

<p>การสร้าง MQTT Server บน Raspberry Pi เพื่อใช้งาน Chatbot LINE ในฟาร์มอัจฉริยะ</p> <p>Chatbot LINE from Raspberry Pi MQTT Server for Smart Farming</p>
<p>ชื่อ-สกุล : B6310646 นางสาวสุภาณัน เรืองสุข</p>
<p>6/6 –คำถามท้ายบทเพื่อทดสอบความเข้าใจ</p>

### 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.bb5d18",
    "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": [],

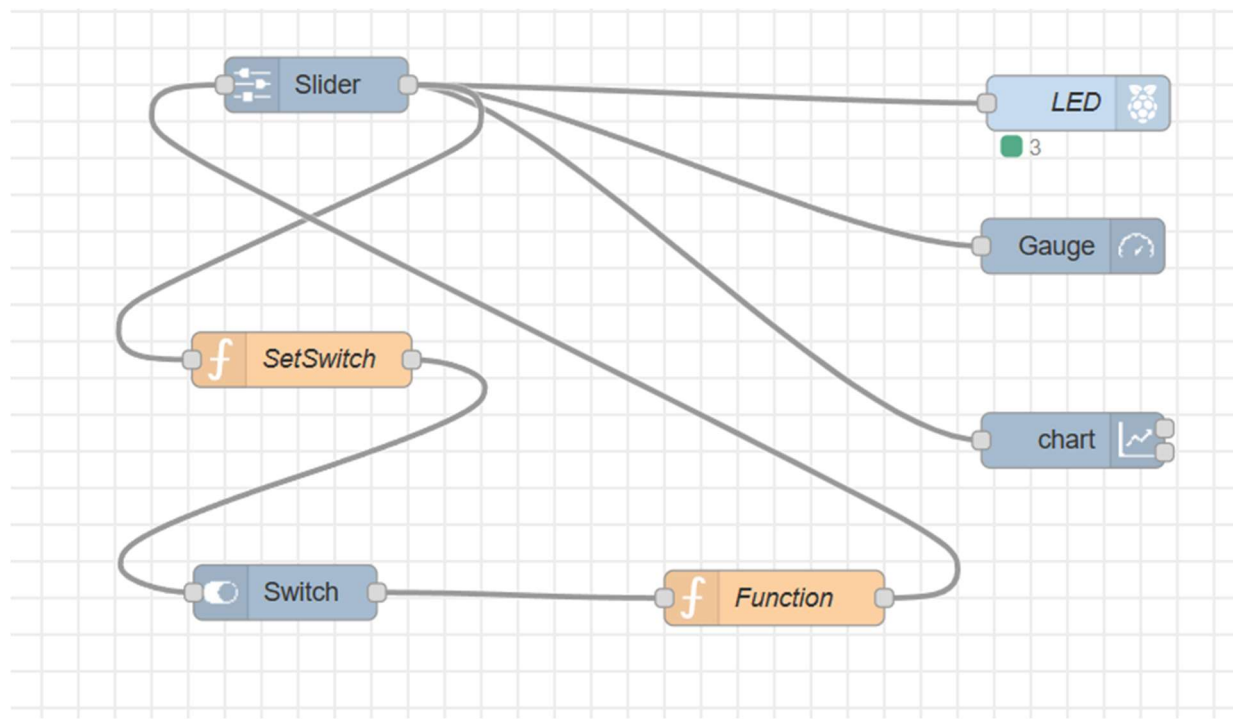
```

```

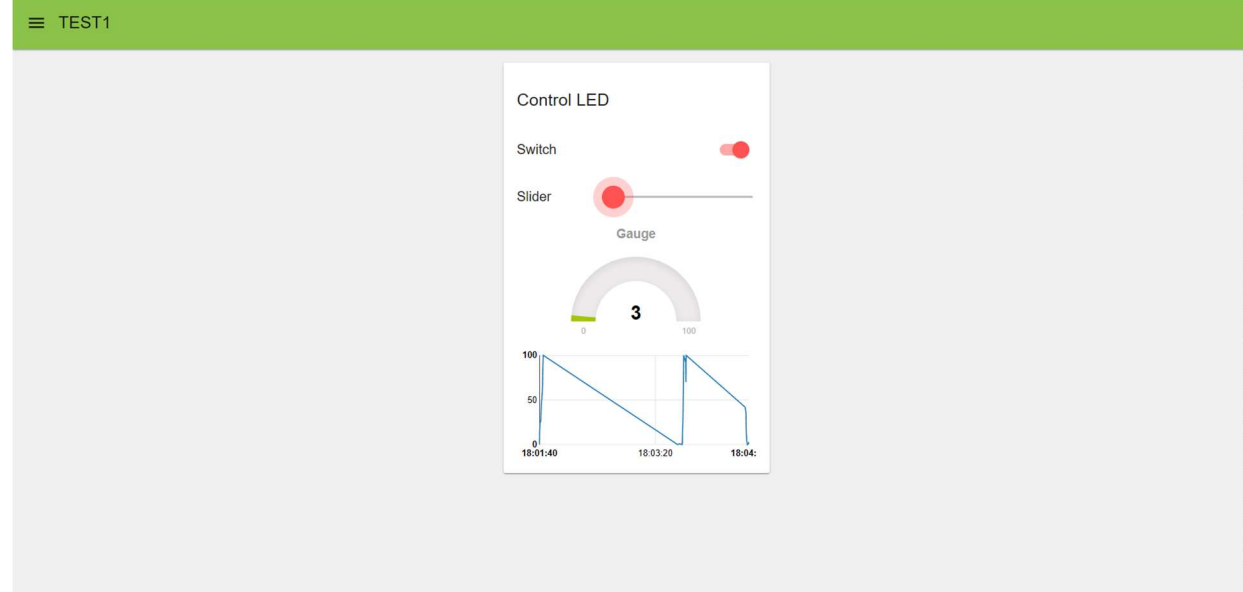
"x": 602,
"y": 430,
