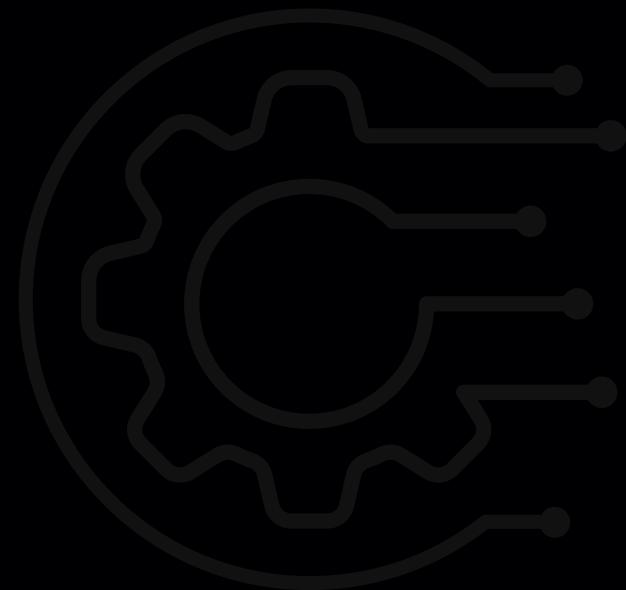


# INC 272

R U N   P R O J E C T



# STEP



**Setup the Virtual Serial Port Driver (for the first time)**

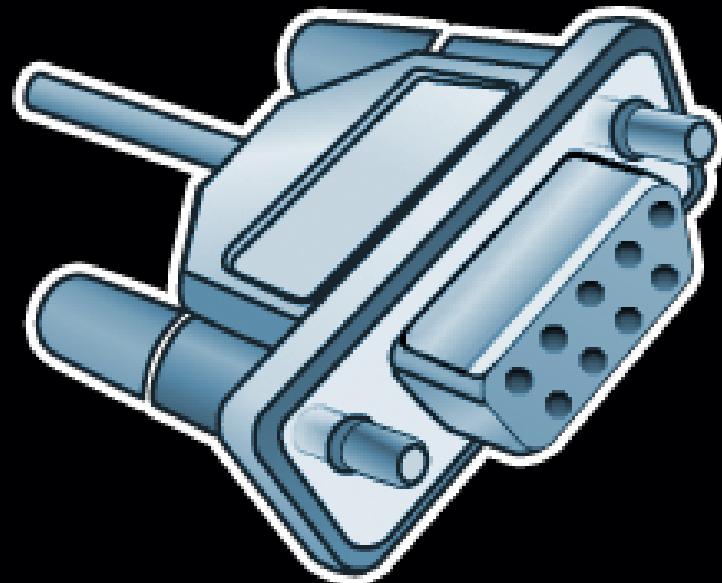
**Proteus Config Serial Port (for the first time)**

**Run Node-RED and Config Port (for the first time)**

**Run Example**



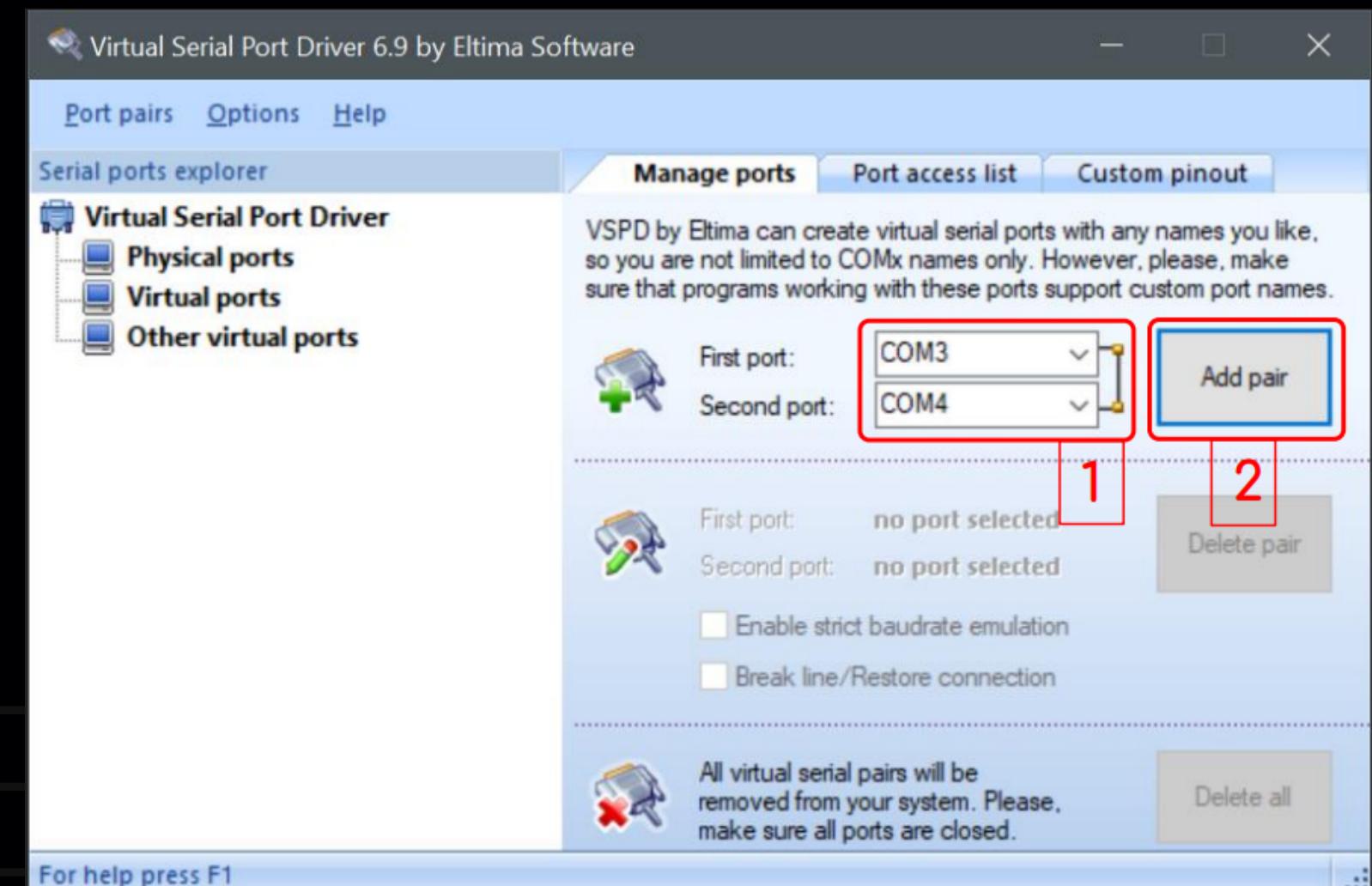
# SETUP THE VIRTUAL SERIAL PORT DRIVER (VSPD)



# SETUP THE VSPD



Run the VSPD (**Run as administrator**) and select **COM3** and **COM4** as the First port and Second port. Then click Add pair button.

