How?

What you need

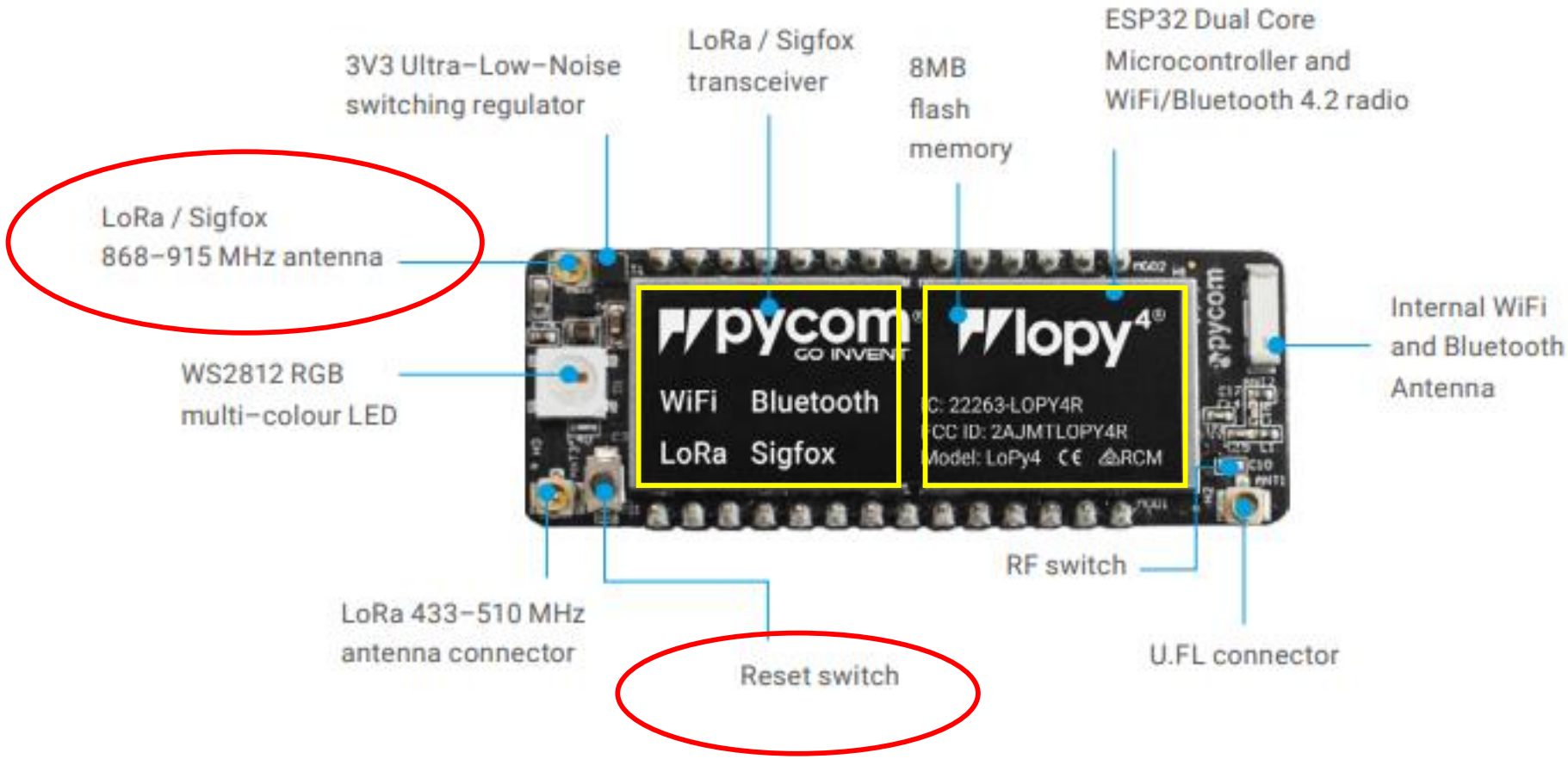
- End-Device
- Access to a Network
- Gateway
- Account
- Little programming skills

