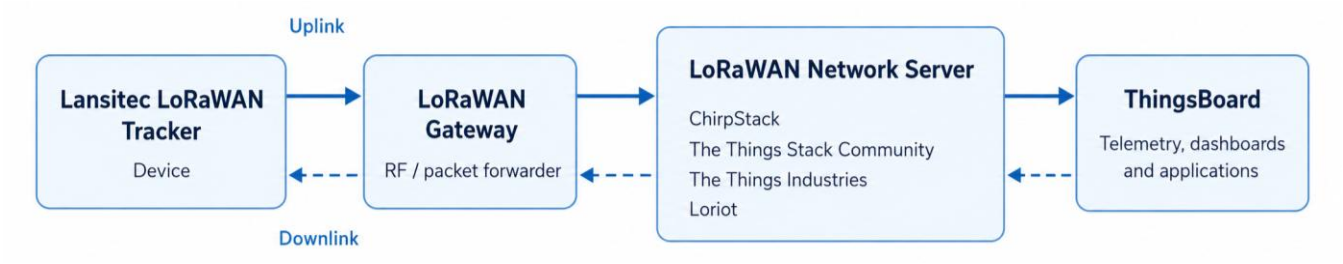
LANSITEC

Lansitec LoRaWAN Trackers - ThingsBoard Integration Guide

Unified integration workflow for ChirpStack, The Things Stack Community, The Things Industries and Loriot.



Always use the current device decoder

This guide intentionally does not reproduce product-specific decoder code. Download the latest decoder for your exact Lansitec device before configuring the network server.
Open the Lansitec Documentation Center

Need to decode a payload or build a downlink?

Use the Lansitec Live Decoder Calculator to decode uplinks and generate product-specific downlink configuration commands.
Open the Live Decoder Calculator

1 Purpose and scope

This document consolidates the repeated LoRaWAN-to-ThingsBoard integration procedure from the individual Lansitec device guides into one maintainable workflow. The LoRaWAN registration steps are largely common, while the connection to ThingsBoard differs slightly by network server.

The same guide can therefore be used across compatible Lansitec LoRaWAN trackers, Bluetooth gateways, proximity gateways and sensors. Product-specific payload behavior remains defined by the corresponding decoder and product documentation.

Products covered by the source guides

Compact Bluetooth Gateway	Macro Tracker
Contact Tracing Badge	Micro Bluetooth Gateway
Container Tracker	SocketSync Bluetooth Gateway
Helmet Sensor	SocketSync Proximity Gateway
Indoor Bluetooth Gateway	Solar Bluetooth Gateway
Macro Bluetooth Gateway	Temperature & Humidity Sensor
Macro Proximity Gateway	UWB Badge Tracker

The screenshots are examples from the source guides. Device names, EUIs, application names, regions and account values shown in screenshots are examples only and must be replaced with your own deployment values.

Quick navigation

2 Before you start

Prepare the following before starting the integration:

- **Lansitec device:** the LoRaWAN tracker, gateway or sensor you want to integrate.
- **LoRaWAN gateway:** registered on the selected network server and using the correct regional frequency plan.
- **Network server account:** ChirpStack, The Things Stack Community, The Things Industries or Loriot.
- **ThingsBoard account:** ThingsBoard Cloud or a compatible ThingsBoard deployment supported by the selected integration path.
- **Device credentials:** DevEUI, JoinEUI/AppEUI, AppKey and any product-specific activation parameters.
- **Current product decoder:** downloaded from the Lansitec Documentation Center.

Decoder resources

Documentation Center: latest product-specific LoRaWAN decoders and technical documents.
Live Decoder Calculator: uplink decoding and product-specific downlink command generation.

Credential naming

Item	Also shown as	Use
Gateway EUI	Gateway ID	Register the LoRaWAN gateway
DevEUI	Device EUI	Identify the end device
JoinEUI	AppEUI / Application EUI	OTAA join identifier
AppKey	Application Key	OTAA root key

