<table>
<tr><td>

การสร้าง MQTT Server บน Raspberry Pi เพื่อใช้งาน Chatbot LINE ในฟาร์มอัจฉริยะ

Chatbot LINE from Raspberry Pi MQTT Server for Smart Farming
</td></tr>
<tr><td>

ชื่อ-สกุล : B6310646 นางสาวสุภานัน เรืองสุข
</td></tr>
<tr><td>

6/6 –คำถามท้ายบทเพื่อทดสอบความเข้าใจ
</td></tr>
</table>

Quiz_201 – Node-RED UI

- แสดงข้อมูลที่ได้ทำการทดสอบ

```
Code nodejs
[
    {
        "id": "77af658ffa4711d3",
        "type": "tab",
        "label": "Flow5",
        "disabled": false,
        "info": "",
        "env": []
    },
    {
        "id": "b2848cd6.ca5c7",
        "type": "ui_slider",
        "z": "77af658ffa4711d3",
        "tab": "5969fd52.22b424",
        "name": "Slider",
        "topic": "",
        "group": "Control LED",
        "order": "2",
        "min": "0",
        "max": "100",
        "x": 610,
        "y": 280,
        "wires": [
            [
                "1cca457a.60fb5b",
                "732721f2.32913",
```

```
        "3c7de1d6.58b99e",
        "869c189f.bbbd18"
      ]
    ]
},
{
    "id": "1cca457a.60fb5b",
    "type": "ui_gauge",
    "z": "77af658ffa4711d3",
    "tab": "5969fd52.22b424",
    "name": "Gauge",
    "group": "Control LED",
    "order": "3",
    "format": "{{value}}",
    "min": 0,
    "max": "100",
    "x": 1023,
    "y": 368,
    "wires": []
},
{
    "id": "732721f2.32913",
    "type": "ui_chart",
    "z": "77af658ffa4711d3",
    "tab": "5969fd52.22b424",
    "name": "",
    "group": "Control LED",
    "order": "4",
    "interpolate": "linear",
    "nodata": "No Data",
    "removeOlder": 1,
    "removeOlderUnit": "86400",
    "x": 1023,
    "y": 474,
    "wires": [
```

```
            [],
            []
        ]
    },
    {
        "id": "3c7de1d6.58b99e",
        "type": "rpi-gpio out",
        "z": "77af658ffa4711d3",
        "name": "LED",
        "pin": "21",
