



EVALUATION BOARD



Basic dashboard configuration with cloud data

This tutorial presents how to send the telemetry data from the **SIP HTLRBL32L** microcontroller, to a cloud platform, in this case, the platform used will be [TagoIO](#).

What is TagoIO's platform?

[TagoIO](#) provides a cloud platform for collecting, processing and sending data, connecting any device over WiFi, **LoRaWAN**, Sigfox, LTE, BLE, Zigbee, satellite and Z-Wave to the IoT ecosystem. The results of the collected data will be displayed in real time through an easy to configure **dashboard**.

Necessary tools:

- ❑ To have read the text **LoRaWan**
- ❑ Link to the Code that will be executed in the tutorial [“LoRaWAN TagoIO DashBoard”](#).

1. Basic setup with TagoIO

First, register your account by filling in the required data in the [link](#), and then login to the [TagoIO](#) platform page.

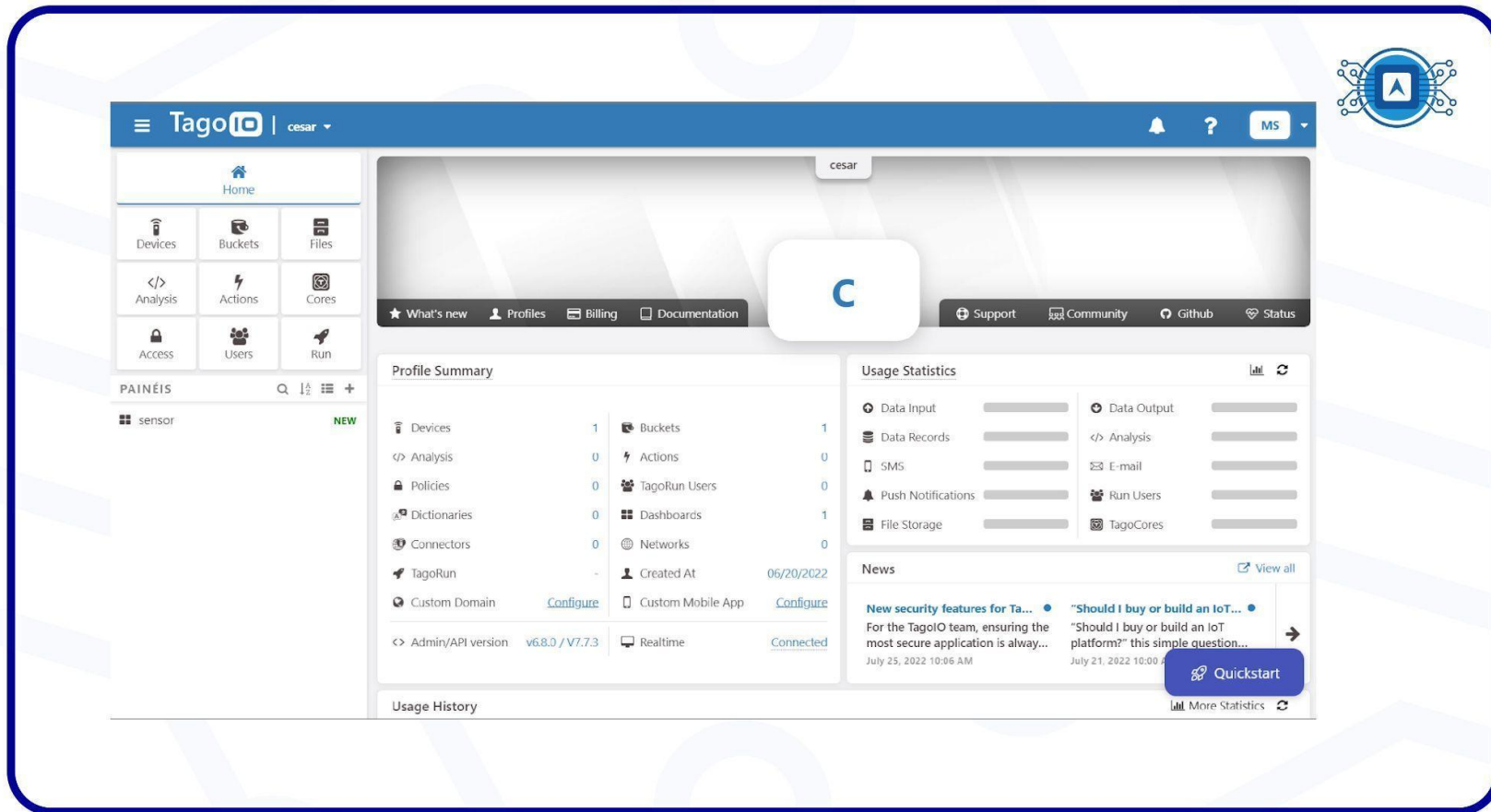


Image 1: TagoIO Platform. Source: Screenshot by the author.

1.1 Creating a device

In the **TagoIO** platform, click on “**Devices**” as highlighted in image 2.

