![Milesight]

Integrating Milesight Devices into the Rayven Platform

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

Preface

Rayven is a full-stack IoT and data intelligence platform tailored for industrial and enterprise users. It features both no-code and low-code capabilities, enabling rapid development, deployment, and scaling of data-driven applications. Rayven integrates data acquisition, stream processing, AI inference, visualization, and automated control into a comprehensive solution development environment. The platform supports multi-protocol data ingestion from devices to the cloud, unifying edge data into a single actionable interface. It is suitable for scenarios such as smart cities, industrial automation, and energy management. Both IT and business personnel can quickly get started and move from proof-of-concept to actual deployment, accelerating digital transformation.

This guide covers two scenarios:
- For LoRa devices: how to use EM410-RDL with a gateway to integrate with the Rayven platform.
- For NB-IoT devices: how to directly integrate with the Rayven platform.

1. Prerequisites

For the LoRa scenario, you need:
- A valid Rayven platform account.
- A gateway: UG65, or alternatively UG56/UG67.
- Sensor: EM410-RDL (LoRa version).
- The gateway must be connected to the internet.
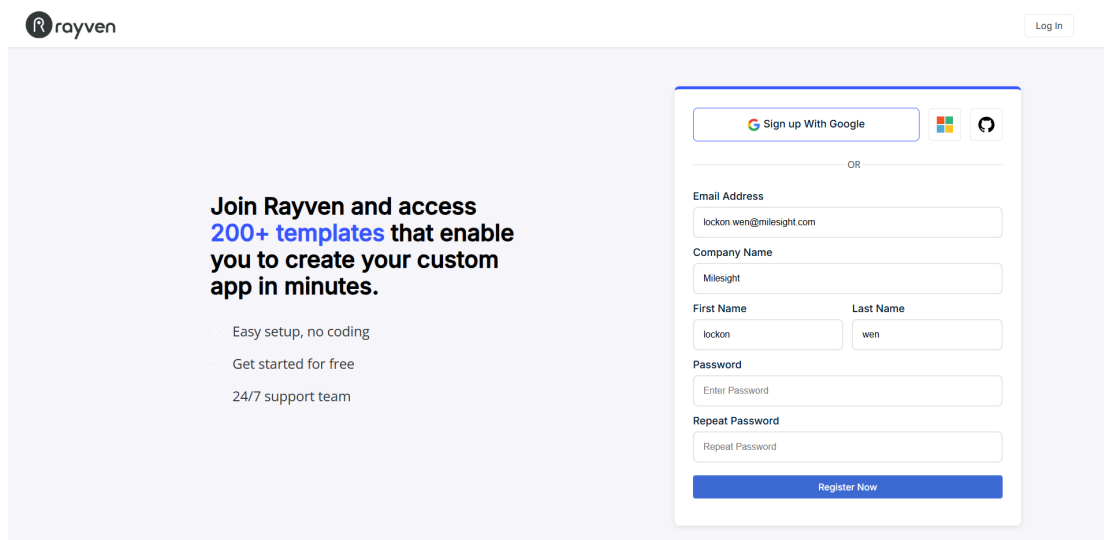
For the NB-IoT scenario, you need:
- A valid Rayven platform account.
- Sensor: EM410-RDL NB-IoT version.
- A SIM card.

Note: This guide uses the EM410-RDL device for demonstration. For other device types, users should adjust accordingly based on their actual situation.

2. Register a Rayven Account

Visit https://workspace.rayven.io/ and fill out the required information as prompted.

If you encounter any issues, contact the platform support at **tech-support@rayven.io.**

