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Rev. 1.10

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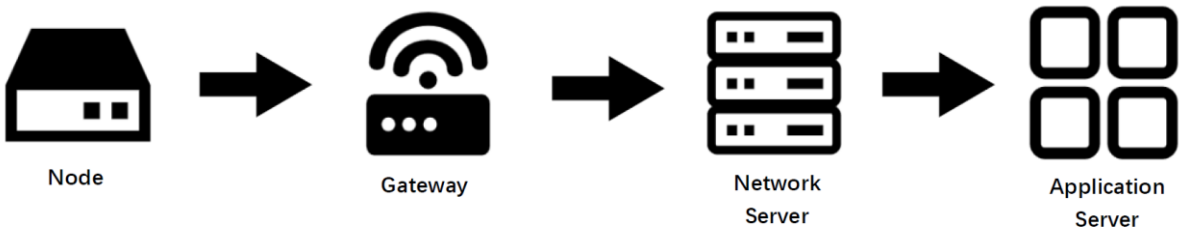
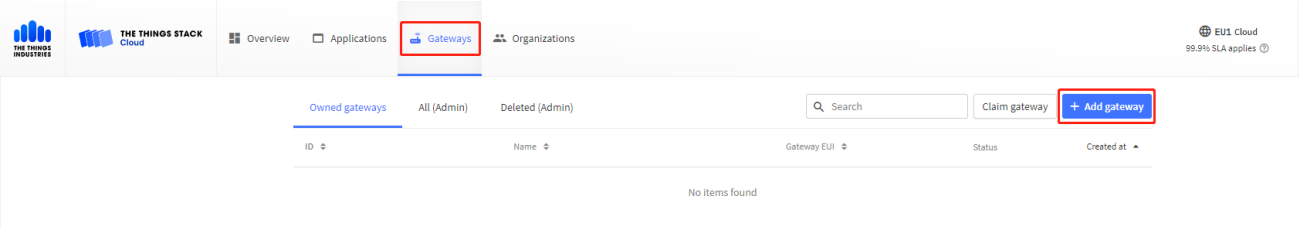
1. Overview

A typical LoRaWAN architecture consists of a node, gateway, network server, and application server. The architecture is as follows. This document mainly introduces how to add a Lansitec LoRaWAN end device to a LoRaWAN network. The network server used is The Things Network (TTN).

