# How to Integrate Milesight Gateway and Devices into the Blynk Platform

| Version Change Log | | | |
|---|---|---|---|
| Version | Revision Date | Revision Details | Revised By |
| V1.0 | 20250410 | Initial | Lockon |
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# Preface

Blynk is a powerful Internet of Things (IoT) platform that supports remote control and monitoring of various smart hardware via mobile devices. Users can create interactive interfaces in the mobile app by dragging and dropping widgets to achieve real-time operation and data visualization of their devices. Blynk offers both cloud and private server deployment options, making it adaptable for different application scenarios. It is widely used in smart home systems, industrial monitoring, environmental sensing, and more. The platform supports a variety of mainstream embedded systems and communication modules, making it suitable for both beginners and professional developers to quickly build IoT prototypes.

This document mainly introduces how to integrate the UG65 gateway with the Blynk platform (via a third-party LNS, i.e., the TTN platform), and demonstrates the complete configuration process on the Blynk platform, using the AM308 device as an example to display real-time uplink data.

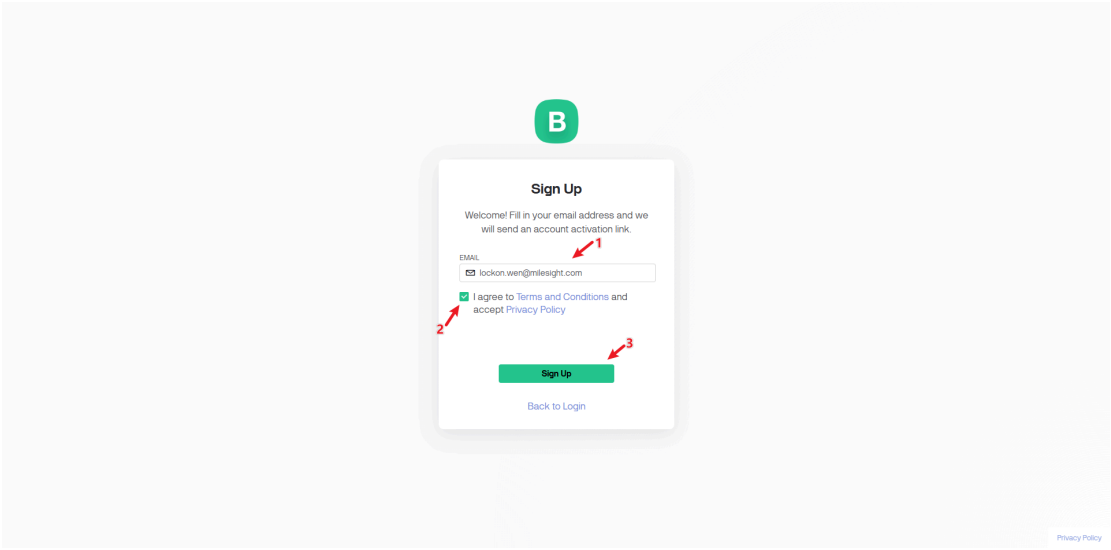
In addition, you can also refer to Blynk's example documentation.

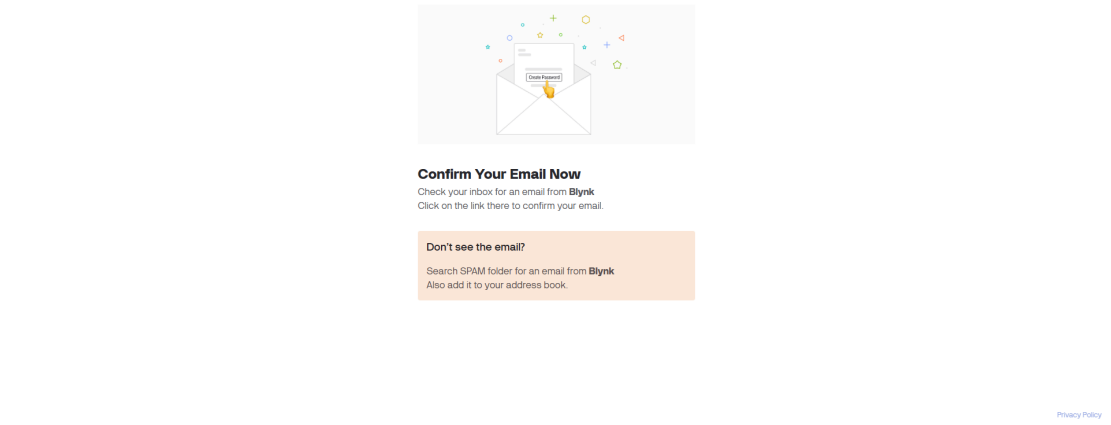
# 1. Prerequisites

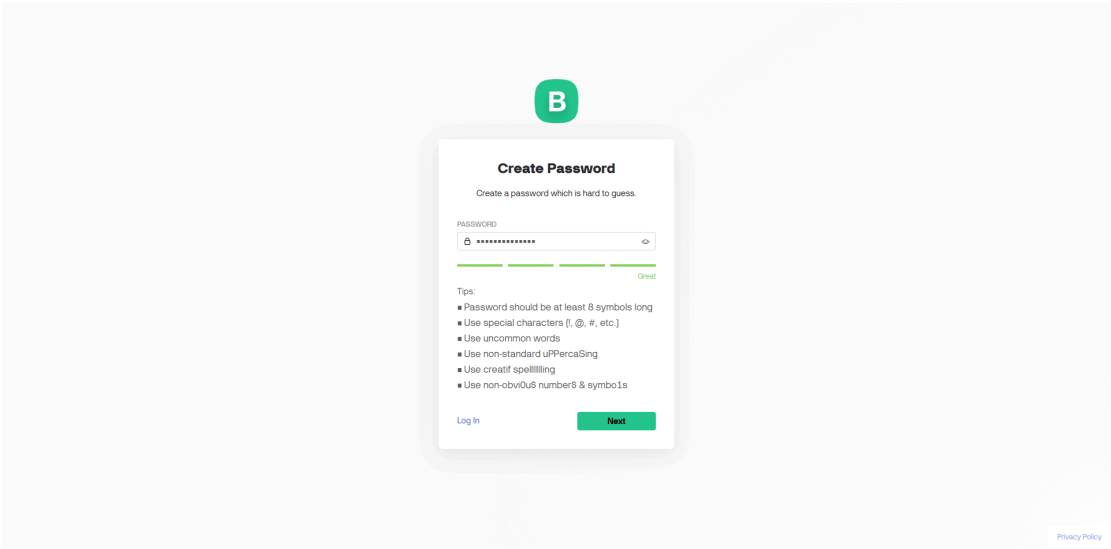
- **Gateway model:** UG65 (UG56 or UG67 are also supported)
- **Sensor model:** AM308
- **Frequency band used in this demo:** US915
- **Gateway must be connected to the Internet**

# 2. Register a Blynk Platform Account

Visit https://blynk.cloud/dashboard/register and fill in the required information as shown below:

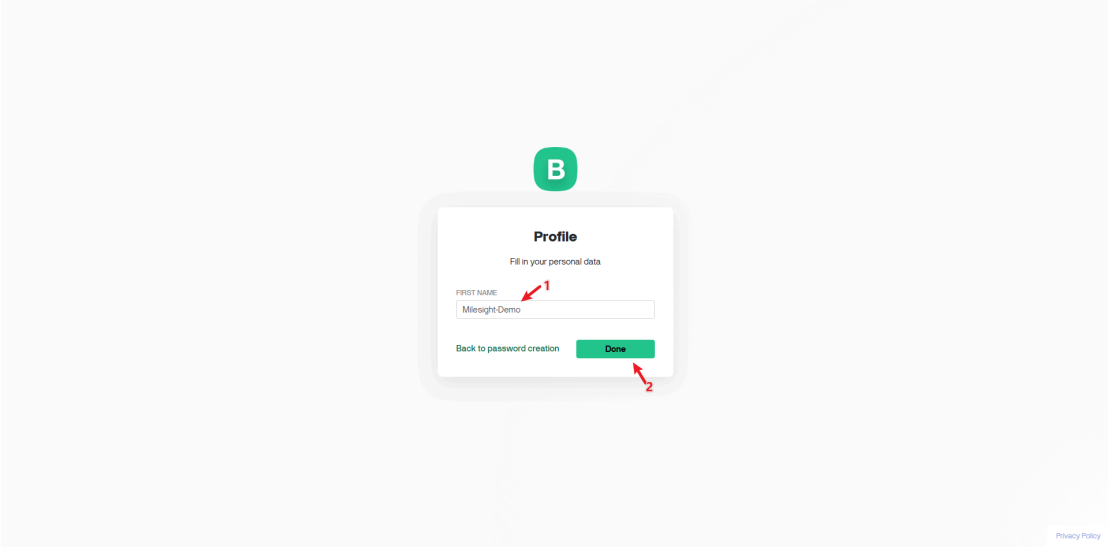



After setting a password, the platform will guide you to create your first **Profile**.

