

# Advantech AE Technical Share Document

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<b>Category</b>	<input checked="" type="checkbox"/> FAQ <input type="checkbox"/> SOP	<b>Related OS</b>	N/A
<b>Abstract</b>	How to Send WISE-4000 IO Data to WISE-PaaS 4.0 via iSensingMQTT		
<b>Keyword</b>	WISE, WISE-PaaS 4.0, iSensing MQTT, Push notification		
<b>Related Product</b>	WISE-40XX Series		

■ **Problem Description:**

This document shows how to connect with WISE-PaaS and upload data successfully.

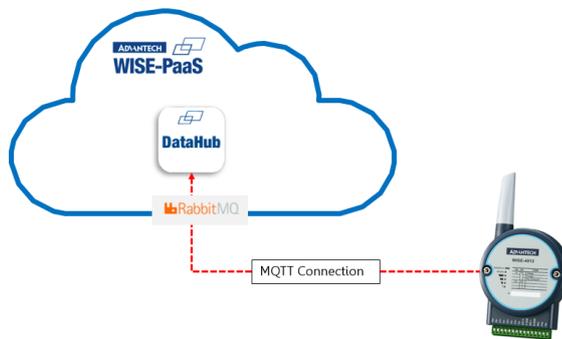


Figure 1. Topology of updating data to WISE-PaaS.

■ **Answer:**

Requirement:

- ✓ WISE-4000 Wi-Fi Series with FW A2.01 BXX
- ✓ WISE-PaaS 4.0 Account

Part I, Configuration on WISE-PaaS 4.0

Step1. Log in WISE-PaaS 4.0 Webpage and click Console > Service Portal

Then find out the Instance Name which is rabbitmq and click Action->Secret Management

– <https://portal-catalog-ensaas.sa.wise-paas.com/login>



Figure 2. WISE-PaaS Service Portal Page.

Step2. In Secret Management Page, select **Service Keys**, click “+” to create a new service key.

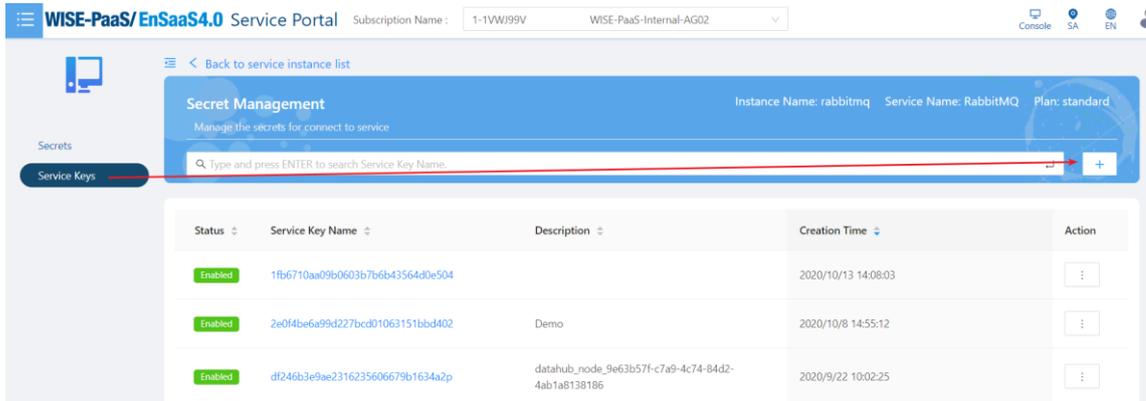


Figure 3. Create new service key.

Step3. Select the Role to Management, leave blank on Topic Path and click OK.

