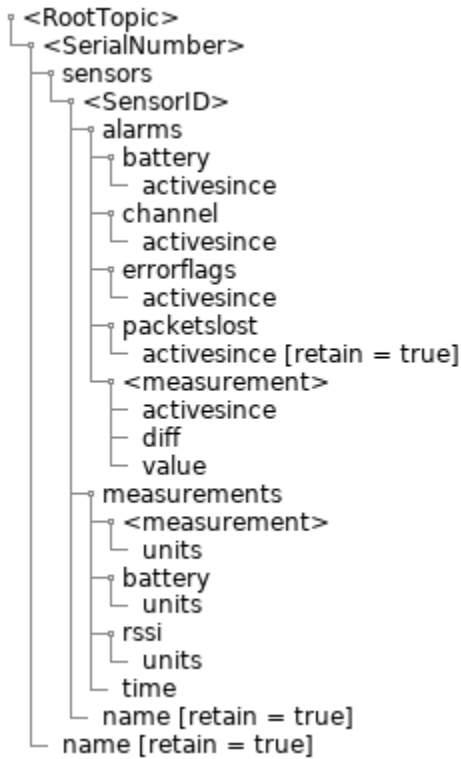


MQTT demo base instructions for external developers

Aranet PRO MQTT publisher connection properties

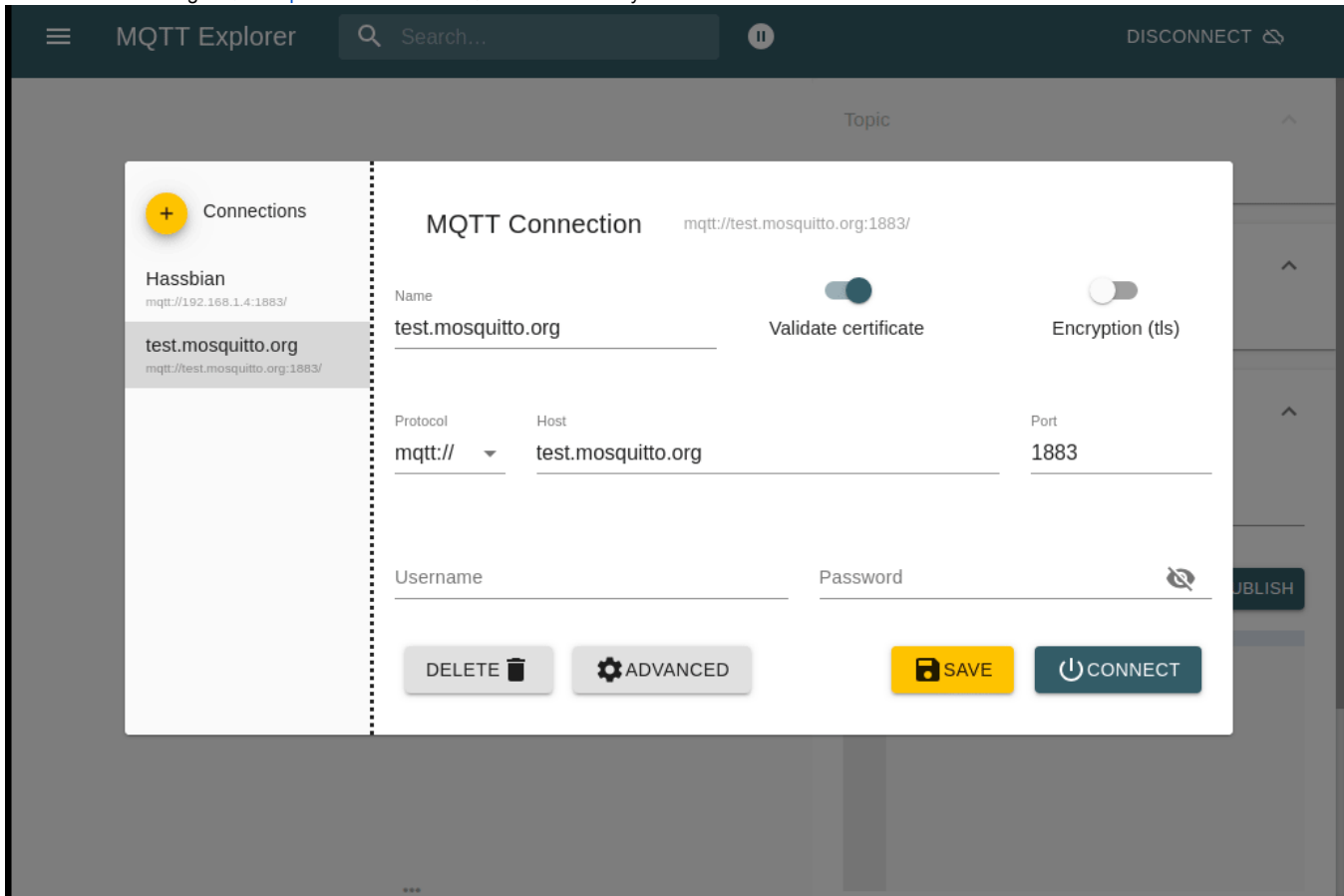
- Host address
- Port
- Protocol version [MQTT v3.1.1 | MQTT v5]
- Authentication [enabled | disabled]
 - Username
 - Password
- Encryption [None | TLSv1.1 | TLSv1.2 | TLSv1.3]
 - Host CA certificate
- QoS level
- Root topic

