HOW-TO
Integration Cloud2Cloud Via OAuth2

Important Note

Cloud2Cloud integration requires a subscription.
Please visit www.whatwatt.ch/pricing for more information.

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Version	Date	Author	Changes
1.0	23.10.2025	TS	Initial Version
2.0	22.06.2026	TS	telemetry payload and OBIS reference integration flow diagrams OAuth2 flow and device authorization clarified REST API description corrected whatwatt Cloud interfaces clarified

1. Introduction

This document describes how to integrate with whatwatt Cloud to collect real-time telemetry data from whatwatt Go devices connected to smart meters.

whatwatt Cloud exposes two interfaces relevant to the integration: an OAuth2-protected REST API (used to authorize customers and register their devices) and an MQTT service (used to stream telemetry). Both are part of whatwatt Cloud.

Integration requires connecting to the whatwatt MQTT service and subscribing to a topic where a whatwatt Go device publishes its telemetry data.

Access to a customer's telemetry data requires their authorization, which is granted through the OAuth2 Authorization Code flow (see Section 4)..

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2. Setup on whatwatt

To register your integration on whatwatt, please use the contact form at www.whatwatt.ch/contact and include the following details in your request. We will use them to set up an OAuth2 client for your application:

- **Email address** of your existing whatwatt Account.
- **Name** of your Company/Application (displayed on the OAuth2 consent screen).
- **URL** of your Company/Application logo (displayed on the OAuth2 consent screen).
- **Redirect URI(s)** for OAuth2 authorization.

3. Onboarding Customer Devices

Instruct your Customers to use the whatwatt mobile app (iOS/Android) to add their whatwatt Go devices to their whatwatt Accounts.

Once the whatwatt Go device is connected to the smart meter and to the Internet it starts to publish telemetry data.

Before you can access a customer's device data, the customer must authorize your application via the OAuth2 flow (see Section 4).

4. OAuth2 Authorization

Once your integration is registered (see Section 2), you will receive the client credentials (client ID and secret) and the configuration details needed to run the OAuth2 flow.

To access a customer's device data, your application must obtain the customer's authorization by initiating the OAuth2 Authorization Code flow against whatwatt Cloud. During this flow the customer logs in to their whatwatt account and grants your application access to their devices.

5. Registering Customer Devices via REST API

Before a customer's devices begin publishing to your integration's topic, you must register them using the whatwatt REST API. This call is made in the context of an OAuth2-authorized user and enables all devices owned by that user for your integration.

You may make this call once the user has completed the OAuth2 Authorization Code flow in your service. The full endpoint specification is provided together with your integration details.

6. Integration with whatwatt MQTT Service

Once your integration is registered you will receive from whatwatt the following details required to connect to the MQTT Service and to subscribe to receive telemetry data:

- **URI** of whatwatt MQTT service.
- **Public certificate** of whatwatt MQTT server. It allows the MQTT client on your side to make sure it connects to the whatwatt server.
- **Username** and **password** required to authorize (basic auth) on whatwatt MQTT Service.
- **Topic** to subscribe to in order to start receiving telemetry data from the authorized whatwatt Go devices.
- **Template** of telemetry data published by MQTT Service..