        "set": "",
        "level": "0",
        "freq": "",
        "out": "pwm",
        "bcm": true,
        "x": 1026,
        "y": 290,
        "wires": []
    },
    {
        "id": "828cc789.3d3b08",
        "type": "function",
        "z": "77af658ffa4711d3",
        "name": "Function",
        "func": "if(msg.payload == \"true\"){\n msg.payload = 1;\n}\nelse{\n msg.payload = 0;\n} \nreturn msg;",
        "outputs": "1",
        "noerr": 0,
        "initialize": "",
        "finalize": "",
        "libs": [],
        "x": 860,
        "y": 560,
        "wires": [
            [
```

```
                "b2848cd6.ca5c7"
            ]
        ]
    },
    {
        "id": "58638633.9de238",
        "type": "ui_switch",
        "z": "77af658ffa4711d3",
        "tab": "5969fd52.22b424",
        "name": "Switch",
        "topic": "",
        "group": "Control LED",
        "order": 1,
        "onvalue": "true",
        "offvalue": "false",
        "x": 593,
        "y": 557,
        "wires": [
            [
                "828cc789.3d3b08"
            ]
        ]
    },
    {
        "id": "869c189f.bbbd18",
        "type": "function",
        "z": "77af658ffa4711d3",
        "name": "SetSwitch",
        "func": "if(msg.payload > 0)\n msg.payload = 1;\nelse \n msg.payload = 0;\n
\nreturn msg;\n",
        "outputs": 1,
        "noerr": 0,
        "initialize": "",
        "finalize": "",
        "libs": [],
```
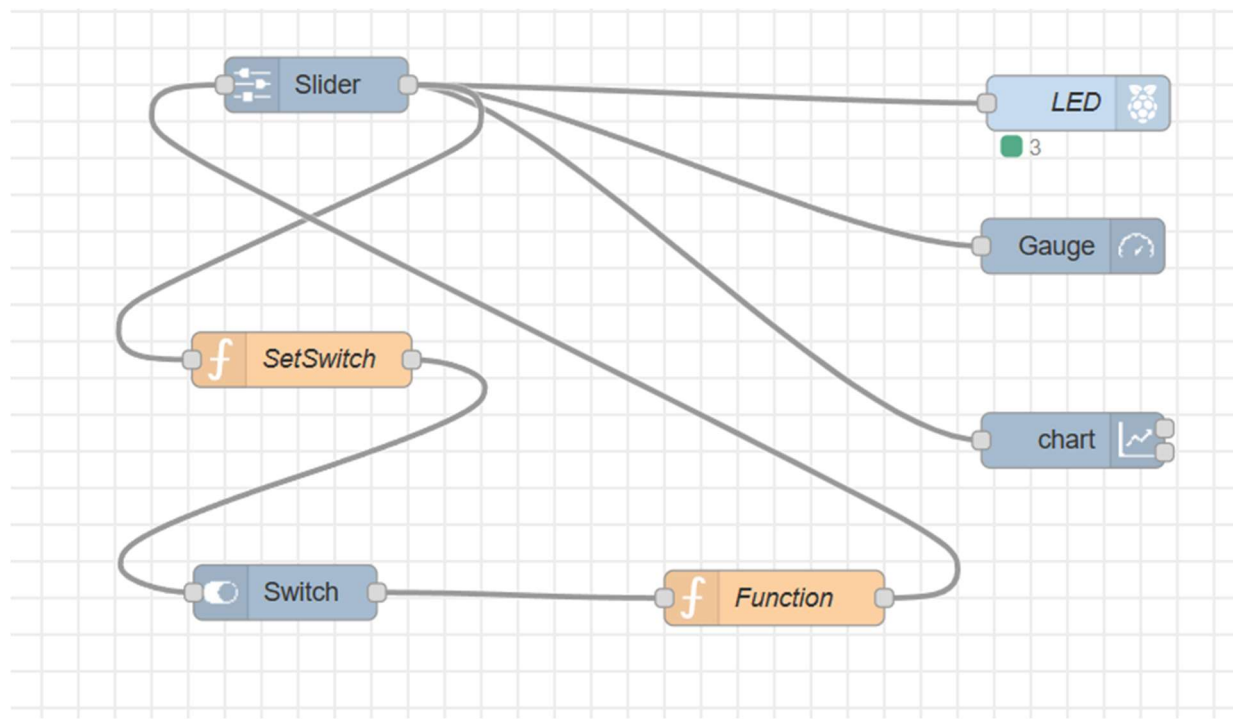
```
      "x": 602,
      "y": 430,
      "wires": [
        [
          "58638633.9de238"
        ]
      ]
    },
    {
      "id": "5969fd52.22b424",
      "type": "ui_tab",
      "z": "77af658ffa4711d3",
      "name": "TEST1",
      "icon": "dashboard",
      "order": "1"
    }
]
```
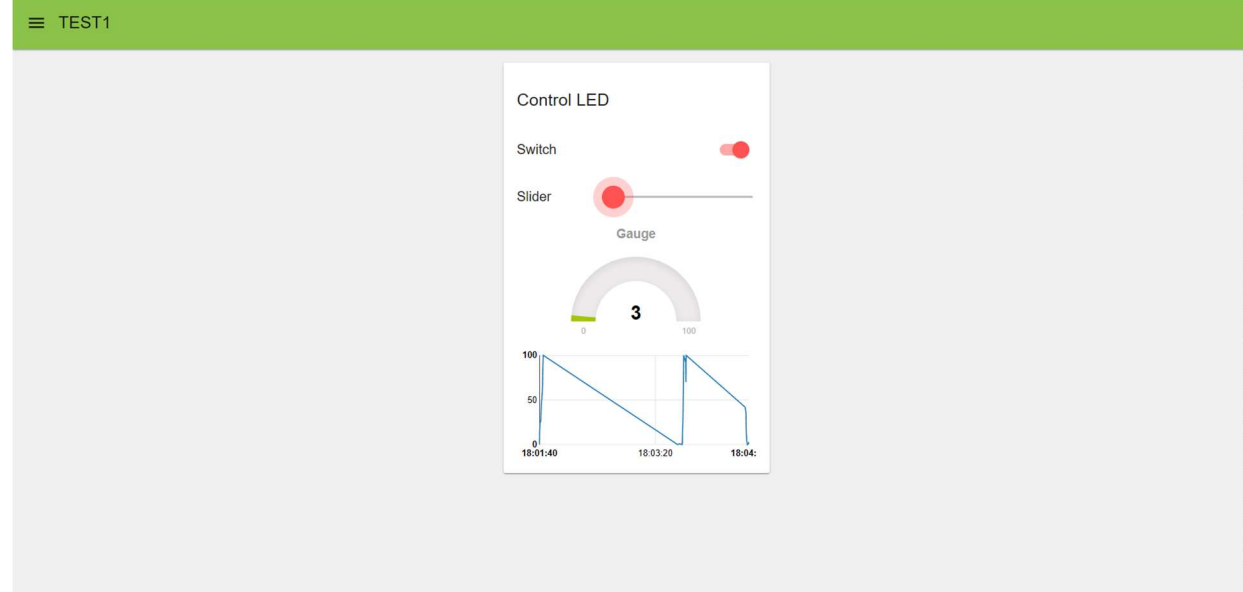
หน้าจอ node flow ที่ได้ทดสอบ

