The Things Network v3 (TTNv3)

In this section, it will be shown how to connect RAK7268 WisGate Edge Lite 2 to TTNv3.

To login into the TTNv3, head on here. If you already have a TTN account, you can use your The Things ID credentials to log in.

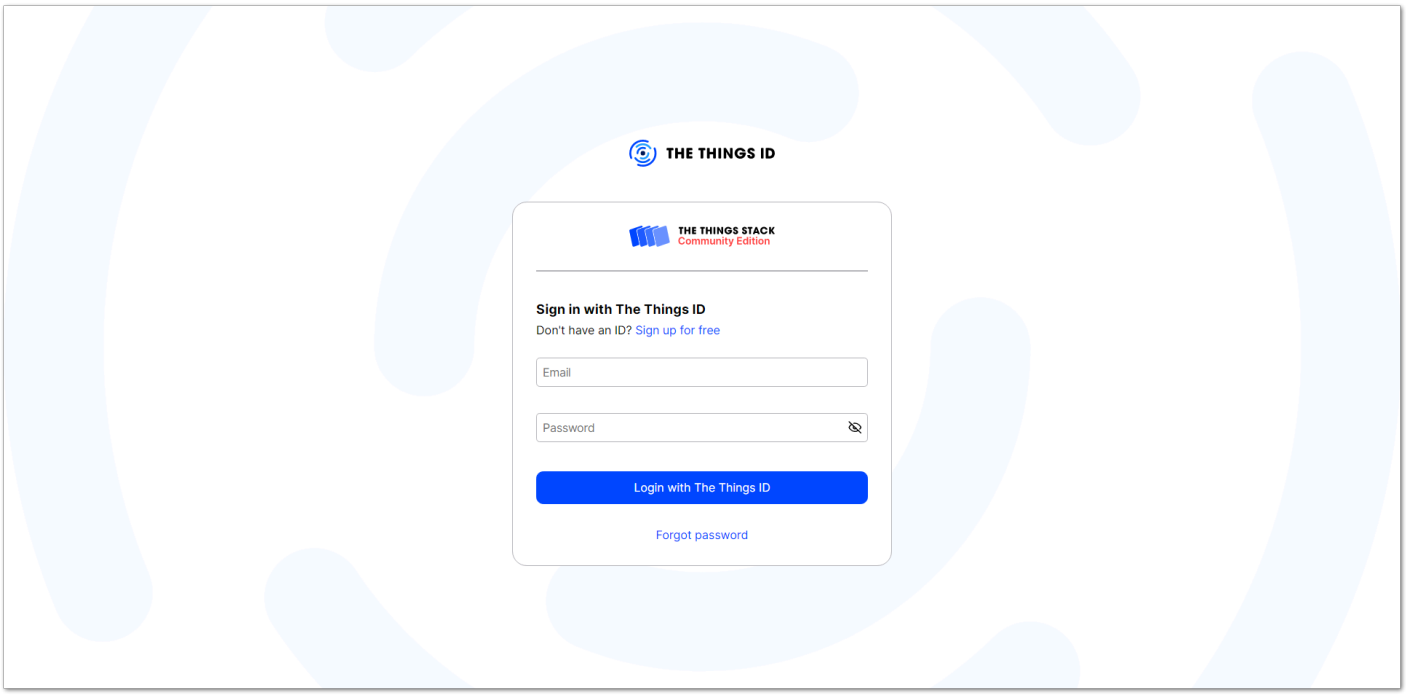

Figure 17: The Things Stack Home Page

> **NOTE**
> This tutorial is for the EU868 Frequency band.

Registering the Gateway

1. To register a commercial gateway, choose **Register a gateway** (for new users that do not already have a registered gateway) or go to **Gateways** > **+ Add gateway** (for users that have registered gateways before).