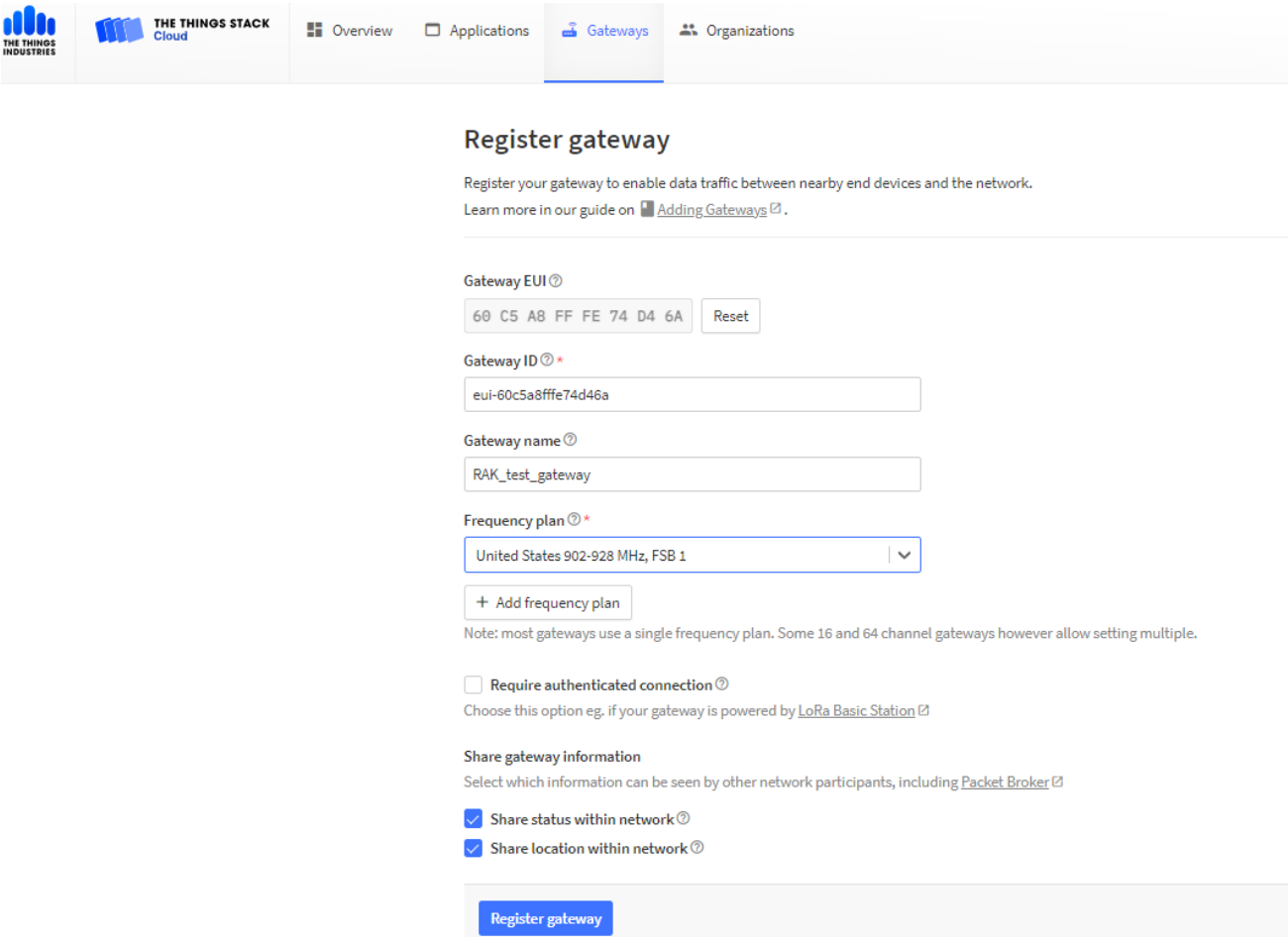


2. Connect the LoRa gateway to the TTN platform

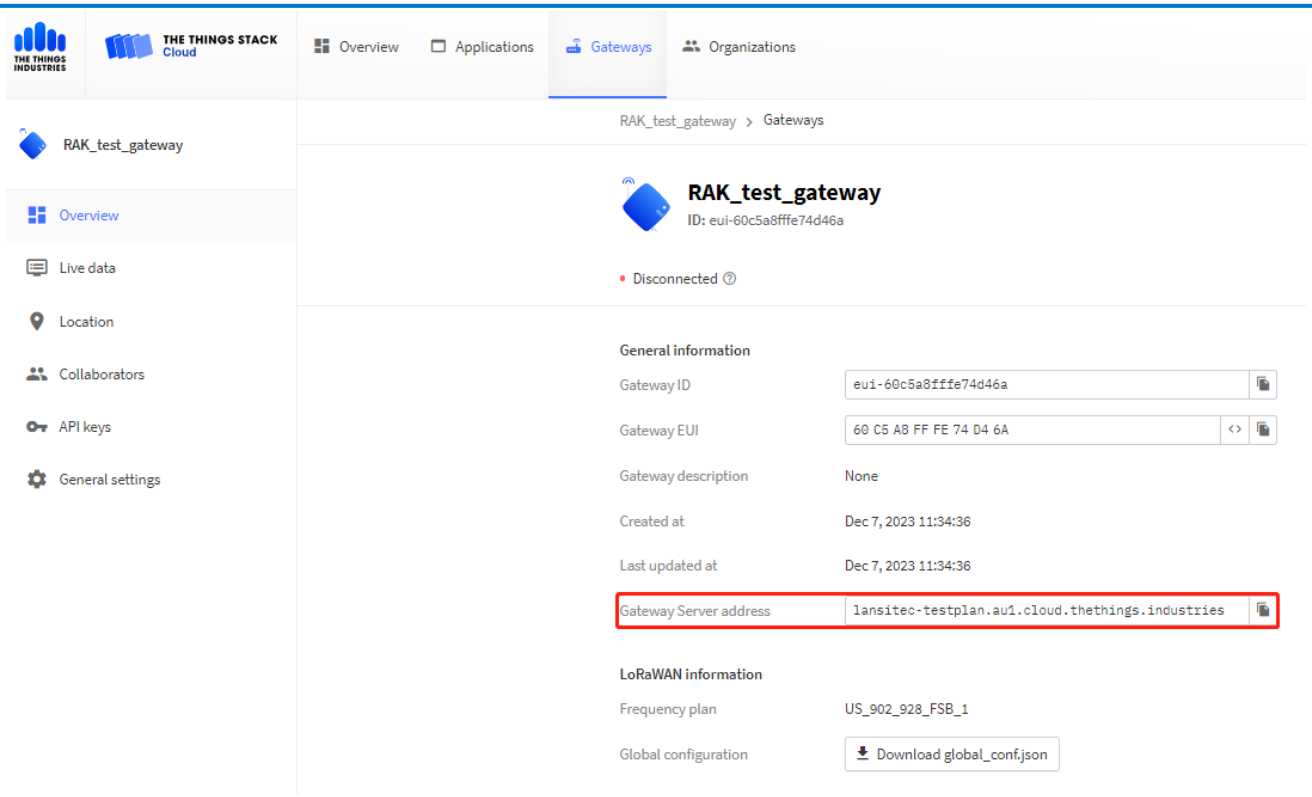
2.1 Configure TTN platform



- Fill in ***the gateway EUI you can get in Section 2.2.2*** to Gateway EUI and click ***Confirm****;
- Fill in ***your gateway name*** to Gateway name*;
- Select ***your frequency band (e.g., US902-928, FSB 1)*** from the Frequency plan*.



