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LAMPIRAN

Kode program Arduino IDE

```
#include <ESP8266WiFi.h>
```

```
#include <WiFiClient.h>
```

```
#include <ESP8266WebServer.h>
```

```
#define BLYNK_TEMPLATE_ID "TMPLnD3wY7Yw"
```

```
#define BLYNK_DEVICE_NAME "fluid level"
```

```
#define BLYNK_FIRMWARE_VERSION "0.1.0"
```

```
#define BLYNK_PRINT Serial
```

```
#define BLYNK_DEBUG
```

```
#define APP_DEBUG
```

```
// Uncomment your board, or configure a custom board in Settings.h
```

```
//#define USE_SPARKFUN_BLYNK_BOARD
```

```
//#define USE_NODE_MCU_BOARD
```

```
//#define USE_WITTY_CLOUD_BOARD
```

```
#define USE_WEMOS_D1_MINI
```

```
#include "BlynkEdgent.h"
```

```

#include <Wire.h>          // library i2c

#include <LiquidCrystal_I2C.h> // library lcd i2c

// adres biasanya 0x27 atau 0x3F

LiquidCrystal_I2C lcd(0x27, 16, 2);

// pin ultrasonik

const int pin_echo = D5;

const int pin_trig = D6;

const int pin_buzzer = D7;

//setting wifi

const char *ssid = "mywifi";

const char *password = "354354354";

WiFiClient client;

WiFiServer server2(80);

long distance;

int duration;

// baca ultrasonik

// https://www.instructables.com/id/Distance-Measurement-Using-HC-SR04-Via-NodeMCU/

// https://www.makerguides.com/jsn-sr04t-arduino-tutorial/

float read_srf()

```

```

unsigned int duration;

float distance;

// trigger off

digitalWrite(pin_trig, LOW);

delayMicroseconds(5);

// trigger on

digitalWrite(pin_trig, HIGH);

delayMicroseconds(10);

// trigger off

digitalWrite(pin_trig, LOW);

// baca pulsa

duration = pulseIn(pin_echo, HIGH);

// konversi ke cm

distance = duration * 0.034 / 2;

return distance;

}

```

```

void setup()

{

// konfigurasi I/O

pinMode(pin_trig, OUTPUT);

pinMode(pin_echo, INPUT);

pinMode(pin_buzzer, OUTPUT);

```

```

Serial.begin(9600);

delay(100);

Serial.println();

Serial.print("Menghubungkan ke Wifi");

Serial.println(ssid);

WiFi.begin(ssid, password);

while (WiFi.status() != WL_CONNECTED)

{

    delay(300);

    Serial.print(".");

}

Serial.println("");

Serial.println("WiFi telah terhubung");

Serial.println(ssid);

server2.begin();

Serial.println("Koneksi Server telah dimulai");

Serial.print("Alamat IP : ");

Serial.print("http://");

Serial.print(WiFi.localIP());

Serial.println("/");

server2.begin();

lcd.init(); // initialize the LCD

lcd.backlight();

lcd.clear(); // tampilan awal lcd

```



```
lcd.setCursor(0, 0);  
  lcd.print("Starting");  
  
  // Serial.begin(9600);  
  // delay(100);  
  
  BlynkEdgent.begin();  
}  
  
unsigned long previousMillis = 0;  
const long interval = 1000;  
int lock = 0;  
  
void loop()  
{  
  BlynkEdgent.run();  
  
  unsigned long currentMillis = millis();  
  if (currentMillis - previousMillis >= interval){  
    previousMillis = currentMillis;  
  
    float tinggi_sensor = 20.0; // cm  
    float batas_habis = 5.0; // cm  
    float jarak = read_srf();
```

```
float level = tinggi_sensor - jarak;
```

```
lcd.clear(); // tampilan awal lcd
```

```
lcd.setCursor(0, 0);
```

```
lcd.print("Jarak :");
```

```
lcd.print(jarak, 1);
```

```
lcd.print(" cm ");
```

```
lcd.setCursor(0, 1);
```

```
lcd.print("Level :");
```

```
lcd.print(level, 1);
```

```
lcd.print(" cm ");
```

```
Serial.print("Jarak: ");
```

```
Serial.println(jarak);
```

```
Blynk.virtualWrite(V0, level);
```

```
if (level < batas_habis)
```

```
{
```

```
    digitalWrite(pin_buzzer, digitalRead(pin_buzzer) ^ 1);
```

```
    Blynk.virtualWrite(V1, 1);
```

```
    Blynk.virtualWrite(V2, 0);
```

```
}
```

```
if (level > batas_habis)
```

```
{
```

```
    digitalWrite(pin_buzzer, 0);

    Blynk.virtualWrite(V1, 0);

    Blynk.virtualWrite(V2, 1);

}

WiFiClient client = server2.available();

if (!client)

{

    return;

}

Serial.println("Koneksi baru telah terjalin");

while (!client)

{

    delay(5);

}

if (client)

{

    boolean blank_line = true;

    while (client.connected())

    {

        if (client.available())

        {

            char C = client.read();

            if (C == '\n' && blank_line)

            {

                .....

            }

        }

    }

}
```