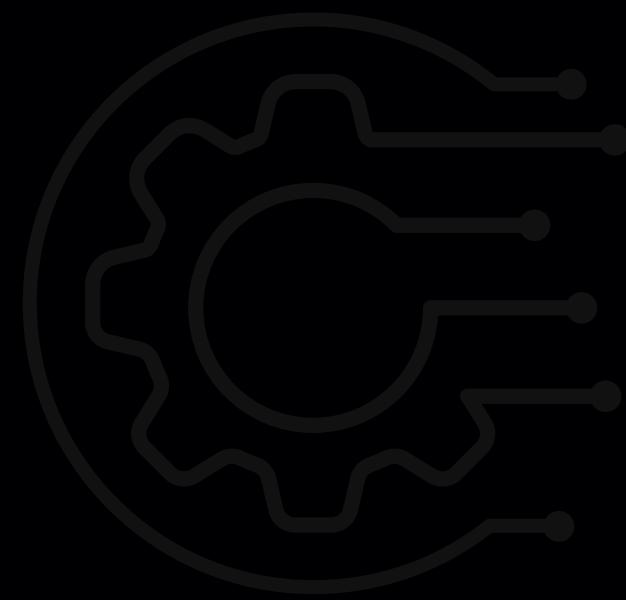
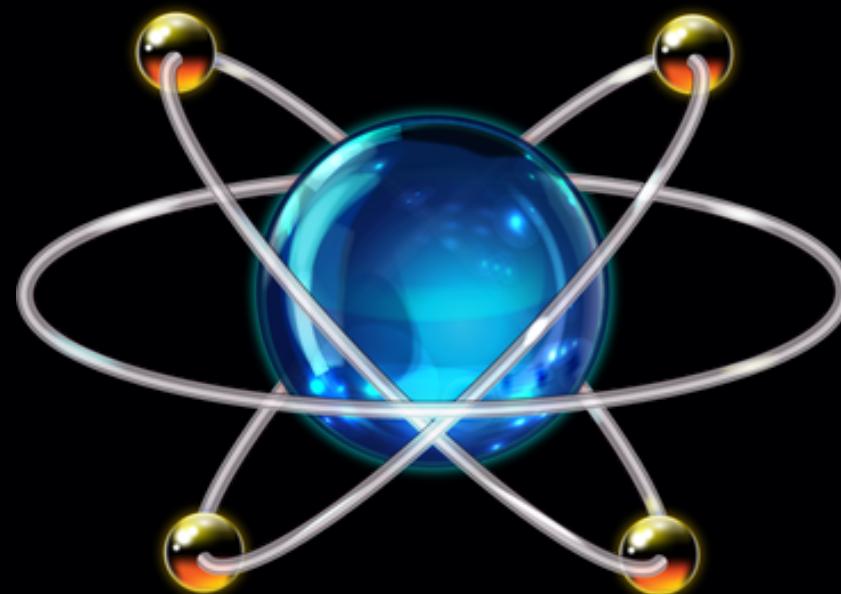


NOTE: WE WILL USE THE  
• COM3 FOR PROTEUS  
• COM4 FOR NODE-RED

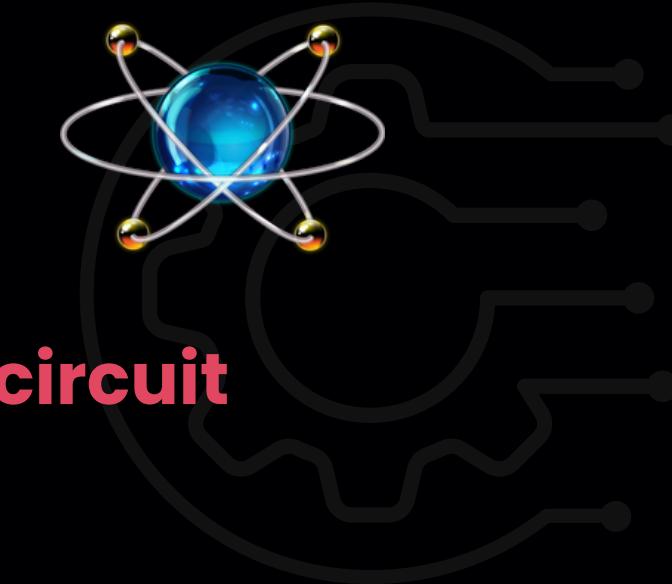
HE COM3 AND COM4 ARE CONNECTED. IT MEANS THAT THE PROTEUS AND THE NODE-RED ARE ALSO CONNECTED. THEY CAN EXCHANGE THEIR DATA OVER THE VIRTUAL SERIAL PORT USING UART PROTOCOL.

Note: if you use COM3 and COM4, can be changed to other ports, e.g.; COM8 and COM9.

