Node-RED + NodeMCU ESP32s + BuiltIn LED thru Serial Port

02 Sept 2023 – Safyzan Salim

Scenario:
To control ESP32's built in led from Node-RED's dashboard thru serial comm.

Step 1: Write code for excepting serial input and switch on if the data is 5 (it's a string data)
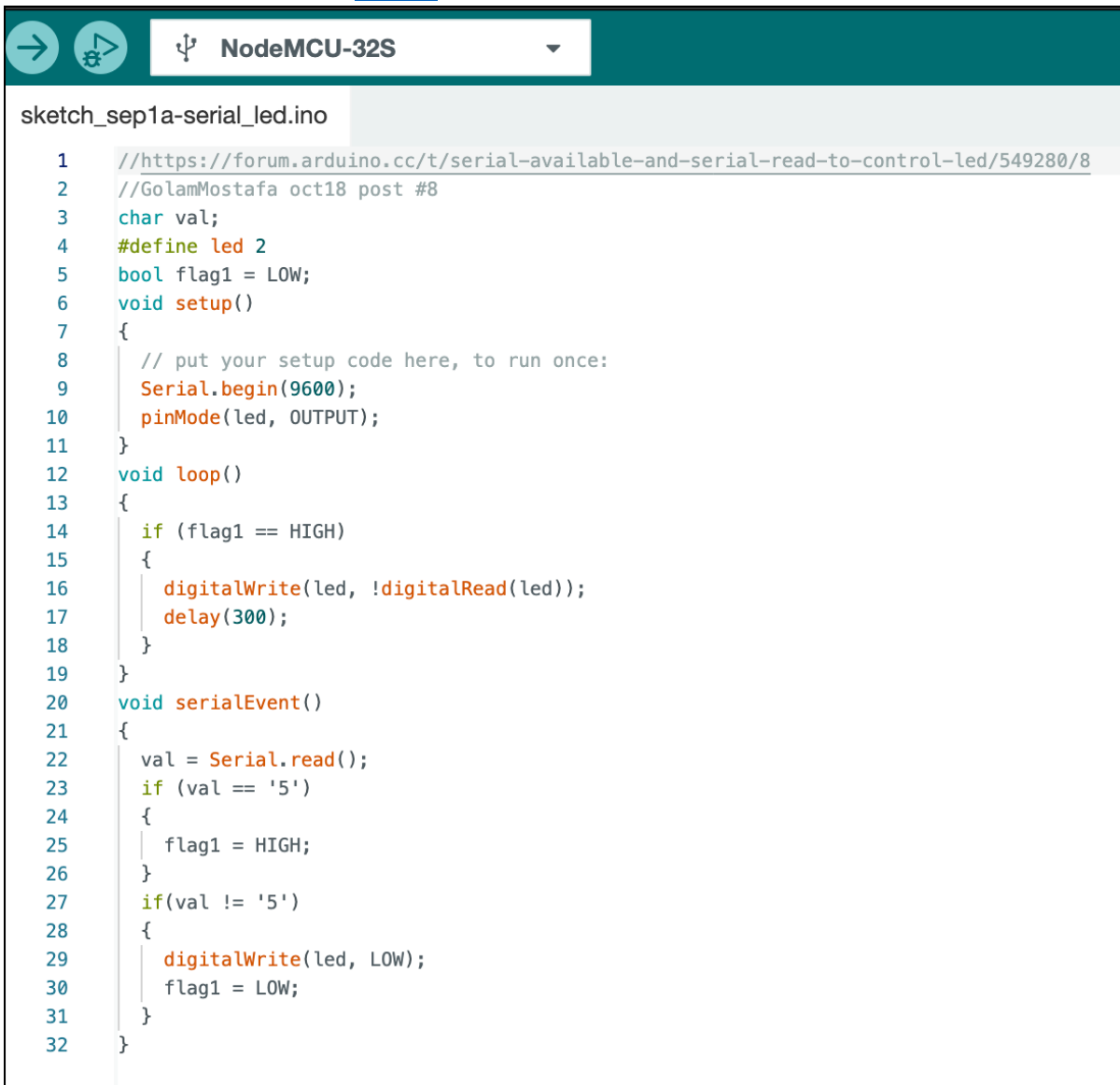Step 2: Upload the sketch to NodeMCU ESP32-s & test its function.
Step 3: At Node-RED, add 2 x inject nodes and 1 x serial out node.
Step 4: Configure accordingly – refer to slide 4.
Step 5: Load dashboard – use button as switch.

