

# LORIENT APP for R3000LG Series

## Configuration Guide

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Author: **David Evans**

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## Background

The LORIENT application for Robustel R3000 LG Series gateways provides a quick and easy integration giving customers an off the shelf solution for building LoRaWAN® networks at a price/performance ratio that has not previously been available.

LORIENT are one of the world-leading LNS (LoRaWAN Network Server) providers with an impressive catalogue of successful deployments globally.

As a very high-volume manufacturer of 3G/4G routers and gateways, Robustel have commercial advantages unobtainable by many of their peers in the LoRa® Gateway market and are consequently able to offer both Indoor & Outdoor Industrial grade, high reliability Gateways at very competitive pricing.

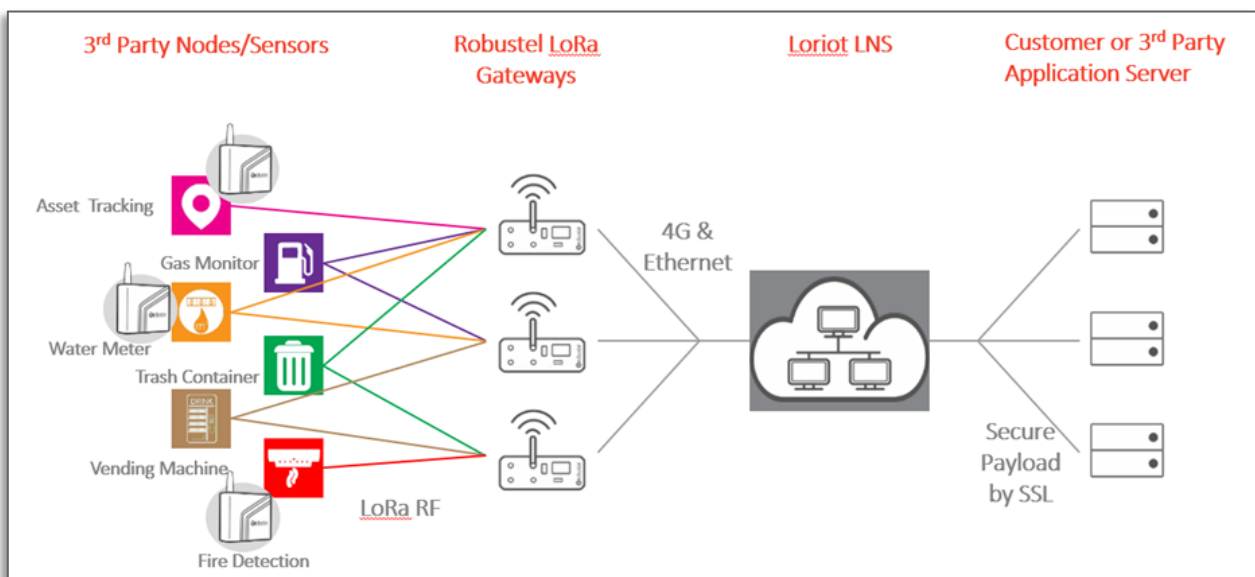


Figure 1.1 – LoRaWAN stack enabled quickly & easily with the “LORIENT APP”

Using a tried and tested LoRa Gateway + LNS combination helps to significantly de-risk the building of new LoRa networks and provides piece of mind that the companies involved have significant prior knowledge of each other’s products making effective and detailed technical support easier to come by.

For more detailed information about LoRa technology please contact [info@robustel.com](mailto:info@robustel.com) or speak with your local Robustel Distributor. Additional LoRa resources available from Robustel here:

### Multinetwork SIMs in LoRa environments:

<https://www.robustel.com/white-paper/application-of-multi-network-sims-for-4g-backhaul-in-lorawan-gateways/>

### Deciding between local or cloud-based LNS:

<https://www.rs-online.com/designspark/lorawan-network-server-integrated-or-cloud-hosted-1>

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## Chapter 1 Requirements

- 1. Go to [www.robustel.com](http://www.robustel.com)**
- 2. Select “contact us” and request the latest LORIOT APP.**
- 3. Alternatively, request the APP from your Robustel sales contact**

