

Advantech SE Technical Share Document

Date	2019 / 12 / 20	Related Product	WISE-PaaS Datahub 8.4.3, WISE4012E Fw:A2.00 B09, Bootloader:A1.11 B00	
Category	☐ FAQ ☒ SOP ☐ Driver Tech Note			
Abstract	如何使用 WISE-4012E 利用 iSensing 上傳 WISE-PaaS Datahub			
Keyword	WISE-PaaS Datahub, WISE4012E, iSensing			
Related OS				
Revision History				
Date	Version	Author	Reviewer	Description
2019/12/20	V1.0	Eden.Sun	Nick.Liu	First edit.
2020/10/08	V1.1	Eden.Sun	Nick.Liu	Upgrade EnSaaS 4.0

■ Problem Description & Architecture:

Edge 端使用 WISE-4012E 利用 iSensing 上傳到 WISE-PaaS Datahub 上。



Device Management

Alarm

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SCADA Version: v-1.1.37

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Advantech / Advantech / 00D0C9F706F0

Tag List

Name

Filter

Tag Name	Tag Type	Description	Value	Update Time	Detail	Delete
ai1	Analog		1000.00	1970-01-03 15:34:01	...	
ai2	Analog		1000.00	1970-01-03 15:34:01	...	
ai_st1	Analog		1.00	1970-01-03 15:34:01	...	
ai_st2	Analog		1.00	1970-01-03 15:34:01	...	
di1	Discrete		true	1970-01-03 15:34:01	...	
di2	Discrete		true	1970-01-03 15:34:01	...	
do1	Discrete		false	1970-01-03 15:34:01	...	
do2	Discrete		false	1970-01-03 15:34:01	...	

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■ Brief Solution - Step by Step:

※設定連線前，需先準備以下事項

1. 準備具有 WI-FI 連線能力的電腦 (內建功能 or 外接功能 皆可)。

2. 下載並安裝 WISE Studio。

(https://support.advantech.com/support/DownloadSRDetail_New.aspx?SR_ID=1-1MJSJKX&Doc_Source=Download)

3. 申請 WISE-PaaS Market Place 與 WISE-PaaS EnSaaS 帳號。

(<https://wise-paas.advantech.com/en-us/marketplace>)

4. 在 WISE-PaaS 中建立 WorkSpace & NameSpace，並且訂閱佈署 WISE-PaaS Datahub。

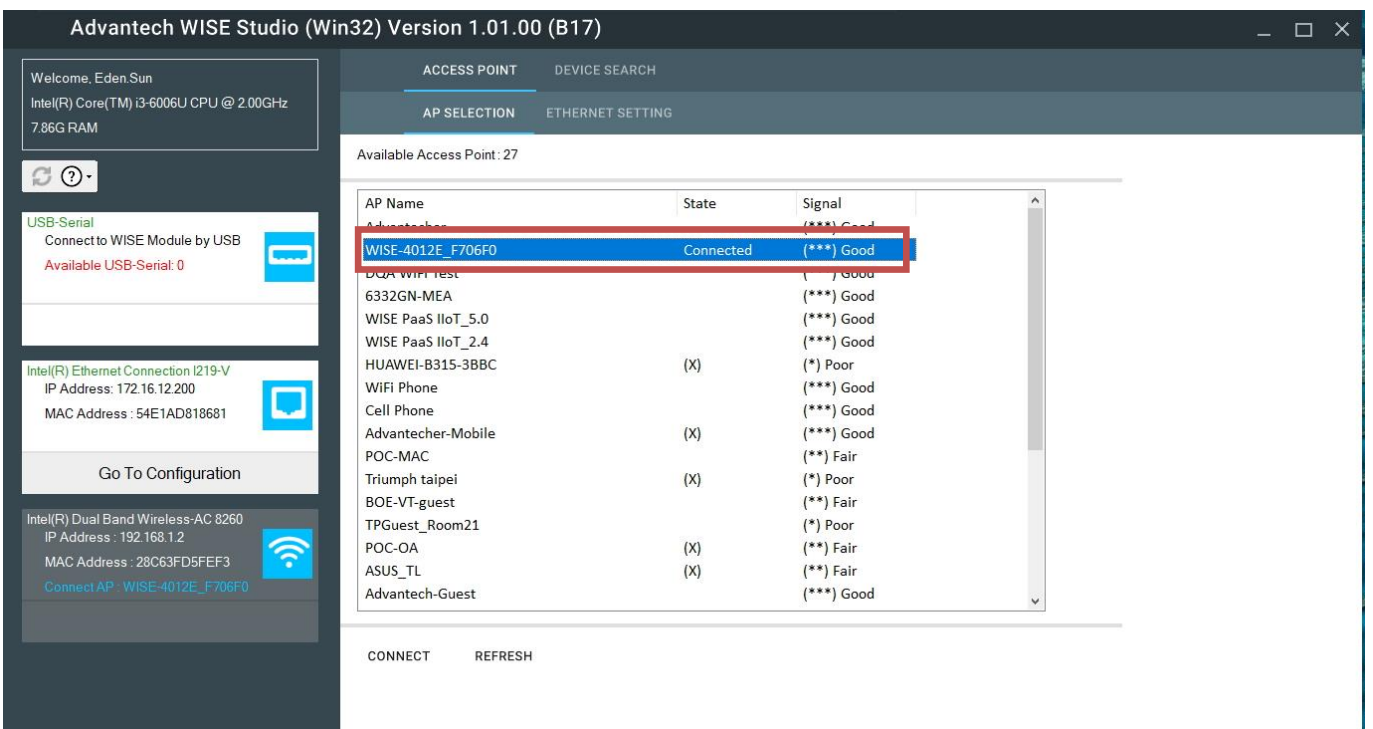
1. 請先將設備 WISE-4012E 的 Mode 調整至 **SW1 的 P1 為 Off**，接續將設備接上 **USB 電源**。

