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USR-LG270

LoRaWAN Industrial Gateway

TTN Application Guide

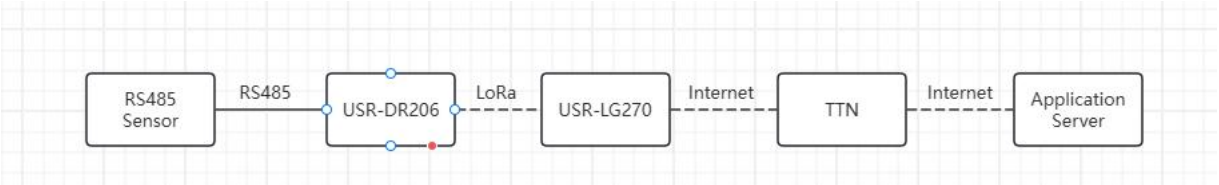


V2.0

Your Trustworthy Smart Industrial IoT Partner

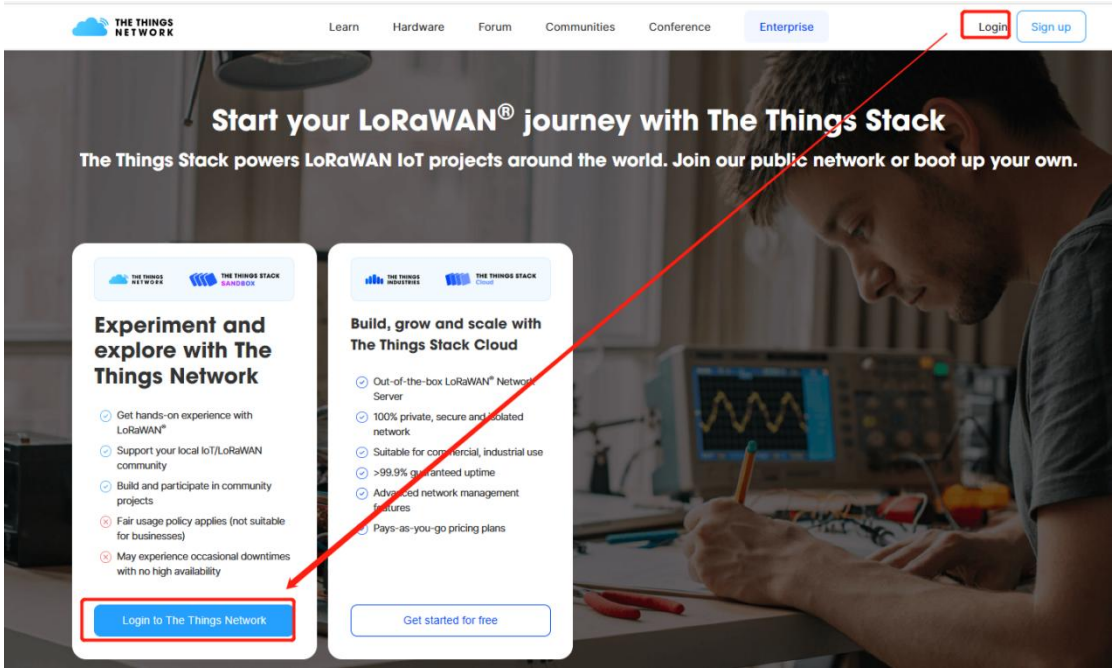
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1. Network Architecture

