Advanced User Manual

Azure IoT

This manual provides a step-by-step guide on how to set up an MQTT server on Azure IoT and publish/subscribe to MQTT topics in EasyBuilder Pro.

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1. Overview

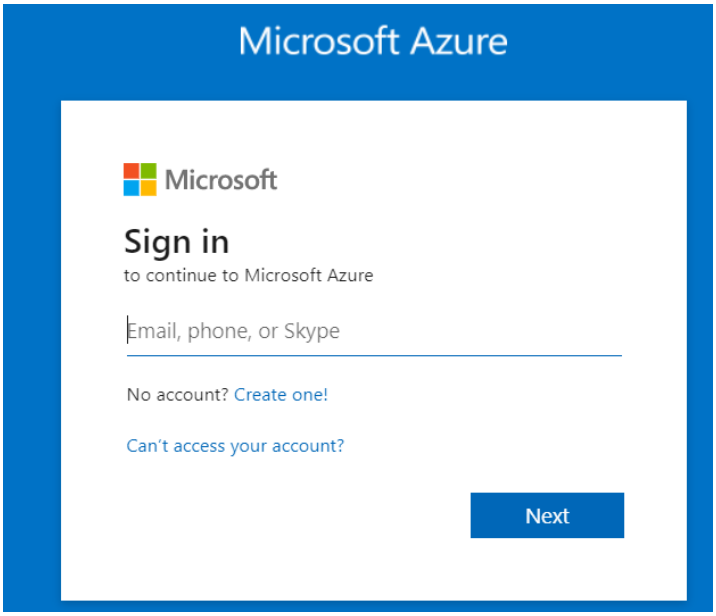
This manual explains how to set up a device on Azure IoT Hub and utilize MQTT features in EasyBuilder Pro. It's important to note that while the IoT Hub functions as an MQTT message broker, it may not fully support all behaviors specified in the MQTT v3.1.1 standard. For more detailed information, please visit the Microsoft Azure website at:
https://learn.microsoft.com/en-us/azure/iot/iot-mqtt-connect-to-iot-hub

Additionally, the cMT X series offers a straightforward way to connect with devices on the IoT Hub using the MQTT protocol through simple configuration in EasyBuilder Pro. This manual provides a step-by-step walkthrough of setting up IoT Hub devices and configuring EasyBuilder Pro.

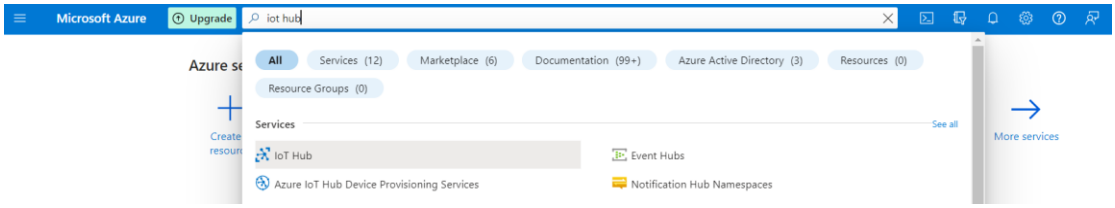
2. Setting up Devices on IoT Hub

The IoT Hub is located within Microsoft Azure, and all configurations are performed through the web portal. To get started, you need to register as a user on the Azure website by following these steps:

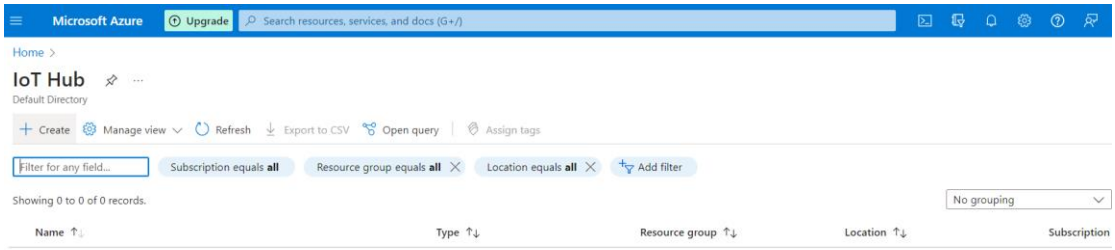
1. Visit the Microsoft Azure website at https://portal.azure.com.
2. Register for a new account.



