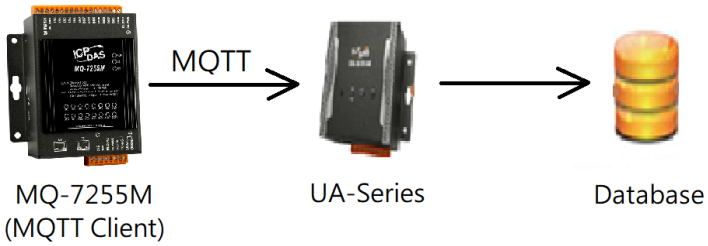
FAQ-DBL-08: UA Web UI Function Wizard – Data Log -

How to set up remote database function: MQTT / MySQL(MariaDB) ?

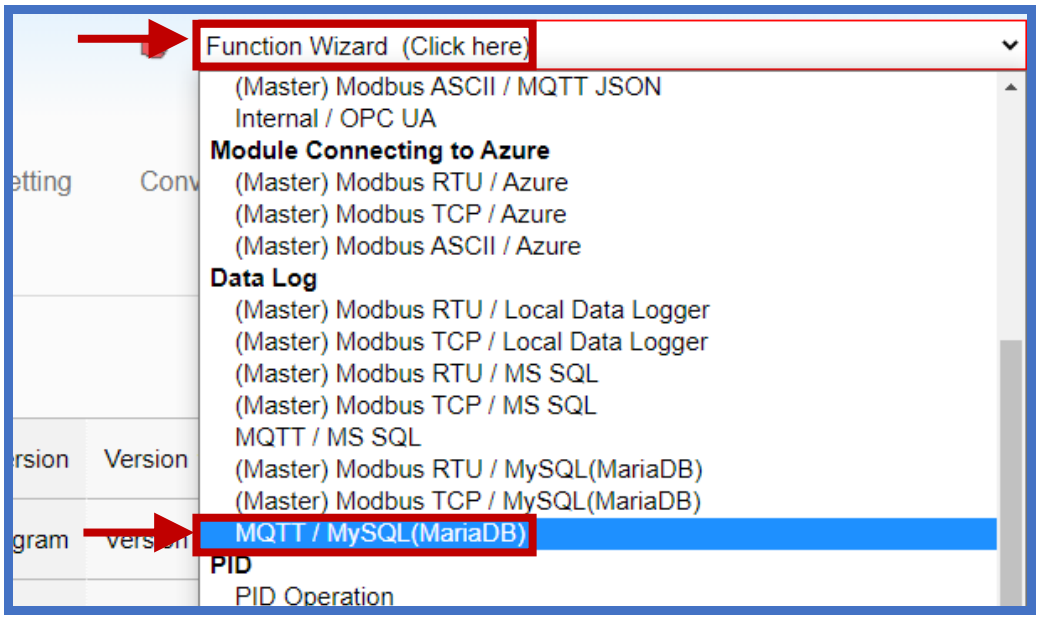
(Use MQ-7255M)

This Function uses UA series to receive MQTT messages, and then write to MySQL or MariaDB database. The architecture is as following:

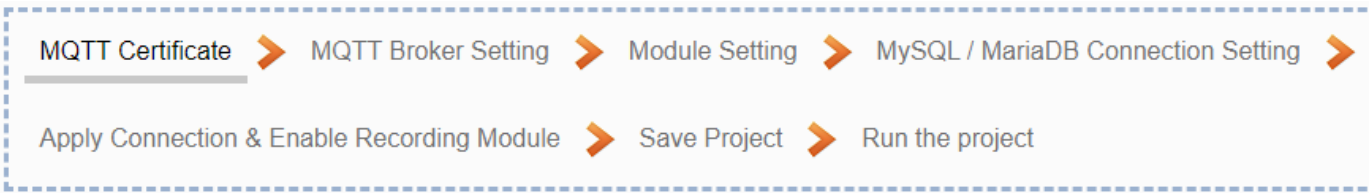


1. The Steps to set up the Project

Enter the UA Series Web UI, Click [MQTT / MySQL(MariaDB)] in the [Function Wizard] at the top right.

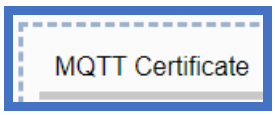


After Clicking [MQTT / MySQL(MariaDB)], follow the Step Box to set up the project.



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

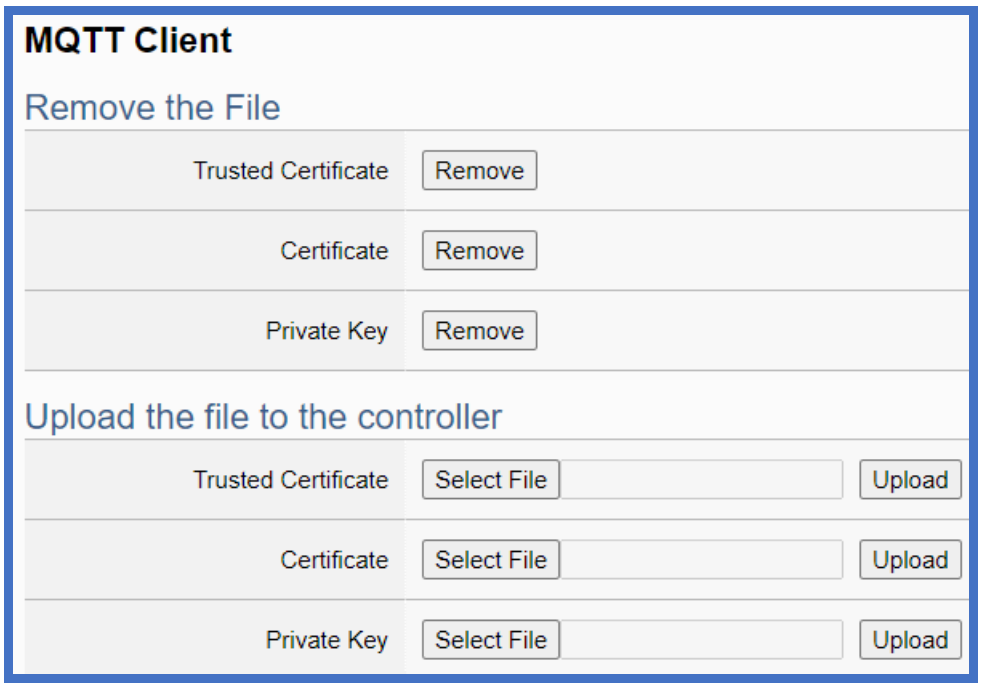
- **(a) Enter [MQTT Certificate]** (Skip this step if no encryption is required)