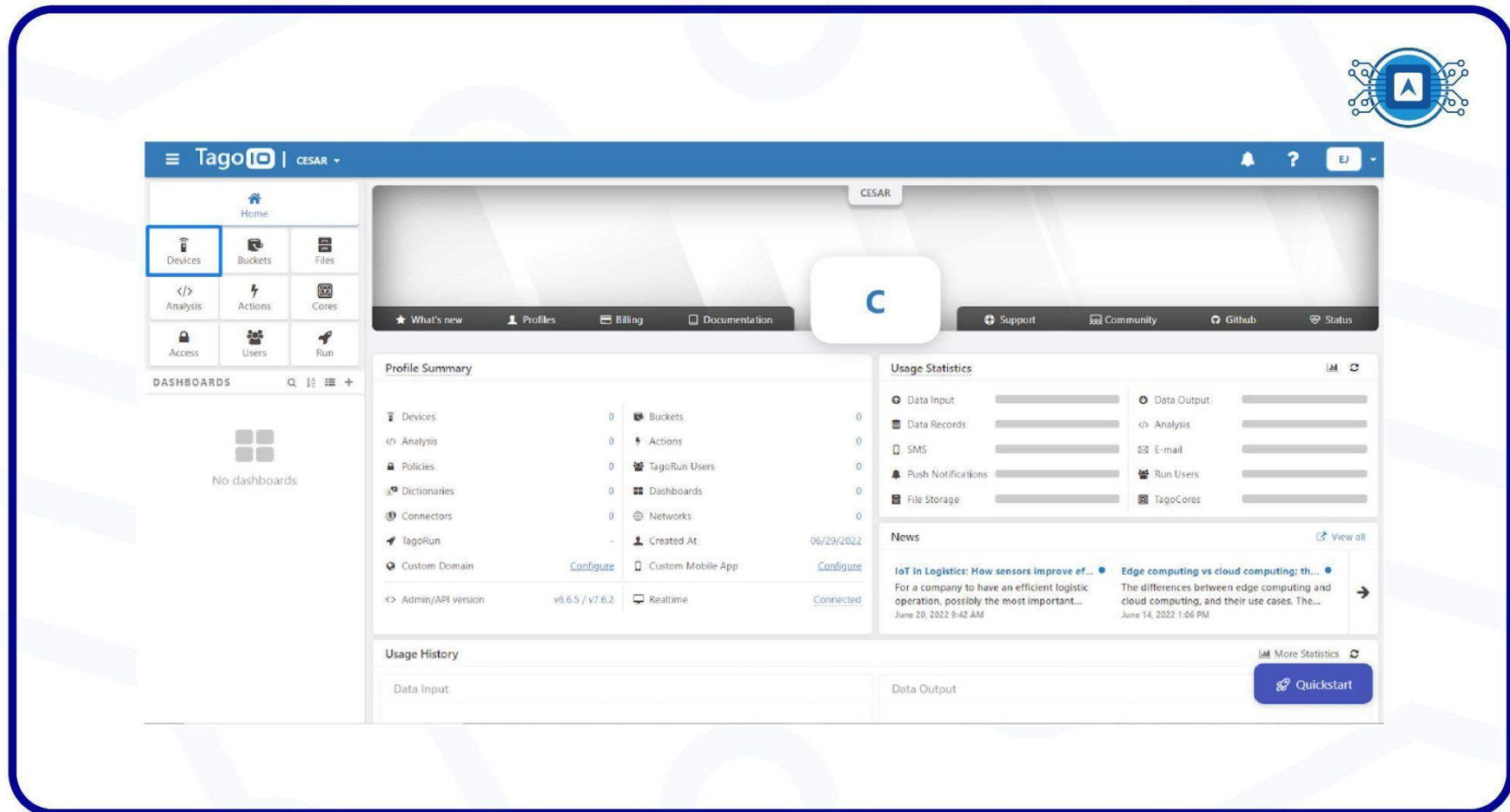


Image 2: Creating a Device - TagoIO platform. Source: Screenshot by the author.

A list of connectors will then automatically appear, select the **LoRaWAN TTI** connector.

