EZ-UAQ Utility

User Manual

2026/07

(Applicable to SW V3.2.8)

ICP DAS CO., LTD.
Technical Editor: Howard Wu
Editor: Lynn Tang
V3.2.8, 07/2026

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

Warning

ICP DAS is not liable for any damages caused by the use of this product. We reserve the right to change or modify the contents of this document at any time without notice. The information contained in this document is subject to change without notice.

ICP DAS tries to provide correct and reliable information as much as possible but does not guarantee that the use of this information or the other parties will use it in violation of patents or rights. technical or editorial errors contained herein, Any omission shall not be held legally responsible.

Copyright

Copyright @ 2023 by ICP DAS Co., Ltd. All rights are reserved.

Trademark

The names used for identification only may be registered trademarks of their respective companies.

License

Users are authorized to use and back up the Software and related data on a single computer and under limited conditions only, and may not use the Software outside of that single computer at the same time. ICP DAS retains the copyright and other intellectual property rights in the Software and related materials. Reproduction, transmission, and distribution of part or all of the software or related copies are prohibited unless prior written authorization is obtained from our Company.

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

Content

Content 3
List of Figures 5
List of Tables 10
Revision History 11
1. Introduction 13
2. Preparation Before Installation 14
3. Software Installation 15
4. User Interface Overview 17
5. Detailed UI Function Description 17
5.1 Toolbar 18
5.1.1 Language Selection 18
5.1.2 Module Filter 18
5.1.3 About 18
5.2 Function Area 19
5.2.1 Basic 19
Search Module 19
Range Search 19
Product Webpage 22
Export Search Information 23
Import Search Information 24
5.2.2 Advanced 25
Search Timeout 25
Range Search Settings 25
Language Settings 26
Detailed Information 29
Reduce CPU Usage 33
Secondary Development 36
Protocol Security 49
Firmware Log 51
Configuration 52
5.2.3 Upload 53
Firmware Update 53
Update Project 56
Update Modbus Configuration 59
5.2.4 Download 63
Download Log 63
Download Project 65
Download Modbus Configuration 68
5.2.5 Certificate 70
Add CA Certificate 70
Update HTTPS Certificate 71
Update OPC UA Server and OPC UA Client Certificates 74
UA and UA I/O Establish OPC UA Secure Communication 74
Update MQTT Broker and MQTT Client Certificates 81
BRK and UA I/O Establish MQTT Secure Communication 81

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

UA and UA I/O Establish MQTT Secure Communication 88
Query Certificate Validity 96
Export Files 99
Import Files 100
5.3 Display Area 102
6. Warning Messages 105
6.1 Warning Message Form 105
6.2 Warning Message Description..... 106
Appendix A..... 113
Module Function Support: 113
1. UA Series..... 113
2. UA I/O Series..... 113
3. BRK Series 114
Appendix B..... 115
Set EZ-UAQ Utility password: 115
The EZ-UAQ Utility password prevents unauthorized access and configuration changes. Keep it secure to ensure the security of the system and modules. 115
1. UA communication server series..... 115
2. UA I/O module series 115
3. BRK communication server series 116
Appendix C..... 117
Certificate Date Input Restrictions:..... 117
Appendix D..... 118
Resolving UA and UA I/O Web Connection Security Issues 118

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

List of Figures

Figure 2-1 Operation Chart 14
Figure 3-1 EZ-UAQ Utility Install Steps(1) 15
Figure 3-2 EZ-UAQ Utility Install Steps(2) 15
Figure 3-3 EZ-UAQ Utility Install Steps(3) 16
Figure 3-4 EZ-UAQ Utility Install Steps(4) 16
Figure 4-1 EZ-UAQ Utility User Interface Overview 17
Figure 5-1 Toolbar 18
Figure 5-2 Language Selection 18
Figure 5-3 Module Filter 18
Figure 5-4 Module Info. Display 18
Figure 5-5 About Page 19
Figure 5-6 Function Area 19
Figure 5-7 Basic Functions 19
Figure 5-8 Search Module 19
Figure 5-9 Range Search(1) 20
Figure 5-10 Range Search(2) 20
Figure 5-11 Range Search(3) 20
Figure 5-12 Range Search(4) 20
Figure 5-13 Capture of IP Address Conflicts 21
Figure 5-14 Capture of MAC Address Conflicts 21
Figure 5-15 Capture of IP and MAC Address Conflicts 21
Figure 5-16 Product Webpage (No Module Selected) 22
Figure 5-17 Product Webpage (Module Selected) 22
Figure 5-18 Capture of Export Search Information 23
Figure 5-19 Capture of Import Search Information 24
Figure 5-20 Compared information of Modules 24
Figure 5-21 Search Timeout Configure 25
Figure 5-22 Range Search Settings(1) 25
Figure 5-23 Range Search Settings(2) 25
Figure 5-24 Range Search Settings(3) 26
Figure 5-25 Range Search Settings(4) 26
Figure 5-26 Language Settings - Add (1) 26
Figure 5-27 Language Settings - Add (2) 27
Figure 5-28 Language Settings - Add (3) 27
Figure 5-29 Language Settings - Add (4) 27
Figure 5-30 Language Settings - Add (5) 28
Figure 5-31 Language Settings - Reset(1) 28
Figure 5-32 Language Settings - Reset(2) 28
Figure 5-33 Module Detailed Information (1) 29
Figure 5-34 Module Detailed Information (2) 29
Figure 5-35 Module Detailed Information (3) 29

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

Figure 5-36 Reduce CPU Usage (1).....33
Figure 5-37 Reduce CPU Usage (2).....33
Figure 5-38 Reduce CPU Usage (3).....34
Figure 5-39 Reduce CPU Usage (4).....34
Figure 5-40 Reduce CPU Usage (5).....34
Figure 5-41 Secondary Development Page 36
Figure 5-42 Secondary Development - Tag Selection Description.....36
Figure 5-43 Secondary Development - Read UA Modbus Tags and Send Notifications to LINE (1).....37
Figure 5-44 Secondary Development - Read UA Modbus Tags and Send Notifications to LINE (2).....37
Figure 5-45 Secondary Development - Read UA Modbus Tags and Send Notifications to LINE (3).....38
Figure 5-46 Secondary Development - Read UA Modbus Tags and Send Notifications to LINE (4).....38
Figure 5-47 Secondary Development - Read UA Modbus Tags and Send Notifications to LINE (5).....38
Figure 5-48 Secondary Development - Read UA Modbus Tags and Send Notifications to Telegram (1) .39
Figure 5-49 Secondary Development - Read UA Modbus Tags and Send Notifications to Telegram (2) .39
Figure 5-50 Secondary Development - Read UA Modbus Tags and Send Notifications to Telegram (3) .40
Figure 5-51 Secondary Development - Read UA Modbus Tags and Send Notifications to Telegram (4) .40
Figure 5-52 Secondary Development - Read UA Modbus Tags and Send Notifications to Telegram (5) .40
Figure 5-53 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (1) ..41
Figure 5-54 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (2) ..42
Figure 5-55 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (3) ..43
Figure 5-56 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (4) ..44
Figure 5-57 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (5) ..44
Figure 5-58 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (6) ..45
Figure 5-59 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (7) ..45
Figure 5-60 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (8) ..45
Figure 5-61 Secondary Development-Generate BRK Reports Using Built-in Code (1).....46
Figure 5-62 Secondary Development-Generate BRK Reports Using Built-in Code (2).....46
Figure 5-63 Secondary Development-Generate BRK Reports Using Built-in Code (3).....47
Figure 5-64 Secondary Development-Generate BRK Reports Using Built-in Code (4).....47
Figure 5-65 Secondary Development-Generate BRK Reports Using Built-in Code (5).....48
Figure 5-66 Secondary Development-Generate BRK Reports Using Built-in Code (6).....48
Figure 5-67 Protocol Security (1) 49
Figure 5-68 Protocol Security (2) 49
Figure 5-69 Protocol Security (3) 49
Figure 5-70 Protocol Security (4) 50
Figure 5-71 Protocol Security (5) 50
Figure 5-72 Firmware Log (1) 51
Figure 5-73 Firmware Log (2) 51
Figure 5-74 Configuration (1).....52
Figure 5-75 Configuration (2).....52
Figure 5-76 Firmware Update (1).....53
Figure 5-77 Firmware Update (2).....53

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

Figure 5-78 Firmware Update (3).....54
Figure 5-79 Firmware Update (4).....55
Figure 5-80 Firmware Update (5).....55
Figure 5-81 Firmware Update (6).....55
Figure 5-82 Update Project (1).....56
Figure 5-83 Update Project (2).....56
Figure 5-84 Update Project (3).....57
Figure 5-85 Update Project (4).....57
Figure 5-86 Update Project (5).....58
Figure 5-87 Update Project (6).....58
Figure 5-88 Update Modbus Configuration (1) 61
Figure 5-89 Update Modbus Configuration (2) 61
Figure 5-90 Update Modbus Configuration (3) 61
Figure 5-91 Update Modbus Configuration (4) 62
Figure 5-92 Update Modbus Configuration (5) 62
Figure 5-93 Update Modbus Configuration (6) 62
Figure 5-94 Download Log (1).....63
Figure 5-95 Download Log (2).....63
Figure 5-96 Download Log (3).....64
Figure 5-97 Download Log (4).....64
Figure 5-98 Download Project (1).....65
Figure 5-99 Download Project (2).....65
Figure 5-100 Download Project (3).....66
Figure 5-101 Download Project (4).....66
Figure 5-102 Download Project (5).....66
Figure 5-103 Download Project (6).....67
Figure 5-104 Download Modbus Configuration (1) 68
Figure 5-105 Download Modbus Configuration (2) 68
Figure 5-106 Download Modbus Configuration (3) 69
Figure 5-107 Download Modbus Configuration (4) 69
Figure 5-108 Add CA Certificate (1) 70
Figure 5-109 Add CA Certificate (2) 71
Figure 5-110 Add CA Certificate (3) 71
Figure 5-111 Update HTTPS Certificate (1).....71
Figure 5-112 Update HTTPS Certificate (2).....72
Figure 5-113 Update HTTPS Certificate (3).....72
Figure 5-114 Update HTTPS Certificate (4).....72
Figure 5-115 Update HTTPS Certificate (5).....73
Figure 5-116 Update HTTPS Certificate (6).....73
Figure 5-117 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (1) ..74
Figure 5-118 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (2) ..74
Figure 5-119 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (3) ..75

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

Figure 5-120 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (4) ..75
Figure 5-121 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (5) ..75
Figure 5-122 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (6) ..76
Figure 5-123 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (1) ...76
Figure 5-124 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (2) ...76
Figure 5-125 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (3) ...77
Figure 5-126 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (4) ...77
Figure 5-127 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (5) ...77
Figure 5-128 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (6) ...78
Figure 5-129 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (1) 81
Figure 5-130 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (2) 81
Figure 5-131 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (3) 82
Figure 5-132 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (4) 82
Figure 5-133 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (5) 83
Figure 5-134 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (6) 83
Figure 5-135 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (1).....83
Figure 5-136 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (2).....84
Figure 5-137 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (3).....84
Figure 5-138 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (4).....85
Figure 5-139 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (5).....85
Figure 5-140 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (6).....85
Figure 5-141 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (1).....88
Figure 5-142 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (2).....88
Figure 5-143 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (3).....89
Figure 5-144 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (4).....89
Figure 5-145 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (5).....90
Figure 5-146 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (6).....90
Figure 5-147 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (1) 90
Figure 5-148 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (2) 91
Figure 5-149 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (3) 91
Figure 5-150 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (4) 92
Figure 5-151 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (5) 92
Figure 5-152 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (6) 92
Figure 5-153 Query Certificate Validity (1).....96
Figure 5-154 Query Certificate Validity (2).....96
Figure 5-155 Query Certificate Validity (3).....96
Figure 5-156 Query Certificate Validity (4).....97
Figure 5-157 Renew Expired Certificates (1) 98
Figure 5-158 Renew Expired Certificates (2) 98
Figure 5-159 Renew Expired Certificates (3) 98
Figure 5-160 Export Files(1) 99
Figure 5-161 Export Files(2) 99

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

Figure 5-162 Export Files(3) 99
Figure 5-163 Export Files(4) 99
Figure 5-164 Export Files(5) 100
Figure 5-165 Import Files (1).....100
Figure 5-166 Import Files (2).....101
Figure 5-167 Import Files (3).....101
Figure 5-168 Display Area Information 102
Figure 5-169 Hide Columns.....102
Figure 5-170Unhide Hidden Columns.....102
Figure 5-171 Open Module Webpage.....103
Figure 5-172 Copy.....103
Figure 5-173 Operation Log 104
Figure 6-1 Warning Message: This version does not support this feature 106
Figure 6-2 Warning Message: Server not responding and Unable to receive messages from the server 106
Figure 6-3 Warning Message: Please select an updated file 106
Figure 6-4 Warning Message: Tick the module(s) that need to be updated.....107
Figure 6-5 Warning Message: Please confirm whether the selected module(s) are the same.....107
Figure 6-6 Warning Message: The updated file name is different from the selected module(s) series 107
Figure 6-7 Warning Message: Update Fail.....107
Figure 6-8 Warning Message: Please check the same series of module(s).....108
Figure 6-9 Warning Message: The remote module(s) does not have any LOG files 108
Figure 6-10 Warning Message: Download fail 108
Figure 6-11 Warning Message: Please check to download the file module(s) 108
Figure 6-12 Warning Message: Password error no response 109
Figure 6-13 Warning Message: EZ-UAQ Utility Already Running 109
Figure 6-14 Warning Message: Unable to download or Unable to upload 109
Figure 6-15 Warning Message: The Excel file is in use and connot be read by the system.....110
Figure 6-16 Warning Message: RTU and ASCII serial port names are the same, please change 110
Figure 6-17 Warning Message: Serial port format error in Excel settings 110
Figure 6-18 Warning Message: Excel ## FunctionCode And DataType Wrong content 111
Figure 6-19 Warning Message: Excel ## Address Wrong content 111
Figure 6-20 Warning Message: The Excel module has been defined, but no variables has been set....111
Figure 6-21 Warning Message: Please upload two different types of Modbus conversion Excel files （ModbusToMQTT / ModbusToOPCUA） 112

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

List of Tables

Table 5-1 Reduce CPU Usage (Disabled Functions and Recovery Methods).....33
Table 5-2 Module Protocol Security Description 50
Table 5-3 Firmware Log Record Description.....51
Table 5-4 Configuration Record Description 52
Table 6-1 Warning Message Form 105

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

Revision History

Version	Description
3.2.8	Date:2026/06 Software Date: 2026/05 1. Basic: ✧ Add Range Search 2. Advanced: ✧ Add Range Search Settings ✧ Add BRK Secondary Development : ・ Generate BRK Reports ✧ Add UA Secondary Development Function: ・ Monitor SCADA Communication and Control Modbus I/O ✧ Add Firmware Log ✧ Add Configuration 3. Upload: ✧ Modbus Configuration：Add support for simultaneously uploading Modbus to OPC UA and Modbus to MQTT configuration files. 4. Display Area: Add Operation Log 5. Warning Messages: ✧ Update the warning message table and add descriptions for warning messages. 6. Update Appendix A
3.1.3	Date:2025/08 Software Date: 2025/08/04 1. Advanced: ✧ Add Agreement Security ✧ Add Language Settings ✧ Add UA Secondary Development ・ Read UA Modbus tags and send notifications to LINE ・ Read UA Modbus tags and send notifications to Telegram 2. Upload: ✧ Update Modbus Configuration: Update Modbus to OPC UA and Modbus to MQTT template files (add UA-7231M) ✧ Update Modbus Configuration Function 3. Add Certificate ✧ Query Certificate Validity ✧ Add CA ✧ Update HTTPS ✧ Update OPC UA Server/Client: Add 1 flowchart ✧ Update MQTT Broker/Client: Add 2 flowcharts ✧ File Export ✧ Document Import 4. Appendix : ✧ Modified Appendix C (Certificate date input restrictions, maximum value changed to 2 years) Added Appendix D (Resolved UA, UA I/O, and BRK web connection security display issues)

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

Version	Description
2.3.1	Date:2024/08 1. Basic Functions ✧ Search Module ✧ Export Search Information ✧ Import Search Information ✧ Product Webpage 2. Advanced Functions ✧ Module Detailed Information ✧ Reduce CPU Usage 3. Upload Functions ✧ Update Firmware ✧ Update Project 4. Download Functions ✧ Download Project ✧ Download Log ✧ Download Modbus and OPC UA Configuration 5. Display Area 6. Warning Messages 7. Appendices ✧ Appendix A (Factory Version) ✧ Appendix B (How to Add Other Languages) ✧ Appendix C (UA/UA I/O Series Setting EZ-UAQ Utility Password)

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

1. Introduction

This document describes how to use the EZ-UAQ Utility software developed by ICP DAS. The utility is mainly designed for use with the UA Communication Server series, BRK Communication Server series, and UA I/O module series.

EZ-UAQ Utility is installed on a PC and communicates with UA, BRK, and UA I/O modules through an Ethernet network. The software can automatically retrieve and display module information such as IP address, MAC address, firmware version, and module status in real time.

The utility also supports exporting module information to Excel files for easier device management and maintenance.

In addition, EZ-UAQ Utility provides multiple maintenance and management functions, including:

- Firmware update
- Project upload/download
- Log file download
- Certificate management
- Secondary development support
- System integration and expansion functions

These functions help users improve maintenance efficiency and simplify system integration.
(For supported firmware versions of each series, please refer to Appendix A).

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

2. Preparation Before Installation

- **System Requirements**

  EZ-UAQ Utility supports multiple Windows operating systems and provides good compatibility for industrial automation applications.

  - ✧ **Supported Operating Systems:** Windows 7 / 10 / 11
  - ✧ **Supported System Architecture:** 32-bit (x86) / 64-bit (x64)

- **Port Forwarding / Firewall**

  To ensure proper communication between the utility and the modules, please make sure the following ports are allowed through the PC firewall or network firewall: 1082、10820、1849、22

- **Hardware Connection and Initialization**

  Before using EZ-UAQ Utility, please complete the following setup steps:

  - ✧ **Power Connection:** Make sure the UA, UA I/O, or BRK modules are properly powered on.
  - ✧ **Network Connection:** Connect the module and the PC to the same local area network (LAN) using Ethernet cables.
  - ✧ **Runtime Environment:** Install Microsoft .NET Framework 4.7 before running EZ-UAQ Utility. https://dotnet.microsoft.com/en-us/download/dotnet-framework/net47

After completing the above settings, EZ-UAQ Utility can be used to access module information and perform upload, download, and certificate management operations. (For detailed module settings, please refer to the corresponding product user manual.)

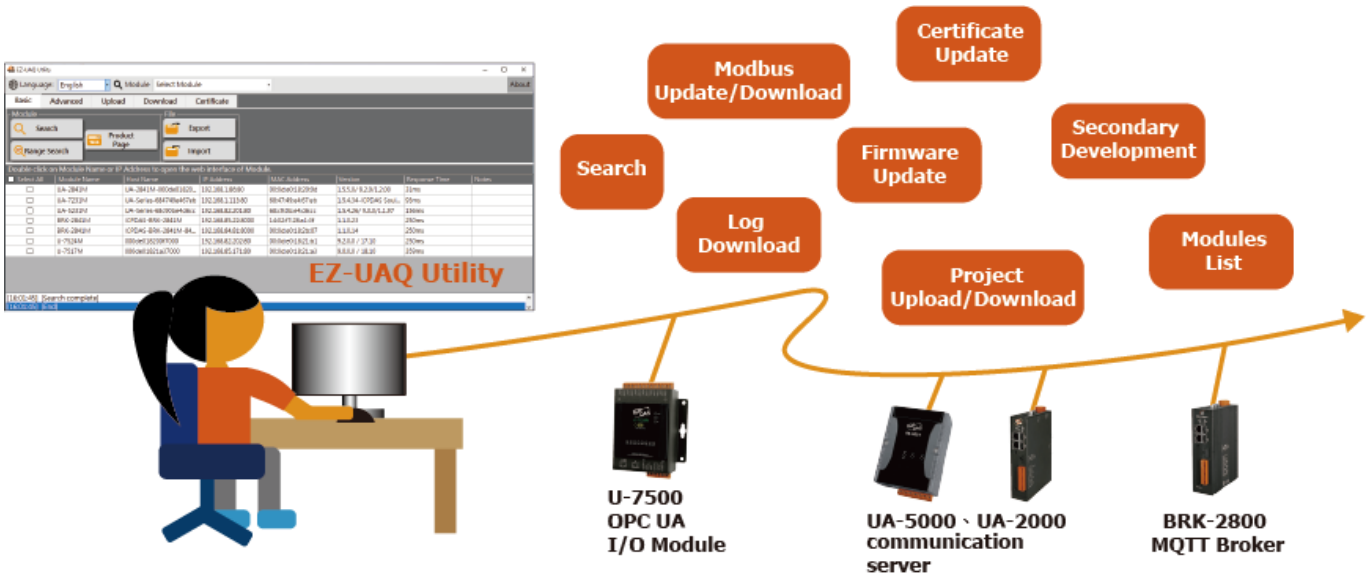


Figure 2-1 Operation Chart

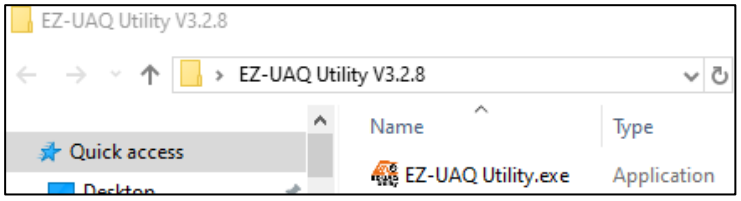
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3. Software Installation

Please download the EZ-UAQ Utility installation package from the official ICP DAS website:
https://www.icpdas.com/en/download/show.php?num=8560&nation=TW&kind1=&model=&kw=EZ-UAQ

> The installation package can also be downloaded from the UA Communication Server, UA I/O, and BRK product webpages.

After downloading the package, unzip the file and follow the installation procedure below.



1. **Launch the Installer**
   Double-click the installation file and click [Next] to continue.

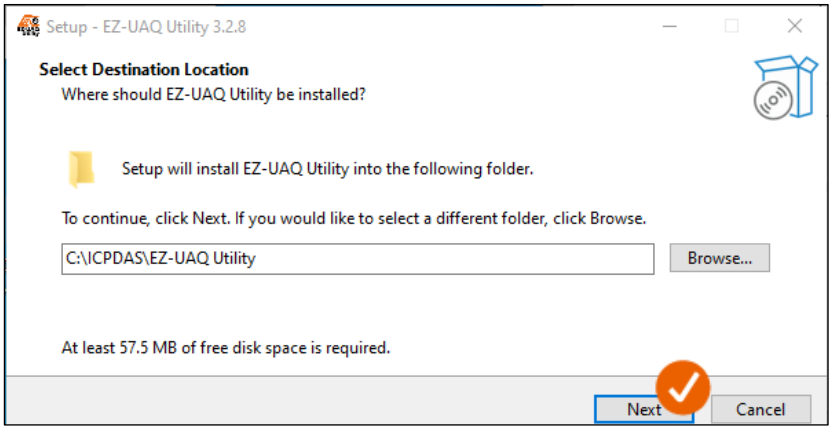
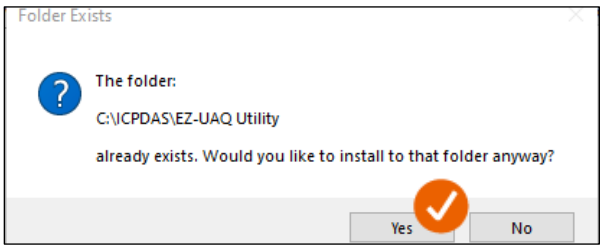


Figure 3-1 EZ-UAQ Utility Install Steps(1)

If the system displays a folder overwrite message, it means the folder already exists. Click [Yes] to continue the installation.



2. **Select Installation Path**
   In the [Setup - EZ-UAQ Utility 3.2.7] window, click [Next] to continue.

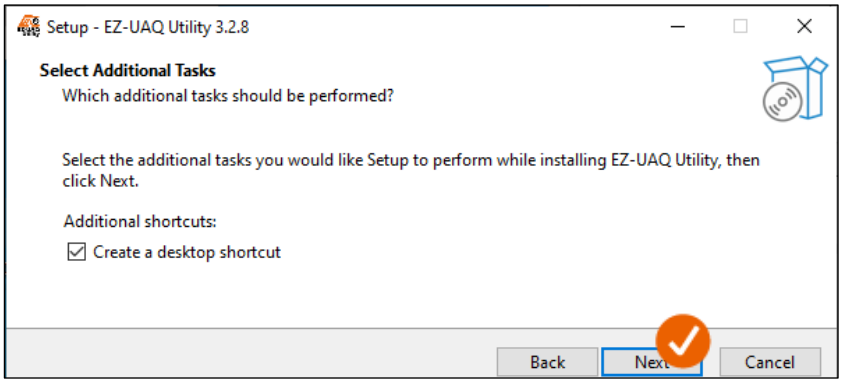


Figure 3-2 EZ-UAQ Utility Install Steps(2)

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

3. Confirm and Install

Verify the installation information and click [Install] to start the installation.

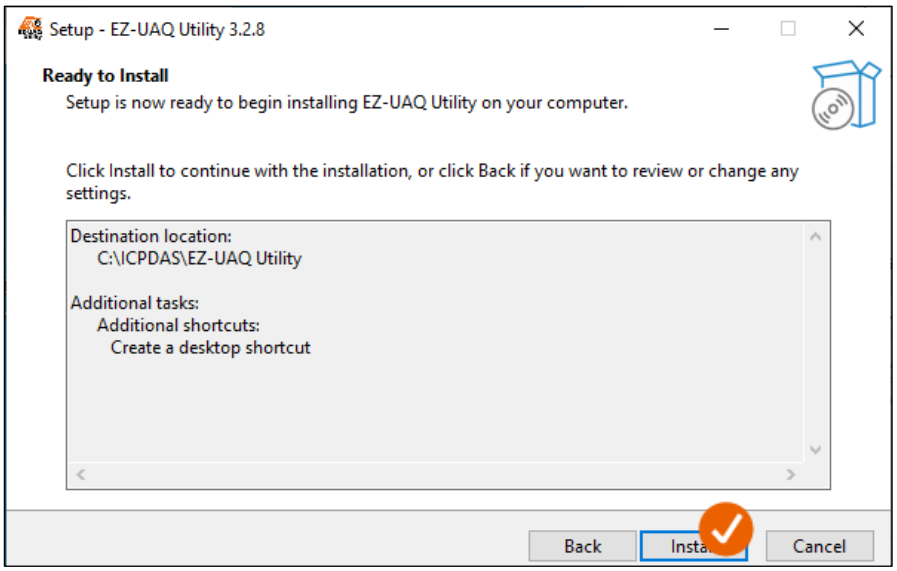


Figure 3-3 EZ-UAQ Utility Install Steps(3)

4. Finish Installation

After installation is completed, click [Finish] to exit the installer.

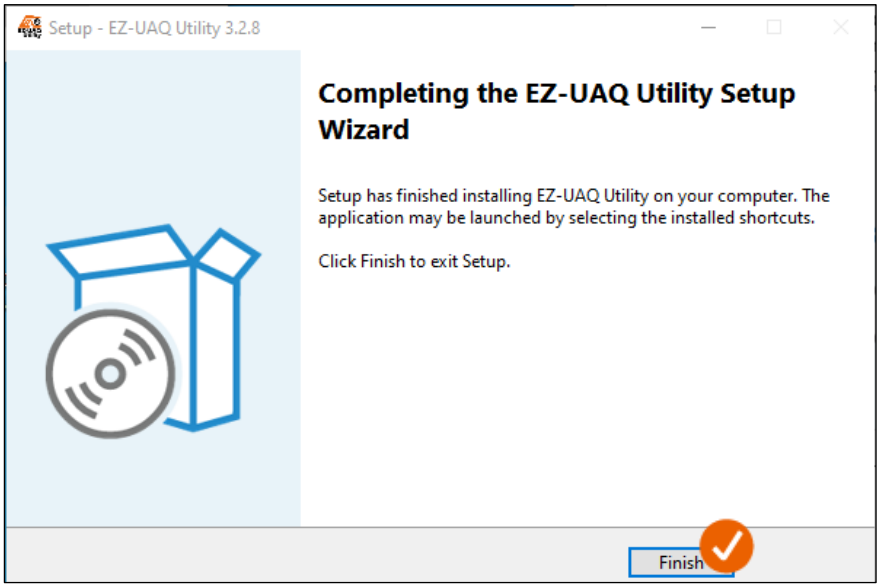


Figure 3-4 EZ-UAQ Utility Install Steps(4)

A desktop shortcut for EZ-UAQ Utility will be automatically created after successful installation.



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

4. User Interface Overview

The EZ-UAQ Utility interface is divided into three main sections:

Toolbar: providing Language switching, Module filtering, and About information

Function Area: includes five major categories of EZ-UAQ Utility

Basic: Module Search, IP Range Search, Open Product Webpage, and Export Module Information.
Advanced: Module Detailed Information, Protocol Security, Firmware Log & Configuration Backup, and support Secondary Development.
Upload: Used to update Firmware, Project files, and Modbus Configuration(s) of one or multiple modules.
Download: Used to download Logs, Project files, and Modbus Configuration(s) of one or multiple modules.
Certificate: Provides high efficiency certificate management functions to generate certificates and update to modules.

Display Area: The Display Area shows module information and operation status. (Please refer to 5.3 顯示區)

- Displayed information includes: Module Name, Host Name, IP Address, MAC Address, and firmware version
- Click module fields to open the module webpage
- Hide unused columns
- Copy Host Name or IP information to third-party software
- Monitor communication progress during search, upload, download, or certificate operations

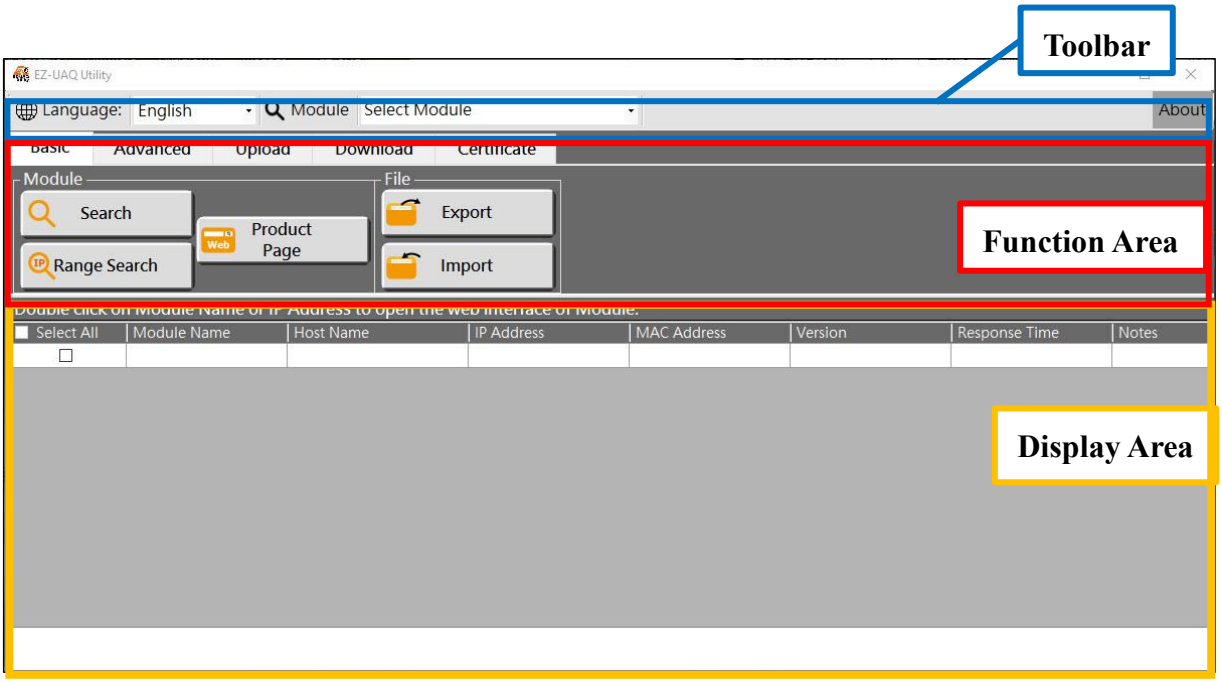


Figure 4-1 EZ-UAQ Utility User Interface Overview

5. Detailed UI Function Description

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

5.1 Toolbar



Figure 5-1 Toolbar

5.1.1 Language Selection

To switch the interface language, select the desired language from the language drop-down menu on the toolbar. Currently supported languages: Traditional Chinese, Simplified Chinese, English. For adding additional languages, please refer to Section 5.2.2 Language Settings.



Figure 5-2 Language Selection

5.1.2 Module Filter

To filter specific modules: Click [Search] →Select the module model from the toolbar drop-down menu.

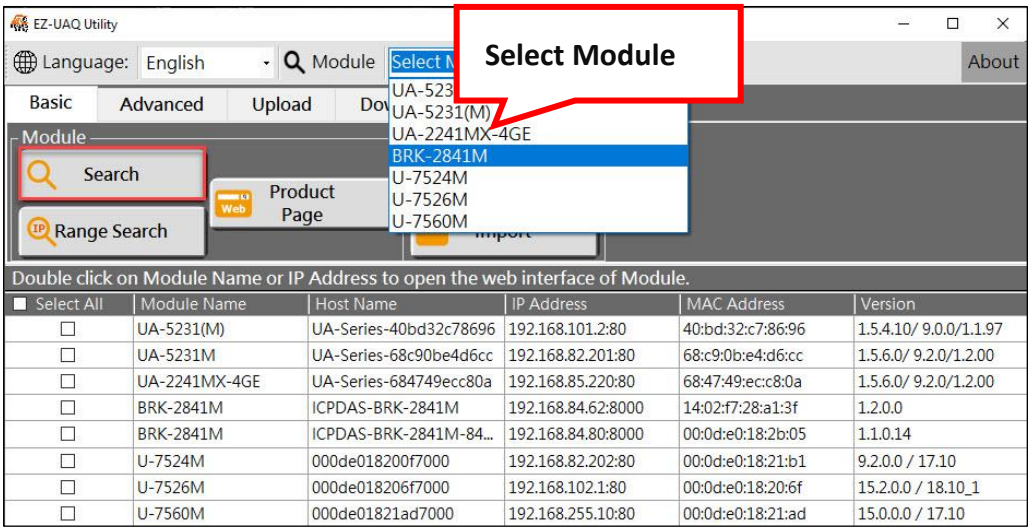


Figure 5-3 Module Filter

The selected module type will then be displayed in the information area. Following demo using **BRK-2841M**.

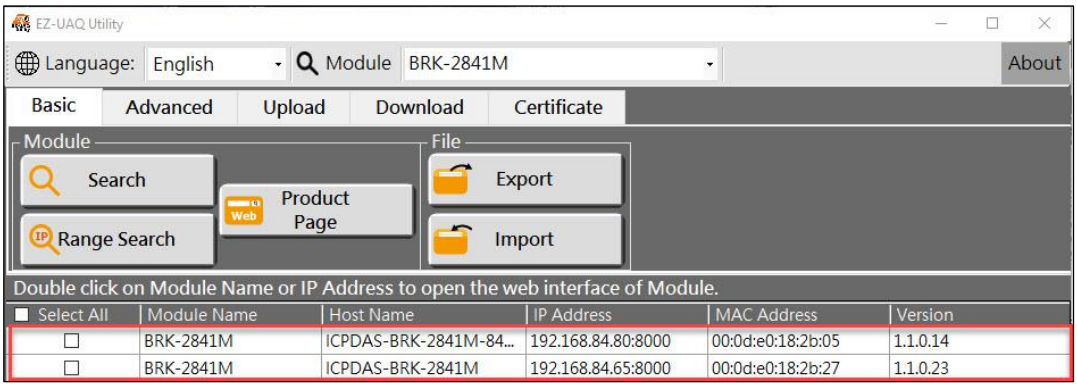


Figure 5-4 Module Info. Display

5.1.3 About

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

Click [About] on the toolbar to display EZ-UAQ Utility version information & Software revision history.

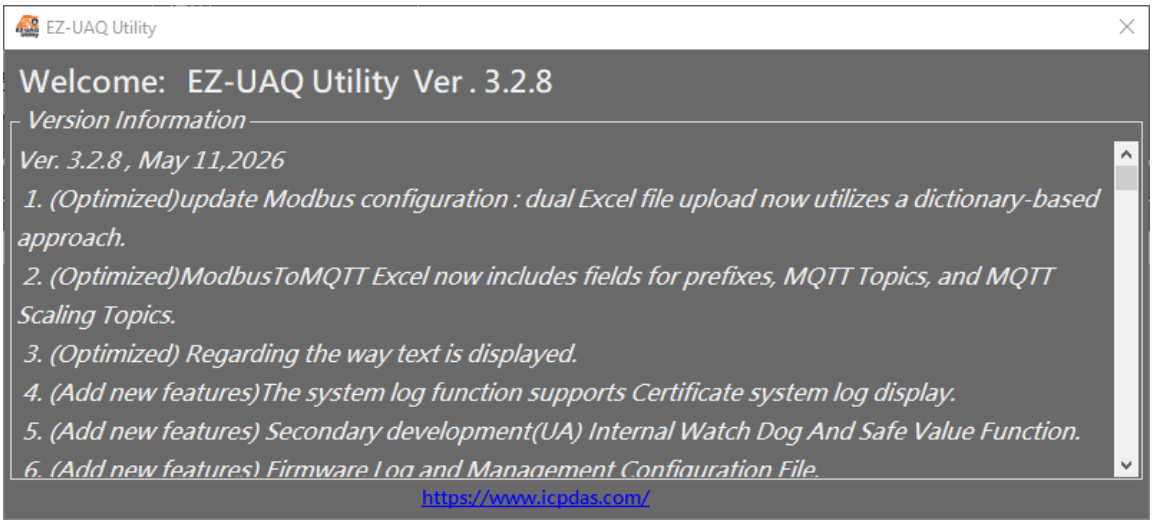


Figure 5-5 About Page

5.2 Function Area



Figure 5-6 Function Area

5.2.1 Basic



Figure 5-7 Basic Functions

- **Search Module**

  Click [Search] to search and display all UA, UA I/O, and BRK modules within the configured network segment. The detected modules will appear in the Display Area.

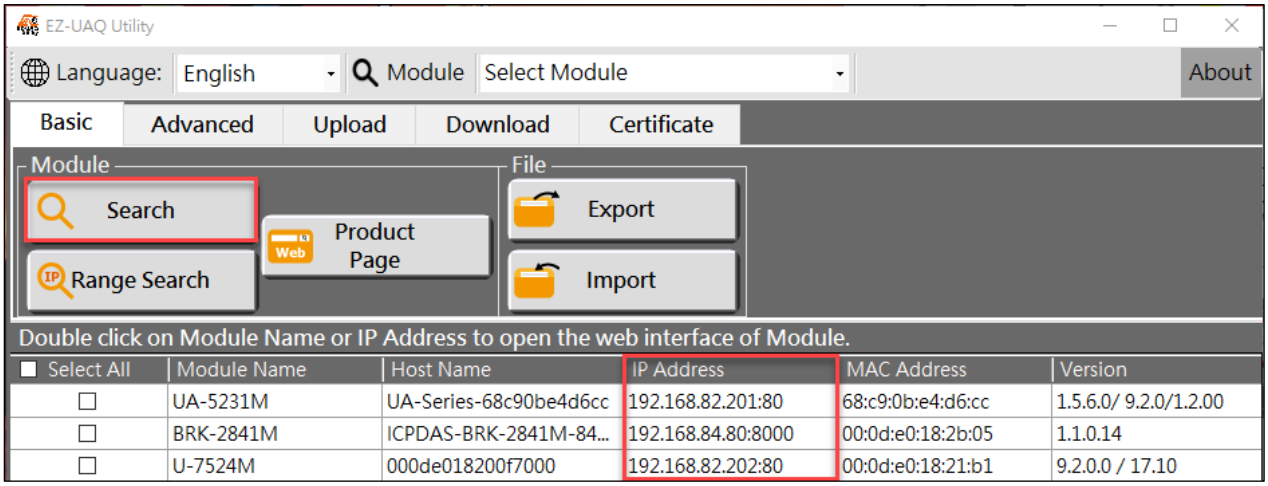


Figure 5-8 Search Module

- **Range Search**

  Step1: Start Range Search

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

Click [Range Search]

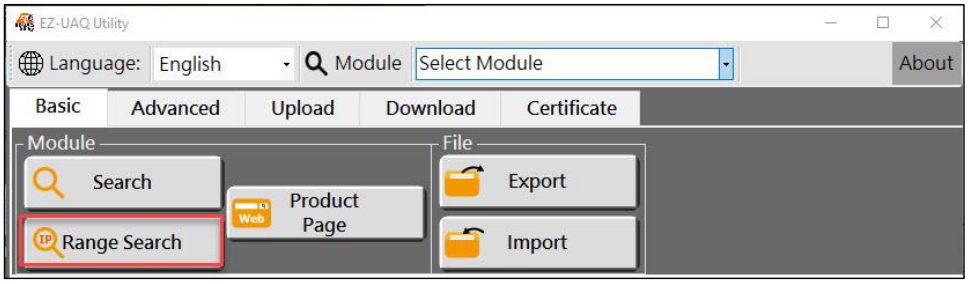


Figure 5-9 Range Search(1)

Tips: If the IP search range has already been configured, the system will skip step2 and immediately start searching.

Step2: Configure IP Range (Please refer to Range Search Settings)

After the [TCP IP Setting] window appears > Enter the target IP range > Click [Save] > Click [OK] after the "Save Successfully" message appears

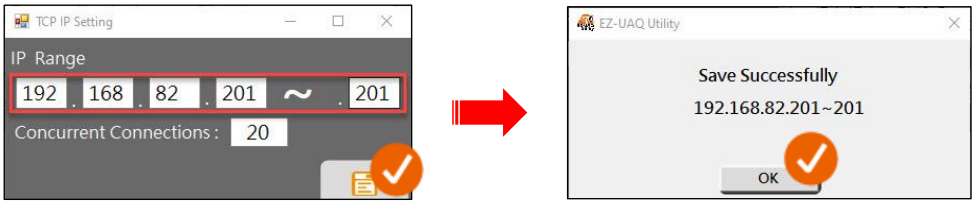


Figure 5-10 Range Search(2)

Step3: Searching

When the interface displays "Searching", the system is scanning modules within the configured IP range.

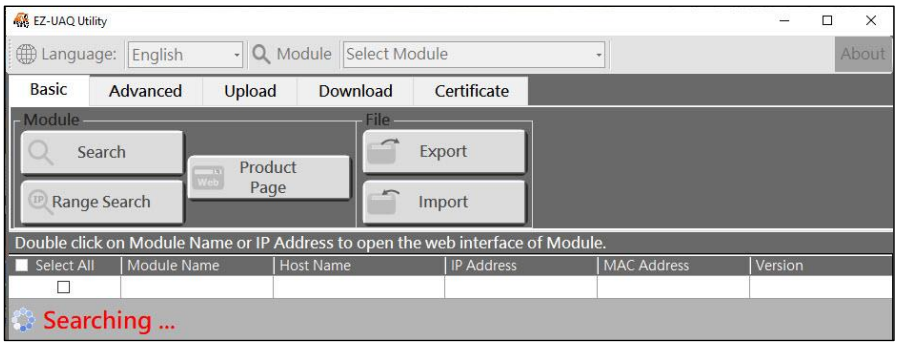


Figure 5-11 Range Search(3)

Step4: Search Complete

After the search is completed, all matched modules will be displayed in the Display Area.

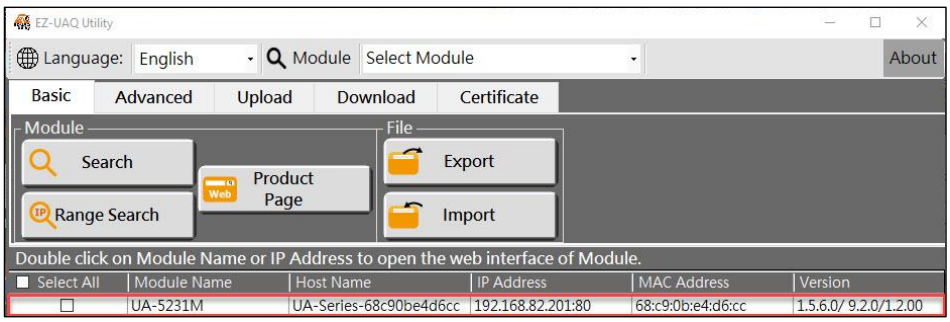


Figure 5-12 Range Search(4)

Warning: If the following conditions occur, please modify the IP settings immediately to avoid communication issues. For MAC Address conflicts, please contact technical support.

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

(1) IP Address Conflict: The [IP Address] field will display an orange background and orange text.

Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time	Notes
☐	UA-5231M	UA-Series-68c90...	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.4.6.29/ 8.5....	0ms	IP Address Conflict
☐	UA-5231	UA-Series-1442fc...	192.168.101.2:80	14:42:fc:a9:30:39	1.4.6.32/ 8.5....	0ms	
☐	BRK-2841M	BRK-2841M-8461	192.168.84.61:80	00:0d:e0:18:2b:01	1.0.0.79	110ms	
☐	BRK-2841M	BRK-2841M-8460	192.168.84.60:80	00:0d:e0:18:2b:05	1.0.0.79	141ms	
☐	U-7526M	000de018201170...	192.168.102.1:80	00:0d:e0:18:20:11	12.0.0.0 / 15.9	156ms	
☐	U-7560M	000de018210270...	192.168.81.100:80	00:0d:e0:18:21:02	14.0.0.0 / 16....	250ms	
☐	U-7526M	000de018208270...	192.168.82.201:80	00:0d:e0:18:20:82	13.2.0.0 / 16....	938ms	IP Address Conflict

Figure 5-13 Capture of IP Address Conflicts

(2) MAC Address Conflict: The [MAC Address] field will display a red background and red text.

Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time	Notes
☐	UA-5231M	UA-Series-68c90...	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.4.6.29/ 8.5....	15ms	Mac Address Conflict
☐	UA-5231	UA-Series-1442fc...	192.168.101.2:80	14:42:fc:a9:30:39	1.4.6.32/ 8.5....	62ms	
☐	BRK-2841M	BRK-2841M-8461	192.168.84.61:80	00:0d:e0:18:2b:01	1.0.0.79	109ms	
☐	BRK-2841M	BRK-2841M-8460	192.168.84.60:80	00:0d:e0:18:2b:05	1.0.0.79	140ms	
☐	U-7526M	000de018201170...	192.168.102.1:80	00:0d:e0:18:20:11	12.0.0.0 / 15.9	156ms	
☐	U-7526M	000de018208270...	192.168.82.202:80	68:c9:0b:e4:d6:cc	13.2.0.0 / 16....	187ms	Mac Address Conflict
☐	U-7560M	000de018210270...	192.168.81.100:80	00:0d:e0:18:21:02	14.0.0.0 / 16....	250ms	

Figure 5-14 Capture of MAC Address Conflicts

(3) IP and MAC Conflict: The entire module row will display in red text.

Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time	Notes
☐	UA-5231M	UA-Series-68c90...	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.4.6.29/ 8.5....	15ms	IP Address And Mac Address Conflict
☐	UA-5231	UA-Series-1442fc...	192.168.101.2:80	14:42:fc:a9:30:39	1.4.6.32/ 8.5....	31ms	
☐	BRK-2841M	BRK-2841M-8461	192.168.84.61:80	00:0d:e0:18:2b:01	1.0.0.79	109ms	
☐	BRK-2841M	BRK-2841M-8460	192.168.84.60:80	00:0d:e0:18:2b:05	1.0.0.79	140ms	
☐	U-7526M	000de018208270...	192.168.82.201:80	68:c9:0b:e4:d6:cc	13.2.0.0 / 16....	156ms	IP Address And Mac Address Conflict
☐	U-7526M	000de018201170...	192.168.102.1:80	00:0d:e0:18:20:11	12.0.0.0 / 15.9	172ms	
☐	U-7560M	000de018210270...	192.168.81.100:80	00:0d:e0:18:21:02	14.0.0.0 / 16....	250ms	

Figure 5-15 Capture of IP and MAC Address Conflicts

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

➢ Product Webpage

No Module Selected:

Click [Product Webpage] to open the official UA, UA I/O, and BRK product webpages according to the current language setting.

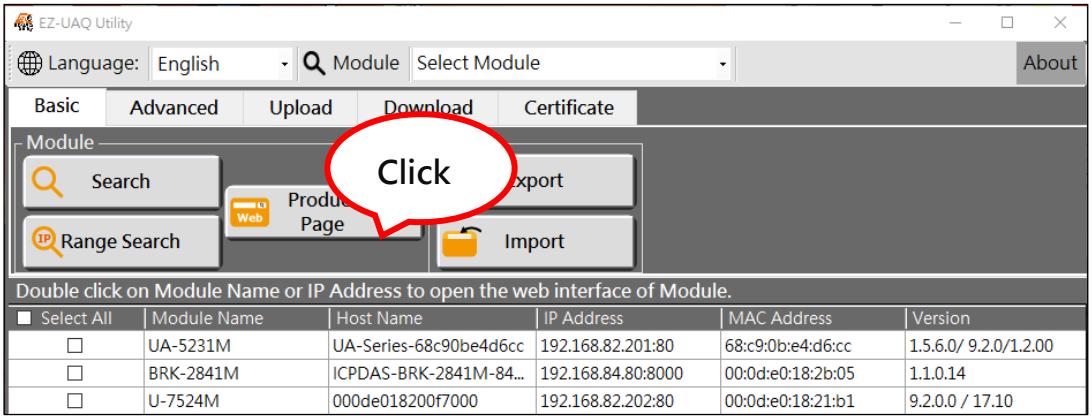
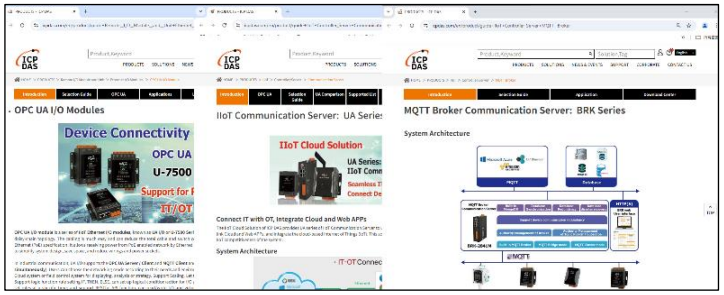


Figure 5-16 Product Webpage (No Module Selected)



Module Selected:

If a module is selected, clicking [Product Webpage] will directly open the webpage of the selected product model.

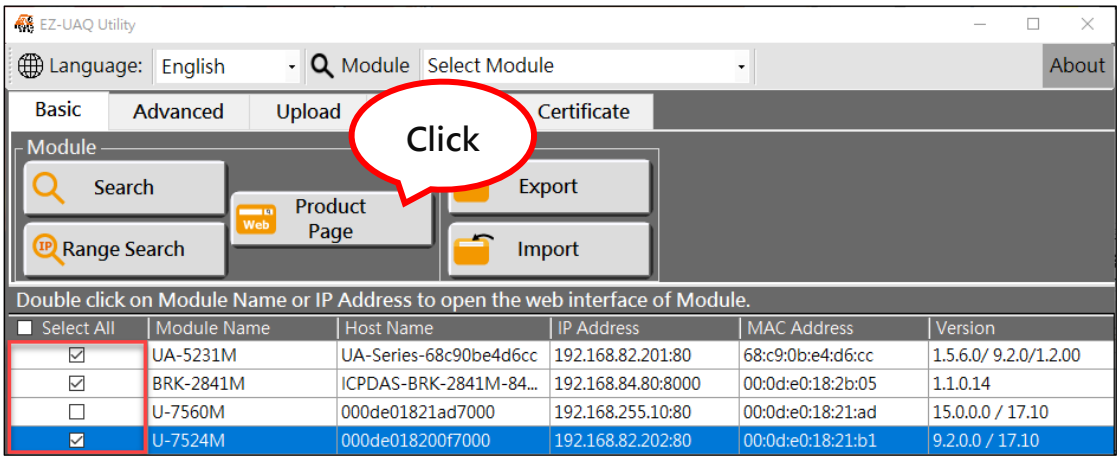
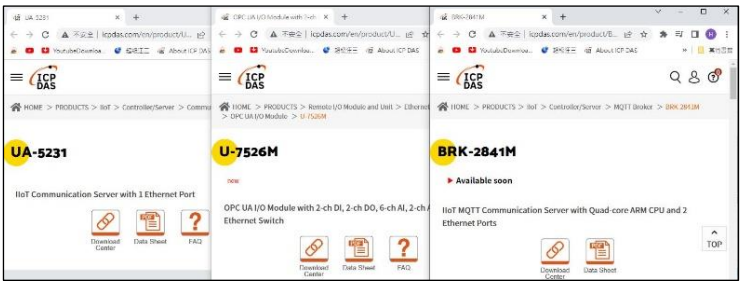


Figure 5-17 Product Webpage (Module Selected)



Note: For UA series modules with firmware version V1.4.2.0 or earlier, the selection guide webpage will be opened instead.

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

➢ **Export Search Information**

Click [Export] to export the currently detected module information as an Excel file.
The filename is automatically generated using the current date and time.

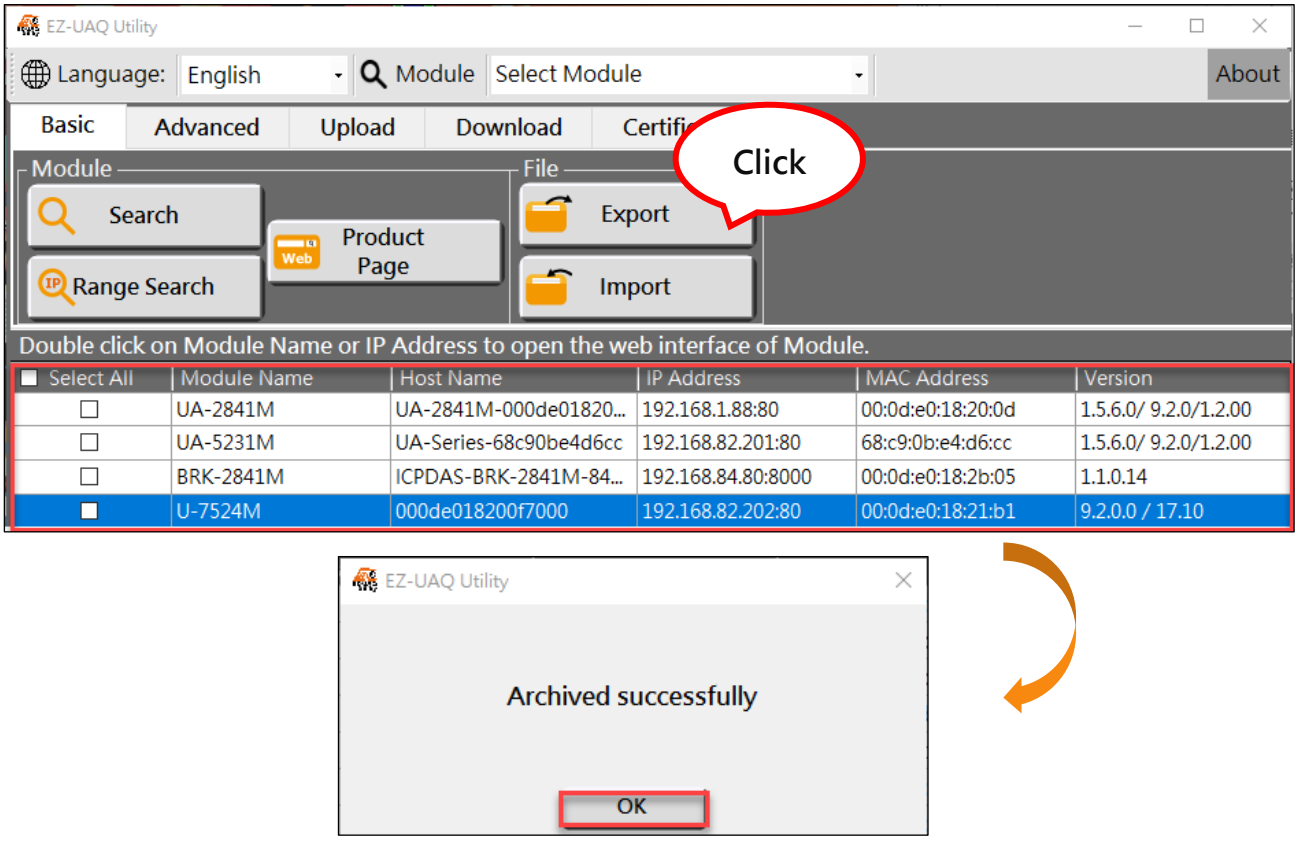
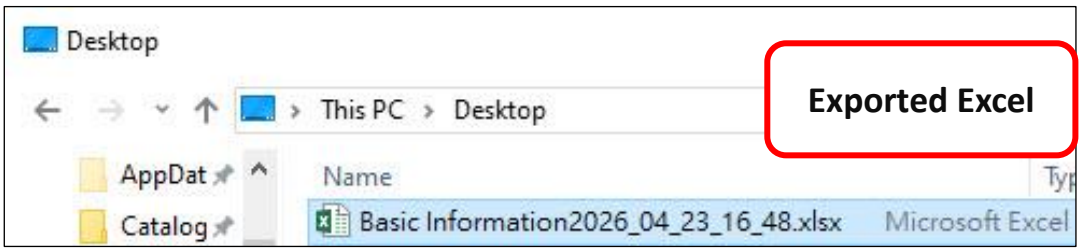
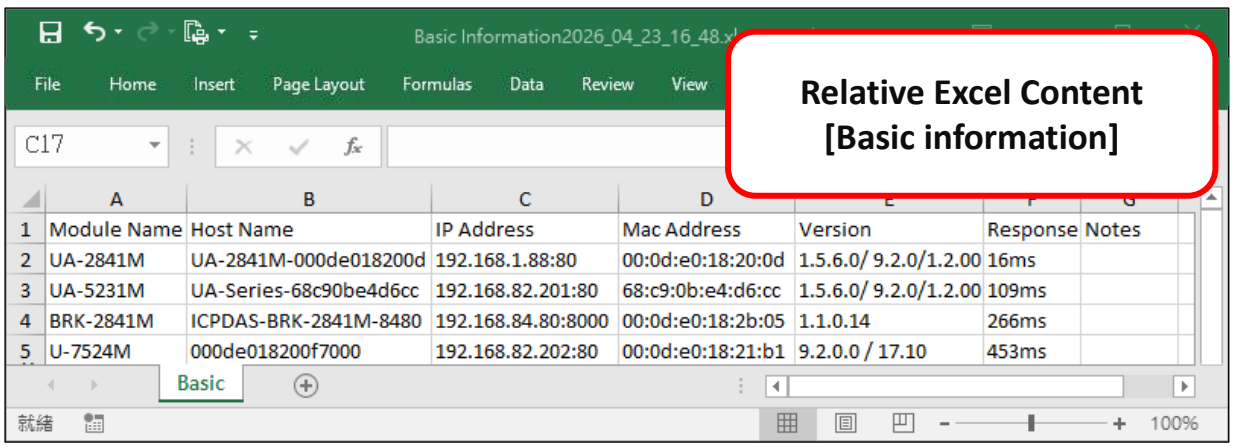


Figure 5-18 Capture of Export Search Information

Following shows Exported Excel file and relative content information:

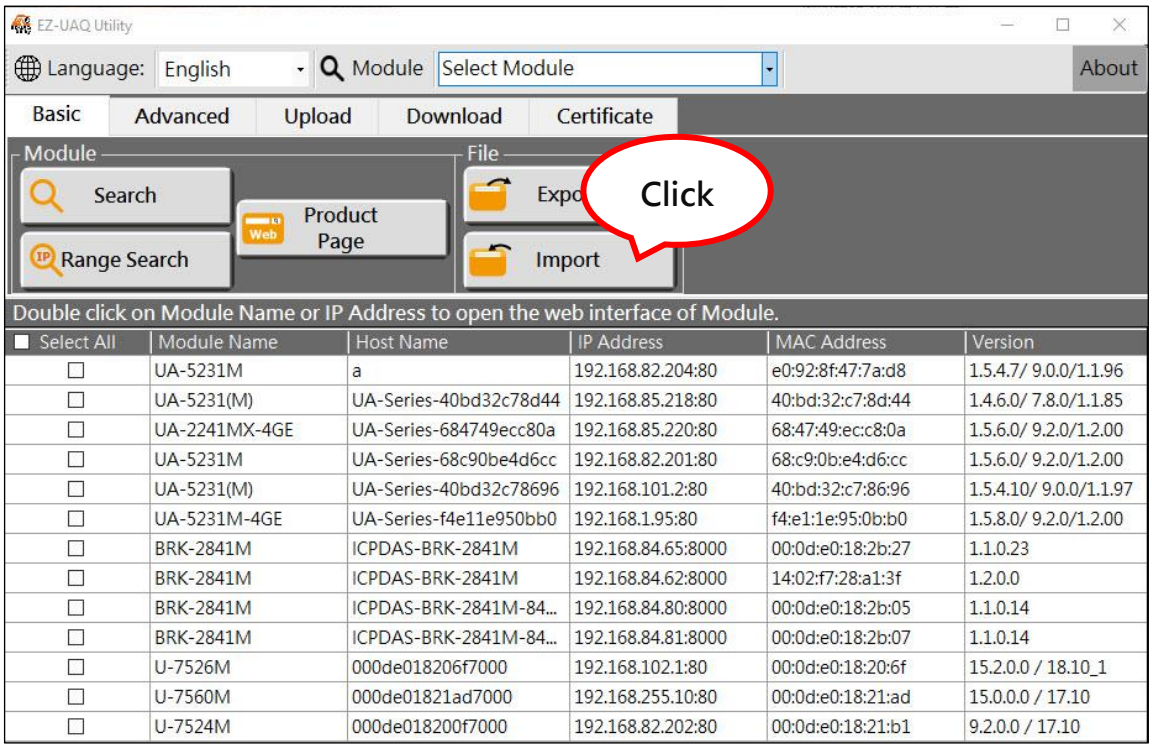




Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

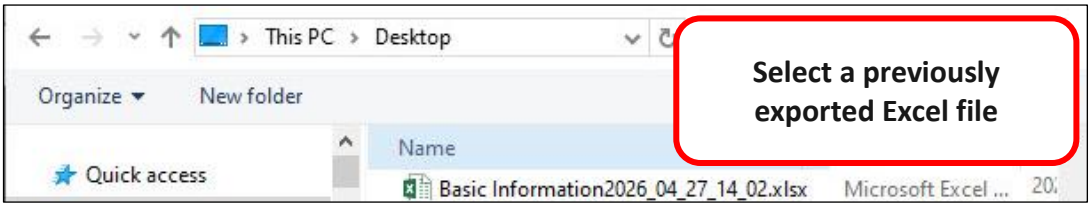
➢ **Import Search Information**

Click [Import] and select a previously exported Excel file. The system will automatically compare the imported module list with the currently detected modules.