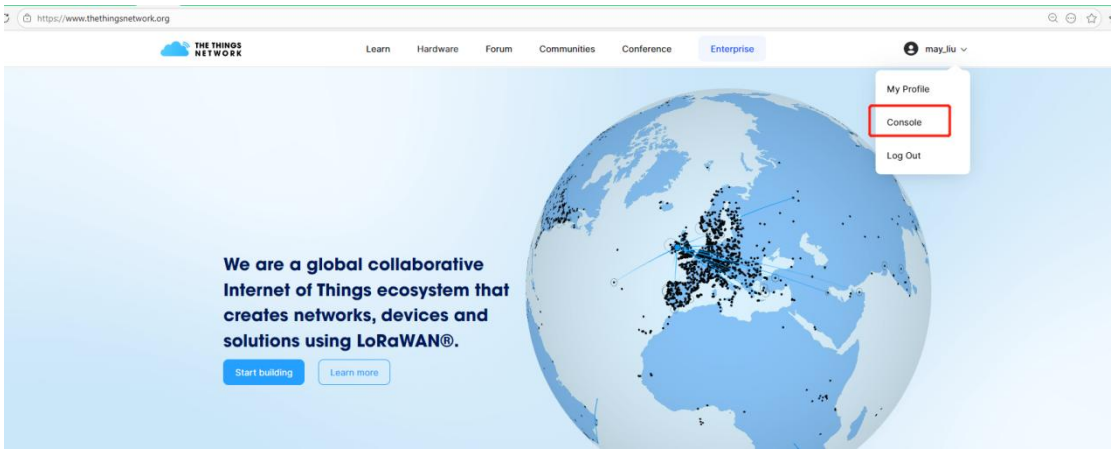


2. TTN Platform Configuration

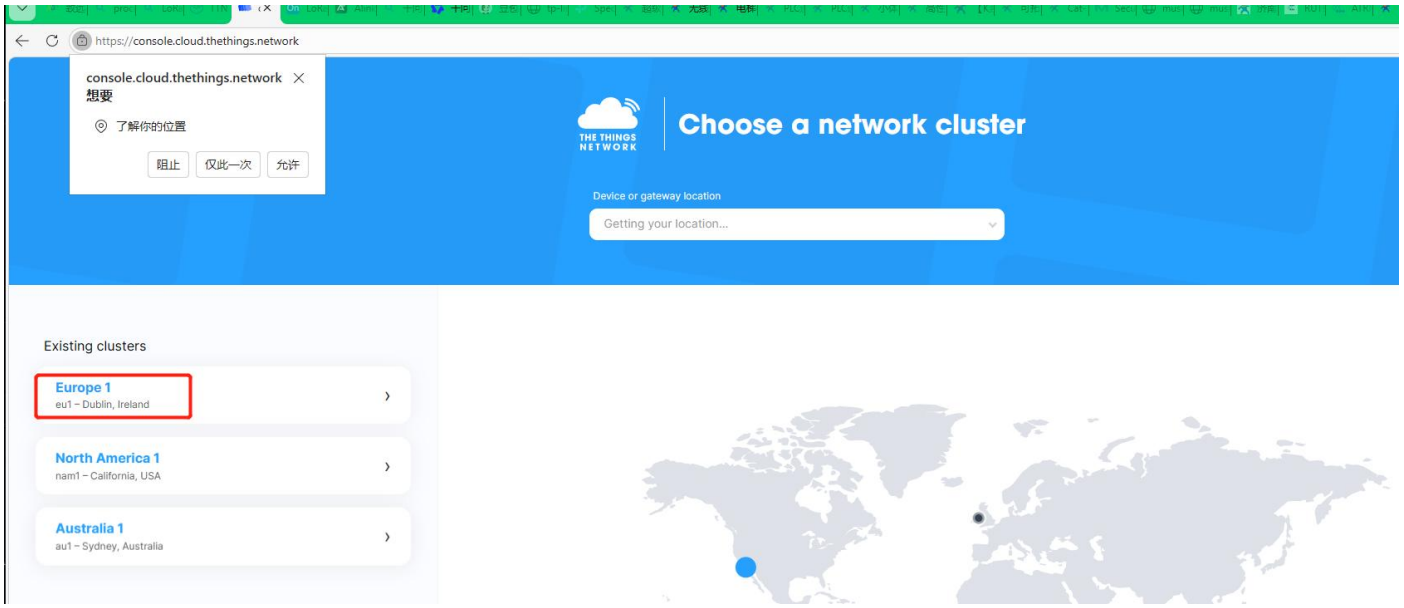
2.1. Login URL: The Things Network



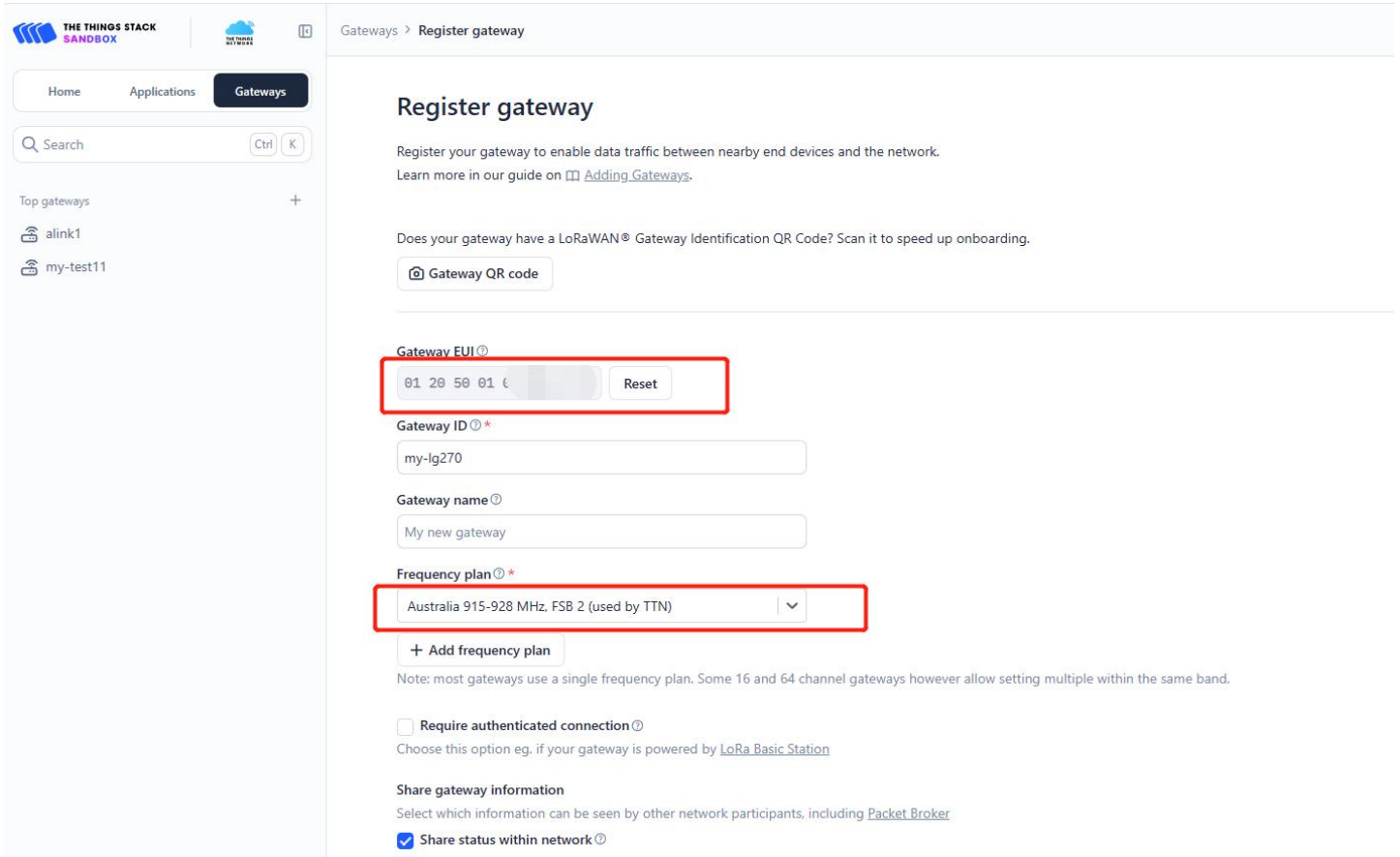
2.2. Open the Console.



2.3. 3. Select a cluster.