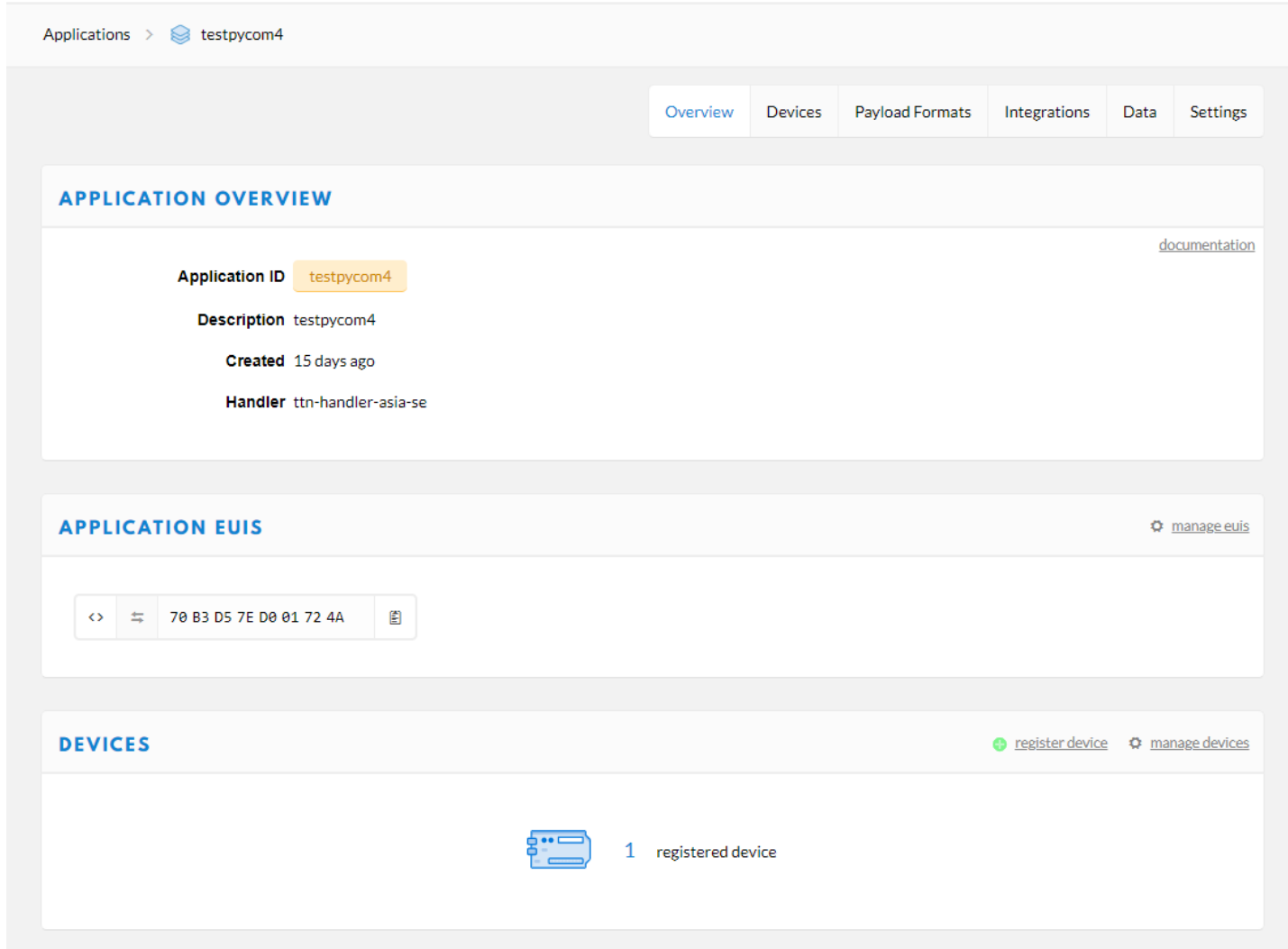
Register an account (free) on The Things Network.

https://account.thethingsnetwork.org/register

Log into TTN console.
Go to “Applications”
Add an application (Handler = ttn-handler-asia-se)
Add a device
Make sure device settings has Activation Method = OTAA
Record the **Application EUI** and **App Key** (these are needed in the code)
Then update the **Device EUI** in TTN (device settings). Depending on your LoPy4 device (see label), use one of the following:

SSID		Dev EUI
Lopy4 wlan ae18	=	70B3D5499B9CCEF6
Lopy4 wlan ae30	=	70B3D5499A2E2AE3
Lopy4 wlan 5c74	=	70B3D5499767F267
Lopy4 wlan 2e5c	=	70B3D54996EE30EF


3V3 Ultra-Low-Noise switching regulator
LoRa / Sigfox transceiver
8MB flash memory
ESP32 Dual Core Microcontroller and WiFi/Bluetooth 4.2 radio
LoRa / Sigfox 868-915 MHz antenna
WS2812 RGB multi-colour LED
Internal WiFi and Bluetooth Antenna
pycom
GO INVENT
WiFi Bluetooth
LoRa Sigfox
lopy4
RF switch
LoRa 433-510 MHz antenna connector
Reset switch
U.FL connector


Applications
testpycom4
Overview
Devices
Payload Formats
Integrations
Data
Settings
APPLICATION OVERVIEW
documentation
Application ID
testpycom4
Description
testpycom4
Created
15 days ago
Handler
ttn-handler-asia-se
APPLICATION EUIS
manage euis
70 B3 D5 7E D0 01 72 4A
DEVICES
register device
manage devices
1
registered device