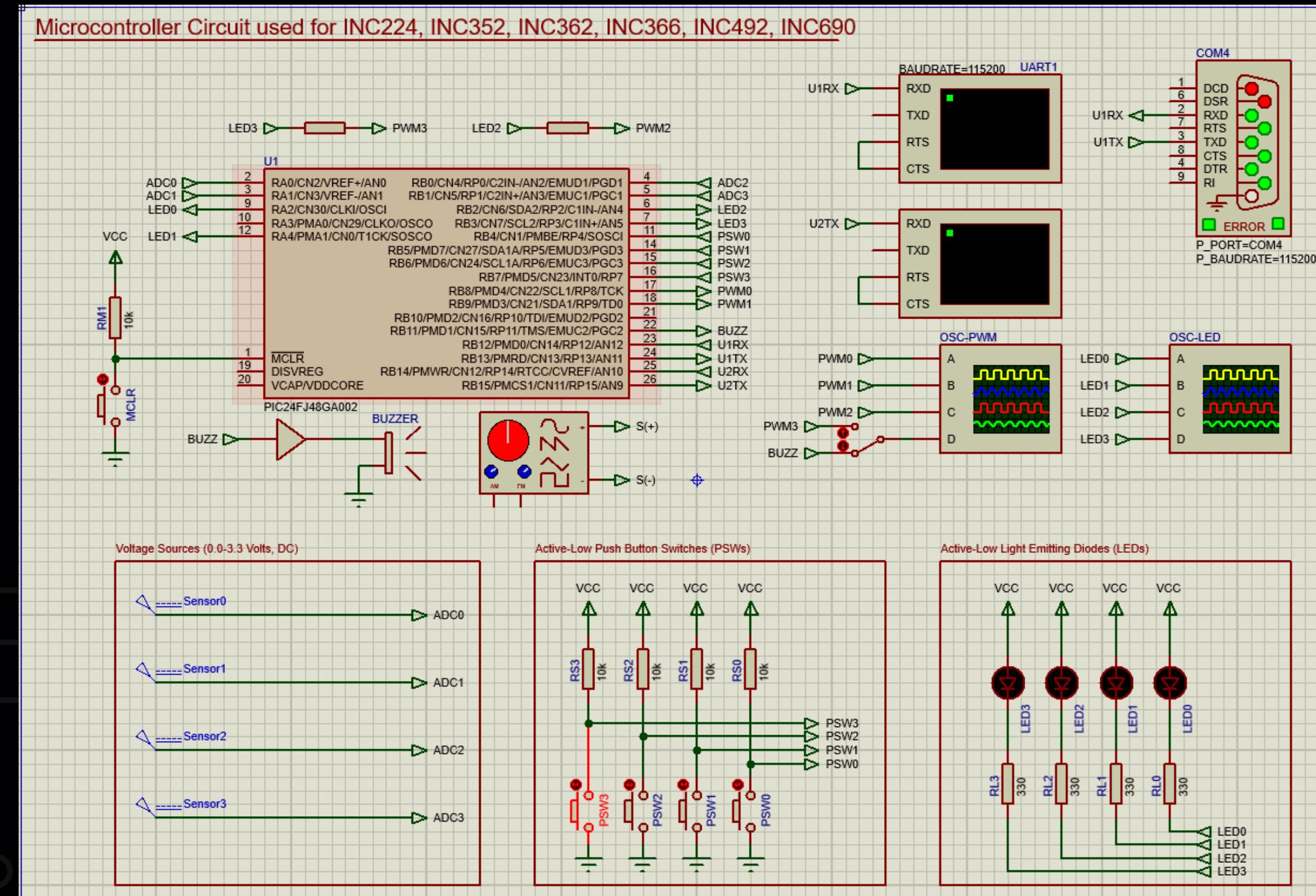
# PROTEUS CONFIG SERIAL PORT



# PROTEUS SERIAL PORT SIMULATION CIRCUIT

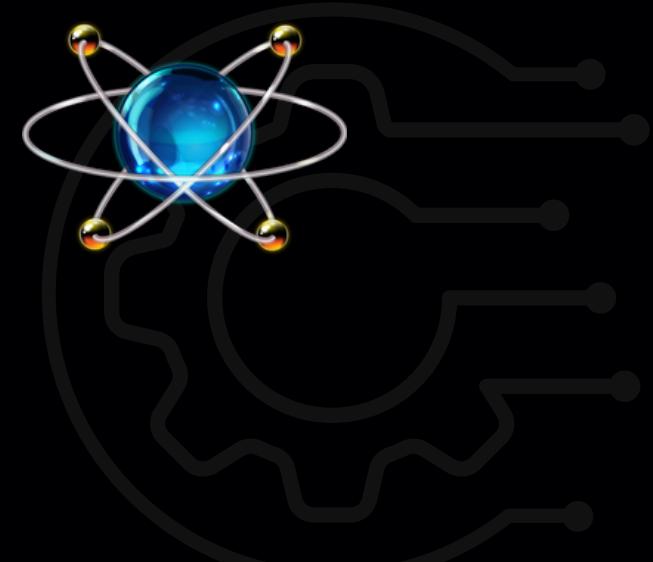
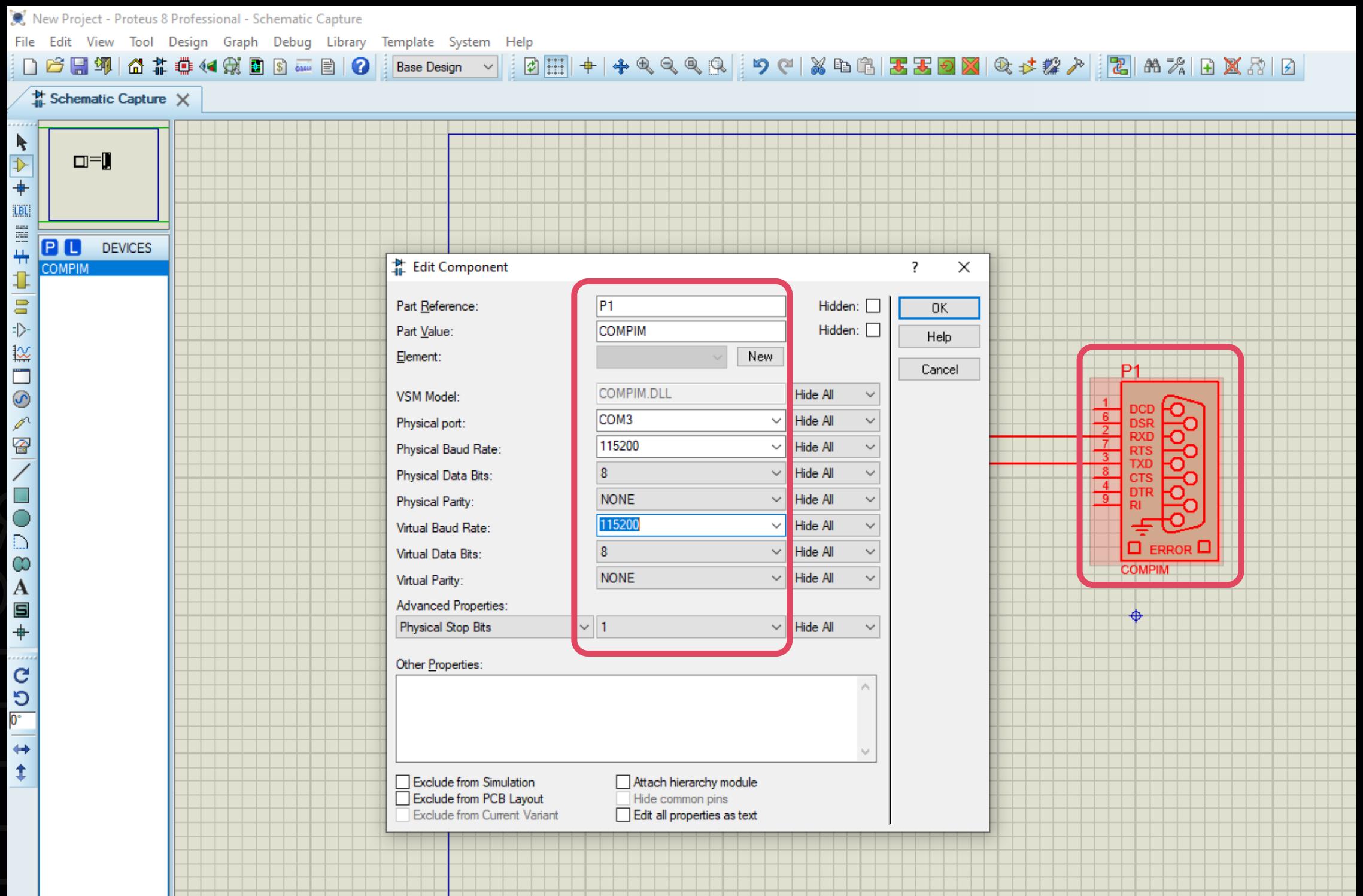


Run the Proteus (**Run as administrator**) and open project name **pic24\_board\_circuit**

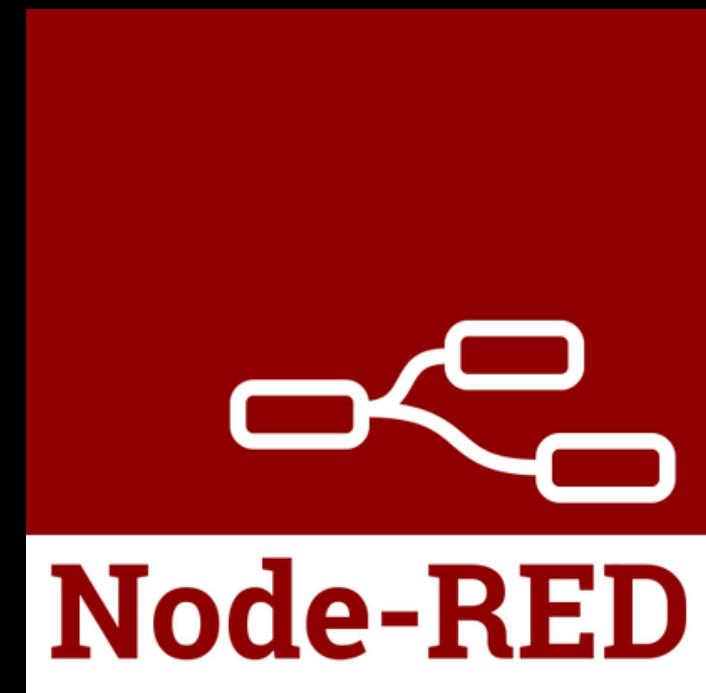


# PROTEUS SERIAL PORT SIMULATION CIRCUIT

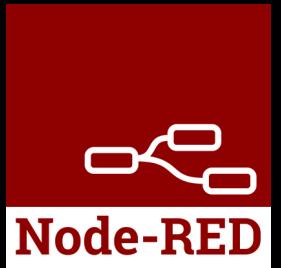
**Double-click on the COMPIM and set all parameters as shown in the Edit Component window, then click the OK button.**