※請確實調整完成 Mode 才進行上電，如果調整需重新上電，模式才會切換。

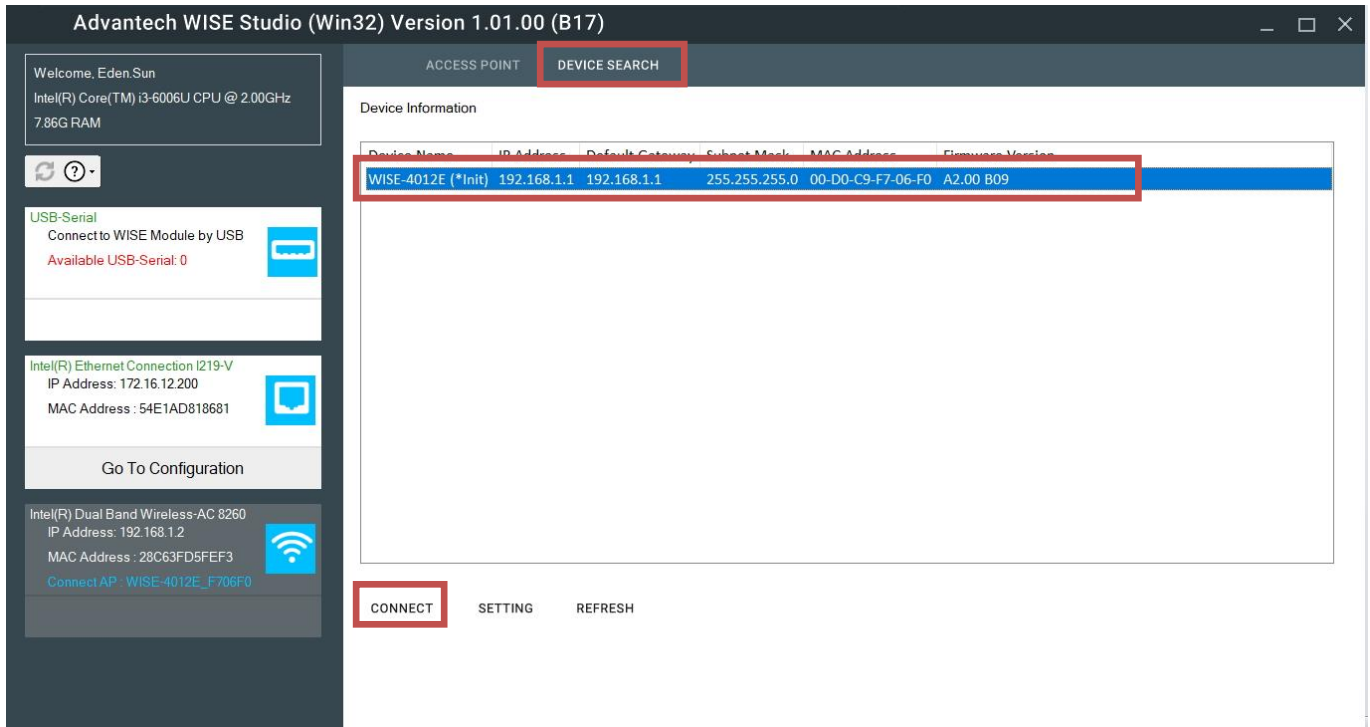
2. 開啟電腦 WI-FI 功能搜尋設備**連線 WISE-4012E_XXXXXX**。(XXXXXX 預設為設備 MAC 位址後 6 碼)



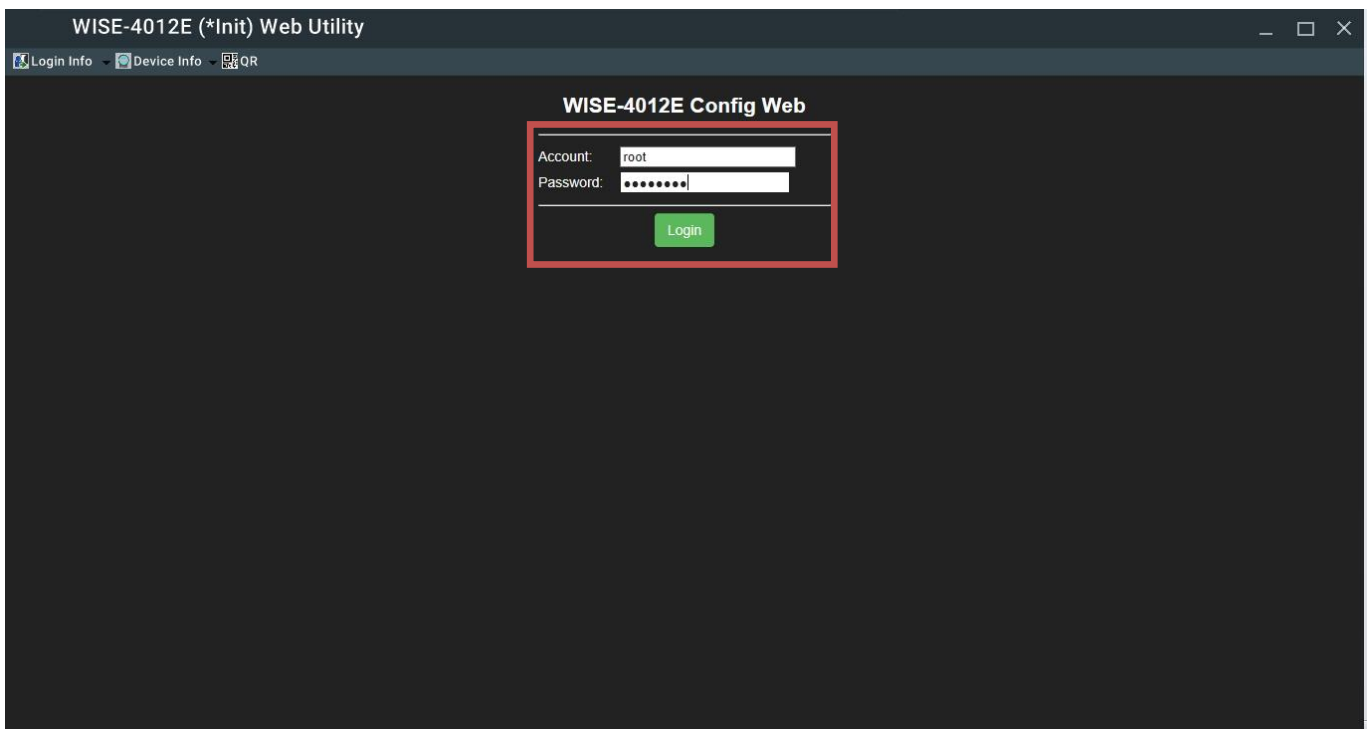
3. 開啟 **WISE Studio** 軟體並選擇使用 **Intel® Dual Band Wireless-AC 8260** 來進行連線 Go To Configuration。(請確認 **Connect AP : WISE-4012E_XXXXXX**)