- Copy the Gateway Server address* to be used in ***Section 2.2.2***;

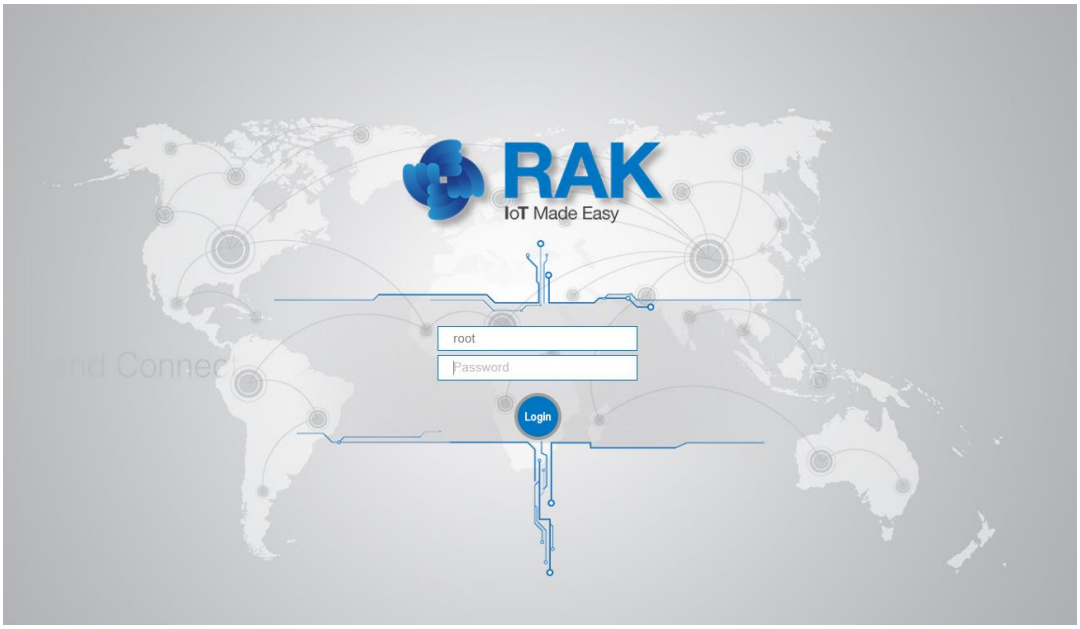


2.2 Configure the Gateway

2.2.1 Log in RAK Gateway configuration UI

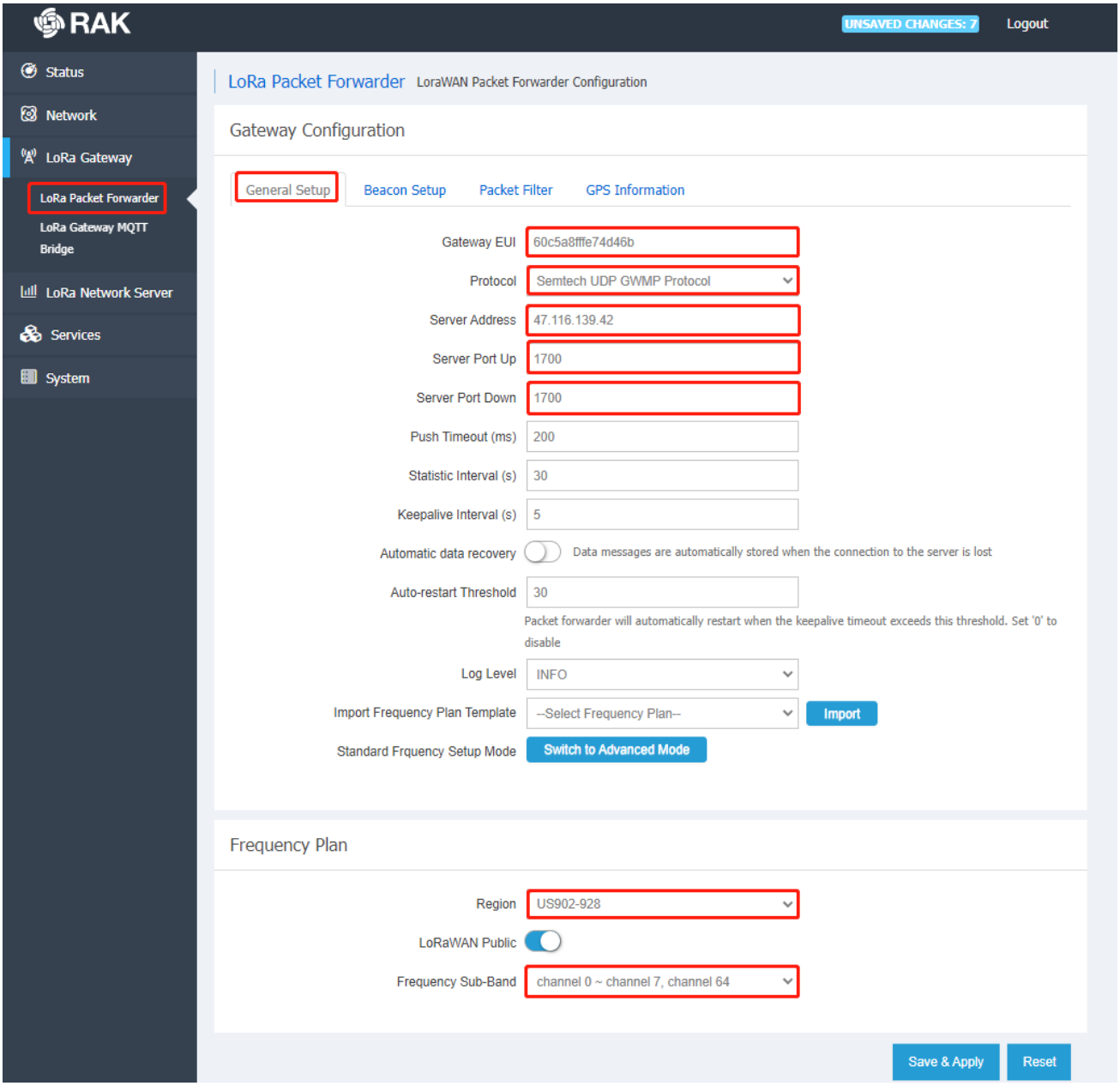
Username: root

Password: root

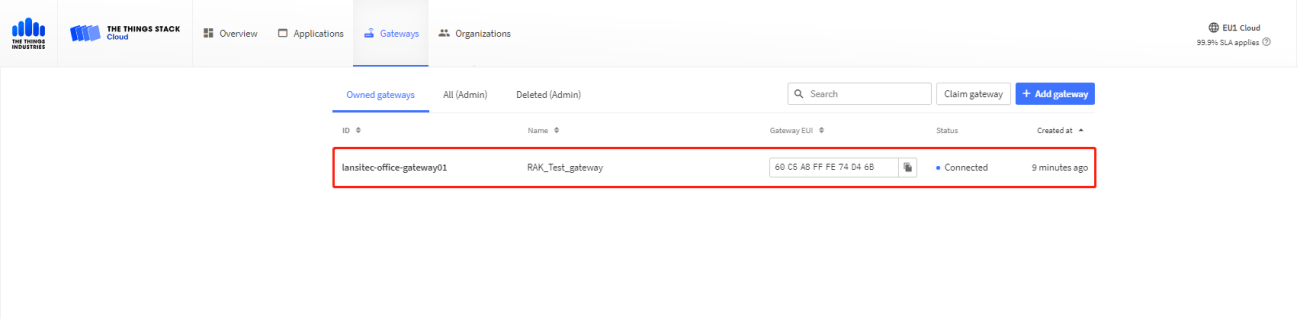


2.2.2 Configure LoRa Packet Forwarder*

- Copy Gateway EUI to be used in ***Section 2.1;***
- Select ***Semtech UDP GWMP Protocol*** from Protocol*;
- Fill in ***your TTN server IP address got in Section 2.1*** to Server Address*;
- Fill in ***the uplink port and the default downlink port 1700*** to Server Port*;
- Select ***the frequency band you used (e.g., US905-928)*** from Region*;
- Select ***the frequency channels you used (e.g., channel 0~channel 7, channel 64)*** from Sub-Band*;
- Save&Apply* and reboot* gateway;