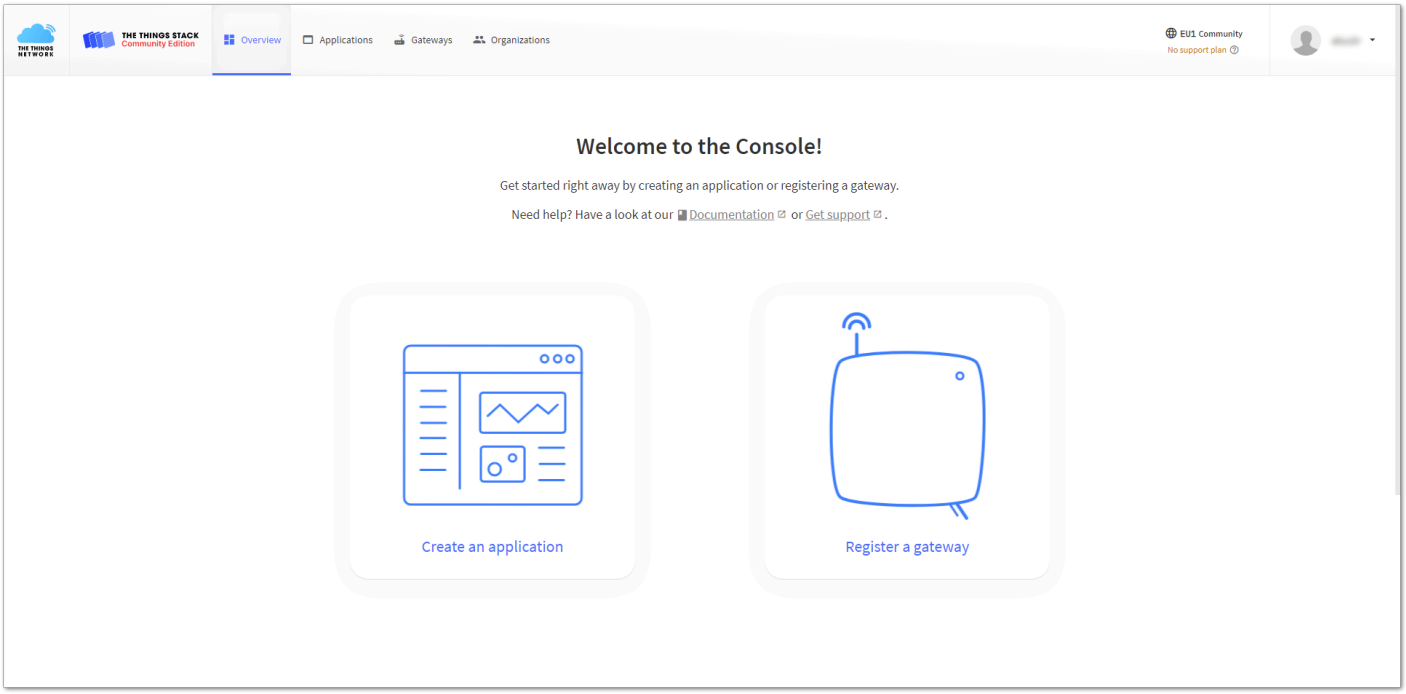

Figure 18: Console Page after successful login

2. You will be redirected to the **Register gateway** page.

3. In the **Gateway EUI** field type the EUI of the gateway. The gateway's EUI can be found either on the sticker on the casing or by going to the **LoRa Network Settings** page in the **LoRa Gateway** menu accessible via the Web UI. Instructions on how to access your gateway via Web UI can be found in the product's Quickstart Guide.

