

Instruction to configure embedded Chirpstack Network Server in PINEX firmware 6

Embedded Chirpstack Network Server Information

The version of embedded Chirp Stack Network Server in the PINEX gateway firmware 6 is v4.

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

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

Where [PINEX_IP] is the IP of the PINEX 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 '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'. It has a 'Service Status' section with a blue 'Active' button and a timestamp '2025-05-05T10:40:10+07:00'. Below that is a 'Channel Plan' dropdown set to 'AS 923_2' and an 'Apply' button. The 'Gateway Info' tab is active, showing fields for 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).

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 has a 'Tenant' section with a 'Gateways' link highlighted. The main content area is titled 'Add gateway' and has tabs for 'General', 'Tags', and 'Metadata'. The 'General' tab is active. It contains the following fields: 'Name' (text input with 'my gateway'), 'Description' (text area), 'Gateway ID (EUI64)' (text input with 'c0ee40ffff29abcd', a dropdown set to 'MSB', a 'C' icon, and a trash icon), 'Stats interval (secs)' (text input with '30'), and 'Location' (a blue area with a '+' button). The top right has a search bar, a help icon, and a user profile 'admin'. The bottom left shows the 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

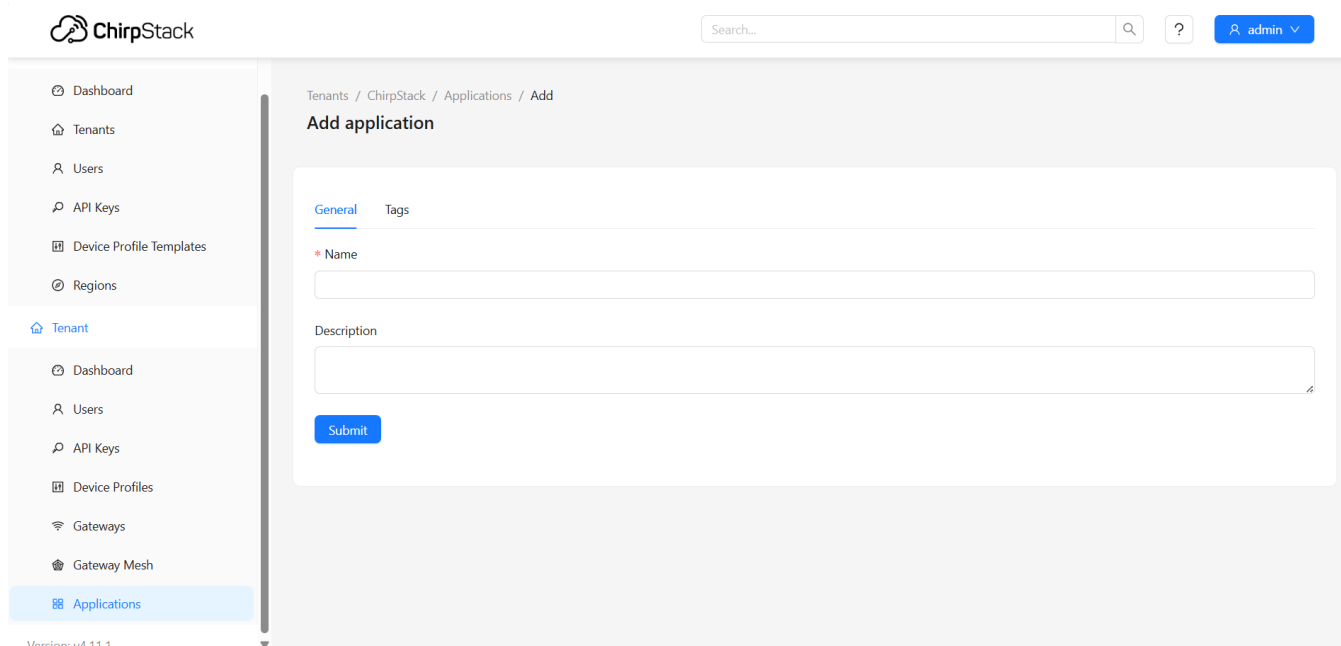
Scroll down to click submit to save

The screenshot shows the ChirpStack web interface for adding a device profile. The left sidebar has a 'Tenant' section with 'Device Profiles' highlighted. The main content area has tabs for 'General', 'Join (OTAA / ABP)', 'Class-B', 'Class-C', 'Codex', 'Relay', 'Tags', and 'Measurements'. The 'General' tab is active. It contains the following fields: 'Name' (text input with 'AS923_2_PROFILE'), 'Description' (text area), 'Region' (dropdown with 'AS923-2'), 'Region configuration' (dropdown), 'MAC version' (dropdown with 'LoRaWAN 1.0.3'), 'Regional parameters revision' (dropdown with 'A'), 'ADR algorithm' (dropdown with 'Default ADR algorithm (LoRa only)'), 'Flush queue on activate' (checkbox), and 'Allow roaming' (checkbox). A 'Select device-profile template' button is in the top right. The top right has a search bar, a help icon, and a user profile 'admin'. The bottom left shows the 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.