2.3 Gateway connected

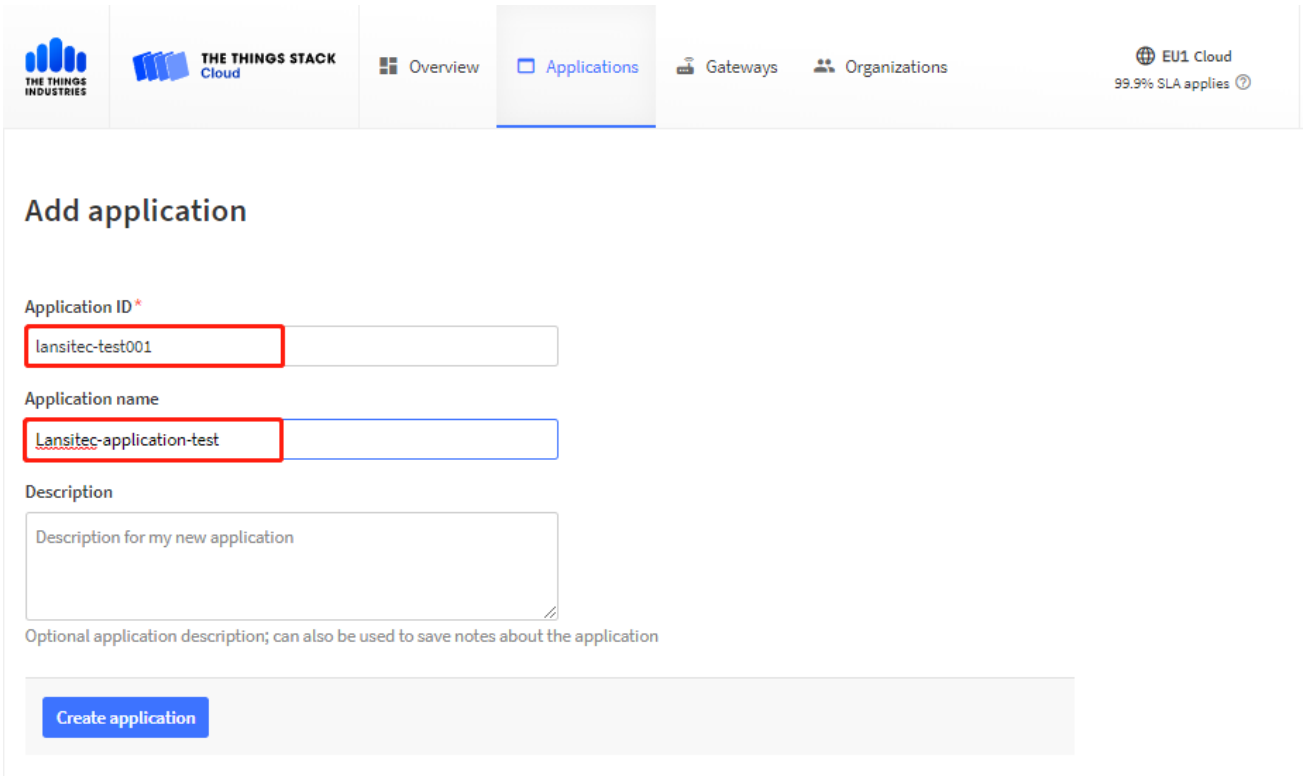


3. Connect the LoRa device to TTN

3.1 Configure TTN

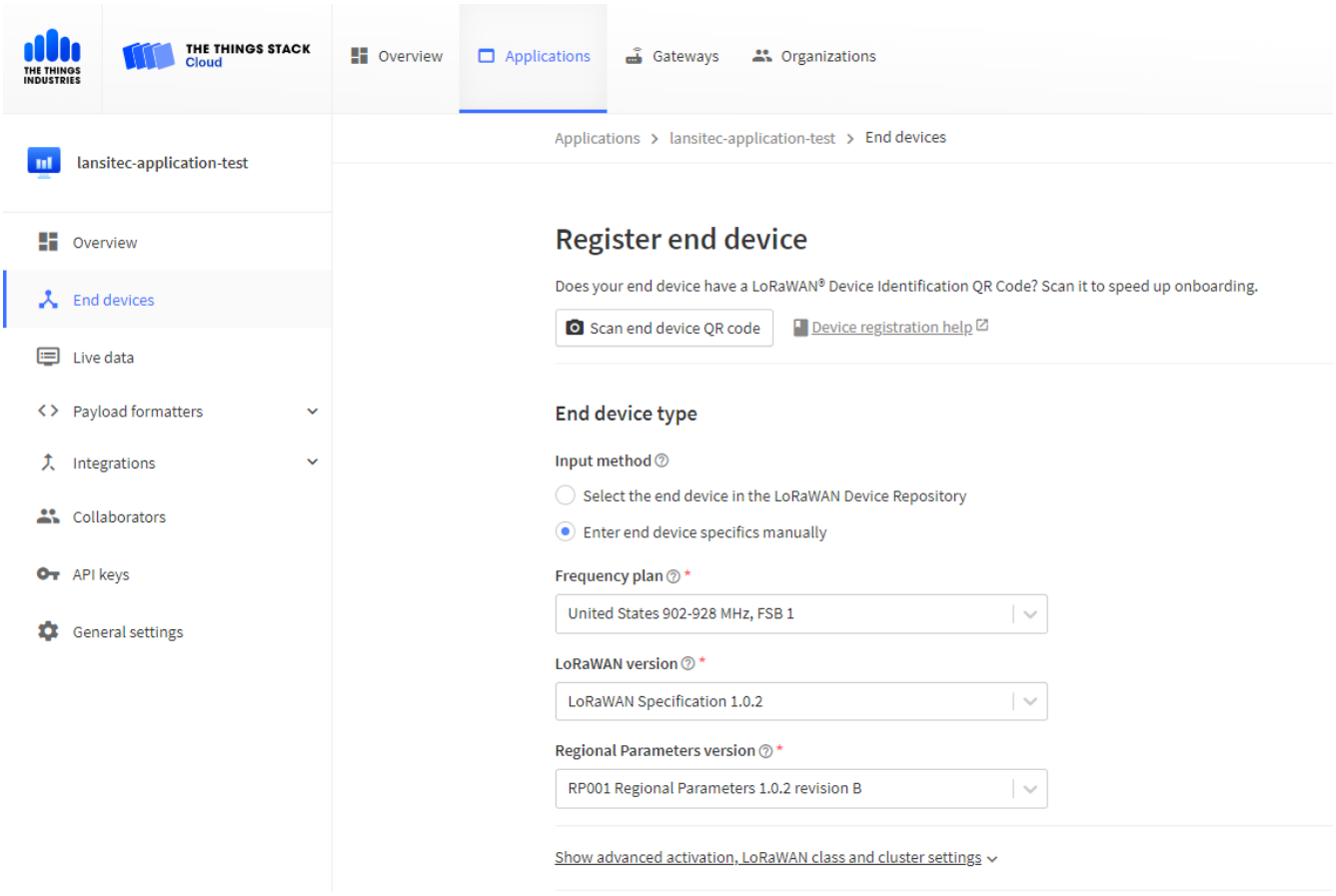
3.1.1 Add Application*

- Fill in ***your application ID*** to Application ID*;
- Fill in ***your application name*** to Application name*.