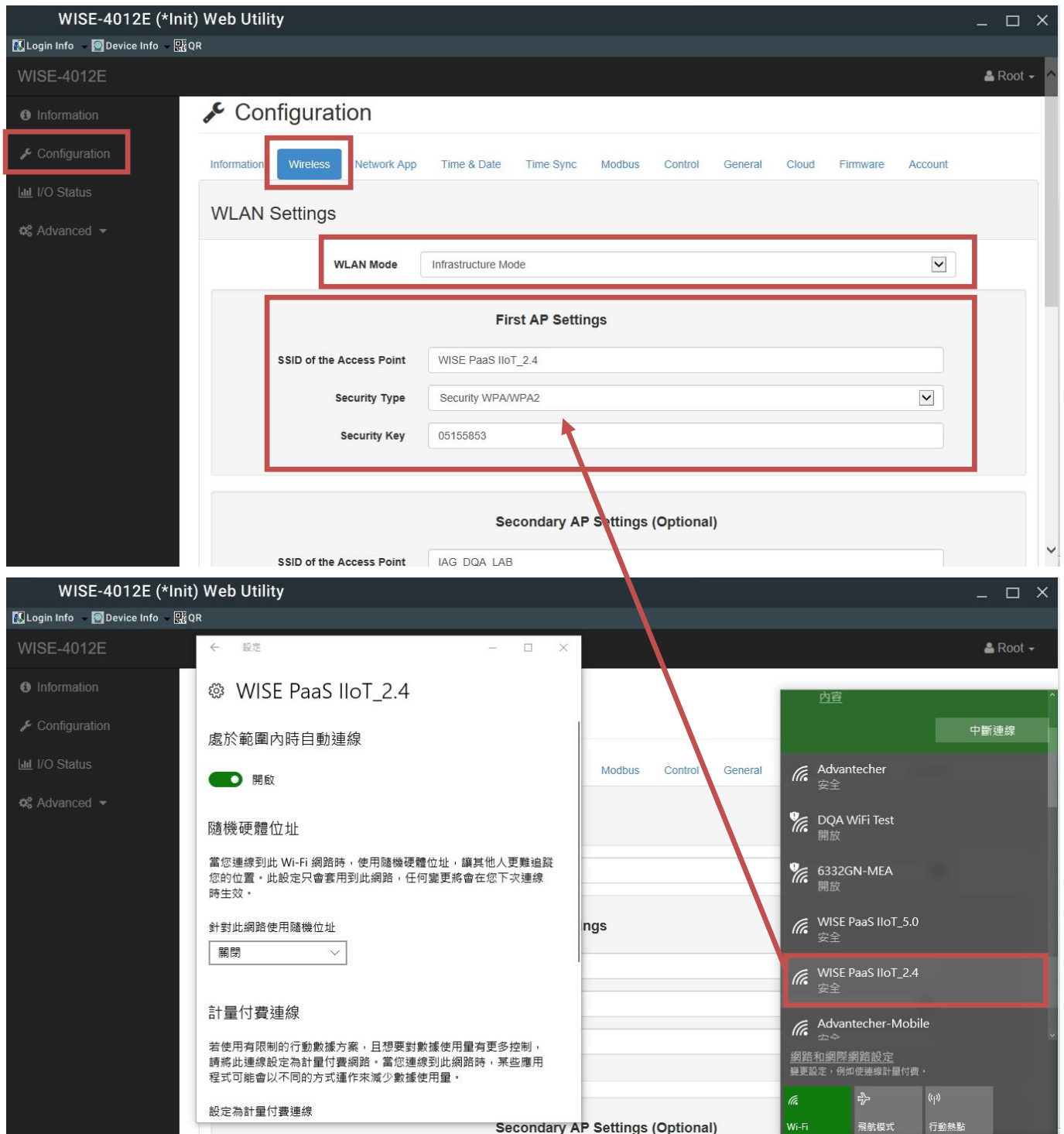
4. WISE Studio 切換至 **Device Search** 並找到 WISE-4012E 設備，點擊 **Connect**。



5. 開啟 **WISE-4012E Config Web** 的畫面，進行登入。(Default User / Password : root / 00000000)



6. 點選 **Configuration -> Wireless -> WLAN Mode** 來預設使用的 WI-FI 連線 **Access Point** 與 **Security Key**。(使用 **WLAN Mode – Infrastructure Mode**，可以預設兩組 AP 來進行連線，會先偵測 **First AP** 再偵測 **Secondary AP**，本範例使用 AP 路由器為 **WISE PaaS IIoT_2.4**)