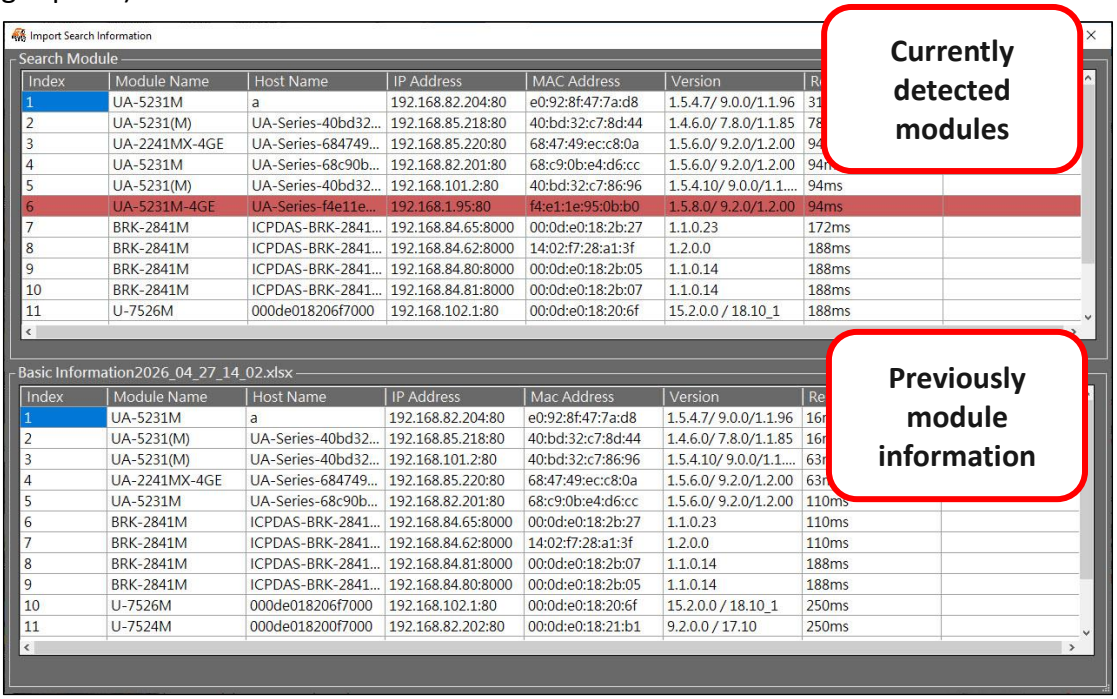


Select All	Module Name	Host Name	IP Address	MAC Address	Version
☐	UA-5231M	a	192.168.82.204:80	e0:92:8f:47:7a:d8	1.5.4.7/ 9.0.0/1.1.96
☐	UA-5231(M)	UA-Series-40bd32c78d44	192.168.85.218:80	40:bd:32:c7:8d:44	1.4.6.0/ 7.8.0/1.1.85
☐	UA-2241MX-4GE	UA-Series-684749ecc80a	192.168.85.220:80	68:47:49:ec:c8:0a	1.5.6.0/ 9.2.0/1.2.00
☐	UA-5231M	UA-Series-68c90be4d6cc	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.5.6.0/ 9.2.0/1.2.00
☐	UA-5231(M)	UA-Series-40bd32c78696	192.168.101.2:80	40:bd:32:c7:86:96	1.5.4.10/ 9.0.0/1.1.97
☐	UA-5231M-4GE	UA-Series-f4e11e950bb0	192.168.1.95:80	f4:e1:1e:95:0b:b0	1.5.8.0/ 9.2.0/1.2.00
☐	BRK-2841M	ICPDAS-BRK-2841M	192.168.84.65:8000	00:0d:e0:18:2b:27	1.1.0.23
☐	BRK-2841M	ICPDAS-BRK-2841M	192.168.84.62:8000	14:02:f7:28:a1:3f	1.2.0.0
☐	BRK-2841M	ICPDAS-BRK-2841M-84...	192.168.84.80:8000	00:0d:e0:18:2b:05	1.1.0.14
☐	BRK-2841M	ICPDAS-BRK-2841M-84...	192.168.84.81:8000	00:0d:e0:18:2b:07	1.1.0.14
☐	U-7526M	000de018206f7000	192.168.102.1:80	00:0d:e0:18:20:6f	15.2.0.0 / 18.10_1
☐	U-7560M	000de01821ad7000	192.168.255.10:80	00:0d:e0:18:21:ad	15.0.0.0 / 17.10
☐	U-7524M	000de018200f7000	192.168.82.202:80	00:0d:e0:18:21:b1	9.2.0.0 / 17.10

Figure 5-19 Capture of Import Search Information



If modules are missing or newly added, the differences will be highlighted with red marks. (Shown as following capture)



Index	Module Name	Host Name	IP Address	MAC Address	Version
1	UA-5231M	a	192.168.82.204:80	e0:92:8f:47:7a:d8	1.5.4.7/ 9.0.0/1.1.96
2	UA-5231(M)	UA-Series-40bd32...	192.168.85.218:80	40:bd:32:c7:8d:44	1.4.6.0/ 7.8.0/1.1.85
3	UA-2241MX-4GE	UA-Series-684749...	192.168.85.220:80	68:47:49:ec:c8:0a	1.5.6.0/ 9.2.0/1.2.00
4	UA-5231M	UA-Series-68c90b...	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.5.6.0/ 9.2.0/1.2.00
5	UA-5231(M)	UA-Series-40bd32...	192.168.101.2:80	40:bd:32:c7:86:96	1.5.4.10/ 9.0.0/1.1....
6	UA-5231M-4GE	UA-Series-f4e11e...	192.168.1.95:80	f4:e1:1e:95:0b:b0	1.5.8.0/ 9.2.0/1.2.00
7	BRK-2841M	ICPDAS-BRK-2841...	192.168.84.65:8000	00:0d:e0:18:2b:27	1.1.0.23
8	BRK-2841M	ICPDAS-BRK-2841...	192.168.84.62:8000	14:02:f7:28:a1:3f	1.2.0.0
9	BRK-2841M	ICPDAS-BRK-2841...	192.168.84.80:8000	00:0d:e0:18:2b:05	1.1.0.14
10	BRK-2841M	ICPDAS-BRK-2841...	192.168.84.81:8000	00:0d:e0:18:2b:07	1.1.0.14
11	U-7526M	000de018206f7000	192.168.102.1:80	00:0d:e0:18:20:6f	15.2.0.0 / 18.10_1

Index	Module Name	Host Name	IP Address	Mac Address	Version
1	UA-5231M	a	192.168.82.204:80	e0:92:8f:47:7a:d8	1.5.4.7/ 9.0.0/1.1.96
2	UA-5231(M)	UA-Series-40bd32...	192.168.85.218:80	40:bd:32:c7:8d:44	1.4.6.0/ 7.8.0/1.1.85
3	UA-5231(M)	UA-Series-40bd32...	192.168.101.2:80	40:bd:32:c7:86:96	1.5.4.10/ 9.0.0/1.1....
4	UA-2241MX-4GE	UA-Series-684749...	192.168.85.220:80	68:47:49:ec:c8:0a	1.5.6.0/ 9.2.0/1.2.00
5	UA-5231M	UA-Series-68c90b...	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.5.6.0/ 9.2.0/1.2.00
6	BRK-2841M	ICPDAS-BRK-2841...	192.168.84.65:8000	00:0d:e0:18:2b:27	1.1.0.23
7	BRK-2841M	ICPDAS-BRK-2841...	192.168.84.62:8000	14:02:f7:28:a1:3f	1.2.0.0
8	BRK-2841M	ICPDAS-BRK-2841...	192.168.84.81:8000	00:0d:e0:18:2b:07	1.1.0.14
9	BRK-2841M	ICPDAS-BRK-2841...	192.168.84.80:8000	00:0d:e0:18:2b:05	1.1.0.14
10	U-7526M	000de018206f7000	192.168.102.1:80	00:0d:e0:18:20:6f	15.2.0.0 / 18.10_1
11	U-7524M	000de018200f7000	192.168.82.202:80	00:0d:e0:18:21:b1	9.2.0.0 / 17.10

Figure 5-20 Compared information of Modules

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

5.2.2 Advanced

➢ **Search Timeout**

The default timeour is 800 ms (configurable range from 500 ~ 30,000 ms) In complex network environments or slow network conditions, increasing the timeout value is recommended to avoid missing modules during scanning.

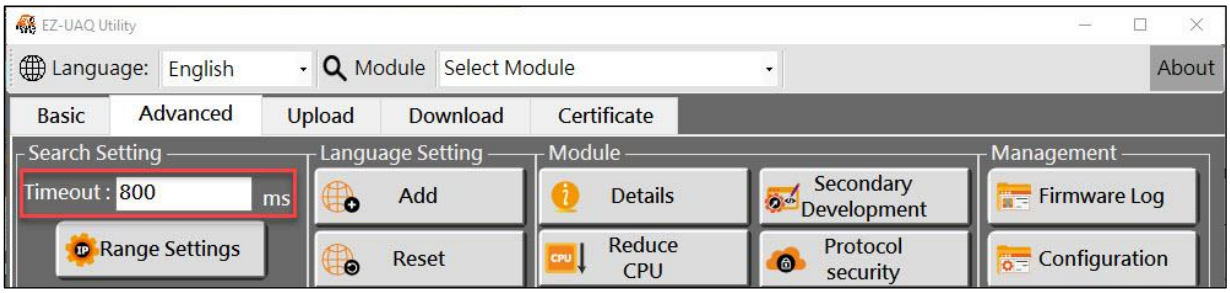


Figure 5-21 Search Timeout Configure

➢ **Range Search Settings**

This function is used to configure or modify the TCP module IP search range. The utility will automatically scan modules within the configured range.

Step1: Lauch "Range Search Settings"

Click **[Range Settings]**

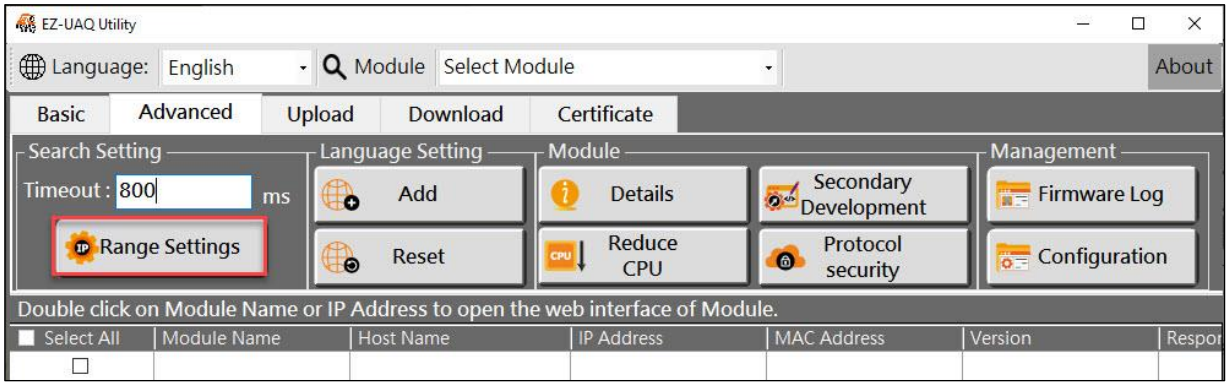


Figure 5-22 Range Search Settings(1)

Step2: Configure IP Range

After the "TCP IP Setting" window appears, enter the target IP range and click [Save].

When the "Save Successfully" message window appears, click [OK] to complete the configuration.

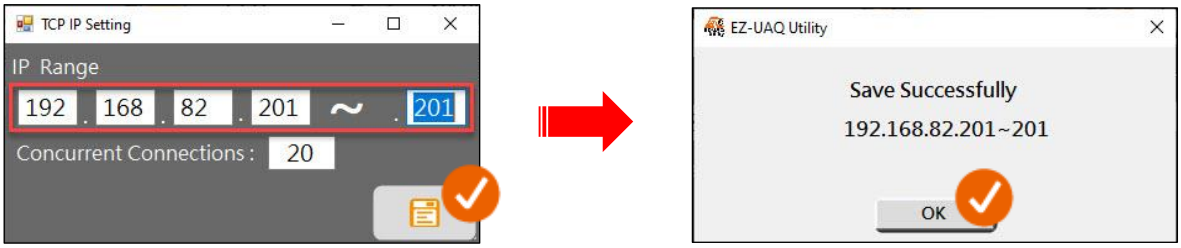


Figure 5-23 Range Search Settings(2)

TCP IP Setting Setting Description:

✧ **IP Range:** Enter the target IP range for scanning, for example: 192.168.1.1 ~ 192.168.1.50

✧ **Concurrent Connections:** Configure the number of devices to be searched or connected simultaneously. The default value is 20.

✧ **Save Settings:** Save the IP range and concurrent connection settings.

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

Step3: Module Searching

When the interface displays “Searching”, the utility is scanning modules within the configured IP range.

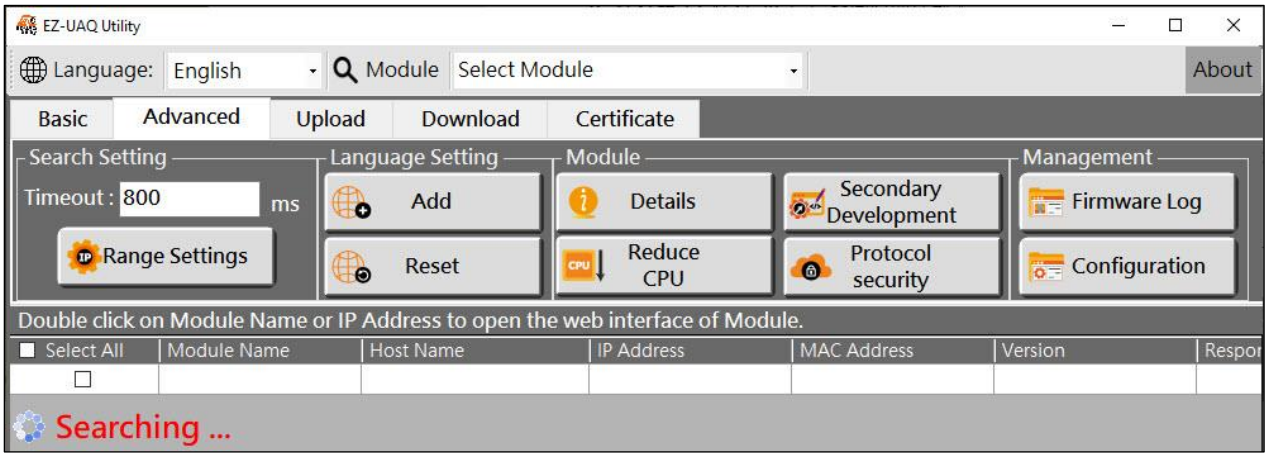


Figure 5-24 Range Search Settings(3)

Step4: Search Completed

After the search is completed, the modules matching the configured IP range will be displayed in the Display Area.

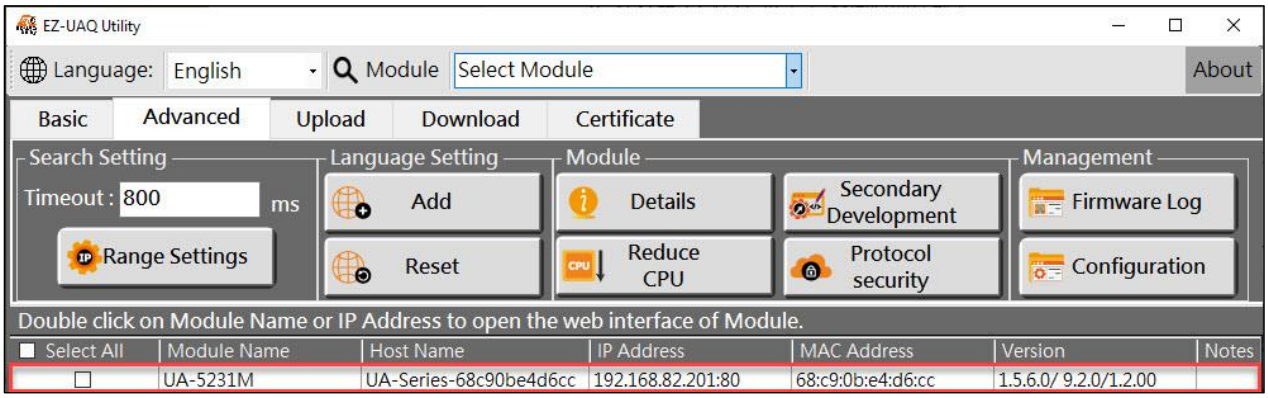


Figure 5-25 Range Search Settings(4)

- **Language Settings**

[Add]: Use the **“Add Language”** function to add additional interface languages to EZ-UAQ Utility (Japanese is used as the example below).

Step1: Open the “Add Multiple Languages” Window

Click the [Add] button to open the “Add Multiple Languages” window.

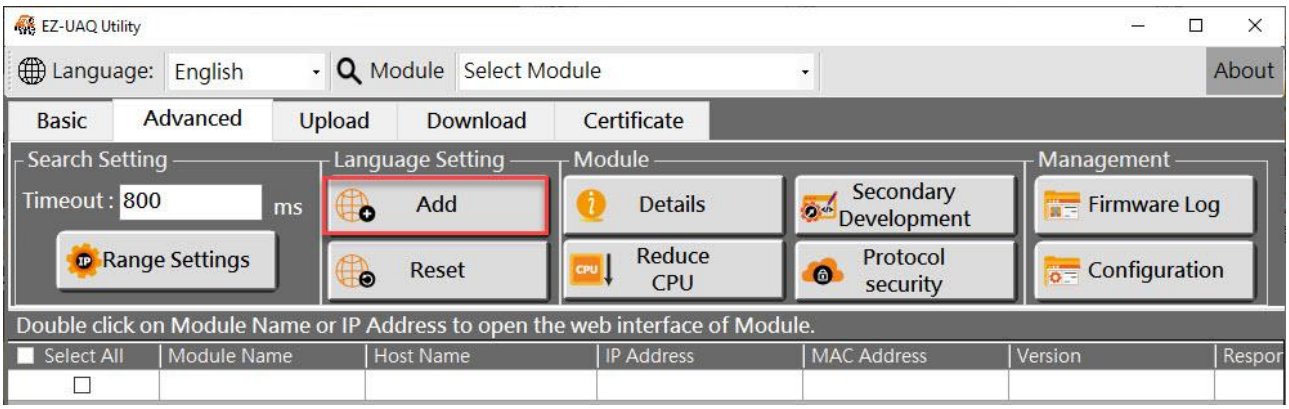


Figure 5-26 Language Settings - Add (1)

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

Step2: Enter Language and Copy Translation Content

(1) Enter the target language name in the “Add Language” field.

(2) Click the [Copy English Word] button, then translate the “English Word” content into Japanese using translation software and copy the translated content

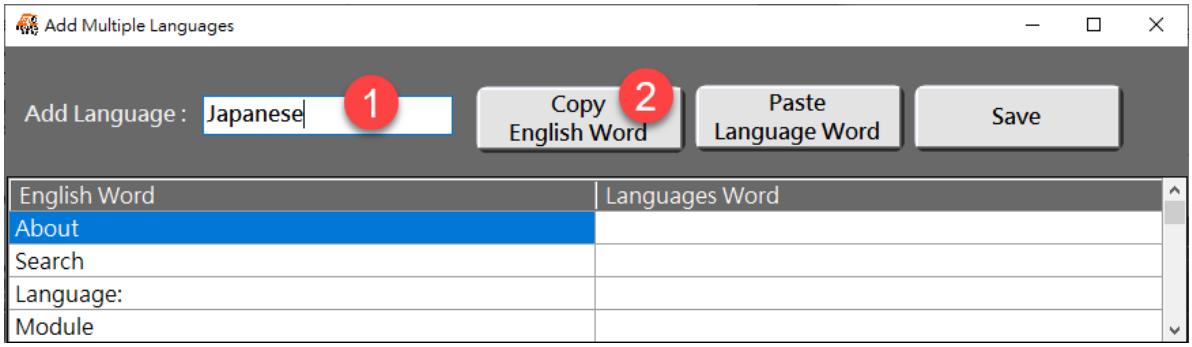


Figure 5-27 Language Settings - Add (2)

Step3: Paste Japanese Translation and Save Settings

(1) Click the [Paste Language Word] button. The translated content (Japanese) will be displayed under “Languages Word”.

(2) Click the [Save] button. A “Restart EZ-UAQ Utility” message window will appear.

(3) Click [OK] to save the settings.

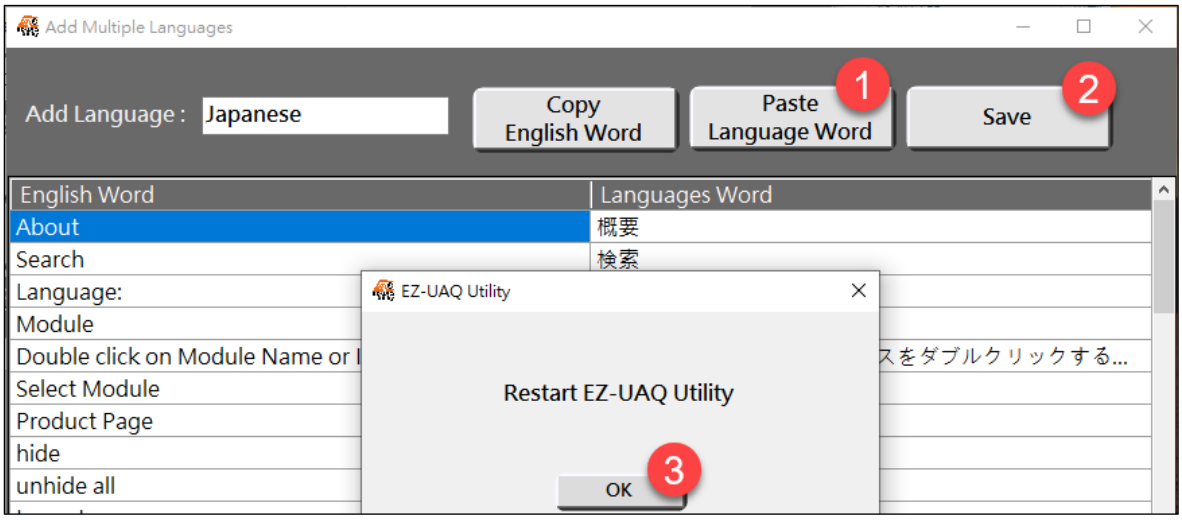


Figure 5-28 Language Settings - Add (3)

Step4: Select Japanese

After the software automatically restarts, Japanese will be added to the language list.Please select Japanese from the drop-down menu.

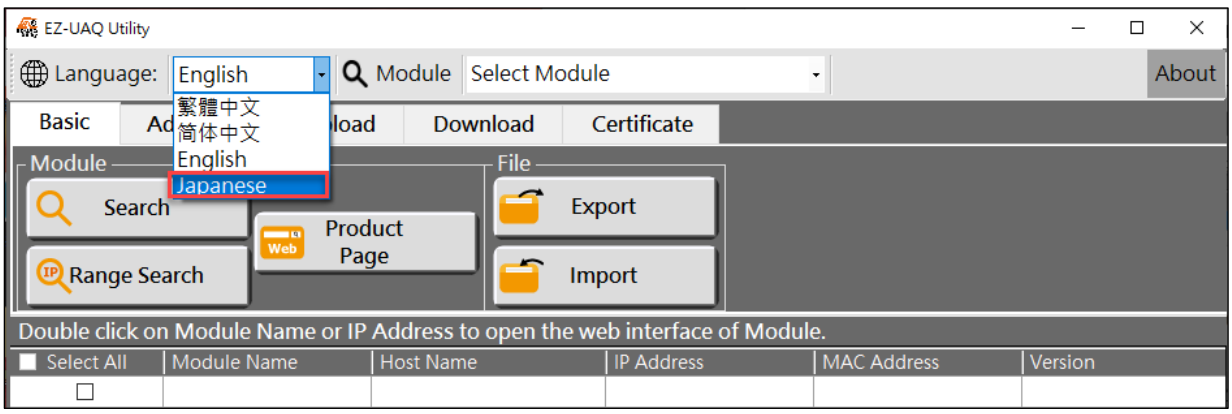


Figure 5-29 Language Settings - Add (4)

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

Step5: Switch Language

The EZ-UAQ Utility interface will automatically switch to Japanese.



Figure 5-30 Language Settings - Add (5)

[Reset]: If the added language cannot be used properly, the language settings can be reset to the factory default configuration.

Note: Using the [Reset] function will remove ***all*** custom languages.

Step1: Open the "Reset Successfully" Window

(1) Click the [Reset] button. A "Restart EZ-UAQ Utility" message window will appear.

(2) Click [OK]. The system will reset the language settings.

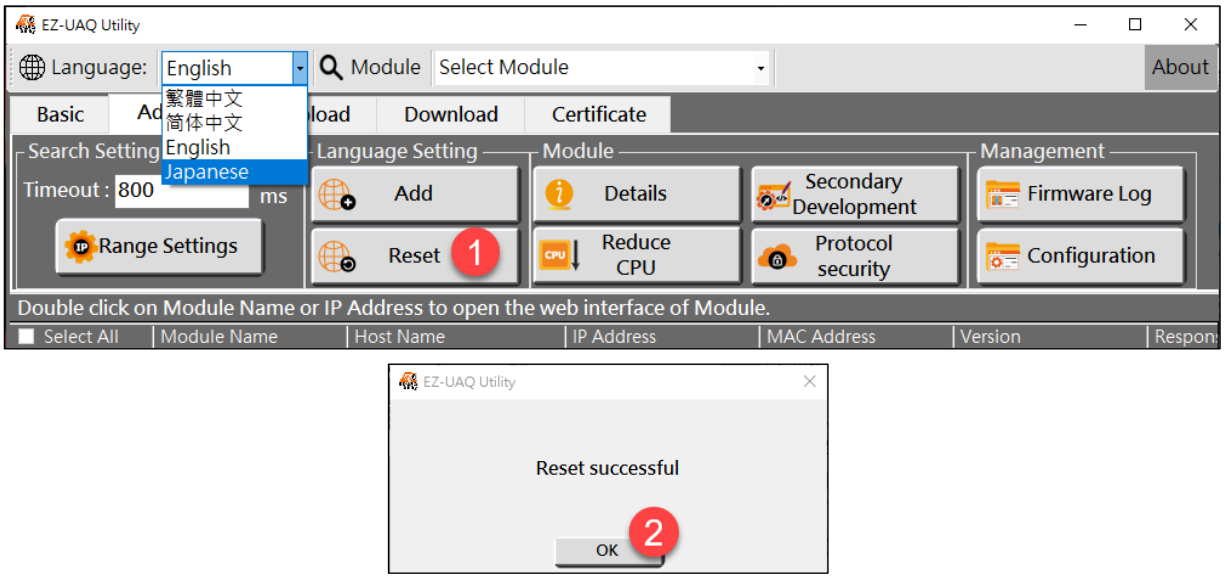


Figure 5-31 Language Settings - Reset(1)

Step2: Restore Factory Default Languages

After the software automatically restarts, the language settings will be restored to the factory defaults.

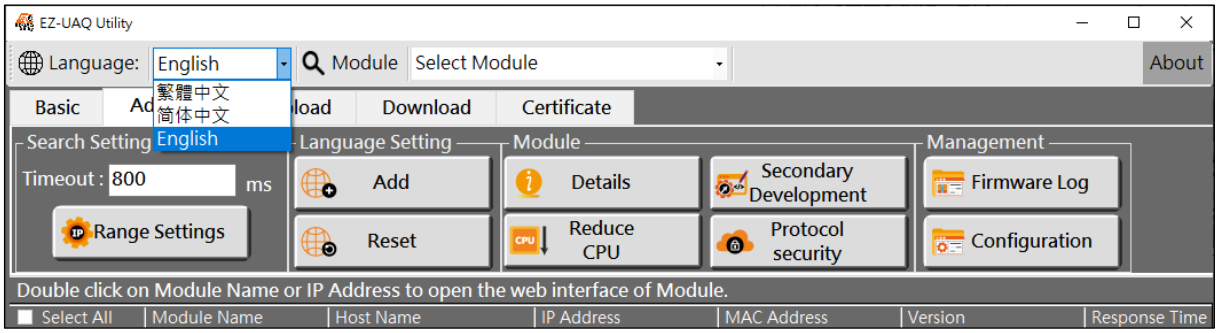


Figure 5-32 Language Settings - Reset(2)

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

➢ **Detailed Information**

This function allows users to view the TCP/UDP communication protocols used by the module (such as HTTP, HTTPS, and OPC UA) and their corresponding port numbers for network configuration and troubleshooting purposes.

Step1: Select Module

Check the module(s) to be queried.

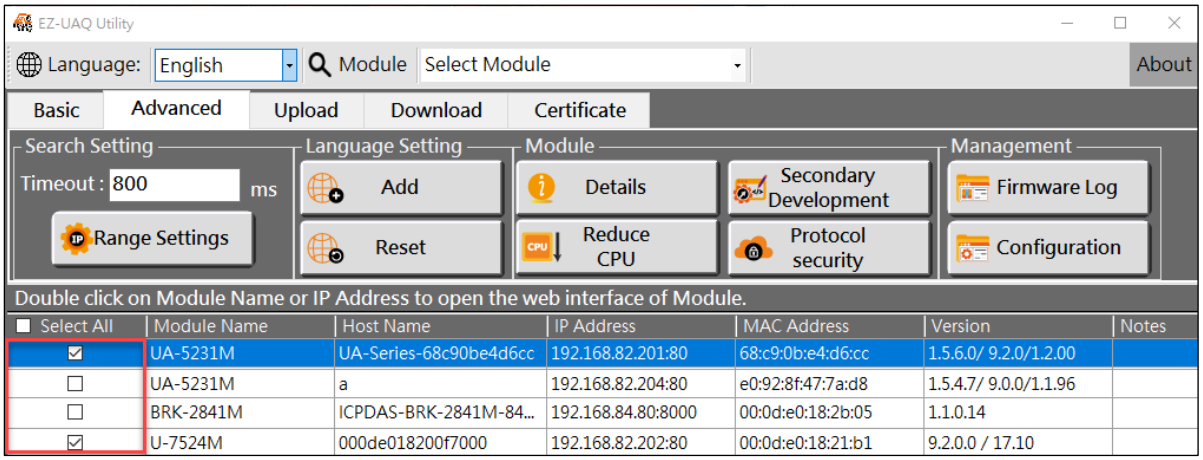


Figure 5-33 Module Detailed Information (1)

Step2: Execute "Get Module Detailed Information"

Click the [Detailed Information] button. The interface will display "**Get module(s) details**", indicating That the utility is retrieving module information.

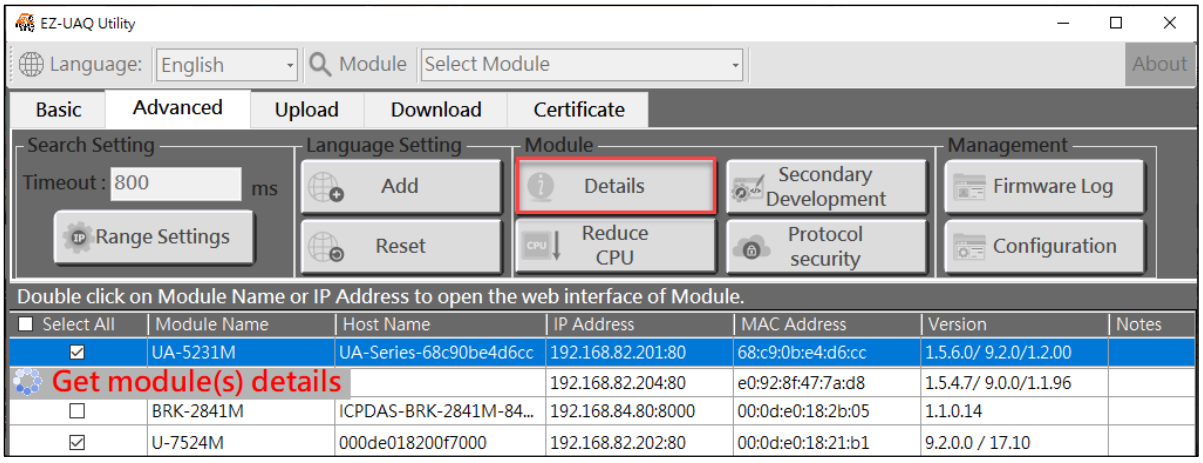


Figure 5-34 Module Detailed Information (2)

Step 3: Module Detailed Information Retrieved

After completion, the "Detailed Information" window will appear, where users can view the detailed module information.

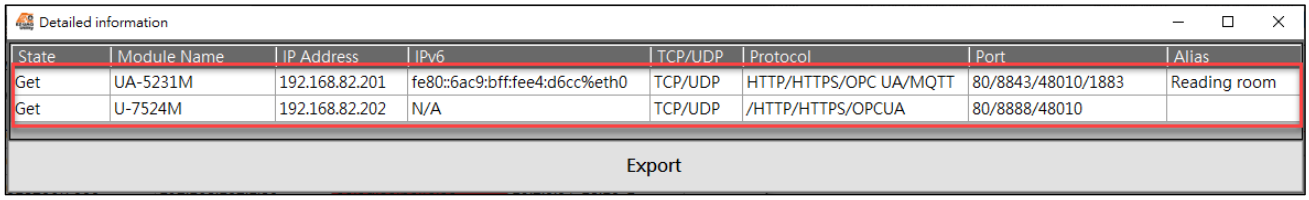


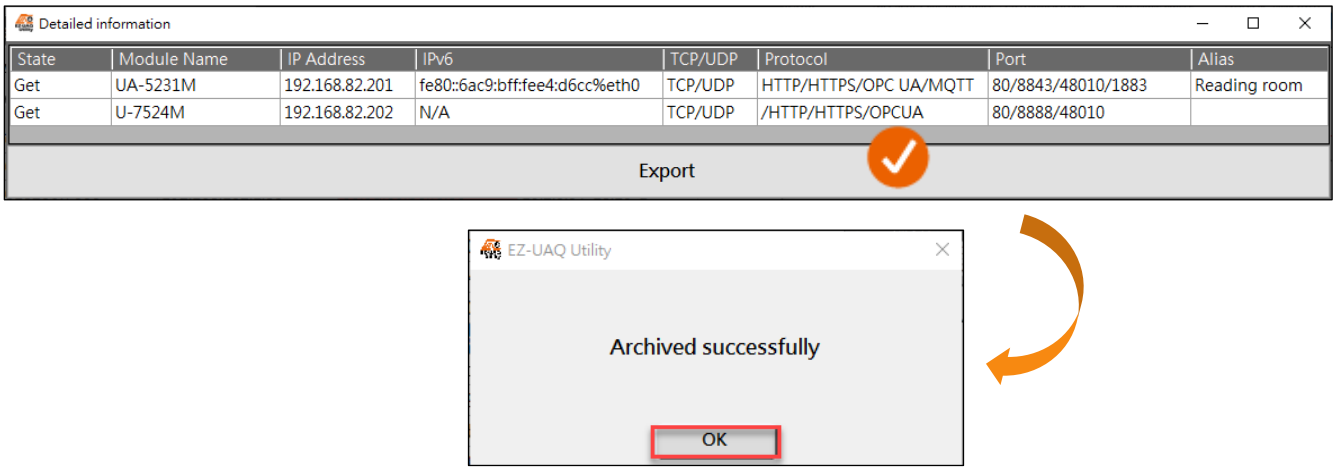
Figure 5-35 Module Detailed Information (3)

✧ **IPv6:** IP address information. This function is supported only by the UA series.

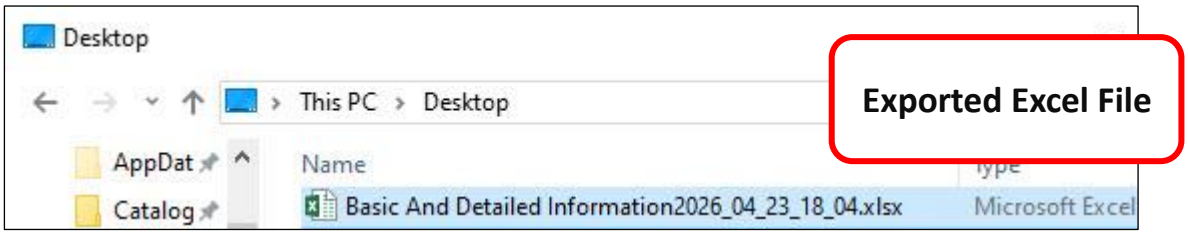
✧ **Alias:** A management field used to identify module functions or installation areas. Please refer to "Alias Settings" for configuration details.

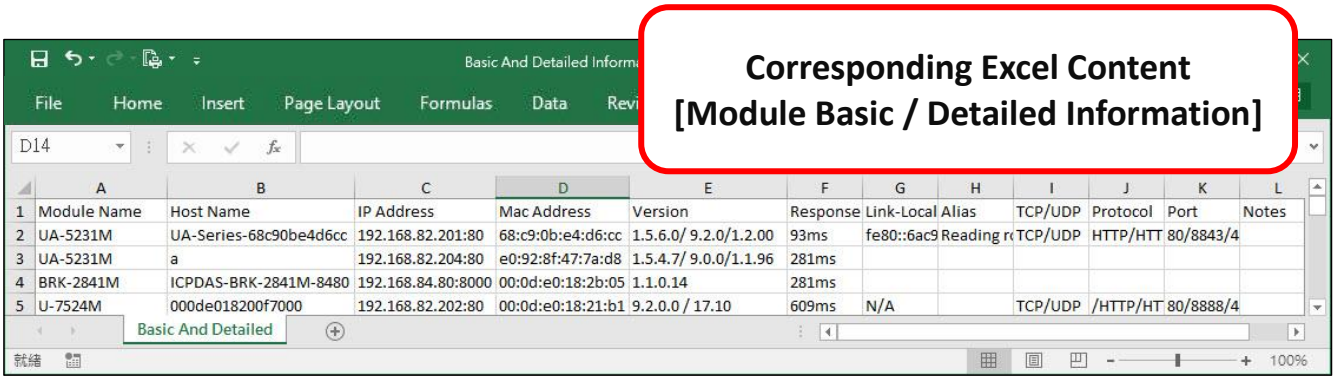
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

❖ Click the [Export] button. After the “Save Successfully” message window appears, click [OK] to export both the currently detected module basic information and detailed information as an Excel file.



The following shows the exported Excel file and corresponding content:



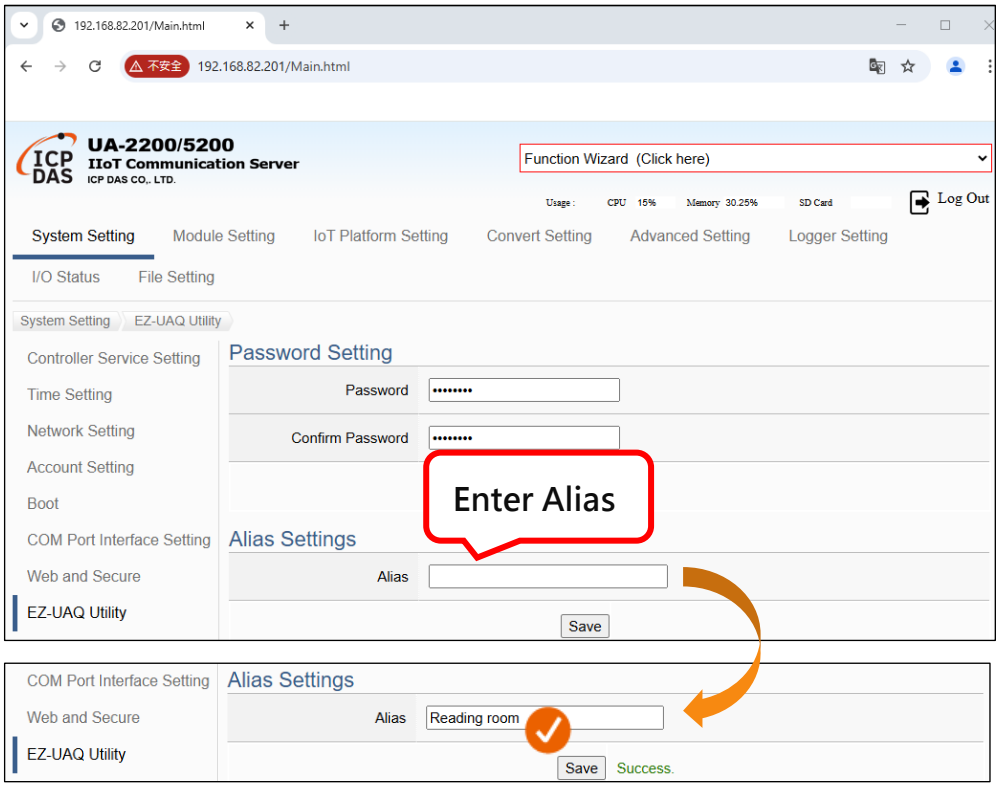


Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

➔ **Alias Settings:**

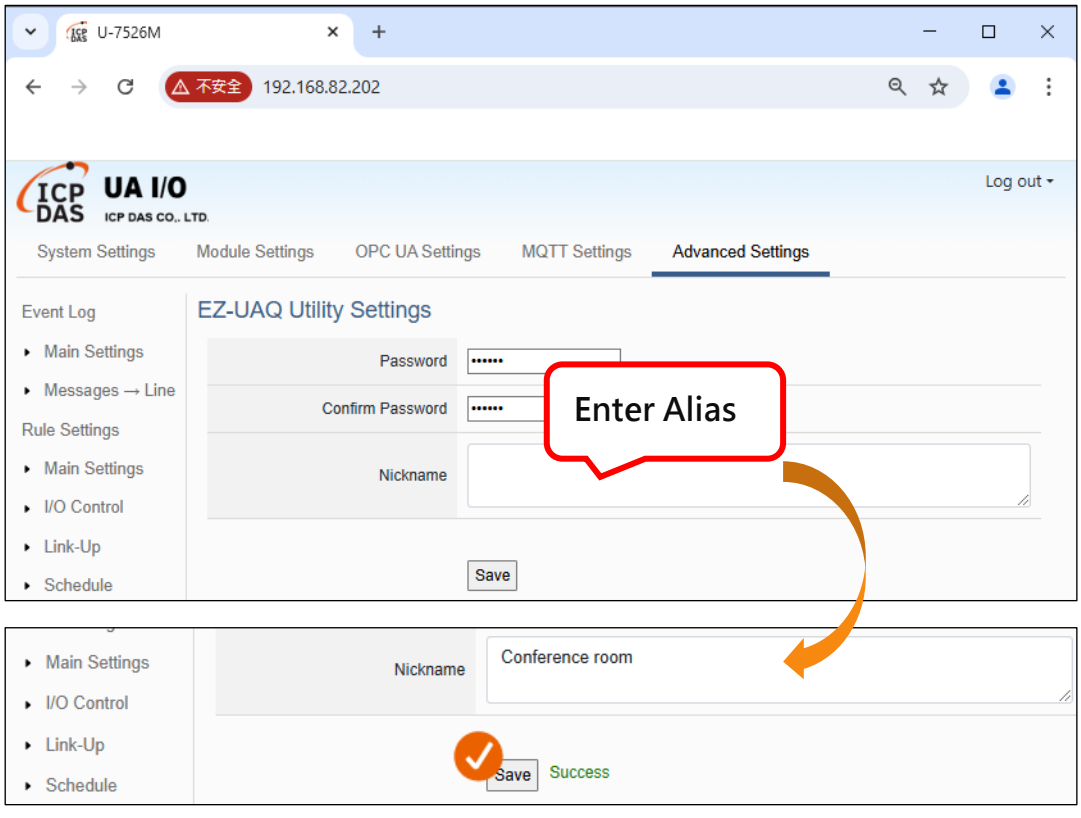
UA Communication Server:

Open the UA webpage and navigate to: [System Settings > EZ-UAQ Utility > Alias Settings] Enter the alias and click [Save] to complete the configuration.



UA I/O Module:

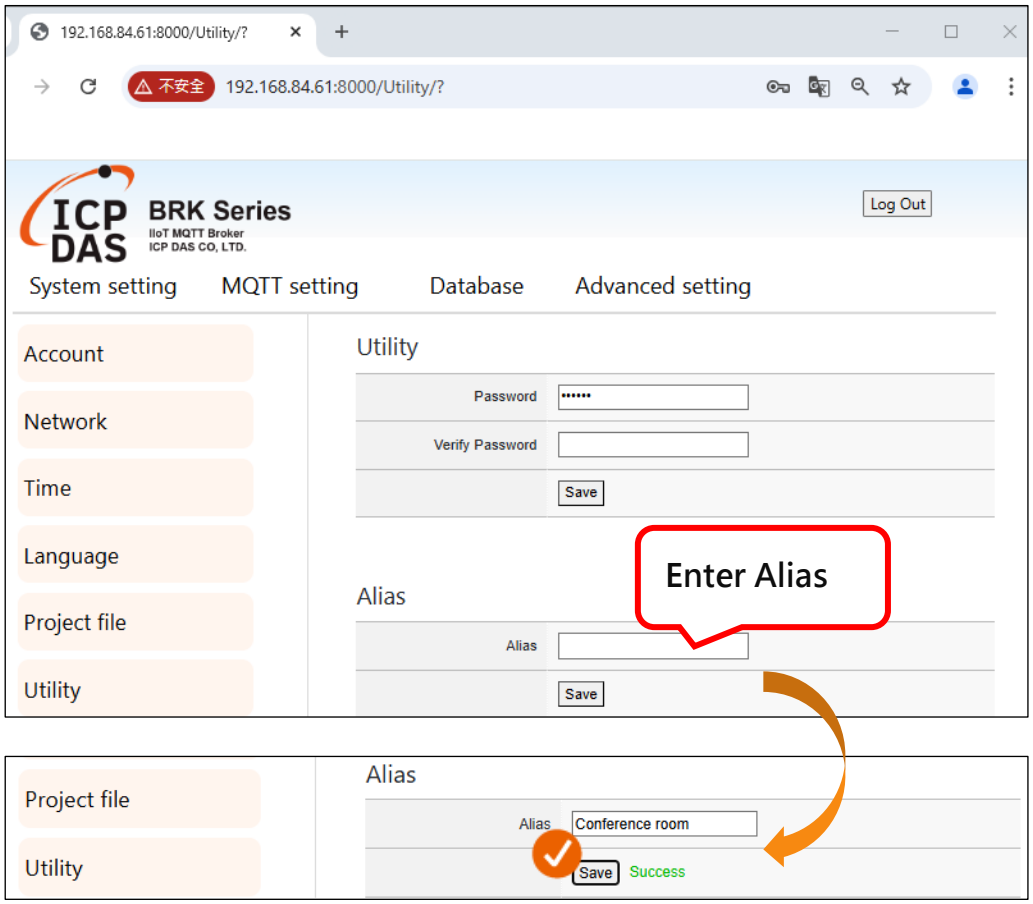
Open the UA I/O webpage and navigate to: [Advanced Settings > EZ-UAQ Utility > Alias Settings] Enter the alias and click [Save] to complete the configuration.



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

BRK Communication Server:

Open the BRK webpage and navigate to: [System Settings > Utility > Alias] Enter the alias and click [Save] to complete the configuration.



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

➢ Reduce CPU Usage

When the module CPU usage is too high, the [Reduce CPU] function can be used to release CPU resources. After execution, certain module functions will be disabled. The following table describes the disabled functions for each module series and their recovery methods.

Series	Disabled Functions	Recovery Method
UA	Run Project, MQTT Broker	Refer to the Communication Server User Manual. Disabled functions can be re-enabled through the webpage.
UA I/O	OPC UA Client, IoTstar Settings, Event log	A reboot is required to restore the disabled functions.

Table 5-1 Reduce CPU Usage (Disabled Functions and Recovery Methods)

Note: When using the [Reduce CPU] function to update multiple modules simultaneously, all module passwords must be identical. It is recommended to configure passwords in advance to avoid security risks caused by using default passwords. (Refer to Appendix B)

Step1: Select Modules

Check the modules for which CPU usage reduction is required.

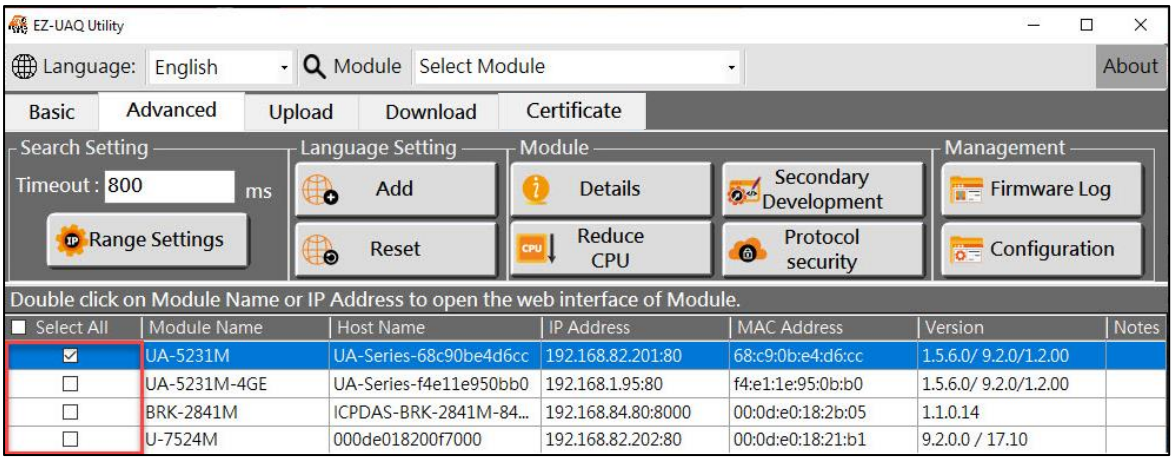


Figure 5-36 Reduce CPU Usage (1)

Step2: Execute CPU Usage Reduction

Click the [Reduce CPU] button. A confirmation message window (Figure 1) will appear. Click [YES] to confirm the operation.

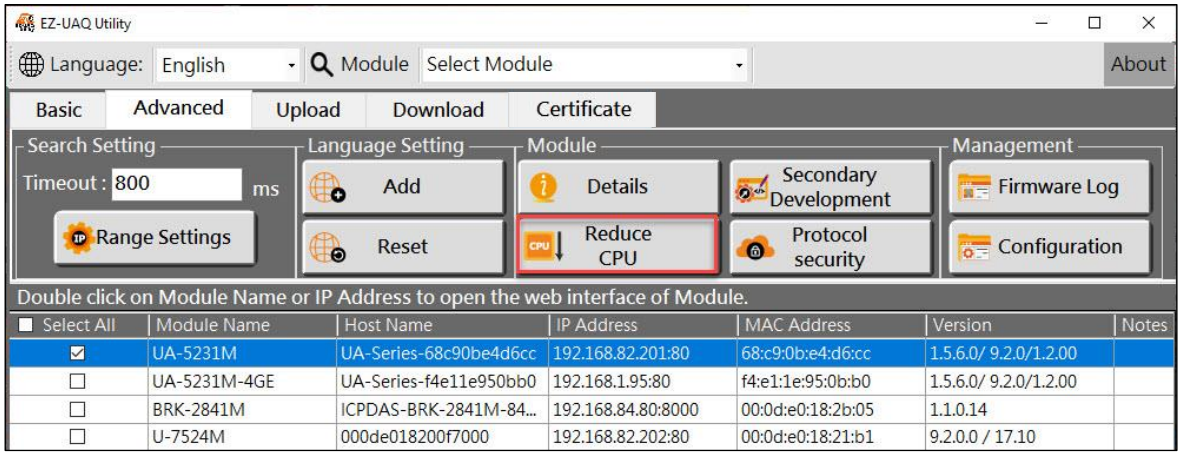
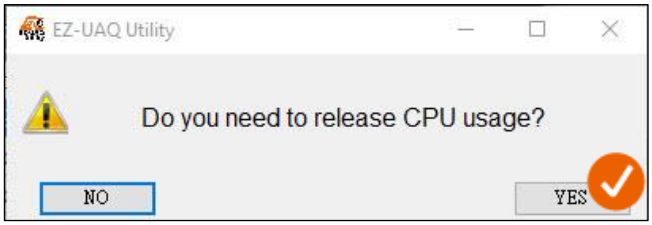


Figure 5-37 Reduce CPU Usage (2)

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



(Figure 1)

Step3: Enter Password

After the "Password" window appears, enter the EZ-UAQ Utility password configured in the module, then click [OK].

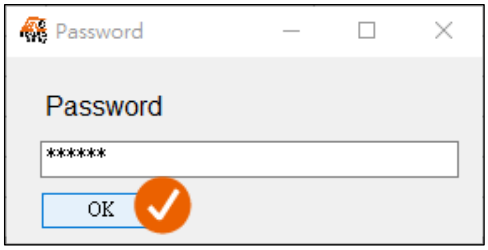


Figure 5-38 Reduce CPU Usage (3)

✧ **If no password has been configured, the system will use the default password. It is recommended to modify and unify passwords for modules in the same series. (Refer to Appendix B)** 。

Step 4: CPU Usage Reduction in Progress

When the interface displays "**Reduce CPU**", it indicates that CPU usage reduction is in progress.

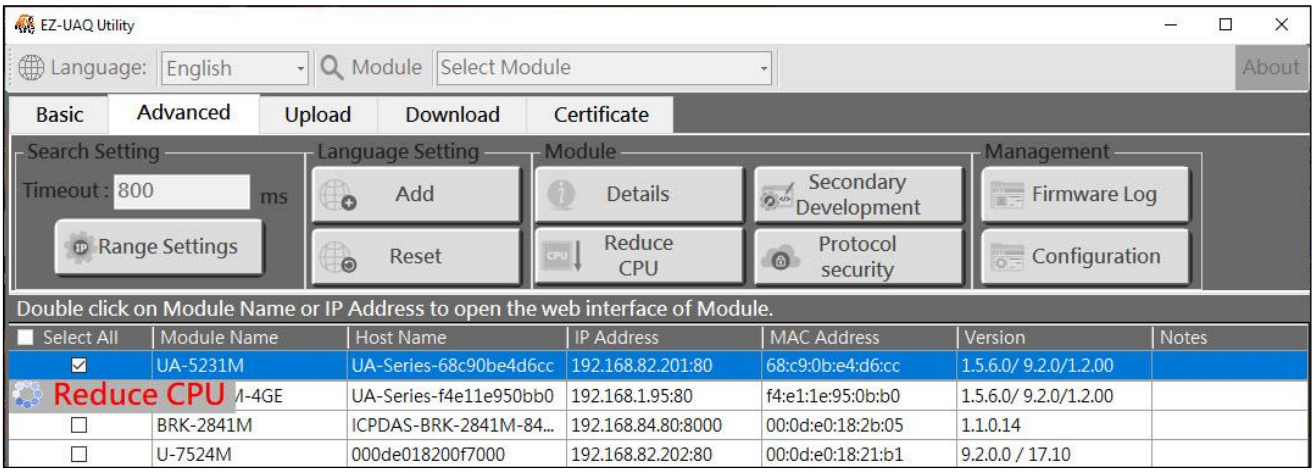


Figure 5-39 Reduce CPU Usage (4)

Step 5: CPU Usage Reduction Completed

After successful execution, the [Notes] field of the selected modules will display "**CPU Usage Reduction Success**".

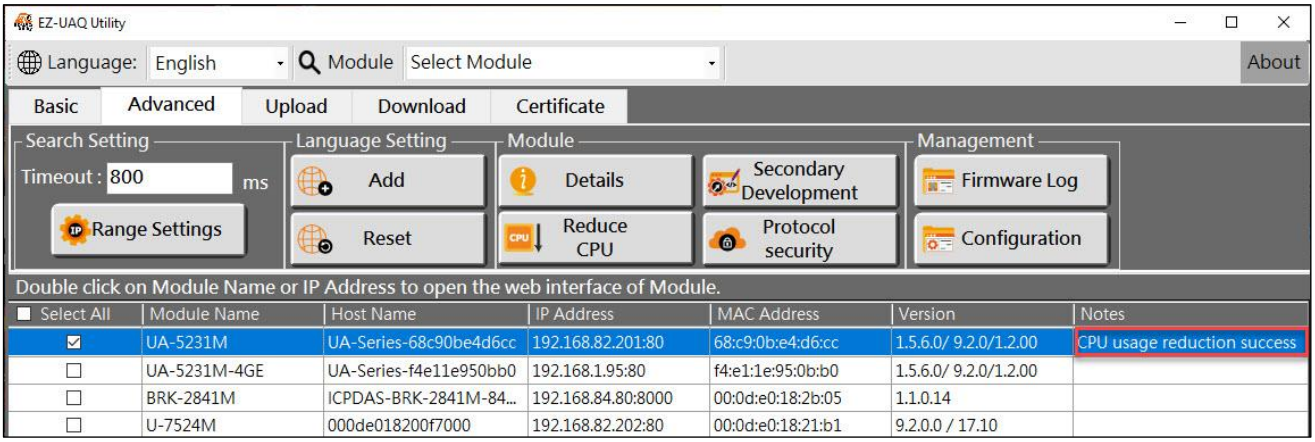
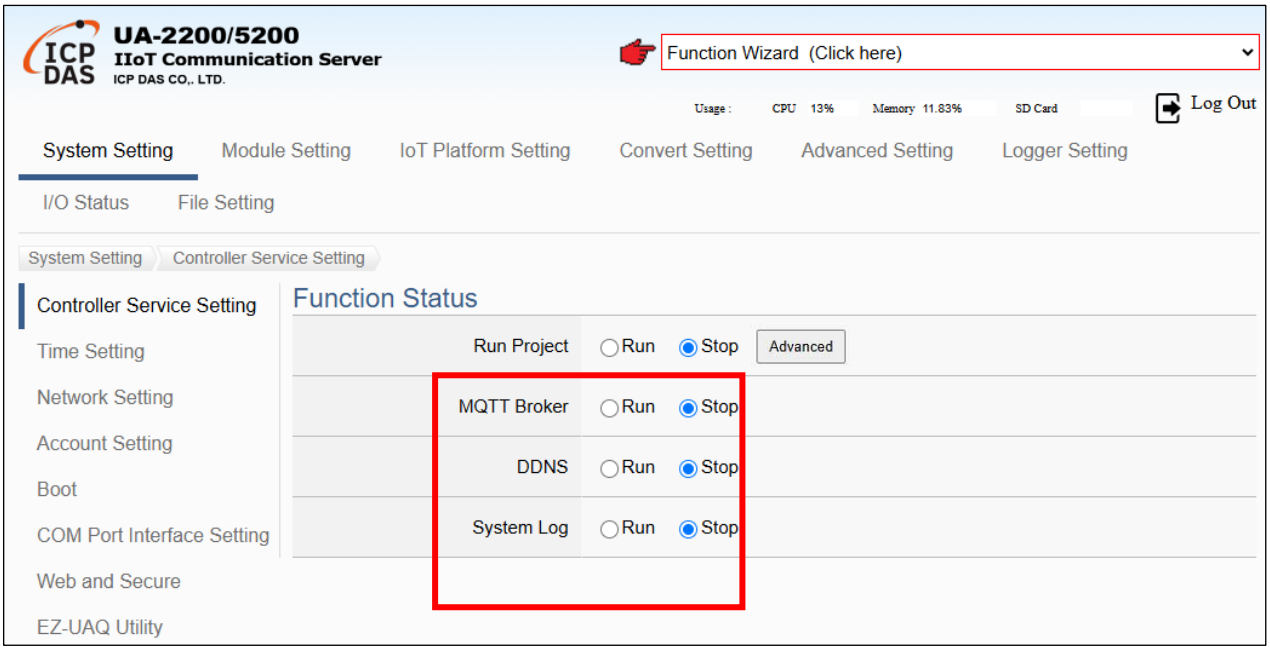


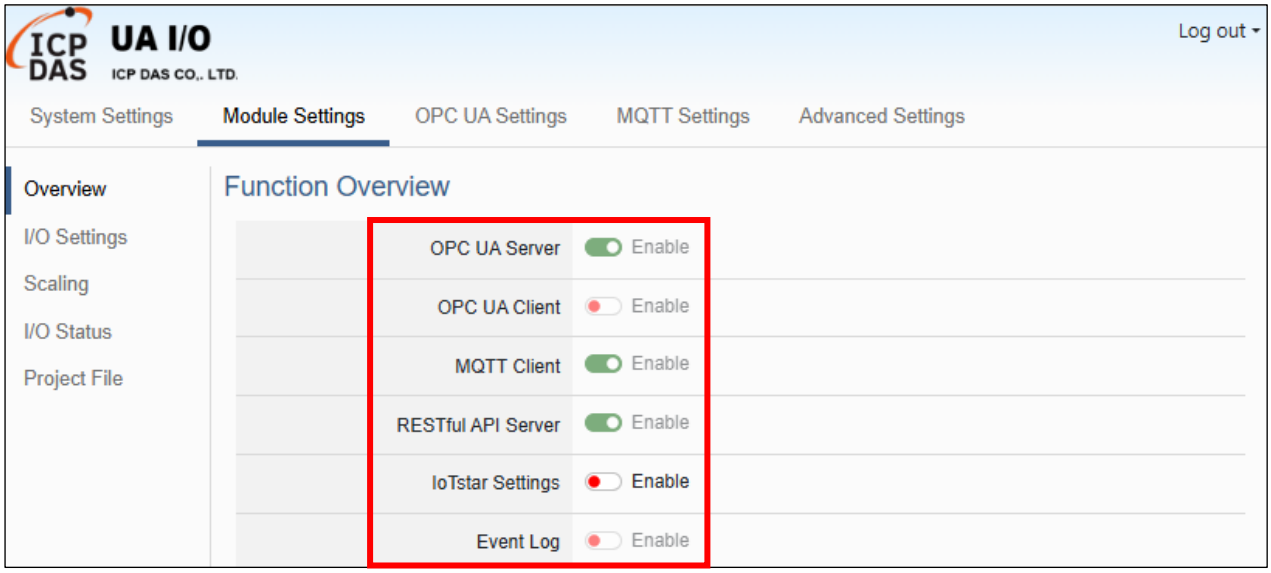
Figure 5-40 Reduce CPU Usage (5)

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

Open the UA webpage and navigate to: [System Settings > Controller Service Settings] to view the functions automatically disabled after CPU usage reduction.



Open the UA I/O webpage and navigate to: [Module Settings > Overview] to view the functions automatically disabled after CPU usage reduction.



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

➢ Secondary Development

This function is supported only by the UA and BRK series.

Note: Only one module can be selected for editing in the Secondary Development function.

Please select the target module and click the [Secondary Development] button. Then enter the EZ-UAQ Utility password configured in the module and click [OK].
After successful password verification, the “Secondary Development” window will appear. Users can then proceed with the following operations.

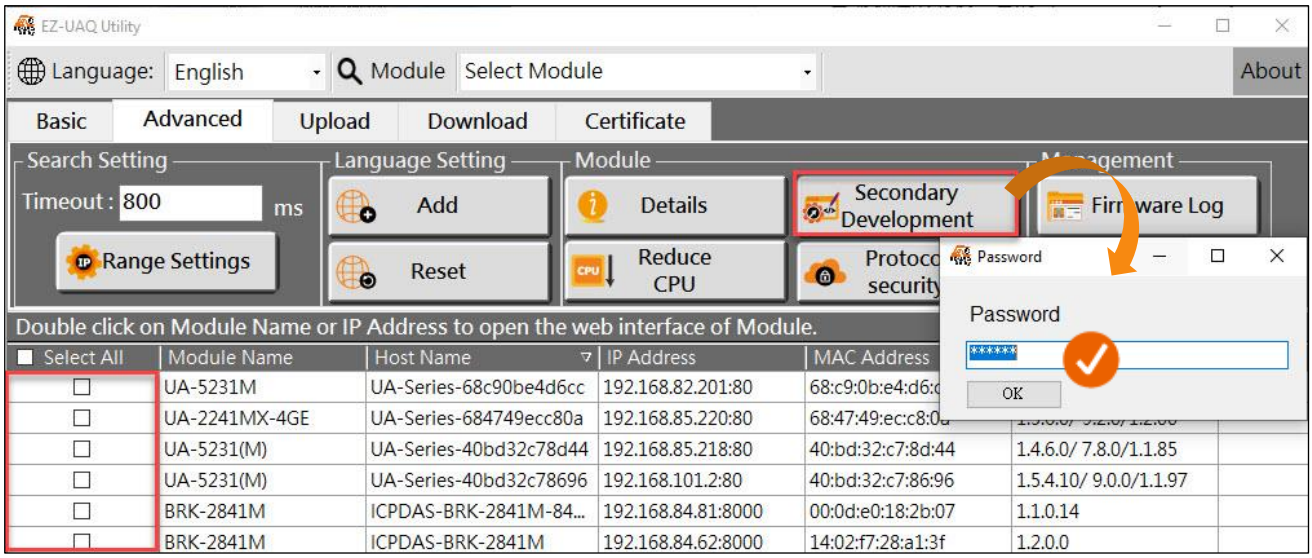


Figure 5-41 Secondary Development Page

✧ UA Series

> Through the built-in code examples, the following three applications can be implemented:

1. **Read UA Modbus tags and send notifications to LINE**
2. **Read UA Modbus tags and send notifications to Telegram**

Note: For the LINE and Telegram functions above, users must create their own BOT and obtain the corresponding Token and User ID.

3. **Monitor SCADA communication status and control Modbus I/O**

Tag Selection Description:

Red Box: Built-in sample programs and user-created programs
Green Box: Modbus tags within the UA

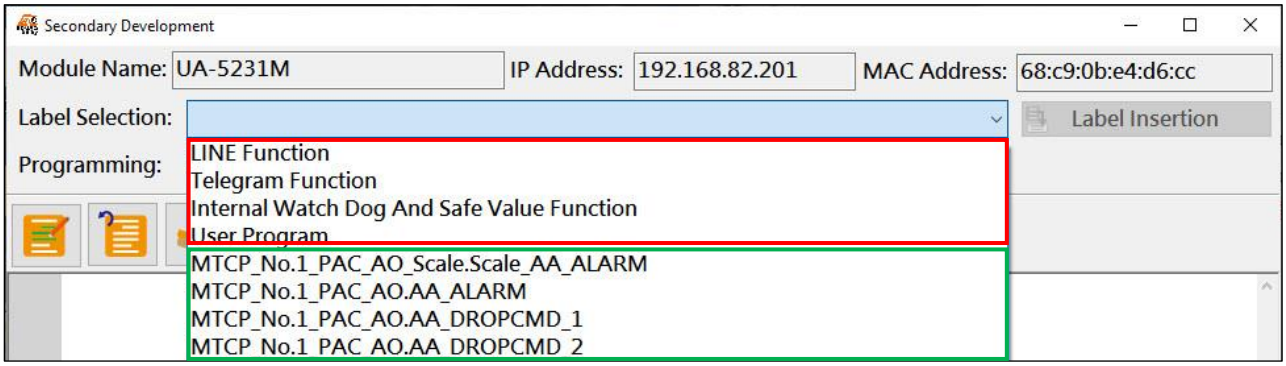


Figure 5-42 Secondary Development - Tag Selection Description

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

The following sections describe how to send UA Modbus tag changes to LINE or Telegram, and how to monitor SCADA communication status to control Modbus I/O.

1. Read UA Modbus Tags and Send Notifications to LINE

Step 1: Insert Code Example

(1) In the "**Tag Selection**" drop-down menu, select [**LINE Function**].

(2) Click the [**Insert Tag**] button. The corresponding sample code will automatically appear in the editor area.

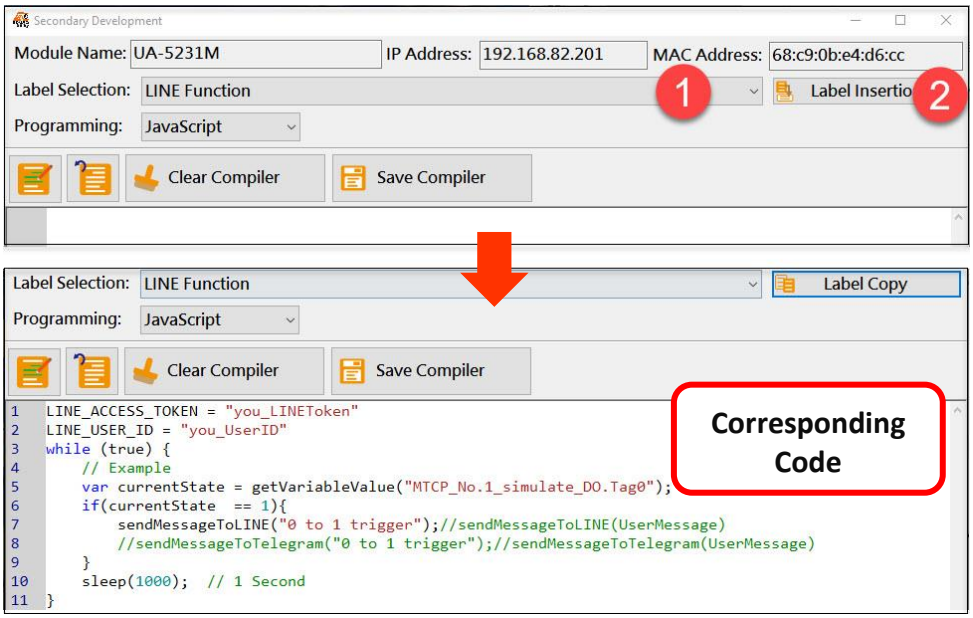


Figure 5-43 Secondary Development - Read UA Modbus Tags and Send Notifications to LINE (1)

❖ After clicking [**Insert Tag**], the button will change to [**Copy Tag**]. Press Ctrl+V to paste the Modbus tag into the editor area. **(Please refer to Tag Selection Description)** 。

Step 2: Configure Parameters and Save

(1) Enter the *LINE Token and User ID* in the editor area.

