

-login in phyclouds-

http://phyclouds.com:8080

id - students@thingsboard.org

password - students@sbcs

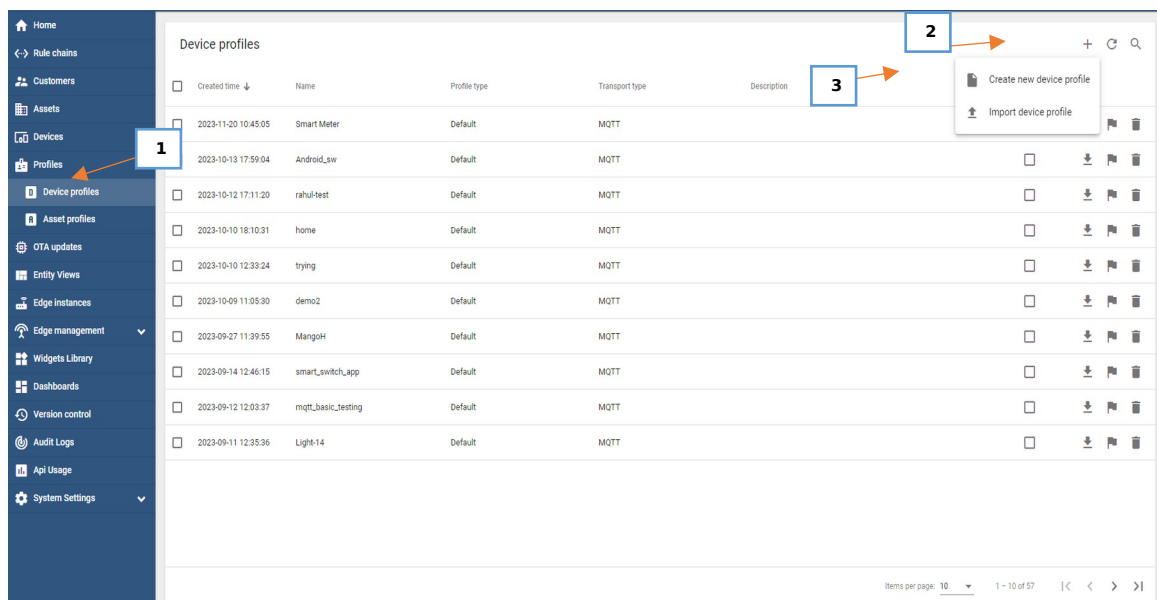
mqtt guide -

<https://thingsboard.io/docs/reference/mqtt-api/>

<https://thingsboard.io/docs/user-guide/ui/devices/>

how to create device (with MQTT communication)-

1. for device we have to create device profile only one profile is enough.



2. give all credential.

User give any name.

Add device profile

1 Device profile details — 2 Transport configuration (Optional) — 3 Alarm rules (0) (Optional) — 4 Device provisioning (Optional)

Name * mqtt_test

Rule chain

Mobile dashboard

Used by mobile application as a device details dashboard

Queue

Device profile image

No image selected

Drag and drop an image or Browse file

Description

Next: Transport configuration

Cancel Add

Next go to Transport Configuration -> Add

The screenshot shows the 'Add device profile' form with four steps: 1. Transport configuration (Optional), 2. Alarm rules (0) (Optional), 3. Device provisioning (Optional), and 4. Device details. The 'Transport configuration' step is active and highlighted with a blue box and the number '1'. It contains the following fields:

- Transport type ***: MQTT
- MQTT device topic filters**:
 - Telemetry topic filter ***: v1/devices/me/telemetry
 - Attributes topic filter ***: v1/devices/me/attributes
- MQTT device payload**: JSON
- ☐ **Send PUBACK on PUBLISH message validation failure**: By default, the platform will close the MQTT session on message validation failure. When enabled, the platform will send publish acknowledgment instead of closing the session.

At the bottom right, there is a 'Next: Alarm rules' button and a 'Cancel' button. A blue box with the number '2' is placed over the 'Add' button.

1. See devices on left side select then create device.

*for communication access token we get from Devices.

The screenshot shows the 'Add new device' dialog box in the ThingsBoard interface. The dialog has three steps: 1. Device details, 2. Credentials (Optional), and 3. Customer (Optional). The 'Device details' step is active and highlighted with a blue box and the number '1'. It contains the following fields:

- Label**: A text input field.
- Device profile ***: A dropdown menu with options: default, EvCharger, and MgtDevice. A blue box with the number '3' is placed over the 'EvCharger' option.
- Description**: A text input field.

