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● 如何透過 Node-RED 樣板將 Modbus 資料發布至 MQTT Broker?

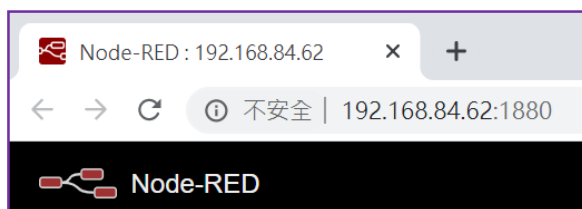
泓格科技的 BRK-2841M 產品提供了 Node-RED 樣板，本篇說明如何使用 Node-RED 樣板將 Modbus 資料發布至 MQTT Broker。

請在連結下載 Node-RED 樣板，之後請按照以下說明進行操作。

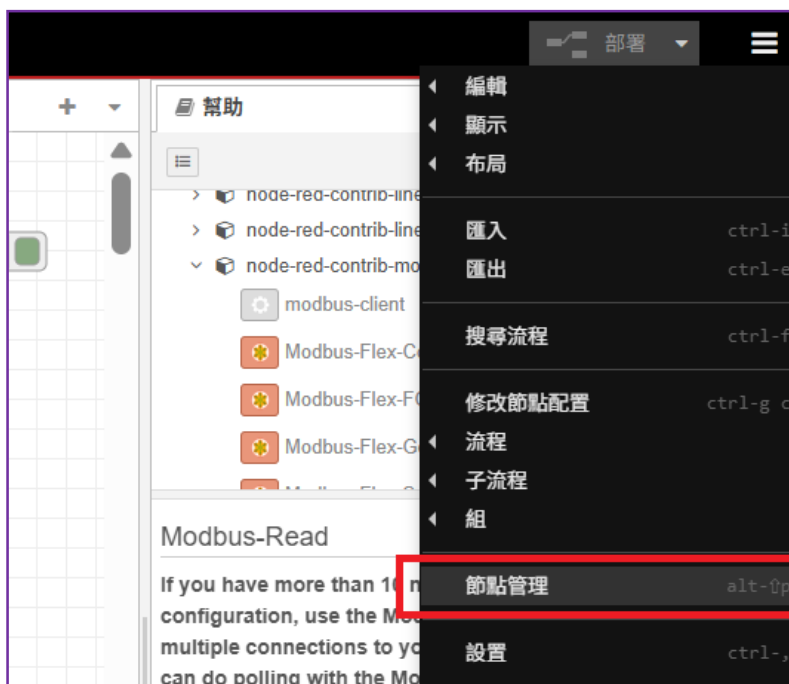
1. 進入 Node-RED 進行設定

1. 打開瀏覽器在網址處輸入 [您的 BRK IP]:1880

[範例如下圖]

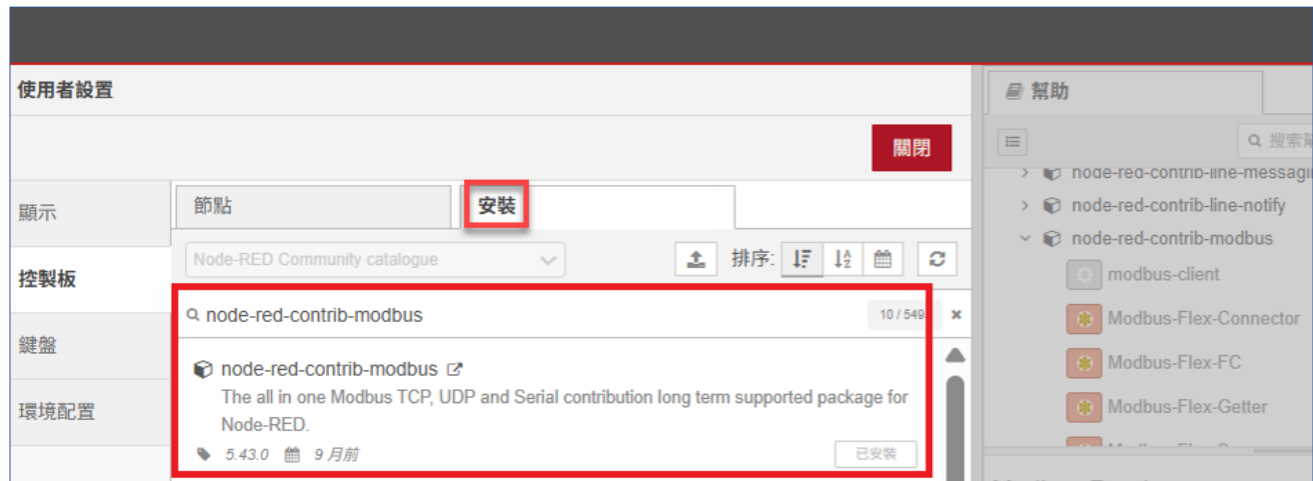


打開右側選單進入 [節點管理]



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安裝套件 node-red-contrib-modbus



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2. 點選[Modbus → JSON → MQTT]按鈕



雙擊 [讀取 Modbus 數據] 按鈕進行設定。



點選鉛筆圖示，輸入 Modbus 設備 IP。

刪除

取消

完成

屬性

Settings

Options

名稱

讀取 Modbus 數據

主題

Topic

Unit-Id

1

FC

FC 3: Read Holding Registers

Address

0

Quantity

10

Poll Rate

10

second(s)

Delay to activate input

☐

Allow oversized messages

☐

Server

Modbus TCP Server

✎

+

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輸入 Modbus 設備 IP，確認 Port 預設為 502，輸入完成請點選更新。

刪除 取消 更新

屬性

Settings Queues Optionals

名稱 Modbus TCP Server

Type TCP

Host 192.168.76.2

Port 502

TCP Type DEFAULT

設定 Unit-id 名稱，Unit-Id 要與 Modbus 設備的 ID 名稱相同

屬性

Settings Optionals

名稱 讀取 Modbus 數據

主題 Topic

Unit-Id 1

FC FC 3: Read Holding Register

Address 0

Quantity 10

Poll Rate 5 sec

Delay to activate input ☐

Allow oversized messages ☐

Server Modbus TCP Server

Slave Definition

Slave ID: 1

Function: 03 Holding Register (4x)

Address mode ☒ Dec ☐ Hex

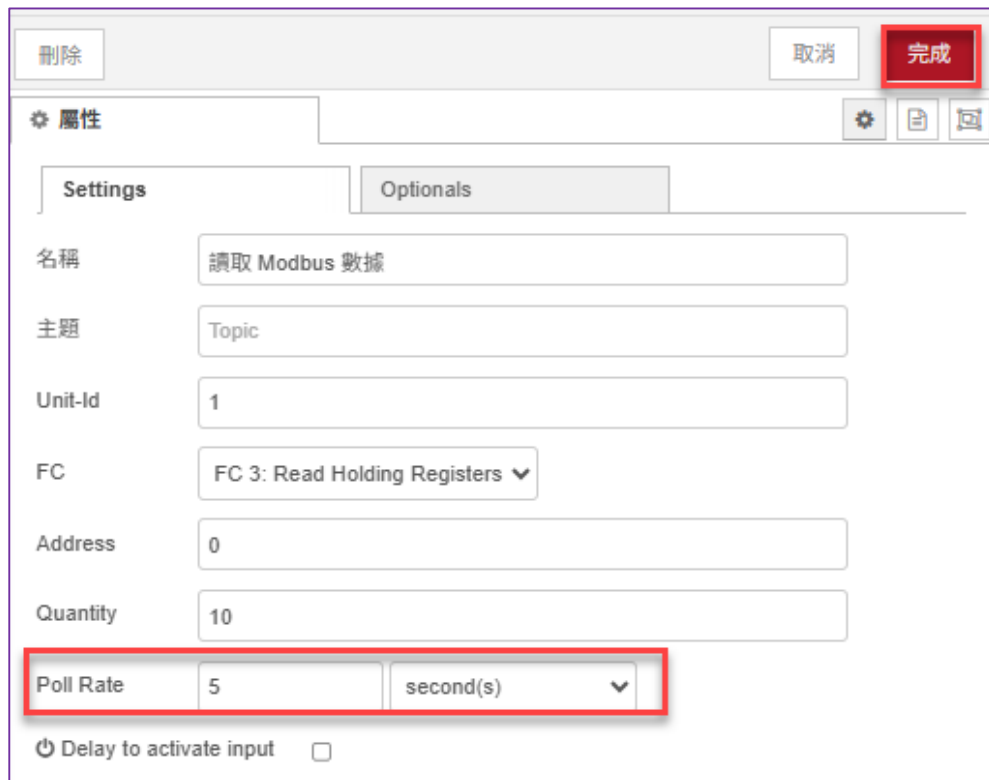
Address: 0 PLC address = 40001

Quantity: 10

OK Cancel

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可在 Poll Rate 欄位設定多久傳送一次資料，輸入後請按完成鍵。



刪除 取消 完成

屬性

Settings Options

名稱 讀取 Modbus 數據

主題 Topic

Unit-Id 1

FC FC 3: Read Holding Registers

Address 0

Quantity 10

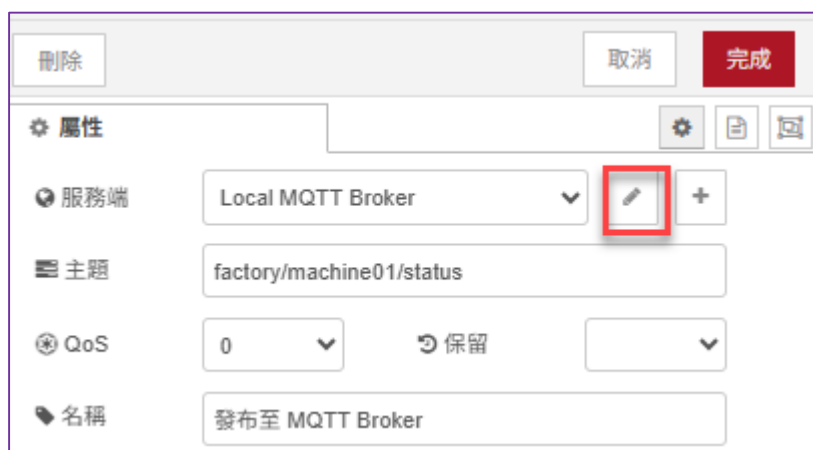
Poll Rate 5 second(s)

Delay to activate input ☐

3. 雙擊 [發布至 MQTT 至 Broker] 按鈕進行設定。



點選鉛筆圖示，輸入 MQTT Broker (服務端) IP。



刪除 取消 完成

屬性

服務端 Local MQTT Broker

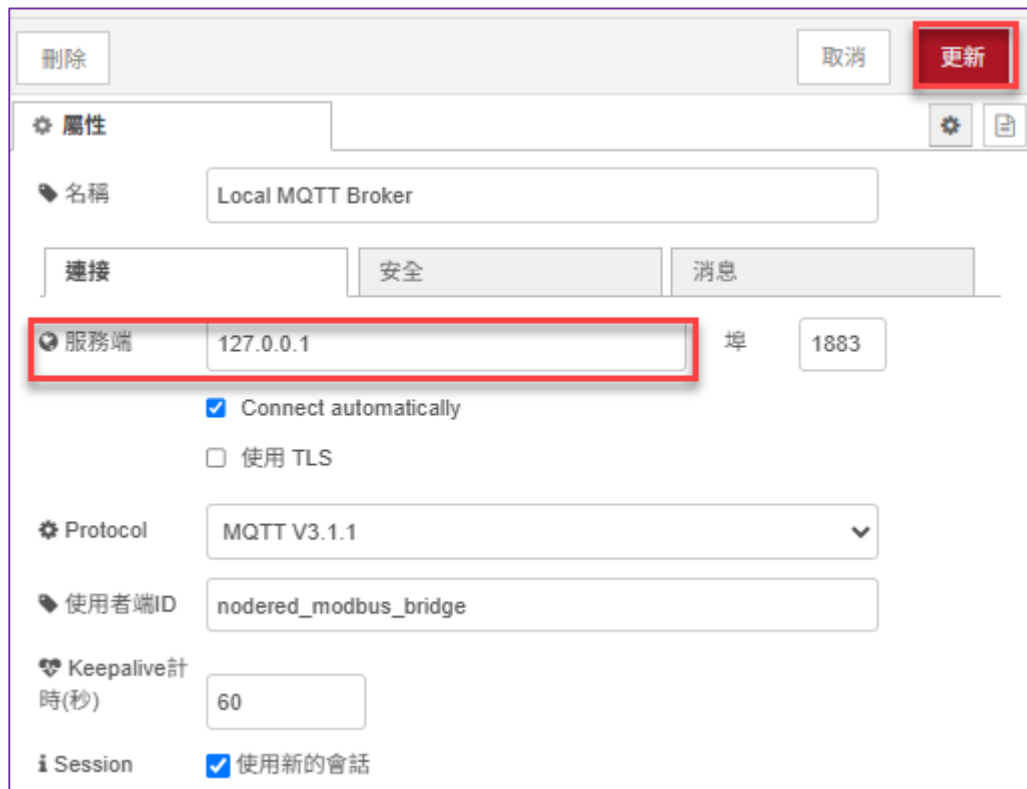
主題 factory/machine01/status

QoS 0 保留

名稱 發布至 MQTT Broker

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輸入服務端 IP，確認通訊埠 (Port) 為 1883，輸入完成請點選更新鍵。



The image shows a configuration form for an MQTT client. At the top, there are buttons for '刪除' (Delete), '取消' (Cancel), and '更新' (Update). The form has a '屬性' (Properties) tab selected. Under '名稱' (Name), the value is 'Local MQTT Broker'. There are three tabs: '連接' (Connection), '安全' (Security), and '消息' (Message). In the '連接' tab, the '服務端' (Server) field is highlighted with a red box and contains '127.0.0.1'. The '埠' (Port) field contains '1883'. Below these, there are checkboxes for 'Connect automatically' (checked) and '使用 TLS' (unchecked). The 'Protocol' dropdown is set to 'MQTT V3.1.1'. The '使用者端ID' (Client ID) field contains 'nodered_modbus_bridge'. The 'Keepalive計時(秒)' (Keepalive time in seconds) field contains '60'. The 'Session' section has a checked checkbox for '使用新的會話' (Use new session).

主題(Topic)設定要與 MQTT 設定的 Topic 相同，輸入完再按完成鍵。



The image shows a form for publishing an MQTT message. At the top, there are buttons for '刪除' (Delete), '取消' (Cancel), and '完成' (Complete). The form has a '屬性' (Properties) tab selected. Under '服務端' (Server), the value is 'Local MQTT Broker'. The '主題' (Topic) field is highlighted with a red box and contains 'factory/machine01/status'. The 'QoS' dropdown is set to '0'. The '名稱' (Name) field contains '發布至 MQTT Broker'. To the right of the form, there is a preview box showing the message details: 'Topic: factory/machine01/status' (highlighted with a red box), 'QoS: 0', and a JSON payload:

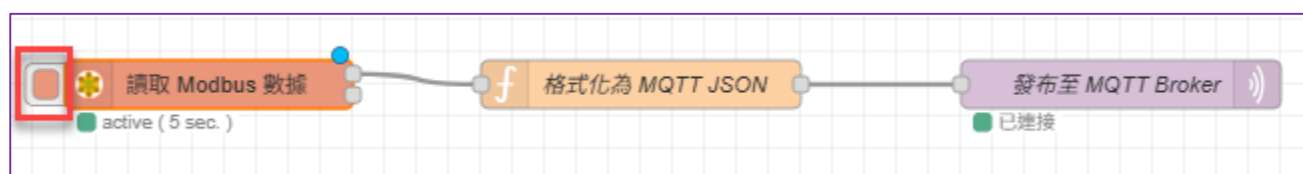
```
{ "timestamp": "2026-06-09T05:57:38.592Z", "device_id": "Machine_01", "data": { "temperature": 77.7, "humidity": 318.7, "pressure": 0, "status": 0, "counter": 0 } }
```

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設定完成請點選部署鍵。



點選橘色按鈕，進行資料讀取。



讀取資料後，即可在 MQTT Broker 收到訊息。

```
Topic: factory/machine01/status   QoS: 0

{"timestamp":"2026-06-09T05:58:23.596Z","device_id":"Machine_01","data":{"temperature":77.7,"humidity":318.7,"pressure":0,"status":0,"counter":0}}
```