Aranet PRO MQTT publisher topic structure



Subscription to the public Aranet PRO MQTT publisher messages for the demo purposes

We recommend using [MQTT Explorer](#) to view the MQTT structures for yourself.



Connect to the public broker ([broker.hivemq.com](#))

- Host address: **broker.hivemq.com**
- Port: **1883**
- Protocol version: **MQTT v3.1.1**
- Authentication: **disabled**
- Encryption: **None**

MQTT Connection mqtt://broker.hivemq.com:1883/

Name Validate certificate Encryption (tls)

Protocol Host Port

Username Password

Subscribe to the messages published by Aranet PRO MQTT demo publisher

Root topic: **Aranet**

Subscription topic: **Aranet/394261000688/#**

Sensor measurement message formats

Two types of sensor measurement formats are available for subscriber to receive - raw and JSON.

Differences between the sensor measurement formats ("raw" un "JSON")	
"raw"	"JSON"
Sensor measurements MQTT message topic structure	
<code><RootTopic>/<SerialNumber>/sensors /<SensorID>/measurements/<measurement></code>	<code><RootTopic>/<SerialNumber>/sensors/<SensorID>/json/measurements</code>
<pre>▼ broker.hivemq.com ▼ Aranet ▼ 394261000688 ▼ sensors ▼ 100118 name = IT pie tāfeles ▼ measurements ▼ humidity = 54.0 units = % ▼ temperature = 23.800 units = C ▼ rssi = -97 units = dBm time = 1596012990 ▼ battery = 0.02 units = /</pre>	<pre>▼ broker.hivemq.com ▼ Aranet ▼ 394261000688 ▼ sensors ▼ 100118 name = IT pie tāfeles ▼ json measurements = {"humidity":53.0,"temperature":23.800,"rssi":-94,"time":1596013652,"battery":0.02}</pre>
Examples of MQTT subscription topics for measurement data reception	
Example 1) - receive sensor measurements from all the bases if <RootTopic> consists of a single level topic	
<code>+ /+ /sensors /+ /measurements /+</code>	<code>+ /+ /sensors /+ /json /measurements</code>
Example 2) - receive all the sensor measurements from the base with S/N 394261000688 if <RootTopic> is set to "Aranet"	
<code>Aranet /394261000688 /sensors /+ /measurements /+</code>	<code>Aranet /394261000688 /sensors /+ /json /measurements</code>
Example 3) - receive measurements from the sensor with ID 100118 paired to the base with S/N 394261000688 if <RootTopic> is set to two-level topic "Riga/Warehouse"	
<code>Riga /Warehouse /394261000688 /sensors /100118 /measurements /+</code>	<code>Riga /Warehouse /394261000688 /sensors /100118 /json /measurements</code>

Sensor measurements and units grouped by sensor product code (P/C)

P/C	measurement	unit
TDSPTT01	humidity	%
TDSPT801	temperature	C
TDSPT009		
TDSPSD02 (Stem)	voltage	V
TDSPSD01 (Stem)	derived	<user-defined>
TDSPT002.XXX	temperature	C
TDSPT006.010		
TDSPT006.010		
TDSPHE01	temperature	C
	bec	S/m
	pec	S/m
	dp	unitless
	vwc	fraction 0.0 - 1.0
TDSPSV01.050	weight	kg
TDSPSV01.100	weight_raw	kg
TDSPCL01.010	current	A
	derived	<user-defined>
TDSPVM01.010	voltage	V
	derived	<user-defined>
TDSPIC01.010	pulses	count
	pulsescumulative	count
	derived_cpp	<user-defined>
	derived_cpc	<user-defined>
TDSPDM01	distance	m
	derived	<user-defined>
TDSKAR01	ppfd	umol/(m ² s)
TDSPC004	co2	ppm

Alarming

Name	Description	Repetitive	Retain
battery	Sensor's battery charge level is low.	yes	no
channel	Sensor is using a different radio channel than the base station.	yes	no
errorflags	Sensor malfunction detected.	yes	no
packetslost	Measurement from the sensor was not received in the estimated time.	no	yes
<measurement>	Alarm related to sensor measurement value. Generated in case if value has reached a threshold.	yes	no

