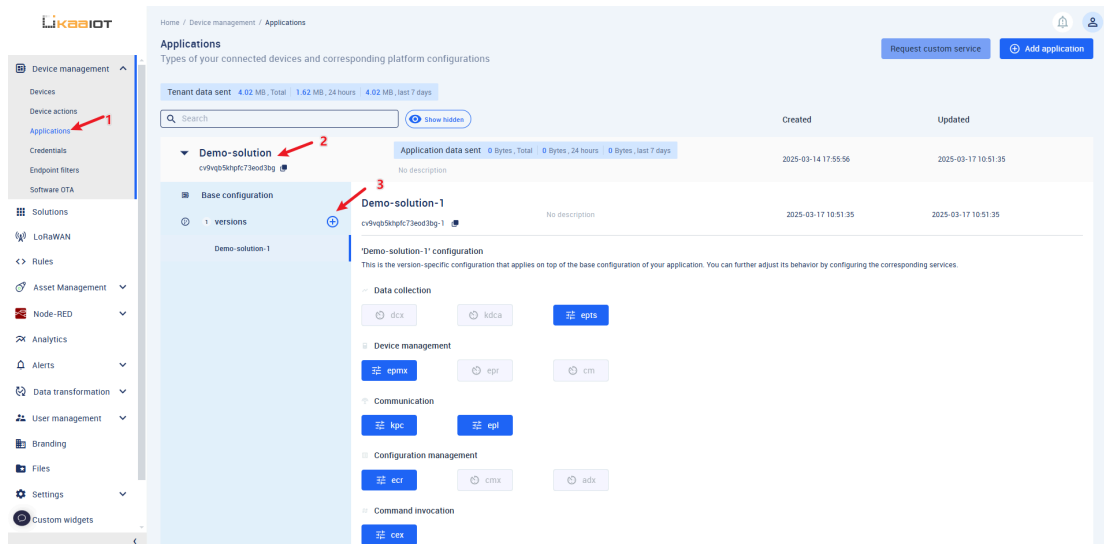


## 10.Add a Device on KaaloT

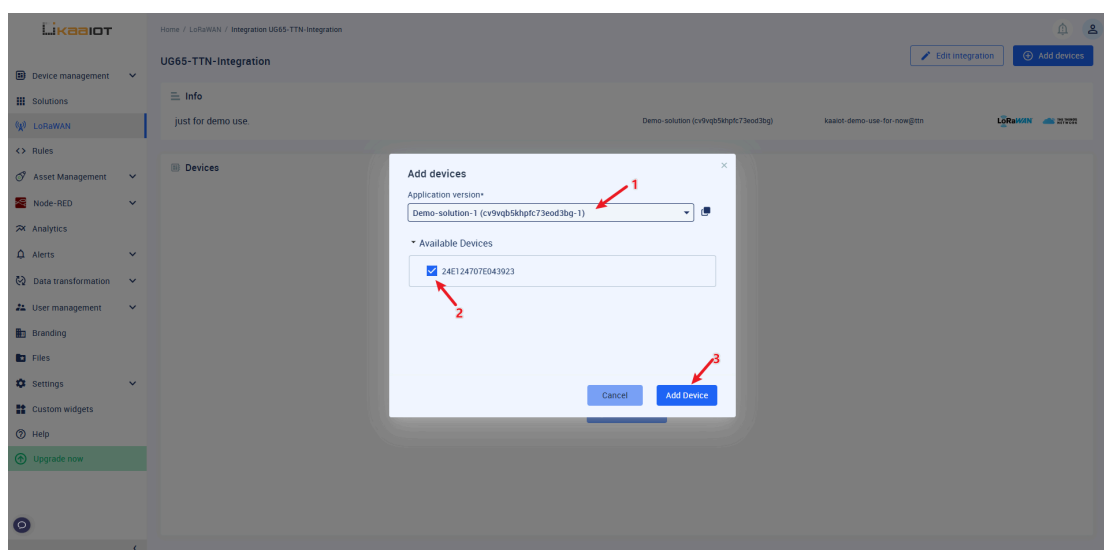
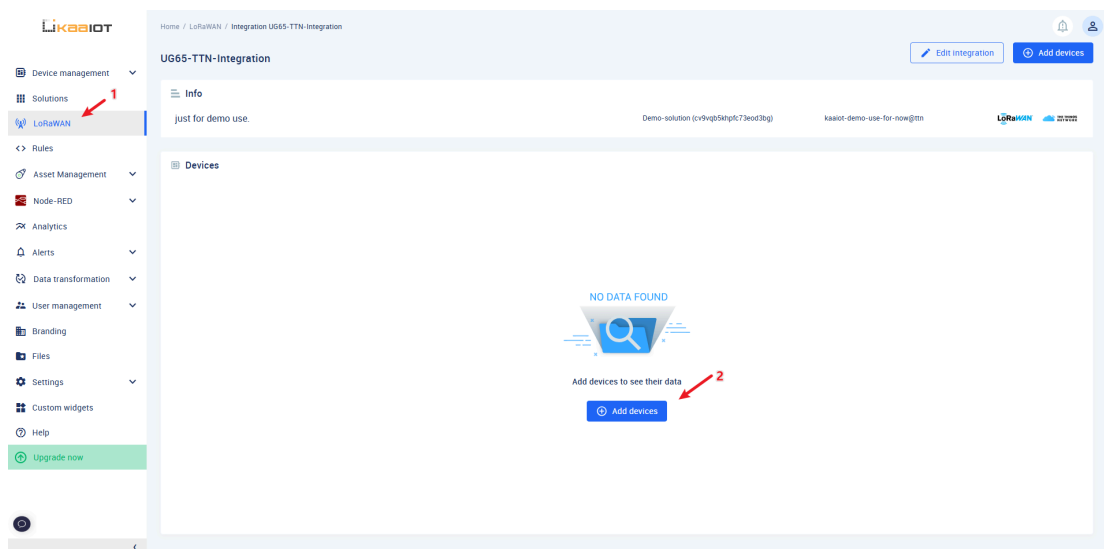
Adding a device here simply means synchronizing the MQTT interface with the device information registered on TTN.