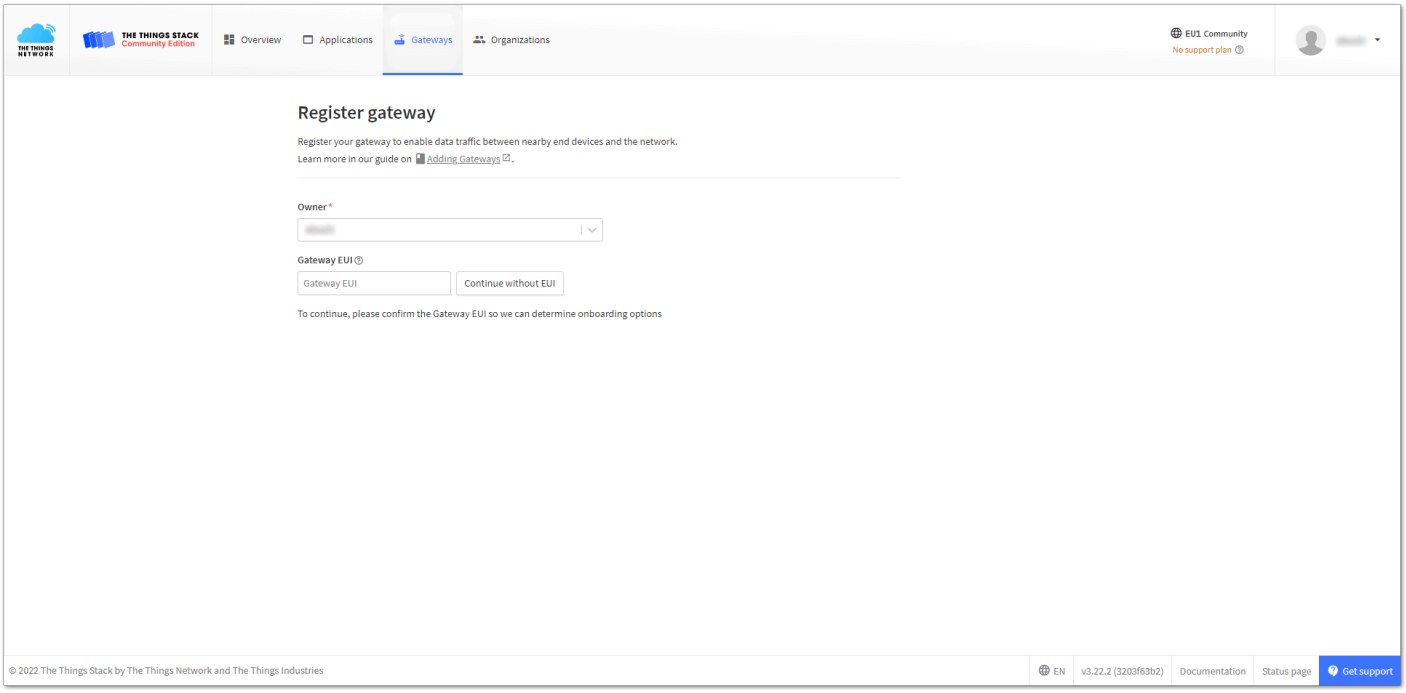

Figure 19: Register gateway

4. After typing the EUI, click on **Confirm**. Additional fields will pop up. Fill in the following information:

- **Gateway ID** – This will be the unique ID of your gateway in the Network. An ID based on the EUI is automatically generated. You can changed it if you need. Note that the ID must contain only lowercase letters, numbers, and dashes (-).

