

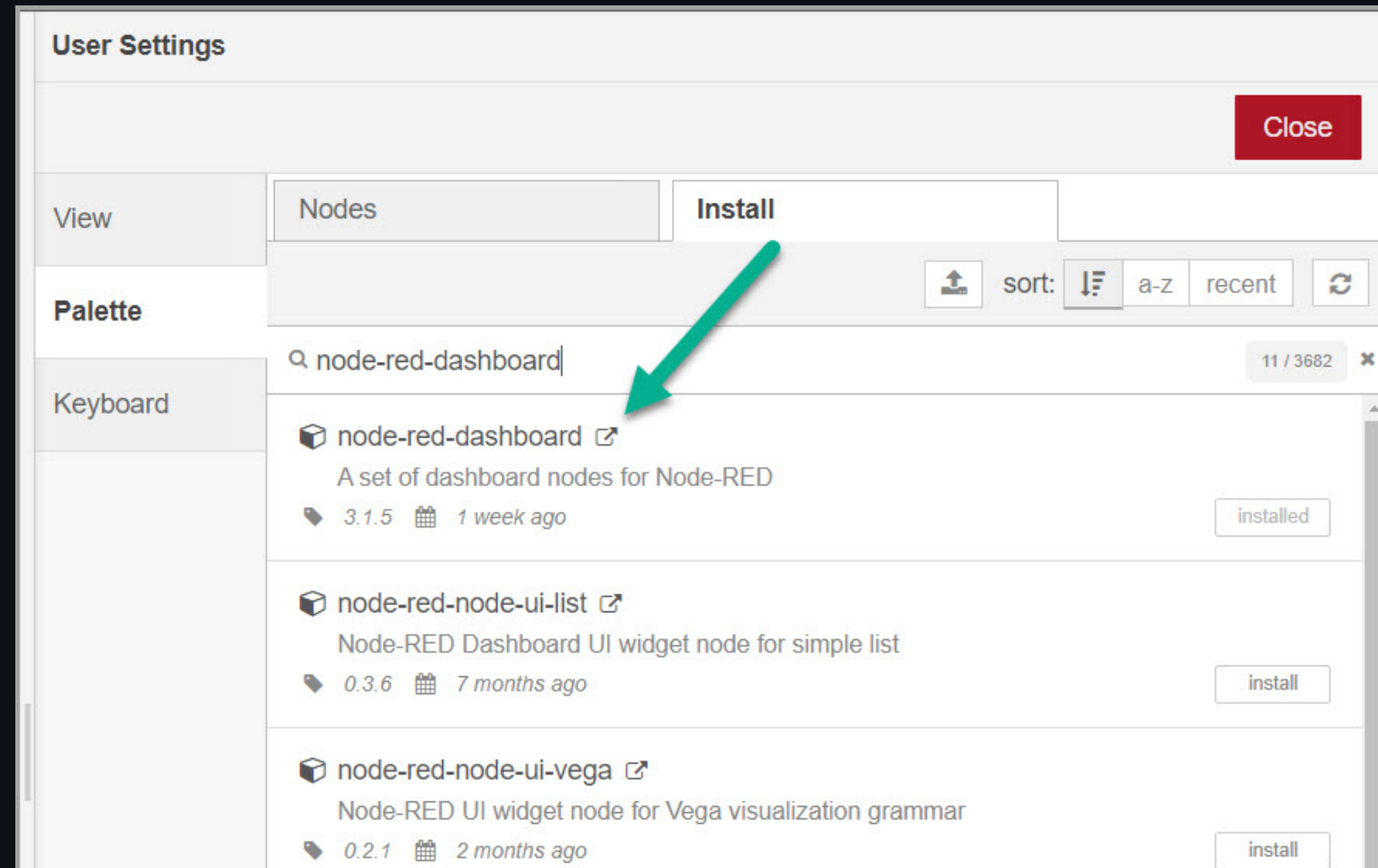
# **Production Supporting Systems in Factories**

