



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



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:



Follow the steps and fill in the necessary details.

B

Profile

Fill in your personal data

FIRST NAME 1

Milesight-Demo

Back to password creation Done 2

Privacy Policy

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:

Milesight

admin

General Radios Advanced Custom Traffic

General Setting

Gateway EUI: 24E124FFFEFA3300

Gateway ID: 24e124fffe1111

Frequency-Sync: Disabled

Data Retransmission: ☐

Multi-Destination

ID	Enable	Type	Server Address	Connect Status	Operation
0	Disabled	Embedded NS	localhost	Disconnected	<input checked="" type="checkbox"/> <input type="checkbox"/>
1	Disabled	Semtech		Disconnected	<input type="checkbox"/> <input type="checkbox"/>
2	Enabled	Semtech	nam1.cloud.thethings.network	Connected	<input checked="" type="checkbox"/> <input type="checkbox"/>

Packet Filters

Proprietary Message Filter: ☐

Filters by NetID: White List

Filters by JoinEUI: White List To

Filters by DevEUI: White List To

The screenshot shows the TTN Gateway overview page for gateway 45.211-lockon. The URL bar at the top shows `nam1.cloud.thethings.network/console/gateways/24e124ffefa1111`. The page is divided into several sections:

- General information:** Gateway ID (24e124ffefa1111), Gateway EUI (24 E1 24 FF FE FA 11 11), Frequency plan (United States 902-928 MHz, FSB 2 (used by TTN)), and Created at (Feb 28, 2025 16:26:29).
- Network settings:** A list of settings including Require authenticated connection (Disabled), Public status (Enabled), Public location (Enabled), Packet Broker forwarding (Enabled), Status location updates (Disabled), and Enforce duty cycle (Enabled).
- Gateway status:** Shows 30 day uptime (183,848), Roundtrip times (ms) (195.61ms), and Connection stats (183,848 up, 206 down, 199 Ack'd).
- Location:** A section for location data, currently showing "No location yet".

Red arrows point to the URL bar and the "Last activity just now" status indicator in the top right corner.

4. Create an Application on TTN

Follow the steps shown in the image below:

The screenshot shows the TTN Applications list page. The page has a sidebar with navigation links (Home, Applications, Gateways) and a main content area. The main content area displays a table of applications:

NAME AND ID	DEVICES	CREATED IN
[Redacted]	1	3 days ago
[Redacted]	1	3 days ago
[Redacted]	0	7 days ago
[Redacted]	0	13 days ago
[Redacted]	0	17 days ago
[Redacted]	1	Jan 9, 2025

A red arrow points to the "Add application" button in the top right corner of the page.

The Things Stack
Applications > Create application

Home Applications Gateways

Search [Ctrl] [K]

Top applications +

Show more

Resources nam1 • v3.34.0.77ea057c3

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 * demotestonly

Application name demotestonly

Description
Description for my new application

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

Create application

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:

The Things Stack
Applications > demotestonly > End devices

Home Applications Gateways

Search [Ctrl] [K]

demotestonly

Application overview

End devices

Live data

Payload formatters

Integrations

Collaborators

API keys

General settings

Top end devices +

am308-blynk-test

Resources nam1 • v3.34.0.77ea057c3

demotestonly
ID: demotestonly

Last activity 21 seconds ago • 0 End devices

End devices (1)

NAME AND ID : DEVELA JOINER LAST ACTIVITY :

Import end devices

+ Register end device

Live data

Register end device

Does your end device have a LoRaWAN® Device Identification QR Code? Scan it to speed up onboarding.

[Scan end device QR code](#) [Device registration help](#)

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)

Mulesight IoT Co... Mulesight AM308... 1.x 1.x US_902_928

Mulesight 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

Mulesight 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 emoticon indication. am308 is widely used for offices, stores, classrooms, hospitals, etc.

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

Frequency plan

United States 902-928 MHz, F5B 2 (used by TTN)

Provisioning information

JoinEUI

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

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

End devices (1)

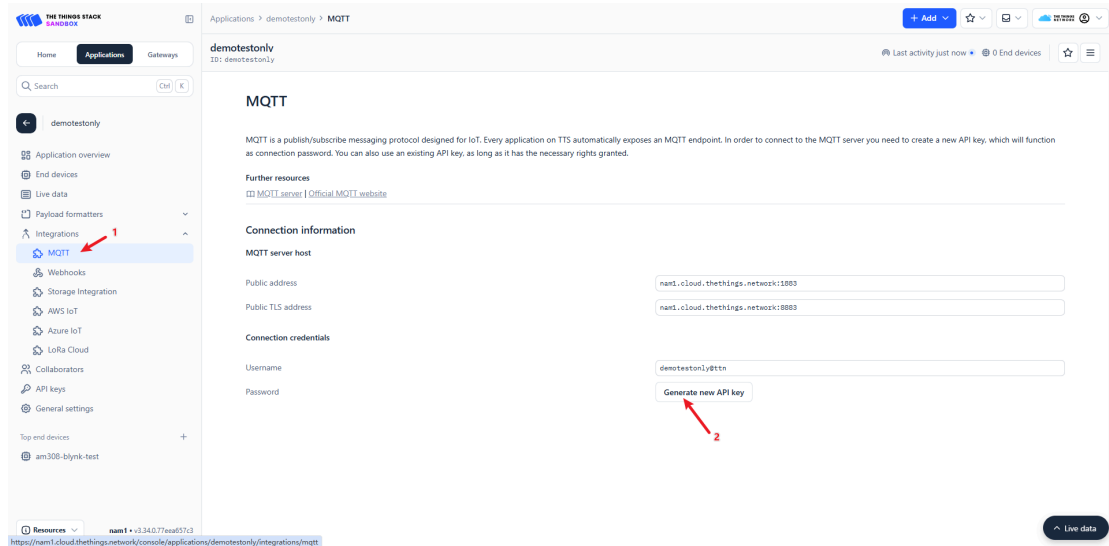
NAME AND ID	DEVEUI	JOINEUI	LAST ACTIVITY
am308-blynk-test	24 E1 24 78 7E 84 39 23	24 E1 24 78 7E 84 39 23	56 sec. ago

