

Production Supporting Systems in Factories

ระบบสนับสนุนการผลิตในโรงงานอุตสาหกรรม

Mobile Sensor

| Android only, no iPhone, sorry


Install `F Droid` / `termux`

- Install `F Droid`
 - Goto <https://f-droid.org>
 - Install F-Droid
- Install software from `F-Droid`
 - Install `termux`
 - Install `termux:API`



Install node-red

- In `termux` window
 - `apt update`
 - `apt upgrade`
 - `pkg install termux-api`
 - `pkg install coreutils nodejs`
- Install `node-red`
 - `npm install -g pnpm`
 - `pnpm setup` (ให้กดแบบ *Exit* แล้วเปิดใหม่)
 - `pnpm install -g node-red`





Start `node-red`

- In `termux` window
 -  `node-red`



Misc

- See ip address of mobile phone from `termux`
 -  `ifconfig`
- Test connection from `powershell`
 -  `test-netconnection x.x.x.x -port 1880`

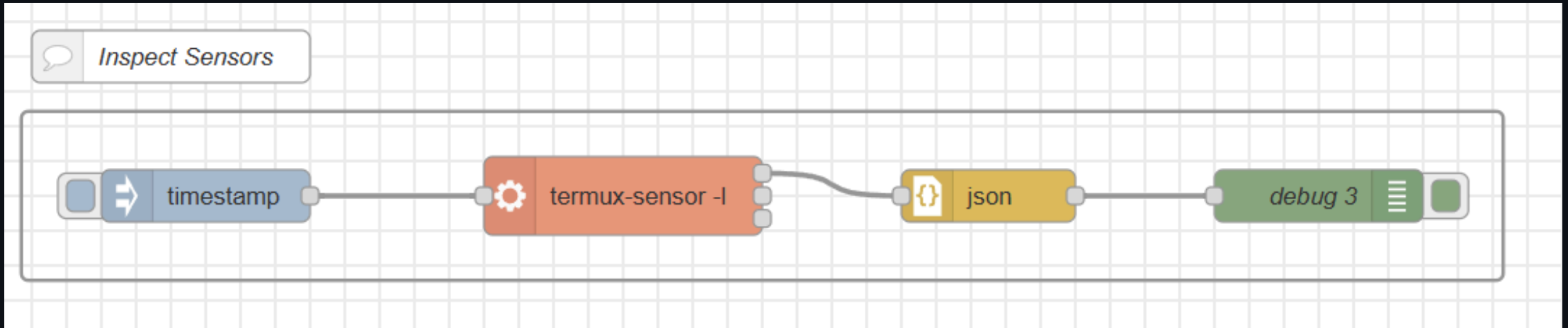
Sensors

-  `termux-sensor -l`
-  `termux-sensor -s <<Sensor Name>>`
-  `termux-sensor -a` (*all sensors*)
-  `termux-sensor -c` (*clean up*)

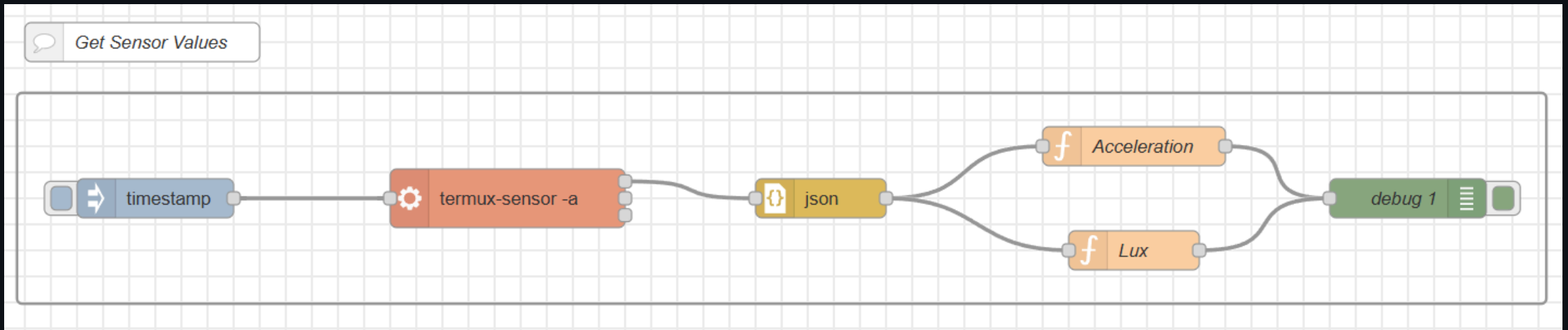
Flashlight

-  `termux-torch on`
-  `termux-torch off`

Inspecting sensors



Obtaining sensor values



function node (Acceleration)

```
const sensor_name = "LSM6DS0 Acceleration Sensor"; // Change here
const payload = msg.payload;
const values = payload[sensor_name].values;
const output_value = Math.sqrt(
  values[0] ** 2 + values[1] ** 2 + values[2] ** 2
); // Modify here
msg.payload = output_value;
return msg;
```

function node (Lux)

```
const sensor_name = "TMD4910 Uncalibrated lux Sensor"; // Change here
const payload = msg.payload;
const values = payload[sensor_name].values;
const output = values[0]; // Modify here
msg.payload = output;
return msg;
```

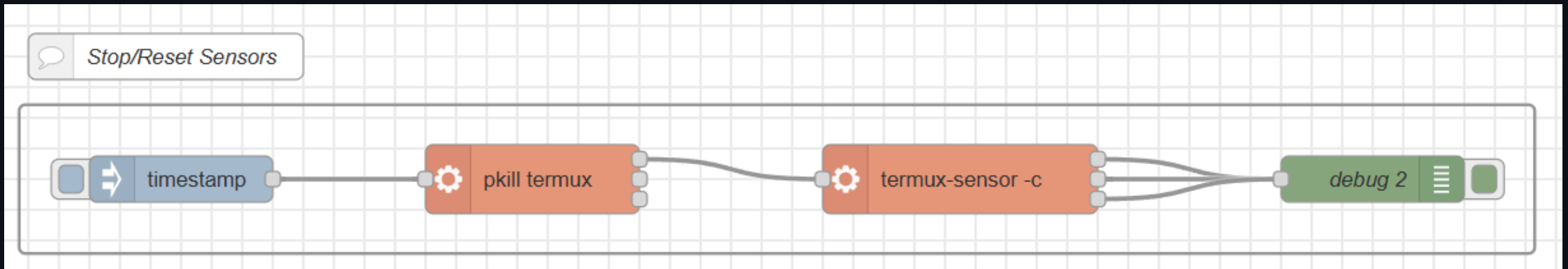
exec node (do not forget)

The screenshot displays a Node-RED workflow in the 'Mobile Sensor (Backup)' workspace. The workflow consists of three nodes in sequence: 'termux-sensor -l', 'json', and 'debug 3'. Below this, another workflow is partially visible, starting with a 'termux-sensor -a' node, followed by a 'json' node, and then two function nodes. A red rectangle highlights the 'termux-sensor -a' node, and a red arrow points from it to the 'Edit exec node' configuration panel on the right.

The 'Edit exec node' panel shows the following configuration:

- Command:** termux-sensor -a
- Append:** ☐ msg. payload
- extra input parameters:** (empty field)
- Output:** while the command is running - spawn mode (selected, highlighted with a red box)
- Timeout:** optional seconds
- Hide console:** ☐
- Name:** Name

Resetting/stopping sensors



Controlling flashlight

