

Advantech SE Technical Share Document

Date	2021 / 09 / 28	Related Product	WebAccess, DeviceOn-BI	
Category	■ FAQ □ SOP □ Driver Tech Note			
Abstract	如何設定 DeviceOn-BI 內 Forwarding 功能			
Keyword	WebAccess, DeviceOn-BI, Forwarding			
Related OS				
Revision History				
Date	Version	Author	Reviewer	Description
2021/09/28	V1.0	Eden.Sun	Nick.Liu	First Edit.(DeviceOn/BI v-1.01.007)

■ Problem Description & Architecture:

如何在 WISE-DeviceOn/Bi 中，設定轉發(Forwarding)的功能。

BI Device Management and Business Integration Platform

POWERED BY WISE-DeviceOn

For_SAE_Test / Eden_GP

Eden_GP

(GMT+08:00) Taipei (120.969304409, 31.4140...

物件

儀表板

通知

事件

轉發

存檔

用戶

身份验证列表 (1)

Forwarding Rule List (1)

认证名称

认证方式 所有

1 / 1

每页行数 10

认证名称	认证方式	操作
WebAccess	MQTT	

BI Device Management and Business Integration Platform

POWERED BY WISE-DeviceOn

For_SAE_Test / Eden_GP

Eden_GP

(GMT+08:00) Taipei (120.969304409, 31.4140...

物件

儀表板

通知

事件

轉發

存檔

用戶

身份验证列表 (1)

Forwarding Rule List (1)