Follow the steps and fill in the necessary details.



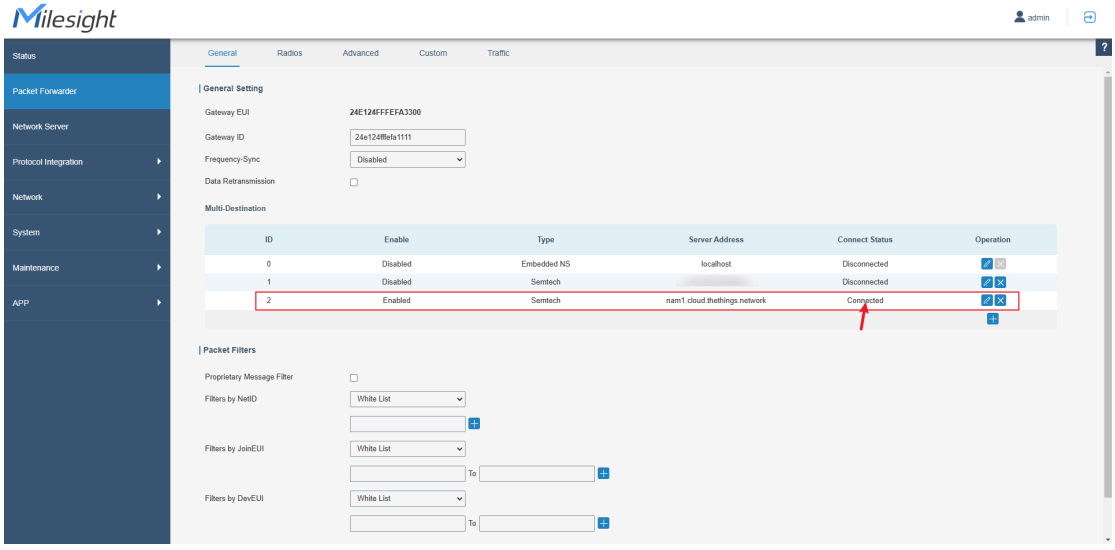

At this point, the platform account has been registered and the initial configuration is complete.

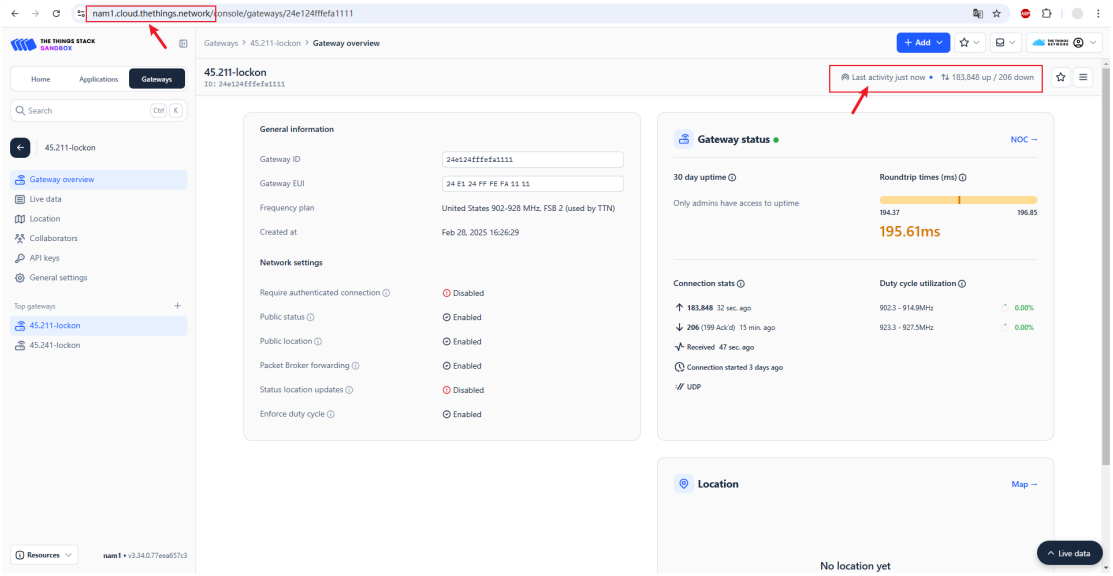
# 3. Connect the Gateway to TTN

Since Blynk does not have built-in LNS functionality but supports TTN integration, we will use the TTN platform for connection and sensor addition.

Refer to the documentation:
<The Things Stack-Milesight Gateway Integration via Semtech Packet Forwarder>

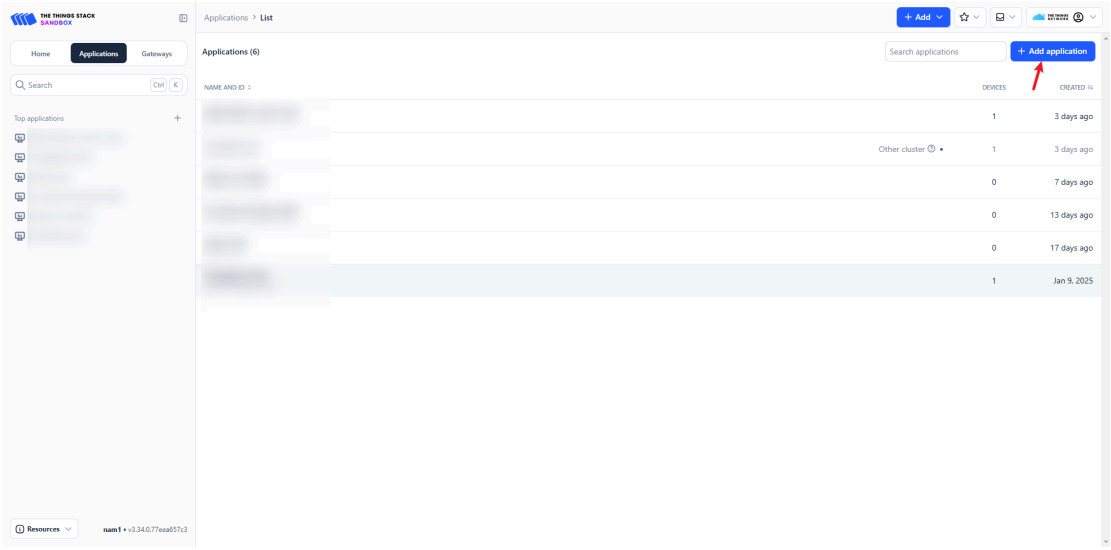
Once configured, it should look like the screenshot below:

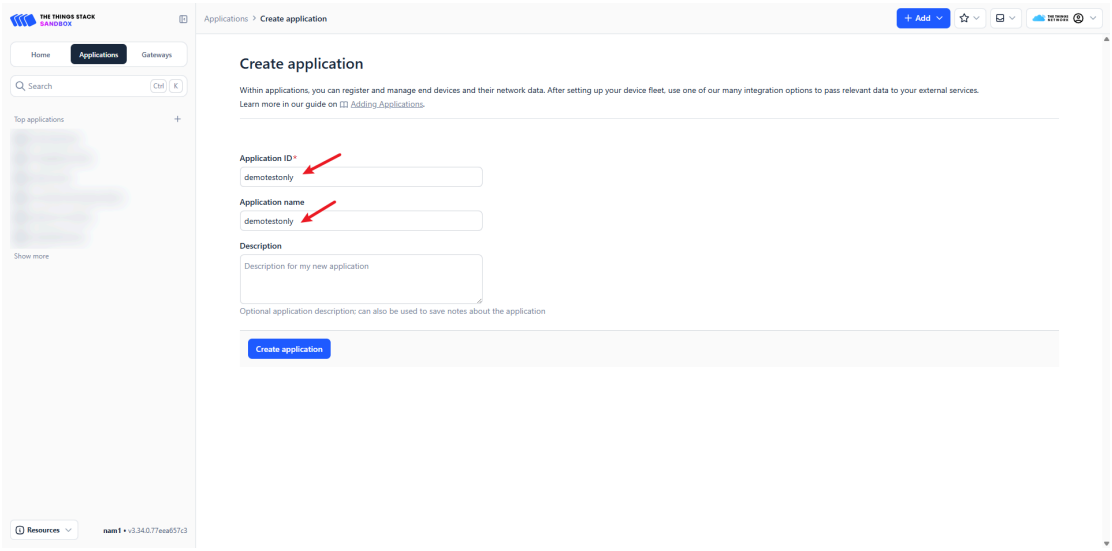





# 4. Create an Application on TTN

Follow the steps shown in the image below:

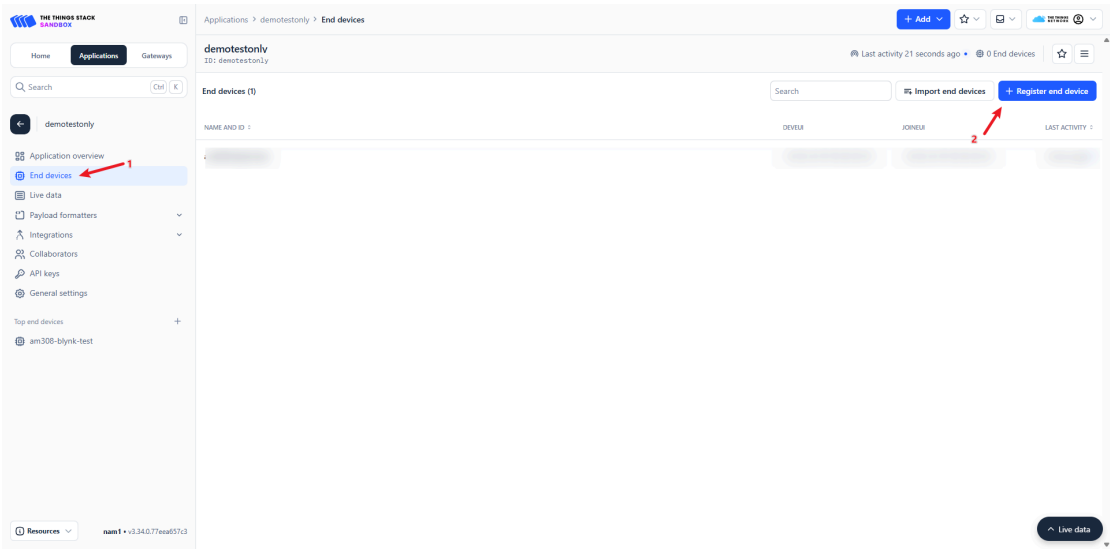


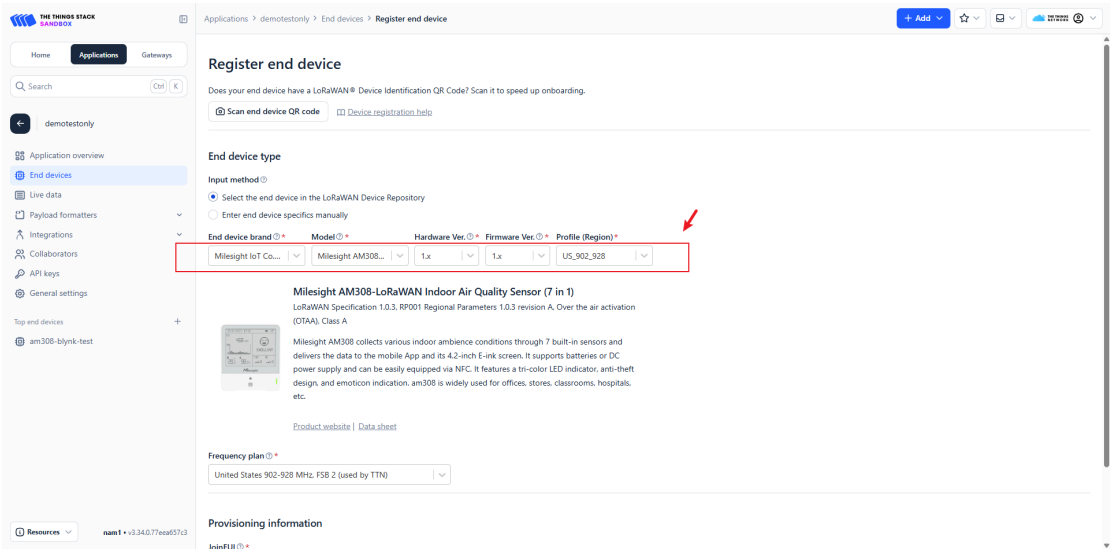



Now that the Application is created, we can proceed to add our sensor device , the AM308 used in this demo.

# 5. Add Device on TTN

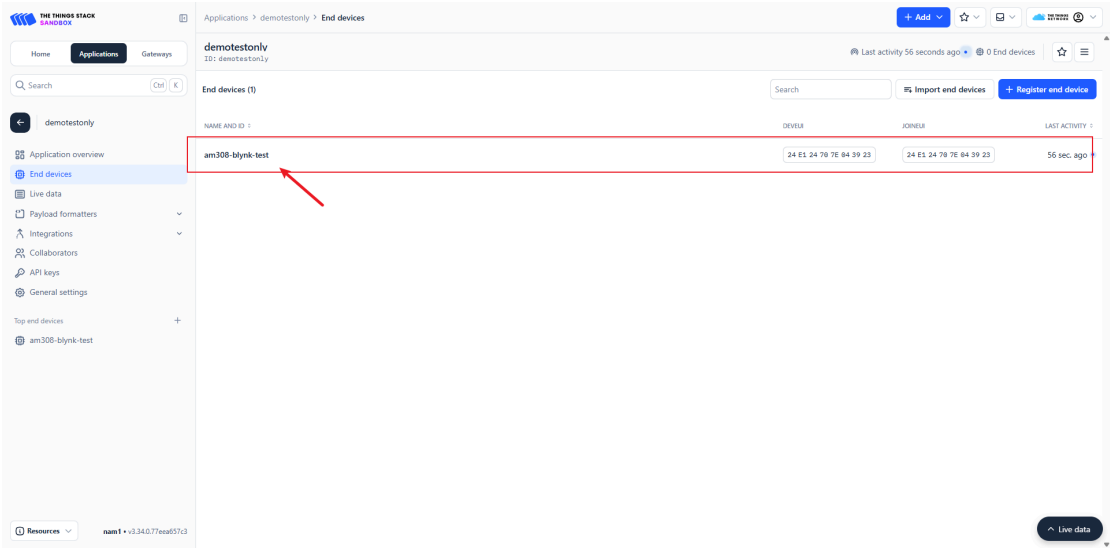
Follow the instructions as shown below:






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

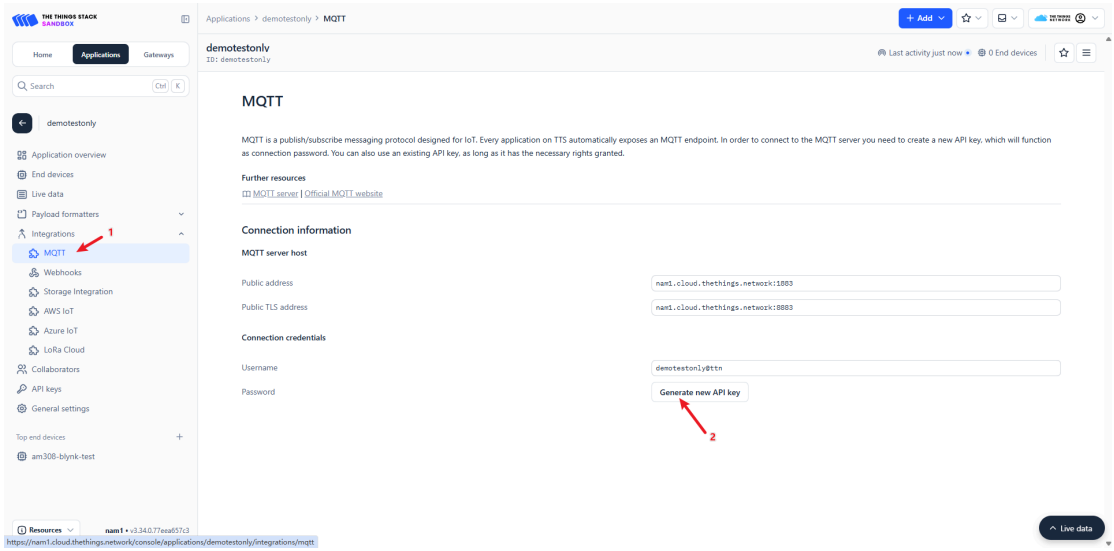
Once added, you will see the basic information of the device on TTN:




This concludes the device addition step on TTN.

