การสร้าง MQTT Server บน Raspberry Pi เพื่อใช้งาน Chatbot LINE ในฟาร์มอัจฉริยะ

Chatbot LINE from Raspberry Pi MQTT Server for Smart Farming

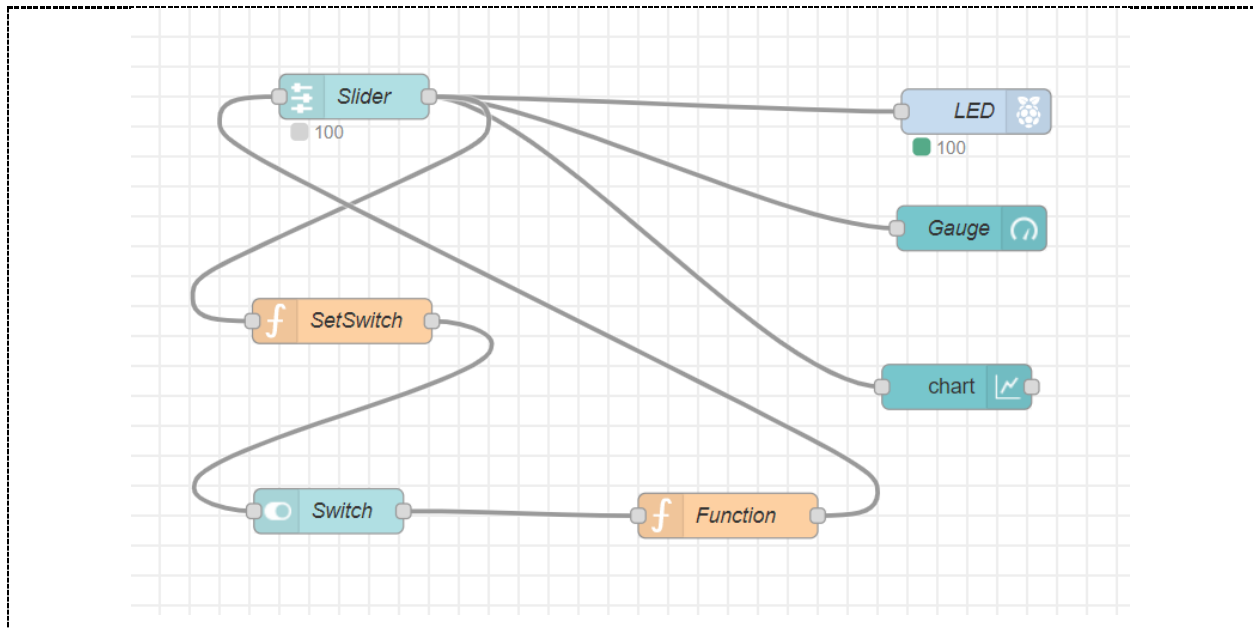ชื่อ-สกุล : นายอติชาติ ภู่นิเทศ

6/6 –คำถามท้ายบทเพื่อทดสอบความเข้าใจ
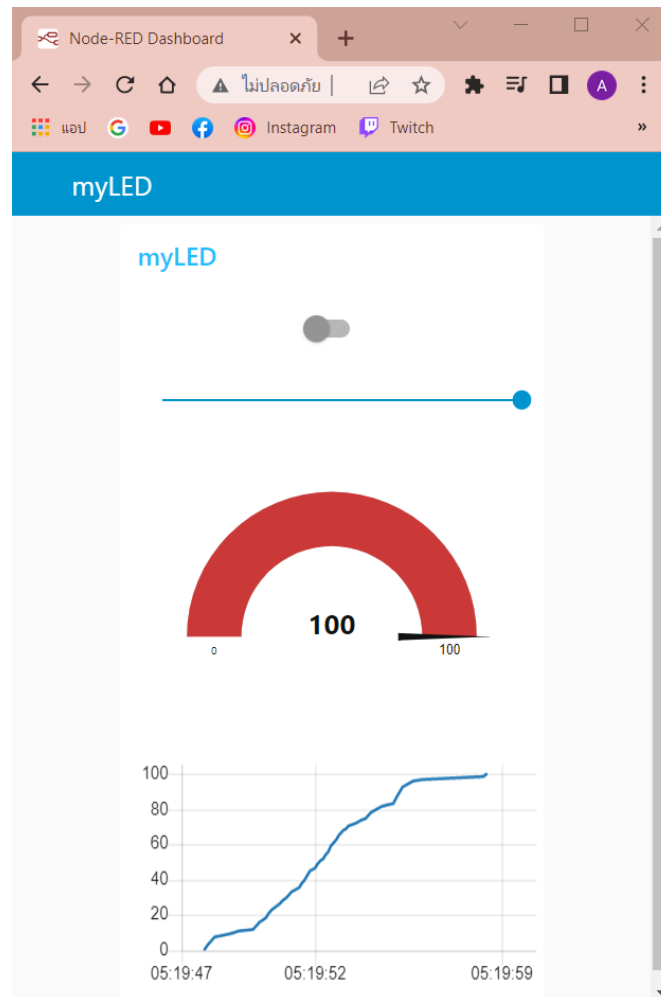
Quiz_201 – Node-RED UI

- แสดงข้อมูลที่ได้ทำการทดสอบ

Code nodejs

```json
[{"id":"e4e35abfeb40b887","type":"tab","label":"Flow 2","disabled":false,"info":"","env":[]},{"id":"b2848cd6.ca5c7","type":"ui_slider","z":"e4e35abfeb40b887","name":"Slider","label":"","tooltip":"","group":"84914fb1faf269e9","order":"2","width":"","height":"","passthru":true,"outs":"all","topic":"","topicType":"str","min":"0","max":"100","step":"","className":"","x":250,"y":160,"wires":[["1cca457a.60fb5b","732721f2.32913","3c7de1d6.58b99e","869c189f.bbbd18"]]},{"id":"1cca457a.60fb5b","type":"ui_gauge","z":"e4e35abfeb40b887","name":"Gauge","group":"84914fb1faf269e9","order":"3","width":"","height":"","gtype":"gage","title":"","label":"","format":"{{value}}","min":0,"max":100,"colors":["#00b500","#e6e600","#ca3838"],"seg1":"","seg2":"","className":"","x":663,"y":248,"wires":[]},{"id":"732721f2.32913","type":"ui_chart","z":"e4e35abfeb40b887","name":"","group":"84914fb1faf269e9","order":"4","width":"","height":"","label":"","chartType":"line","xformat":"HH:mm:ss","interpolate":"linear","nodata":"No