规则名称

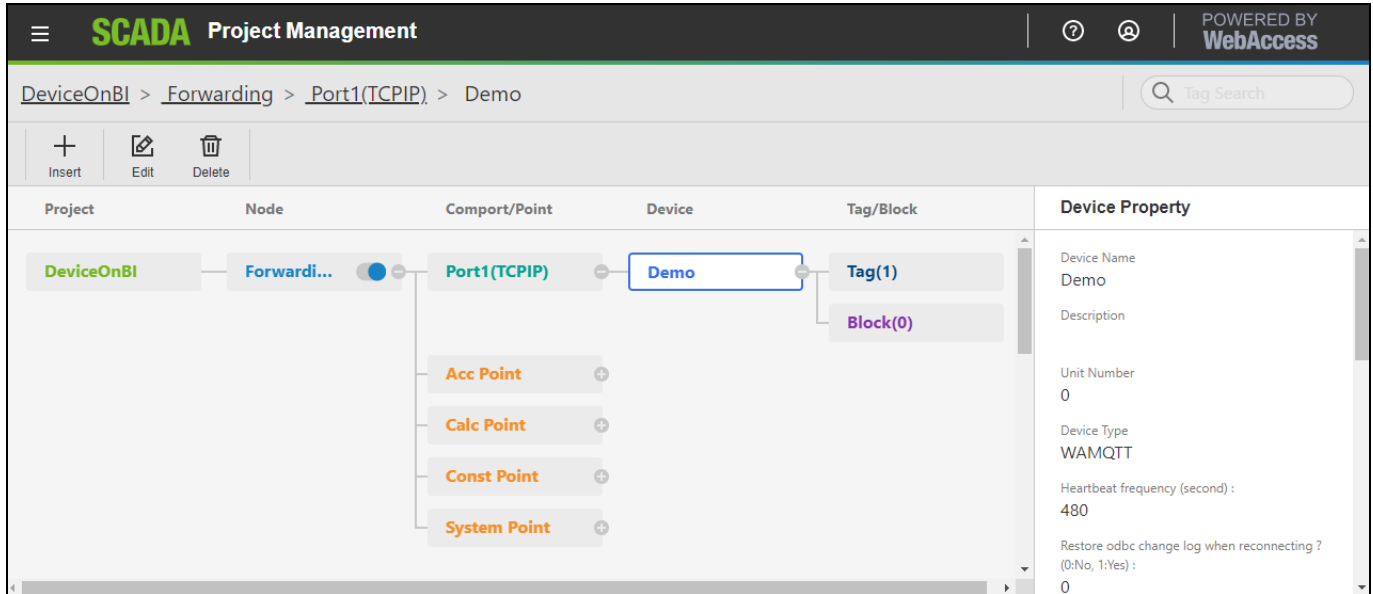
转发类型 所有

1 / 1

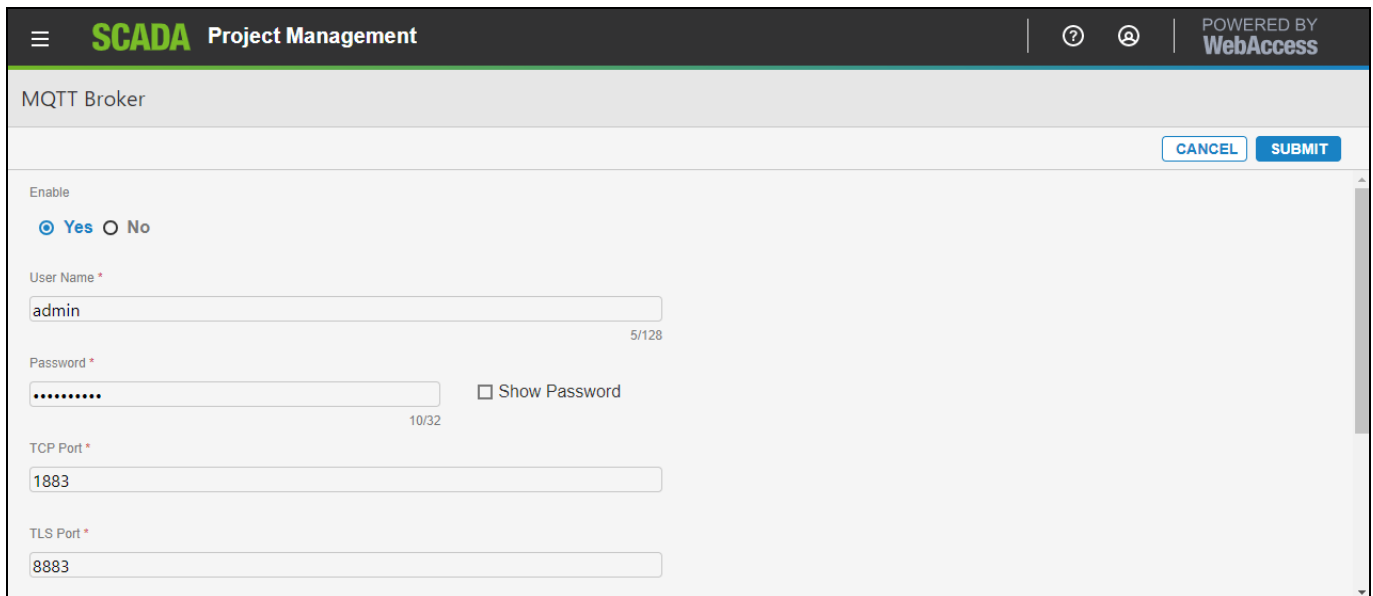
每页行数 10

规则名称	转发地址	查询频率 (分钟)	上次查询时间	查询状态	转发类型	操作
TagValue	iot-2/evt/wadata/fmt/<group_id>	5	2021-09-28 16:25:00	success	MQTT	

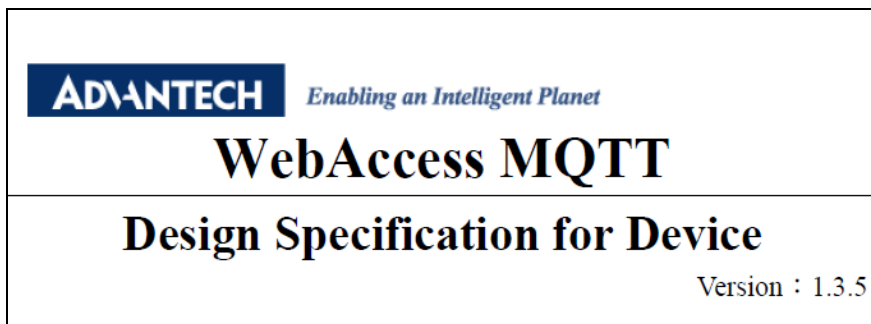
※本範例使用 **WebAccess/SCADA (MQTT)**，作為發送目標，需在其建立**專案**、**監控節點**、**設備**、**測點**。



