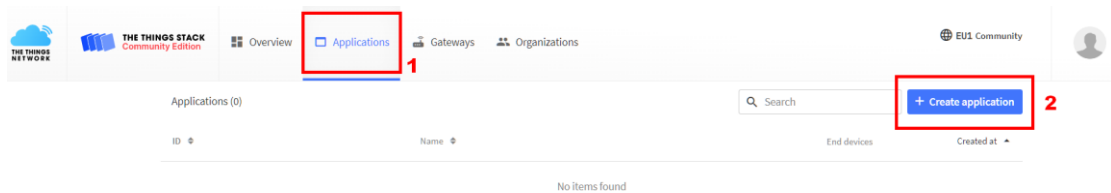


# ADD GLAMOS WALKER TO THE THINGS NETWORK (TTN)

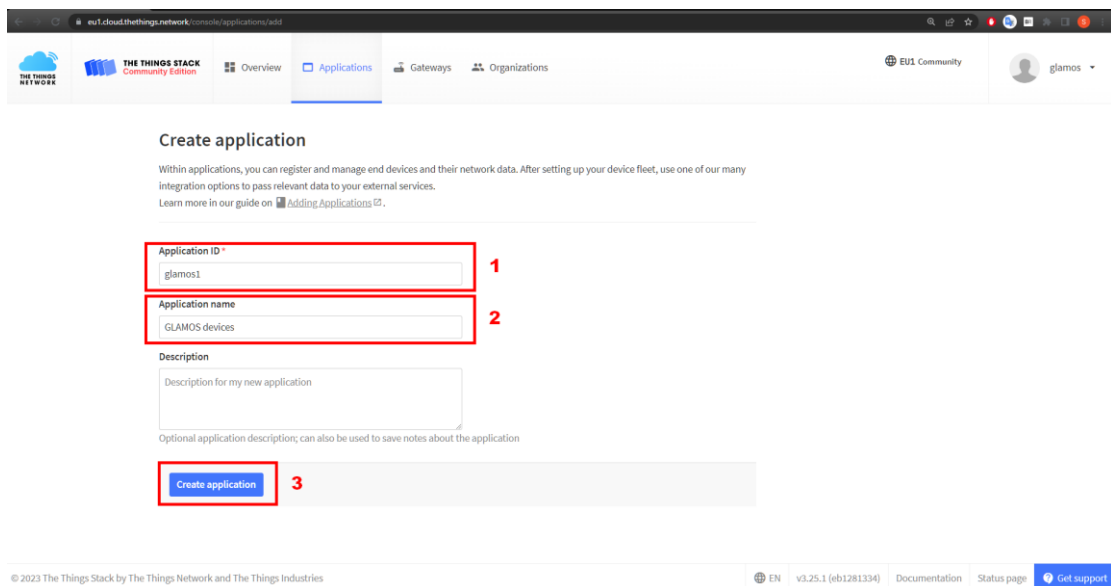
1. Login to TTN Console account:

<https://console.cloud.thethings.network/>

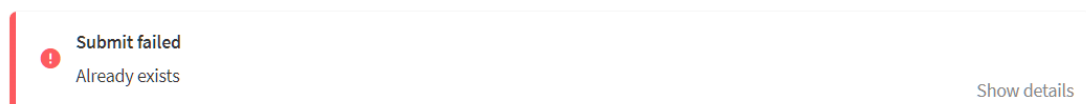
2. Go to Applications and click **Create application**



3. Type some **Application ID** and **Application name**, then click **Create application** button



**NOTE:** if you get error „Submit failed – Already exists“, you need to **change Application ID** to something unique (maybe add some numbers or use other words).



4. When application is successfully created, you will see some general information.

Click on **End devices** on left sidebar.

The screenshot shows the 'GLAMOS devices' page in The Things Stack. The left sidebar has 'End devices' highlighted with a red box and a red arrow pointing to it. The main content area shows 'GLAMOS devices' with ID 'g1amos123'. It includes a 'General information' section with fields for Application ID, Created at, and Last updated at. Below that is a 'Live data' section with a 'Create application' button. At the bottom, there is a table for 'End devices (0)' with columns for ID, Name, DevEUI, JoinEUI, and Last activity. A red arrow points to the '+ Register end device' button in the top right of the table area.

