Upload data to OTA with MQTT.fx client

MQTT is a machine-to-machine (M2M)/"Internet of Things" connectivity protocol. It is a lightweight publish-subscribe messaging protocol which probably makes it the most suitable for various IoT devices. You can find more about MQTT at https://mqtt.org/.

OTA server act as an MQTT Broker that support predefined data format and topics below:

Key-value format

OTA supports key-value content in JSON. Key is always a string, while value can be either string, Boolean, double or long.

{"stringKey":"String1", "booleanKey":true, "doubleKey":10.0, "longKey":20}

Telemetry upload

In order to publish telemetry data to OTA, send MQTT PUBLISH message with the following topic:

v1/devices/me/telemetry

And the data with json formats:

{"PM1":1,"PM10":3,"Temperature":284}

Attributes upload

In order to upload client-side device attributes to the OTA , send MQTT PUBLISH message with the following topic:

v1/devices/me/attributes

And the data with json formats:

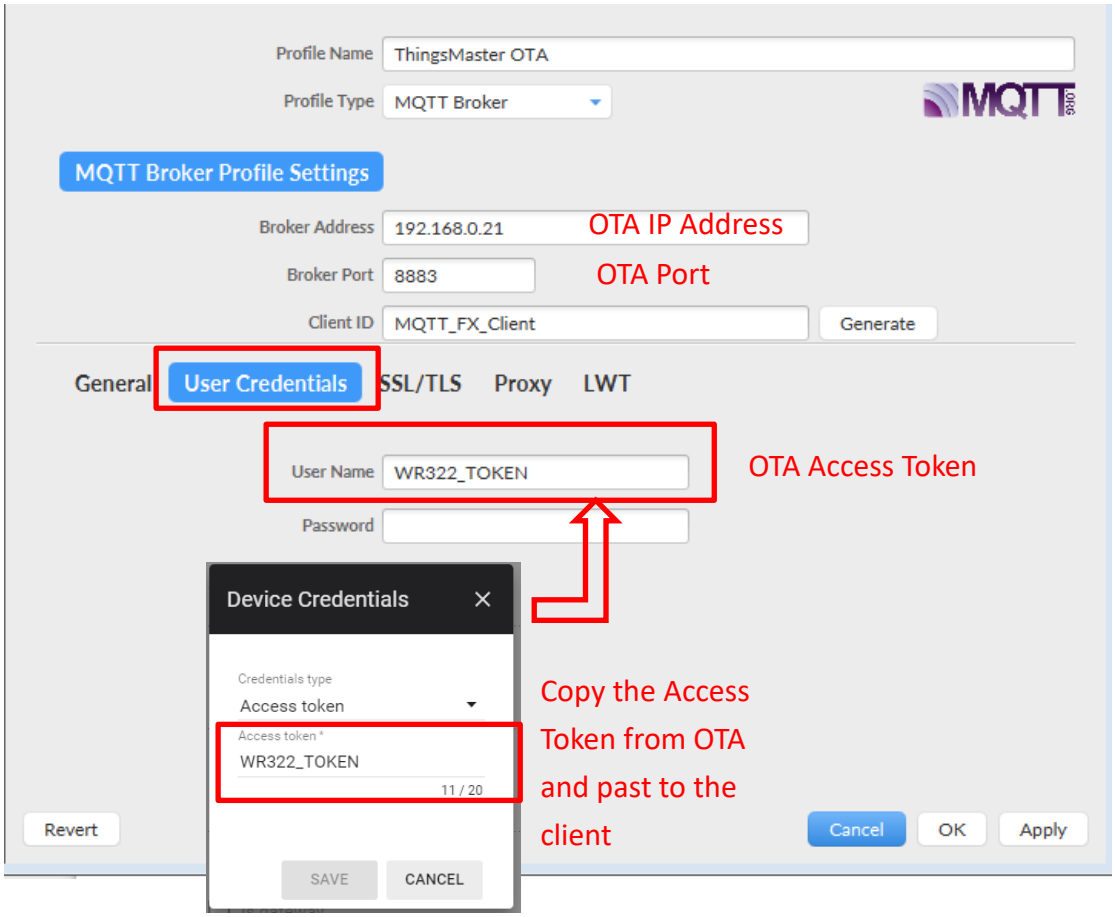
{"modelname":"WR312-LTE-E","devicename":"router1"}