※本範例使用 WebAccess/SCADA 的 **MQTT Broker**，需啟用功能並在其設置**帳號**、**密碼**、**通訊口**。



※針對 WebAccess/SCADA **MQTT 封包**的格式需求。 https://downloadt.advantech.com/download/downloads.aspx?File_Id=1-24ZN57P

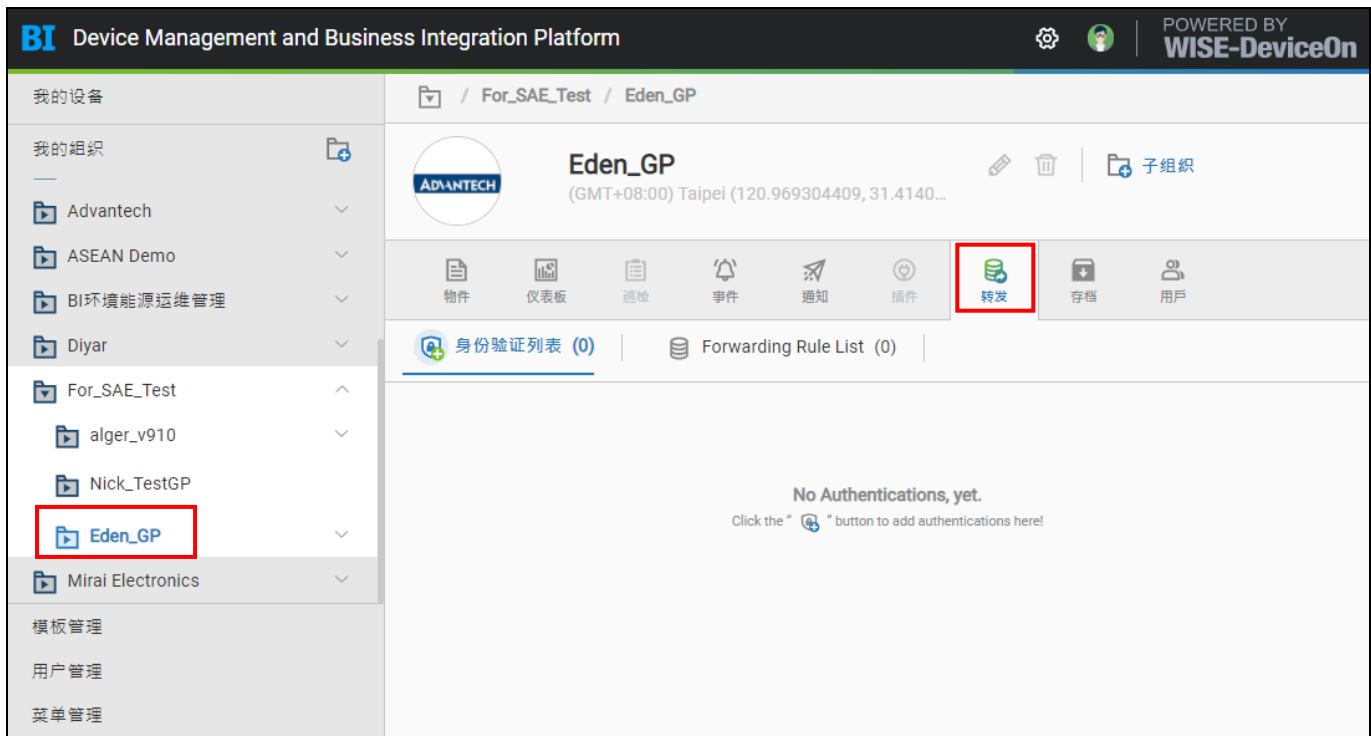


Example for normal value:

```
{
  "d": {
    "WISE4010-7F28A7": {
      "Val": {
        "W4010-28A7:Fz1Volt": 1213.48,
        "W4010-28A7:Fz1Temp": 63.81,
        "W4010-28A7:Fz1Desc": "Freezer 1",
      }
    }
  },
  "ts": "2020-04-17T10:19:51+08:00"
}
```

