



SENSECAP

Connect M2 Multi-Platform Gateway to ChirpStack

This tutorial will guide users to set up a LoRaWAN® network by connecting the LoRaWAN® sensors and M2 Multi-Platform Gateway to the ChirpStack

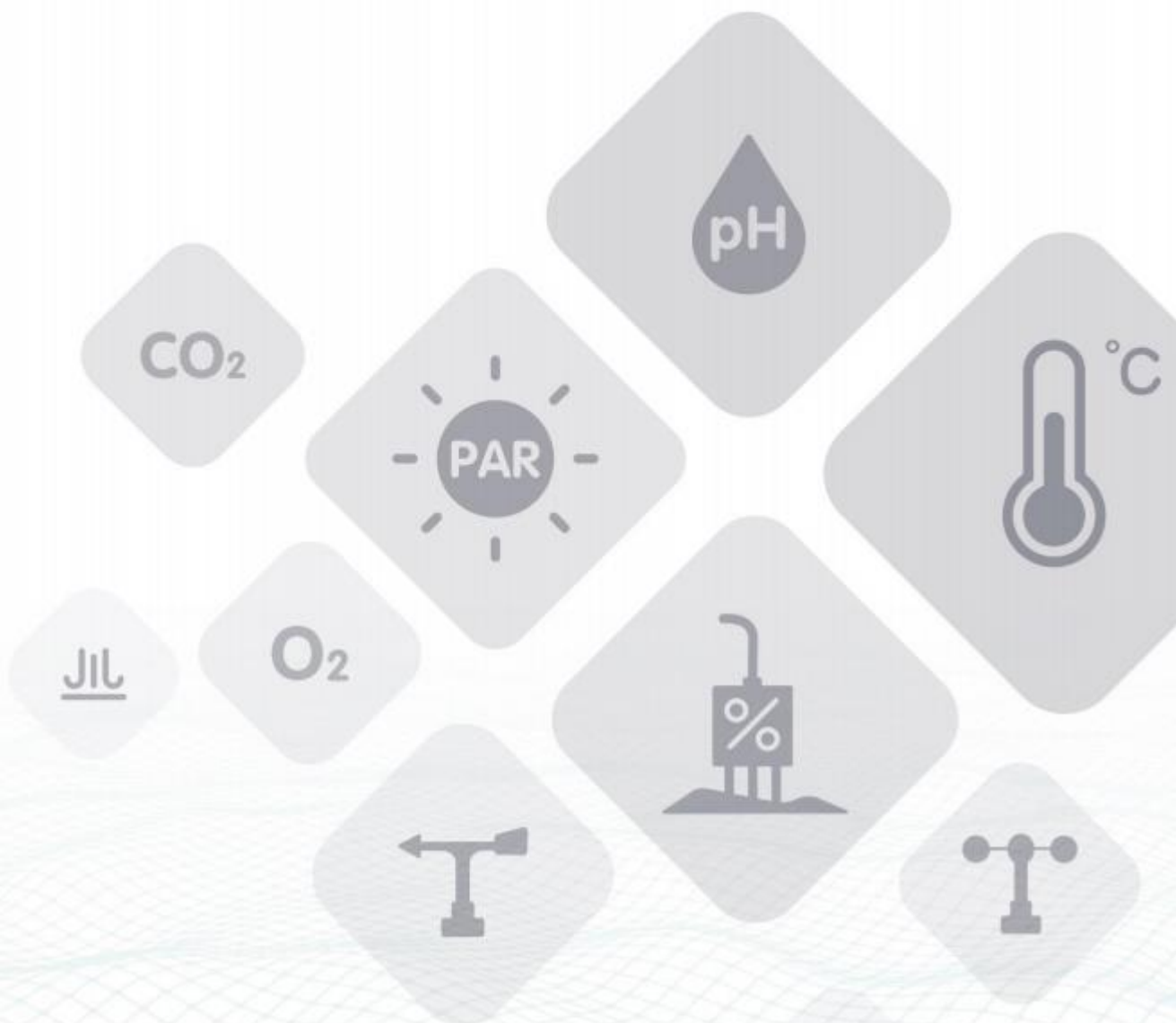


Table of Contents

1. ChirpStack Configuration.....	1
1.1 Add Gateway.....	1
1.2 Add Device	2
2. Gateway Configuration	5
3. Data View	8

1. ChirpStack Configuration

ChirpStack provides open-source components for LoRaWAN networks. Together they form a ready-to-use solution including a user-friendly web-interface for device management and APIs for integration.

