



How to Integrate Milesight Gateway and Devices with Akenza Platform



Version Change Log			
Version	Revision Date	Revision Details	Revised By
V1.0	20250310	Initial	Lockon



Preface

Akenza AG is a Switzerland-based company headquartered in Zurich, founded in 2017. It specializes in providing a low-code Internet of Things (IoT) platform designed to help businesses connect, control, and manage various IoT devices. The platform supports applications in smart cities, industrial automation, and environmental monitoring. Akenza's cloud solution enables users to quickly integrate different types of sensors and network protocols.

This document provides a guide on how to use the UG65 gateway to connect to the Akenza platform via a third-party TTN platform. The AM308 device is used as an example, along with a basic rule configuration.

1. Prerequisites

- **Gateway Model:** UG56/UG65/UG67
- **Sensor Model:** AM308 (firmware v1.6)
- **Frequency Band Used in this Demo:** 915M (Channels 8-15)

2. Adding the Gateway to The Things Network (TTN) Platform

Refer to the article <[Milesight Gateway -The Things Stack\(TTN\) Integration via Basic Station](#)> for configuration. After completion, you should see:

- Gateway configuration screenshot and status:

The screenshot shows the Milesight gateway configuration interface. The left sidebar has navigation links: Status, Packet Forwarder, Network Server, Protocol Integration, Network, System, Maintenance, and APP. The main area has tabs: General, Radios, Advanced, Custom, and Traffic. Under General, there are sections for General Setting (Gateway EUI: 24E124FFFEFA3300, Gateway ID: 24E124FFFEFA1111, Frequency-Sync: Disabled, Data Retransmission: off), Multi-Destination (a table with three rows: ID 0 (Disabled, Embedded NS, localhost, Disconnected), ID 1 (Disabled, Semtech, localhost, Disconnected), and ID 2 (Enabled, Semtech, nam1.cloud.thethings.network, Connected)), and Packet Filters (Proprietary Message Filter, Filters by NetID, Filters by JoinEUI, Filters by DevEUI). A red arrow points from the text "nam1.cloud.thethings.network" in the table to the IP address field in the Packet Filters section.

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

- TTN platform showing the gateway status, confirming that the gateway is online and reporting data properly.

3. Creating an Application

Follow the instructions as shown in the figures:

Fill in the required information in the pop-up window:

The screenshot shows the 'Create application' page of The Things Stack interface. The 'Application ID' field is populated with 'akenza-ms-demo' and has a red arrow pointing to it. The 'Application name' field is also populated with 'akenza-ms-demo' and has a red arrow pointing to it. Below these fields is a 'Description' section with the placeholder 'Description for my new application'. At the bottom of the form is a blue 'Create application' button.

Note: The **Application ID** must be unique. If it already exists, it cannot be used.

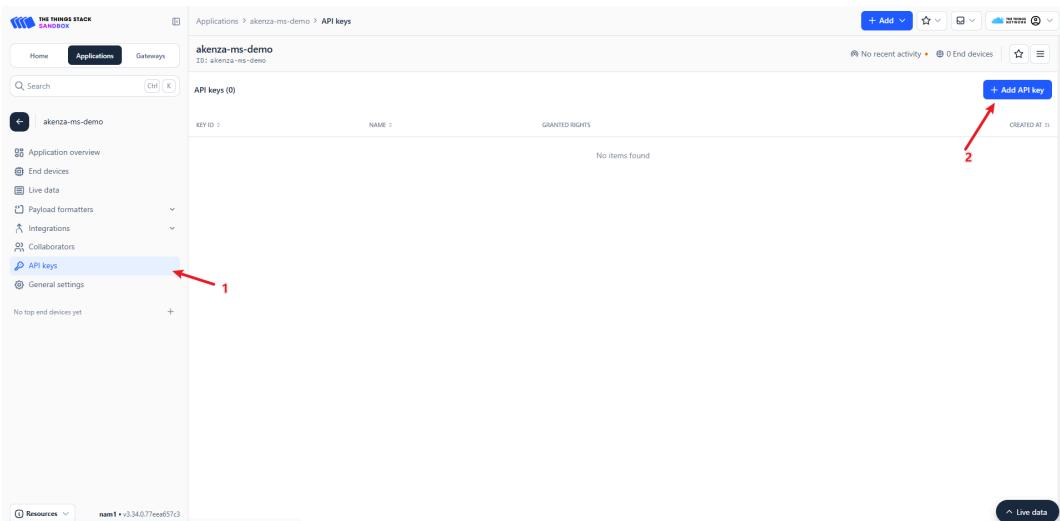
Once created, the application dashboard should appear as shown in the figure.

The screenshot shows the 'Application overview' page for the 'akenza-ms-demo' application. The left sidebar lists various application settings like 'Application overview', 'End devices', 'Live data', etc. The main dashboard has three main sections:

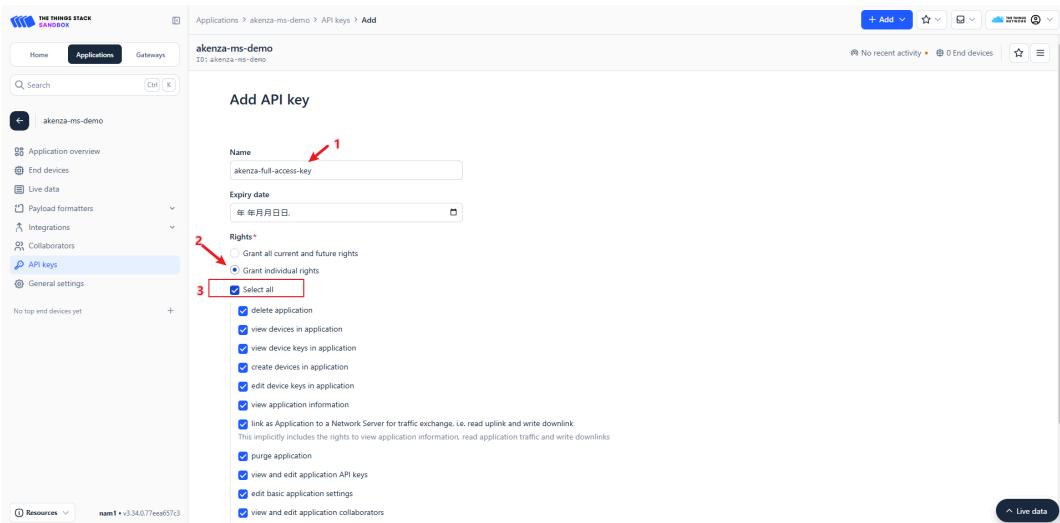
- End devices:** Shows 'No top devices yet' and a 'Register end device' button.
- Latest decoded payload:** Shows 'No recent activity' and a 'See in live data' link.
- Device locations:** Shows 'No location yet' and a 'Live data' button.

4. Creating an API Key

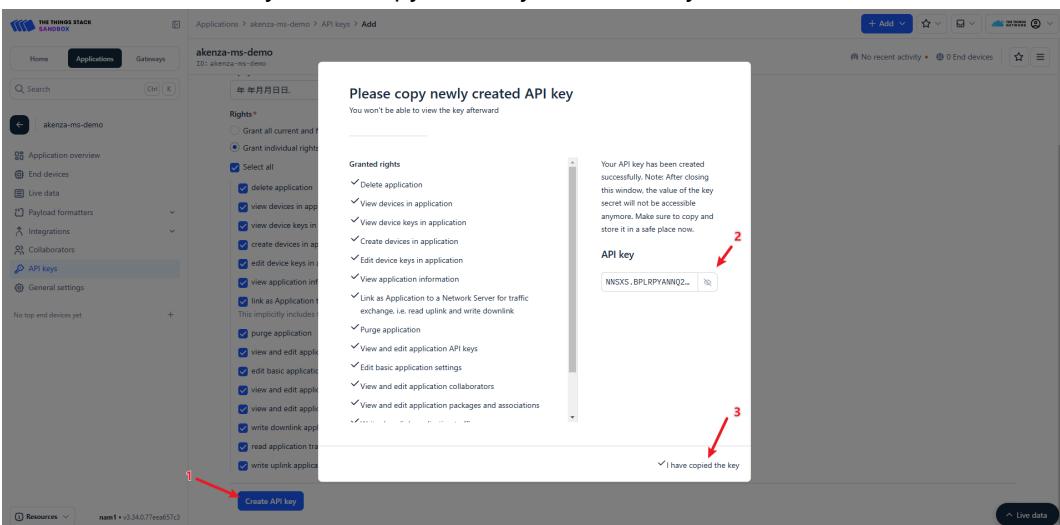
Follow the steps shown in the figures:



In the pop-up window, configure the API Key as per Akenza's documentation, ensuring all permissions are selected.



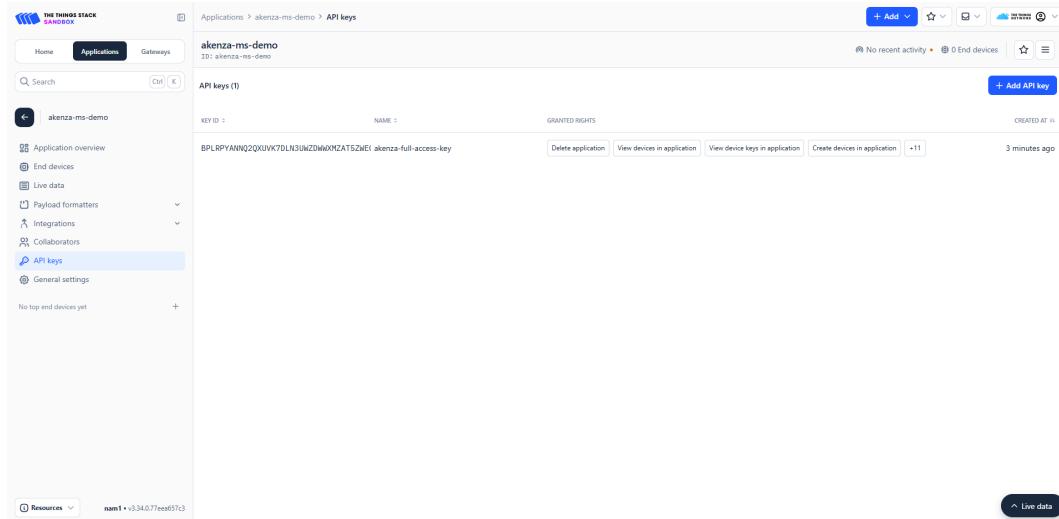
Click "Create API Key" and copy the key immediately.



This key will only be displayed once!

