

# 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](#)

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## 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.

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## 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.

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## 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
```

```
C:\Users\Rovio>
C:\Users\Rovio>node-red
6 Aug 22:12:28 - [info]

Welcome to Node-RED
=====

6 Aug 22:12:28 - [info] Node-RED version: v4.0.5
6 Aug 22:12:28 - [info] Node.js version: v22.11.0
6 Aug 22:12:28 - [info] Windows_NT 10.0.22631 x64 LE
6 Aug 22:12:29 - [info] Loading palette nodes
6 Aug 22:12:33 - [info] Dashboard version 3.6.5 started at /ui
(node:44432) [DEP0040] DeprecationWarning: The 'punycode' module is deprecated. Please use a userland alternative instead.
(Use `node --trace-deprecation ...` to show where the warning was created)
6 Aug 22:12:33 - [info] Settings file : C:\Users\Rovio\.node-red\settings.js
6 Aug 22:12:33 - [info] Context store : 'default' [module=memory]
6 Aug 22:12:33 - [info] User directory : \Users\Rovio\.node-red
6 Aug 22:12:33 - [warn] Projects disabled : editorTheme.projects.enabled=false
6 Aug 22:12:33 - [info] Flows file : \Users\Rovio\.node-red\flows.json
6 Aug 22:12:33 - [info] Server now running at http://127.0.0.1:1880/
6 Aug 22:12:33 - [warn]
```

- 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

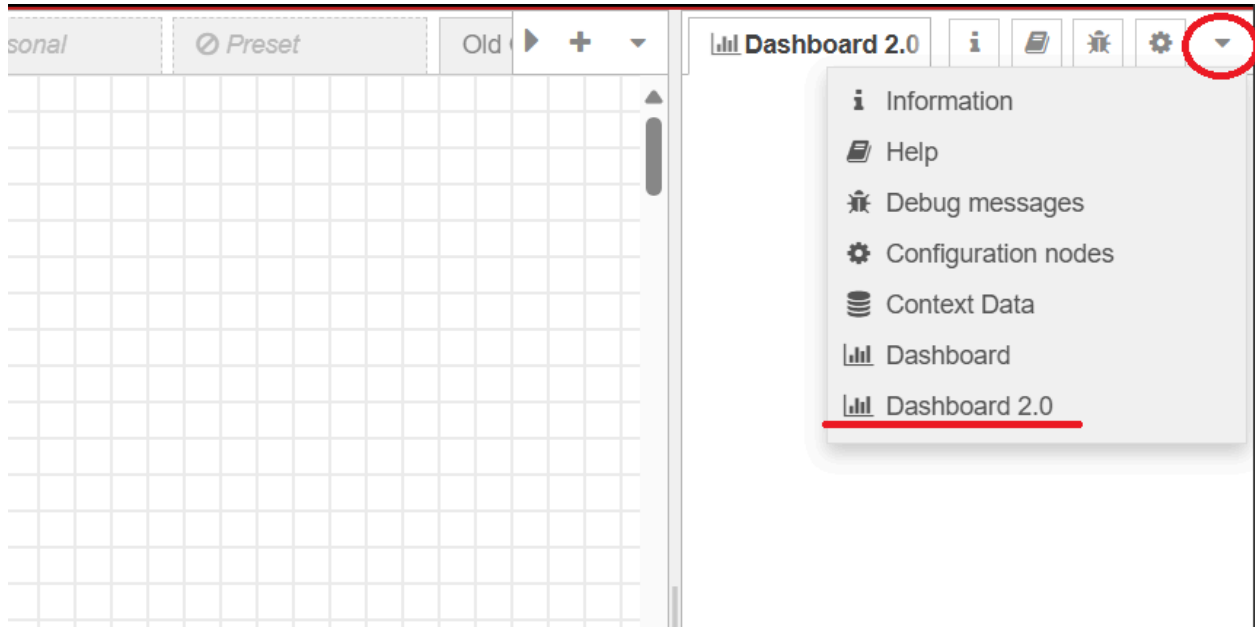
- Open the local URL provided in your browser.
- If a username and password prompt appears, enter the configured credentials.
- If no authentication is configured, you will be taken directly to the Node-RED editor.

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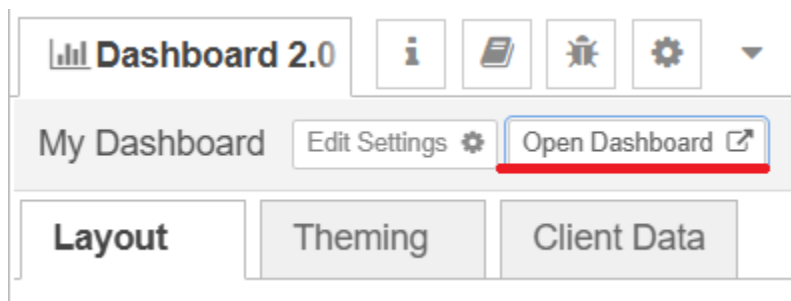
### Using the Dashboard 2.0 Interface

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.




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## 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.