**ระบบสนับสนุนการผลิตในโรงงานอุตสาหกรรม**

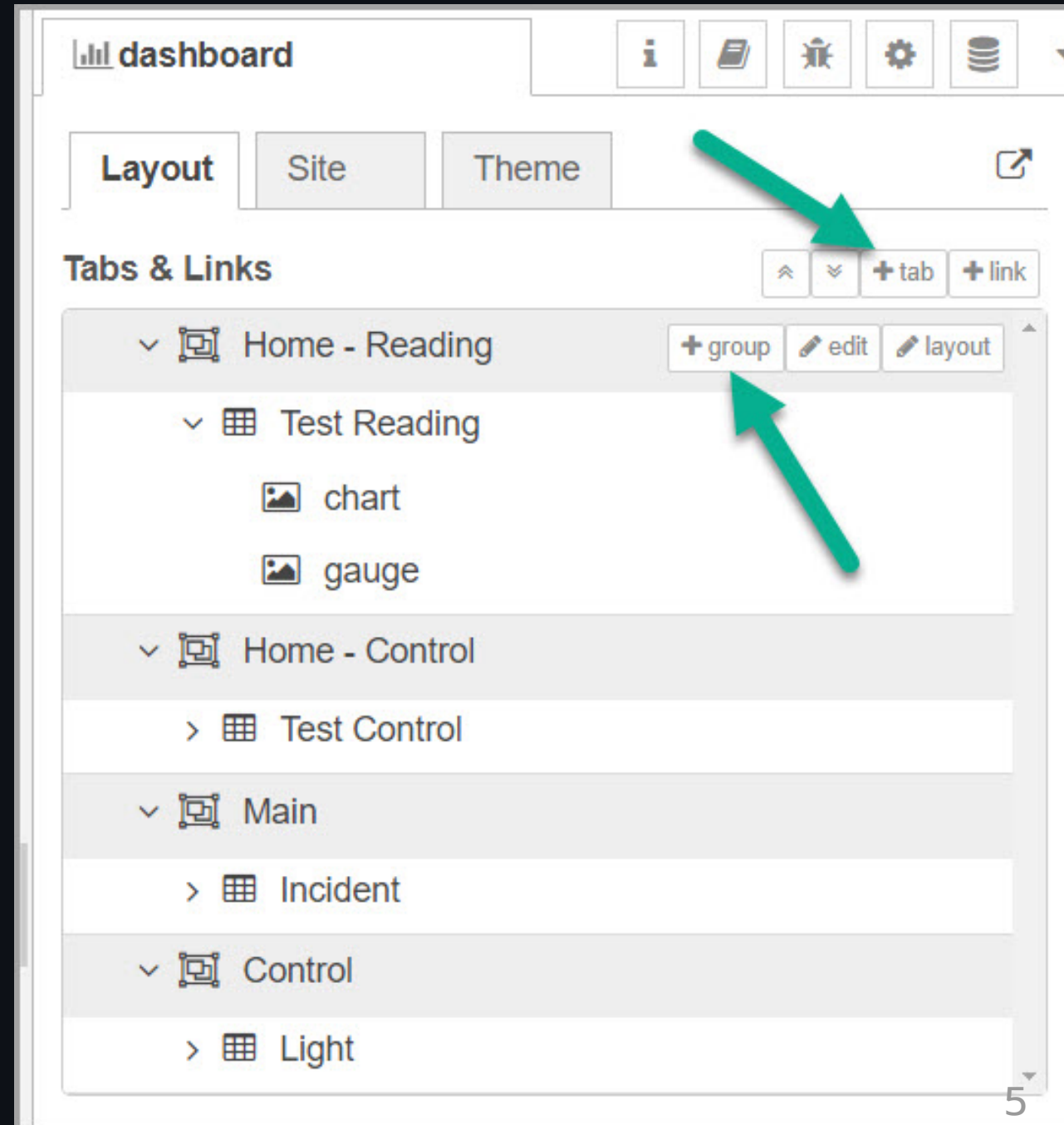
# Dashboard

# Dashboard display

- Go to **Manage palette**
- **Install node-red-dashboard**

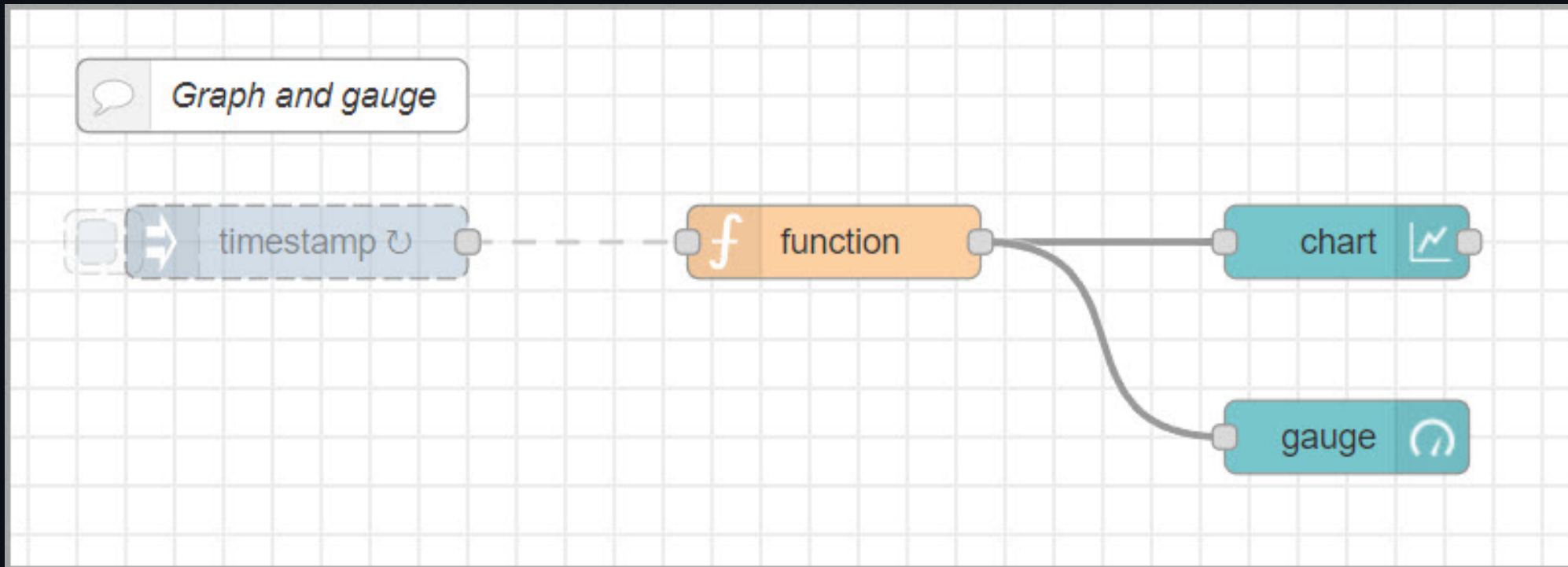


- Go to **Dashboard** tab
- Click **+ tab**
  - Edit tab information
- Click **+ group**
  - Edit group information



- Flow

- inject, function, chart, gauge



- inject node

### Edit inject node

Delete Cancel Done

#### Properties

Name:

msg. payload = timestamp

msg. topic = a\_z

+ add inject now

☐ Inject once after 0.1 seconds, then

Repeat interval

every 0.5 seconds

- **function** node (code on the next page)

### Edit function node

Delete

Cancel

Done

Properties

Name

Setup

On Start

**On Message**

On Stop

1 `const timestamp = msg.payload`

2 `const period = 10`

3 `msg.payload = Math.sin(timestamp/1000*2*Math.PI/period)`

4 `return msg;`



```
const timestamp = msg.payload;  
const period = 10;  
msg.payload = Math.sin(((timestamp / 1000) * 2 * Math.PI) / period);  
return msg;
```