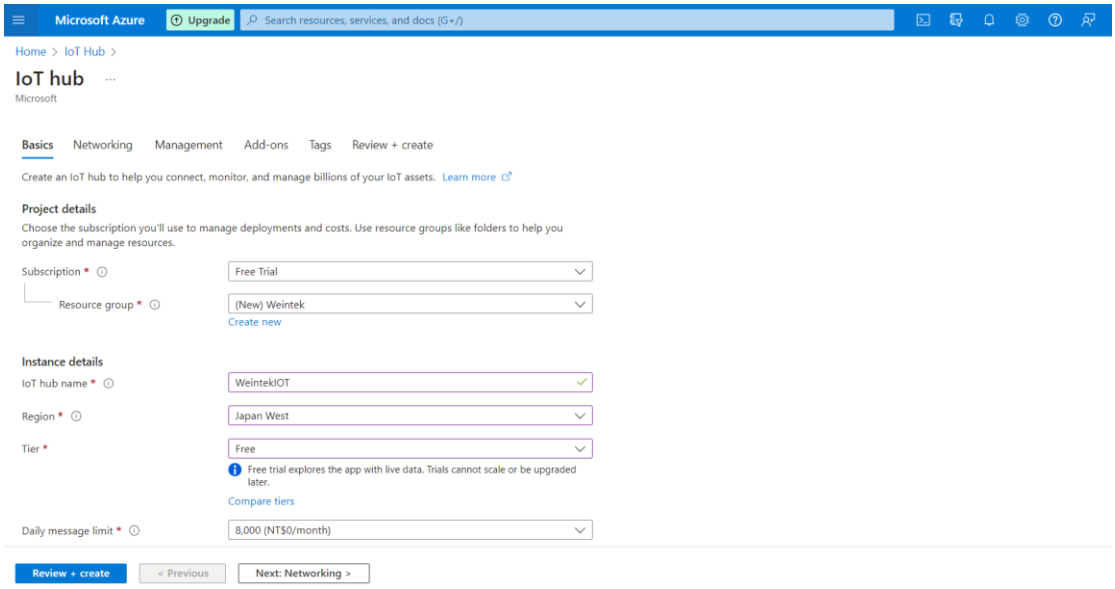
3. After logging in, search for "IoT Hub".



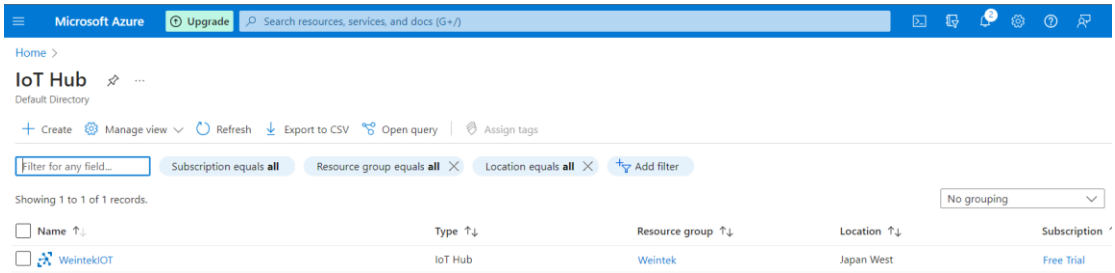
4. Once in the IoT Hub interface, click on [+Create] to add a new IoT Hub.



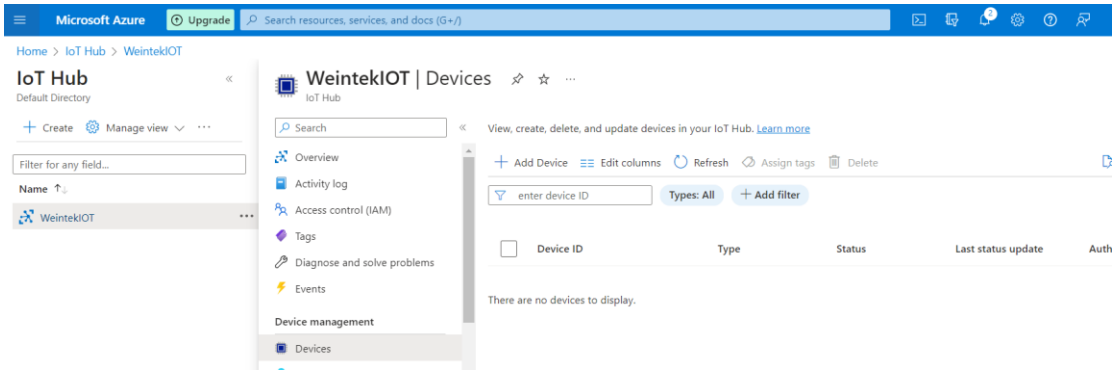
5. Configure the [Subscription], [Resource group], [IoT hub name], [Region], and [Tier] according to your preferences. Leave the remaining settings as default and click [Review+create].