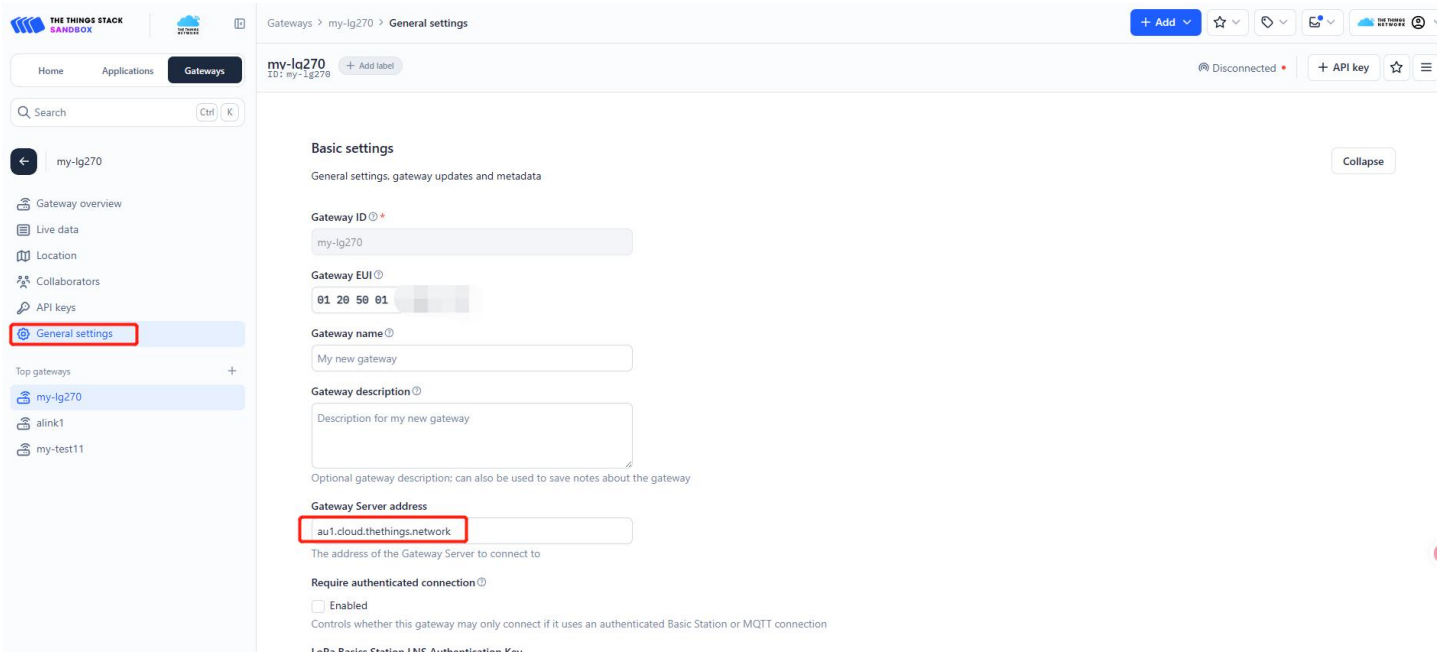


2.4. Add a gateway, then select the corresponding frequency plan.

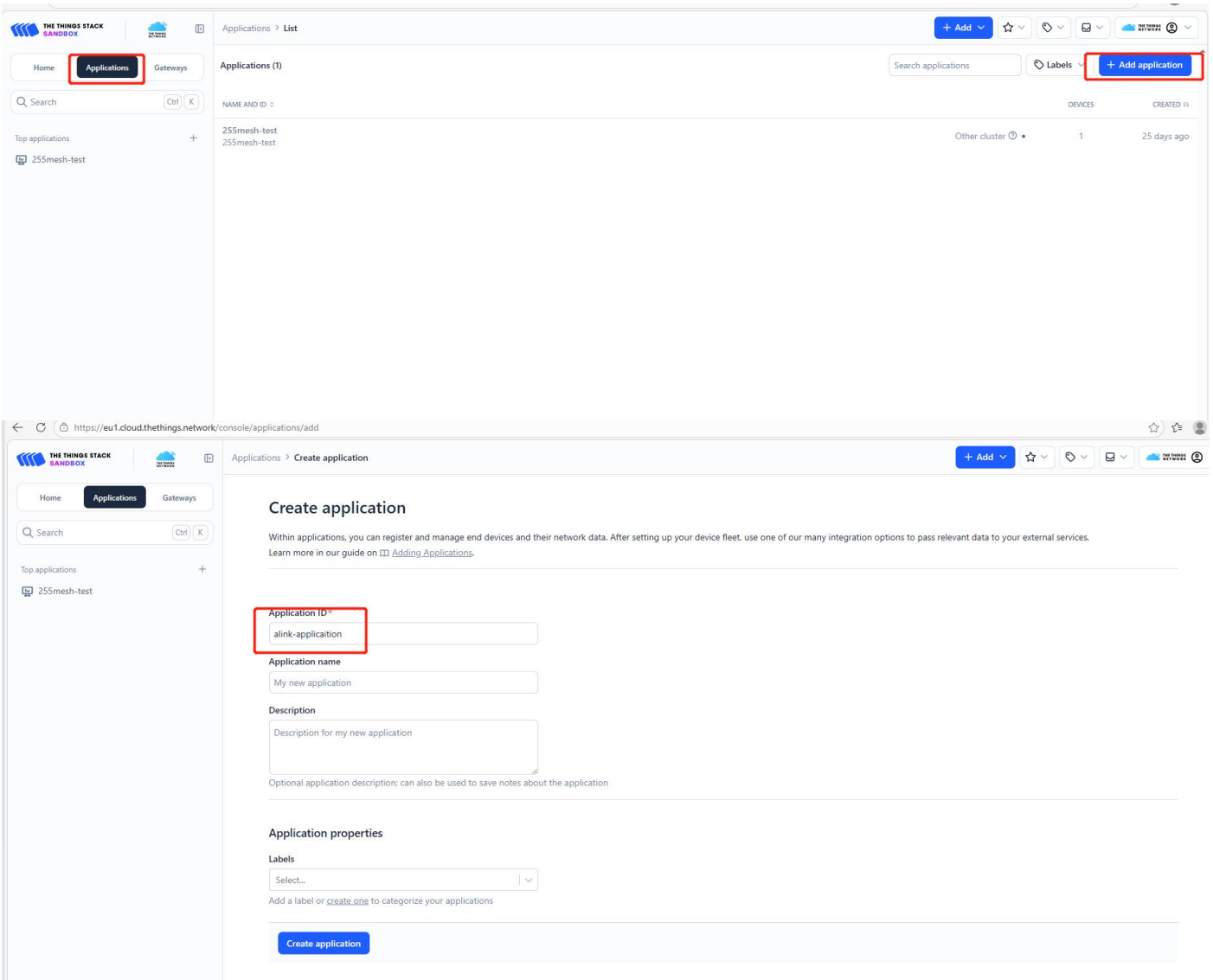


2.5. View the gateway basic information.

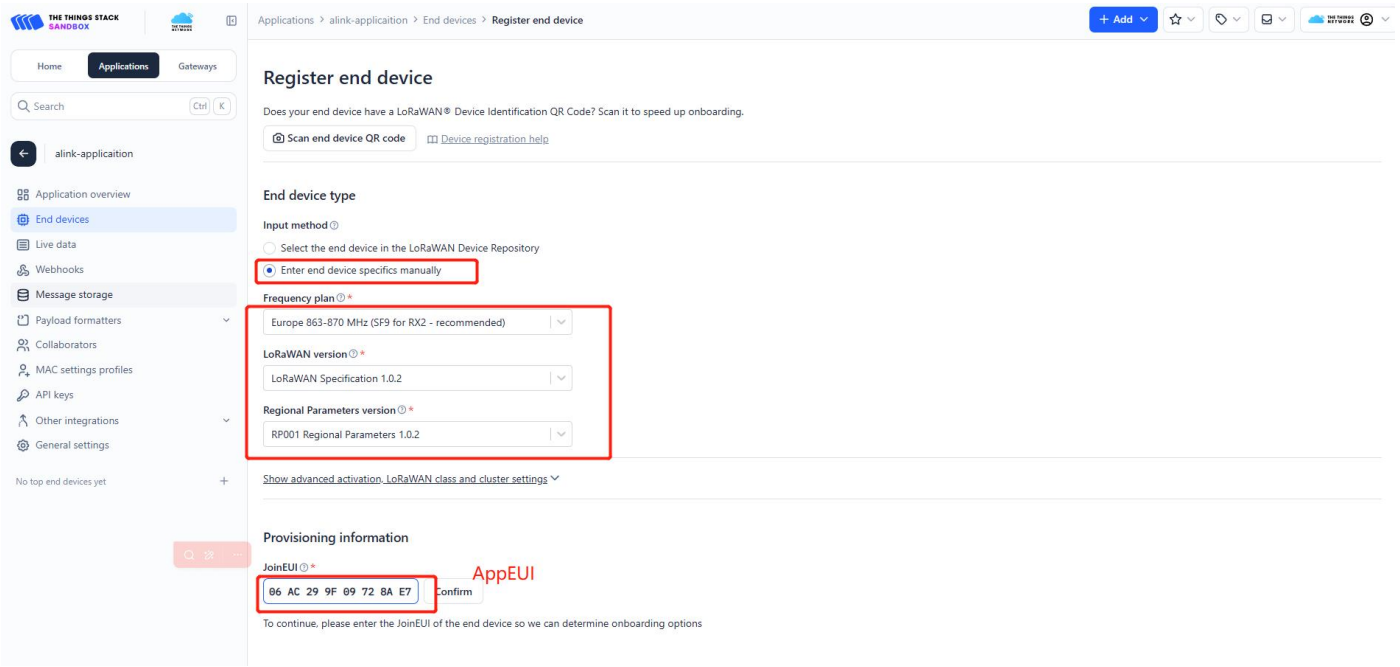
The Gateway Server Address shown on this page is the address that the LoRaWAN industrial gateway must connect to.