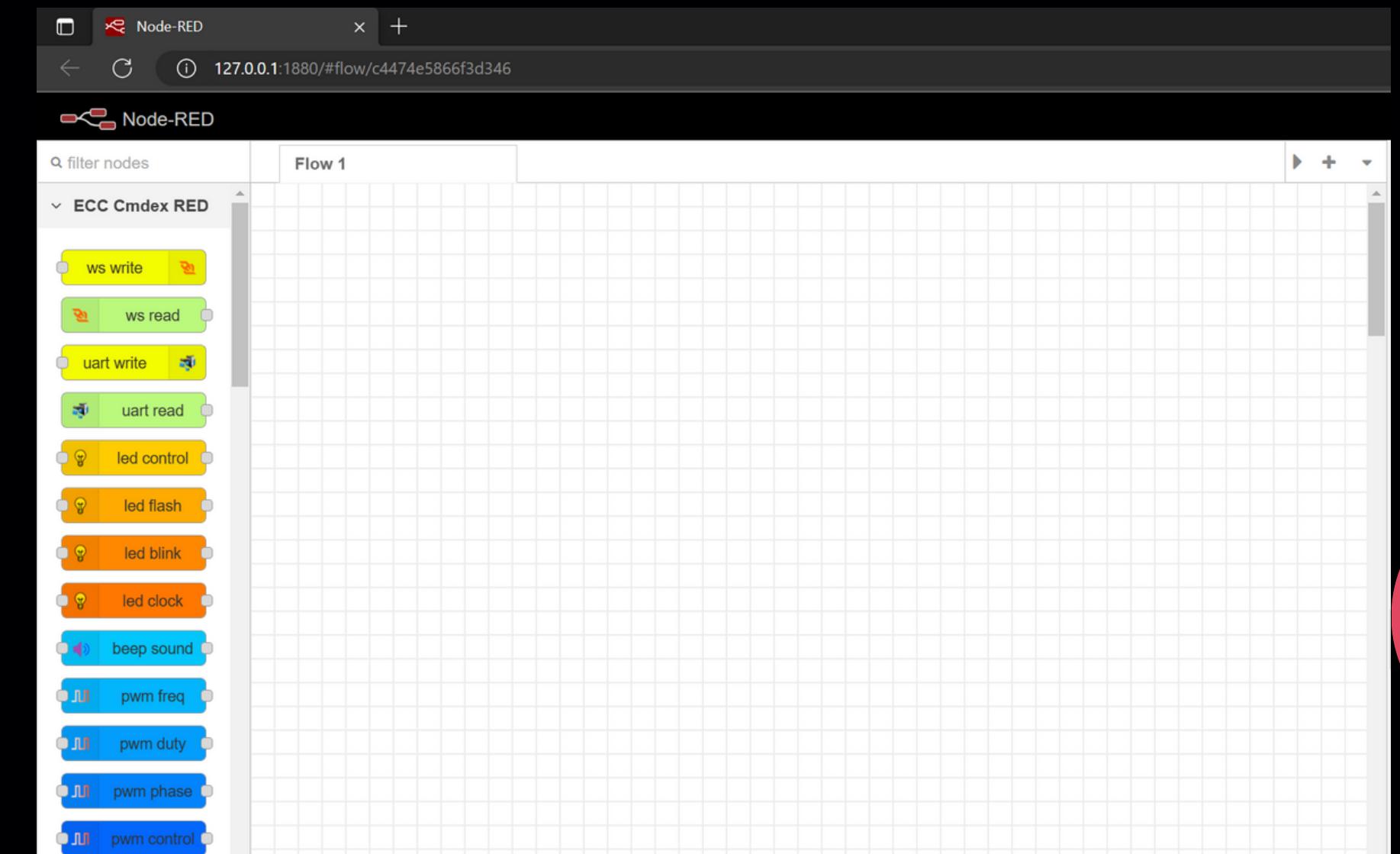
RUN NODE-RED  
AND CONFIG PORT



# OPEN NODE-RED

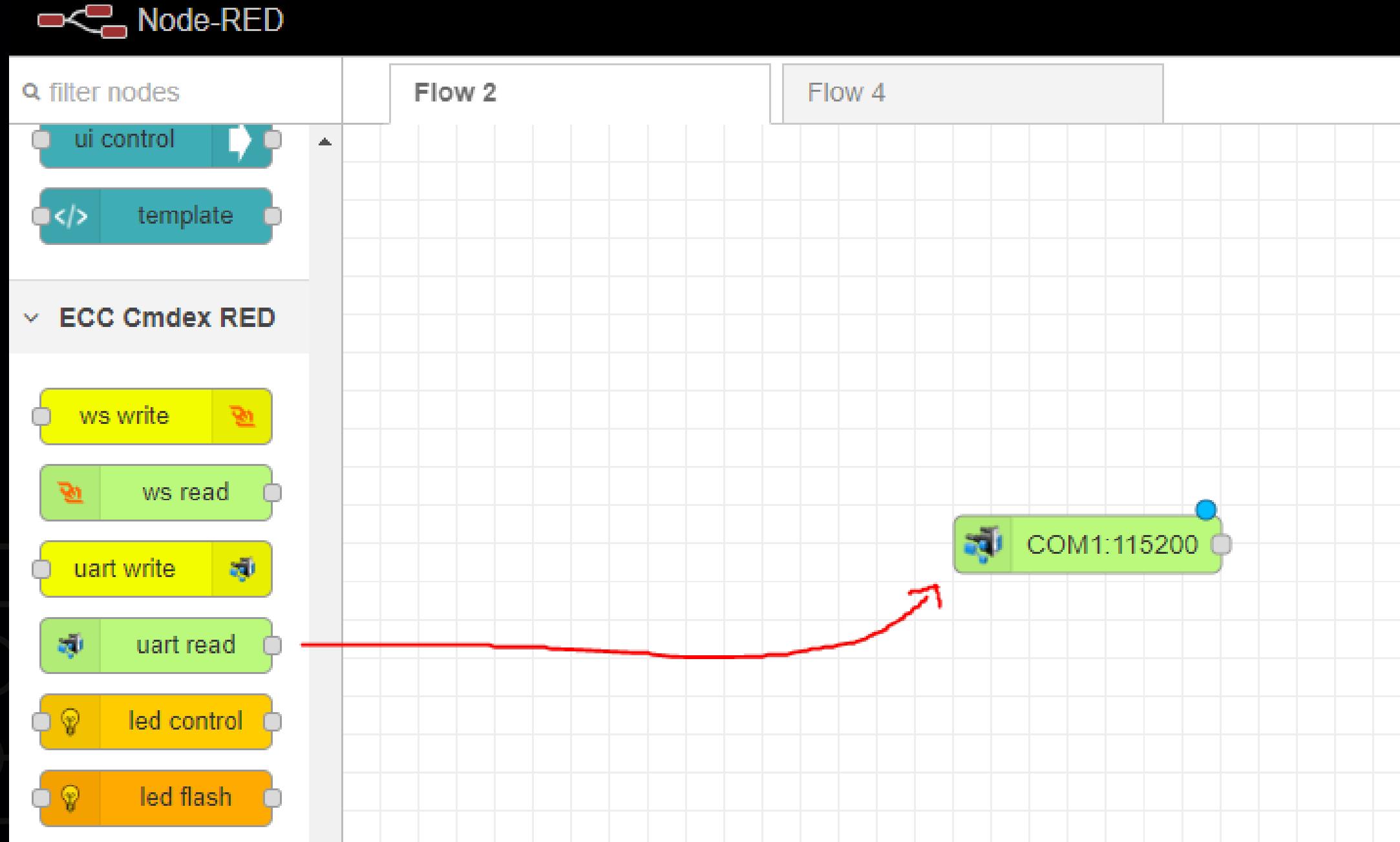
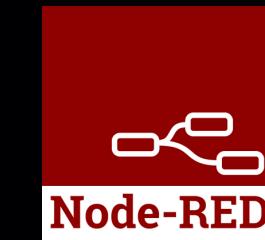


- open Command Prompt.
- Run the **ecc-node-red** using Command Prompt.
- Then open a web browser and give it the link  
<http://127.0.0.1:1880/>

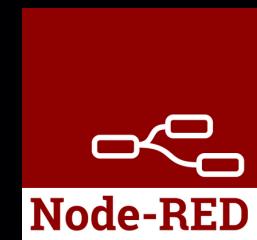


# NODE-RED CONFIG SERIAL PORT

Drag and drop the **uart red in node** into working space



# NODE-RED SERIAL PORT DATA RECEIVING



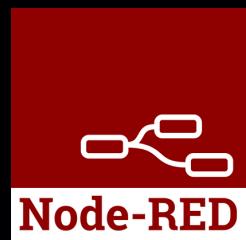
Double-click on the **uart red node**, Set the properties as shown in the Properties window. Be sure, the Serial Port is COM4 and Baud Rate is 115200. Then, click the Done button.

The screenshot shows the Node-RED interface with a configuration dialog open. On the left, a green **uart read** node is highlighted with a red box and labeled '1'. Below it, the text 'Double-click' is written in red. On the right, the **Edit uart read node** dialog is displayed, containing the following settings:

- Properties** tab selected.
- Com Port**: COM4 (selected from dropdown).
- Baudrate**: 115200 (selected from dropdown).
- Name**: COM4:115200

The 'Done' button in the top right corner of the dialog is also highlighted with a red box and labeled '3'. A red box labeled '2' encloses the Com Port and Baudrate settings.