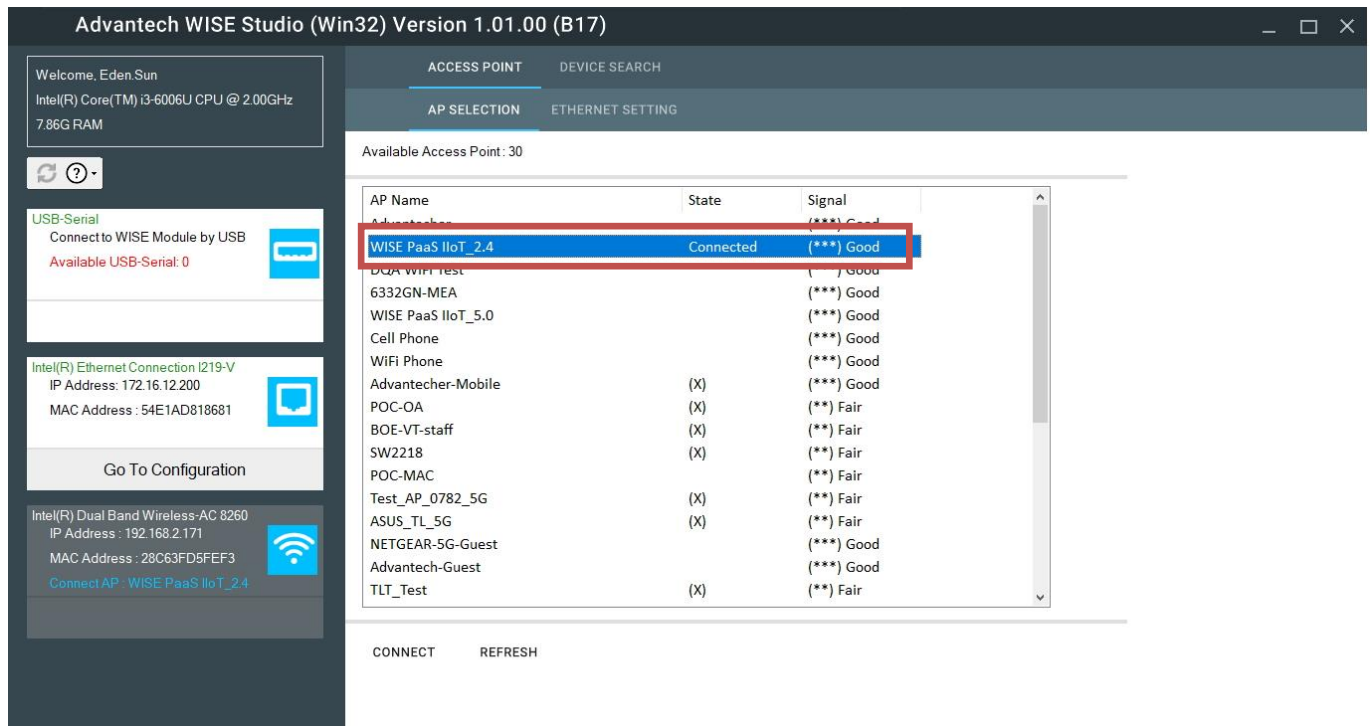


7. 設定完成後，將**電腦與設備的 WI-FI 連線斷開**，並將設備 WISE-4012E 下電。
8. 將設備 WISE-4012E 的 Mode 調整至 **SW1 的 P1 為 On**，接續將設備**接上 USB 電源**。
※請確實調整完成 **Mode** 才進行上電，如果調整需重新上電，模式才會切換。
9. 開啟電腦 WI-FI 功能搜尋 **AP 無線路由器**。(本範例使用 **AP 路由器為 WISE PaaS IIoT_2.4**)

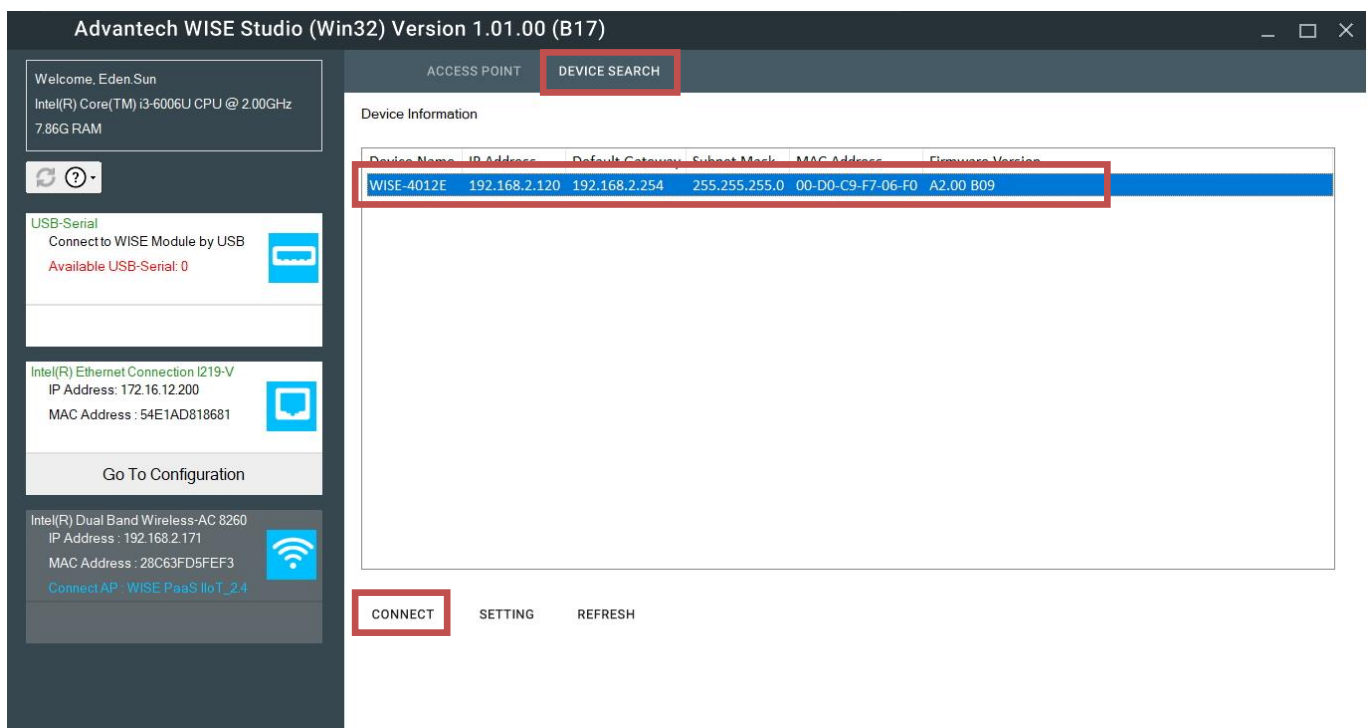


- 重新開啟 **WISE Studio** 軟體並選擇使用 **Intel® Dual Band Wireless-AC 8260** 來進行連線 Go To Configuration。(請確認 **Connect AP : WISE-PaaS IIoT_2.4**)