(2) Click the [**Save Editor**] button. When the "Save Successfully" message appears, click [**OK**].

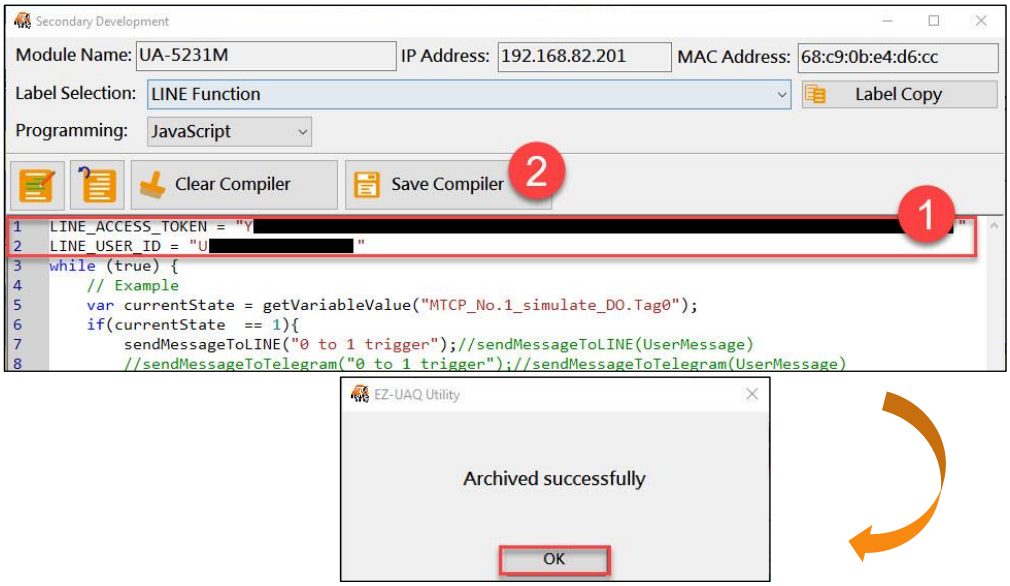


Figure 5-44 Secondary Development - Read UA Modbus Tags and Send Notifications to LINE (2)

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

Step 3: Upload Code

When the interface displays "**Updating the module(s) project, please wait**", it indicates that the code is being uploaded to the UA module.

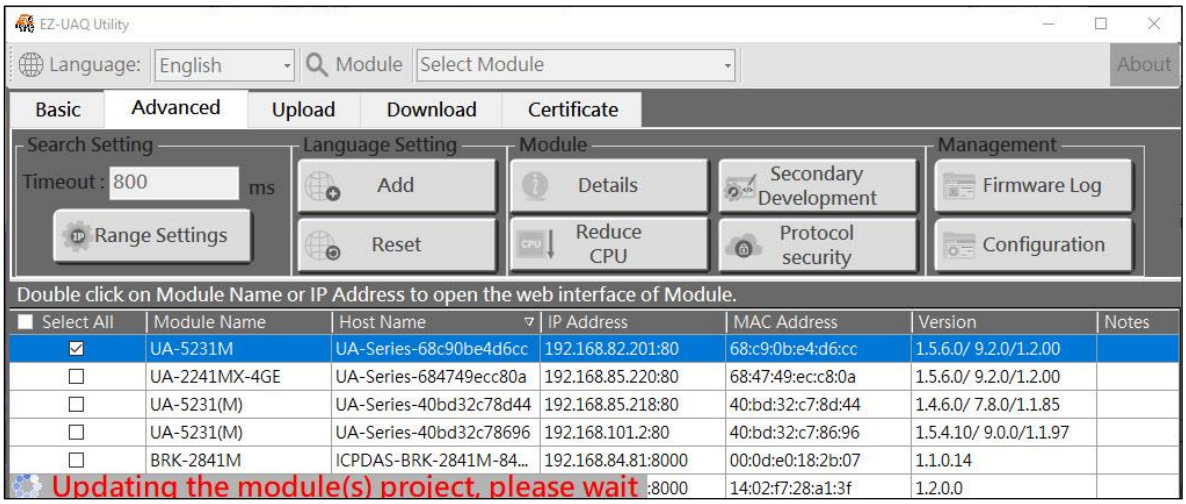


Figure 5-45 Secondary Development - Read UA Modbus Tags and Send Notifications to LINE (3)

Step 4: Code Upload Completed

After the upload is completed successfully, the [**Notes**] field of the selected module will display "**Update Successfully**".

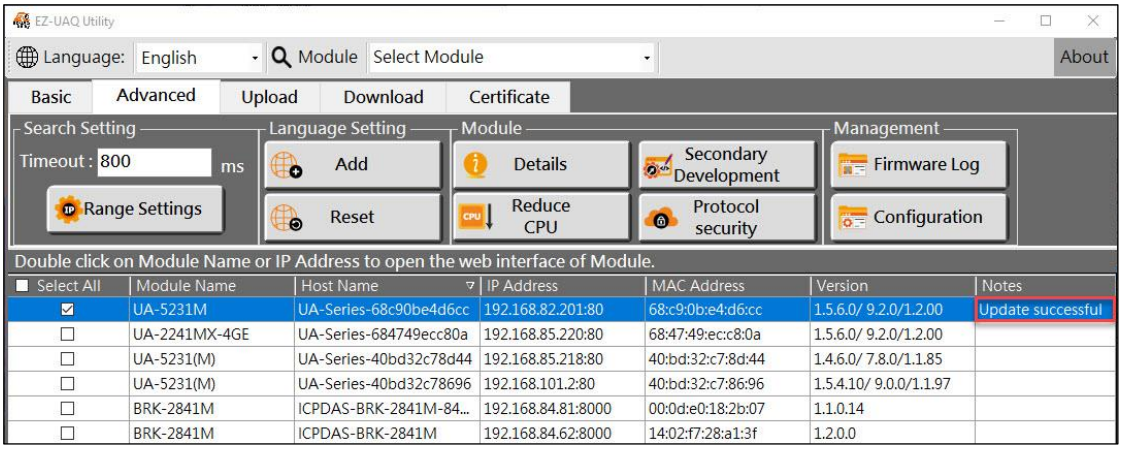


Figure 5-46 Secondary Development - Read UA Modbus Tags and Send Notifications to LINE (4)

Step 5: Receive Notification

After the configuration is completed, users will be able to receive notification messages sent from the UA module through **LINE**.

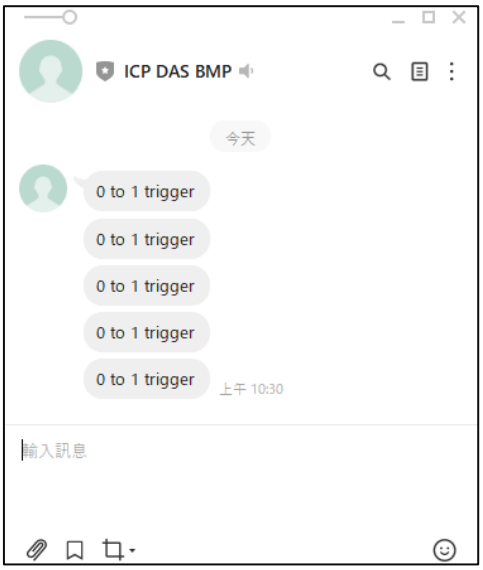


Figure 5-47 Secondary Development - Read UA Modbus Tags and Send Notifications to LINE (5)

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

2. Read UA Modbus Tags and Send Notifications to Telegram

Step 1: Insert Code Example

(1) In the "**Tag Selection**" drop-down menu, select [**Telegram Function**].

(2) Click the [**Insert Tag**] button. The corresponding sample code will automatically appear in the editor area.

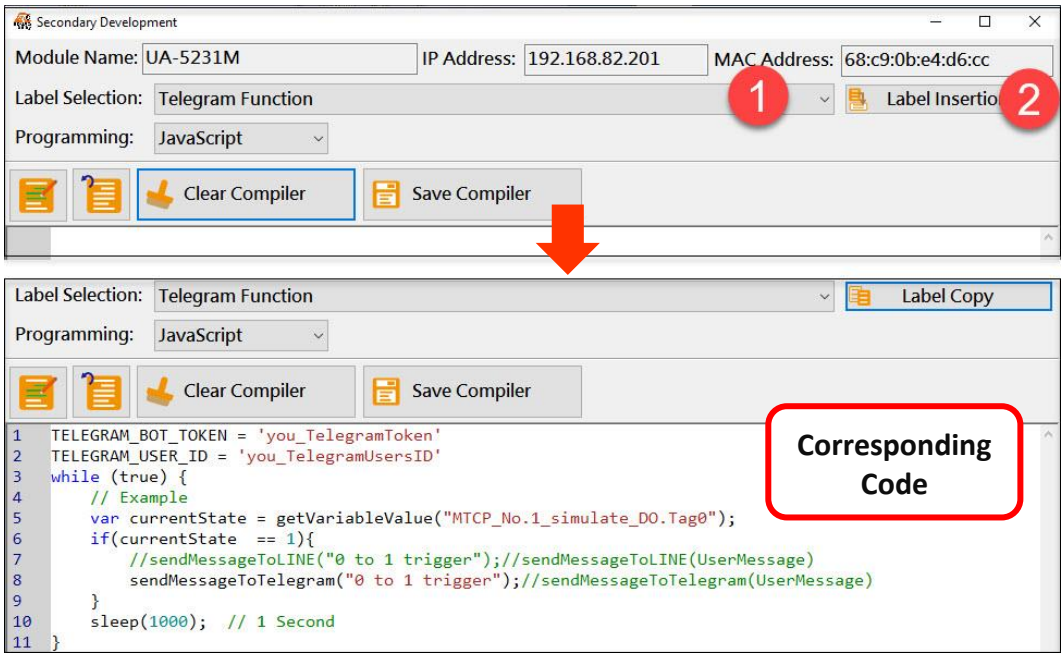


Figure 5-48 Secondary Development - Read UA Modbus Tags and Send Notifications to Telegram (1)

❖ **After clicking [Insert Tag], the button will change to [Copy Tag]. Press Ctrl+V to paste the Modbus tag into the editor area. (Please refer to Tag Selection Description)。**

Step 2: Configure Parameters and Save

(1) Enter the **Telegram Token and User ID** in the editor area.

(2) Click the [**Save Editor**] button. When the "Save Successfully" message appears, click [**OK**].

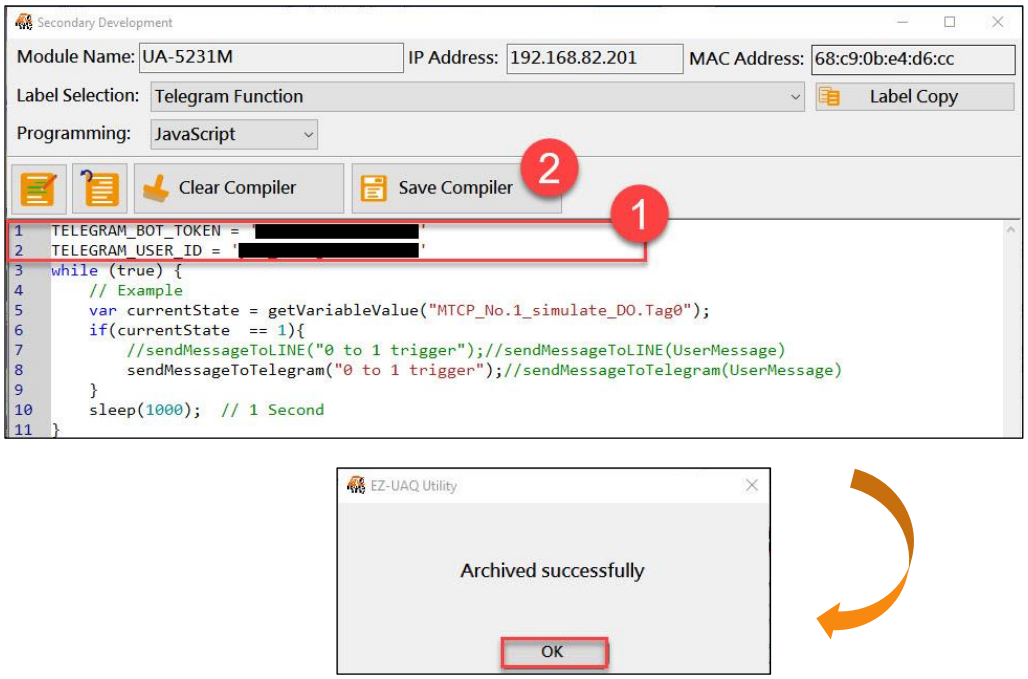


Figure 5-49 Secondary Development - Read UA Modbus Tags and Send Notifications to Telegram (2)

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

Step 3: Upload Code

When the interface displays "**Updating the module(s) project, please wait**", it indicates that the code is being uploaded to the UA module.

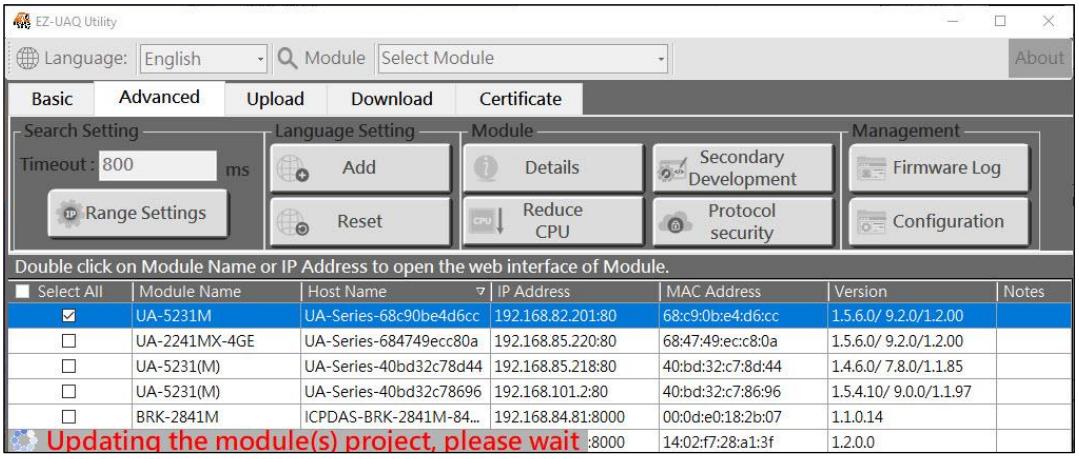


Figure 5-50 Secondary Development - Read UA Modbus Tags and Send Notifications to Telegram (3)

Step 4: Code Upload Completed

After the upload is completed successfully, the [Notes] field of the selected module will display "**Update Successfully**".

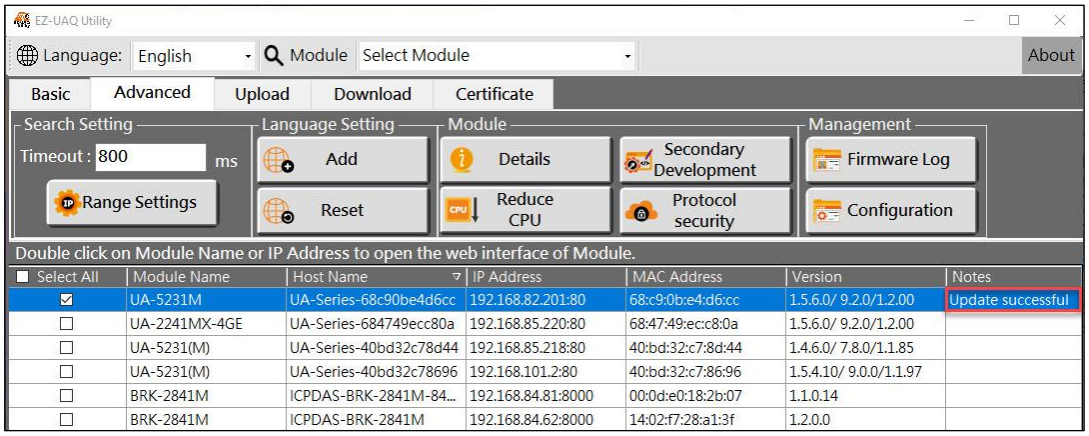


Figure 5-51 Secondary Development - Read UA Modbus Tags and Send Notifications to Telegram (4)

Step 5: Receive Notification

After the configuration is completed, users will be able to receive notification messages sent from the UA module through Telegram.



Figure 5-52 Secondary Development - Read UA Modbus Tags and Send Notifications to Telegram (5)

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

3. Monitor SCADA Communication and Control Modbus I/O

Using the UA Internal → OPC UA function, a WatchDog mechanism can be established. When SCADA communication is interrupted, the module can automatically output a predefined Safe Value to the Modbus I/O.

This function requires configuration in the following two parts:

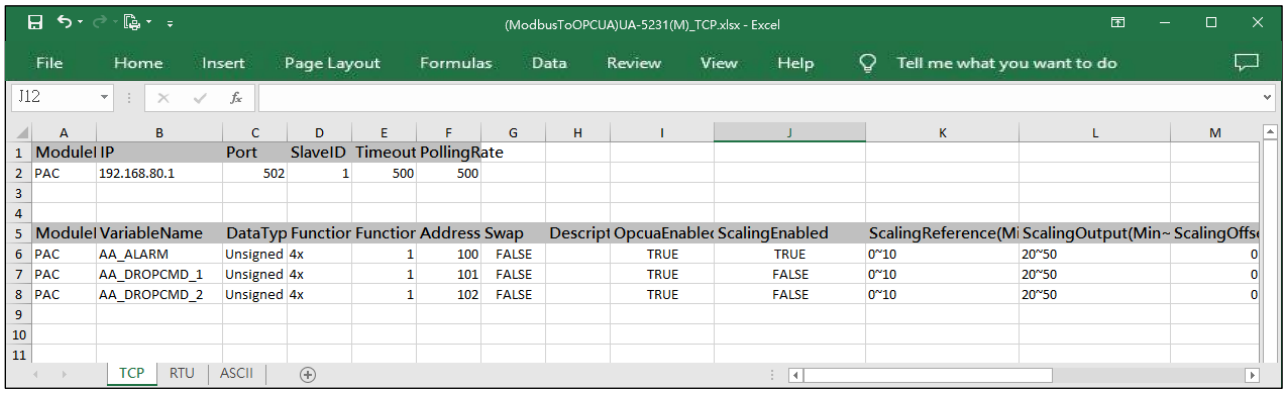
- ***Create the WatchDog mechanism***
- ***Monitor the SCADA WatchDog status***

a. Create the WatchDog Mechanism

The UA Internal To OPC UA function is used to create a WatchDog tag for monitoring the SCADA communication status.

Step 1: Edit the Modbus Configuration File

Configure the ModbusToOPCUA TCP configuration file to create the communication module and configure the corresponding tags.

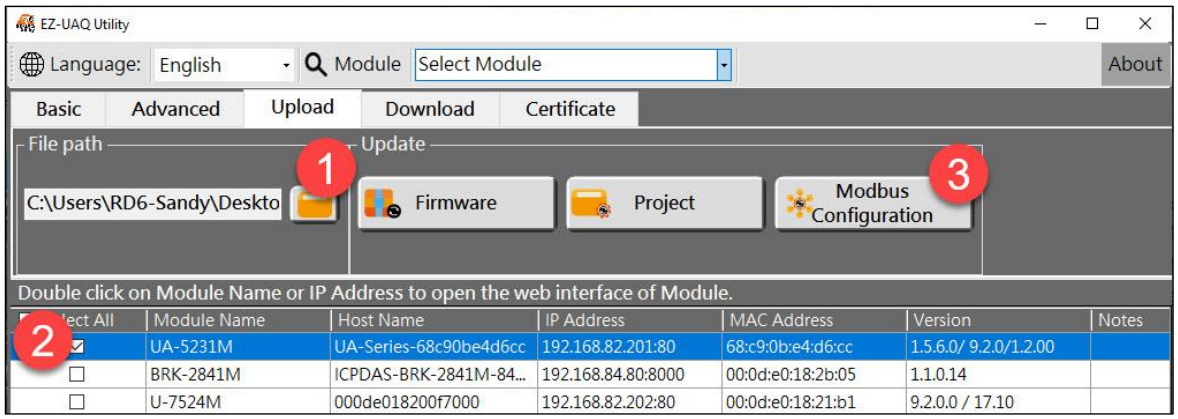


	A	B	C	D	E	F	G	H	I	J	K	L	M
1	ModuleI	IP	Port	SlaveID	Timeout	PollingRate							
2	PAC	192.168.80.1	502	1	500	500							
3													
4													
5	ModuleI	VariableName	DataTyp	Functior	Functior	Address	Swap	Descript	OpcuaEnable	ScalingEnabled	ScalingReference(Mi	ScalingOutput(Min~	ScalingOffs
6	PAC	AA_ALARM	Unsigned	4x	1	100	FALSE		TRUE	TRUE	0~10	20~50	0
7	PAC	AA_DROPCMD_1	Unsigned	4x	1	101	FALSE		TRUE	FALSE	0~10	20~50	0
8	PAC	AA_DROPCMD_2	Unsigned	4x	1	102	FALSE		TRUE	FALSE	0~10	20~50	0
9													
10													
11													

Figure 5-53 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (1)

Step 2: Upload the Modbus Configuration File (via EZ-UAQ Utility)

(1) Click the [ ]button and select the edited ModbusToOPCUA TCP configuration file.
(2) Select the modules to update the Modbus configuration.
(3) Click the [**Modbus Configuration**] button. Two confirmation message windows will appear sequentially（Figure I、Figure II）. Click [**YES**] for both prompts.



For detailed operation procedures, please refer to **Update Modbus Configuration**

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

(4) Key in password to update the configuration file. After the upload is completed successfully, the [Notes] field of the selected module will display “Update Successfully”.

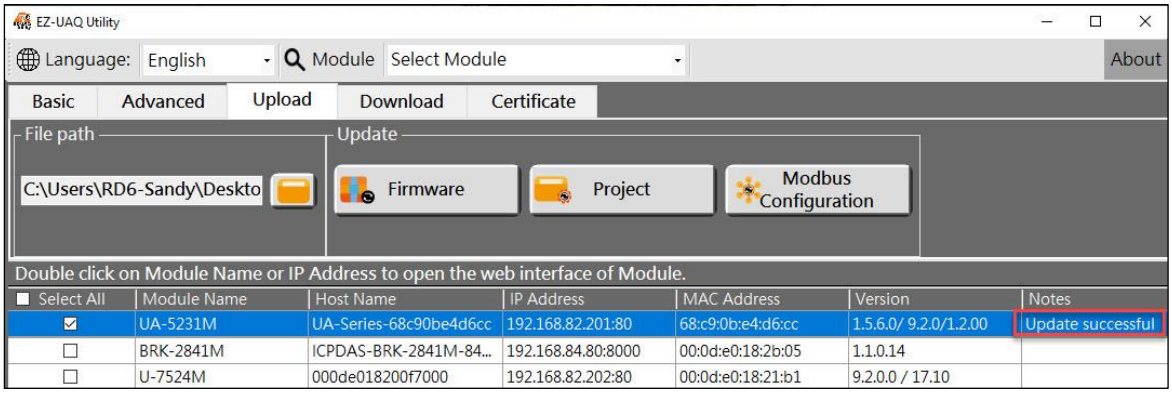


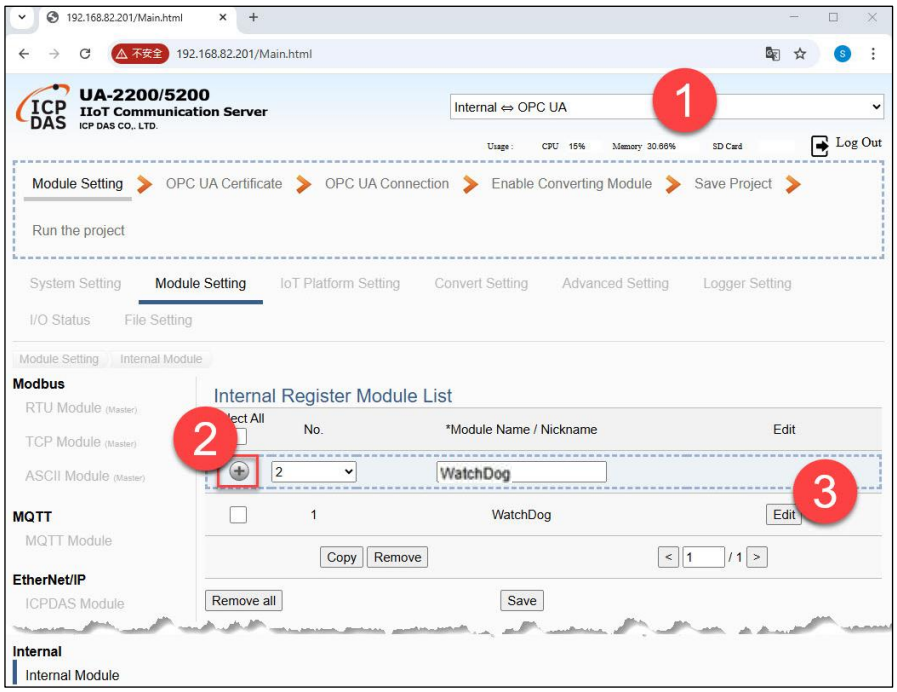
Figure 5-54 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (2)

Step 3: Configure and Enable the WatchDog Module (via UA Webpage)

(1) Navigate to [Internal <=> OPC UA] → [Internal Module].

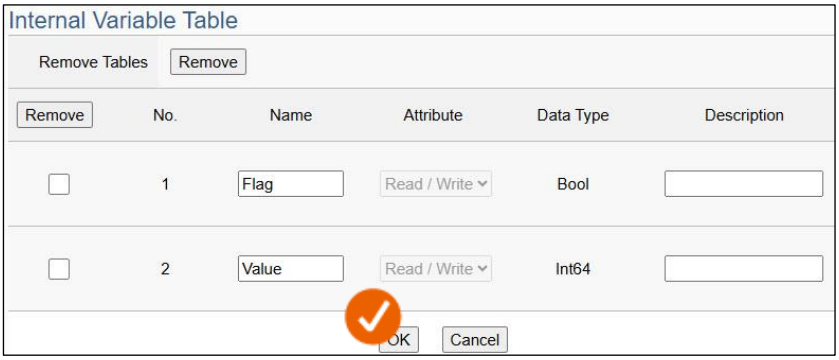
(2) Set the module name to “WatchDog” and click the [⊕] button to create a new module.

(3) Click the [Edit] button to create two tags within the module. **(Please refer to UA User Manual section 5.2.7 Internal Module)**



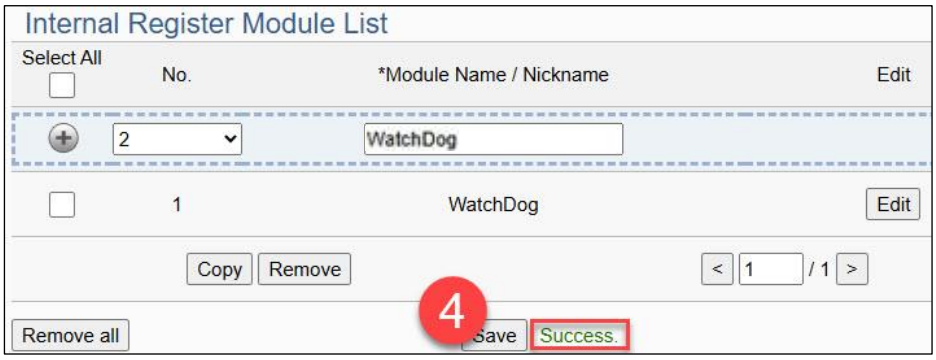
After creating the following two tags, click [**Confirm**].

- **Flag :** Used to determine whether communication between the UA and SCADA is normal.
- **Value :** Used to receive values transmitted from SCADA and forward them to the Modbus I/O below.

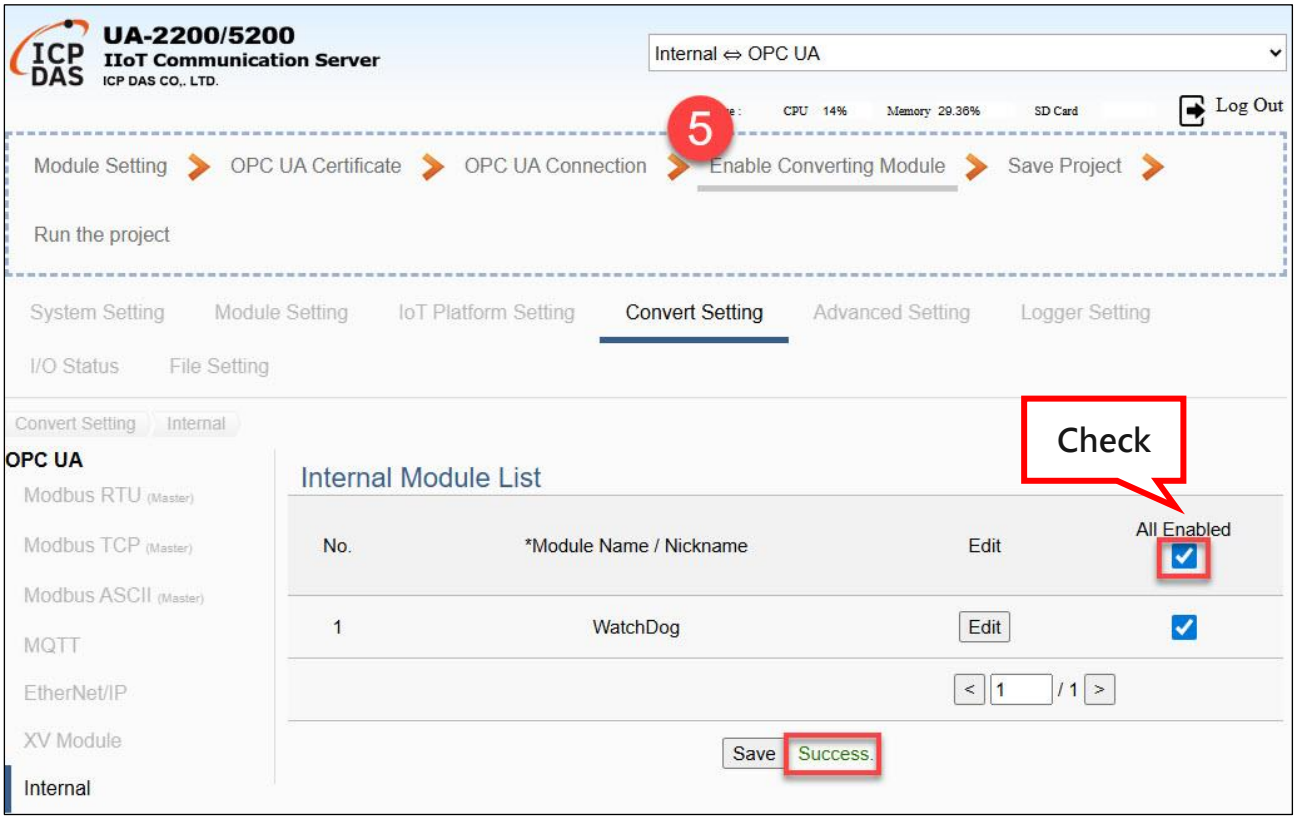


LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

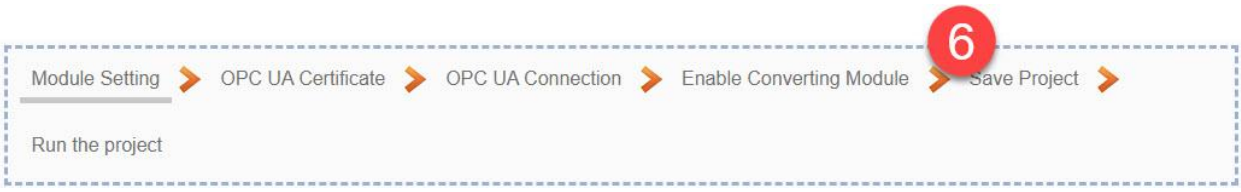
(4) Click the [**Save**] button. When the "**Success**" message appears, the configuration has been saved successfully.



(5) Click [**Enable Conversion Module**] → Enable the WatchDog module → Click [**Save**]. When the "**Success**" message appears, the configuration has been saved successfully.



(6) Click [**Save Project**] to save the current project configuration.



(7) Click [**Run Project**] to apply the current configuration.



Figure 5-55 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (3)

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

b. Monitor SCADA WatchDog Status

Use a [Secondary Development function] sample program to monitor the SCADA WatchDog status, and automatically control the Modbus I/O to output a Safe Value in case of communication failure.

Step 4: Insert Code Example (via EZ-UAQ Utility Secondary Development Function)

(1) In the "**Tag Selection**" drop-down menu, select [**Internal Watch Dog And Safe Value Function**].

(2) Click the [**Insert Tag**] button. The corresponding sample code will automatically appear in the editor area.

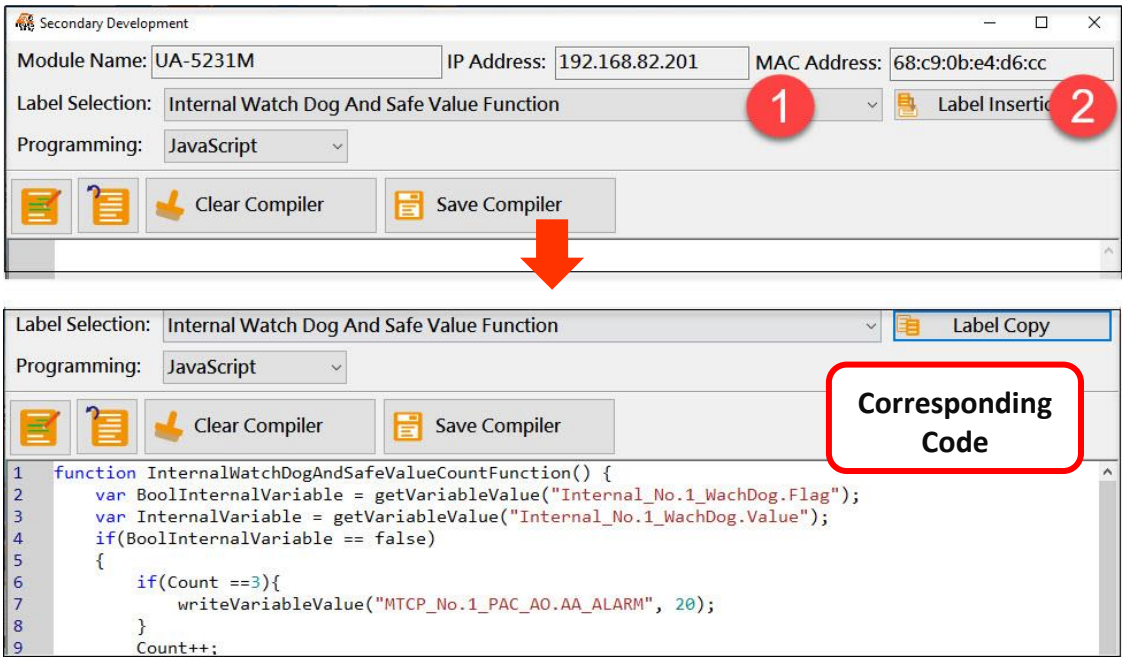


Figure 5-56 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (4)

❖ After clicking [Insert Tag], the button will change to [Copy Tag]. Press Ctrl+V to paste the Modbus tag into the editor area.(Please refer to the Tag Selection Description).

Step 5: Configure Parameters and Save

Click the [**Save Editor**] button. When the "Save Successfully" message appears, click [**OK**].

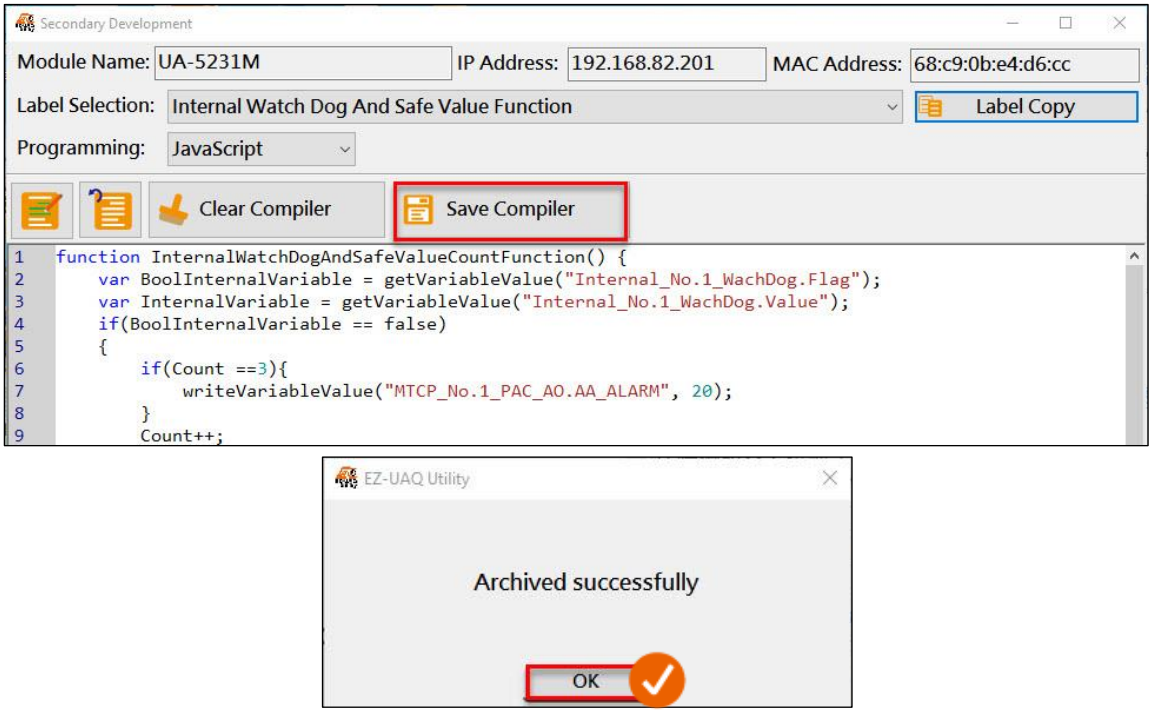


Figure 5-57 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (5)

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

Step 6: Upload Code

When the interface displays "Updating Module Project, Please Wait", it indicates that the code is being uploaded to the UA module.

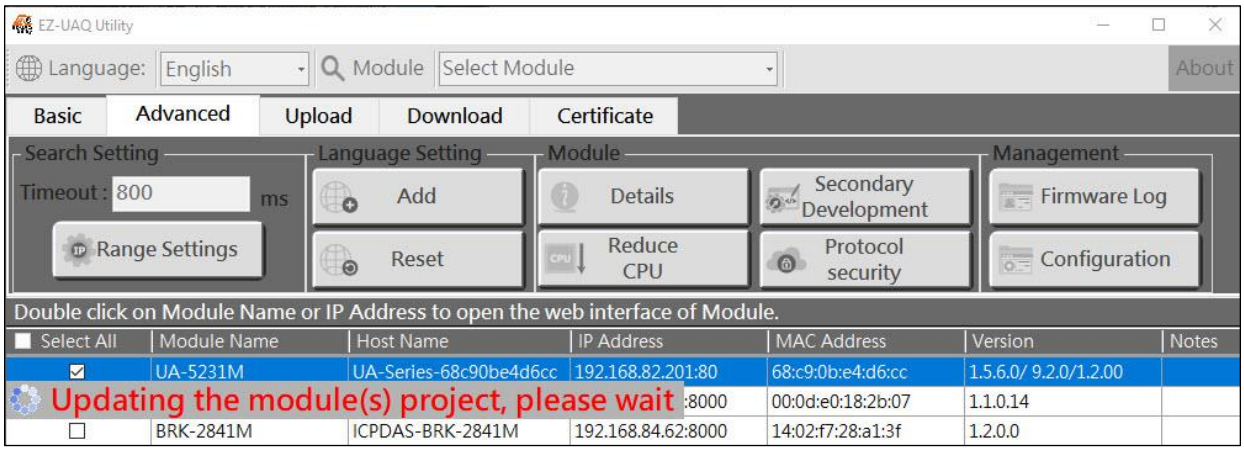


Figure 5-58 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (6)

Step 7: Code Upload Completed

After the upload is completed successfully, the [**Notes**] field of the selected module will display "**Update Successfully**"

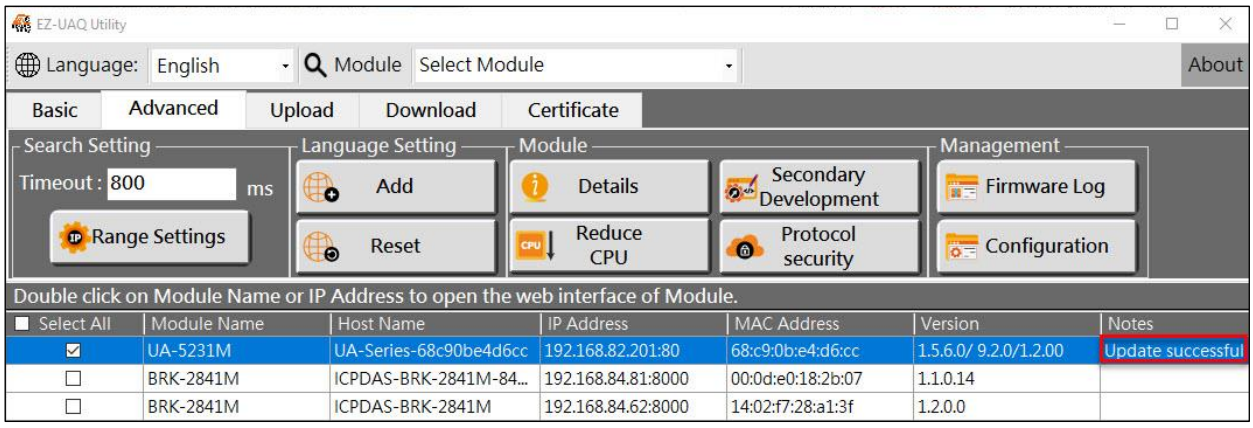
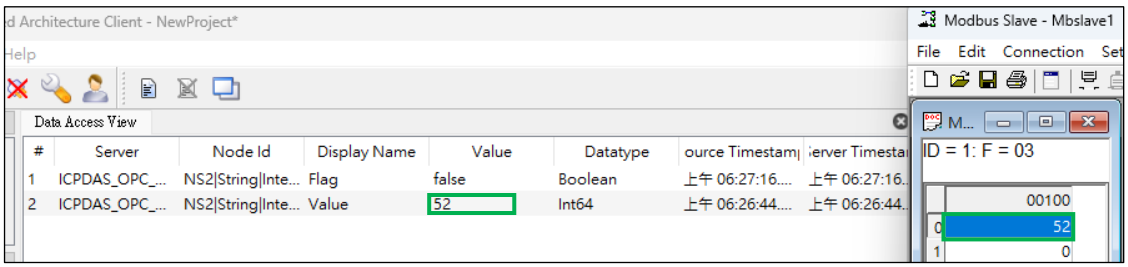


Figure 5-59 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (7)

Step 8: Monitor SCADA Communication and Control Modbus I/O

The following example uses UaExpert (left figure) and Modbus Slave (right figure) to simulate the operating scenario:

Normal: The Value in UaExpert **matches** the value in Modbus Slave.



Abnormal: The Value in UaExpert **does not match** the value in Modbus Slave.

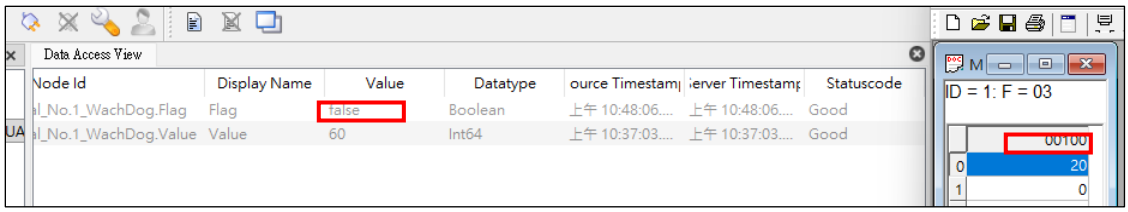


Figure 5-60 Secondary Development - Monitor SCADA Communication and Control Modbus I/O (8)

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

✧ **BRK Series**:

1. Through the "**Built-in Code**" and "**Prompt Example Files**" functions, users can generate various types of BRK reports.

> Built-in code templates include: Line_Chart, Pie_Chart, and Bar_Chart.

The following example demonstrates report generation using the built-in Line Chart template. For generating other types of BRK reports using prompt example files, please refer to **FAQ-006**

1. Generate BRK Reports Using Built-in Code (Line Chart Example)

Step 1: Select Template

(1) In the "**Select Template**" drop-down menu, choose [**Line_Chart**].

(2) Click the [**Insert Template**] button. The corresponding code will automatically appear in the editor area.

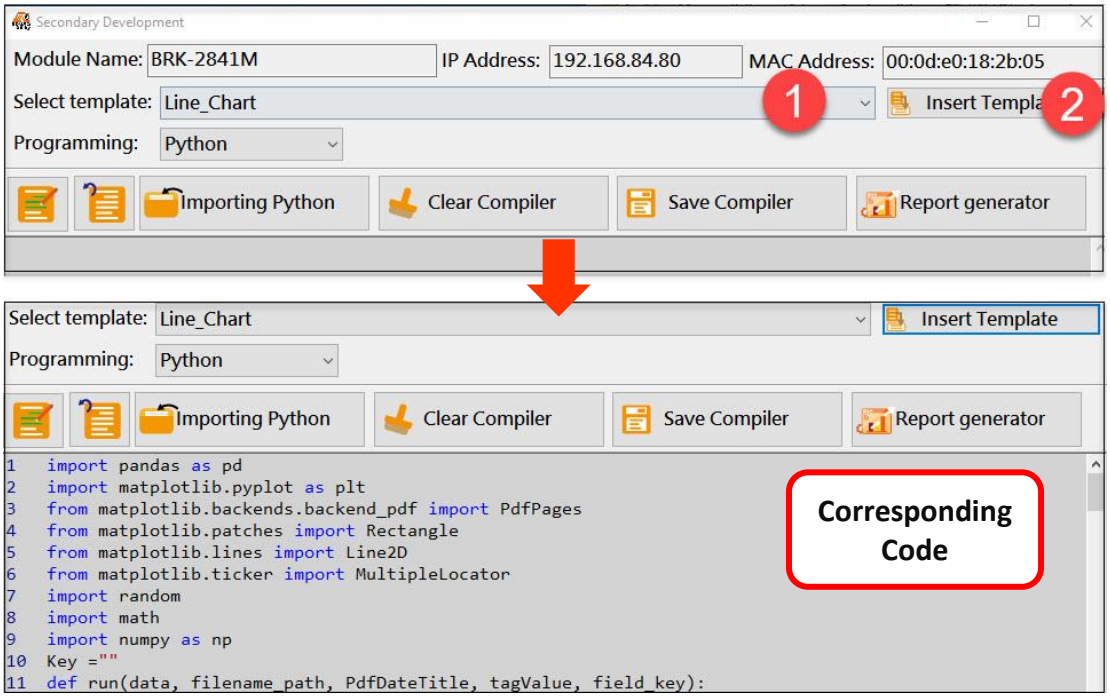


Figure 5-61 Secondary Development-Generate BRK Reports Using Built-in Code (1)

Step 2: Save the Code

(1) Click the [**Save Compiler**] button.

(2) In the "**Save File**" window, enter the file name and click icon to [**Save**].

(3) When the "**Save Successfully**" message appears, click [**OK**].

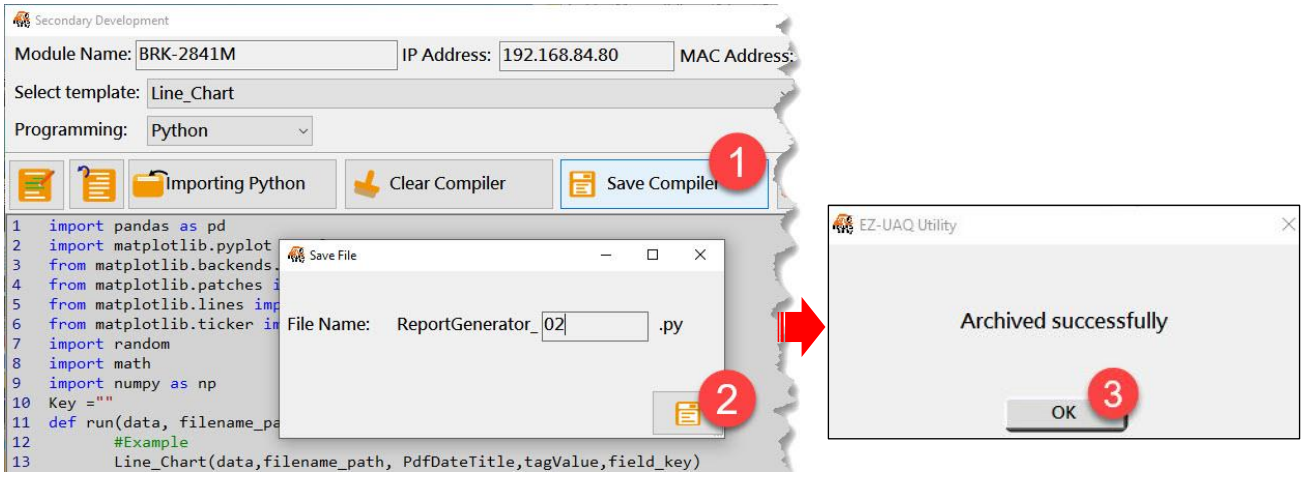


Figure 5-62 Secondary Development-Generate BRK Reports Using Built-in Code (2)

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

Step 3: Upload Code

The code will be uploaded automatically to the BRK module.

After completion, the "**Upload Successfully**" message window will appear. Click [**OK**].

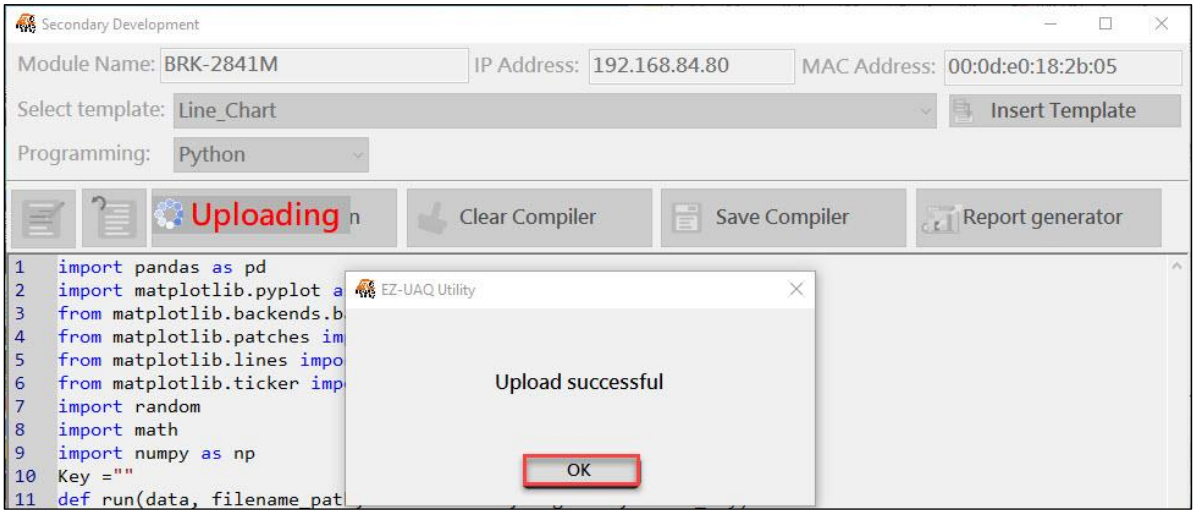


Figure 5-63 Secondary Development-Generate BRK Reports Using Built-in Code (3)

Step 4: Open the Report Generator

Click the [**Report Generator**] button to open the "**BRK Report Generator**" webpage.

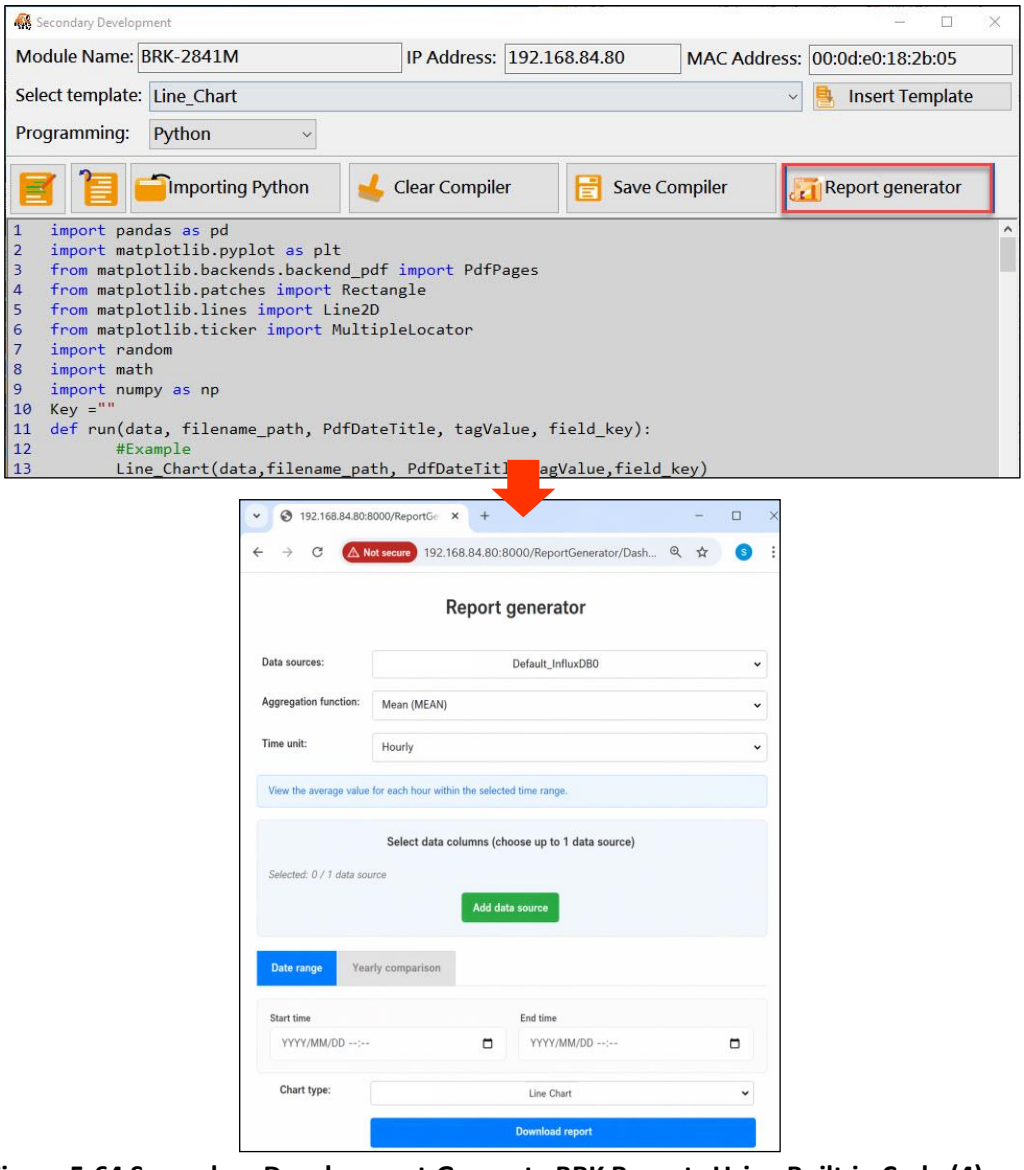


Figure 5-64 Secondary Development-Generate BRK Reports Using Built-in Code (4)

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

Step 5: Configure Report Data

Under **Data Sources**, users can adjust the aggregation function and time interval. This example uses the default settings (Average Value / Hourly).

(1) Click the [**Add Data Source**] button and select the report data under "**Data Source 1**".

(2) Configure the report start and end time under "**Date Range**".

(3) In the "**Report Type**" drop-down menu, select the file that was previously uploaded and named in EZ-UAQ Utility.

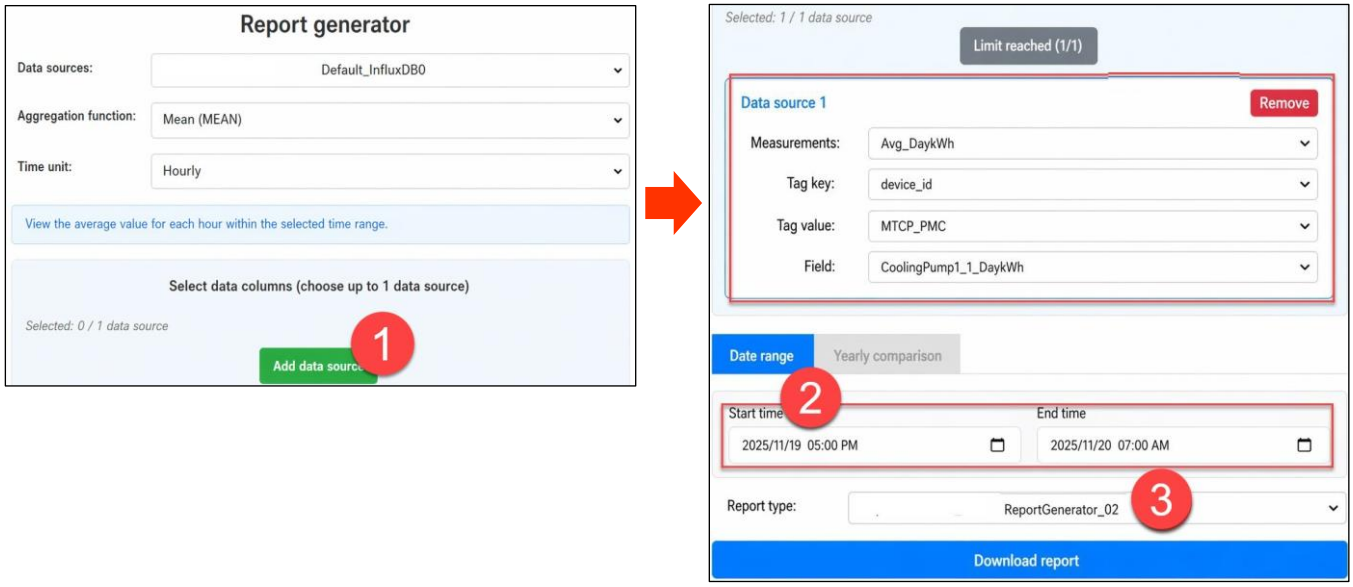


Figure 5-65 Secondary Development-Generate BRK Reports Using Built-in Code (5)

Step 6: Generate BRK Report

Click the [**Download Report**] button to generate the BRK report (Excel or PDF format).

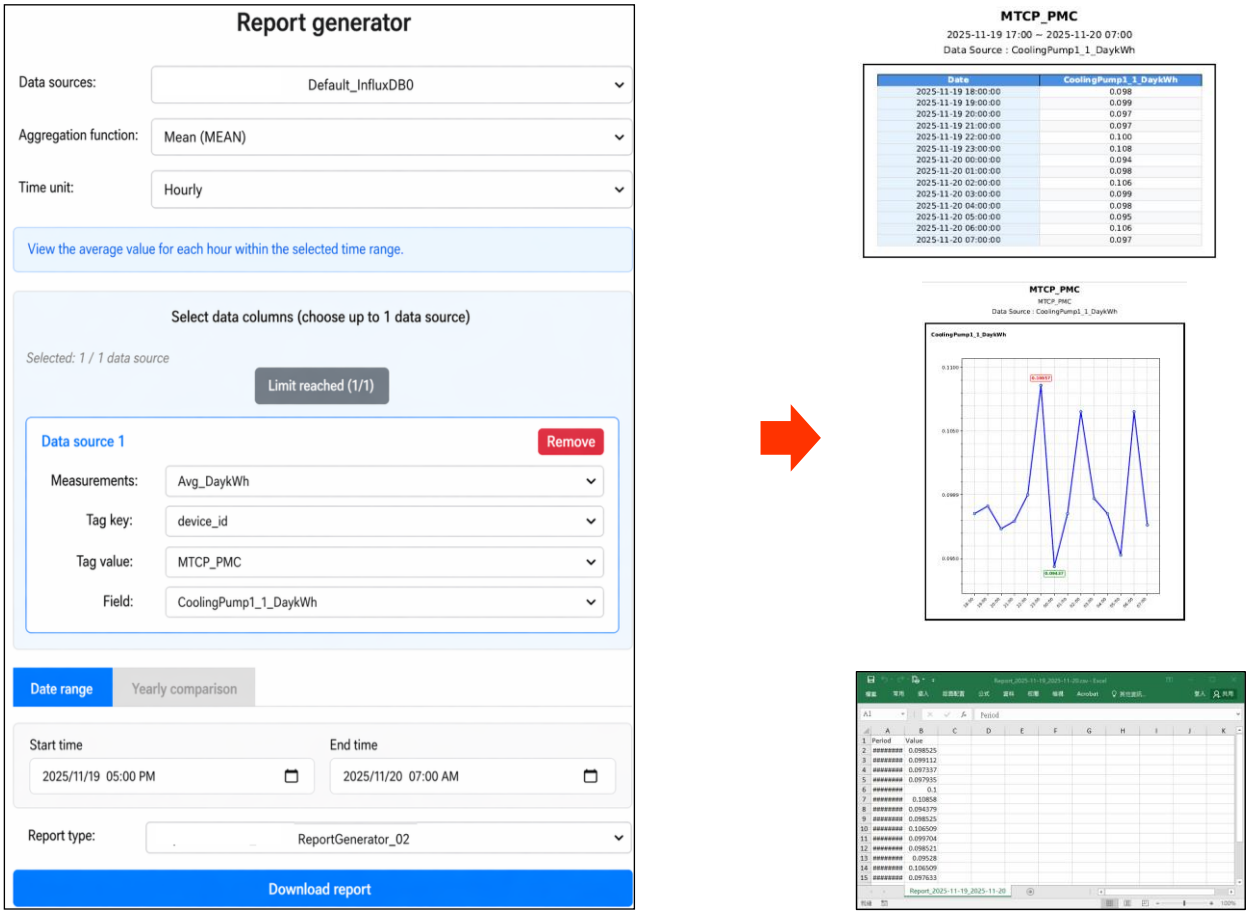


Figure 5-66 Secondary Development-Generate BRK Reports Using Built-in Code (6)

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

➢ **Protocol Security**

This function allows users to check the security status of module communication protocols, including **HTTPS**, **OPC UA Server/Client**, and **MQTT Broker/Client**, and verify whether encryption and certificate functions are enabled.

Note: When retrieving protocol security information from multiple modules simultaneously, all module passwords must be identical. It is recommended to configure passwords in advance to avoid security risks caused by using default passwords. (Refer to Appendix B)

Step 1: Select Modules

Select the modules to be queried.

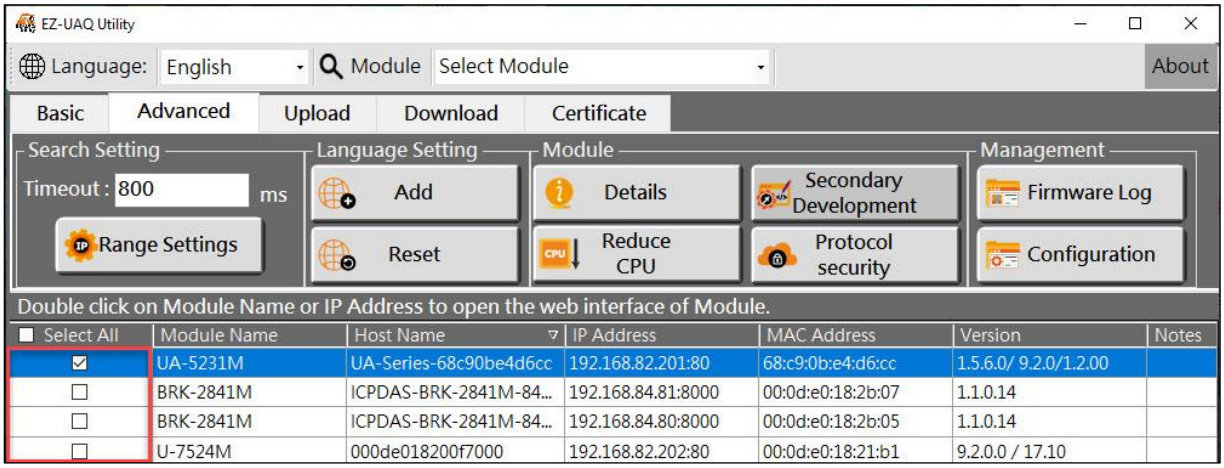


Figure 5-67 Protocol Security (1)

Step 2: Execute Protocol Security

Click the [**Protocol Security**] button.