Data","dot":false,"ymin":"","ymax":"","removeOlder":1,"removeOlderPoints":"","removeOlderUnit":"86400","cutout":"","useOneColor":false,"useUTC":false,"colors":["#1f77b4","#aec7e8","#ff7f0e","#2ca02c","#98df8a","#d62728","#ff9896","#9467bd","#c5b0d5"],"outputs":1,"useDifferentColor":false,"className":"","x":653,"y":354,"wires":[[]]},{"id":"3c7de1d6.58b99e","type":"rpi-gpio out","z":"e4e35abfeb40b887","name":"LED","pin":"18","set":"","level":"0","freq":"","out":"pwm","bcm":true,"x":666,"y":170,"wires":[]},{"id":"828cc789.3d3b08","type":"function","z":"e4e35abfeb40b887","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":500,"y":440,"wires":[["b2848cd6.ca5c7"]]},{"id":"58638633.9de238","type":"ui_switch","z":"e4e35abfeb40b887","name":"Switch","label":"","tooltip":"","group":"84914fb1faf269e9","order":1,"width":"","height":"","passthru":true,"decouple":"false","topic":"","topicType":"str","onvalue":"true","onvalueType":"str","onicon":"","oncolor":"","offvalue":"false","offvalueType":"str","officon":"","offcolor":"","animate":true,"className":"","x":233,"y":437,"wires":[["828cc789.3d3b08"]]},{"id":"869c189f.bbbd18","type":"function","z":"e4e35abfeb40b887","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":242,"y":310,"wires":[["58638633.9de238"]]},{"id":"84914fb1faf269e9","type":"ui_group","name":"myLED","tab":"b3347e841ae1f2c9","order":1,"disp":true,"width":"6","collapse":false,"className":""},{"id":"b3347e841ae1f2c9","type":"ui_tab","name":"myLED","icon":"dashboard","disabled":false,"hidden":false}]