Confirm the **authentication setting of the remote Broker** is one-way or two-way:

If the remote Broker setting is **one-way authentication**, upload the **trust certificate of the remote Broker** on this setting page.

If the remote Broker setting is **two-way authentication**, upload the **trust certificate of the remote Broker**, the **certificate of the UA series**, and the **private key of the UA series** on this setting page.



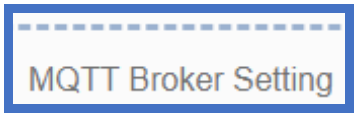
1. Get the trusted certificates from MQTT Client and save in the PC.
2. In the [MQTT Client] > [Upload the file to the controller], click the button [Select File] to select the file of the Trusted Certificate, Certificate or Private Key.
3. Click the button [Upload].

Notes for MQTT Client Certificate:

- The supported **code format**: "**PEM**".
- The supported file extension name for **Certificates**: " ***.pem / *.cer / *.crt** " .
- The supported file extension name for **Private Key**: " ***.key** " .

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

- **(b) Click [MQTT Broker Setting]**

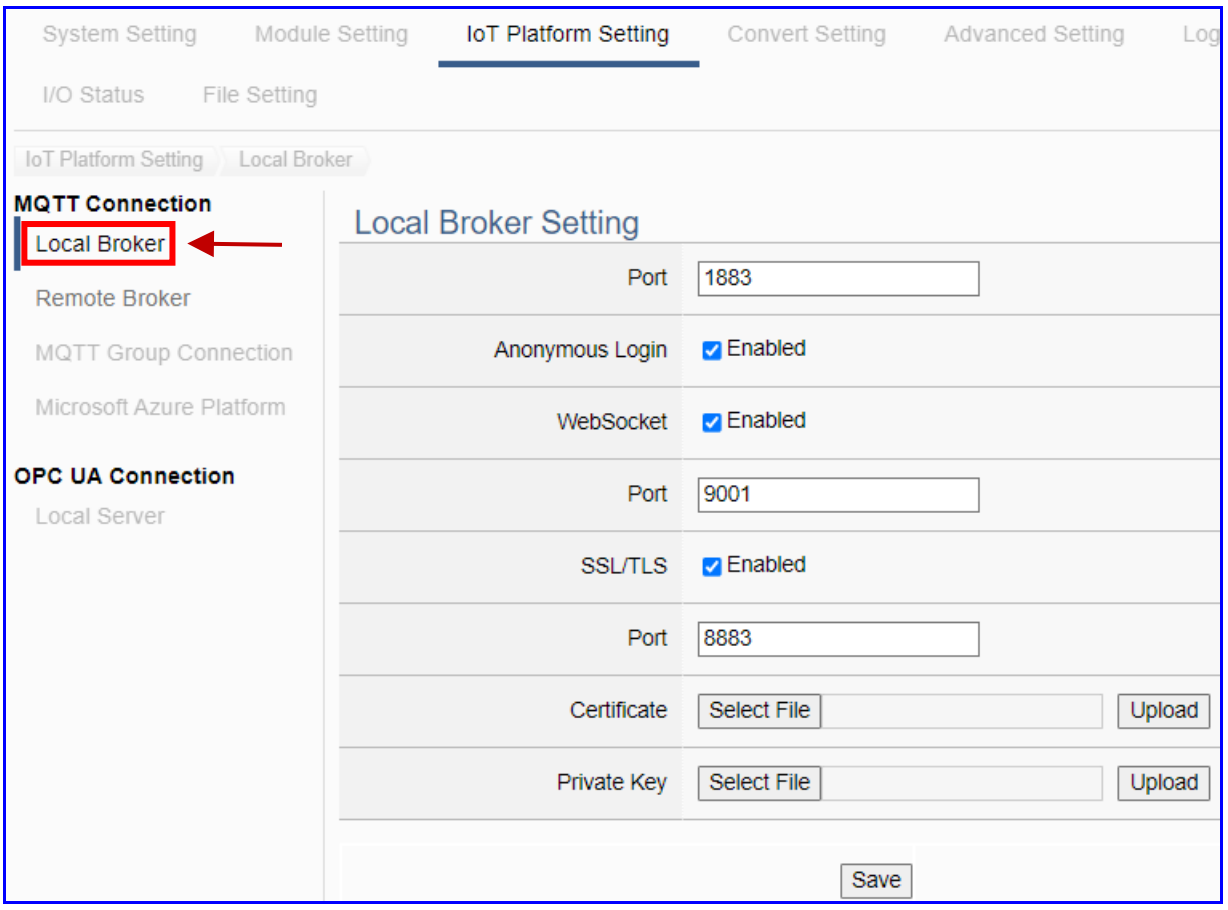


In MQTT Connection, select [Local Broker] or [Remote Broker] of the left menu.

Local Broker

The UA series has a built-in MQTT Broker service. When using MQTT communication, there is no need to build a Broker system.

