

[https://wokwi.com/projects/363060262438722561#define BLYNK_TEMPLATE_ID](https://wokwi.com/projects/363060262438722561#define_BLYNK_TEMPLATE_ID)

sketch.ino

diagram.json

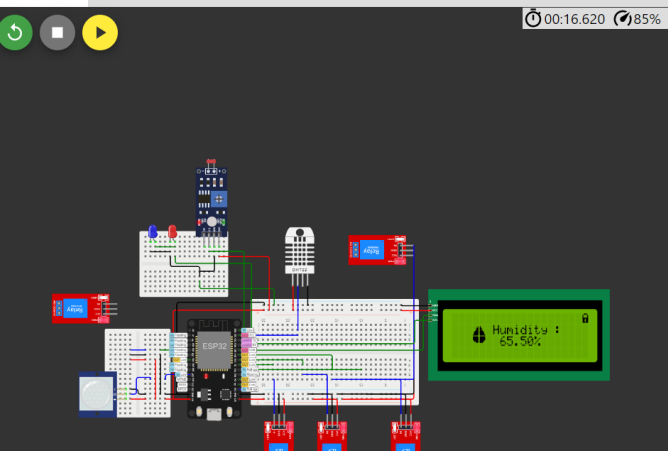
libraries.txt

Library Manager

Simulation

00:16.620 85%

```
1
2 #define BLYNK_TEMPLATE_ID "TMPLgCeV0y1b"
3 #define BLYNK_DEVICE_NAME "Home"
4 #define BLYNK_AUTH_TOKEN "93h-1b23ewIQooDTdB2y2COGacfYkbd0"
5
6 #include <LiquidCrystal_I2C.h>
7 LiquidCrystal_I2C lcd(0x27, 20, 4);
8
9 #define BLYNK_PRINT Serial
10
11 #include <WiFi.h>
12 #include <WiFiClient.h>
13 #include <BlynkSimpleEsp32.h>
14 #include "DHTesp.h"
15
16
17 BlynkTimer timer;
18
19
20 char auth[] = BLYNK_AUTH_TOKEN;
21
22 char ssid[] = "Wokwi-GUEST";
23 char pass[] = "";
24 int val = 0, va1,va2,va3,va4,va5,ge, t =15 ;
25 float tmp,hum = 0;
26
27 int ledPin = 33;
28 int inputPin = 27;
29 int pirState,k;
30 int v = 0;
31
32
33
34 //temp symbol
35 byte t1[8]={000000, 000001, 000010, 000100, 000100, 000100, 000111,};
36 byte t2[8]={000111, 000111, 000111, 001111,011111, 011111, 001111, 000011,};
37 byte t3[8]={000000, 010000, 001011, 000100, 000111, 000100, 000111, 011100,};
38 byte t4[8]={011111, 011100, 011100, 011110,011111, 011111, 011110, 011000,};
39
```



```
#StandWithUkraine https://bit.ly/swua

[2810] Connecting to blynk.cloud:80
[3998] Redirecting to blr1.blynk.cloud:80
[4005] Connecting to blr1.blynk.cloud:80
[5430] Ready (ping: 175ms).
```

```
"TMPLgCeV0y1b"
#define BLYNK_DEVICE_NAME "Home"
#define BLYNK_AUTH_TOKEN "93h-1b23ewIQooDTdB2y2COGacfYkbd0"

#include <LiquidCrystal_I2C.h>
LiquidCrystal_I2C lcd(0x27, 20, 4);

#define BLYNK_PRINT Serial

#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>
#include "DHTesp.h"

BlynkTimer timer;

char auth[] = BLYNK_AUTH_TOKEN;

char ssid[] = "Wokwi-GUEST";
char pass[] = "";
int val = 0, va1,va2,va3,va4,va5,ge, t =15 ;
float tmp,hum = 0;

int ledPin = 33;
int inputPin = 27;
int pirState,k;
int v = 0;
```

```

//temp symbol
byte t1[8]={B00000, B00001, B00010, B00100, B00100, B00100, B00100, B00111,};
byte t2[8]={B00111, B00111, B00111, B01111,B11111, B11111, B01111, B00011,};
byte t3[8]={B00000, B10000, B01011, B00100, B00111, B00100, B00111, B11100,};
byte t4[8]={B11111, B11100, B11100, B11110,B11111, B11111, B11110, B11000,};

//humidity symbol
byte hum1[8]={B00000, B00001, B00011, B00011,B00111, B01111, B01111, B11111,};
byte hum2[8]={B11111, B11111, B11111, B01111,B00011, B00000, B00000, B00000,};
byte hum3[8]={B00000, B10000, B11000, B11000, B11100, B11110, B11110,
B11111,};
byte hum4[8]={B11111, B11111, B11111, B11110, B11100, B00000, B00000,
B00000,};

//Home Symbol
byte house1[8]={B00000, B00001, B00011, B00011, B00111, B01111, B01111,
B11111,};
byte house2[8]={B11111, B11111, B11100, B11100, B11100, B11100, B11100,
B11100,};
byte house3[8]={B00000, B10010, B11010, B11010, B11110, B11110, B11110,
B11111,};
byte house4[8]={B11111, B11111, B11111, B10001, B10001, B10001, B11111,
B11111,};

byte d[8] = { 0b00011,0b00011,0b00000,0b00000,0b00000,0b00000,0b00000,0b00000
};

byte Lck[] = { B01110, B10001, B10001, B11111, B11011, B11011, B11111, B00000
};

DHTesp temps;

BLYNK_WRITE(V0){
  va1 = param.asInt();
  digitalWrite(5, va1);
}

BLYNK_WRITE(V1){
  va2 = param.asInt();
  digitalWrite(18, va2);
}

BLYNK_WRITE(V2){
  va3 = param.asInt();
  digitalWrite(19, va3);
}

BLYNK_WRITE(V3){

