How to use RAK cloud ChirpStack for testing

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39 PAGES

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1. What's the RAK cloud ChirpStack?

Sometimes, some customers will meet some problems about how to setup a ChirpStack or how to use a ChirpStack for testing.
RAK have supply some solutions for it, for example, every RAK LoRa gateway has a built-in ChirpStack. But we think it is not enough for our customer, especially when they want to use a ChirpStack directly without setting up a new one.

That's why we supply another way for customers to use ChirpStack.
Actually, RAK has deployed 3 ChirpStack on cloud server to support our customers to test their RAK LoRa gateway or RAK LoRa node.

We always believe that our excellent service will help our customers, and we will do our best!

2. Where are them?

We have deployed ChirpStack on 3 cloud servers, and each of them can support only one frequency:

Frequency	IP Address
CN470	106.15.233.112
EU868	209.250.251.9
US915	106.15.239.64

You can choose one of them for testing.

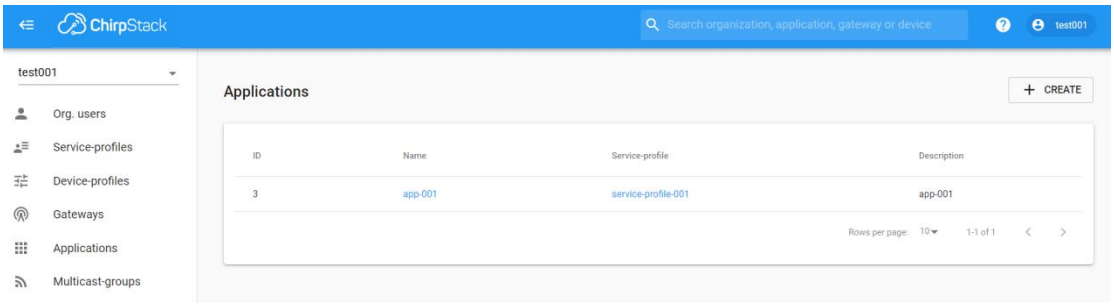
3. How can i use them?

You can use one of them through its web page. All of them have the same web page port: 8080.
For example, if you want to use EU868 frequency ChirpStack, you can open the following link: http://209.250.251.9:8080
If you want to use US915 frequency ChirpStack, you can open the following link: http://106.15.239.64:8080
Similarly, if you want to use CN470 frequency ChirpStack, you can open the following link: http://106.15.233.112:8080

Then you can see the web page of ChirpStack as follow:

Note: You can go to RAK forum https://forum.rakwireless.com/t/rak-free-cloud-ChirpStack-for-testing/344 to post an application in that topic, then RAK will send you an username and password of ChirpStack you want to use.

After login, you can see the following page:



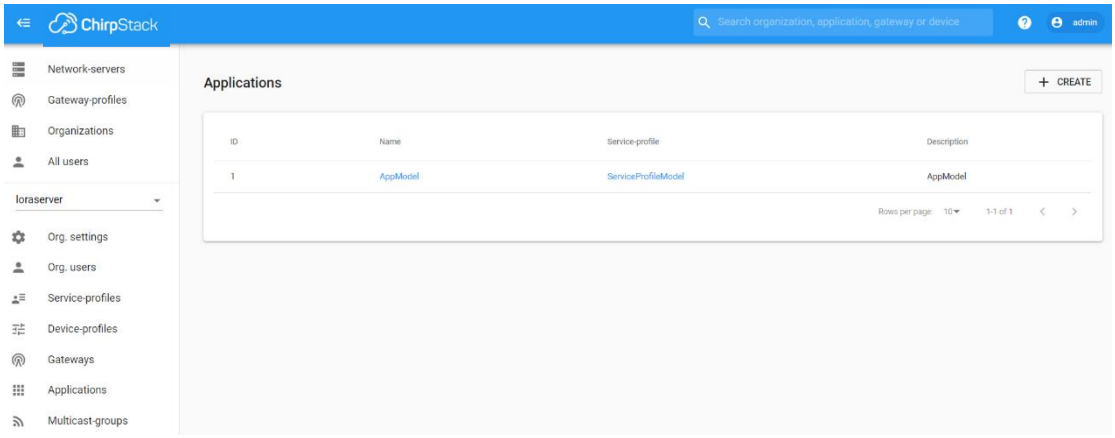
Now, you can register your LoRa gateway or LoRa node to this ChirpStack freely.