Integration path

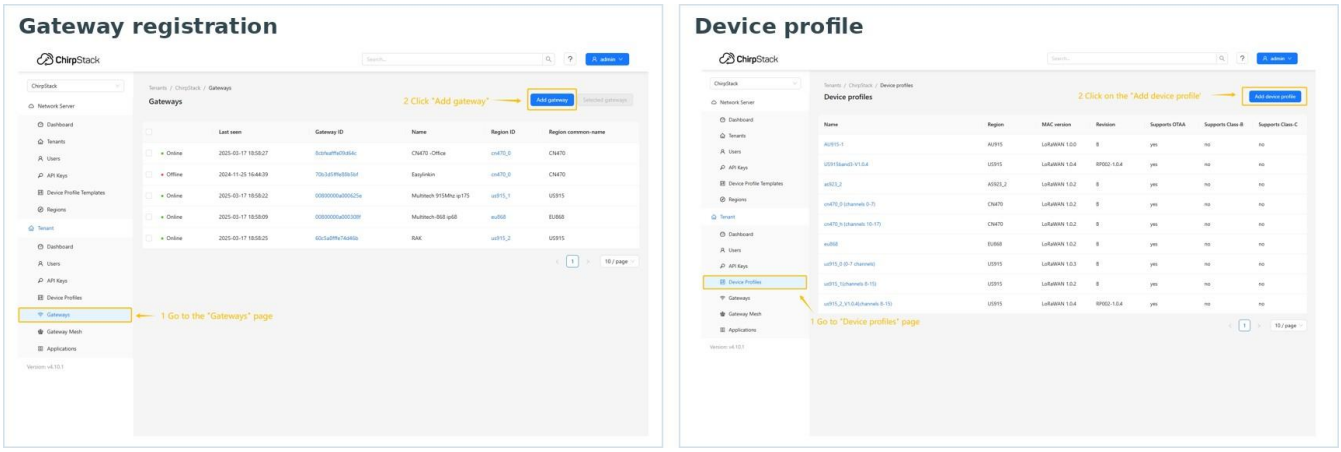
Network server	ThingsBoard connection	Where decoder runs	Key difference
ChirpStack	ChirpStack application → ThingsBoard integration	ChirpStack device profile	ThingsBoard device Access Token is stored as ThingsBoardAccessToken variable in ChirpStack.
The Things Stack Community	ThingsBoard Integration Center → The Things Stack Community	TTS payload formatter	ThingsBoard connects with the TTS integration credentials and selected region.
The Things Industries	ThingsBoard Integration Center → The Things Stack Industries	TTI payload formatter	Same pattern as TTS Community, using TTI account/region credentials.
Loriot	ThingsBoard Integration Center → Loriot	Integration converter / payload mapping	Register the gateway and end device in Loriot, then connect Loriot to ThingsBoard.

3 ChirpStack

ChirpStack is the most direct path in the source guides: the end device is registered in ChirpStack, the correct JavaScript decoder is installed in the device profile, and ChirpStack forwards device events to ThingsBoard through its ThingsBoard application integration.

3.1 Register the gateway and create the device profile

1. Open ChirpStack and register the LoRaWAN gateway using its Gateway EUI / Gateway ID.
2. Open Device profiles and create a profile that matches the device region, LoRaWAN version and device class.
3. In the device profile Codec section, select JavaScript functions and paste the current decoder for the exact Lansitec product.
4. Save the device profile.



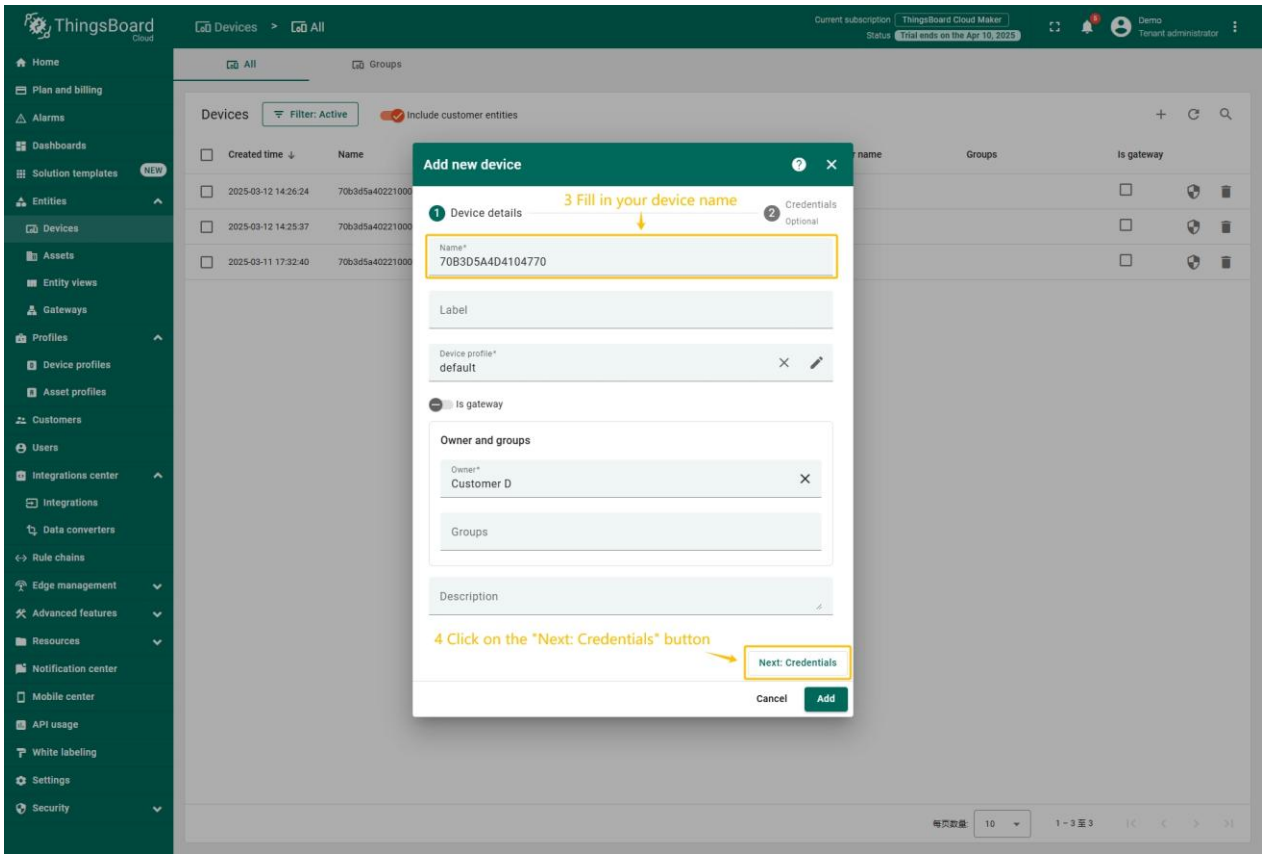
Example ChirpStack gateway and device-profile workflow from the source guides.