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.RFW3YBYDVZQSWI62PDXFIZETZXUHYORLRCPNLI.YY5OGALDDWUHSSNBJG
HKCJPZCIESB2O5CHA7QUQY42SBPQUDDPAKQ
```

Other important information to copy:

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

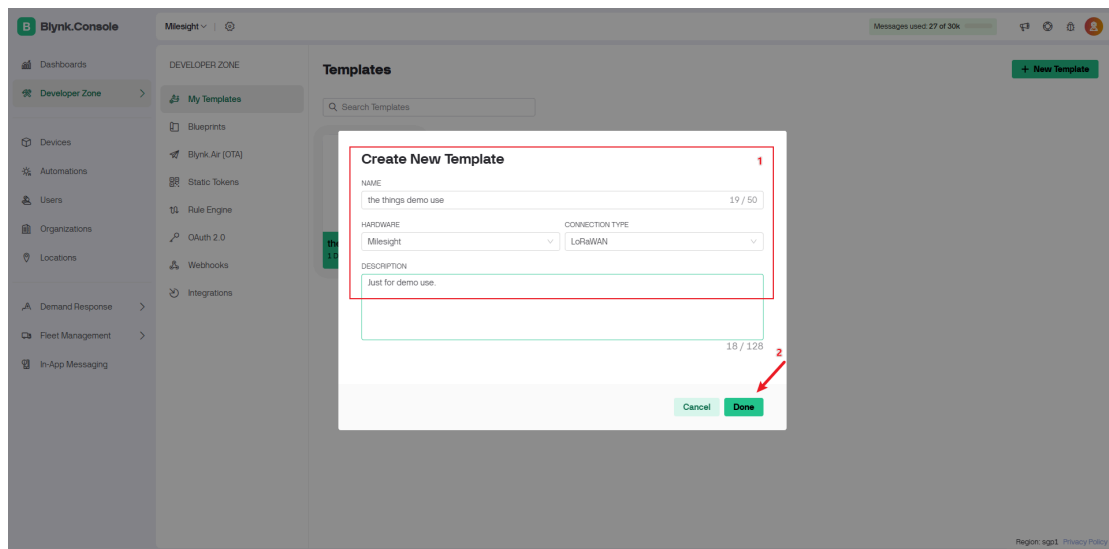
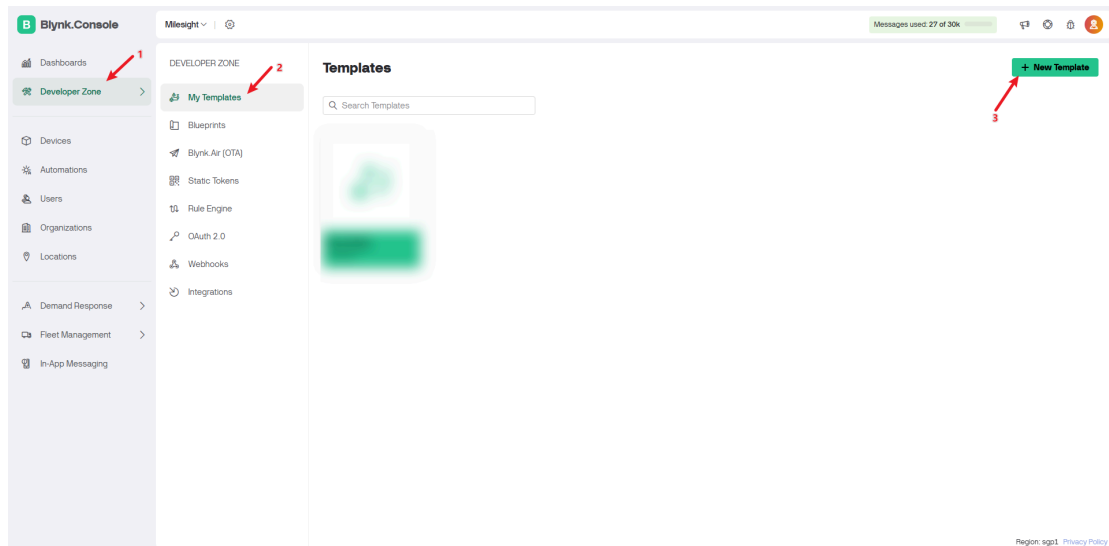
Now you have all necessary MQTT integration details for TTN.

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

7. Create a Template on Blynk

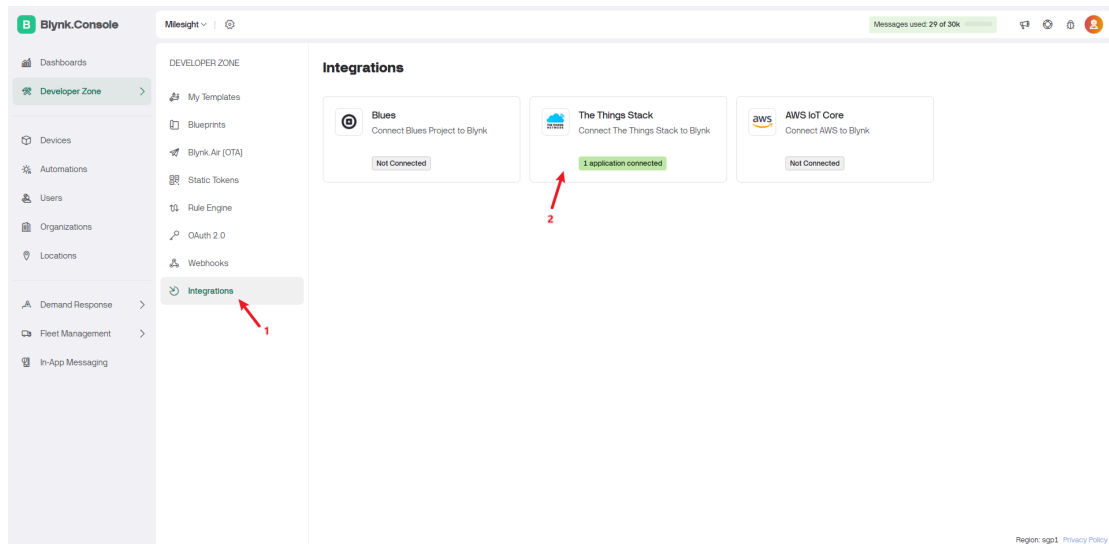
Create a template on the Blynk platform by following the steps shown below:



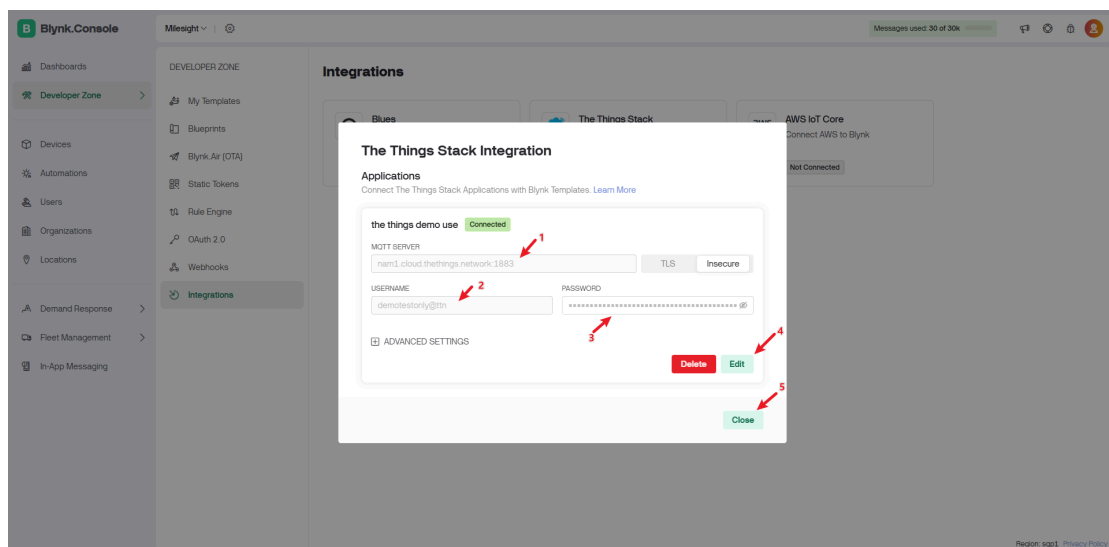


8. Configure TTN Parameters on Blynk