At the bottom right, there is a 'Next: Credentials' button and a 'Cancel' button. A blue box with the number '2' is placed over the 'Add' button.

First remove default Device Profile then.

Give the Device profile what we created for mqtt communication.

Then click on Add button.

1 Device details 2 Credentials Optional 3 Customer Optional

Name *
mqtt_test_device

Label

Device profile *
mqtt_test x
mqtt_test

☒ Select existing device profile
☐ Create new device profile

☐ Is gateway

Description

1 Next: Credentials
Cancel Add

2. remember we have to give device profile in all devices what we created.

ThingsBoard Devices

Device profile x

1

Created time	Name	Device profile	Label	Customer	Public	Is gateway
2023-12-06 12:15:50	mqtt_test_device	mqtt_test			<input type="checkbox"/>	<input type="checkbox"/>
2023-11-20 10:45:49	Smart Meter	Smart Meter			<input type="checkbox"/>	<input type="checkbox"/>
2023-10-13 10:43:38	Android_sw	Android_sw			<input type="checkbox"/>	<input type="checkbox"/>
2023-10-12 17:11:41	rahi-test	rahi-test		testuser	<input type="checkbox"/>	<input type="checkbox"/>
2023-10-10 18:10:44	home	home			<input type="checkbox"/>	<input type="checkbox"/>
2023-10-09 13:01:20	user_demo	MqttDevice			<input type="checkbox"/>	<input type="checkbox"/>
2023-10-09 11:05:45	demo2	demo2			<input type="checkbox"/>	<input type="checkbox"/>
2023-10-04 12:17:19	hello_user	MqttDevice			<input type="checkbox"/>	<input type="checkbox"/>
2023-09-27 11:40:47	MangoH	MangoH		testuser	<input type="checkbox"/>	<input type="checkbox"/>
2023-09-14 12:46:41	smart_switch_app	smart_switch_app			<input type="checkbox"/>	<input type="checkbox"/>

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Here I am giving one python code -

```
import paho.mqtt.client as paho # mqtt library
import time

ACCESS_TOKEN = 'zaPXMf0hBbByWe17XPf7' # Token of your device
broker = "phyclouds.com" # host name
port = 1884 # data listening port

def on_publish(client, userdata, result): # create function for
    # callback
    print("data published to thingsboard \n")
    pass

client1 = paho.Client("iiscSmartSwitch") # create client object
client1.on_publish = on_publish # assign function to
# callback
client1.username_pw_set(ACCESS_TOKEN) # access token from
# thingsboard device
client1.connect(broker, port, keepalive=60) # establish connection

while True:
    payload = {"Humidity":60,"Temperature":25}
    ret = client1.publish("v1/devices/me/telemetry", payload) # topic-
    # v1/devices/me/telemetry
    print("Please check LATEST TELEMETRY field of your device")
    print(payload)
    time.sleep(5)
```

Copy access token to connect mqtt.

The screenshot shows the ThingsBoard web interface. On the left is a sidebar with navigation options like Home, Rule chains, Customers, Assets, Devices, Profiles, OTA updates, Entity Views, Edge instances, Edge management, Widgets Library, Dashboards, Version control, Audit Logs, Api Usage, and System Settings. The main area displays a table of devices. The 'mqtt_test_device' is selected, and its details are shown on the right. The details page has tabs for Details, Attributes, Latest telemetry, Alarms, Events, Relations, Audit Logs, and Version control. Under the 'Details' tab, there are buttons for 'Open details page', 'Make device public', 'Assign to customer', 'Manage credentials', and 'Delete device'. Below these buttons are two icons: 'Copy device id' and 'Copy access token'. The 'Copy access token' icon is highlighted with a red circle and the number 1. The device details show the name 'mqtt_test_device', device profile 'mqtt_test', label, assigned firmware, assigned software, and a checkbox for 'Is gateway'.

To check publish data you have to go into device telemetry -
*only send data into json format only.

The screenshot shows the ThingsBoard web interface. On the left sidebar, the 'Devices' menu item is highlighted with a blue box and labeled '1'. An arrow points from this menu item to the 'Devices' table in the main panel. In the 'Devices' table, the first row, 'mqtt_test_device', is highlighted with a blue box and labeled '2'. An arrow points from this row to the 'mqtt_test_device' details page on the right. In the details page, the 'Latest telemetry' tab is highlighted with a yellow box and labeled '3'. Below the tab, the 'Latest telemetry' section shows a table of data points.

Last update time	Key	Value
2023-12-06 12:19:45	Humidity	60
2023-12-06 12:19:45	Temperature	25