# 6. Create MQTT Integration on TTN

Follow the steps below:




After completing the setup, you will see an automatically generated Key, which is very important. Copy and save it for later use.
Example of a typical key:

> NNSXS.RFW3YBYDVZQSWI62PDXFXIZETZXUHYORLRCPNLI.YY5OGALDDWUHSSNBJGHKCJPZCIESB2O5CHA7QUQY42SBPQUDPAKQ

Other important information to copy:

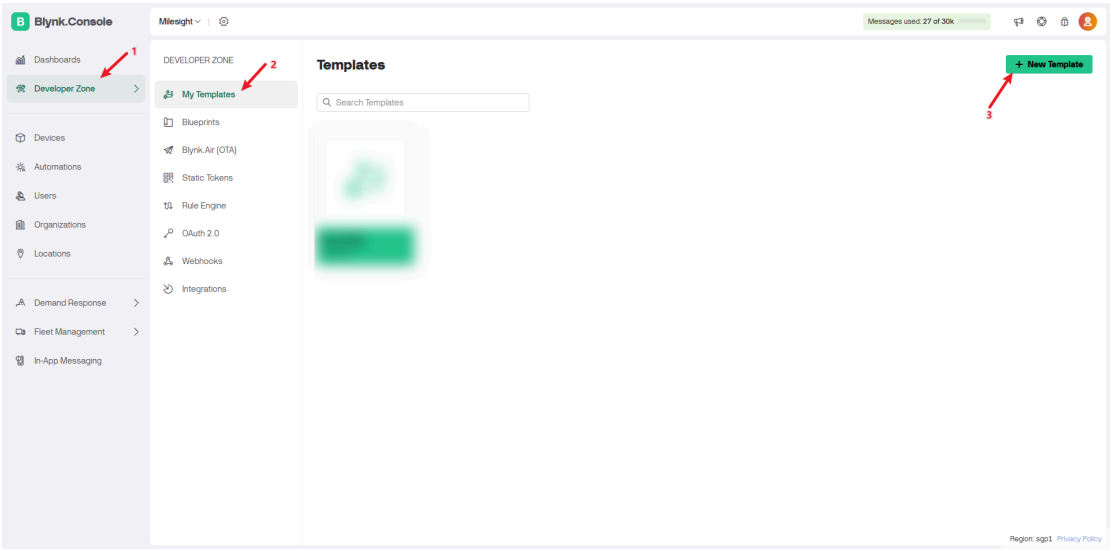
- **Public address:** nam1.cloud.thethings.network:1883
- **Username:** demotestonly@ttn

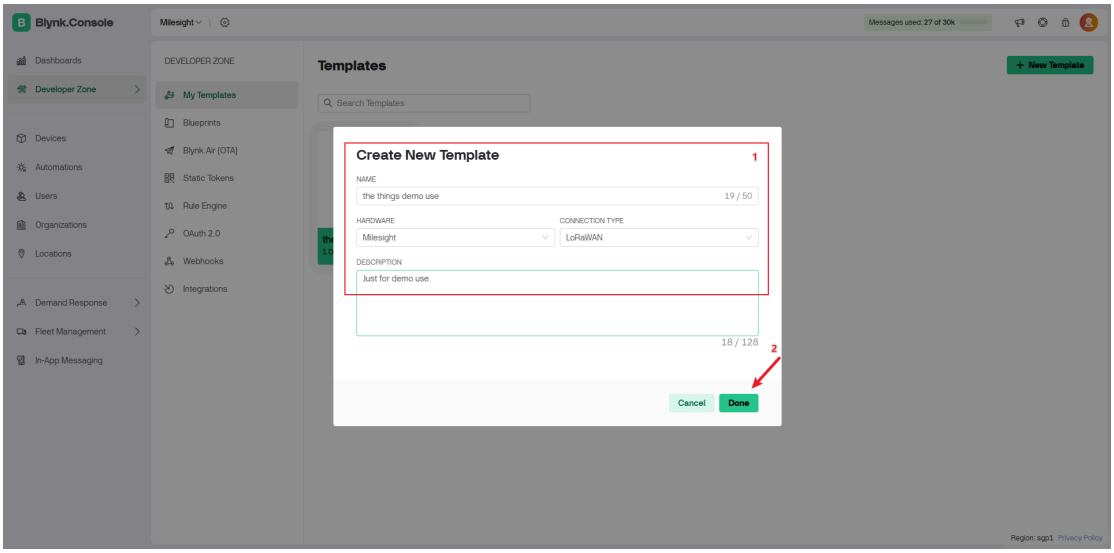
Now you have all necessary MQTT integration details for TTN.

**Note:** The key does not require additional permission configuration and can be used directly.

# 7. Create a Template on Blynk

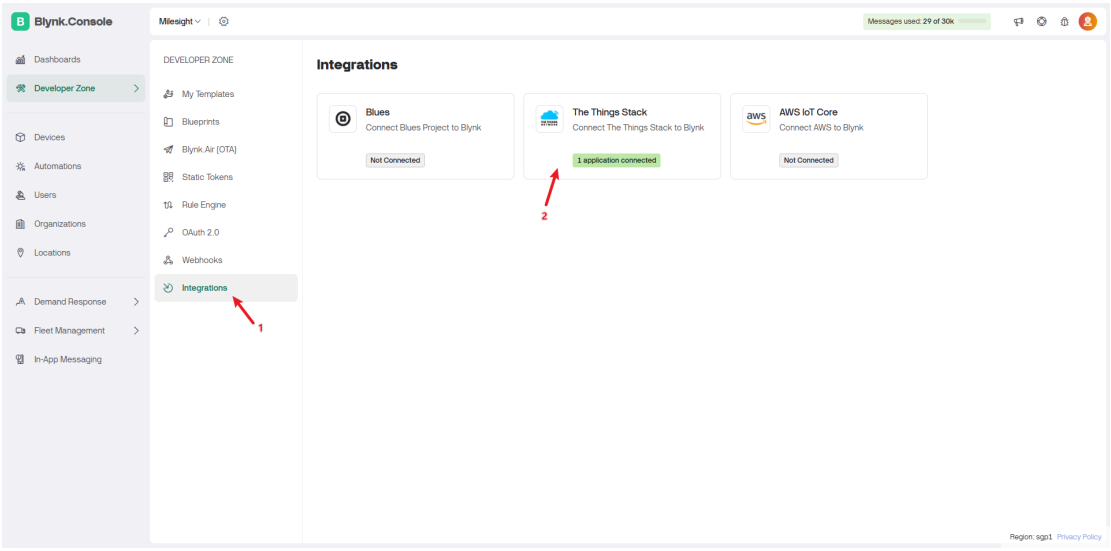
Create a template on the Blynk platform by following the steps shown below:



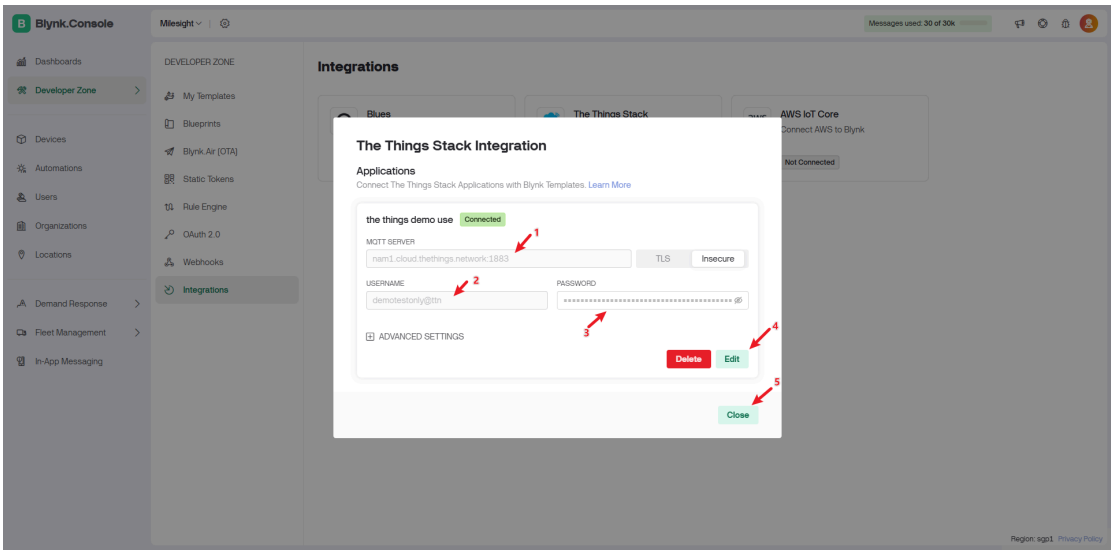




# 8. Configure TTN Parameters on Blynk

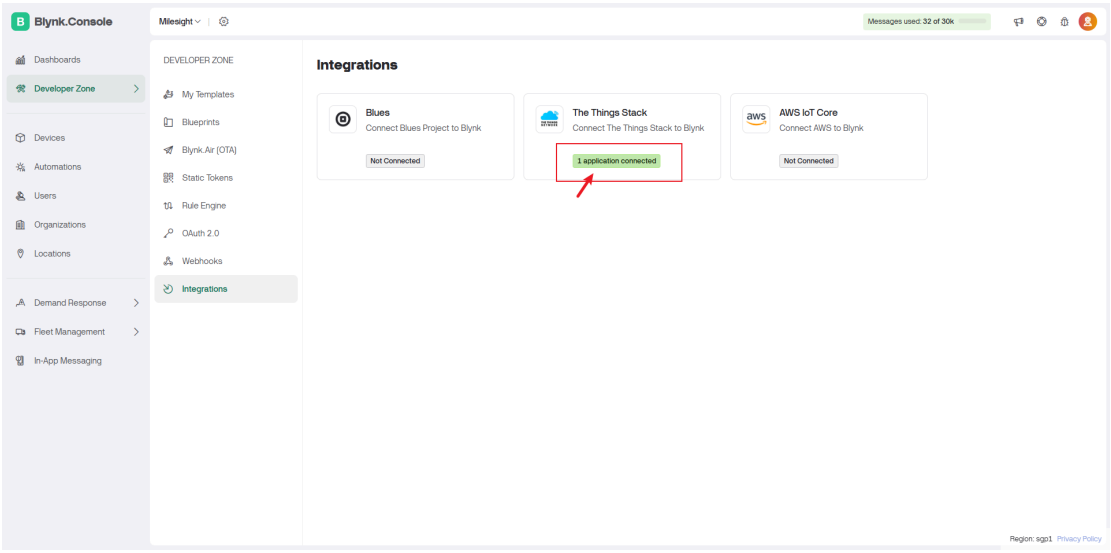
Now you can configure the TTN parameters in Blynk.
Follow the steps shown below:




In the popup interface, fill in the parameters acquired in **Step 6**, in order:



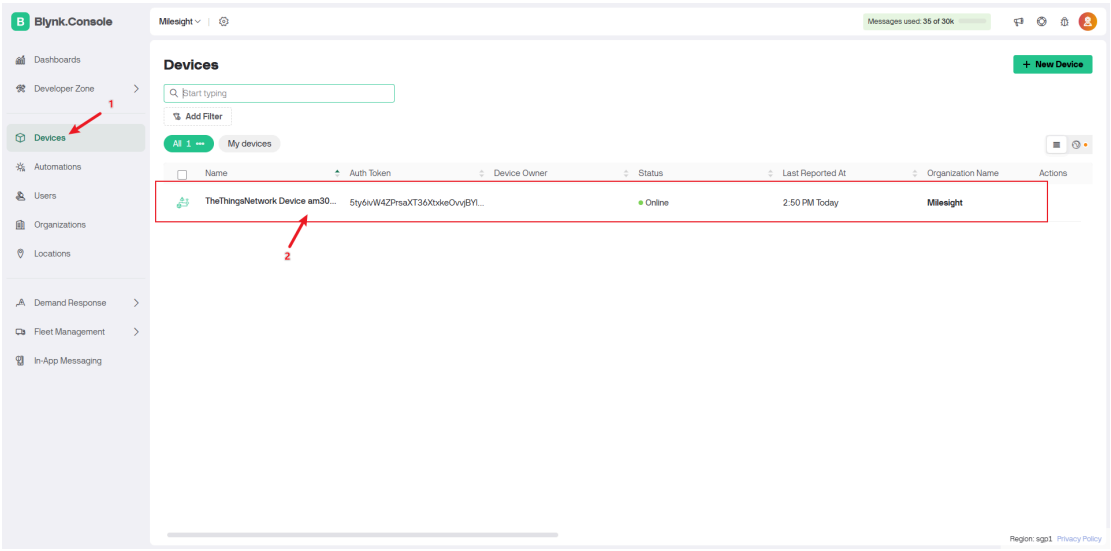

After saving, a green **Connected** status should appear, along with the data panel as shown below:




Now your TTN parameters are successfully configured in Blynk.

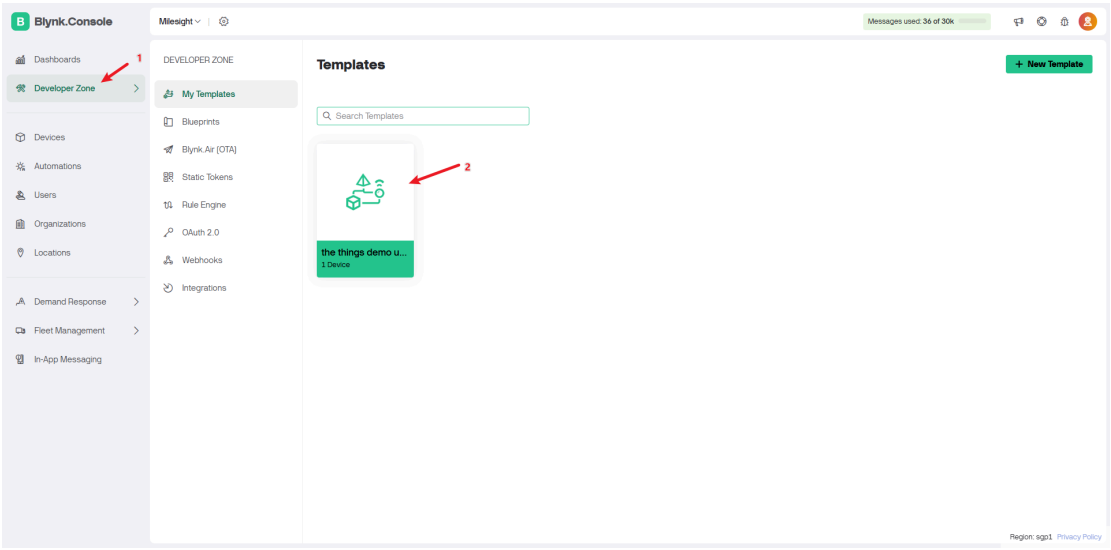
# 9. Device Auto-Creation

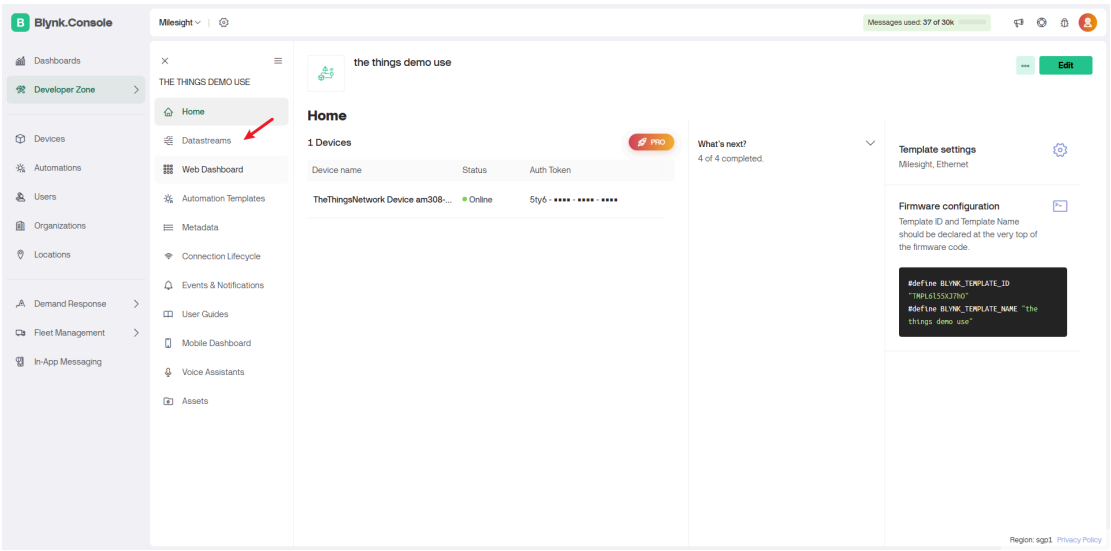
Go back to the TTN platform and observe the uplink data from the AM308 device. Once AM308 reports data again, Blynk will automatically create a device, as shown below:




# 10.Configure Device Template Parameters

First, define **Datastreams**, as shown below:


Blynk.Console
Milesight
Messages used: 36 of 30k
Dashboards
Developer Zone
Devices
Automations
Users
Organizations
Locations
Demand Response
Fleet Management
In-App Messaging
DEVELOPER ZONE
My Templates
Blueprints
Blynk.Air (OTA)
Static Tokens
Rule Engine
OAuth 2.0
Webhooks
Integrations
Templates
+ New Template
Search Templates
the things demo u...
1 Device
1
2
Region: sgp1 Privacy Policy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Dashboards
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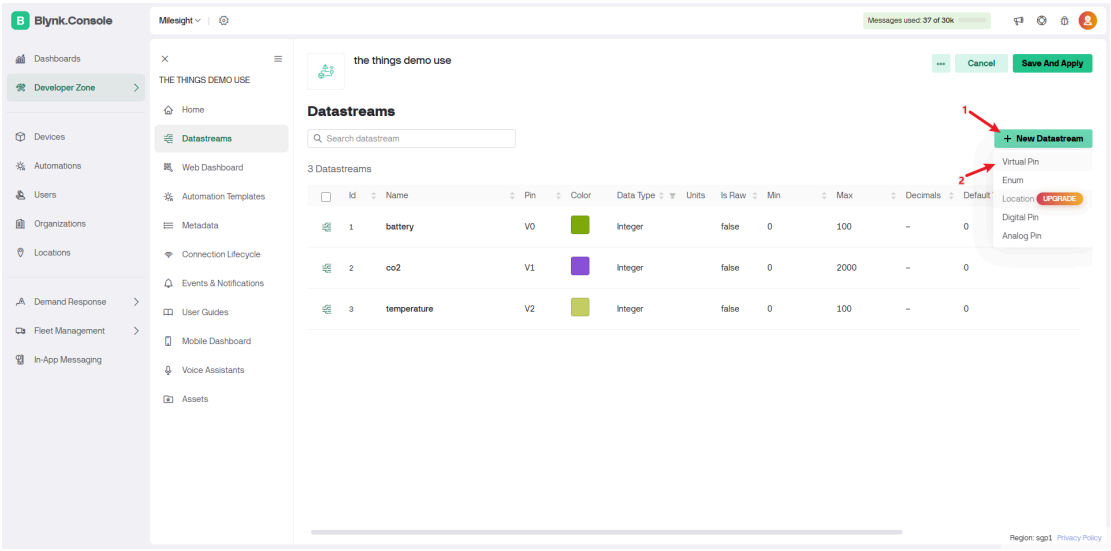
In-App Messaging
THE THINGS DEMO USE
Home
Datastreams
Web Dashboard
Automation Templates
Metadata
Connection Lifecycle
Events & Notifications
User Guides
Mobile Dashboard
Voice Assistants
Assets
the things demo use
Edit
Home
1 Devices
PRO
Device name
Status
Auth Token
TheThingsNetwork Device am308-...
Online
5ty6 - •••• - •••• - ••••
What's next?
4 of 4 completed.
Template settings
Milesight, Ethernet
Firmware configuration
Template ID and Template Name should be declared at the very top of the firmware code.
#define BLYNK_TEMPLATE_ID "TMPL6l5SXJ7hO"
#define BLYNK_TEMPLATE_NAME "the things demo use"
Region: sgp1 Privacy Policy


Blynk.Console
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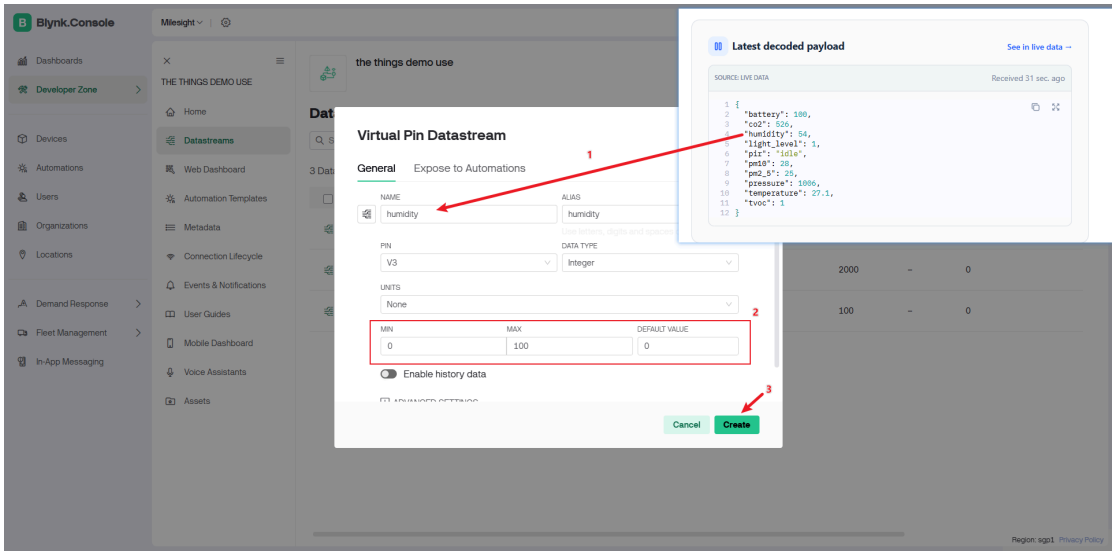
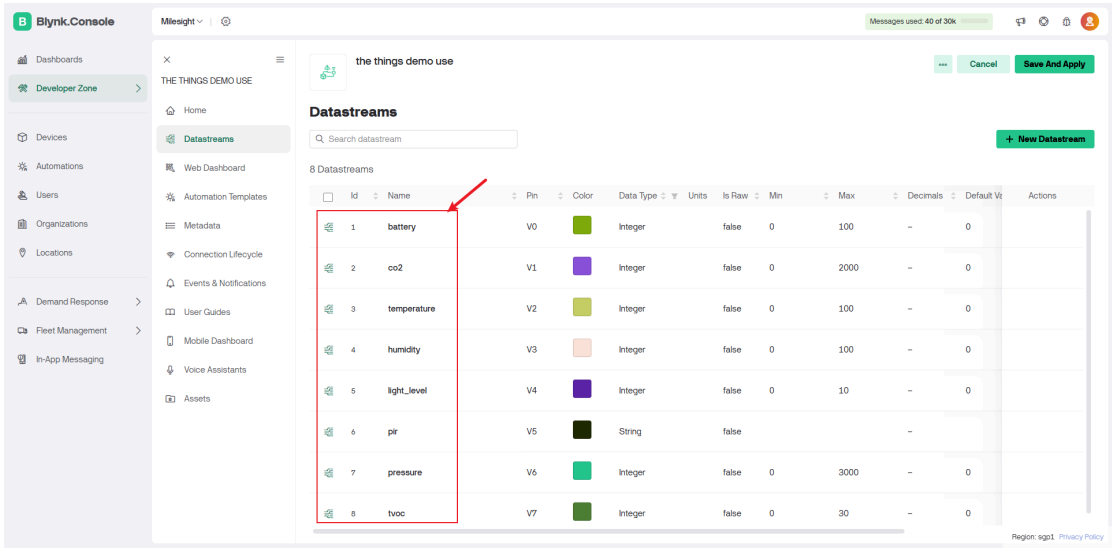
THE THINGS DEMO USE
Home
Datastreams
Web Dashboard
Automation Templates
Metadata
Connection Lifecycle
Events & Notifications
User Guides
Mobile Dashboard
Voice Assistants
Assets
the things demo use
Cancel
Save And Apply
Datastreams
Search datastream
+ New Datastream
Virtual Pin
Enum
Location
UPGRADE
Digital Pin
Analog Pin
3 Datastreams
Id
Name
Pin
Color
Data Type
Units
Is Raw
Min
Max
Decimals
Default
1 battery V0 Integer false 0 100 – 0
2 co2 V1 Integer false 0 2000 – 0
3 temperature V2 Integer false 0 100 – 0
1
2
Region: sgp1 Privacy Policy