- **Gateway name** – Optionally, you can type a name for your gateway.

- **Frequency plan** - The frequency plan used by the gateway.

> **NOTE**
> For this tutorial, we will use Europe 863-870 MHz (SF12 for RX2).

- The other settings are optional and can be changed to satisfy your requirements.

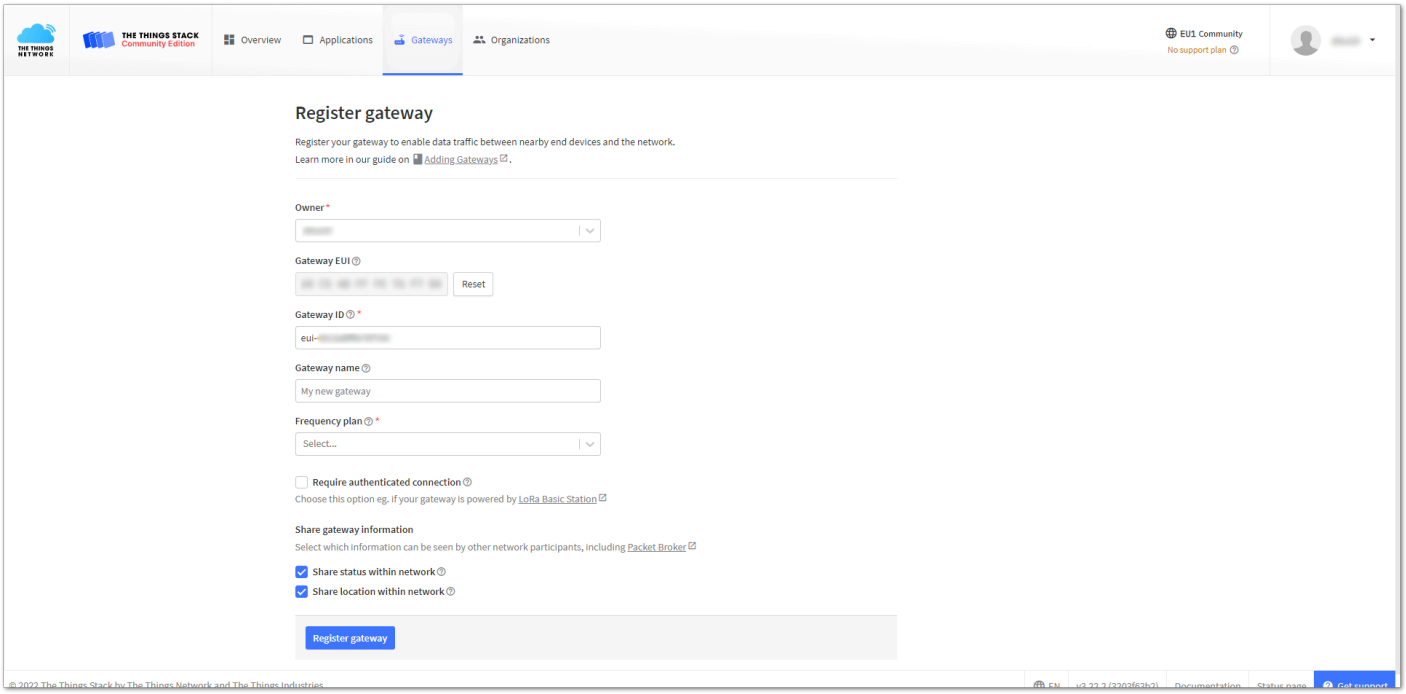

Figure 20: Add a gateway

5. To register your gateway click **Register gateway**.

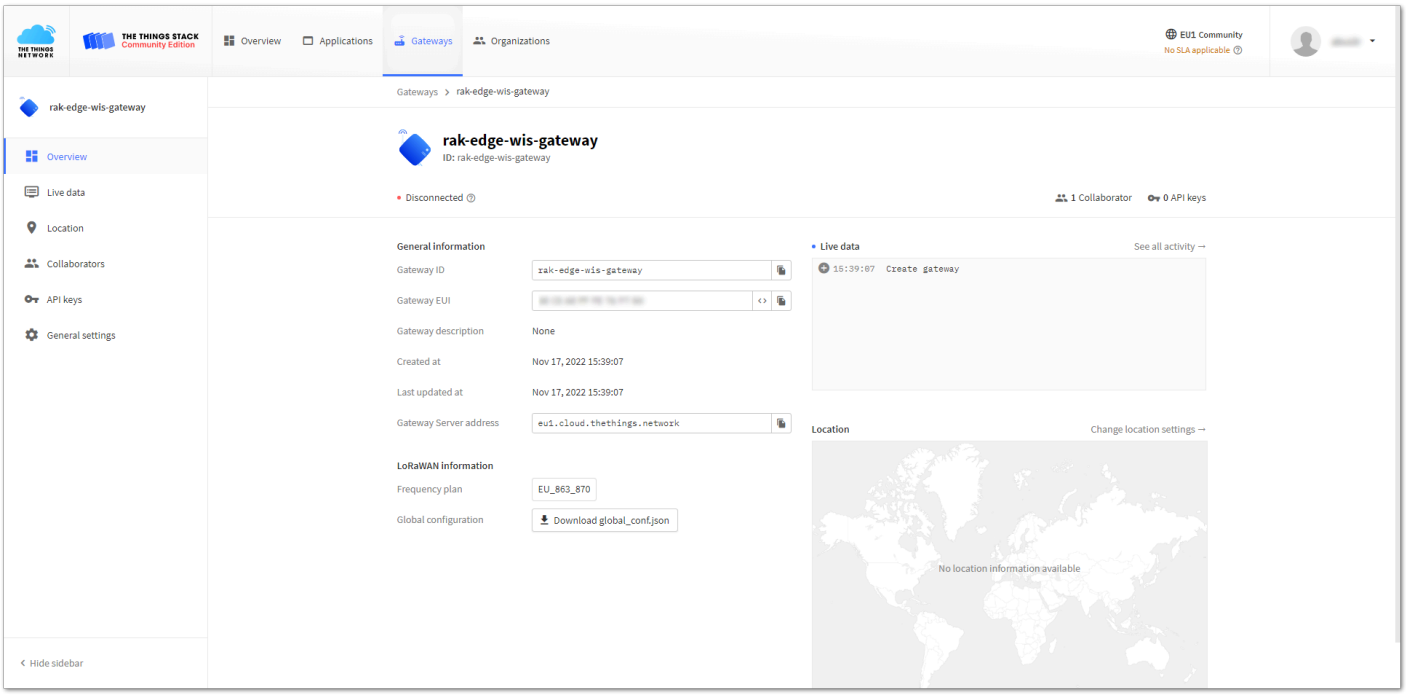

Figure 21: Successfully added gateway

TTNv3 supports TLS server authentication and Client token, which requires a trust file and a key file to configure the Gateway to successfully connect it to the network.