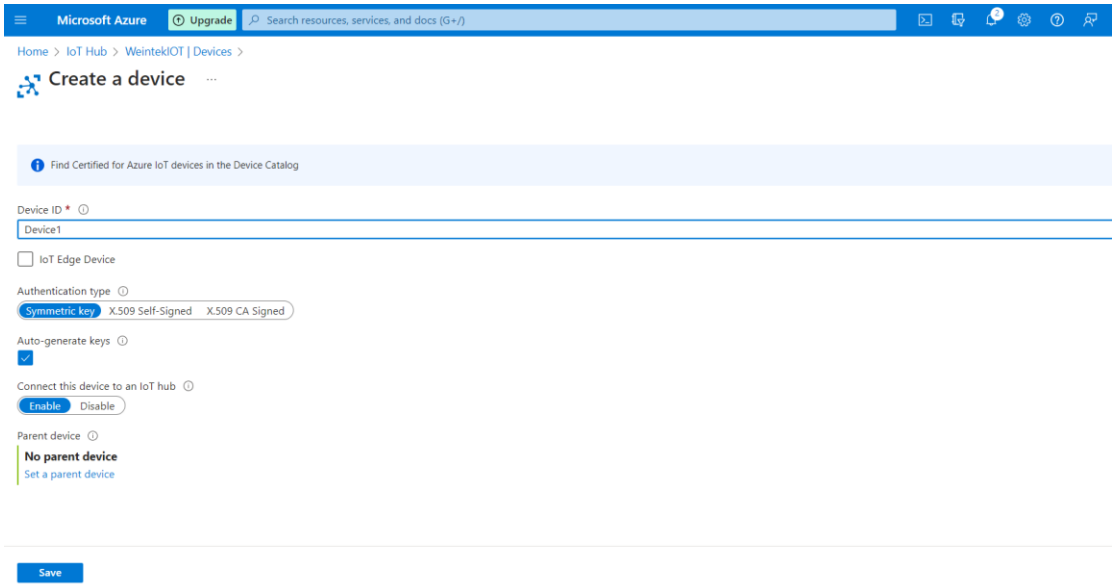
6. Click on the IoT Hub created in step 5 to access it.



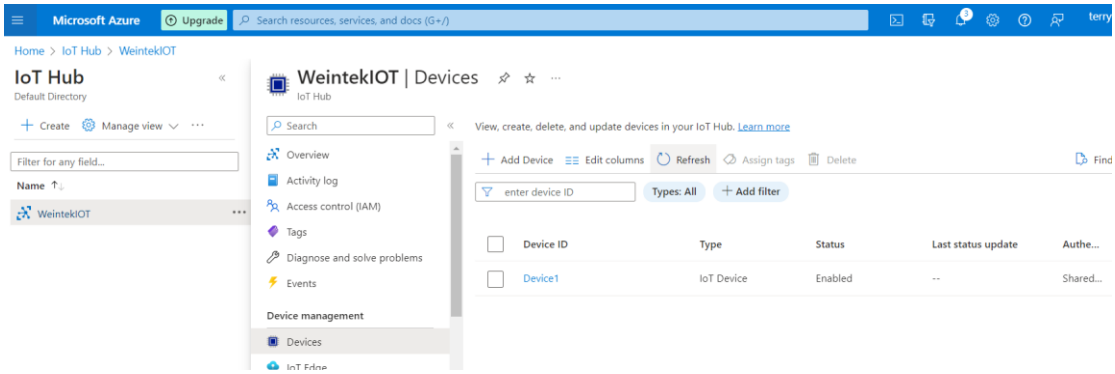
7. Within the IoT Hub, click on [+ Add Device] to add a new device.