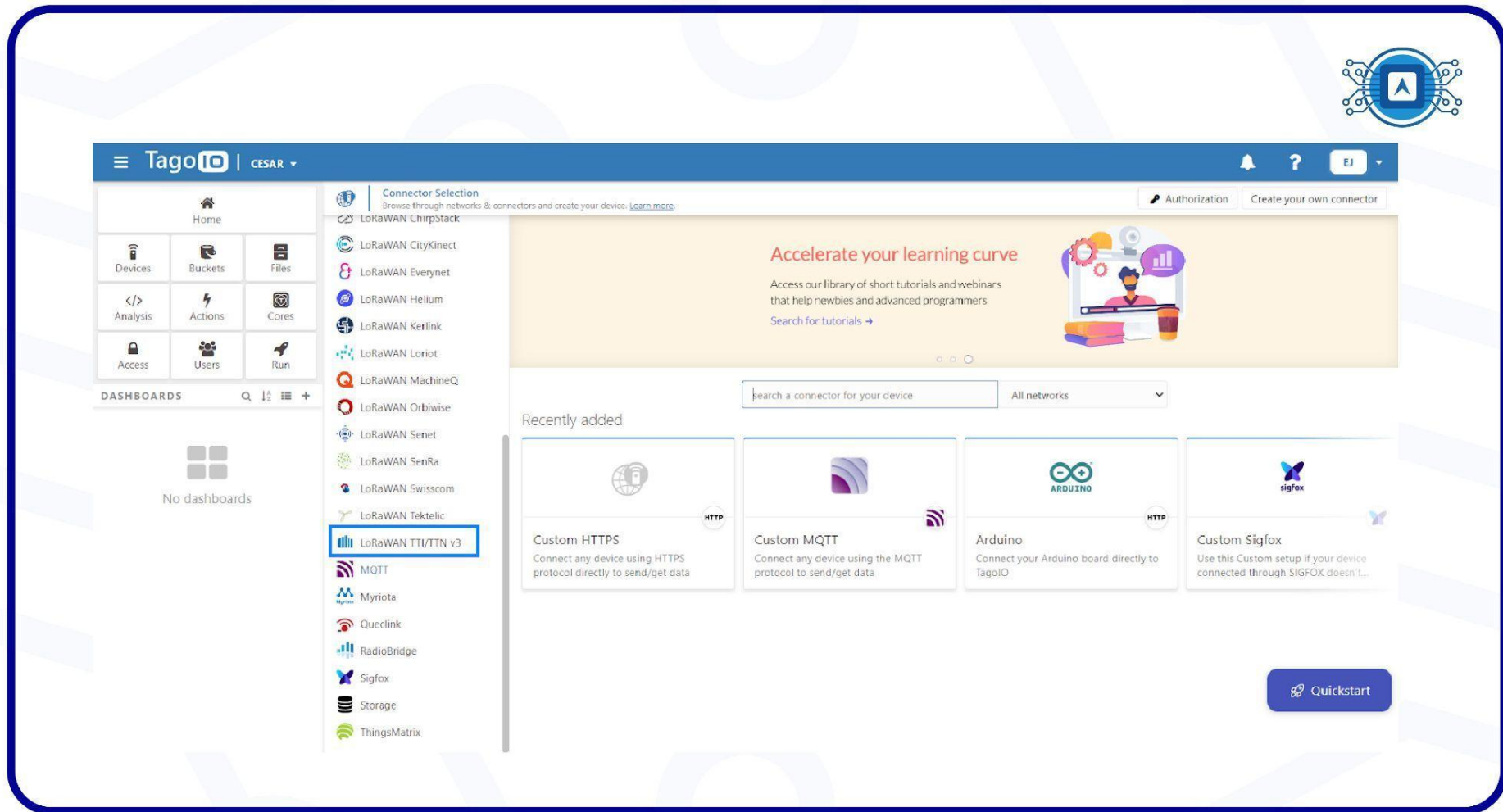


Image 3: LoRaWan Network - TagoIO platform. Source: Screenshot by the author.

Select **“Custom The Things Industries”** as highlighted in image 4.