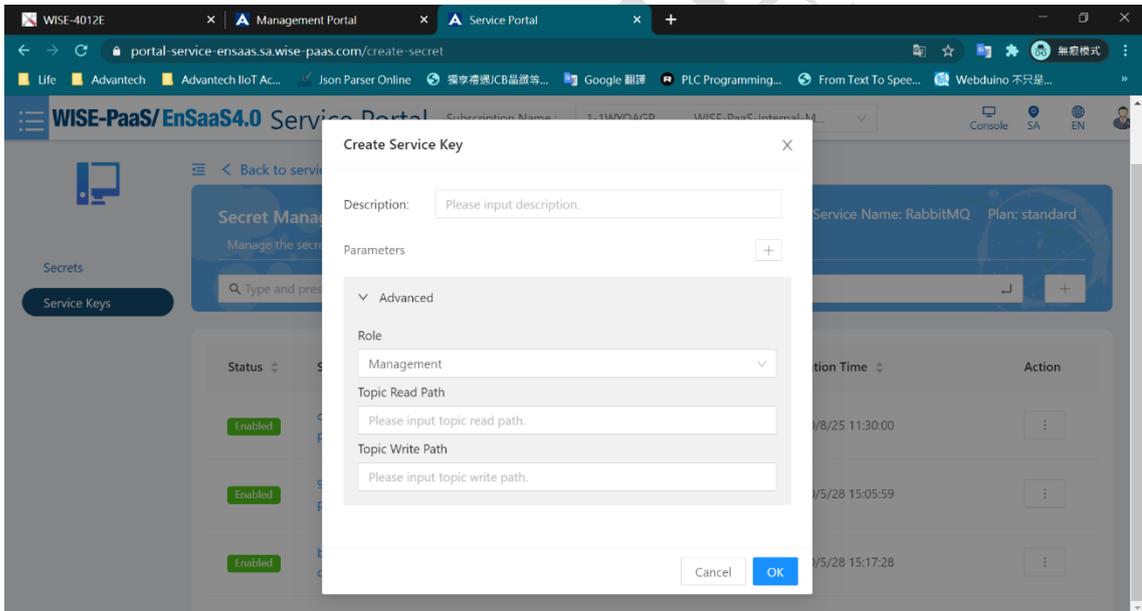


Figure 4. Configure new service key parameter.

Step4. Find the Service Key you just create, click action to view.

Status	Service Key Name	Description	Creation Time	Action
Enabled	1fb6710aa09b0603b7b6b43564d0e504		2020/10/13 14:08:03	⋮ View Edit Disable Delete
Enabled	2e0f4be6a99d227bcd01063151bbd402	Demo	2020/10/8 14:55:12	
Enabled	df246b3e9ae2316235606679b1634a2p	datahub_node_9e63b57f-c7a9-4c74-84d2-4ab1a8138186	2020/9/22 10:02:25	

Figure 5. View new service key parameter.

Step5. First, copy the externalHosts for WISE-4000 MQTT Host Name setting. Second, scroll

down to find the corresponding protocol that used to upload the data to WISE-PaaS. Currently, there are three protocols that WISE-4000 supports to upload the data to WISE-PaaS including **MQTT(TCP without TLS), MQTT+SSL(TCP with TLS) and WS(WebSocket without TLS)**. Copy username, password and port number for WISE-4000 MQTT connection parameters setting.

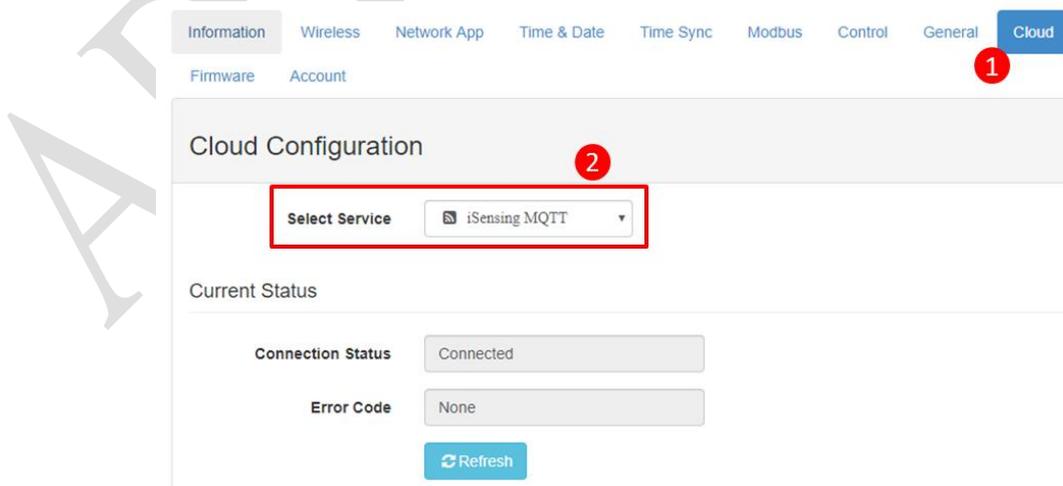


*Figure 6. Service key parameter.*

Part II, Configuration on WISE-4000

Step1. Install WISE Studio and enter the configuration page of WISE module.