Example API Key:

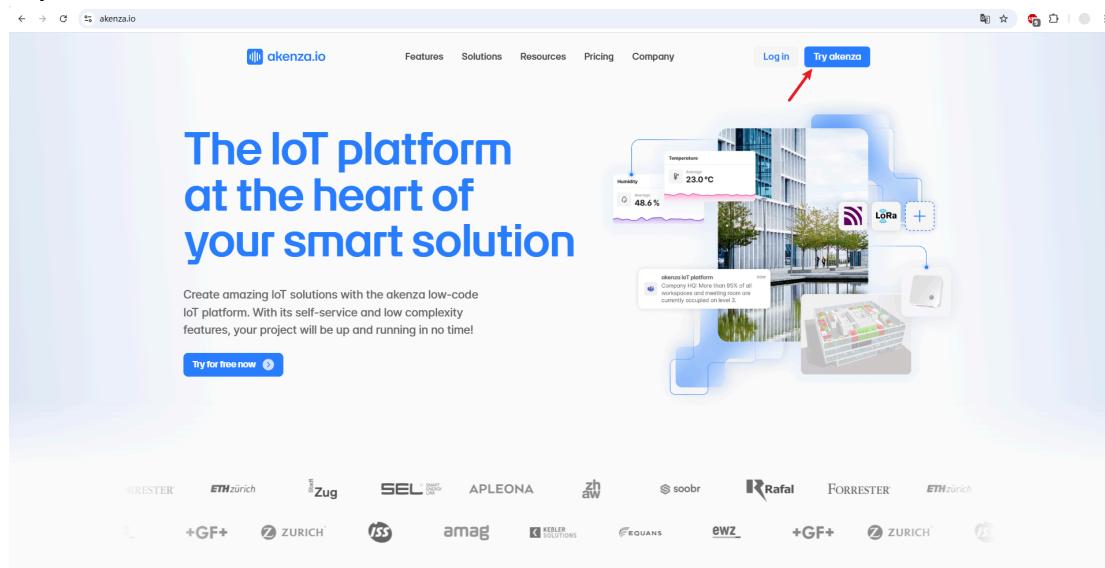
NNSXS.BPLRPYANNQ2QXUVK7DLN3UWZDWWXMZAT5ZWEG5Y.RCLOBZNEHYCC
M54TKI6BTS3AU3Z4NXHIHGJHWNLPDL2WD7HUPA2Q

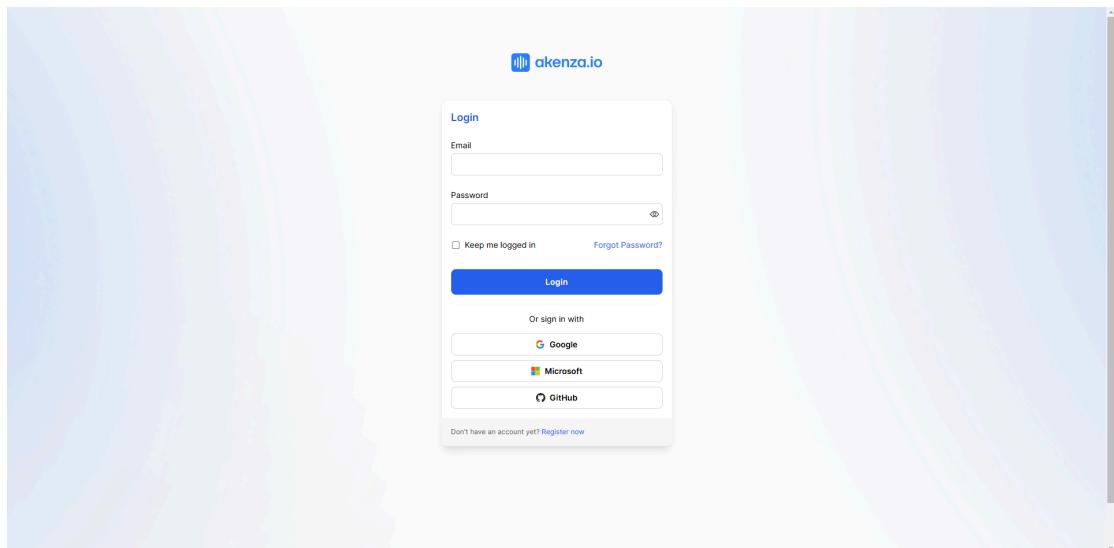


At this point, the TTN setup is complete, and the API Key is ready for use on Akenza.

5. Registering an Akenza Account

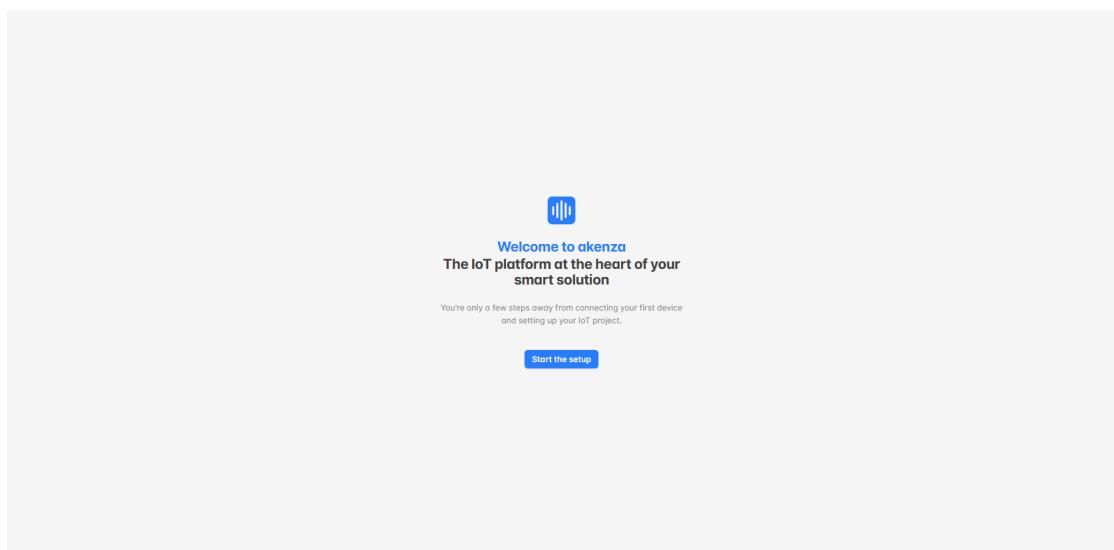
Akenza Website (<https://akenza.io/>) and register for a free trial account (valid for 30 days).





6. Creating an Organization

Upon first login, you will be prompted to create an organization. Follow the instructions and enter the required details. **Example: "MS-ORG"** :



Your Organization
The Organization will be the home for your projects.

Organization name
MS-ORG

Billing currency ⓘ
CHF USD EUR

Organization description (optional)
MileSight Demo

Company size (optional)
Select size

Company industry (optional)
Select industry

Create Organization

7. Creating a Workspace

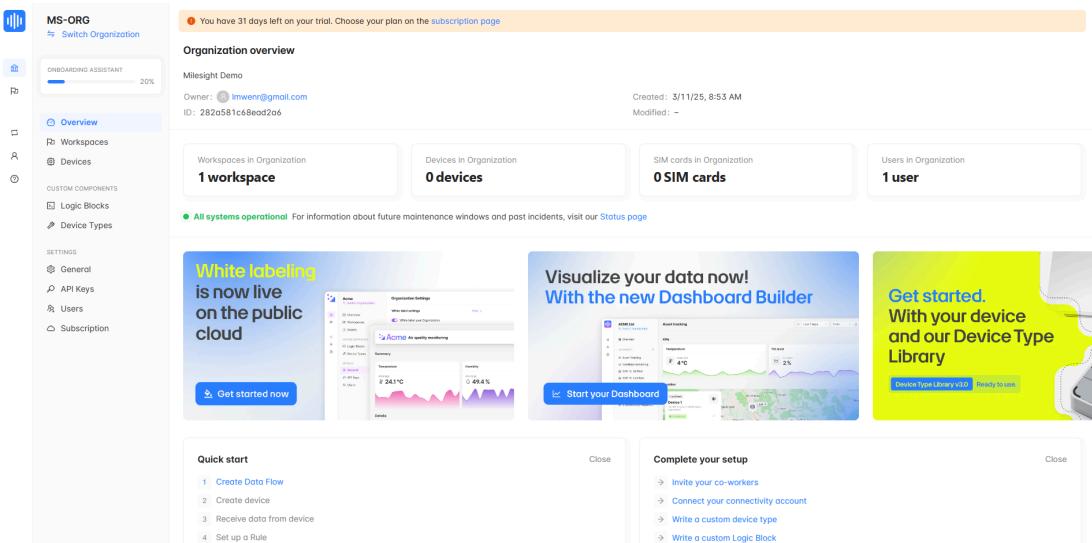
After creating "MS-ORG", proceed to create a workspace following the instructions.

Your first Workspace
Workspaces allow you to have separate setups for different projects. You can add more Workspaces at any time.

Workspace name
MS-WP

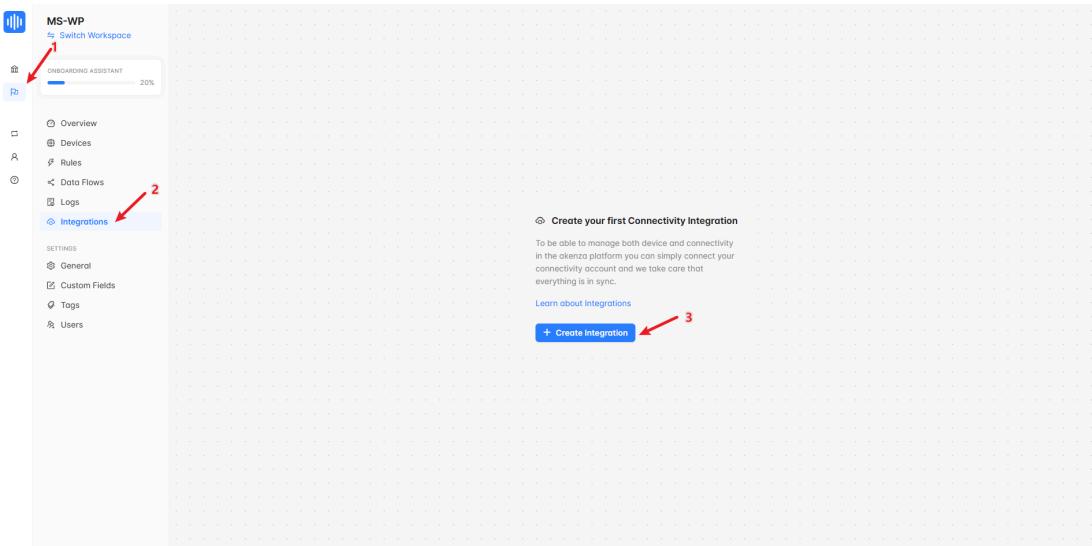
Workspace description (optional)

Create Workspace



8. Integrating Akenza with TTN Platform

Follow the steps in the figures to navigate to the integration section.