5. It will open list of all devices added to our application (currently it is empty).

Here click on **Register end device**.

The screenshot shows the 'GLAMOS devices' page in The Things Stack, specifically the 'End devices' view. The left sidebar has 'End devices' selected. The main content area shows 'End devices (0)' with a search bar, 'Import end devices' button, and '+ Register end device' button. A red arrow points to the '+ Register end device' button.

6. It will open screen to setup your new Walker device.

As „**Input method**“ choose „**Enter end device specifics manually**“ (1)

For „**Frequency plan**“ (2) we recommend to choose these settings (for default Walker device settings):

- a. EU868 device -> choose „Europe 863-870 MHz (SF9 for RX2 – recommended)“
- b. US915 device -> choose „United States 902-928 MHz, FSB 2 (used by TTN)“
- c. AU915 device -> choose „Australia 915-928 MHz, FSB 2 (used by TTN)“
- d. AS923 device -> for subband 1 choose „Asia 920-923“, for subband 2 choose „Asia 923-925“

As LoRaWAN version (3) choose „**LoRaWAN Specification 1.0.3**“

In JoinEUI field (4) type AppEUI/JoinEUI key of your device (find keys in Walker device menu, go to **Settings -> Keys**).


Click „**Confirm**“ button to expand Provisioning information

Applications > GLAMOS devices > End devices

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### Register end device

Does your end device have a LoRaWAN® Device Identification QR Code? Scan it to speed up onboarding.

 [Device registration help](#)

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#### End device type

Input method ⓘ

Select the end device in the LoRaWAN Device Repository

Enter end device specifics manually **1**

Frequency plan ⓘ \*

Europe 863-870 MHz (SF9 for RX2 - recommended) | v **2**

LoRaWAN version ⓘ \*

LoRaWAN Specification 1.0.3 | v **3**

Regional Parameters version ⓘ \*

RP001 Regional Parameters 1.0.3 revision A | v

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[Show advanced activation, LoRaWAN class and cluster settings](#) v

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#### Provisioning information **4**

JoinEUI ⓘ \*

AB 4B 12 12 12 12 12 | Confirm **5**

To continue, please enter the JoinEUI of the end device so we can determine onboarding options

7. Type **DevEUI** (1) and **AppKey** (2) which you can find in Walker device menu (Settings -> Keys)

In field “**End device ID**” (3) type some ID you want (like in picture) or leave as automatically generated (e.g. eui-14a4...).

Then click on “**Register end device**” button (4).

**Provisioning information**

JoinEUI ⓘ \*

A8 4B 12 12 12 12 12 12

This end device can be registered on the network

DevEUI ⓘ \* **1**

1D 4A 7D 00 00 12 12 12  0/50 used

AppKey ⓘ \* **2**

BF B0 B7 9E 6E AB 2D 29 CF B7 DB 25 6A 21 75 27

End device ID ⓘ \* **3**

glamos-walker-1

This value is automatically prefilled using the DevEUI

**After registration**

View registered end device

Register another end device of this type

**4**

8. You can see general information about your Walker device.

Now go to **General settings**.

The screenshot shows the 'glamos-walker-1' device page in the LoRaWAN network management interface. The 'General settings' tab is selected and highlighted with a red arrow. The page displays various configuration details for the device, including:

- General Information:** End device ID (glamos-walker-1), Frequency plan (Euzoep 863-878 MHz (SP9 for RX2 - raccom...)), LoRaWAN version (LoRaWAN Specification 1.0.3), Regional Parameters version (RR001 Regional1 Parametexs 1.0.3 revision A), and Created at (Apr 18, 2023 19:12:51).
- Activation Information:** AppEUI (A8 4B 12 12 12 12 12 12), DevEUI (1D 4A 7D 00 00 12 12 12), and AppKey (BF B0 B7 9E 6E AB 2D 29 CF B7 DB 25 6A 21 75 27).
- Session Information:** This device has not joined the network yet.
- MAC data:** Download MAC data button.
- Location:** A world map showing 'No location information available'.

9. This part is important if you want to get confirmation (downlink) messages on Walker (and to display RSSI and SNR).

Next to “Network layer” headline click on “**Expand**” button (1).

Then click on “**Advanced MAC settings**” (2).