Generating the Token

1. To generate a key file, from the **Overview page** of the registered Gateway navigate to **API keys**.

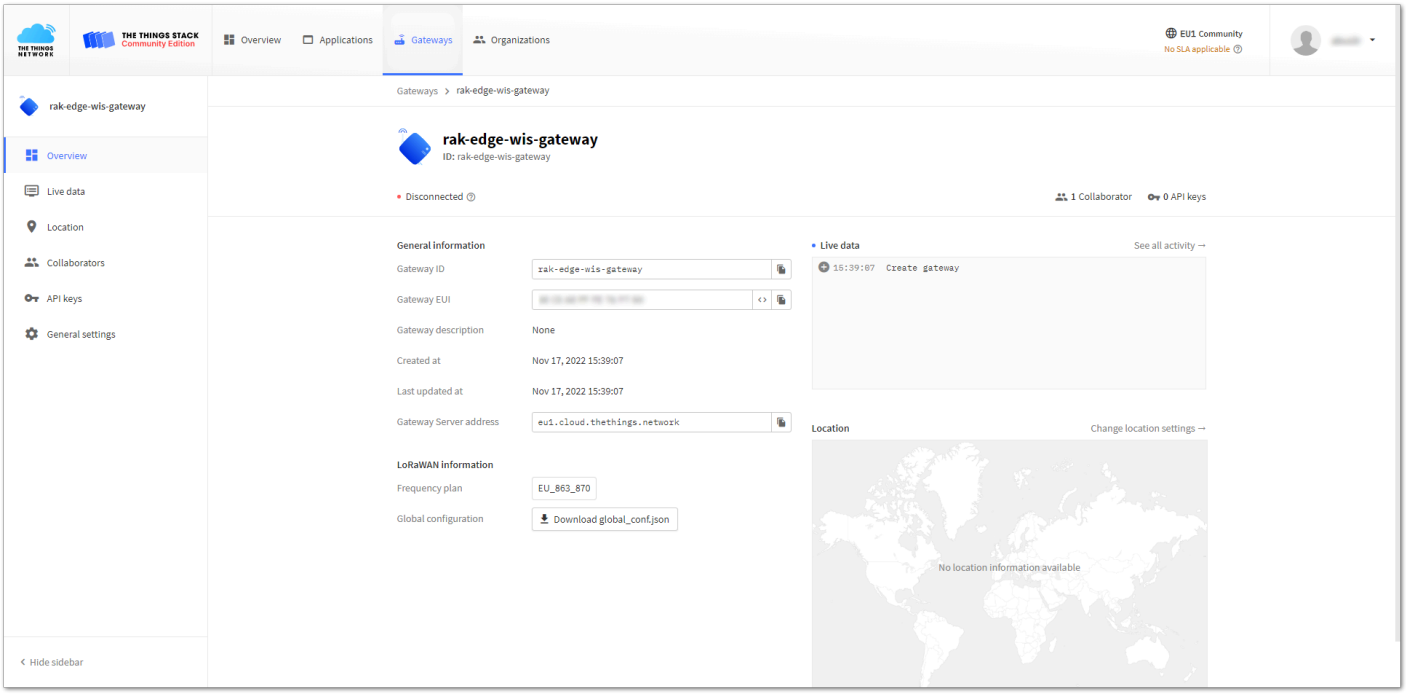

Figure 22: Overview page

2. On the **API keys page**, choose **+ Add API key**.

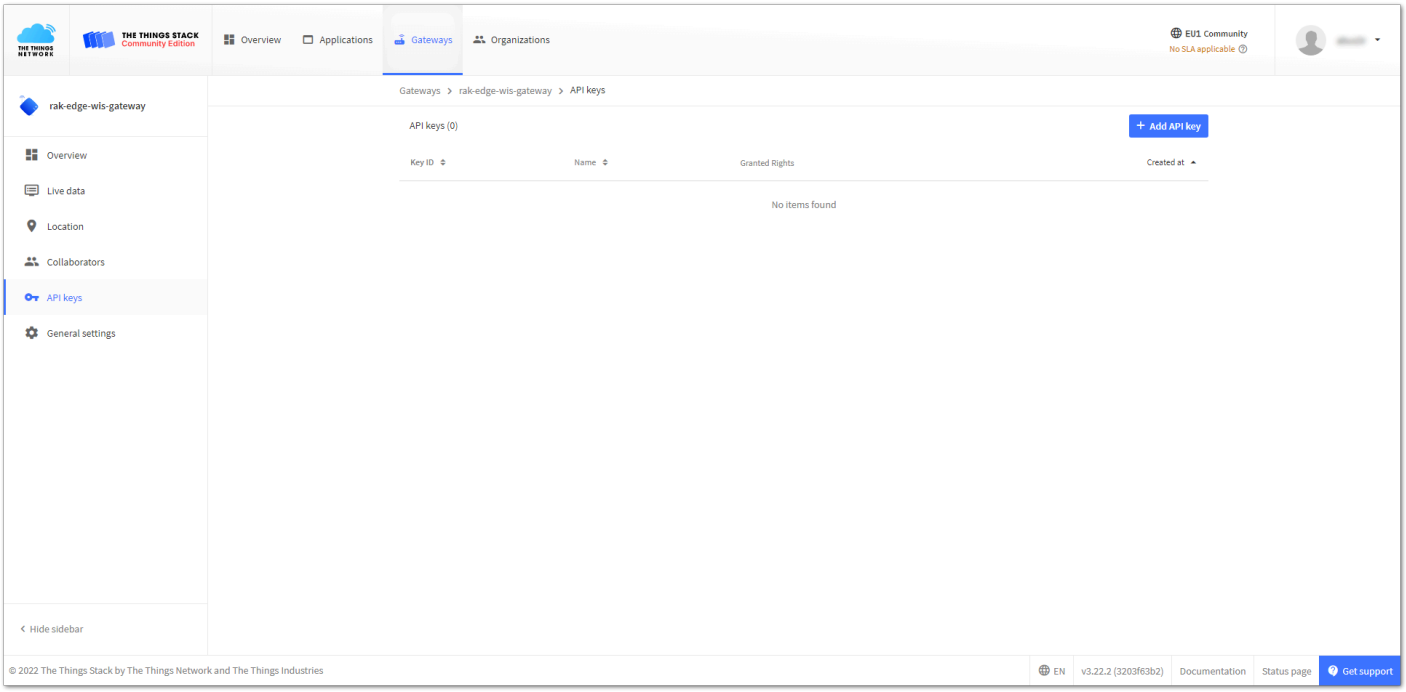

Figure 23: API key page

3. In the **Name field** type the name of your key (for example - mykey). Choose **Grant individual rights** and select **Link as Gateway to a Gateway for traffic exchange, i.e. read uplink and write downlink**.