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

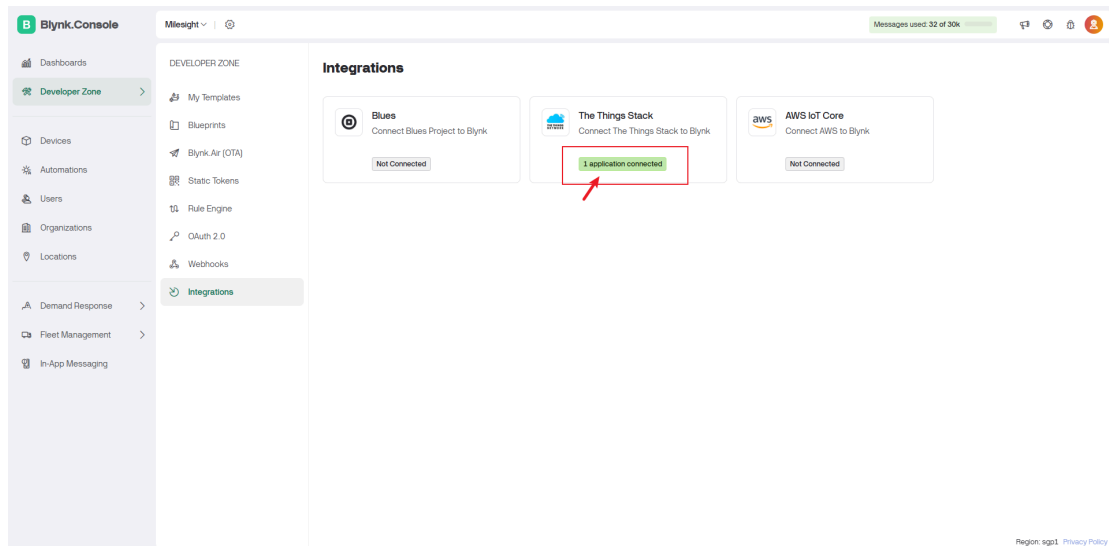


In the popup interface, fill in the parameters acquired in **Step 6**, in order:



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

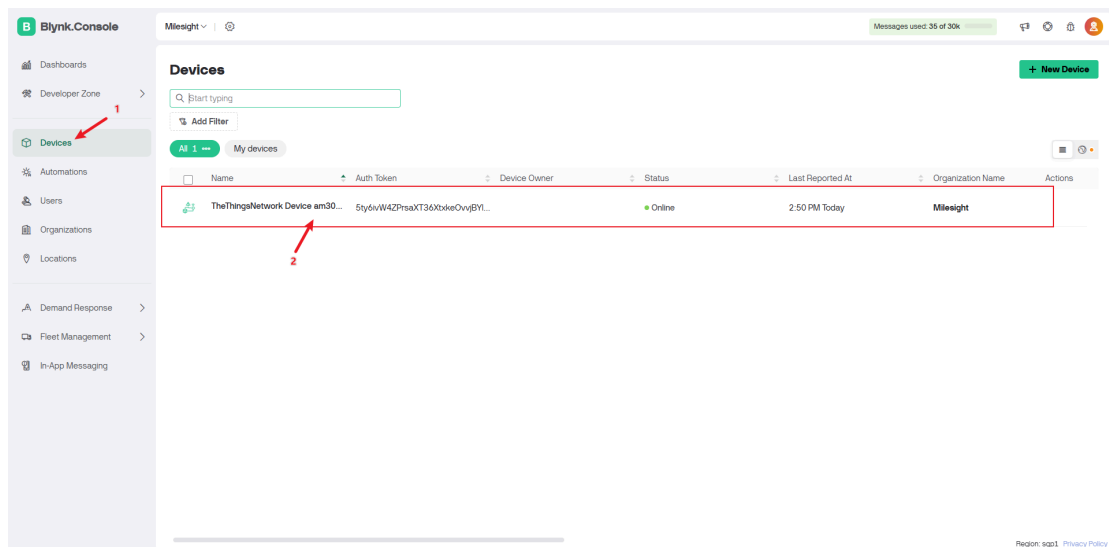




Now your TTN parameters are successfully configured in Blynk.

9. Device Auto-Creation

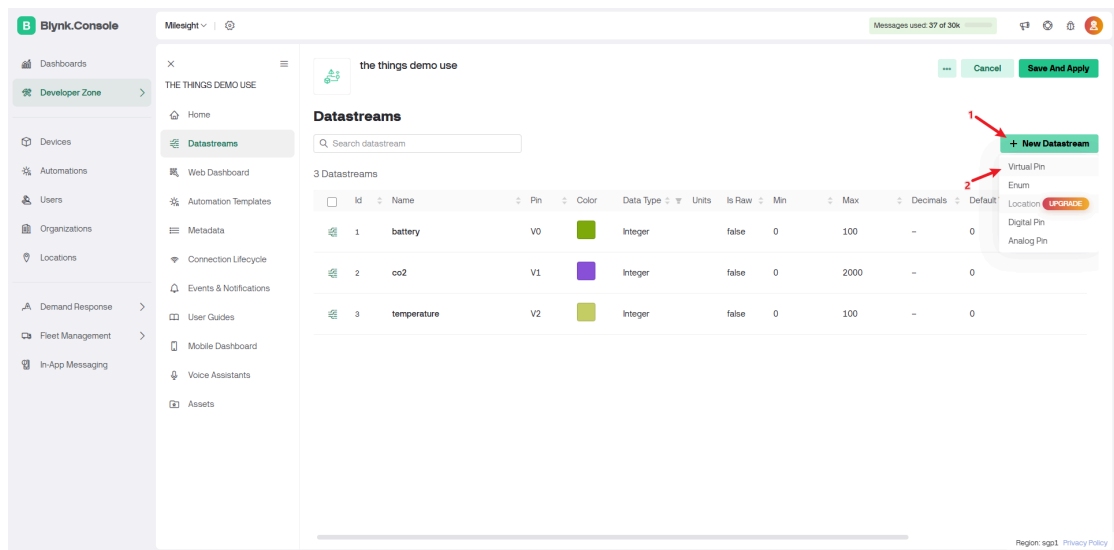
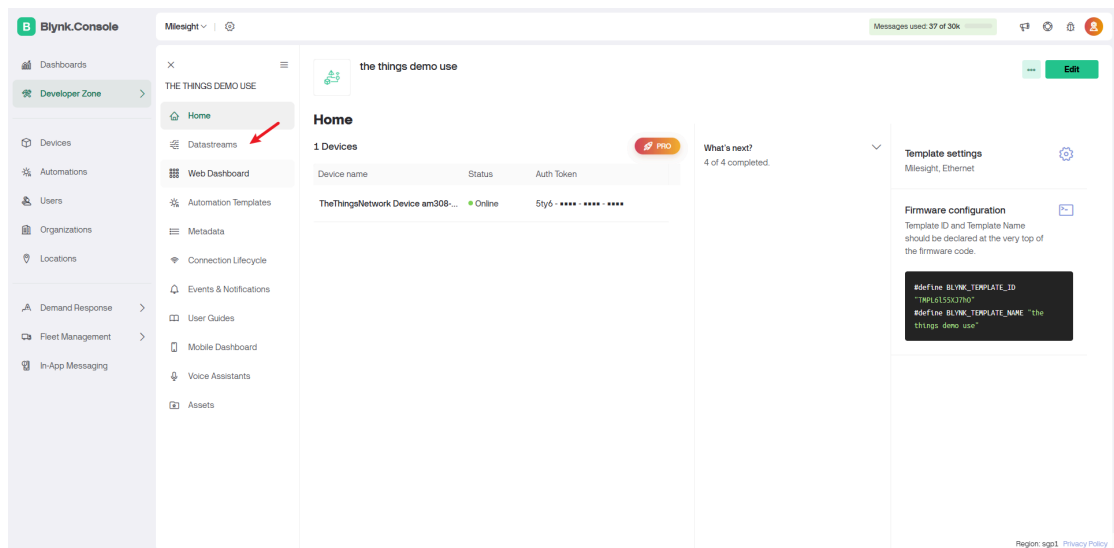
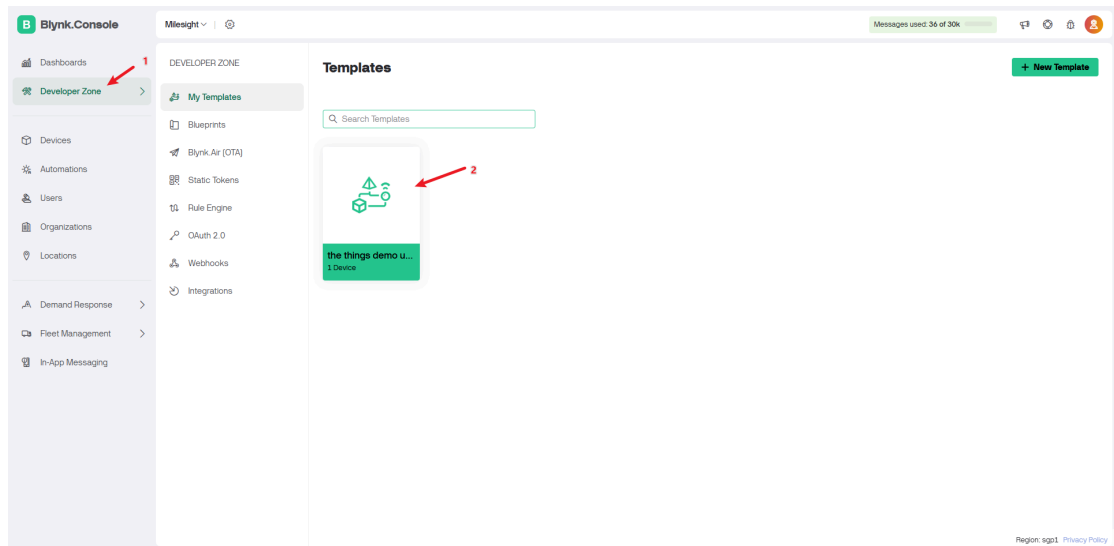
Go back to the TTN platform and observe the uplink data from the AM308 device. Once AM308 reports data again, Blynk will automatically create a device, as shown below:

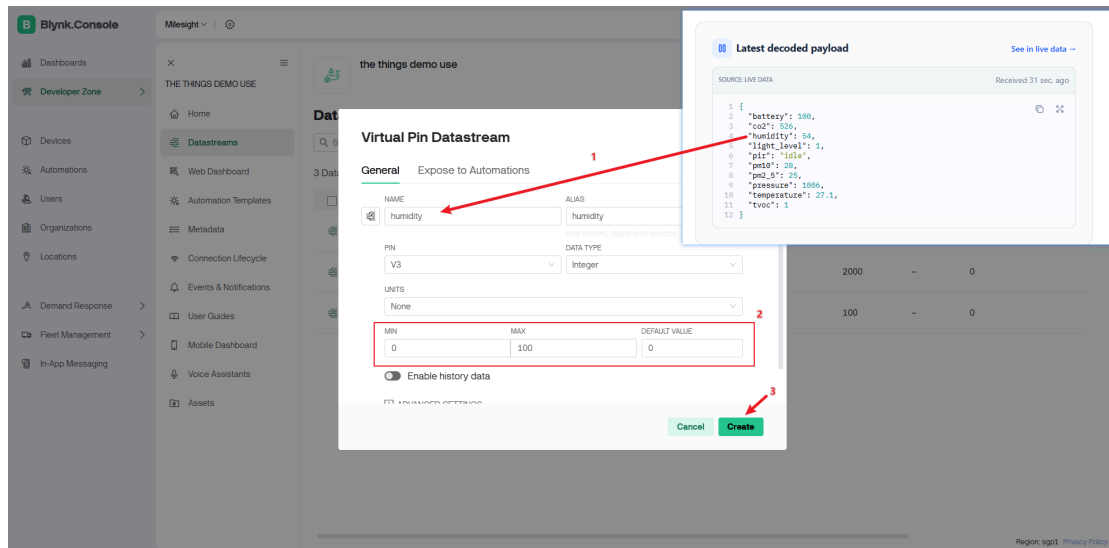