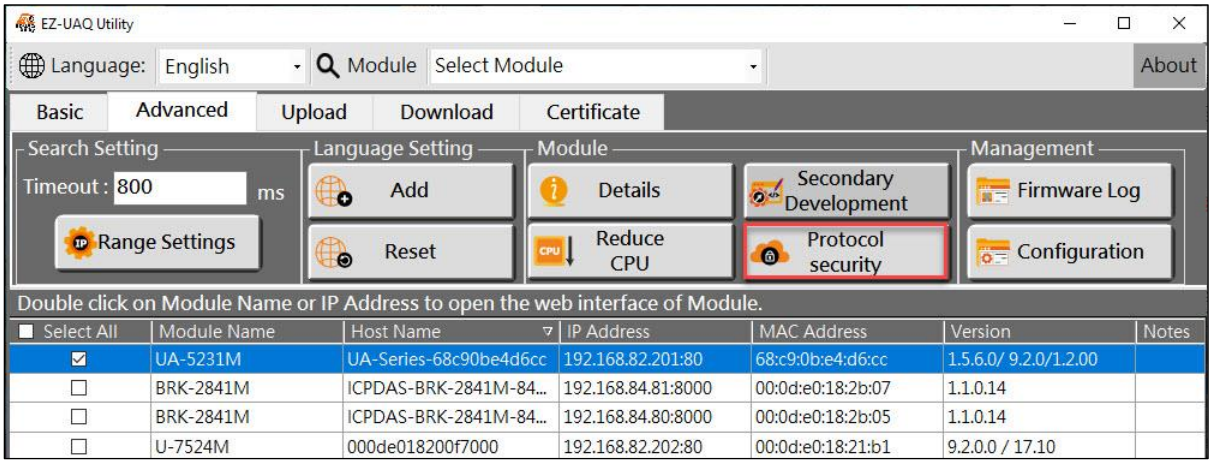


Figure 5-68 Protocol Security (2)

Step 3: Enter Password

After the “Password” window appears, enter the EZ-UAQ Utility password configured in the module and click [**OK**].

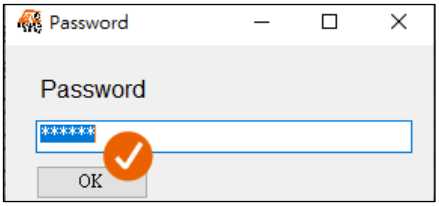


Figure 5-69 Protocol Security (3)

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

Step 4: Retrieving Protocol Security Information

When the interface displays "**Get Module Protocol Security**", it indicates that the protocol security information is being collected.

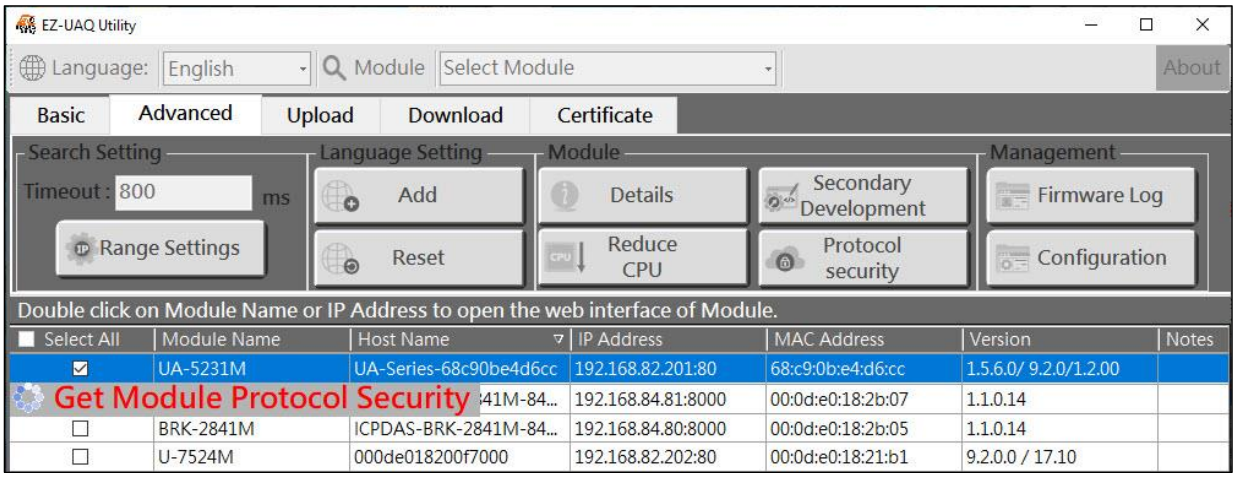


Figure 5-70 Protocol Security (4)

Step 5: View Module Protocol Security Information

After completion, the results will be displayed in the "**Module Protocol Security**" window.

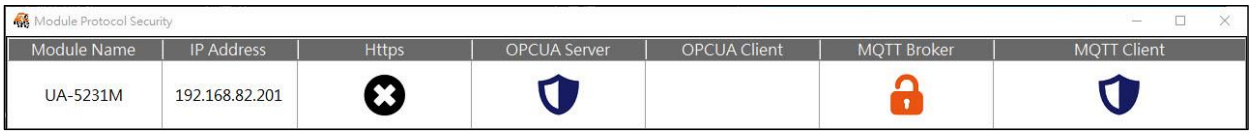


Figure 5-71 Protocol Security (5)

Icon Status	Description
	The protocol function is disabled
	The protocol is enabled but encryption and certificate functions are not used
	The protocol is enabled and encryption/certificate functions are applied

Table 5-2 Module Protocol Security Description

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

➢ **Firmware Log**

Firmware update records are automatically generated after each firmware upgrade, allowing users to track and manage the update history of multiple modules.

Step 1: Open Firmware Log

Click the [**Firmware Log**] button.

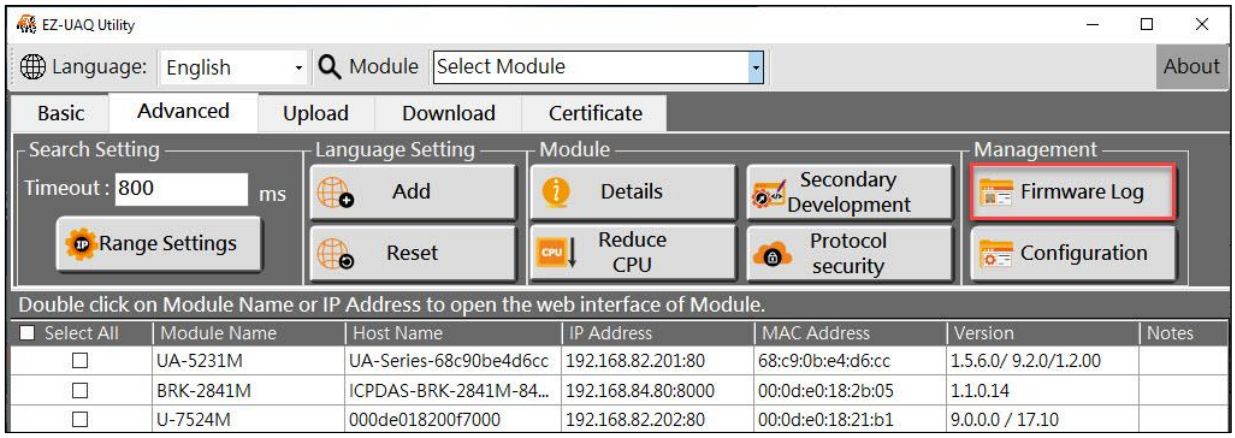


Figure 5-72 Firmware Log (1)

Step 2: View Update Records

In the “Firmware Log” window, users can view the firmware update history of each module.

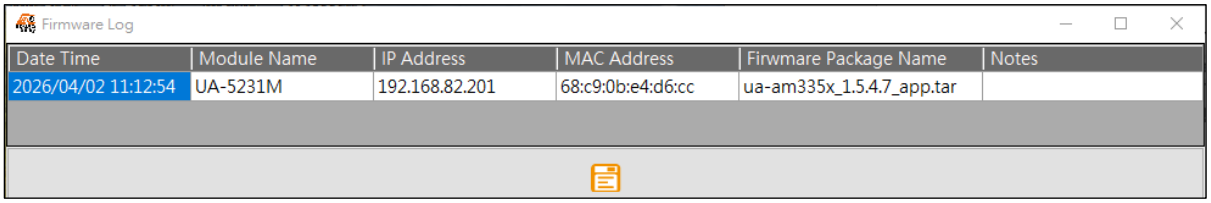
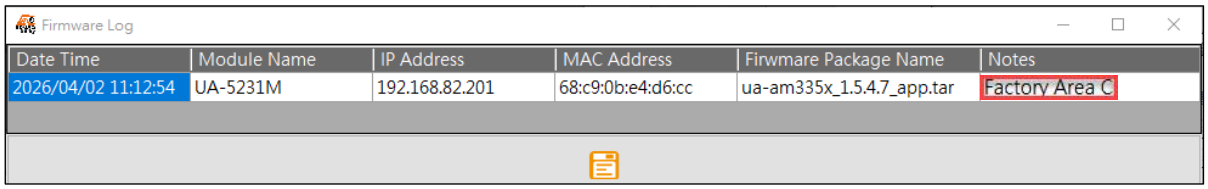


Figure 5-73 Firmware Log (2)

❖ **Users can enter notes in the Notes field and click [Save]. The information will automatically be displayed the next time the log is opened.**



Note: The maximum storage size for firmware log information is 5 GB. When the limit is exceeded, the system will automatically delete the oldest records to release storage space.

Record Information Description:

Field	Description
Date Time	Firmware update time
Module Name	Module name
IP Address	Module IP address
MAC Address	Module MAC address
Firmware Package Name	Firmware package file name
Notes	User-defined remarks

Table 5-3 Firmware Log Record Description

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

➢ Configuration

Whenever a project is downloaded, the system automatically records and backs up the configuration files, allowing users to track historical records and restore module configurations when necessary.

Step 1: Open Configuration

Click the [**Configuration**] button.

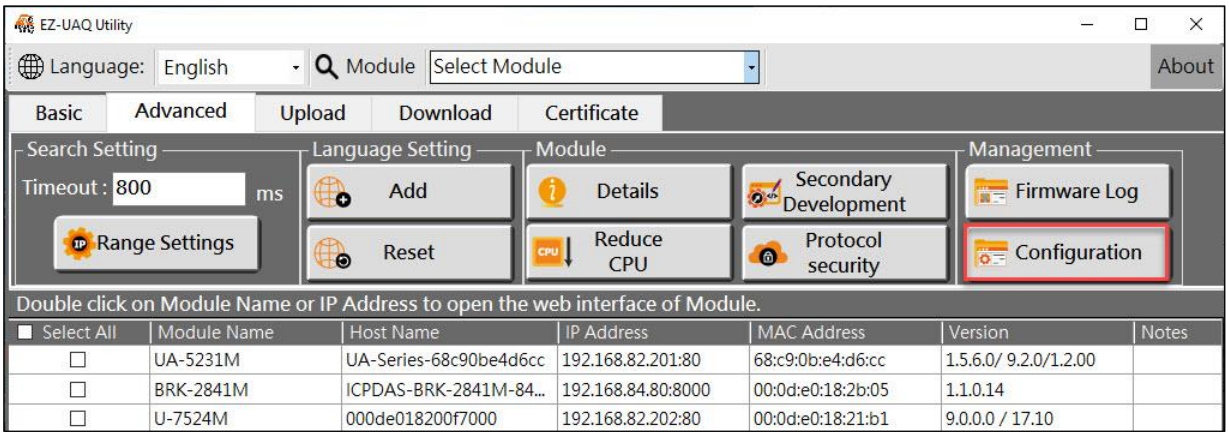


Figure 5-74 Configuration (1)

Step 2: View Update Records

In the “Manage Configurations” window, users can view the update history of each module.

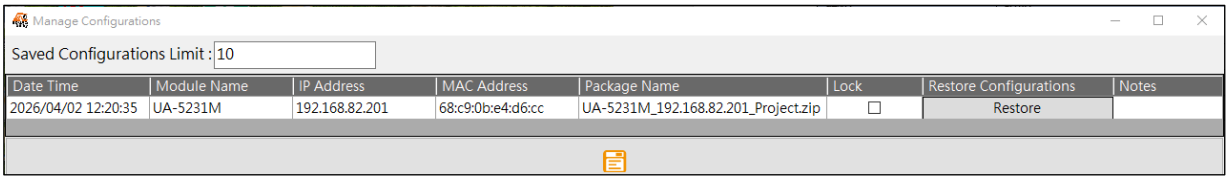
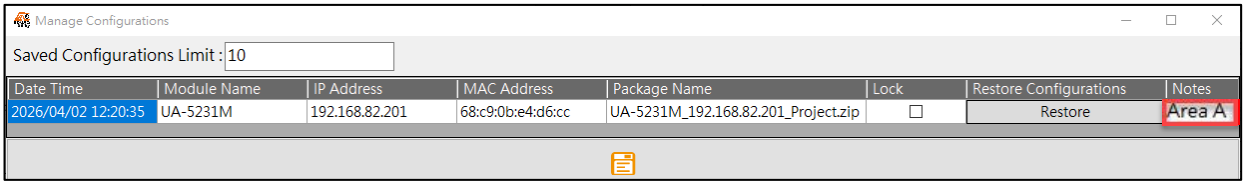


Figure 5-75 Configuration (2)

❖ **Users can enter notes in the Notes field and click [Save]. The information will automatically be displayed the next time the window is opened.**



Saved Configurations Limit: Sets the maximum number of retained backups (default: 10). When the limit is exceeded, the oldest backup will be deleted automatically.

Record Information Description:

Field	Description
Date Time	Date and time the configuration backup was created
Module Name	Module name
IP Address	Module IP address
MAC Address	Module MAC address
Package Name	Automatically generated compressed package name
Lock	When enabled, the backup configuration will be protected. Only unlocked backups will be deleted when the limit is exceeded.
Restore Configurations	Click to restore the backup configuration to the module
Notes	User-defined remarks

Table 5-4 Configuration Record Description

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

5.2.3 Upload

➢ **Firmware Update**

Using the [**Firmware Update**] function, users can batch update firmware for multiple UA, UA I/O, and BRK modules.

Note: When updating firmware for multiple modules simultaneously, the module model and password must be identical. It is recommended to configure passwords in advance to avoid security risks caused by using default passwords. (Refer to Appendix B)

The following example demonstrates the firmware update procedure for a single **U-7524M** module.

Step 1: Select Firmware Package

Click the [Browse] button and select the firmware package to be updated.

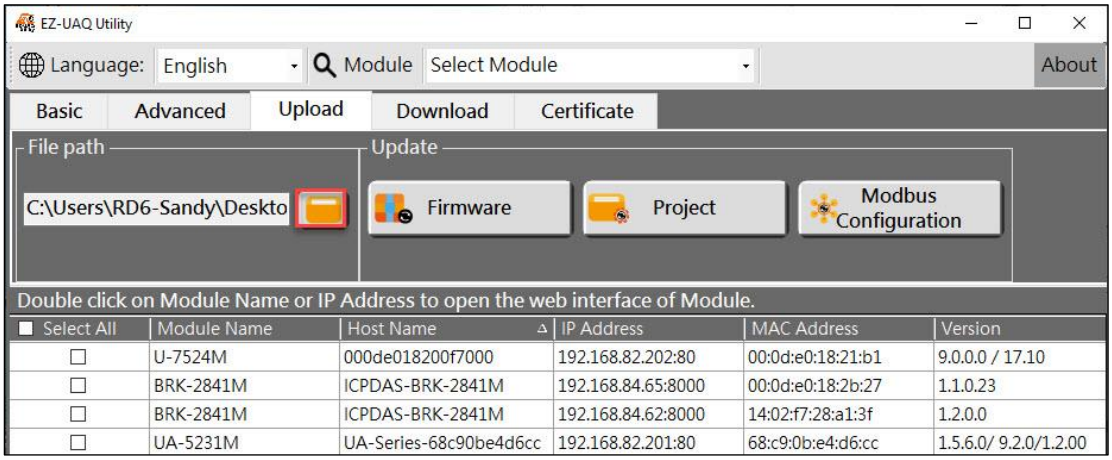


Figure 5-76 Firmware Update (1)



Step 2: Select Module

Check the module(s) to be updated.

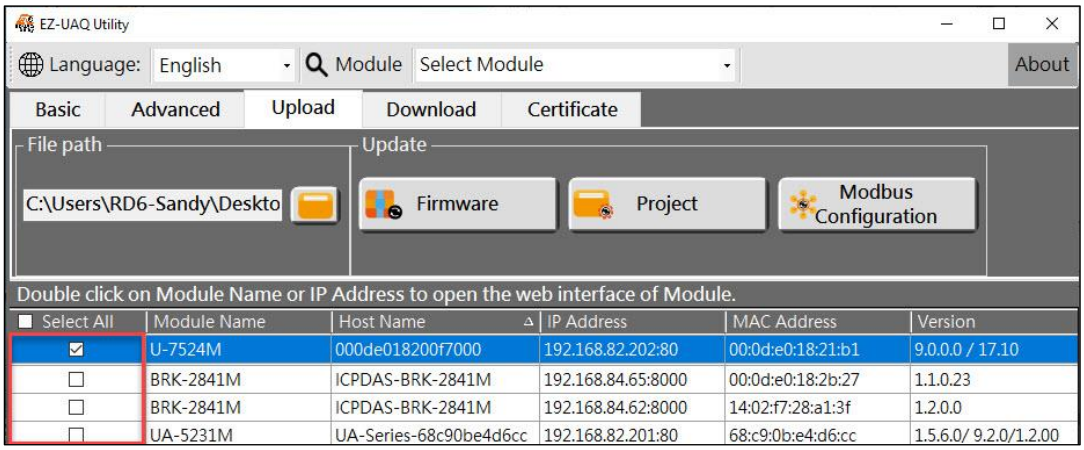


Figure 5-77 Firmware Update (2)

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

Step 3: Execute Firmware Update

Click the [**Firmware**] button.

Two confirmation message windows will appear sequentially (Figure I and Figure II). Click [**YES**] in both windows to continue.

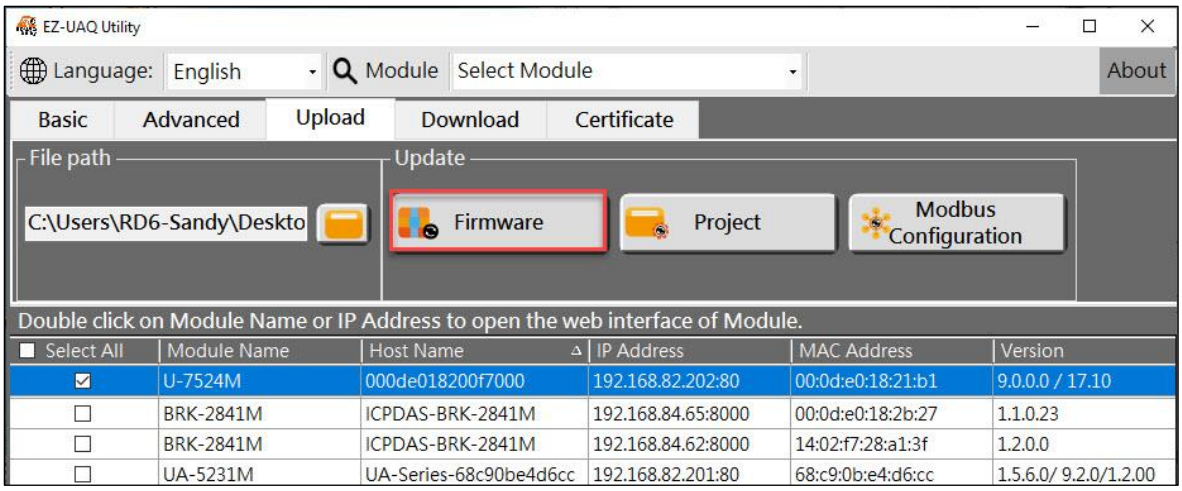
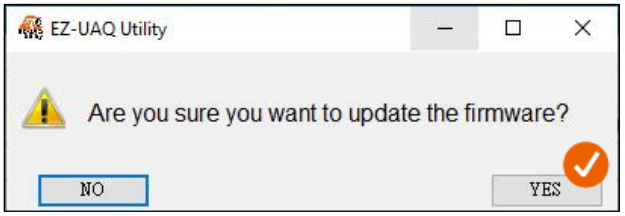


Figure 5-78 Firmware Update (3)



(Figure I)



(Figure II)

Step 4: Enter Password

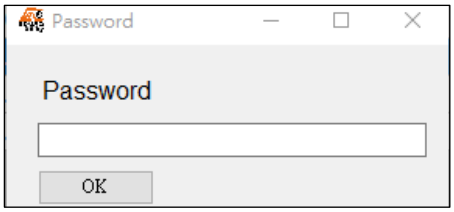
After the **"Password"** window appears, enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

The following table describes the password handling differences between different UA I/O firmware versions.

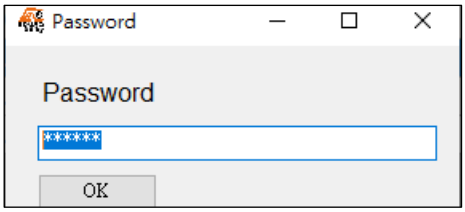
UA I/O Before V13.8	UA I/O V13.8 and Later
If the default password is deleted, the system will use the legacy firmware update mechanism. After the update is completed, the updated module may not be accessible using the new firmware update mechanism. (Figure III)	A password entry window will appear, allowing users to enter the password configured in the module. (Figure IV)

Table 5-1 UA I/O Differences Between UA I/O Firmware Versions

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



(Figure III)



(Figure IV)

Figure 5-79 Firmware Update (4)

Step 5: Firmware Updating

When the interface displays: "**Updating the Module(s) firmware, please wait**"
the firmware update process is in progress.

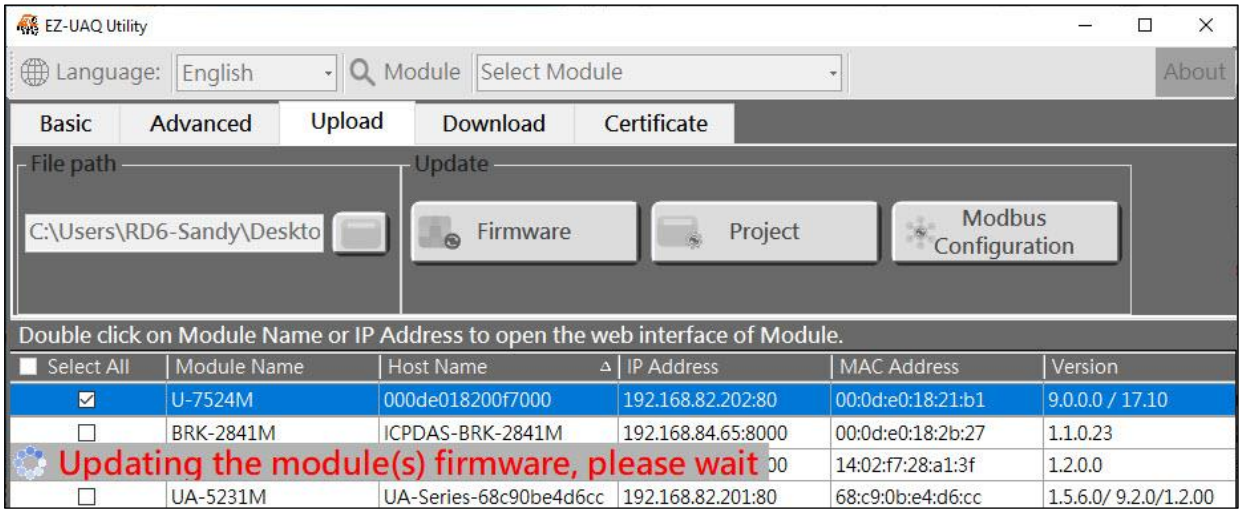


Figure 5-80 Firmware Update (5)

Step 6: Firmware Update Completed

After the update is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Update Successfully"**

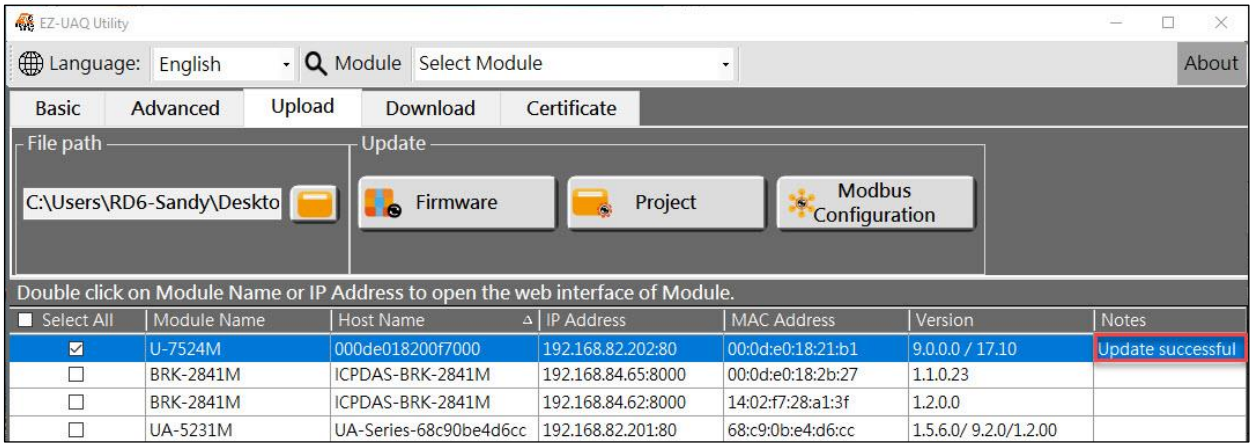


Figure 5-81 Firmware Update (6)

Note: If a warning message window appears, or a warning message is displayed in the [Notes] field, please refer to 6. Warning Messages

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

➢ Update Project

The **Update Project** function allows users to update project files for multiple UA Communication Servers, UA I/O modules, and BRK Communication Servers.

Note: When updating projects for multiple modules simultaneously, all selected modules must be the same model and use the same password. It is recommended to configure passwords in advance to avoid security risks caused by the use of default passwords. (Refer to **Appendix B**) ◦

The following example demonstrates the project update procedure for a single **U-7524M** module.

Step 1: Select Project File

Click the [**Browse**] button and select the project file to be updated.

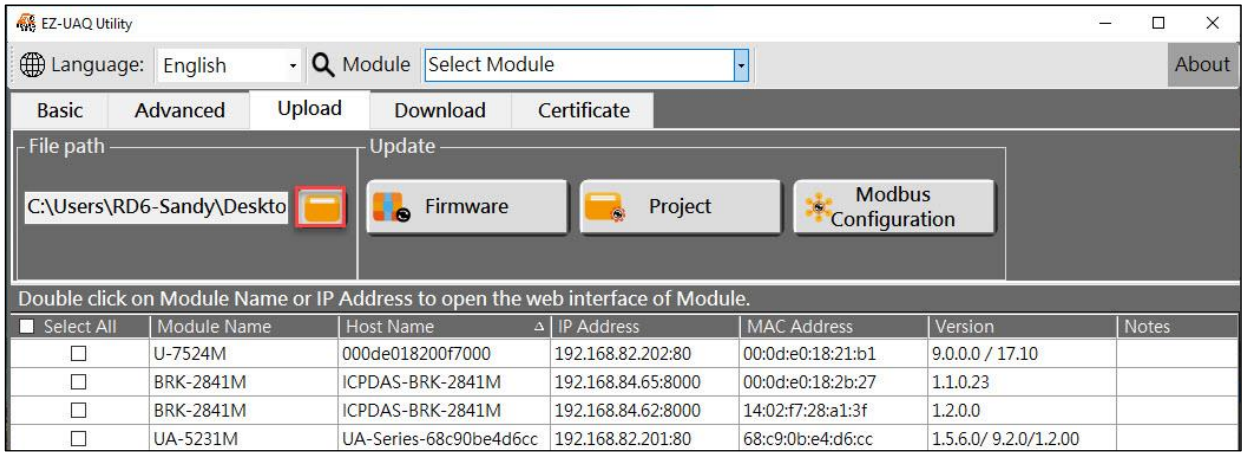
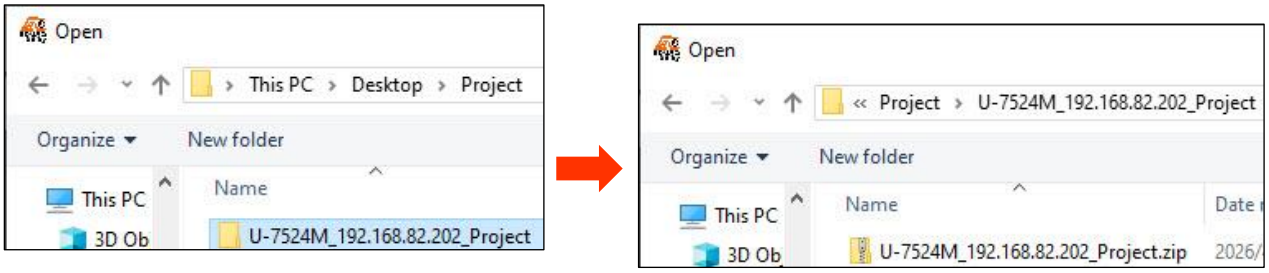


Figure 5-82 Update Project (1)

Open the **Project** folder and double-click the ZIP project file.



Step 2: Select Module

Check the module(s) to be updated.

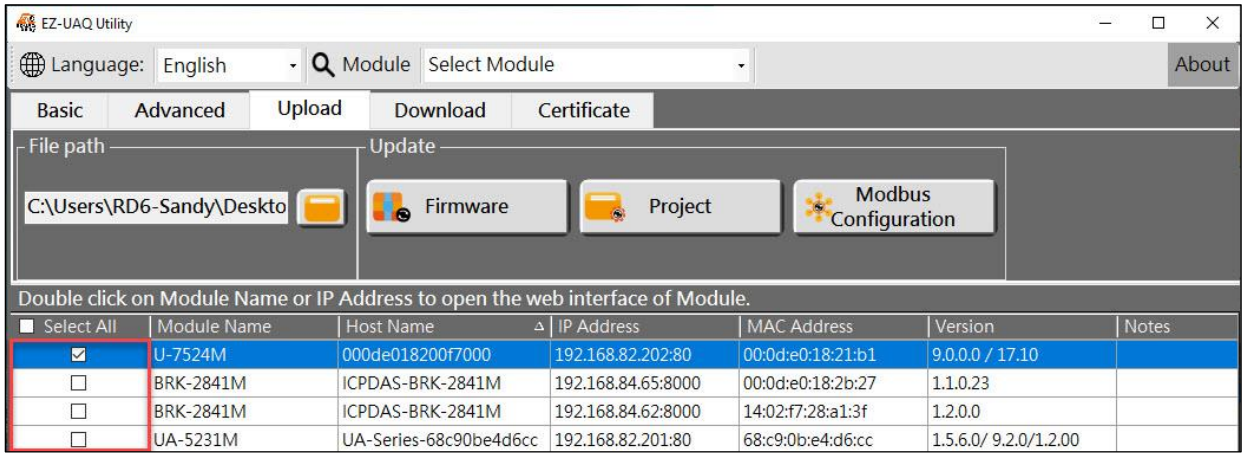


Figure 5-83 Update Project (2)

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

Step 3: Execute Project Update

Click the **[Project]** button. Two confirmation message windows will appear sequentially (Figure I and Figure II). Click **[YES]** in both windows.

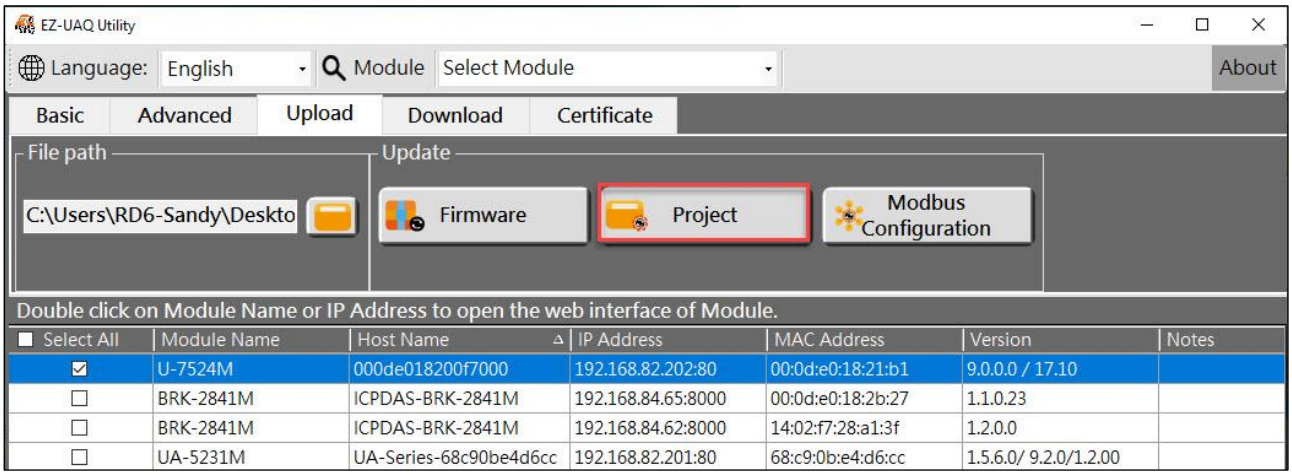
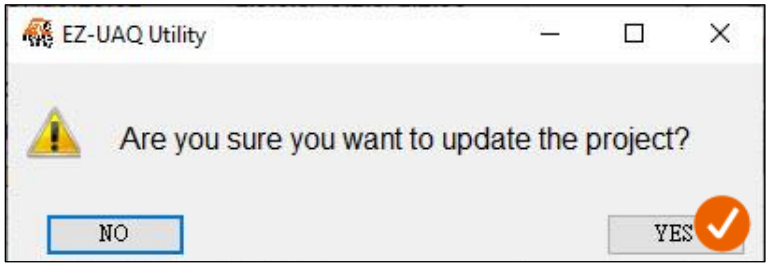


Figure 5-84 Update Project (3)



(Figure I)



(FigureII)

Step 4: Enter Password

After the confirmation is completed, a **"Password"** window will appear. Enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

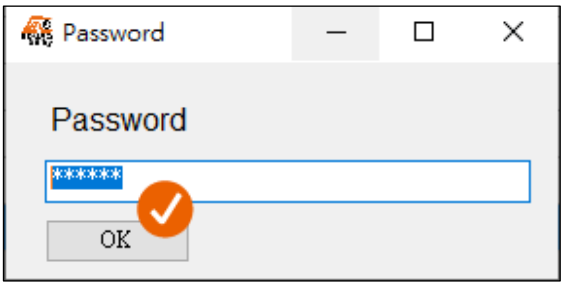


Figure 5-85 Update Project (4)

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

Step 5: Project Updating

When the interface displays: "**Updating Module Project, Please Wait**"
the project update process is in progress.

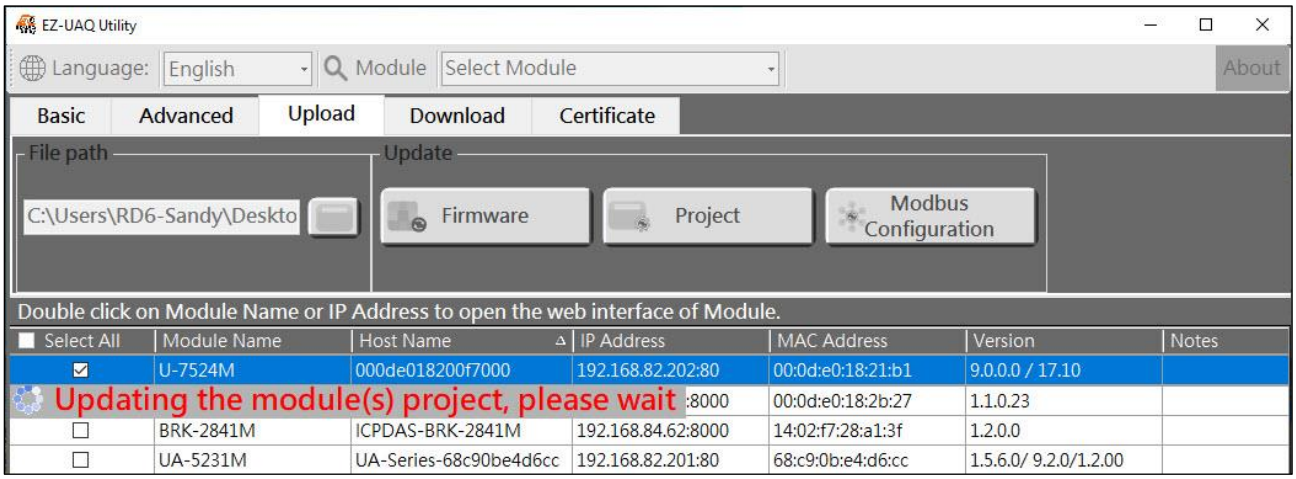


Figure 5-86 Update Project (5)

Step 6: Project Update Completed

After the update is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Update Successfully"**

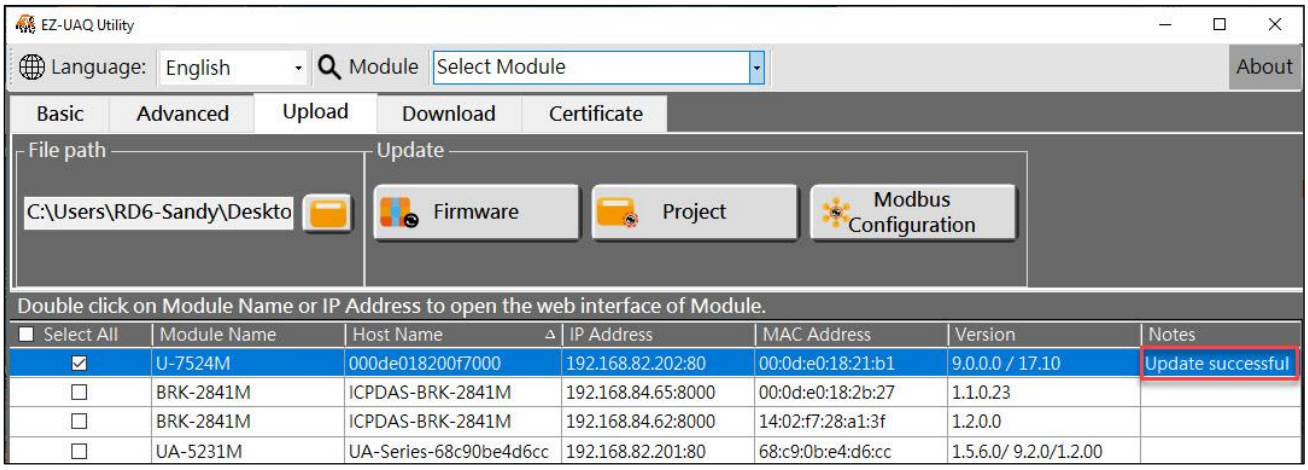


Figure 5-87 Update Project (6)

Note: If a warning message window appears, or a warning message is displayed in the [Notes] field, please refer to 6. Warning Messages

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

➢ **Update Modbus Configuration**

Note: This function is supported only by the UA Communication Server Series.

The Update Modbus Configuration function allows users to create or modify a large number of Modbus variables efficiently. The utility supports either:

- Single-file upload (Convert Modbus data to OPC UA or MQTT)
- Dual-file upload (Convert Modbus data to both OPC UA and MQTT simultaneously)

Note: When updating multiple modules simultaneously, all selected modules must be the same model and use the same password. It is recommended to configure passwords in advance to avoid security risks caused by using the default password. **(Refer to Appendix B)**

- **Existing Modules with Modbus Configurations**: users can export the configuration files using the ***Download Modbus Configuration*** function, modify the files, and then upload them again.

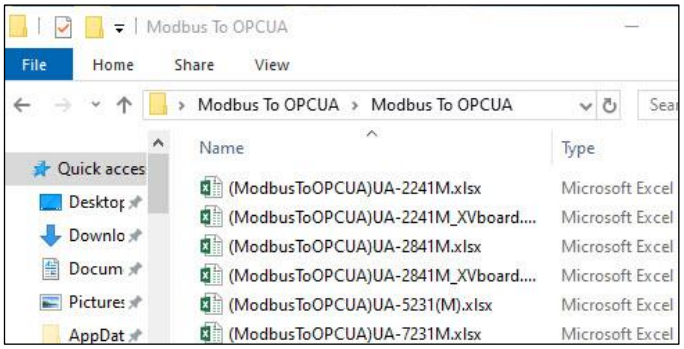
- **New Modules or Unconfigured Modules**: please download the template files from the EZ-UAQ Utility webpage, edit the templates, and upload them to complete the configuration

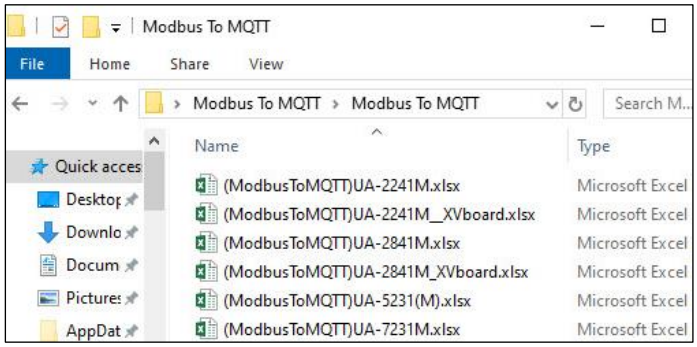
❖ Detailed operating procedures can be found in **FAQ-003** and **FAQ-004**

Please download the template files from the **EZ-UAQ Utility** download page:
https://www.icpdas.com/en/download/show.php?num=8560&nation=TW&kind1=&model=&kw=EZ-UAQ

FILE NAME	VERSION	FILE DATE	SIZE	NOTE	
--<< Template file>>--					
Modbus To OPCUA		2025-09-30	102 KB	zip	
Modbus To MQTT		2026-03-31	146 KB	zip	

After extracting the downloaded package, the following template files will be available:





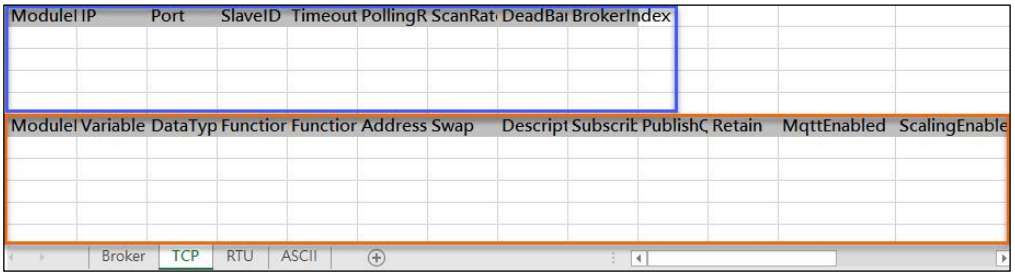
✧ If the module is using an **XVboard**, please use the corresponding **_XVboard** template file.

Template File Description:

When editing the Excel template, please use the format of Numbers and Text, do not use formulas, otherwise it will display abnormal or incorrect.

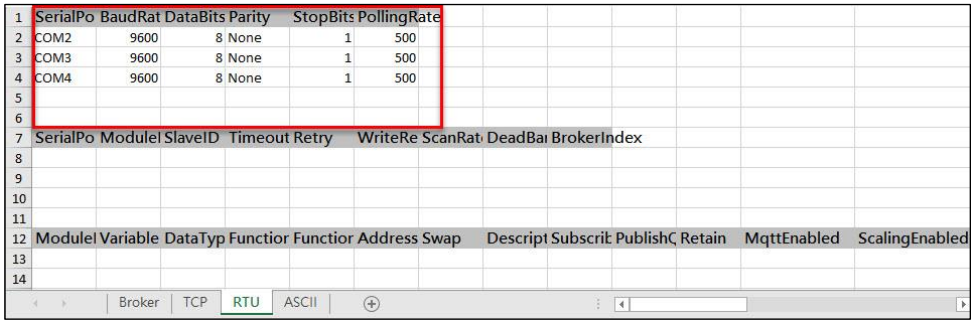
Blue Box: Basic Modbus module settings

Orange Box: Modbus communication parameter settings



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

Red Box (Serial Port Section): Used to configure Serial Port communication parameters for RTU or ASCII Modbus communication



SerialPo	BaudRat	DataBits	Parity	StopBits	PollingRate
COM2	9600	8	None	1	500
COM3	9600	8	None	1	500
COM4	9600	8	None	1	500

SerialPo	Module	SlaveID	Timeout	Retry	WriteRe	ScanRat	DeadBa	BrokerIndex

Module	Variable	DataTyp	Functior	Functior	Address	Swap	Descript	Subscrit	PublishQ	Retain	MqttEnabled	ScalingEnabled

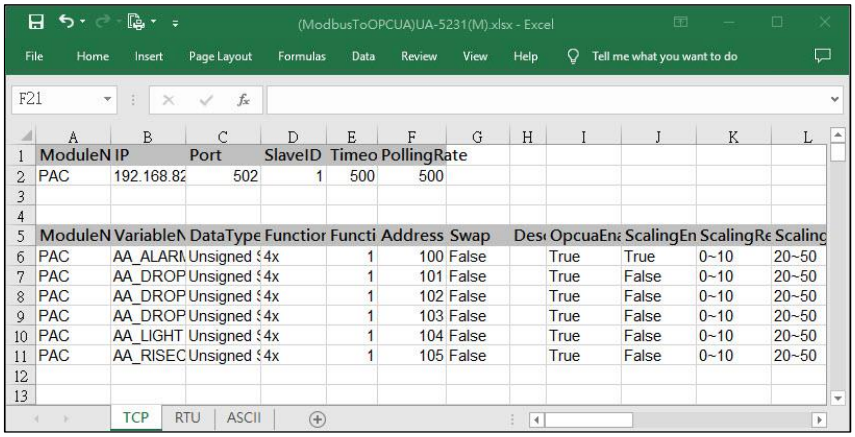
Broker | TCP | RTU | ASCII

Template Configuration Procedure:

Edit the Excel template according to application requirements and complete both the basic module settings and Modbus parameter settings.

- **Single File Upload (OPC UA or MQTT)**

  This example uses a **Modbus To OPC UA** file with **Modbus TCP** as the communication protocol.



(ModbusToOPCUA)UA-5231(M).xlsx - Excel

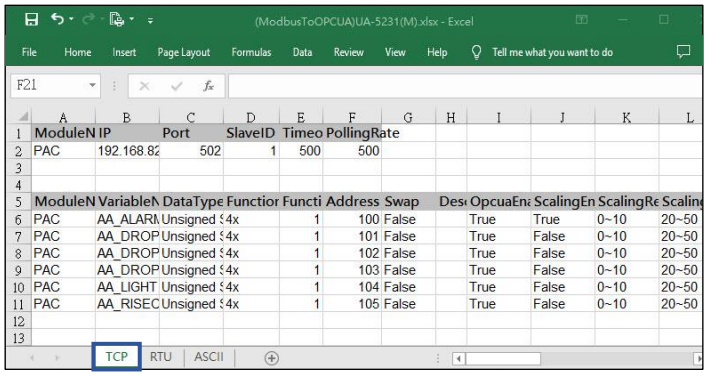
Module	IP	Port	SlaveID	Timeo	PollingRate
PAC	192.168.82	502	1	500	500

Module	Variable	DataType	Functior	Functi	Address	Swap	Des	OpcuaEna	ScalingEn	ScalingRa	Scaling
PAC	AA_ALARM	Unsigned S	4x	1	100	False		True	True	0~10	20~50
PAC	AA_DROP	Unsigned S	4x	1	101	False		True	False	0~10	20~50
PAC	AA_DROP	Unsigned S	4x	1	102	False		True	False	0~10	20~50
PAC	AA_DROP	Unsigned S	4x	1	103	False		True	False	0~10	20~50
PAC	AA_LIGHT	Unsigned S	4x	1	104	False		True	False	0~10	20~50
PAC	AA_RISEC	Unsigned S	4x	1	105	False		True	False	0~10	20~50

TCP | RTU | ASCII

- **Dual File Upload (OPC UA and MQTT)**

This example uses both: **Modbus To OPC UA / Modbus To MQTT** with Modbus TCP communication configured in both files.

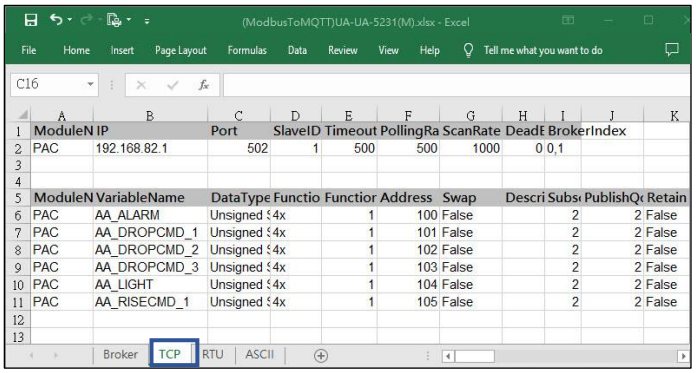


(ModbusToOPCUA)UA-5231(M).xlsx - Excel

Module	IP	Port	SlaveID	Timeo	PollingRate
PAC	192.168.82	502	1	500	500

Module	Variable	DataType	Functior	Functi	Address	Swap	Des	OpcuaEna	ScalingEn	ScalingRa	Scalin
PAC	AA_ALARM	Unsigned S	4x	1	100	False		True	True	0~10	20~50
PAC	AA_DROP	Unsigned S	4x	1	101	False		True	False	0~10	20~50
PAC	AA_DROP	Unsigned S	4x	1	102	False		True	False	0~10	20~50
PAC	AA_DROP	Unsigned S	4x	1	103	False		True	False	0~10	20~50
PAC	AA_LIGHT	Unsigned S	4x	1	104	False		True	False	0~10	20~50
PAC	AA_RISEC	Unsigned S	4x	1	105	False		True	False	0~10	20~50

TCP | RTU | ASCII



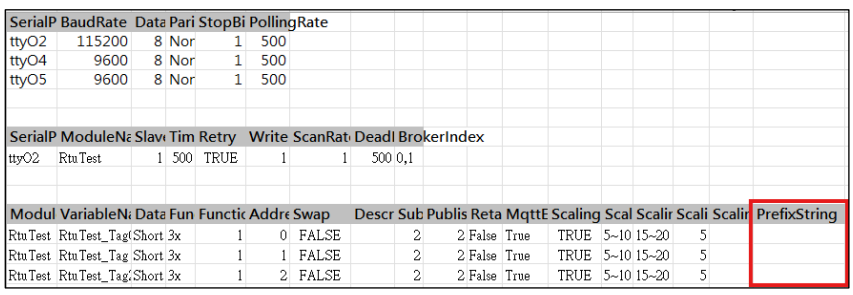
(ModbusToMQTT)UA-5231(M).xlsx - Excel

Module	IP	Port	SlaveID	Timeout	PollingRa	ScanRate	Deadt	BrokerIndex
PAC	192.168.82.1	502	1	500	500	1000	0	0,1

Module	VariableName	DataType	Functio	Functior	Address	Swap	Descri	Subs	PublishQ	Retain
PAC	AA_ALARM	Unsigned S	4x	1	100	False		2	2	False
PAC	AA_DROPCMD_1	Unsigned S	4x	1	101	False		2	2	False
PAC	AA_DROPCMD_2	Unsigned S	4x	1	102	False		2	2	False
PAC	AA_DROPCMD_3	Unsigned S	4x	1	103	False		2	2	False
PAC	AA_LIGHT	Unsigned S	4x	1	104	False		2	2	False
PAC	AA_RISECMD_1	Unsigned S	4x	1	105	False		2	2	False

Broker | TCP | RTU | ASCII

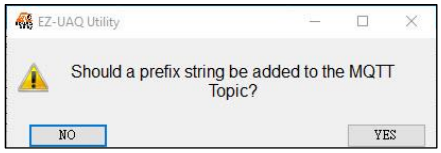
Note: When uploading a Modbus To MQTT file, if the PrefixString field is left blank, a warning message window will appear.



SerialP	BaudRate	Data	Pari	StopBi	PollingRate
ttyO2	115200	8	Nor	1	500
ttyO4	9600	8	Nor	1	500
ttyO5	9600	8	Nor	1	500

SerialP	ModuleNa	Slav	Tim	Retry	Write	ScanRat	Deadl	BrokerIndex
ttyO2	RtuTest	1	500	TRUE	1	1	500	0,1

Modul	VariableNa	Data	Fun	Functic	Addre	Swap	Descr	Sub	Publis	Reta	MqttE	Scaling	Scal	Scalir	Scali	Scalir	PrefixString
RtuTest	RtuTest_Tag(	Short	3x	1	0	FALSE		2	2	False	True	TRUE	5~10	15~20	5		
RtuTest	RtuTest_Tag	Short	3x	1	1	FALSE		2	2	False	True	TRUE	5~10	15~20	5		
RtuTest	RtuTest_Tag(	Short	3x	1	2	FALSE		2	2	False	True	TRUE	5~10	15~20	5		





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

After completing the configuration, upload the Modbus To OPC UA file through EZ-UAQ Utility. The following example demonstrates the single-file upload procedure.

Note: Two files can be uploaded simultaneously. However, the two files must be different types:

- **Modbus To OPC UA**
- **Modbus To MQTT**

Uploading two files of the same type is not supported.

This method allows the same Modbus data source to be converted to both MQTT and OPC UA simultaneously.

Step 1: Select Modbus Configuration File

Click the **[Browse]** button and select the Modbus configuration file to be uploaded.

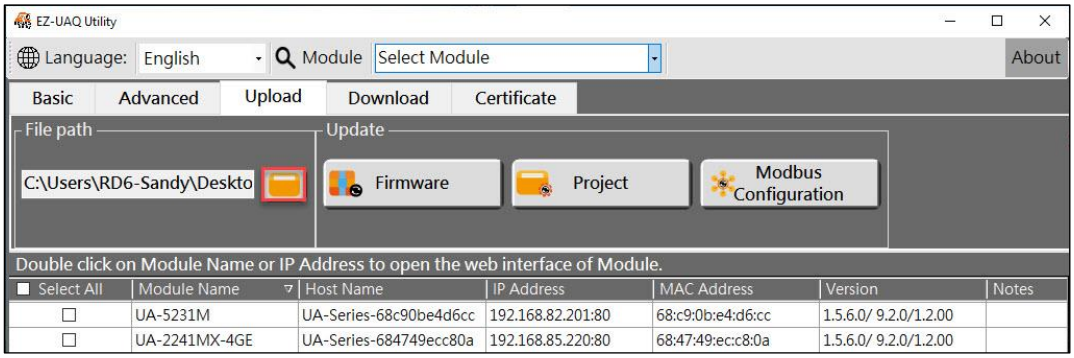
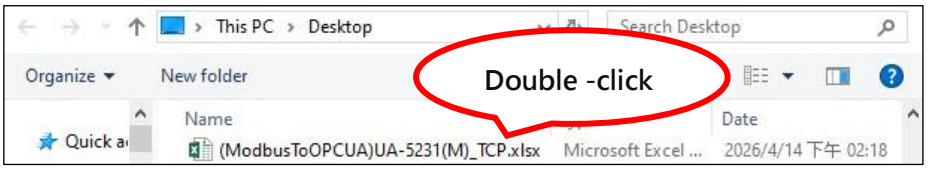


Figure 5-88 Update Modbus Configuration (1)



Step 2: Select Module

Check the module(s) to be updated.

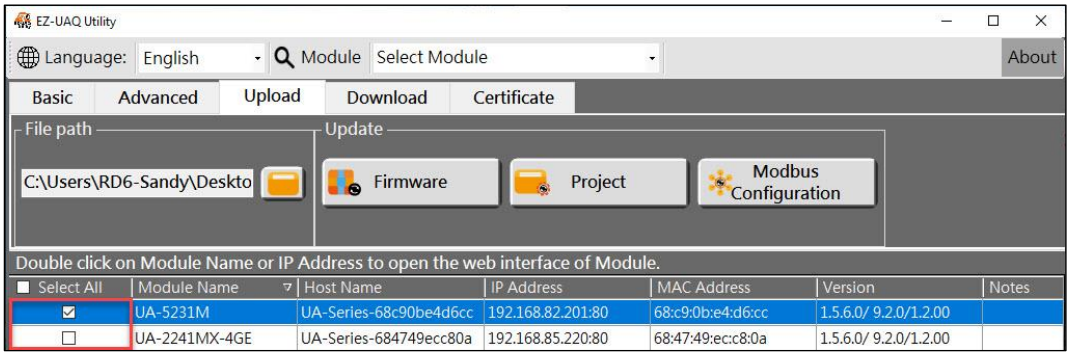


Figure 5-89 Update Modbus Configuration (2)

Step 3: Execute Modbus Configuration Update

Click the **[Modbus Configuration]** button. Two confirmation message windows will appear sequentially (Figure I and Figure II). Click **[YES]** in both windows.

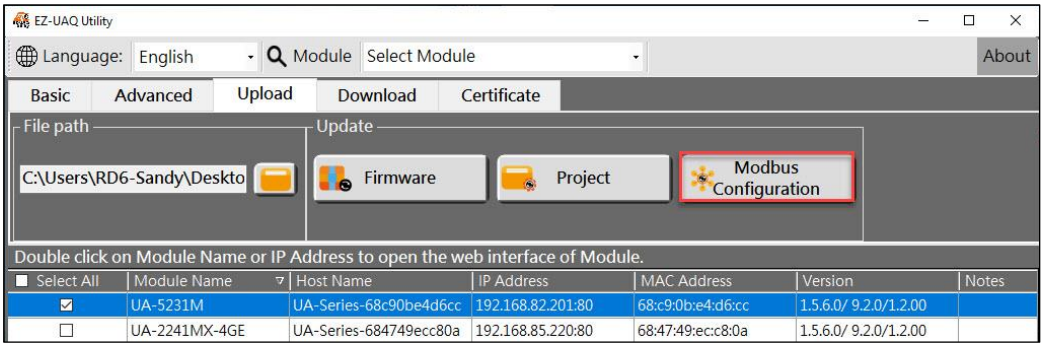
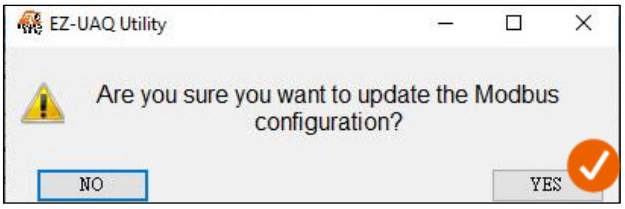


Figure 5-90 Update Modbus Configuration (3)

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



(Figure I)



(Figure II)

Step 4: Enter Password

After confirmation, a **"Password"** window will appear. Enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

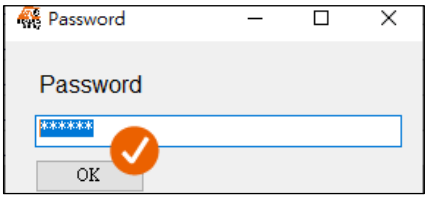


Figure 5-91 Update Modbus Configuration (4)

Step 5: Updating Modbus Configuration

When the interface displays: **"Updating Modbus Configuration, Please Wait"** the configuration file is being uploaded.

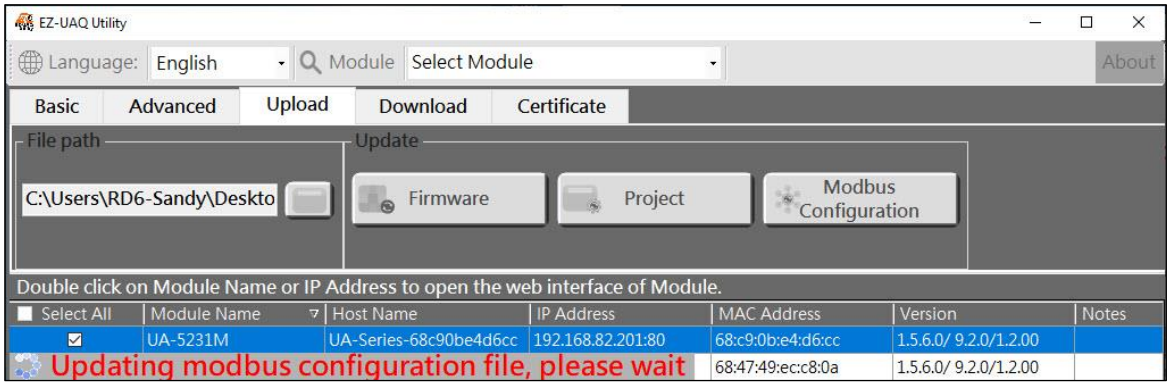


Figure 5-92 Update Modbus Configuration (5)

Step 6: Modbus Configuration Update Completed

After the update is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Update Successfully"**

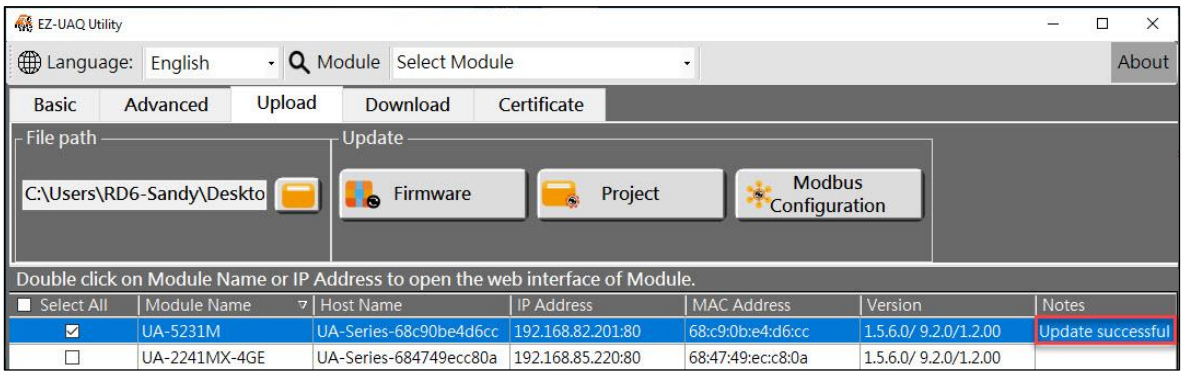


Figure 5-93 Update Modbus Configuration (6)

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

5.2.4 Download

The Download function allows users to download log files, project files, and Modbus configuration files from UA Communication Servers, UA I/O modules, and BRK Communication Servers for backup, maintenance, and troubleshooting purposes.

- **Download Log**

  The **Download Log** function allows users to download log files from multiple UA Communication Servees, UA I/O modules, and BRK Communication Servers.

  Note: When downloading log files from multiple modules simultaneously, all selected modules must belong to the same series and use the same EZ-UAQ Utility password. It is recommended to configure passwords in advance to avoid security risks caused by using the default password. (Refer to Appendix B)

  The following example demonstrates the log download procedure for a single **U-7524M** module.

  Step 1: Select Folder

  Click the [ ] button and select the destination folder for storing log files.

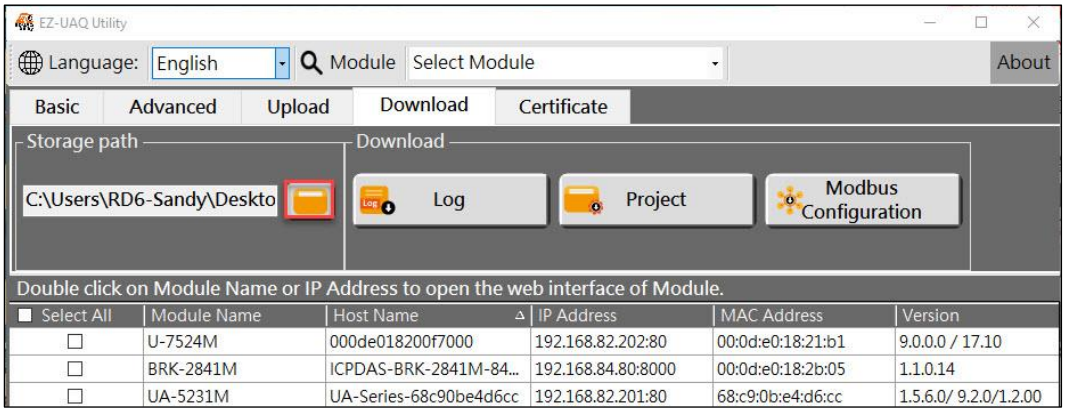
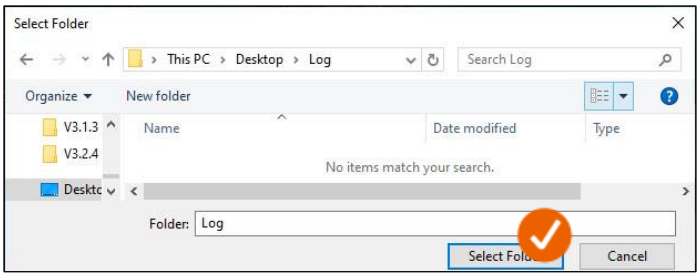


Figure 5-94 Download Log (1)



Step 2: Select Module

Check the module(s) from which the log files will be downloaded.

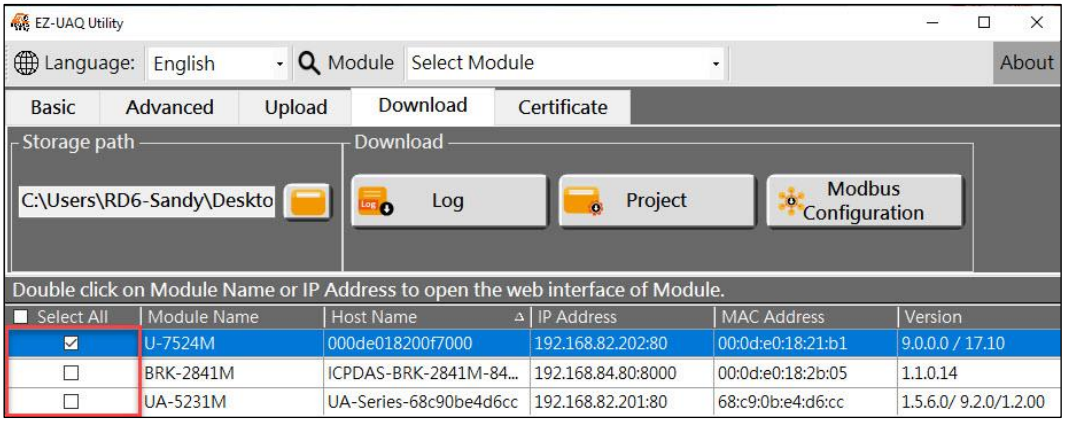


Figure 5-95 Download Log (2)

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

Step 3: Execute Log Download

Click the **[Log]** button. When the interface displays: **"Download Log File, Please Wait"** the log download process is in progress.

