Template:Networking rutos Thingsboard.io

The information on this page is updated in accordance with the **[00.07.4](#)** firmware version .

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Contents

Introduction

This article contains instructions on how to configure ThingsBoard IoT platform and connect Teltonika-Networks devices. [ThingsBoard IoT platform](#)is an open-source IoT platform for data collection, processing, visualization, and device management. It enables device connectivity via industry standard IoT protocols - MQTT, CoAP and HTTP and supports both cloud and on-premises deployments. ThingsBoard combines scalability, fault-tolerance and performance so you will never lose your data.

Configuring ThingsBoard IoT platform

The goal of this tutorial is to demonstrate the basic usage of the most popular ThingsBoard features which helps monitor Teltonika-Networks devices.

First, you need to login into the platform. Next, you will see an overview window, scroll down to **Entities** section and simply click on the **Device** in the navigation menu.

1. Click on one of the marked in red buttons in the overview page **Entities → Devices**. In this page you can also add additional device in order to distinguish different devices with unique data flows.
2. Click marked "**+**" buttons to add new device to the group.

1. In the pop up window set name for your device.
2. Configure your device's **Label** (Optional)

Credentials type: Access token (HTTP protocol)

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1. Enable **Add credentials** option.
2. Set desirable **Access token**.
3. Click **Add** button to save changes.

Credentials type: MQTT Basic

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1. Enable **Add credentials** option.
2. Choose Credentials type:**MQTT Basic**.
3. Set username which will be used in MQTT authorization.
4. Set password which will be used in MQTT authorization.
5. Click **Add** button to save changes.

Preparing data source

Different data streams can be selected depending on the device's supported functionality's. In this example we will be using **Modbus TCP Server** with native **Modbus TCP Client** functionality.

1. First, change WEBUI mode from **basic** to **advanced**.
 2. Go to **Services → Modbus TCP Server** page.
3. Enable **Modbus TCP Server**.
 4. Go to **Modbus TCP Client** page and add new Server device.
 5. Configure **Modbus TCP master's Server device** as shown below to return device's uptime value.
 6. Configure **Data Type**.

Configuring data to server with HTTP protocol

After configuring the data source, you can add a data sender configuration. Data sender functionality is located **Services → Data to server**. You can add data sender by clicking **Add** button.

- Configure **Data**.

- Configure **HTTP Server**.

1. Set name for the **Data sender**.
2. Paste connection string with your own **Access token**.

   ```
   https://thingsboard.cloud/api/v1/YOUR_ACCESS_TOKEN/telemetry
   ```

3. Add value to Custom header.

   ```
   Content-Type:application/json
   ```

Configuring data to server with MQTT protocol

After configuring the data source, you can add a data sender configuration. Data sender functionality is located **Services → Data to server**. You can add data sender by clicking **Add** button.

- Configure **Data**.

- Configure **MQTT Server**.

1. Choose **MQTT** protocol.
2. Enter **thingsboard.cloud** as a host.
3. Paste in MQTT topic.

   ```
   v1/devices/me/telemetry
   ```

4. Enable **Use credentials** option. Enter configured username and password from ThingsBoard IoT platform.

Adding widget to the dashboard

The collected data can be displayed using various a widgets. To create one you should be able to see gathered data in the **Latest telemetry** section. To access it you should follow these steps:

1. Click on the configured device.
2. From the pop-up menu select **Latest telemetry** option. There you should see collected data.

In order to display data in the widget you should:

1. Click on the gathered data row.
2. Press **Show on widget** button.

1. Choose bundle accordingly to your data.
2. Choose suitable chart for your data visualization.
3. Add widget to dashboard.

1. Create new dashboard.
2. With this option enabled after addition you will be redirected to newly created dashboard
3. Adds widget to dashboard.

See also

- https://thingsboard.io/docs/getting-started-guides/helloworld-pe/