```

```

    va4 = param.asInt();
    digitalWrite(4, va4);
}

BLYNK_WRITE(V4){
    va5 = param.asInt();
    digitalWrite(2, va5);
}

BLYNK_WRITE(V7) {
    pirState = param.asInt();
    if(pirState == 0){
        digitalWrite(ledPin, LOW);
        k = 1;
        ge = 0;
    }
    else {
        digitalWrite(ledPin, HIGH);
        k= 0;
        ge = 1;
    }
}

void myTimer()
{
    Blynk.virtualWrite(V5,tmp);
    Blynk.virtualWrite(V6,hum);
}

void setup()
{
    Serial.begin(115200);
    Blynk.begin(auth, ssid, pass);

    pinMode(5, OUTPUT);
    pinMode(18, OUTPUT);
    pinMode(19, OUTPUT);
    pinMode(4, OUTPUT);
    pinMode(23,INPUT);
    pinMode(2,OUTPUT);
    temps.setup(t, DHTesp::DHT22);
    pinMode(ledPin, OUTPUT);
    pinMode(inputPin, INPUT_PULLUP);

    lcd.init();
    lcd.backlight();
}

```

```
digitalWrite(5, LOW);
digitalWrite(18, LOW);
digitalWrite(19, LOW);
digitalWrite(21, LOW);

lcd.setCursor(0,0);
lcd.print("IOT");
lcd.setCursor(8,1);
lcd.print("2023");
lcd.setCursor(0,2);
lcd.print("-----");
lcd.setCursor(9,3);
lcd.print("- NM");
delay(3000);
lcd.clear();
lcd.createChar(6, Lck);
lcd.createChar(1,house1);
lcd.createChar(2,house2);
lcd.createChar(3,house3);
lcd.createChar(4,house4);
lcd.setCursor(1,2);
lcd.write(1);
lcd.setCursor(1,3);
lcd.write(2);
lcd.setCursor(2,2);
lcd.write(3);
lcd.setCursor(2,3);
lcd.write(4);

lcd.setCursor(17,2);
lcd.write(1);
lcd.setCursor(17,3);
lcd.write(2);
lcd.setCursor(18,2);
lcd.write(3);
lcd.setCursor(18,3);
lcd.write(4);

lcd.setCursor(19,0);
lcd.write(6);
lcd.setCursor(9,0);
lcd.print("connected-");
lcd.setCursor(2,1);
lcd.print("HOME AUTOMATION");
lcd.setCursor(6,2);
lcd.print("USING IOT");
delay(3000);
```

```

Blynk.virtualWrite(V7, pinState);
timer.setInterval(1000L, myTimer);

}

void loop()
{
  Blynk.run();
  timer.run();
  val = digitalRead(23);
  if(val == 1)
  {
    digitalWrite(2,va5);
  }

  else{
    digitalWrite(2,LOW);
  }

  TempAndHumidity x = temps.getTempAndHumidity();
  tmp = x.temperature ;
  hum = x.humidity ;

  v = digitalRead(inputPin);
  if (v == HIGH) {
    if (k == 1) {
      digitalWrite(ledPin, LOW);
      k = 0 ;
      ge = 0;
    }
    else if (k == 0) {
      digitalWrite(ledPin, HIGH);
      k = 1;
      ge = 1;
    }
  }

  if (va1 == 1){
    lcd.clear();
    lcd.setCursor(19,0);
    lcd.write(6);
    lcd.setCursor(0, 1);
    lcd.print("SW_1= ");
    lcd.print("ON ");
  }
  else{