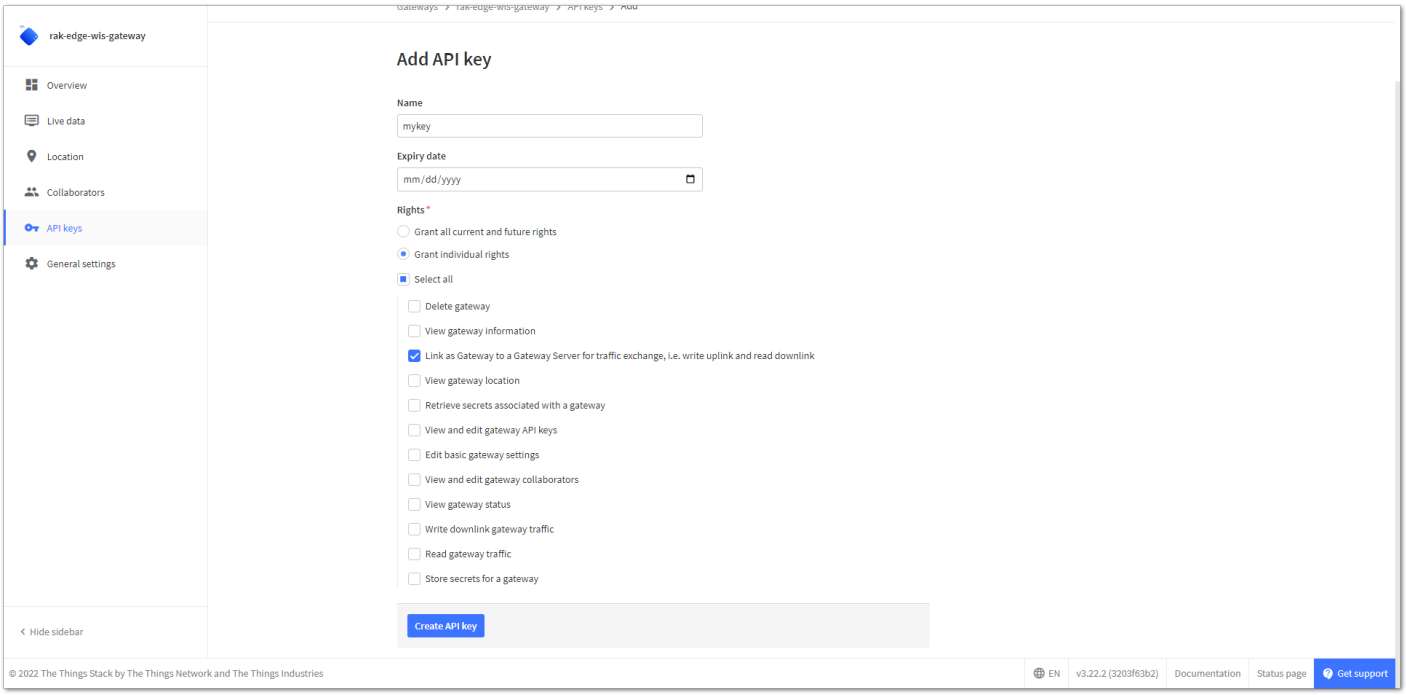

Figure 24: Generate an API key

4. To generate the key, choose **Create API key**. The following window will pop up, telling you to copy the key you just generated.

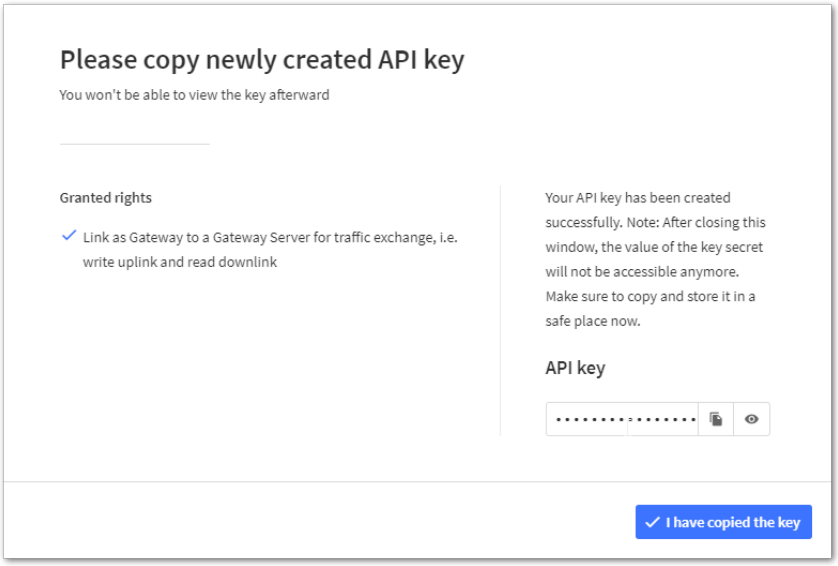

Figure 25: Copy the generated key

> **WARNING**
> Copy the key and save it in a .txt file (or other), because you won't be able to view or copy your key after that.

5. Click **I have copied the key** to proceed.

Configuring the Gateway

1. To configure the gateway access it via the Web UI. To learn how to do that check out the device's Quickstart Guide mentioned before.