3.2 Create the application and end device

1. Create or open a ChirpStack application.
2. Add the end device and enter its DevEUI, JoinEUI/AppEUI and device profile.
3. Enter the device AppKey / Application Key for OTAA activation.

3.3 Create the ThingsBoard device and link the Access Token

1. In ThingsBoard, open Devices and create a new device.
2. Open the device Credentials step and copy or set its Access Token.
3. Return to the ChirpStack end device, open Variables and add a variable named ThingsBoardAccessToken.
4. Set the variable value to the ThingsBoard device Access Token and save.



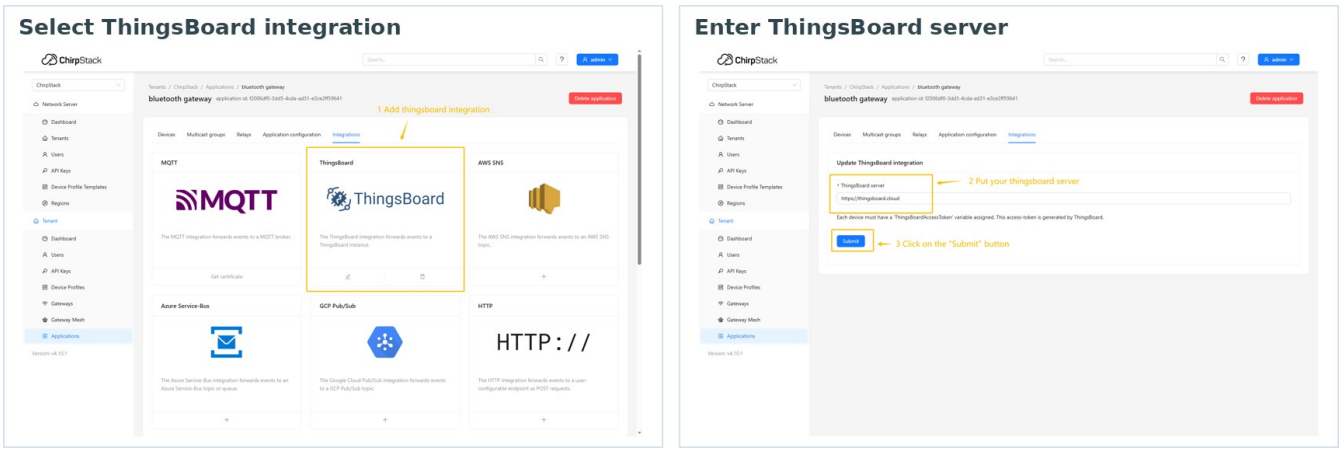
ThingsBoard device creation example.

Token must match exactly

For the ChirpStack path, the ThingsBoard device Access Token and the ChirpStack ThingsBoardAccessToken variable must be identical.

3.4 Enable the ChirpStack → ThingsBoard integration

1. Open the ChirpStack application and go to Integrations.
2. Select ThingsBoard.
3. Enter the ThingsBoard server URL used by your deployment.
4. Save the integration.