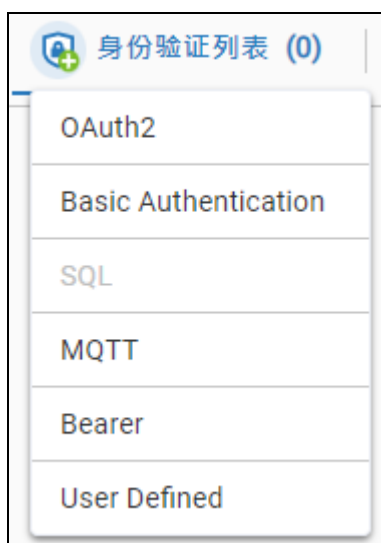
■ Brief Solution - Step by Step:

1. 登入 DeviceOn/BI，在組織中的任一組織 Organization 都可以編輯 Forwarding 轉發。



2. 請依據發送目標提供的驗證方式，建立連線身分驗證，共有五種方法可以使用。

1. OAuth2
2. Basic Authentication
3. SQL (開發中)
4. MQTT
5. Bearer
6. User Defined



※五種對應方式所需要的驗證資訊

1. OAuth2

Edit OAuth2 Authentication
*Required

Authentication Information

Authentication Name *
Water_OAuth2_0617

Token URL *
https://iapi.wra.gov.tw/v3/oauth2/Token

Client ID *
qZ6slU4JEsiXVM/PmdtsCS57FeSSU66U

Client Secret *
FXg6ag04Me3B[REDACTED]

CANCEL SAVE

2. Basic Authentication

Edit Basic Authentication
*Required

Authentication Information

Authentication Name *
Basic_Auth_0617

User Name (Email) *
kevin.cheng@advantech.com.tw

Password *
[REDACTED]

CANCEL SAVE

3. SQL (開發中)

4. MQTT

Edit MQTT Authentication
*Required

Authentication Information

Authentication Name *
mqtt_f0621

MQTT Host *
52.187.146.168

Port *
1883

User Name (Email) *
Oxyk2A3GggqX:VoebJ0M1LLed

Password *
[REDACTED]

CANCEL SAVE

5. Bearer

Edit Bearer Authentication
*Required

Authentication Information

Authentication Name *
bearer0618

Token Type *
☒ Refreshable token ☐ Fix token string

Token URL *
https://api-sso-ensaas.hz.wise-paas.com.cn/v4.0/auth/native

API Body

```

1 {
2   "username": "kevin.cheng@advantech.com.tw",
3   "password": "1qaz@WSX",
4   "userDetail": true
5 }
  
```

A variable must start with "<" and end with ">".

Token Key *
accessToken

Specify the token key in response JSON format. Leave blank if the response body contains the token string directly.

CANCEL SAVE

6. User Defined

Edit User Defined Authentication
*Required

Authentication Information

Authentication Name *
user

Authorization String *
CWB-4B28F693:

CANCEL SAVE

3. 建立物件(Object)與參數(Parameter)，此參數將用在後續傳送數據時使用

编辑物件

参数配额 (0.47%已用)
234 / 50000 参数

简体中文 English 繁體中文 日本語

基本信息

显示名称 *
SendInf

物件类型

物件数据保存天数
7

报警代码列表

档案名称
找不到 xlsx 档案

参数列表 (3)

参数/点 名字	类型	参数名称	值/数据来源/公式	单位	报警类型	数据日志	操作
SendInf : DeviceName	常数量	DeviceName	Demo	-	-	×	✎ ✕
SendInf : GroupID	常数量	GroupID	DeviceOnBLForwarding	-	-	×	✎ ✕
SendInf : TestTag	计算点	TestTag	1+1	-	-	×	✎ ✕