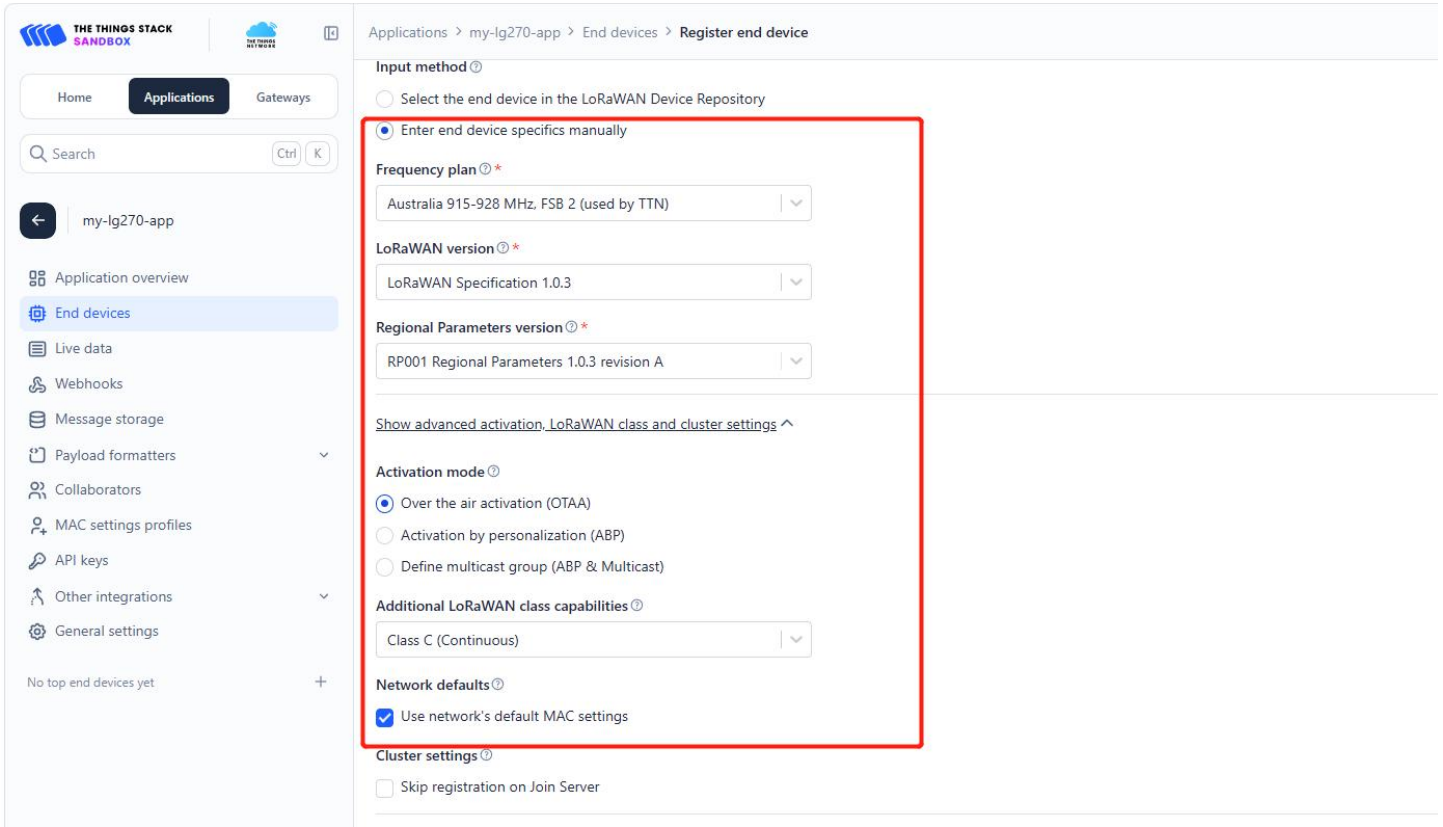
2.6. Add an application.



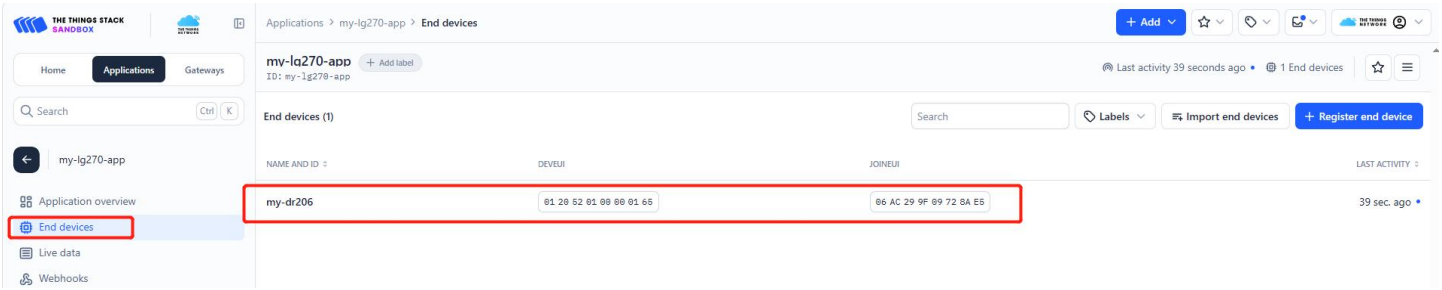
2.7. Add a LoRaWAN End Device on the Platform.