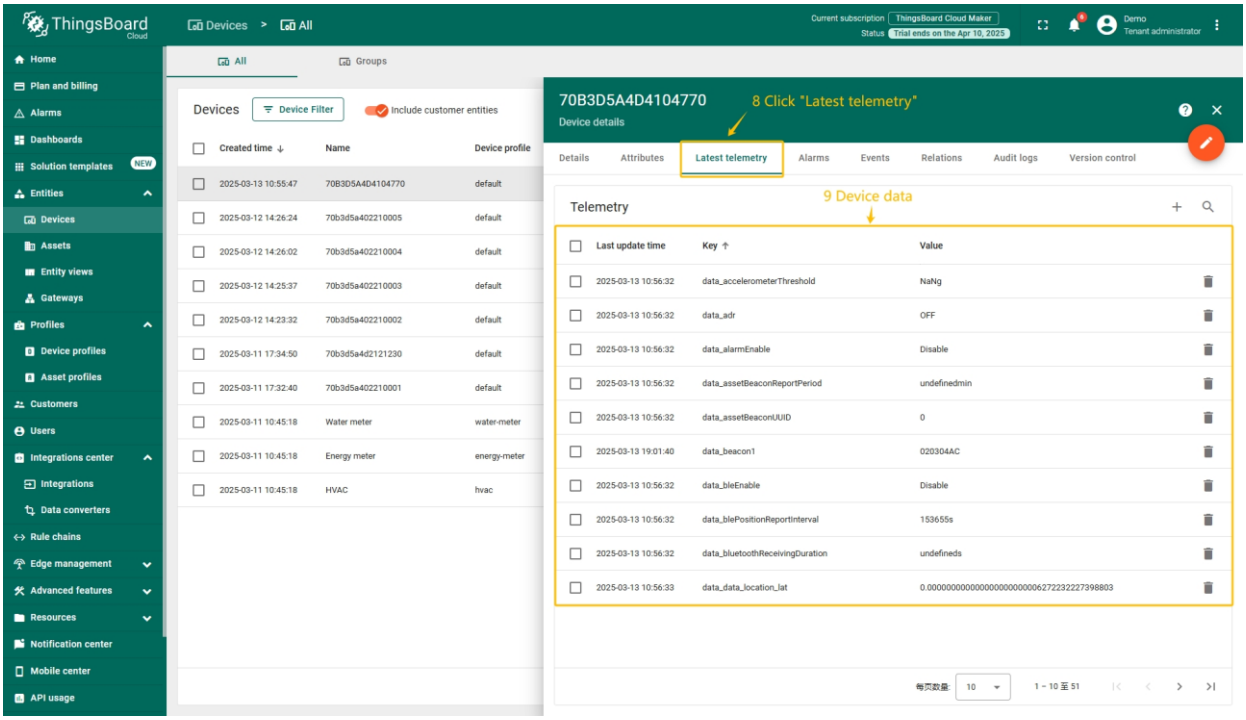


Example ChirpStack application integration with ThingsBoard.

3.5 Verify telemetry

1. Confirm that the gateway is online and the end device has joined the LoRaWAN network.

2. Wait for an uplink from the device.
3. Open the corresponding device in ThingsBoard and select Latest telemetry.
4. Confirm that decoded fields are present.



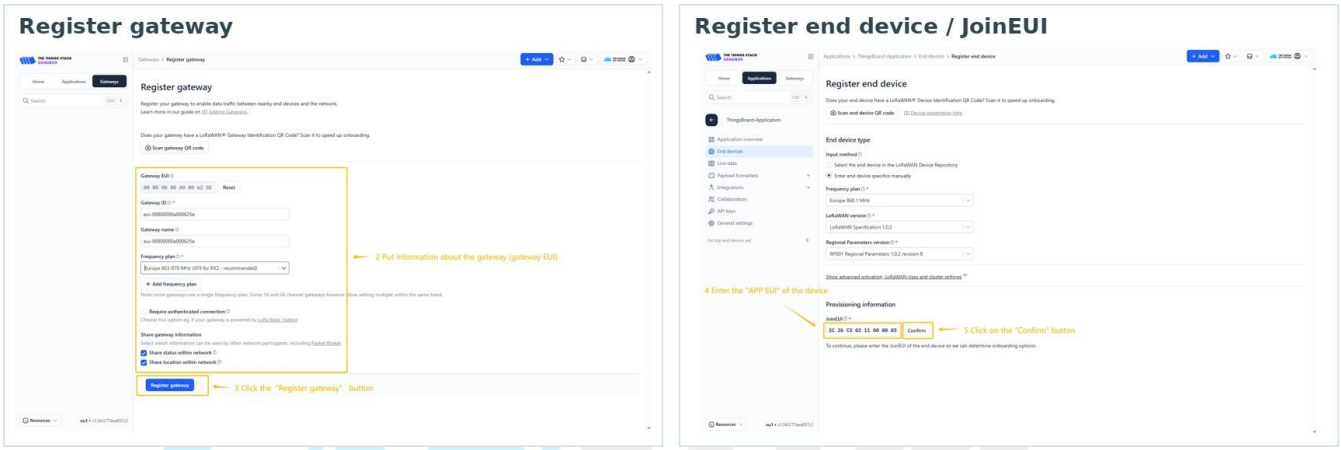
ThingsBoard Latest telemetry example.