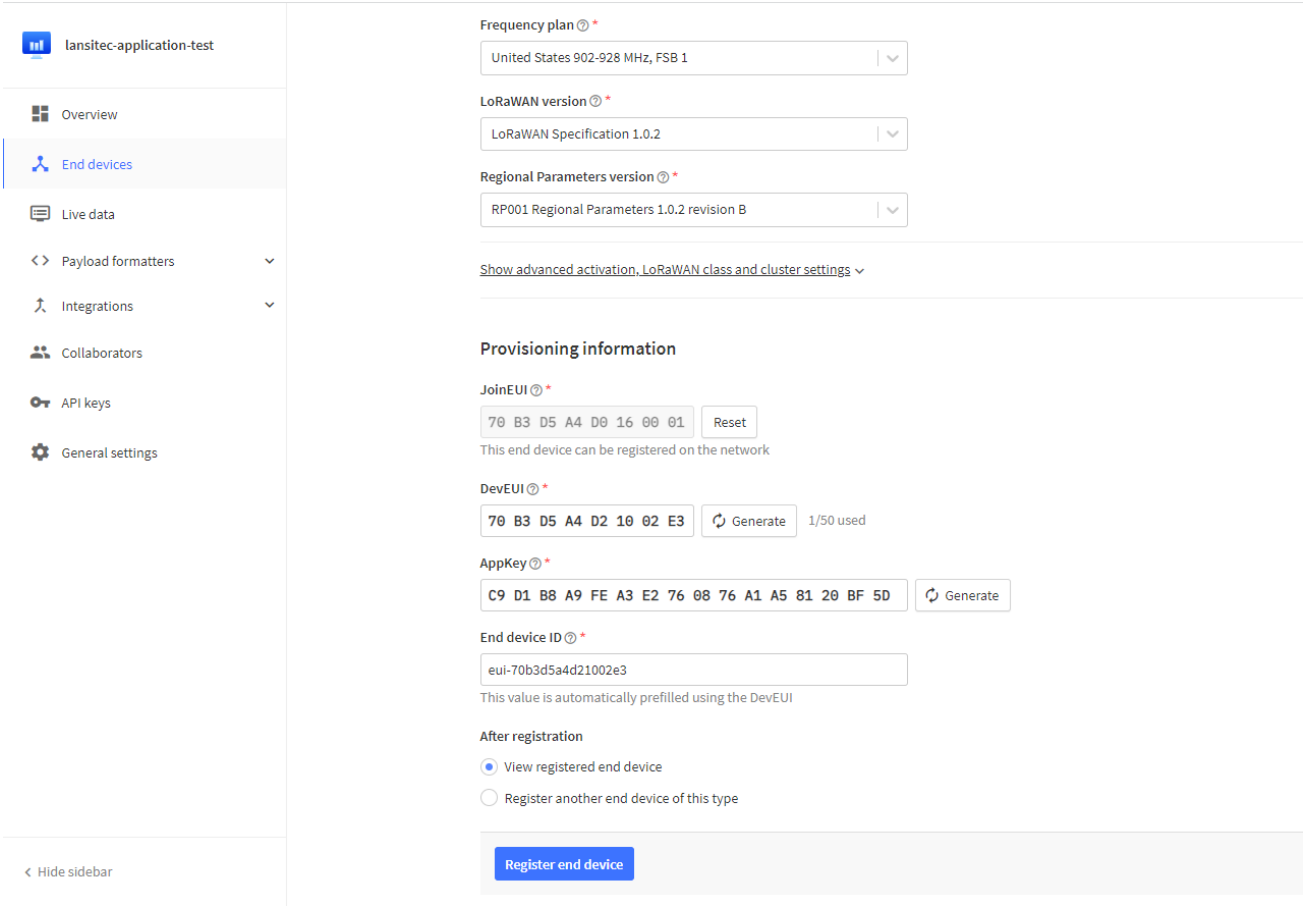


3.1.2 Add Device*

- Select ***the Enter end device specifics manually*** from the Input method*;
- Select ***the frequency plan you used (e.g., US902-928, FSB 1)*** from the Frequency plan*;
- Select ***the LoRaWAN version 1.0.2*** from the Frequency plan*;
- Select ***the Regional parameter 1.0.2 revision B*** from Regional Parameters version*;