Select "TTN LoRaWAN".

The screenshot shows the 'Integration setup' page under the 'MS-WP' workspace. The left sidebar includes sections for Overview, Devices, Rules, Data Flows, Logs, and Integrations. The Integrations section is expanded, showing settings for General, Custom Fields, Tags, and Users. The main area displays 'Integration setup' status as 'In Progress'. Below this, there are two tabs: 'LoRaWAN' and 'Cellular'. Under 'LoRaWAN', there are six cards: 'Swiscom LoRaWAN', 'Loriot LoRaWAN', 'Acility LoRaWAN', 'Celicom LoRaWAN' (highlighted with a red arrow), 'Everynet LoRaWAN', and 'ewz LoRaWAN'. Under 'Cellular', there are two cards: 'iotcreators.com' and 'emnennet'. A red arrow points to the Celicom LoRaWAN card.

Choose the TTN region where the gateway was registered. Example: "nam1" :

This screenshot illustrates the configuration of the TTN LoRaWAN host. On the left, the 'Integration setup' page shows the 'Integration login' step completed ('Finished'). In the 'TTN LoRaWAN host' dropdown, the value 'The Things Stack Community NAM1' is selected, indicated by a red arrow labeled '2'. To the right, a detailed view of the 'Applications > akenza-ms-demo > API keys' page is shown. The URL in the browser bar is 'nam1.cloud.thethings.network/console/applications/akenza-ms-demo/api-keys'. The application 'akenza-ms-demo' is listed with ID 'akenza-ms-demo'. An API key named 'akenza-ms-demo' is present, with the key ID 'BPLRPYANNQ2QXUVK7DLN3UWZ' and name 'akenza-full-access-key'. The 'GRANTED RIGHTS' column shows full access rights. A red box highlights the URL in the browser bar.

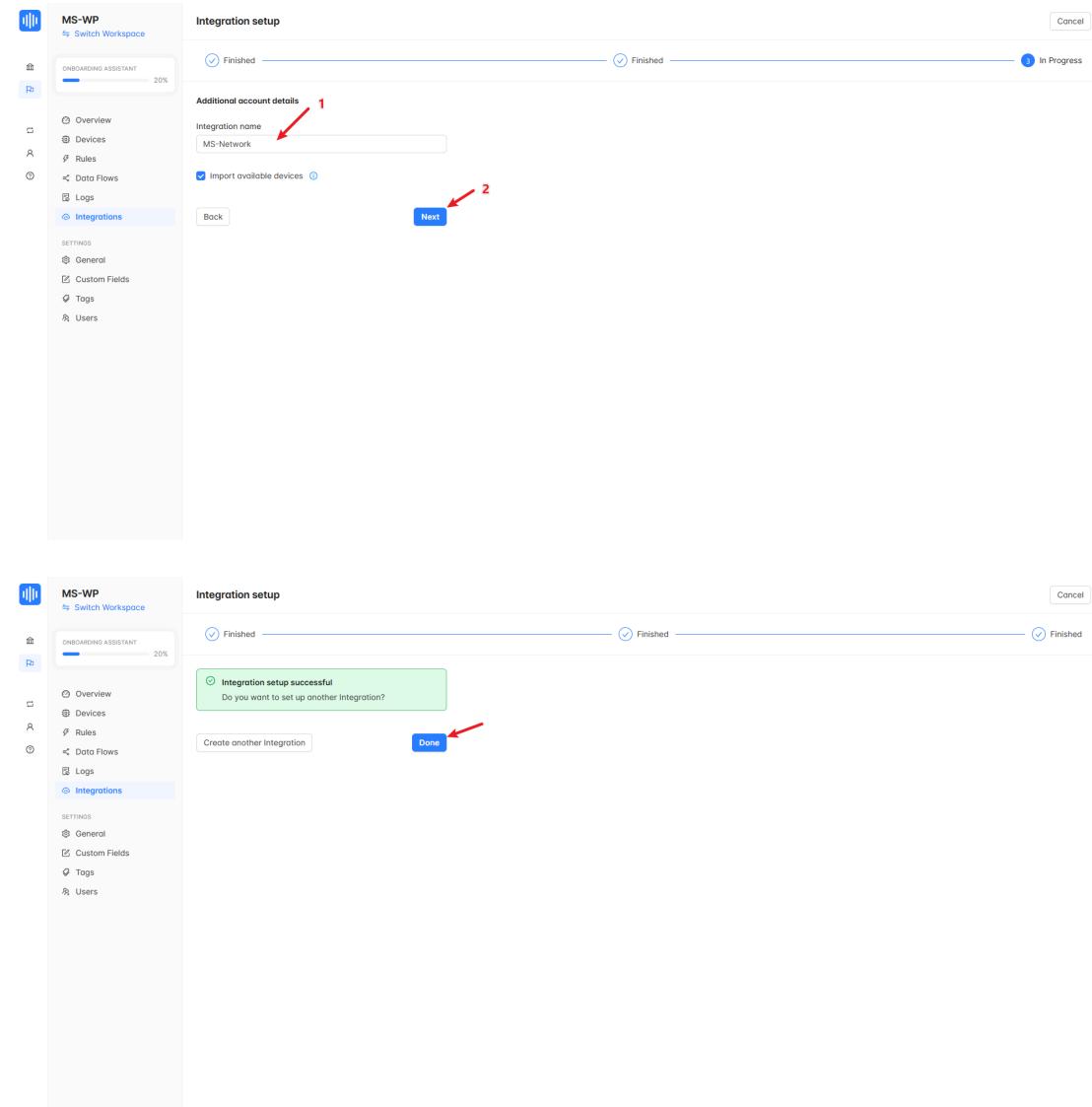
Fill in the parameters as shown in the figures.

This screenshot shows the 'Integration setup' page with the 'Integration login' step completed ('Finished'). The 'TTN LoRaWAN host' dropdown now contains the value 'The Things Stack Community NAM1', which is highlighted by a red arrow. Another red arrow points to the 'Application ID / API Key' field, which also contains 'akenza-ms-demo'. A third red arrow points to the 'API key' field, which contains the key 'NNNSX.BPLRPYANNQ2QXUVK7DLN3UWZDWWXMZAT52'. These values correspond to the configuration shown in the previous screenshot's TTN host dropdown.

Important Note:

Authentication must be set to "Application ID / API Key" and filled accordingly.

Name the integration "MS-Network".



After a short wait, the platform will complete the setup, and the integration status will be displayed.

The screenshot shows the 'Connectivity Integration' section of the Akenza interface. On the left, there's a sidebar with 'MS-WP' workspace details and navigation links for Overview, Devices, Rules, Data Flows, Logs, Integrations (which is selected), and Settings. The main area displays a table of integrations. A single row for 'MS-Network' is highlighted with a red border. The table columns include Name, Type, Sync enabled, Last synced, Account, Created, and Action (with 'Edit' and 'Delete' buttons). A red arrow points to the 'Last synced' column, which shows 'A minute ago'. At the top right, there are buttons for '+ Create Data Route' and '+ Create Integration'.

At this point, UG65 is successfully integrated with Akenza.

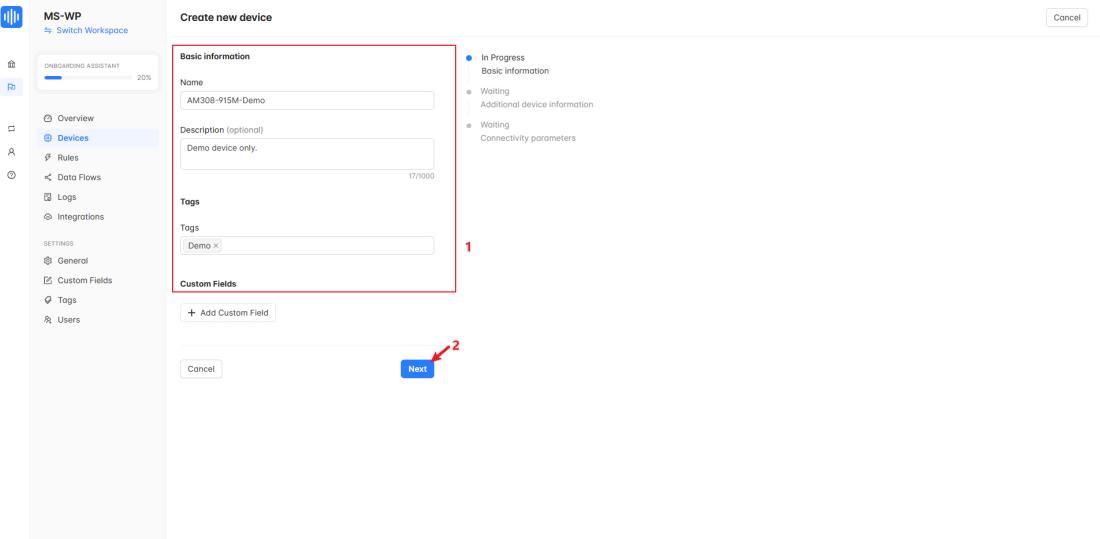
9. Adding a LoRaWAN Device

To add a sensor device (example: AM308):

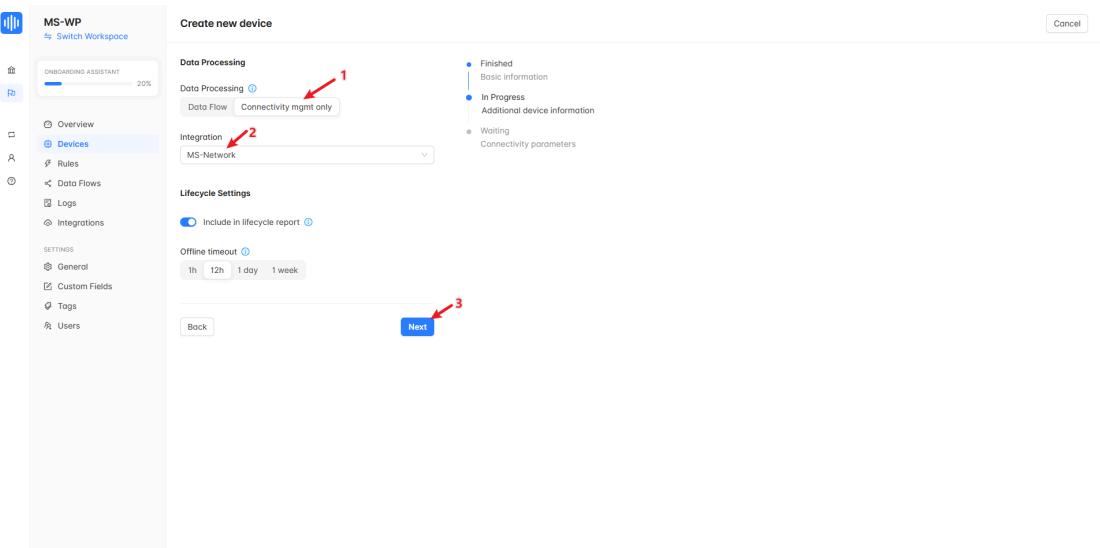
Follow the steps shown in the figures.