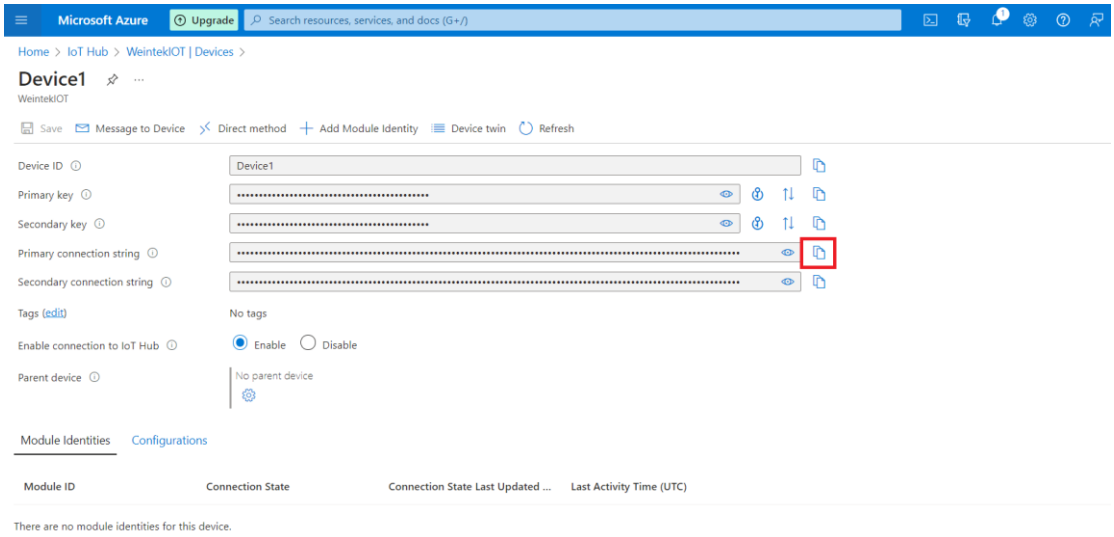
8. Configure the [Device ID], select [Auto generate keys], set the authentication type to [Symmetric key], and enable [Connect this device to an IoT hub]. Then, click [Save] to add the device.



9. Click on the device created in step 8 to access its settings.



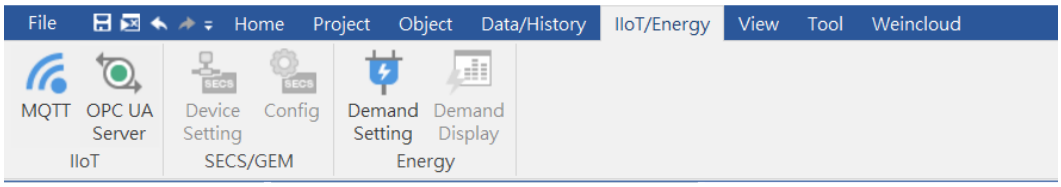
10. Copy the primary connection string. This will be used in the MQTT settings in EasyBuilder Pro, so please ensure that you remember it.


Microsoft Azure
Upgrade
Search resources, services, and docs (G+/)
Home > IoT Hub > WeintekIOT | Devices >
Device1
WeintekIOT
Save
Message to Device
Direct method
Add Module Identity
Device twin
Refresh
Device ID
Device1
Primary key
Secondary key
Primary connection string
Secondary connection string
Tags (edit)
No tags
Enable connection to IoT Hub
Enable
Disable
Parent device
No parent device
Module Identities
Configurations
Module ID
Connection State
Connection State Last Updated ...
Last Activity Time (UTC)
There are no module identities for this device.