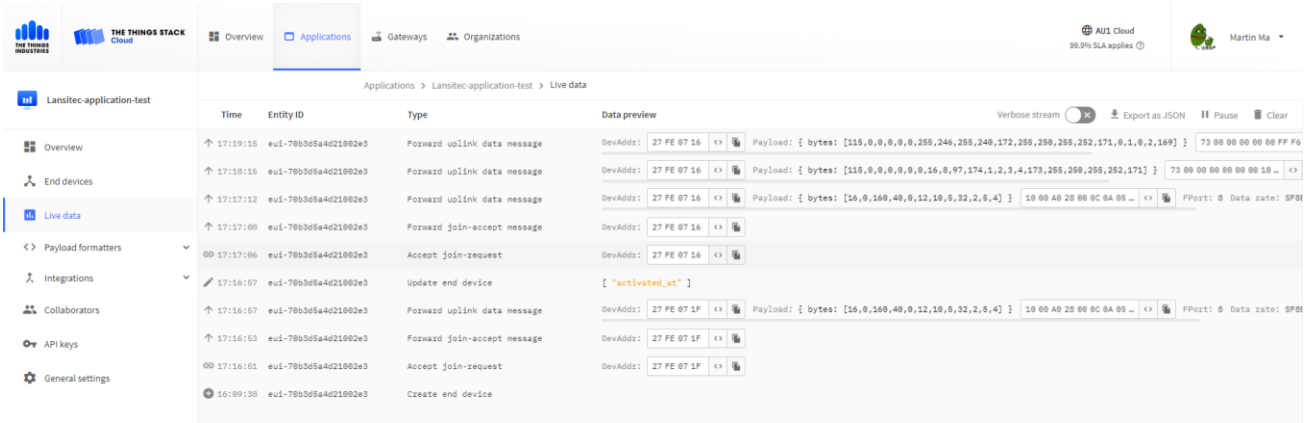


- Fill in ***your application EUI*** to the Join EUI and click ***Confirm****;
- Fill in ***your device EUI*** to the DevEUI*;
- Fill in ***your application key*** to the Appkey*.



3.2 Reboot the Device

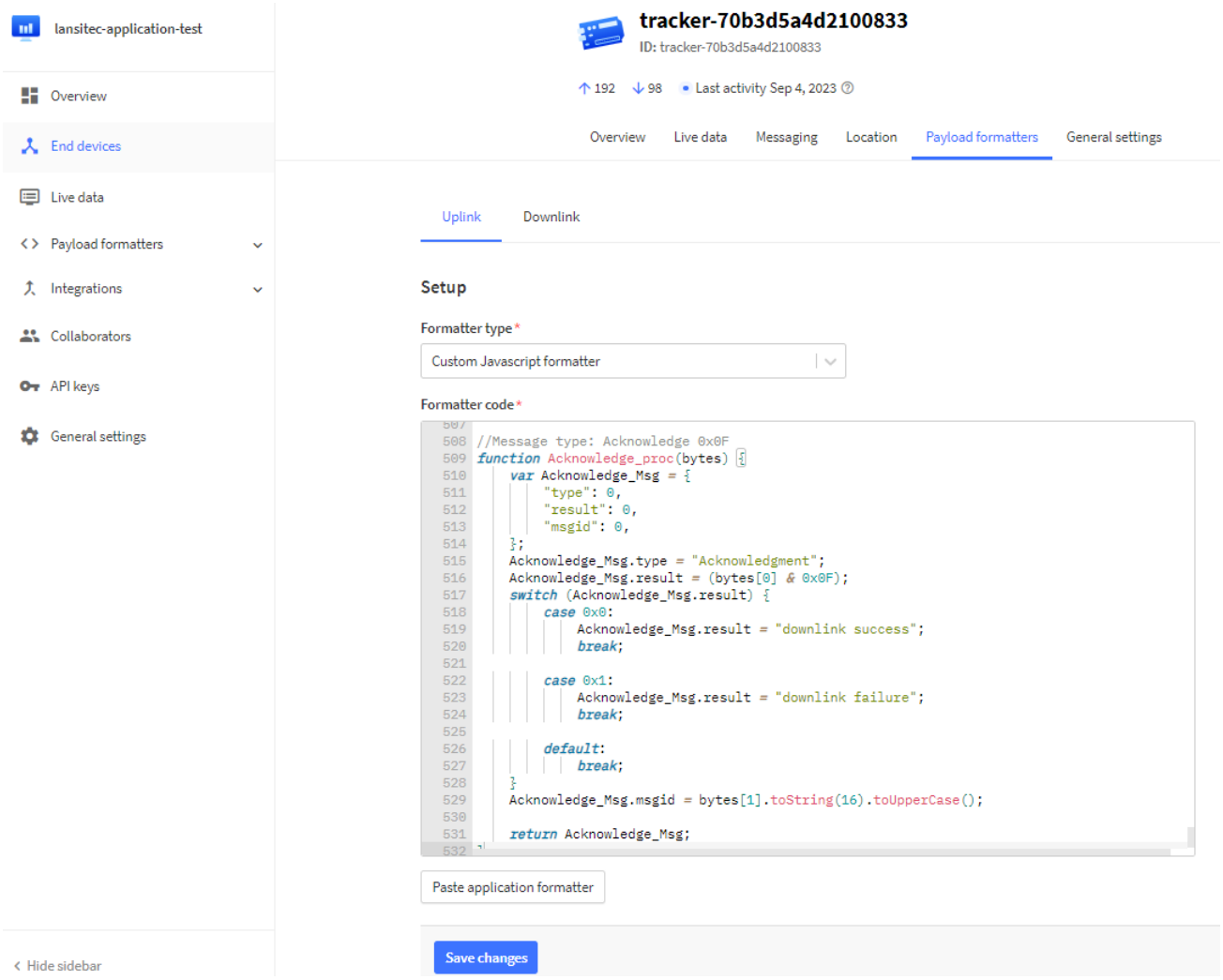
- Reboot the device;
- The device is connected to the TTN successfully