"wires": [
  [
    "58638633.9de238"
  ]
]
},
{
  "id": "5969fd52.22b424",
  "type": "ui_tab",
  "z": "77af658ffa4711d3",
  "name": "TEST1",
  "icon": "dashboard",
  "order": "1"
}
]

```

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 =
'dnWPIDhRp37SeT8OUHoIPstSP18Y061Wd0AAQtaidw7';\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": [

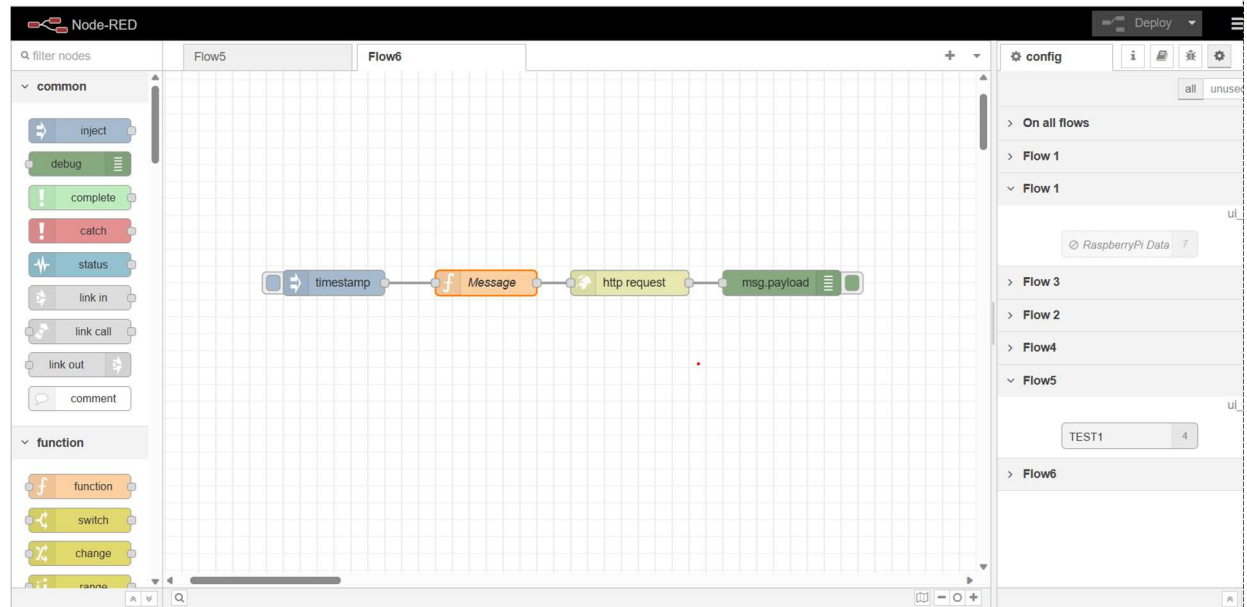
```

```

    [
      "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"
      ]
    ]
  }
]