## Chapter 2 - Connecting R3000 LG to LORIENT Platform

1. Install LORIENT APP in the APP center of RobustOS and enter the URL of your LORIENT server and select enable.

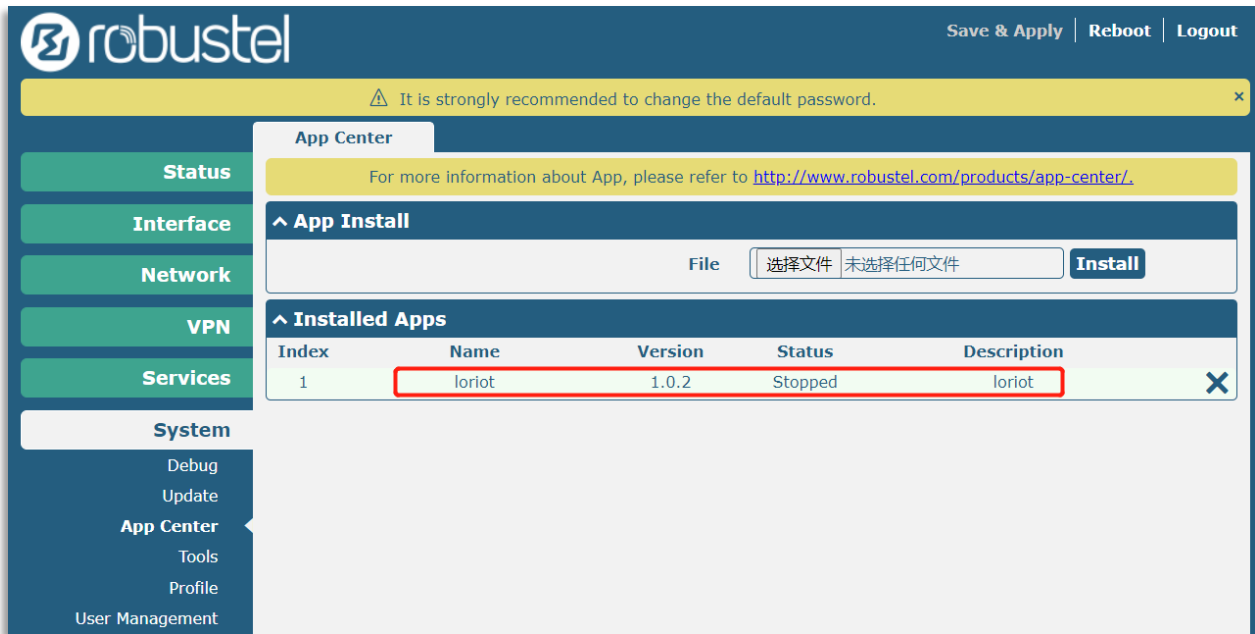


Figure 2.1 – App Center installation of LORIENT App



Figure 2.2 – Location of LORIoT APP and server settings once APP is installed

## Common LORIoT hosted Server URLs:

### Africa

AF1 - Cape Town, South Africa

### Americas

SA1 - São Paulo, Brasil

