Lampiran 3 Kode Program SmartInfus Arduino Ide

```cpp
#define BLYNK_TEMPLATE_ID "TMPL6Ppb8KqaH"
#define BLYNK_TEMPLATE_NAME "smartinfus"
#define BLYNK_AUTH_TOKEN "7eI_x5-ganICDg3AIdHQXsfzpZ310Zk7"

#include <Arduino.h>
#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleESP32.h>
#include <ESP32Firebase.h>
#include <HX711.h>
#include <NTPClient.h>
#include <WiFiUdp.h>

// Set define pin
#define DOUT 33
#define CLCK 32
#define opto 35
#define ir 34
#define ledRed 13
#define ledYellow 25
#define ledR(x) digitalWrite(ledRed, x);
#define ledY(x) digitalWrite(ledYellow, x);
#define _SSID "Rezim"
#define _PASSWORD "123qwerty"
#define REFERENCE_URL "//"

Firebase firebase(REFERENCE_URL);

// Variable
float a;
bool data_digital = false;
int data_1 = 0;
float calibration_factor = 1182.82; // Hasil Kalibrasi
float units;
int i = 1;
HX711 scale;

// Untuk NTPClient
WiFiUDP ntpUDP;
NTPClient timeClient(ntpUDP, "pool.ntp.org", 25200, 60000); //
GMT+7 dengan offset 25200 detik

unsigned long previousMillis = 0;
const long interval = 1000; // Interval pengiriman data dalam
milidetik

void IRAM_ATTR baca_sensor() {
  data_digital = true;
}

void sendSensor() {
  if (data_digital == true) {
    data_1++;
  }
  data_digital = false;
```

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```cpp
  Serial.print("Tetesan Infus: ");
  Serial.println(data_1); // Print data to serial

  // Kirim data ke Firebase
  firebase.setInt("Tetesan_Infus", data_1);

  // Kirim data ke Blynk
  Blynk.virtualWrite(V1, data_1); // Mengirim data tetes infus ke
V1

  // Menampilkan waktu
  Serial.print("Timestamp: ");
  Serial.println(timeClient.getFormattedTime());
}

void loadcell() {
  scale.set_scale(calibration_factor); // Sesuaikan dengan faktor
kalibrasi ini
  Serial.print("Reading: ");
  units = scale.get_units();
  if (units < 0.0) {
    units = 0.00;
  }
  Serial.print("Berat: ");
  Serial.print(units);
  Serial.print(" Gram");
  Serial.println();

  // Mengontrol LED kuning
  if (units < 100) {
    Serial.println("Hampir habis!!");
    ledY(0); // Mengaktifkan LED kuning
    Blynk.virtualWrite(V3, 1); // Mengirim sinyal ke Blynk untuk
mengaktifkan LED kuning
  } else {
    ledY(1); // Mematikan LED kuning jika berat infus >= 100 gram
    Blynk.virtualWrite(V3, 0); // Mengirim sinyal ke Blynk untuk
mematikan LED kuning
  }
  // Kirim data ke Firebase
  firebase.setFloat("Berat_Infus", units);

  // Kirim data ke Blynk
  Blynk.virtualWrite(V0, (int)units); // Pastikan data diubah
menjadi integer

  // Menampilkan waktu
  Serial.print("Timestamp: ");
  Serial.println(timeClient.getFormattedTime());
}

void darah_naik() {
  int sensorValue = analogRead(opto);
  a = (sensorValue / 4095.0) * 5.0;
  if (a >= 3) {
    Serial.println("DARAH NAIK");
    ledR(0); // Mematikan LED merah
```

```cpp
    Blynk.virtualWrite(V4, 1); // Mengirim sinyal ke Blynk untuk
darah naik
    firebase.setInt("Darah_Naik", 1); // Mengirim nilai 1 ke
Firebase
  } else {
    Serial.println("DARAH TIDAK NAIK");
    ledR(1); // Mengaktifkan LED merah
    Blynk.virtualWrite(V4, 0); // Mengirim sinyal ke Blynk untuk
darah tidak naik
    firebase.setInt("Darah_Naik", 0); // Mengirim nilai 0 ke
Firebase
  }

  // Kirim data ke Blynk
  Blynk.virtualWrite(V2, a); // Mengirim data darah naik ke V2

  // Menampilkan waktu
  Serial.print("Timestamp: ");
  Serial.println(timeClient.getFormattedTime());
}

void setup() {
  // Initialize pin
  pinMode(ir, INPUT_PULLUP);
  pinMode(opto, INPUT);
  pinMode(ledRed, OUTPUT);
  pinMode(ledYellow, OUTPUT);

  // Loadcell
  scale.begin(DOUT, CLCK);
  scale.set_scale();
  scale.tare(); // Reset the scale to 0
  long zero_factor = scale.read_average(); // Get a baseline
reading
  Serial.print("Zero factor: ");
  Serial.println(zero_factor);

  attachInterrupt(digitalPinToInterrupt(ir), baca_sensor,
FALLING); // Menjalankan interrupt

  // Debug console
  Serial.begin(115200);
  WiFi.mode(WIFI_STA);
  WiFi.disconnect();
  delay(1000);

  // Connect to WiFi
  Serial.println();
  Serial.println();
  Serial.print("Connecting to: ");
  Serial.println(_SSID);
  WiFi.begin(_SSID, _PASSWORD);

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

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```cpp
  Serial.println("");
  Serial.println("WiFi Connected");

  // Print the IP address
  Serial.print("IP Address: http://");
  Serial.println(WiFi.localIP());

  // Inisialisasi Blynk
  Blynk.begin(BLYNK_AUTH_TOKEN, _SSID, _PASSWORD);
}

void loop() {
  Blynk.run();
  timeClient.update();

  unsigned long currentMillis = millis();
  if (currentMillis - previousMillis >= interval) {
    previousMillis = currentMillis;
    sendSensor();
    loadcell();
    darah_naik();
  }
}
```