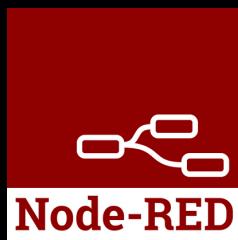
# NODE-RED SERIAL PORT DATA RECEIVING



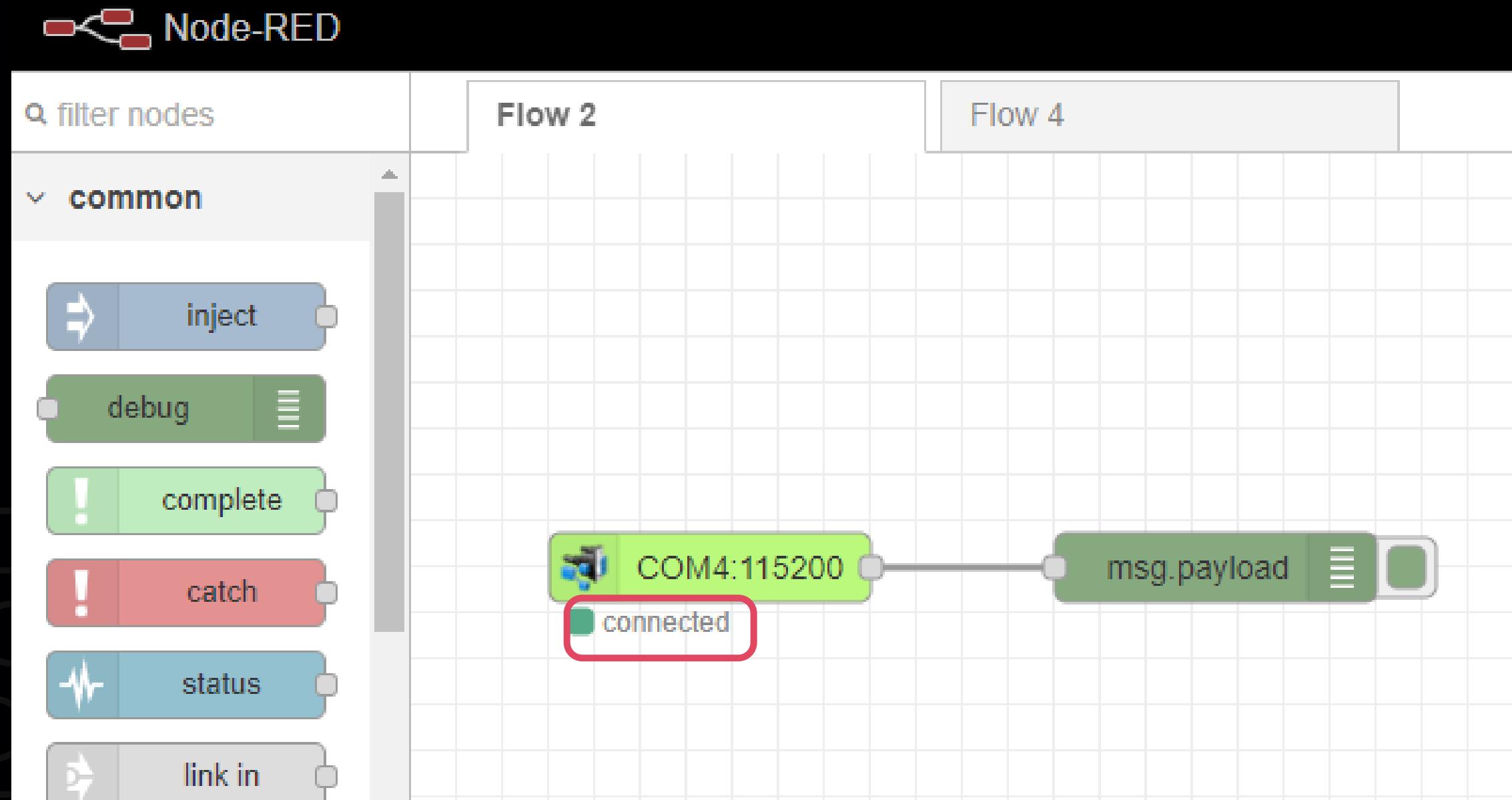
Drag and drop the **debug** node into the working space, and connect the **COM4** node to the **msg.payload**. Then click the **Deploy** button



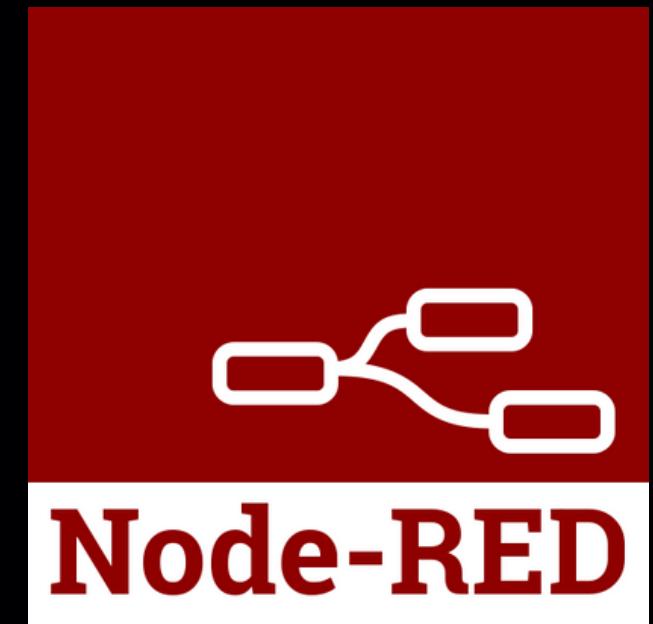
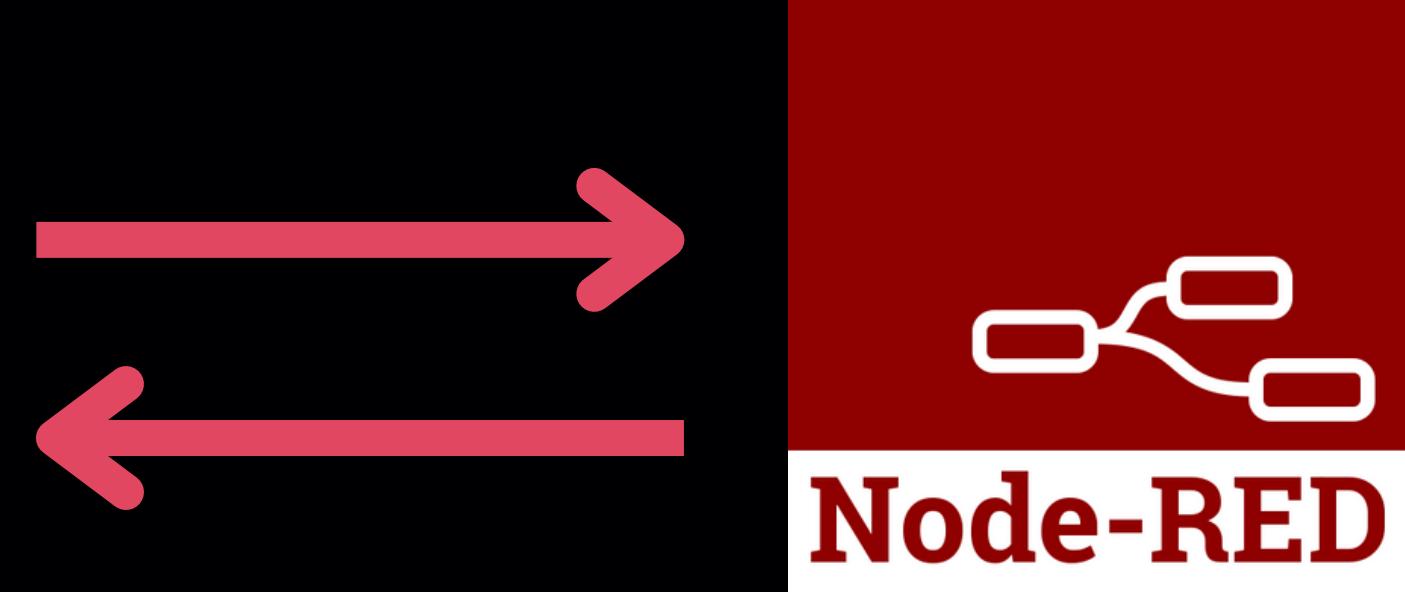
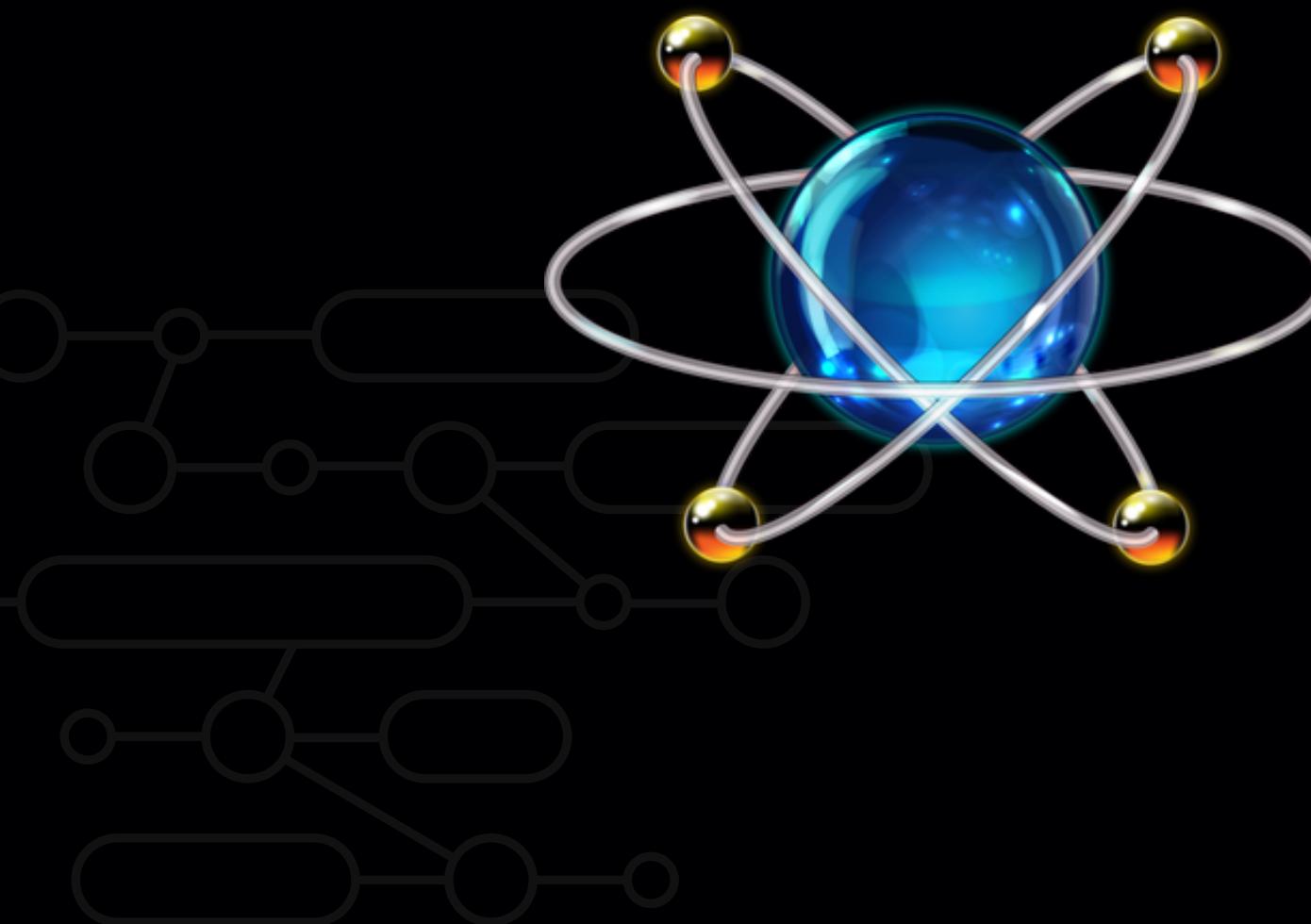
# NODE-RED SERIAL PORT DATA RECEIVING



