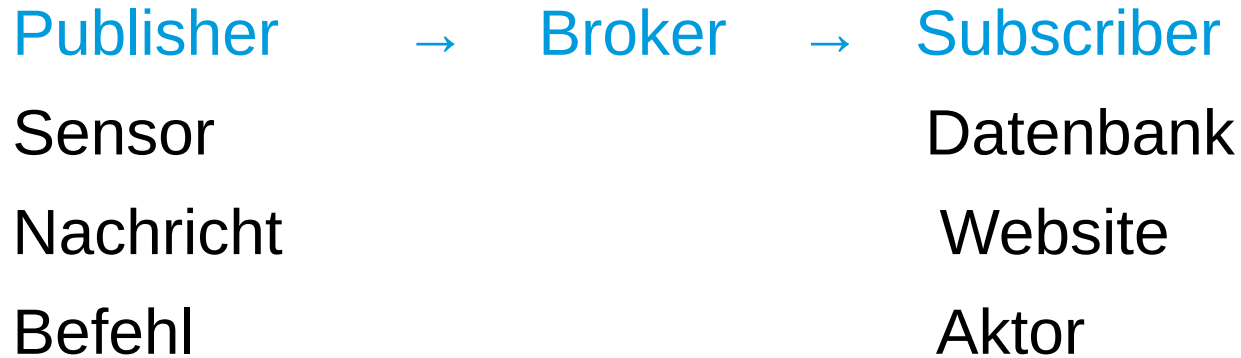


# TTN - MQTT

# Einführung MQTT



Topic (hierarchisch) + Message

QoS, retain, ...

# Einrichtung im TTN

The screenshot shows the TTN web interface. The top navigation bar includes 'THE THINGS STACK SANDBOX' and 'Applications > dl5rbv-temperatur > MQTT'. The left sidebar contains navigation options like 'Home', 'Applications', 'Gateways', and a search bar. The main content area is titled 'dl5rbv-temperatur' and 'MQTT'. It provides a brief description of MQTT, further resources, and connection information. The connection information section includes fields for 'MQTT server host', 'Public address', and 'Public TLS address', all containing the value 'eu1.cloud.thethings.network:1883'. Under 'Connection credentials', the 'Username' field contains 'dl5rbv-temperatur@ttn' and the 'Password' field has a 'Generate new API key' button. A red circle highlights the 'MQTT' option in the sidebar and the 'Generate new API key' button.

THE THINGS STACK  
SANDBOX

Home Applications Gateways

Search (Ctrl) (K)

← dl5rbv-temperatur

- Application overview
- End devices
- Live data
- Payload formatters
- Integrations
- MQTT**
- Webhooks
- Storage Integration
- AWS IoT
- Azure IoT
- LoRa Cloud
- Collaborators
- API keys
- General settings

No top end devices yet +

Applications > dl5rbv-temperatur > MQTT

dl5rbv-temperatur  
ID: dl5rbv-temperatur

No recent activity • 0 End devices

## MQTT

MQTT is a publish/subscribe messaging protocol designed for IoT. Every application on TTS automatically exposes an MQTT endpoint. In order to connect to the MQTT server you need to create a new API key, which will function as connection password. You can also use an existing API key, as long as it has the necessary rights granted.

**Further resources**

[MQTT server](#) | [Official MQTT website](#)

### Connection information

**MQTT server host**

Public address: eu1.cloud.thethings.network:1883

Public TLS address: eu1.cloud.thethings.network:1883

**Connection credentials**

Username: dl5rbv-temperatur@ttn

Password:

Home

Applications

Gateways

Q Search

Ctrl K

← dl5rbv-temperatur

Application overview

End devices

Live data

Payload formatters

Integrations

MQTT

Webhooks

Storage Integration

AWS IoT

Azure IoT

LoRa Cloud

Collaborators

API keys

General settings

No top end devices yet

## dl5rbv-temperatur

ID: dl5rbv-temperatur

No recent activity • 0 End c

## MQTT

MQTT is a publish/subscribe messaging protocol designed for IoT. Every application on TTS automatically exposes an MQTT endpoint. In order to connect to the MQTT server you need to create a new API key, which will function as connection password. You can also use an existing API key, as long as it has the necessary rights granted.