This screenshot shows the 'Devices' creation page. The sidebar on the left has 'Devices' selected, indicated by a red arrow labeled '1'. The main content area features a 'Create your first device' section with instructions: 'To add a device to this Workspace make sure that you have already set up a Data Flow.' Below this is a 'Learn about connecting devices' link. At the bottom of the section are two buttons: '+ Create device' (highlighted with a red arrow labeled '2') and 'Bulk import'.

Fill in the information as shown in the picture, here I take "AM308-915M-Demo" as an example to configure.

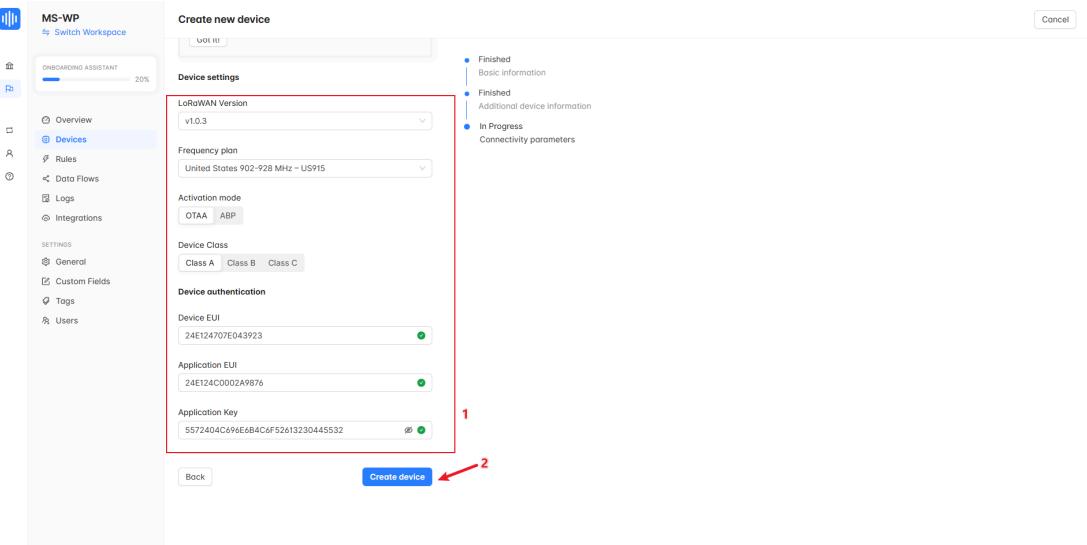


Click “**Next**” and you will see the following interface, refer to the screenshot below to fill in:

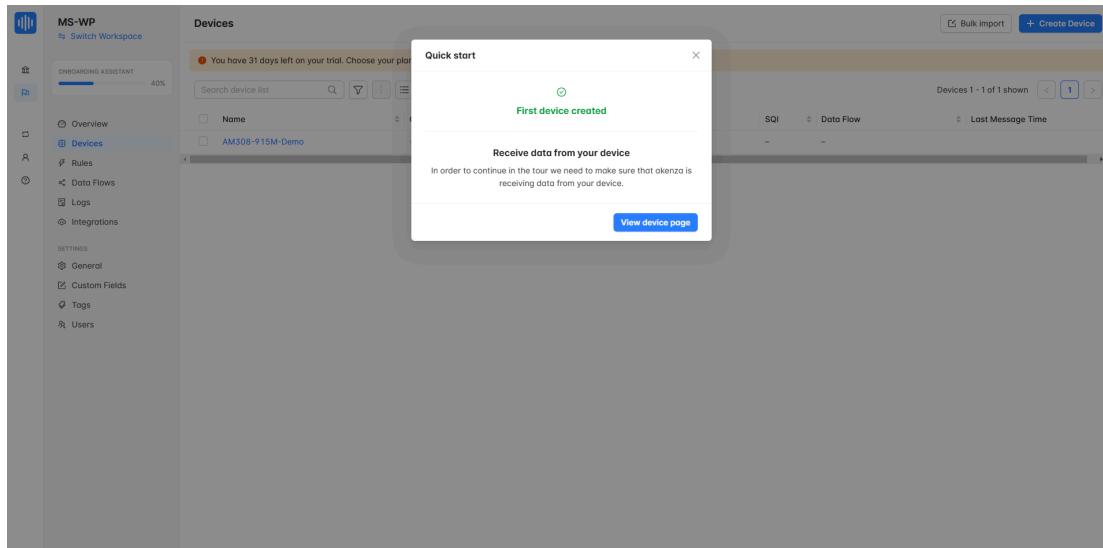


It should be noted that since we haven't created any Data Flow yet, we need to select “**Connectivity mgmt only**” for Data Processing, and select the “**MS-Network**” in the Integration dropdown. And leave the rest of the parameters as default.

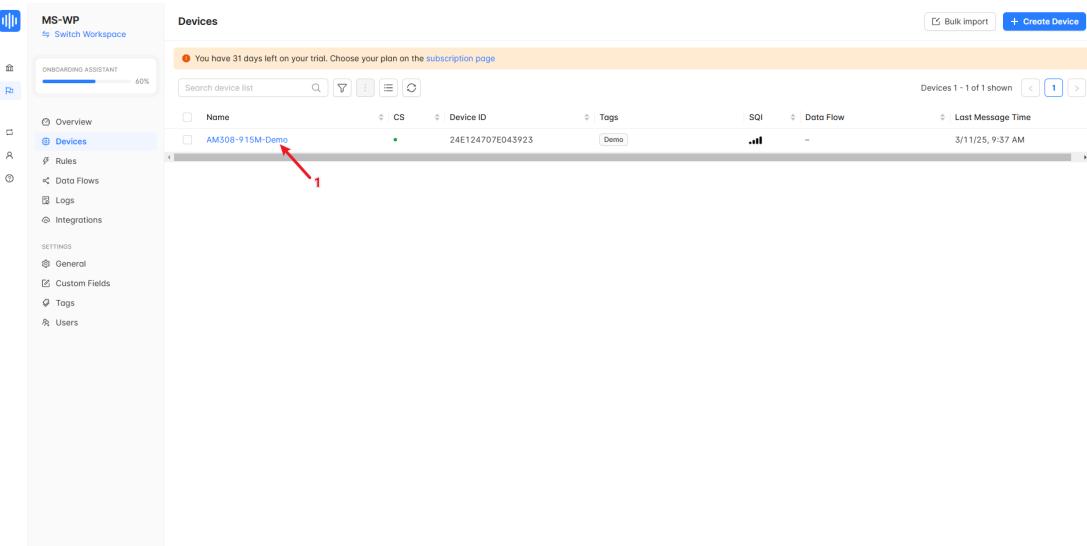
After clicking “**Next**”, you will see the following screenshot, follow the prompts to fill in the LoRa related parameters of AM308:



Once created, you will see the prompt as follows:



Once completed, the AM308 device status will be visible on Akenza:



AM308-915M-Demo

Lost seen: 3/11/25, 9:38 AM
Signal quality: **0**

Device ID: 02bf81caa7944369
Device EUI: 2AE124707E043923
Application Key:
Device Class: Class A

Application EUI: 2AE124C0002A9876
Activation Mode: OTAA
LoRaWAN Version: v1.0.3

Connection Status

ESP: -8.27
Number of gateways: 1
RSSI: -8
SNR: 12

Downlink frame count: 10
Frame Port: 85
SF: 10

We can see that the AM308-915M-Demo device has been added to the platform, and the data link has been established, but the platform only knows that we have registered the LoRaWAN device, but there is no decode parse, you need to configure the Data Flows for it.

10. Configuring Data Flow

Follow the steps in the figures.

