

Instruction to configure embedded Chirpstack Network Server in the Gateway

Embedded Chirpstack Network Server Information

Configure Gateway to forward data from LoRaWAN gateway to Embedded Network Server

1. Access web UI via URL of [http://\[Gateway_IP\]:4050](http://[Gateway_IP]:4050)

Where [Gateway_IP] is the IP of the gateway in the network

1. Navigate to LoRa menu on the left panel → Packet Forwarder
2. Configure the following and click Apply to save settings

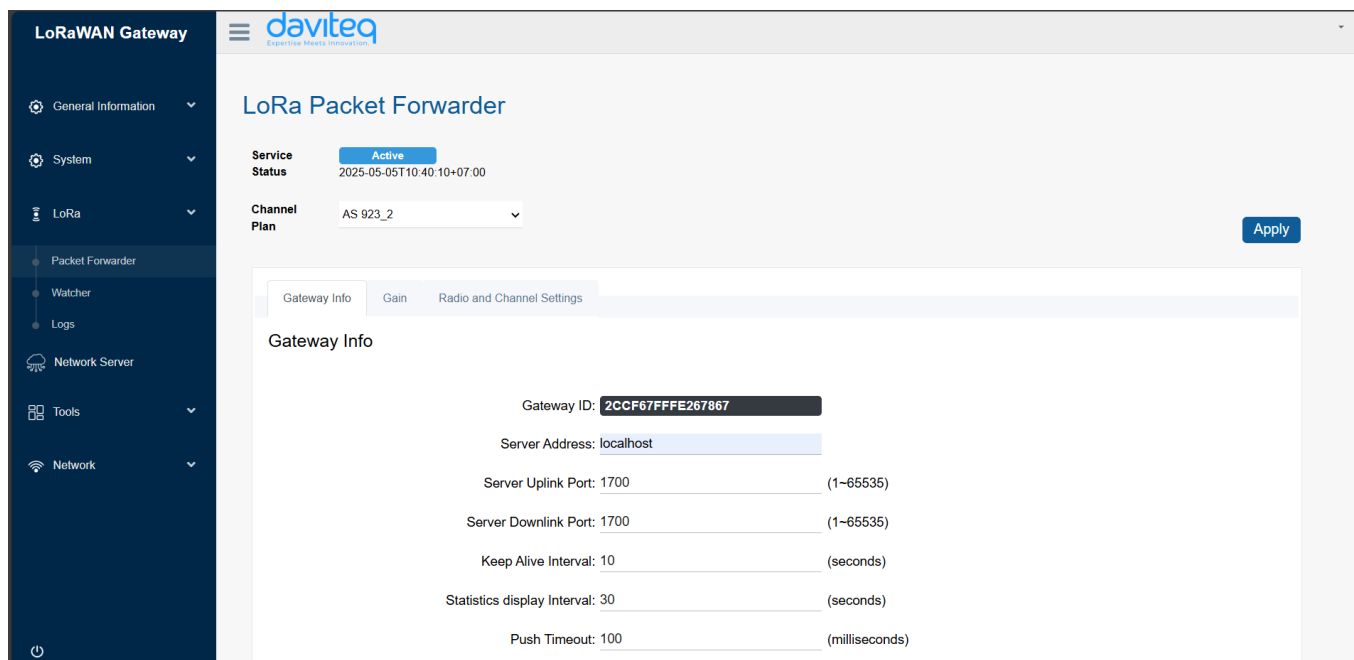
Server Address: localhost

Uplink Port: 1700

Downlink Port: 1700

LoRaWAN Region: Depend on your region e.g., EU868, US915, AS923...

Other settings: keep default values



The screenshot shows the Daviteq LoRaWAN Gateway web interface. On the left is a dark blue sidebar with a menu: General Information, System, LoRa, Packet Forwarder (selected), Watcher, Logs, Network Server, Tools, and Network. The main area is titled 'LoRa Packet Forwarder' and shows the service is 'Active' with a timestamp '2025-05-05T10:40:10+07:00'. The 'Channel Plan' is set to 'AS 923_2'. Below this are three tabs: 'Gateway Info' (active), 'Gain', and 'Radio and Channel Settings'. The 'Gateway Info' tab contains several configuration fields: Gateway ID (2CCF67FFFE267867), Server Address (localhost), Server Uplink Port (1700), Server Downlink Port (1700), Keep Alive Interval (10 seconds), Statistics display Interval (30 seconds), and Push Timeout (100 milliseconds). An 'Apply' button is located in the top right corner of the configuration area.

Turn on Network Server

Navigate to Network Server on the left panel → click Start Network Server then click Open New Tab

Add Gateway

1. Log in to the Chirp Stack web interface: After clicking Open New Tab, web UI to login appear, and login to Chirpstack with user of admin and password of admin
2. From the left menu, go to Gateways.
3. Click on the “Add gateway” button in the top right corner.
4. Fill in the following fields:

Gateway ID: Enter the unique EUI (e.g., c0ee40ffff29abcd) of the gateway.

Name: fill name of gateway (e.g., My Gateway).