If all previous steps are corrected, the COM4 node (serial in node) shows a green dot with “connected”



# RUN EXAMPLE



# STEP



**Build the desired project (Example)**

**Select file.hex in Proteus**

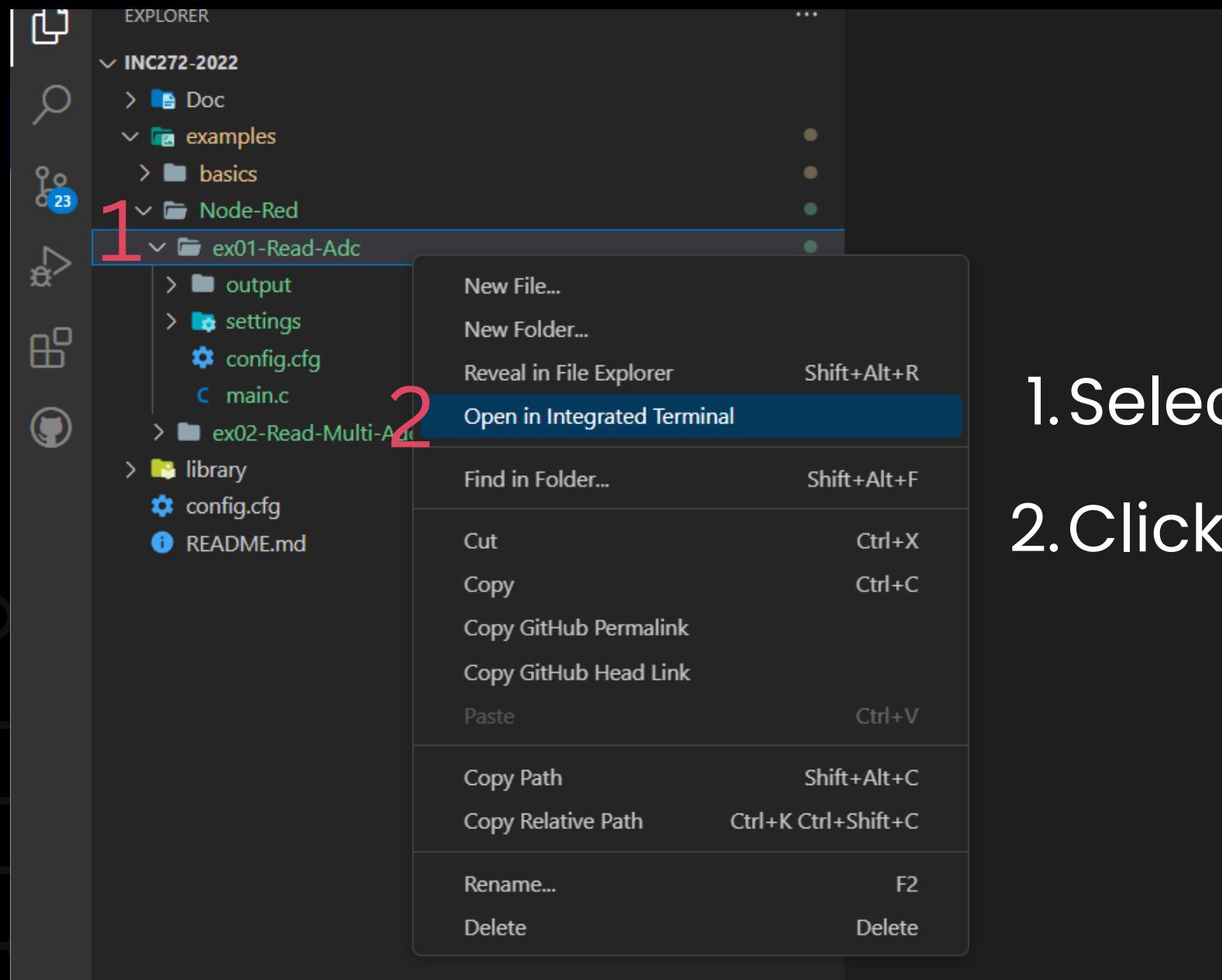
**Import Example Node-Red**

**Run Example**



# BUILD THE DESIRED PROJECT (EXAMPLE)

- Open file `inc272-2022flows.json` using VS code.



