

Accessing Node-RED:

- 1: Locate Titan's IP address in your browser
- 2: Open a browser and enter the following address: <http://Titan'sIPAddress:1880>

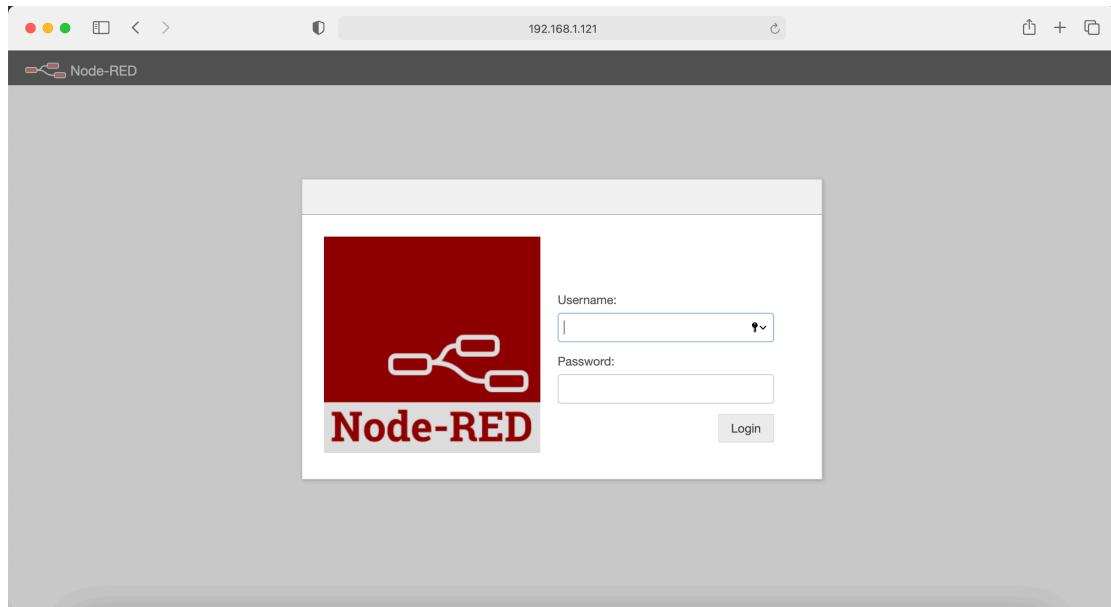


Figure.1

- 3: Once you open the address, you will be prompted to enter username and password (Figure.1). Please use the following default username and password:

Username: admin

Password: adminpassword

Working with Node-Red Flow – Data Collection Flow:

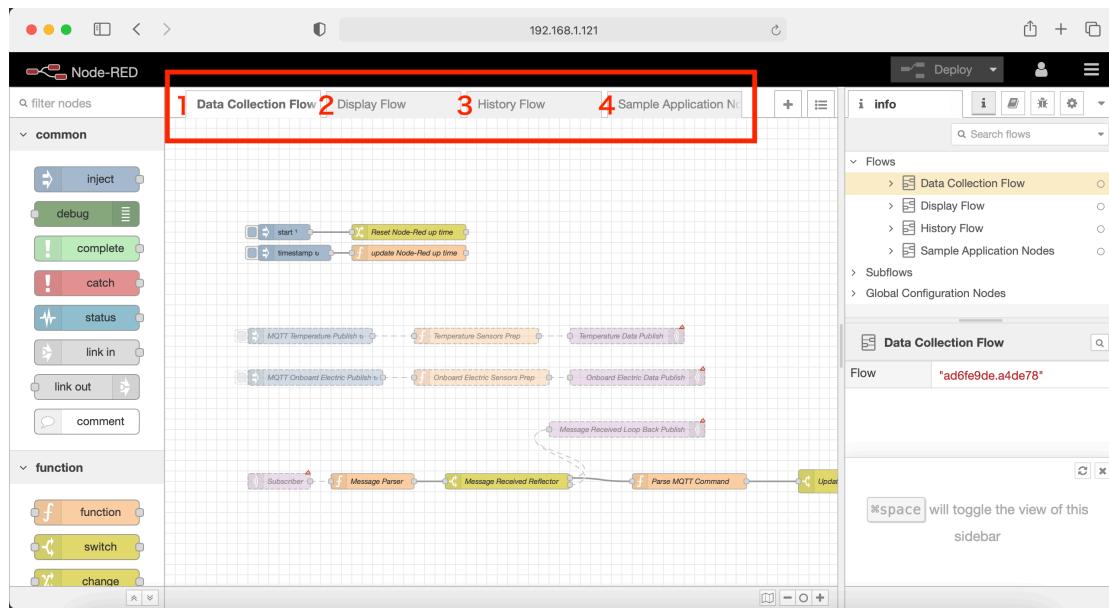


Figure.2

1: After logging in, you should see four tabs at the top (Figure.2). Each tap corresponds to a flow that is used to operate Titan.