Scroll down to click SUBMIT to save

The screenshot shows the ChirpStack web interface. The left sidebar contains a menu with options: Dashboard, Tenants, Users, API Keys, Device Profile Templates, Regions, Tenant (selected), Dashboard, Users, API Keys, Device Profiles, Gateways (highlighted), Gateway Mesh, and Applications. The main content area is titled 'Add gateway' and has tabs for General, Tags, and Metadata. The General tab is active. Fields include: Name (my gateway), Description, Gateway ID (EUI64) (c0ee40ffff29abcd), Stats interval (secs) (30), and Location (a blue map area with a + button). The top right has a search bar, a help icon, and a user dropdown (admin). The bottom left shows 'Version: v4.11.1'.

Add Device Profiles

1. From the left menu, go to Device Profiles.
2. Click on the “Add device profiles” button in the top right corner.
3. Fill in the following fields:

Name: fill name of profile(e.g., AS923_2_PROFILE).

Region: Select LoRaWAN region (e.g., AS923-2)

MAC version: Select LoRaWAN 1.0.3

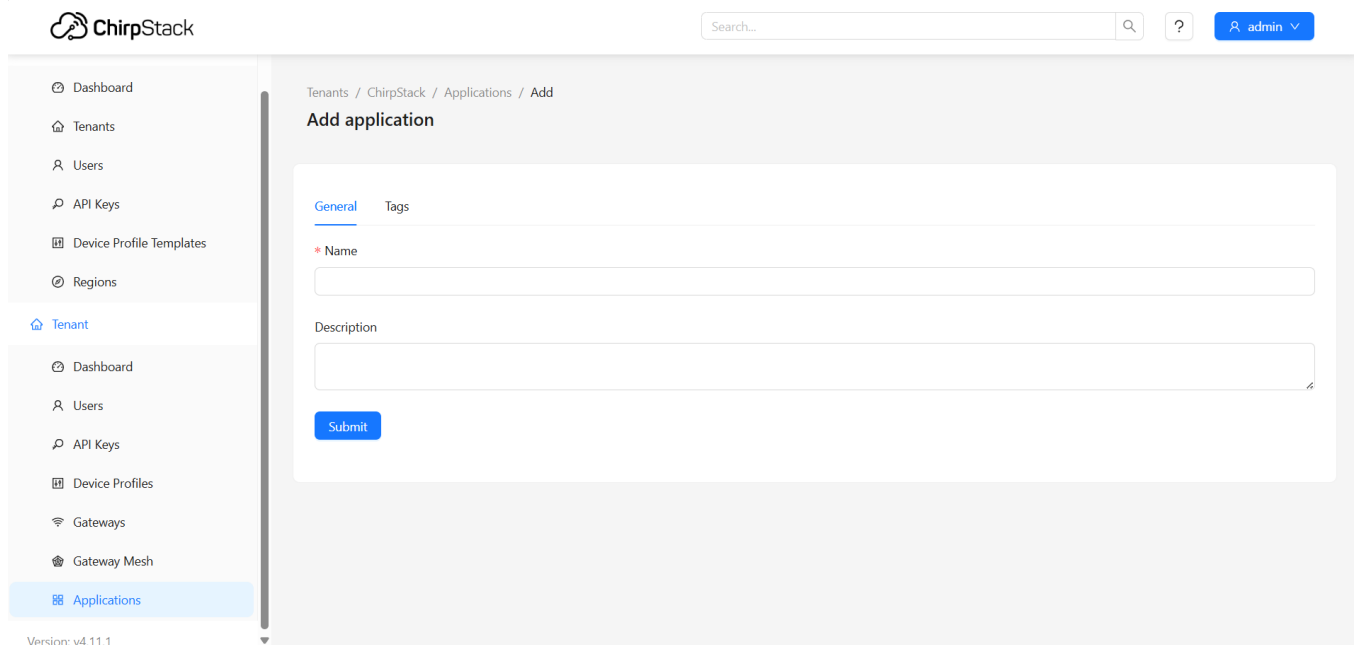
Regional parameters revision: Select A

Scroll down to click submit to save

The screenshot shows the ChirpStack web interface for adding a device profile. The left sidebar is the same as the previous screenshot, but 'Device Profiles' is highlighted. The main content area is titled 'Add device profile' and has tabs for General, Join (OTAA / ABP), Class-B, Class-C, Codec, Relay, Tags, and Measurements. The General tab is active. Fields include: Name (AS923_2_PROFILE), Description, Region (AS923-2), Region configuration, MAC version (LoRaWAN 1.0.3), Regional parameters revision (A), ADR algorithm (Default ADR algorithm (LoRa only)), Flush queue on activate, and Allow roaming. The top right has a search bar, a help icon, and a user dropdown (admin). The bottom left shows 'Version: v4.11.1'.