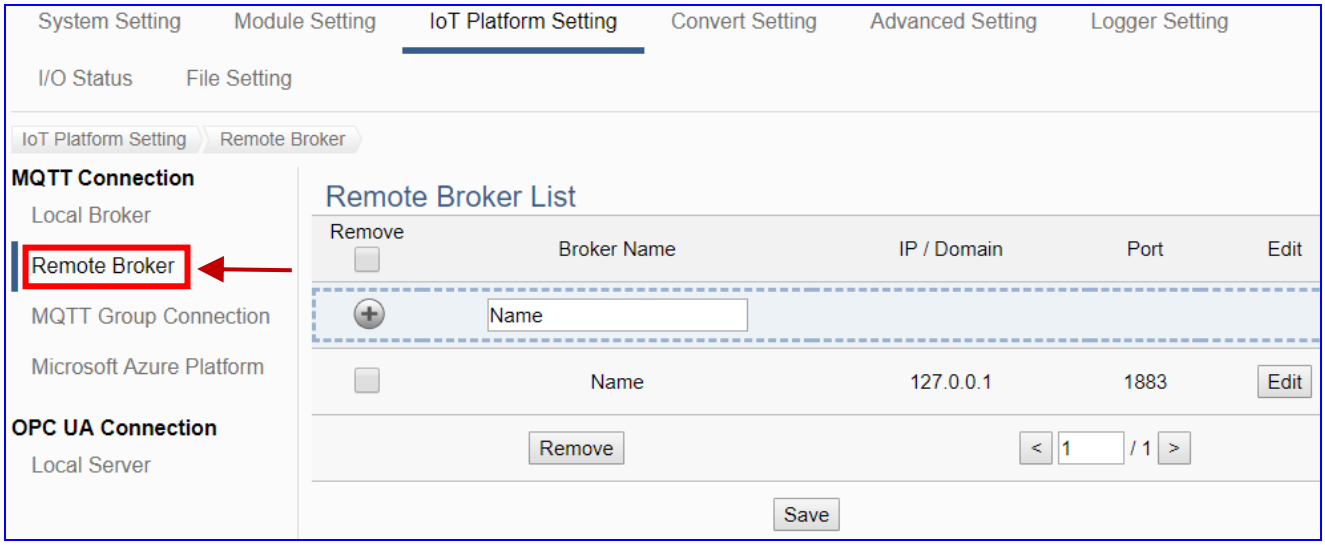
Set up according to the user case situation (if there is no encryption need, please uncheck the SSL/TLS option), and click [Save].



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Remote Broker

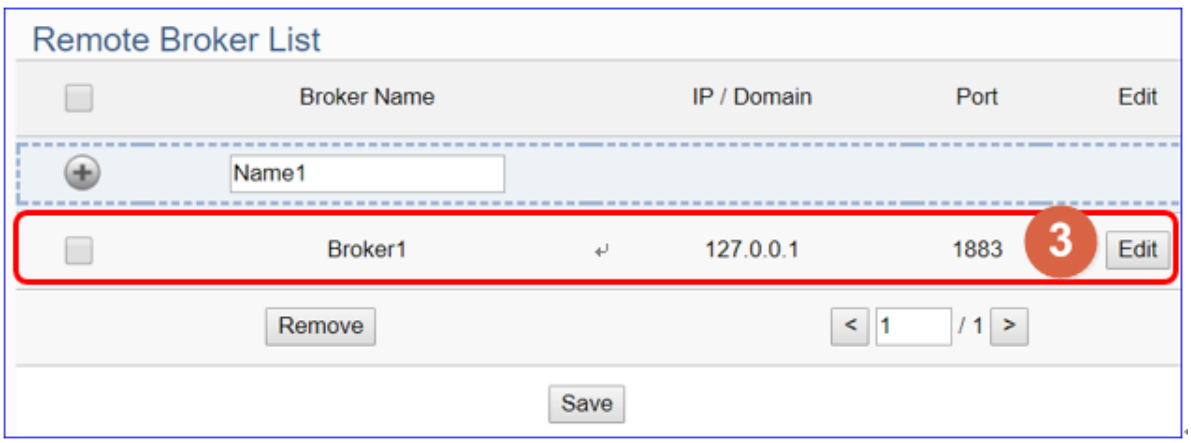
This function can set up the MQTT connection with the remote Broker. User can publish and subscribe messages to the remote Broker through this connection.



Add and set up a connection Broker name in the Remote Broker List.