The screenshot shows the 'Network layer' settings page. At the top right, a 'Collapse' button is highlighted with a red box and a red '1'. Below the settings, a 'Reset session and MAC state' button is visible. Further down, the 'Advanced MAC settings' dropdown menu is highlighted with a red box and a red '2'. At the bottom of the page, an 'Expand' button is visible next to the 'Application layer' heading.

**Network layer** Collapse 1

LoRaWAN network-layer settings, behavior and session

Frequency plan ⓘ \*  
Europe 863-870 MHz (SF9 for RX2 - recommended) | v

LoRaWAN version ⓘ \*  
LoRaWAN Specification 1.0.3 | v

Regional Parameters version ⓘ \*  
RP001 Regional Parameters 1.0.3 revision A | v

LoRaWAN class capabilities ⓘ

Supports class B

Supports class C

Activation mode ⓘ \*

Over the air activation (OTAA)

Activation by personalization (ABP)

Define multicast group (ABP & Multicast)

Session and MAC state reset ⓘ

Reset session and MAC state

Advanced MAC settings v 2

Save changes

---

**Application layer** Expand

Only keys of joined OTAA end devices are stored on the Application Server

10. GLAMOS Walker **RX1 delay** is by default set on 1 second, so set value on 1.

With upcoming firmware update (v1.8) it will be possible to change this value through menu (and then set that value in TTN).

Disable **status periodicity** by setting values on 0 (2 and 3).

Disable **Adaptive data rate (ADR)** by choosing “Disabled” option (4).

Click “**Save changes**” button.

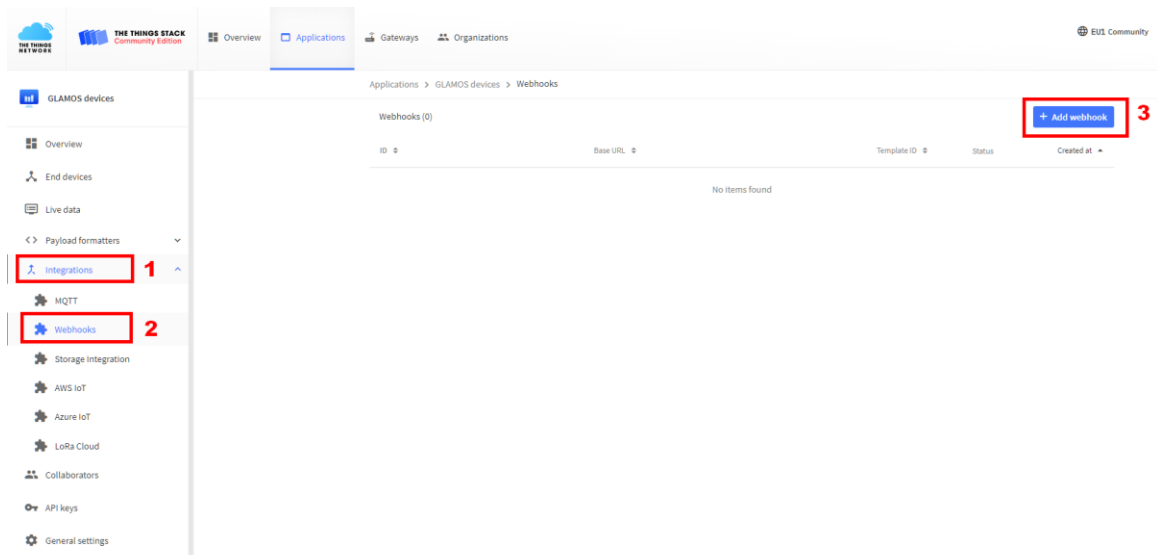
The screenshot shows a configuration page for a device. The settings are as follows:

- Activation mode** (with a red asterisk):
  - Over the air activation (OTAA)
  - Activation by personalization (ABP)
  - Define multicast group (ABP & Multicast)
- Session and MAC state reset**:
  - Reset session and MAC state
- Advanced MAC settings** (expanded):
  - Frame counter width**:
    - 16 bit
    - 32 bit
  - Desired Rx1 delay** (highlighted with a red box and number 1):
    - 1 sec
  - Desired Rx1 data rate offset**:
    - 0
  - Desired Rx2 data rate index**:
    - 3
  - Desired Rx2 frequency**:
    - 869,525 MHz
  - Desired maximum duty cycle**:
    - 100%
  - Factory preset frequencies** (highlighted with a red box and number 2):
    - + Add Frequency
    - List of factory-preset frequencies. Note: order is respected.
  - Status count periodicity** (highlighted with a red box and number 2):
    - 0 messages
  - Status time periodicity** (highlighted with a red box and number 3):
    - 0 seconds
  - Adaptive data rate (ADR)** (highlighted with a red box and number 4):
    - Dynamic mode
    - Static mode
    - Disabled
- Save changes** (highlighted with a red box and number 5, with an arrow pointing to it)

