Node-RED Project User Manual

Download Node-RED

To get started, download and install Node-RED:

- Download Node-RED
  - Refer to the official documentation for setup instructions and support.
    Running on Windows : Node-RED

Install Blueman Bluetooth Manager
Follow the instructions here

- Bluetooth on the Raspberry Pi - Pi My Life Up
  - If you want to view the files, GitHub - blueman-project/blueman: Blueman is a GTK+ Bluetooth Manager

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Importing the Project Flows

1. Download the provided .json file from this repository.
2. Open your Node-RED editor.
3. In the top-right menu, click the three-bar (hamburger) icon → **Import** → **Clipboard**.
4. Paste the contents of the .json file and click **Import** to load the flow.

Required Node-RED Palettes

Please ensure the following Node-RED palettes are installed:

- Node-red-dashboard
  - (Include any additional palettes used in your flow here)

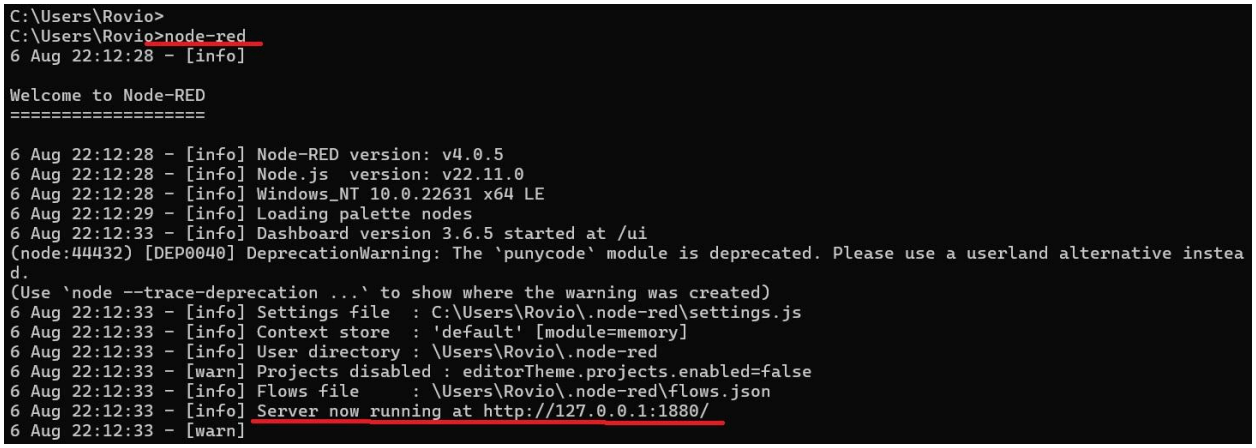
You can install them by navigating to **Menu → Manage Palette → Install**, then searching for the names above.

Starting the Node-RED Server on Raspberry Pi

To run your Node-RED server on a Raspberry Pi:

1. Power on your Raspberry Pi.
2. Open the terminal.

Start Node-RED by typing the following command:
CopyEdit
node-red



3. Wait for the server to finish initializing. A local URL (typically http://localhost:1880) will appear in the terminal — this is your Node-RED editor interface.

   Important: Do **not** close the terminal window after starting Node-RED. Doing so will shut down the server.

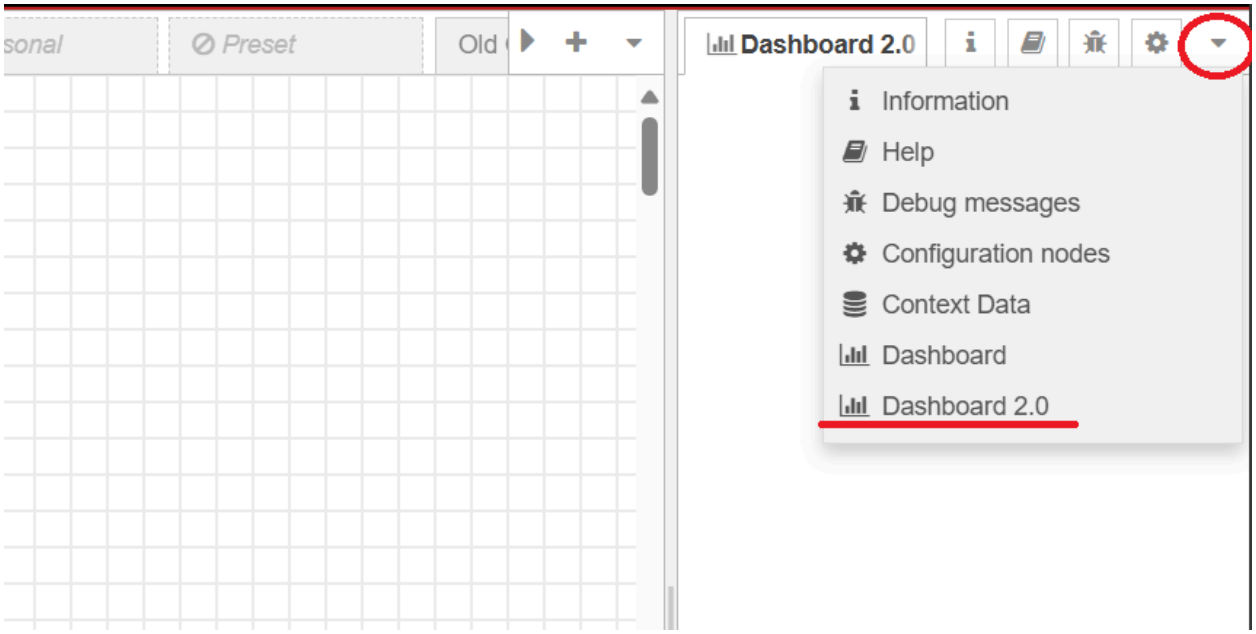
Accessing the Node-RED Editor

- Open the local URL provided in your browser.
- If a username and password prompt appears, enter the configured credentials.
- If no authentication is configured, you will be taken directly to the Node-RED editor.

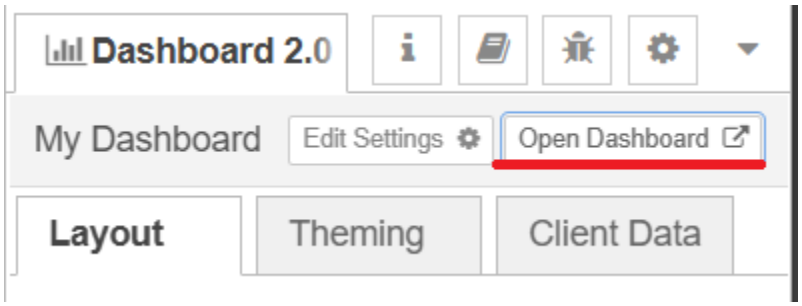
Using the Dashboard 2.0 Interface

To access the Dashboard 2.0:

1. In the Node-RED editor, open the side menu (top-right corner).
2. Scroll to **Dashboard 2.0** or find it under the panel list.



3. Click the **"Open Dashboard"** button.
4. You now have access to the dashboard interface and all the features configured in the .json flow.



Using the Dashboard

The dashboard gives access to:

1. **Set Up**
   - Type in wifi credentials to send to ESP32
     - You must first connect the ESP32 Via Bluetooth serial in the Pi Bluetooth or us…
   - Connect to the server via QR Code.

2. **Control Panel**
   - You can access all the server's main controls and toggle them.
   - You can see all data being transmitted to the pi via sensors in real time.

3. **Simulation**
   - You can simulate a day of power usage via user data points.
     - Displays resulting usage and cost throughout the day/month.