2.8. Configure the device activation method, LoRaWAN device class (Class A/B/C), frequency plan, and other parameters.

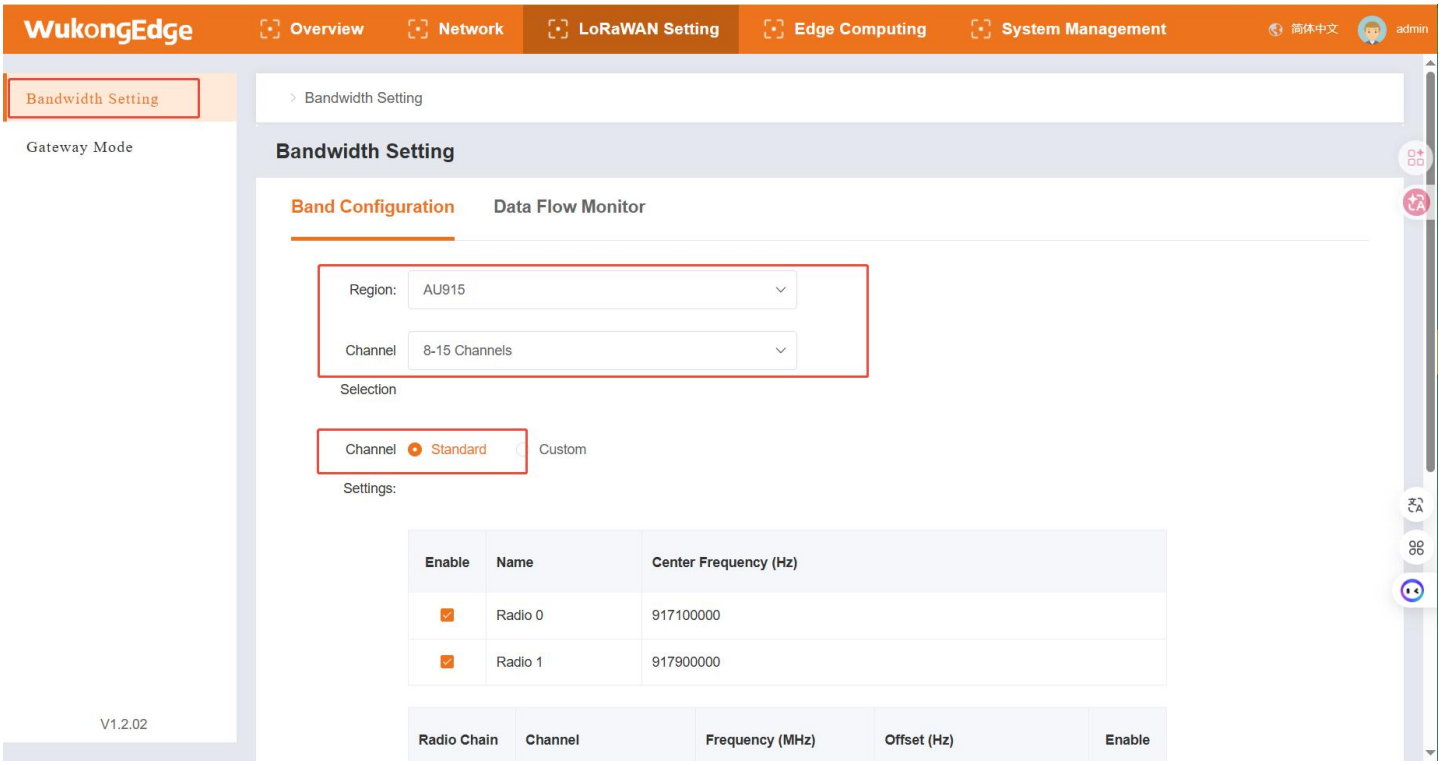


2.9. Once the end device has been added successfully, the TTN platform configuration is complete.



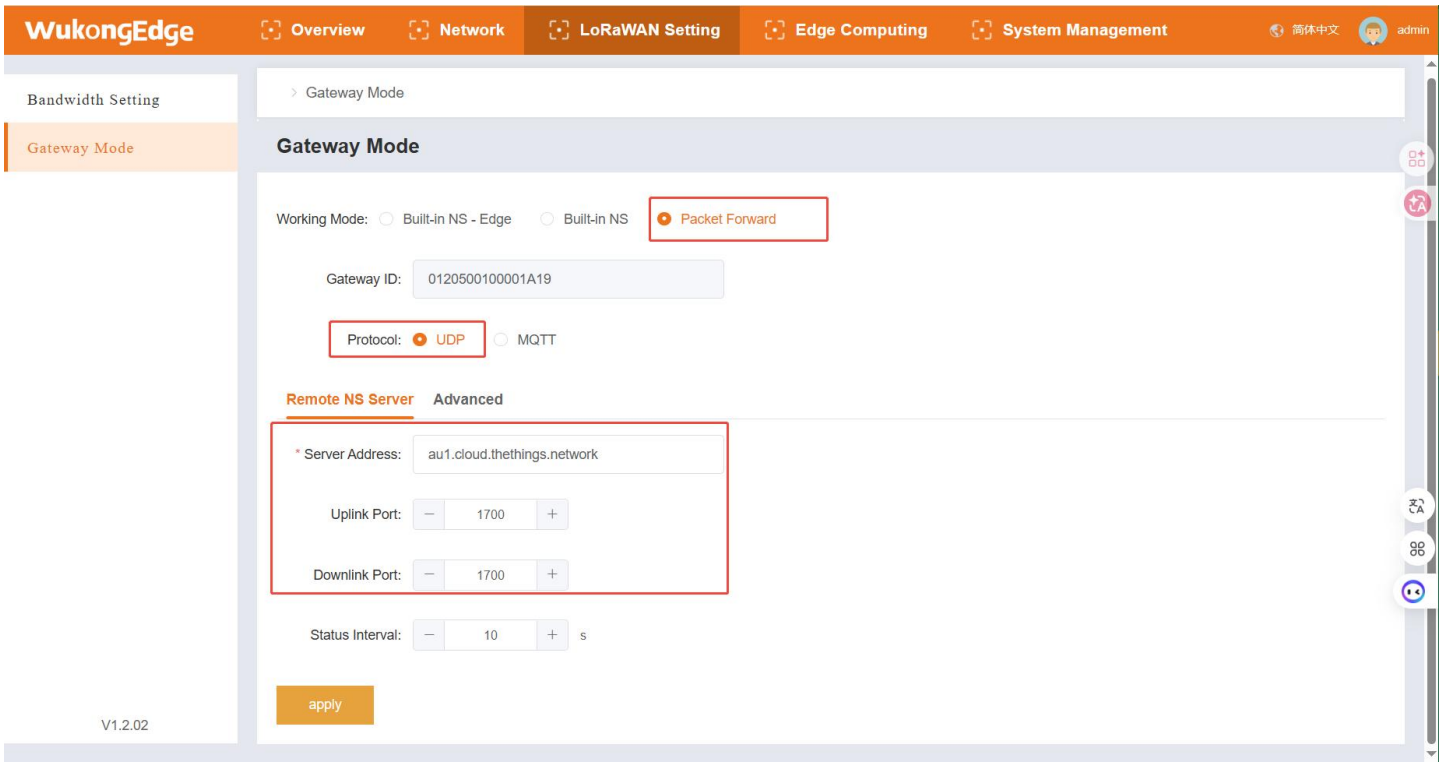
3. USR-LG270 Gateway Configuration

1> Frequency plan: The TTN platform uses Australia 915-928 MHz, FSB 2, which corresponds to AU915 channels 8-15. Configure the USR-LG270 with the same sub-band.

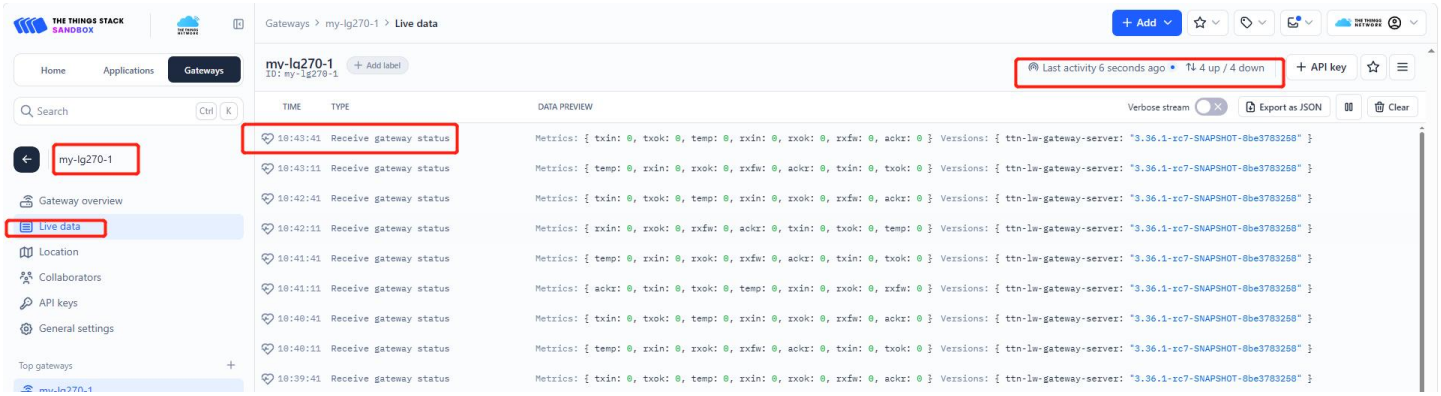


2> Set the gateway operating mode to Packet Forward. Use UDP to connect to the TTN server, and enter the Gateway Server Address obtained from the platform:

au1.cloud.thethings.network. Set both the uplink and downlink ports to 1700.