## Further resources

[MQTT server](#) | [Official MQTT website](#)

## Connection information

## MQTT server host

Public address

eu1.cloud.thethings.network:1883

Public TLS address

eu1.cloud.thethings.network:8883

## Connection credentials

Username

dl5rbv-temperatur@ttn

Password

.....

# MQTT auf Win-PC

The screenshot displays the MQTT Explorer application window. The title bar reads 'MQTT Explorer' with standard window controls. The menu bar includes 'Application', 'Edit', and 'View'. The main interface has a dark header with a hamburger menu, the text 'MQTT Explorer', a search bar, a pause icon, and a 'DISCONNECT' button. Below the header, a list of connections is shown on the left, with 'Temperatur' selected. The main area displays the configuration for this connection:

- MQTT Connection** `mqtt://eu1.cloud.thethings.network:1883:1883/`
- Name:**   **Validate certificate**  **Encryption (tls)**
- Protocol:**  **Host:**  **Port:**
- Username:**  **Password:**

At the bottom, there are four buttons: 'DELETE' (trash icon), 'ADVANCED' (gear icon), 'SAVE' (floppy disk icon), and 'CONNECT' (power icon).

MQTT Explorer

Application Edit View

MQTT Explorer

eu1.cloud.thethings.network

Topic

v3 / d5rbv-hamgroup-taster@ttn / devices / eui-70b3d57ed004a3db / up

Value

QoS: 0  
02.01.2025 14:14:54

```

{
  "decoded_payload": {
    "bytes": [
      4,
      179
    ],
    "temperatur": 20.3
  },
  "rx_metadata": [
    {
      "gateway_ids": {
        "gateway_id": "pressath-1",
        "eui": "3135323530001C00"
      }
    }
  ]
}

```

History

- 02.01.2025 14:14:54  
{"end\_device\_ids":{"device\_id":"eui-70b3d57ed004a3db"}}
- 02.01.2025 14:12:52(-2.02 minutes)  
{"end\_device\_ids":{"device\_id":"eui-70b3d57ed004a3db"}}
- 02.01.2025 14:10:51(-2.02 minutes)  
{"end\_device\_ids":{"device\_id":"eui-70b3d57ed004a3db"}}

uplink\_message decoded\_payload temperatur  
v3/d5rbv-hamgroup-taster@ttn/devices/eui-70b3d57ed004a3db/lup

Time	Temperature
14:10:51	17.7
14:11:00	17.6
14:11:10	17.5
14:11:20	17.5
14:11:30	17.5
14:11:40	17.5
14:11:50	17.5
14:12:00	17.5
14:12:10	17.5
14:12:20	17.5
14:12:30	17.5
14:12:40	17.5
14:12:50	17.5
14:13:00	17.5
14:13:10	17.5
14:13:20	17.5
14:13:30	17.5
14:13:40	17.5
14:13:50	17.5
14:14:00	17.5
14:14:10	17.5
14:14:20	17.5
14:14:30	17.5
14:14:40	17.5
14:14:50	17.5
14:14:54	20.3