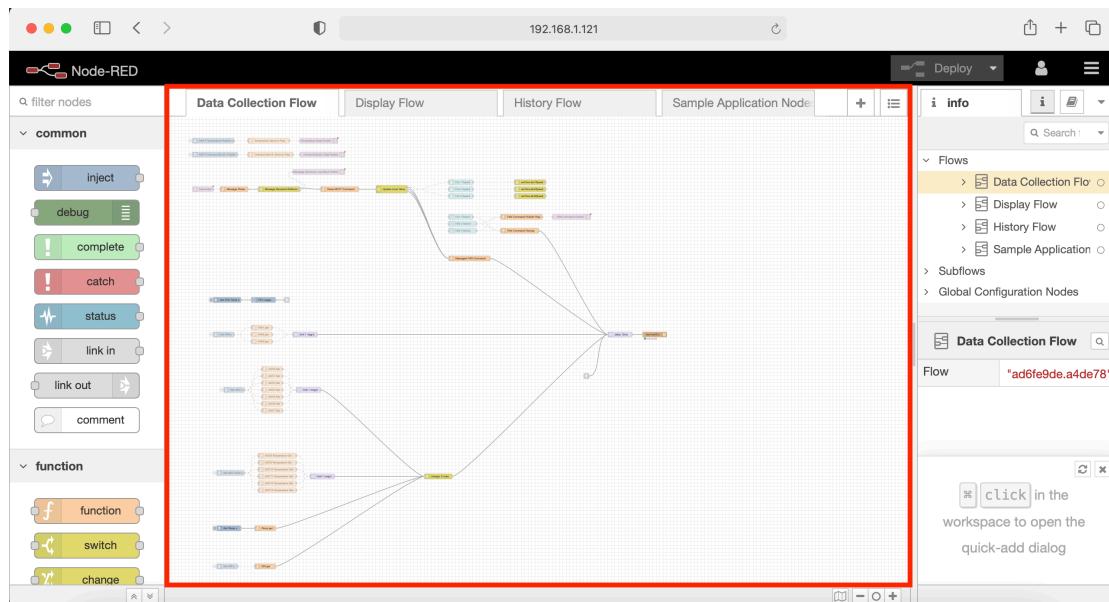
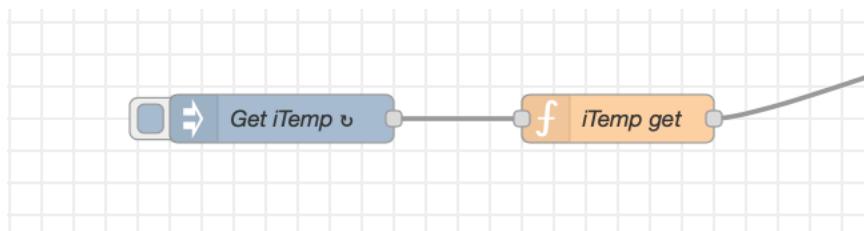


Figure.3

2: The **Data Collection Flow** is used to gather standard sensor data from the on-board MCU.



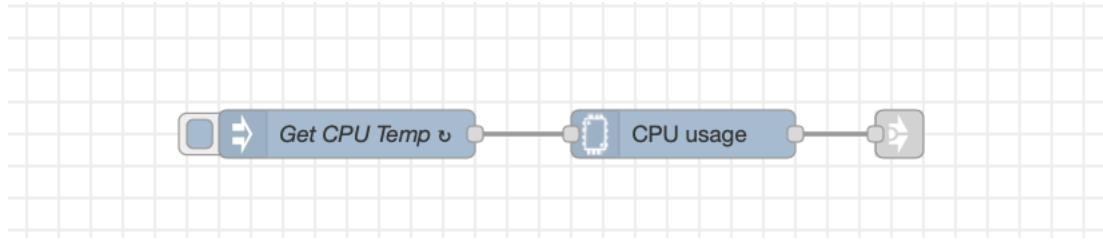


Figure.4

3: By default, Titan only collects data from on-board temperature & humidity (iTemp) and CPU temperature (Figure.4). Follow the steps below to enable collection of other sensors' data.