1. Select desired Example .
2. Click Right and select Open in Integrated Terminal .

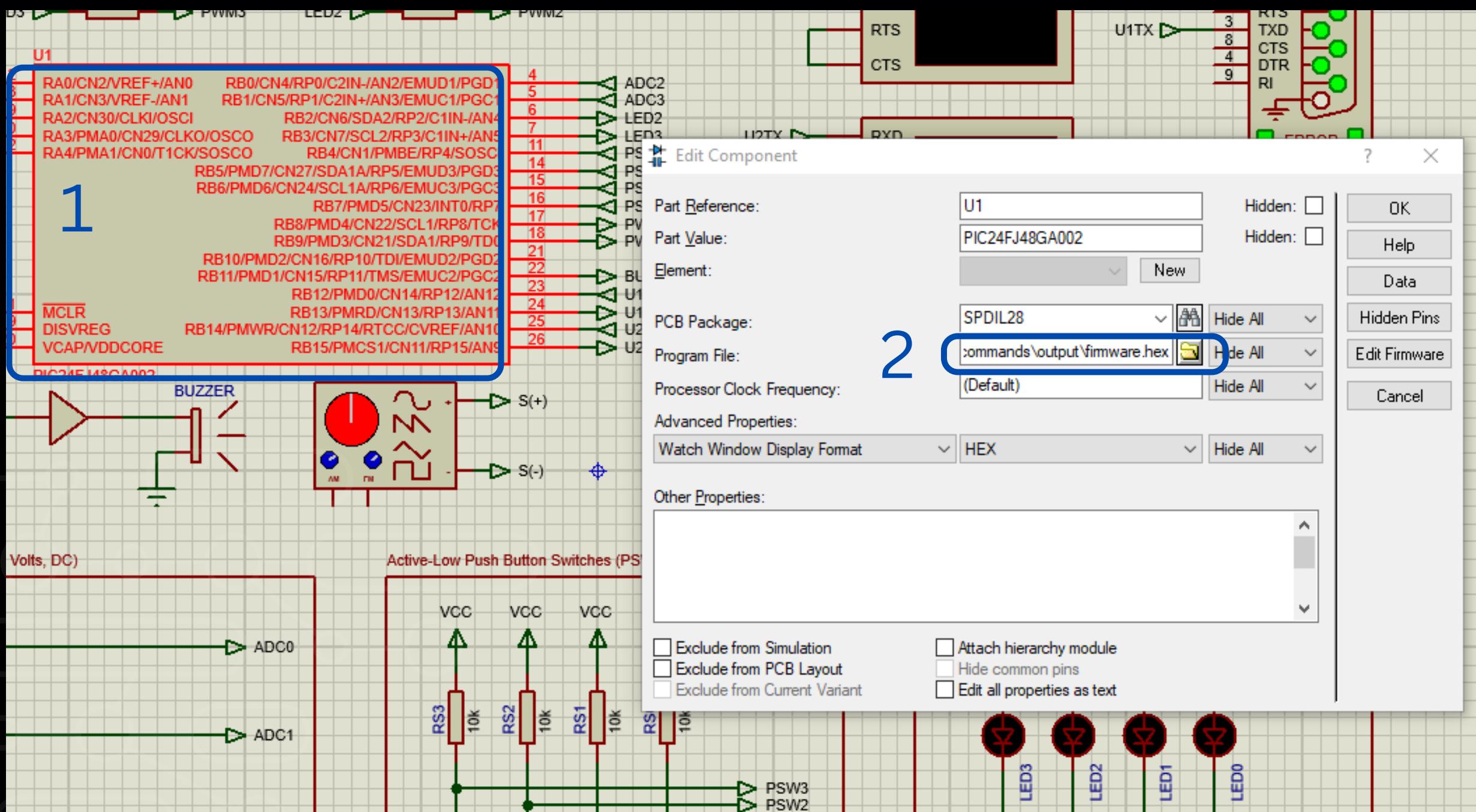
# BUILD THE DESIRED PROJECT (EXAMPLE)

- Run the `ecc-pic24-cli -build` using Command Prompt.

```
PS C:\Users\Film\INC\Documents\GitHub\INC272-2022\examples\Node-Red\ex01-Read-Adc> ecc-pic24-cli -build
```

# SELECT FILE.HEX IN PROTEUS

- Open Proteus

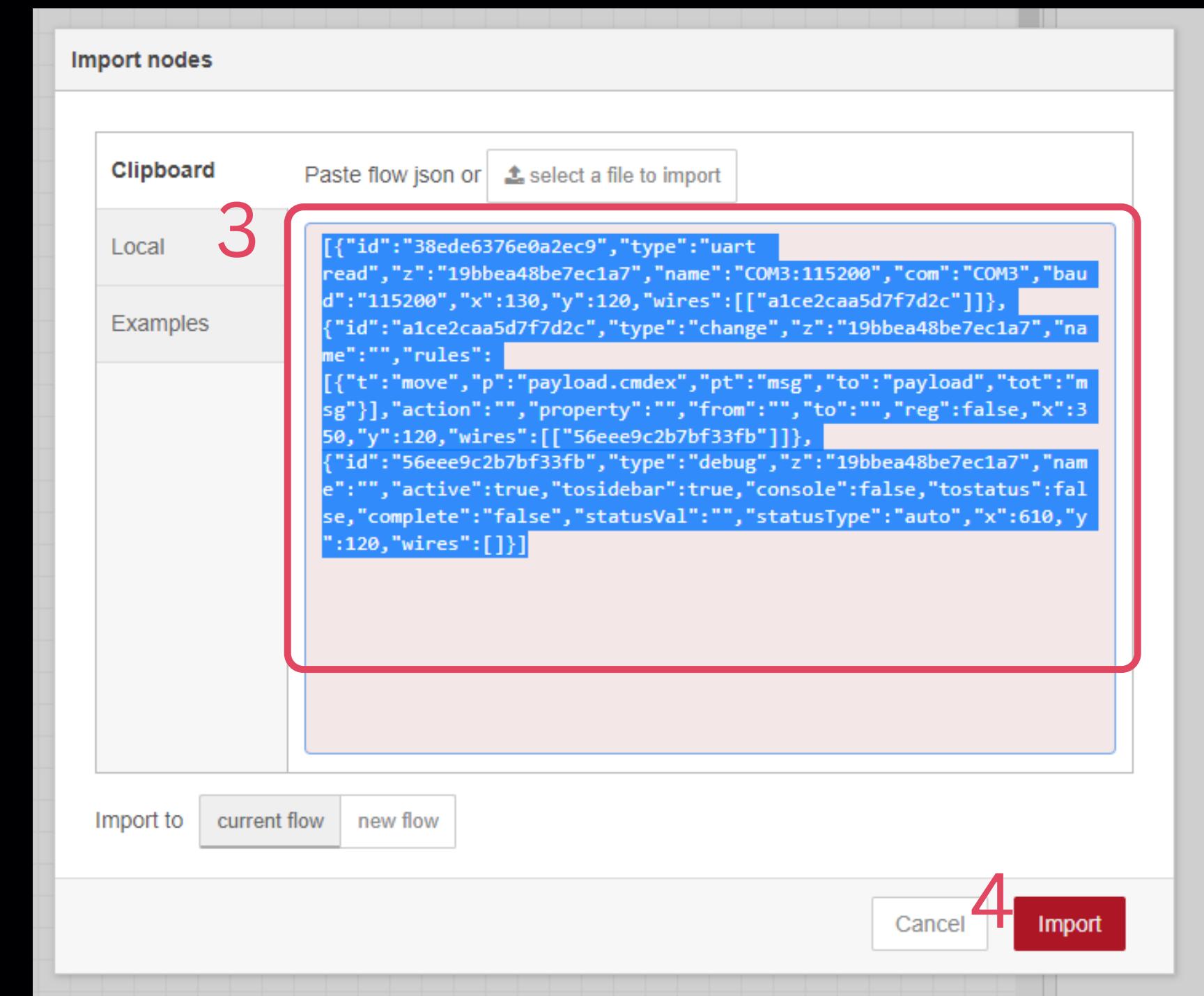
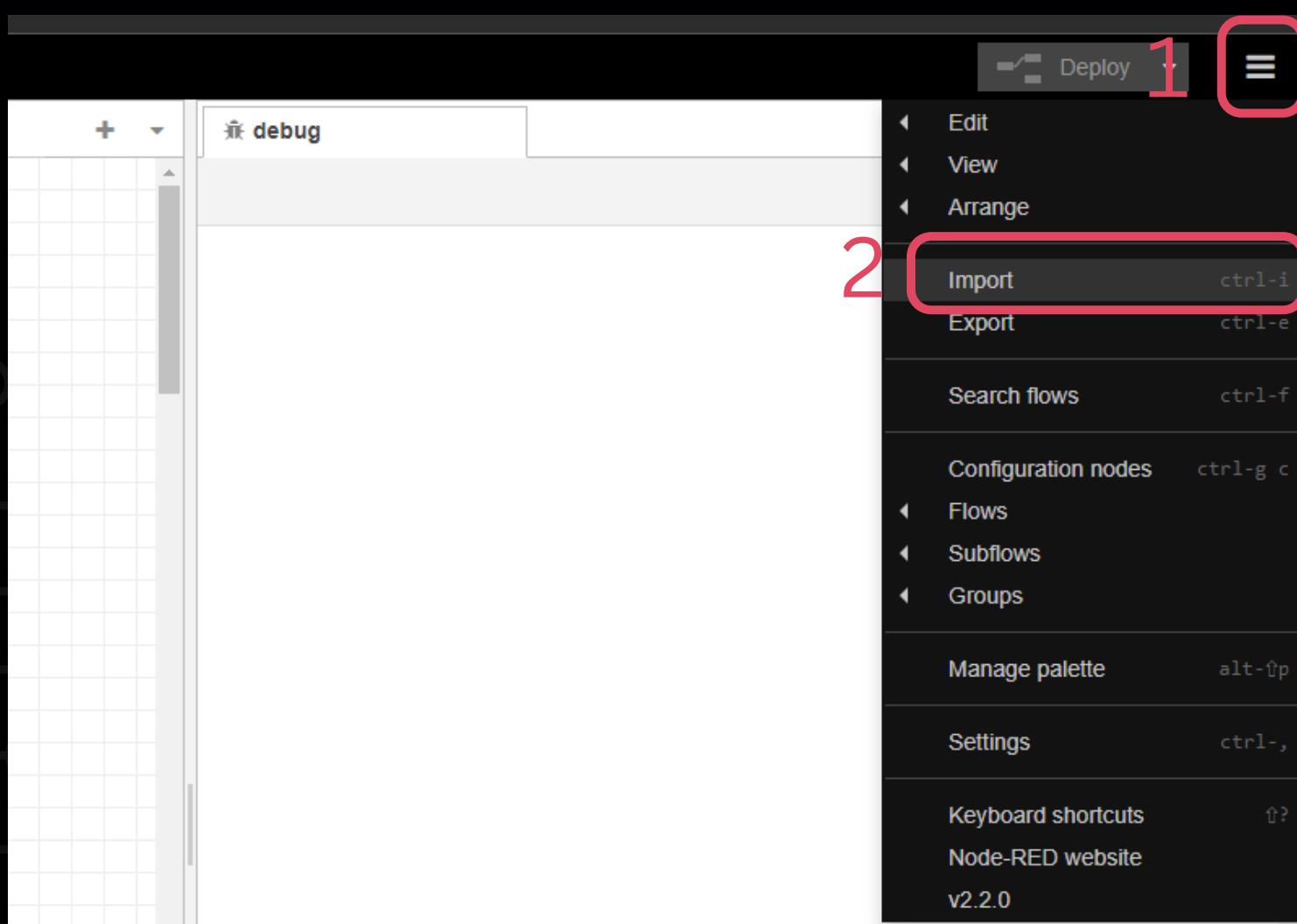