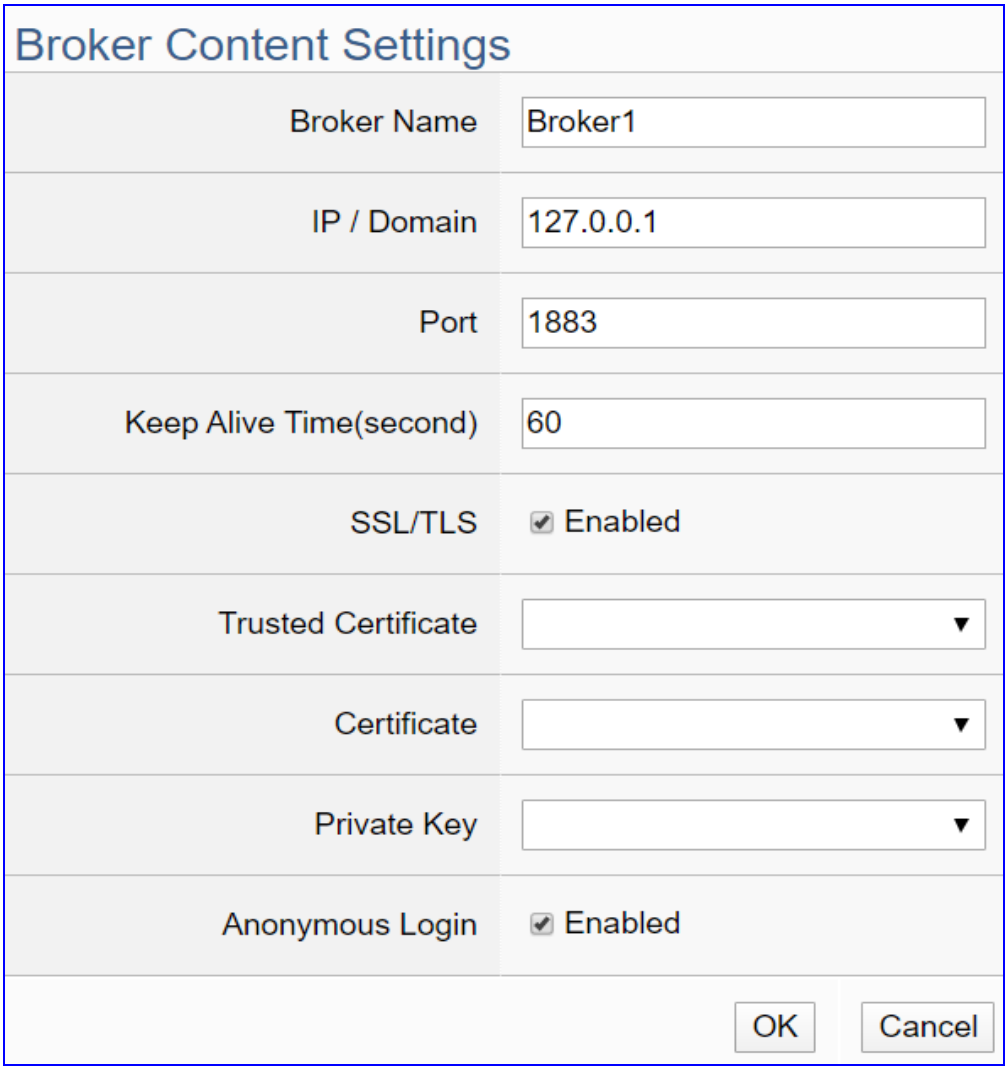


After adding a list of the Remote Broker:



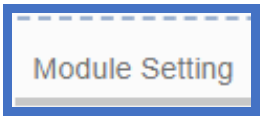
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

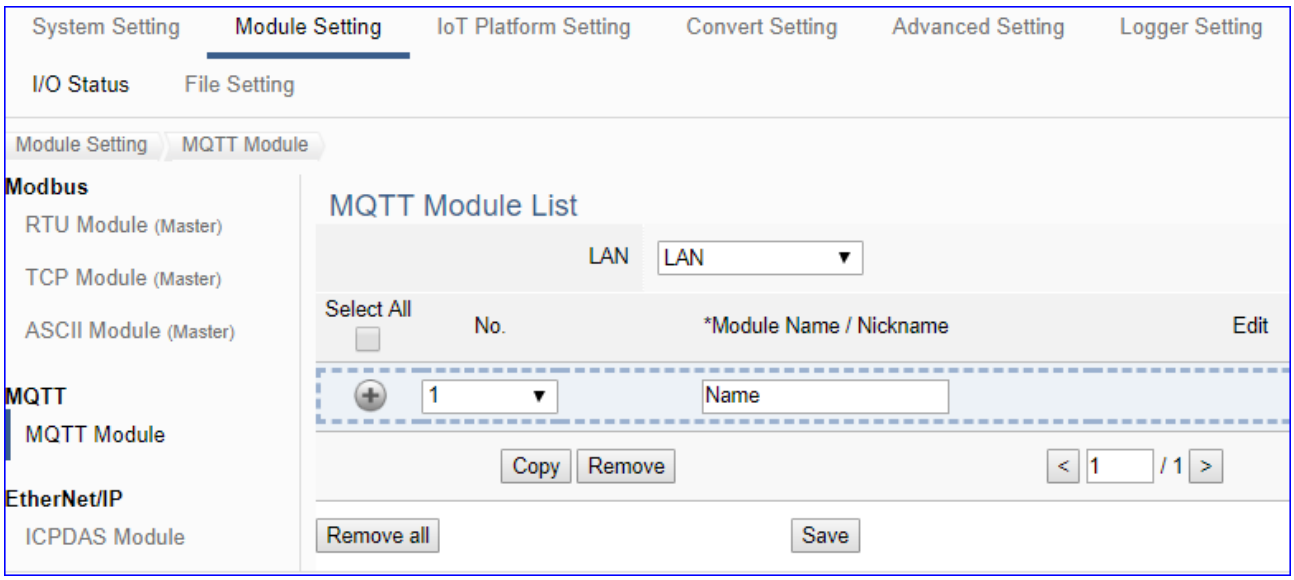
Click [Edit] to set up the group in the Broker Content Setting page. (if there is no encryption need, please uncheck the SSL/TLS option)