```

```
        lcd.clear();
        lcd.setCursor(19,0);
    lcd.write(6);
        lcd.setCursor(0, 1);
    lcd.print("SW_1= ");
    lcd.print("OFF");
}
if (va2 == 1){

    lcd.setCursor(11, 1);
    lcd.print("SW_2= ");
    lcd.print("ON ");
}
else{
    lcd.setCursor(11, 1);
    lcd.print("SW_2= ");
    lcd.print("OFF");
}
if (va3 == 1){

    lcd.setCursor(0, 2);
    lcd.print("SW_3= ");
    lcd.print("ON ");
}
else{
    lcd.setCursor(0, 2);
    lcd.print("SW_3= ");
    lcd.print("OFF");
}
if (va4 == 1){

    lcd.setCursor(11, 2);
    lcd.print("SW_4= ");
    lcd.print("ON ");
}
else{
    lcd.setCursor(11, 2);
    lcd.print("SW_4= ");
    lcd.print("OFF");
}
    if (va5 == 1){

        lcd.setCursor(0, 3);
        lcd.print("OD_L= ");
        lcd.print("ON ");
```

```

}
else{

    lcd.setCursor(0, 3);
    lcd.print("OD_L= ");
    lcd.print("OFF");
}
if (ge == 1){

    lcd.setCursor(11, 3);
    lcd.print("WR_L= ");
    lcd.print("ON ");
}
else{

    lcd.setCursor(11, 3);
    lcd.print("WR_L= ");
    lcd.print("OFF");
}
delay(1500);

lcd.clear();
lcd.createChar(1,t1);
lcd.createChar(2,t2);
lcd.createChar(3,t3);
lcd.createChar(4,t4);
lcd.createChar(5, d);
lcd.createChar(6, Lck);

lcd.setCursor(19,0);
lcd.write(6);
lcd.setCursor(1,1);
lcd.write(1);
lcd.setCursor(1,2);
lcd.write(2);
lcd.setCursor(2,1);
lcd.write(3);
lcd.setCursor(2,2);
lcd.write(4);
lcd.setCursor(4,1);
lcd.print("Temperature :");
lcd.setCursor(7,2);
lcd.print(tmp);
lcd.setCursor(11,2);
lcd.write(5);
lcd.setCursor(12,2);
lcd.print("C");

```

```

delay(750);
lcd.clear();

lcd.createChar(1,hum1);
lcd.createChar(2,hum2);
lcd.createChar(3,hum3);
lcd.createChar(4,hum4);

lcd.setCursor(19,0);
lcd.write(6);
lcd.setCursor(3,1);
lcd.write(1);
lcd.setCursor(3,2);
lcd.write(2);
lcd.setCursor(4,1);
lcd.write(3);
lcd.setCursor(4,2);
lcd.write(4);
lcd.setCursor(6,1);
lcd.print("Humidity :");
lcd.setCursor(7,2);
lcd.print(hum);
lcd.setCursor(12,2);
lcd.print("%");
delay(750);
}
{
  "version": 1,
  "author": "Balaji",
  "editor": "wokwi",
  "parts": [
    {
      "type": "wokwi-breadboard-half",
      "id": "bb1",
      "top": -176.2,
      "left": -91.8,
      "rotate": 180,
      "attrs": {}
    },
    { "type": "wokwi-breadboard-mini", "id": "bb2", "top": -308.6, "left": -
309.6, "attrs": {} },
    {
      "type": "wokwi-breadboard-mini",
      "id": "bb3",
      "top": -95.1,
      "left": -399.7,
      "rotate": 90,