1.1 Add Gateway

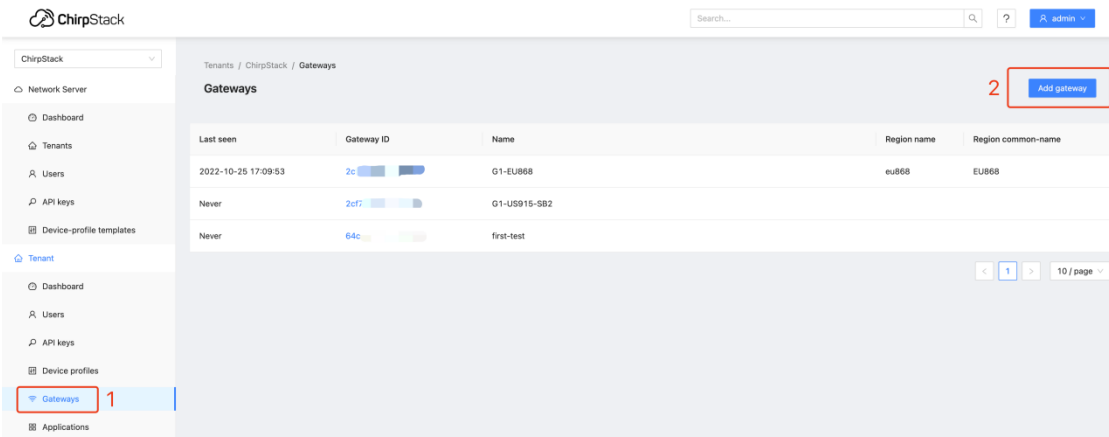
- **Step 1:** [Login](#) into the [ChirpStack Application Server](#).

The default credentials are: Username: admin; Password: admin

Note: If you have not yet connected your [ChirpStack Application Server](#) instance with a [ChirpStack Network Server](#) instance, you need do this first. See [Network servers](#). Also you need connect the organization with the network-server by creating a [Service profile](#).

- **Step 2:** Add gateway

Navigate to **Gateways > Add gateway**



The screenshot shows the ChirpStack web interface. The top navigation bar includes the ChirpStack logo, a search bar, and a user profile dropdown for 'admin'. The left sidebar contains a menu with items like 'Network Server', 'Dashboard', 'Tenants', 'Users', 'API keys', 'Device-profile templates', 'Tenant', 'Dashboard', 'Users', 'API keys', 'Device profiles', 'Gateways', and 'Applications'. The 'Gateways' item is highlighted with a red box and a '1' next to it. The main content area shows the 'Gateways' management page. At the top right of this page, there is an 'Add gateway' button highlighted with a red box and a '2' next to it. Below this is a table with the following data:

Last seen	Gateway ID	Name	Region name	Region common-name
2022-10-25 17:09:53	2c	G1-EU868	eu868	EU868
Never	2cf7	G1-US915-SB2		
Never	64c	first-test		

At the bottom right of the table, there are pagination controls showing '1 / page'.

Gateway name: A name of your gateway

Gateway EUI: Gateway EUI can be found on the device label or Local Console

ChirpStack

Search... ? admin

ChirpStack

Network Server

Dashboard

Tenants

Users

API keys

Device-profile templates

Tenant

Dashboard

Users

API keys

Device profiles

Gateways

Applications

General Tags

* Name

M2 Multi-Platform Gateway

Description

* Gateway ID (EUI64)

2cf

Location

Submit

1.2 Add Device

● Step 1: Add device profile

Before you can add your device to ChirpStack, you have to create a [Device-profile](#) if you haven't done this already.