How to Enable Nodes – Example with FAN



Figure.5

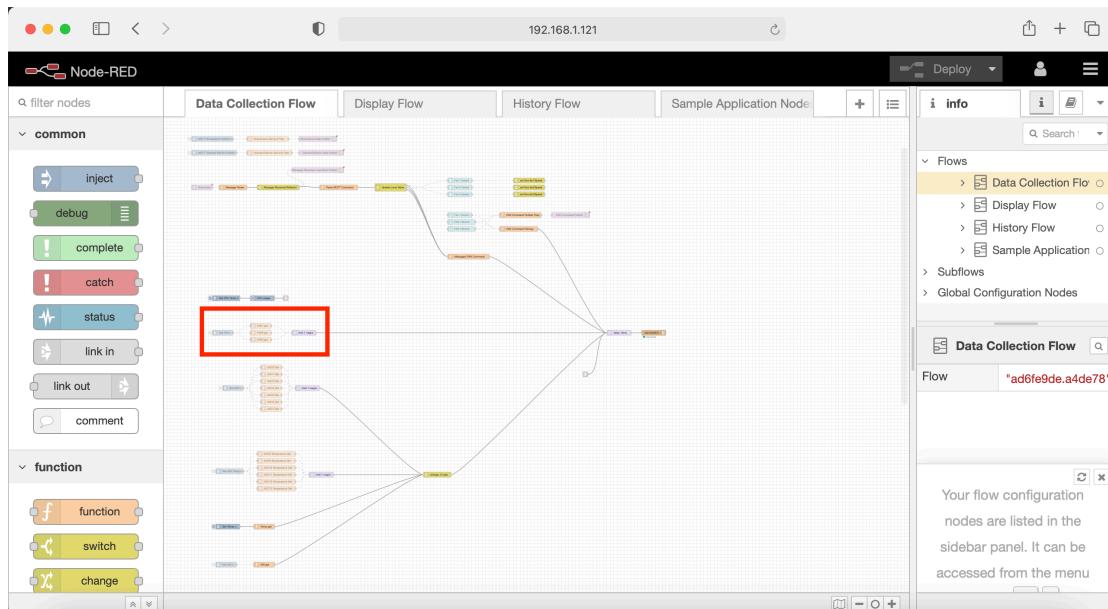


Figure.6

1: To collect PWM signal from the FAN headers (shown in Figure.5), you must enable “**Get FAN**” & “**FAN1 get**”/“**FAN2 get**”/“**FAN3 get**” nodes in the **Data Collection Flow**.

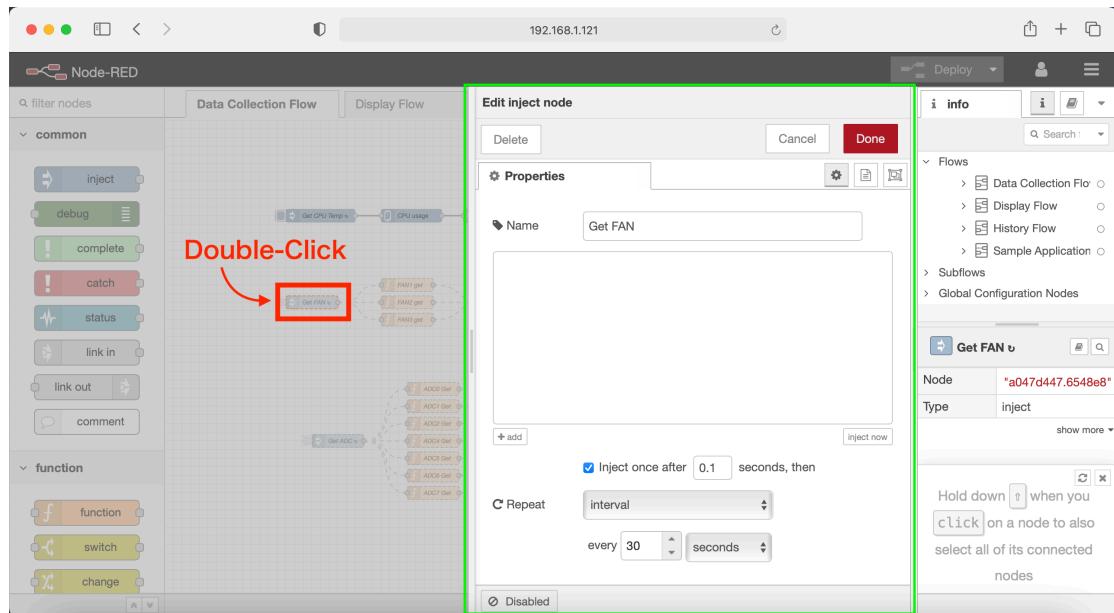


Figure.7

2: First double-click the “Get FAN” node. A panel (show in Figure.7) will pop up.