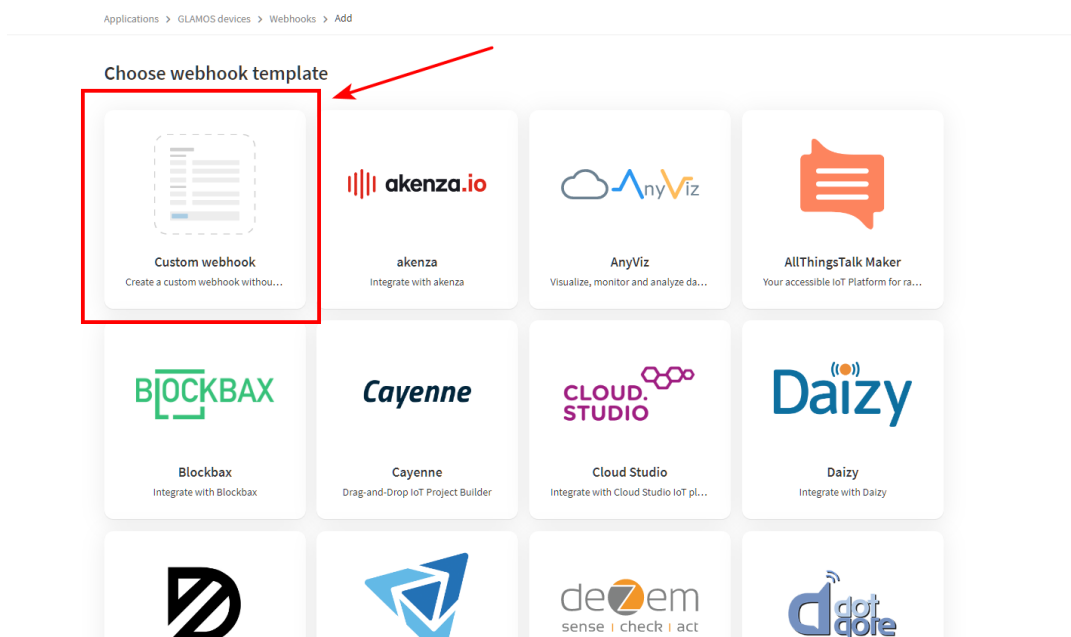
# ADD INTEGRATION TO GLAMOS WALK APP

1. On left sidebar choose **Integrations** (1) and then **Webhooks** (2).

When screen opens, click on “Add webhook” button (3)



2. Choose “Custom webhook”



3. Type requested information.
  1. **Webhook ID** can be any name you want
  2. Webhook **format** must be JSON
  3. **Base URL** copy from GLAMOS Walk App account: <https://app.glamos.eu/account>
  4. Click **“Add header entry”**
  5. On left field type **“server”**, on right field type **“ttn”**.
  6. Select checkbox only in front of **“Uplink message”**
  7. Click **“Add webhook”**

## Add webhook

The Webhooks feature allows The Things Stack to send application related messages to specific HTTP(S) endpoints. You can also use webhooks to schedule downlinks to an end device. Learn more in our [Webhooks guide](#).

### General settings

Webhook ID \*  
glamos-walk-app

1

Webhook format \*  
JSON

2

Base URL \*  
[https://api.glamos.eu/device?api\\_key=5efa15121212121212121212](https://api.glamos.eu/device?api_key=5efa15121212121212121212)

3

Downlink API key

The API key will be provided to the endpoint using the "X-Downlink-Apikey" header

### Request authentication

Use basic access authentication (basic auth)

Additional headers  
server ttn

5

+ Add header entry

4

### Filter event data

+ Add filter path

### Enabled event types

For each enabled event type an optional path can be defined which will be appended to the base URL

6  Uplink message /path/to/webhook

An uplink message is received by the application