Ewon®
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Getting started with MQTT on Ewon Flexy
Application User guide

HMS Connecting Devices™

Important User Information

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1. Introduction : What is MQTT ?

MQTT stands for **M**essage **Q**ueue **T**ransport **P**rotocol.

MQTT is a lightweight communication protocol based on TCP/IP used by IOT platforms to receive or send messages from smart devices like meters, sensors,...

When using MQTT, the network topology is composed of multiple clients connected to a single server, which is called the "**Broker**".

The connection is always initiated by the client to the broker using the port 1883 (non-encrypted) or 8883 (encrypted). This allows the use of simple internet connections with no specific settings on the client side.

The broker is usually publicly accessible on Internet and acts as a communication bridge between the different clients. Its main goal is to bufferize the messages sent by the clients and forward them to one or multiple clients.
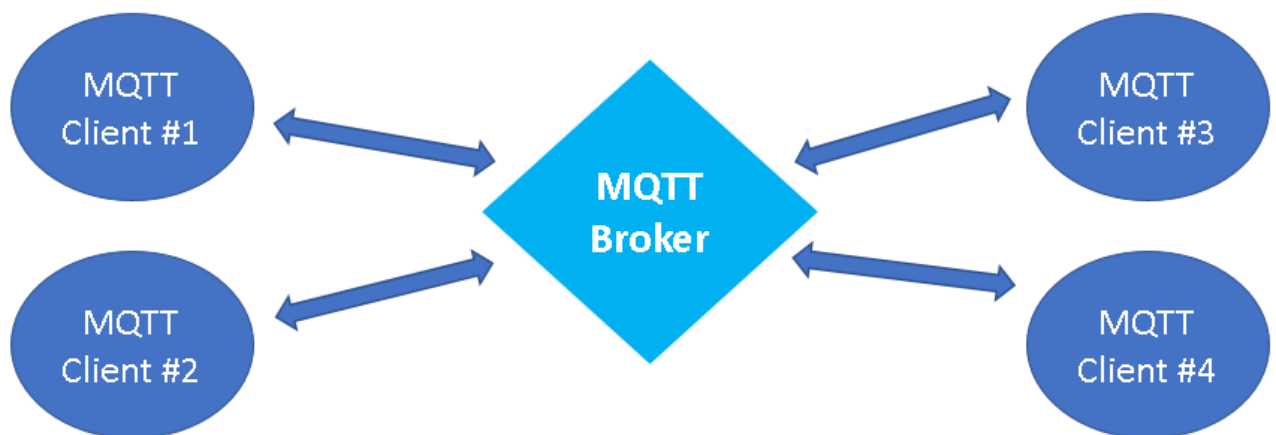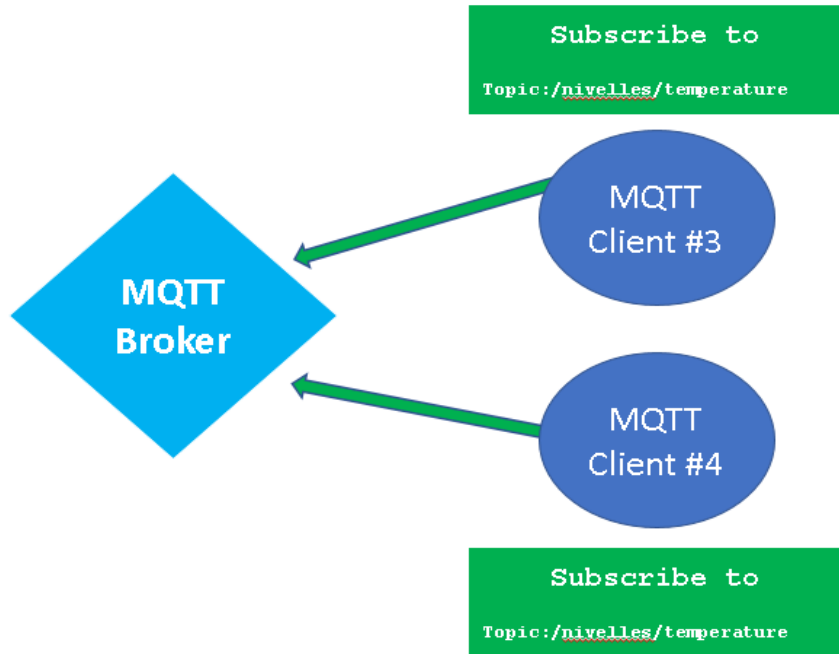
For each message generated by the client, the subject of the message must be defined. This subject is called "**topic**". For each topic used, a queue is created in the broker. Each client can then **publish** messages to the topic's queues but also **subscribe** to messages of specific topics. Usually, the format used for the topic is similar to an URI (Ex : /belgium/topic1). The clients which subscribe to one or multiple topics will receive all messages published to these topics by other clients.