```



```
    "attrs": {}
  },
  { "type": "wokwi-esp32-devkit-v1", "id": "esp", "top": -139.3, "left": -
216.2, "attrs": {} },
  {
    "type": "wokwi-relay-module",
    "id": "relay1",
    "top": 82.37,
    "left": -101.01,
    "rotate": 90,
    "attrs": {}
  },
  {
    "type": "wokwi-relay-module",
    "id": "relay2",
    "top": 83,
    "left": 2.8,
    "rotate": 90,
    "attrs": {}
  },
  {
    "type": "wokwi-relay-module",
    "id": "relay3",
    "top": -301,
    "left": 98.8,
    "rotate": 180,
    "attrs": {}
  },
  {
    "type": "wokwi-relay-module",
    "id": "relay4",
    "top": 83,
    "left": 146.8,
    "rotate": 90,
    "attrs": {}
  },
  {
    "type": "wokwi-photoresistor-sensor",
    "id": "ldr1",
    "top": -396.9,
    "left": -258.1,
    "rotate": 90,
    "attrs": {}
  },
  {
    "type": "wokwi-lcd2004",
    "id": "lcd1",
    "top": -195.2,
```

```

    "left": 255.2,
    "attrs": { "pins": "i2c" }
  },
  {
    "type": "wokwi-led",
    "id": "led1",
    "top": -330,
    "left": -303.4,
    "attrs": { "color": "blue" }
  },
  { "type": "wokwi-led", "id": "led2", "top": -330, "left": -265, "attrs": {
"color": "red" } },
  {
    "type": "wokwi-dht22",
    "id": "dht1",
    "top": -316.5,
    "left": -24.6,
    "attrs": { "temperature": "-0.4", "humidity": "65.5" }
  },
  {
    "type": "wokwi-pir-motion-sensor",
    "id": "pir1",
    "top": -38.62,
    "left": -425,
    "rotate": 270,
    "attrs": {}
  },
  {
    "type": "wokwi-relay-module",
    "id": "relay5",
    "top": -186.03,
    "left": -480.44,
    "rotate": 180,
    "attrs": {}
  }
],
"connections": [
  [ "esp:TX0", "$serialMonitor:RX", "", [ ] ],
  [ "esp:RX0", "$serialMonitor:TX", "", [ ] ],
  [ "esp:3V3", "bb1:tp.25", "red", [ "v0" ] ],
  [ "esp:GND.1", "bb1:tn.25", "black", [ "h0" ] ],
  [ "relay1:VCC", "bb1:tp.21", "red", [ "v0" ] ],
  [ "relay1:GND", "bb1:tn.22", "black", [ "v0" ] ],
  [ "esp:D5", "bb1:28t.d", "green", [ "h0" ] ],
  [ "relay1:IN", "bb1:28t.a", "blue", [ "v0" ] ],
  [ "esp:D18", "bb1:22t.d", "green", [ "h0" ] ],
  [ "relay2:IN", "bb1:22t.b", "blue", [ "v0" ] ],
  [ "relay2:VCC", "bb1:tp.16", "red", [ "v0" ] ],