3. Register Devices

In the Rayven platform, add the device's Unique Identifier (**UID**), **Display Name**, and other key attributes to the Device Management Table to complete registration.
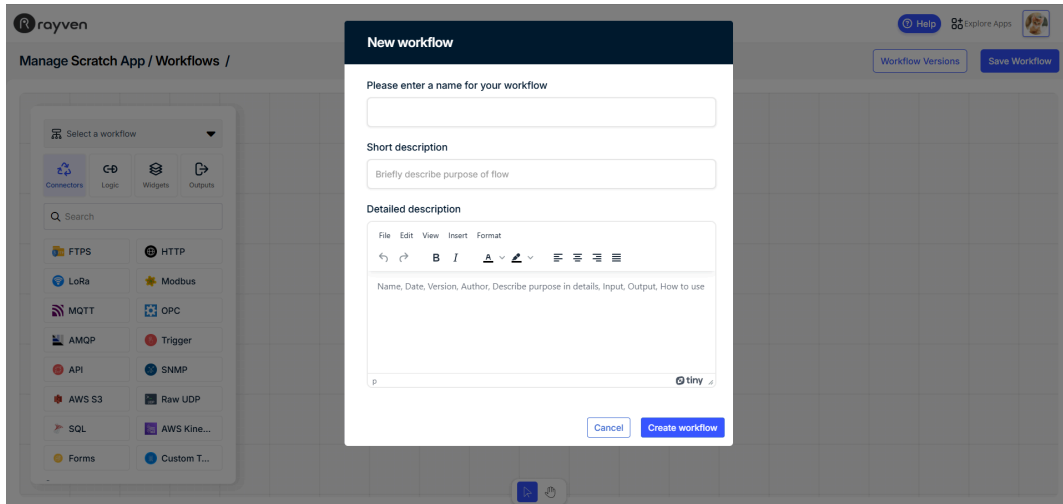
This is essential for subsequent workflows to identify the device source and map data correctly. Example interface:
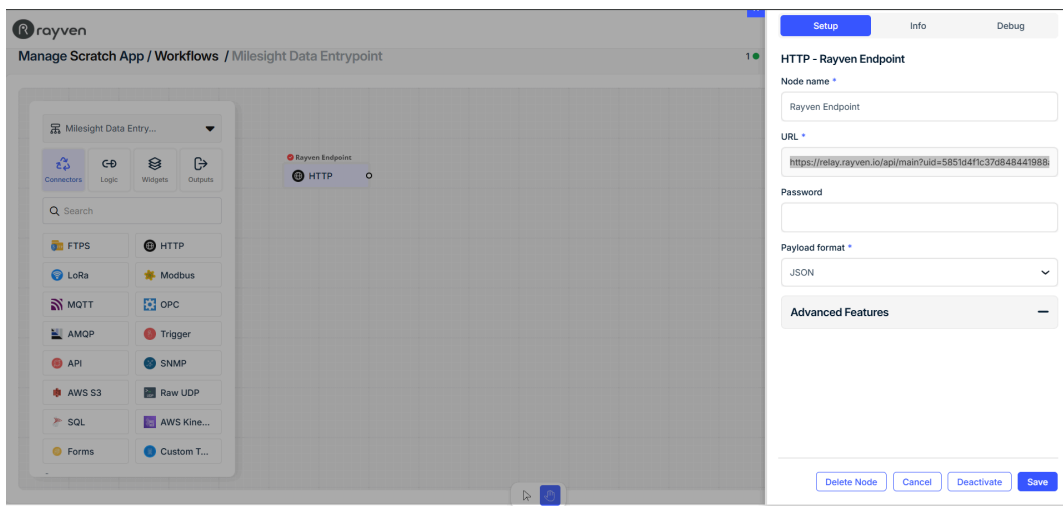

4. Create a Flow

- Log in to the Rayven workspace and create a new workflow.