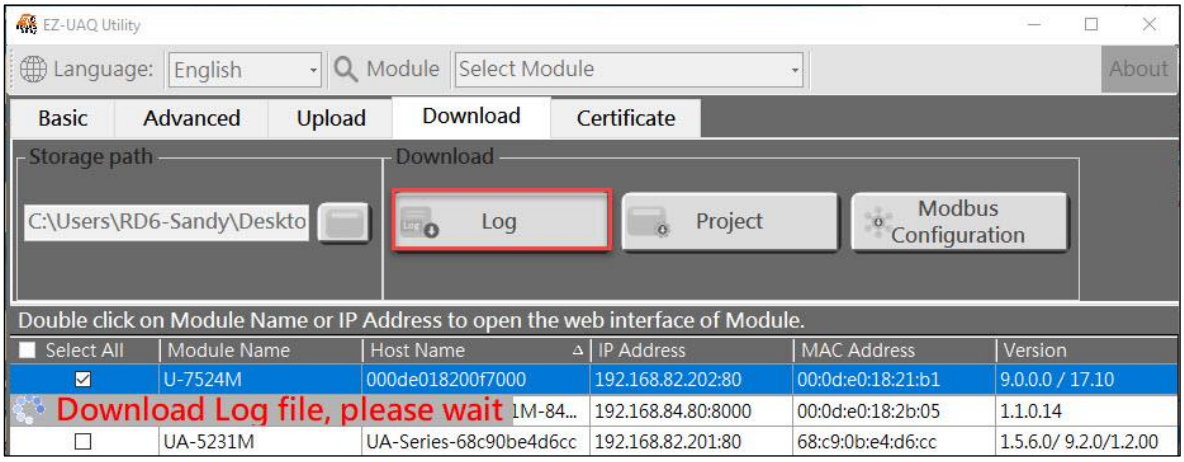


Figure 5-96 Download Log (3)

Step 4: Log Download Completed

After the download is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Download Successful"**

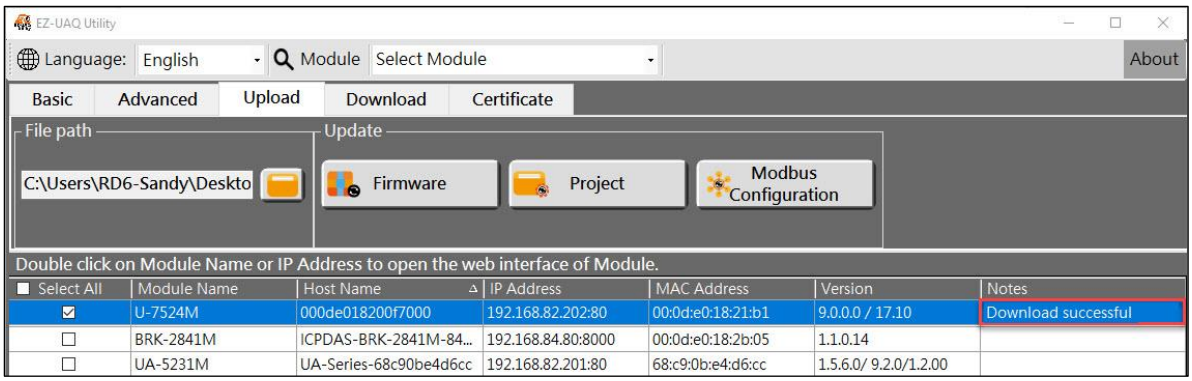
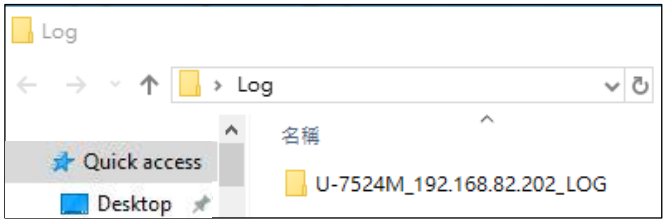


Figure 5-97 Download Log (4)

The utility automatically creates a folder using the following naming convention: **ModuleName_IP_Log** to store the downloaded log files.



Note: If a warning message window appears, or a warning message is displayed in the [Notes] field, please refer to **6. Warning Messages**

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

➢ Download Project

The **Download Project** function allows users to download project files from multiple UA Communication Servers, UA I/O modules, and BRK Communication Servers.

Note: When downloading projects from multiple modules simultaneously, all selected modules must belong to the same series and use the same password. It is recommended to configure passwords in advance to avoid security risks caused by using default passwords. (Refer to Appendix B)

The following example demonstrates the project download procedure for a single **U-7524M** module.

Step 1: Select Folder

Click the [ ] button and select the destination folder for storing project files.

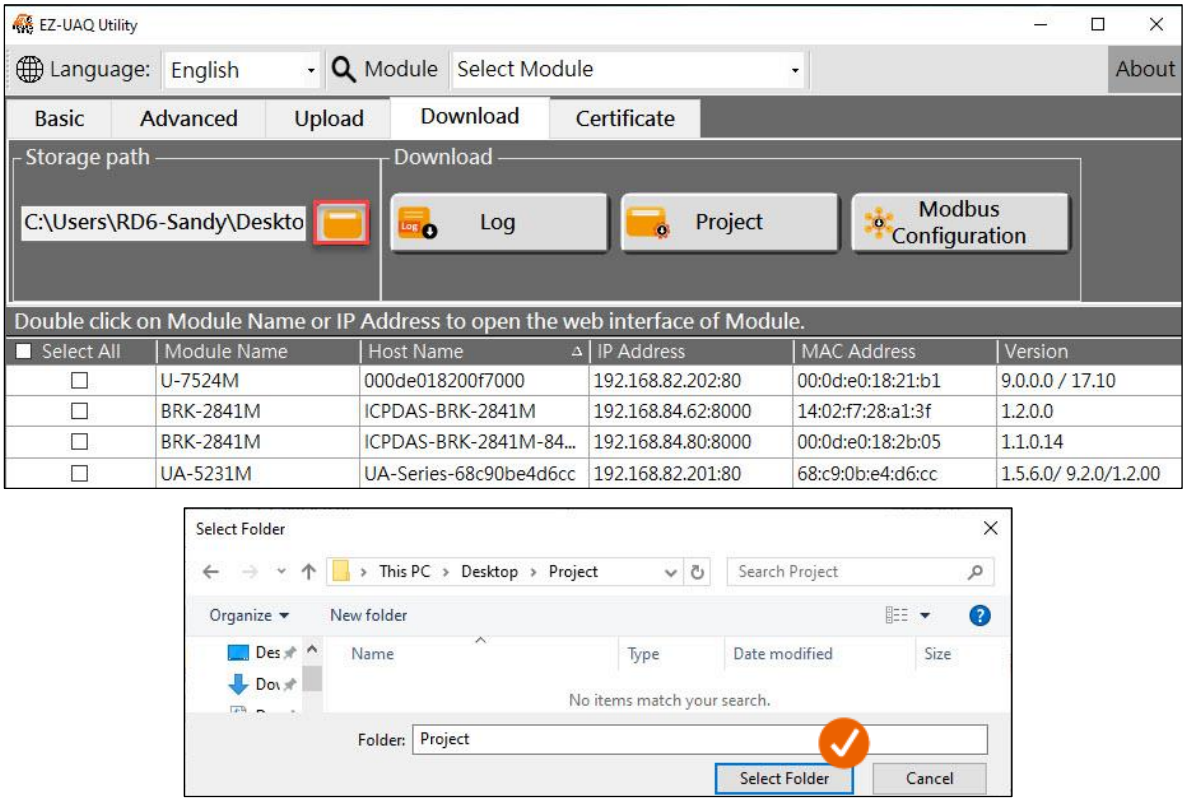


Figure 5-98 Download Project (1)

Step 2: Select Module

Check the module(s) from which the project files will be downloaded.

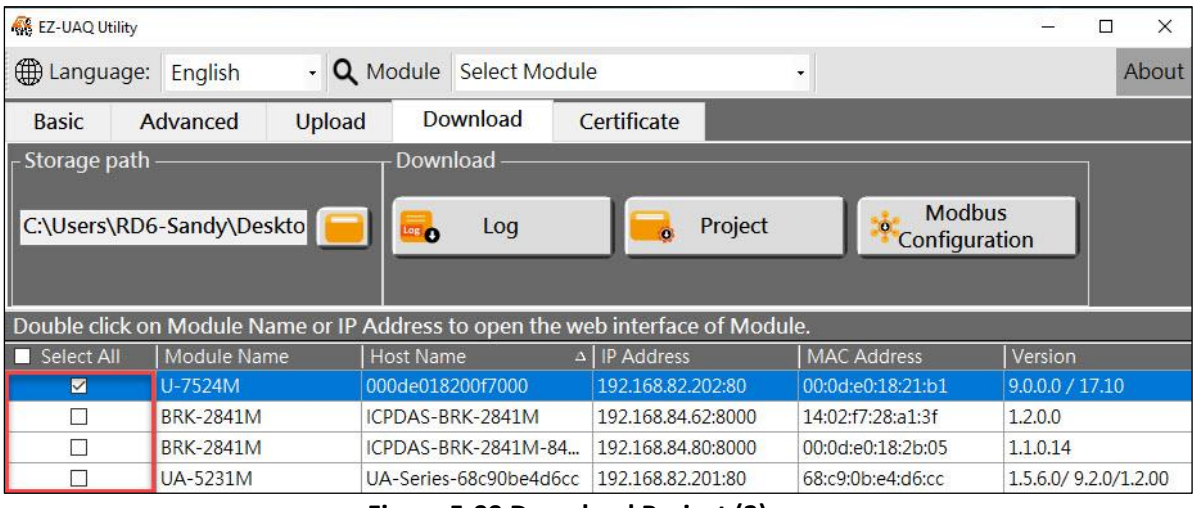


Figure 5-99 Download Project (2)

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

Step 3: Execute Project Download

Click the **[Project]** button.

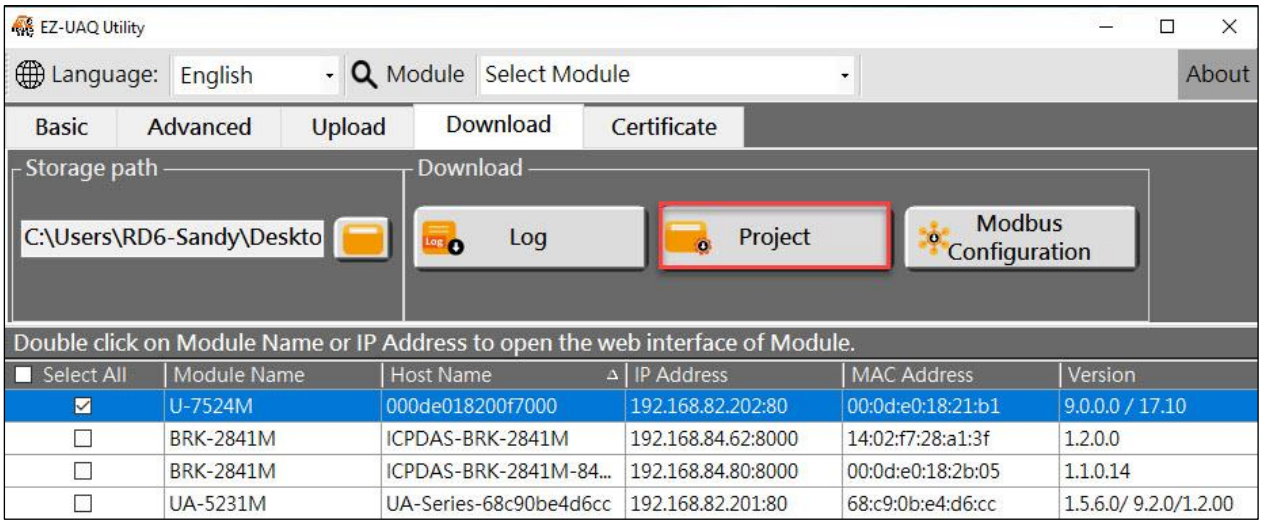


Figure 5-100 Download Project (3)

Step 4: Enter Password

When the **"Password"** window appears, enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

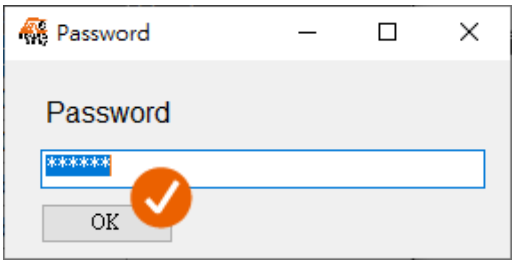


Figure 5-101 Download Project (4)

Step 5: Project Downloading

When the interface displays: **"Downloading Project File, Please Wait"** the project download process is in progress.

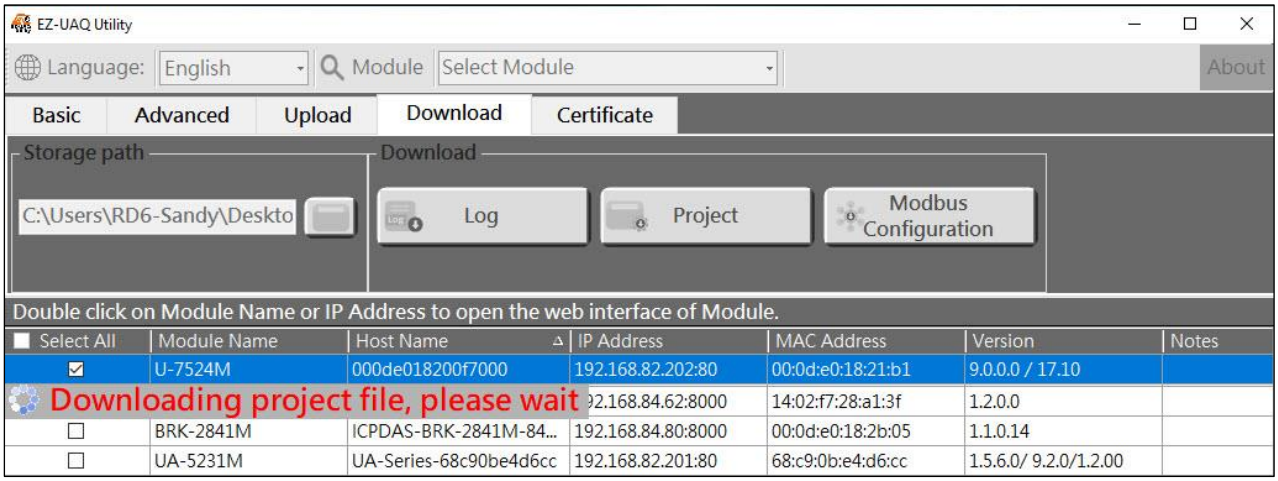


Figure 5-102 Download Project (5)

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

Step 6: Project Download Completed

After the download is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Download Successfully"**

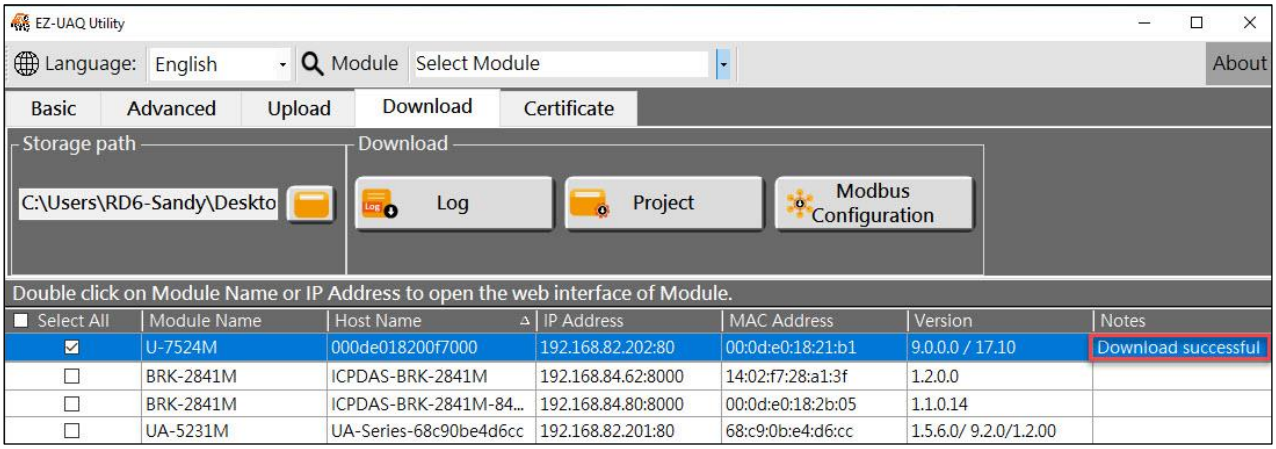
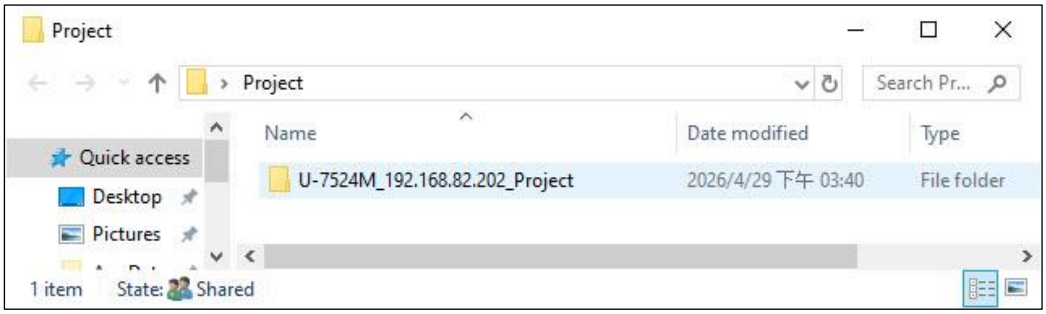


Figure 5-103 Download Project (6)

The following figure shows the downloaded files and storage location.
During project download, the utility automatically creates: **ModuleName_IP_Project** as both the project folder name and compressed package name.

The downloaded project package is password protected. (Please enter the EZ-UAQ Utility password configured in the module when extracting the compressed file.)



Note: If a warning message window appears, or a warning message is displayed in the [*Notes*] field, please refer to **6. Warning Messages**)

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

➢ **Download Modbus Configuration**

Note: This function is supported only by the UA Communication Server Series.

The **Download Modbus Configuration** function allows users to export UA Modbus and OPC UA configuration information, including: Modbus TCP settings / Modbus RTU settings / Module Name / OPC UA Node ID. The exported information is saved as **Excel** files for backup, editing, and future configuration deployment.

Note: When downloading Modbus configurations from multiple modules simultaneously, all selected modules must belong to the same series and use the same password. It is recommended to configure passwords in advance to avoid security risks caused by using default passwords. (Refer to **Appendix B**) 。

Step 1: Select Folder

Click the [ ] button and select the destination folder for storing the Modbus configuration files.

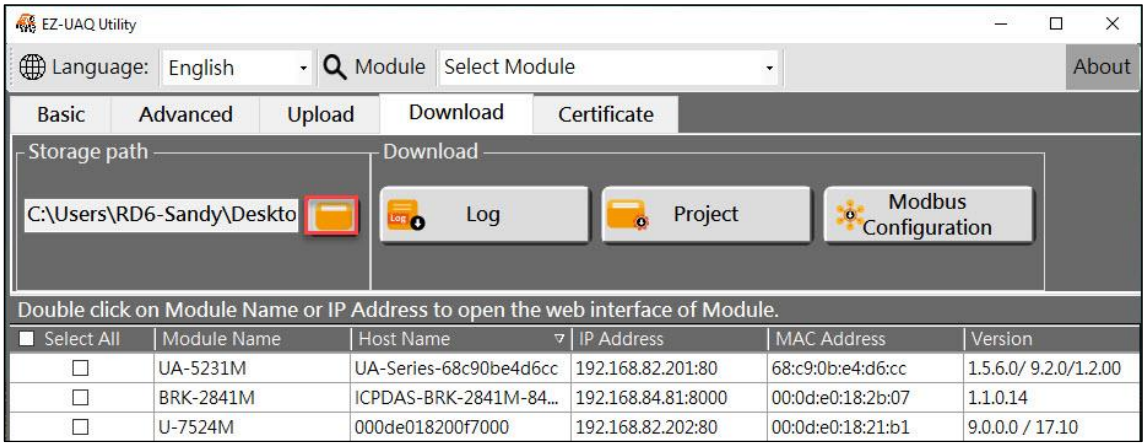
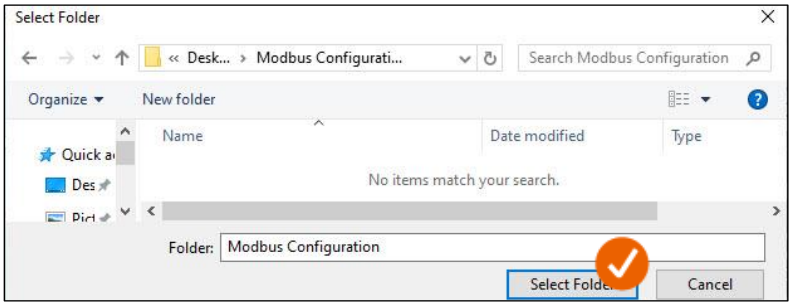


Figure 5-104 Download Modbus Configuration (1)



✧ If no Folder is specified, the downloaded files will be saved to the Windows Desktop by default.

Step 2: Select Module

Check the module(s) from which the Modbus configuration files will be downloaded.

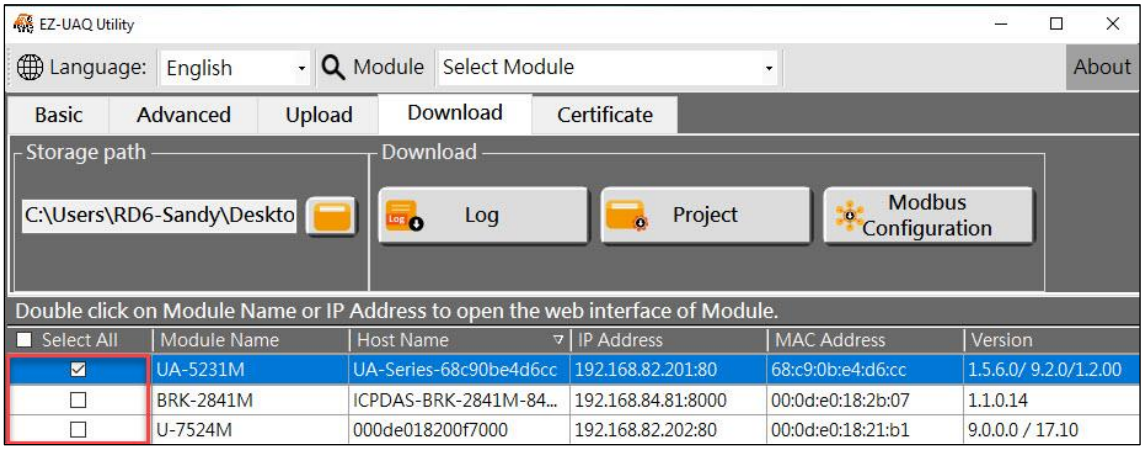


Figure 5-105 Download Modbus Configuration (2)

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

Step 3: Execute Modbus Configuration Download

Click the **[Modbus Configuration]** button. When the interface displays: **"Downloading Modbus Configuration, Please Wait"** the configuration download process is in progress.

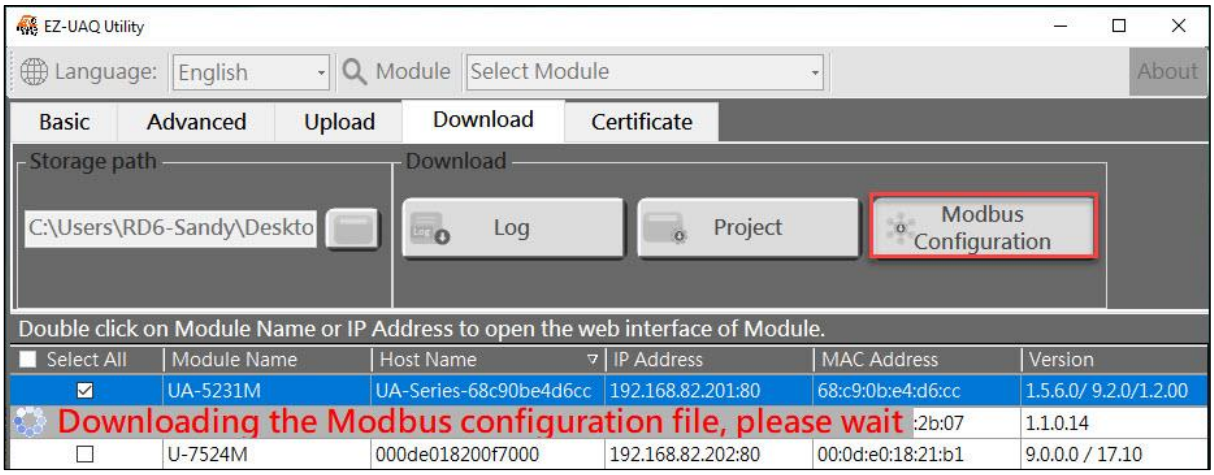


Figure 5-106 Download Modbus Configuration (3)

Step 4: Modbus Configuration Download Completed

After the download is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Download Successful"**.

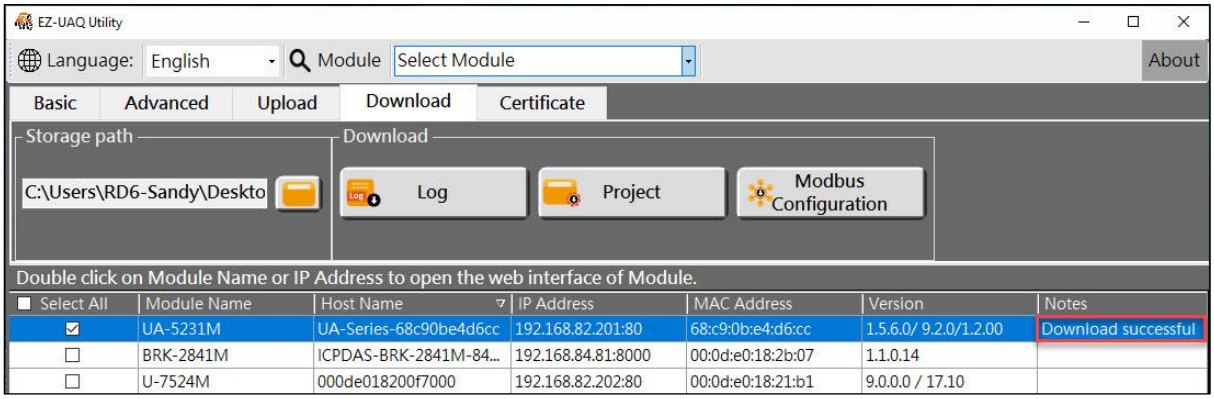
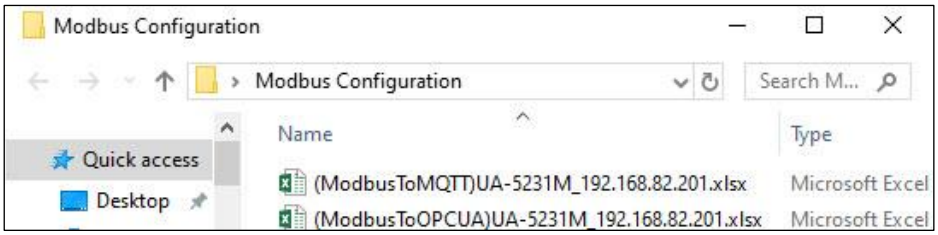


Figure 5-107 Download Modbus Configuration (4)

The following files will be generated after the download is completed:

- **(ModbusToMQTT)_ModuleName_IP.xls**
- **(ModbusToOPCUA)_ModuleName_IP.xlsx**

These Excel files can subsequently be used with the **Update Modbus Configuration** function.



Note: If a warning message window appears, or a warning message is displayed in the [Notes] field, please refer to 6. Warning Messages

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

5.2.5 Certificate

EZ-UAQ Utility provides a complete certificate management mechanism that allows users to generate certificates and deploy them to modules for secure communication among UA Communication Servers, UA I/O modules, and BRK Communication Servers. The utility supports certificate deployment for: HTTPS/ OPC UA/ MQTT.

1. **Efficient Certificate Generation and Deployment**
   - Quickly generate certificates based on security requirements, and update all modules in the field with one click.
   - Simplify certificate configuration procedures and reduce configuration errors caused by manual operations.

2. **Centralized Certificate Management**
   - Centrally manage the status of certificates across the field, allowing users to view certificate information and check expiration dates and operational status.

3. **Enhanced Factory Site Security**
   - Supports mainstream encryption protocols such as HTTPS, OPC UA, and MQTT to ensure the security of data transmission.

Authentication Types：

- **One-Way Authentication**：Only the server provides a certificate for verification. Typical applications include HTTPS and MQTT Broker
- **Two-Way Authentication / Mutual Authentication**：Both the server and client must provide certificates. Typical applications include OPC UA Server / Client and MQTT Broker / Client. This authentication method is recommended for high-security communication environments.

Note: Before certificate-based communication can be used, the certificate function must first be enabled from the UA or UA I/O module webpage.

➢ **Add CA Certificate**

The **Add CA Certificate** function creates a new Certificate Authority (CA) certificate that can be used as the root certificate for MQTT-related certificates.

Step 1: Execute Add CA Certificate

Click the **[Add]** button.

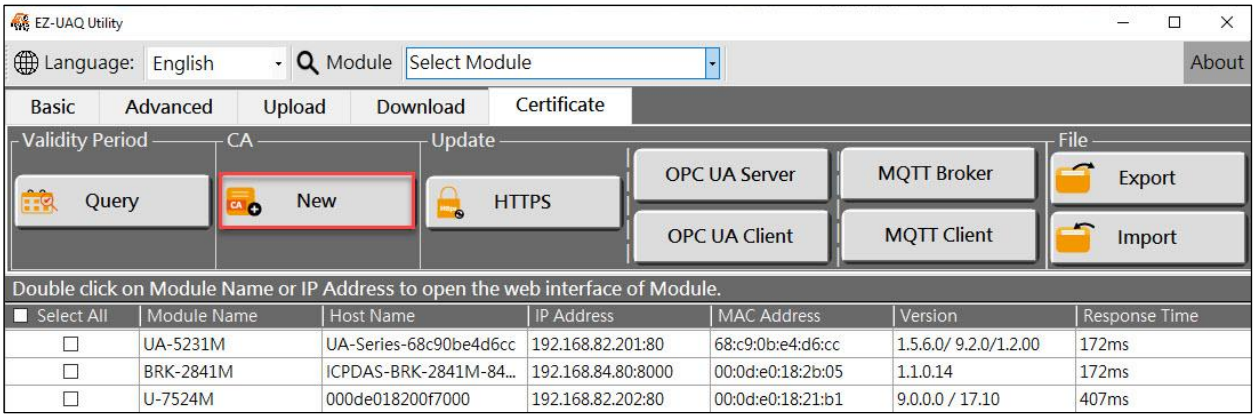


Figure 5-108 Add CA Certificate (1)

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

Step 2: Enter Certificate Validity Period

In the dialog window, enter the validity period (in days) for the CA certificate and click **[OK]**.

❖ Please refer to **Appendix C– Certificate Date Input Restrictions** for recommended values and input limitations.

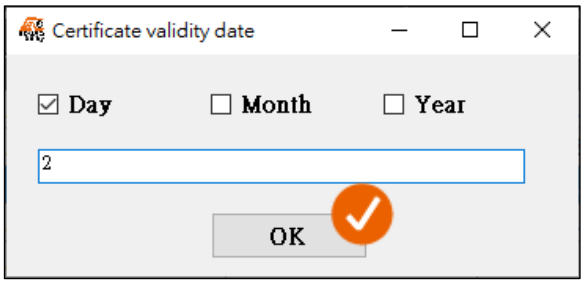


Figure 5-109 Add CA Certificate (2)

Step 3: CA Certificate Created Successfully

When the **"Create Successfully"** message appears, click **[OK]** to complete the CA certificate generation process.

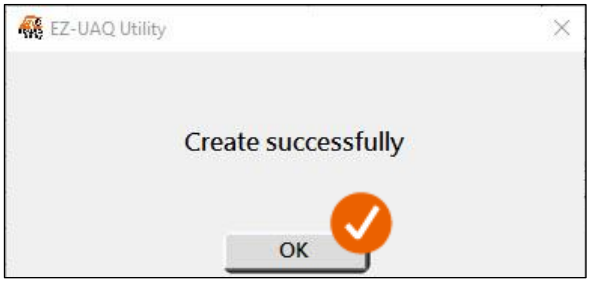


Figure 5-110 Add CA Certificate (3)

➢ **Update HTTPS Certificate**

The **Update HTTPS Certificate** function allows users to update HTTPS certificates for modules. After the update is completed, HTTPS secure access will be automatically enabled when users log in to the module webpage.

Note: When updating HTTPS certificates for multiple modules simultaneously, all selected modules must use the same EZ-UAQ Utility password. It is recommended to configure passwords in advance to avoid security risks caused by using default passwords. **(Refer to Appendix B)**

Before updating HTTPS certificates, please enable the HTTPS function from the UA or UA I/O webpage. (Refer to the corresponding UA or UA I/O User Manual.)

Step 1: Select Modules

Check the modules that require HTTPS certificate updates.

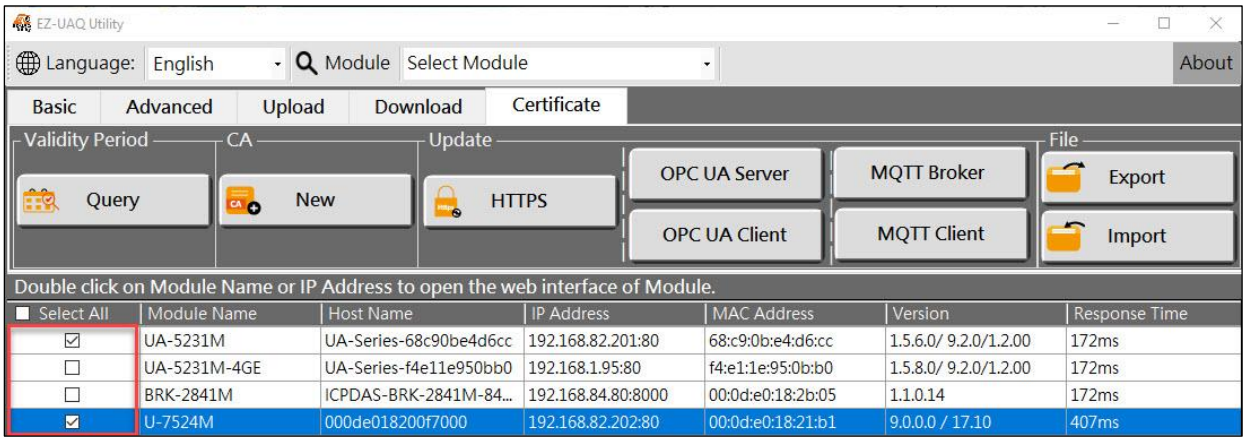


Figure 5-111 Update HTTPS Certificate (1)

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

Step 2: Execute HTTPS Certificate Update

Click the [HTTPS] button. Two confirmation windows (Figure I and Figure II) will appear sequentially. Click **[YES]** in both windows.

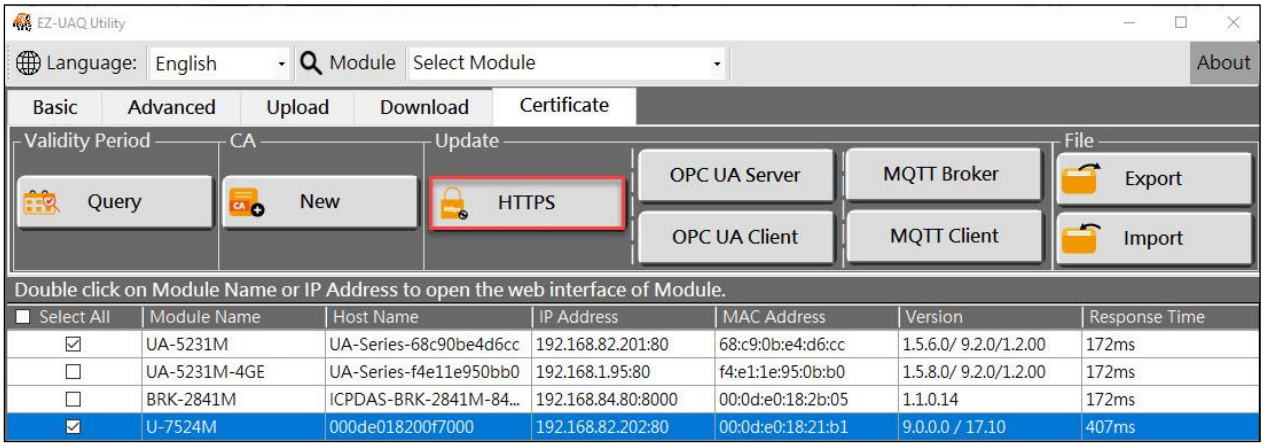
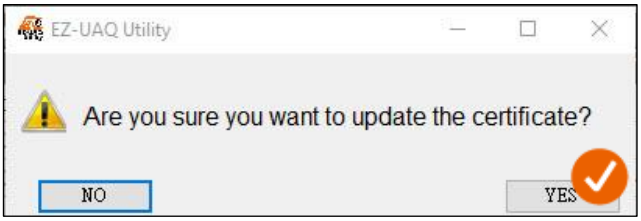


Figure 5-112 Update HTTPS Certificate (2)



(Figure I)



(Figure II)

Step 3: Configure Certificate Validity Period

In the **"Certificate validity date"** window, enter the certificate validity period and click **[OK]**. Please refer to **Appendix C– Certificate Date Input Restrictions** for detailed recommendations and limitations.

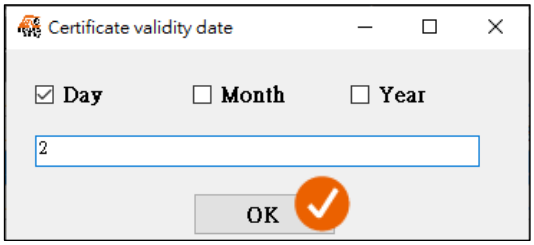
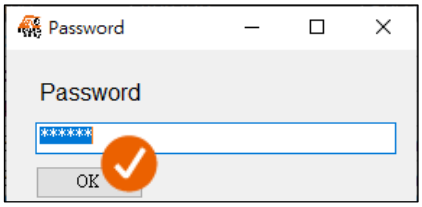


Figure 5-113 Update HTTPS Certificate (3)

Step 4: Enter Password

In the **"Password"** window, enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

Figure 5-114 Update HTTPS Certificate (4)



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

Step 5: Updating Certificate

When the interface displays: **"Updating certificate, please wait"** the certificate update process is in progress.

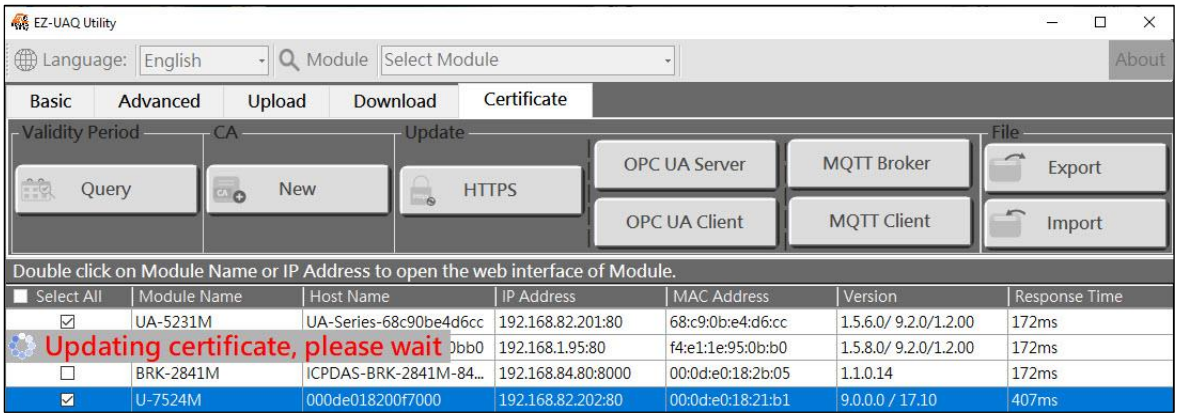


Figure 5-115 Update HTTPS Certificate (5)

Step 6: HTTPS Certificate Update Completed

After the update is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Update Successfully"**

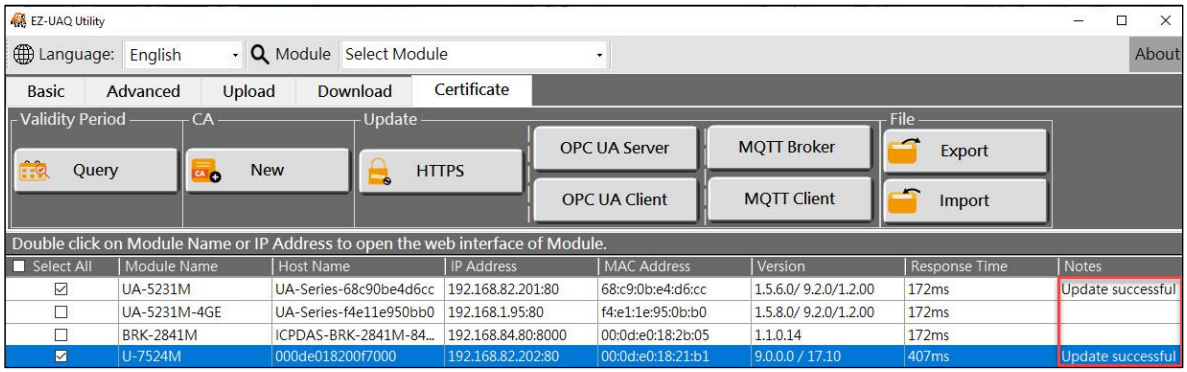
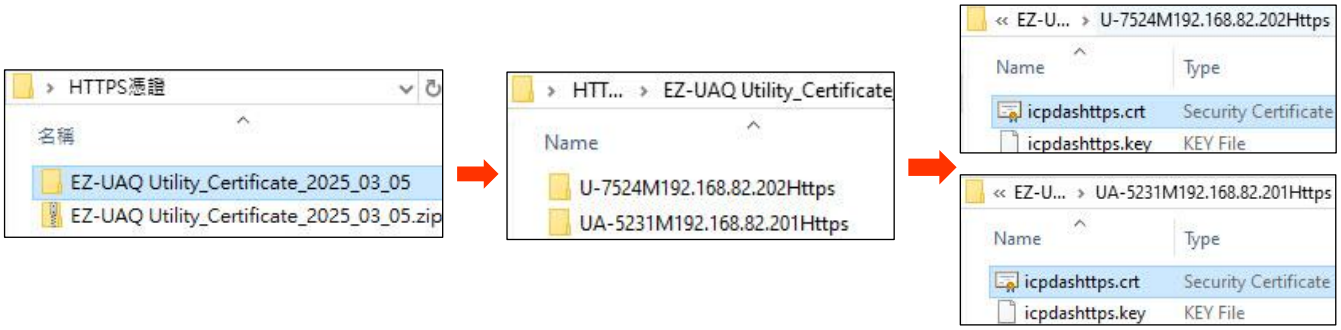
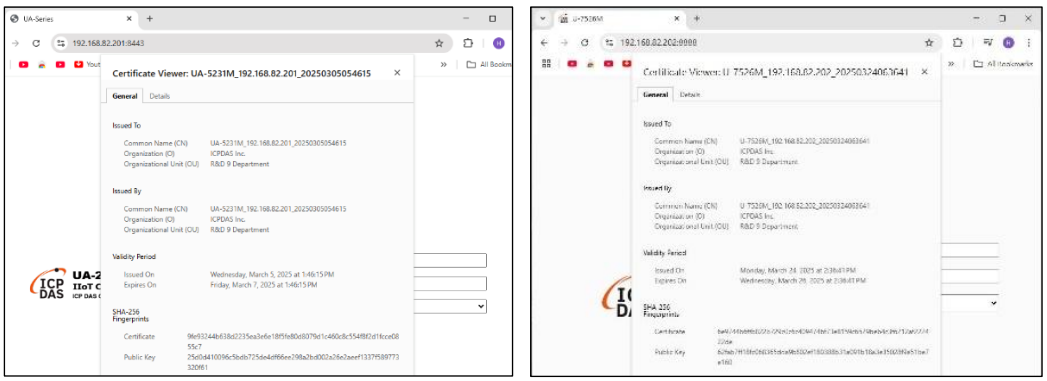


Figure 5-116 Update HTTPS Certificate (6)

After updating the HTTPS certificate, export and extract the HTTPS certificate package. (Refer to Export Files) 。



Follow the procedure described in **Appendix D** to verify that HTTPS secure communication has been enabled successfully.



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

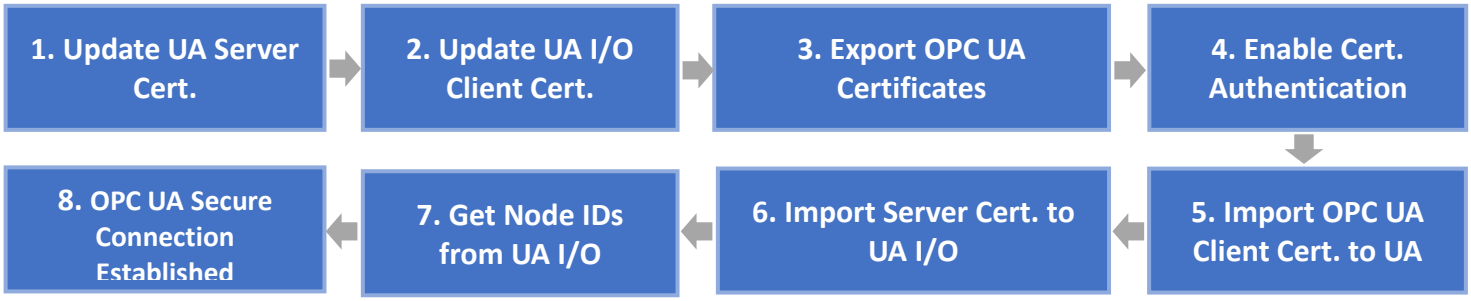
➢ Update OPC UA Server and OPC UA Client Certificates

The **Update OPC UA Server Certificate** and **Update OPC UA Client Certificate** functions allow users to quickly replace OPC UA Server and Client certificates installed on modules and establish encrypted OPC UA communications through certificate authentication.

Note: When updating certificates for multiple modules simultaneously, all selected modules must use the same EZ-UAQ Utility password. It is recommended to set the EZ-UAQ Utility password on the module's web page in advance. (Refer to **Appendix B**)

The following example demonstrates how to establish secure OPC UA certificate communication between a **UA Communication Server** and a **UA I/O Module**.**(Please refer to Appendix A Module Function Support.)**

OPC UA Secure Communication Workflow



◆ UA and UA I/O Establish OPC UA Secure Communication

1. Update UA OPC UA Server Certificate

Step 1: Select Module

Check the UA module that requires certificate updates.

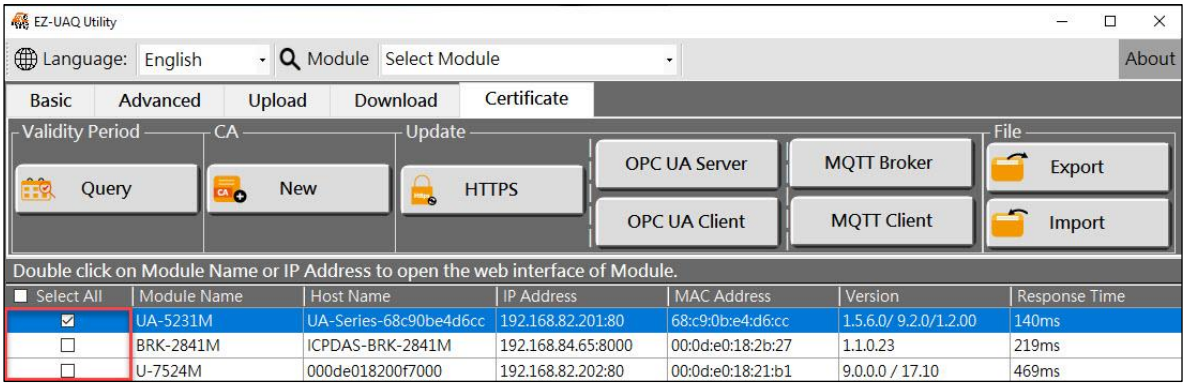


Figure 5-117 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (1)

Step 2: Execute OPC UA Server Certificate Update

Click the [OPC UA Server] button. Two confirmation windows (Figure I and Figure II) will appear sequentially. Click **[YES]** in both windows.

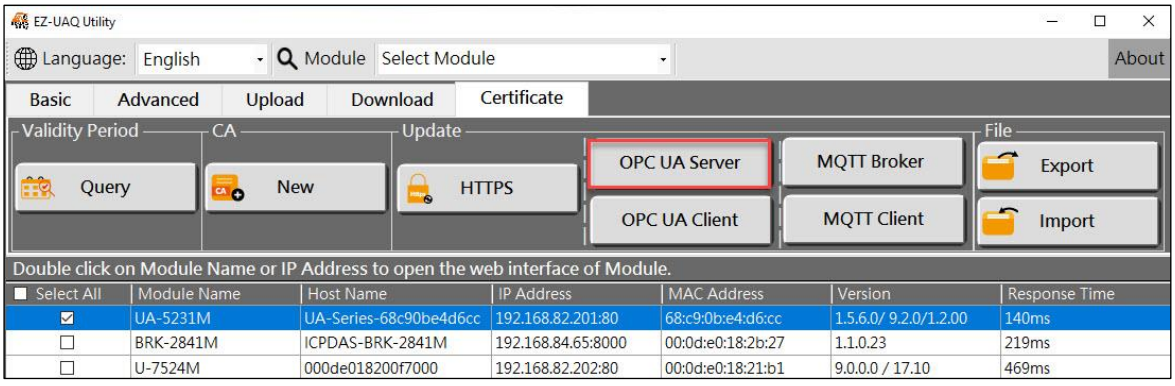
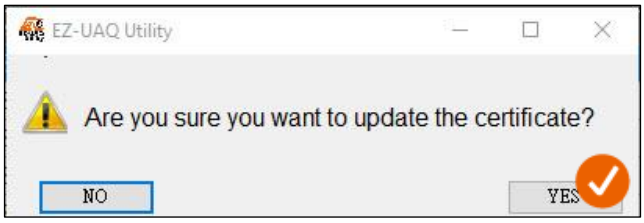


Figure 5-118 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (2)

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



(Figure I)



(Figure II)

Step 3: Configure Certificate Validity Period

In the **"Certificate validity date"** window, enter the certificate validity period and click **[OK]**.

❖ Please refer to **Appendix C –Certificate Date Input Restrictions** for recommended settings.

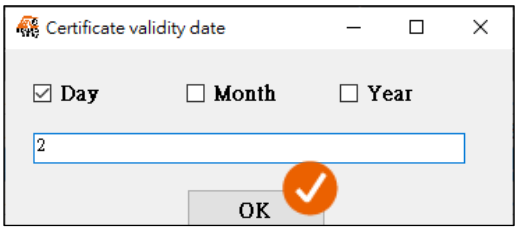


Figure 5-119 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (3)

Step 4: Enter Password

When the **"Password"** window appears, enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

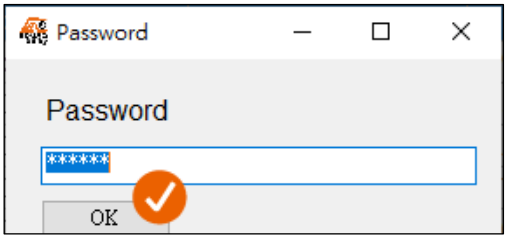


Figure 5-120 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (4)

Step 5: Updating OPC UA Server Certificate

When the interface displays: **"Updating Certificate, Please Wait"** the certificate update process is in progress.

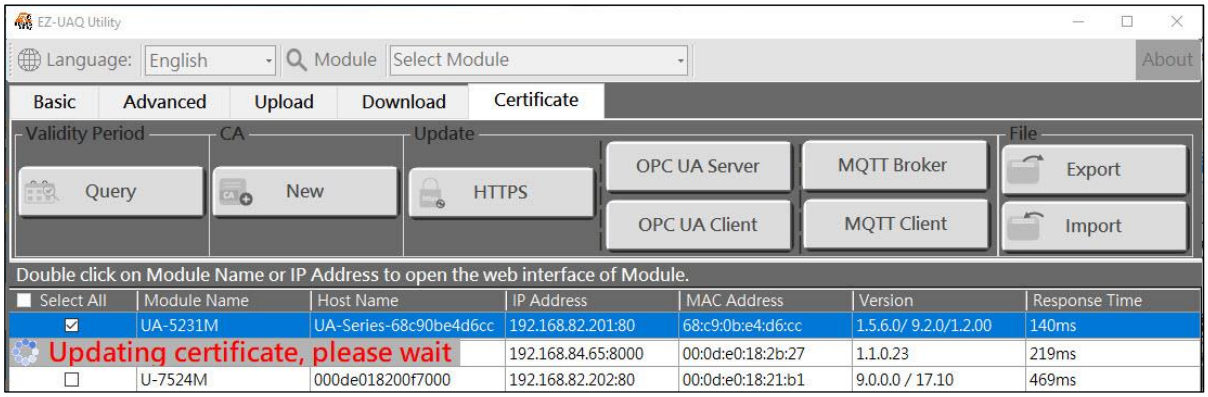


Figure 5-121 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (5)

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

Step 6: OPC UA Server Certificate Update Completed

After the update is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Update Successfully"**

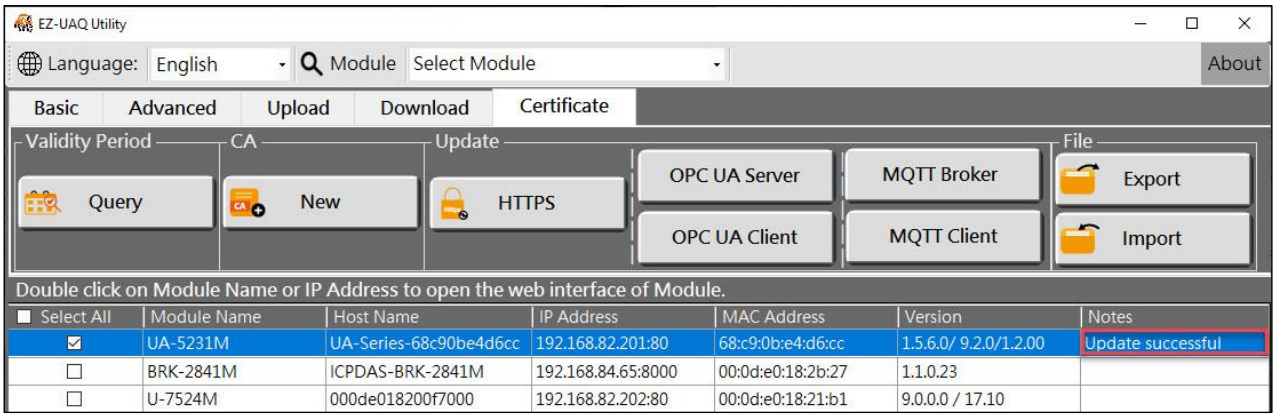


Figure 5-122 UA and UA I/O OPC UA Secure Communication – Update OPC UA Server Certificate (6)

2. Update UA I/O OPC UA Client Certificate

Step 1: Select Module

Check the UA I/O module that requires certificate updates.

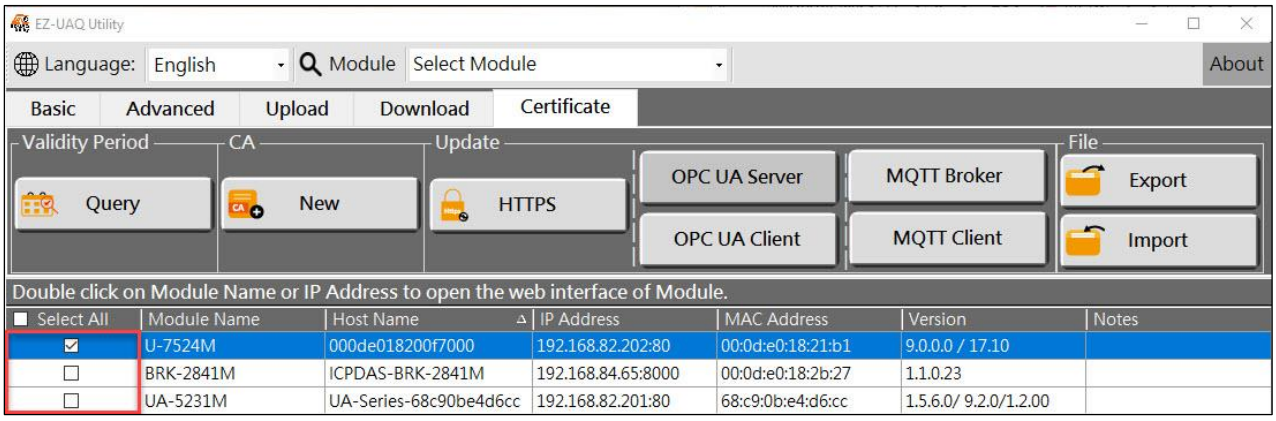


Figure 5-123 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (1)

Step 2: Execute OPC UA Client Certificate Update

Click the **[OPC UA Client]** button. Two confirmation windows (Figure I and Figure II) will appear sequentially. Click **[YES]** in both windows.

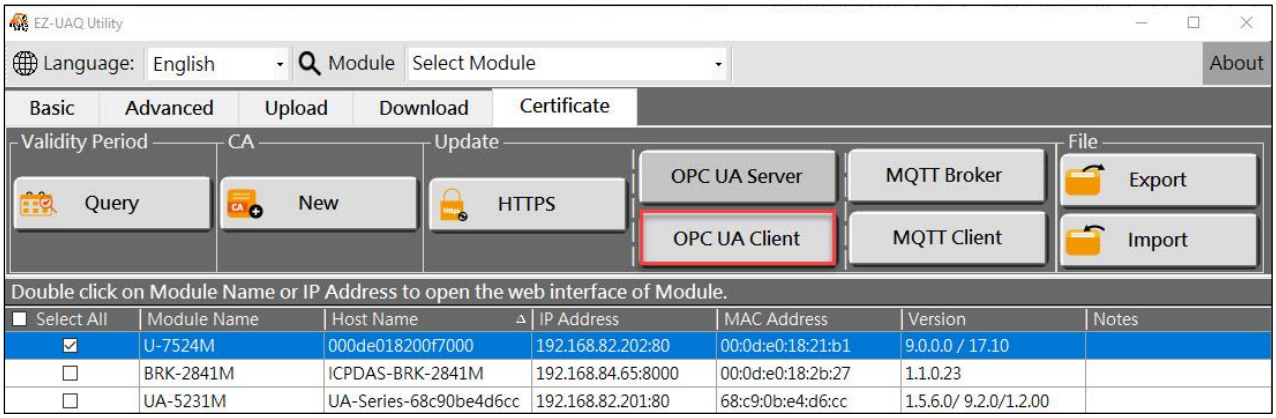
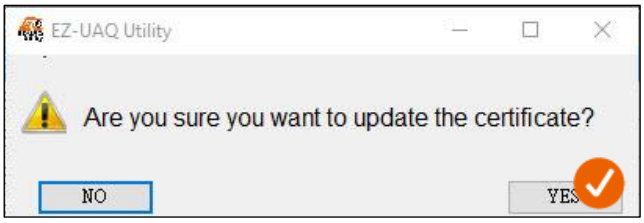


Figure 5-124 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (2)

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



(Figure I)



(Figure II)

Step 3: Configure Certificate Validity Period

In the **"Certificate validity date"** window, enter the certificate validity period and click **[OK]**.

❖ Please refer to **Appendix C– Certificate Date Input Restrictions** for recommended settings.

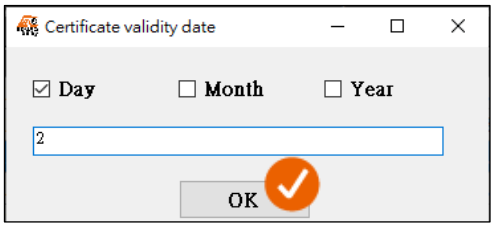


Figure 5-125 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (3)

Step 4: Enter Password

When the **"Password"** window appears, enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

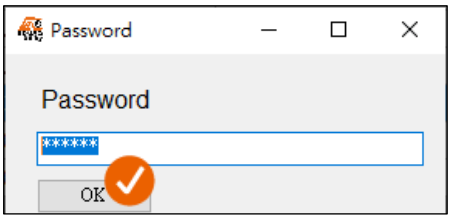


Figure 5-126 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (4)

Step 5: Updating OPC UA Client Certificate

When the interface displays: **"Updating Certificate, Please Wait"** the certificate update process is in progress.

