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` *(ให้ปิดแบบ 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`

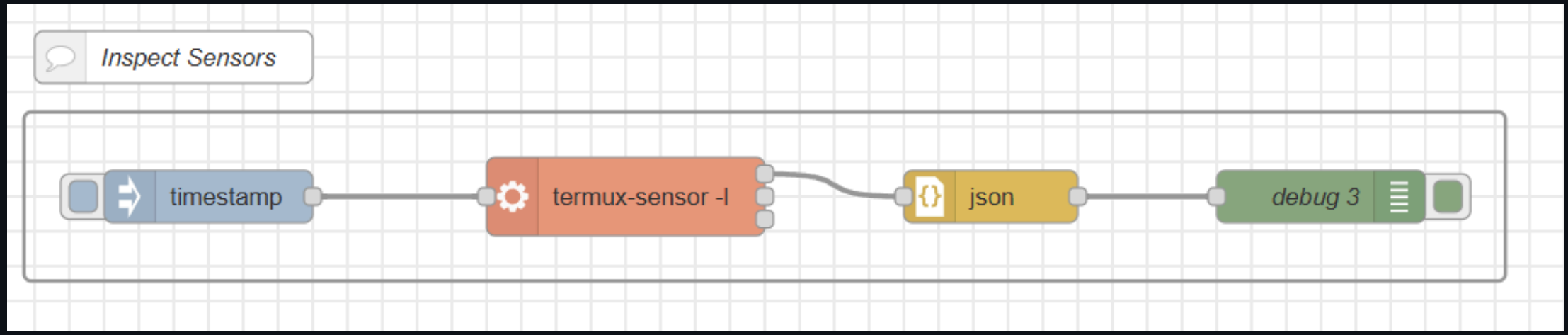
Sensors

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

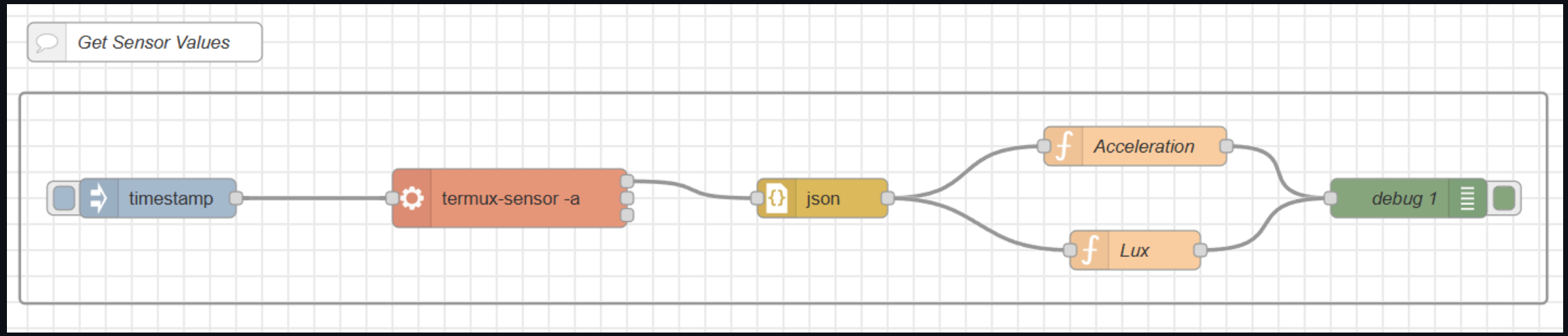
Flashlight

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

Inspecting sensors