US1 - California, USA

US2 - New York, USA

### Asia

AP1 - Singapore

AP2 - Tokyo, Japan

AP3 - Mumbai, India

CN1 - Shenzhen, China

### Europe

EU1 - Frankfurt, Germany

EU2 - Amsterdam, Netherlands

EU3 - Madrid, Spain

UK1 - London, United Kingdom

### Pacific

AU1 - Sydney, Australia

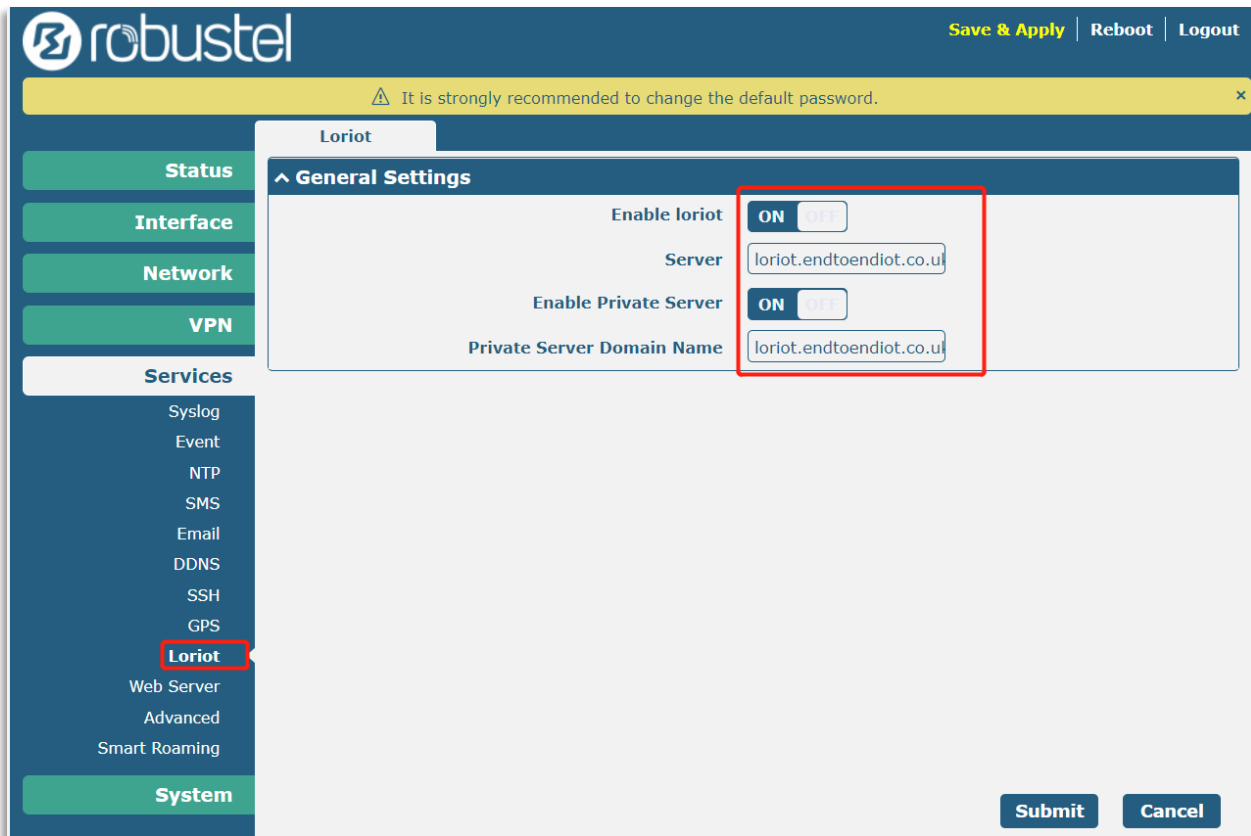


Figure 2.3 – If you are using a private server address, then turn on the Private Server button & enter URL