Step2. Select iSensing MQTT service in **Cloud** tab.



*Figure 7. WISE-4000 Select Cloud Service Page.*

Step3. Paste the information into setting.

- ✓ MQTT Host Name: externalHosts
- ✓ Port Number: The port number of the selected protocol.
- ✓ SSL secure and WebSocket: The protocol which used to upload the data.

Protocol	SSL	WebSocket
MQTT(TCP without TLS)	Disable	Disable
MQTT+SSL(TCP with TLS)	Enable	Disable
WS(WebSocket without TLS)	Disable	Enable
WS+SSL(WebSocket with TLS)	Enable	Enable
Not support on WISE-PaaS		

Table.1 SSL Secure and WebSocket Setting on WISE-4000.

- ✓ Username and Password: The username and password of the selected protocol.

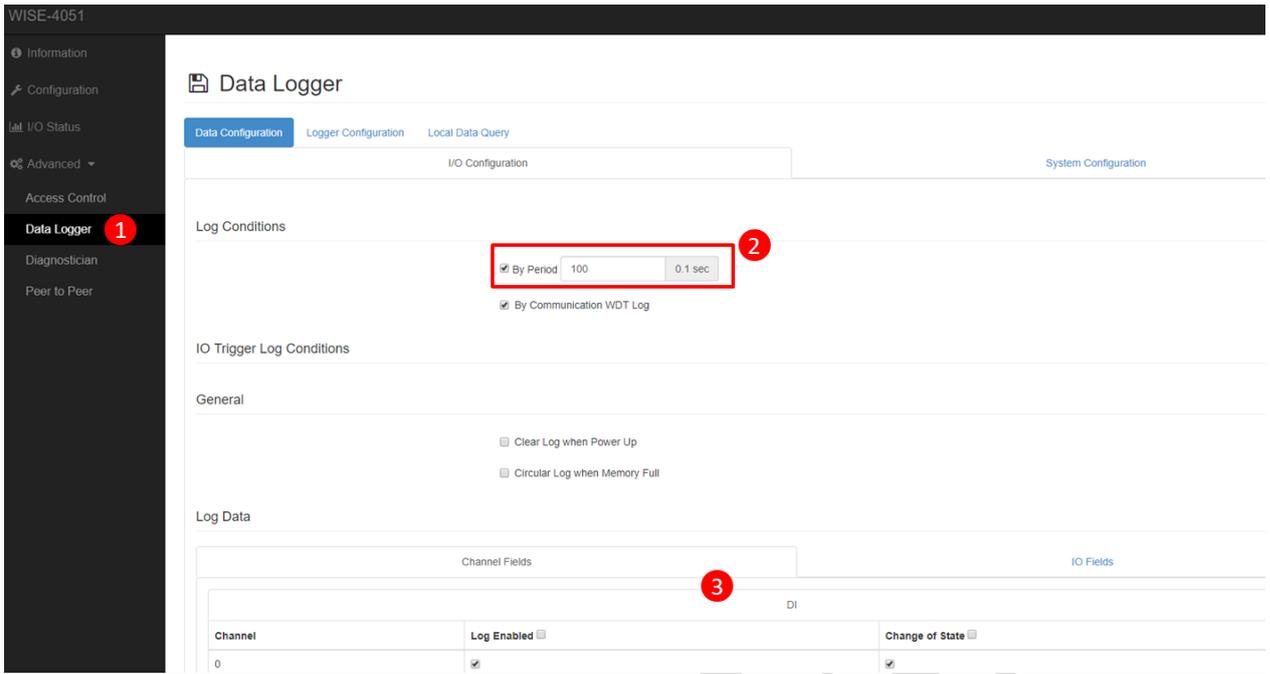
The screenshot shows the 'Setting' page for MQTT configuration. On the left is a JSON configuration, and on the right is a UI form. Yellow arrows indicate the mapping between the two:

- `"externalHosts": "rabbitmq-001-pub.sa.wise-paas.com"` maps to the **MQTT Host Name** field.
- `"port": 1883` maps to the **Port Number** field.
- `"password": "KZRekMro4h3Em3uieWHF"` maps to the **Password** field.
- `"username": "jpe02239Boy8:0kyN60dp6Zya"` maps to the **User Name** field.
- `"ssl": false` maps to the **SSL secure** radio button (set to **Disable**).
- `"uri": "mqtt://jpe02239Boy8%3A0kyN60dp6Zya:KZRekMro4h3Em3uieWHF@rabbitmq-001.sa.wise-paas.com:1883"` maps to the **WebSocket** radio button (set to **Enable**).