Applications > testpycom4 > Devices > lopy4-0001 > Settings

Overview | Data | Settings

DEVICE SETTINGS

- General
- Location

SETTINGS

Description
A human-readable description of the device

lopy4 0001

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

70 B3 D5 49 9A 2E 2A E3 — 8 bytes

Application EUI

70 B3 D5 7E D0 01 72 4A

Activation Method

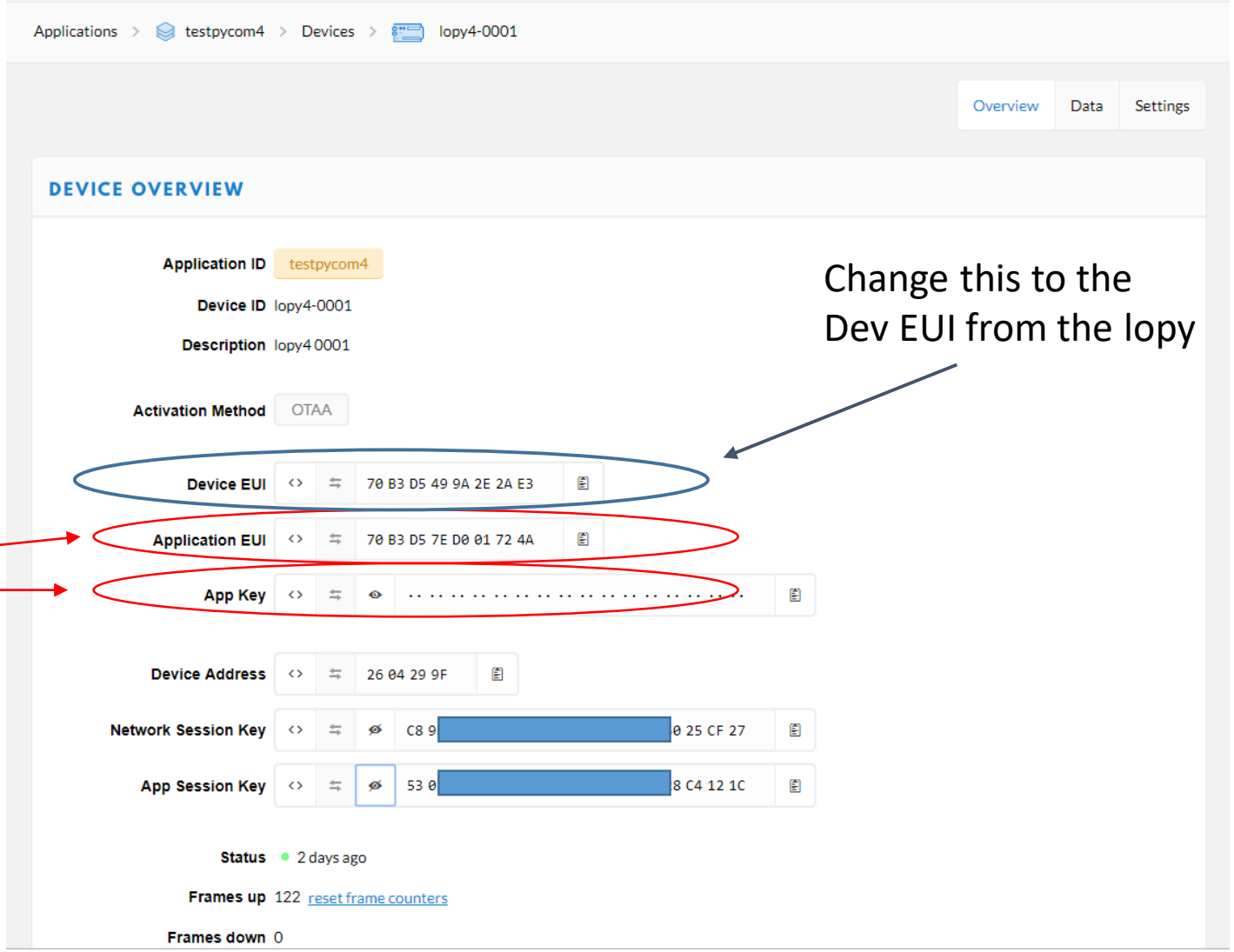
OTAA | ABP

App Key
The key your device will use to set up sessions with the network

CE 79 ED [redacted] 42 DD 1A 84 5B — 16 bytes

Frame Counter Width

16 bit | 32 bit


Applications > testpycom4 > Devices > lopy4-0001
Overview
Data
Settings
DEVICE OVERVIEW
Application ID testpycom4
Device ID lopy4-0001
Description lopy4 0001
Activation Method OTAA
Device EUI 70 B3 D5 49 9A 2E 2A E3
Application EUI 70 B3 D5 7E D0 01 72 4A
App Key
Device Address 26 04 29 9F
Network Session Key C8 9 0 25 CF 27
App Session Key 53 0 8 C4 12 1C
Status 2 days ago
Frames up 122 reset frame counters
Frames down 0
Change this to the Dev EUI from the lopy
These need to be added to your code

Code:
https://github.com/rorygleeson/simpleLoraPycomLopy4

Download main.py to laptop

Modify the code. Update app_eui, app_key to correspond to your TTN account.