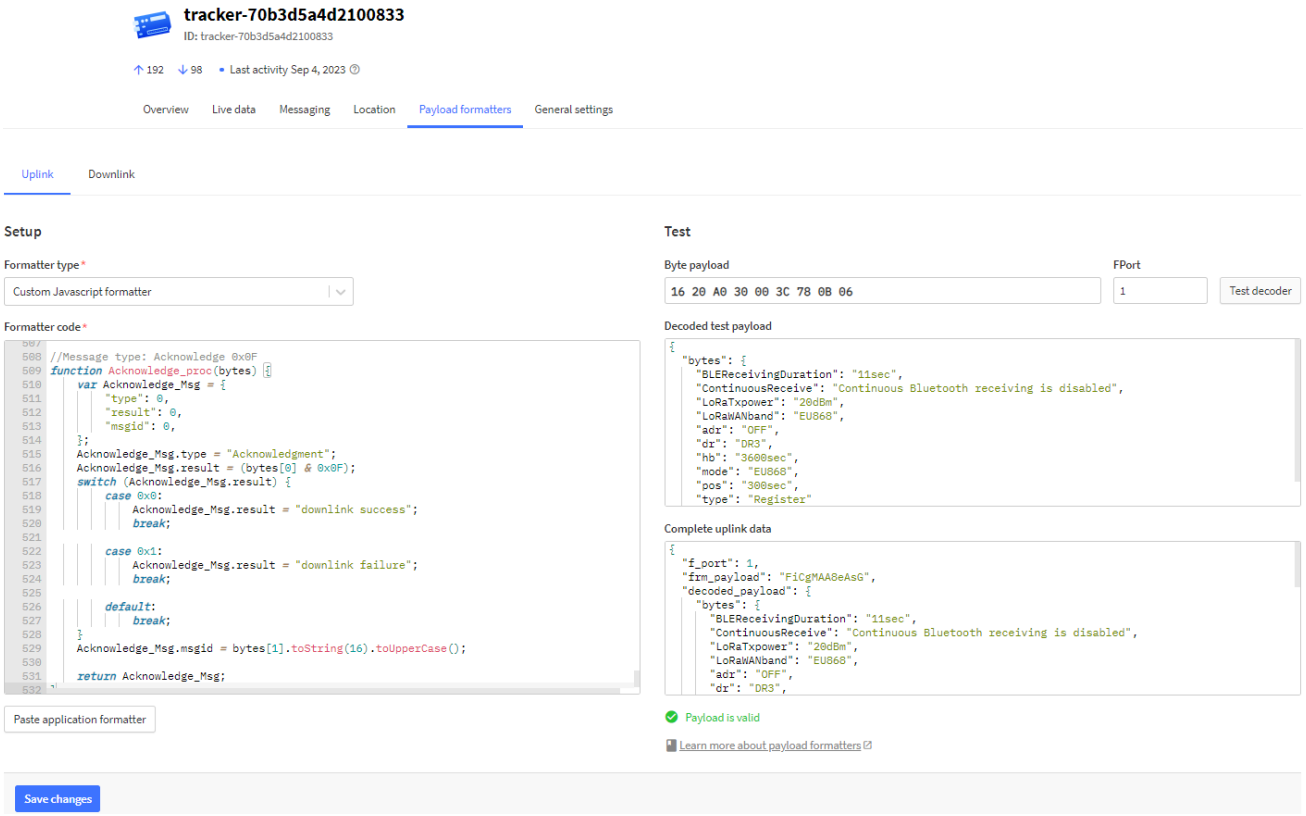
3.3 Add Decoder File

- Select ***the Payload formatters*** from the device page*;
- Select ***the Custom Javascript formatter*** from the Formatter type in the Setup area on the left *;

- Contact Lansitec staff and get the credentials to log in and find the payload decoder on the DownloadCenter: https://www.lansitec.com/download/DownloadCentre.html, and paste the decoder file content into the Foematter code column*;



***Note**: You can also enter **the device's uplink message** in the Byte payload in the Test area on the right to test the decoder parsing results.*



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