4 The Things Stack Community

For The Things Stack Community, register the LoRaWAN gateway and device in TTS, apply the product decoder as the uplink payload formatter, and then create a The Things Stack Community integration in ThingsBoard.

4.1 Register the gateway and end device

1. Log in to The Things Stack Community console and register the LoRaWAN gateway using its Gateway EUI and the correct frequency plan.
2. Create or open an application and select Register end device.
3. Enter the device JoinEUI. In the source guides, the device APP EUI is entered in the JoinEUI field.
4. Enter the DevEUI, AppKey and the remaining device/region parameters, then register the end device.



Example TTS Community gateway and end-device registration.

4.2 Configure the uplink payload formatter

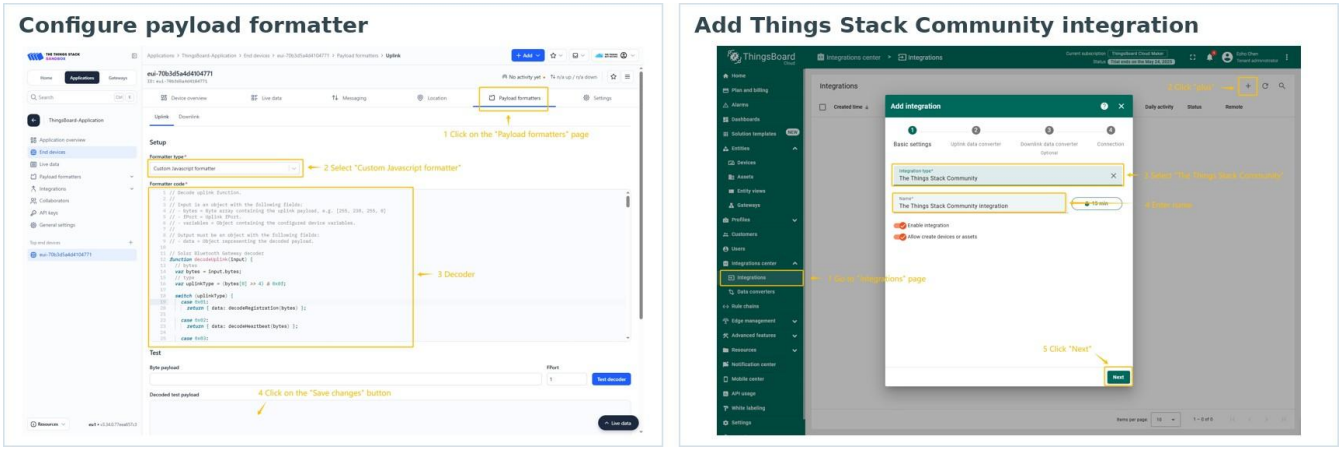
1. Open the registered end device and go to Payload formatters.
2. For the uplink formatter, select Custom JavaScript formatter.
3. Paste the current Lansitec decoder for the exact product and save the changes.

Do not copy decoder code from this guide

Always retrieve the current decoder from the Lansitec Documentation Center so the integration remains aligned with the latest payload definition.
Open Documentation Center

4.3 Create the ThingsBoard integration

1. In ThingsBoard, open Integration center → Integrations and add a new integration.
2. Select The Things Stack Community and give the integration a clear name.
3. Enable the integration. If desired, enable Allow create devices or assets so ThingsBoard can create entities when uplinks arrive.
4. Create the uplink data converter. Use the network-server decoded payload as ThingsBoard telemetry.
5. Skip the downlink data converter if you do not need a custom converter.
6. In the Connection step, select the region where the TTS application is hosted and enter the Username and Password from the corresponding TTS integration credentials.
7. Add the integration and test the connection.