## 2. Ascertain the default gateway ID in R3000 LG by viewing “Interface->LoRa”

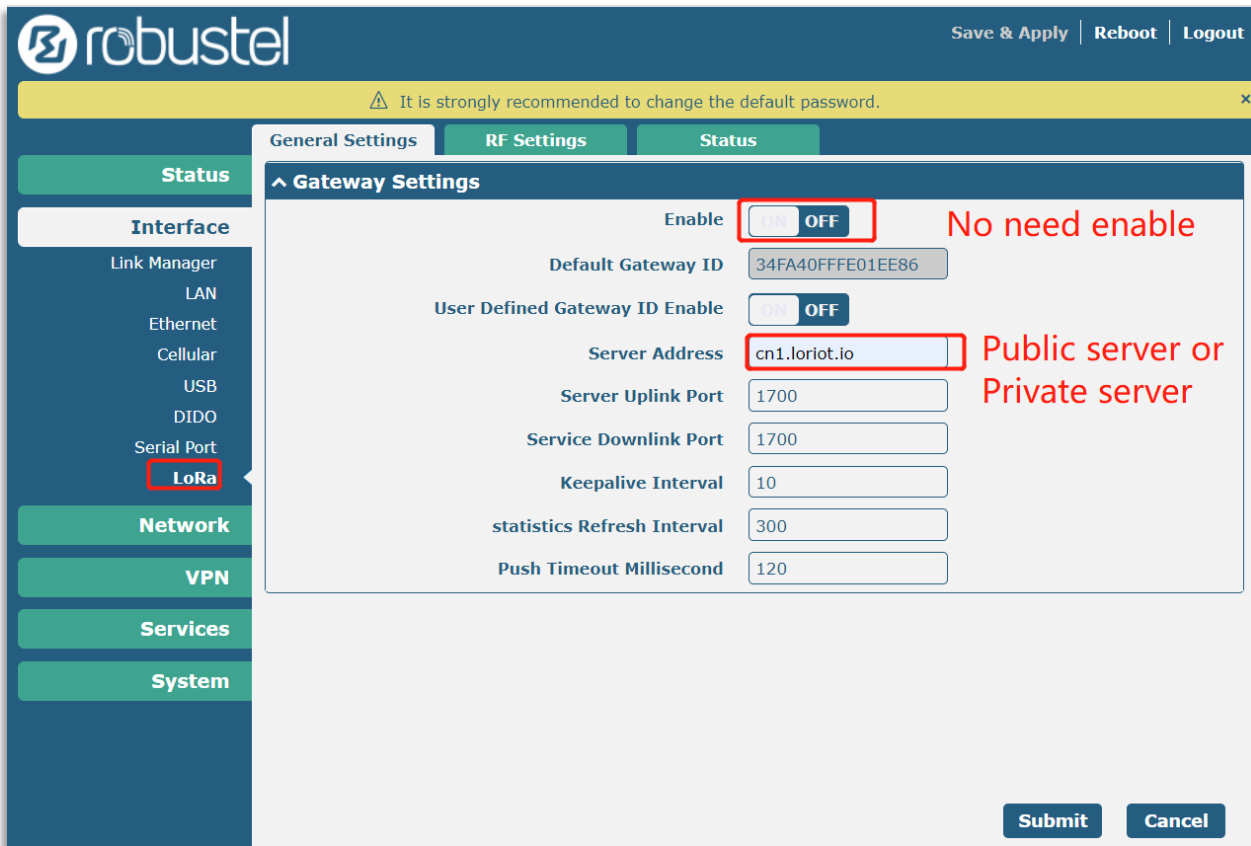


Figure 2.4 – Retrieving identifier required for LORIoT platform from GUI

Note: If you cannot connect to the LORIoT platform using the default Gateway ID, please check the MAC address that the APP is using via the syslog as follows.

