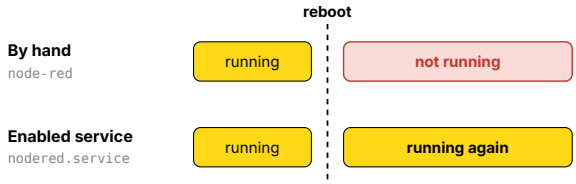
Node-RED not starting after a reboot? 6 checks

Node-RED runs when you start it by hand, but after a reboot it does not start, or the editor opens empty. The flows are usually still on the disk. Check these six points in order. Valid for Node-RED installed with the official script on Raspberry Pi OS or Debian, on any Linux device.

Service first, then the log

By hand or as a service

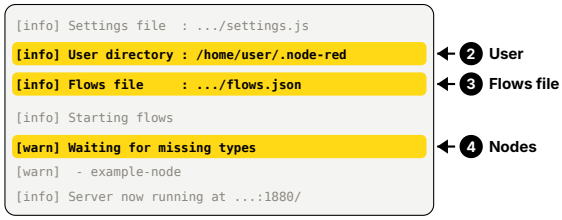


enable starts it at every boot, not now: add --now or run start.

Example. The official install script sets it up as a service.

By hand is not at boot: a process started in a terminal does not come back after a reboot. An enabled service does.

The first lines of node-red-log



Folder, file and missing nodes, before you change anything.

Example log, timestamps removed. Names are examples.

The log names the cause: it shows the user directory, the flows file and any nodes that are missing.

Empty editor, flows not lost

An empty editor usually means another user directory or another flows file was opened. Do not rebuild the flows: find the file first.

Copy before you change

Copy the whole user directory first: flows, credentials file, settings.js and package.json.

Six checks, in this order

Check	What to do	Good result
1. Service	Run it as a service: `node-red-start`, then `sudo systemctl enable nodered.service` so it starts at every boot.	`systemctl is-enabled` says enabled.
2. User	Each user has its own .node-red folder. Check `User=` in /lib/systemd/system/nodered.service. Started it with sudo once? Look in /root/.node-red.	The service user owns the folder with your flows.
3. Flows file	Read the "Flows file" line in `node-red-log`. If the name includes the hostname, a new hostname opens an empty file. Set a fixed flowFile in settings.js.	The log shows the file with your flows.
4. Nodes	"Waiting for missing types": nodes not installed in this user directory. Run `npm install` in ~/.node-red, or use Manage Palette, then restart.	No missing types in the log.
5. Network	The network may not be ready at boot. Nodes that reconnect recover. If a flow needs it first, order the service after network-online.target.	Nodes connect after boot, with no manual step.
6. Log	Read `systemctl status nodered.service` and `node-red-log`: they tell you which of the five it is.	"active (running)", no errors.

What the symptom tells you

Symptom	Possible causes	Next step
Runs with node-red by hand, not after a reboot	Not running as an enabled service.	Check 1.
Log of the last boot is empty	The service did not start at boot.	Check 1.
Editor empty, no errors	Another user directory or another flows file.	Checks 2 and 3: read User directory and Flows file.
Editor empty after a hostname change	Flows file named flows_<hostname>.json.	Check 3: fixed flowFile in settings.js.
"Waiting for missing types to be registered"	Nodes not installed in this user directory.	Check 4.
Network nodes red after boot, then green	Network not ready yet when the flows start.	Fine if they reconnect; if not, check 5.
Editor empty after a power cut	Possible file corruption on the card.	See the lesson on SD cards and Linux in the field.

From the documentation

- `enable` does not start the service now: add `--now` or run `start`.
- Without flowFile, the runtime uses flows_<hostname>.json. The default settings.js sets flows.json since 2.0; older installs keep their name.
- Nodes installed with npm need a Node-RED restart.

Reference commands

- `systemctl is-enabled nodered.service`
- `systemctl cat nodered.service`: see `User=`
- `node-red-log`, `node-red-restart`
- `cd ~/.node-red && npm install`
- Network first: `After=` and `Wants=network-online.target`, then `daemon-reload`.

On a Raspberry PLC

- I/O nodes: package @industrial-shields/node-red-librpiplc. Older guides use node-red-contrib-rpiplc-node.
- After a reinstall, these are the nodes that show up as missing types.
- No .node-red in $HOME? Check /root.

Before you rename files

Rename the flows file and its credentials file together, for example flows_<hostname>_cred.json to flows_cred.json, and test it on a copy.

Do not run node-red with sudo by hand if the service runs as another user.

References: nodered.org: Running on Raspberry Pi, Customising systemd on Pi, Starting Node-RED on boot, Runtime configuration, Adding nodes to the palette, Version 2.0 released; systemd.io: Running services after the network is up; systemctl(1); Industrial Shields: Installing an operating system in the Raspberry PLC, How to install Node-RED into a Raspberry Pi PLC or panel PC. The Node-RED documentation and device manuals take precedence over this general guide.