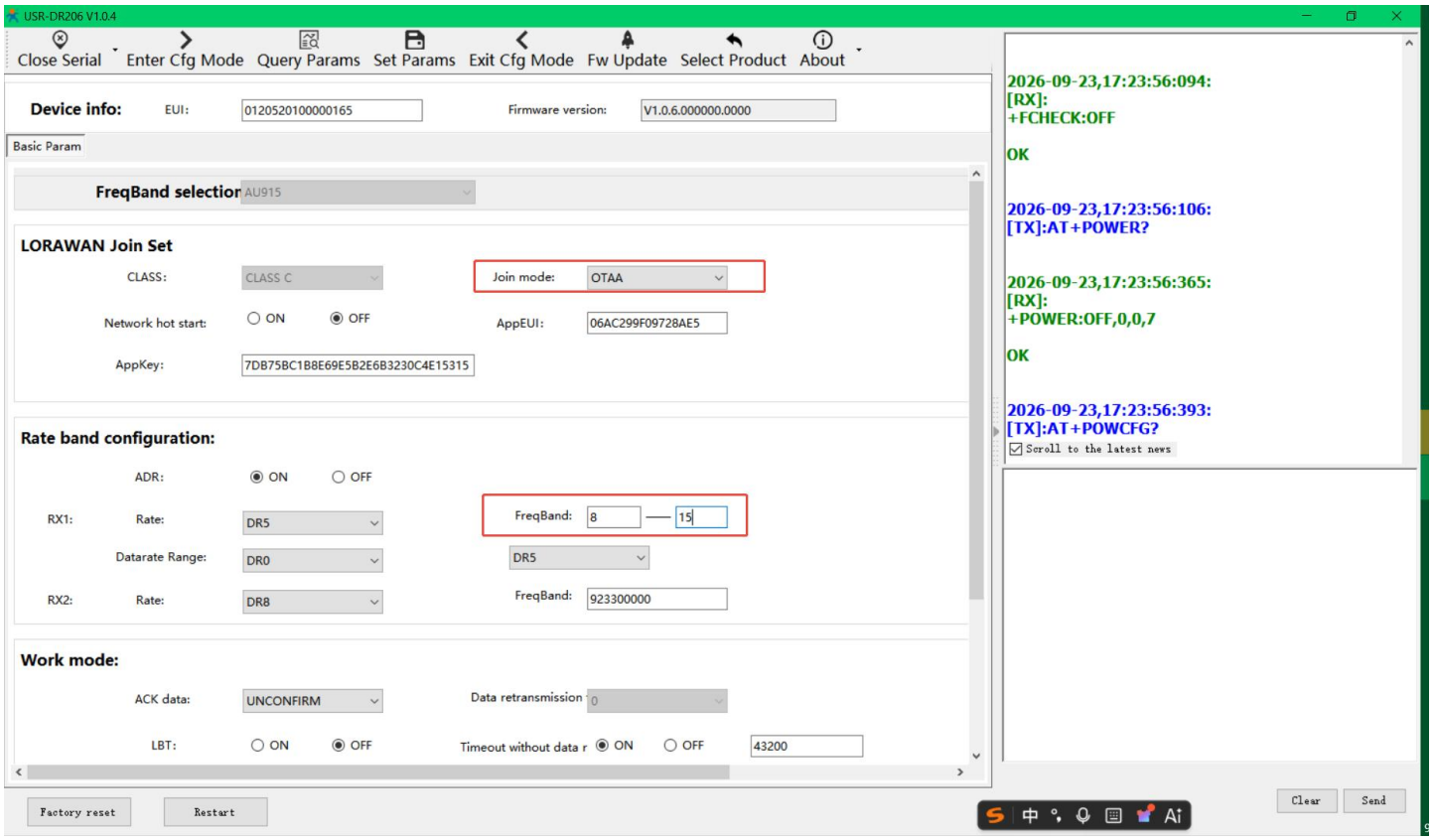


3> After configuring the USR-LG270, restart the LoRaWAN gateway from its web interface. The USR-LG270 will then appear online in TTN.

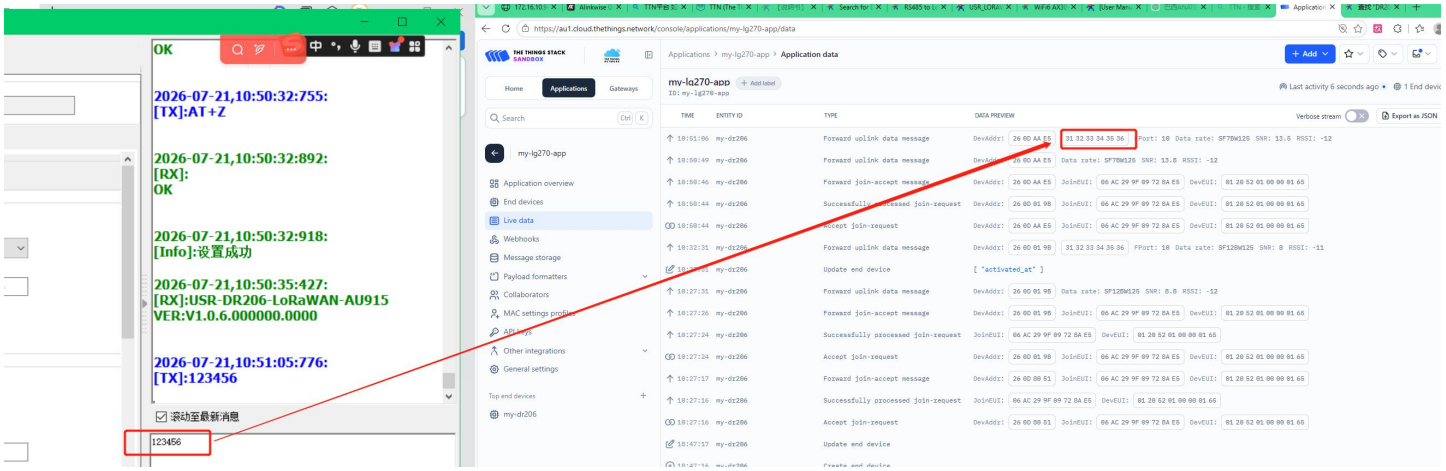


4. LoRaWAN End Device Configuration

This example uses the USR-DR206-AU915 as the LoRaWAN end device. Download the configuration utility from:
https://www.pusr.com/wiki/puba/PEN8h10uV?lang=en_US#top
Configure OTAA activation and select channels 8-15. Ensure that the AppEUI and AppKey match the values configured for the end device in TTN, then save the settings.

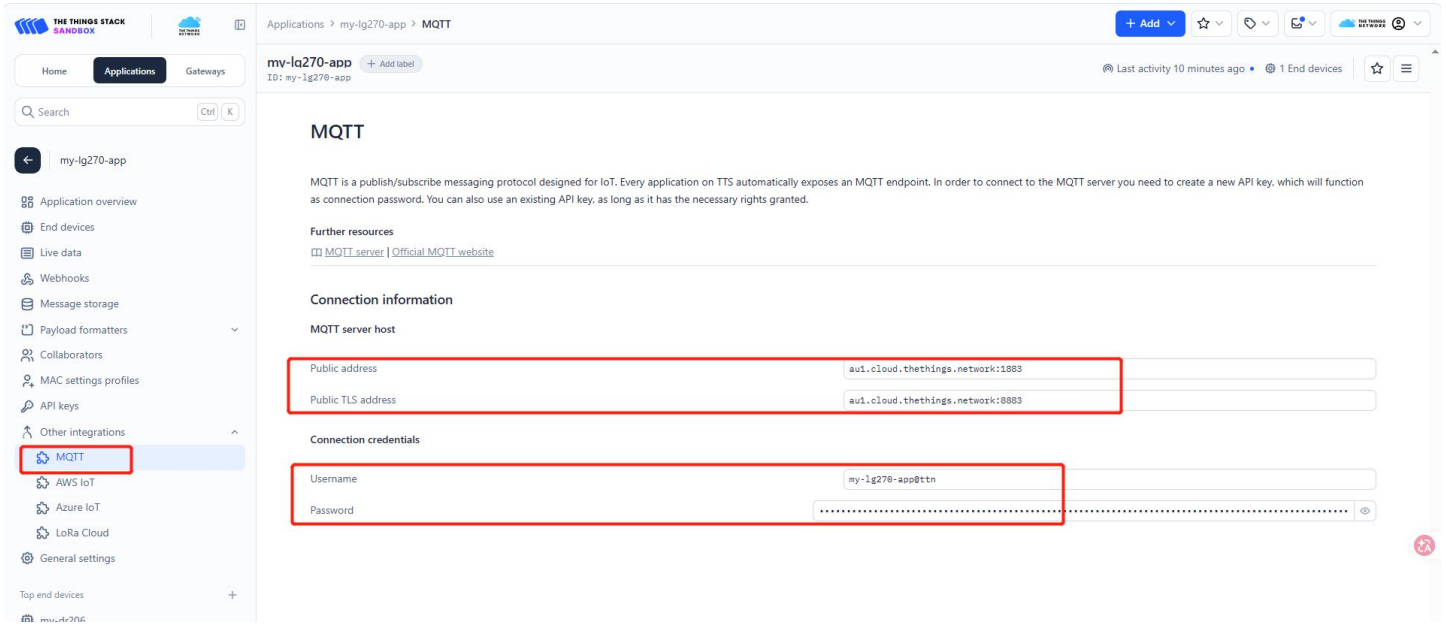


In TTN, the DR206 will appear online and its uplink data can be received normally. The end device-gateway-network server link is now established. The following section describes how to connect an application server.