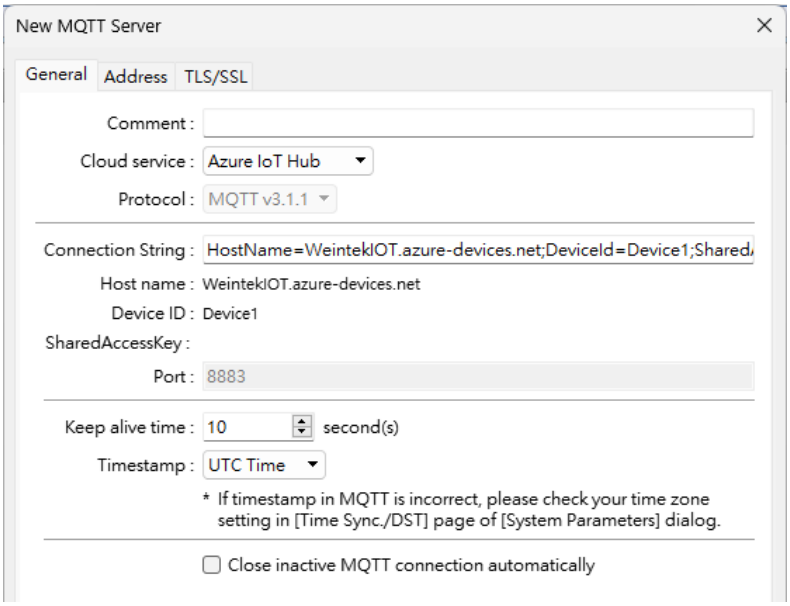
3. EasyBuilder Pro Settings

After configuring the devices on Azure IoT Hub, this chapter will explain the configuration in EasyBuilder Pro.

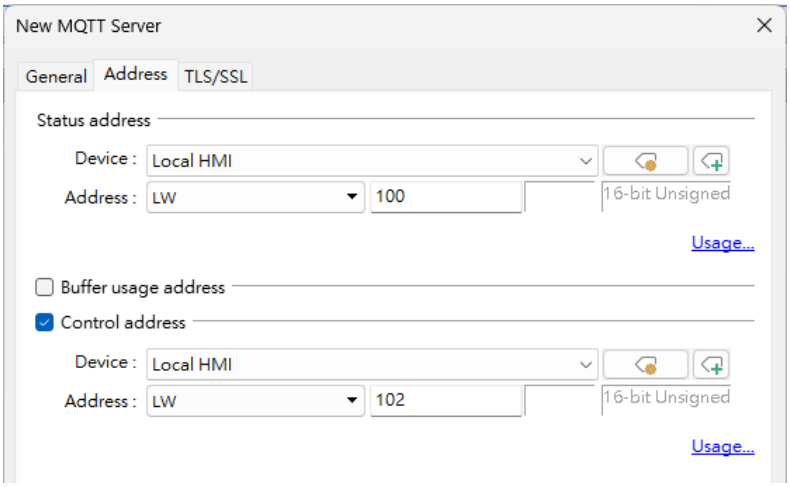
1. Click on [IIoT/Energy] » [MQTT] to open the MQTT settings page.



2. General settings: Choose [Azure IoT Hub] as the cloud service, use the primary connection string obtained in step 10 of Chapter 2 for the connection string, and leave the remaining settings as default.



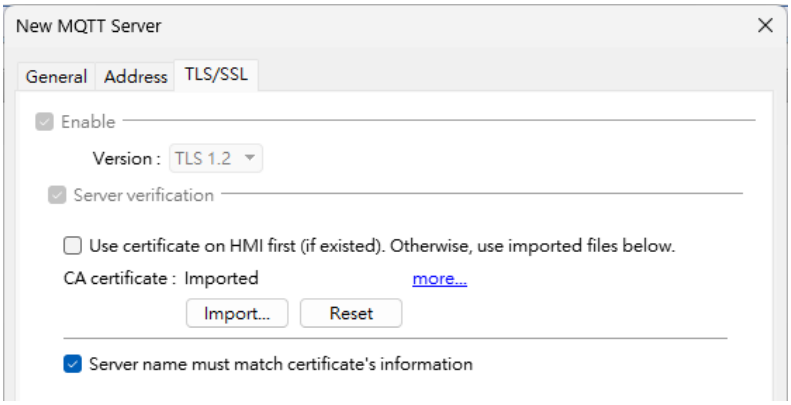
3. Address settings: Configure the relevant parameters for the address.