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หน้าจอ node flow ที่ได้ทดสอบ

รูปการทดสอบ 1 – UI
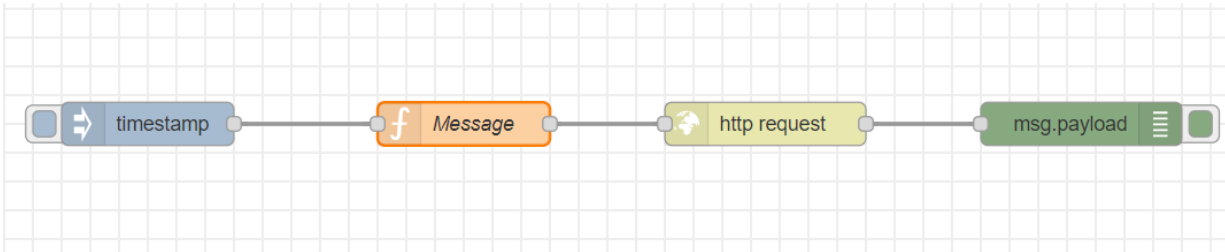
รูปการทดสอบ 2

Quiz_202 – Node-RED to LINE notify
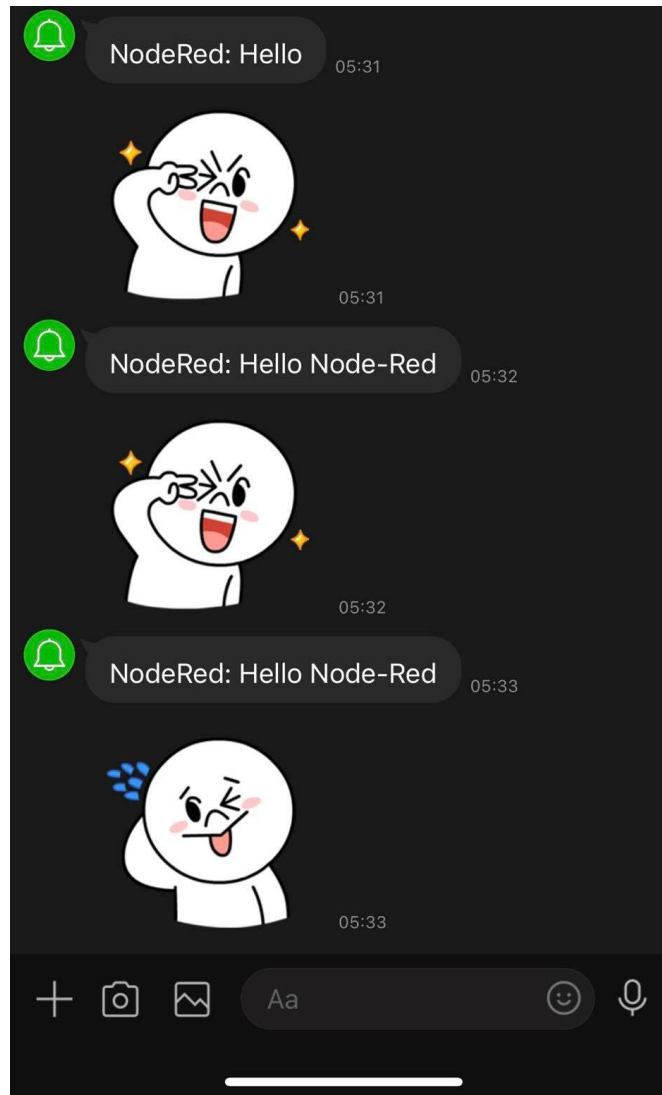
- แสดงข้อมูลที่ได้ทำการทดสอบ

Code nodejs

[{"id":"50d97bcf.d02684","type":"tab","label":"Flow 1","disabled":false,"info":""},{"id":"6d47b0ce.054b2","type":"debug","z":"50d97bcf.d02684","name":"","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"payload","targetType":"msg","statusVal":"","statusType":"auto","x":770,"y":120,"wires":[]},{"id":"51ef834a.3d95ec","type":"function","z":"50d97bcf.d02684","name":"Message","func":"msg.token = 'PgIeiqBshKoaE1zBmoc0gTsWWFjoSAMx9yEXoqI5jDf';\nmsg.message = 'Hello Node-Red';\nmsg.stickerPackageId = 1;\nmsg.stickerId = 107;\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":340,"y":120,"wires":[["4400cabb15314098"]]},{"id":"75e765f7.d089fc","type":"inject","z":"50d97bcf.d02684","name":"","props":[{"p":"payload"},{"p":"topic","vt":"str"}],"repeat":"","crontab":"","once":false,"onceDelay":0.1,"topic":"","payload":"","payloadType":"date","x":120,"y":120,"wires":[["51ef834a.3d95ec"]]},{"id":"440

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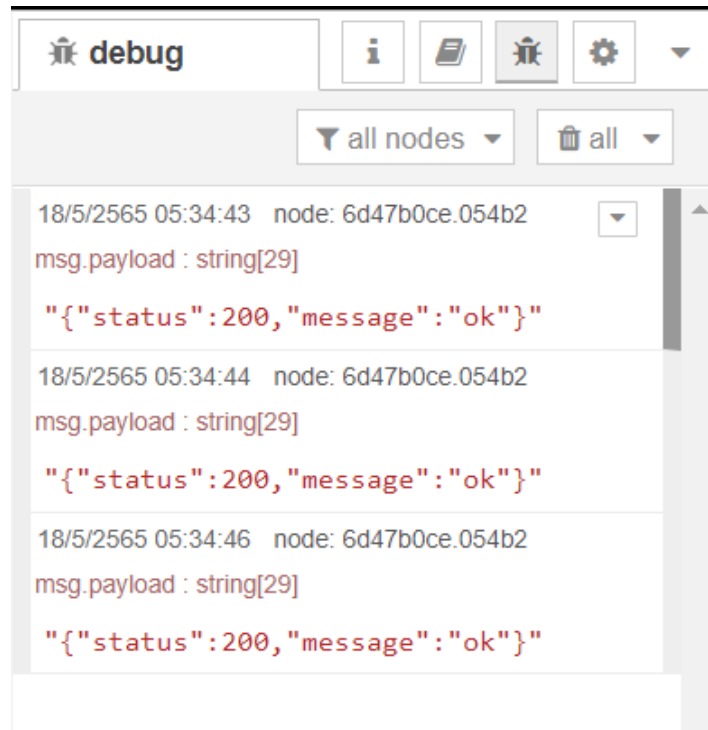
หน้าจอ node flow ที่ได้ทดสอบ

รูปการทดสอบ 1 – LINE

รูปการทดสอบ 2

Quiz_203 – Node-RED to Google Sheet

- แสดงข้อมูลที่ได้ทำการทดสอบ

Code nodejs