รูปการทดสอบ 1 - UI

รูปการทดสอบ 2

Quiz_202 – Node-RED to LINE notify

- แสดงข้อมูลที่ได้ทำการทดสอบ

```
Code nodejs
[
    {
        "id": "27ca0104b4dc9516",
        "type": "tab",
        "label": "Flow6",
        "disabled": false,
        "info": "",
        "env": []
    },
    {
        "id": "1979c14ec2ad4523",
        "type": "http request",
        "z": "27ca0104b4dc9516",
        "name": "",
        "method": "POST",
        "ret": "txt",
        "paytoqs": "ignore",
        "url": "https://notify-api.line.me/api/notify",
        "tls": "",
        "persist": false,
        "proxy": "",
        "insecureHTTPParser": false,
        "authType": "",
        "senderr": false,
        "headers": [],
        "x": 630,
        "y": 340,
        "wires": [
            [
                "fae20fc5b1825096"
            ]
        ]
```

```
        },
        {
            "id": "fae20fc5b1825096",
            "type": "debug",
            "z": "27ca0104b4dc9516",
            "name": "",
            "active": true,
            "tosidebar": true,
            "console": false,
            "tostatus": false,
            "complete": "payload",
            "statusVal": "",
            "statusType": "auto",
            "x": 810,
            "y": 340,
            "wires": []
        },
        {
            "id": "81be9c63fe920de1",
            "type": "function",
            "z": "27ca0104b4dc9516",
            "name": "Message",
            "func": "msg.token =
'dnWPlDhRp37SeT8OUHoIPstSP18Y061Wd0AAQtaidw7';\nmsg.message = 'B6310646
supanan';\nmsg.stickerPackageId = 11539;\nmsg.stickerId =
52114112;\n\nmsg.headers = {\n 'content-type':'application/x-www-form-urlencoded',\n
'Authorization':'Bearer ' + msg.token\n};\nmsg.payload = {\n 'message':
msg.message,\n 'stickerPackageId':msg.stickerPackageId,\n
'stickerId':msg.stickerId\n};\nreturn msg;\n",
            "outputs": 1,
            "noerr": 0,
            "initialize": "",
            "finalize": "",
            "libs": [],
            "x": 460,
            "y": 340,
            "wires": [
```

```
            [
                "1979c14ec2ad4523"
            ]
        ]
    },
    {
        "id": "e3b7ac760fabfe77",
        "type": "inject",
        "z": "27ca0104b4dc9516",
        "name": "",
        "props": [
            {
                "p": "payload"
            },
            {
                "p": "topic",
                "vt": "str"
            }
        ],
        "repeat": "",
        "crontab": "",
        "once": false,
        "onceDelay": 0.1,
        "topic": "",
        "payload": "",
        "payloadType": "date",
        "x": 280,
        "y": 340,
        "wires": [
            [
                "81be9c63fe920de1"
            ]
        ]
    }
]
```
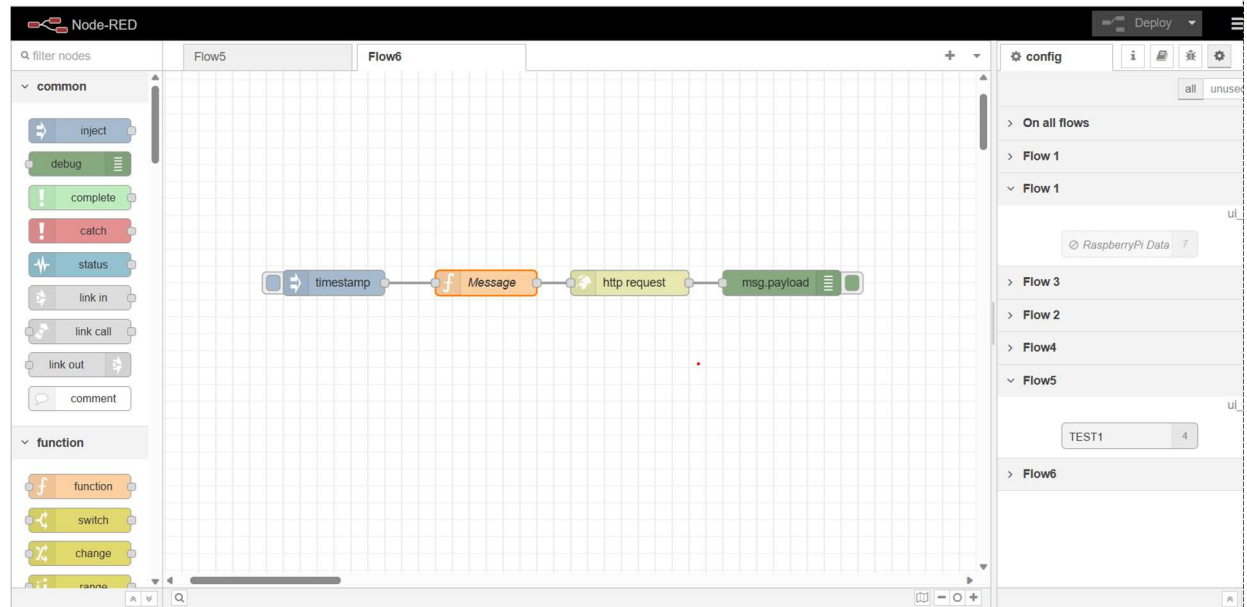
หน้าจอ node flow ที่ได้ทดสอบ