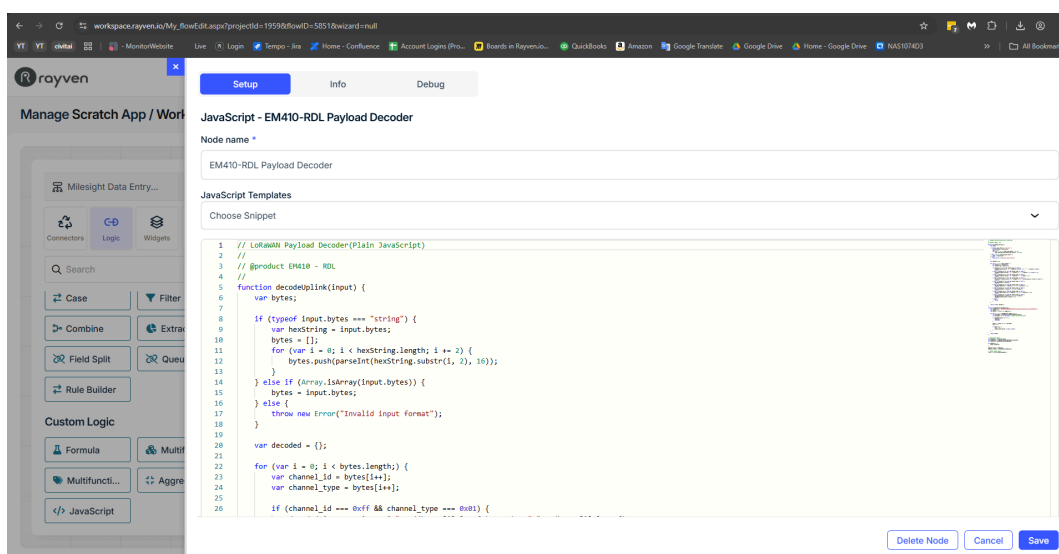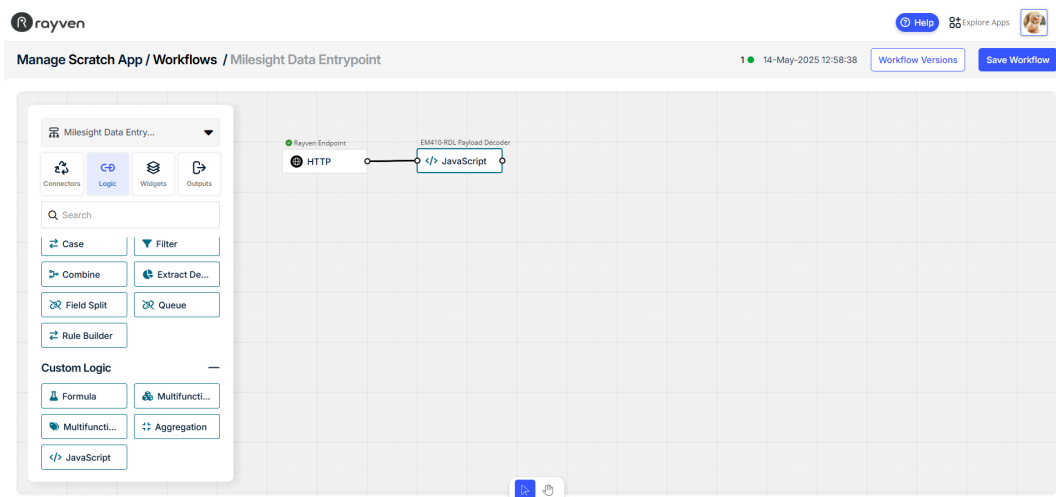- Drag an HTTP Endpoint node from the component panel onto the canvas.

- Click the node and copy the generated HTTP URL, e.g.:

```
https://relay.rayven.io/api/main?uid=abc…789&deviceid=[[device_id]]
```

Replace [[device_id]] with your device's unique identifier (e.g., DevEUI).
- Set "Payload format" to "JSON".
- Drag a JavaScript Node onto the canvas and connect it to the HTTP node to decode the uplink data

Note:

The JavaScript decoding code can be obtained directly from [Milesight official GitHub repository](#) and pasted into the node.

After configuring the decoder, click **Save** to store the workflow.

Once saved, data from the device will begin to be received and decoded when the next payload is uploaded.

To verify data reception and decoding:

- Double-click the JavaScript Node in your workflow.
- On the right panel, select the "**Debug**" tab.
- Observe the real-time logs to confirm successful data reception and parsing.
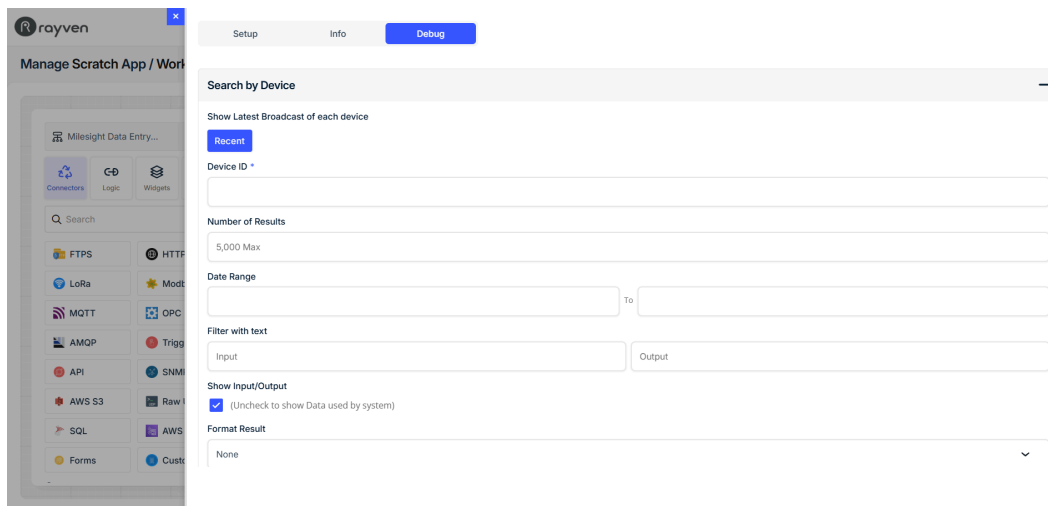
~~At this point, the Rayven configuration is complete.~~
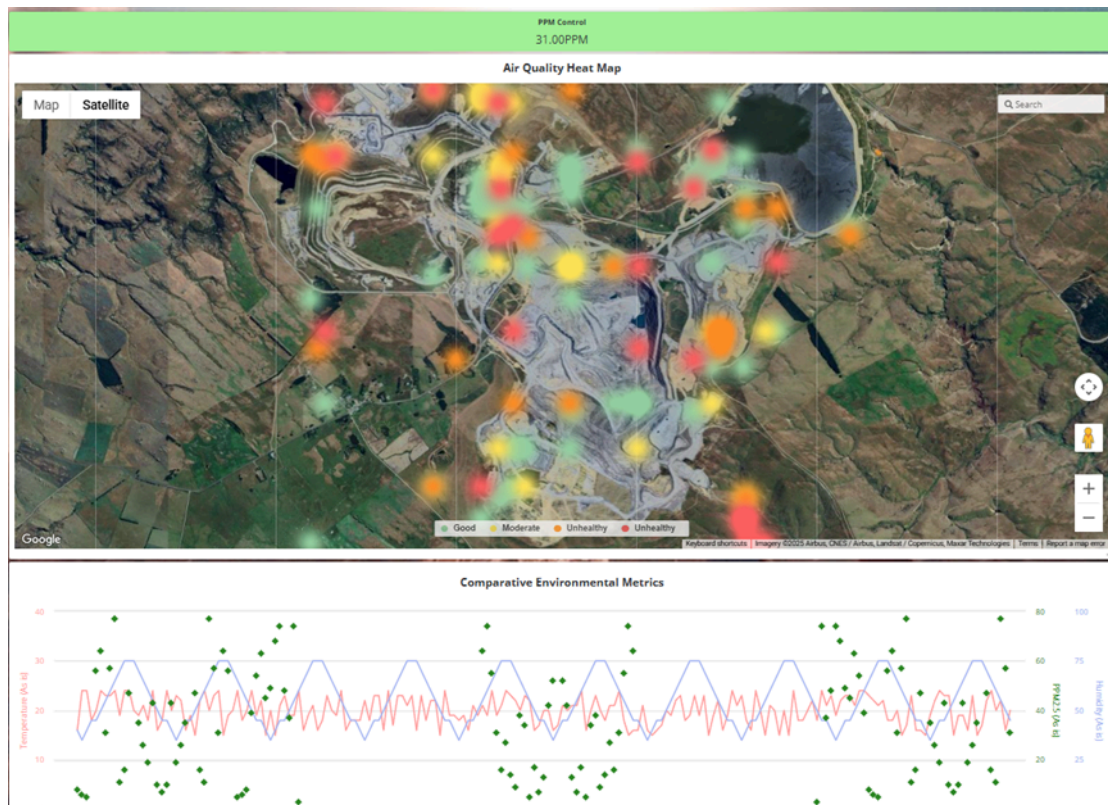
At this point, the Rayven configuration is complete. Now you are ready to build your Rayven application - with more than 40 flow programming nodes and over 100 connectors, you are limited only by your imagination. Visit Home to learn more.

Next, configure your device parameters.

5. Configure Device Parameters

We will describe two scenarios separately: **NB-IoT devices** and **LoRa devices**.

5.1. NB-IoT Device Scenario

Refer to Section 4.3.3 in the EM410-RDL User Manual. Enter the HTTP address obtained in Step 3 into the device configuration.

