

## Code 1

```
#include <LiquidCrystal_I2C.h>
#include <Wire.h>
#define BLYNK_PRINT Serial
#include <ESP8266WiFi.h>
#include <BlynkSimpleEsp8266.h>

LiquidCrystal_I2C lcd(0x27, 16, 2);

char auth[] = "Wiq00KLPN8YsddybkIR2PvIoSm1R40NZ";//Enter your Auth
token
char ssid[] = "Mahesh";//Enter your WIFI name
char pass[] = "9130581993";//Enter your WIFI password
BlynkTimer timer;

#define trig D3
#define pump2 D6
#define pump1 D5
#define wifiLed D0

bool pin1Value = 0;
bool pin2Value = 0;
int pin3Value = 0;
int pin4Value = 0;
int mflag = 0;
int toggleState_1 = 1;
int toggleState_2 = 1;
int wifiFlag = 0;

void checkBlynkStatus() { // called every 3 seconds by SimpleTimer

  bool isconnected = Blynk.connected();
  if (isconnected == false) {
    wifiFlag = 1;
    digitalWrite(wifiLed, HIGH); //Turn off WiFi LED
  }
  if (isconnected == true) {
    wifiFlag = 0;
    digitalWrite(wifiLed, LOW); //Turn on WiFi LED
  }
}

void setup()
{
```

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pinMode(wifiLed, OUTPUT);
pinMode(pump1, OUTPUT);
pinMode(pump2, OUTPUT);
Wire.begin(D2, D1);

Serial.begin(9600);
Blynk.begin(auth, ssid, pass);
// timer.setInterval(10L, Wlevel);

lcd.init();
lcd.backlight();
digitalWrite(pump1, LOW);
digitalWrite(pump2, LOW);
lcd.setCursor(0, 1);
lcd.print("M1:OFF      M2:OFF");
}

BLYNK_WRITE(V1)
{
    pin1Value = param.asInt();

    digitalWrite(pump1, pin1Value);
    if(pin1Value == 1)
    {lcd.setCursor(3, 1);
      lcd.print("ON ");
    }

    else if(pin1Value == 0)
    {lcd.setCursor(3, 1);
      lcd.print("OFF");
    }
    if (mflag == 0)
    {
        digitalWrite(pump1, LOW);
        Blynk.virtualWrite(pin1Value, LOW);
        lcd.setCursor(3, 1);
        lcd.print("OFF");
    }

    if (pin3Value > 10)
    {
        digitalWrite(pump1, LOW);
        Blynk.virtualWrite(pin1Value, LOW);
        lcd.setCursor(3, 1);
        lcd.print("OFF");
    }
}

```

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    }
}

BLYNK_WRITE(V5)
{
    pin2Value = param.asInt();

    digitalWrite(pump2, pin2Value);
    if(pin2Value == 1)
    {lcd.setCursor(12, 1);
      lcd.print("ON ");
    }

    else if(pin2Value == 0)
    {lcd.setCursor(12, 1);
      lcd.print("OFF");
    }
    if (mflag == 0)
    {
        digitalWrite(pump2, LOW);
        Blynk.virtualWrite(pin2Value, LOW);
        lcd.setCursor(3, 1);
        lcd.print("OFF");
    }

    if (pin4Value > 10)
    {
        digitalWrite(pump2, LOW);
        Blynk.virtualWrite(pin2Value, LOW);
        lcd.setCursor(12, 1);
        lcd.print("OFF");
    }
}

```

```

BLYNK_WRITE(V3)
{
    pin3Value = param.asInt();
}

```

```

BLYNK_WRITE(V4)
{
    pin4Value = param.asInt();
}

```

```

    }

BLYNK_CONNECTED()
{
    Blynk.syncVirtual(pin1Value);
    Blynk.syncVirtual(pin2Value);
}

void loop()
{
    Blynk.run();
    timer.run();
    Wlevel();
    pump_operator();
    delay(200);
}

void pump_operator()
{
    if (pin3Value < 5)
    {
        if (mflag == 1)
        {
            digitalWrite (pump1,HIGH);
            //Blynk.virtualWrite(pin1Value,HIGH);
            lcd.setCursor(3, 1);
            lcd.print("ON ");
        }
    }

    if (pin3Value > 10)
    {
        digitalWrite (pump1,LOW);
        Blynk.virtualWrite(pin1Value,LOW);
        lcd.setCursor(3, 1);
        lcd.print("OFF");
    }

    if (pin4Value < 5)
    {
        if (mflag == 1)
        {
            digitalWrite (pump2,HIGH);
            //Blynk.virtualWrite(pin1Value,HIGH);

```

```

        lcd.setCursor(12, 1);
        lcd.print("ON ");
    }

}

if (pin4Value > 10)
{
    digitalWrite (pump2, LOW);
    Blynk.virtualWrite(pin1Value, LOW);
    lcd.setCursor(12, 1);
    lcd.print("OFF");
}

}

void Wlevel()
{
    pinMode(trig, OUTPUT);
    digitalWrite(trig, LOW);
    delayMicroseconds(4);
    digitalWrite(trig, HIGH);
    delayMicroseconds(10);

    digitalWrite(trig, LOW);

    pinMode(trig, INPUT);
    long t = pulseIn(trig, HIGH);
    long cm = t / 29 / 2;
    cm = 15 - cm;

    Blynk.virtualWrite(V0, cm);
    lcd.setCursor(0, 0);
    lcd.print("Water Level: ");
    lcd.print(cm);
    lcd.print("      ");
    Serial.println(cm);
    //mflag = cm;
    if(cm > 3)
        {mflag = 1;}
    else if(cm < 3)
        {mflag = 0;}
    Serial.println("mflag");
}