รูปการทดสอบ 1 – LINE

รูปการทดสอบ 2
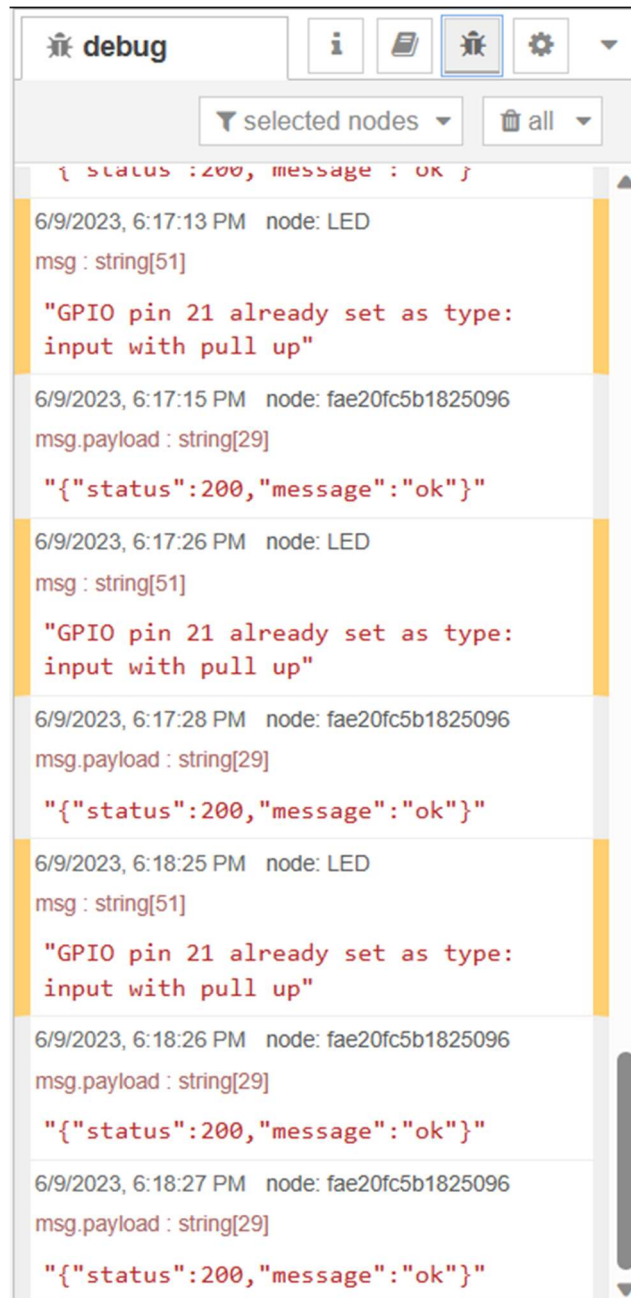
Quiz_203 – Node-RED to Google Sheet

- แสดงข้อมูลที่ได้ทำการทดสอบ

```
Code nodejs
[
    {
        "id": "9abe0f58e7be3cd6",
        "type": "tab",
        "label": "Flow7",
        "disabled": false,
        "info": "",
        "env": []
    },
    {
        "id": "1d8fcdc0dca13da7",
        "type": "inject",
        "z": "9abe0f58e7be3cd6",
        "name": "",
        "props": [
            {
                "p": "payload"
            },
            {
                "p": "topic",
                "vt": "str"
            }
        ],
        "repeat": "",
        "crontab": "",
        "once": false,
        "onceDelay": 0.1,
        "topic": "",
        "payload": "",
        "payloadType": "date",
        "x": 280,
        "y": 320,
```

```
      "wires": [
        [
          "29967af7bda0c65c"
        ]
      ]
  },
  {
    "id": "dbbe8142e2563c8d",
    "type": "debug",
    "z": "9abe0f58e7be3cd6",
    "name": "",
    "active": true,
    "tosidebar": true,
    "console": false,
    "tostatus": false,
    "complete": "payload",
    "targetType": "msg",
    "statusVal": "",
    "statusType": "auto",
    "x": 790,
    "y": 320,
    "wires": []
  },
  {
    "id": "29967af7bda0c65c",
    "type": "function",
    "z": "9abe0f58e7be3cd6",