5.2. LoRa Device Scenario

Log in to the gateway web interface (see " How to Login Web GUI of Milesight Gateway ") and follow the instructions in the screenshots (*skip this if already enabled*):
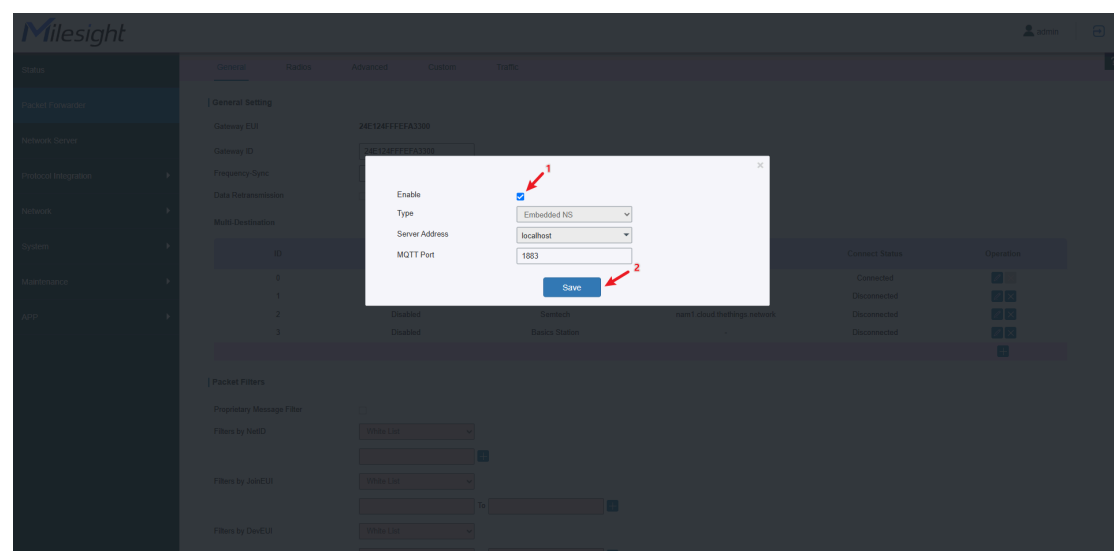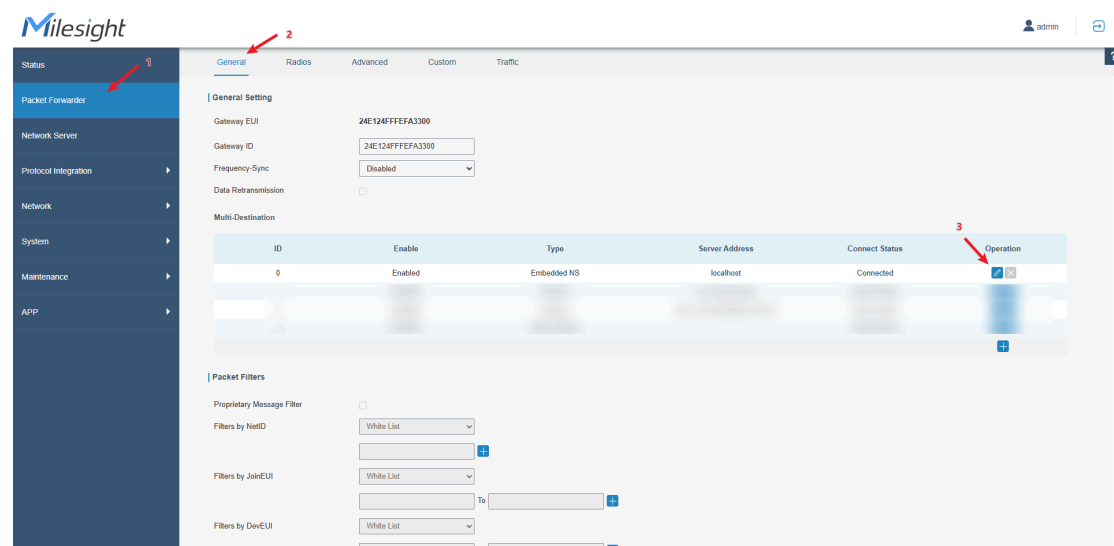
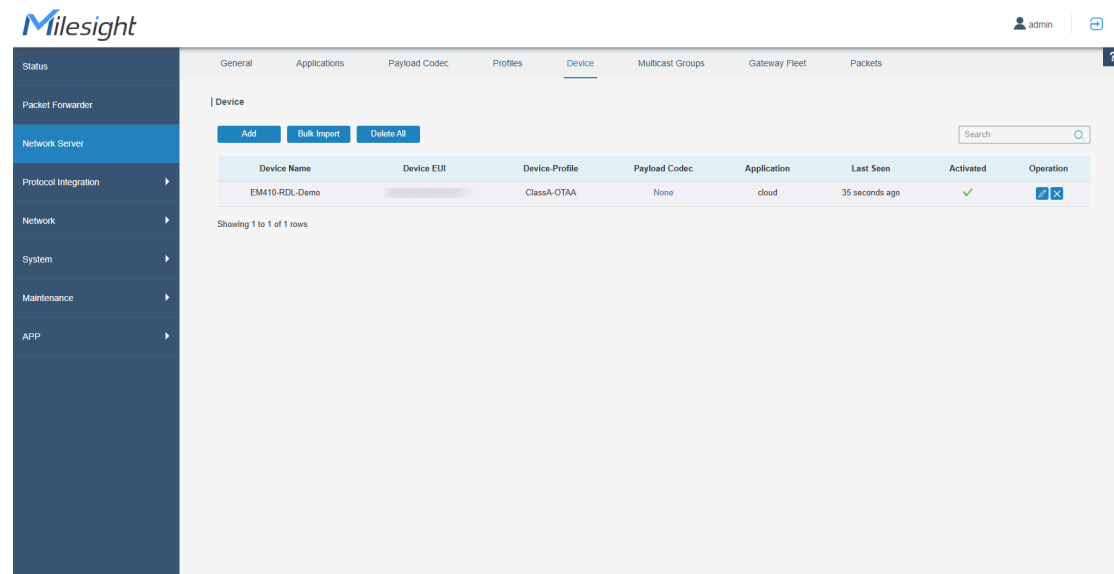