4. How to register my LoRa gateway?

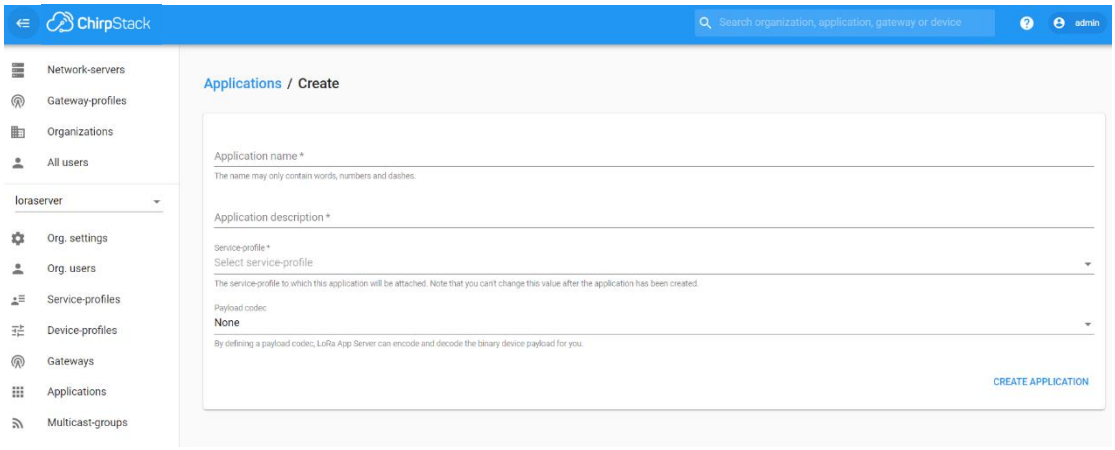
Please have a look at the section 8 of the following document:
http://docs.rakwireless.com/en/LoRa/RAK2245-Pi-HAT/Application-Notes/Get_Start_with_RAK2245&RAK831_RPi_LoRa_Gateway.pdf

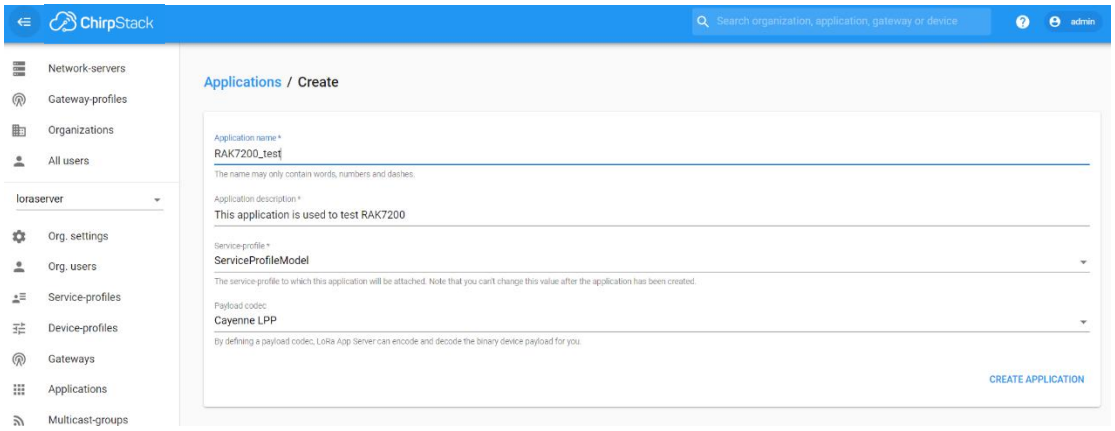
5. How to register my LoRa node?

Open the web page of the ChirpStack which you want to use.