10. Configure Device Template Parameters

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

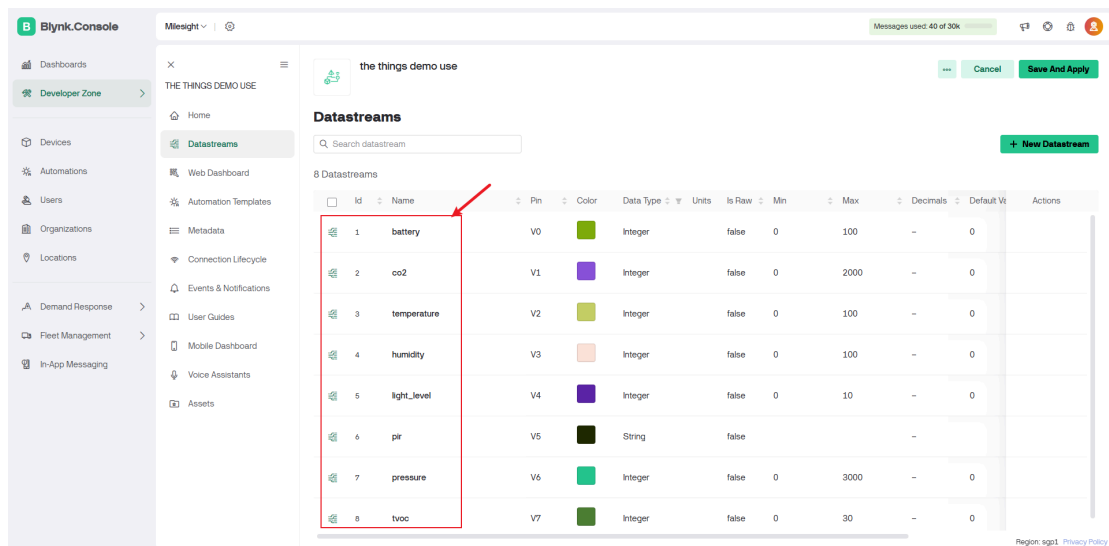






Using **humidity** as an example , make sure the field names match exactly with the data structure used by AM308 in TTN.

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



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

Blynk.Console

the things demo use

Messages used: 41 of 30k

Developer Zone

THE THINGS DEMO USE

Home

Datastreams

Web Dashboard

Automation Templates

Metadata

Connection Lifecycle

Events & Notifications

User Guides

Mobile Dashboard

Voice Assistants

Assets

Demand Response

Fleet Management

