

## Advantech AE Technical Share Document

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Category	<input type="checkbox"/> FAQ <input checked="" type="checkbox"/> SOP	Related OS	N/A
Abstract	IAG_FAQ_ADAM-6000_6200_How to use Node-RED to poll Modbus TCP data		
Keyword	Node-RED, Modbus TCP, ADAM-6000, ADAM-6200		
Related Product	ADAM-6000, ADAM-6200		

### ■ Problem Description:

Node-RED is a visual tool for wiring the Internet of Things. It's built on Node.js and support browser-based flow editing. User can download different Node-RED library to develop their own IoT application.

This document will show how to use an open source Node-RED library to poll Modbus TCP data from ADAM Ethernet module.

### ■ Answer

**Step 1:** Go to below link to install Node.js to your PC.

<https://nodejs.org/en/download/>

**Step 2:** Open command line and enter the command below to install Node-RED.

**Note:** This command only works after Node.js have installed successfully.

```
install -g --unsafe-perm Node-RED
```

**Step3:** Open command line again and enter below command to run Node-RED on your PC

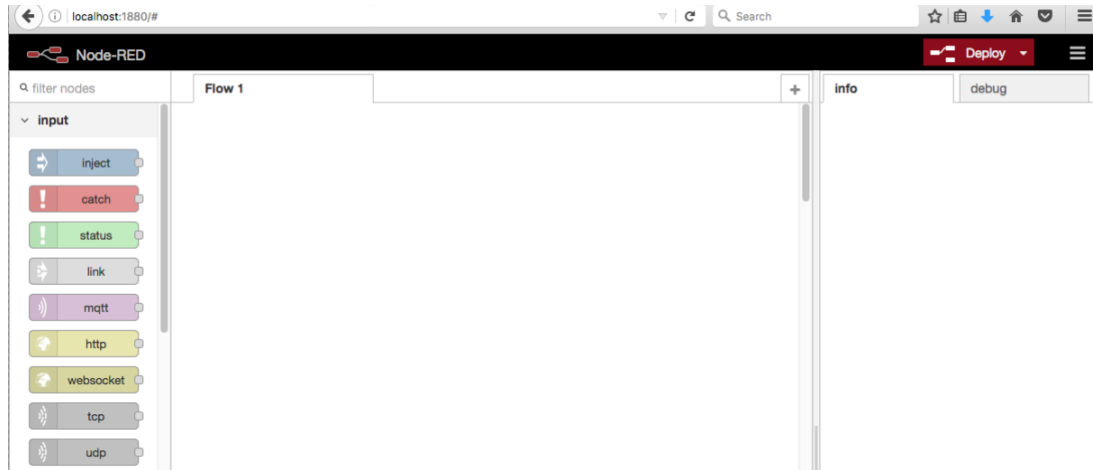
`Node-RED` You should see below screen in command line.

```
$ node-red

Welcome to Node-RED
=====

25 Jun 22:51:09 - [info] Node-RED version: v0.17.4
25 Jun 22:51:09 - [info] Node.js version: v6.11.1
25 Jun 22:51:09 - [info] Loading palette nodes
25 Jun 22:51:10 - [warn] -----
25 Jun 22:51:10 - [warn] [rpi-gpio] Info : Ignoring Raspberry Pi specific node
25 Jun 22:51:10 - [warn] -----
25 Jun 22:51:10 - [info] Settings file : /home/nol/.node-red/settings.js
25 Jun 22:51:10 - [info] User Directory : /home/nol/.node-red
25 Jun 22:51:10 - [info] Server now running at http://127.0.0.1:1880/
25 Jun 22:51:10 - [info] Creating new flows file : flows_noltop.json
25 Jun 22:51:10 - [info] Starting flows
25 Jun 22:51:10 - [info] Started flows
```

then you can then access the Node-RED editor like below picture at <http://localhost:1880>.