Figure 8. WISE-4000 Cloud Setting Configuration Page.

Step4. Remember to submit to save the setting.

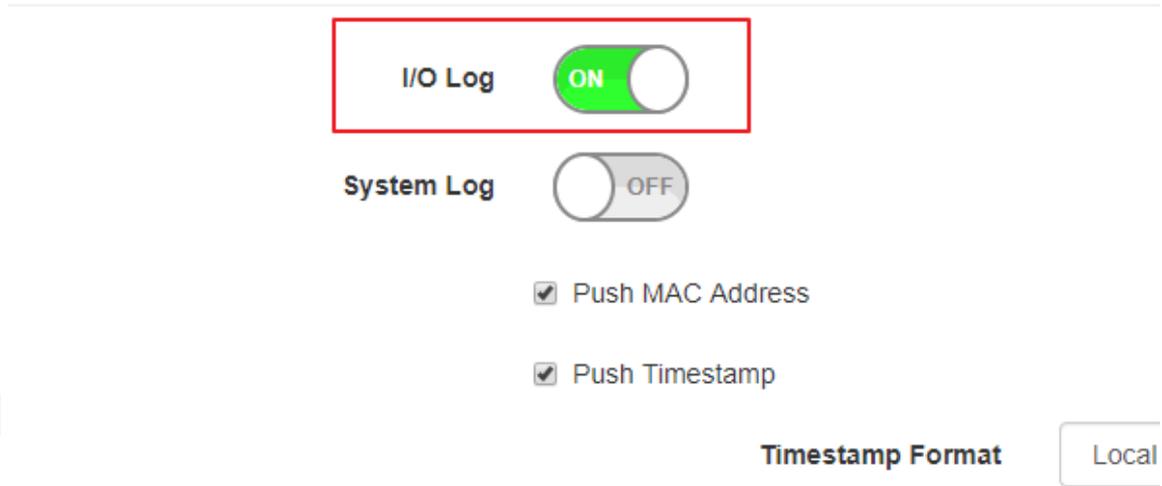
Step5. Configure the uploading period and decide which I/O information of channel to upload.



*Figure 9. WISE-4000 Data Logger Configuration Page.*

Step6. Remember to enable the push notification and upload the data.

**Push Notification (JSON format)**



*Figure 10. WISE-4000 Push Notification Configuration Page.*

Part III, Data Display on Datahub.

Step1. In the main page of WISE-PaaS, select Router Management → Ingress

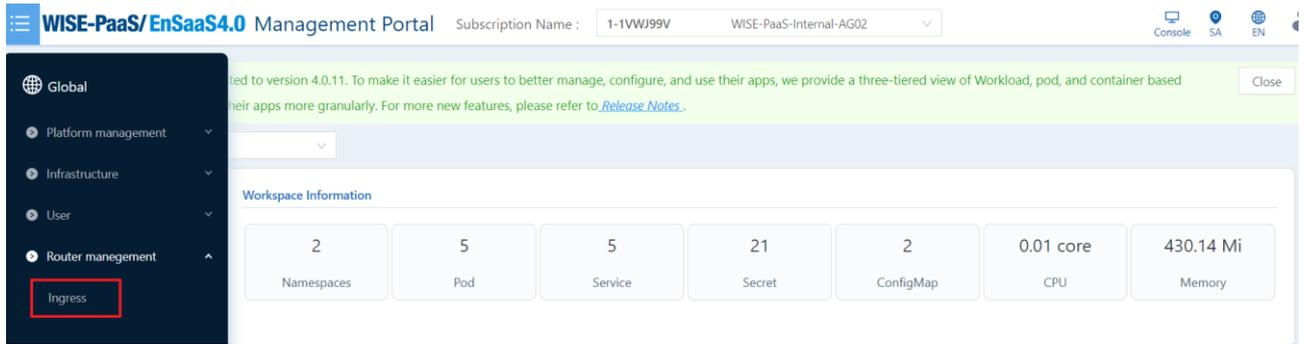


Figure 11. WISE-PaaS 4.0 Management Portal.