保存为模板 取消 保存

4. 點選添加身分驗證，依建立下來資訊填寫的連線訊息

The screenshot shows the 'Device Management and Business Integration Platform' interface. The breadcrumb path is 'For_SAE_Test / Eden_GP'. The main header includes the ADVANTECH logo and the text 'POWERED BY WISE-DeviceOn'. The left sidebar contains various icons for '物件' (Objects), '仪表板' (Dashboards), '巡检' (Inspection), '事件' (Events), '通知' (Notifications), and '插件' (Plugins). The main content area displays the 'Eden_GP' device details, including its location '(GMT+08:00) Taipei (120.969304409, 31.4140...)'. Below this, there are tabs for '身份验证列表 (1)' (Authentication List) and 'Forwarding Rule List (1)'. The 'Authentication List' tab is active, and a dropdown menu is open, showing options: OAuth2, Basic Authentication, SQL, MQTT (highlighted with a red box), Bearer, and User Defined. A red arrow points from the 'MQTT' option to the '编辑 MQTT 身份验证' (Edit MQTT Authentication) form. This form contains the following fields: '认证名称*' (Authentication Name) with value 'WebAccess', 'MQTT 主机*' (MQTT Host) with value '192.168.0.100', '端口*' (Port) with value '1883', '用户名(邮箱)*' (Username) with value 'admin', and '密码*' (Password) with a masked value. At the bottom right of the form are buttons for '取消' (Cancel) and '保存' (Save).

5. 點選添加發送規則，並使用 MQTT 封包格式。

The screenshot shows the same 'Device Management and Business Integration Platform' interface. The breadcrumb path is 'For_SAE_Test / Eden_GP'. The main header includes the ADVANTECH logo and the text 'POWERED BY WISE-DeviceOn'. The left sidebar contains various icons for '物件' (Objects), '仪表板' (Dashboards), '巡检' (Inspection), '事件' (Events), '通知' (Notifications), and '插件' (Plugins). The main content area displays the 'Eden_GP' device details, including its location '(GMT+08:00) Taipei (120.969304409, 31.4140...)'. Below this, there are tabs for '身份验证列表 (1)' (Authentication List) and 'Forwarding Rule List (0)'. The 'Forwarding Rule List' tab is active, and a dropdown menu is open, showing options: API, SQL, and MQTT (highlighted with a red box). The main content area shows 'No Forwardings, yet.' and a message to click the '+' button to add forwardings.

5-A. 設定發送規則，給定規則名稱 (驗證選擇第 4 步建立的 MQTT)

Edit MQTT Forwarding Rule

*必要

转发规则信息

规则名称 *

TagValue

描述

描述

查询频率 (分钟) *

5

Minimum allowed frequency is 5 minutes.

验证

WebAccess (MQTT)

5-B. 設定 MQTT Topic 格式 (範例使用 Data Format 獲取 Tag Value，文件第 2.1.1 章節，其中帶入 BI 參數值作為變數)

Topic

Topic *

iot-2/evt/wadata/fmt/<group_id>

变量必须以「<」开头，并以「>」结尾。

Topic 参数

值

group_id

数据来源 *

// Eden_GP / ForwardingMQTT : GroupID

☐ 常数量 SendInf: DeviceName Demo

☐ 常数量 SendInf: GroupID DeviceOnBI_Forwarding

☐ 计算点 SendInf: TestTag 1+1

5-C. 依據發送目標設定 MQTT 發送封包 (範例傳送一個指定設備中 TestTag 數值並附上當前系統時間)

Payload

1

{

2

"d":{

3

"<device_ID>":{

4

"Val":{

5

"TestTag":<TestTag>

6

}

7

}

变量必须以「<」开头，并以「>」结尾。

"d":{

"<device_ID>":{

"Val":{

"TestTag":<TestTag>

}

}

}

"ts":<Time>

}

☐ 常数量 SendInf: DeviceName Demo

☐ 常数量 SendInf: GroupID DeviceOnBI_Forwarding

☐ 计算点 SendInf: TestTag 1+1

Payload 参数

值

device_ID

数据来源 *

// Eden_GP / ForwardingMQTT : DeviceName

值

TestTag

数据来源 *

// Eden_GP / ForwardingMQTT : TestTag

值

Time

数据来源 *

YYYY-MM-DDTHH:mm:ssZ (ISO8601), 系统时间

测试

取消

保存

Page 7

5-D. 設定插件完成後，點選保存

物件

仪表板

巡检

事件

通知

插件

转发

存档

用户

身份验证列表 (2)

