

WEINTEK LABS., INC.

MQTT

Demo Project

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1. Overview and Operation

Overview

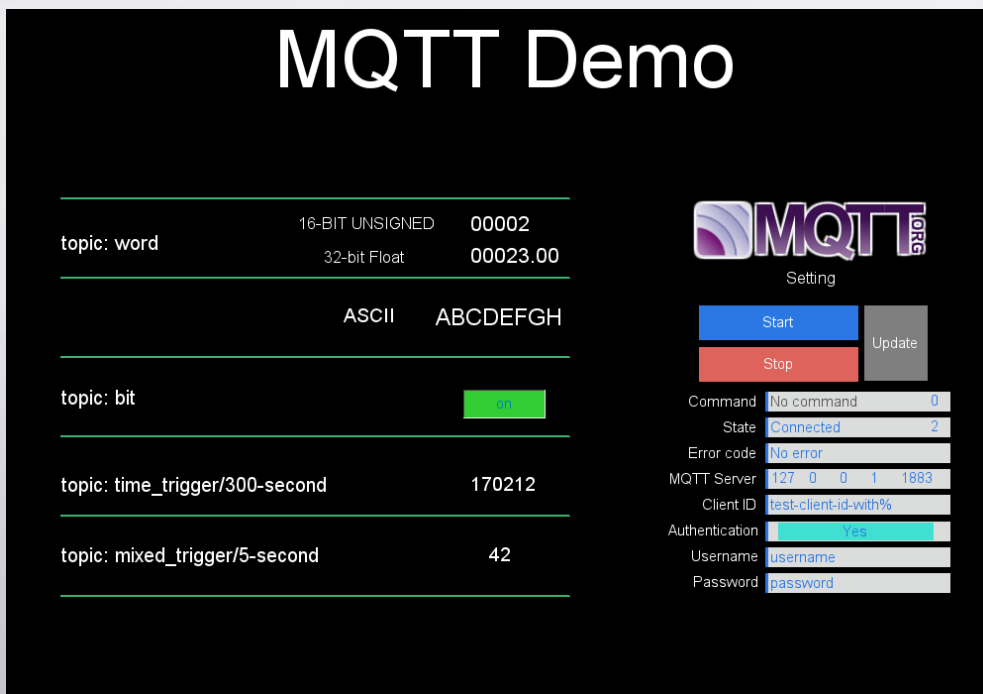
This demo project introduces the settings and use of MQTT in EasyBuilder Pro.

When run on an HMI, it allows MQTT messages to be published to a broker which can be an external one or a built-in one. Then, the user can use an MQTT client program to receive message updates from the broker.

Operation

When the project is up and running, set the MQTT server information. The default settings are as shown in the screenshot below

- Enter either the IP address of an external broker, or use 127.0.0.1 if using the broker in HMI. The default port number used for MQTT is 1883.



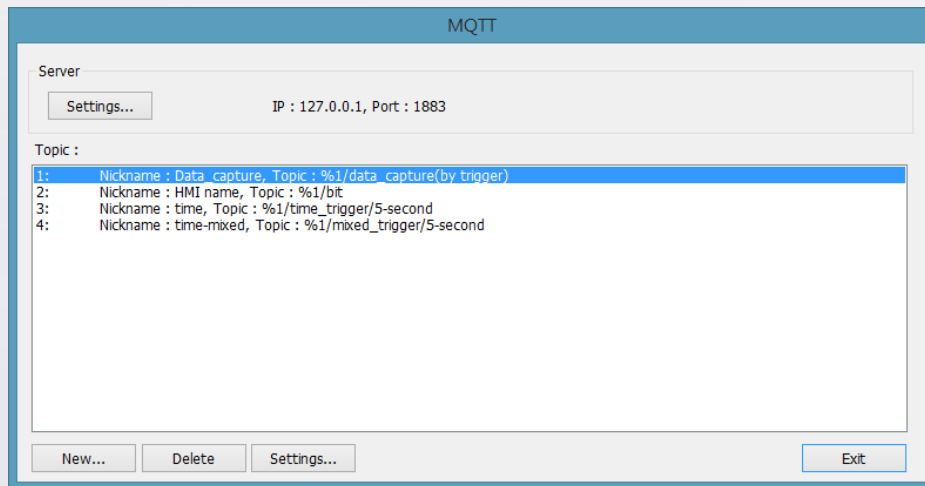
- Enter the client ID and username/password used for client authentication, if applicable.

- Press the Update button and then press the Start button to initiate MQTT service. The MQTT service state is indicated by the status codes.