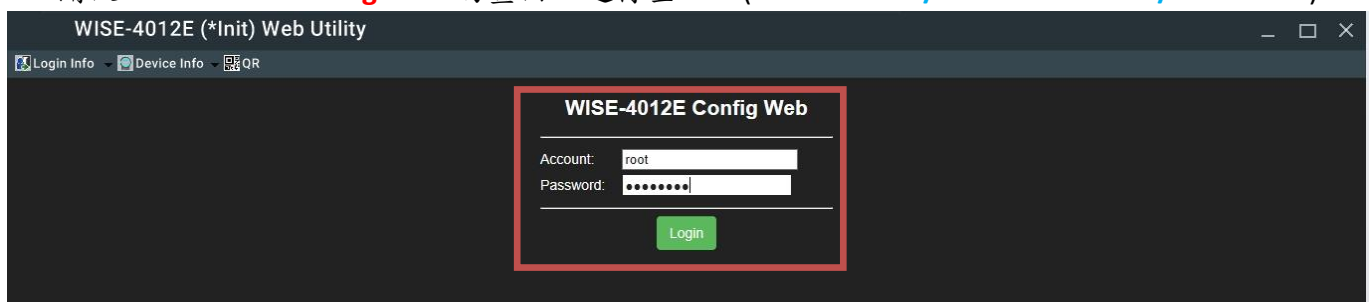




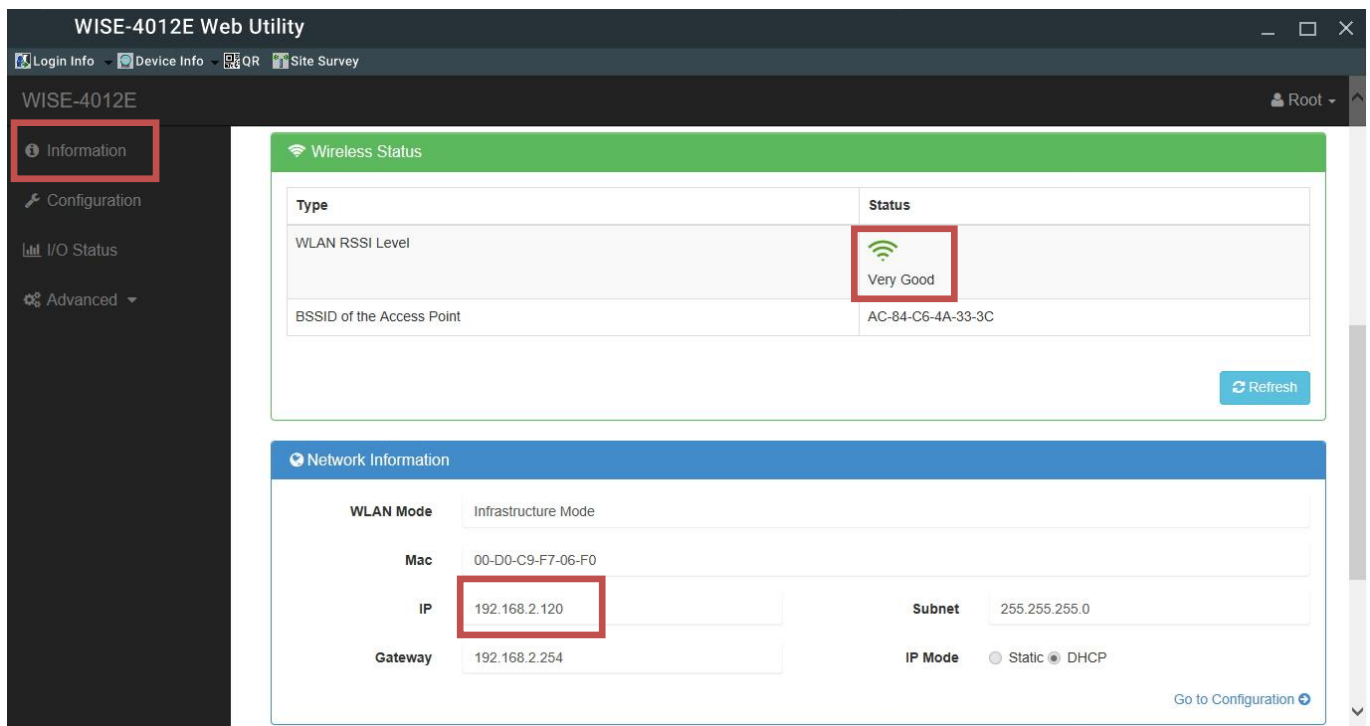
11. WISE Studio 切換至 **Device Search** 並找到 WISE-4012E 設備，點擊 **Connect**。