Forwarding Rule List (1)

规则名称

转发类型 所有

1 / 1

每页行数 10

规则名称	转发地址	查询频率 (分钟)	上次查询时间	查询状态	转发类型	操作
TagValue	iot-2/evt/wadata/fmt/...	5	2021-09-29 15:05:00	success	MQTT	

※其中可以自訂義變量名稱，並選擇參數 or 時間作為變數來帶入變量 (變量名稱請放置於『<』>』符號中)

Topic *

<Variable name> < 變量名稱 >

变量必须以「<」开头，并以「>」结尾。

Topic 参数

值

数据来源 *

Variable name

没有数据来源

参数

时间

选择数据源

Please select a data source to bind with "Variable name".

Eden_GP > ForwardingMQTT > TestTag

组织	物件	参数
Eden_GP	AirBlower1_Eden	DeviceName
ADAM-3600	AirBlower2_Eden	GroupID
	Eden_GP	TestTag
	ForwardingMQTT	

取消 保存

选择时间格式和数据源

Please select a data source to bind with "Variable name".

样本

1632878911

时间格式 *

X

使用现有代码之一作为出发点来输入时间格式代码。

数据来源 *

☒ 系统时间

☐ 参数时间: 没有数据来源

取消 保存

X (Timestamp Second)	1632878911
YYYY-MM-DDTHH:mm:ssZ (ISO8601)	2021-09-29T09:28:31+08:00
YYYY-M-D	2021-9-29
D-MMM-YY	29-Sep-21
D-MMM	29-Sep
MMM-YY	Sep-21
hh:mm A	09:28 AM
hh:mm:ss A	09:28:31 AM
HH:mm	09:28
HH:mm:ss	09:28:31
YYYY/M/D HH:mm	2021/9/29 09:28
mm:ss	28:31
dddd, MMMM D, YYYY	Wednesday, September 29, 2021
[Today is] MMMM D, YYYY	Today is September 29, 2021

※其中帶入得變數，請依據 WebAccess/SCADA 內的設定進行配置 (建議設備的 Heartbeat 時間大於 5 分鐘)

The screenshot shows the SCADA Project Management interface. The breadcrumb path is **DeviceOnBI > Forwarding > Port1(TCPIP) > Demo**. The main workspace displays a hierarchy: **Project** (DeviceOnBI) -> **Node** (Forwardi...) -> **Comport/Point** (Port1(TCPIP)) -> **Device** (Demo) -> **Tag/Block** (Tag(1), Block(0)). The **Device Property** panel on the right shows the configuration for the 'Demo' device.

Edit Device (Required)

- Device Type: WAMQTT
- Heartbeat frequency (second): 480
- Restore odbc change log when reconnecting ? (0:No, 1:Yes) : *
- Device ID : Demo
- Backup Device ID :
- User Name : admin
- Password : admin12345

Buttons: CANCEL, SUBMIT

Group_ID = Project Name _ SCADA Name

Device_ID = Device Name

HeartBeat (DeviceOn/BI 最快 5 分鐘發送一筆)

6. 最後經由 MQTT 將數據由 DeviceON/BI 轉發至 WebAccess/SCADA

The screenshot shows the Advantech ViewDAQ 002 - mainuntitled window. The **Point Info** dialog box is open, displaying the following information:

- Tag Name: TestTag
- Description: AI
- Tag Type: ANALOG
- Scan Type: CONSTANT SCAN
- Port: 1 Unit: 0
- Device Name: Demo
- Address: TestTag
- Span High: 100.00
- Span Low: 0.00
- Engineering Unit:
- Value: 2.00

The dialog box also includes buttons for **Goto**, **Change**, **Acknowledge**, and **Exit**. Below the dialog box, there is a table for I/O Tag and ViewDAQ:

I/O Tag	ViewDAQ
Accumulation	Port 1
Calculation	Port 2
Constant	Port 3
	Port 4
	Port 5
	Port 6

The status bar at the bottom shows the time 04:41:13.

- **Pin Definition (in case of serial connection):**
- **Reference:**