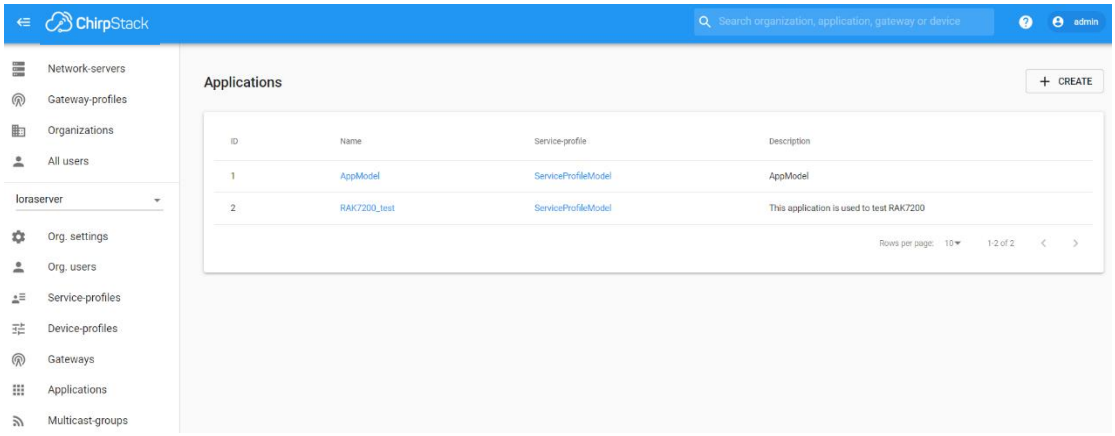


By default, there is already one or more items in this page, you can use it or create a new item. Now, let's create a new item by click the "CREATE" button, and fill in them.

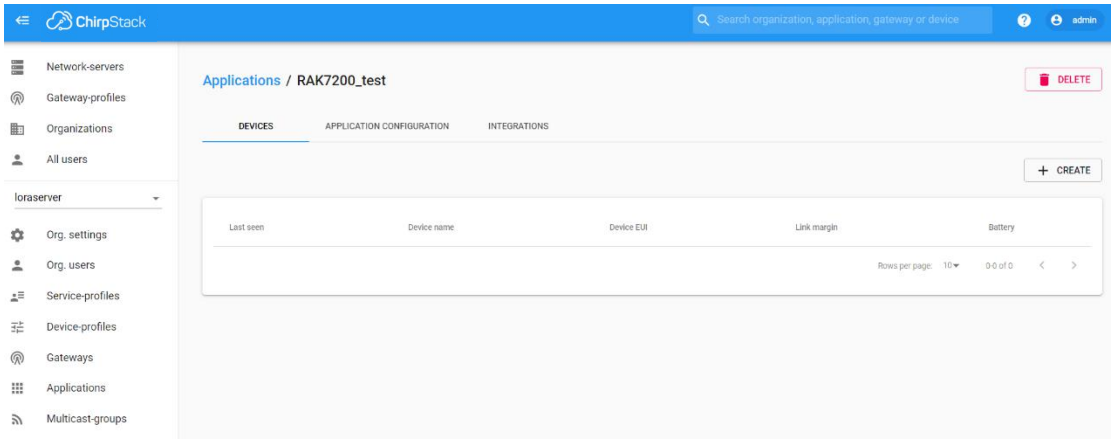




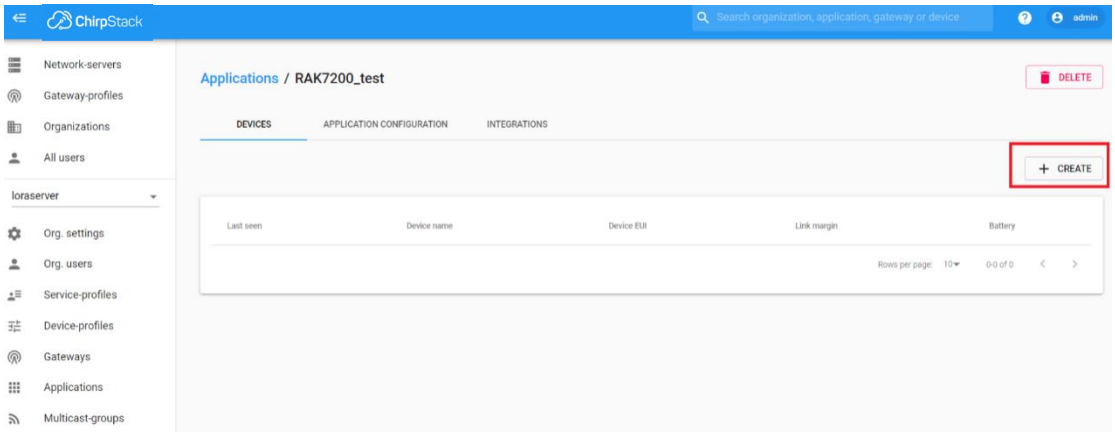
"CREATE APPLICATION".