- Connect lopy4 via USB to laptop or power with battery
- Search for lopy4 WIFI network SSID (ensure its YOUR lopy4, WIFI SSID is as per label on the device)
- Connect your laptop to this network with password = www.pycom.io

Setup FTP client

(Recommended FileZilla)

Upload main.py

FTP settings:

Host IP: 192.168.4.1

Login Type = normal,

User = micro

Password = python

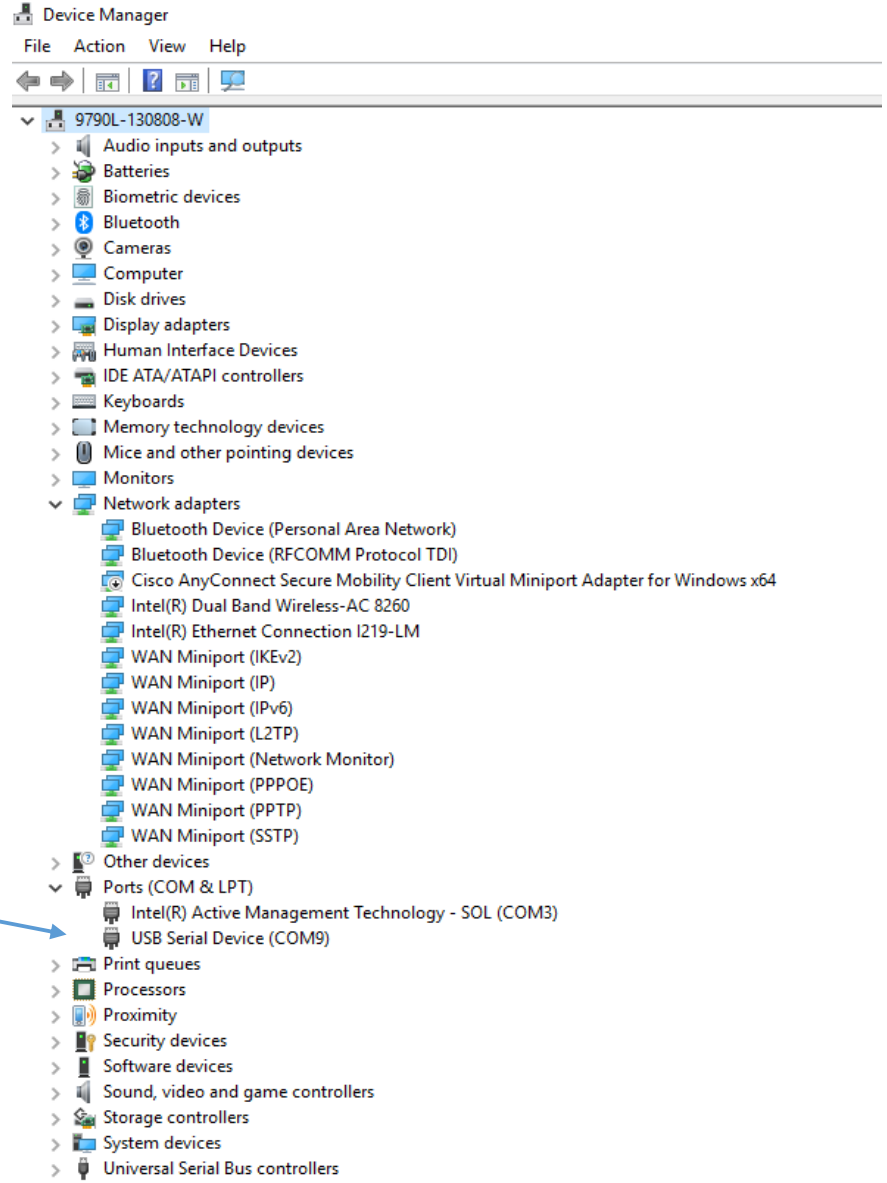
Protocol = FTP

Encryption = Only use plain FTP (unsecure)

- Upload main.py to LoPy via FileZilla
- Reset LoPy
- Verify a message is being sent every 10 seconds to the TTN.
  (Do this by viewing the data in TTN, devices->data)

- Serial Comms
- Connect lopy4 via USB to laptop
- Verify it appears in Device Manager as COM port

Using COM9



- https://core-electronics.com.au/tutorials/getting-started-on-the-things-network-tutorial.html