Navigate to **Device profile** > **Add device profile**

ChirpStack

Tenants / ChirpStack / Device profiles

Device profiles

2 Add device profile

Name	Region	MAC version	Revision	Supports OTAA	Supports Class-B	Supports Class-C
G1-test-eu868	EU868	LoRaWAN 1.0.3	A	yes	no	yes
M2 Multi-Platform Gateway	EU868	LoRaWAN 1.0.3	A	yes	no	no

10 / page

Device profiles

Name: A name of your device profile

Region: Select the Region plan according to your gateway.

MAC version: LoRaWAN 1.0.3

Regional parameters revision: A

ADR algorithm: Default ADR algorithm (LoRa only)

Note: Select MAC version/Regional parameters revision/ADR algorithm according to your device. For details, please refer to: https://lora-alliance.org/resource_hub/

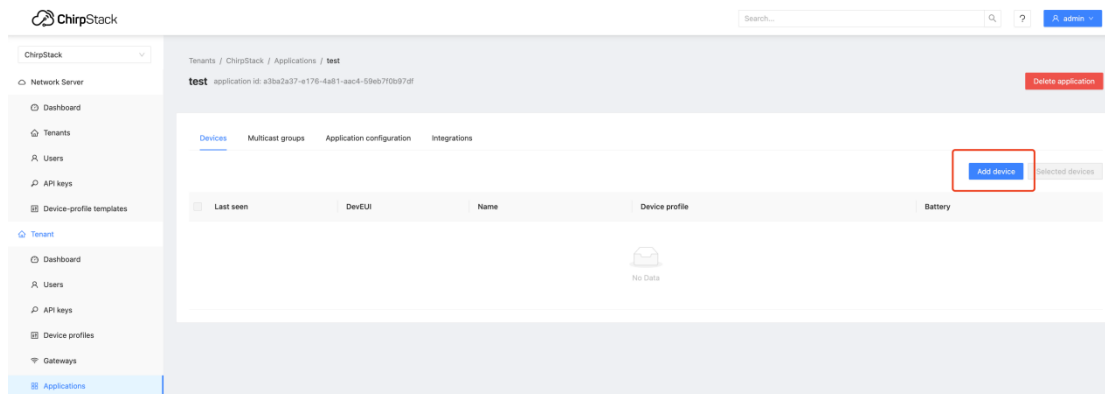
The screenshot shows the ChirpStack web interface for configuring a device profile. The page title is "G1-test-eu868" with a device profile ID of "b2e6dc5-bb8f-4d8d-afe0-837e74a7907". The "General" tab is active, showing fields for Name (G1-test-eu868), Description, Region (EU868), MAC version (LoRaWAN 1.0.3), Regional parameters revision (A), and ADR algorithm (Default ADR algorithm (LoRa only)). There are also checkboxes for "Flush queue on activate" and "Expected uplink interval (secs)" (3600), and a "Device-status request frequency (req/day)" (1). A "Submit" button is at the bottom left.

● Step 2: Add device

Navigate to **Application > Add Application**

The screenshot shows the ChirpStack web interface for the "Applications" page. The "Applications" menu item in the left sidebar is highlighted with a red box and labeled "1". In the main content area, the "Add application" button is highlighted with a red box and labeled "2". The page shows a table with columns for "Name" and "Description", and a pagination control at the bottom right showing "10 / page".

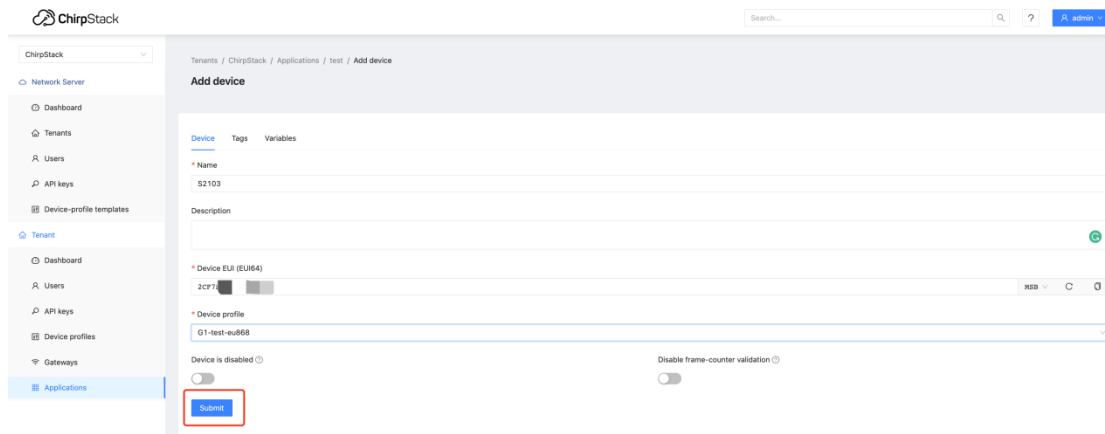
Click the application to which you want to add your device. Under the **Devices** tab, click **Add device**