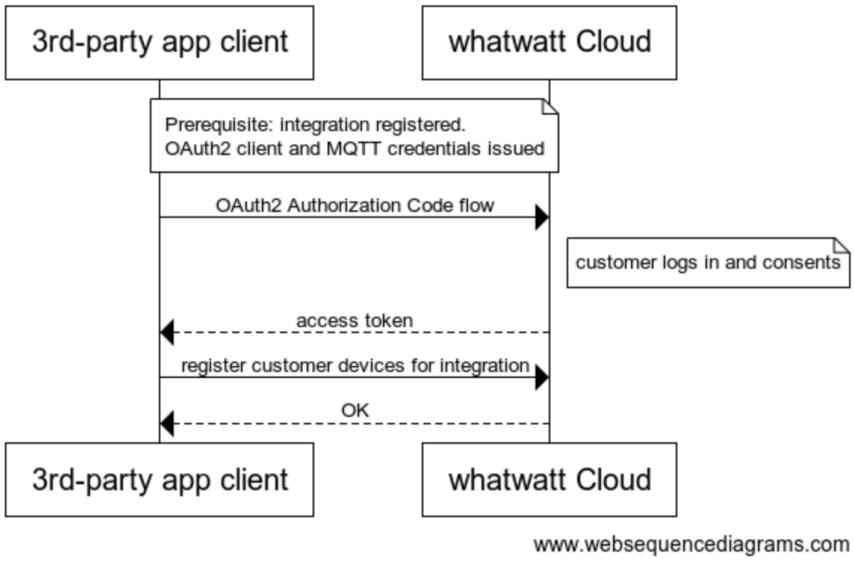
Notes

- When connecting to the MQTT server you must specify a Client ID. You have to use the username as the Client ID. If you want to establish multiple MQTT connections then additionally append a sequence of several (e.g. 8) random alphanumeric characters to the “username” when specifying Client ID (e.g. <username>:gmrnaj6n). This is required because every connection (with the same username/password) needs a unique Client ID.
- MQTT Credentials do not expire.
- Recommended subscription QoS is 0 or 1 (whatwatt Go devices publish data with QoS=1).
- whatwatt Go devices can be identified by their MAC addresses (WiFi MAC/ID). The MAC address of the whatwatt Go device is available in the published topic.

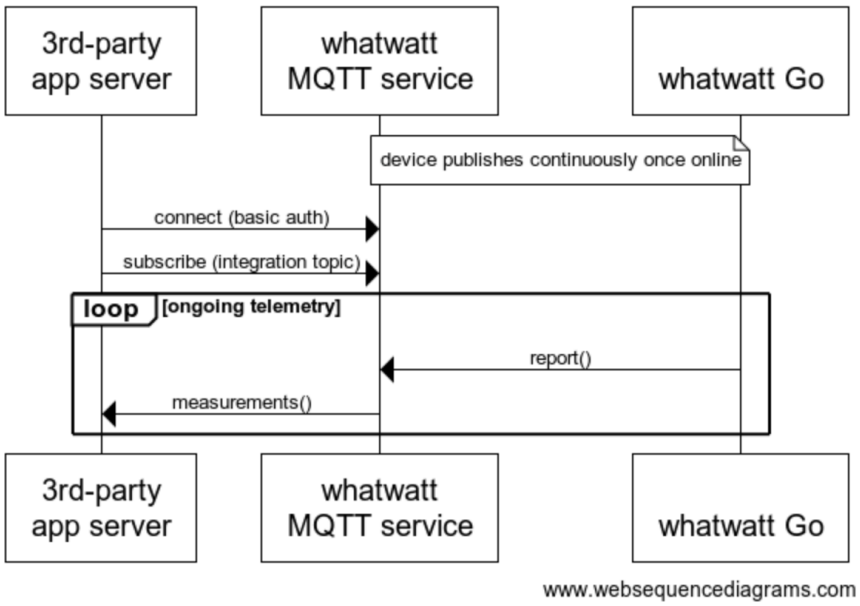
7. Integration Flow Overview

The following diagrams summarize the complete integration flow, from customer authorization to receiving telemetry.

The customer authorizes your application, and your application registers the customer's devices with whatwatt Cloud:



Once the devices are registered, your server component connects to the MQTT service and begins receiving telemetry:



8. Telemetry Data Payload

Once subscribed, your MQTT client receives telemetry data from each whatwatt Go device as a JSON payload. The default template produces the following struct:

```
{
    "Timestamp": 1740407730,
    "InstantaneousPower": {
        "Active": {
            "Positive": 2.455,
            "Negative": 7.536
        }
    },
    "Voltage": {
        "L1": 244.08,
        "L2": 241.06,
        "L3": 243.29
    },
    "Current": {
        "L1": 0,
        "L2": 0,
        "L3": 0
    },
    "Energy": {
        "Active": {
            "Positive": 8074.761,
            "Negative": 8874.568
        }
    }
}
```