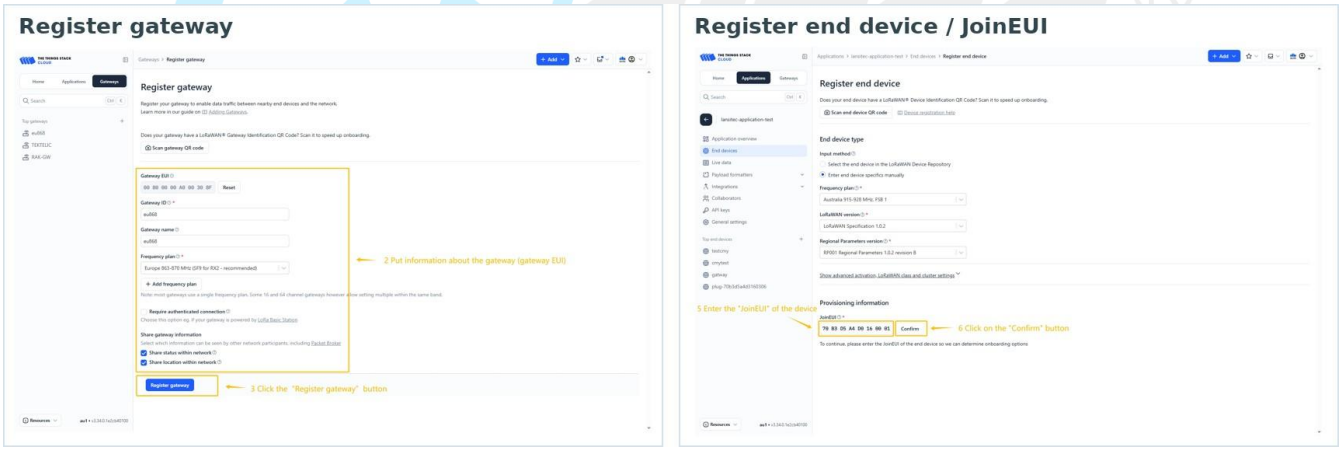
Configure the TTS payload formatter and add the corresponding ThingsBoard integration.

5 The Things Industries

The Things Industries follows the same overall sequence as TTS Community, but the ThingsBoard integration type and account credentials must correspond to your The Things Industries tenant and region.

5.1 Register the gateway and end device

1. Log in to The Things Industries console and register the gateway with its Gateway EUI and regional frequency plan.
2. Create or open an application and register the end device.
3. Enter JoinEUI/AppEUI, DevEUI, AppKey and the remaining LoRaWAN activation parameters.



Example The Things Industries gateway and end-device registration.

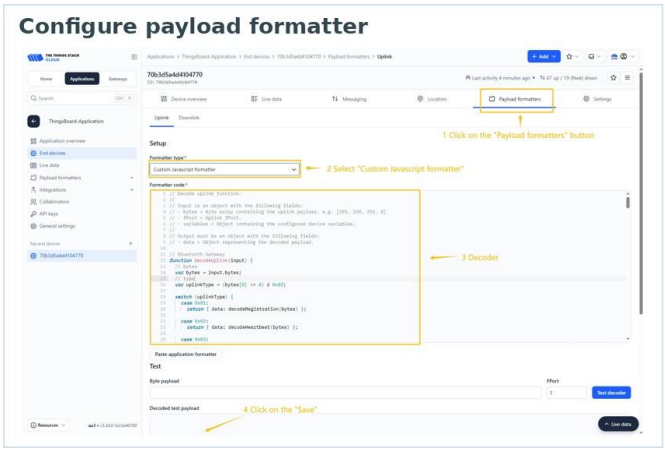
5.2 Configure the payload formatter

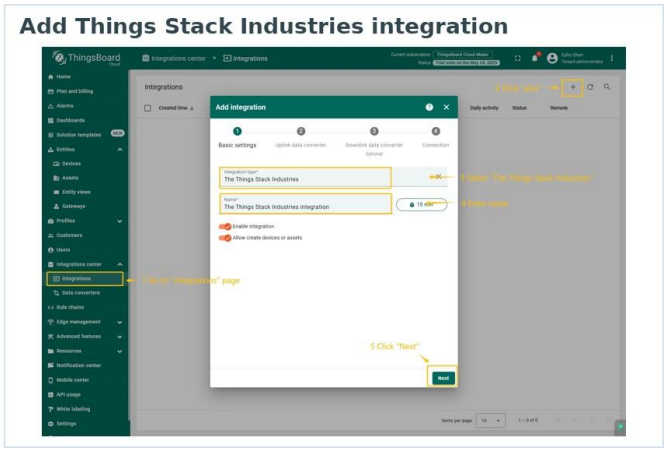
1. Open the end device Payload formatters page.
2. Select Custom JavaScript formatter for uplinks.
3. Paste the current product decoder from the Lansitec Documentation Center and save.