Name: A name of your device

Device EUI: Device EUI can be found on the device label or SenseCAP Mate APP

Device profile: Choose the device profile we create in 1.2 step1.



2. Gateway Configuration

Configure the gateway via the Web UI, please check the [Quick Start](#) to log into Local Console first.

- **Step 1: LoRa Network Settings**

Navigate to **LoRa > LoRa Network**



Mode: Packet Forward

Packet Forwarder Settings:

Gateway EUI: It will automatically get the EUI of the connected gateway

Server Address: Your ChirpStack Server address

Server Port (Up/Down): 1700

Other settings can be left as default or can be changed to suit your requirements.

● Step 2: Channel Plan Settings

Navigate to **LoRa > Channel Plan**

Select the Region and Frequency plan according to the actual choice.

Channel Plan

Region: EU863-870

Frequency plan: Europe 863-870 MHz (SF9 for R)

Save & Apply

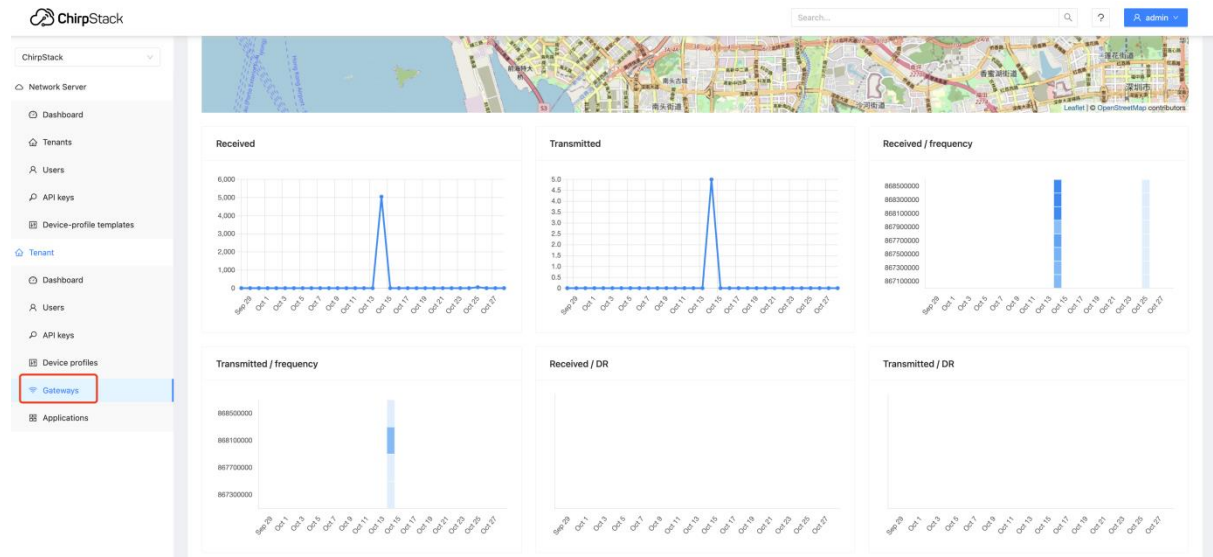
Powered by LuCI / OpenWrt 21.02.0 r1-20220615 r16279-5cc0535800

After setting, click **Save&Apply**

3. Data View

- Gateway data

Navigate to **Gateways**, choose the gateway you want to check



- Device data

After adding your LoRaWAN device to ChirpStack, validate that your device is able activate (in case of OTAA) and send data.

Navigate to **Applications > Devices**, choose the device you want to check