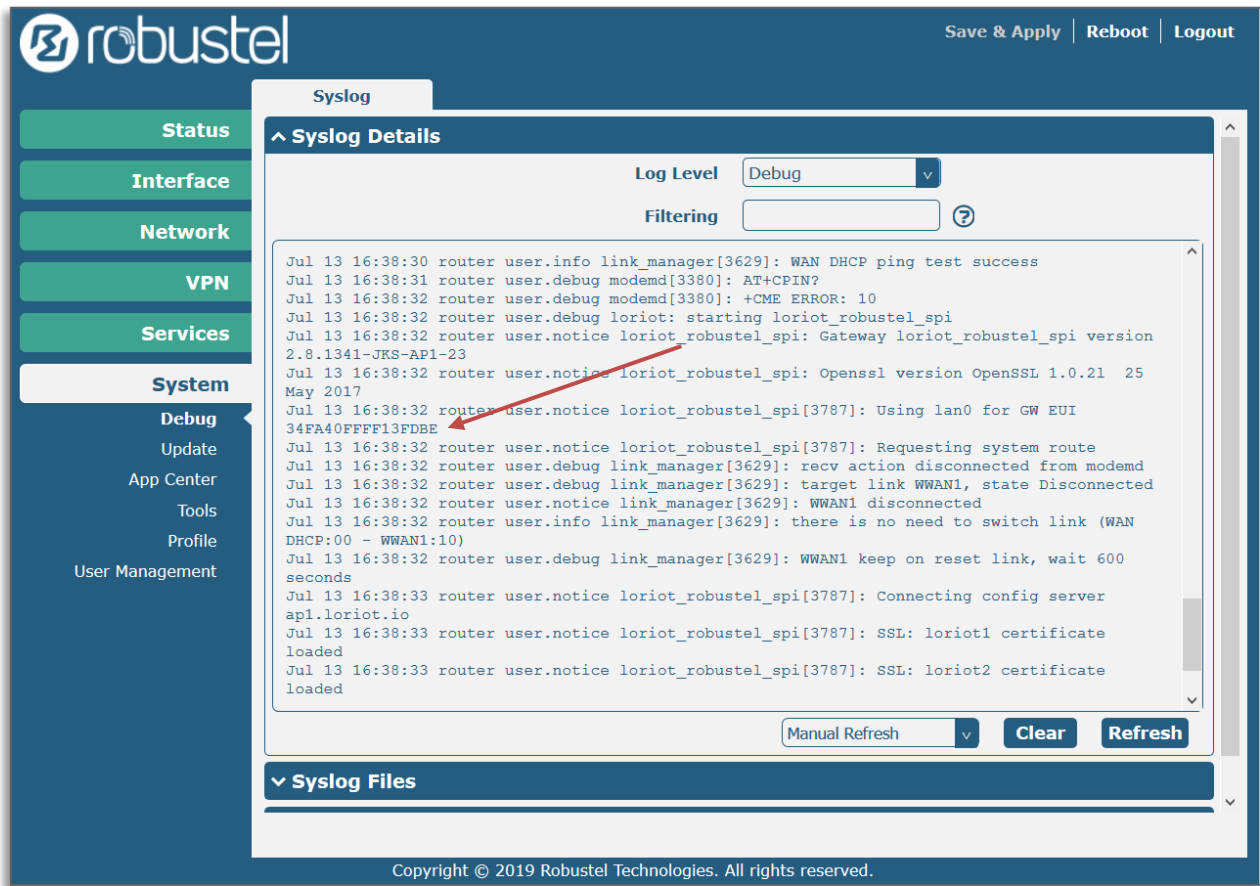


Figure 2.4 – Debug log confirming correct MAC / identifier for use in LORIIOT platform

### 3. Go to your LORIoT server account and add R3000LG gateway



Figure 2.5 – Select the R3000 LG from LORIoT Gateway menu screen

Note: There is no need for you to enable the native LoRa interface in RobustOS (R3000LG GUI) and set the server information because the LORIoT APP will reference the internal LoRa configuration. The LORIoT APP runs independently and will automatically receive configuration settings.

## 4. Input MAC address of gateway into LORIENT platform

MAC address of eth0 interface

The MAC Address of the Ethernet port can be queried by running

```
ifconfig eth0 | grep HWaddr
```

command from your device's console. A sample output will be similar to

```
eth0 Link encap:Ethernet HWaddr AB:CD:EF:12:34:56
```

Copy and past the highlighted part (six octets separated by colons) from the output of your device console to the input field below.

eth0 MAC address:  → Delete the FF:FE in the middle of Default Gateway ID and put it as MAC address here

Upon successful registration, we will provide you with a setup guide for your gateway and a gateway binary with cryptographic keys tied to this MAC address.

The keys are tied to the MAC address of the device, and cannot be moved to another device.

Please note that FFFE or FFFF is inserted after the first 6 characters of the MAC to make it a 64bit LoRaWAN gateway EUI.

For example, if 34:FA:40:13:FD:BE is the interface MAC, then 34FA40FFFE13FDBE should be the gateway EUI on the LORIENT platform.

## 5. Green Light against R3000LG on Lorient platform indicates success

The screenshot shows the LORIENT platform interface for a gateway with EUI 34-FA-40-FF-FF-13-FD-BE. The gateway is in a 'Connected' state, indicated by a green dot and a green light icon. The interface displays various details for the gateway, including its MAC Address (34:FA:40:13:FD:BE), Model (R3000), Concentrator (robustel), and Base (Robustel). The gateway is connected from IP 61.140.163.61 and is running machine armv5tejl. The interface also shows a status section with a donut chart for uptime and downtime, and a left sidebar with navigation options like Devices Activity, Location, Traffic, Radio, System, GPS, Software, Log, and Alerts.