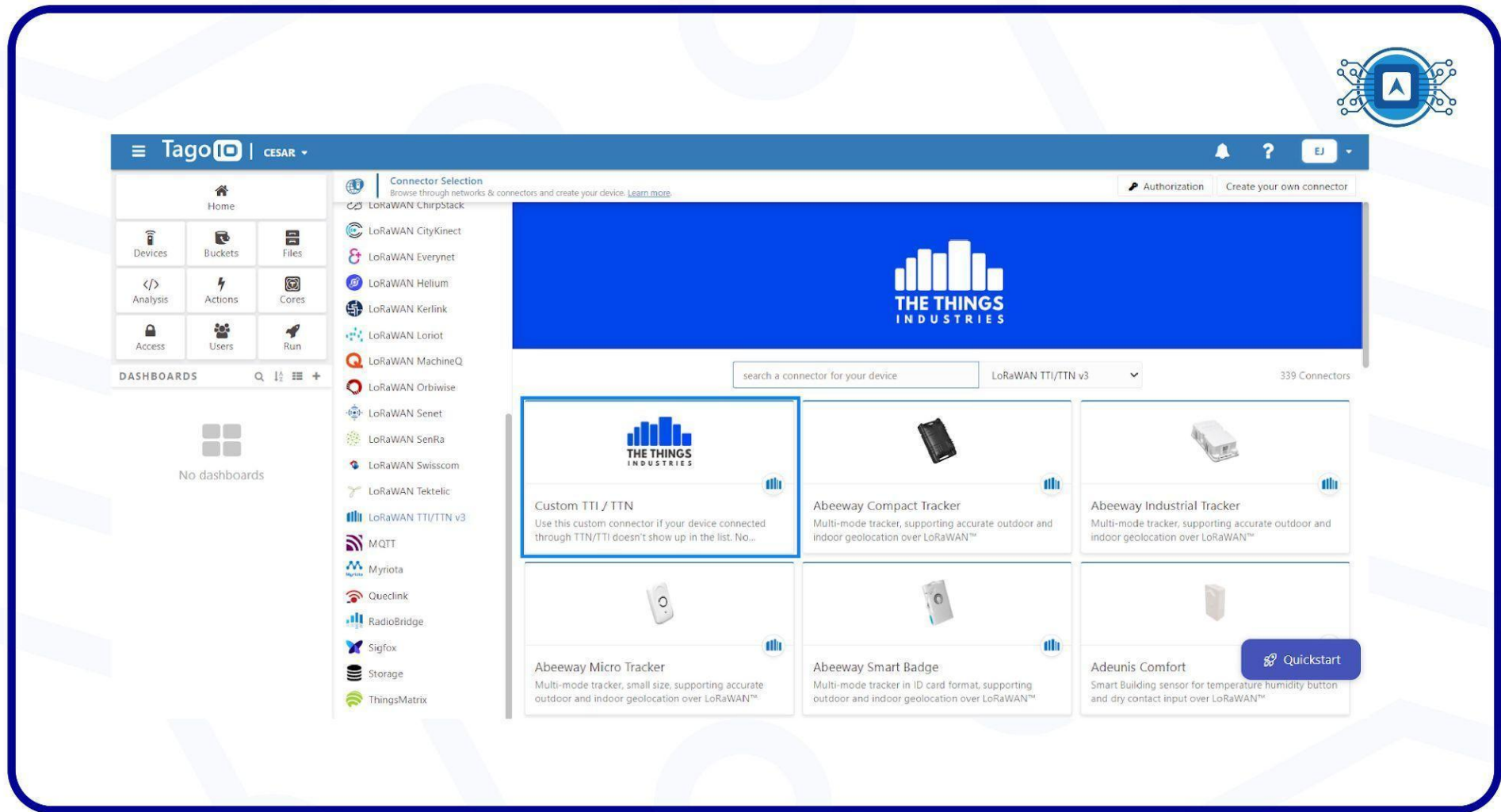


Image 4: Connector Selection - TagIO platform. Source: Screenshot by the author.

Add a name for the device and enter the **EUI** information of the device identifier. Remember, this “device EUI” identifier is the same as the “device” that was created in the text LoRaWAN. Then click “**Create my Device**”.

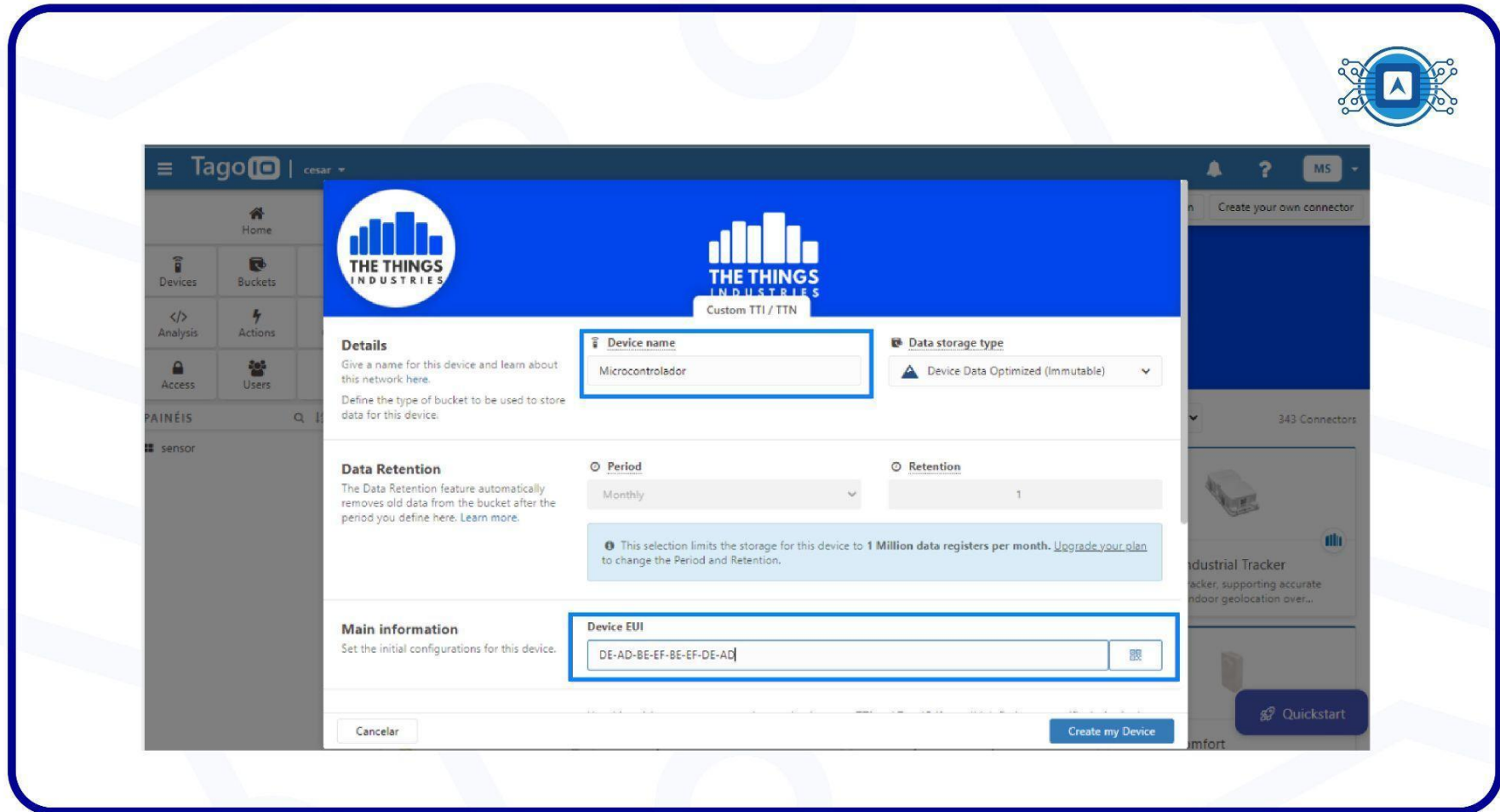


Image 5: TagoIO device EUI identifier. Source: Screenshot by the author.