[{"id":"f9532ea8.463cf","type":"inject","z":"e97faef8.fb0d4","name":"","props":[{"p":"payload"},{"p":"topic","vt":"str"}],"repeat":"","crontab":"","once":false,"onceDelay":0.1,"topic":"","payload":"","payloadType":"date","x":220,"y":80,"wires":[["9baf4a75.a30408"]]},{"id":"d8ddc578.4b0a38","type":"debug","z":"e97faef8.fb0d4","name":"","active":true,"tosidebar":true,"console":false,"tostatus":false,"complete":"false","statusVal":"","statusType":"auto","x":730,"y":80,"wires":[]},{"id":"9baf4a75.a30408","type":"function","z":"e97faef8.fb0d4","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":380,"y":80,"wires":[["d7b9d47ff816d6c0"]]},{"id":"d7b9d47ff816d6c0","type":"http request","z":"e97faef8.fb0d4","name":"","method":"POST","ret":"txt","paytoqs":"ignore","url":"https://docs.google.com/forms/u/0/d/e/1FAIpQLSdyq7rPrIntYaMypfpnoqDkh8WfrzgO73qOFzdw8DxSNaaGNg/formResponse?entry.1189858158={{payload.Tempp}}&entry.593034669={{payload.Humid}}&entry.282485973={{payload.Light}}&entry.49950945={{payload.RSSI}}","tls":"","persist":false,"proxy":"","authType":"","senderr":false,"x":550,"y":80,"wires":[["d8ddc578.4b0a38"]]}]

หน้าจอ node flow ที่ได้ทดสอบ

รูปการทดสอบ 1 – Google Sheet

	A	B	C	D	E
	ประทับเวลา	Temperature(C)	Humidity(%)	Light(%)	RSSI(dB)
2	18/5/2022, 5:40:04	23	56	34	23
3	18/5/2022, 5:40:19	25	65	35	25
4	18/5/2022, 5:50:48	23	65	24	35
5	18/5/2022, 5:55:12	24.6	55.63	68.7	97.41
6	18/5/2022, 5:55:30	27.87	47.89	60.15	86.61
7	18/5/2022, 5:55:36	29.52	55.91	69.06	81.27
8	18/5/2022, 5:55:52	25.13	51.41	61.64	94.11
9					

รูปการทดสอบ 2 –