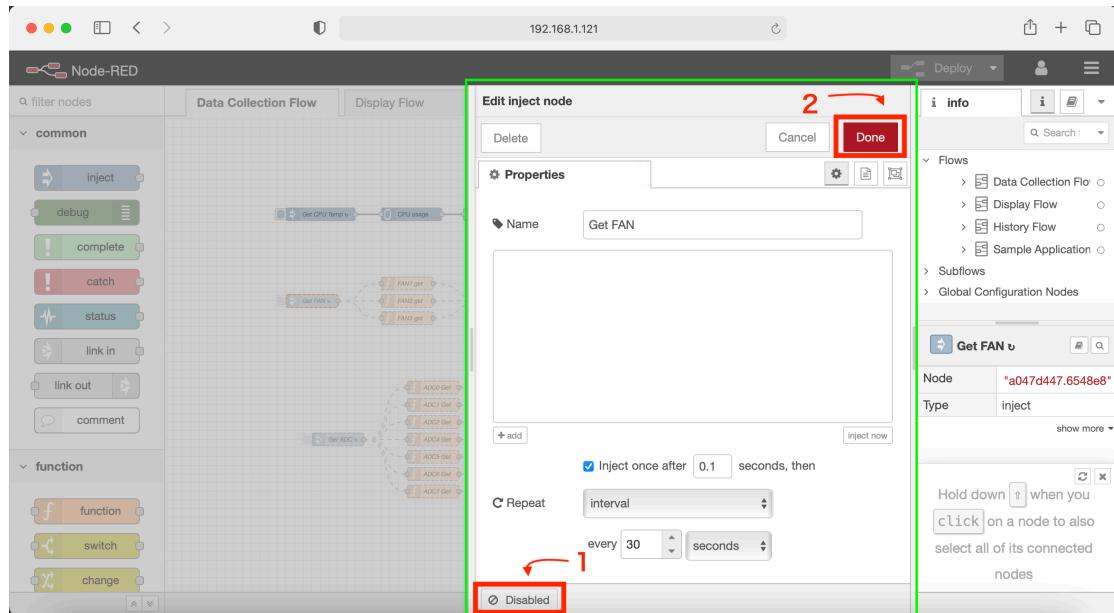


Figure.8

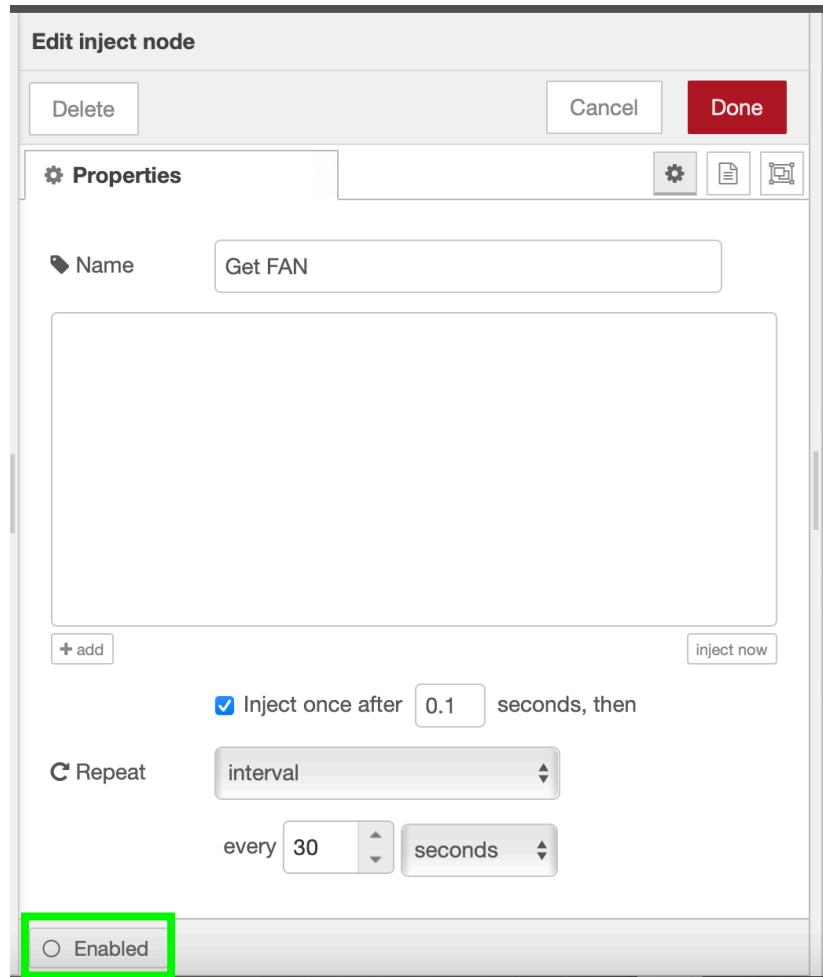


Figure.9

3: In the pop up panel, click disable “**Disabled**” button once (Figure.8). The button text should change to “Enabled” (Figure.9). Then click “**Done**”.