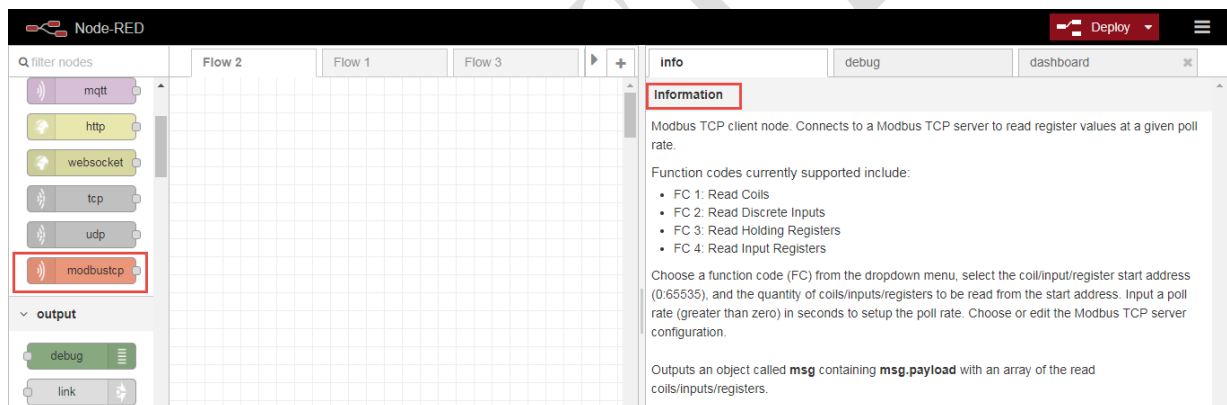
**Step 5:** Enter below command in the root directory of your Node-RED install

```
npm install node-red-contrib-modbustcp
```

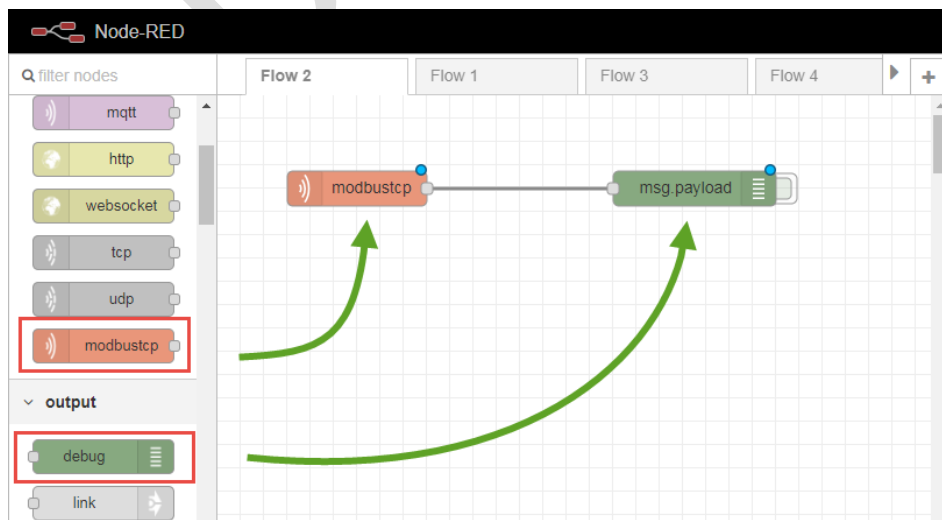
More information can refer to the below link

<https://www.npmjs.com/package/Node-RED-contrib-modbustcp>

After finishing installation, you will see “modbustcp” node appears on your Node-RED editor.



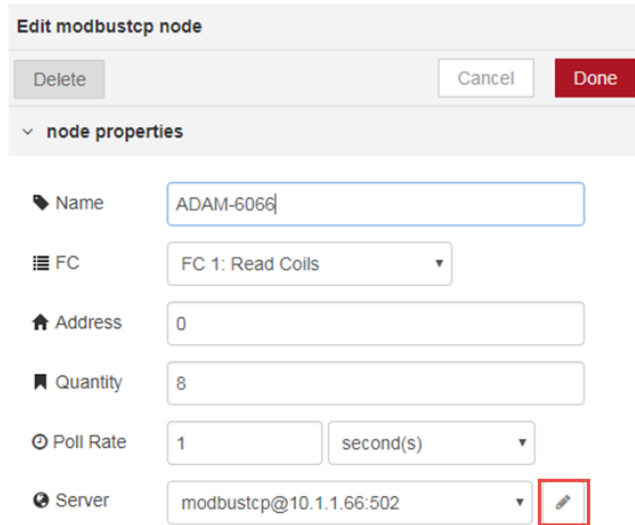
**Step 6:** Pull and connect the node as below flow



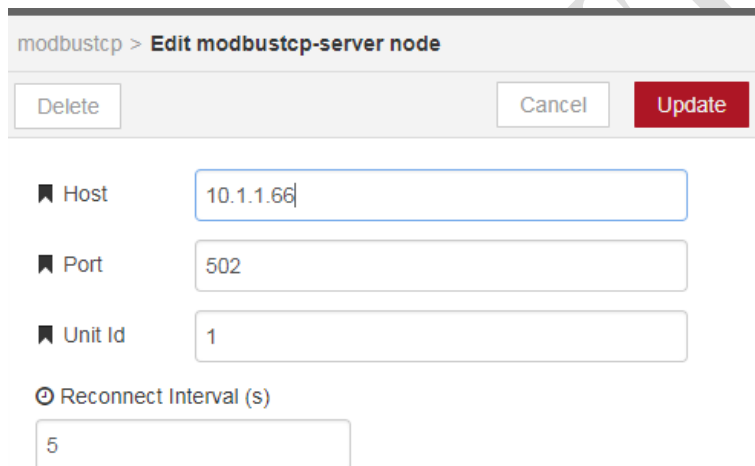
**Step 7:** Double click the modbustcp node and enter the setting below.