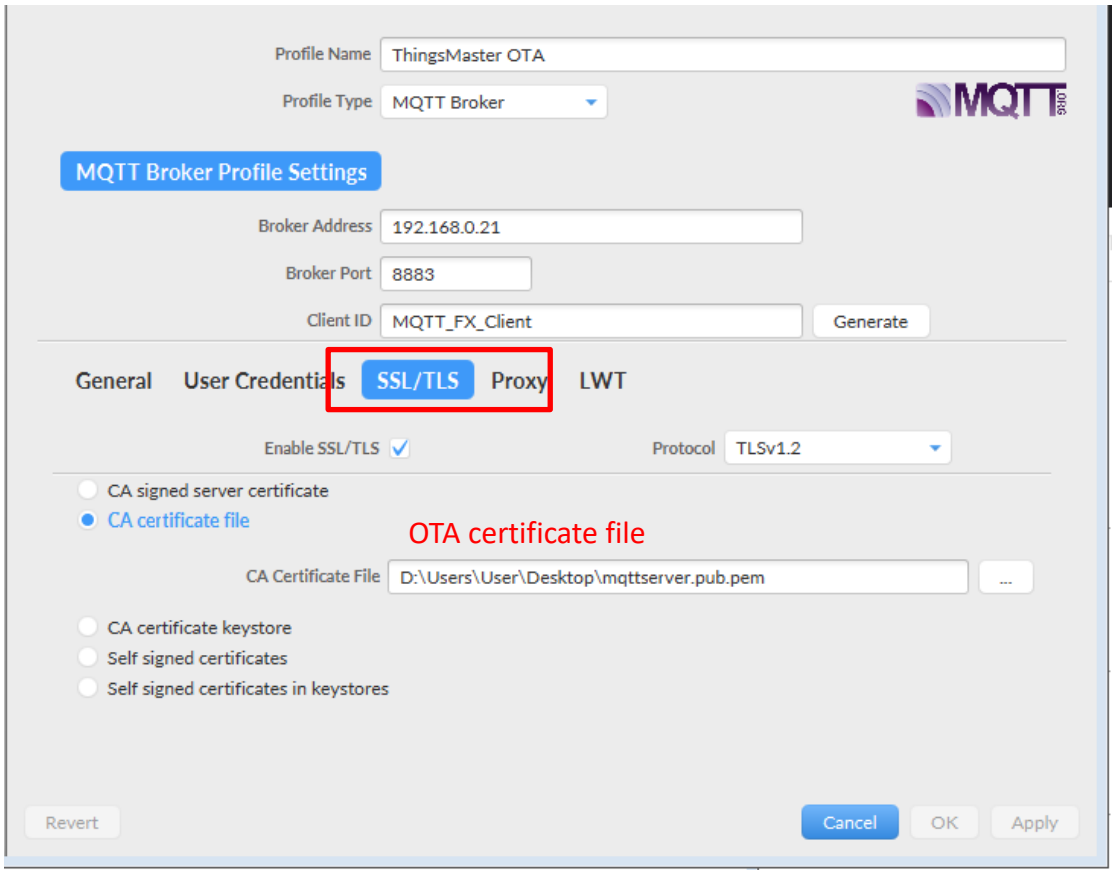
Access Token

OTA use access token $ACCESS_TOKEN as device credentials .The MQTT client needs to send MQTT CONNECT message with *username* that contains $ACCESS_TOKEN.

