

Konfigurasi TheThingsNetwork (TTN)

1. Setting Gateway pada TTN

Bertujuan untuk mengatur *gateway* pada TheThingsNetwork agar dapat melakukan komunikasi dengan LG01-S. Pada pengaturan ini, pengguna harus mendaftarkan *Gateway ID* yang ada pada LG01-S ke TheThingsNetwork.

REGISTER GATEWAY

Gateway EUI
The EUI of the gateway as read from the LoRa module

A8 40 41 1C CE 90 FF FF 8 bytes

☒ I'm using the legacy packet forwarder
Select this if you are using the legacy [Semtech packet forwarder](#).

Description
A human-readable description of the gateway

Frequency Plan
The [frequency plan](#) this gateway will use

Asia 923-925MHz

Router
The router this gateway will connect to. To reduce latency, pick a router that is in a region which is close to the location of the gateway.

ttn-router-asia-se

GATEWAY OVERVIEW

Gateway ID eui-a840411cce90ffff

Description Control and Monitoring Energy

Owner BANIssemester5 [Transfer ownership](#)

Status connected

Frequency Plan Asia 923-925MHz

Router ttn-router-asia-se

Gateway Key base64

Last Seen 7 seconds ago

Received Messages 17061

Transmitted Messages 16548

Disusun Oleh:

Alfiza Rifqi Jatnika (0520180004), Bakti Ismail (0520180007),
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Konfigurasi TheThingsNetwork (TTN)

2. Setting Application pada TTN

Bertujuan untuk mengatur *node* yang akan digunakan untuk mengirimkan data hasil *sensing* ke TheThingsNetwork. Hal yang harus diingat adalah *handler registration* haruslah sama antara Gateway, Applications, dan LG01-S. Dapat dilihat pada gambar dibawah ini:

The image shows two screenshots from the The Things Network (TTN) web interface. The top screenshot is the 'ADD APPLICATION' form, which contains four sections: 'Application ID' with the value 'lorawan_lg01s_gateway', 'Description' with the value 'Eg. My sensor network application', 'Application EUI' with a placeholder 'EUI issued by The Things Network', and 'Handler registration' with the value 'ttn-handler-asia-se'. The bottom screenshot is the 'APPLICATION OVERVIEW' page, which displays the details of the created application: 'Application ID' is 'lorawan_lg01s_gateway', 'Description' is 'LoRa Gateway LG01-S', 'Created' is '16 days ago', and 'Handler' is 'ttn-handler-asia-se'.

ADD APPLICATION

Application ID
The unique identifier of your application on the network
lorawan_lg01s_gateway

Description
A human readable description of your new app
Eg. My sensor network application

Application EUI
An application EUI will be issued for The Things Network block for convenience, you can add your own in the application settings page.
EUI issued by The Things Network

Handler registration
Select the handler you want to register this application to
ttn-handler-asia-se

APPLICATION OVERVIEW

Application ID lorawan_lg01s_gateway

Description LoRa Gateway LG01-S

Created 16 days ago

Handler ttn-handler-asia-se

3. Setting Device pada Application TTN

Setelah berhasil membuat *application*, langkah selanjutnya adalah menambahkan *device* atau perangkat pada menu *application*. Penambahan ini bertujuan agar *node* dapat dikenali oleh *application*. Ketika berhasil menambahkan *device*, maka tampilan akan seperti gambar dibawah ini, yang menampilkan beberapa *key* dan EUI yang nantinya akan digunakan di dalam proses pengkodean. Penjelasan mengenai *key* tersebut adalah sebagai berikut :

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Konfigurasi TheThingsNetwork (TTN)

- Application EUI, merupakan *unique application identifier* yang digunakan untuk mengelompokkan *device* berdasarkan aplikasinya.
- Device EUI, merupakan *identifier* pada *device*.
- Application Session Key, suatu enkripsi *key* antara *device* dengan pengguna.
- Device Address, merupakan suatu *logical address* sebuah *device* LoRaWAN.
- Network Session Key, merupakan suatu enkripsi *key* antara *device* dan *network server*.

REGISTER DEVICE

[bulk import devices](#)

Device ID

This is the unique identifier for the device in this app. The device ID will be immutable.

ttgo_lora_esp32



Device EUI

The device EUI is the unique identifier for this device on the network. You can change the EUI later.



this field will be generated

App Key

The App Key will be used to secure the communication between you device and the network.



this field will be generated

App EUI

70 B3 D5 7E D0 03 89 2A



DEVICE OVERVIEW

Application ID **lorawan_lg01s_gateway**

Device ID ttgo_lora_esp32

Activation Method **ABP**

Device EUI <> 00 D7 E2 FC 40 96 85 08



Application EUI <> 70 B3 D5 7E D0 03 89 2A



Device Address <> 26 04 1E CE



Network Session Key <>



App Session Key <>



Status ● 9 seconds ago

Frames up 254 [reset frame counters](#)

Frames down 2469

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Kemudian *setting* Activation Method nya menjadi ABP. Karena project ini menggunakan metode aktivasi ABP (Activation By Personalisation). Sehingga ada 3 parameter yg digunakan yaitu Device Address, Network Session Key, dan App Session Key.

SETTINGS

Description
A human-readable description of the device

Device EUI
The serial number of your radio module, similar to a MAC address

✕

00 D7 E2 FC 40 96 85 08

✓ 8 bytes

Application EUI

70 B3 D5 7E D0 03 89 2A

↕

Activation Method

OTAA

ABP

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