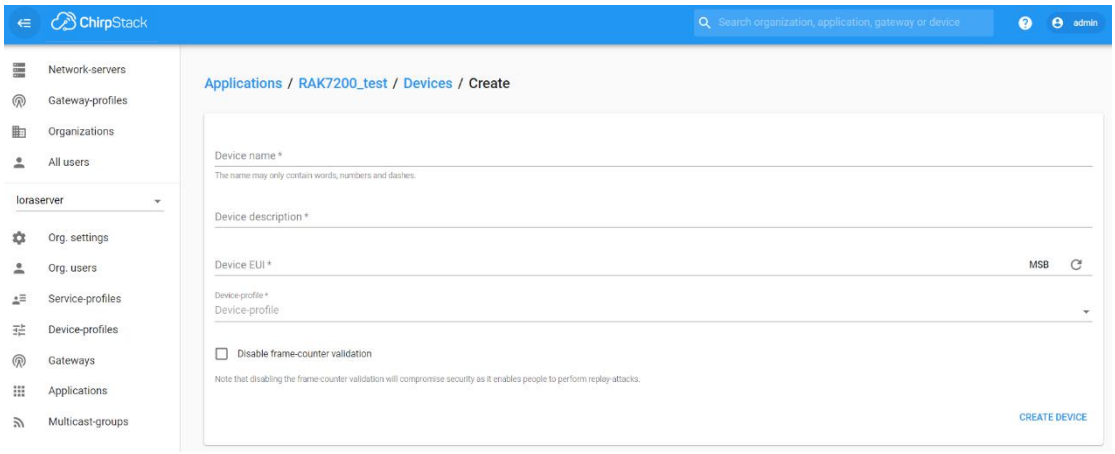


Click the new item name “RAK7200_test”:

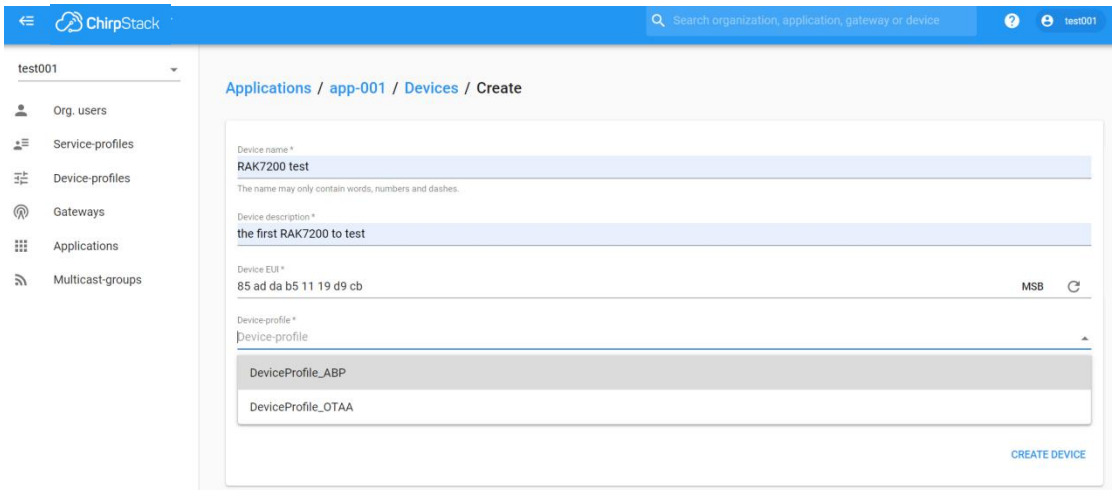


Add a LoRa node device into ChirpStack by clicking the “CREATE” button:





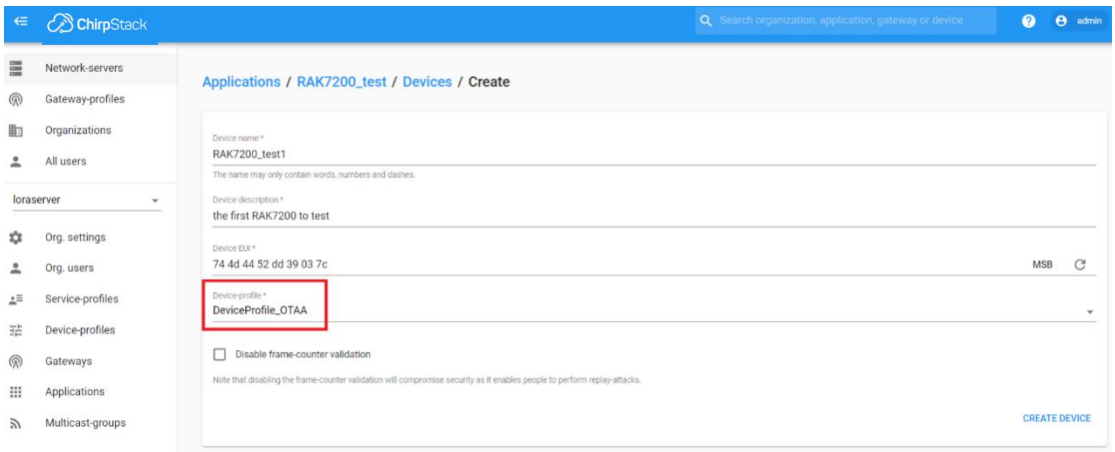
Fill in them. You can generate a Device EUI automatically by click the following icon, or you can write a correct Device EUI in the edit box.



Note: If you want to join in OTAA mode, you should select “**DeviceProfile_OTAA**” in the “Device-profile” item. If you want to join in ABP mode and other frequencies except AS923 and CN470, you should select “**DeviceProfile_ABP**” in the “Device-profile” item. What about AS923 in ABP mode? Sorry! ChirpStack can not support it now.