Download this sketch HERE.

sketch_sep1a-serial_led.ino

```
1    //https://forum.arduino.cc/t/serial-available-and-serial-read-to-control-led/549280/8
2    //GolamMostafa oct18 post #8
3    char val;
4    #define led 2
5    bool flag1 = LOW;
6    void setup()
7    {
8      // put your setup code here, to run once:
9      Serial.begin(9600);
10     pinMode(led, OUTPUT);
11   }
12   void loop()
13   {
14     if (flag1 == HIGH)
15     {
16       digitalWrite(led, !digitalRead(led));
17       delay(300);
18     }
19   }
20   void serialEvent()
21   {
22     val = Serial.read();
23     if (val == '5')
24     {
25       flag1 = HIGH;
26     }
27     if(val != '5')
28     {
29       digitalWrite(led, LOW);
30       flag1 = LOW;
31     }
32   }
```

3

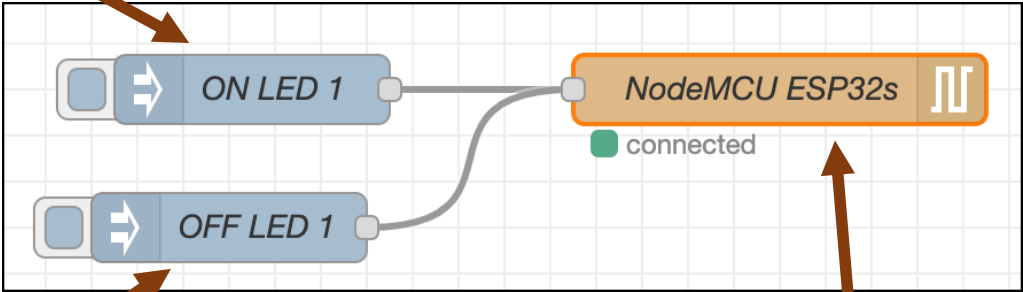Node-RED: Test by using minimal nodes