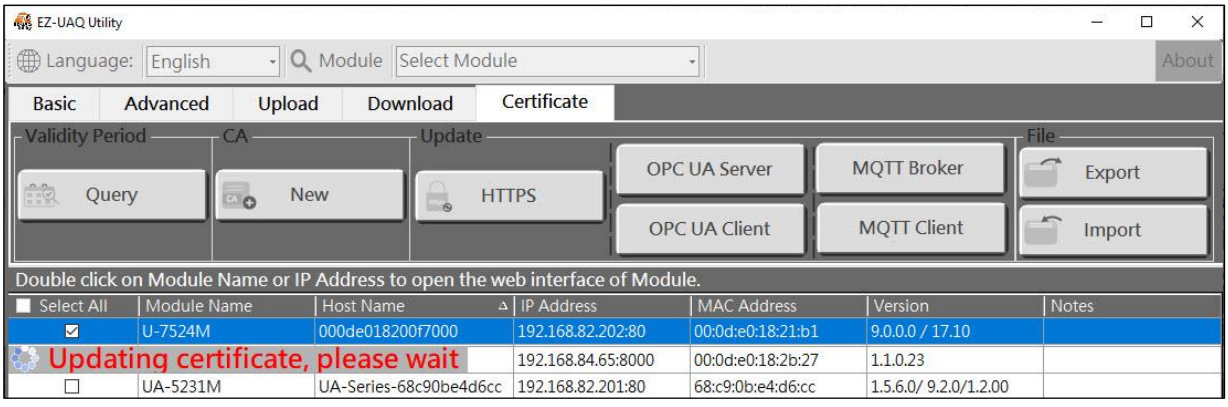


Figure 5-127 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (5)

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

Step 6: OPC UA Client Certificate Update Completed

After the update is completed successfully, the **[Notes]** field of the selected module(s) will display:**"Update Successfully"**

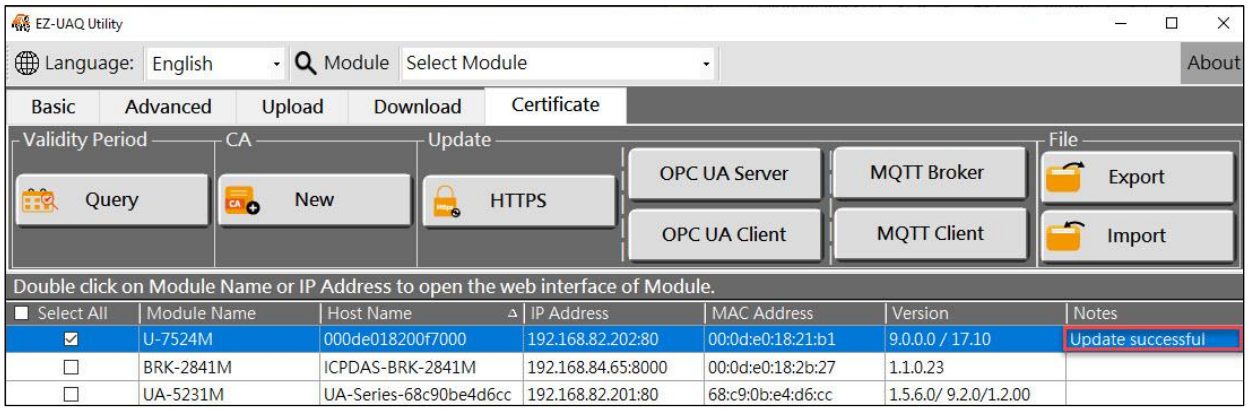
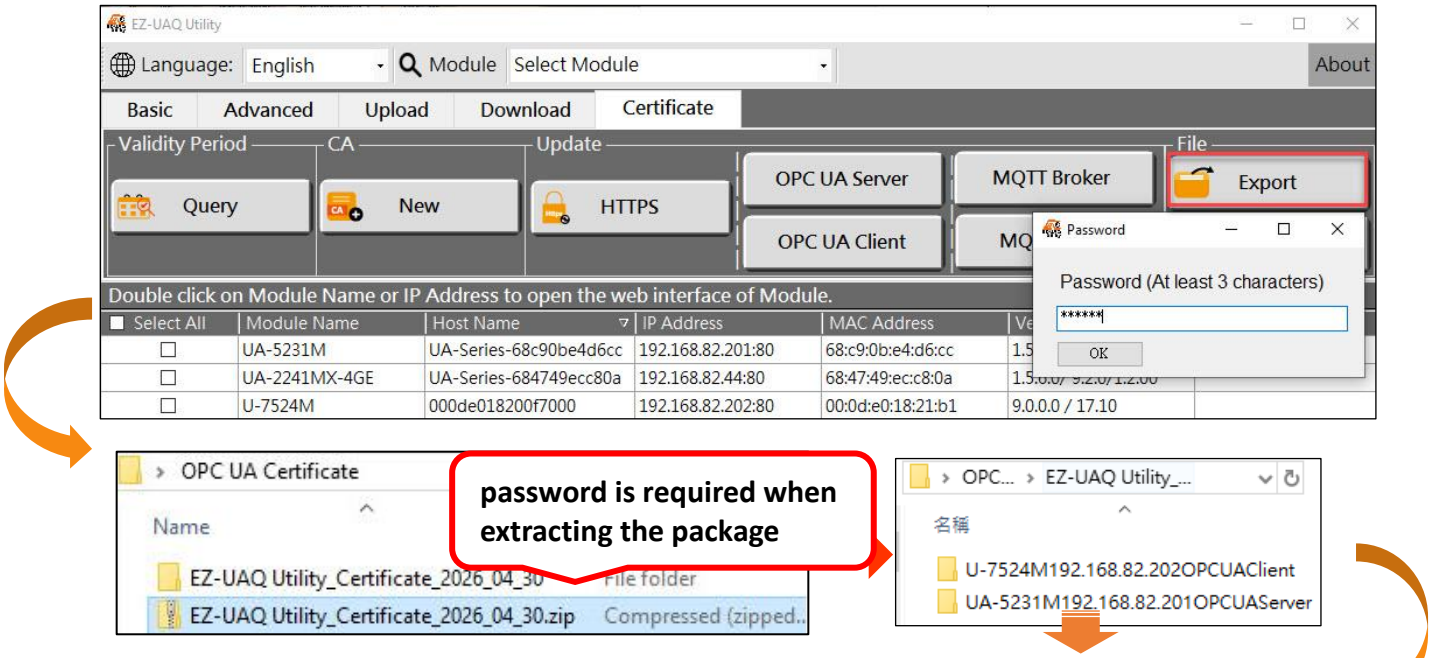


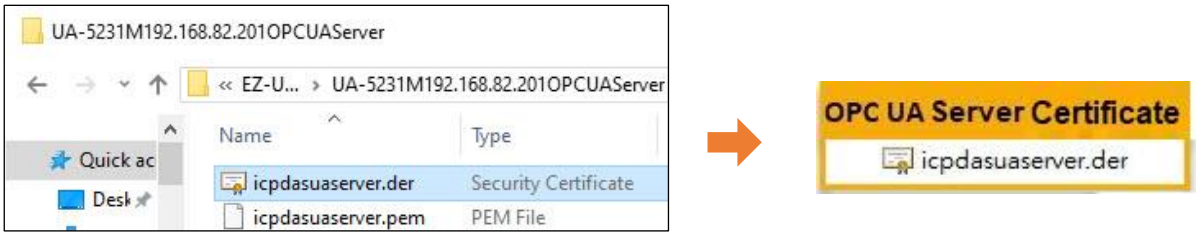
Figure 5-128 UA and UA I/O OPC UA Secure Communication – Update OPC UA Client Certificate (6)

3. Export Generated Certificates (OPC UA Server and OPC UA Client)

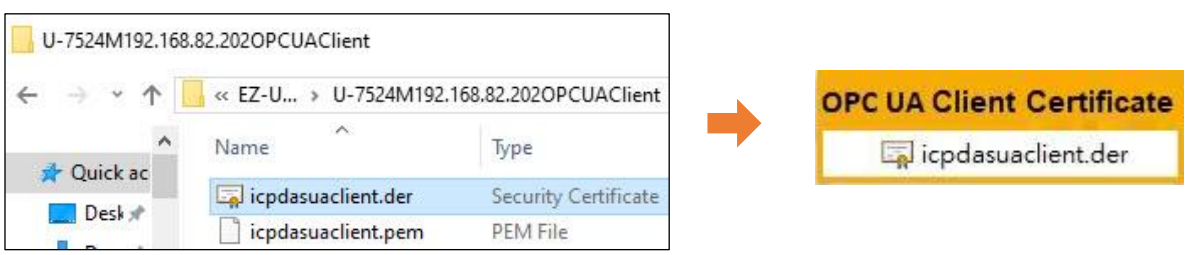
Click the **[Export]** button and enter the password to export the generated certificates. (Refer to Export Files)



OPC UA Server Folder: Contains 2 files, OPC UA Server Certificate(.der) and Private Key(.pem)



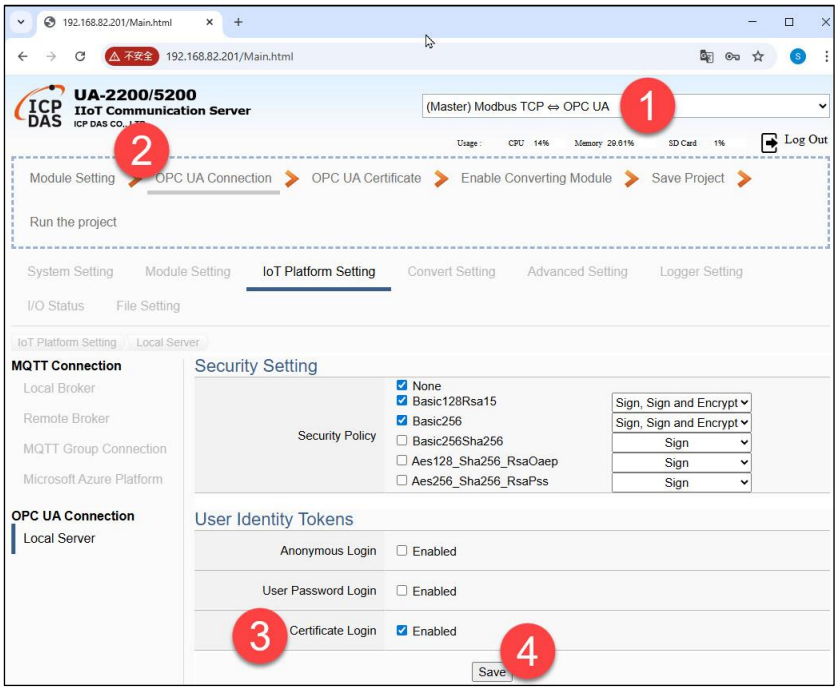
OPC UA Client Folder: Contains 2 files, OPC UA Client Certificate(.der) and Private Key(.pem)



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

4. Enable Certificate Authentication on the UA Webpage

Navigate to: (1) (Master) Modbus TCP ⇔ OPC UA → (2) Click **OPC UA Connection** → (3) Enable **Certificate Authentication** → (4) Click **Save**

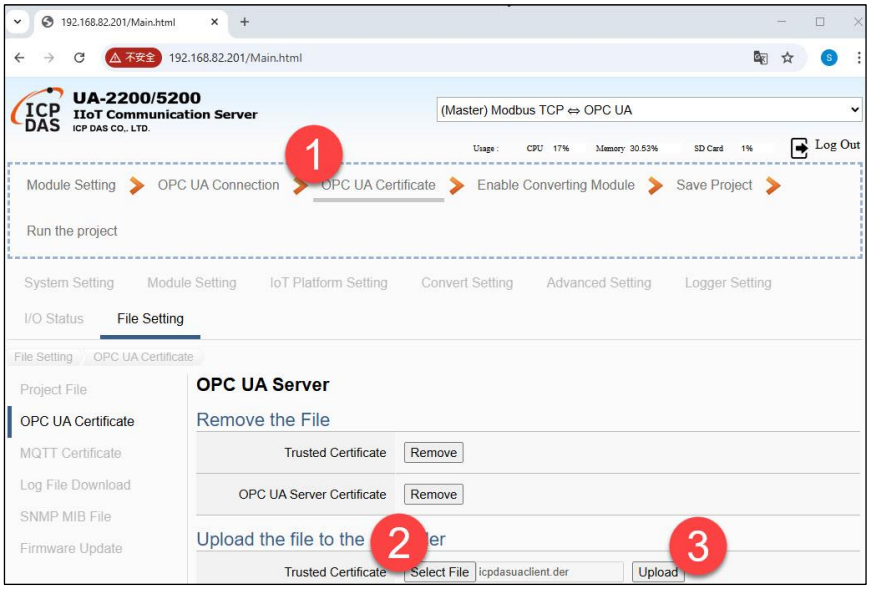


When **"Success"** is displayed beside the **Save** button, certificate authentication has been enabled successfully.



5. Import the OPC UA Client Certificate into the UA Webpage

(1) Click **OPC UA Certificate** →(2) Select the file **icpdasuaclient.der** → (3) Click **Upload**



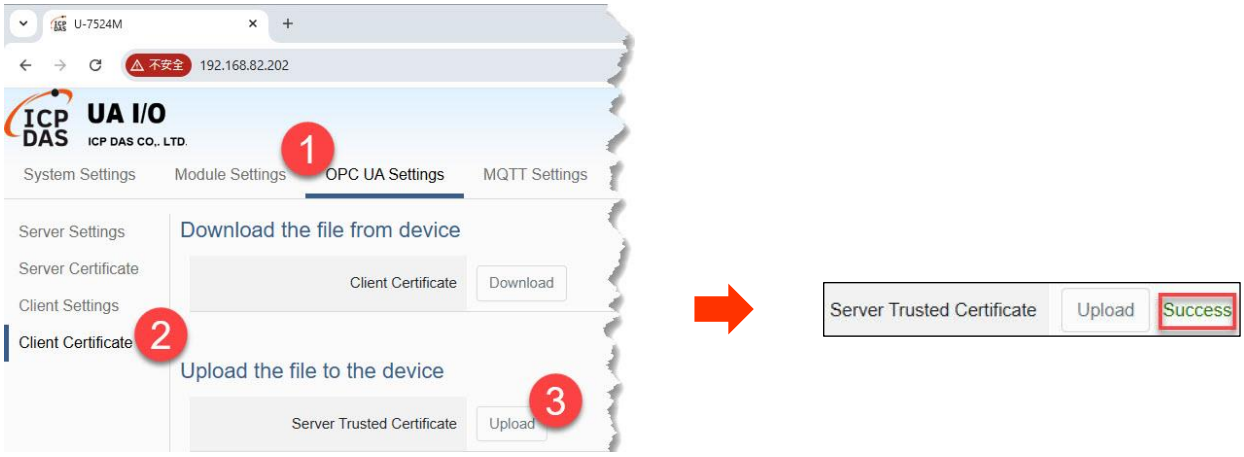
When **"Success"** is displayed beside the **Upload** button, the OPC UA Client certificate has been imported successfully.



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

6. Import the OPC UA Server Certificate into the UA I/O Webpage

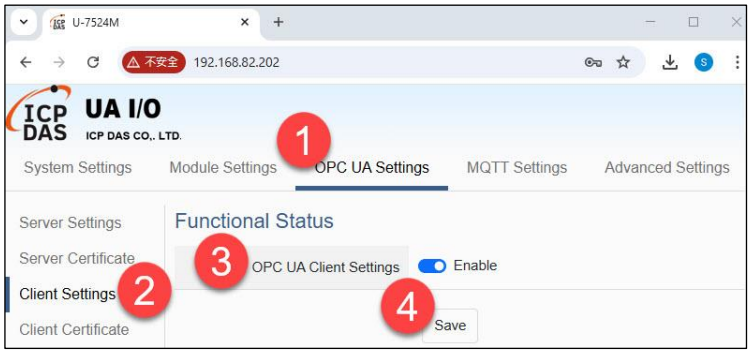
Navigate to: (1) **OPC UA Settings** →(2) Select **Client Certificate** →(3) Click **Upload**, Select **icpdasuaserver.der**



When **"Success"** is displayed beside the **Upload** button, the OPC UA Server certificate has been imported successfully.

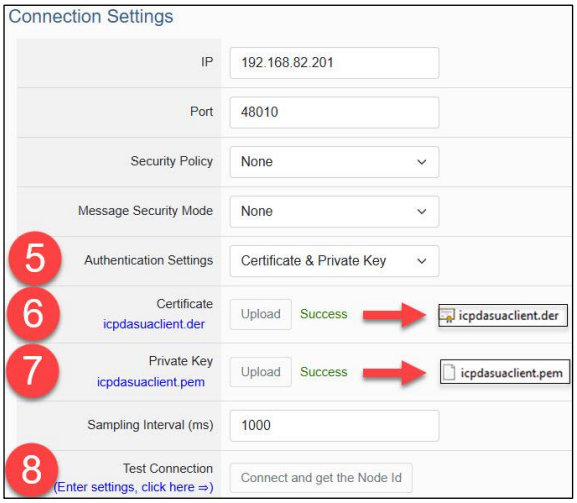
7. Obtain Node IDs from the UA I/O Webpage

Navigate to: (1) **OPC UA Settings** →(2) Click **Client Settings** →(3) Enable **OPC UA Client**→(4) Click **Save**



(5) Under **Authentication Settings**: > Select **Certificate & Private Key** →(6) Upload Certificate →(7) Upload Private Key →(8) Click **Connect and Get Node ID**

Certificate: (icpdasuaclient.der) Private Key: (icpdasuaclient.pem)



8. OPC UA Secure Communication Established Successfully

When **"Success"** is displayed beside the **Connect and Get Node ID** button, the certificate authentication test has completed successfully and secure OPC UA communication between the UA Communication Server and UA I/O module has been established.



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

➢ **Update MQTT Broker and MQTT Client Certificates**

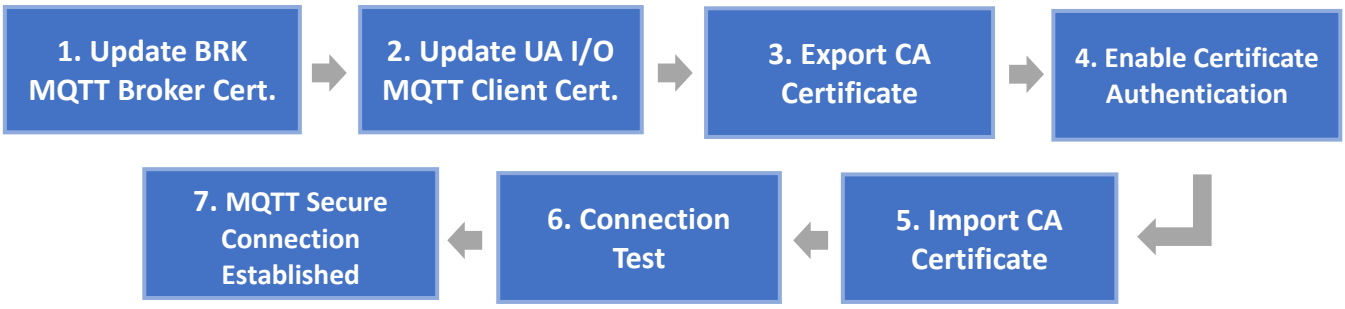
The **Update MQTT Broker Certificate** and **Update MQTT Client Certificate** functions allow users to quickly replace MQTT Broker and MQTT Client certificates on modules and establish encrypted MQTT communications through certificate authentication to enhance data transmission security.

Note: When updating certificates for multiple modules simultaneously, all selected modules must use the same EZ-UAQ Utility password. It is recommended to set the EZ-UAQ Utility password on the module's web page in advance. (Refer to **Appendix B**)

The following sections describe how to establish secure MQTT communications between BRK, UA Communication Servers, and UA I/O modules using MQTT certificates.

(Please refer to Appendix A– Module Function Support.)

MQTT Secure Communication Workflow



◆ **BRK and UA I/O Establish MQTT Secure Communication**

1. Update BRK MQTT Broker Certificate

Step 1: Select Module

Check the BRK module that requires certificate updates.

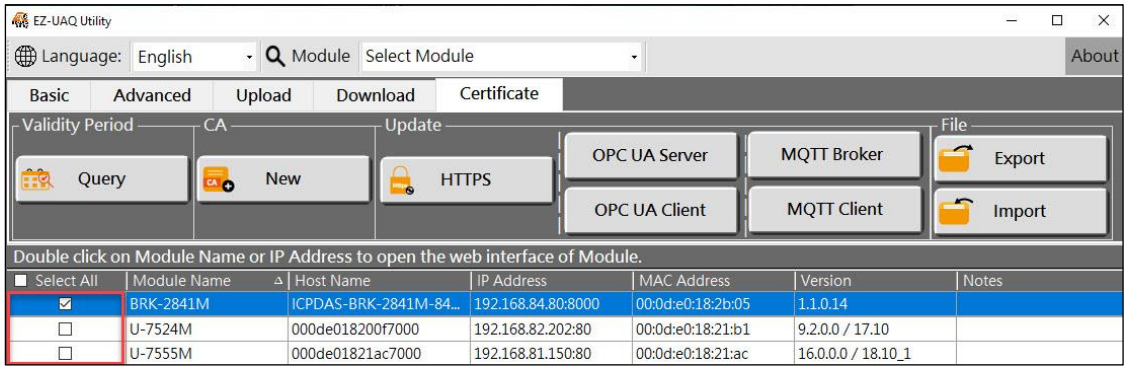


Figure 5-129 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (1)

Step 2: Execute MQTT Broker Certificate Update

Click the [MQTT Broker] button. Two confirmation windows (Figure I and Figure II) will appear sequentially. Click [YES] in both windows.

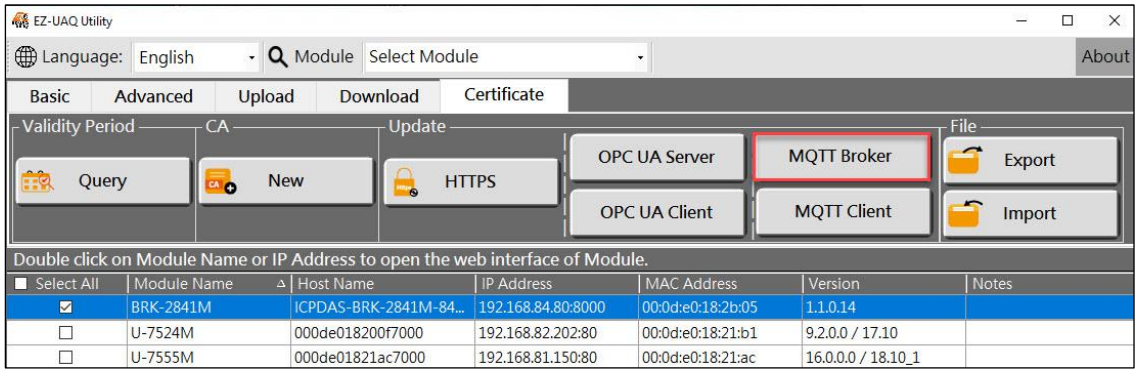
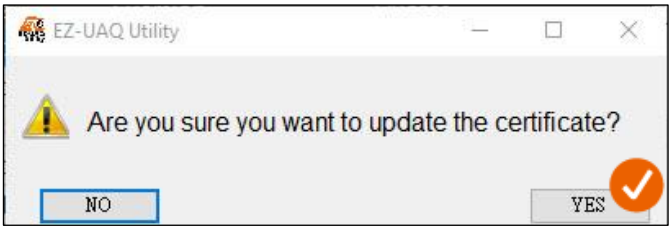


Figure 5-130 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (2)

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



(Figure I)



(Figure II)

Step 3: Configure Certificate Validity Period

In the **"Certificate validity date"** window, enter the certificate validity period and click **[OK]**.

❖ Please refer to **Appendix C– Certificate Date Input Restrictions** for recommended settings.

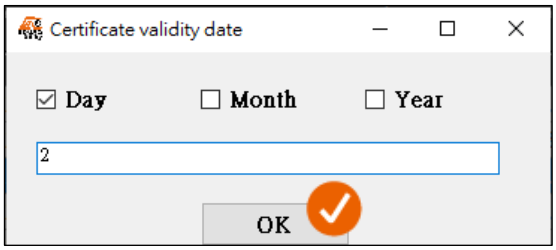
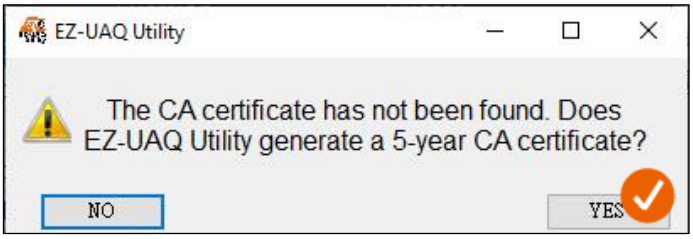


Figure 5-131 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (3)

Note: If the following message appears, EZ-UAQ Utility has not yet generated a CA certificate.

- Click **[Yes]**: EZ-UAQ Utility will automatically generate a 5-year CA certificate.
- Click **[No]**: No CA certificate will be generated.



Alternatively, users may create a new CA certificate using the **[Add]** function or import a third-party CA certificate and private key using the **[Import]** function.

Step 4: Enter Password

Enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

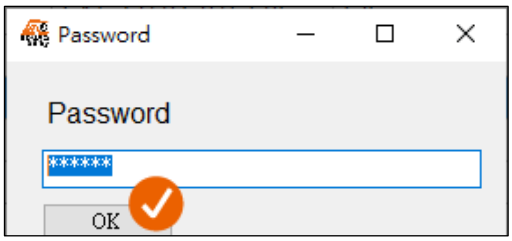


Figure 5-132 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (4)

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

Step 5: Updating MQTT Broker Certificate

When the interface displays: **"Updating Certificate, Please Wait"**, the certificate update process is in progress.

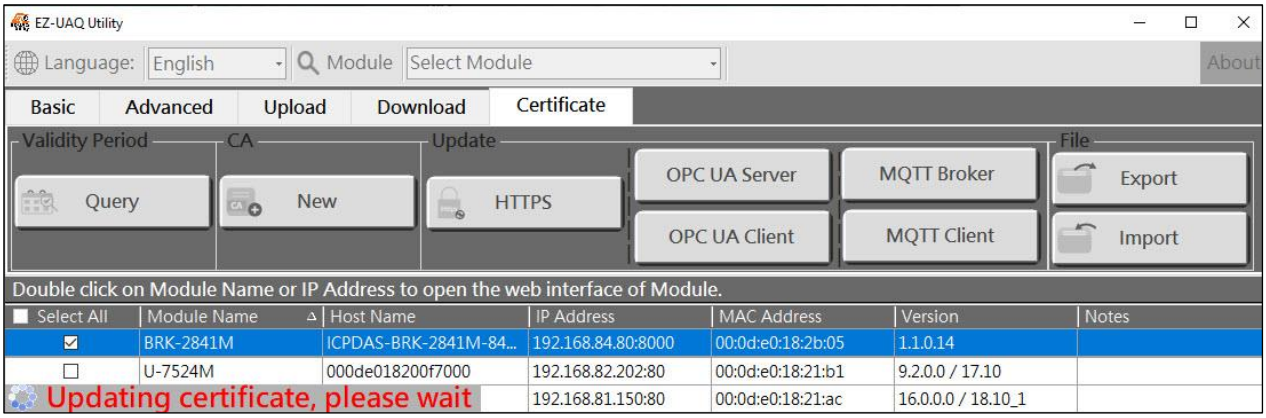


Figure 5-133 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (5)

Step 6: MQTT Broker Certificate Update Completed

After the update is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Update Successfully"**

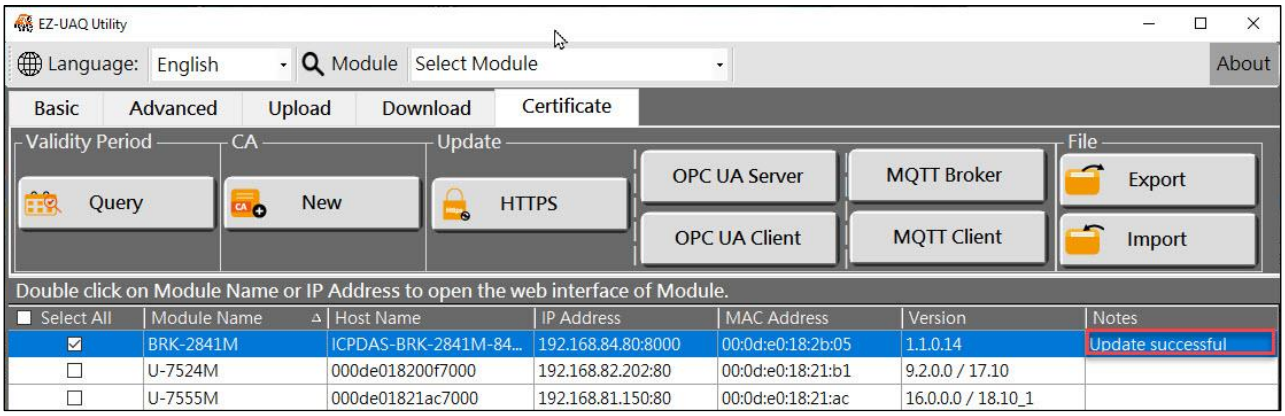


Figure 5-134 BRK and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (6)

❖ **After certificate deployment through EZ-UAQ Utility, the BRK MQTT Broker SSL/TLS function will be enabled automatically.**

2. Update UA I/O MQTT Client Certificate

Step 1: Select Module

Check the UA I/O module that requires certificate updates.

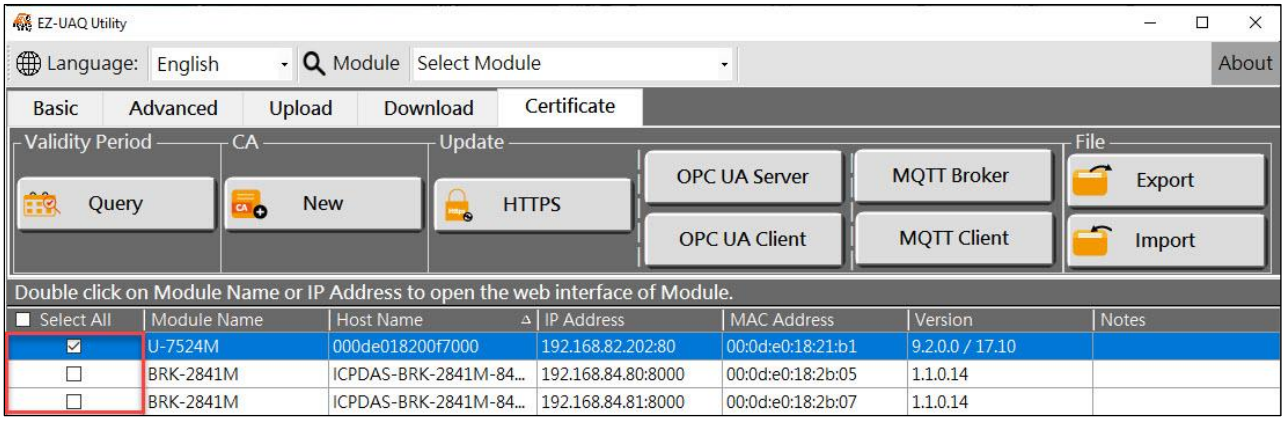


Figure 5-135 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (1)

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

Step 2: Execute MQTT Client Certificate Update

Click the **[MQTT Client]** button. Two confirmation windows (Figure I and Figure II) will appear sequentially. Click **[YES]** in both windows.

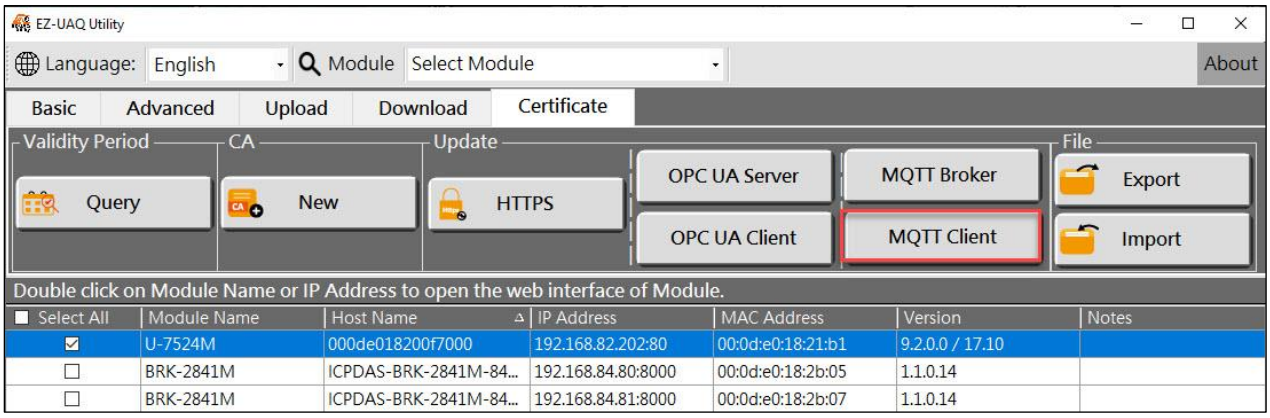
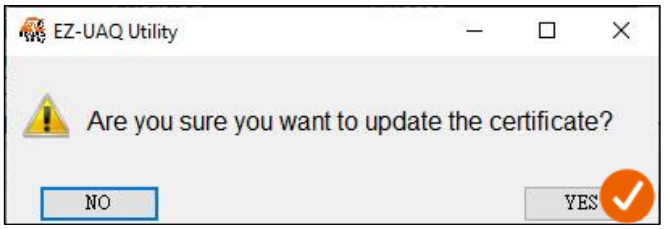


Figure 5-136 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (2)



(Figure I)



(Figure II)

Step 3: Configure Certificate Validity Period

Enter the certificate validity period and click **[OK]**.

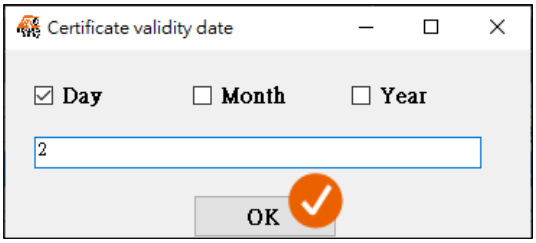


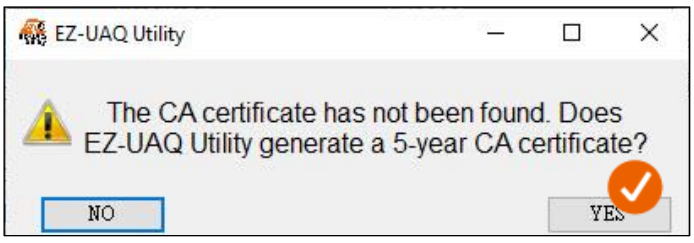
Figure 5-137 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (3)

❖ Please refer to **Appendix C– Certificate Date Input Restrictions** for recommended settings.

Note: If the following message appears, EZ-UAQ Utility has not yet generated a CA certificate.

- Click **[Yes]**: EZ-UAQ Utility will automatically generate a 5-year CA certificate.

Click **[No]**: No CA certificate will be generated.



Alternatively, users may create a new CA certificate using the **[Add]** function or import a third-party CA certificate and private key using the **[Import]** function.

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

Step 4: Enter Password

Enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

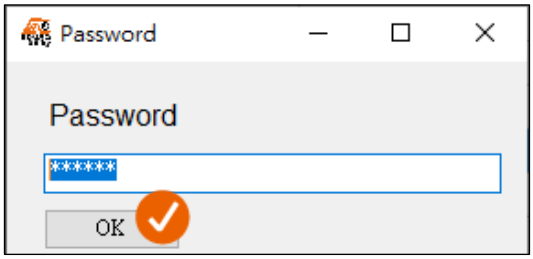


Figure 5-138 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (4)

Step 5: Updating MQTT Client Certificate

When the interface displays: **"Updating Certificate, Please Wait"** the certificate update process is in progress.

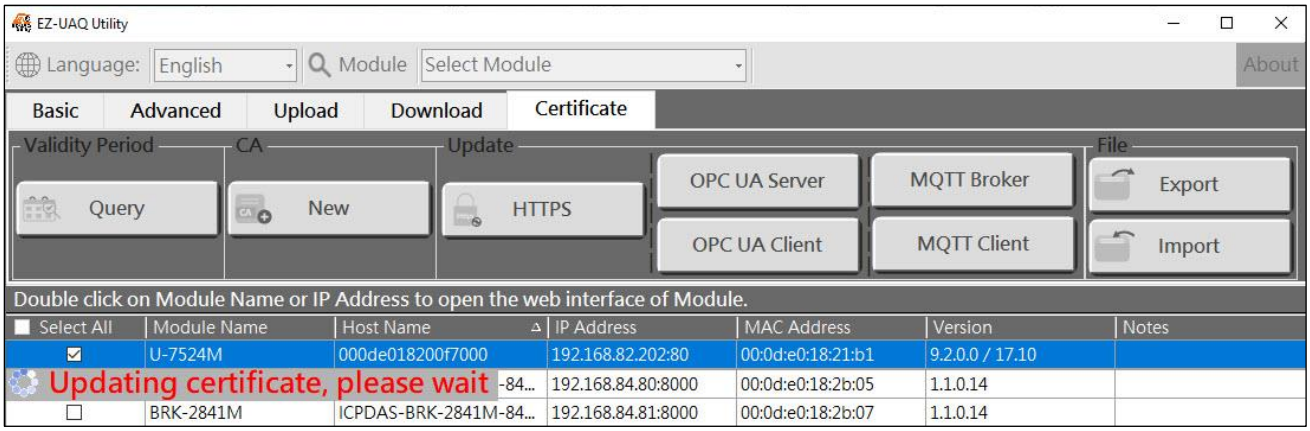


Figure 5-139 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (5)

Step 6: MQTT Client Certificate Update Completed

After the update is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Update Successfully"**

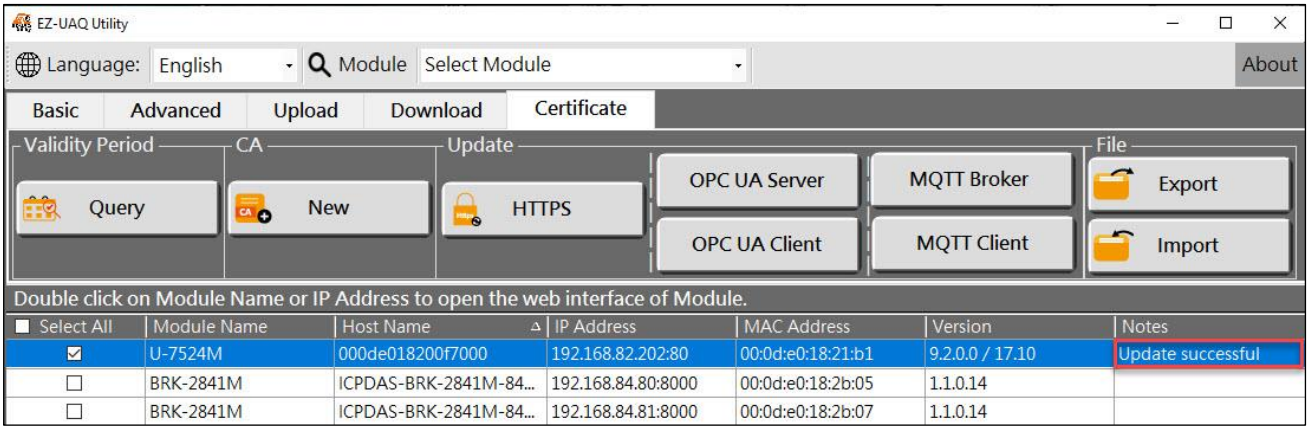
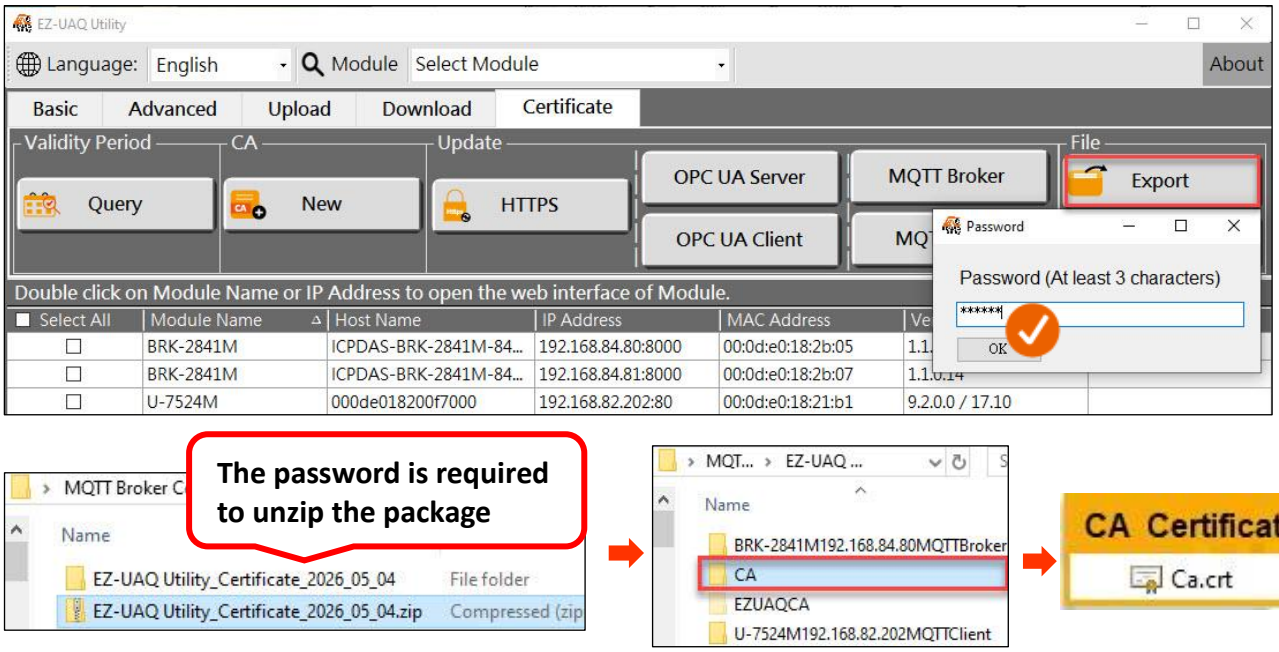


Figure 5-140 BRK and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (6)

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

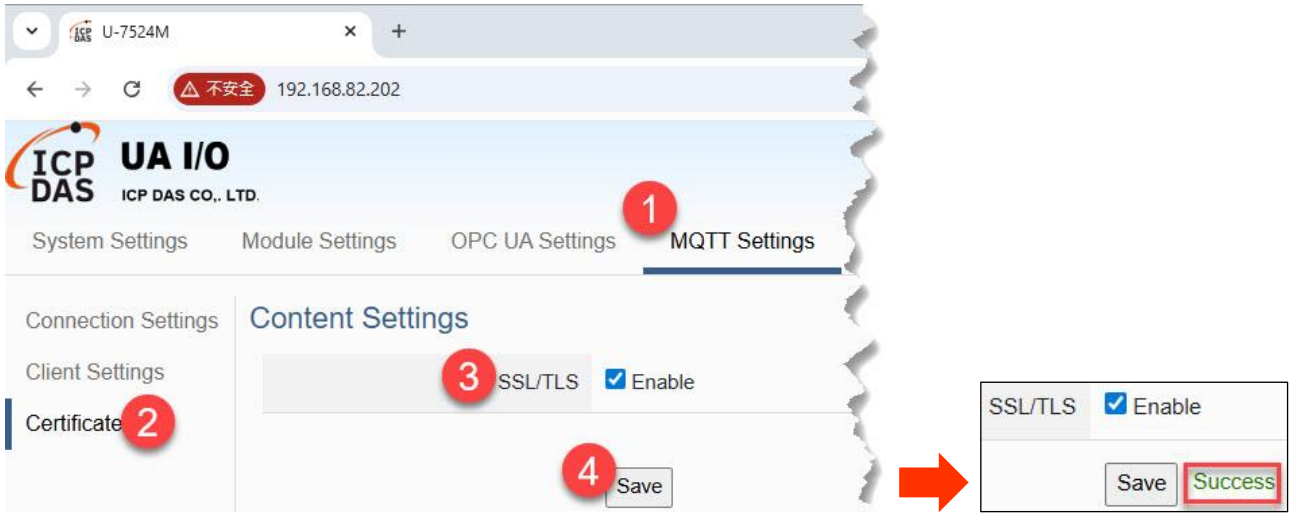
3. Export Generated CA Certificate

Click **[Export]** and enter the password to export the generated CA certificate. (Refer to Export Files)



4. Enable Certificate Authentication on the UA I/O Webpage

(1) Navigate to: MQTT Settings → (2)Certificate →(3) Enable **SSL/TLS** →(3) Click **Save**



When **"Success"** is displayed beside the Save button, certificate authentication has been enabled successfully.

5. Import CA Certificate into the UA I/O Webpage

After SSL/TLS has been enabled: Click **Upload**, Select **Ca.crt**

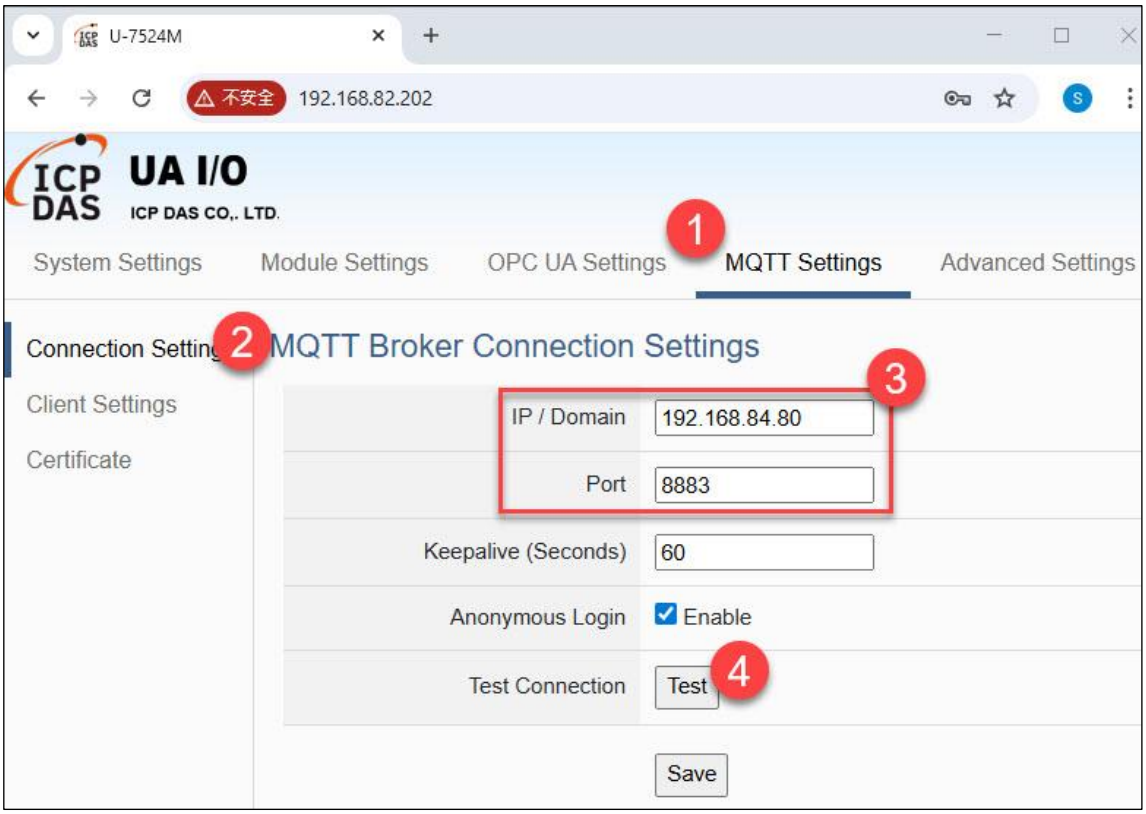


When **"Success"** is displayed beside the Upload button, the CA certificate has been imported successfully.

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

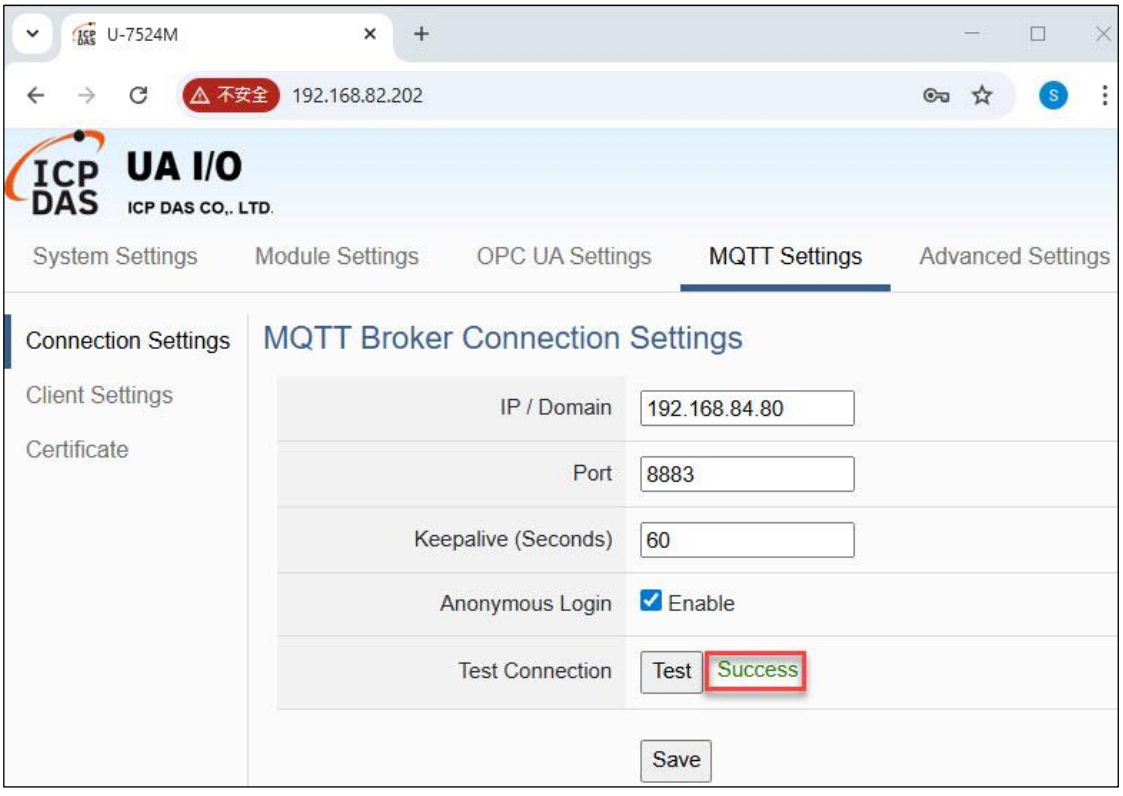
6. Perform Connection Test from the UA I/O Webpage

Navigate to: (1) **MQTT Settings**→(2) **Connection Settings** →(3) Enter the MQTT Broker **IP address** or **domain name**, eg.:**192.168.84.80** and **Port** 8883 (Certificate-based MQTT communication uses port **8883**; Non-encrypted MQTT communication uses port **1883**)→ (4) Click **Test**



7. MQTT Secure Communication Established Successfully

When **"Success"** is displayed beside the **Test** button, MQTT certificate authentication has been verified successfully.

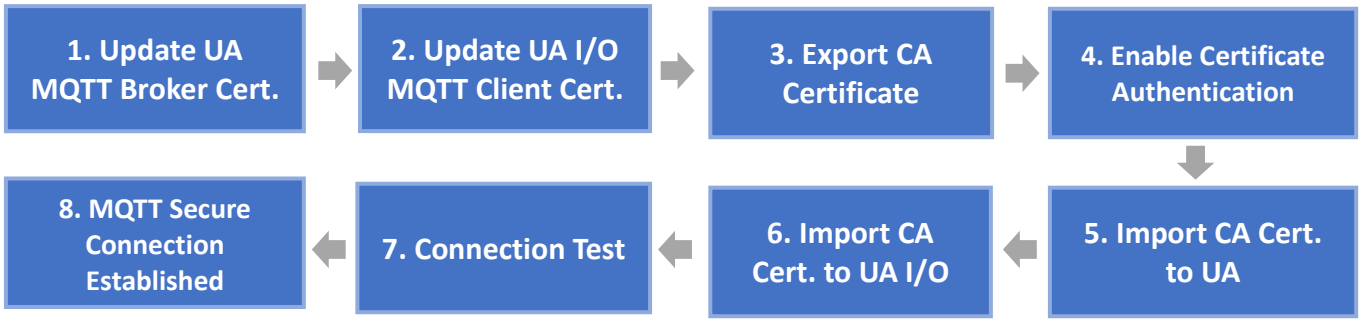


Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

◆ UA and UA I/O Establish MQTT Secure Communication

Note: When updating certificates for multiple modules simultaneously, all selected modules must use the same password. It is recommended to set the EZ-UAQ Utility password on the module's web page in advance. **(Refer to Appendix B)**

MQTT Secure Communication Workflow



1. Update UA MQTT Broker Certificate

Step 1: Select Module

Check the UA module that requires certificate updates.

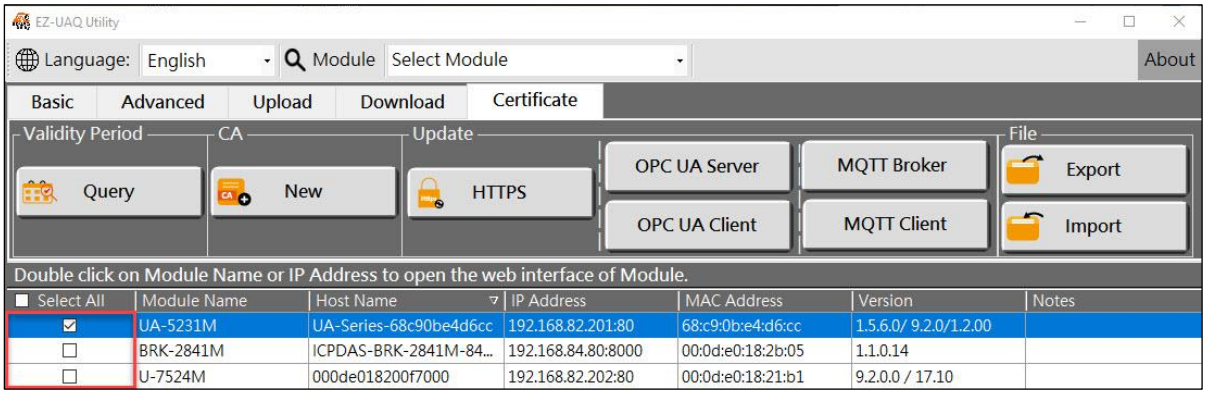


Figure 5-141 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (1)

Step 2: Execute MQTT Broker Certificate Update

Click the **[MQTT Broker]** button. Two confirmation windows (Figure I and Figure II) will appear sequentially. Click **[YES]** in both windows.

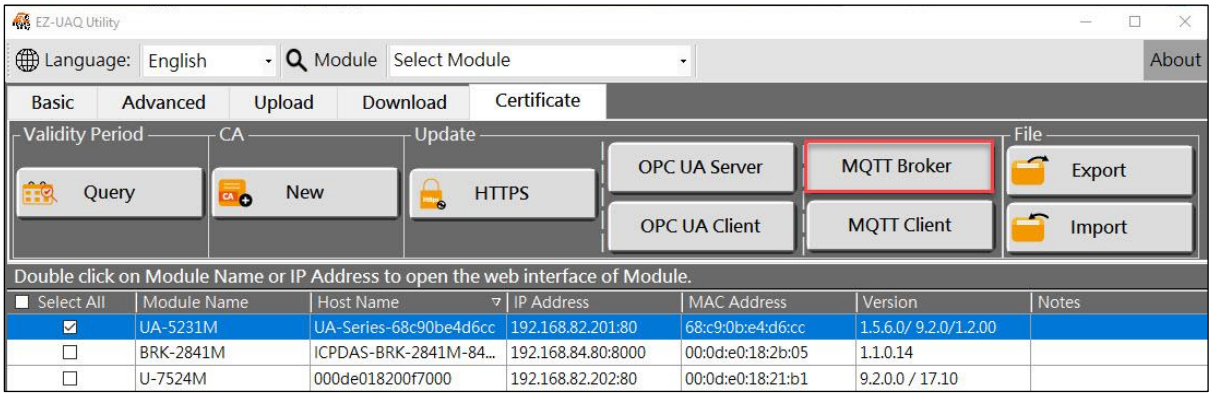
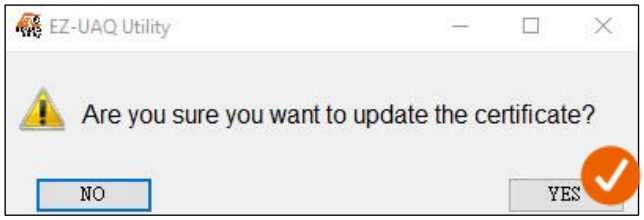


Figure 5-142 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (2)



(Figure I)

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



(Figure II)

Step 3: Configure Certificate Validity Period

Enter the certificate validity period and click **[OK]**.

❖ Please refer to **Appendix C– Certificate Date Input Restrictions.**

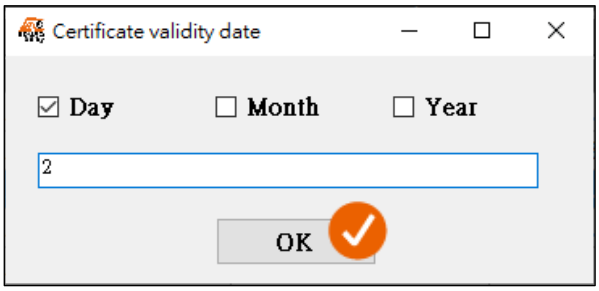
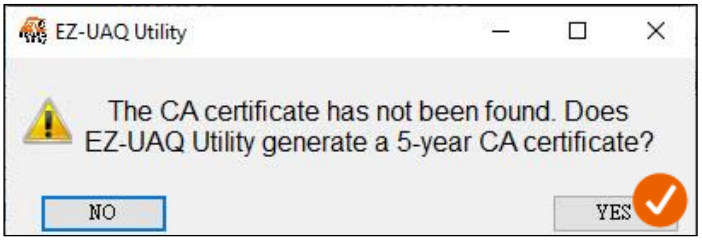


Figure 5-143 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (3)

Note: If the following message appears, EZ-UAQ Utility has not yet generated a CA certificate.

- Click **[Yes]**: EZ-UAQ Utility will automatically generate a 5-year CA certificate.
- Click **[No]**: No CA certificate will be generated.



Alternatively, users may create a new CA certificate using the **[Add]** function or import a third-party CA certificate and private key using the **[Import]** function.

Step 4: Enter Password

Enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

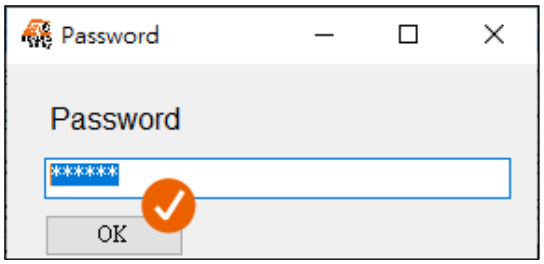


Figure 5-144 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (4)

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

Step 5: Updating MQTT Broker Certificate

When the interface displays: **"Updating Certificate, Please Wait"** the certificate update process is in progress.

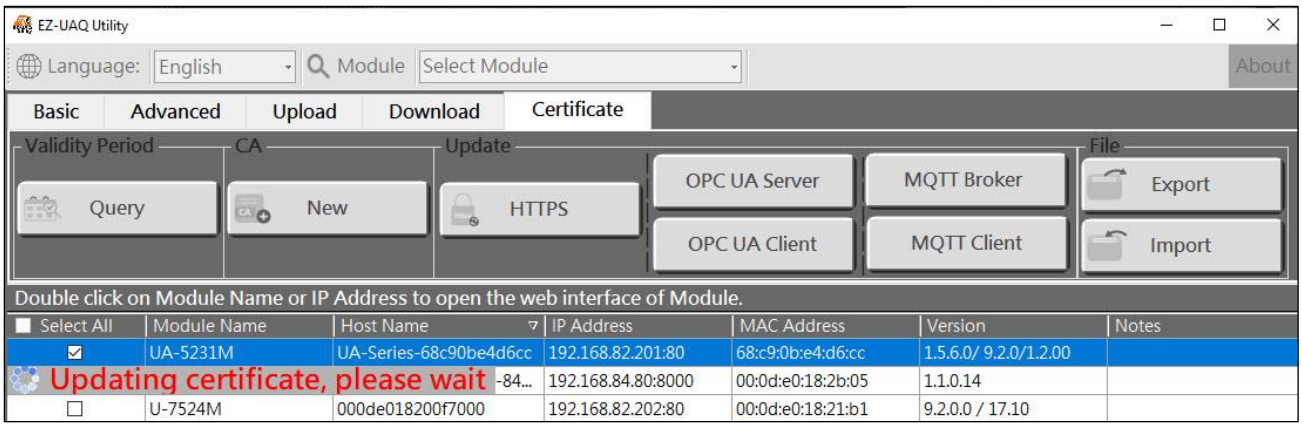


Figure 5-145 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (5)

Step 6: MQTT Broker Certificate Update Completed

After the update is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Update Successfully"**

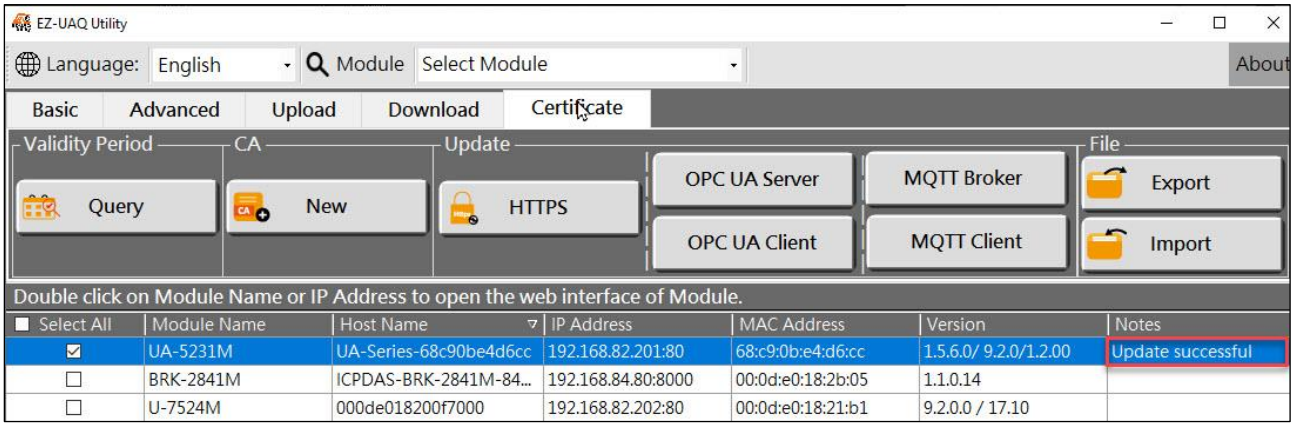


Figure 5-146 UA and UA I/O MQTT Secure Communication – Update MQTT Broker Certificate (6)

2. Update UA I/O MQTT Client Certificate

Step 1: Select Module

Check the UA I/O module that requires certificate updates.

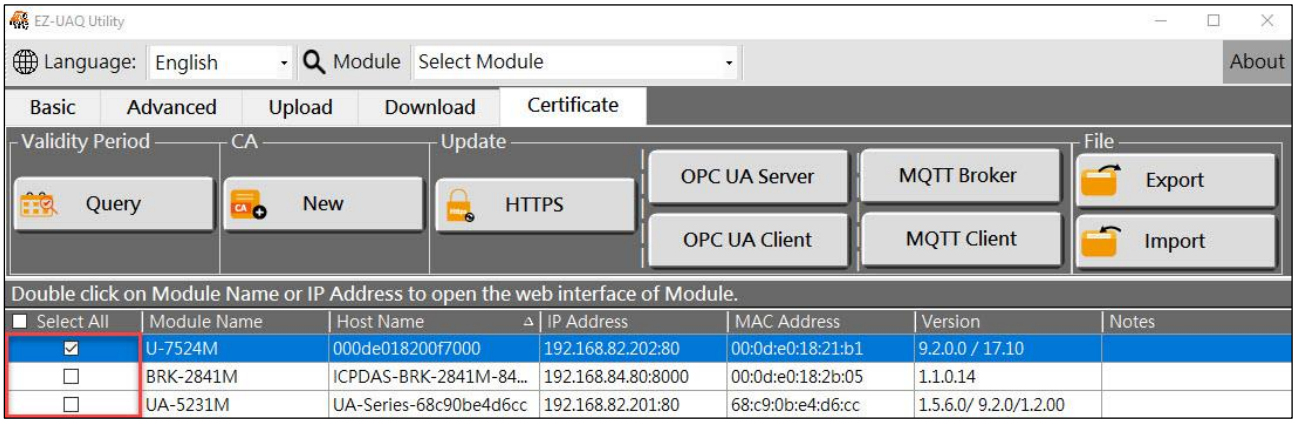


Figure 5-147 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (1)

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

Step 2: Execute MQTT Client Certificate Update

Click the **[MQTT Client]** button. Two confirmation windows (Figure I and Figure II) will appear sequentially. Click **[YES]** in both windows.

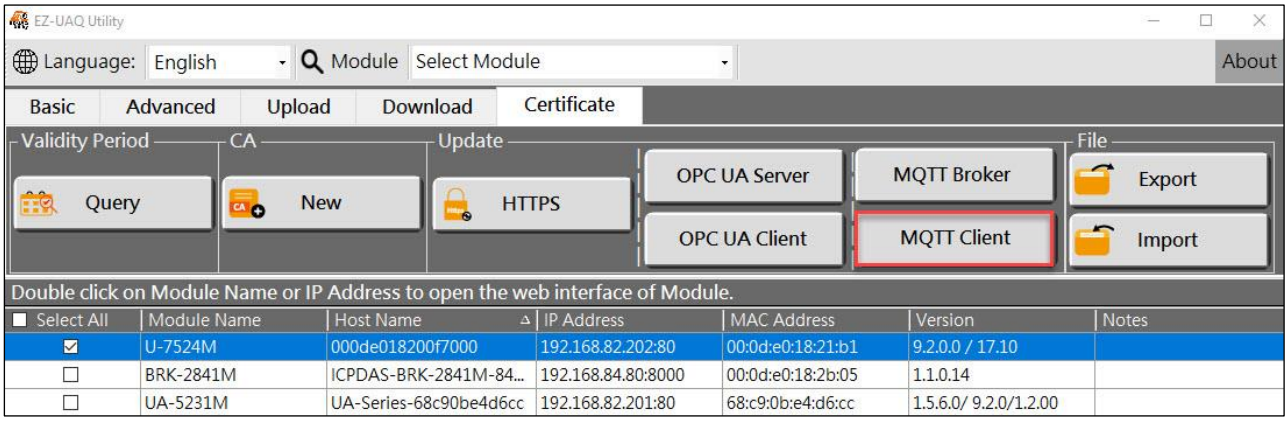
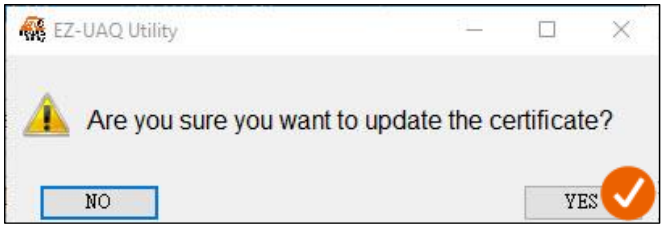


Figure 5-148 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (2)



(Figure I)



(Figure II)

Step 3: Configure Certificate Validity Period

Enter the certificate validity period and click **[OK]**.

- ❖ Please refer to **Appendix C– Certificate Date Input Restrictions.**

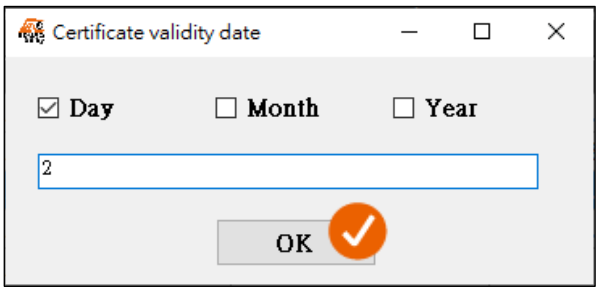
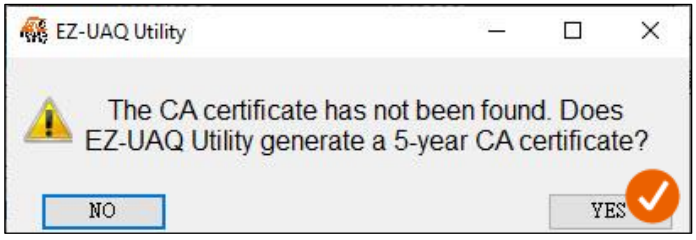


Figure 5-149 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (3)

Note: If the following message appears, EZ-UAQ Utility has not yet generated a CA certificate.

- Click **[Yes]**: EZ-UAQ Utility will automatically generate a 5-year CA certificate.
- Click **[No]**: No CA certificate will be generated.



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

Alternatively, users may create a new CA certificate using the **[Add]** function or import a third-party CA certificate and private key using the **[Import]** function.

Step 4: Enter Password

Enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

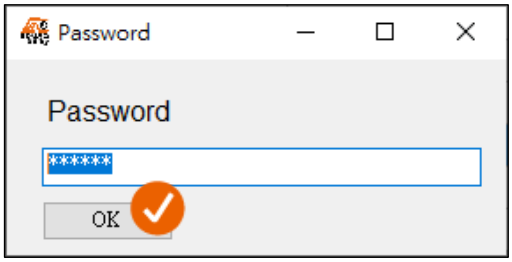


Figure 5-150 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (4)

Step 5: Updating MQTT Client Certificate

When the interface displays: **"Updating Certificate, Please Wait"** the certificate update process is in progress.