- **chart node**

**Edit chart node**

Delete Cancel Done

**Properties**

Group [Home - Reading] Test Reading

Size auto

Label chart

Type Line chart ☐ enlarge points

X-axis last 1 minutes OR 1000 points

X-axis Label HH:mm:ss ☐ as UTC

Y-axis min max

Legend None Interpolate linear

- gauge node

**Edit gauge node**

Delete Cancel Done

**Properties**

Group [Home - Reading] Test Reading

Size auto

Type Gauge

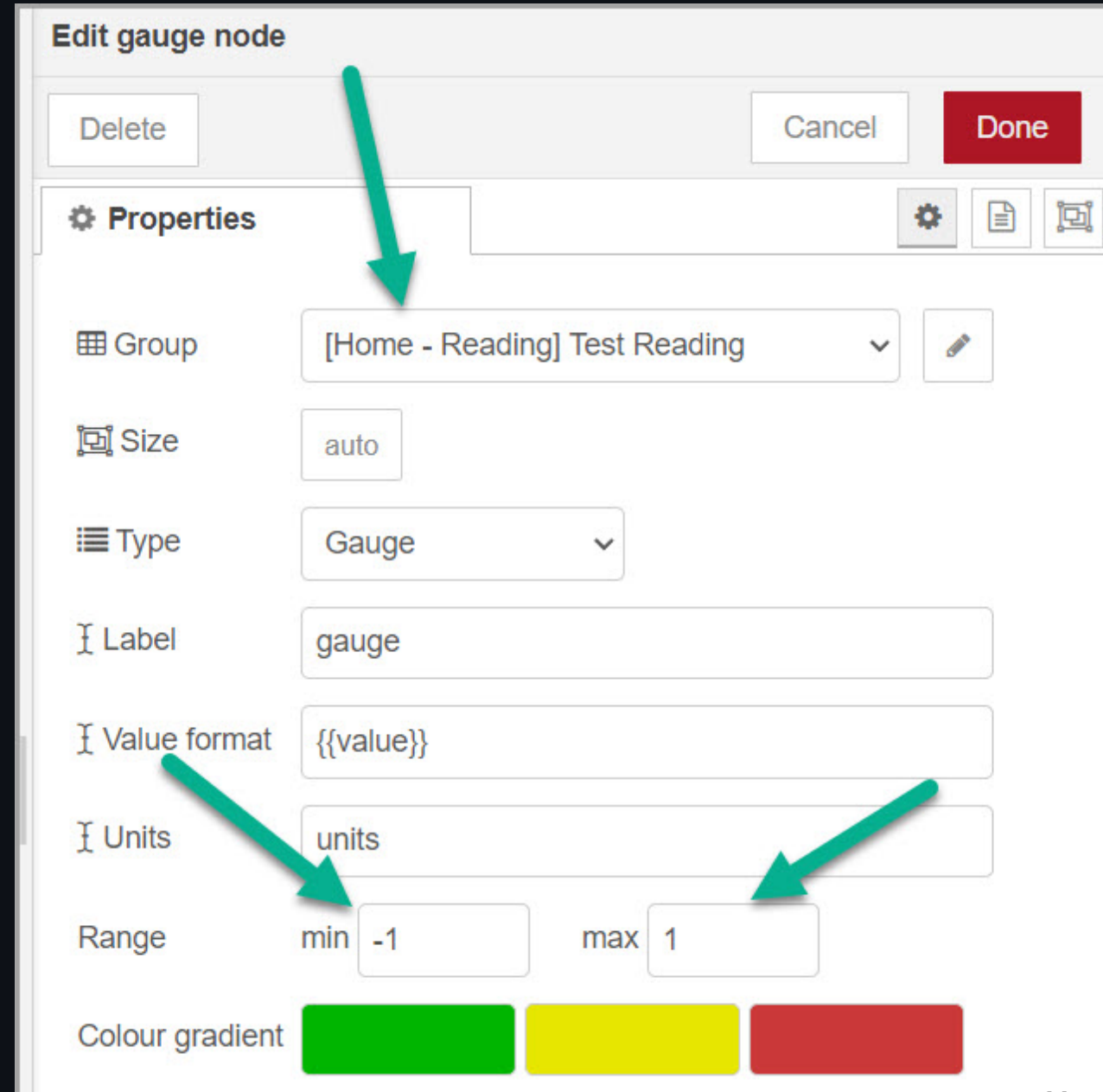