1. Double-click on the Component(pic24) .

2. Select **firmware.hex** in Folder Output of desired Example

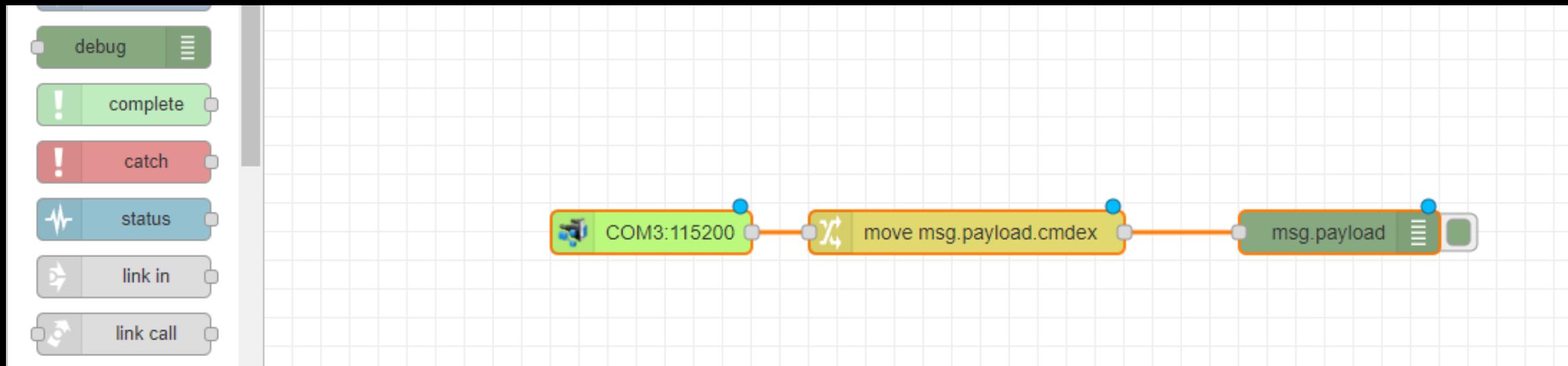
# IMPORT EXAMPLE NODE-RED

- Open file **flows.json** using VS code in
- Copy All Code in **flows.json** in desired Example
- open Node-red and Click **Import Code** (Step 1-2)
- pate code from **flows.json** in Clipboard (Step 3)
- Click **Import** (Step 4)

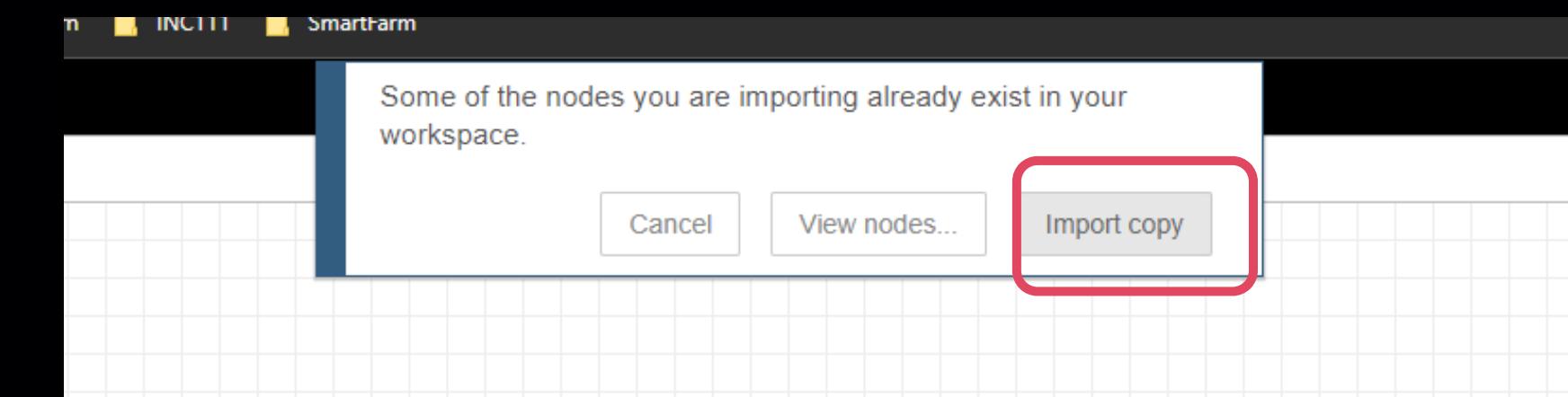


# IMPORT EXAMPLE NODE-RED

- Click Left to paste all example node-red to work space.



IF MESSAGE SHOW "SOME OF THE NODES...." YOU **CHOOSE IMPORT COPY**



# RUN EXAMPLE

- Open Proteus and Click Start VSM Debugging