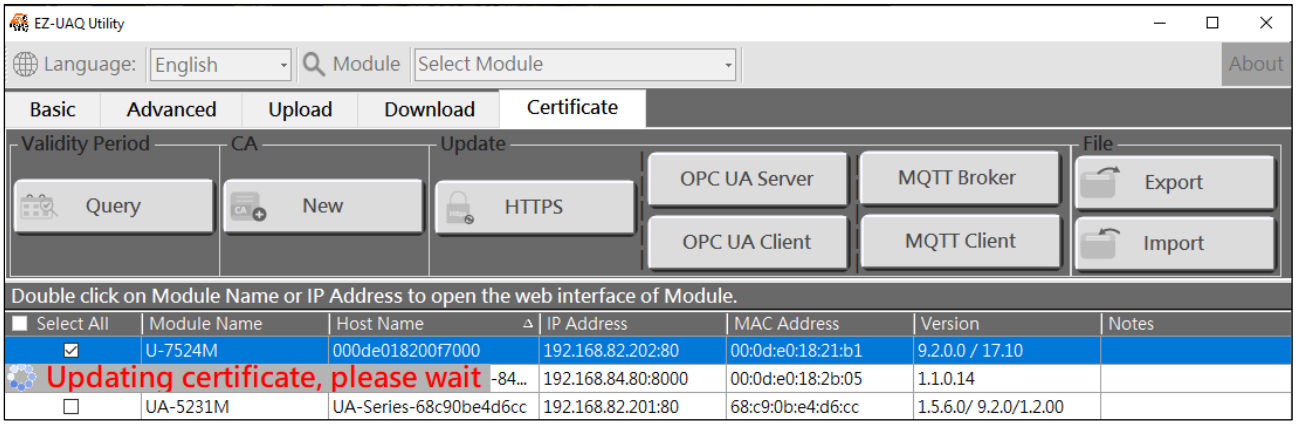


Figure 5-151 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (5)

Step 6: MQTT Client Certificate Update Completed

After the update is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Update Successfully"**

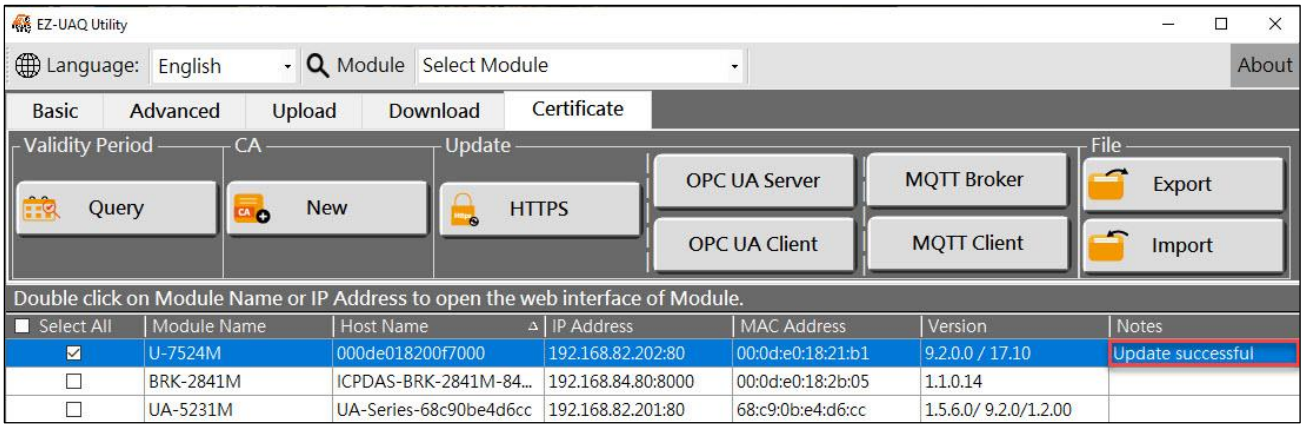


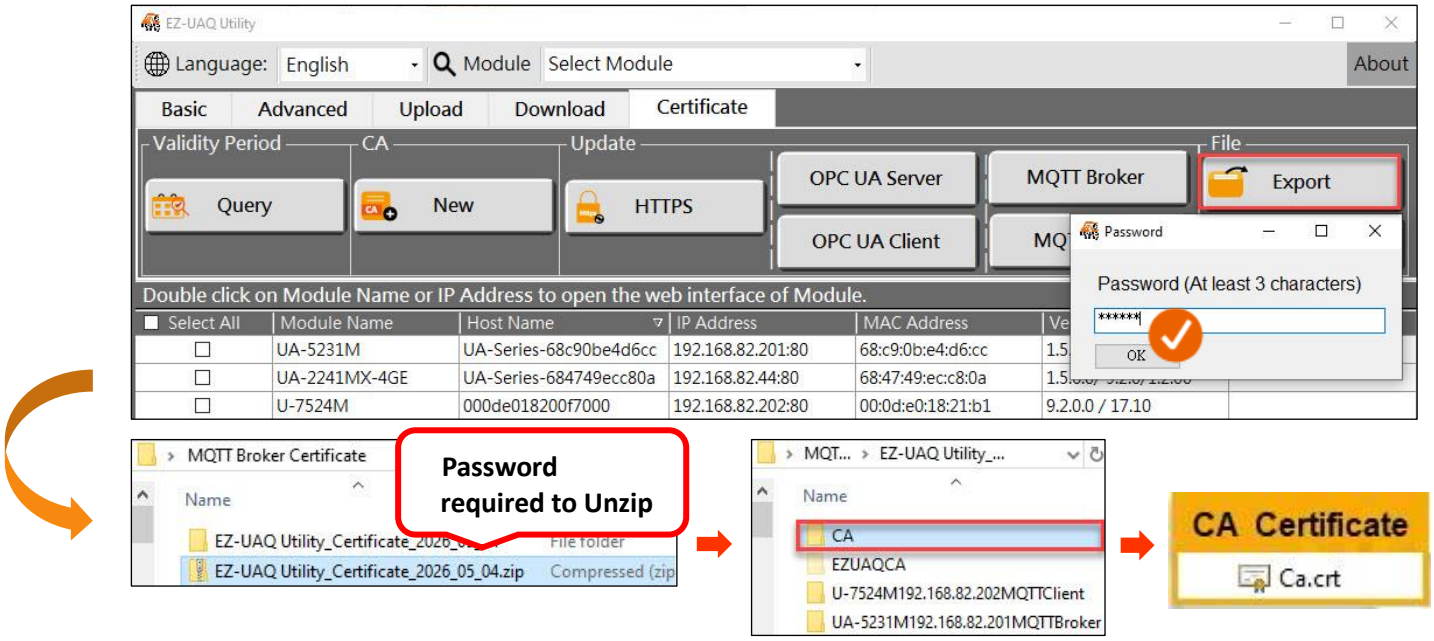
Figure 5-152 UA and UA I/O MQTT Secure Communication – Update MQTT Client Certificate (6)

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

3. Export Generated CA Certificate

Click **[Export]** and enter the password to export the generated CA certificate.

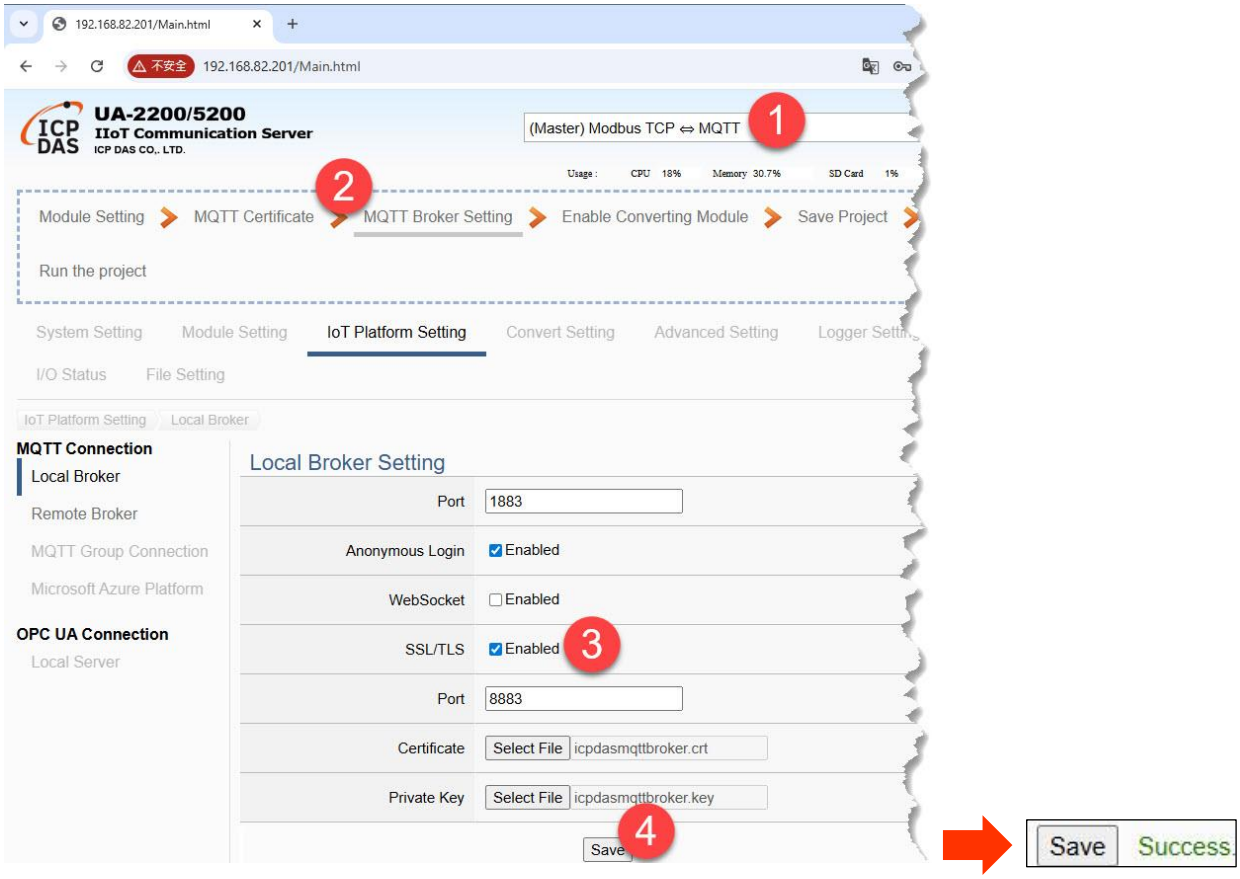
- The same CA certificate will be imported into both the UA and UA I/O webpages during the following 5 and 6 procedures.



4. Enable Certificate Authentication on UA and UA I/O

UA Webpage:

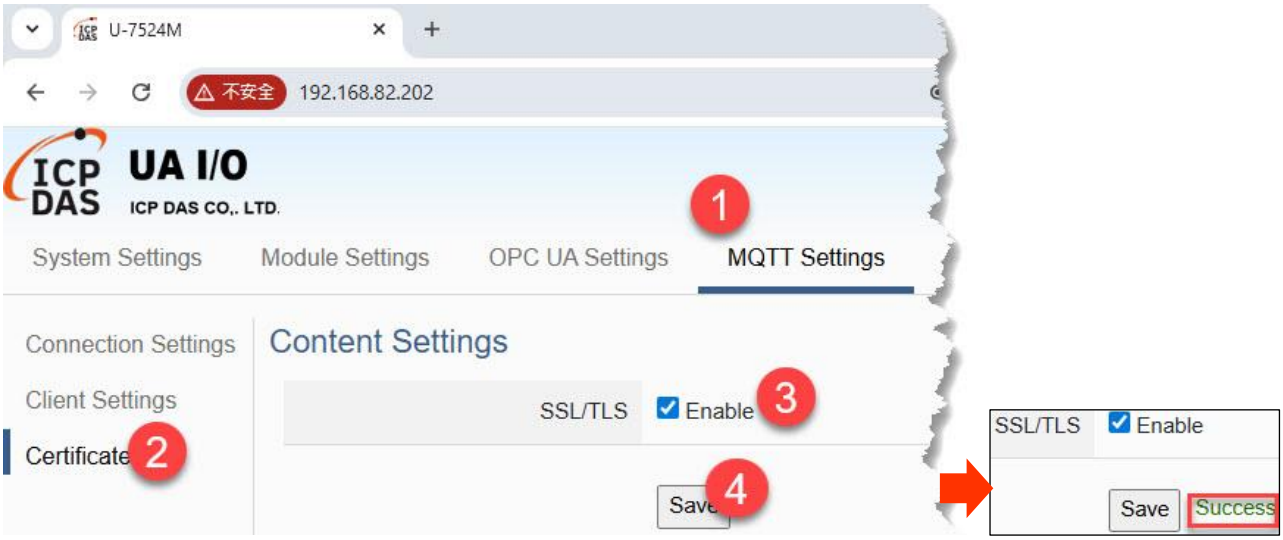
Navigate to: (1**) (Master) Modbus TCP ⇔ MQTT** → (2) MQTT Broker Settings→ (3) Enable SSL/TLS→ (4)Click **Save**



When **"Success"** is displayed beside the Save button, certificate authentication has been enabled successfully.

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

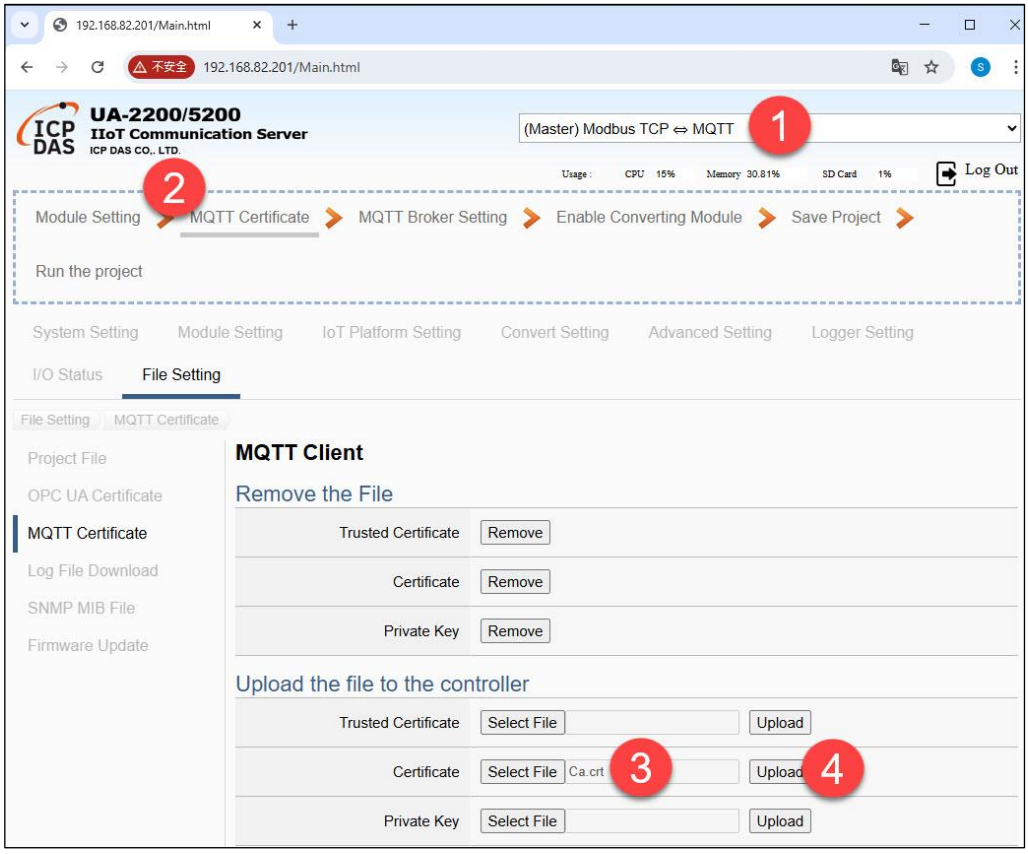
UA I/O Webpage:
Navigate to: (1) **MQTT Settings**→ (2)**Certificate**→ (3)Enable **SSL/TLS** → (4)Click **Save**



When **"Success"** is displayed beside the Save button, certificate authentication has been enabled successfully.

5. Import the CA Certificate into the UA Webpage

Navigate to:(1) **(Master) Modbus TCP ⇔ MQTT**→ (2)Click **MQTT Certificate**→(3)Select **Ca.crt** →(4)Click **Upload**



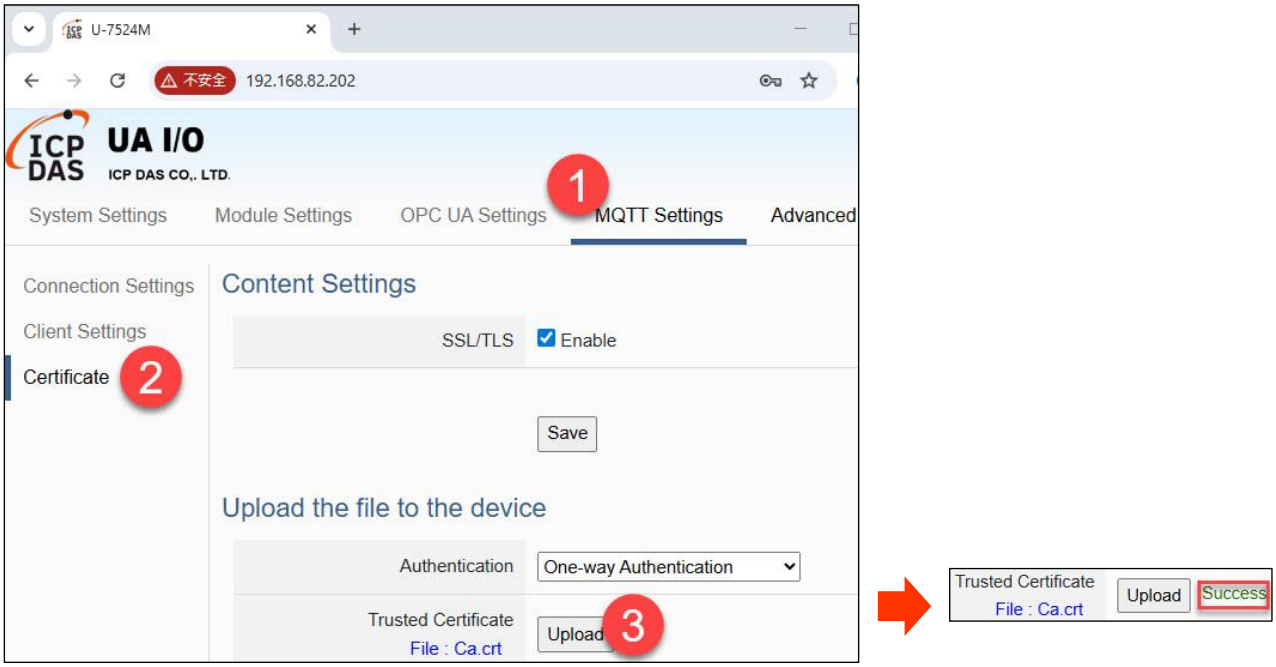
When **"Success"** is displayed beside the Upload button, the CA certificate has been imported successfully.



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

6. Import the CA Certificate into the UA I/O Webpage

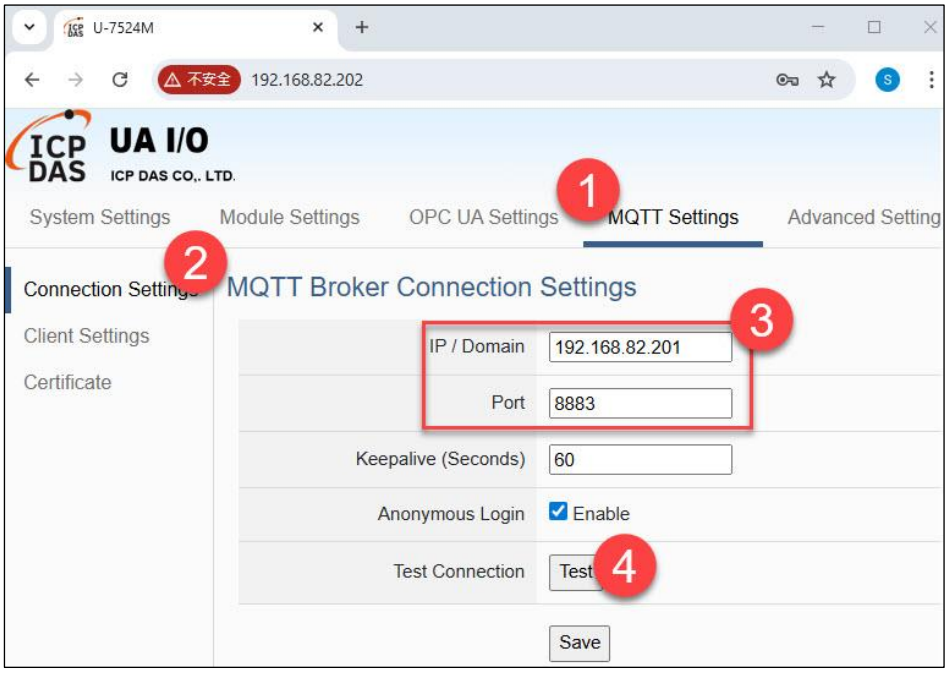
Navigate to: (1) **MQTT Settings** →(2) **Certificate** →(3) Upload **Ca.crt**



When **"Success"** is displayed beside the Upload button, the CA certificate has been imported successfully.

7. Perform Connection Test from the UA I/O Webpage

Navigate to: (1) **MQTT Settings**→(2) **Connection Settings** →(3) Enter the MQTT Broker **IP address** or **domain name**, eg.:**192.168.84.80** and **Port** 8883 (Certificate-based MQTT communication uses port **8883**; Non-encrypted MQTT communication uses port **1883**)→ (4) Click **Test**



8. MQTT Secure Communication Established Successfully

When **"Success"** is displayed beside the **Test** button, MQTT certificate authentication has been verified successfully.



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

➢ Query Certificate Validity

The **Query Certificate Validity** function is used to check the certificate expiration status of modules.

- **Expiration** = Certificate has expired
- **>30** = More than 30 days remaining before expiration
- **Not enabled** = Certificate function is not enabled

Step 1: Select Modules

Check the modules whose certificate validity information will be queried.

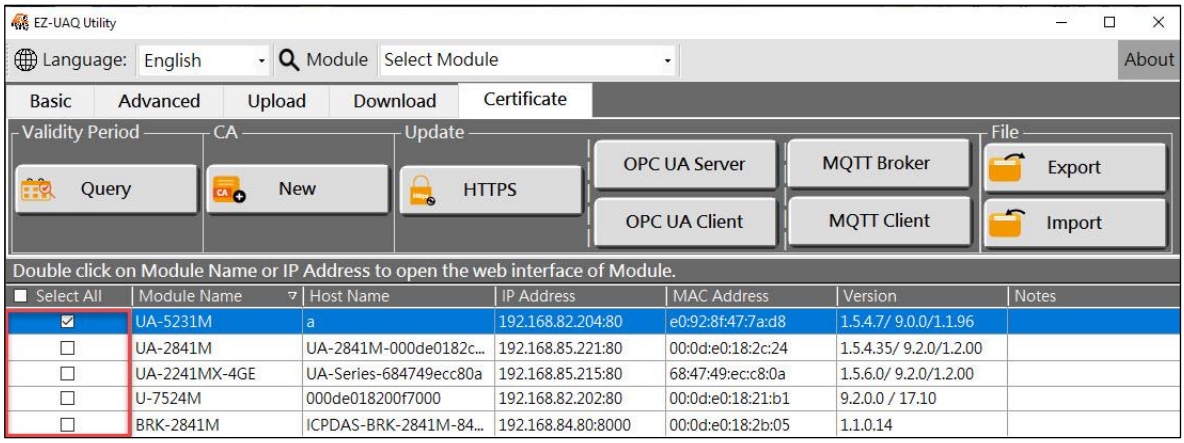


Figure 5-153 Query Certificate Validity (1)

Step 2: Execute Query

Click the **[Query]** button.

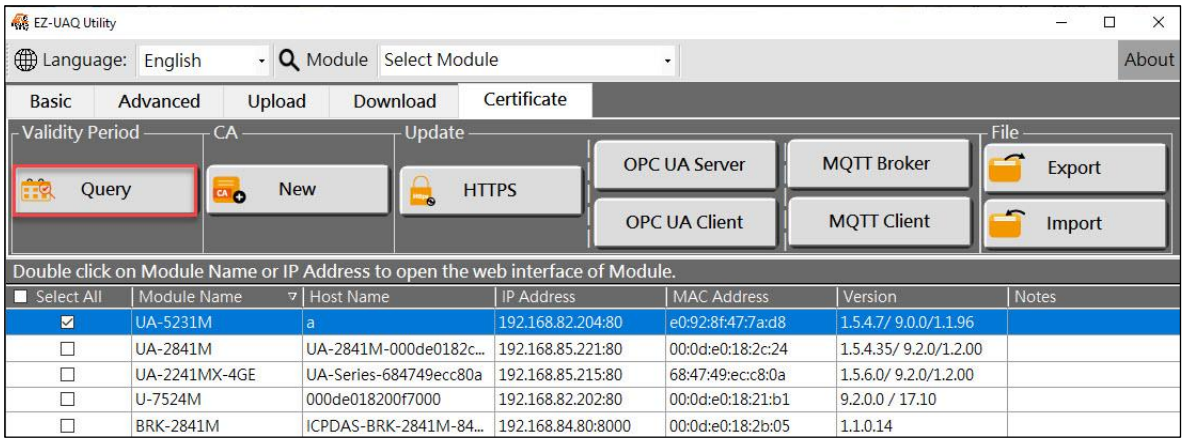


Figure 5-154 Query Certificate Validity (2)

Step 3: Retrieving Certificate Information

When the interface displays: **"Check the Certificate activation and Expiration Date"** the utility is retrieving certificate information from the selected modules.

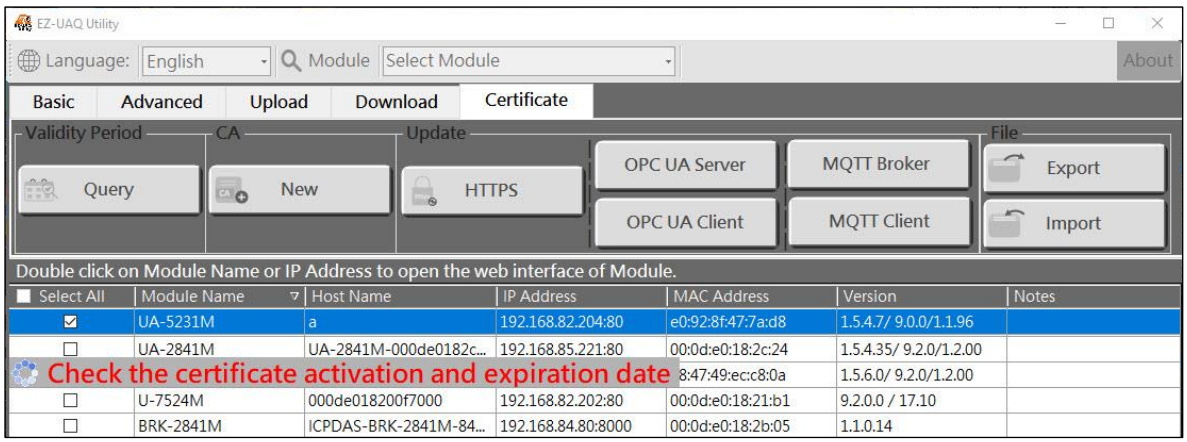


Figure 5-155 Query Certificate Validity (3)

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

Step 4: View Certificate Information

After the operation is completed, the **"Certificate Information"** window will appear. Users can review the certificate validity status of all selected modules.

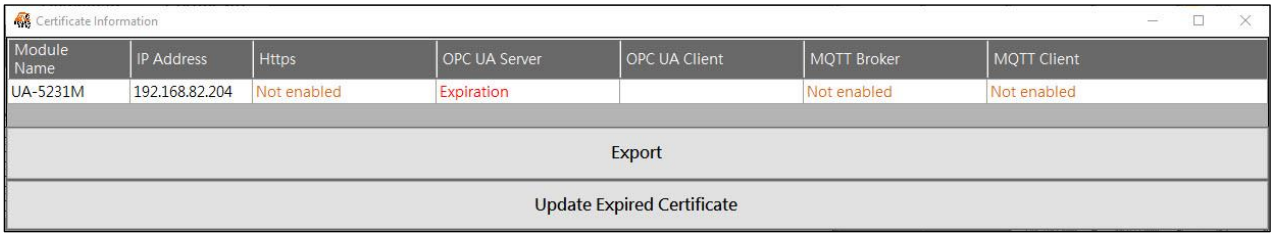
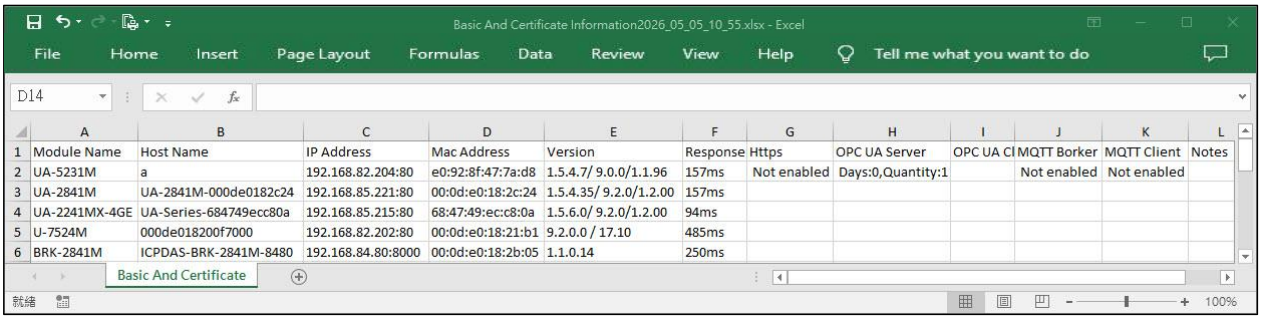


Figure 5-156 Query Certificate Validity (4)

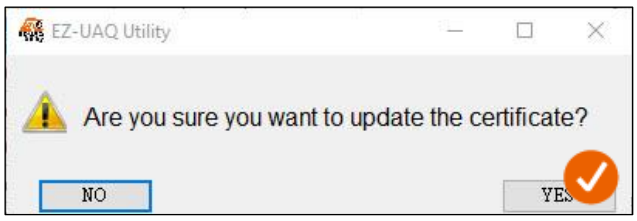
Additional Functions in the Certificate Information Window

1. Export: Exports both certificate information and module basic information to an Excel file.



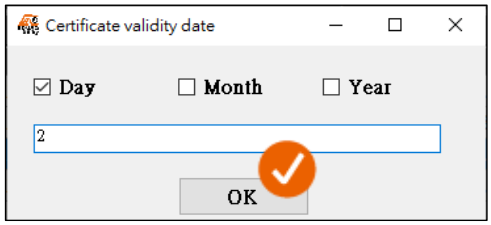
2. Renew Expired Certificates: Automatically renews certificates that meet conditions when: Remaining validity ≤ 1 day or Certificate has already expired.

Note: When renewing certificates for multiple modules simultaneously, all selected modules must use the same EZ-UAQ Utility password. (Refer to Appendix B)



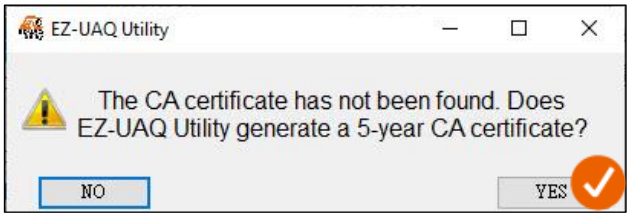
Enter the certificate validity period in the **"Certificate validity date"** window, and click OK**.**

- Please refer to **Appendix C– Certificate Date Input Restrictions** for recommendations and limitations.



Note: If the following message appears, EZ-UAQ Utility has not yet generated a CA certificate.

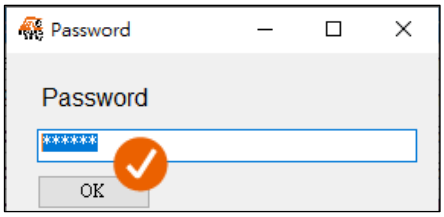
- Click **[Yes]**: EZ-UAQ Utility will automatically generate a 5-year CA certificate.
- Click **[No]**: No CA certificate will be generated.



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

Alternatively, users may create a new CA certificate using the **[Add]** function or import a third-party CA certificate and private key using the **[Import]** function.

Afterward, enter the EZ-UAQ Utility password configured in the module and click **[OK]**.



When the interface displays: **"Updating Certificate, Please Wait"**, the certificate renewal process is in progress.

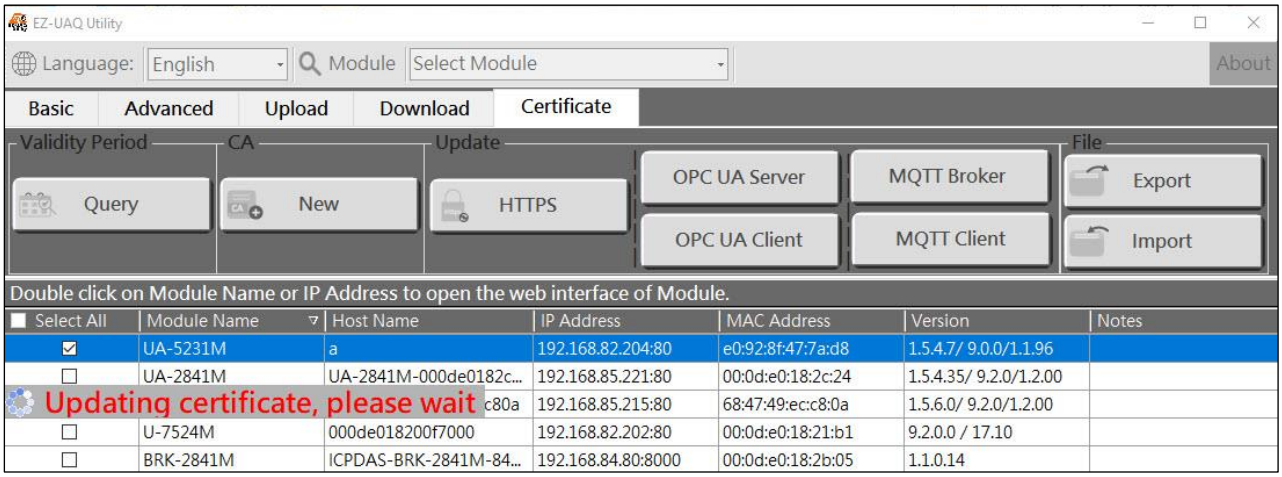


Figure 5-157 Renew Expired Certificates (1)

After the renewal is completed successfully, the **[Notes]** field of the selected module(s) will display: **"Update Successful"**

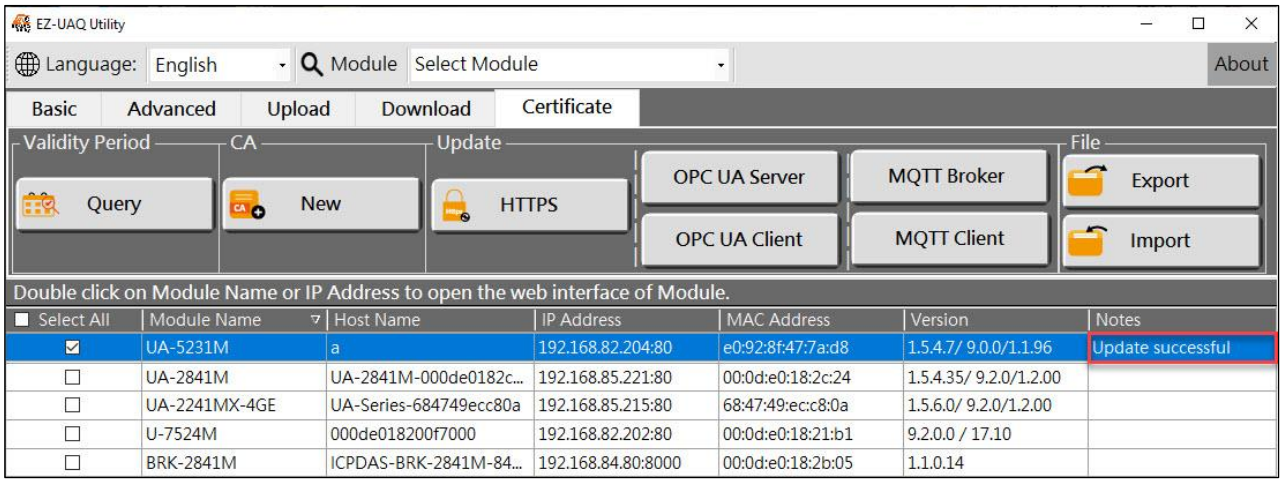


Figure 5-158 Renew Expired Certificates (2)

After the renewal process is completed, click **[Query]** again to verify that all expired certificates have been updated successfully.

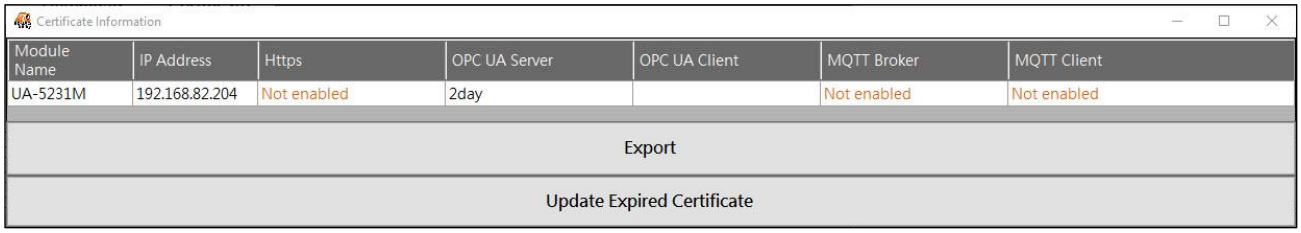


Figure 5-159 Renew Expired Certificates (3)

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

➢ **Export Files**

The **Export Files** function is used to HTTPS、OPC UA or MQTT Broker certificates generated by EZ-UAQ Utility.

The following example demonstrates the MQTT Broker certificate export process.

Step 1: Execute Export

Click the **[Export]** button.

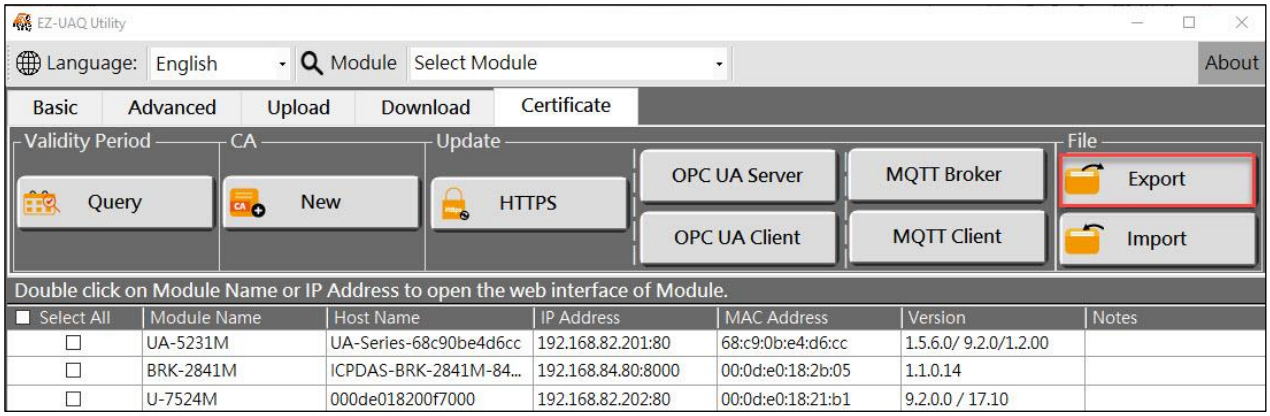


Figure 5-160 Export Files(1)

Step 2: Enter Password

When the **"Password"** window appears, enter the EZ-UAQ Utility password configured in the module and click **[OK]**.

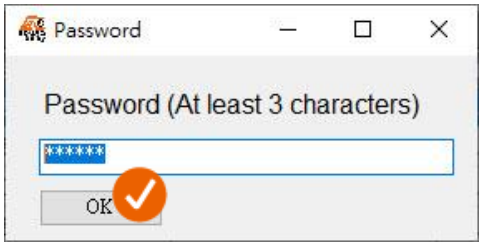


Figure 5-161 Export Files(2)

Step 3: Select Folder

Select the destination folder for storing the exported certificate package.

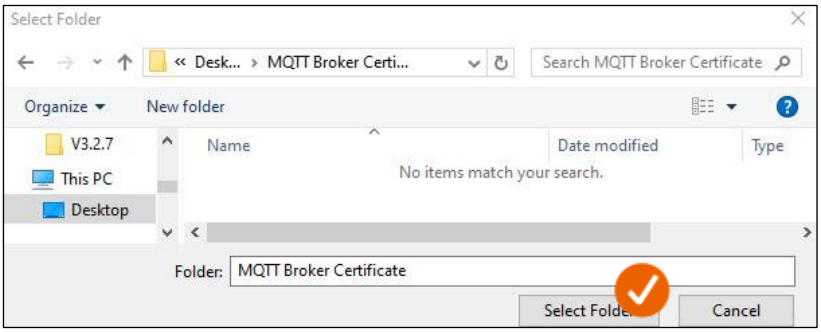


Figure 5-162 Export Files(3)

Step 4: Export Completed

When the **"Save Successfully"** message appears, click **[OK]** to complete the export process.

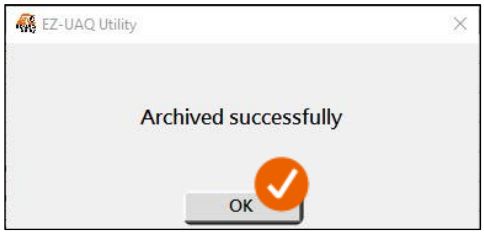


Figure 5-163 Export Files(4)

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

Step 5: Delete Certificates from the EZ-UAQ Utility Directory (Optional)

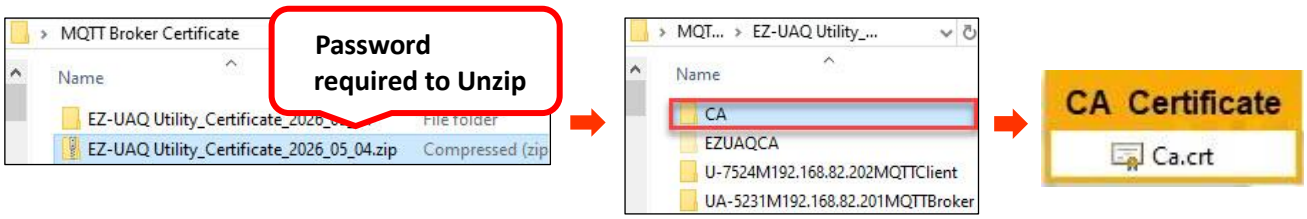
The system will ask whether the certificates stored in the EZ-UAQ Utility directory should be deleted.

- **Yes**: Delete the certificates from the EZ-UAQ Utility directory.
- **No**: Keep the certificates in the EZ-UAQ Utility directory.



Figure 5-164 Export Files(5)

The figure below shows the exported file and CA certificate.



➢ **Import Files**

The **Import Files** function is used to:

- Import certificate packages previously exported from EZ-UAQ Utility.
- Import user-owned CA certificates into EZ-UAQ Utility for MQTT certificate generation.

Step 1: Execute Import

Click the **[Import]** button.

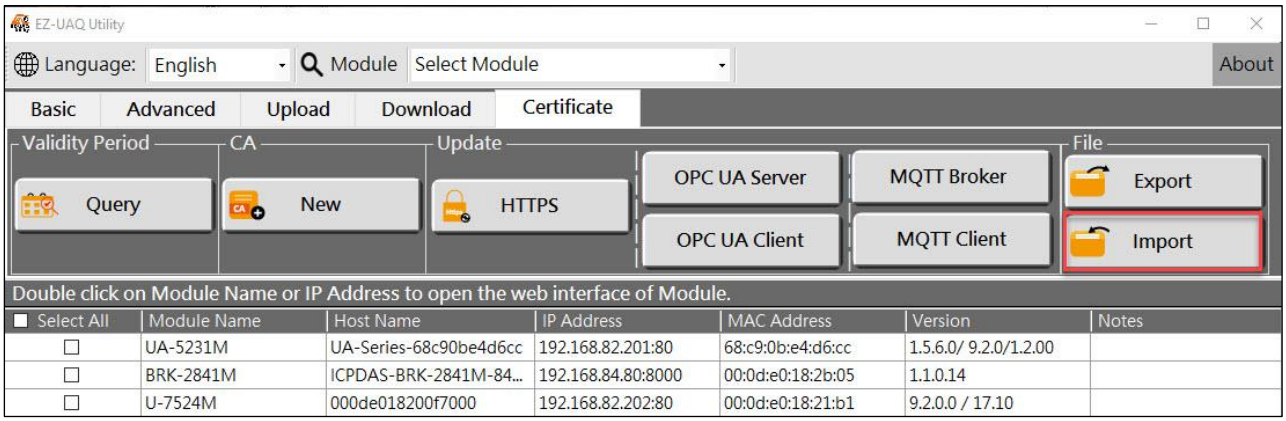


Figure 5-165 Import Files (1)

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

Step 2: Select Import Method and Certificate File

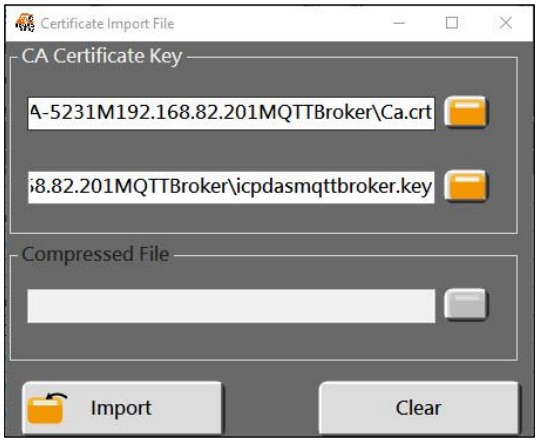
In the **"Certificate Import File"** window, choose one of the following import methods:

Method 1 – Import Third-Party CA Certificate

Import a third-party:

- CA Certificate
- Private Key

through the **[CA Certificate Key]** section.



Method 2 – Import EZ-UAQ Utility Certificate Package

Import a ZIP certificate package previously exported by EZ-UAQ Utility through the **[Compressed File]** section.

Note: Importing a certificate ZIP package requires the EZ-UAQ Utility password.

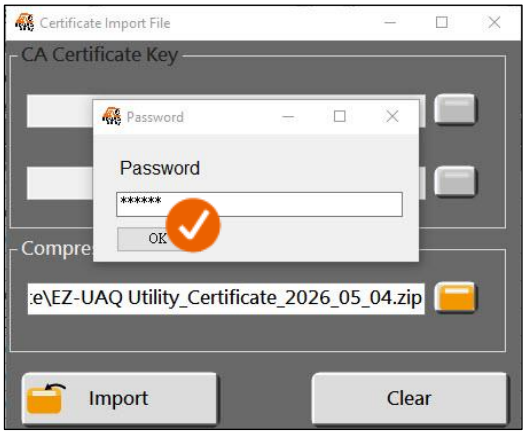


Figure 5-166 Import Files (2)

Step 3: Import Completed

Click the **[Import]** button. When the **"Import Successful"** message appears, click **[OK]** to complete the certificate import process.

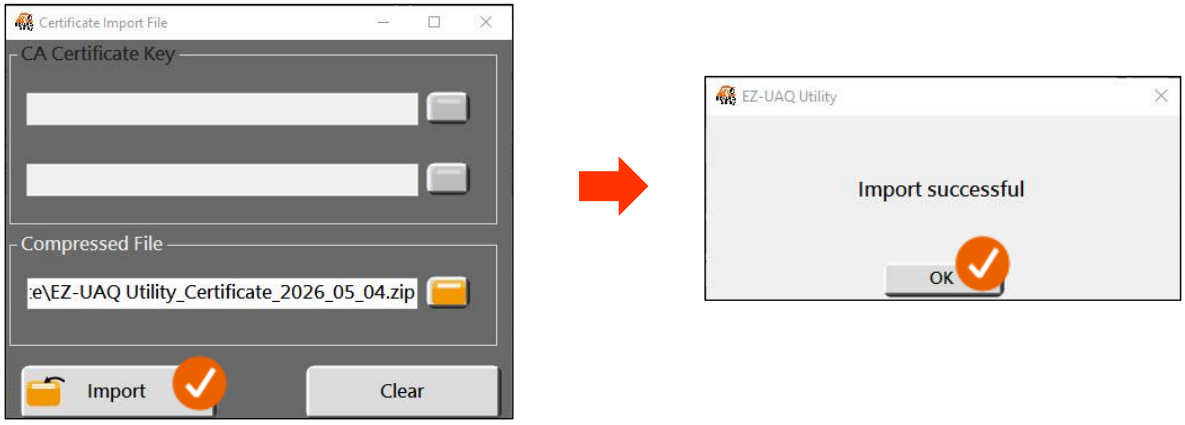


Figure 5-167 Import Files (3)

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

5.3 Display Area

The Display Area provides module information and operational status, including: Module Name, Host Name, IP Address, MAC Address, Firmware Version, Product Response Time, Notes…
It also provides functions such as: Show / Hide Columns, Column Sorting, Open Module Webpages, Copy Module Information

Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time	Notes
☐	UA-2841M	UA-2841M-000de01820...	192.168.1.103:80	00:0d:e0:18:20:0d	1.4.2.1/ 7.5.0/1.1.81	15ms	
☐	UA-5231	UA-Series-a0f6fd48918f	192.168.1.63:80	a0:f6:fd:48:91:8f	1.4.6.0/ 7.8.0/1.1.85	46ms	
☐	UA-5231	UA-Series-1442fca93039	192.168.101.2:80	14:42:fc:a9:30:39	1.4.2.0/ 6.6.0/1.1.81	46ms	
☐	UA-5231(M)	UA-Series-68c90be4d6cc	192.168.1.201:80	68:c9:0b:e4:d6:cc	1.4.6.0/ 7.8.0/1.1.85	46ms	
☐	UA-2241M	UA-Series-684749e4860f	192.168.85.200:80	68:47:49:e4:86:0f	1.4.6.0/ 7.8.0/1.1.85	125ms	

Figure 5-168 Display Area Information

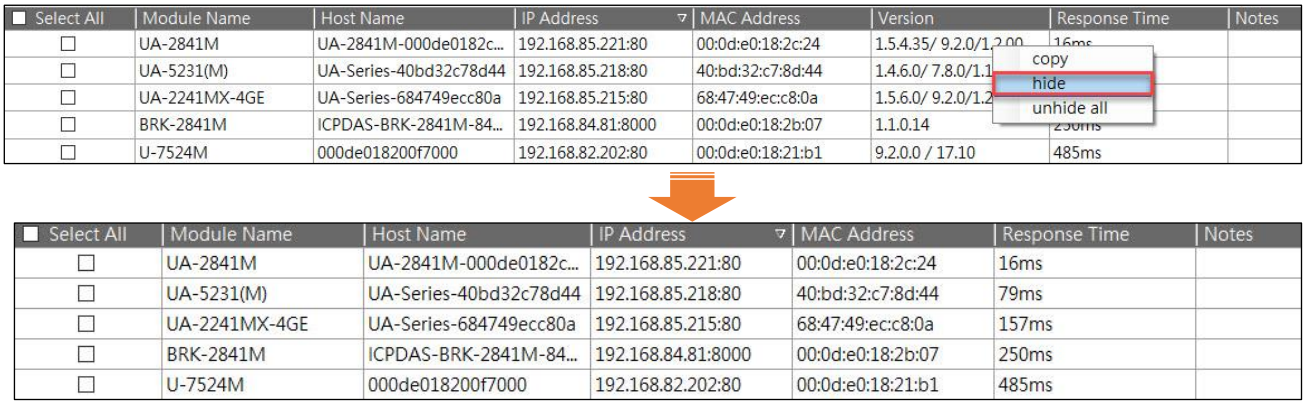
Module Name: Displays the module model name shown on the module housing.

Host Name: The Host Name can be viewed in EZ-UAQ Utility and is also displayed when establishing OPC UA connections through software such as UaExpert or other OPC UA clients. It allows users to verify that the correct module is connected.

➢ **Hide / Show All Hidden Columns**

When a large amount of information is displayed, users can temporarily hide unnecessary columns and restore them when needed.

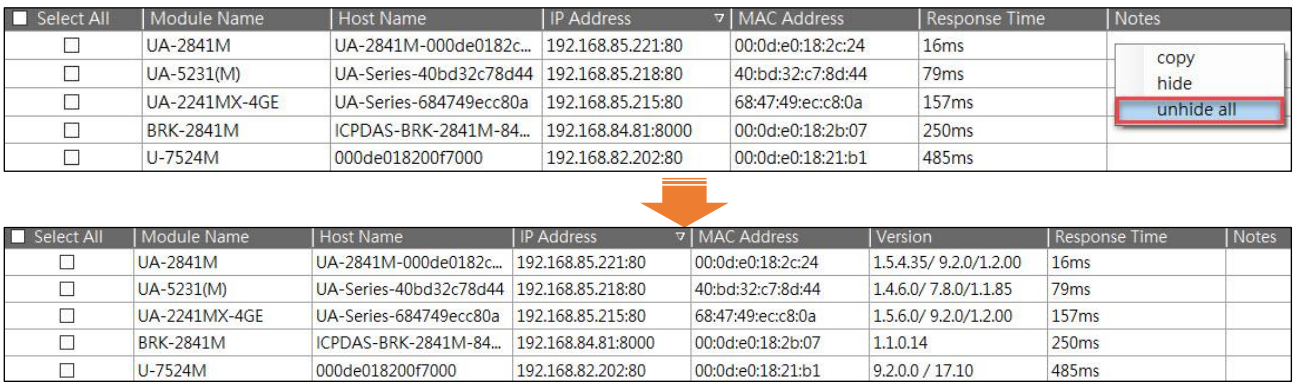
Hide: Right-click the column to be hidden (for example, **Version**) and select **Hide**.



Select All	Module Name	Host Name	IP Address	MAC Address	Response Time	Notes
☐	UA-2841M	UA-2841M-000de0182c...	192.168.85.221:80	00:0d:e0:18:2c:24	16ms	
☐	UA-5231(M)	UA-Series-40bd32c78d44	192.168.85.218:80	40:bd:32:c7:8d:44	79ms	
☐	UA-2241MX-4GE	UA-Series-684749ecc80a	192.168.85.215:80	68:47:49:ec:c8:0a	157ms	
☐	BRK-2841M	ICPDAS-BRK-2841M-84...	192.168.84.81:8000	00:0d:e0:18:2b:07	250ms	
☐	U-7524M	000de018200f7000	192.168.82.202:80	00:0d:e0:18:21:b1	485ms	

Figure 5-169 Hide Columns

Unhide all: Right-click anywhere within the Display Area and select **Unhide all**.



Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time	Notes
☐	UA-2841M	UA-2841M-000de0182c...	192.168.85.221:80	00:0d:e0:18:2c:24	1.5.4.35/ 9.2.0/1.2.00	16ms	
☐	UA-5231(M)	UA-Series-40bd32c78d44	192.168.85.218:80	40:bd:32:c7:8d:44	1.4.6.0/ 7.8.0/1.1.85	79ms	
☐	UA-2241MX-4GE	UA-Series-684749ecc80a	192.168.85.215:80	68:47:49:ec:c8:0a	1.5.6.0/ 9.2.0/1.2.00	157ms	
☐	BRK-2841M	ICPDAS-BRK-2841M-84...	192.168.84.81:8000	00:0d:e0:18:2b:07	1.1.0.14	250ms	
☐	U-7524M	000de018200f7000	192.168.82.202:80	00:0d:e0:18:21:b1	9.2.0.0 / 17.10	485ms	

Figure 5-170Unhide Hidden Columns

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

➢ **Open Module Webpage**

This function allows users to quickly access the module configuration webpage.

> Double-click anywhere on the module row to open the module webpage directly.

Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time
☐	UA-2841M	UA-2841M-000de01820...	192.168.1.103:80	00:0d:e0:18:20:0d	1.4.2.1/ 7.5.0/1.1.81	15ms
☐	UA-5231	UA-Series-a0f6fd48918f	192.168.1.63:80	a0:f6:fd:48:91:8f	1.4.6.0/ 7.8.0/1.1.85	46ms
☐	UA-5231	UA-Series-1442fca93039	192.168.101.2:80	14:42:fc:a9:30:39	1.4.2.0/ 6.6.0/1.1.81	46ms
☐	UA-5231(M)	UA-Series-68c90be4d6cc	192.168.1.201:80	68:c9:0b:e4:d6:cc	1.4.6.0/ 7.8.0/1.1.85	46ms
☐	UA-2241M	UA-Series-684749e4860f	192.168.85.200:80	68:47:49:e4:86:0f	1.4.6.0/ 7.8.0/1.1.85	125ms

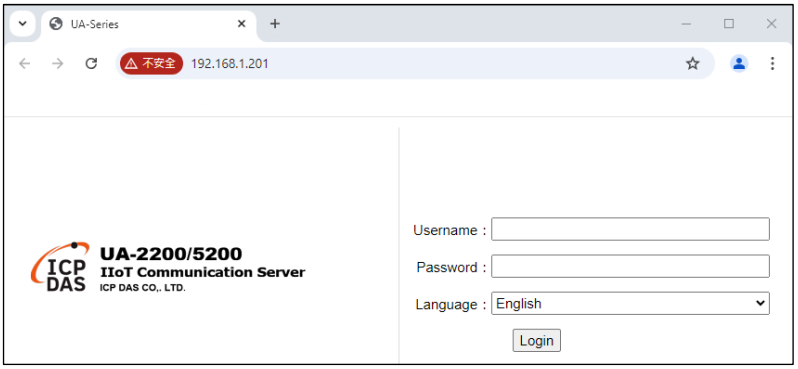


Figure 5-171 Open Module Webpage

➢ **Copy**

Module information such as: Host Name/ IP Address can be copied directly and pasted into third-party software, simplifying connection setup with tools such as: UaExpert/ MQTTX/ Other third-party applications.

The following example demonstrates copying the IP address of a UA module and pasting it into MQTTX for connection configuration.

Select All	Module Name	Host Name	IP Address	MAC Address	Response Time	Notes
☐	BRK-2841M	ICPDAS-BRK-2841M	192.168.84.62:8000	14:02:f7:28:a1:3f	250ms	
☐	U-7524M	000de018200f7000	192.168.82.202:80	00:0d:e0:18:21:b1	485ms	
☐	UA-5231M	UA-Series-68c90be4d6cc	192.168.82.201:80		250ms	
☐	U-7555M	000de01821ac7000	192.168.81.150:80		485ms	
☐	U-7560M	000de01821ad7000	192.168.255.10:80		360ms	
☐	U-7526M	000de018206f7000	192.168.102.1:80		485ms	

copy
hide
unhide all

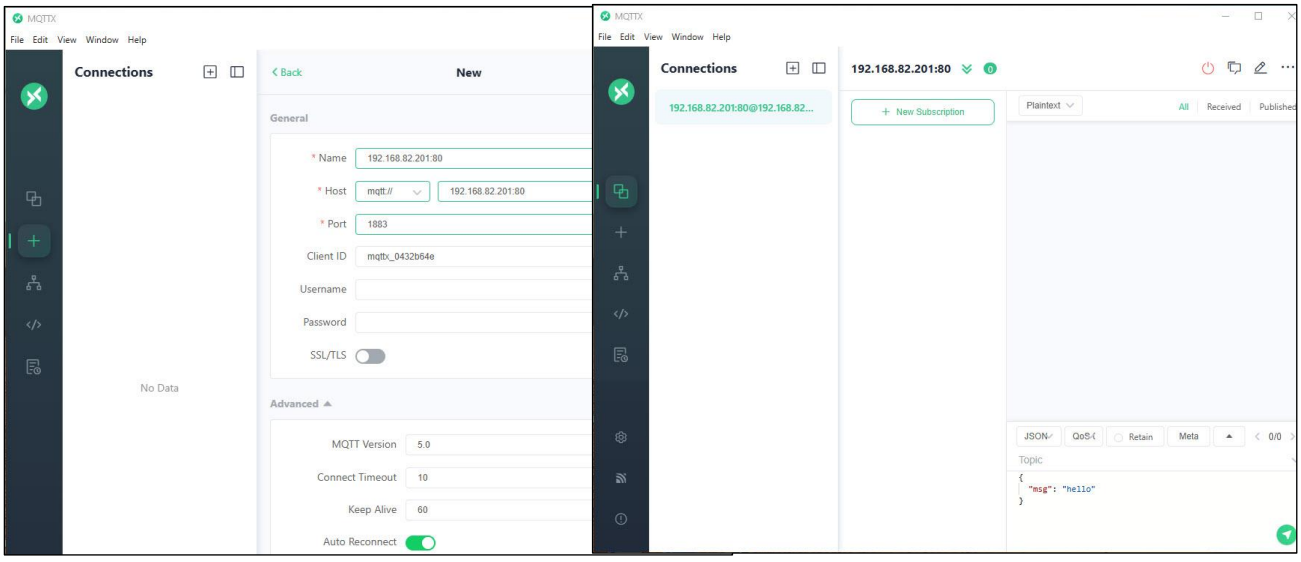


Figure 5-172 Copy

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

- **Operation Log**

The **Operation Log** window displays communication progress and execution status during: Module Search/ Upload Operations/ Download Operations/ Certificate Updates.
This allows users to monitor the current operation status and troubleshooting progress in real time.

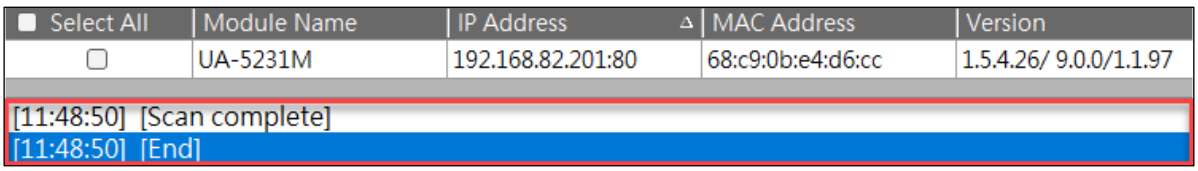


Figure 5-173 Operation Log

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

6. Warning Messages

*** Note: If a warning message box pops up or [Notes] displays a warning message, please refer to this chapter for instructions.**

6.1 Warning Message Form

When the software pops up a warning message box or [Notes] displays a warning message, you can query the corresponding warning message through the table below.

Warning Message	Description	page
This version does not support this feature	The modules already support some Utility functions, but new functions are not yet avaliable.	P.106
Server not responding	The module must be updated to a version that supports Utility, or there may be network problems.	P.106
Please select an updated file	File not selected for update.	P.106
Tick the module(s) that need to be updated	The update file has been imported, but no module is checked for an update.	P.107
Please confirm whether the selected module(s) are the same	When updating multiple modules, select different modules to update.	P.107
The updated file is different from the selected module(s) series	The firmware update package is different from the checked module series.	P.107
Update Fail	The firmware update package is different from the selected module model	P.107
Please check the same series of module(s)	Check the different series of modules.	P.108
The remote module(s) does not have any LOG files	There is no Log file on the module.	P.108
Download fail	There is a file download error when downloading.	P.108
Please check to download the file module(s)	No module is checked for download.	P.108
Password error	The entered password is different from the module setting utility password, so the action is cancelled.	P.109
EZ-UAQ Utility Already Running	Only one Utility can be opened at a time.	P.109
Unable to download or upload Unable to download	Unable to download or upload files in the module Unable to download.	P.109
The Excel file is in use and connot be read by the system	The Excel file cannot be read by the system.	P.110
RTU and ASCII serial port names are the same, please change	RTU and ASCII settings in the Excel file use the same serial port name	P.110
Serial port format error in Excel settings	RTU or ASCII settings in the Excel file use the same serial port name or The uploaded file is different from the selected module	P.110
Excel ## FunctionCode And DataType Wrong content	The Data Type setting corresponding to the FunctionCode in the Excel file is incorrect.	P.111
Excel ## Address Wrong content	The address is repeatedly configured under the same FunctionCode in the Excel file.	P.111
The Excel module has been defined, but no variables has been set	The module has been defined in the Excel file, but no variable data is configured .	P.111
Please upload two different types of Modbus conversion Excel files (ModbusToMQTT / ModbusToOPCUA)	Upload two files of the same type simultaneously.	P.112

Table 6-1 Warning Message Form

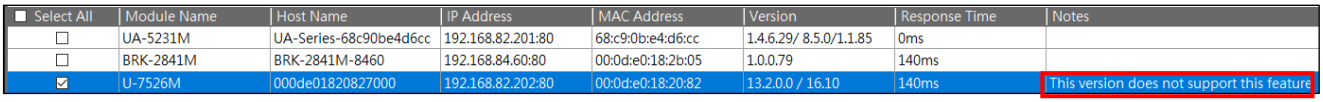
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

6.2 Warning Message Description

1. **Message:【This version does not support this feature】**

   Context:【Module Details、Reduce CPU、Protocol security、Update Firmware、Update Project、Update Modbus Configuration、Download Log、Download Project、Download Modbus Configuration、HTTPS、OPC UA Server/Client、MQTT Broker/Client】

   Issue: This module version does not support this function, or the password is empty (only supported in older versions).
   Solution: Update firmware to a supported version via module web page or EZ-UAQ Utility. Please refer to Appendix A for each series of versions.



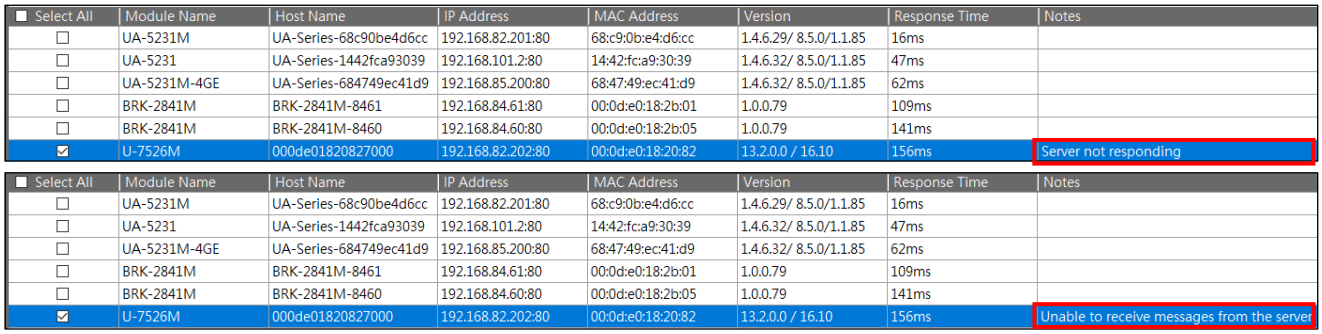
Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time	Notes
☐	UA-5231M	UA-Series-68c90be4d6cc	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.4.6.29/ 8.5.0/1.1.85	0ms	
☐	BRK-2841M	BRK-2841M-8460	192.168.84.60:80	00:0d:e0:18:2b:05	1.0.0.79	140ms	
☑	U-7526M	000de01820827000	192.168.82.202:80	00:0d:e0:18:20:82	13.2.0.0 / 16.10	140ms	This version does not support this feature

Figure 6-1 Warning Message: This version does not support this feature

2. **Message:【Server not responding】and【Unable to receive messages from the server】**

   Context:【Module Details、Reduce CPU、Protocol security、Update Firmware、Update Project、Update Modbus Configuration、Download Log、Download Project、Download Modbus Configuration、HTTPS、OPC UA Server/Client、MQTT Broker/Client、Query validity period】

   Issue: Network error or outdated firmware version.
   Solution: Check network or update firmware via module webpage or EZ-UAQ Utility. Please refer to Appendix A for each series of versions.



Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time	Notes
☐	UA-5231M	UA-Series-68c90be4d6cc	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.4.6.29/ 8.5.0/1.1.85	16ms	
☐	UA-5231	UA-Series-1442fca93039	192.168.101.2:80	14:42:fc:a9:30:39	1.4.6.32/ 8.5.0/1.1.85	47ms	
☐	UA-5231M-4GE	UA-Series-684749ec41d9	192.168.85.200:80	68:47:49:ec:41:d9	1.4.6.32/ 8.5.0/1.1.85	62ms	
☐	BRK-2841M	BRK-2841M-8461	192.168.84.61:80	00:0d:e0:18:2b:01	1.0.0.79	109ms	
☐	BRK-2841M	BRK-2841M-8460	192.168.84.60:80	00:0d:e0:18:2b:05	1.0.0.79	141ms	
☑	U-7526M	000de01820827000	192.168.82.202:80	00:0d:e0:18:20:82	13.2.0.0 / 16.10	156ms	Server not responding

Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time	Notes
☐	UA-5231M	UA-Series-68c90be4d6cc	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.4.6.29/ 8.5.0/1.1.85	16ms	
☐	UA-5231	UA-Series-1442fca93039	192.168.101.2:80	14:42:fc:a9:30:39	1.4.6.32/ 8.5.0/1.1.85	47ms	
☐	UA-5231M-4GE	UA-Series-684749ec41d9	192.168.85.200:80	68:47:49:ec:41:d9	1.4.6.32/ 8.5.0/1.1.85	62ms	
☐	BRK-2841M	BRK-2841M-8461	192.168.84.61:80	00:0d:e0:18:2b:01	1.0.0.79	109ms	
☐	BRK-2841M	BRK-2841M-8460	192.168.84.60:80	00:0d:e0:18:2b:05	1.0.0.79	141ms	
☑	U-7526M	000de01820827000	192.168.82.202:80	00:0d:e0:18:20:82	13.2.0.0 / 16.10	156ms	Unable to receive messages from the server

Figure 6-2 Warning Message: Server not responding and Unable to receive messages from the server

3. **Message:【Please select an updated file】**

   Context:【Update Firmware、Update Project、Update Modbus Configuration】

   Issue: No update file is selected before clicking the update button.
   Solution: Select an update file first, then click the update button.

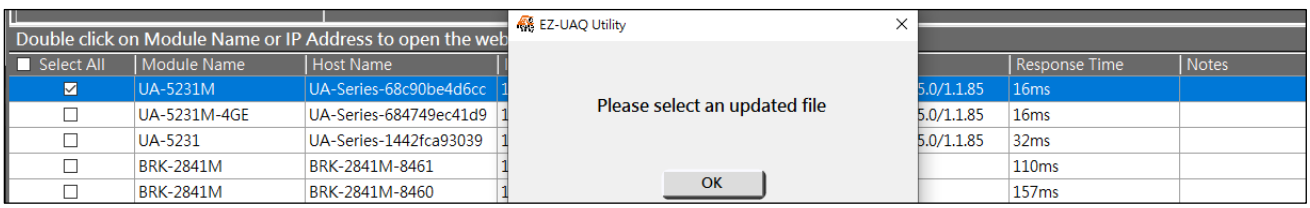


Figure 6-3 Warning Message: Please select an updated file

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

4. **Message:【Tick the module(s) that need to be updated】**

   Context:【Update Firmware、Update Project、Update Modbus Configuration、HTTPS、OPC UA Server/Client、MQTT Broker/Client】

   Issue: No module model is checked before clicking the update button.
   Solution: Check the module first that needs to be updated, then click the update button.

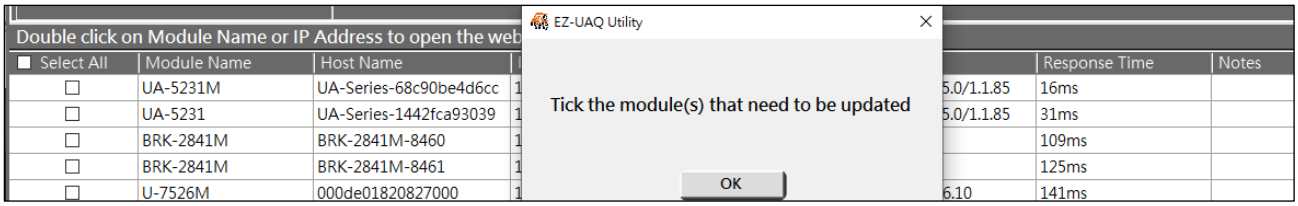


Figure 6-4 Warning Message: Tick the module(s) that need to be updated

5. **Message:【Please confirm whether the selected module(s) are the same (##Module Name)】**

   Context:【Update Firmware 、Update Project】

   Issue: When updating multiple modules, modules of different models are selected.
   Solution: Select modules of the same model before updating.

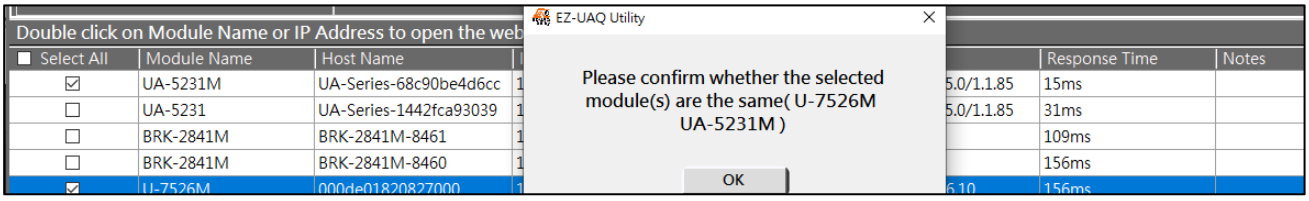


Figure 6-5 Warning Message: Please confirm whether the selected module(s) are the same

6. **Message:【The updated file name is different from the selected module(s) series】**

   Context:【Update Firmware】

   Issue: The firmware update package is different from the selected module series (e.g., firmware package is UA-2841, but U-7526 is selected).
   Solution: Use the installation package of the corresponding module to update (UA series: ua- , UA I/O series: u-, BRK series: brk-).

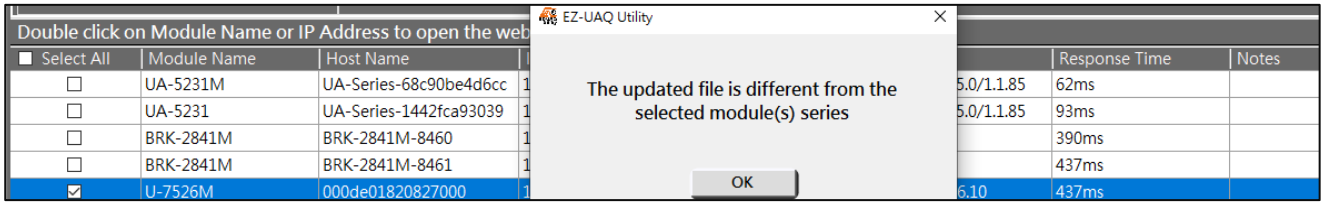


Figure 6-6 Warning Message: The updated file name is different from the selected module(s) series

7. **Message:【Update Fail】**

   Context:【Update Firmware、Update Project、Update Modbus Configuration、HTTPS、OPC UA Server/Client、MQTT Broker/Client】

   Issue: The firmware update package is different from the selected module model (e.g., UA-5231 selected, but firmware package is UA-2841) .
   Solution: Select the firmware package corresponding to the module model, then update again.

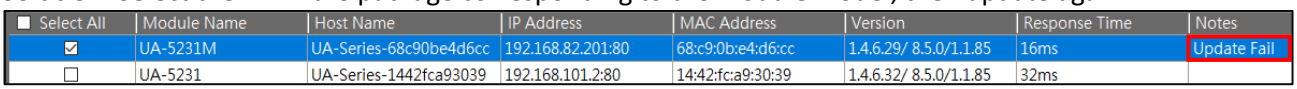


Figure 6-7 Warning Message: Update Fail

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

When [updating firmware], the module will keep the red light on. You only need to turn off the power of the module, or select the correct model update package and then update it to resolve the issue.

8. Message:【Please check the same series of module(s)】

Context:【Download Log、Download Project、Download Modbus Configuration】

Issue: When using the 'Download' function, modules from different series are selected (e.g., UA-5231 and U-7526).

Solution: Select the same series of module(s).

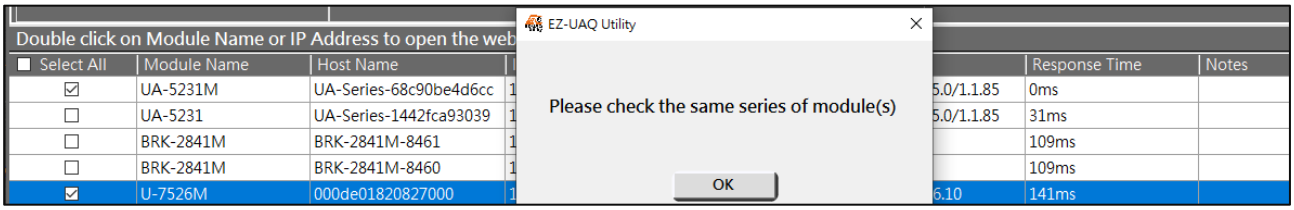


Figure 6-8 Warning Message: Please check the same series of module(s)

9. Message:【The remote module(s) does not have any LOG files】

Context:【Download Log】

The message shown below indicates that no log is opened in the module.

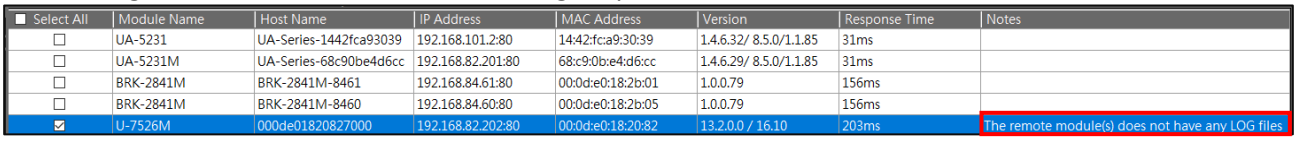


Figure 6-9 Warning Message: The remote module(s) does not have any LOG files

10. Message:【Download fail】

Context:【Download Log、Download Project、Download Modbus Configuration】

Download failure may be due to poor network conditions. The system will automatically reload three times. If it still fails, the folder will be retained for inspection.

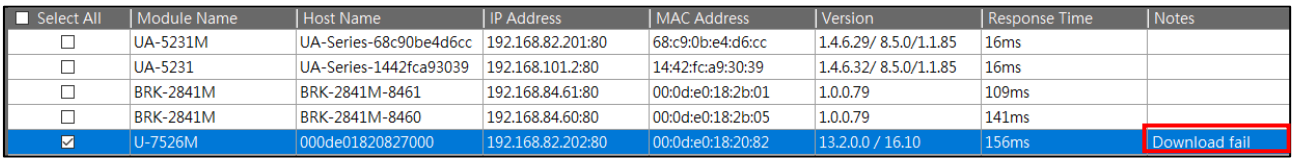


Figure 6-10 Warning Message: Download fail

11. Message:【Please check to download the file module(s)】

Context:【Download Project、Download Log、Download Modbus Configuration】

The message below appears, indicating that the module that needs to be downloaded is not selected.

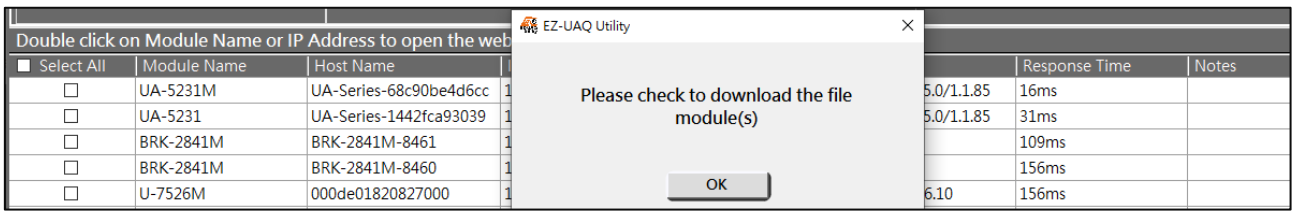


Figure 6-11 Warning Message: Please check to download the file module(s)

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

12. Message:【Password error】

Context:【Reduce CPU、Protocol security、Update Firmware、Update Project、Update Modbus Configuration、Download Log、Download Project、Download Modbus Configuration、HTTPS、OPC UA Server/Client、MQTT Broker/Client】

Issue: When modules of the same series but different models are used in the [Download Project] at the same time, the password error occurs and the system does not respond.

Solution: The passwords for modules of the same series must be the same.

*** Note: Only the [Update Firmware] and [Update Project] functions require the same model to be updated in batches at the same time.**

Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time	Notes
☐	UA-5231M	UA-Series-68c90be4d6cc	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.4.6.29/ 8.5.0/1.1.85	0ms	
☐	UA-5231	UA-Series-1442fca93039	192.168.101.2:80	14:42:fc:a9:30:39	1.4.6.32/ 8.5.0/1.1.85	16ms	
☐	BRK-2841M	BRK-2841M-8461	192.168.84.61:80	00:0d:e0:18:2b:01	1.0.0.79	110ms	
☐	BRK-2841M	BRK-2841M-8460	192.168.84.60:80	00:0d:e0:18:2b:05	1.0.0.79	141ms	
☑	U-7526M	000de01820827000	192.168.82.202:80	00:0d:e0:18:20:82	13.2.0.0 / 16.10	141ms	Password error

Figure 6-12 Warning Message: Password error no response

13. Message:【EZ-UAQ Utility Already Running】

Context:【Unable to open Utility repeatedly】

As long as the Utility is open, it is not possible to open another one.

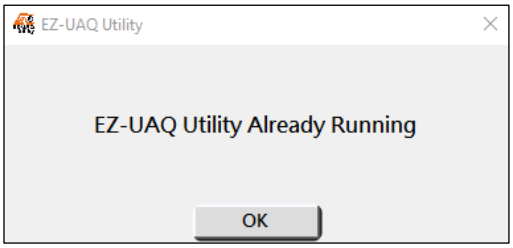


Figure 6-13 Warning Message: EZ-UAQ Utility Already Running

14. Message:【Unable to download] or [Unable to upload】

Context:【Update Firmware、Update Project、Update Modbus Configuration、Download Log、Download Project、Download Modbus Configuration、HTTPS、OPC UA Server/Client、MQTT Broker/Client】

Issue: The EZ-UAQ Utility is unable to download files from the module or upload files to the module.
Solution: The module needs to be restarted to resolve the upload and download problems.

Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time	Notes
☐	UA-5231M	UA-Series-68c90be4d6cc	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.4.6.29/ 8.5.0/1.1.85	16ms	
☐	UA-5231	UA-Series-1442fca93039	192.168.101.2:80	14:42:fc:a9:30:39	1.4.6.32/ 8.5.0/1.1.85	16ms	
☐	BRK-2841M	BRK-2841M-8461	192.168.84.61:80	00:0d:e0:18:2b:01	1.0.0.79	109ms	
☐	BRK-2841M	BRK-2841M-8460	192.168.84.60:80	00:0d:e0:18:2b:05	1.0.0.79	141ms	
☐	U-7526M	000de01820117000	192.168.102.1:80	00:0d:e0:18:20:11	12.0.0.0 / 15.9	156ms	
☑	U-7526M	000de01820827000	192.168.82.202:80	00:0d:e0:18:20:82	13.2.0.0 / 16.10	187ms	Unable to download
☐	U-7560M	000de01821027000	192.168.81.100:80	00:0d:e0:18:21:02	14.0.0.0 / 16.10	250ms	

Select All	Module Name	Host Name	IP Address	MAC Address	Version	Response Time	Notes
☐	UA-5231	UA-Series-1442fca93039	192.168.101.2:80	14:42:fc:a9:30:39	1.4.6.32/ 8.5.0/1.1.85	0ms	
☑	UA-5231M	UA-Series-68c90be4d6cc	192.168.82.201:80	68:c9:0b:e4:d6:cc	1.4.6.29/ 8.5.0/1.1.85	15ms	Unable to upload
☐	BRK-2841M	BRK-2841M-8461	192.168.84.61:80	00:0d:e0:18:2b:01	1.0.0.79	109ms	
☐	BRK-2841M	BRK-2841M-8460	192.168.84.60:80	00:0d:e0:18:2b:05	1.0.0.79	156ms	
☐	U-7526M	000de01820827000	192.168.82.202:80	00:0d:e0:18:20:82	13.2.0.0 / 16.10	156ms	
☐	U-7526M	000de01820117000	192.168.102.1:80	00:0d:e0:18:20:11	12.0.0.0 / 15.9	156ms	
☐	U-7560M	000de01821027000	192.168.81.100:80	00:0d:e0:18:21:02	14.0.0.0 / 16.10	281ms	

Figure 6-14 Warning Message: Unable to download or Unable to upload

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

15. **Message:【The Excel file is in use and connot be read by the system】**

Context:【Update Modbus Configuration】

Issue: The Excel file cannot be read by the system because it is already open or being used by another program.
Solution: Close the file and ensure it is not being used by another program, then update again.

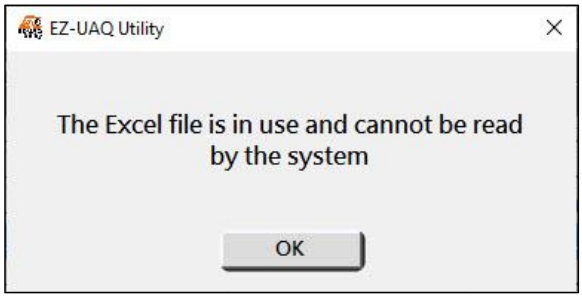


Figure 6-15 Warning Message: The Excel file is in use and connot be read by the system

16. **Message:【RTU and ASCII serial port names are the same, please change】**

Context:【Update Modbus Configuration】

Issue: RTU and ASCII settings in the Excel file use the same serial port name (e.g., both set to tty02).
Solution: Set RTU and ASCII to different serial port names in the Excel file.



Figure 6-16 Warning Message: RTU and ASCII serial port names are the same, please change

17. **Message:【Serial port format error in Excel settings】**

Context:【Update Modbus Configuration】

Issue 1 : RTU or ASCII settings in the Excel file use the same serial port name (e.g.,RTU is configured with two tty02 entries).
Issue 2: The uploaded file is different from the selected module (e.g., UA-5231 file is used, but UA-2841M is selected).
Solution: Remove repeated names of serial port in the Excel file, or ensure the filename is the same as the selected module, then upload again.

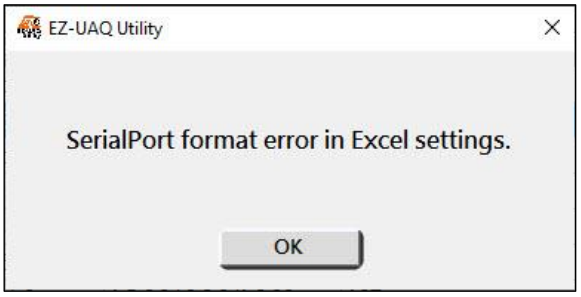


Figure 6-17 Warning Message: Serial port format error in Excel settings

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

18. **Message:【Excel ## FunctionCode And DataType Wrong content】**

Context:【Update Modbus Configuration】

Issue: The Data Type setting corresponding to the FunctionCode in the Excel file is incorrect. **(The "##" indicates an incorrect communication type setting).**

Solution: Modify the Data Type setting corresponding to the Function code in the Excel file, then upload it again.

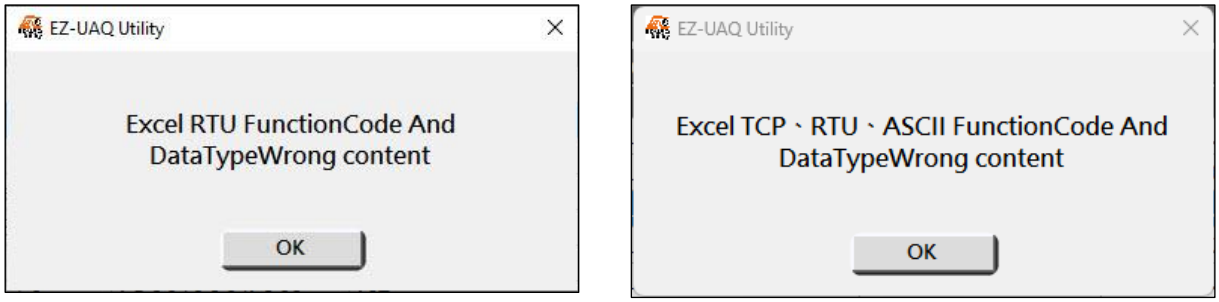


Figure 6-18 Warning Message: Excel ## FunctionCode And DataType Wrong content

19. **Message:【Excel ## Address Wrong content】**

Context:【Update Modbus Configuration】

Issue: The address is repeatedly configured under the same FunctionCode in the Excel file. **(The "##" indicates an incorrect communication type setting).**

Solution: Remove or modify repeated Addresses under the same Function Code in the Excel file, then upload it again.

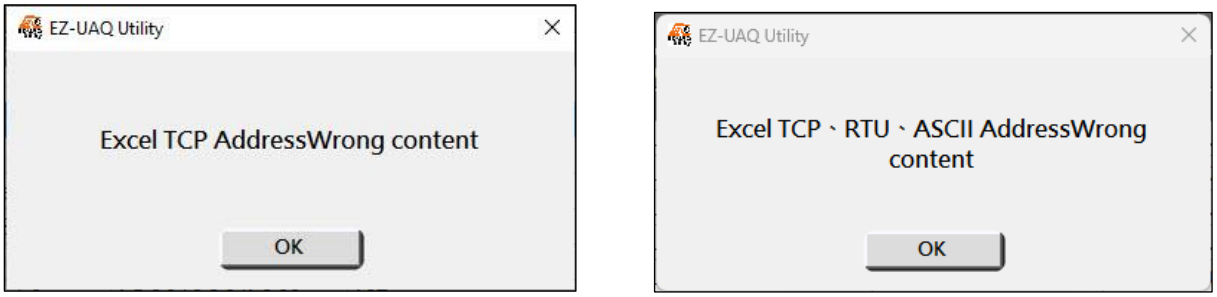


Figure 6-19 Warning Message: Excel ## Address Wrong content

20. **Message:【The Excel module has been defined, but no variables has been set】**

Context:【Update Modbus Configuration】

Issue: The module communication settings has been defined in the Excel file, but no variable data is configured in the Modbus variable parameter area.

Solution: Create at least one variable entry in the Modbus variable parameter area in the Excel file, then upload it again.

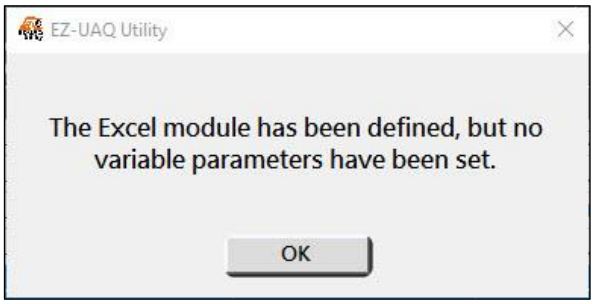


Figure 6-20 Warning Message: The Excel module has been defined, but no variables has been set

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

21. **Message:【Please upload two different types of Modbus conversion Excel files (ModbusToMQTT / ModbusToOPCUA)】**

Context:【Update Modbus Configuration】

Issue: Upload two files of the same type simultaneously (both ModbusToMQTT or both ModbusToOPCUA).
Solution: Upload two files of different types simultaneously (ModbusToMQTT and ModbusToOPCUA).

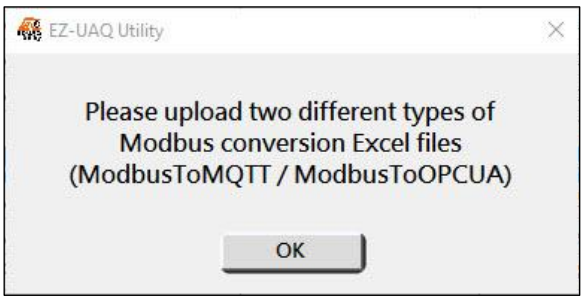


Figure 6-21 Warning Message: Please upload two different types of Modbus conversion Excel files（ModbusToMQTT / ModbusToOPCUA）

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

Appendix A

Module Function Support:

1. UA Series

Factory version	Basic Function	Update Firmware	Download Project	Download Log	Update Project	Module Details	Reduce CPU usage	Download Modbus Configuration
After 1.4.2.0 (inclusive)	✓	✓	✓	✓	✓	✓	✓	✓

Starting from 1.4.6.32, the following new features have been added:

Factory version	HTTPS	OPC UA Server	OPC UA Client	MQTT Broker	MQTT Client	Protocol security	Update Modbus Configuration
After 1.4.6.32 (inclusive)	✓	✓	✗	✓	✓	✓	✓

Starting from 1.5.3.5, the following new features have been added:

Factory version	Secondary Development
After 1.5.3.5 (inclusive)	✓

Starting from 1.5.6.0, the following new features have been added:

Factory version	Range Search
After 1.5.6.0 (inclusive)	✓

2. UA I/O Series

Factory version	Basic Function	Update Firmware	Download Project	Download Log	Update Project	Module Details	Reduce CPU usage	Download Modbus Configuration
Before 13.8	✓	✓	✓	✓	✗	✗	✗	✗
After 13.8 (inclusive)	✓	✓	✓	✓	✓	✓	✓	✗

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

Starting from 16.10, the following new features have been added:

Factory version	Secondary Development	HTTPS	OPC UA Server	OPC UA Client	MQTT Broker	MQTT Client	Protocol security	Update Modbus Configuration
After 16.10 (inclusive)	✗	✓	✓	✓	✗	✓	✗	✗

Starting from 17.10, the following new features have been added:

Factory version	Protocol security	Range Search
After 17.10 (inclusive)	✓	✓

3. BRK Series

Factory version	Basic Function	Update Firmware	Download Project	Download Log	Update Project	Module Details	Reduce CPU usage	Download Modbus Configuration
After 1.2.0.0 (inclusive)	✓	✓	✓	✓	✓	✓	✓	✗

Factory version	Secondary Development	Range Search	HTTPS	OPC UA Server	OPC UA Client	MQTT Broker	MQTT Client	Protocol security	Update Modbus Configuration
After 1.2.0.0 (inclusive)	✓	✓	✗	✗	✗	✓	✗	✓	✗

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

Appendix B

Set EZ-UAQ Utility password:

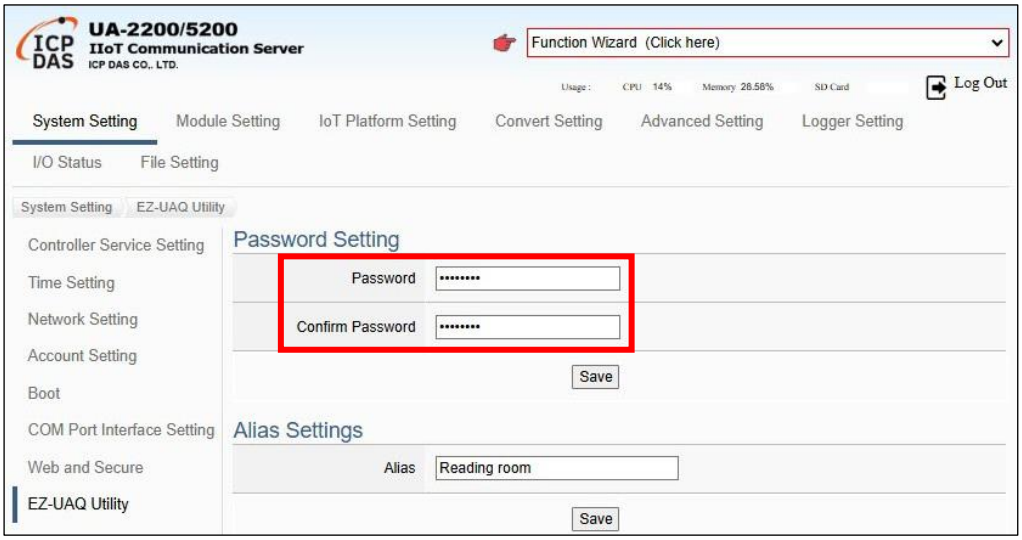
The EZ-UAQ Utility password prevents unauthorized access and configuration changes. Keep it secure to ensure the security of the system and modules.

It is recommended to change the default password and set the same password for modules in the same series to enable simultaneous multi-module operation.

1. UA communication server series

Please go to the UA web interface to configure, and then click System Setting => EZ-UAQ Utility to set the password.

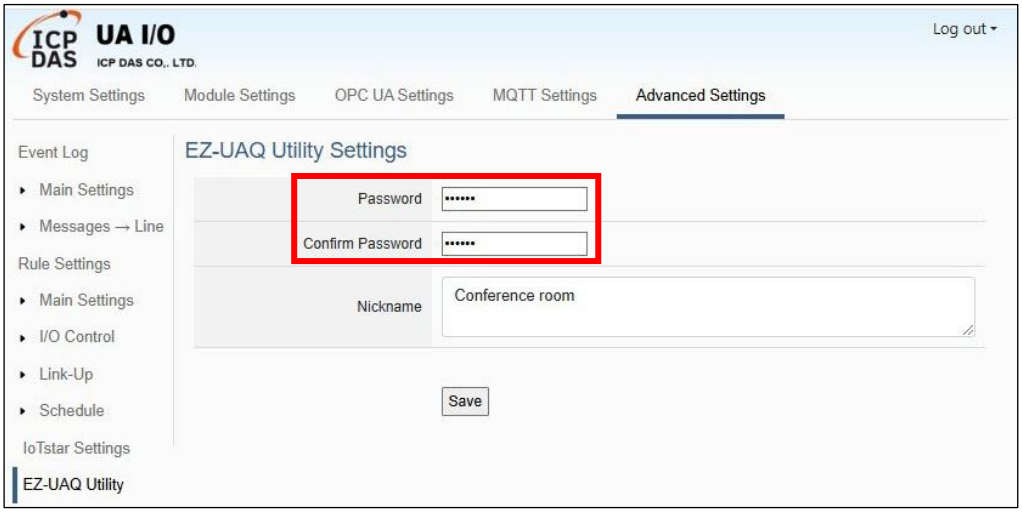
*** Before the password is set, the password displayed on the communication server and EZ-UAQ Utility software is the default password.**



2. UA I/O module series

Please go to the UA I/O web interface to configure the module, and then click Advanced Setting => EZ-UAQ Utility to set the password.

***Before the password is set, the password displayed on the module and EZ-UAQ Utility software is the default password.**

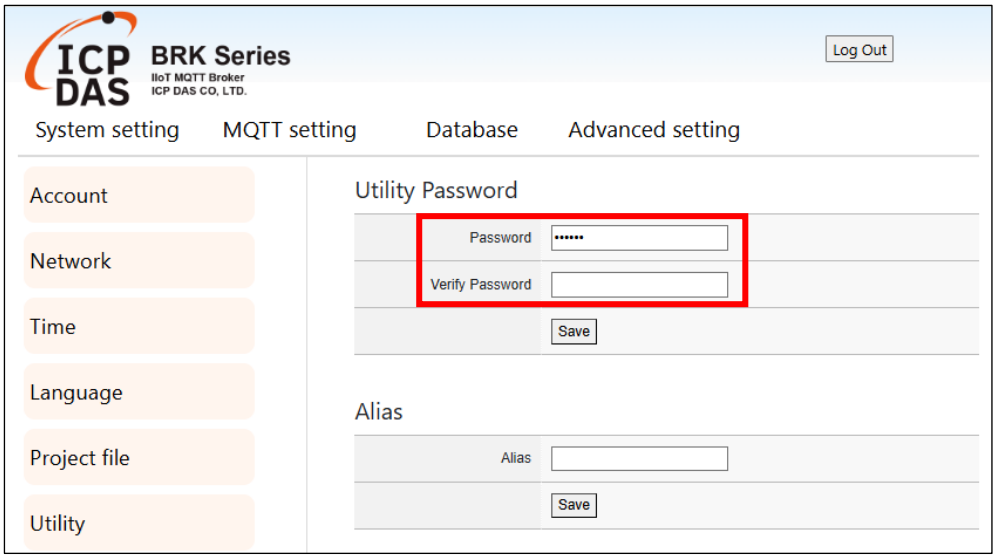


Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3. BRK communication server series

Please go to the BRK web interface to configure, and then click Utility => Utility to set the password.

*** Before the password is set, the password displayed on the communication server and EZ-UAQ Utility software is the default password.**

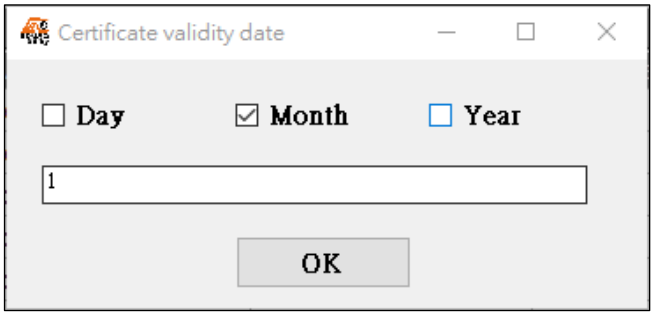


Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Appendix C

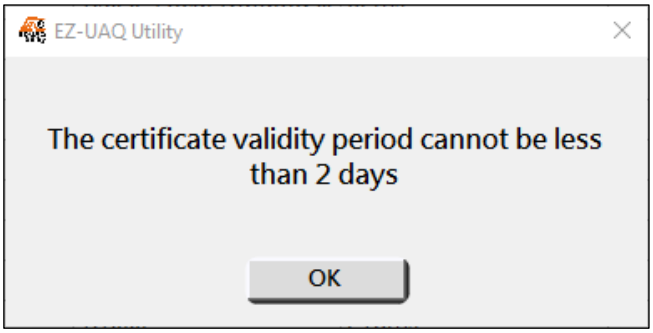
Certificate Date Input Restrictions:

EZ-UAQ UtiThe maximum validity period of the EZ-UAQ Utility certificate is two years. It is recommended that users set the certificate expiration date to one month.

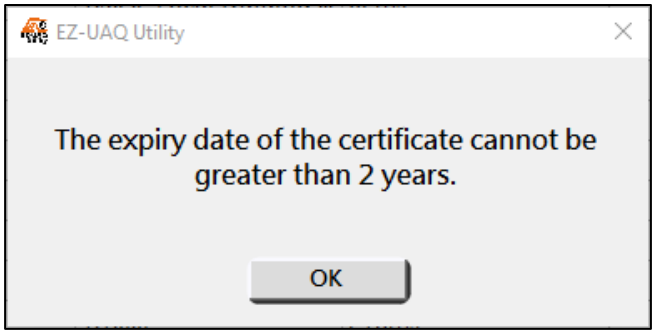


Have to enter the expiration days of the certificate

- **Minimum Value**:
  Day: The minimum value is 2. If it is lower than this, the message below will be triggered.



- **Maximum Value**:
  Year: The maximum value is 2; **Month:** the maximum value is 24; **Day:** The maximum value is 730. If it exceeds this value, the message below will be triggered.



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

Appendix D

Resolving UA and UA I/O Web Connection Security Issues

If the UA or UA I/O web pages are shown as “Not secure,” please update the HTTPS certificate, export it, and import it into the browser to restore a secure connection.

Taking the UA communication server as an example, the operation process is shown below. Users can choose either of the following methods as needed.

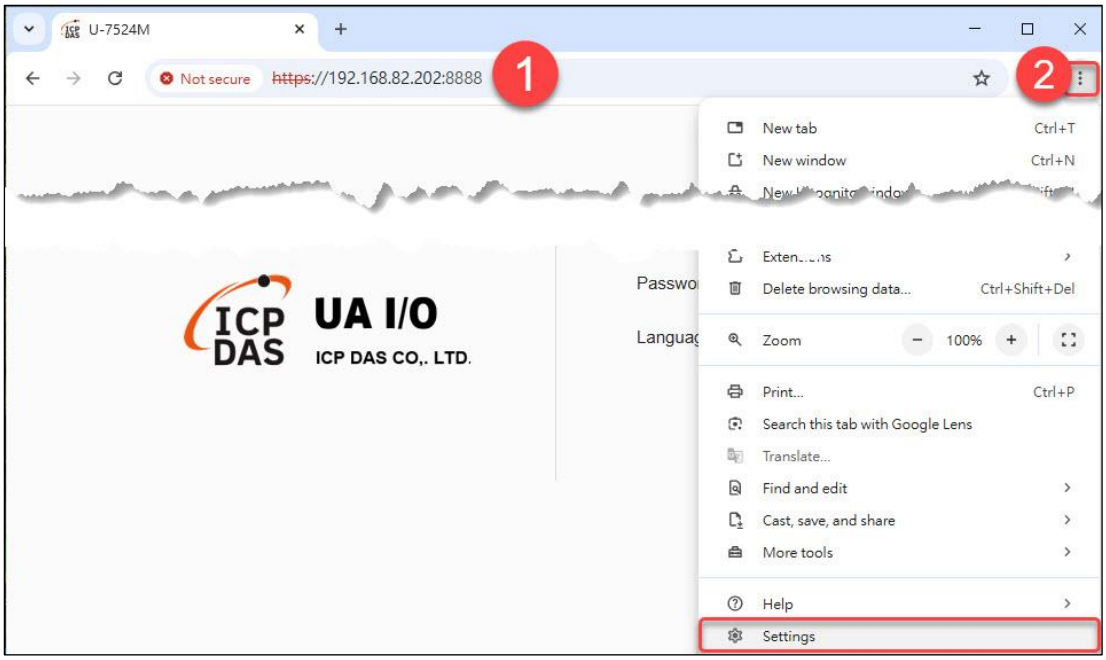
✧ **Method 1:**

Step 1: Open the Settings page

(1) Open the browser and enter the IP address of the UA Communication Server.

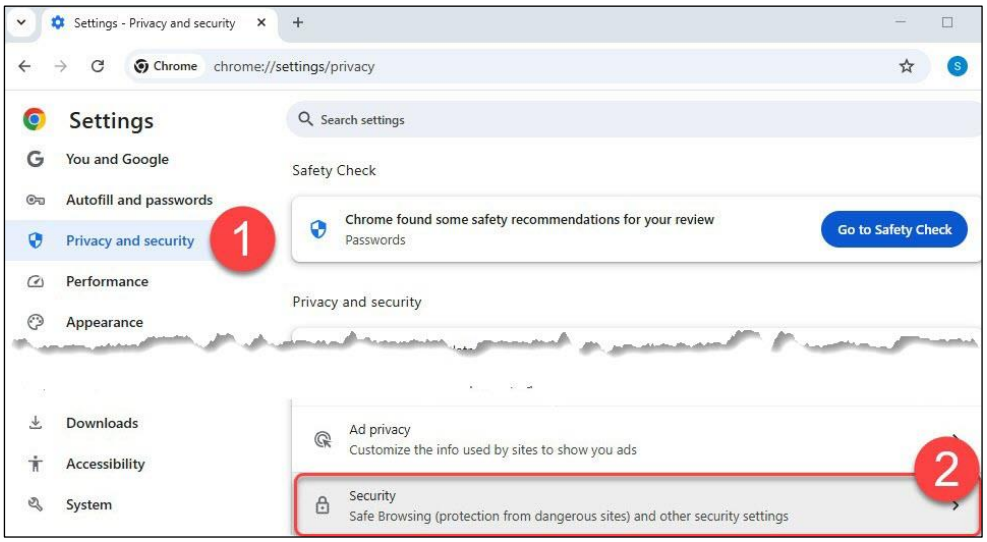
Note: If a warning window ⚠ appears, click **[Advanced]** → **[** Proceed to 192.168.82.202 (unsafe) **]** in sequence.

(2) click the ⋮ button in the upper-right corner, and select **[**Settings**].**



Step 2: Go to the Privacy and Security

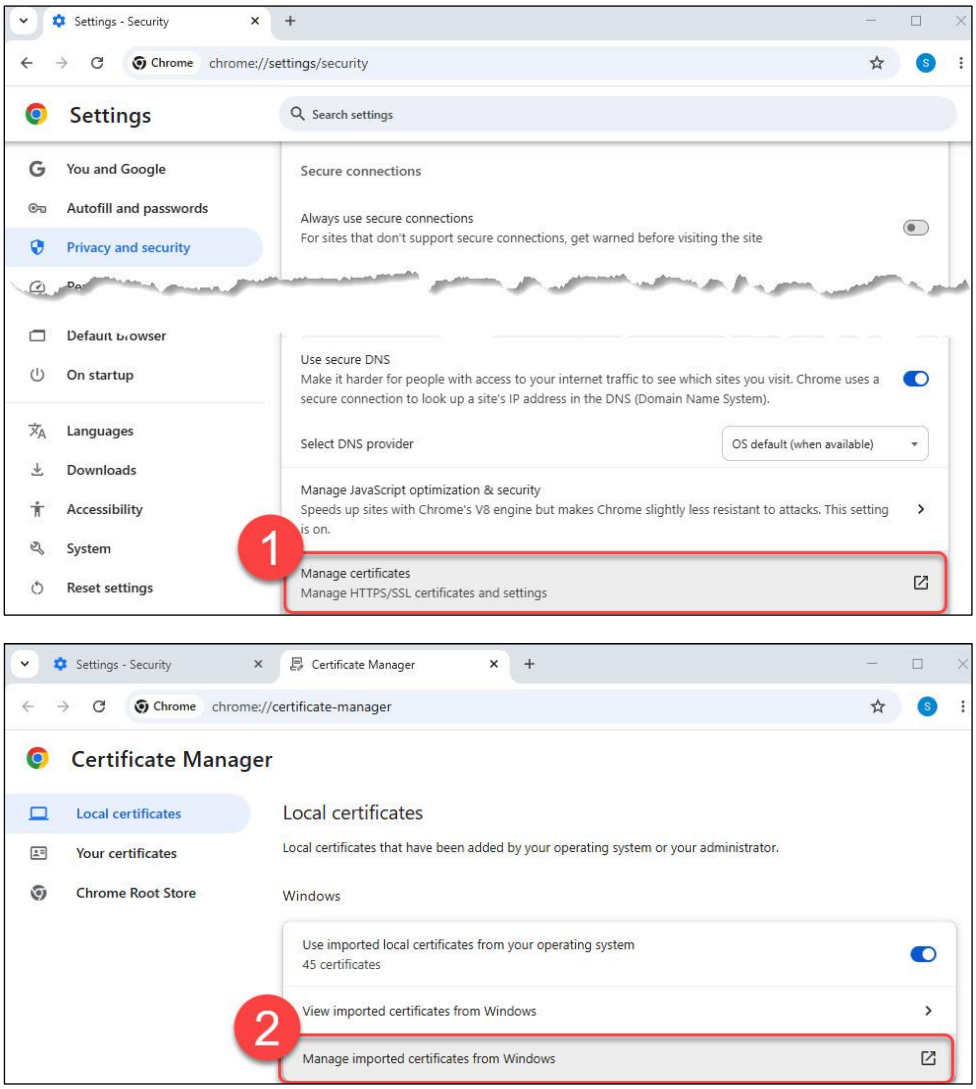
(1) Click **[Privacy and Security]** → (2) Click **[Security].**



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

Step 3: Go to the Manage certificate

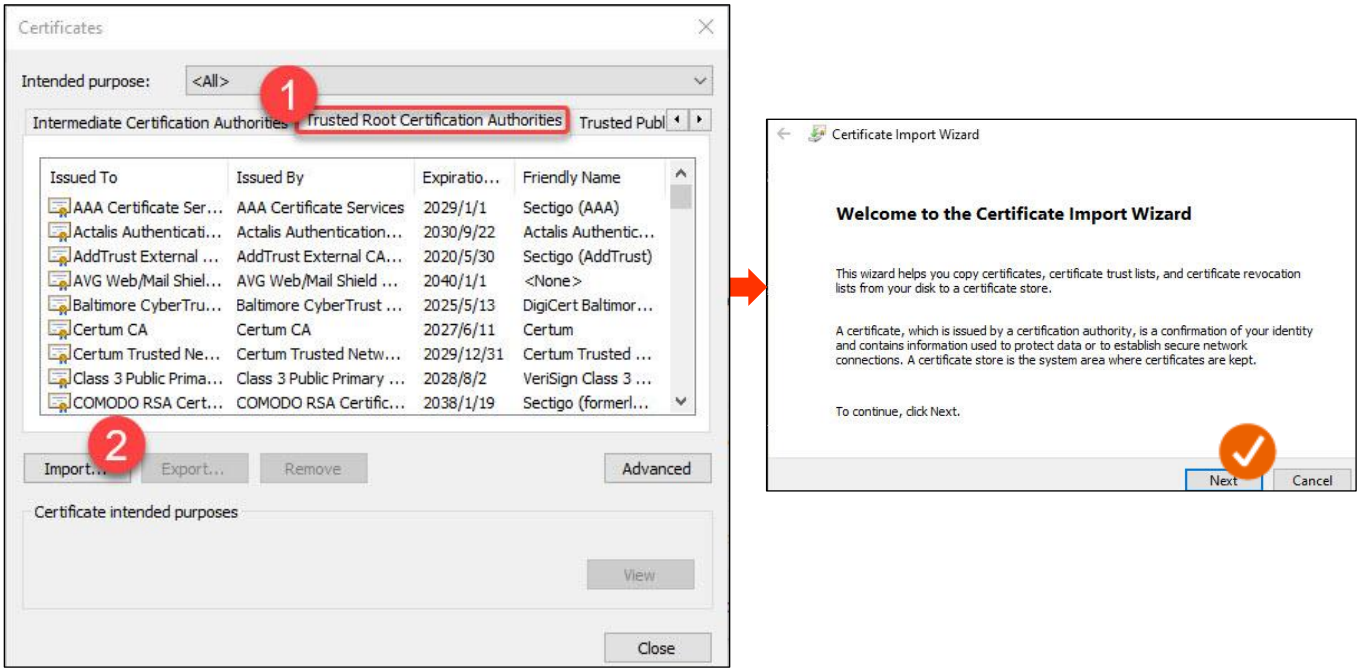
(1) Click **[Manage certificates]** → (2) Click **[Manage imported certificates from Windows]**



Step 4: Import the certificate

(1) Click **[Trusted Root Certification Authorities]** → (2) Click **[Import]**

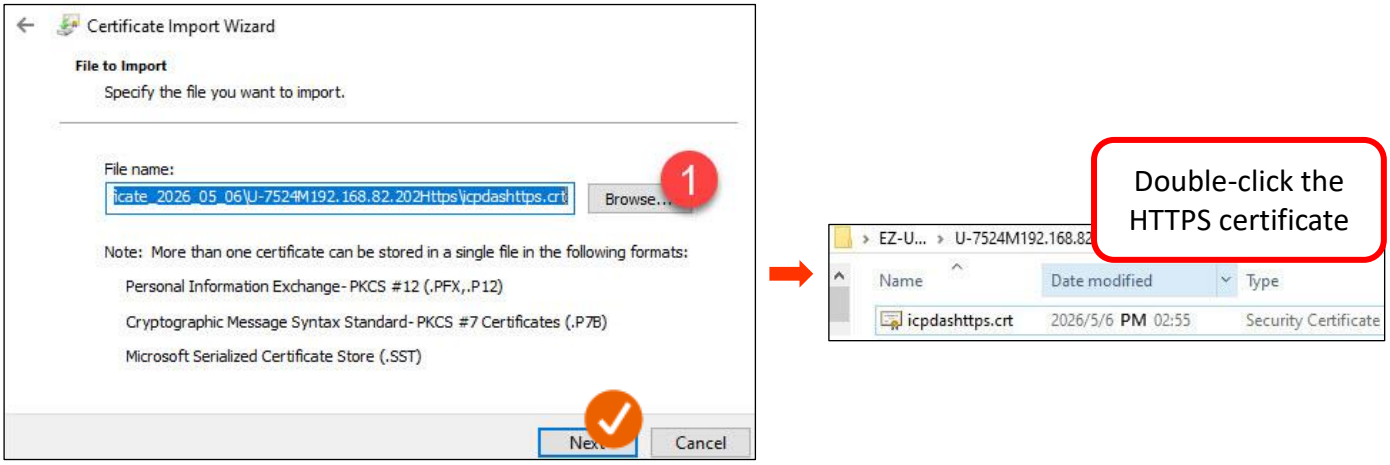
in the " Certificate Import Wizard" page, Click **[**Next**】** to continue the certificate import process.



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

Certificate Import Process

(1) Click **[Browse]** to select the HTTPS certificate, then click **[Next].**

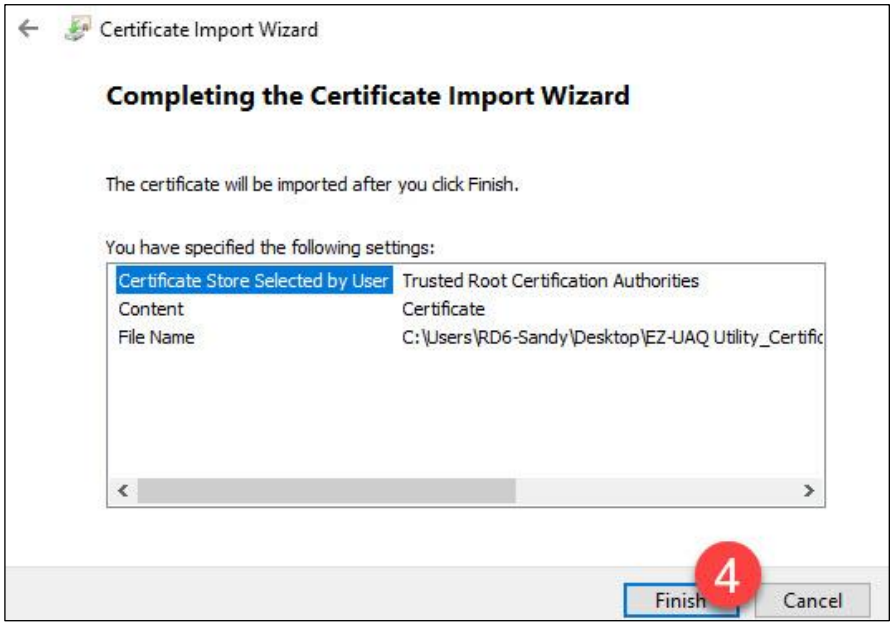


(2) select **[Place all certificates in the following store].**

(3) Click **[Browse】** to select **[Trusted Root Certification Authorities]**, and then click **[Next].**



(4) When the " Complete the Certificate Import Wizard" message appears, click **[**Finish**].**



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

(5) A “Security Warning” window appear. Please click **[**Yes**].**

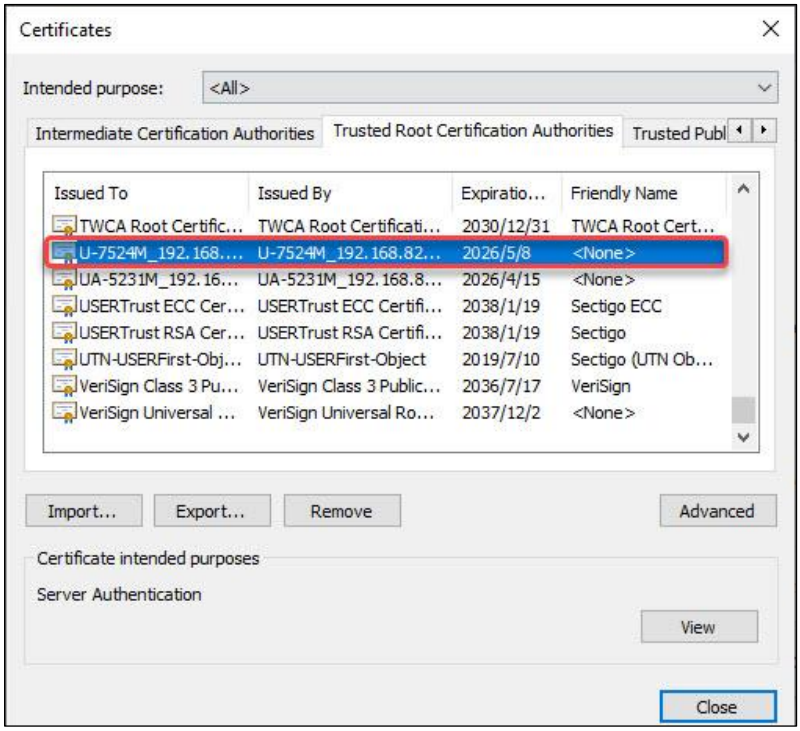


After the HTTPS certificate has been successfully imported into the browser, the message "The Import was successful" appears in the “Certificate Import Wizard”. Click **[**OK**]**.



Step 5: Verify Certificate

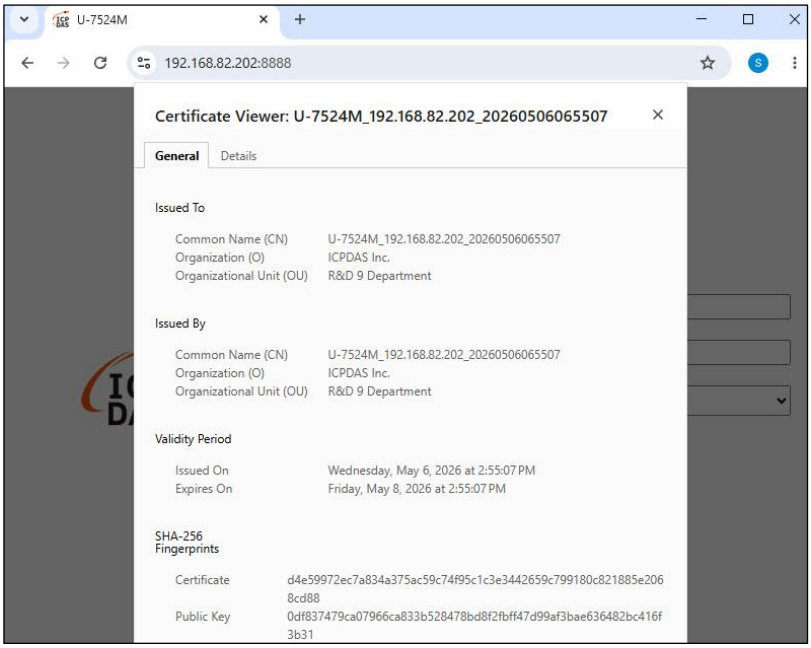
Verify that the HTTPS certificate has been successfully imported under "Trusted Root Certification Authorities".



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

Step 6：Reopen the Browser

Close all open browsers, then reopen them and enter the IP address of the UA communication server. The browser will display a secure connection.

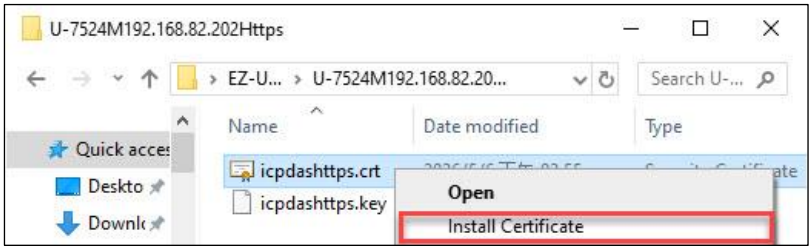


To open the [Certificate Viewer window], first click the button in the upper-left corner, then click **[Secure Connection Established] → [Certificate Valid].**

✧ **Method 2:**

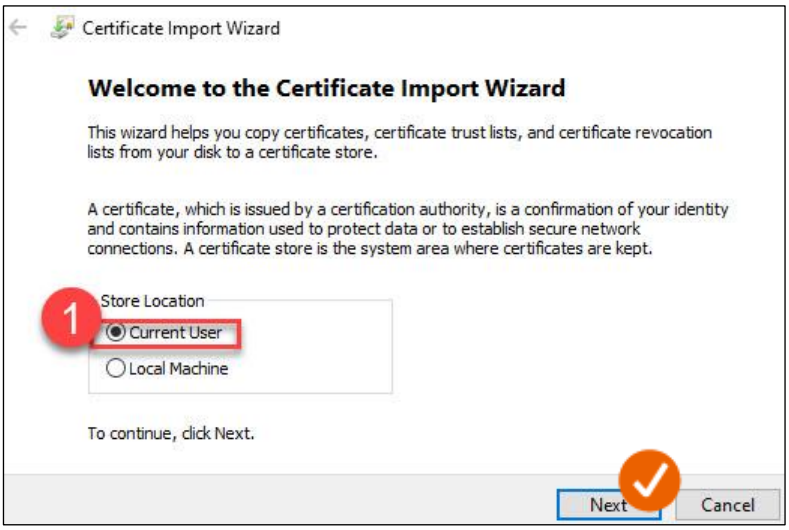
Step 1: Select HTTPS certificate file

Right-click the icpdashttps.crt credential and select Install Credential.



<u>Certificate Import Process</u>

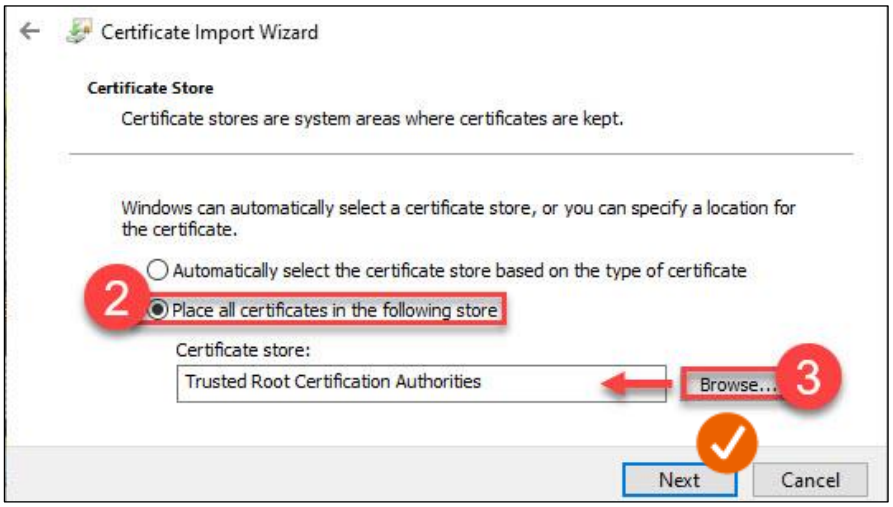
(1) Select **[Current user]** as the “Store Location”.



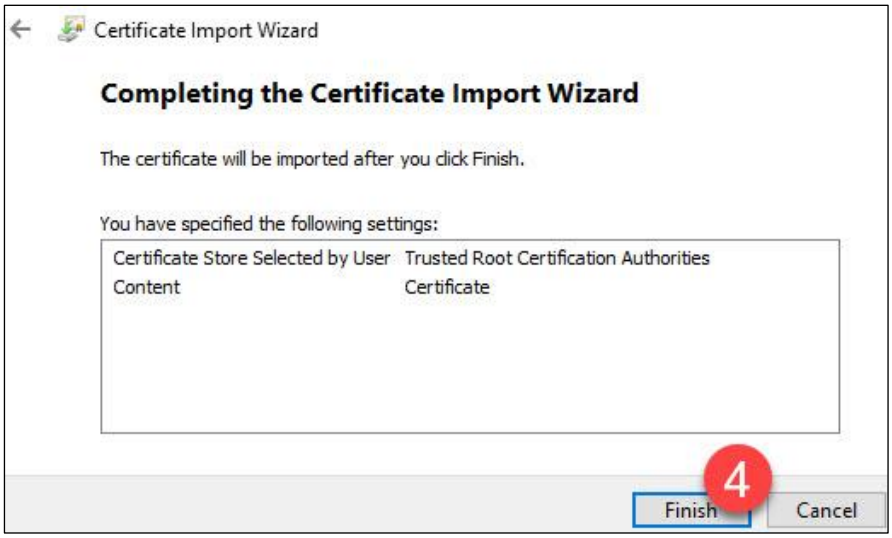
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

(2) select **[Place all certificates in the following store].**

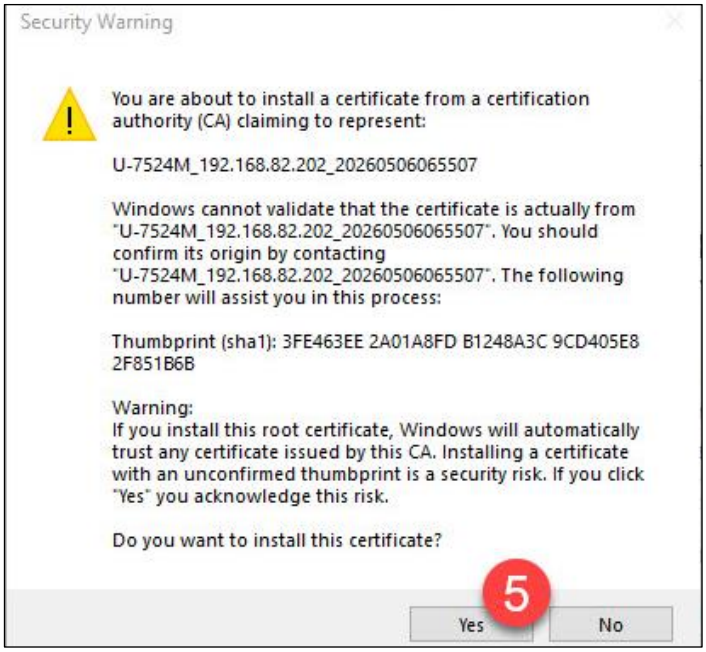
(3) Click **[Browse】** to select **[Trusted Root Certification Authorities]**, and then click **[Next].**



(4) When the " Complete the Certificate Import Wizard" message appears, click [Finish]**.**

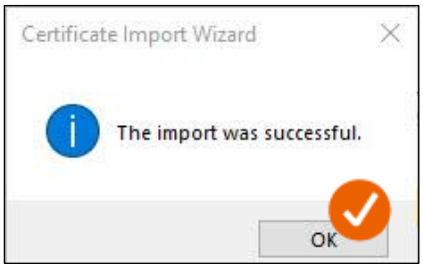


(5) A “Security Warning” window appear. Please click **[**Yes**].**



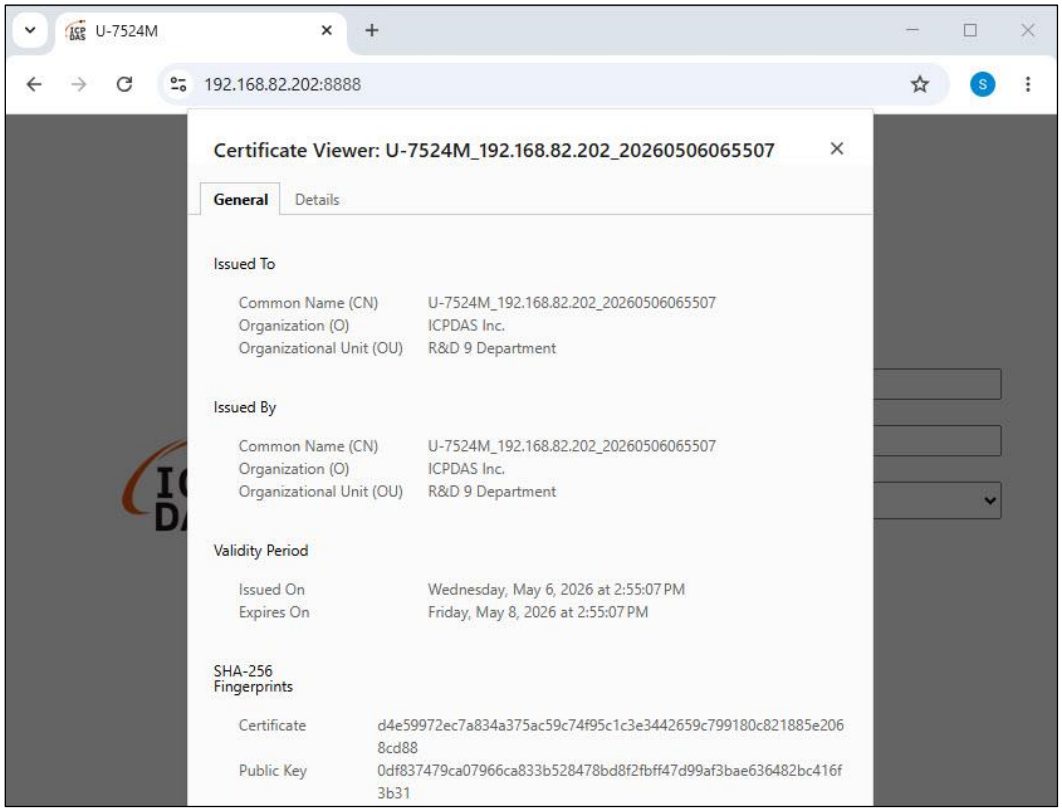
Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

After the HTTPS certificate has been successfully imported into the browser, the message "The Import was successful" appears in the “Certificate Import Wizard”. Click **[**OK**]**.



Step 2：Verify HTTPS Connection

Open the browser and enter the IP address of the UA I/O communication server to verify that a secure connection is established.



To open the [Certificate Viewer window], first click the button in the upper-left corner, then click **[Secure Connection Established] → [Certificate Valid].**

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