Now the built-in Network Server (NS) in the gateway is enabled.

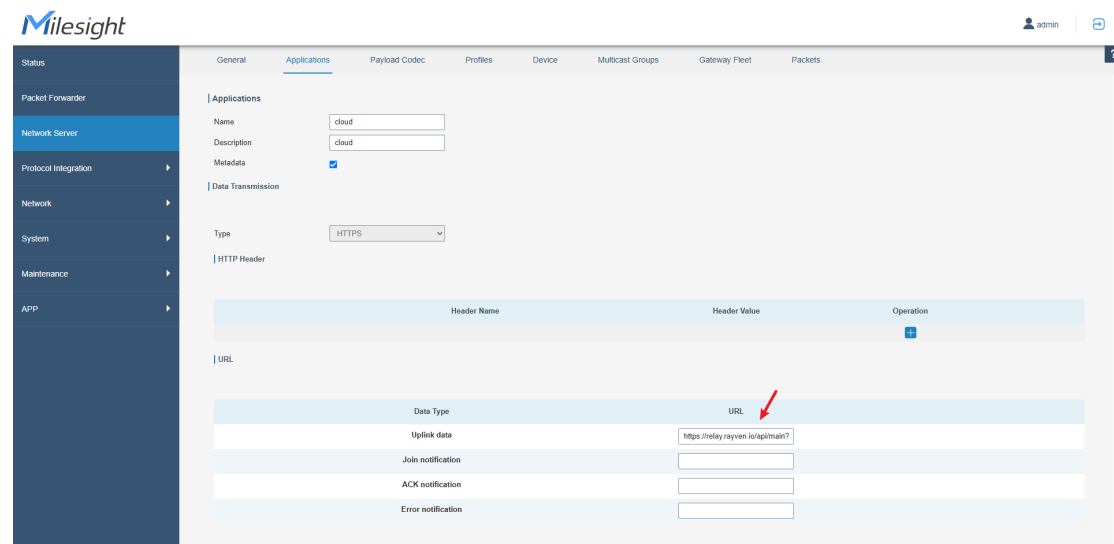Follow the guides <How to Connect LoRaWAN Nodes to Milesight Gateway> and <EM410-RDL User Guide> for setup.

After adding, your screen should look like this:

Note:

Because decoding is performed on the Rayven platform, set the "**Payload Codec**" to "**None**".

Next, refer to <How to Connect Milesight LoRaWAN Gateway to HTTP(s) Server?> and enter the HTTP address from Step 3:

Now your device is fully configured. You can return to the Rayven Flow to see the device's real-time data.

After decoding, you can connect to other Rayven modules such as AI, dashboards, data analysis, etc.

For more information on building solutions on the Rayven platform, visit the official documentation: 🔗 Home

6. Frequently Asked Questions (FAQ)

Q1: Can the device name or ID contain special characters?
A1: Yes, but some Unicode characters (e.g., accented characters) may not be supported. It's recommended to use standard character sets. You can still use special characters in the Rayven UI to display location names for local language support. Note: EM410-RDL configuration is intended for use by platform and solution engineers—end users will not see these settings.

Q2: Does Rayven support raw LoRaWAN payloads?
A2: Yes. You can use JavaScript decoders to parse raw payloads from Milesight devices.

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