Regarding the content of the messages, the MQTT standard does not specify anything. It is up to the clients and the broker to agree on a message content format. It can be CSV, JSON, XML, binary...

Example :

1. The MQTT client #3 and #4 sends a subscription message to the broker to subscribe to the topic "/nivelles/temperature".

2. The MQTT Client #1 publishes then a message "{temperature: 21,3}" to the same topic "/nivelles/temperature". The client #3 and #4 will therefore receive the message generated by the client #1.
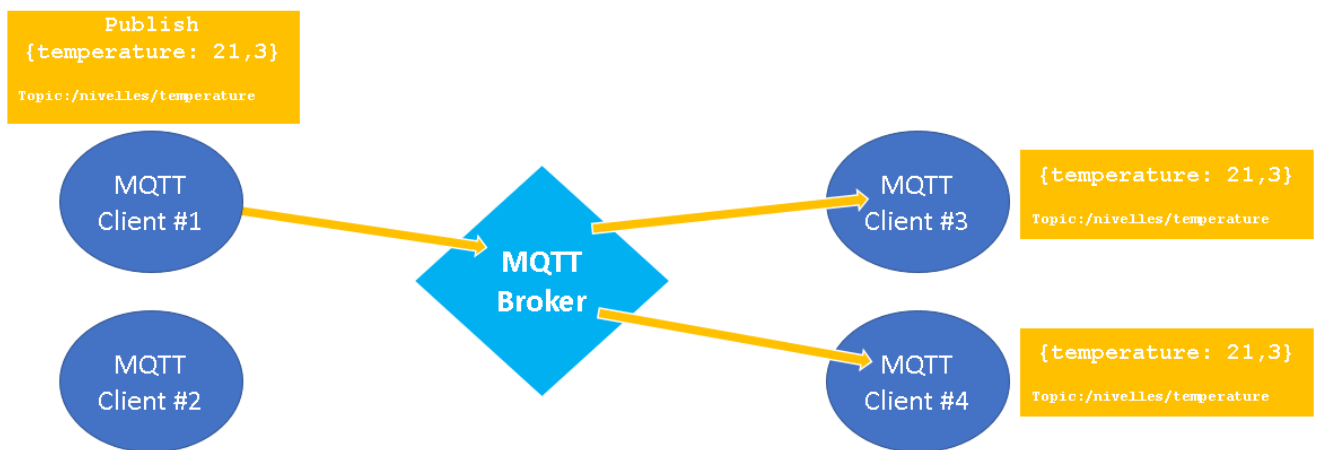
2. How to use MQTT with an Ewon Flexy

The Ewon Flexy can act as a MQTT Client.

To be able to connect the Ewon Flexy to any MQTT broker, the Ewon device exposes several **BASIC** and **JAVA** functions that allow you to **program** your own MQTT communication.

```
Init Section
SETSYS INF, "LOAD"
SerNum$ = GETSYS INF, "SERNUM"

MQTT "OPEN", SerNum$ , "ewonsupport.biz"
MQTT "SETPARAM", "PORT", "1883"
MQTT "SUBSCRIBE","/cmd/flexy",2
MQTT "CONNECT"

TSET 1,5
ONTIMER 1, "GOTO T1"
ONMQTT "GOTO MqttRx"
END


T1:
ConnStatus% = MQTT "STATUS"
IF ConnStatus% = 5 THEN
  MQTT "PUBLISH", "/topic/flexy", "Hello From Flexy " + SerNum$, 0,0
  PRINT "Message published to the MQTT broker"
```

You then have the possibility to easily compute your own messages with live Tag values, use your own topics and send the messages to any IOT platforms that features an MQTT broker.
The topic and the message format is often specified by the IOT platform.

You can find all details about the BASIC functions in the Programming Reference Guide (Keyword MQTT).

If you want to get started, please visit our techforum : https://techforum.ewon.biz

If you wish to start using BASIC, go to https://techforum.ewon.biz/thread-473.html

If you wish to start using JAVA, go to https://techforum.ewon.biz/thread-586.html

If you want to connect well-known IOT platforms such as AWS IOT or Azure IOT Hub, please refer to our IOT solution section on the developer web site.

3. Document History

Version	Date	Description
1.0	2018-08-17	Original document
1.1	2020-09-07	Logo, layout and links updated