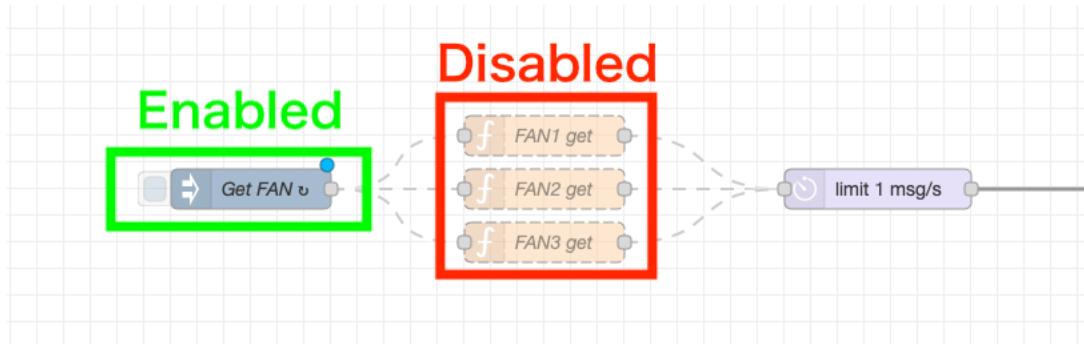


Figure.10

4: If the “**Get FAN**” node is successfully enabled, the dotted lines surrounding it should disappear. If not, repeat step 2 – 3 until it is enabled.

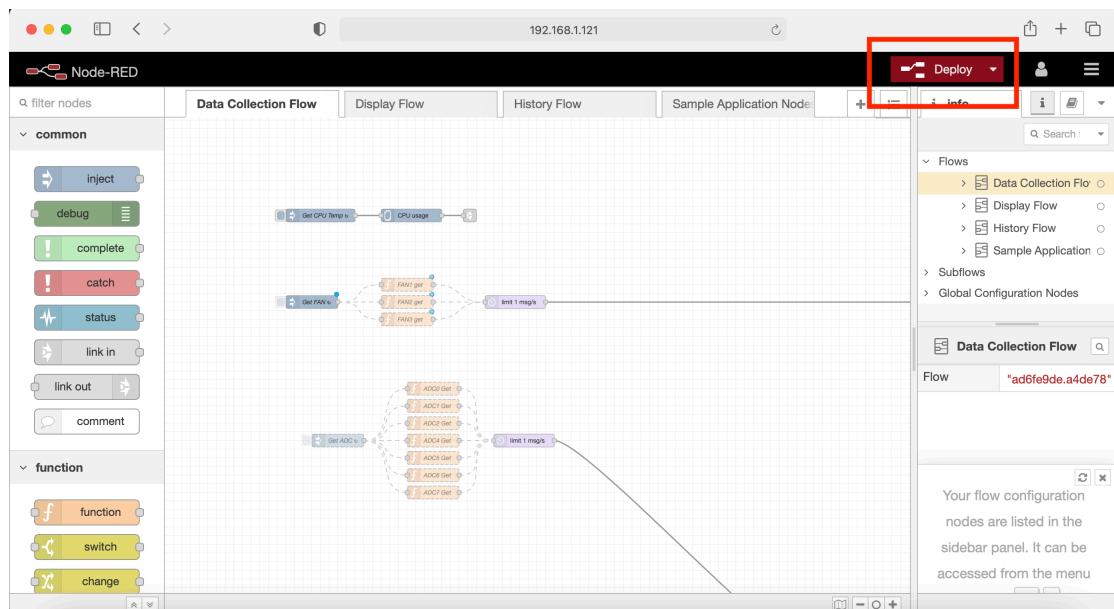


Figure.11

5: Lastly, click the “Deploy” button at the top-right corner (Figure.11) to save and deploy the changes you just made.

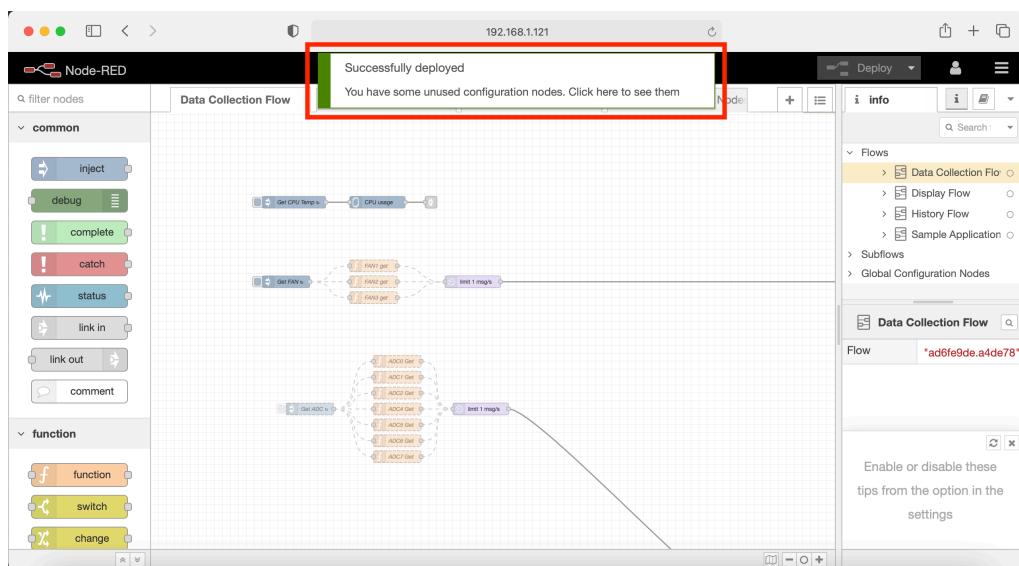


Figure.12

6: If deployed successfully, the system will display a “Successfully deployed” message on the top. If an error message shows up, please check whether you have made any mistake between step 2 – 5 and try again.