```

```

[ "relay2:GND", "bb1:tn.17", "black", [ "v0" ] ],
[ "relay3:VCC", "bb1:tp.11", "red", [ "v0" ] ],
[ "relay3:GND", "bb1:tn.12", "black", [ "v0" ] ],
[ "esp:D19", "bb1:16t.c", "green", [ "h0" ] ],
[ "relay3:IN", "bb1:16t.a", "blue", [ "v0" ] ],
[ "relay4:VCC", "bb1:tp.6", "red", [ "v0" ] ],
[ "relay4:GND", "bb1:tn.7", "black", [ "v0" ] ],
[ "relay4:IN", "bb1:10t.a", "blue", [ "v0" ] ],
[ "esp:VIN", "bb1:bp.25", "red", [ "h-32.73", "v-11.44" ] ],
[ "esp:GND.2", "bb1:bn.25", "black", [ "h-25.72", "v-179.53", "h4.67" ] ],
[ "lcd1:GND", "bb1:bn.1", "black", [ "h0" ] ],
[ "lcd1:VCC", "bb1:bp.1", "red", [ "h0" ] ],
[ "esp:D4", "bb1:10t.c", "green", [ "h10.27", "v-16.8" ] ],
[ "lcd1:SDA", "esp:D21", "green", [ "h-14", "v51.46" ] ],
[ "lcd1:SCL", "esp:D22", "green", [ "h-31", "v45.74", "h-329.93", "v-
23.93" ] ],
[ "bb2:3t.c", "bb2:7t.c", "green", [ "v0" ] ],
[ "esp:D2", "bb2:7t.e", "green", [ "h24", "v-237.12", "h-155.28" ] ],
[ "bb2:2t.d", "bb2:6t.d", "black", [ "v0" ] ],
[ "bb1:bn.23", "bb2:12b.h", "green", [ "v-31.96", "h-1.89" ] ],
[ "bb2:6t.e", "bb2:12b.g", "black", [ "v19.43", "h2.01" ] ],
[ "bb2:15t.e", "bb2:12b.f", "black", [ "v0" ] ],
[ "bb1:bp.24", "bb2:16t.e", "red", [ "v0" ] ],
[ "esp:D23", "bb2:14t.d", "green", [ "h9.67", "v-154.15", "h-19.54" ] ],
[ "dht1:GND", "bb1:bn.17", "black", [ "v0" ] ],
[ "dht1:VCC", "bb1:bp.20", "red", [ "v0" ] ],
[ "dht1:SDA", "bb1:23b.i", "blue", [ "v0" ] ],
[ "esp:D15", "bb1:23b.h", "blue", [ "h29.06", "v-1.34" ] ],
[ "esp:VIN", "bb3:14t.a", "red", [ "h0" ] ],
[ "esp:GND.2", "bb3:13t.a", "black", [ "h0" ] ],
[ "bb3:5b.f", "bb3:5t.e", "black", [ "h0" ] ],
[ "bb3:13t.e", "bb3:12b.f", "black", [ "h-15.22", "v-10.88" ] ],
[ "bb3:4t.b", "esp:D33", "green", [ "h38.08", "v1.59" ] ],
[ "bb3:14b.f", "bb3:14t.e", "red", [ "h0" ] ],
[ "bb3:13b.f", "bb3:10t.d", "blue", [ "h10.42", "v-32.65", "h-0.66" ] ],
[ "esp:D27", "bb3:10t.a", "blue", [ "h0" ] ],
[ "bb3:4t.e", "bb3:4b.f", "blue", [ "h0" ] ],
[ "bb3:6b.f", "bb3:6t.e", "red", [ "h0" ] ],
[ "bb3:14t.c", "bb3:6t.c", "red", [ "h0" ] ],
[ "bb3:13t.b", "bb3:5t.b", "black", [ "h0" ] ],
[ "ldr1:VCC", "bb2:16t.c", "", [ "$bb" ] ],
[ "ldr1:GND", "bb2:15t.c", "", [ "$bb" ] ],
[ "ldr1:DO", "bb2:14t.c", "", [ "$bb" ] ],
[ "ldr1:AO", "bb2:13t.c", "", [ "$bb" ] ],
[ "led1:A", "bb2:3t.b", "", [ "$bb" ] ],
[ "led1:C", "bb2:2t.b", "", [ "$bb" ] ],
[ "led2:A", "bb2:7t.b", "", [ "$bb" ] ],
[ "led2:C", "bb2:6t.b", "", [ "$bb" ] ],

```

```
[ "pir1:VCC", "bb3:14b.g", "", [ "$bb" ] ],  
[ "pir1:OUT", "bb3:13b.g", "", [ "$bb" ] ],  
[ "pir1:GND", "bb3:12b.g", "", [ "$bb" ] ]  
],  
"dependencies": {}  
}
```