5.3 Create the ThingsBoard integration

1. In ThingsBoard, open Integration center → Integrations and add a new integration.
2. Select The Things Stack Industries / The Things Industries integration type shown by your ThingsBoard version.
3. Create the uplink data converter and map the decoded network-server payload to telemetry.

4. Skip the downlink converter if no custom converter is required.
5. In the Connection step, select the region used by your TTI application and enter the Username and Password from the TTI integration credentials.
6. Add the integration and verify that its status becomes active.





Configure the TTI payload formatter and create the corresponding ThingsBoard integration.

6 Loriot

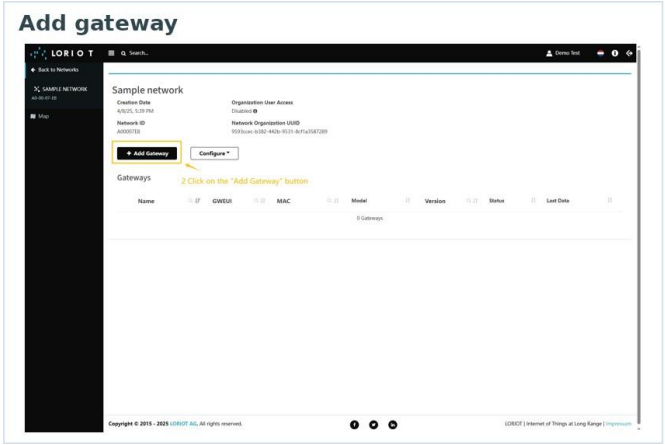
For Loriot, the source guides register the gateway and end device in Loriot and then create a Loriot integration inside ThingsBoard. Gateway models and regional endpoints depend on your actual Loriot deployment.

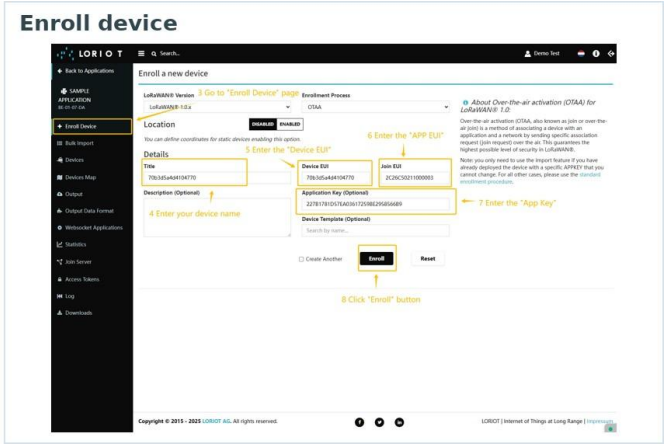
6.1 Register the gateway

1. Log in to Loriot and open an existing Network or create a new network.
2. Select Add Gateway.
3. Select the gateway model used in your deployment. The source guides use MultiTech Conduit AEP as the example.
4. Enter the required MAC/EUI information and save the gateway.

6.2 Enroll the end device

1. Open Applications in Loriot and select the target application.
2. Open Enroll Device.
3. Select the correct LoRaWAN version and OTAA enrollment method.
4. Enter the device name, DevEUI, JoinEUI/AppEUI and AppKey, then enroll the device.

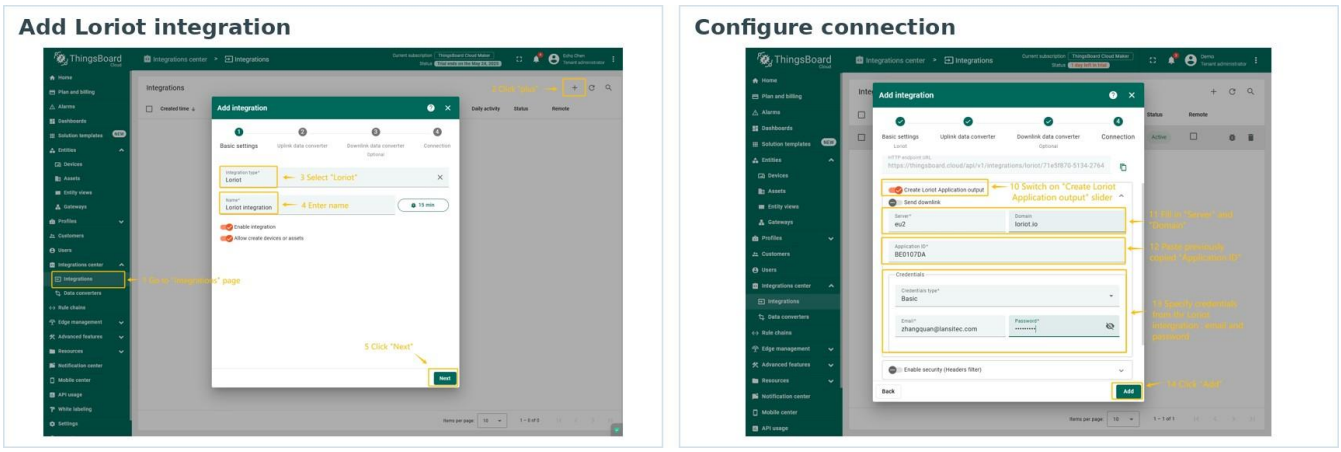




Example Loriot gateway and end-device registration.