    "name": "",
    "func": "var data = {}\ndata.Tempp = parseFloat((Math.random()*20)+20).toFixed(2);\ndata.Humid =parseFloat((Math.random()*20)+40).toFixed(2);\ndata.Light = parseFloat((Math.random()*20)+60).toFixed(2);\ndata.RSSI = parseFloat((Math.random()*20)+80).toFixed(2);\n\nmsg.payload = data\n\nreturn msg;",
    "outputs": 1,
    "noerr": 0,
    "initialize": "",
```

```
      "finalize": "",
      "libs": [],
      "x": 440,
      "y": 320,
      "wires": [
        [
            "26fe2f978a5bda14"
        ]
      ]
  },
  {
      "id": "26fe2f978a5bda14",
      "type": "http request",
      "z": "9abe0f58e7be3cd6",
      "name": "",
      "method": "POST",
      "ret": "txt",
      "paytoqs": "ignore",
      "url":
"https://docs.google.com/forms/d/e/1FAIpQLScW8lMUYy9KKo3kipwwpS1kX9HogdE9X8SI
hh7-2uUjsV-
voA/formResponse?usp=pp_url&entry.440702937={{payload.Tempp}}&entry.45440489
3={{payload.Humid}}&entry.311246336={{payload.Light}}&entry.320505924={{paylo
ad.RSSI}}",
      "tls": "",
      "persist": false,
      "proxy": "",
      "insecureHTTPParser": false,
      "authType": "",
      "senderr": false,
      "headers": [],
      "credentials": {},
      "x": 610,
      "y": 320,
      "wires": [
        [
            "dbbe8142e2563c8d"
```

```
            ]
        ]
    }
]
```