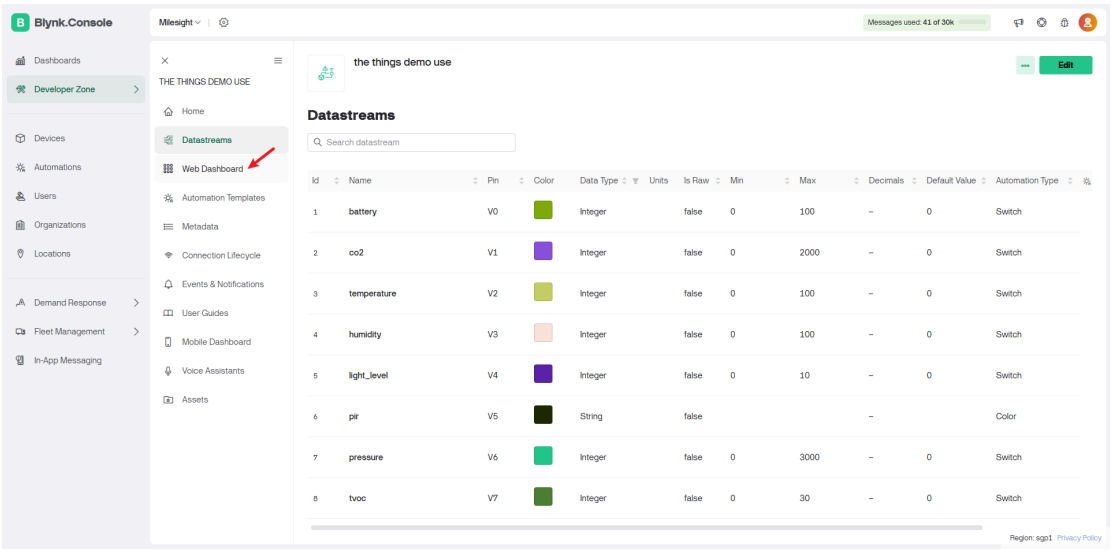


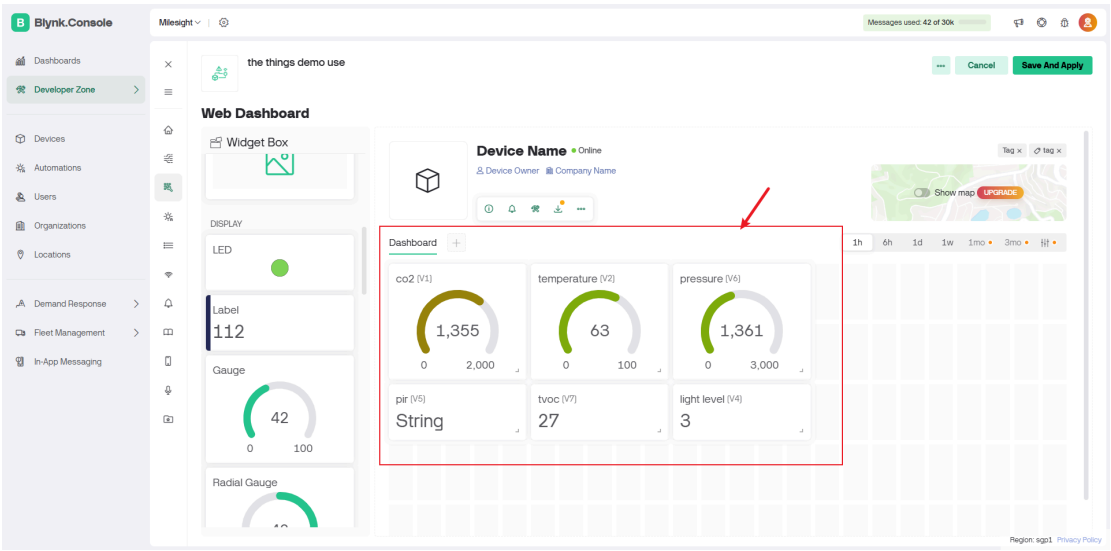

Using **humidity** as an example , make sure the field names match exactly with the data structure used by AM308 in TTN.

After all fields are configured, it should look like this:



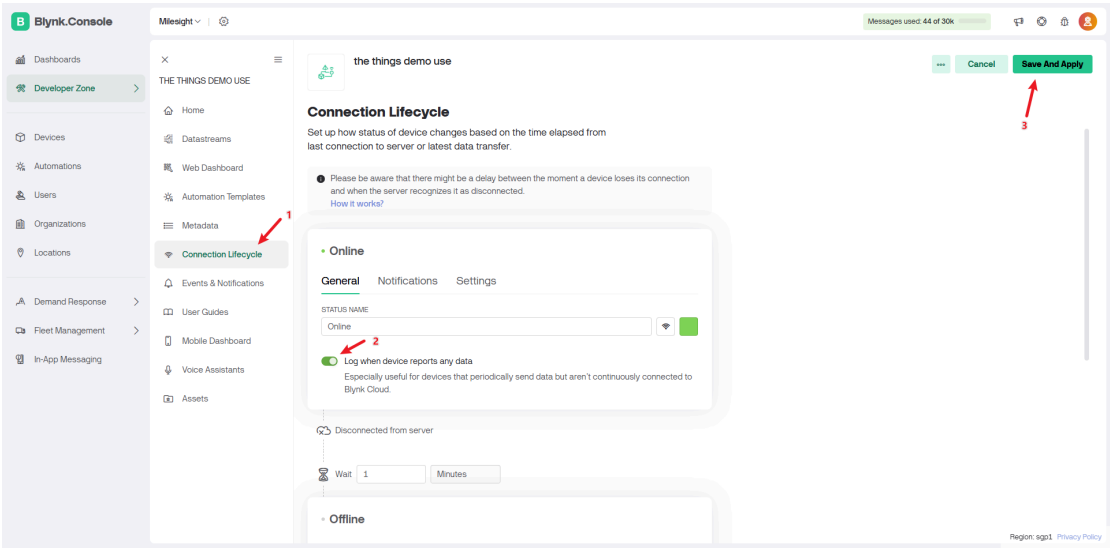

Next, continue configuring the **Web Dashboard** T emplate, following the steps below:



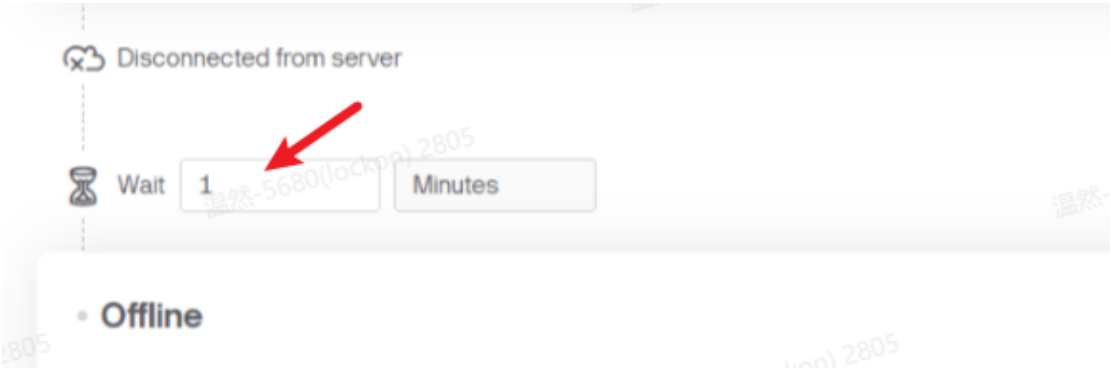




**Note:** At this point, the displayed data is not yet real device data.

Continue as shown:



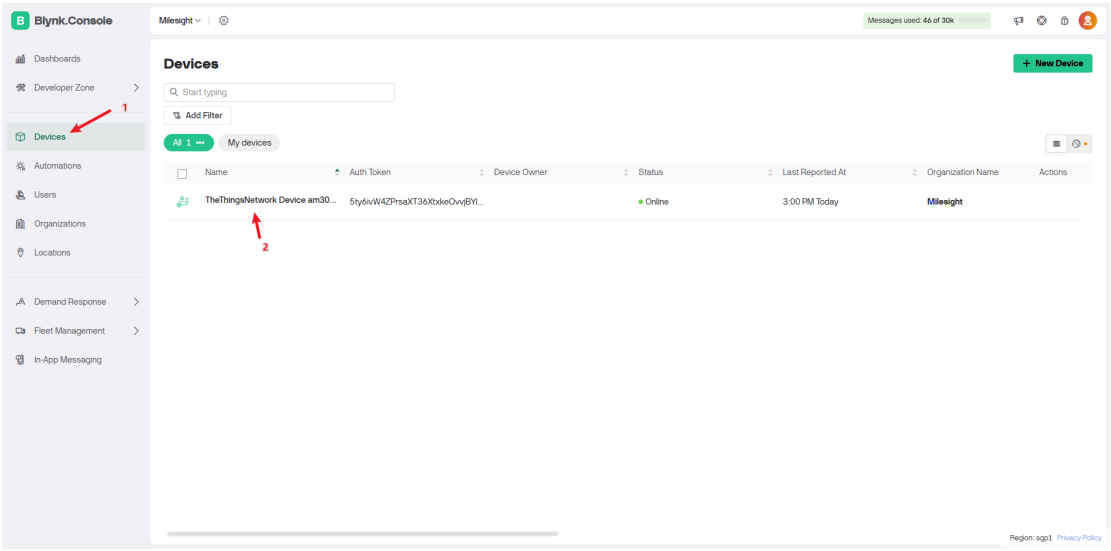
It should be noted that the parameter for the 1-minute **Wait** period should be adjusted according to the specific reporting interval of the sensor to avoid triggering false offline alerts due to device status changes.

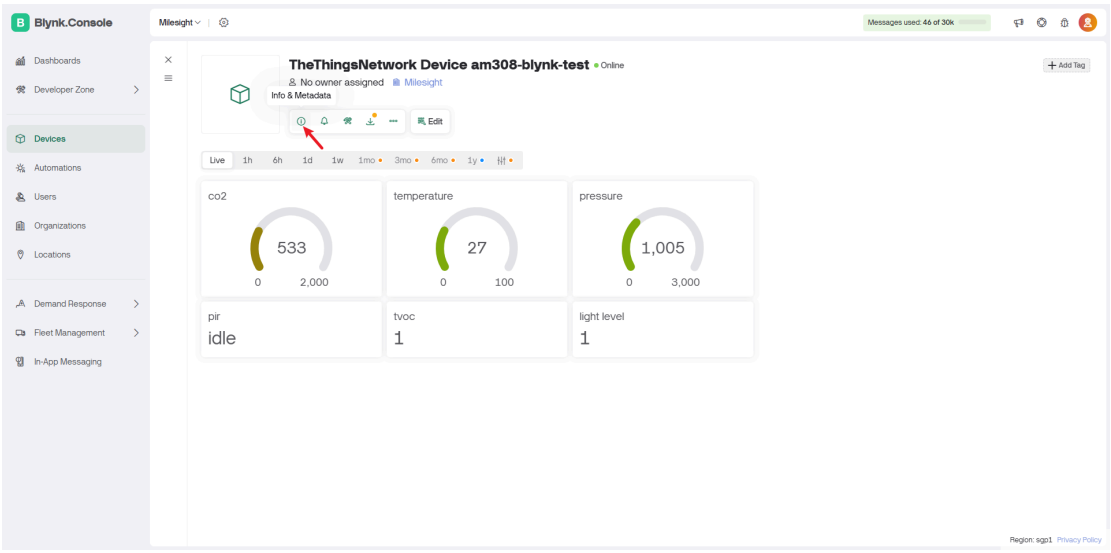



Now the device parameters are fully configured.

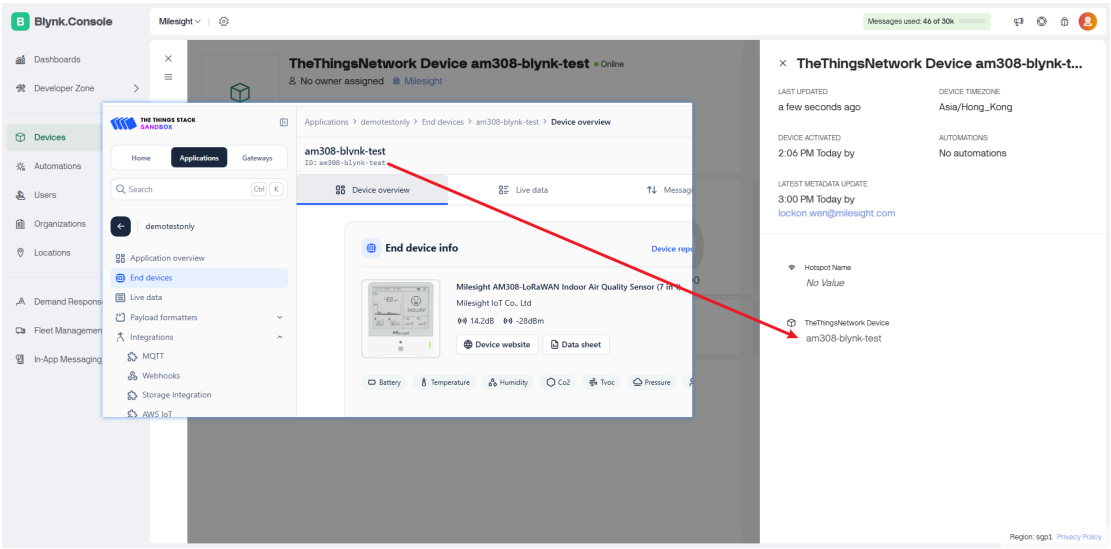
# 11.Adjust Device Parameters

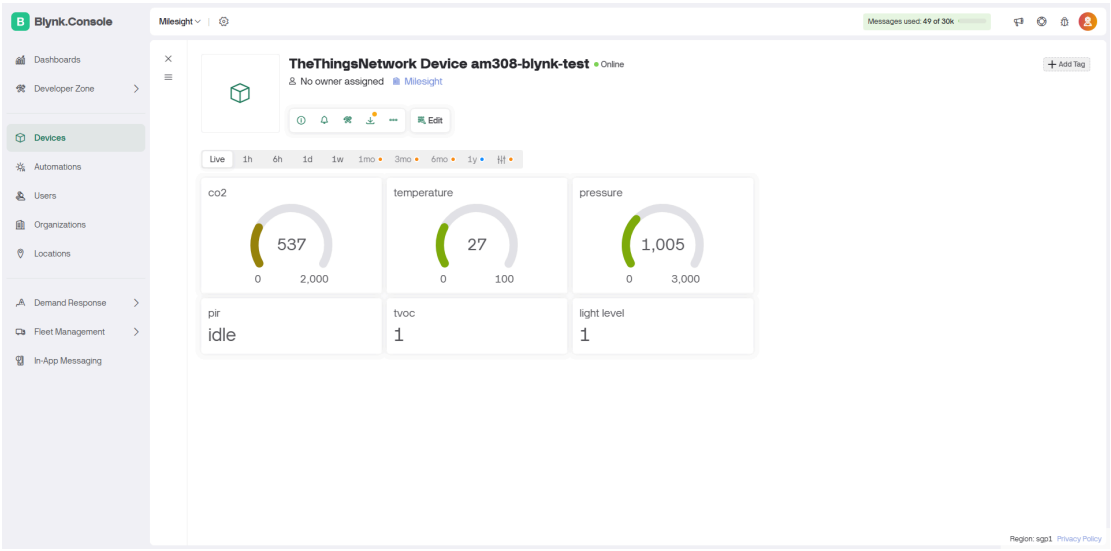
To properly display the data from AM308, perform the following parameter configuration:






As shown, fill in the **TheThingsStack Device ID**. Wait for 3~5 minutes, then refresh the page, and you should see the real-time data from AM308:



Please note that:

- In the **Devices** tab, users will see either real data or the default value set in the datastream. This will only change once the datastream is updated. Simulated data is visible only in the template, not in the real device data.
- If the device is automatically onboarded via **TTN** integration (once data is received by TTN, the device is automatically created on the Blynk side), there is no need to fill in the **TheThingsStack Device** field under the **Info & Metadata** tab.
- However, for manual onboarding, users should create the device from a template and manually enter the **TheThingsStack Device** field, as described at steps 10.
- Users must decide whether to use automatic or manual onboarding and follow the respective instructions.

That's the complete process.

-END-