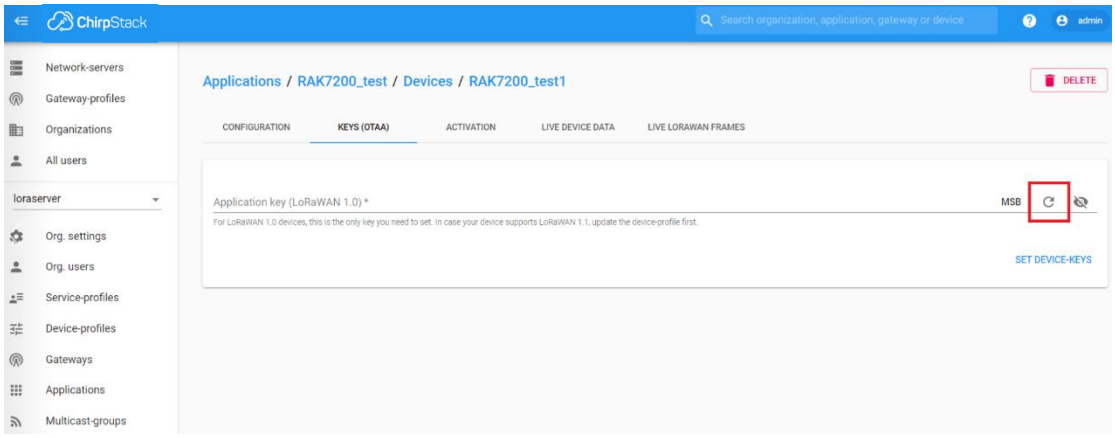
5.1 Register a LoRa node in OTAA mode

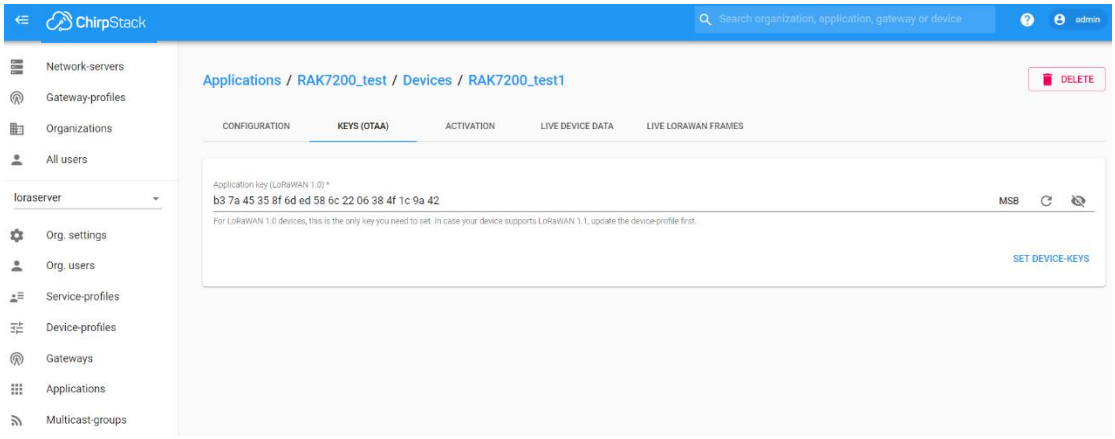
If you select “DeviceProfile_OTAA”, it means you want to join ChirpStack in OTAA mode.



“CREATE DEVICE”. Then generate the application key in this page. You can write it by

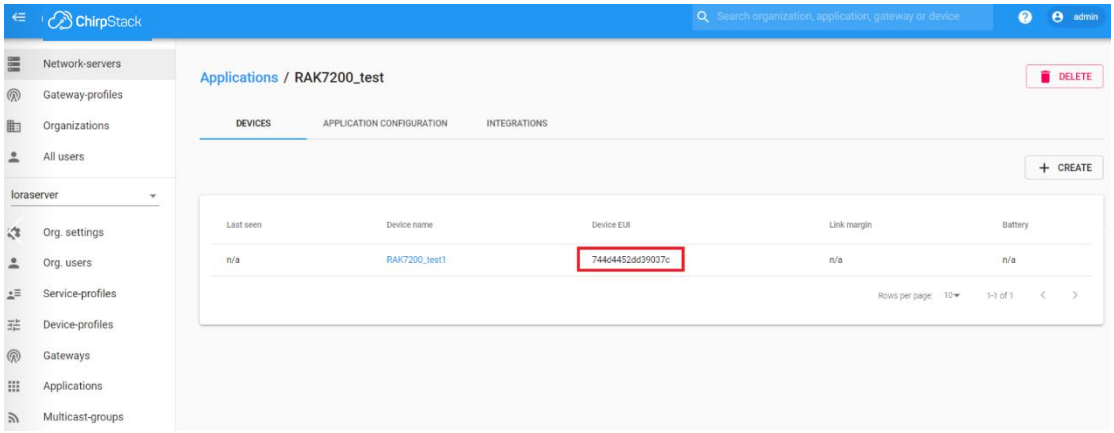
yourself or generate it automatically by clicking the following icon:



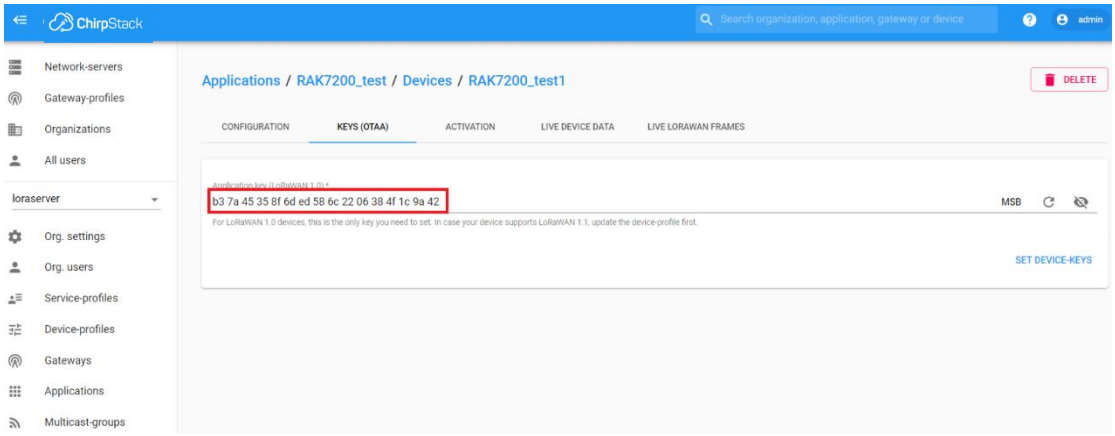


“SET DEVICE-KEYS”. That’s OK! You’ve complete the configuration on ChirpStack.