หน้าจอ node flow ที่ได้ทดสอบ

รูปการทดสอบ 1 – Google Sheet

รูปการทดสอบ 2 –

M3_D2
ข้อที่ 3

Temperature (C)

12

Humidity (%)

34

Light (%)

56

RSSI (dB)

78

รับลิงก์

debug

selected nodes ▼   all ▼

href="https://fonts.googleapis.com/css?family=Product+Sans&subset=latin,vietnamese,latin-
ext,cyrillic,greek,cyrillic-ext,greek-ext" rel="stylesheet" type="text/css" nonce="8UAr2BmPPhGutOsvwmJ6jQ">
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6/9/2023, 7:26:06 PM   node: dbbe8142e2563c8d

msg.payload : string[28849]

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iY5jc5OCmg" data-id="_cl" nonce="qBzgnAIN-uM_M7B0iTY0WQ"><link href="https://fonts.googleapis.com/css?
family=Google+Sans_old:400,500|Roboto:300,400,400i,500,700&subset=latin,vietnamese,latin-
ext,cyrillic,greek,cyrillic-ext,greek-ext" rel="stylesheet" nonce="qBzgnAIN-uM_M7B0iTY0WQ"><script
nonce="ir5PrAVXNqh7Jkkf1QW8AQ">var DOCS_timing={}; DOCS_timing['pls']=new Date().getTime();
DOCS_timing['sl']=DOCS_timing['pls']; _docs_webfonts_json = "{}"</script><link
href="https://fonts.googleapis.com/css?family=Product+Sans&subset=latin,vietnamese,latin-
ext,cyrillic,greek,cyrillic-ext,greek-ext" rel="stylesheet" type="text/css" nonce="qBzgnAIN-uM_M7B0iTY0WQ">
<meta name="viewport" content="w..."

6/9/2023, 7:26:06 PM   node: dbbe8142e2563c8d

msg.payload : string[28845]

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rel="stylesheet"
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iY5jc5OCmg" data-id="_cl" nonce="OoukrfPgEUUONDvZi_O8xA"><link href="https://fonts.googleapis.com/css?
family=Google+Sans_old:400,500|Roboto:300,400,400i,500,700&subset=latin,vietnamese,latin-
ext,cyrillic,greek,cyrillic-ext,greek-ext" rel="stylesheet" nonce="OoukrfPgEUUONDvZi_O8xA"><script
nonce="8iQJuzVxdxvR_4fmeMEsRQ">var DOCS_timing={}; DOCS_timing['pls']=new Date().getTime();
DOCS_timing['sl']=DOCS_timing['pls']; _docs_webfonts_json = "{}"</script><link
href="https://fonts.googleapis.com/css?family=Product+Sans&subset=latin,vietnamese,latin-
ext,cyrillic,greek,cyrillic-ext,greek-ext" rel="stylesheet" type="text/css" nonce="OoukrfPgEUUONDvZi_O8xA">
<meta name="viewport" content="w..."