

```
#define BLYNK_TEMPLATE_ID "TMPLcNJWUQaD"
#define BLYNK_TEMPLATE_NAME "Cropmonitor"
#define BLYNK_AUTH_TOKEN "9wFv_0byZle6MS8r999n1kzQq63Qrue8"
char auth[] = BLYNK_AUTH_TOKEN;
```

```
#define BLYNK_PRINT Serial
#include <ESP8266_Lib.h>
#include <BlynkSimpleShieldEsp8266.h>
#include "DHT.h"
#include <Wire.h>
```

```
#include <LiquidCrystal.h>
```

```
int flag = 0;
char ssid[] = "Redmi";
char pass[] = "sadiya06";
```

```
#define EspSerial Serial
```

```
#define ESP8266_BAUD 115200
```

```
#define DHTPIN 6
#define DHTTYPE DHT11
```

```
ESP8266 wifi(&EspSerial);
DHT dht(DHTPIN, DHTTYPE);
```

```
WidgetLED my_air(V5);
WidgetLED pump(V0);
```

```
const int irPin = 7;
const int soilPin = A2;
const int soil_relay = 8;
const int ir_relay = 9;
const int airPin = A0;
const int rs = 12, en = 11, d4 = 5, d5 = 4, d6 = 3, d7 = 2;
LiquidCrystal lcd(rs, en, d4, d5, d6, d7);
```

```
void setup()
{
  Serial.begin(9600);
  delay(10);
  EspSerial.begin(ESP8266_BAUD);
  delay(10);
```

```

Blynk.begin(auth, wifi, ssid, pass);
dht.begin();
lcd.begin(16, 2);

pinMode(irPin, INPUT);
pinMode(soil_relay, OUTPUT );
pinMode(ir_relay, OUTPUT);
my_air.off();
digitalWrite(ir_relay, LOW);
digitalWrite(soil_relay, LOW);
lcd.setCursor(5, 0);
lcd.print("welcome");
lcd.setCursor(0, 1);
lcd.print("to the project");
delay(2000);
}

void loop()
{
  Blynk.run();
  delay(1000);
  lcd.clear();
  float temp = dht.readTemperature();
  float humid = dht.readHumidity();

  int soil = analogRead(soilPin);
  if(soil < 300)
    soil = 300;
  int air = analogRead(airPin);
  int ir = digitalRead(irPin);
  int percentage = map(soil, 1014, 300, 0, 100);

  Serial.print("Temperature :");
  Serial.println(temp);
  Serial.print("Humidity :");
  Serial.println(humid);
  Serial.print("Moisture Level :");
  Serial.println(soil);
  Serial.print("Air Level :");
  Serial.println(air);

  lcd.print("Temperature");
  lcd.setCursor(0, 1);
  lcd.print(temp);

```

```

delay(2000);
lcd.clear();
lcd.print("Humidity");
lcd.setCursor(0, 1);
lcd.print(humid);
delay(2000);
lcd.clear();
if(ir == 0){
    digitalWrite(ir_relay, HIGH);
}else{
    digitalWrite(ir_relay, LOW);
}
if(percentage <= 20){
    digitalWrite(soil_relay, HIGH);
    pump.on();
    //Blynk.logEvent("Motor is ON");
    if(flag == 0){
        Blynk.logEvent("crop-monitor", "Motor is ON");
        flag = 1;
    }
    lcd.setCursor(5, 0);
    lcd.print("Motor is");
    lcd.setCursor(5, 1);
    lcd.print("ON");
}else{
    pump.off();
    digitalWrite(soil_relay, LOW);
    if(flag == 1){
        Blynk.logEvent("crop-monitor", "Motor is ON");
        flag = 0;
    }
    lcd.setCursor(5, 0);
    lcd.print("Motor is");
    lcd.setCursor(5, 1);
    lcd.print("OFF");
}

if(air < 200){
    my_air.off();
    Blynk.logEvent("crop-monitor", "Danger : Air is polluted");
}else {
    my_air.on();
}
Blynk.virtualWrite(V1, temp);

```

```
Blynk.virtualWrite(V2, humid);  
Blynk.virtualWrite(V3, percentage);  
Blynk.virtualWrite(V4, air);  
}
```