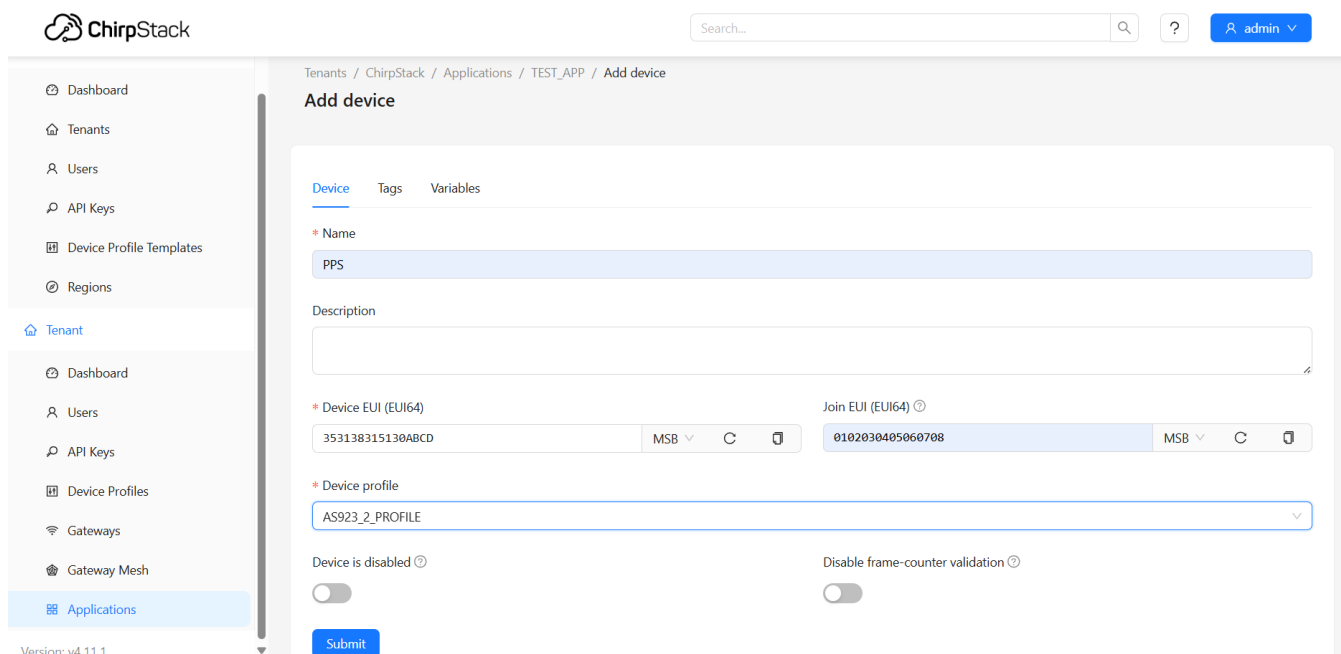
3. Fill in the following fields: fill name of application (e.g., TEST_APP).
4. Click submit to save



The screenshot shows the ChirpStack web interface. The top navigation bar includes the ChirpStack logo, a search bar, a help icon, and a user profile dropdown labeled 'admin'. The left sidebar contains a menu with options: Dashboard, Tenants, Users, API Keys, Device Profile Templates, Regions, Tenant (expanded), and Applications (selected). The main content area is titled 'Add application' and has tabs for 'General' and 'Tags'. The 'General' tab is active, showing a form with a required 'Name' field, a 'Description' field, and a 'Submit' button. The breadcrumb trail at the top of the main area 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 with the 'Add device' form. The top navigation bar is the same as the previous screenshot. The left sidebar shows the 'Applications' menu item selected, and the 'Tenant' menu is expanded. 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 the following fields: a required 'Name' field with the value 'PPS', a 'Description' field, a 'Device EUI (EUI64)' field with the value '353138315130ABCD', a 'Join EUI (EUI64)' field with the value '0102030405060708', and a 'Device profile' dropdown menu with the value 'AS9232_2_PROFILE'. There are also two toggle switches: 'Device is disabled' and 'Disable frame-counter validation'. A 'Submit' button is at the bottom. The breadcrumb trail at the top of the main area 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](#)

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