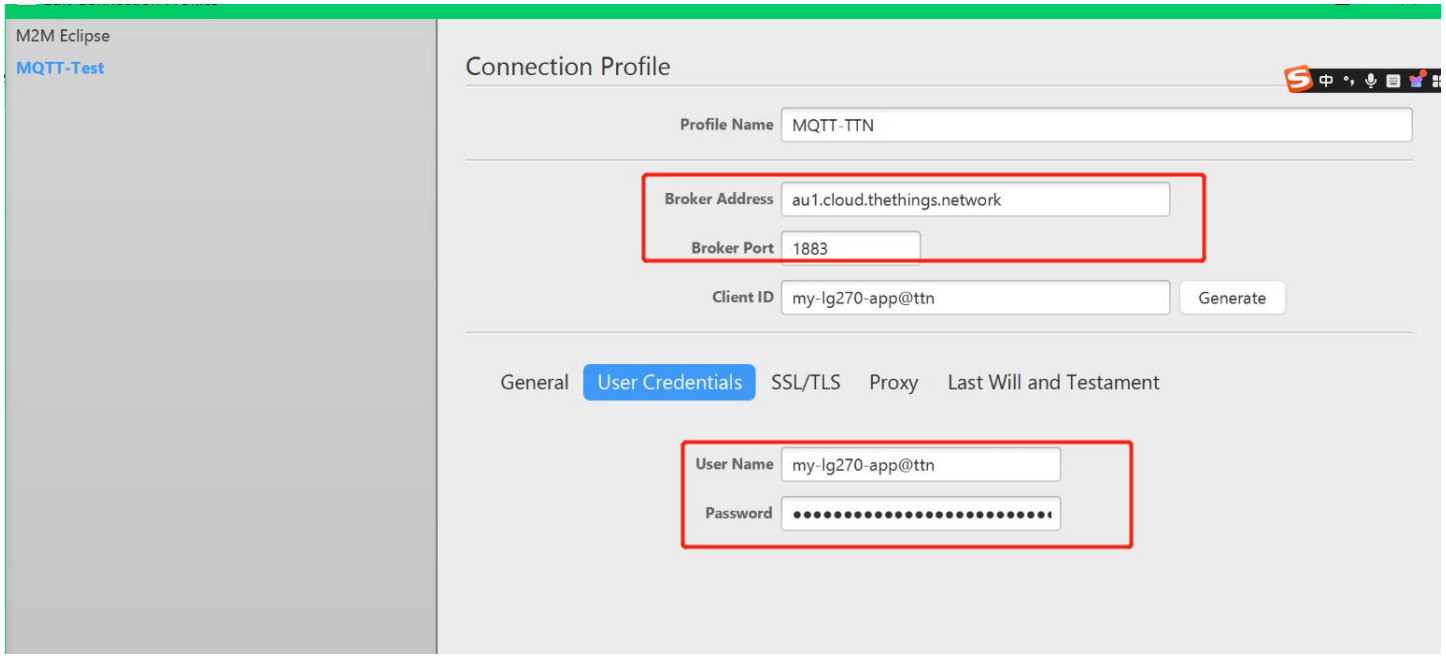
5. Connect an Application Server

This example uses MQTT. TTN acts as the MQTT broker, and an MQTT client can connect to TTN to retrieve data reported by LoRaWAN end devices.



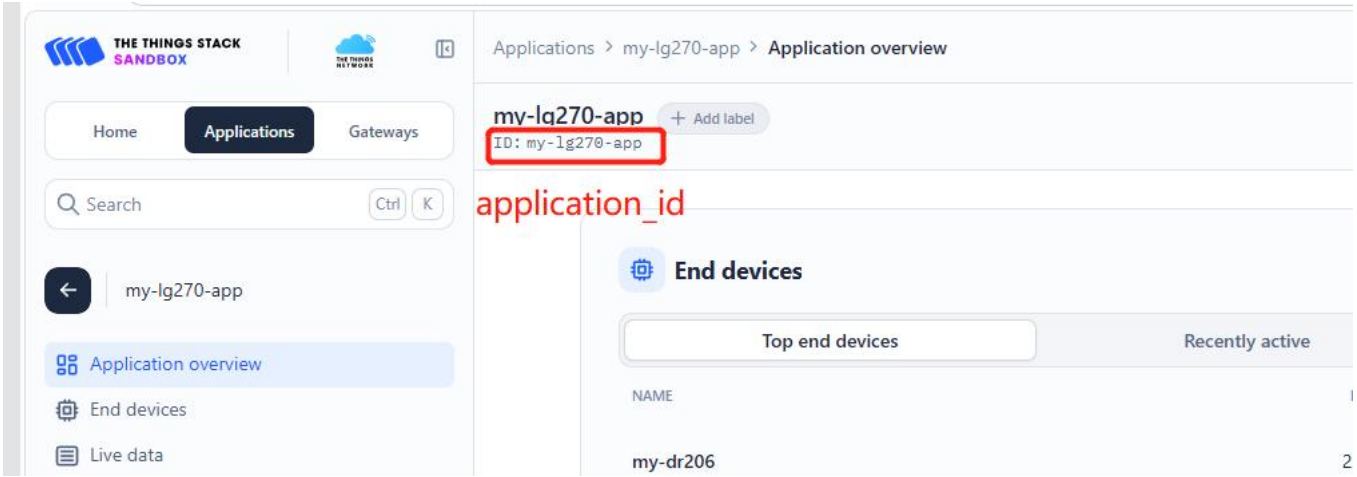
MQTT connection details are available at: https://www.thethingsindustries.com/docs/integrations/other-integrations/mqtt/

1> Configure MQTTFX to Connect to the MQTT Broker



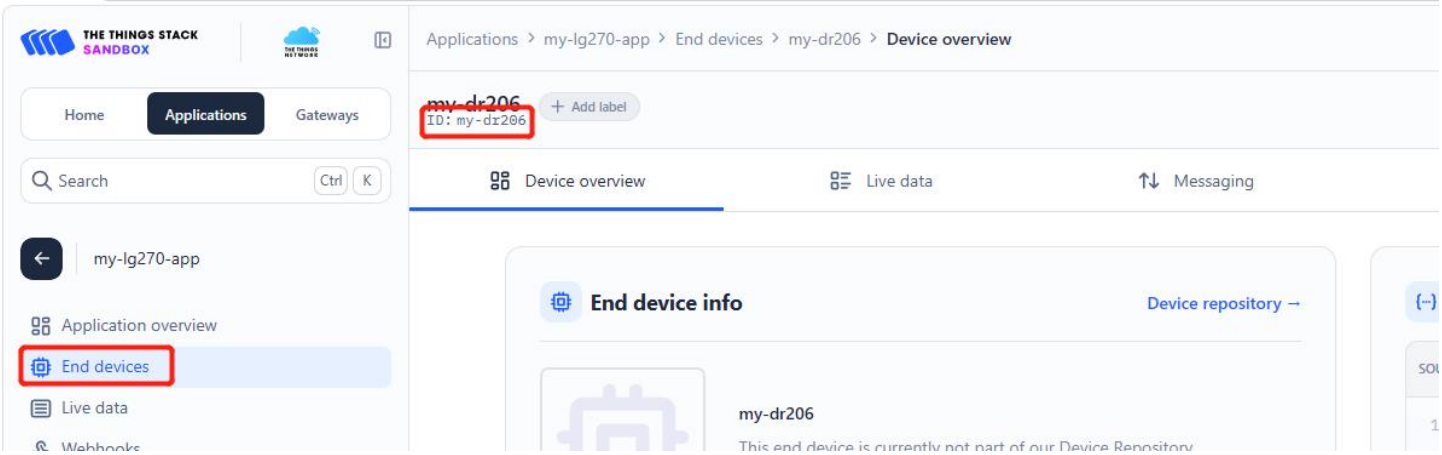
2> After connecting successfully, configure the subscription topic. This example subscribes to the uplink topic: v3/{application id}@{tenant id}/devices/{device id}/up

Where application_id is: my-lg270-app



tenant id is: ttn

device id is: my-dr206 (available in the end device information).