When the device is created, a confirmation window will appear so you can click “Continue”.

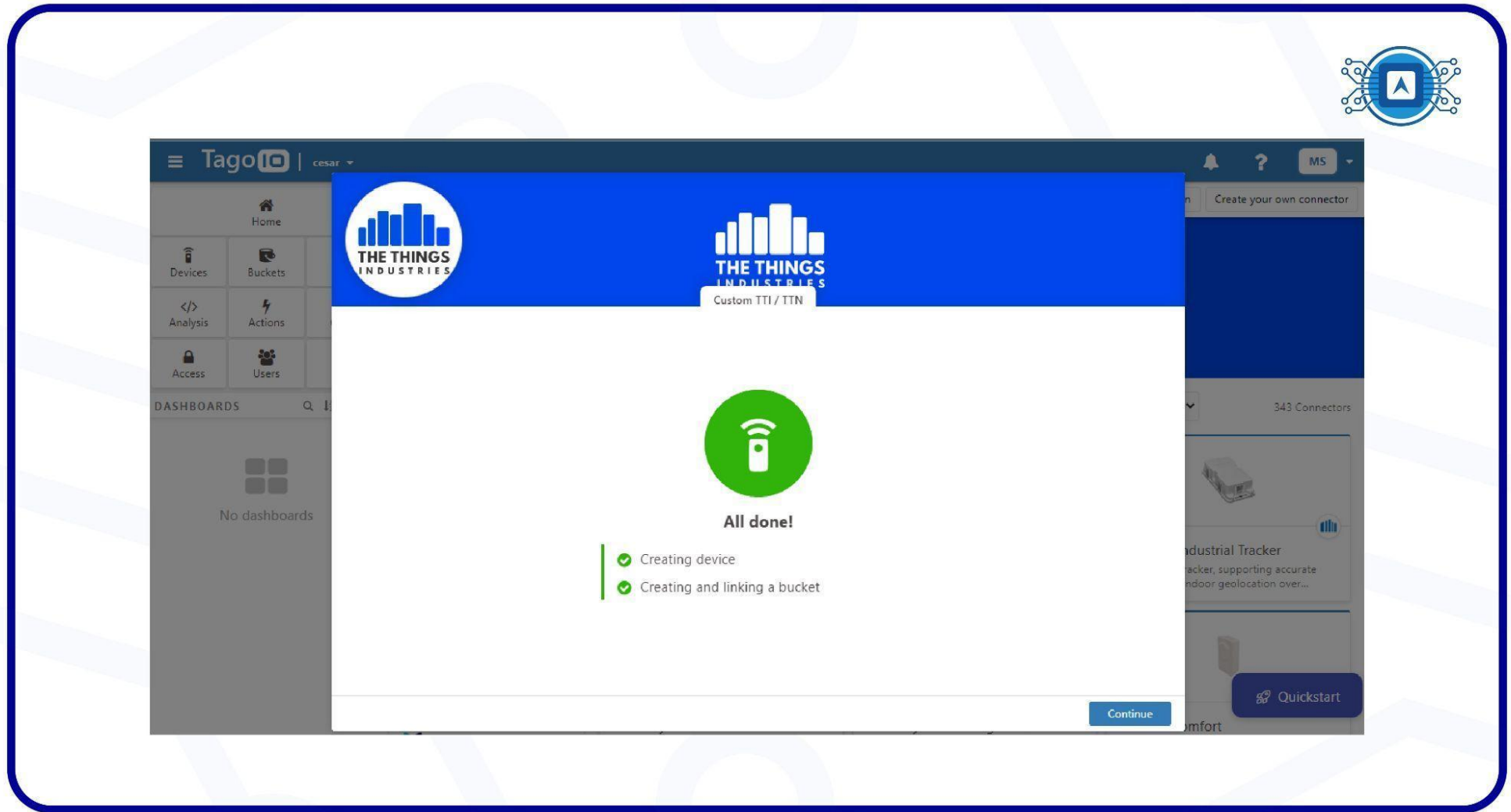


Image 6: Device created successfully. Source: Screenshot by the author.

Once created, the device should appear in the device list, as shown in image 7.