Name	ON LED 1

☰	msg. payload	=	^a_z 5	✕

1

2

☰	ON LED 1 →	NodeMCU ESP32s
	OFF LED 1 →	■ connected

Name	OFF LED 1

☰	msg. payload	=	^a_z 0	✕

3

⤬ Serial Port	/dev/tty.usbserial-1410:9600-8N1	⌄	✎
🏷 Name	NodeMCU ESP32s		

4

Node-RED: Dashboard → add 1 tab and 1 group

Node-RED: Dashboard → add 1 tab and change the
properties accordingly.
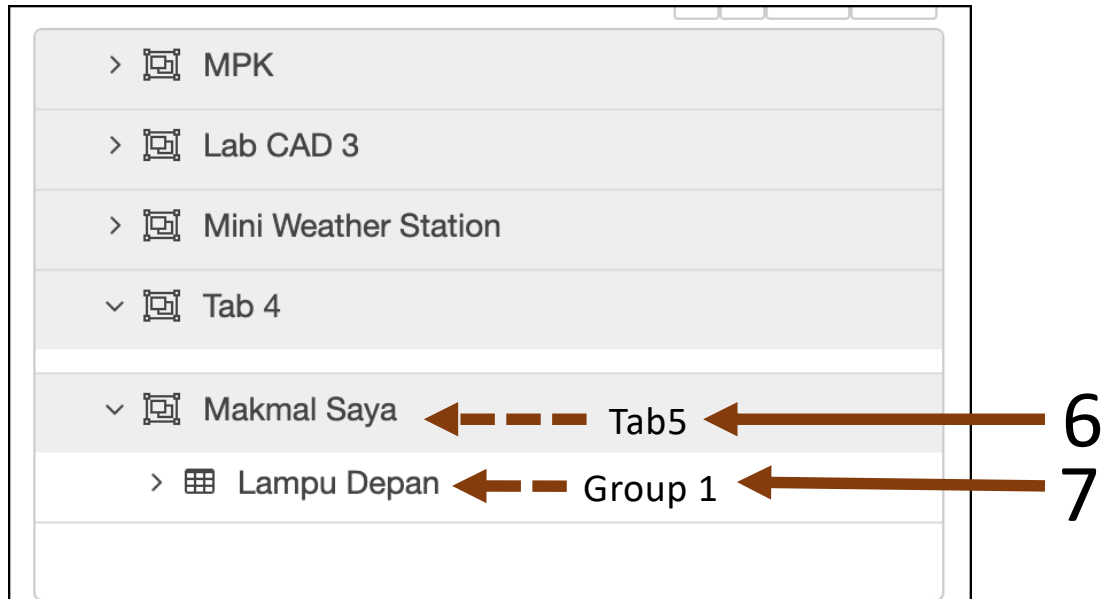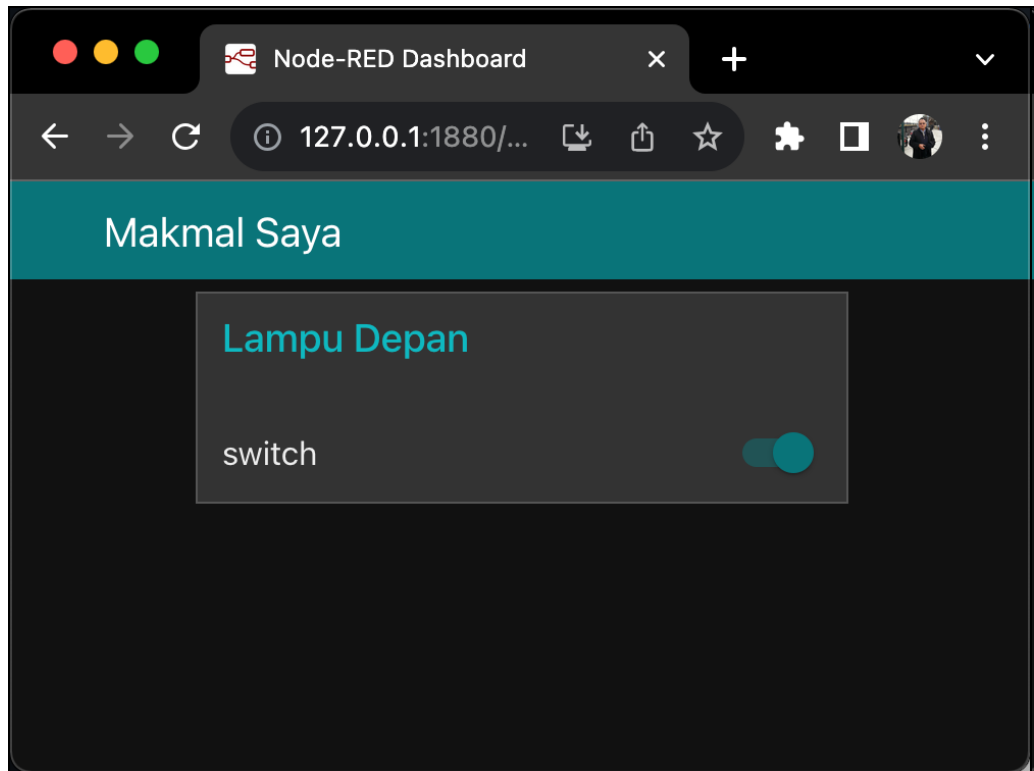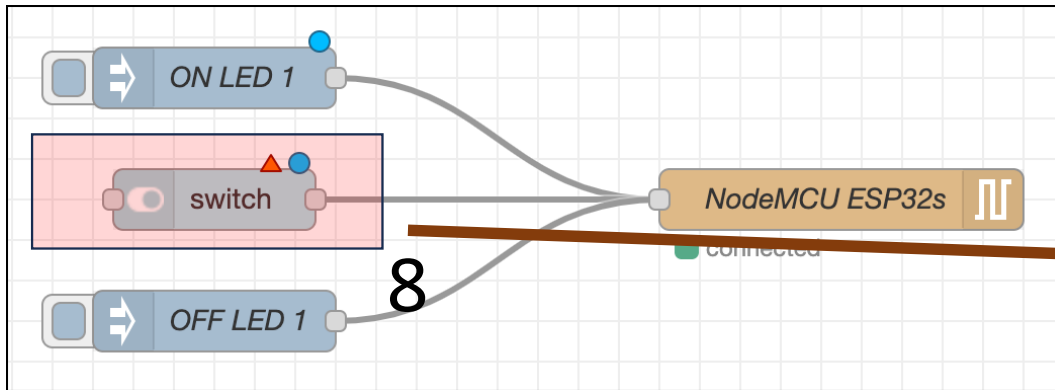
Edit switch node

Delete   Cancel   Done

⚙ Properties   ⚙ 📄 ⬚

⊞ Group   [Makmal Saya] Lampu Depan   ▾   ✎

⊡ Size   auto

I Label   switch

ⓘ Tooltip   optional tooltip

🖼 Icon   Default   ▾

➔ Pass through msg if payload matches new state: ☑

✉ When clicked, send:

On Payload   ▾ ªz 5

Off Payload   ▾ ªz 0

Topic   ▾ msg. topic

🏷 Name

END