Obtaining sensor values



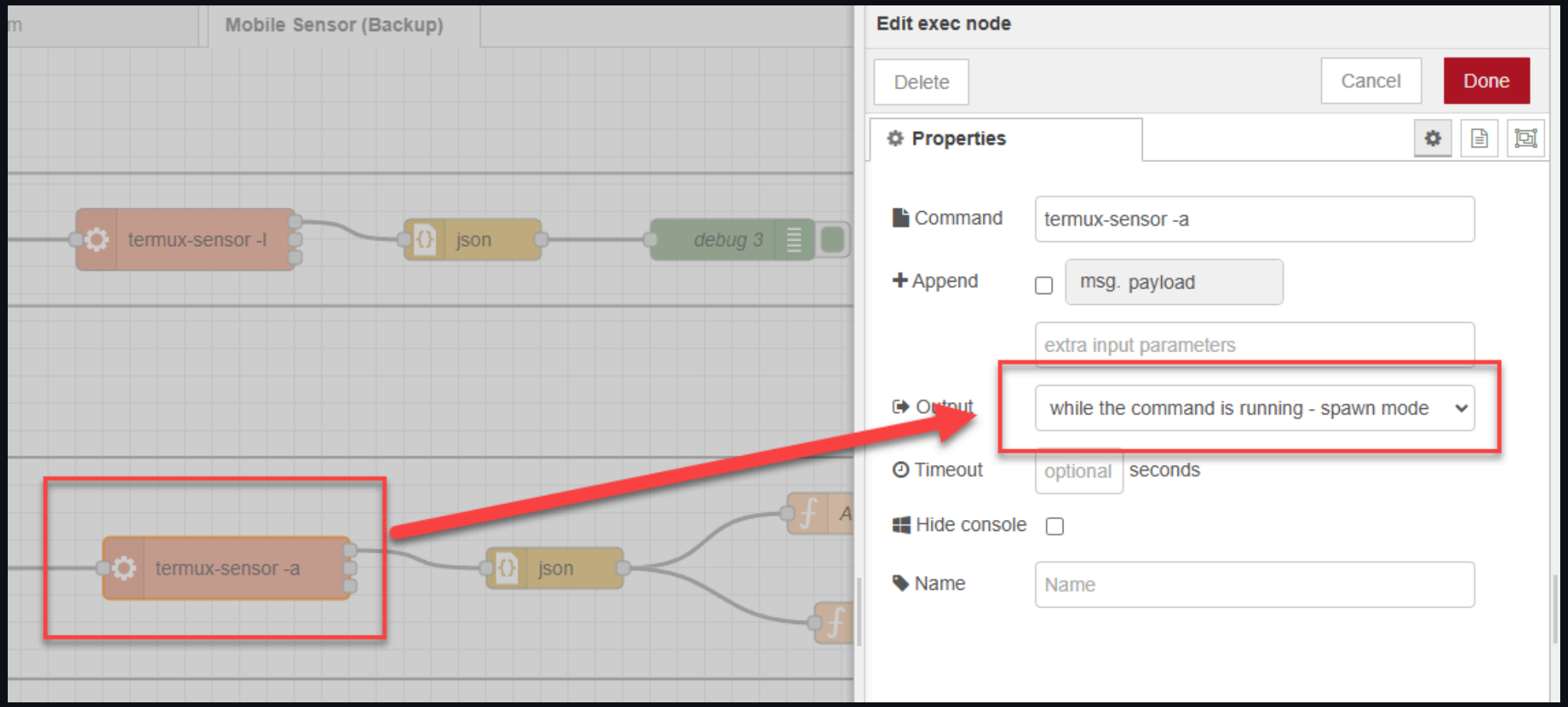
`function` node (Acceleration)

```
const sensor_name = "LSM6DSO 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;
```

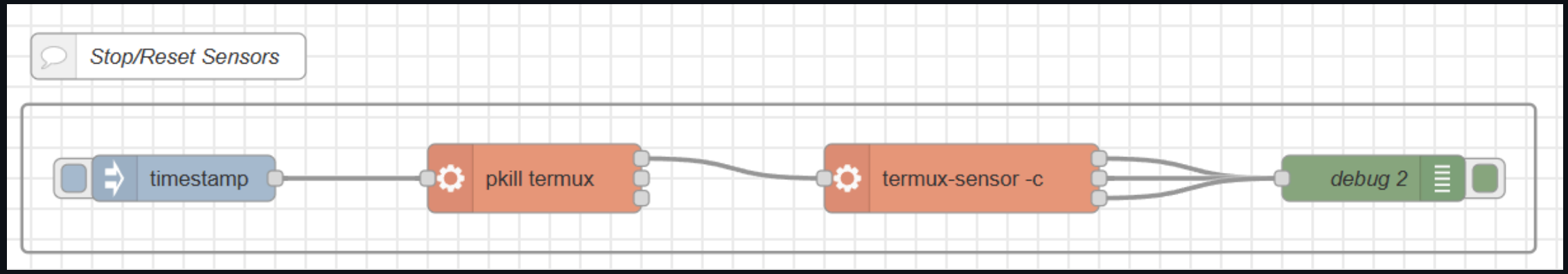
`function` node (Lux)

```
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)



Resetting/stopping sensors



Controlling flashlight