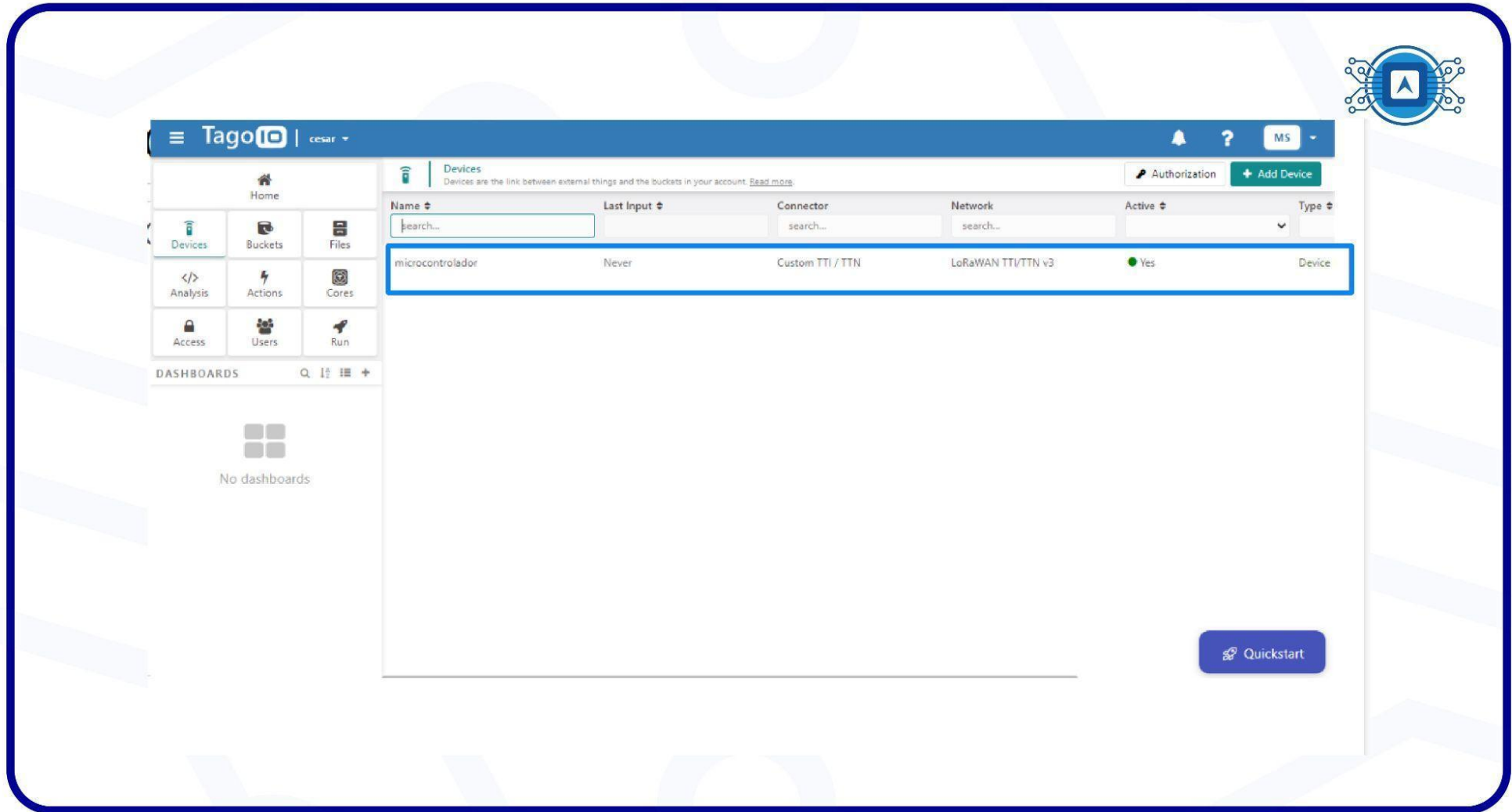


Image 7: TagoIO platform - Microcontroller device. Source: Screenshot by the author.

2. Payload Parser.

Payload Parser is a code that will be executed when your device makes a post request. Once the integration between the backend of **TTN (The Things Network)** and **TagoIO** are done, it is necessary to inform the **TagoIO** platform about the variables coming from the microcontroller. These variables can be temperature, humidity and pressure sensors, however, these variables usually come in hexadecimal format, and the purpose of the “**Payload Paser**” is to convert the hexadecimal into real units of measurement. In order to create the **Parser** for this project, click on the device created and in the next window select the “**Payload Paser**” option, as shown in image 8.