# MQTT-Client auf RaspberryPi

```
$ sudo apt-get install mosquitto-clients
```

```
$ mosquitto_sub -h eu1.cloud.thethings.network -u dl5rbv-temperatur@ttn -P NXXXX -t v3/YYY@ttn/devices/eui-70000000/up
```

```
{"end_device_ids":{"device_id":"eui-700","application_ids":
{"application_id":"d"},"dev_eui":"700","join_eui":"0000000000000000","dev_addr":"260BDD69"},"correlation_ids":
[{"gs:uplink:01JH34FJ50EBPKQ24SQGHN9E45"},"received_at":"2025-01-08T14:18:17.330349853Z","uplink_message":
{"session_key_id":"AZRE8jwz/wiuhUiE0lhrdg==","f_port":1,"f_cnt":372,"frm_payload":"BJ0=","decoded_payload":{"metadata":
{"einheit":"C","label":"Temperatur","title":"Luft"},"temperatur":18.1},"rx_metadata":[{"gateway_ids":
{"gateway_id":"pressath-1","eui":"3135323530001C00"},"time":"2025-01-
08T14:17:38.327317Z"},"timestamp":258771763,"rssi":-74,"channel_rssi":-74,"snr":9.75,"location":
{"latitude":49.7639465,"longitude":11.9494078,"altitude":436,"source":"SOURCE_REGISTRY"},"uplink_token":"ChgKFgokChJlc3NhdGgtMRIIMTU
yNTAAHAAQs5ayexoLCKmS+rsGEJH1yTgguP7+/8PsggI=","channel_index":3,"received_at":"2025-01-08T14:18:17.093198737Z"}]},"settings":
{"data_rate":{"lorawan":
{"bandwidth":125000,"spreading_factor":7,"coding_rate":"4/5"}},"frequency":"867100000","timestamp":258771763,"time":"2025-01-
08T14:17:38.327317Z"},"received_at":"2025-01-
08T14:18:17.121137555Z"},"consumed_airtime":"0.046336s","packet_error_rate":0.06666667,"network_ids":
{"net_id":"000013","ns_id":"EC656E000000181","tenant_id":"ttn","cluster_id":"eu1","cluster_address":"eu1.cloud.thethings.network"}
}
```

# Website

## TTN-Werte

## Temperatur-Werte

Temperatur	Datum	Gateway	LAT	LON	Map	Freq	BW	SF	CR	RSSI	SNR	Airtime
17.8	2025-01-08T14:54:18.993868Z	pressath-1	49.7639465	11.9494078	<a href="#">x</a>	867100000	125000	7	4/5	-75	10.25	0.046336s
17.8	2025-01-08T14:53:05.207781Z	pressath-1	49.7639465	11.9494078	<a href="#">x</a>	867100000	125000	7	4/5	-74	9.5	0.046336s
17.8	2025-01-08T14:51:57.986940Z	pressath-1	49.7639465	11.9494078	<a href="#">x</a>	867100000	125000	7	4/5	-73	9	0.046336s
17.9	2025-01-08T14:50:50.765892Z	pressath-1	49.7639465	11.9494078	<a href="#">x</a>	867100000	125000	7	4/5	-74	9	0.046336s
17.9	2025-01-08T14:49:43.544365Z	pressath-1	49.7639465	11.9494078	<a href="#">x</a>	867100000	125000	7	4/5	-74	9.5	0.046336s
17.9	2025-01-08T14:48:37.303024Z	pressath-1	49.7639465	11.9494078	<a href="#">x</a>	867100000	125000	7	4/5	-75	10	0.046336s
17.9	2025-01-08T14:47:30.082056Z	pressath-1	49.7639465	11.9494078	<a href="#">x</a>	867100000	125000	7	4/5	-75	10	0.046336s
17.9	2025-01-08T14:46:22.860611Z	pressath-1	49.7639465	11.9494078	<a href="#">x</a>	867100000	125000	7	4/5	-75	10.75	0.046336s

## Test-Werte

Datum	Gateway	LAT	LON	Map	Freq	BW	SF	CR	RSSI	SNR	Airtime	error-rate
2025-01-06T12:06:28.870546Z	pressath-1	49.7639465	11.9494078	<a href="#">x</a>	867900000	125000	7	4/5	-69	11	0.051456s	0.8811881
2025-01-06T12:06:12.914680Z	pressath-1	49.7639465	11.9494078	<a href="#">x</a>	867700000	125000	7	4/5	-87	10.75	0.051456s	0.8811881
2025-01-06T12:05:43.354198Z	pressath-1	49.7639465	11.9494078	<a href="#">x</a>	868300000	125000	7	4/5	-71	10.5	0.051456s	0.89



```
#!/usr/bin/python3
import paho.mqtt.client as mqtt
import json

Wert = json.loads(fobj[i])
UPLINK_MESSAGE = Wert["uplink_message"]
TEMPERATUR = UPLINK_MESSAGE["decoded_payload"]["temperatur"]
RX_METADATA_TIME = UPLINK_MESSAGE["rx_metadata"][0]["time"]
```