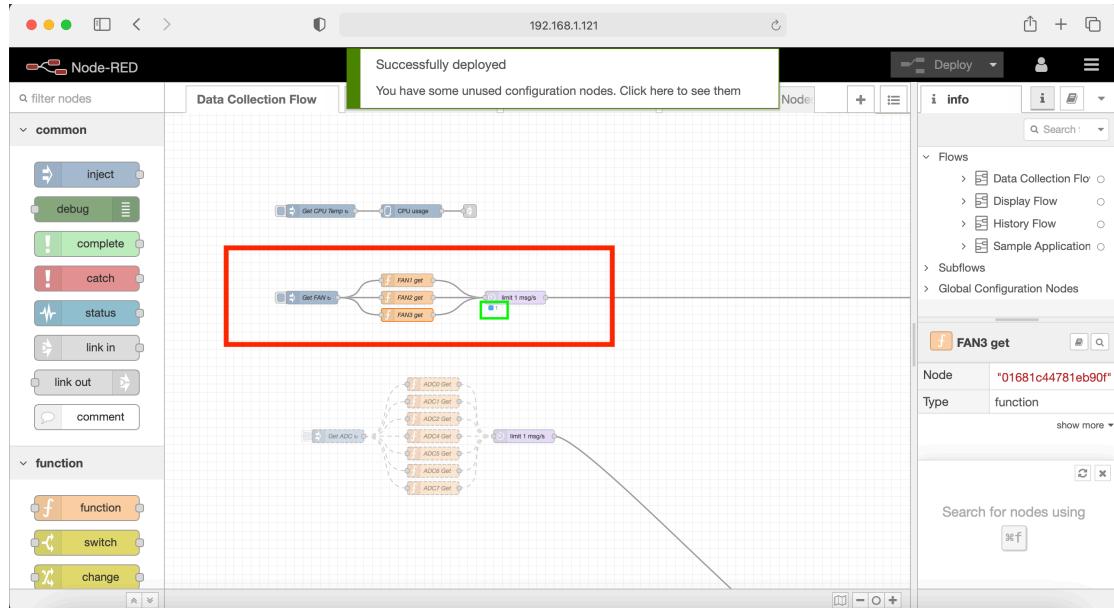


Figure.13

7: Now the “**Data Collection Flow**” is ready to collect FAN headers’ PWM signal, you may repeat step 2 – 8 to enable “**FAN1 get**”/“**FAN2 get**”/“**FAN3 get**” depending on which header you have occupied. If you enabled all the nodes, your “**Data Collection Flow**” should look like Figure.13. You should also notice a small counter (in green-square) starts showing up under the “**limit 1msg/s**” node.

Enabling ADC Voltage Sensing Ports



Figure.14

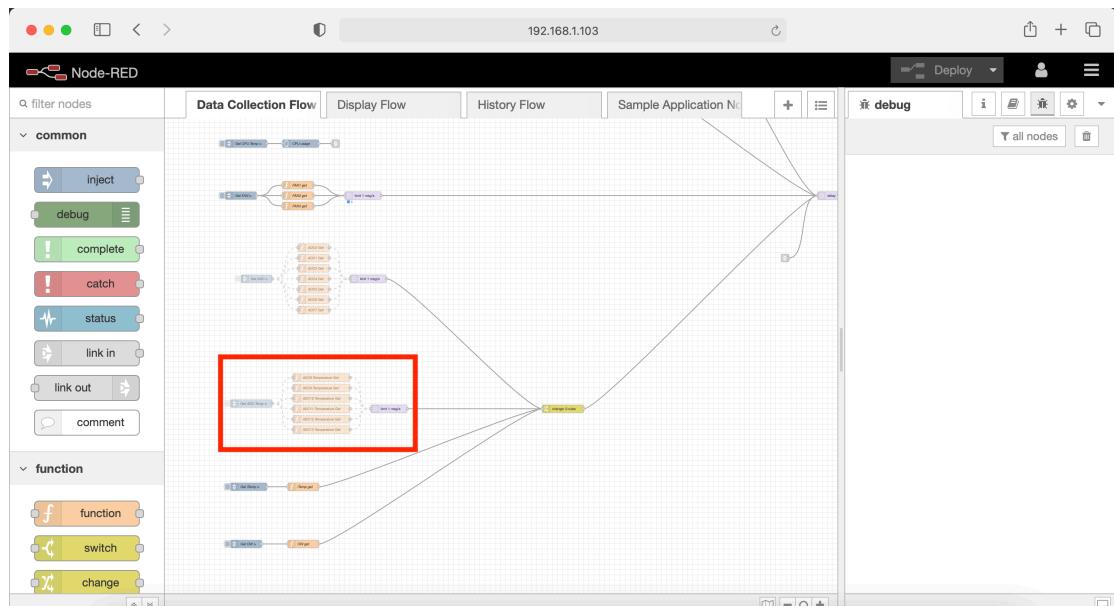


Figure.15

1: To collect data from the ANALOG2 & ANALOG3 (AI voltage Sensing) ports shown in Figure.14, you must enable the nodes in the red square in Figure.15. Each of ANALOG2 and ANALOG3 ports support up to three

ADC voltage sensing inputs with our ADC-cable.

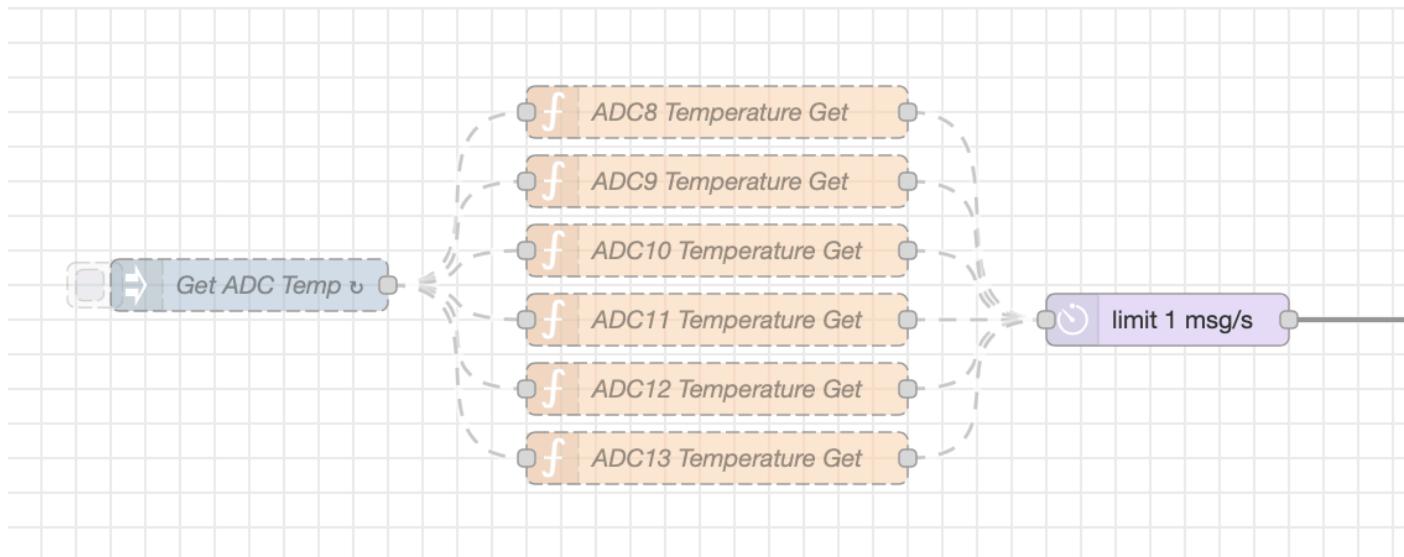


Figure.16

2: ADC8/ADC9/ADC10 corresponds to the three ADC voltage sensing inputs from ANALOG2.

ADC11/ADC12/ADC13 corresponds to the three ADC voltage sensing inputs from ANALOG3.

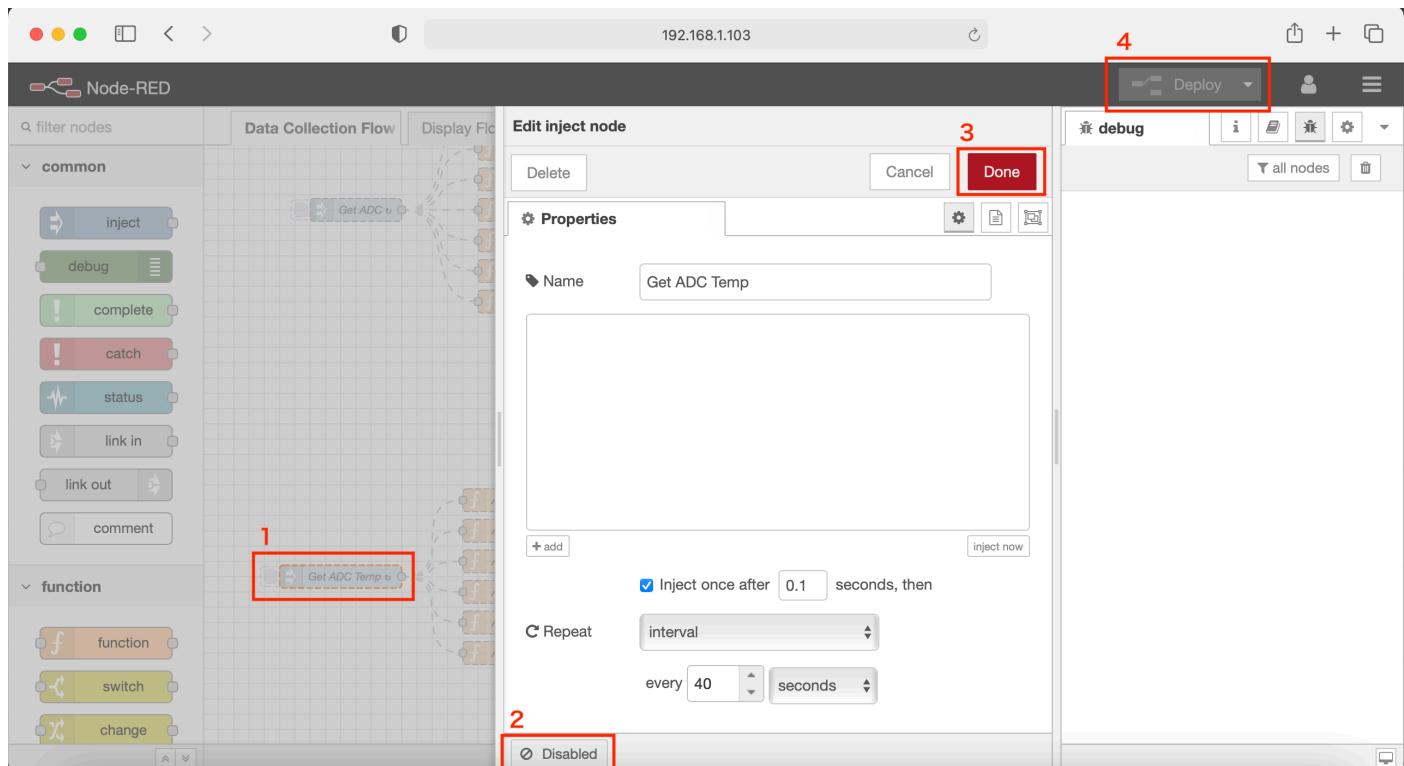


Figure.17

3: In this example, we are using temperature sensors on the ADC voltage sensing ports. First enable “Get ADC Temp” node following step 2-8 in **How to Enable Nodes – Example with FAN**.

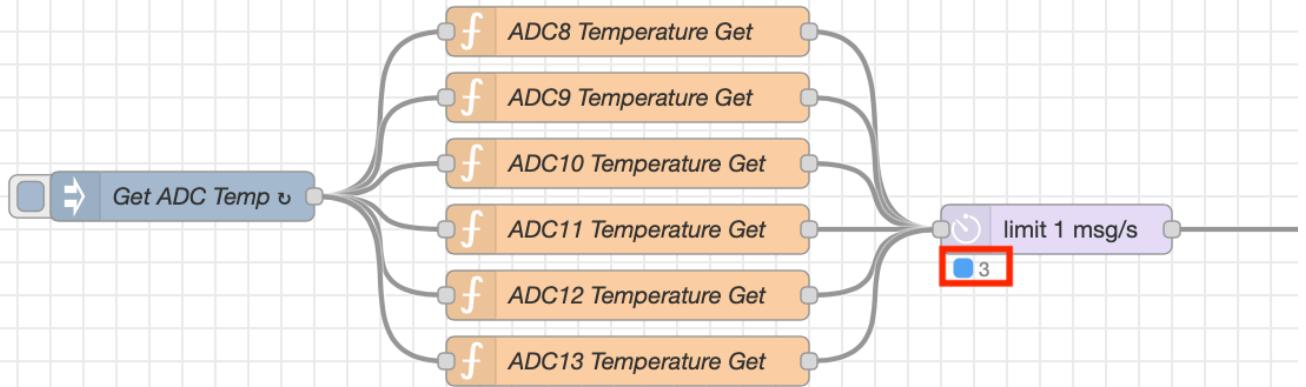


Figure.18

4: Next, enable ADC8 Temperature Get, ADC9..., ADC13 Temperature Get based on the number of sensors you plug in. After the nodes are successfully enabled, a counter should appear under the “**“limit 1 msg/s”** node. If not, check whether you have made any mistake throughout the process and whether you have deployed the changes.