MS-WP

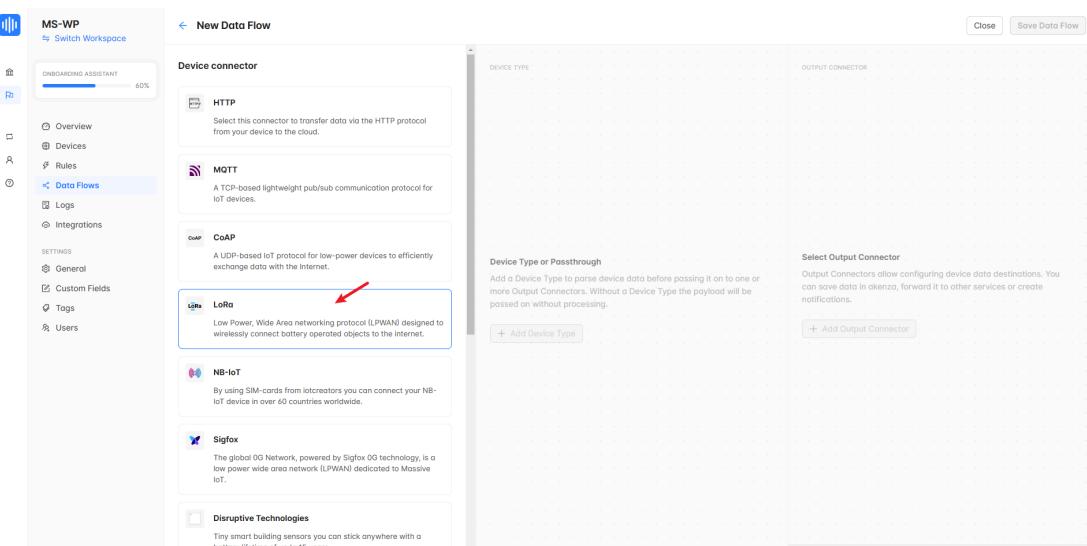
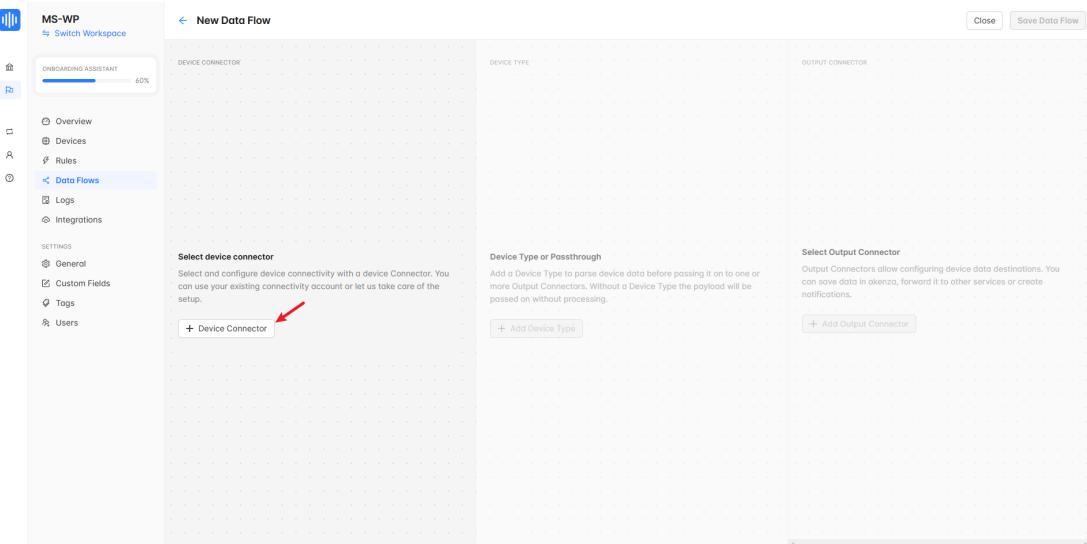
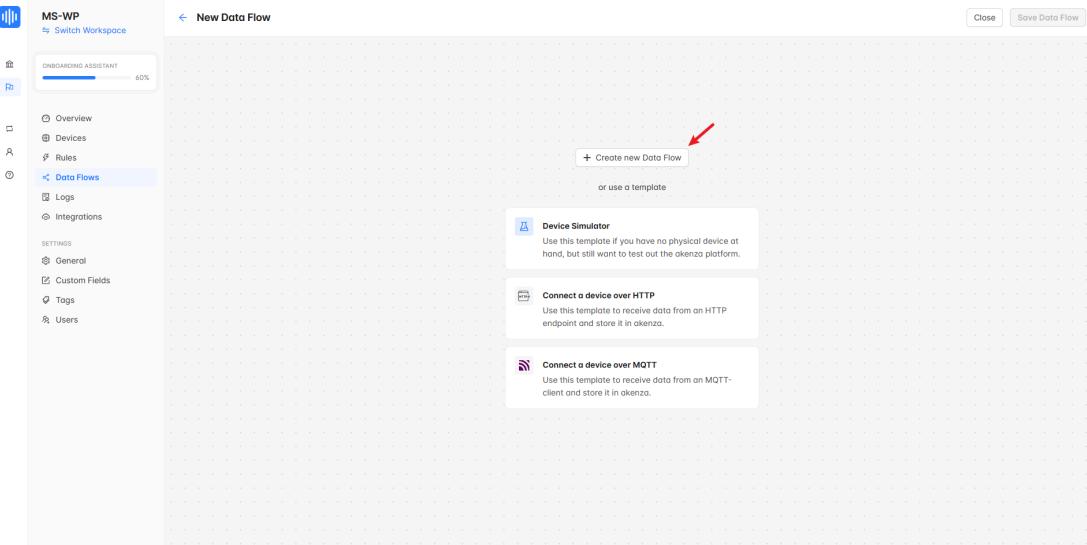
ONBOARDING ASSISTANT 60%

Devices
Rules
Data Flows 1
Logs
Integrations

Create your first Data Flow

Data Flows define how your device data is processed and stored in ekenza. In a three step process you can define connectivity, payload parsing and data output.

+ Create Data Flow 2



New Data Flow

Add LoRa device connector

Device Type

OUTPUT CONNECTOR

Select Output Connector

Device Type or Passthrough

Output Connectors

+ Add Output Connector

The Things Stack

The Things Stack is a LoRaWAN Network Server that enables connectivity, management, and monitoring of devices and gateways.

Loriot

The Loriot Hybrid Network Management System includes both LoRaWAN Network Server and mityc service center.

Activity

Thingpark provides enterprises with a proficient user experience to easily build a multi-gateway LoRaWAN network.

Everynet

Everynet operates the largest, neutral host, Low Power Wide Area Network (LPWAN) in the world.

EWZ

New Data Flow

Add LoRa device connector

Device Type

OUTPUT CONNECTOR

Select Output Connector

Device Type or Passthrough

Output Connectors

+ Add Output Connector

The Things Network

Use the CoAP connector to directly connect your devices to the The Things Network. Additional fees will apply. For further information please visit our Pricing Page.

TTN Connector - MS-Network

This connector was automatically created by your The Things Stack integration.

Create a Device Type for AM308.

New Data Flow

DEVICE CONNECTOR

DEVICE TYPE

OUTPUT CONNECTOR

Select Output Connector

Device Type or Passthrough

Output Connectors

+ Add Output Connector

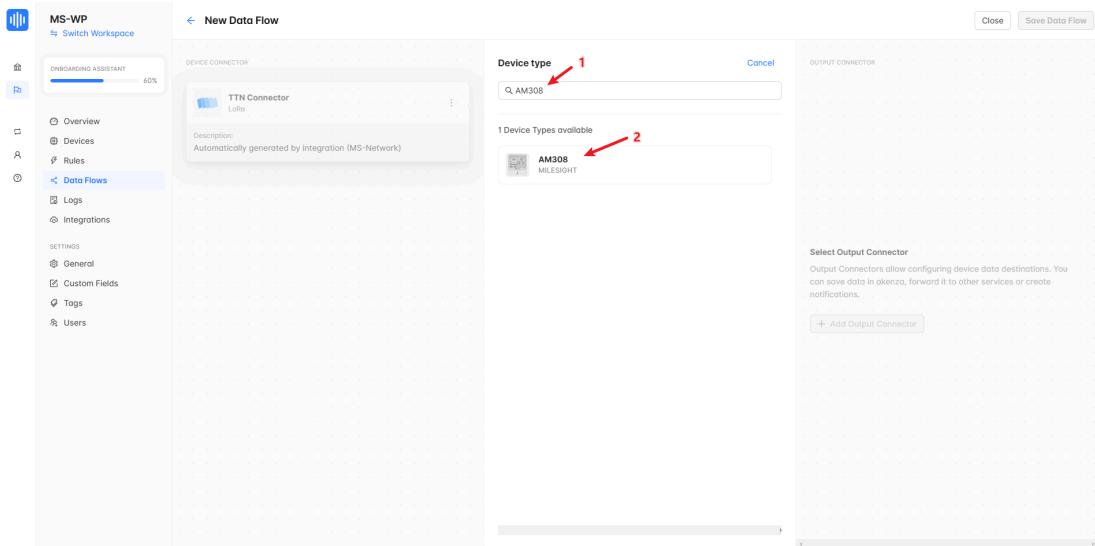
TTN Connector

Lora

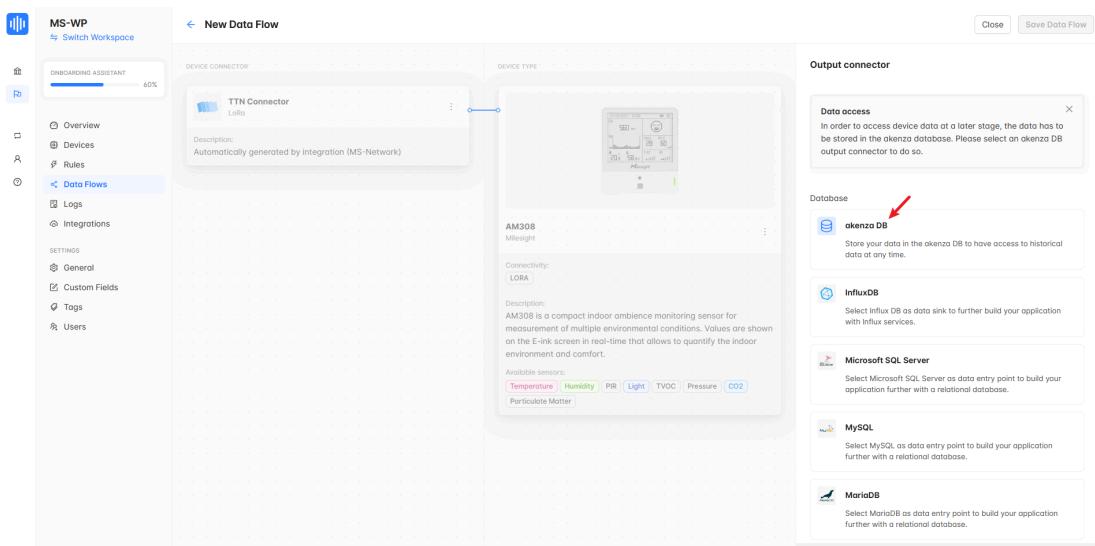
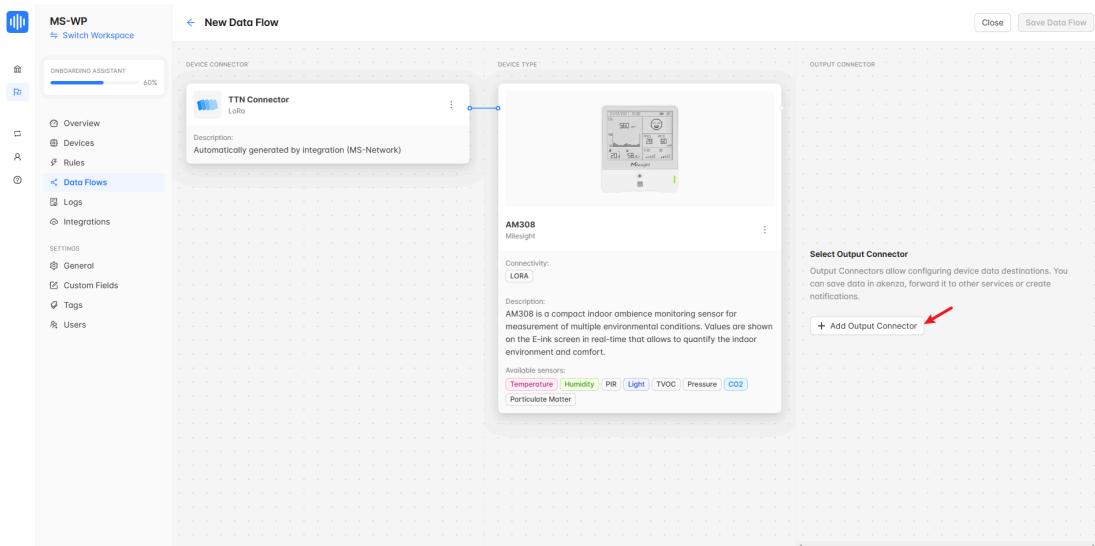
Description

