A.3 Source Code Arduino

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#include <ESP8266WiFi.h>
#include <WiFiClient.h>
#include <ESP8266WebServer.h>
#include <ESP8266HTTPClient.h>
#include <ArduinoJson.h>
#include <SoftwareSerial.h>

SoftwareSerial s(D6,D5);

int Status;
const char *ssid = "monitor";
const char *password = "monitor2021";

WiFiClient wifiClient;

const int pinLed=D4;

int percent1;
int percent2;
int berat1;
int berat2;
int Stsampah;
String jenis;

void setup() {
  delay(1000);
  Serial.begin(9600);

  s.begin(9600);

  pinMode(pinLed,OUTPUT);
  digitalWrite(pinLed,HIGH);

  WiFi.mode(WIFI_OFF);
  delay(1000);
  WiFi.mode(WIFI_STA);

  WiFi.begin(ssid, password);
  Serial.println("");

  Serial.print("Connecting");
```

```
  while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }

  Serial.println("");
  Serial.print("Connected to ");
  Serial.println(ssid);
  Serial.print("IP address: ");
  Serial.println(WiFi.localIP());
  digitalWrite(pinLed,LOW);
}
void loop () {

  StaticJsonBuffer<500> jsonBuffer;
  JsonObject& root = jsonBuffer.parseObject(s);
  if (root == JsonObject::invalid())
    return;

  berat1=root["data1"];
  berat2=root["data2"];
  Stsampah=(root["data3"]);

  digitalWrite(pinLed,HIGH);

  HTTPClient http;

  String  getData, Link;

  percent1=(berat1*100) / 5000;
  percent2=(berat2*100) / 5000;

  getData ="?data1='" + String(berat1) + "'&data2='" + String(berat2) +
"'&data3='" + String(percent1) + "'&data4='" + String(percent2) + "'&data5=" +
String(Stsampah) + "";

  Link = "http://lab-android.com/uploads/pemilahsampah.php" + getData;

  http.begin(wifiClient, Link);

  int httpCode = http.GET();

  if(httpCode==200){
```

```
   Serial.println("Send OK");
  }else{
   Serial.println("Send Failed");
  }

  http.end();
  digitalWrite(pinLed,LOW);
}
#include "HX711.h"
#include <Servo.h>
#include <SoftwareSerial.h>
#include <ArduinoJson.h>
#include <LiquidCrystal_I2C.h>
#include <Servo.h>

#define RUN1 0
#define RUN2 1
#define RUN3 2
#define RUN4 3

#define DOUT2  10
#define CLK2   11

#define DOUT1  8
#define CLK1   9
HX711 scale2(DOUT2, CLK2);
HX711 scale1(DOUT1, CLK1);

int lcdColumns = 16;
int lcdRows = 2;

SoftwareSerial hasil(2,3);//RX , TX
LiquidCrystal_I2C lcd(0x27, lcdColumns, lcdRows);
Servo motorServo;

float calibration_factor1 = 486.50;
float calibration_factor2 = 461.40;
int GRAM1;
int GRAM2;

const int pinRelay=6;
const int pinLogam=7;

const int trigPin = 5;
```

```
const int echoPin = 4;
const int servoPin=12;

long duration, cm;

int Proses=RUN1;
int statusLogam;

void setup() {
  Serial.begin(9600);
  hasil.begin(9600);

  pinMode(pinRelay,OUTPUT);
  digitalWrite(pinRelay,HIGH);

  pinMode(pinLogam, INPUT_PULLUP);

  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);

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

  lcd.clear();
  lcd.setCursor(0, 0);
  lcd.print(" Pemilah Sampah ");
  lcd.setCursor(0, 1);
  lcd.print("    Otomatis    ");

  scale2.set_scale();
  scale2.tare();

  scale1.set_scale();
  scale1.tare();

  motorServo.attach(servoPin);
  motorServo.write(90);
  delay(1000);
}
void loop() {
if(Proses==RUN1){
    digitalWrite(pinRelay,LOW);

    digitalWrite(trigPin, LOW);
```

```
   delayMicroseconds(5);
   digitalWrite(trigPin, HIGH);
   delayMicroseconds(10);
   digitalWrite(trigPin, LOW);

   pinMode(echoPin, INPUT);
   duration = pulseIn(echoPin, HIGH);

   cm = (duration/2) / 29.1;
   Serial.print(cm);
   Serial.println("cm");
   if(cm<=6){
    digitalWrite(pinRelay,HIGH);
    Proses=RUN2;

   lcd.clear();
   lcd.setCursor(0, 0);
   lcd.print("  Pilih  Jenis  ");
   lcd.setCursor(0, 1);
   lcd.print("    Sampah    ");
   }
}else if(Proses==RUN2){
  delay(2000);
  lcd.clear();
  statusLogam = digitalRead(pinLogam);
  if(!statusLogam){
     Serial.println("logam");

     lcd.setCursor(11, 1);
     lcd.print("logam");
     motorServo.write(160);   //logam
     delay(2000);
  }else{
     Serial.println("non logam");
     lcd.setCursor(11, 0);
     lcd.print("Non");

     lcd.setCursor(11, 1);
     lcd.print("logam");
     motorServo.write(20);   //non logam
     delay(2000);

  }
```

```
      digitalWrite(pinRelay,LOW);
      delay(5000);
      digitalWrite(pinRelay,HIGH);

     Proses=RUN3;
}else if(Proses==RUN3){
  scale1.set_scale(calibration_factor1);
  GRAM1 = scale1.get_units(), 4;
  if(GRAM1<=1) GRAM1=0;
  Serial.print("Berat1=");
  Serial.println(GRAM1);

  scale2.set_scale(calibration_factor2);
  GRAM2 = scale2.get_units(), 4;
  if(GRAM2<=1) GRAM2=0;
  Serial.print("Berat2=");
  Serial.println(GRAM2);

  lcd.setCursor(0, 0);
  lcd.print("B1=");
  lcd.print(GRAM1);
  lcd.print("gr");

  lcd.setCursor(0, 1);
  lcd.print("B2=");
  lcd.print(GRAM2);
  lcd.print("gr");

  StaticJsonBuffer<500> jsonBuffer;
  JsonObject& root = jsonBuffer.createObject();
  root["data1"] = GRAM1;
  root["data2"] = GRAM2;
  root["data3"] = statusLogam;

  root.printTo(hasil);
  motorServo.write(90);
  delay(2000);
  Proses=RUN1;
  lcd.clear();
  lcd.setCursor(0, 0);
  lcd.print("   KIRIM DATA   ");

  Serial.println("Send Data");
```

```
  delay(2000);
  lcd.clear();
  lcd.setCursor(0, 0);
  lcd.print(" Pemilah Sampah ");
  lcd.setCursor(0, 1);
  lcd.print("    Otomatis    ");
}

}
```