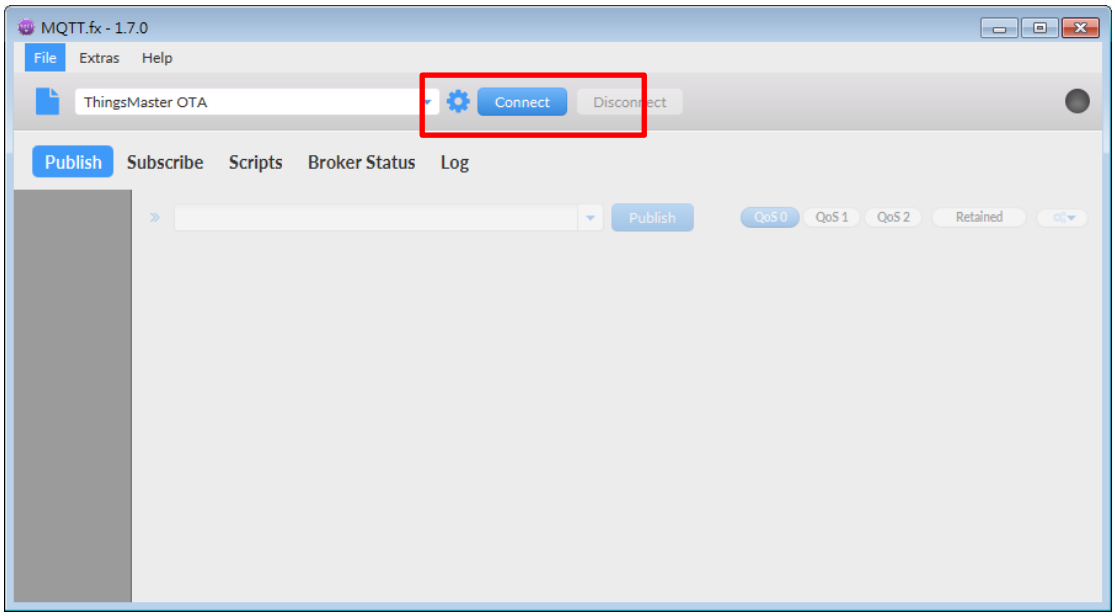
MQTT.fx Example:

1. Download Mqtt.fx client form https://mqttfx.jensd.de/
2. Create Profile for ThingsMaster OTA


Profile Name
ThingsMaster OTA
Profile Type
MQTT Broker
MQTT Broker Profile Settings
Broker Address
192.168.0.21
OTA IP Address
Broker Port
8883
OTA Port
Client ID
MQTT_FX_Client
Generate
General
User Credentials
SSL/TLS
Proxy
LWT
User Name
WR322_TOKEN
OTA Access Token
Password
Device Credentials
Credentials type
Access token
Access token *
WR322_TOKEN
11 / 20
SAVE
CANCEL
Copy the Access Token from OTA and past to the client
Revert
Cancel
OK
Apply


Profile Name
ThingsMaster OTA
Profile Type
MQTT Broker
MQTT Broker Profile Settings
Broker Address
192.168.0.21
Broker Port
8883
Client ID
MQTT_FX_Client
Generate
General
User Credentials
SSL/TLS
Proxy
LWT
Enable SSL/TLS
Protocol
TLSv1.2
CA signed server certificate
CA certificate file
OTA certificate file
CA Certificate File
D:\Users\User\Desktop\mqttserver.pub.pem
CA certificate keystore
Self signed certificates
Self signed certificates in keystores
Revert
Cancel
OK
Apply