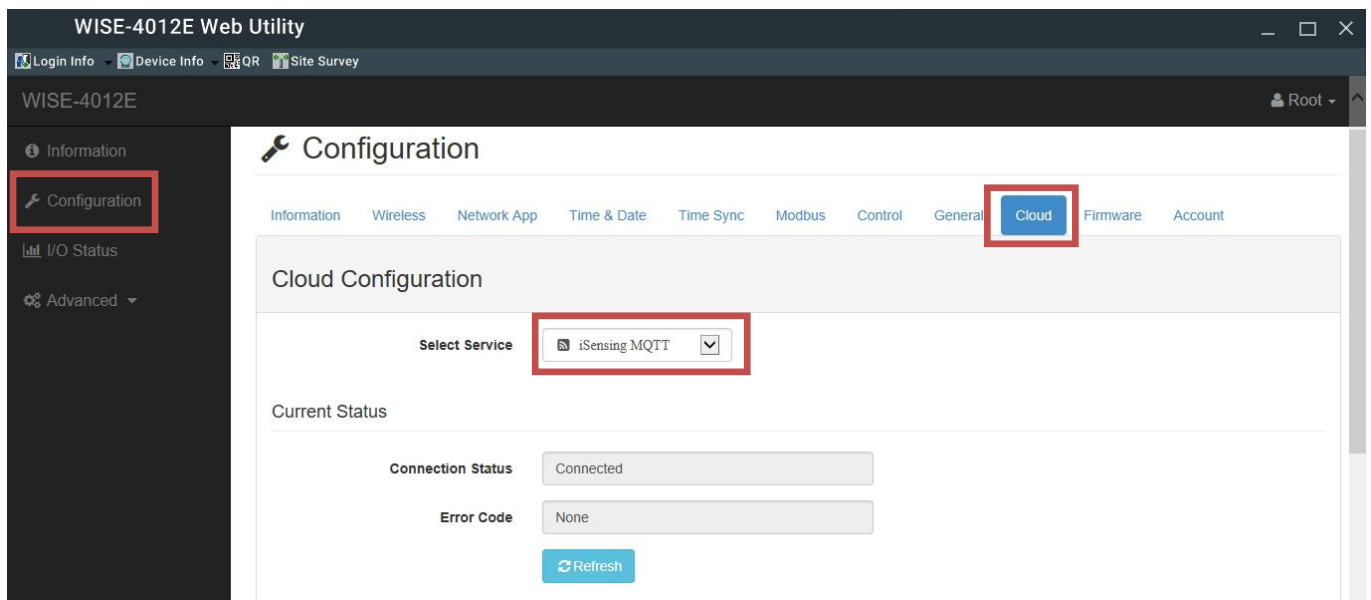
12. 開啟 **WISE-4012E Config Web** 的畫面，進行登入。(Default User / Password : root / 00000000)



13. 進入設備後，確認 **Information** 裡的 **Wireless Status** 與 **Network Information** 需要正常連線狀態，並且獲取到其 IP Address。



14. 點選 **Configuration -> Cloud -> Select Service** 來設定 Cloud 的連線參數。(本範例使用 **Select Service - iSensing MQTT**)



15. 請確實填寫連線參數：(些許參數請利用步驟 16-22 獲取)

- MQTT Host Name**：請依據使用的 WISE-PaaS Domain 選擇對應的 MQTT Host Name 填寫
 SA : rabbitmq-001-pub.sa.wise-paas.com
 HZ : apps-iothub-single-shared-1.chinanorth2.cloudapp.chinacloudapi.cn
- Port Number**：預設使用 1883 (請參照步驟 16-22)
- SSL Secure**：請使用 Disable
- WebSocket**：請使用 Disable
- WebSocket Path**：預設使用 mqtt

- vi. **User Name**：依雲端提供的 User Name 填寫 (請參照步驟 16-21)
- vii. **Password**：依雲端提供的 Password 填寫 (請參照步驟 16-21)
- viii. **Heartbeat Frequency(sec)**：可填寫設備心跳時間
- ix. **Publish QoS**：目前支援 0 與 1
- x. **Subscribe QoS**：目前支援 0 與 1
- xi. **Publish Retain**：請使用 Enable
- xii. **Will Retain**：請使用 Enable

Setting

MQTT Host Name	rabbitmq-001-pub.sa.wise-paas.com	Port Number	1883
SSL secure	☒ Disable ☐ Enable	WebSocket Path	mqtt
WebSocket	☒ Disable ☐ Enable	Password	Z48fcyG6DKArIWUMGDqWm2Xgb
User Name	47b4e25c-e166-4bf1-93a0-39df4b43b16f61c470		
Heartbeat Frequency (sec)	0		
Publish QoS	0	Subscribe QoS	0
Publish Retain	☐ Disable ☒ Enable	Will Retain	☐ Disable ☒ Enable

16. 透過 WISE-PaaS EnSaaS 登入平台，並進入建立好的進入 **Datahub Portal** 頁面。

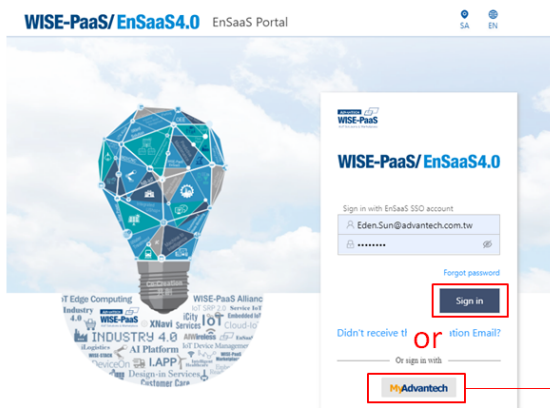
新加坡 SA 平台：<http://portal-ensaas.sa.wise-paas.com/login/sign-in>

中國杭州 HZ 平台：<https://portal-mp-ensaas.hz.wise-paas.com.cn/login/sign-in>

WISE-PaaS 平台登入

輸入個人帳密 & Sign in

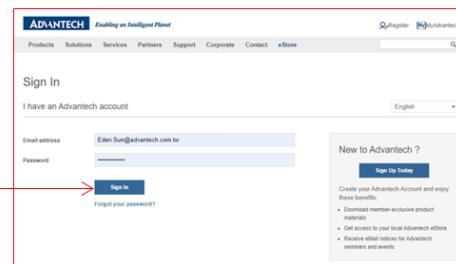
STEP 1



EnSaaS4.0 平台，依據不同的Domain登入對應的 URL

SA：<https://portal-catalog-ensaas.sa.wise-paas.com/?redirectUrl=http://portal-ensaas.sa.wise-paas.com>

HZ：<https://portal-catalog-ensaas.hz.wise-paas.com.cn/?redirectUrl=https://portal-mp-ensaas.hz.wise-paas.com.cn>



WISE-PaaS 平台登入

進入Management Portal

STEP 2

選擇Subscription Name

STEP 3

Cluster、Workspace、Namespace

The first screenshot shows the 'Global' menu with 'Ingress' selected. The second screenshot shows the 'Ingress' page with a table of ingress resources. The table has columns: Name, Internal Domain, External Domain, Path, SVC, Port, Created At, and Operation. The table lists several ingress resources, including 'advisiote', 'datahub-advisiote', and 'datahub-adviiotse'.