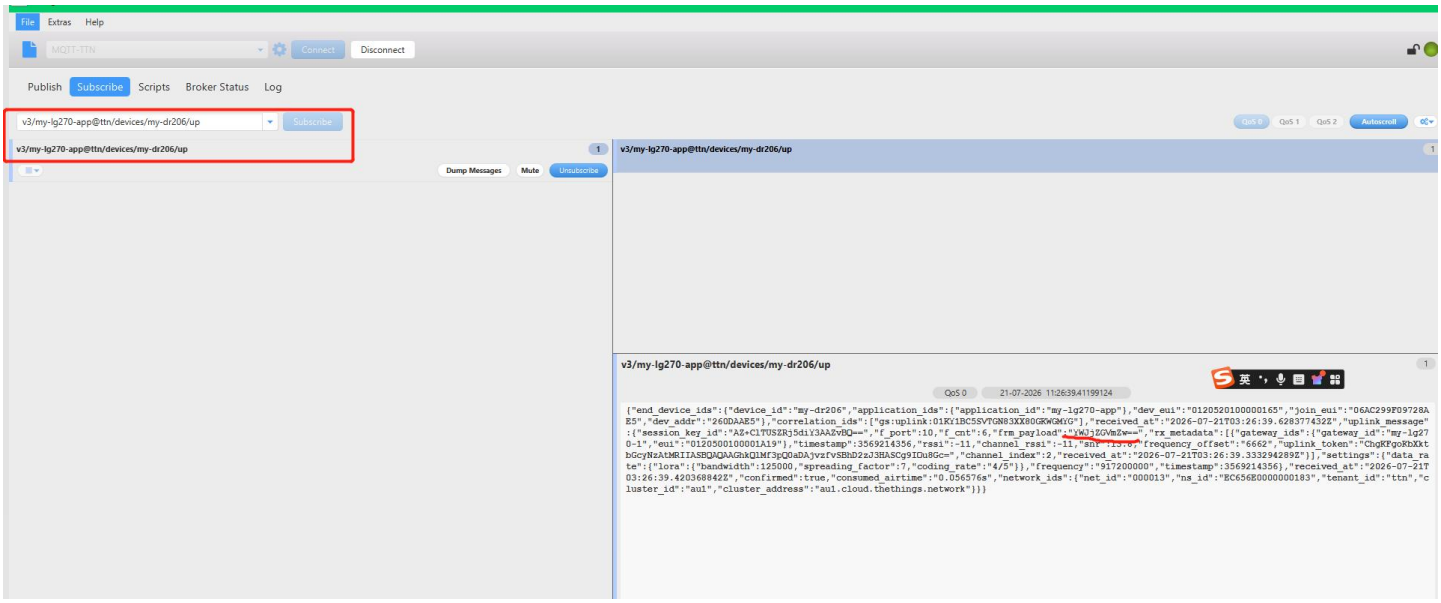


In this example, the subscription topic is: v3/my-lg270-app@ttn/devices/my-dr206/up

Send a data packet through the DR206 serial port. The message can be received normally.

The serial data sent is: abcdefg

In the message received by the MQTT client, the frm_payload field contains the serial data: YWJjZGVmZw==. This is the Base64-encoded payload.



To send data down to the LoRaWAN end device, use the following topic: v3/{application id}@{tenant id}/devices/{device id}/down/push

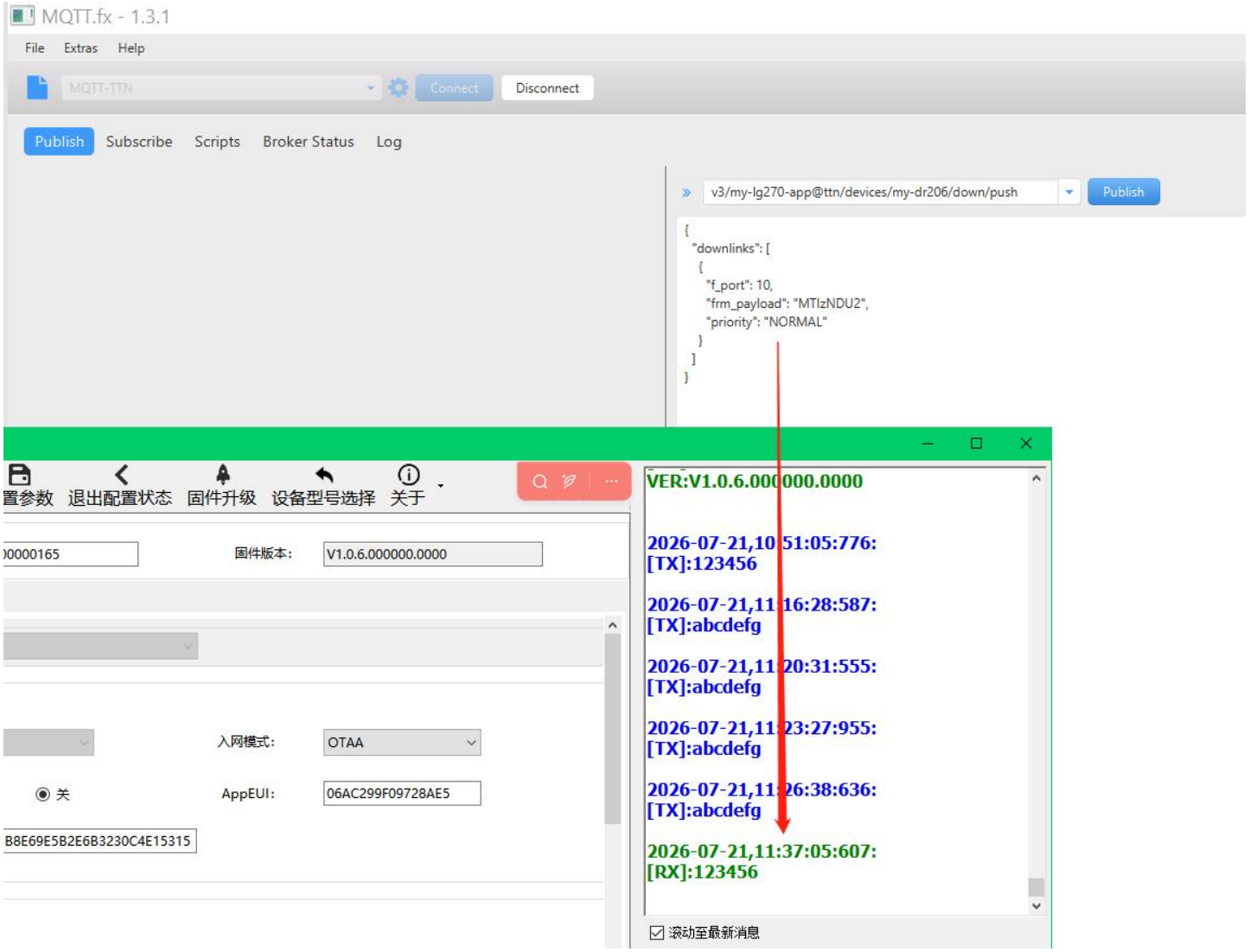
Use the following downlink message format. f_port is the LoRaWAN end device FPort.

FPort: The FPort of the DR206 is 10. It may vary by device; refer to the relevant product manual.

frm_payload: The Base64-encoded data payload.

```
{
 "downlinks": [
  {
   "f_port": 10,
   "frm_payload": "MTIzNDU2",
   "priority": "NORMAL"
  }
 ]
```

}


MQTT.fx - 1.3.1
File Extras Help
MQTT-TTN
Connect
Disconnect
Publish Subscribe Scripts Broker Status Log
v3/my-lg270-app@ttn/devices/my-dr206/down/push
Publish
{
"downlinks": [
{
"f_port": 10,
"frm_payload": "MTIzNDU2",
"priority": "NORMAL"
}
]
}
置参数 退出配置状态 固件升级 设备型号选择 关于
0000165
固件版本:
V1.0.6.000000.0000
入网模式:
OTAA
关
AppEUI:
06AC299F09728AE5
B8E69E5B2E6B3230C4E15315
VER:V1.0.6.000000.0000
2026-07-21,10:51:05:776:
[TX]:123456
2026-07-21,11:16:28:587:
[TX]:abcdefg
2026-07-21,11:20:31:555:
[TX]:abcdefg
2026-07-21,11:23:27:955:
[TX]:abcdefg
2026-07-21,11:26:38:636:
[TX]:abcdefg
2026-07-21,11:37:05:607:
[RX]:123456
滚动至最新消息