2. Navigate to **LoRa Network** > **Network Settings** > **Mode** drop-down menu > choose **Basics Station**.

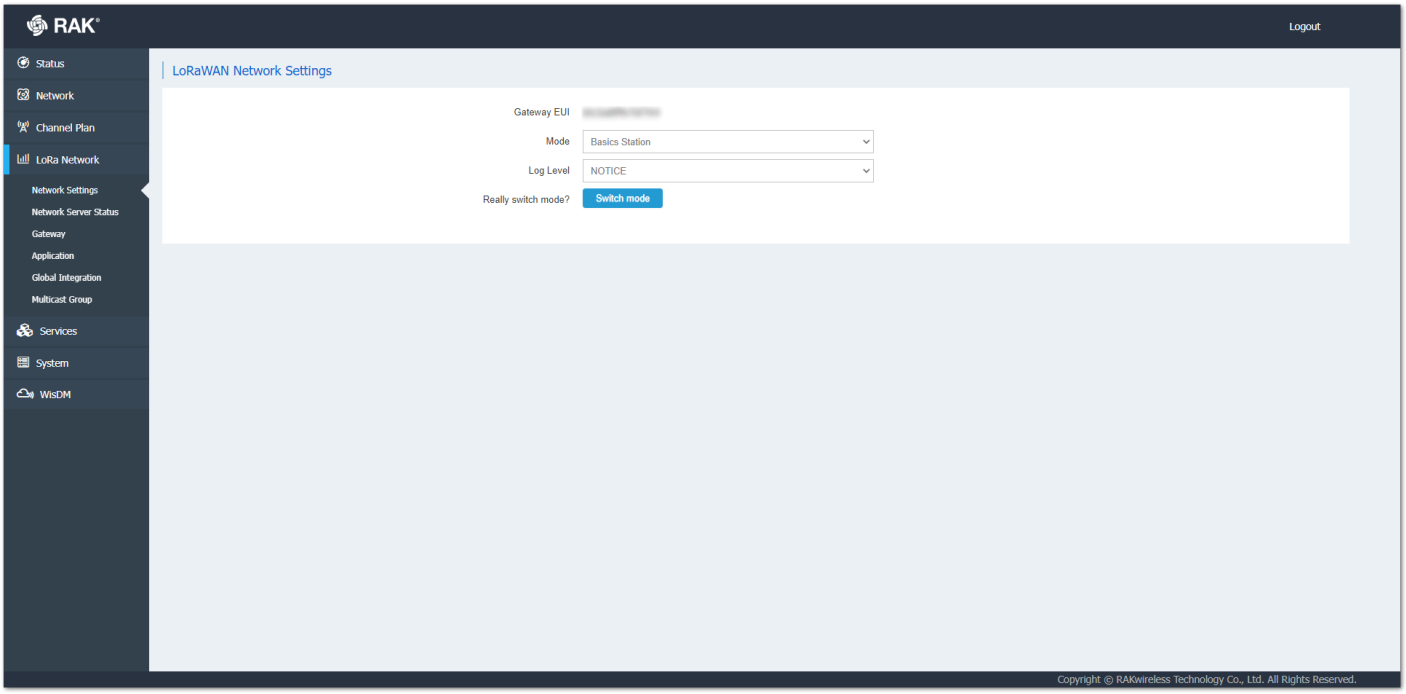

Figure 26: Change the work mode

3. Select **Switch mode** to apply the change. After that, the **Basics Station Configuration** pane settings will show up. To connect the Gateway to TTNv3, the following parameters must be configured:

- **Server** – For server choose **LNS Server**.
- **URI** – This is the link to The Things Stack server. Note that, for this tutorial, we are connecting the gateway to the European cluster. For Europe fill in the following: wss://eu1.cloud.thethings.network
- **Port** – The LNS Server uses port 8887. Type in **8887**.
- **Authentication Mode** – Choose **TLS server authentication and Client token**. When selected, the trust and the token field will show up.
- **trust** – For trust we will use the **Let's Encrypt ISRG ROOT X1 Trust** certificate. The file with the certificate can be found here.
- **token** - This is the generated **API key**. The key must start with **Authorization:**. Example:

```
Authorization: YOUR_API_KEY
```

NOTE

Replace **YOUR_API_KEY** with the key generated previously. Have in mind that there should be a "space" between **Authorization:** and **YOUR_API_KEY**, as shown in the example.