WISE-PaaS 平台登入 - 進入Datahub 主頁

點選Application

點選URL

進入Datahub 主頁

STEP 1

STEP 2

STEP 3

尋找datahub-xxxxx (Workspace Name)

The first screenshot shows the 'Ingress' page with 'datahub-advisiote' selected. The second screenshot shows the 'DataHub' interface with the 'Project List' table. The table has columns: Project ID, Description, Detail, and Delete. The table lists several projects, including 'datahub-advisiote'.

17. 在 WISE-PaaS Datahub 設定 **System Setting**。(SSO_User Name、SSO_Password)

※請確認此帳號必須擁有 "edit_Config" 的功能，才可增加設備上來 WISE-PaaS Datahub。

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System Setting

Parameter Name	Parameter Value
SSO_USERNAME	Eden.Sun@advantech.com.tw
SSO_PASSWORD	*****
NOTIFICATION_SERVICE_URL	
MESSAGE_RULE	
DATA_RETENTION_DAYS	1190
DATA_CLEANING_TIME	09:05
DATA_CLEANING_ENABLED	☒ True ☐ False
DASHBOARD_GRAFANA_URL	

Update

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Event Log

Account

Account Setting

Role Setting

System Setting

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Account Setting

Use

Alger.Tan@

Eden.Sun@

Nick.Liu@a

supersun@

Account Name

Eden.Sun@advantech.com.tw

E-mail

Eden.Sun@advantech.com.tw

SSO Role

tenant

Description

Role (optional)

* Privilege

get_value

edit_value

edit_config

manage_account

manage_event

manage_alarm

system_setting

Permission

Setting

Delete

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18. 從 **Management Portal** 右上角的 **Console** 內找到 **Service Portal**，切換到 **Service Portal**。

WISE-PaaS/EnSaaS4.0

Management Portal

Subscription Name : 1-1VWJ99V WISE-PaaS-Internal-AG02

Cluster: ews001

Hi, eden.sun@advantec...

workspaceOwner

Last: 2020/10/8 11:31:22

Workspace Information

2

5

5

21

2

0.01 core

Namespaces

Pod

Service

Secret

ConfigMap

CPU

Memory

Workspace Status

adv-iiot-se

1.00%

CPU

0.01 / 1 core

10.74%

Memory

439.9 / 4096 Mi

0.01%

Rootfs

2.11 / 20480 Mi

25.00%

Pod

5 / 20

Unlimited

PVC Disk

0 / Unlimited Mi

Workspace Usage (Top 5)

Namespace Usage (Top 5)

Workspace	CPU (Core) Request/Limit	CPU (Core) Usage/Quota	Memory (Mi) Request/Limit	Memory (Mi) Usage/Quota	Rootfs (Mi)	Pod	PVC Disk (Mi)
adv-iiot-se	80.00% / 90.00%	1.00% / 1.00%	46.88% / 53.13%	10.74% / 4096.00	2.11 / 20480.00	25.00% / 5 / 20	0.00% / 0.00 / Unlimited

19. 選擇使用的 **Subscription Name**，並切換 Service Instances 選 **RabbitMQ**，展開下方的訊息並找到 **WISE-PaaS Datahub 使用的 RabbitMQ**，在 Action 欄位開啟 **Secret Management** 並點選

WISE-PaaS/EnSaaS4.0 Service Portal

Subscription Name: 1-1VWJ99V WISE-PaaS-Internal-AG02

Service Instances

Users can manage service instances in subscriptions

RabbitMQ

Type and press ENTER to search Instance Name.

Status	Instance Name	Instance ID	Service Name	Plan	Creation Time	Action
Active	rabbitmq	0099a81e-6291-11ea-b1de-d20dfb084846	RabbitMQ	standard	2020/3/10 13:35:51	Secret Management
Active	rabbitmq-oe1589366105367	0c886f21-3174-460f-a299-c1092cc4ecc5	RabbitMQ	standard	2020/5/13 18:35:31	
Active	rabbitmq-ce6786d2-10db-4006-975f-3069d2181140	ce6786d2-10db-4006-975f-3069d2181140	RabbitMQ	standard	2020/8/17 10:38:59	
Active	rabbitmq-wmp1589350233066	a8a1d209-21b6-41b4-886b-ecce5d12c4910	RabbitMQ	standard	2020/5/13 14:10:55	
Active	rabbitmq-ems1589368012665	0c7b7902-a044-404d-82eb-5dac9dfe0dee	RabbitMQ	standard	2020/5/13 19:07:17	

20. 選擇 **Service Keys**，然後點選 **Create** 來產生一組新的 **Service Key**。
(Description: 做為辨識使用、Advanced_Role: 請選擇 Management)

WISE-PaaS/EnSaaS4.0 Service Portal

Subscription Name: 1-1VWJ99V WISE-PaaS-Internal-AG02

Secret Management

Manage the secrets for connect to service

Instance Name: rabbitmq Service Name: RabbitMQ Plan: standard

Service Keys

Type and press ENTER to search Service Key Name.