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

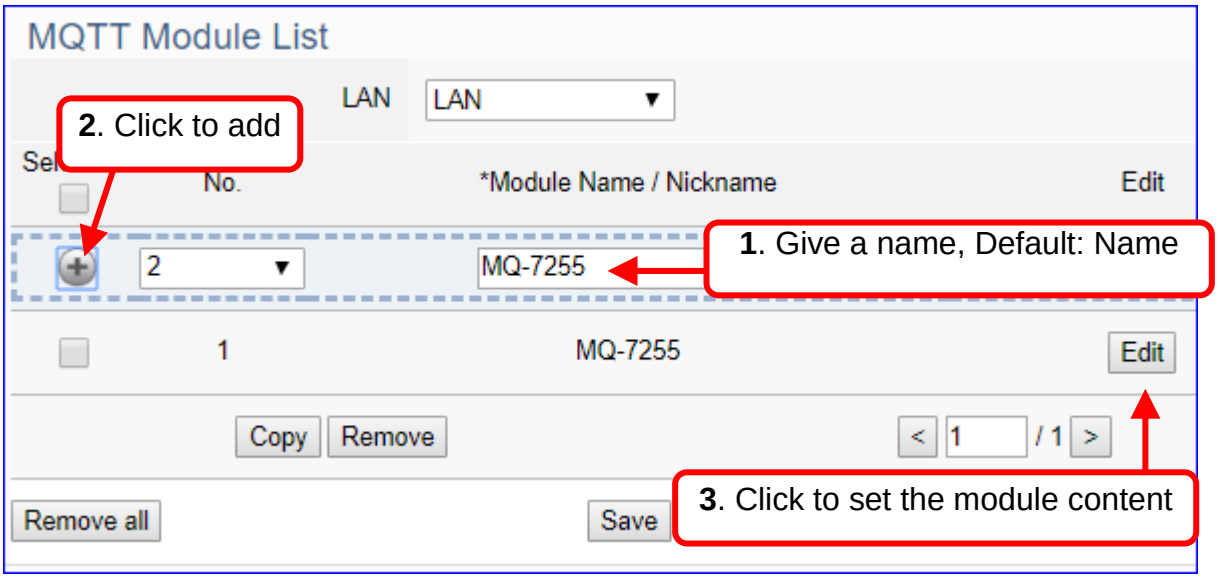
- **(c) Click [Module Setting]**





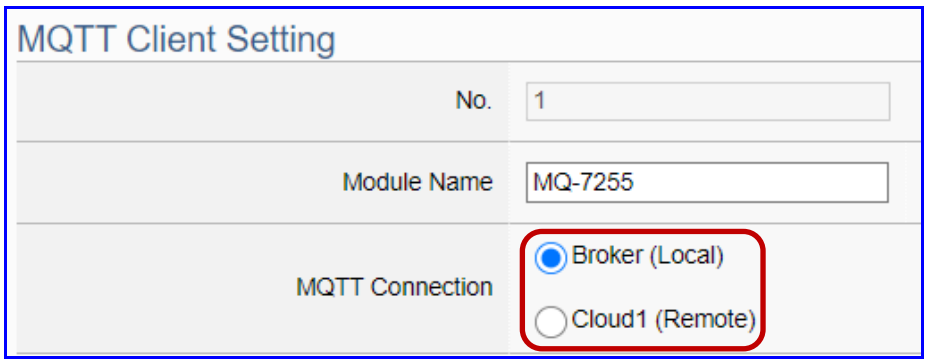
Setting Steps:

1. Give the module name or nickname, e.g. MQ-7255, DL-302. Default: Name
2. Click the button [⊕] to add a new module
3. Click the button [**Edit**] to enter the Module Content Setting page
   Set up the Modbus Mapping Table for the UA controller and module I/O channels

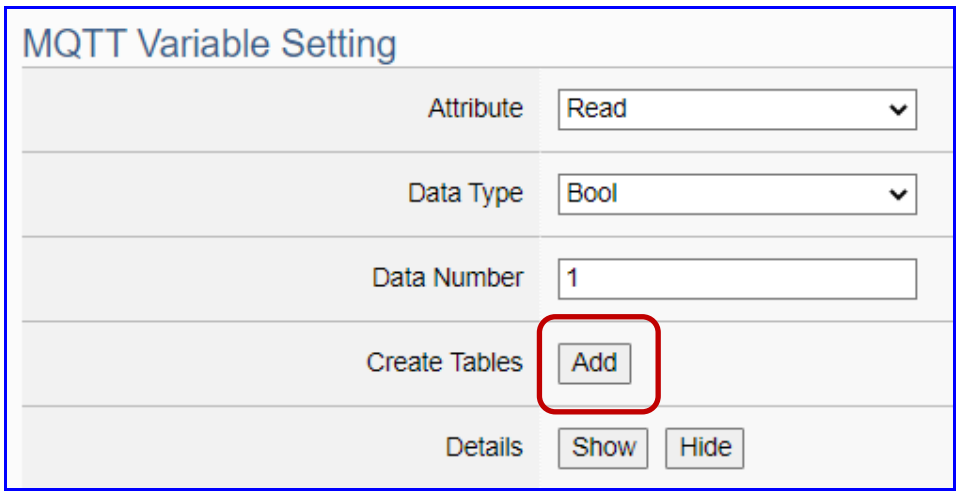


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

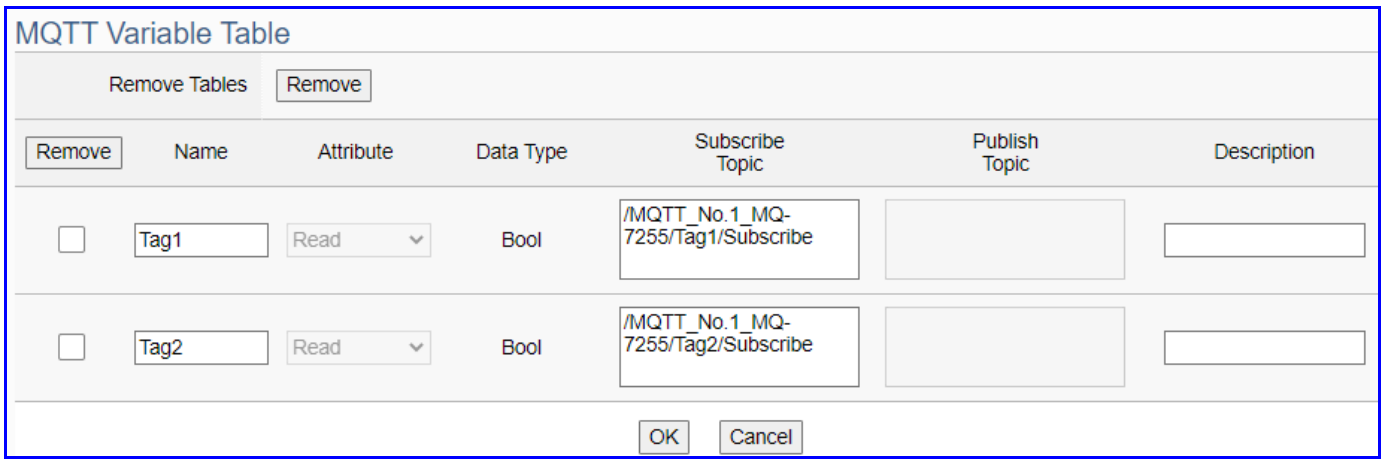
Select the MQTT Connection.



MQTT Variable Setting: Add the variables of the attribute/type/number for your project. EX: 2 variables for this case.

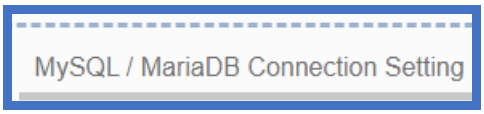


The completed table looks like the following image:

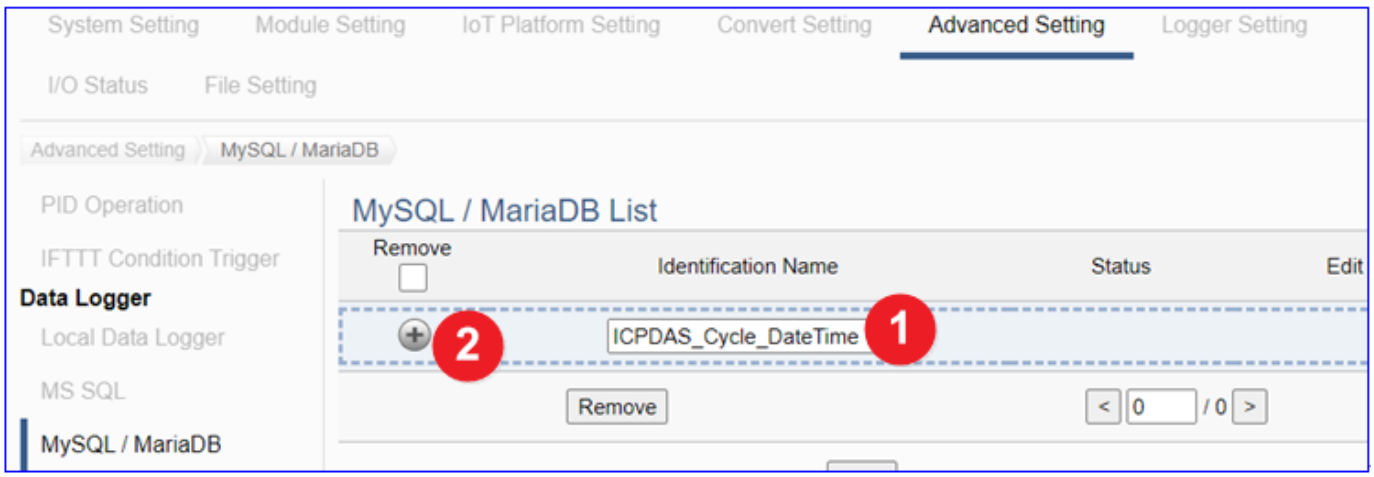


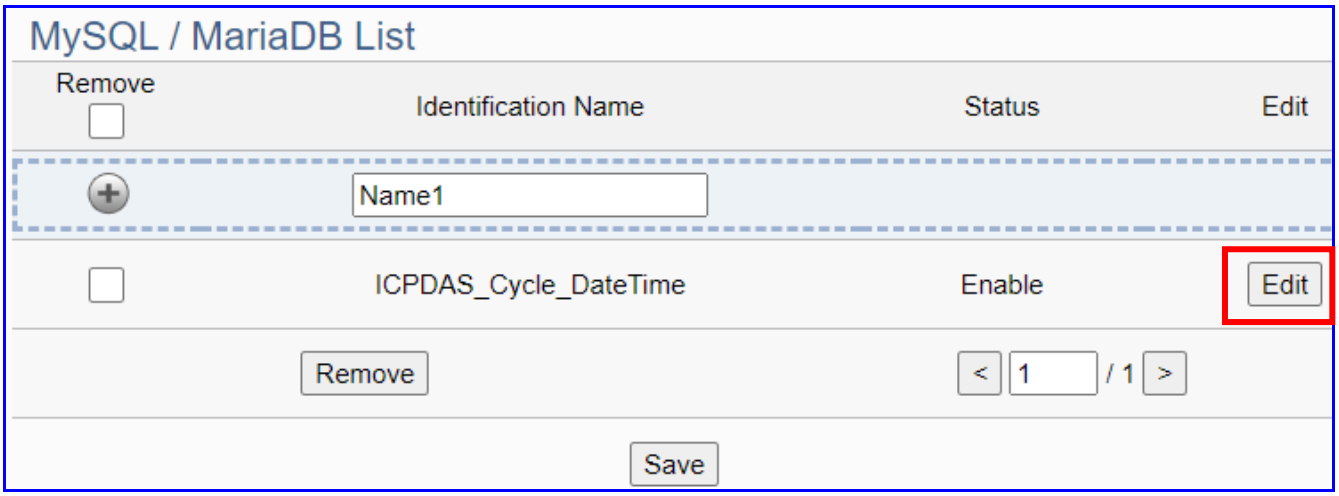
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

- **(d) Click [MySQL / MariaDB Connection Setting]**



Add a database identification name (Ex: **ICPDAS_Cycle_DateTime**) as below, and then click [**Edit**] button to enter the “MySQL / MariaDB Content Setting” page.

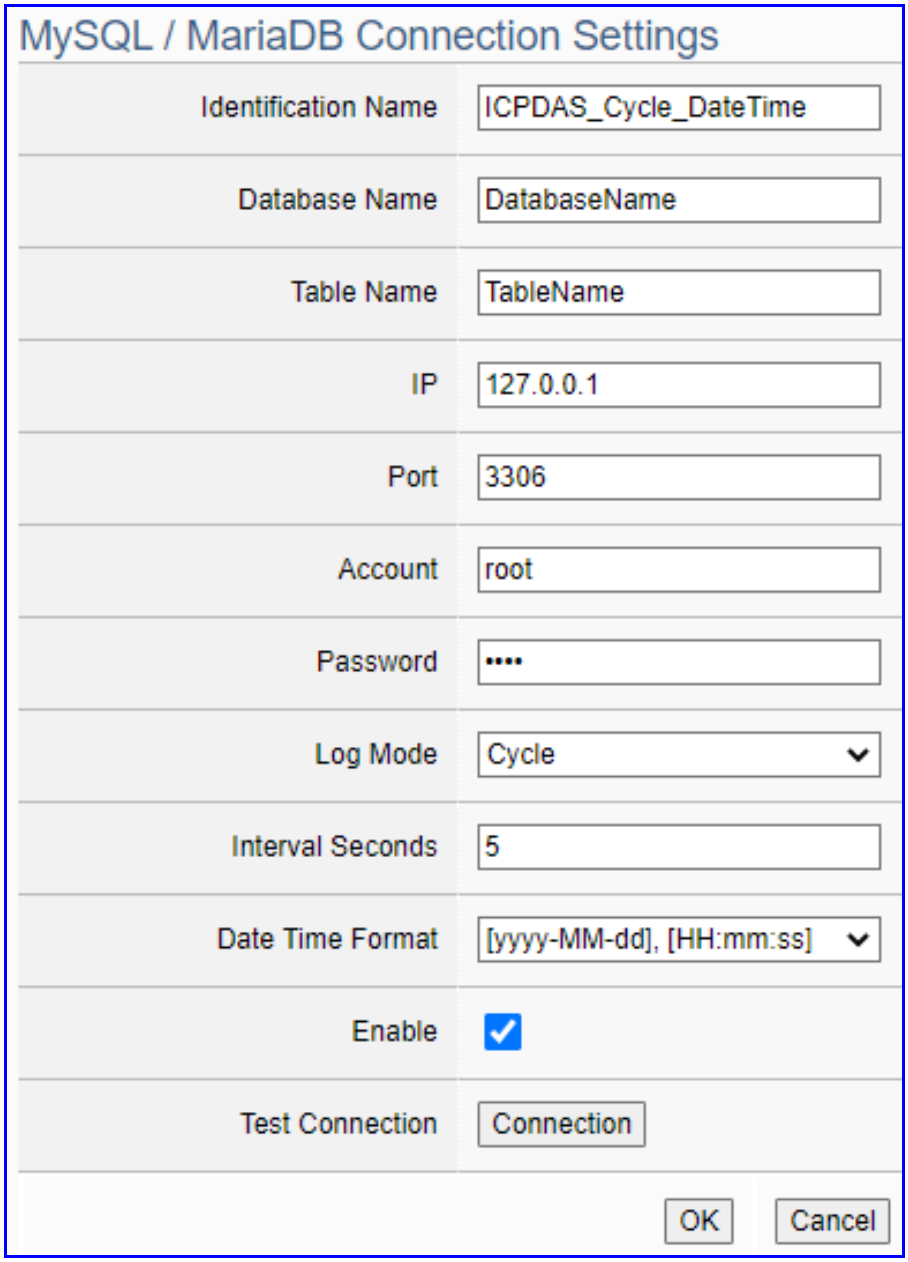




click [**Edit**] button to enter the “MySQL / MariaDB Content Setting” page.

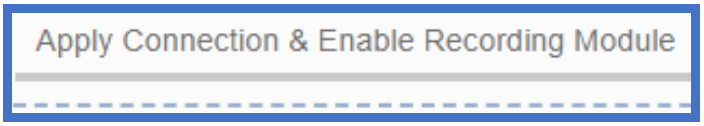
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

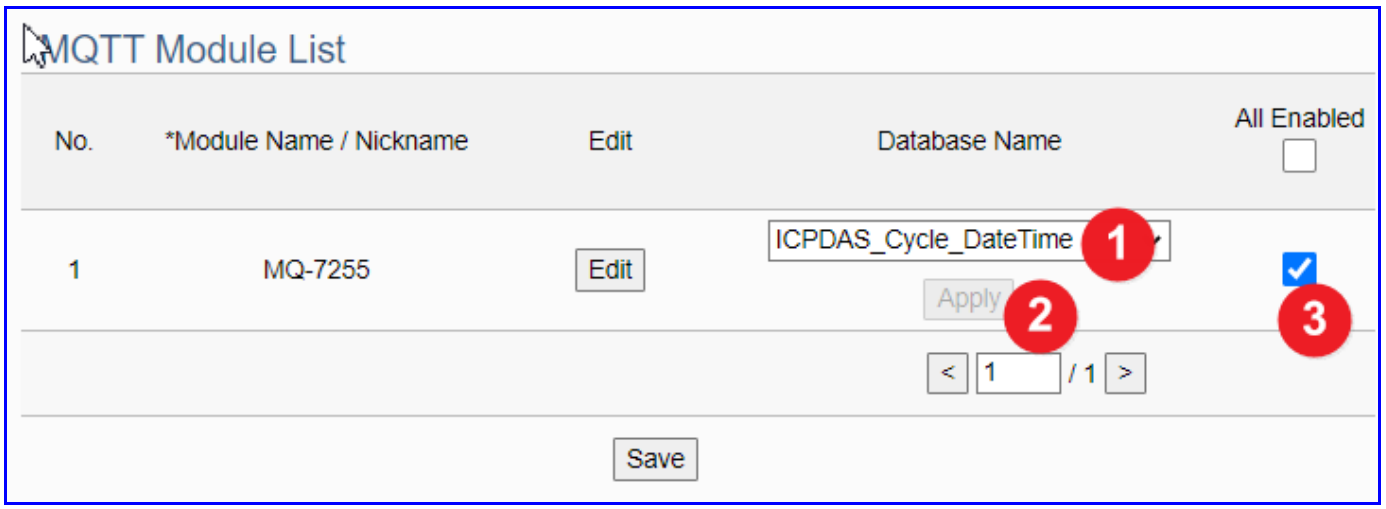
[**MySQL / MariaDB Content Setting**] can set up the database relational setting.



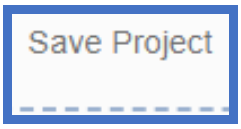
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

- **(e) Click [Apply Connection & Enable Recording Module]**





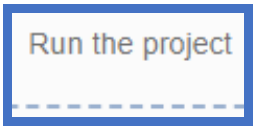
- **(f) Click [Save Project]**



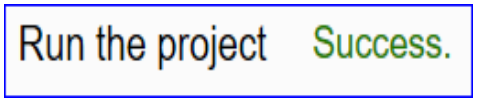
Click **[Save Project],** the Step Box will show an animation as below picture, that means the project is saving. When the animation vanished, the project is saved completely.



- **(g) Click [Run the Project]**



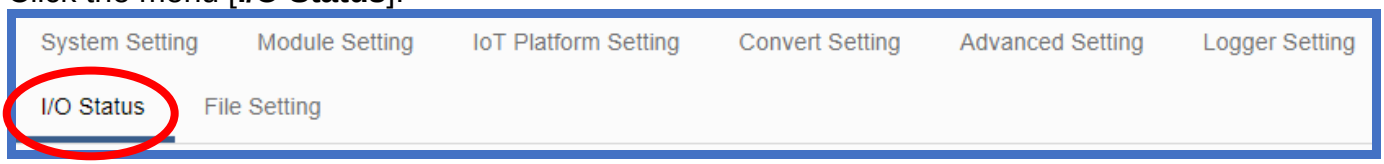
When the words "**Please wait**" disappears, the new words "**Success**" appears, that means the UA controller is running new project successfully.



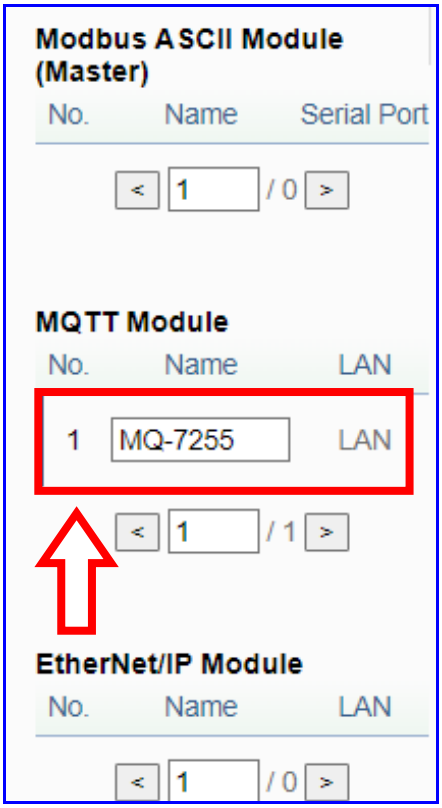
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2. Check the MQTT Real-Time Status

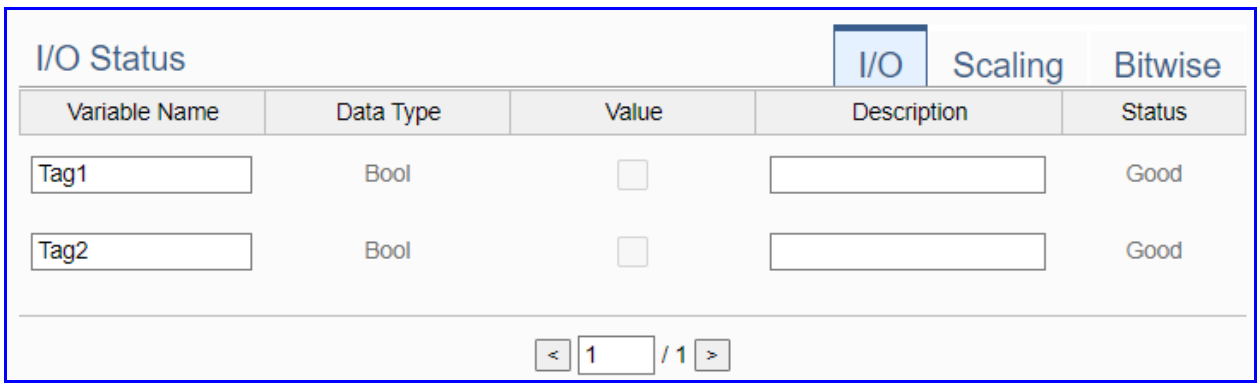
Click the menu [**I/O Status**].



Check the left menu [MQTT Module] and Click the module name you want to check.



The I/O Status will display the [MQTT Module] status. If the Broker connection success, the status will show [Good].



Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000