Follow the specific steps shown:



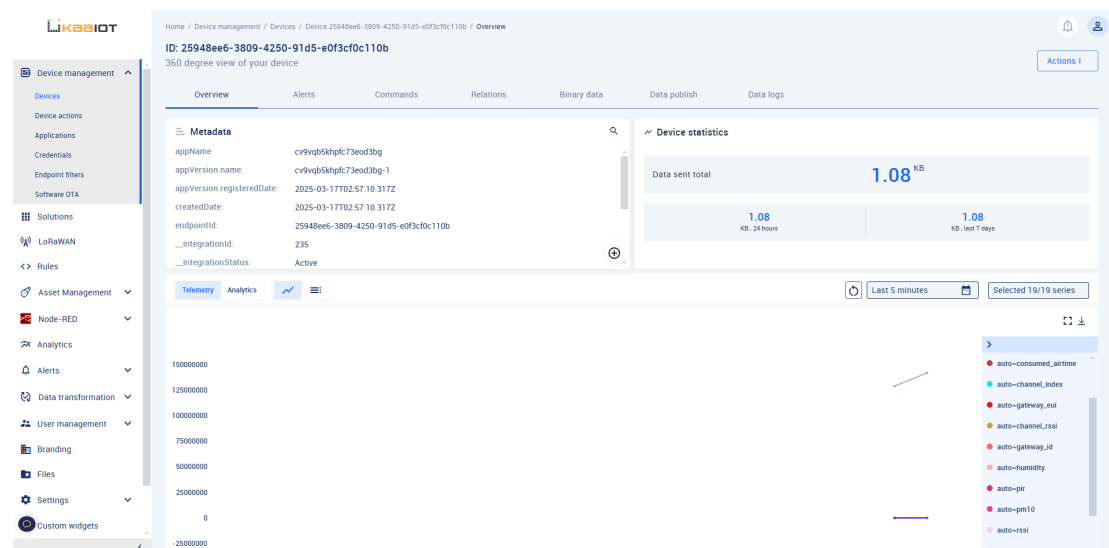
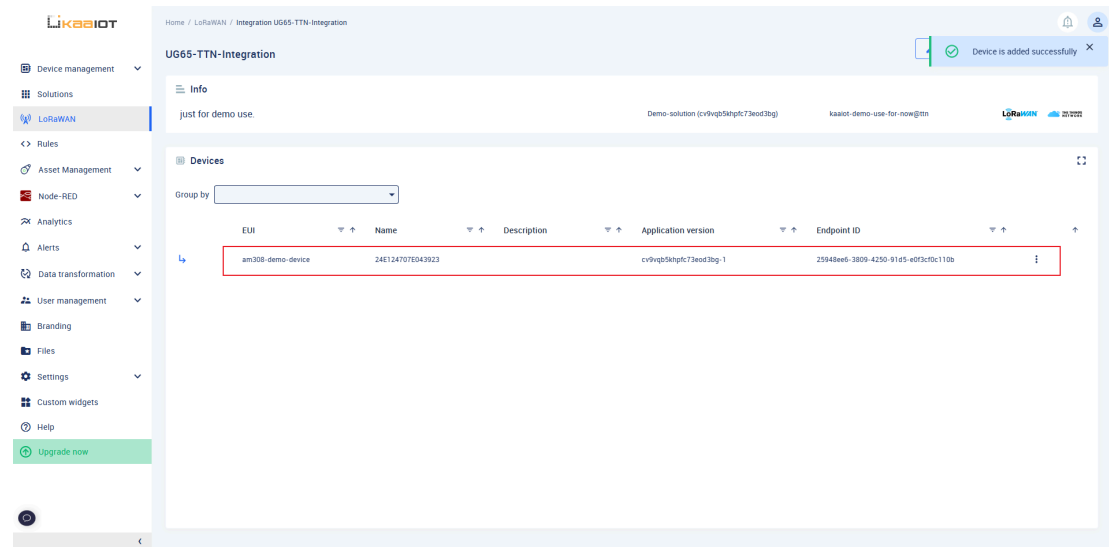


After creation, you can add the device. In the pop-up interface, you will see the Device EUI for AM308; select it and add it.





Once added, the interface will display as shown:



At this point, the AM308 sample device has been added and data can be successfully reported and displayed.

## 11.Create a Simple Dashboard Example



-END-