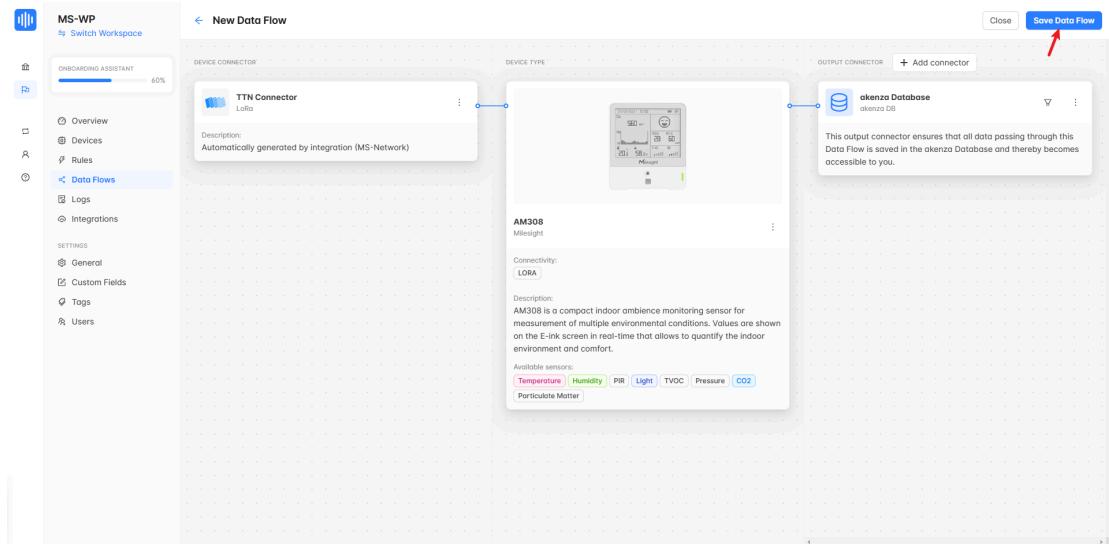
Automatically generated by integration (MS-Network)

+ Add Device Type

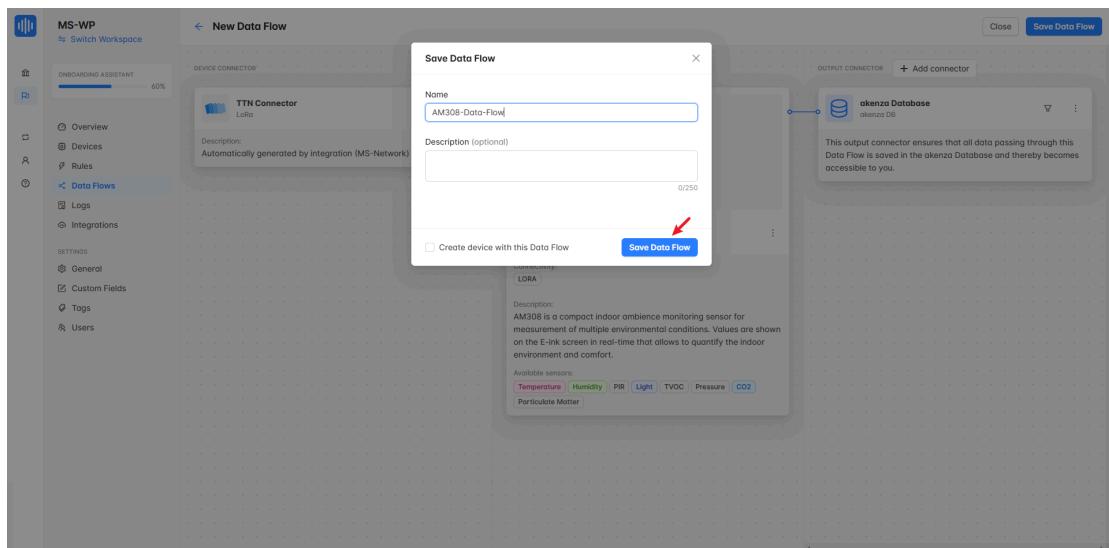


Configure Output Connector by selecting "akenza DB" for data storage.

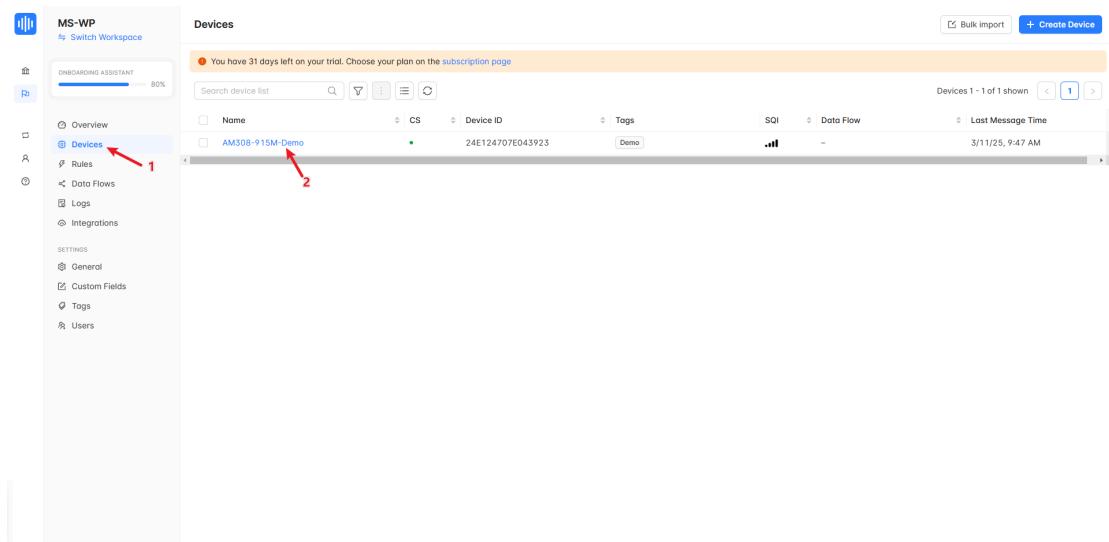




Save the Data Flow.



Link AM308-915M-Demo to the Data Flow under the "Devices" menu.



The image contains two screenshots of the Microsoft Things platform interface.

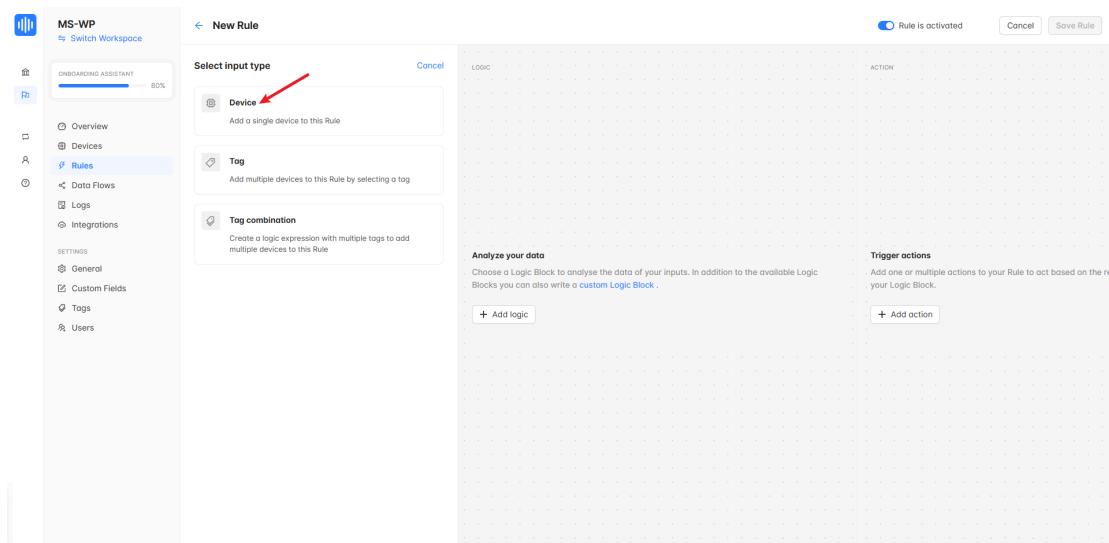
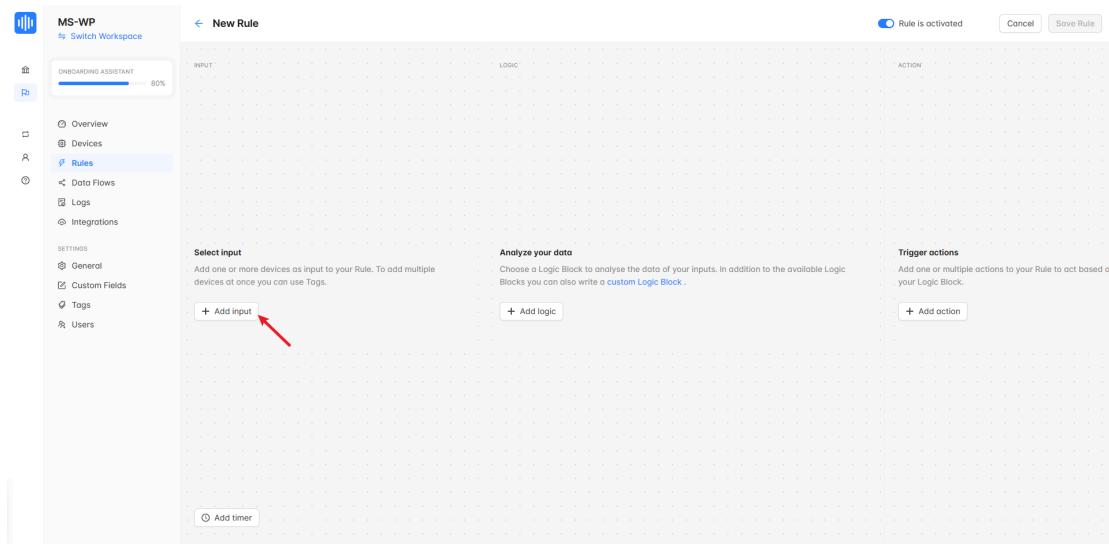
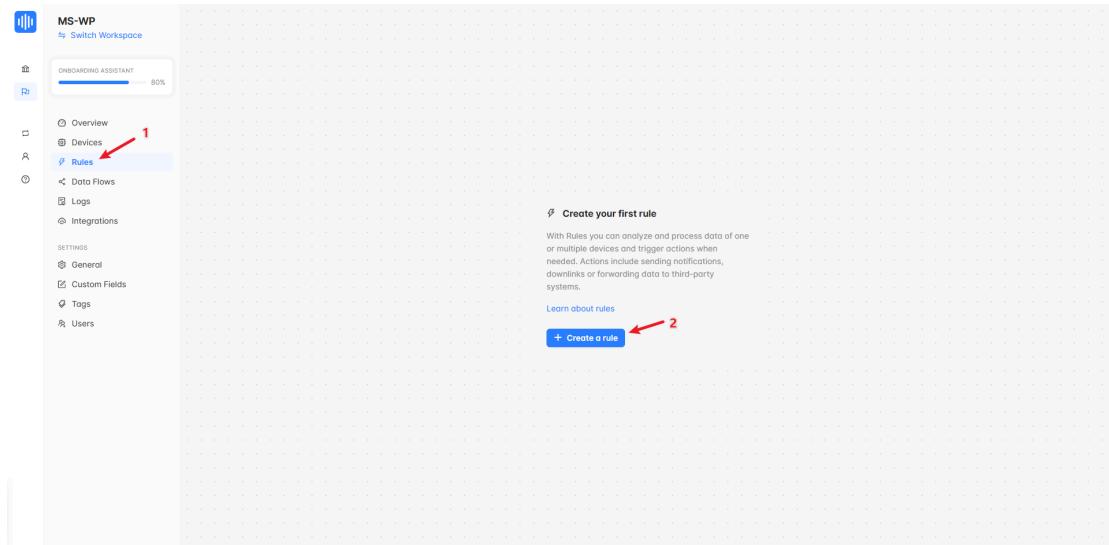
Top Screenshot (MS-WP): This screenshot shows the configuration of a device named "AM308-91SM-Demo". The left sidebar includes sections for Overview, Devices, Rules, Data Flows, Logs, Integrations, General, Custom Fields, Tags, and Users. The main panel displays device details like "Lost seen: 3/11/25, 9:48 AM", "Signal quality: ⚡", and "Data Flow: Assign Data Flow". A modal window titled "To send/receive data assign a Data Flow" is open, with a search bar containing "AM308-Data-Flow". Two red arrows point to the search bar: arrow 1 points to the placeholder text "assign a Data Flow", and arrow 2 points to the search term "AM308-Data-Flow".