Each field in the payload above is listed below with its corresponding OBIS code (the standard register identifier used in DLMS/COSEM to address meter-native measurements):

Field	OBIS	Unit	Description
Timestamp	—	s	UTC UNIX timestamp
InstantaneousPower.Active.Positive	1.7.0	kW	Positive active instantaneous power (A+)
InstantaneousPower.Active.Negative	2.7.0	kW	Negative active instantaneous power (A−)
Voltage.L1	32.7.0	V	Instantaneous voltage (U), phase L1
Voltage.L2	52.7.0	V	Instantaneous voltage (U), phase L2
Voltage.L3	72.7.0	V	Instantaneous voltage (U), phase L3
Current.L1	31.7.0	A	Instantaneous current (I), phase L1
Current.L2	51.7.0	A	Instantaneous current (I), phase L2
Current.L3	71.7.0	A	Instantaneous current (I), phase L3
Energy.Active.Positive	1.8.0	kWh	Positive active energy (A+), total
Energy.Active.Negative	2.8.0	kWh	Negative active energy (A−), total

The payload format is configurable. During integration setup, you can request a custom template — different field names, a different structure, or additional fields from the list below. Note that a smart meter does not necessarily report every field. Unreported values may be null or reported as 0. The following fields are available:

Device & timestamp

Field	Unit	Description
MAC	—	whatwatt Go identifier (Wi-Fi MAC); also present in the topic
timestamp	s	UTC UNIX timestamp
timestamp (string)	s	ISO 8601 UTC timestamp, derived from the UNIX timestamp

Active energy

OBIS	Unit	Description
1.8.0	kWh	Positive active energy (A+), total
1.8.1	kWh	Positive active energy (A+), tariff T1
1.8.2	kWh	Positive active energy (A+), tariff T2
2.8.0	kWh	Negative active energy (A−), total
2.8.1	kWh	Negative active energy (A−), tariff T1
2.8.2	kWh	Negative active energy (A−), tariff T2

Maximum demand

OBIS	Unit	Description
1.6.0	kW	Positive active maximum demand (A+), total
1.6.1	kW	Positive active maximum demand (A+), tariff T1
1.6.2	kW	Positive active maximum demand (A+), tariff T2

Active power

OBIS	Unit	Description
1.7.0	kW	Positive active instantaneous power (A+)
21.7.0	kW	Positive active instantaneous power (A+), phase L1
41.7.0	kW	Positive active instantaneous power (A+), phase L2
61.7.0	kW	Positive active instantaneous power (A+), phase L3
2.7.0	kW	Negative active instantaneous power (A−)
22.7.0	kW	Negative active instantaneous power (A−), phase L1
42.7.0	kW	Negative active instantaneous power (A−), phase L2
62.7.0	kW	Negative active instantaneous power (A−), phase L3

Reactive power & energy

OBIS	Unit	Description
3.7.0	kvar	Positive reactive instantaneous power (Q+)
4.7.0	kvar	Negative reactive instantaneous power (Q−)
3.8.0	kvarh	Positive reactive energy (Q+), total
4.8.0	kvarh	Negative reactive energy (Q−), total

Voltage

OBIS	Unit	Description
32.7.0	V	Instantaneous voltage (U), phase L1
52.7.0	V	Instantaneous voltage (U), phase L2
72.7.0	V	Instantaneous voltage (U), phase L3

Current

OBIS	Unit	Description
31.7.0	A	Instantaneous current (I), phase L1
51.7.0	A	Instantaneous current (I), phase L2
71.7.0	A	Instantaneous current (I), phase L3
31.7.0 (signed)	A	Signed instantaneous current (I), phase L1 — sign indicates direction
51.7.0 (signed)	A	Signed instantaneous current (I), phase L2 — sign indicates direction
71.7.0 (signed)	A	Signed instantaneous current (I), phase L3 — sign indicates direction

Other

OBIS	Unit	Description
13.7.0	—	Instantaneous power factor
16.7.0	kW	Net active instantaneous power (A+ − A−), computed by whatwatt Cloud