```

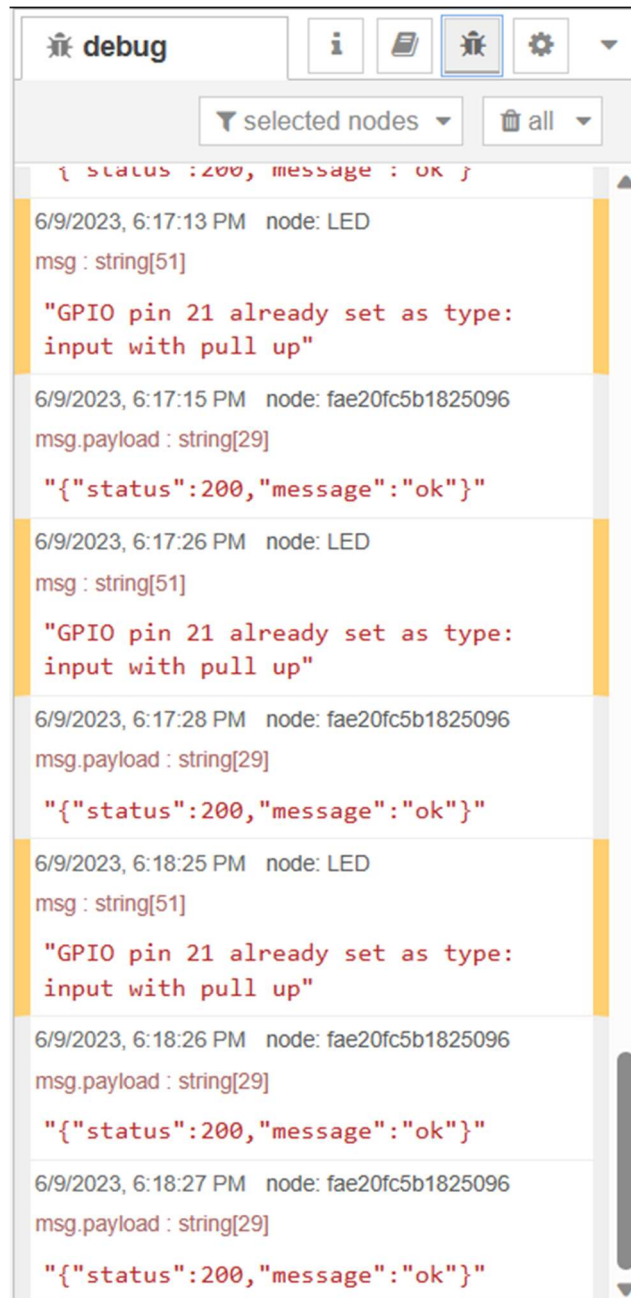
หน้าจอ node flow ที่ได้ทดสอบ



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"
      ]
    ]
  }
}

```

หน้าจอนode flow ที่ได้ทดสอบ

The screenshot shows the Node-RED web interface. A flow named 'Flow7' is visible, consisting of four nodes: 'timestamp', 'function', 'http request', and 'msg.payload'. The 'debug' console on the right displays the output of the 'http request' node, which is an HTML document. The HTML document includes a meta charset of 'utf-8', a meta viewport, and a script that sets the 'DOCS\_timing' variable to the current time. The script also includes a link to a Google Font (Product+Sans) and a link to a Google Sheet (https://www.gstatic.com/\_/freebird/\_/ss/k=freebird.v.7086nG3YnsA.L.X.O/d/1/rsAMjVe6JacoimL3kEi3UT6MhiY5Jc50Cng?data-id=c1). The script then sets the 'DOCS\_timing' variable to the current time and includes a link to a Google Font (Product+Sans) and a link to a Google Sheet (https://www.gstatic.com/\_/freebird/\_/ss/k=freebird.v.7086nG3YnsA.L.X.O/d/1/rsAMjVe6JacoimL3kEi3UT6MhiY5Jc50Cng?data-id=c1).

รูปการทดสอบ 1 – Google Sheet

M3\_D2\_(3) ☆ 📁 🌐

ไฟล์ แก้ไข ดู แทรก รูปแบบ ข้อมูล เครื่องมือ ส่วนขยาย ความช่วยเหลือ

100% B % .0 .00 123 คำเริ่มต้น... - 10 + B I A

	A	B	C	D	E	F
	ประทับเวลา	Temperature (C)	Humidity (%)	Light (%)	RSSI (dB)	
1	9/6/2023, 19:26:01	28.42	41.14	67.52	94.11	
10	9/6/2023, 19:26:02	23.47	51.06	70.36	92.72	
11	9/6/2023, 19:26:02	23.21	45.12	72.72	84.94	
12	9/6/2023, 19:26:03	25.23	53.12	65.03	90.38	
13	9/6/2023, 19:26:03	35.83	44.56	73.82	90.14	
14	9/6/2023, 19:26:03	33.67	51.74	64.87	93.79	
15	9/6/2023, 19:26:03	27.05	52.1	70.23	91.56	