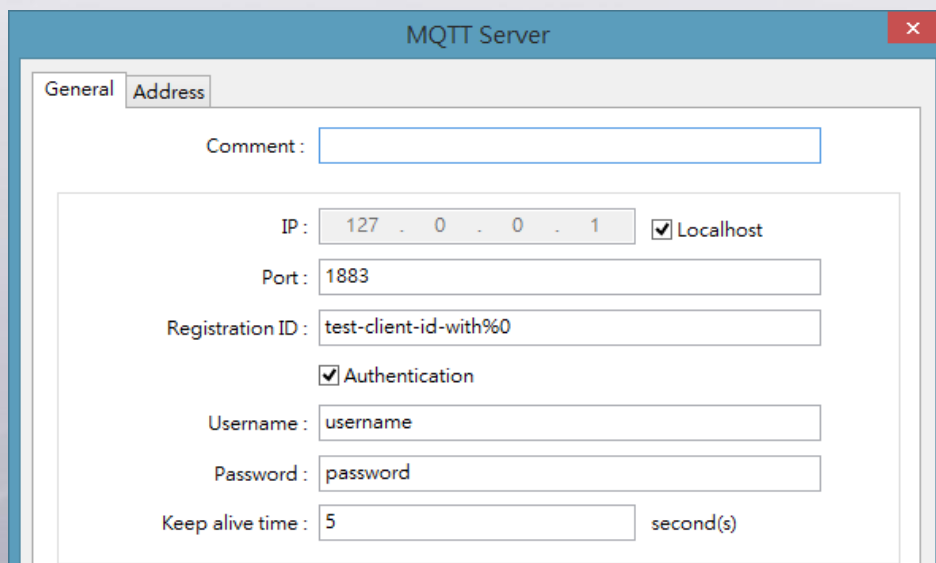
Now the user can use an MQTT client to connect to the designated broker in order to subscribe and receive messages from the HMI.

2. Setting up the Screen

Step 1. Find the MQTT function which is listed under Object.



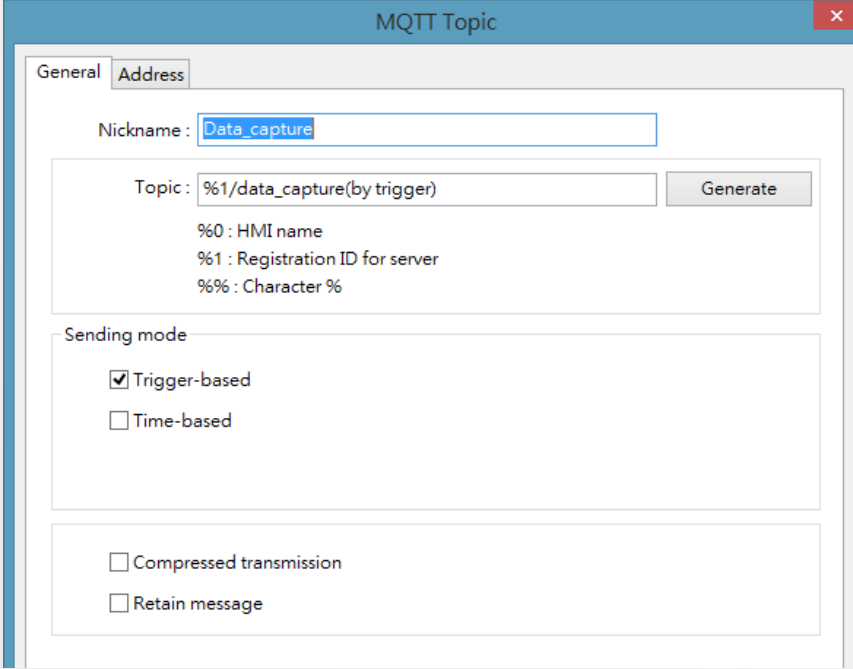
Step 2. Open the server setting and set accordingly.



Step 3. Create topics and give appropriate settings, providing nickname, topic, sending mode(trigger/time-based), and address settings.

Repeat for difference addresses.

Below shows an example for topic 1:



MQTT Topic

General Address

Nickname : Data_capture

Topic : %1/data_capture(by trigger) Generate

%0 : HMI name
%1 : Registration ID for server
%% : Character %

Sending mode

☒ Trigger-based
☐ Time-based

☐ Compressed transmission
☐ Retain message

MQTT Topic

General Address

Name	PLC name	Address	Address for...	Address ele...
16-BIT UNSIGNED	Local HMI	16-BIT UNSIGNED : LW10	16-bit Unsig...	1
32-BIT FLOAT	Local HMI	32-BIT FLOAT : LW19	32-bit Float	1
ASCII	Local HMI	STRING ASCII 10CH : LW21	String	5

Step 4. Place word and bit objects on screen for monitoring purpose.

3. Addresses

The addresses of key objects used in this demonstration are listed below.

Object	Address	Description
Window 10 - for displaying data		
Numeric	LW-10	Data of topic 1
Numeric	LW-19	Data of topic 1
ASCII	LW-21	Data of topic 1
Toggle Switch	LB-102	Data of topic 2
Numeric	LW-9030	Data of topic 3; System time (unit:0.1 sec)
Numeric	LW-9017	Data of topic 4; Local second
MQTT addresses		
Status Address: LW-110		
Control Address: LW-112		
Numeric	LW-100	Status
Numeric	LW-111	Error Code
Numeric	LW-112	Command
Numeric	LW-113	Server IP Address
Numeric	LW-117	Port
Numeric	LW-118	Registration ID
Numeric	LW-138	Authentication
Numeric	LW-139	Username
Numeric	LW-155	Password