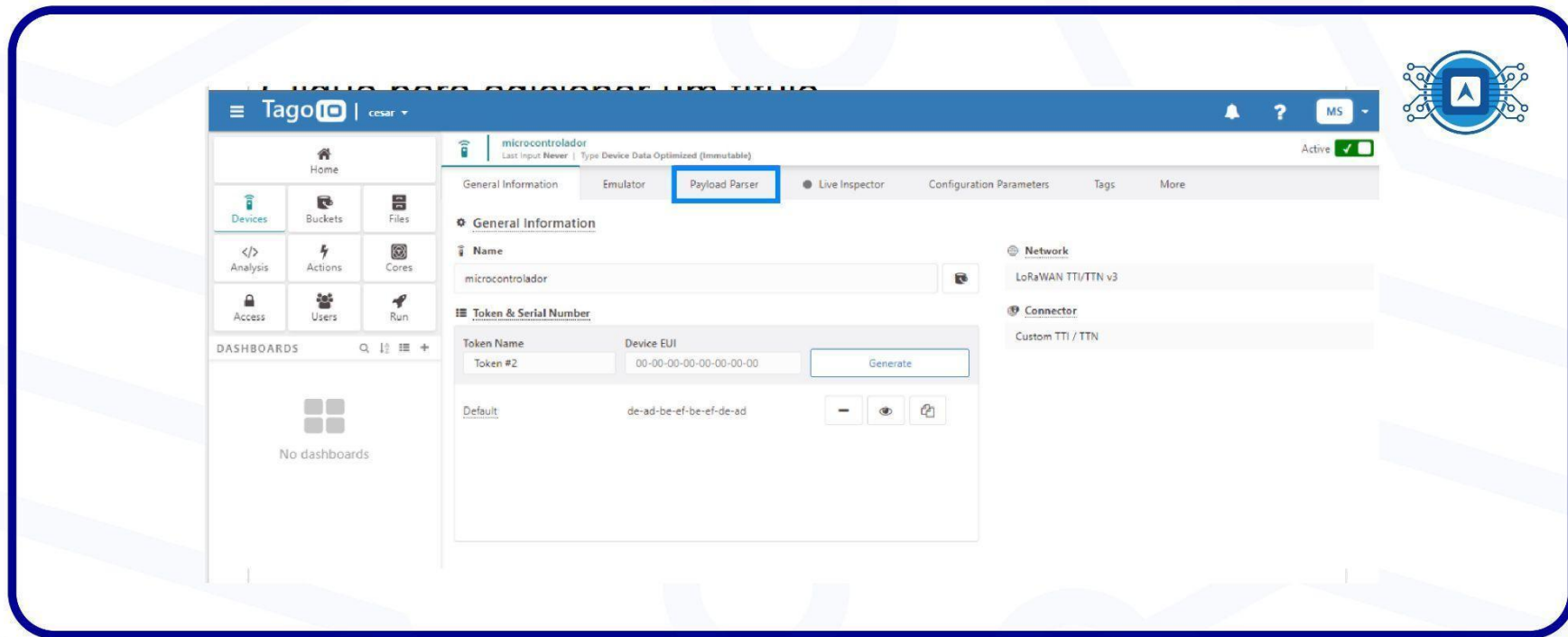


Image 8: TagoIO platform - creating a parser. Source: Screenshot by the author.

In the next window, enable the option to run a “Run your own parser”.

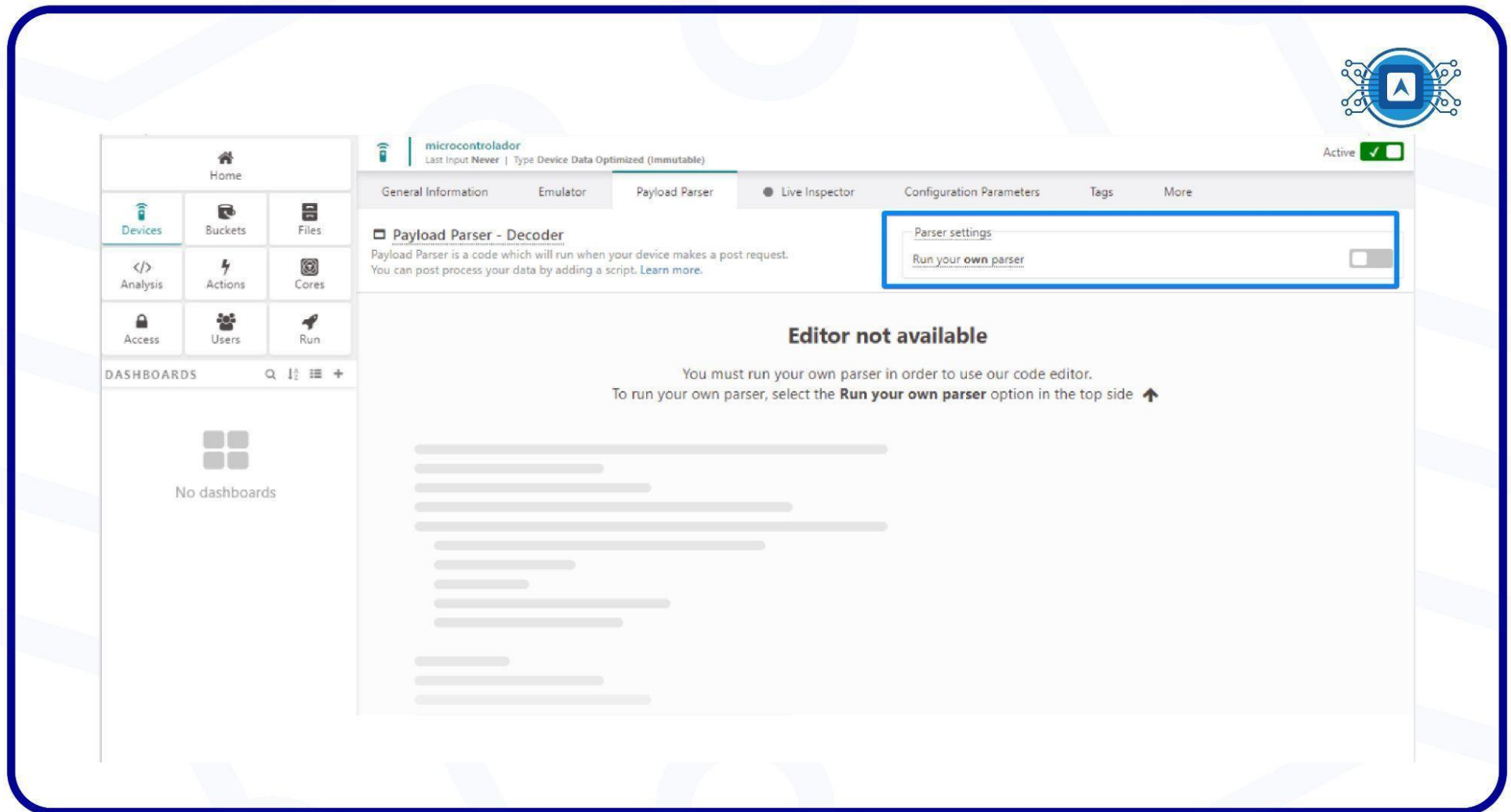


Image 9: TagIO platform - running your own parser. Source: Screenshot by the author.