Step2. Click the External Domain of Datahub.

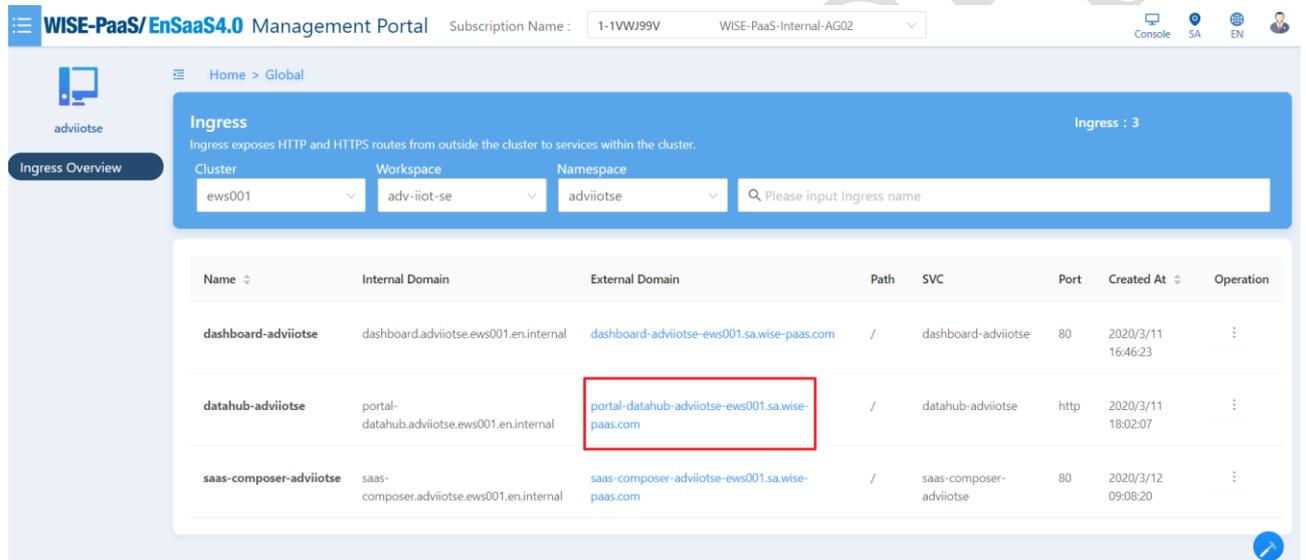


Figure 12. Ingress Overview on WISE-PaaS Management Portal.

Step3. WISE-4000 support plug & play function. Device and channel tags will be built automatically

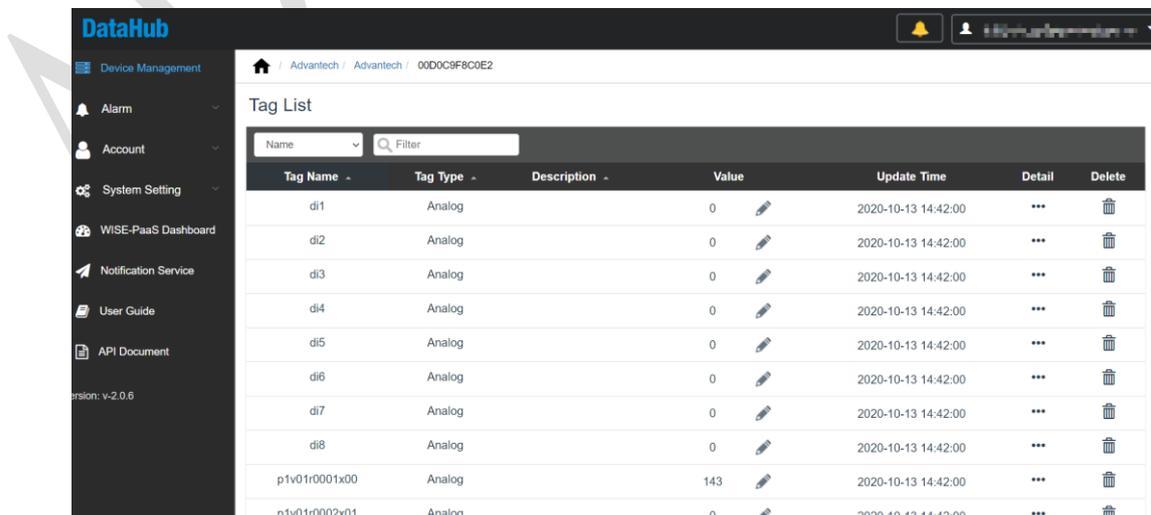


Figure 13. WISE-4000 Support Plug & Play function.