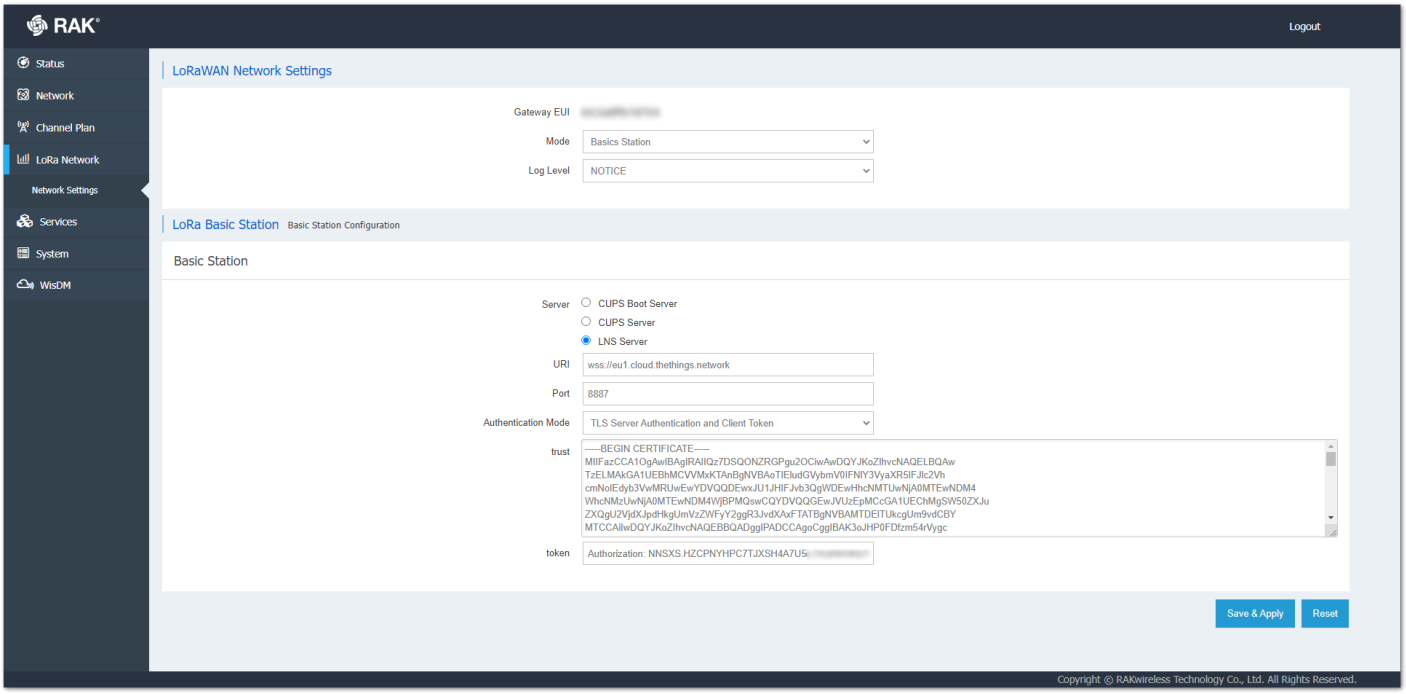

Figure 27: LoRa Basics Station settings

4. To save the changes click **Save & Apply**.

You can now see that your gateway is connected to TTNv3 as Basics Station:

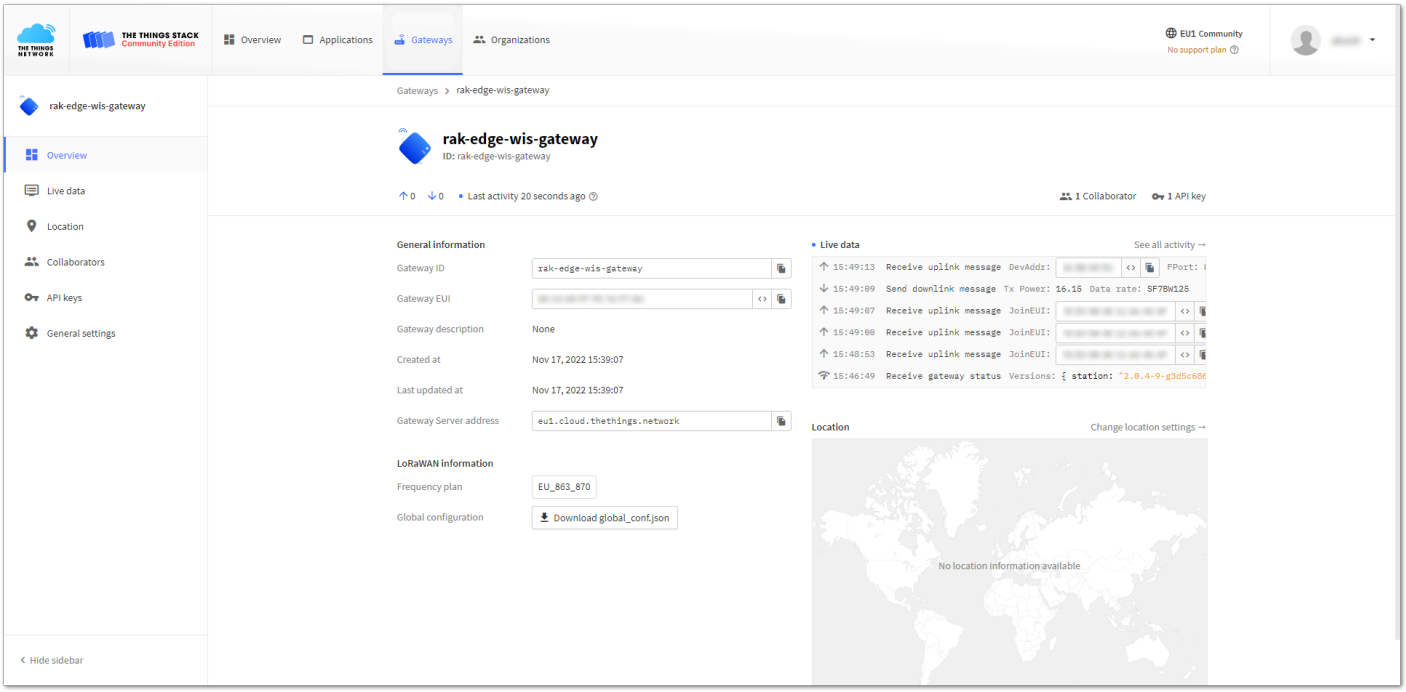

Figure 28: Successful connection