3. Press “Connect” button

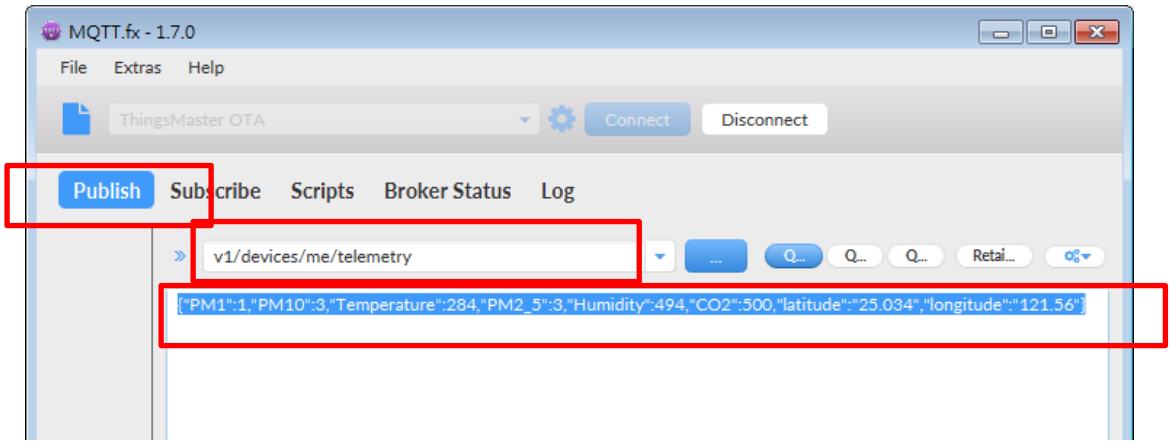


4. Fill in publish topic and json data

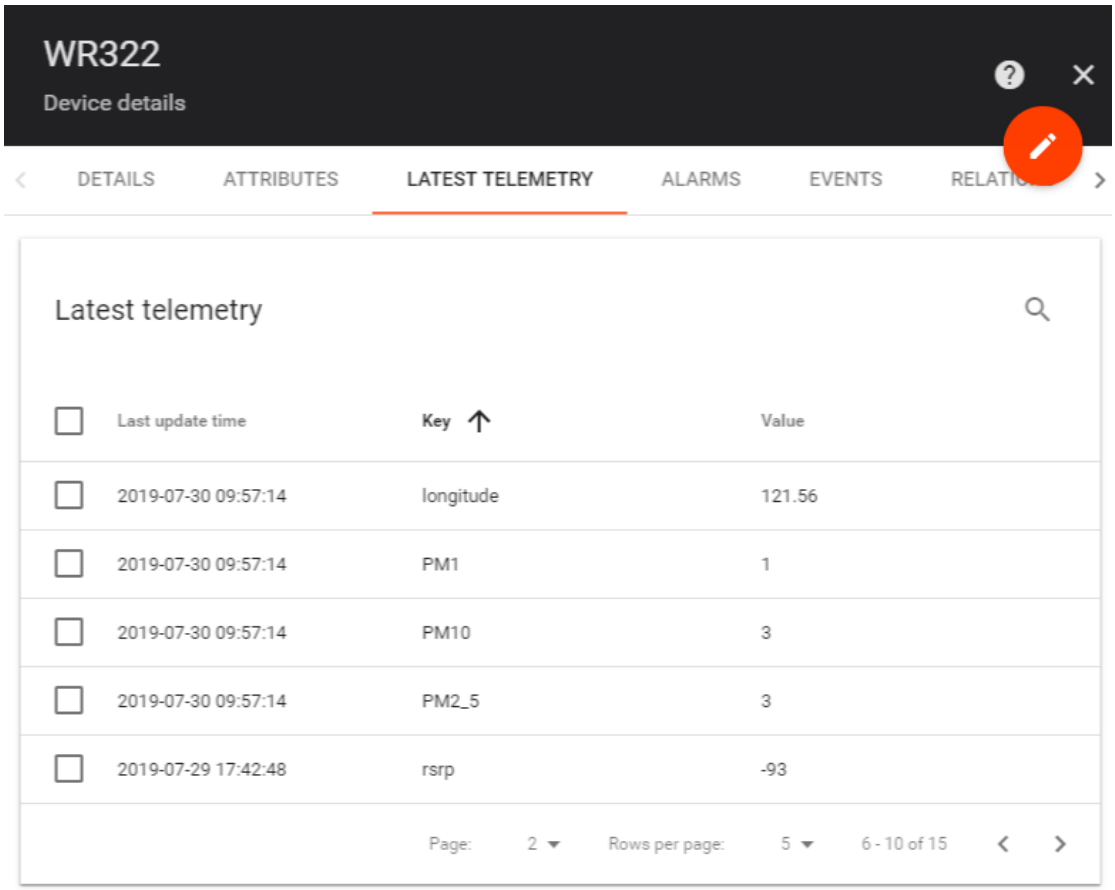
   Topic: v1/devices/me/telemetry

   Data:

   {"PM1":1,"PM10":3,"Temperature":284,"PM2_5":3,"Humidity":494,"CO2":500,"latitude":"25.034","longitude":"121.56"}



5. Check on OTA if data is uploaded



6. Upload device attribute with different topic

   Topic: v1/devices/me/attributes

   Data:

   {"modelname":"WR312-LTE-E","devicename":"router1","version":"1.8","mac address":"94:66:e7:ff:90:76","serial number":"WR2019039002"}