Part IV, Troubleshooting Method

Step1. If the data is not shown on portal scada, you could subscribe the rabbitmq broker by 3<sup>rd</sup> party MQTT client application, e.g., MQTTBox. The setting is the same as the WISE-4000 MQTT setting.

The screenshot shows the 'MQTT CLIENT SETTINGS' configuration page in the MQTTBox application. The page includes the following fields and options:

- MQTT Client Name:** A text input field containing 'AETEST'.
- MQTT Client Id:** A text input field containing '4474859c-0174-4fe2-89b9-cr' with a refresh icon.
- Append timestamp id?:** A checkbox that is checked, with the label 'Yes'.
- Protocol:** A dropdown menu set to 'mqtt / tcp'.
- Host:** A text input field containing ':tasia.cloudapp.azure.com:1883/tcp'.
- Clean Session?:** A checkbox that is checked, with the label 'Yes'.
- Username:** A text input field containing '5d9cb2f2-28d5-4b78-b47b-da63eb'.
- Password:** A text input field with masked characters '.....'.
- Reschedule Pin:** A checkbox that is checked, with the label 'Yes'.
- Reconnect Period (milliseconds):** A text input field containing '1000'.
- Connect Timeout (milliseconds):** A text input field containing '30000'.
- KeepAlive (seconds):** A text input field containing '10'.
- Will - Topic:** A text input field containing 'Will - Topic'.
- Will - QoS:** A dropdown menu set to '0 - Almost Once'.
- Will - Retain:** A checkbox that is unchecked, with the label 'No'.

At the bottom of the form, there are two buttons: a blue 'Save' button and a white 'Delete' button.

*Figure 14. Configuration Page of 3<sup>rd</sup> Party MQTT Client Application.*

Step2. Subscribe the topic # which means that it will receive all of information from the broker. If the data is not shown, there may be some problems on **rabbitmq**.

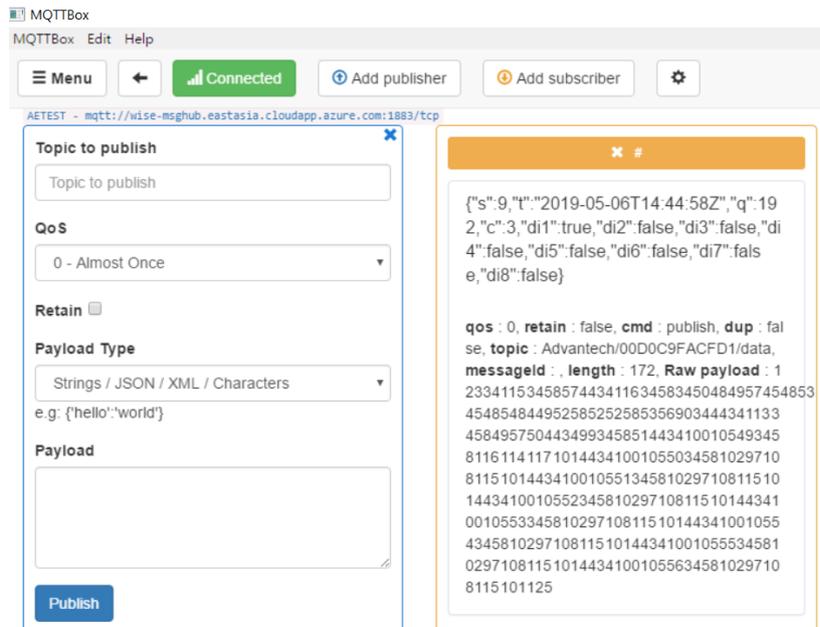


Figure 15. Subscribe the Broker from a 3<sup>rd</sup> Party MQTT Client Application.