Add Application

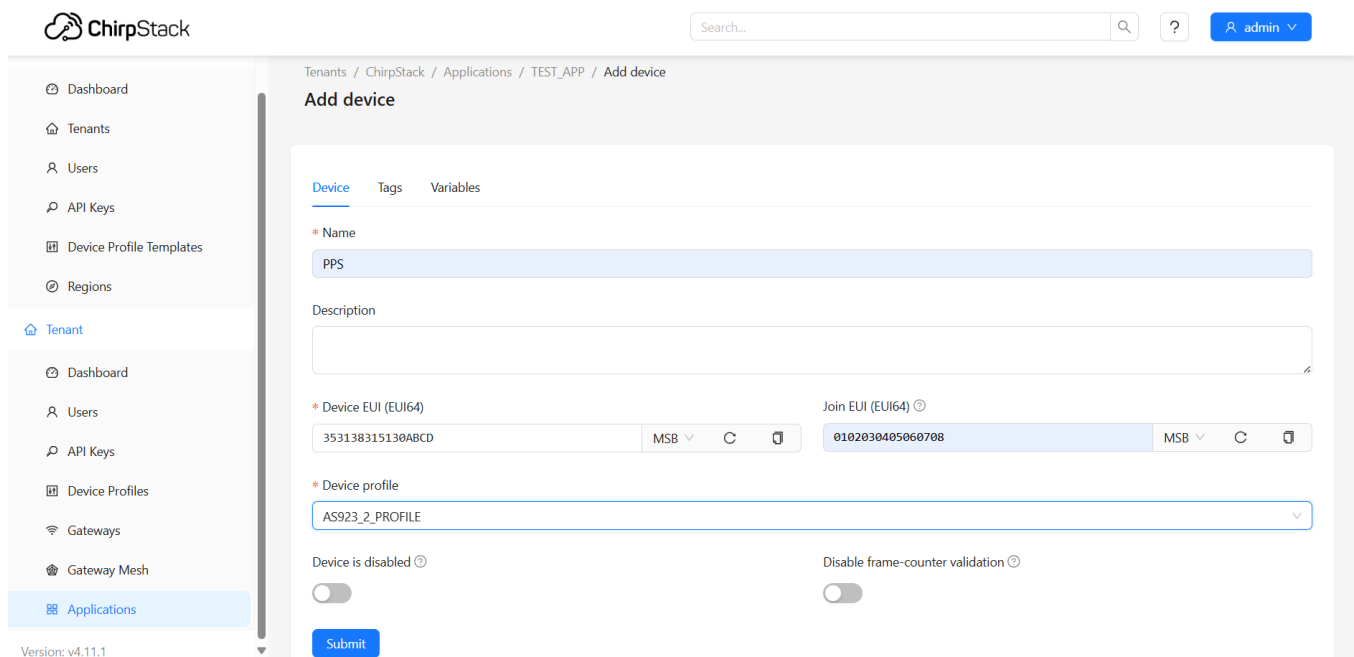
1. From the left menu, go to Applications.
2. Click on the “Add Application” button in the top right corner.
3. Fill in the following fields: fill name of application (e.g., TEST_APP).
4. Click submit to save



The screenshot shows the ChirpStack web interface. The left sidebar contains a menu with options: Dashboard, Tenants, Users, API Keys, Device Profile Templates, Regions, Tenant (selected), Dashboard, Users, API Keys, Device Profiles, Gateways, Gateway Mesh, and Applications. The main content area is titled 'Add application' and has tabs for 'General' and 'Tags'. The 'General' tab is active, showing a form with fields for 'Name' (required), 'Description', and a 'Submit' button. The breadcrumb trail at the top reads 'Tenants / ChirpStack / Applications / Add'.

Add Device

1. From the right menu of application, click Add device.
2. Fill in the following fields:
3. Name: fill name of device(e.g., PPS).
4. Device EUI (EUI64): Enter device EUI of device (e.g., 353138315130ABCD)
5. Join EUI (EUI64) Enter appEUI of device (e.g., 0102030405060708)
6. Device Profile: Select device profile (e.g., AS9232_2_PROFILE)
7. Click SUBMIT to save



The screenshot shows the ChirpStack web interface. The left sidebar contains a menu with options: Dashboard, Tenants, Users, API Keys, Device Profile Templates, Regions, Tenant (selected), Dashboard, Users, API Keys, Device Profiles, Gateways, Gateway Mesh, and Applications. The main content area is titled 'Add device' and has tabs for 'Device', 'Tags', and 'Variables'. The 'Device' tab is active, showing a form with fields for 'Name' (required), 'Description', 'Device EUI (EUI64)', 'Join EUI (EUI64)', 'Device profile', 'Device is disabled', and 'Disable frame-counter validation'. The 'Device EUI (EUI64)' field contains '353138315130ABCD' and the 'Join EUI (EUI64)' field contains '0102030405060708'. The 'Device profile' field is set to 'AS9232_2_PROFILE'. The 'Device is disabled' and 'Disable frame-counter validation' fields are toggle switches. The 'Submit' button is at the bottom. The breadcrumb trail at the top reads 'Tenants / ChirpStack / Applications / TEST_APP / Add device'.

Further reference

For further reference on Chirp Stack Network Server, please access the referenced document at link [ChirpStack open-source LoRaWAN Network Server](#)

🕒 Revision #11

★ Created Mon, May 5, 2025 8:16 AM by [Phan Van Luc](#)

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