In-App Messaging

Datastreams

Search datastream

Id	Name	Pin	Color	Data Type	Units	Is Raw	Min	Max	Decimals	Default Value	Automation Type
1	battery	V0	Green	Integer		false	0	100	-	0	Switch
2	co2	V1	Purple	Integer		false	0	2000	-	0	Switch
3	temperature	V2	Yellow	Integer		false	0	100	-	0	Switch
4	humidity	V3	Orange	Integer		false	0	100	-	0	Switch
5	light_level	V4	Purple	Integer		false	0	10	-	0	Switch
6	pir	V5	Black	String		false			-		Color
7	pressure	V6	Green	Integer		false	0	3000	-	0	Switch
8	tvoc	V7	Green	Integer		false	0	30	-	0	Switch

Region: sg1 Privacy Policy

Blynk.Console

the things demo use

Messages used: 42 of 30k

Developer Zone

THE THINGS DEMO USE

Home

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Connection Lifecycle

Events & Notifications

User Guides

Mobile Dashboard

Voice Assistants

Assets

Demand Response

Fleet Management

In-App Messaging

Web Dashboard

Widget Box

LED

Label

112

Gauge

42

Radial Gauge

Device Name Online

Device Owner Company Name

Dashboard

co2 (V1)

1,355

temperature (V2)

63

pressure (V6)

1,361

pir (V5)

String

tvoc (V7)

27

light level (V4)

3

1h 6h 1d 1w 1mo 3mo

Region: sg1 Privacy Policy

Note: At this point, the displayed data is not yet real device data.
Continue as shown:

Blynk.Console

the things demo use

Messages used: 44 of 30k

Developer Zone

THE THINGS DEMO USE

Home

Datastreams