6.3 Create the Loriot integration in ThingsBoard

1. In ThingsBoard, open Integration center → Integrations and add a new integration.
2. Select Loriot and enter a clear integration name.
3. Create the uplink data converter and map the incoming device identifier and payload data to the ThingsBoard device and telemetry structure.
4. Skip the downlink converter if a custom converter is not required.
5. Enter the connection parameters and credentials required by your Loriot region/account, then add the integration.



Example Loriot integration setup in ThingsBoard.

Check the actual incoming Loriot payload

If the field names in the ThingsBoard test payload differ from another network-server integration, adapt the uplink converter to the payload structure shown by your Loriot integration rather than copying field paths blindly.

7 Decoders and downlinks

The decoder is the principal product-specific element in this unified guide. Network-server registration is reusable; the decoder must match the exact device and firmware payload definition.

7.1 Get the correct decoder

1. Open the Lansitec Documentation Center.
2. Go to the Decoders category.
3. Select the decoder that matches the exact LoRaWAN product.
4. Use the current JavaScript decoder in ChirpStack, TTS Community or TTI where the integration procedure requires a payload formatter/codec.

Lansitec Documentation Center

7.2 Decode uplinks and generate downlinks online

1. Open the Lansitec Live Decoder Calculator.
2. Select the appropriate product and connectivity.
3. Use the uplink section to decode received payloads when validating integration.
4. Use the downlink section to generate product-specific configuration commands.

5. Send the generated downlink through your LoRaWAN network server so it reaches the device via the LoRaWAN gateway.

Lansitec Live Decoder Calculator

8 Validation and troubleshooting

8.1 End-to-end validation checklist

- Gateway shows online/connected in the selected network server.
- The device sends Join Request messages and receives a successful Join Accept.
- The device sends uplinks after joining.
- The network server shows a decoded payload rather than only raw bytes.
- The ThingsBoard integration is active.
- The corresponding ThingsBoard device exists or is created automatically, depending on the integration path.
- Latest telemetry contains the decoded fields expected for the device.
- A test downlink can be queued on the network server and delivered to the device when the LoRaWAN class/radio window allows it.

8.2 Common problems

Symptom	Check first	Typical correction
Join Requests, no Join Accept	DevEUI / JoinEUI / AppKey / regional plan	Verify all OTAA credentials and frequency-plan settings on device, gateway and server.
Raw bytes only	Payload formatter / codec	Install the decoder for the exact product and save it in the correct server/device profile.
Decoded on server, nothing in ThingsBoard	Integration status and credentials	Check ThingsBoard integration type, region, username/password, host and remote status.
ChirpStack device not updating ThingsBoard	ThingsBoardAccessToken	Make the ChirpStack variable identical to the ThingsBoard device Access Token.
ThingsBoard converter error	Incoming payload field paths	Use the integration test payload and map the fields that actually exist.
Downlink generated but not received	Network-server queue / device receive window	Confirm the downlink is queued for the correct device and the device is able to receive it.

Support

If the integration reaches the network server but the payload format or device behavior is still unclear, use the product decoder and protocol documentation in the Documentation Center before changing application-side field mappings.
Open Documentation Center

Appendix A ThingsBoard uplink mapping pattern

The source guides for The Things Stack Community and The Things Industries use the following high-level mapping pattern after the network server has decoded the LoRaWAN payload. Field names must match the actual integration payload received by your ThingsBoard version.

```
var data = decodeToJson(payload);
var deviceName = data.end_device_ids.device_id;
var deviceType = data.end_device_ids.application_ids.application_id;

var result = {
  deviceName: deviceName,
  deviceType: deviceType,
  telemetry: data.uplink_message.decoded_payload
};

return result;
```

Use this as a mapping pattern, not as a universal decoder

Product-specific decoding belongs in the network-server payload formatter/codec and must use the current decoder from Lansitec. If your integration payload does not contain end_device_ids or uplink_message.decoded_payload, adapt the mapping to the fields present in the ThingsBoard test payload.

Official Lansitec resources

Documentation Center: https://www.lansitec.com/docs/

Live Decoder Calculator: https://www.lansitec.com/live-decoder-calculator/