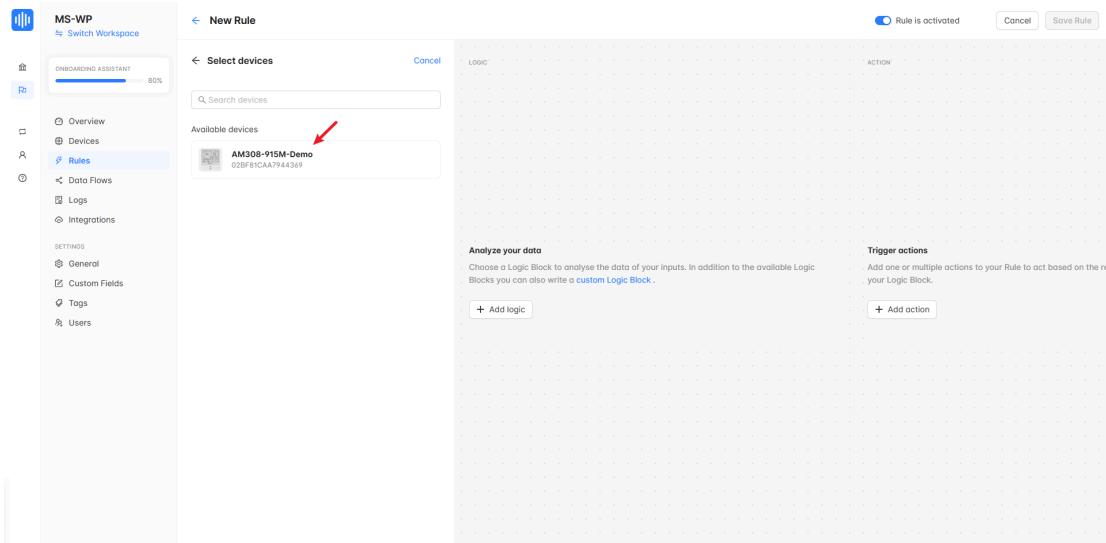
Bottom Screenshot (MS-ORG): This screenshot shows the organization details for the same device. The left sidebar includes sections for Overview, Workspaces, and Devices. The main panel displays device details like "Lost seen: 3/11/25, 1:33 PM", "Signal quality: ⚡", and "Data Flow: AM308-Data-Flow". The "Data Overview" tab is selected, showing "Device Data KPIs" with metrics: "Battery Level 100 %", "Illuminance 2 lx", "CO2 635 ppm", and "TVOC 100 ppm". Below this is a "Device Data History" section with a chart and time range controls for "Last 24h" and "3/10/25 - 3/11/25".

At this point, AM308 can be processed using the Data Flow configuration.

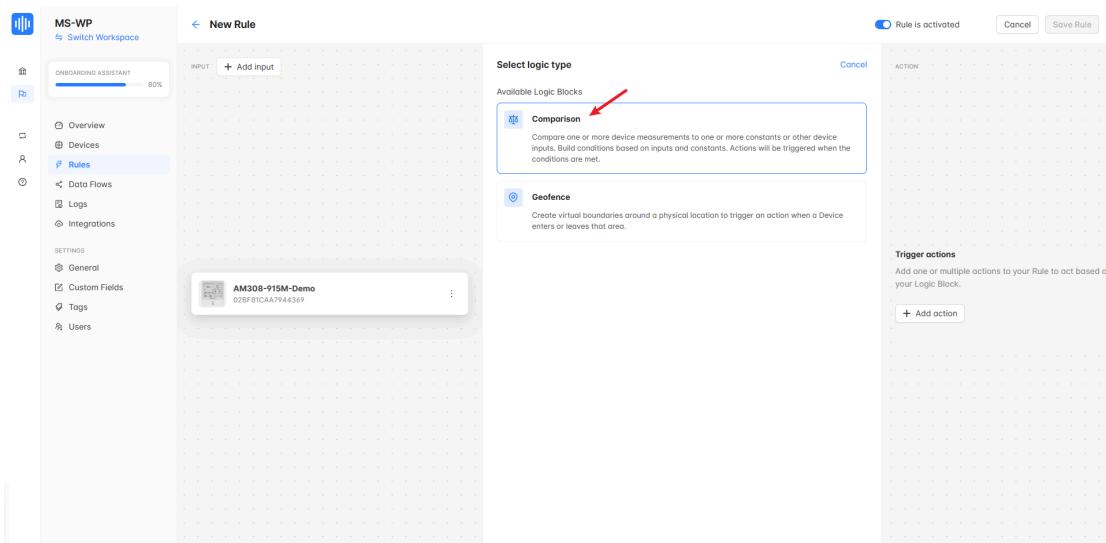
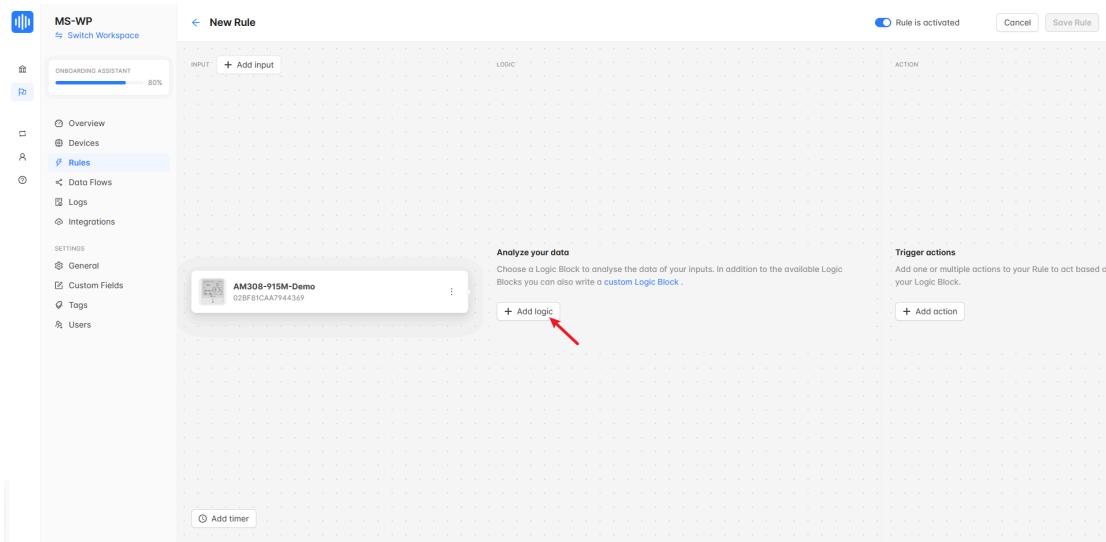
11. Configuring a Rule Example