Figure 2.7 –R3000 LG correctly configured on LORIENT platform

# Chapter 3 - Connecting LoRaWAN Node/Sensor to the LORIoT Platform

1. Set up the LoRaWAN gateway frequency channel list correctly. The example below is AS923 AS2.

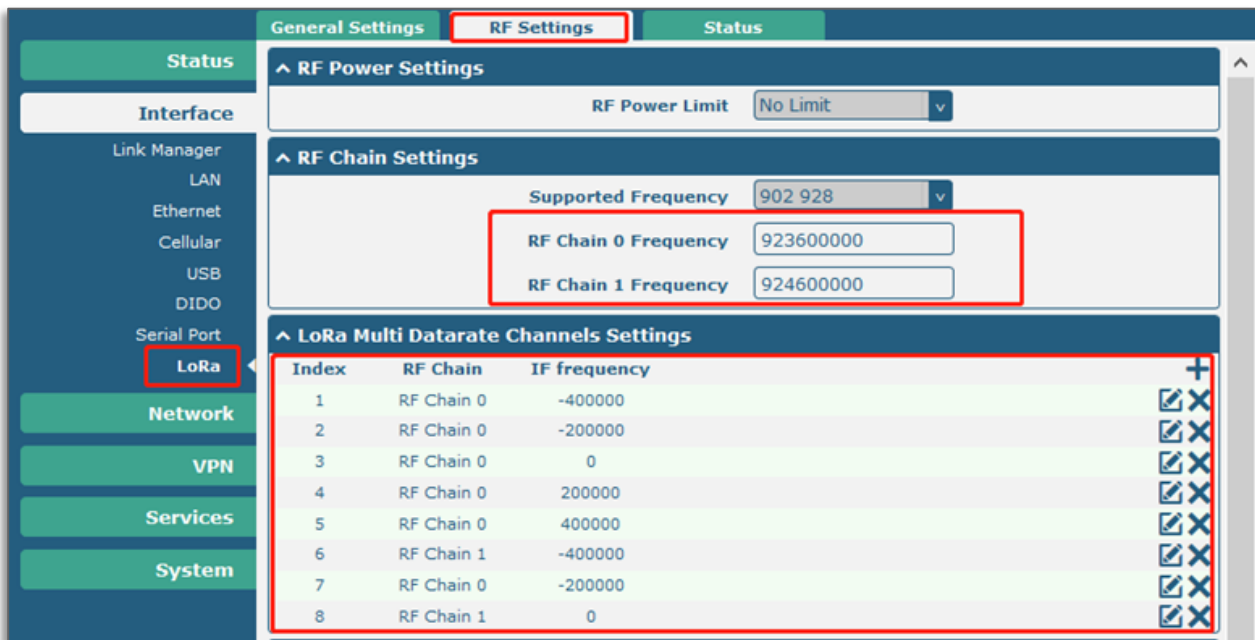


Figure 3.1 – RF Frequency section of R3000 LG settings

2. In the LORIoT platform, create a new application and click the "Enroll Device" tab.

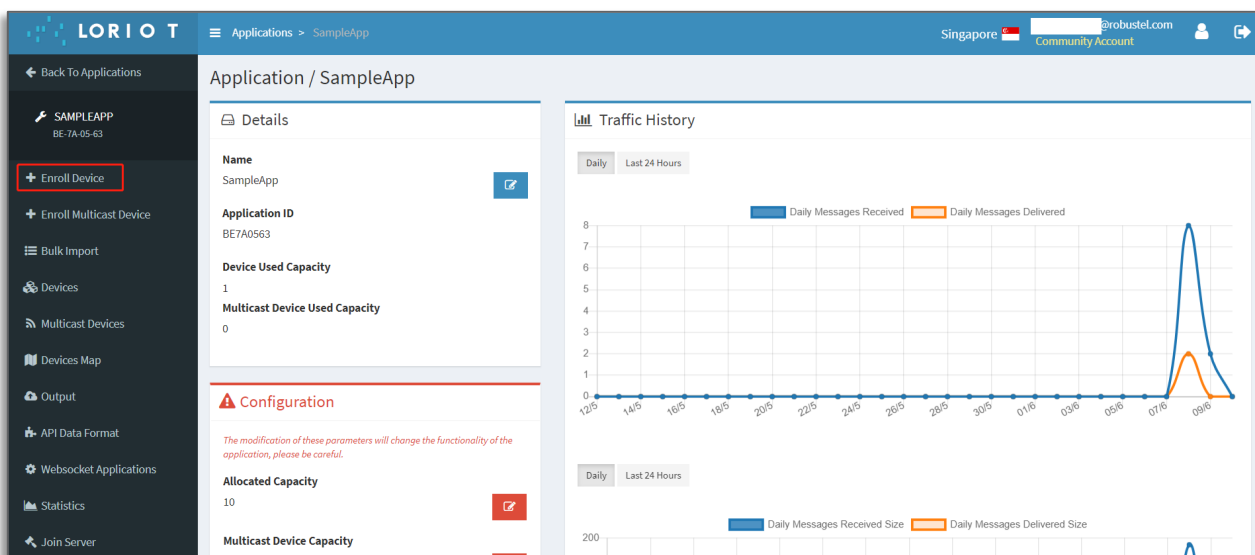


Figure 3.2 – Enroll device / add sensor process in LORIoT platform