Web Dashboard

Automation Templates

Metadata

Connection Lifecycle

Events & Notifications

User Guides

Mobile Dashboard

Voice Assistants

Assets

Demand Response

Fleet Management

In-App Messaging

Connection Lifecycle

Set up how status of device changes based on the time elapsed from last connection to server or latest data transfer.

Please be aware that there might be a delay between the moment a device loses its connection and when the server recognizes it as disconnected.
[How it works?](#)

Online

General Notifications Settings

STATUS NAME

Online

Log when device reports any data
Especially useful for devices that periodically send data but aren't continuously connected to Blynk Cloud.

Disconnected from server

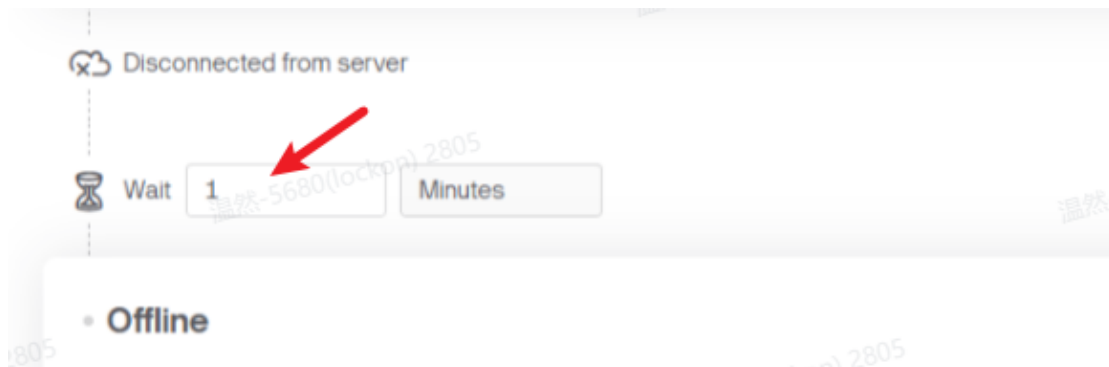
Wait 1 Minutes

Offline

Cancel Save And Apply

Region: sg1 Privacy Policy

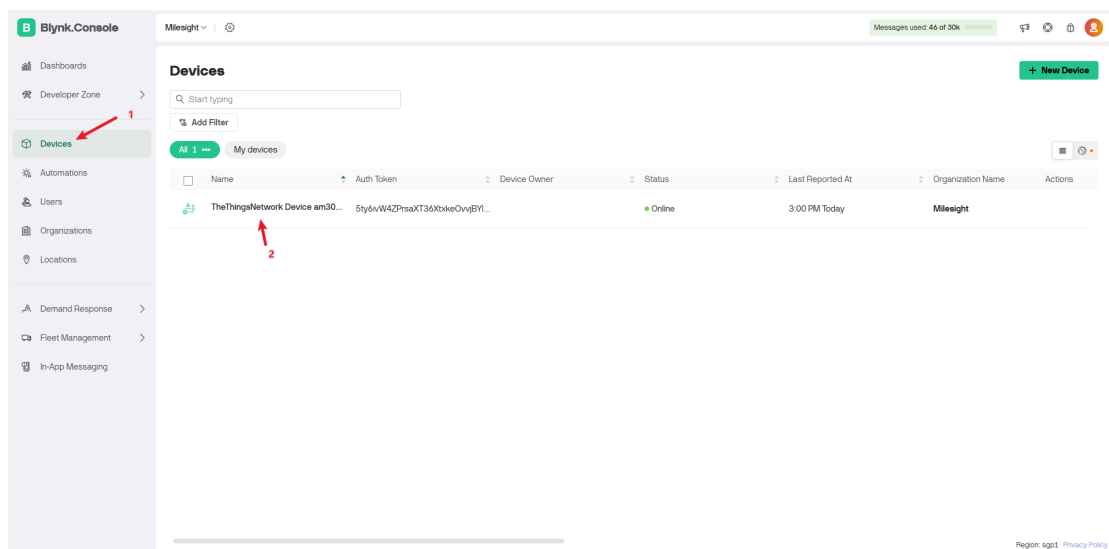
It should be noted that the parameter for the 1-minute **Wait** period should be adjusted according to the specific reporting interval of the sensor to avoid triggering false offline alerts due to device status changes.

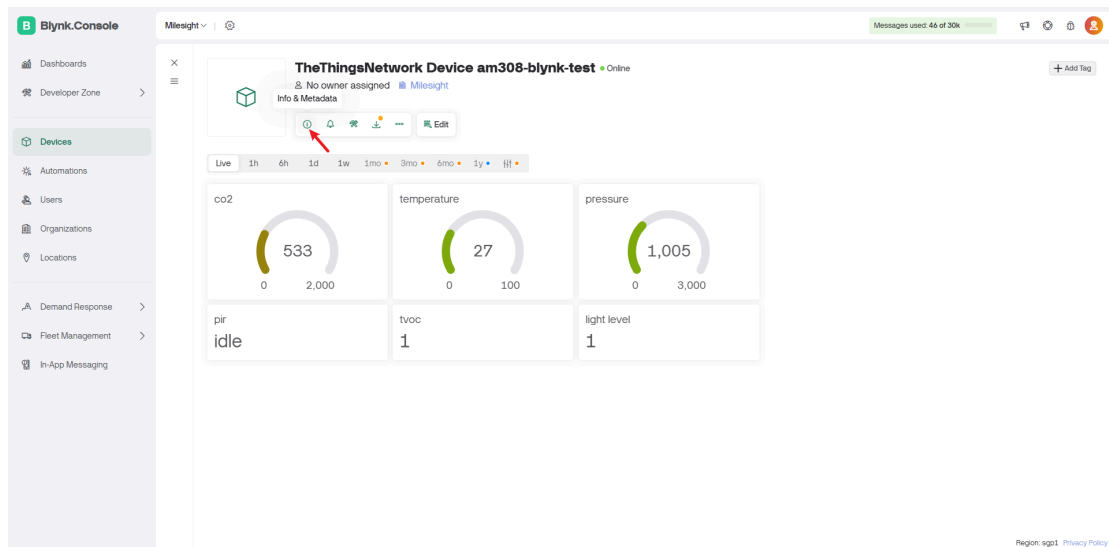


Now the device parameters are fully configured.

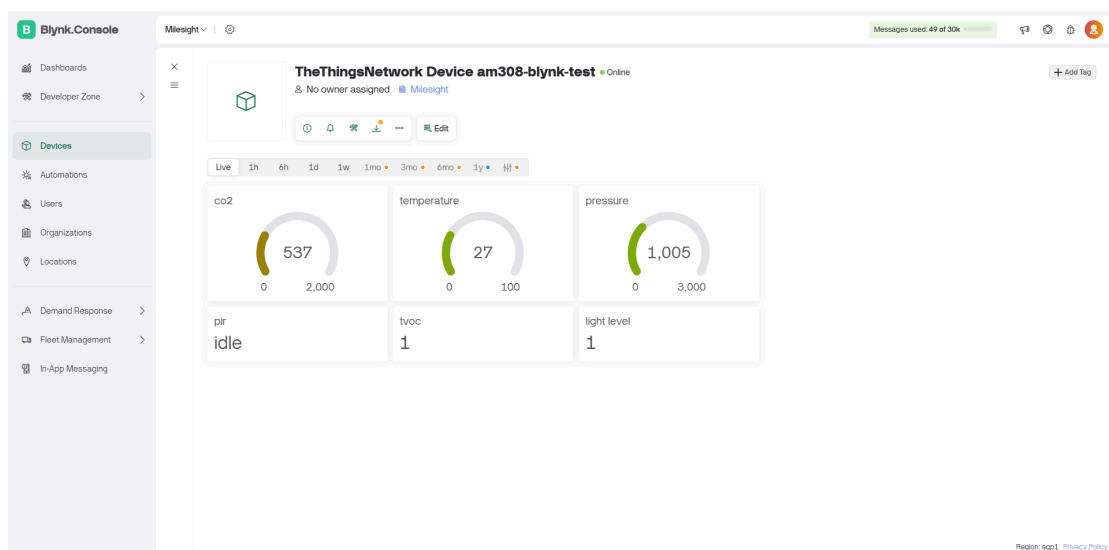
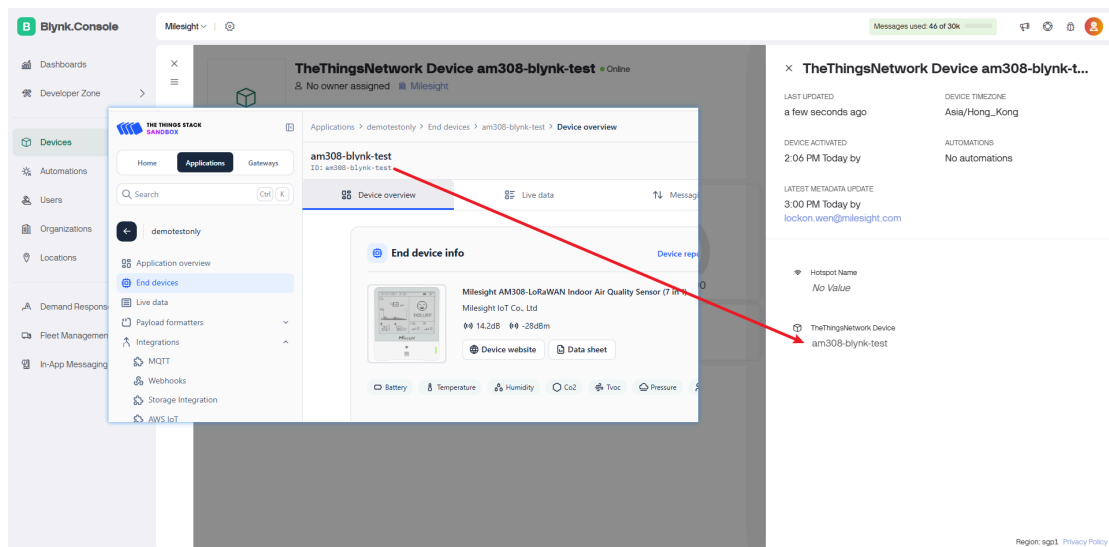
11.Adjust Device Parameters

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-