```

```
Serial.print(mflag);  
if (mflag == 0)  
{  
    digitalWrite (pump1, LOW);  
    digitalWrite (pump2, LOW);  
    Blynk.virtualWrite(pin1Value, LOW);  
    Blynk.virtualWrite(pin2Value, LOW);  
    lcd.setCursor(3, 1);  
    lcd.print("OFF");  
    lcd.setCursor(12, 1);  
    lcd.print("OFF");  
}  
}
```

## Code 2

```
#define BLYNK_PRINT Serial
#include <ESP8266WiFi.h>
#include <BlynkSimpleEsp8266.h>
WidgetBridge bridge1(V0);

char auth[] = "AfB4BOHbloje-5k8oKnRgzXeONPJWEh6";//Enter your Auth
token
char ssid[] = "Mahesh";//Enter your WIFI name
char pass[] = "9130581993";//Enter your WIFI password

bool pinValue = 0;
#define wifiLed 16
#define trig D3
#define relay D5
int wifiFlag = 0;
BlynkTimer timer;
void checkBlynkStatus() { // called every 3 seconds by SimpleTimer

    bool isconnected = Blynk.connected();
    if (isconnected == false) {
        wifiFlag = 1;
        digitalWrite(wifiLed, HIGH); //Turn off WiFi LED
    }
    if (isconnected == true) {
        wifiFlag = 0;
        digitalWrite(wifiLed, LOW); //Turn on WiFi LED
    }
}

void setup() {

    Serial.begin(9600);
    Blynk.begin(auth, ssid, pass);
    timer.setInterval(10L, Wlevel);

}
```

```
BLYNK_CONNECTED() {  
    bridgel.setAuthToken("Wiq00KLPN8YsddybkIR2PvIoSm1R40NZ");}  
  
void loop() {  
    Blynk.run();  
    timer.run();  
    //bridgel.digitalWrite(D6, LOW);  
    //delay(1000);  
  
    delay(1000);  
}  
  
void Wlevel() {  
  
    pinMode(trig, OUTPUT);  
    digitalWrite(trig, LOW);  
    delayMicroseconds(4);  
    digitalWrite(trig, HIGH);  
    delayMicroseconds(10);  
  
    digitalWrite(trig, LOW);  
  
    pinMode(trig, INPUT);  
    long t = pulseIn(trig, HIGH);  
    long cm = t / 29 / 2;  
    cm = 15 - cm;  
    Blynk.virtualWrite(V1, cm);  
    bridgel.virtualWrite(V3, cm);  
    Serial.println(cm);  
}
```



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```
#define BLYNK_PRINT Serial
#include <ESP8266WiFi.h>
#include <BlynkSimpleEsp8266.h>
WidgetBridge bridge1(V0);

char auth[] = "sBGr6mSzXxN4WTSpk87Lta2r9y5oxYR3";//Enter your Auth
token
char ssid[] = "Mahesh";//Enter your WIFI name
char pass[] = "9130581993";//Enter your WIFI password

bool pinValue = 0;
#define wifiLed 16
#define trig D3
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int wifiFlag = 0;
BlynkTimer timer;
void checkBlynkStatus() { // called every 3 seconds by SimpleTimer

    bool isconnected = Blynk.connected();
    if (isconnected == false) {
        wifiFlag = 1;
        digitalWrite(wifiLed, HIGH); //Turn off WiFi LED
    }
    if (isconnected == true) {
        wifiFlag = 0;
        digitalWrite(wifiLed, LOW); //Turn on WiFi LED
    }
}

void setup() {

    Serial.begin(9600);
    Blynk.begin(auth, ssid, pass);
    timer.setInterval(10L, Wlevel);

}
```

```
BLYNK_CONNECTED() {  
    bridgel.setAuthToken("Wiq00KLPN8YsddybkIR2PvIoSm1R40NZ");}  
  
void loop() {  
    Blynk.run();  
    timer.run();  
    //bridgel.digitalWrite(D6, LOW);  
    //delay(1000);  
  
    delay(1000);  
}  
  
void Wlevel() {  
  
    pinMode(trig, OUTPUT);  
    digitalWrite(trig, LOW);  
    delayMicroseconds(4);  
    digitalWrite(trig, HIGH);  
    delayMicroseconds(10);  
  
    digitalWrite(trig, LOW);  
  
    pinMode(trig, INPUT);  
    long t = pulseIn(trig, HIGH);  
    long cm = t / 29 / 2;  
    cm = 15 - cm;  
    Blynk.virtualWrite(V1, cm);  
    bridgel.virtualWrite(V4, cm);  
    Serial.println(cm);  
  
}
```