2.1 A sample Parser code for HTLRBL32.

With the **Personal Parser** enabled, the script loader will automatically appear. We need to copy the sample code provided by HT-micron on the [github page](#), include the code in the script loader and click “**save**”.

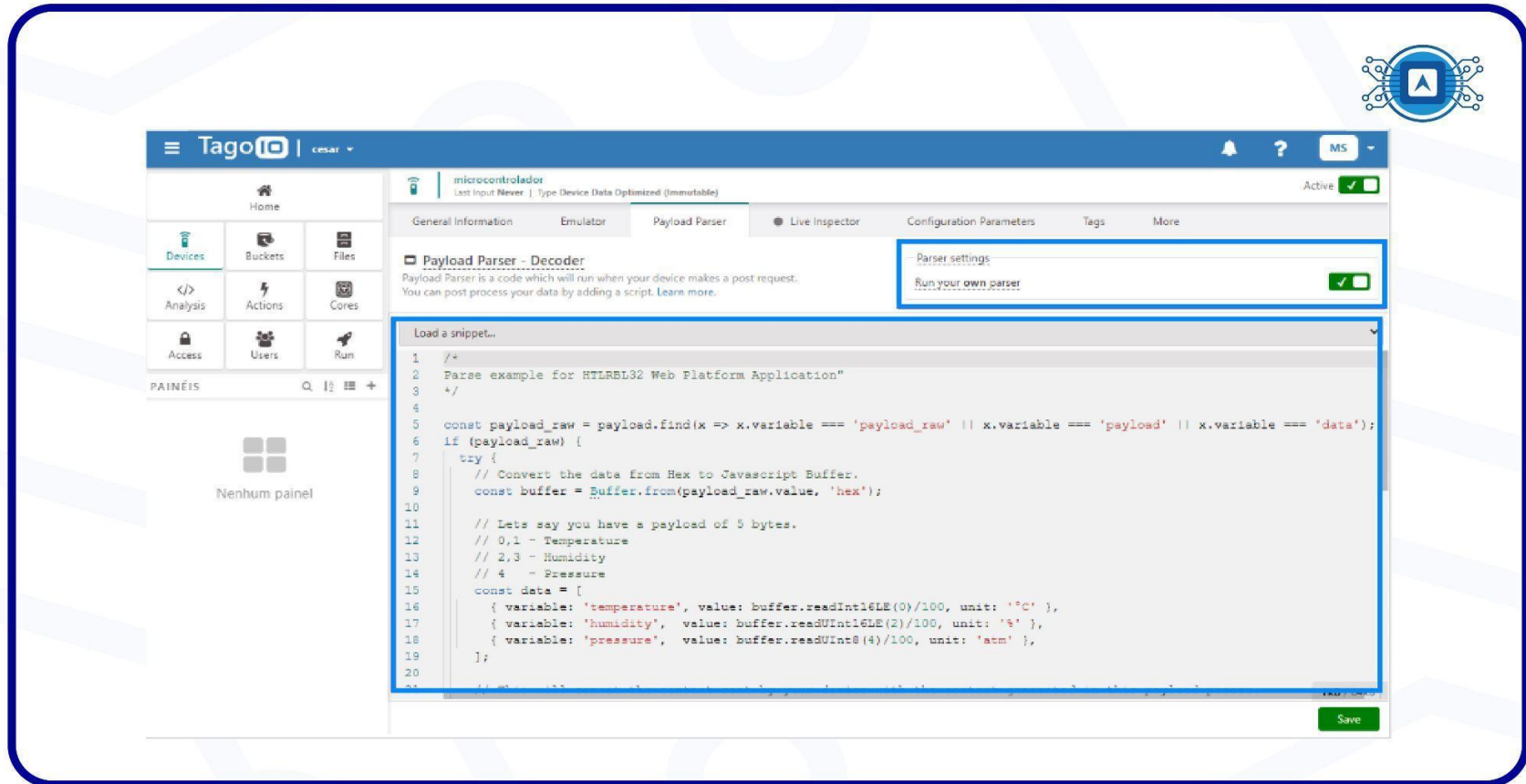


Image 10: TagoIO platform - running your own parser and loading a snippet. Source: Screenshot by the author.

With the **Payload Parser** configured and the **Device** created, we can proceed with the next steps of [Setting up the interface between cloud backend and dashboard.](#)

References

TAGOIO. **New tutorial – Building your own Payload Parser.** 2022. Available at: < <https://tago.io/blog/create-your-own-parser/> >. Accessed on July 08th 2022.

THETHINGSNETWORK. **Integrations.** Available at: < <https://www.thethingsindustries.com/docs/integrations/cloud-integrations/tagoio/> >. Accessed on July 08th 2022.

THETHINGSNETWORK. **Tago - Platform.** 2022. Available at: < <https://www.thethingsnetwork.org/marketplace/product/tago-platform> >. Accessed on July 08th 2022.