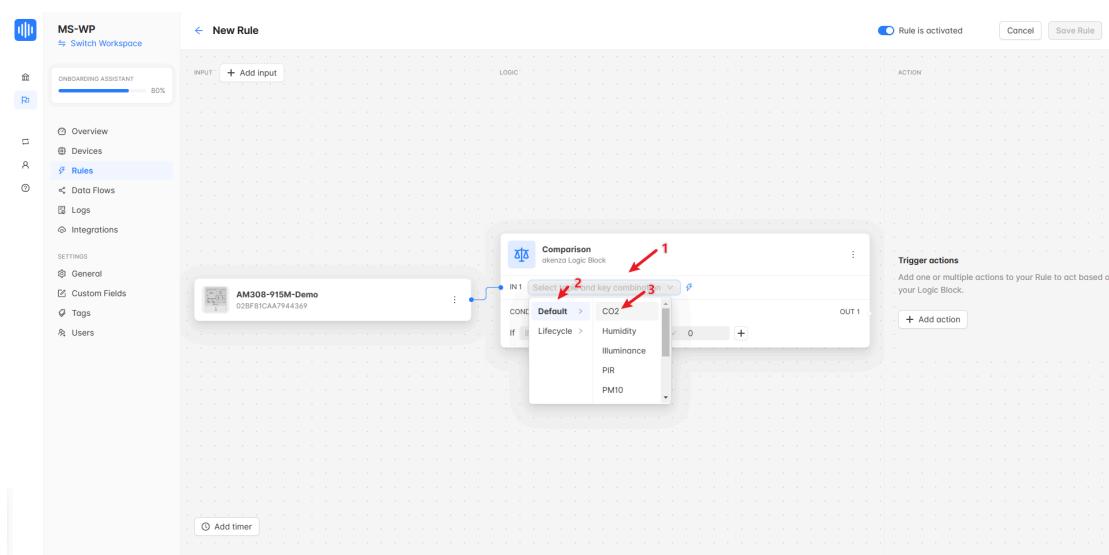
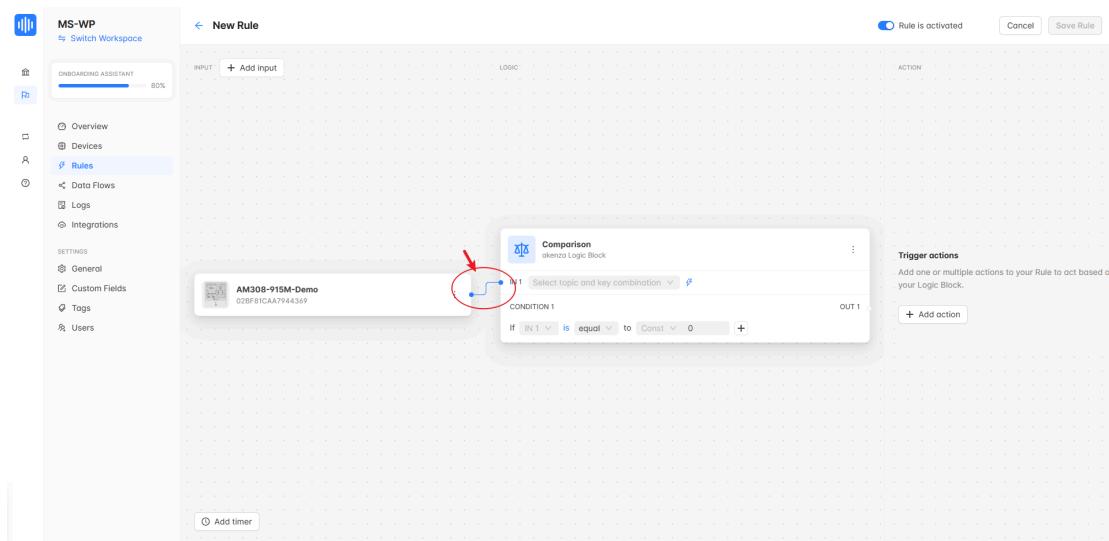
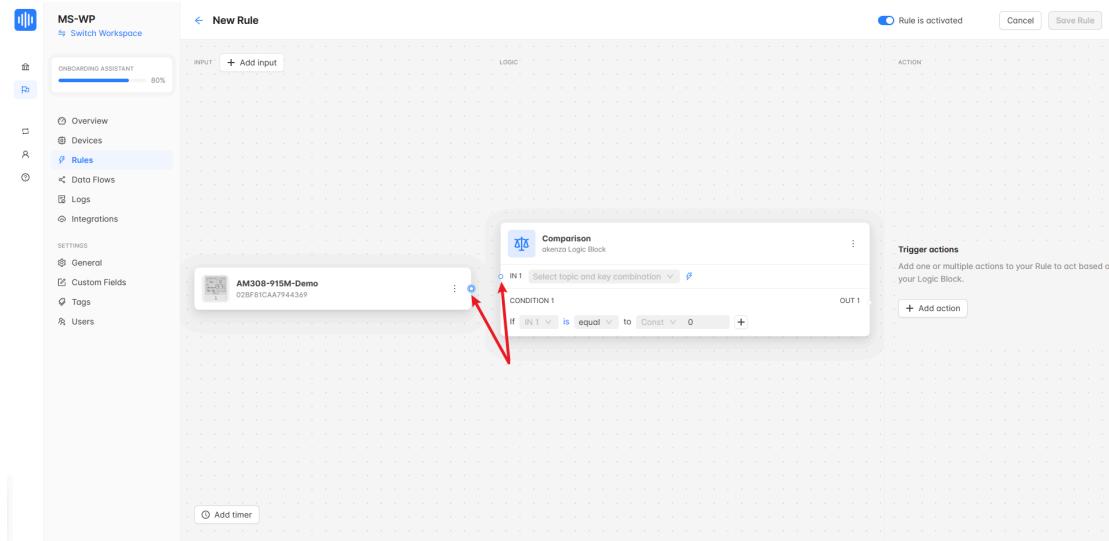
Follow the steps in the figures.



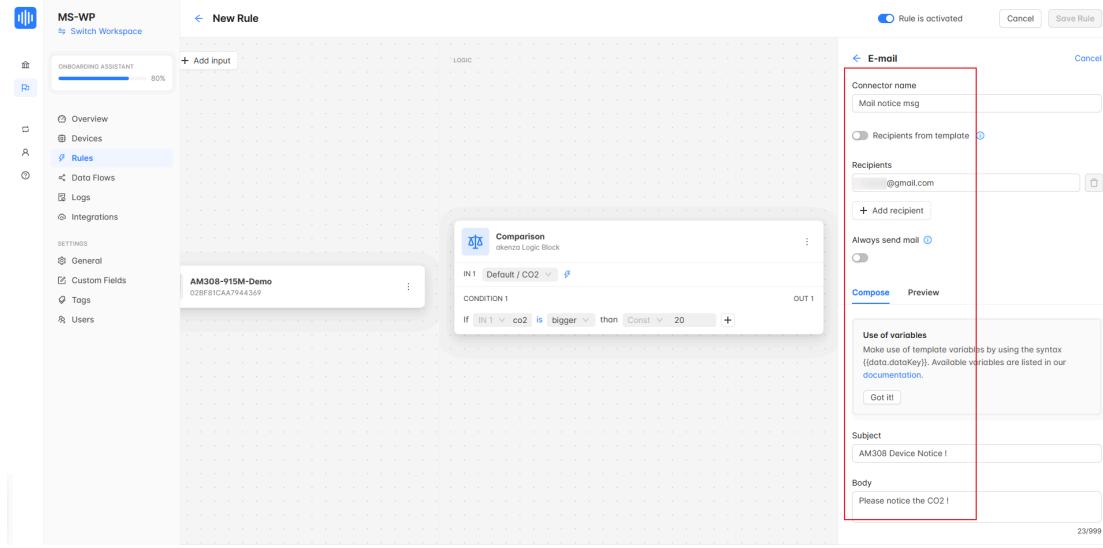


Then, create a Logic Rule using AM308 CO2 data as a threshold trigger for email notifications.

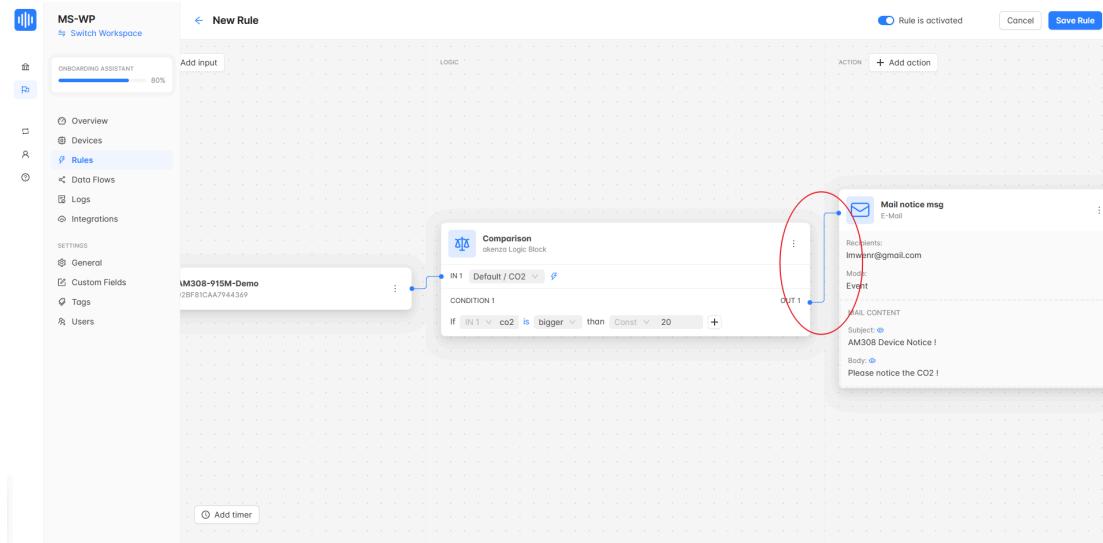




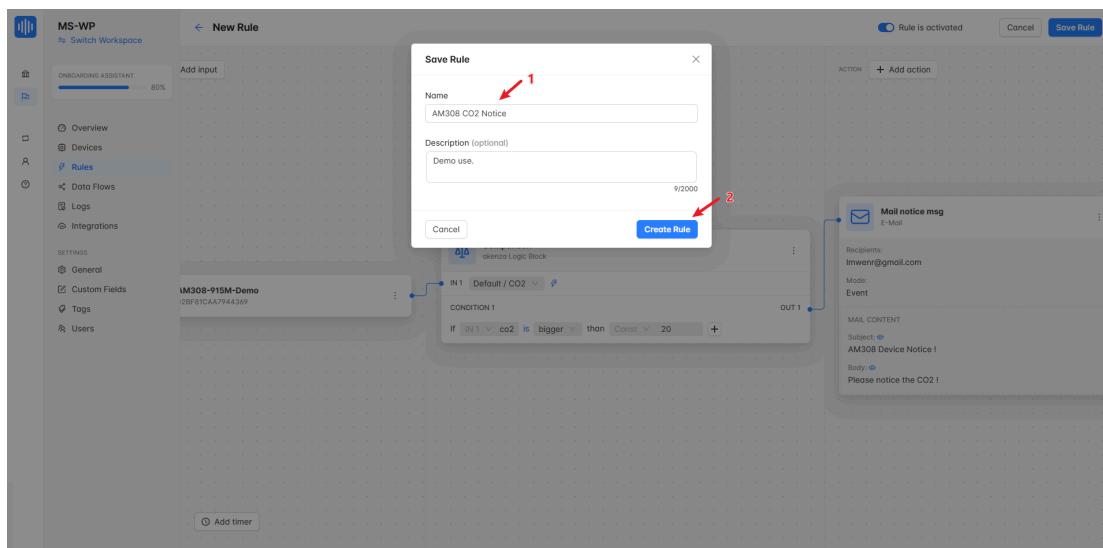
Configure the Action accordingly.



Draw the connection lines and save the rule.



Once active, the rule will trigger an email notification when conditions are met.



Wait a few moments and we will receive an email notification as follows:

The screenshot shows a Gmail inbox with 897 messages. A single email from 'Akenza <no-reply@akenza.io>' is selected, titled 'AM308 Device Notice!'. The message body contains the text 'Please notice the CO2 !' and a note that it was automatically generated by Akenza. Below the message are standard Gmail interaction buttons: Reply, Forward, and a reply-all icon.

-END-