Status	Service Key Name	Description	Creation Time	Action
Enabled	cdadd4a1c7d56c6e8c552a5910821aeb	datahub_node_d8c2b733_9e7c-4229-aa73-c65bf821e6ac	2020/9/21 19:57:57	
Enabled	df246b3e9ae2316235606679b1634a2p			
Enabled	21450874c1d61d70760be1a8cf15dmm			
Enabled	02d61d0dee599742f70ef892d0fe56gp			
Enabled	b6c829e537b2dc25a243a628e10237v8			
Enabled	2d85f83b6d1d7567015995ed4997340y			
Enabled	d95d86a9a10bcc3831e97dd6c1e3av0			
Enabled	6ad561758a67382496c3c33245bd4fvq			

Create Service Key

Description: Demo

Parameters

Advanced

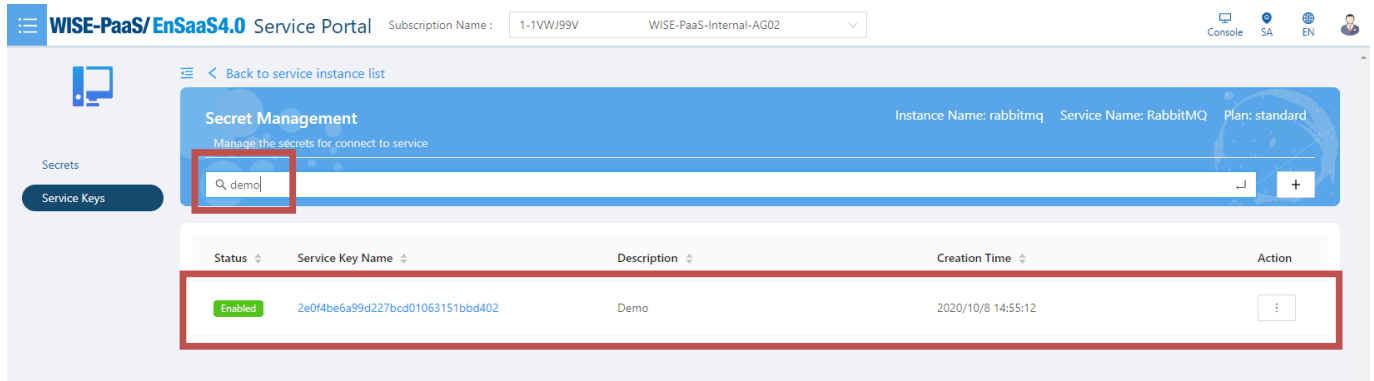
Role: Management

Topic Read Path: Please input topic read path.

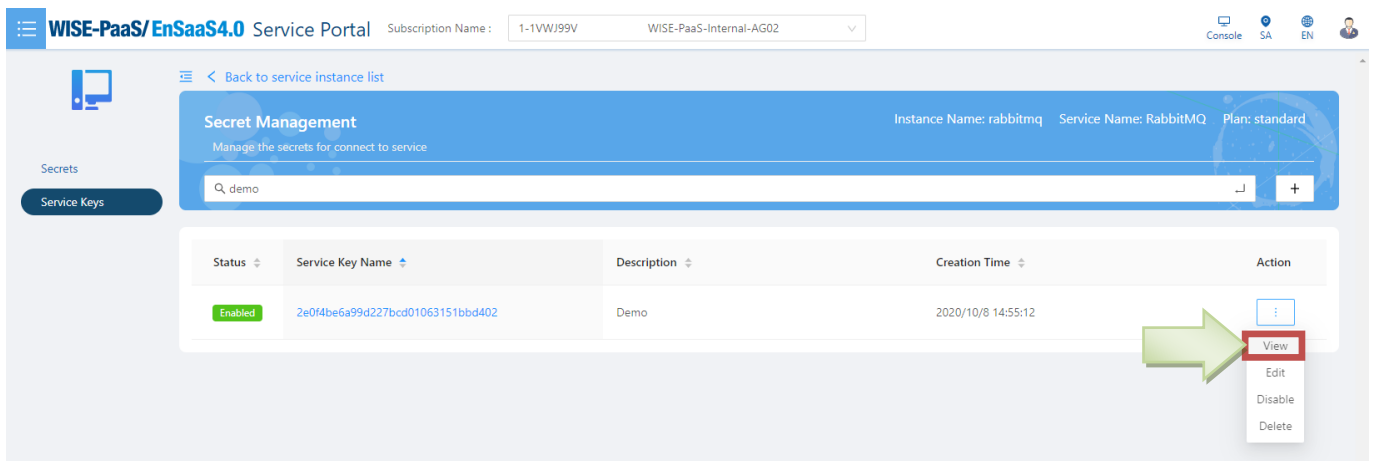
Topic Write Path: Please input topic write path.

Cancel OK

21. 系統將會生成一組 “**Enabled**” 的 Service Key Name，可透過在搜尋清單中，輸入 Description 來查詢 **Service Key**。



22. 點擊打開 **Service Key** 的 View，在 Credentials 內容，先搜尋 **externalHosts** 找到其 **Server URL Address**，接著搜尋 **MQTT** 的相關內容，找到其 **Username & Password & Port Number**。此為 15 步驟所需要的參數。(MQTT Host Name、Port Number、User Name、Password)



View

Credentials

Parameters

mqtt" : {

"host" : "rabbitmq-001.sa.wise-paas.com"

"hosts" : [...]

password" : "Iu6EHcaJ1vuGNucNPovq"

port" : 1883

ssl" : false

uri" :

mqtt://0099a81e-6291-11ea-b1de-d20dfb084846%3AJpQ0w0YVnmy8:Iu6EHcaJ1vuGNucNPovq@rabbitmq-001.sa.wise-paas.com:1883"

uris" : [...]

username" : "0099a81e-6291-11ea-b1de-d20dfb084846:JpQ0w0YVnmy8"

vhost" : "0099a81e-6291-11ea-b1de-d20dfb084846"

OK

23. 當下面設備上電時，即可看到 WISE-PaaS Datahub 設備上線，並且更新測點數據。

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di2	Discrete		true	1970-01-03 15:34:01	...	
do1	Discrete		false	1970-01-03 15:34:01	...	
do2	Discrete		false	1970-01-03 15:34:01	...	

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■ Pin Definition (in case of serial connection):

■ Reference: