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Author	Carol Hsu	Version	1.0.0	Date	2026,06	Page	1 / 7

● How to publish Modbus data to an MQTT Broker via a Node-RED template?

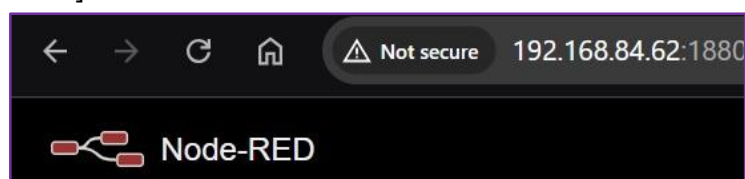
ICP DAS's BRK-2841M product provides a Node-RED template. This article explains how to use the Node-RED template to publish Modbus data to an MQTT Broker.

Please download the Node-RED template from the link, and then follow the instructions below to proceed.

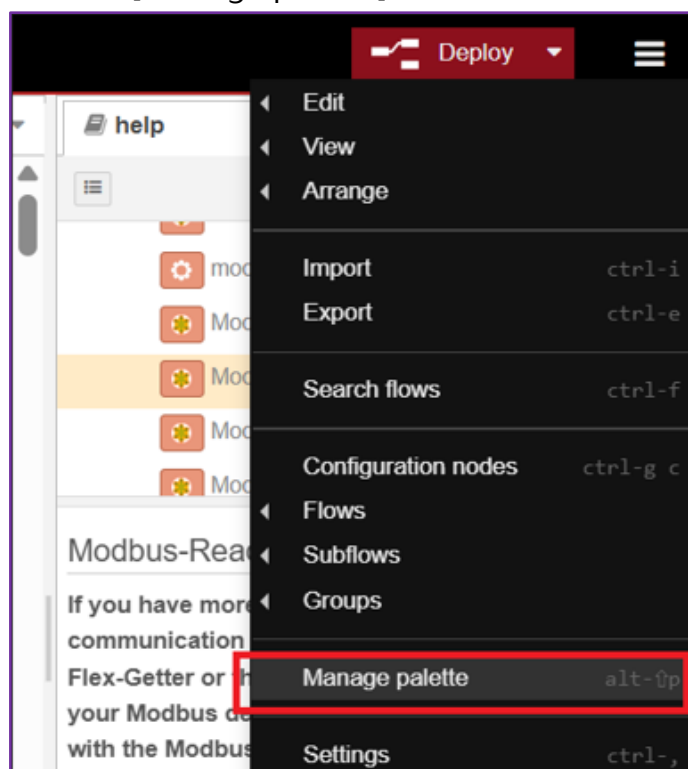
1. Node-RED Modbus Environment Setup

1. Open a browser and enter [Your BRK IP]:1880 in the address bar.

[Example as shown below]

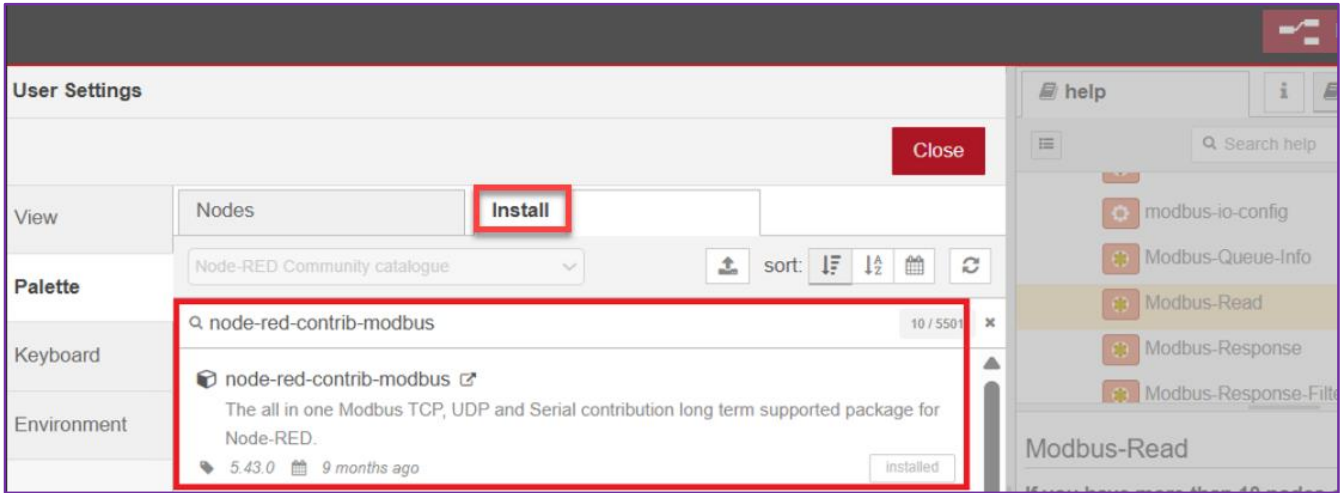


Open the right menu and click [Manage palette].



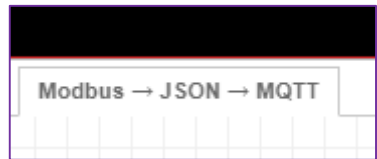
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Install **node-red-contrib-modbus**.

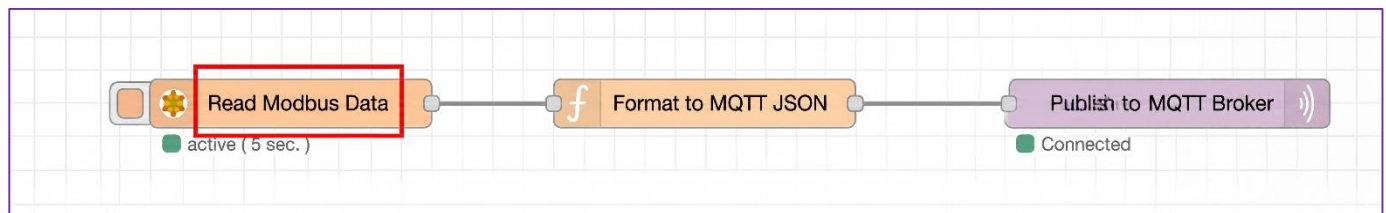


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2. Click the [Modbus → JSON → MQTT] button.



Double-click the [Read Modbus Data] node to set its properties.



Click the **pencil icon** to enter the Modbus device IP address.

Delete

Cancel

Done

⚙ Properties

⚙

📄

🖨

Settings

Optionals

Name

Read Modbus Data

Topic

Topic

Unit-Id

1

FC

FC 3: Read Holding Registers ▾

Address

0

Quantity

10

Poll Rate

5

second(s) ▾

⏻ Delay to activate input

☐

Allow oversized messages

☐

Server

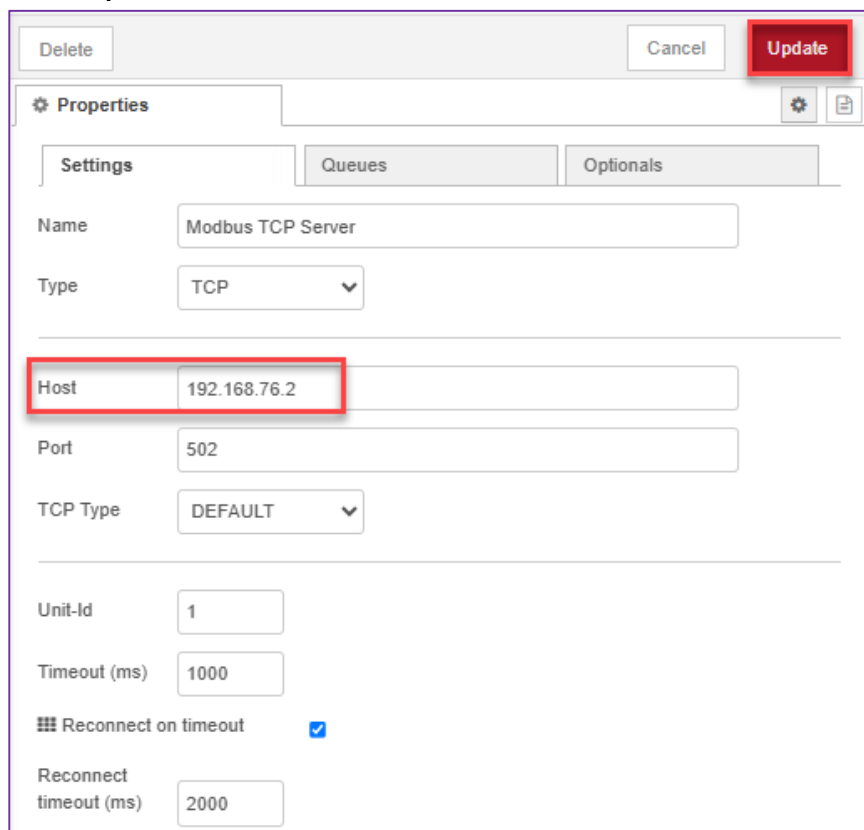
Modbus TCP Server ▾



+

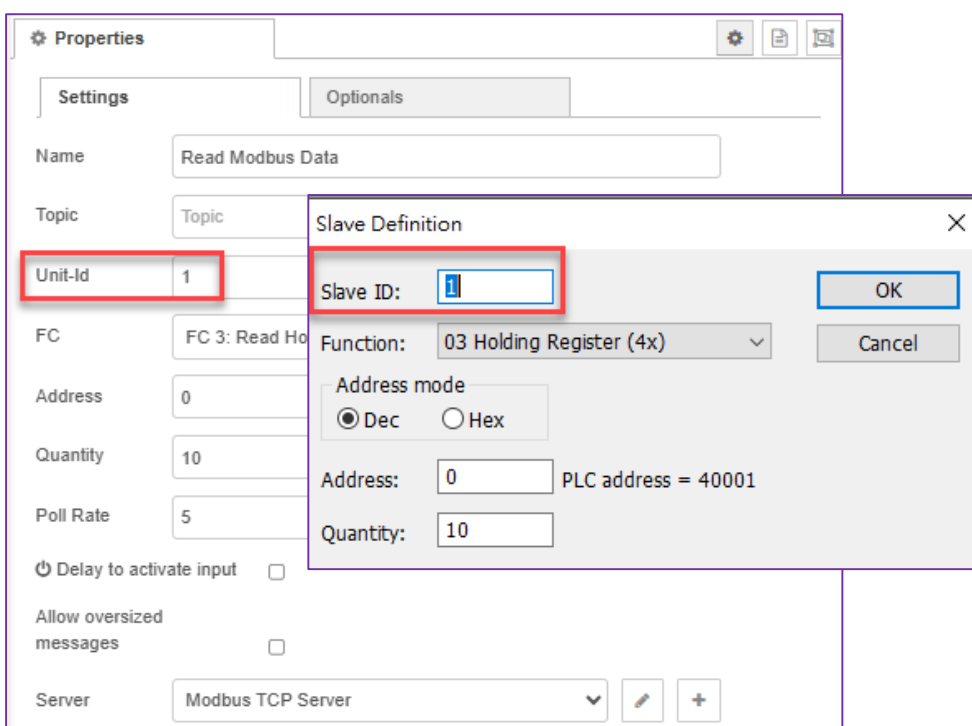
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Enter the Modbus device IP address, confirm that the Port is set to the default of 502, and click **Update** when finished.



The screenshot shows the 'Properties' window for a 'Modbus TCP Server'. The 'Settings' tab is active. The 'Host' field is highlighted with a red box and contains the IP address '192.168.76.2'. The 'Port' field is set to '502'. The 'Update' button is highlighted in red.

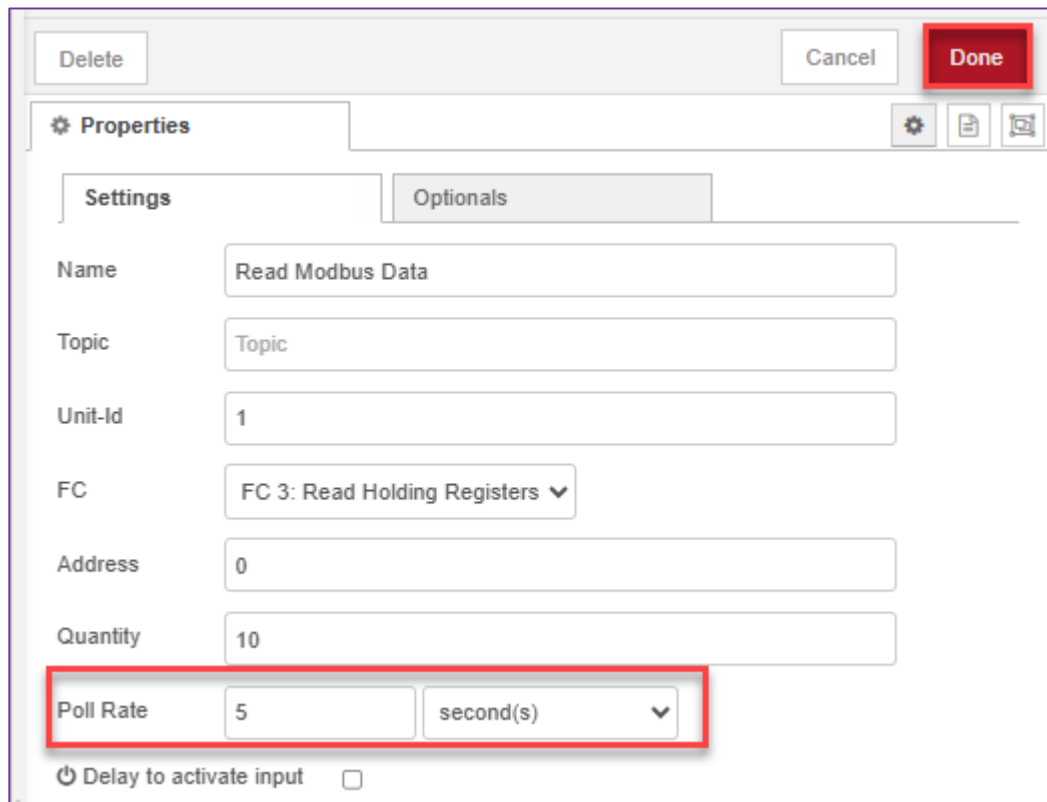
Set the Unit-Id. The Unit-Id must match the Slave ID of the Modbus device.



The screenshot shows the 'Properties' window for a 'Read Modbus Data' topic. The 'Unit-Id' field is highlighted with a red box and contains the value '1'. The 'Slave Definition' dialog box is open, showing the 'Slave ID' field highlighted with a red box and containing the value '1'. The 'Function' is set to '03 Holding Register (4x)'.

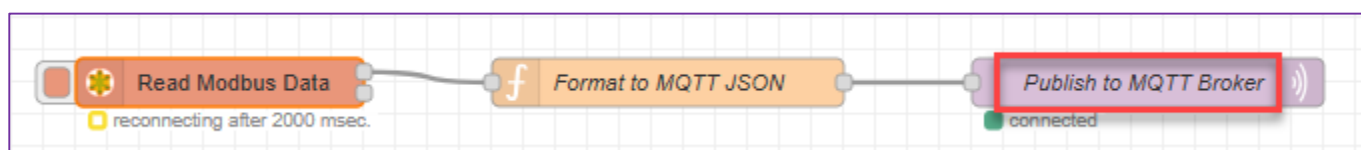
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Set the data transmission interval in the Poll Rate field, and then click **Done**.

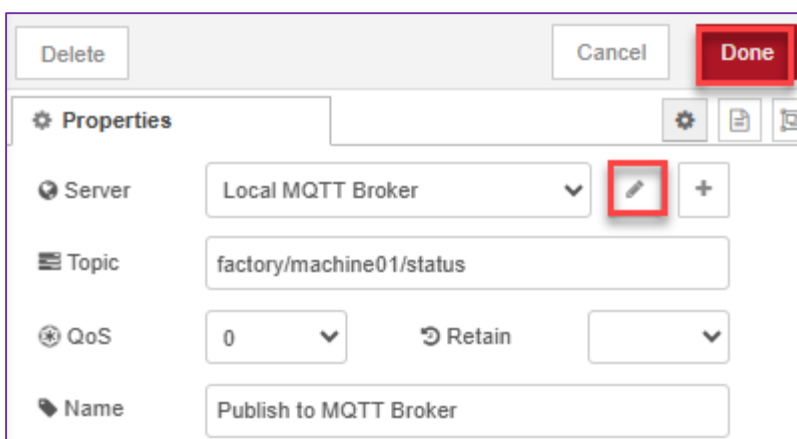


The screenshot shows the 'Properties' dialog box for the 'Read Modbus Data' node. The 'Settings' tab is selected. The 'Poll Rate' field is set to 5 and the unit is 'second(s)'. The 'Done' button is highlighted in red.

3. Double-click the **[Publish to MQTT Broker]** node to set its properties.



Click the **pencil icon** to enter the MQTT Broker (Server) IP address.



The screenshot shows the 'Properties' dialog box for the 'Publish to MQTT Broker' node. The 'Server' field is set to 'Local MQTT Broker'. The 'pencil icon' is highlighted with a red box.

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Enter the Server IP address, confirm that the Port is set to 1883, and click **Update** when finished.

Delete Cancel Update

Properties

Name Local MQTT Broker

Connection Security Messages

Server 127.0.0.1 Port 1883

☒ Connect automatically
☐ Use TLS

Protocol MQTT V3.1.1

Client ID nodered_modbus_bridge

Keep Alive 60

Session ☒ Use clean session

The Topic setting must match the configured MQTT Topic. Click **Done** when finished.

Delete Cancel Done

Properties

Server Local MQTT Broker

Topic factory/machine01/status

QoS 0 Retain

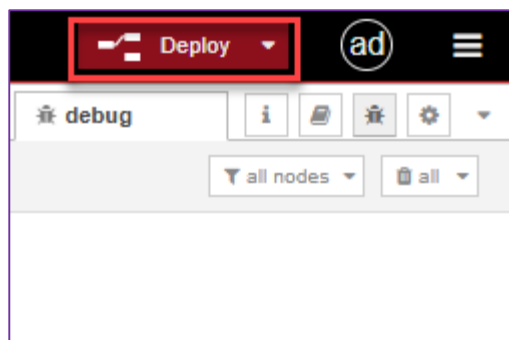
Name Publish to MQTT Broker

Topic: factory/machine01/status QoS: 0

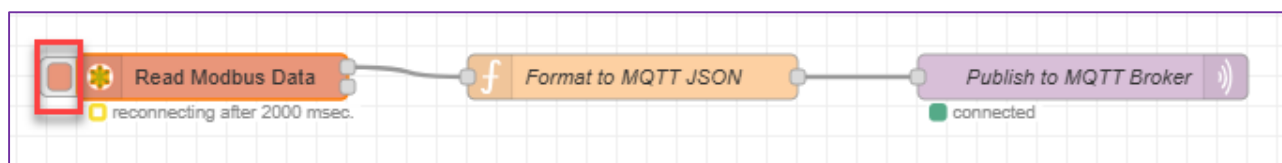
```
{
  "timestamp": "2026-06-09T05:57:38.592Z",
  "device_id": "Machine_01",
  "data": {
    "temperature": 77.7,
    "humidity": 318.7,
    "pressure": 0,
    "status": 0,
    "counter": 0
  }
}
```

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Once all settings are complete, click the **Deploy** button.



Click the **orange button** to read Modbus data.



After the data is read, the message will be received by the MQTT Broker.

```
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}}
```