16	9/6/2023, 19:26:03	39.52	49.68	73.49	83.04	
17	9/6/2023, 19:26:03	20.21	52.04	69.5	91.79	
18	9/6/2023, 19:26:04	27.57	48.8	61.07	80.28	
19	9/6/2023, 19:26:04	24.28	58.06	65.59	91.94	
20						
21						
22						
23						
24						



รูปการทดสอบ 2 –

The image shows a web interface for a device named 'M3\_D2'. It displays four sensor readings in a vertical list:

- Temperature (C): 12
- Humidity (%): 34
- Light (%): 56
- RSSI (dB): 78

At the bottom of the interface is a purple button labeled 'รับลิงก์' (Receive Link).

Device	Temperature (C)	Humidity (%)	Light (%)	RSSI (dB)
M3_D2	12	34	56	78

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="8UAr2BmPPhGut0svwmJ6jQ">
<meta name="viewport" content="w..."

6/9/2023, 7:26:06 PM node: dbbe8142e2563c8d
msg.payload : string[28849]

"<!DOCTYPE html><html class="HB1eCd-UMrnm"><head><link rel="shortcut icon" sizes="16x16"
href="https://ssl.gstatic.com/docs/spreadsheets/forms/favicon_qp2.png"><title>M3_D2</title><link
rel="stylesheet"
href="https://www.gstatic.com/_/freebird/_/ss/k=freebird.v.70B6nG3YnsA.L.X.O/d=1/rs=AMjVe6jAcoiwLiJkEiJUT6Mh
iY5jc50Cmg" 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]

"<!DOCTYPE html><html class="HB1eCd-UMrnm"><head><link rel="shortcut icon" sizes="16x16"
href="https://ssl.gstatic.com/docs/spreadsheets/forms/favicon_qp2.png"><title>M3_D2</title><link
rel="stylesheet"
href="https://www.gstatic.com/_/freebird/_/ss/k=freebird.v.70B6nG3YnsA.L.X.O/d=1/rs=AMjVe6jAcoiwLiJkEiJUT6Mh
iY5jc50Cmg" data-id="_cl" nonce="OoukrfPgEUUONDvZi_08xA"><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_08xA"><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_08xA">
<meta name="viewport" content="w..."

```