This example will read the Modbus address from 00001 to 00008

Note: The start address is 0, if you set 1, it will read 00002 to 00009

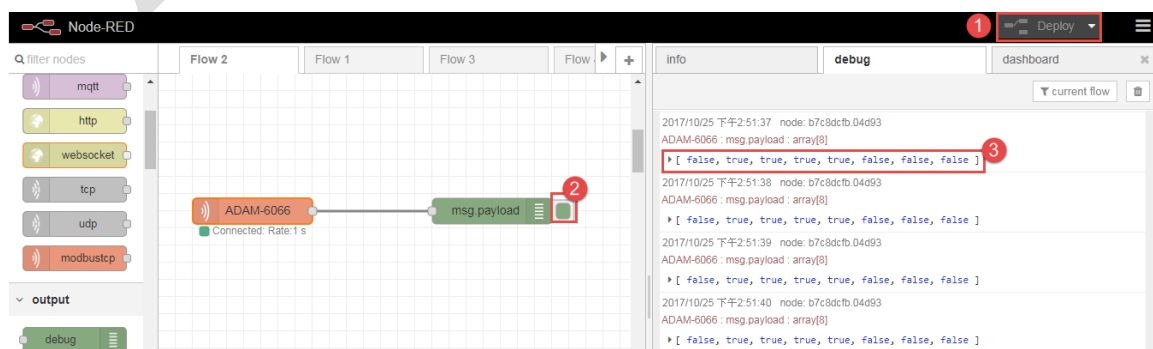


Click the small pen to set the Modbus server information, enter the IP of ADAM module as below.

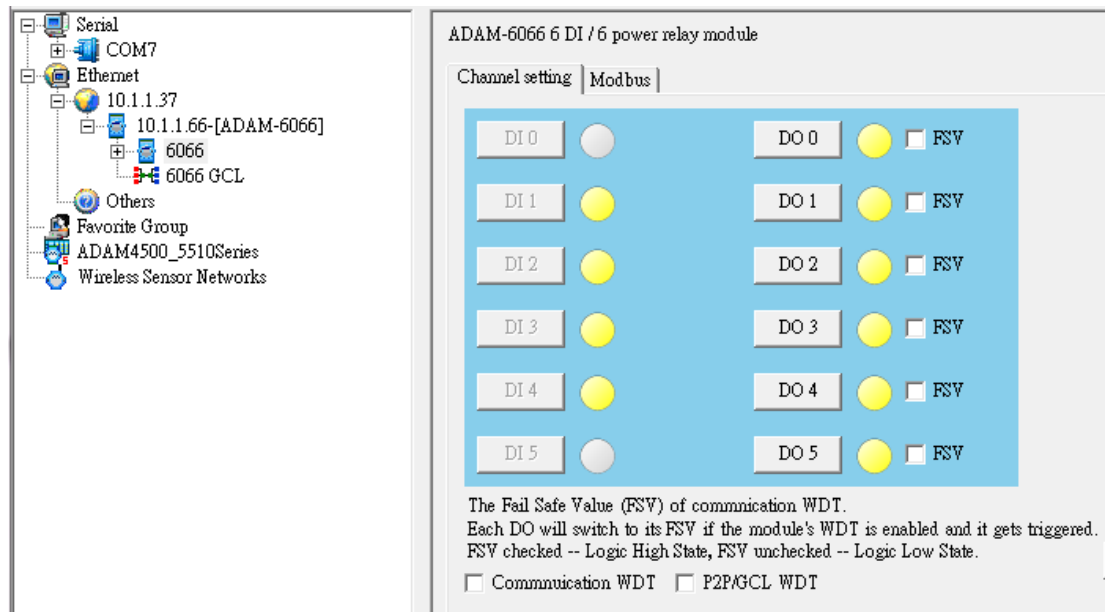


**Step 8:** Click Deploy button on the upper right button to run the flow

Then click the green tab on debug node, you will see the Modbus tcp data on the right column.



You can open adam.net Utility to check whether the DI status is correct.



Note: The “*node-red-contrib-modbus tcp*” version in this document is 0.2.2. User might install to newer version since this open source library will keep updating by the author. However, the concept to use this node for polling Modbus TCP data is the same.