### 3. Enter Title name, and get the "DevEUI", "AppEUI" and "AppKey" from Toolbox.

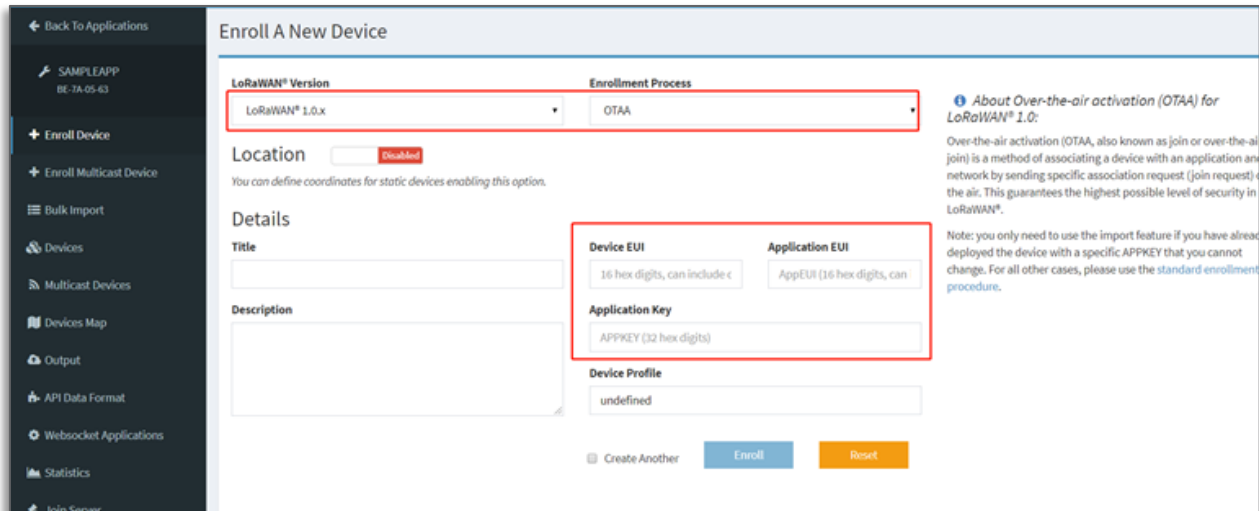


Figure 3.3 – Location of key parameters – DevEUI/AppEUI & AppKey – in LORIIOT platform

### 4. Choose Device and you will see more details of the status and the configuration of the LoRaWAN node.

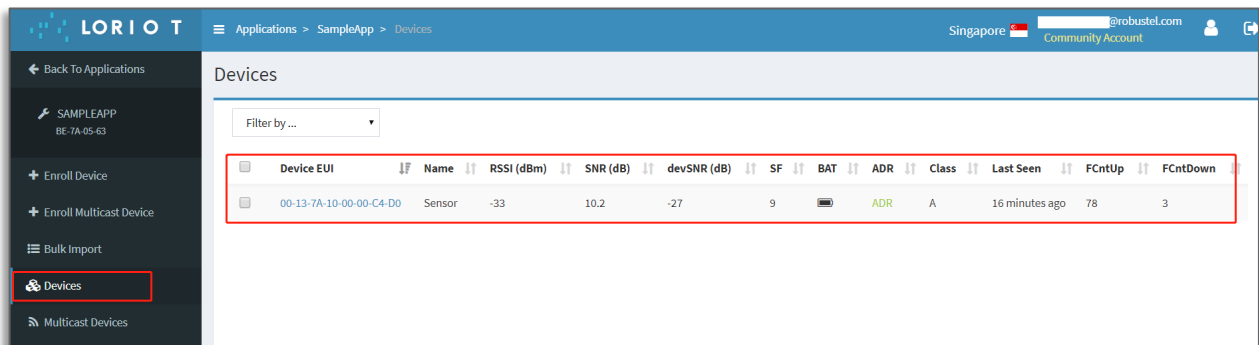


Figure 3.4 – LoRa sensor / node view

**Please contact your Robustel or Lorient representative for more information**