As you see, the Device EUI which will be set into your LoRa node as “dev_eui” is this one:



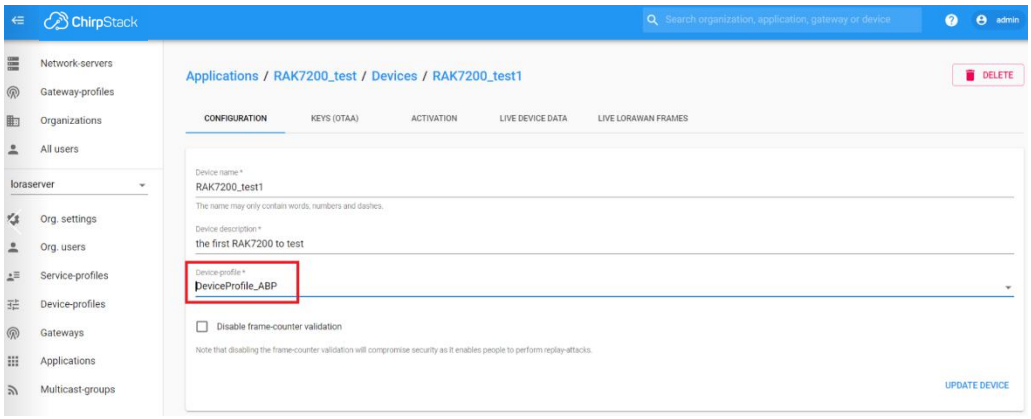
The Application Key which will be set into your LoRa node as “app_key” is this one:



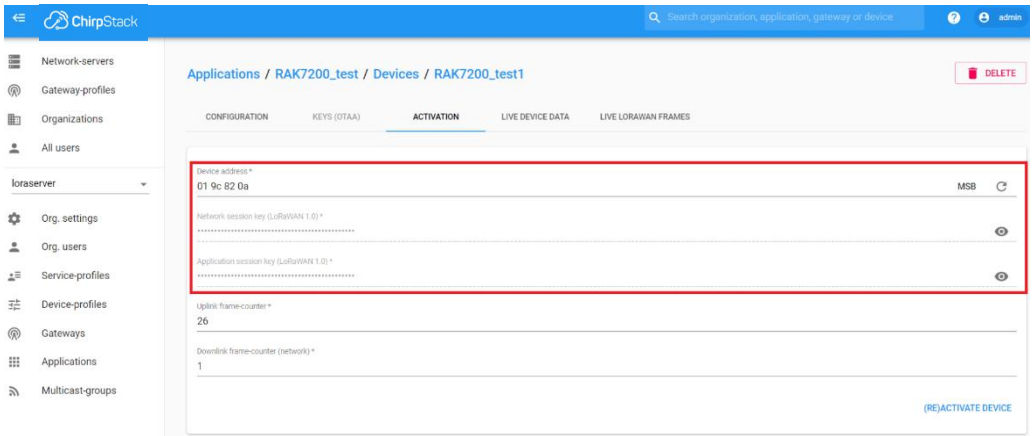
The Application EUI which will be set into your LoRa node as “app_eui” is useless for ChirpStack, and you can set it to any value with a correct format, for example: 7083D57ED001C1CF.

5.2 Register a LoRa node in ABP mode

If you select “DeviceProfile_ABP” or “DeviceProfile_ABP_CN470”, it means you want to join ChirpStack in OTAA mode.



Then you can see that there are some parameters for ABP in the “ACTIVATION” item:



Next, let’s use these parameters to set your LoRa node by using AT command.

6. Revision History

Revision	Description	Date
1.0	Initial version	2019-06-12

7. Document Summary

Prepared by	Checked by	Approved by
Fomi	Penn&Fomi	