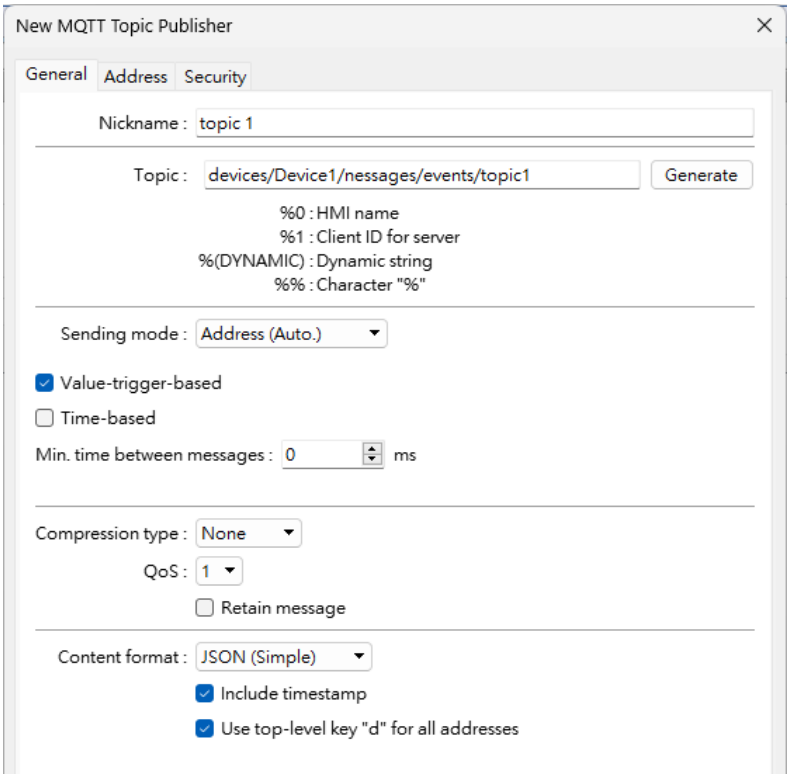
4. TLS/SSL settings: Import the CA certificate.

To use the CA certificate, download and import DigiCert Global Root G2.

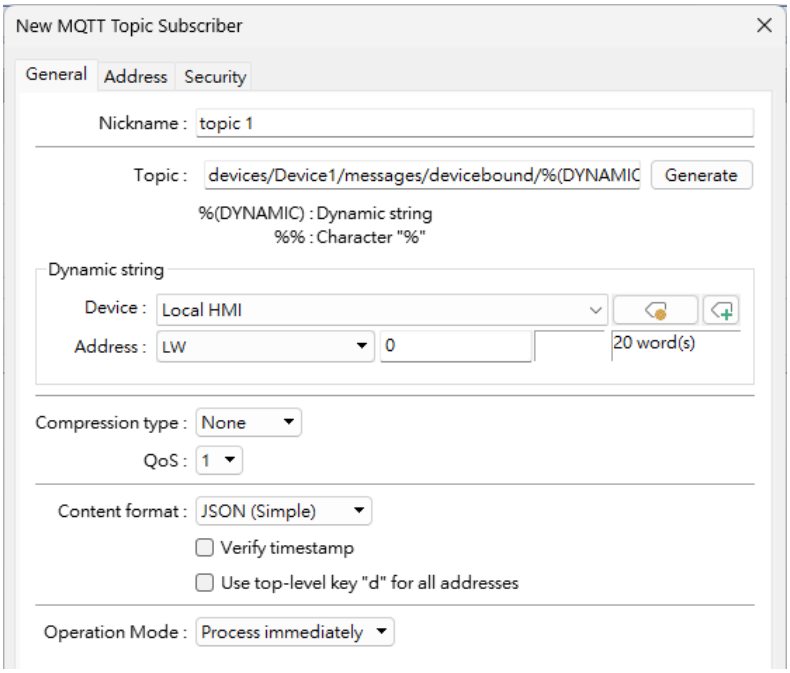
For more information about the certificate, visit:
https://techcommunity.microsoft.com/t5/internet-of-things-blog/azure-iot-tls-critical-changes-are-almost-here-and-why-you/ba-p/2393169



5. After completing the server configuration, note that the IoT Hub is not a fully functional MQTT broker and may not support all the behaviors specified in the MQTT v3.1.1 standard. Therefore, follow the instructions below for publishing and subscribing to topics.
6. After the device is connected, the HMI will use "devices/{device-id}/messages/events/" or "devices/{device-id}/messages/events/{property-bag}" as the topic name to send messages to the IoT Hub.



7. To receive messages from the IoT Hub, use "devices/{device-id}/messages/devicebound/#" as the topic filter to subscribe to the topic.
   Note: Since "#" is a reserved character in EasyBuilder Pro, you need to use dynamic string and set the "#" as the string content during runtime.



4. References

For information on how to use and configure MQTT, please refer to Chapter 42 IIoT of the EasyBuilder Pro User Manual.