Label gauge

Value format {{value}}

Units units

Range min -1 max 1

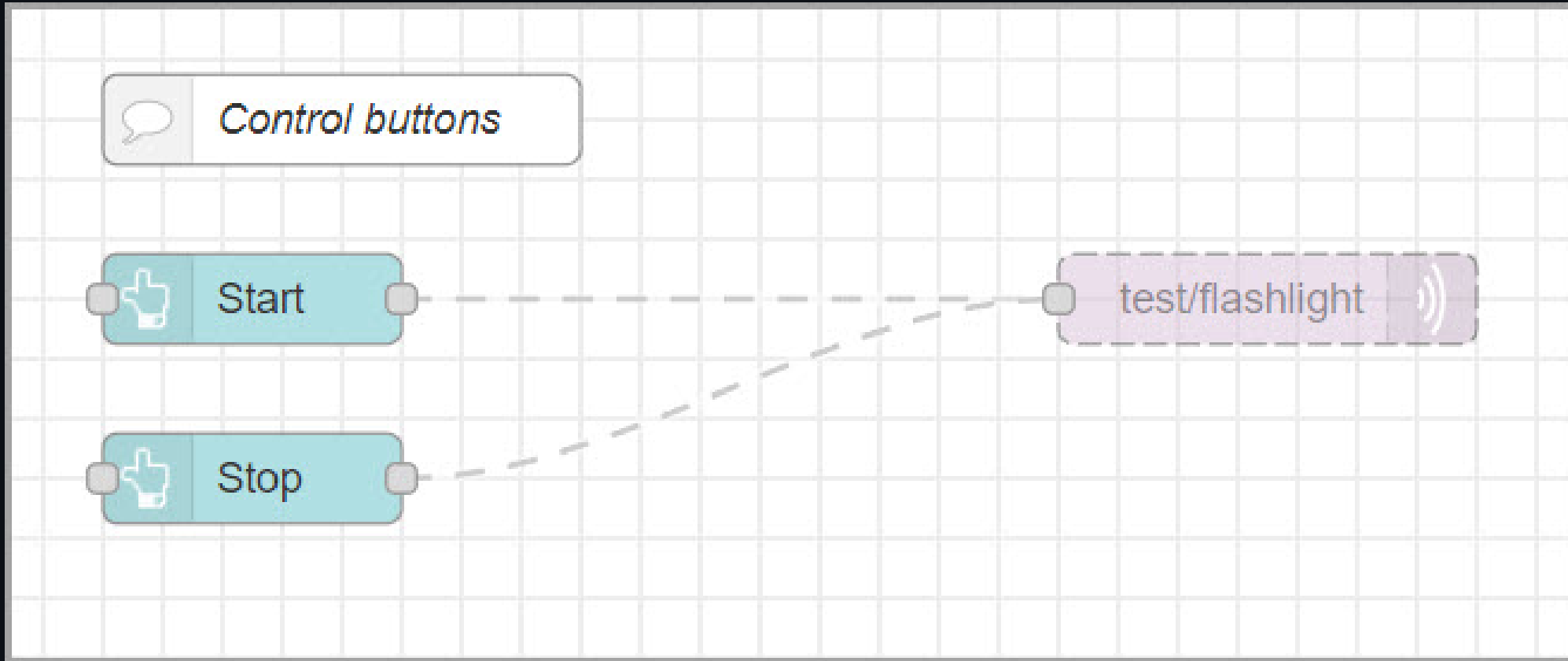
Colour gradient



# Control

- Flow

- button, mqtt out



- button Start

### Edit button node

Delete Cancel Done

#### Properties

Group [Home - Control] Test Control

Size auto

Icon optional icon

Label Start

Tooltip optional tooltip

Color optional text/icon color

Background green

When clicked, send:

Payload  $a_z$  start

Topic msg. topic

→ If msg arrives on input, emulate a button click: ☐

- button Stop

### Edit button node

Delete Cancel Done

#### Properties

Group [Home - Control] Test Control

Size auto

Icon optional icon

Label Stop

Tooltip optional tooltip

Color optional text/icon color

Background red

When clicked, send:

Payload  $a_z$  stop

Topic msg. topic

- mqtt out node

### Edit mqtt out node

Delete Cancel Done

⚙ Properties

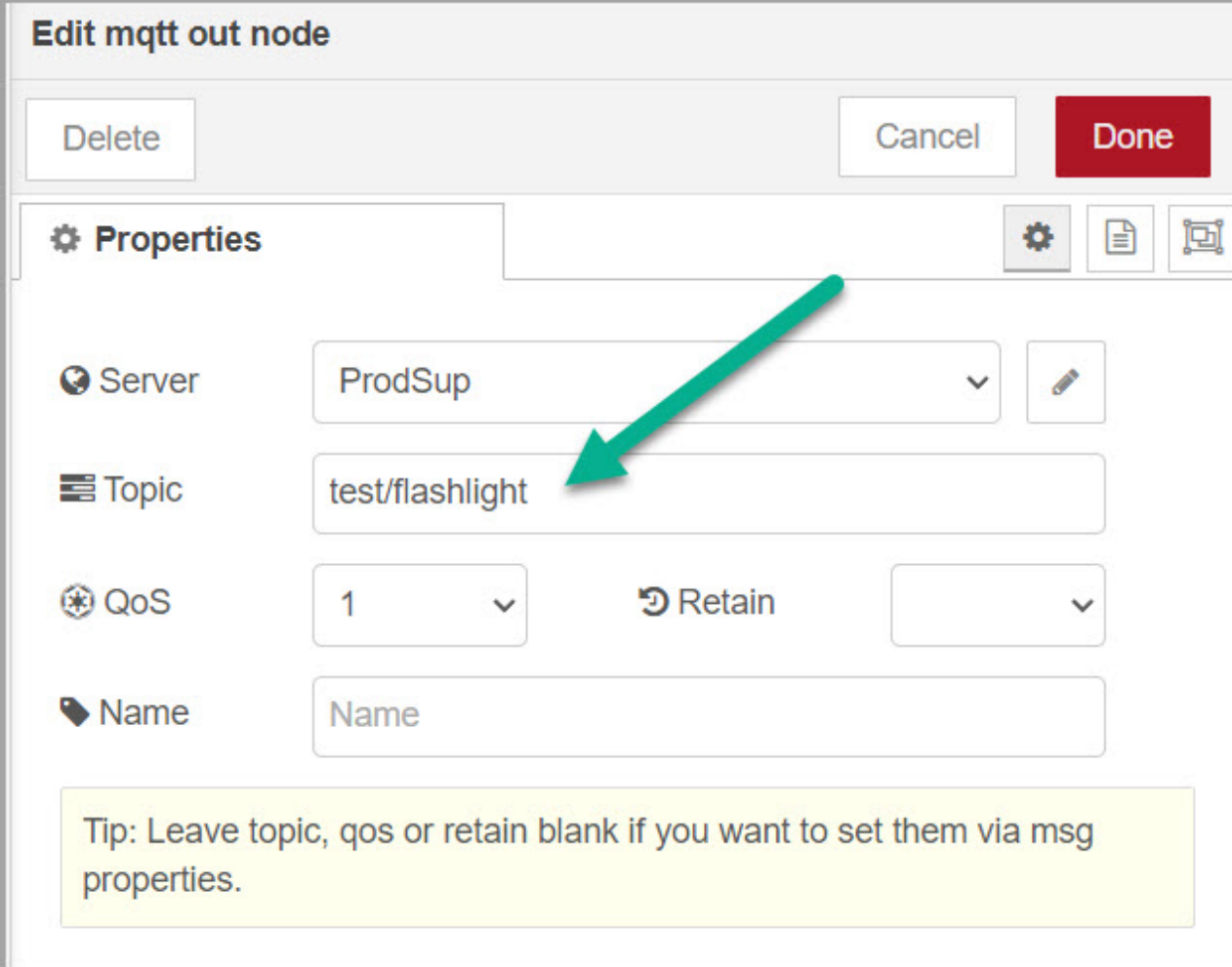
Server ProdSup

Topic test/flashlight

QoS 1 Retain

Name Name

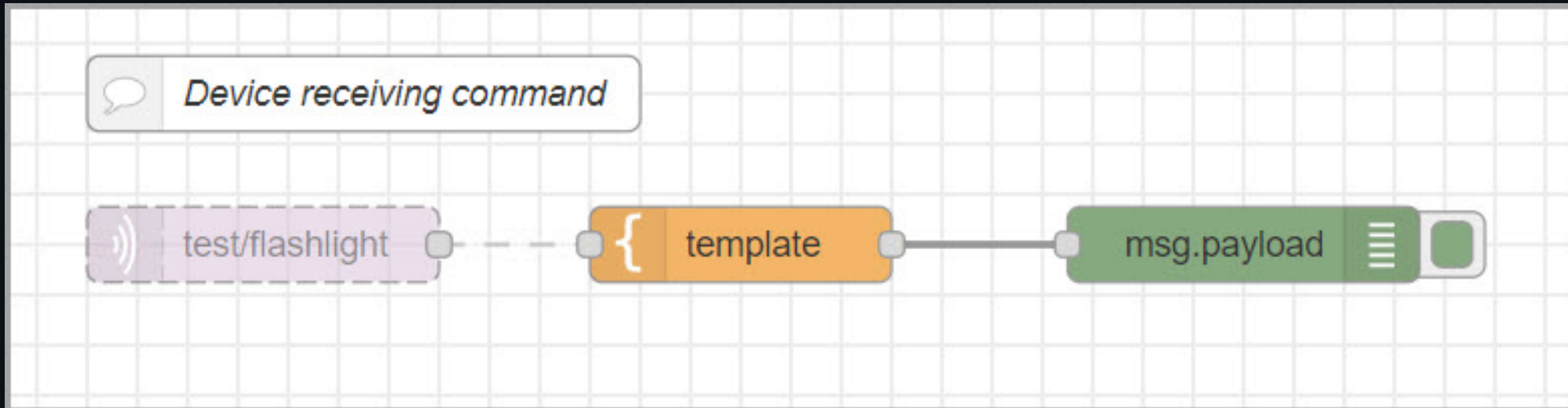
Tip: Leave topic, qos or retain blank if you want to set them via msg properties.

The image shows a software interface for editing an MQTT output node. At the top, there's a title bar 'Edit mqtt out node' and three buttons: 'Delete', 'Cancel', and 'Done'. Below this is a 'Properties' section with a gear icon and three sub-icons (gear, document, and a node icon). The main area contains several fields: 'Server' with a dropdown menu showing 'ProdSup', 'Topic' with a text input 'test/flashlight', 'QoS' with a dropdown menu showing '1', 'Retain' with a checkbox and a dropdown menu, and 'Name' with a text input 'Name'. A green arrow points to the 'Topic' field. At the bottom, there's a yellow tip box that says 'Tip: Leave topic, qos or retain blank if you want to set them via msg properties.'



- flow

- mqtt in, template, debug



- mqtt in node

**Edit mqtt in node**

Delete Cancel Done

**Properties**

Server ProdSup

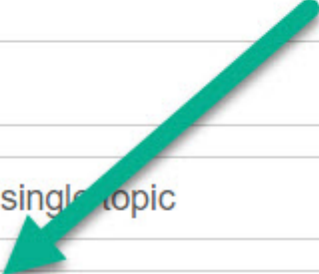
Action Subscribe to single topic

Topic test/flashlight

QoS 1

Output auto-detect (string or buffer)

Name Name



- **template node**

### Edit template node

Delete Cancel Done

#### Properties

Name

Property

Template  Syntax Highlight:

```
1 I will {{payload}} now !
```