

Lampiran 3 Code Arduino

```
#define BLYNK_TEMPLATE_ID "TMPL6tNdHtfev"
#define BLYNK_TEMPLATE_NAME "Monitoring"
#define BLYNK_AUTH_TOKEN "-oEfXklH3Nh4UxcmWgBbq_kkIAzTFvF9"

#include <Arduino.h>
#include <WiFi.h>
#include <WiFiClient.h>
#include <BlynkSimpleEsp32.h>
#include <FirebaseESP32.h>
#include <time.h>

// Define pin for sensors
#define jari_1 36
#define jari_2 39
#define jari_3 34
#define jari_4 35
#define jari_5 32
#define led 14
#define buzz 13

#define five_minute 300000 // 5 minutes in milliseconds

#define led1(x) digitalWrite(led, x);
#define buzzer(x) digitalWrite(buzz, x);

// Blynk configuration
char auth[] = BLYNK_AUTH_TOKEN;
char ssid[] = "iPhone"; // Gantilah dengan nama SSID Wi-Fi Anda
char pass[] = "12345678"; // Gantilah dengan kata sandi Wi-Fi
Anda

// Firebase configuration
#define FIREBASE_HOST "https://sensor-3aae6-default-
rtbd.firebaseio.com"
#define FIREBASE_AUTH "AIzaSyDTgz5-fD_cyvb6_OT_Ead6B_0-5Qw9I5c"

FirebaseData firebaseData;
FirebaseConfig firebaseConfig;
FirebaseAuth firebaseAuth;

unsigned long waktuawal = 0;
bool ledOn = false;

int i=1;

// Function to get the current epoch time
unsigned long getEpochTime() {
    time_t now;
    struct tm timeinfo;
    if (!getLocalTime(&timeinfo)) {
        Serial.println("Failed to obtain time");
        return(0);
    }
    time(&now);
    return now;
}
```

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void baca_sensor(void) {
  float baca_1 = analogRead(jari_1);
  float ADC_1 = ((baca_1 / 4096.0) * 10 - 7.0) * 10; Serial.println("jari 1 : " + String(ADC_1));
  Blynk.virtualWrite(V1, ADC_1);

  float baca_2 = analogRead(jari_2);
  float ADC_2 = ((baca_2 / 4096.0) * 10 - 7.0) * 10; Serial.println("jari 2 : " + String(ADC_2));
  Blynk.virtualWrite(V2, ADC_2);

  float baca_3 = analogRead(jari_3);
  float ADC_3 = ((baca_3 / 4096.0) * 10 - 7.0) * 10; Serial.println("jari 3 : " + String(ADC_3));
  Blynk.virtualWrite(V3, ADC_3);

  float baca_4 = analogRead(jari_4);
  float ADC_4 = ((baca_4 / 4096.0) * 10 - 7.0) * 10; Serial.println("jari 4 : " + String(ADC_4));
  Blynk.virtualWrite(V4, ADC_4);

  float baca_5 = analogRead(jari_5);
  float ADC_5 = ((baca_5 / 4096.0) * 10 - 7.0) * 10; Serial.println("jari 5 : " + String(ADC_5));
  Blynk.virtualWrite(V5, ADC_5);

  // Get the current timestamp
  unsigned long timestamp = getEpochTime();

  // Send data to Firebase with timestamp String path = "/data/jari1/"
  + String(i);
  Firebase.set(firebaseData, path + "/value", ADC_1); Firebase.set(firebaseData, path + "/timestamp",
  timestamp); Serial.println("jari1 terkirim ke Firebase");

  path = "/data/jari2/" + String(i); Firebase.set(firebaseData, path + "/value", ADC_2);
  Firebase.set(firebaseData, path + "/timestamp", timestamp); Serial.println("jari2 terkirim
  ke Firebase");

  path = "/data/jari3/" + String(i); Firebase.set(firebaseData, path + "/value", ADC_3);
  Firebase.set(firebaseData, path + "/timestamp", timestamp); Serial.println("jari3 terkirim
  ke Firebase");

  path = "/data/jari4/" + String(i); Firebase.set(firebaseData, path + "/value", ADC_4);
  Firebase.set(firebaseData, path + "/timestamp", timestamp); Serial.println("jari4 terkirim
  ke Firebase");

  path = "/data/jari5/" + String(i); Firebase.set(firebaseData, path + "/value", ADC_5);
  Firebase.set(firebaseData, path + "/timestamp", timestamp); Serial.println("jari5 terkirim
  ke Firebase");

  i = i + 1;

  delay(1000);
}

```

```

}
void setup() {
  Serial.begin(115200);
  while (!Serial) {
    ; // Wait for serial port to connect. Needed for native USB
    port only
  }
  Serial.println("Serial initialized");

  pinMode(jari_1, INPUT);
  pinMode(jari_2, INPUT);
  pinMode(jari_3, INPUT);
  pinMode(jari_4, INPUT);
  pinMode(jari_5, INPUT);
  pinMode(led, OUTPUT);
  pinMode(buzz, OUTPUT);

  Serial.println("Pins initialized");

  Serial.println("Connecting to WiFi...");
  WiFi.begin(ssid, pass);

  // Wait until connected
  while (WiFi.status() != WL_CONNECTED) {
    delay(500);
    Serial.print(".");
  }

  Serial.println("\nWiFi connected");
  Serial.print("IP Address: ");
  Serial.println(WiFi.localIP());

  Blynk.config(BLYNK_AUTH_TOKEN);

  // Try to connect to Blynk with a timeout
  int attempts = 0;
  while (!Blynk.connect() && attempts < 20) { // Retry 20 times
    delay(500);
    Serial.print("*");
    attempts++;
  }

  if (Blynk.connected()) {
    Serial.println("\nConnected to Blynk");
  } else {
    Serial.println("\nFailed to connect to Blynk");
  }

  // Initialize Firebase connection
  firebaseConfig.host = FIREBASE_HOST;
  firebaseConfig.signer.tokens.legacy_token = FIREBASE_AUTH;
  Firebase.begin(&firebaseConfig, &firebaseAuth);
  Firebase.reconnectWiFi(true);

  // Configure time
  configTime(0, 0, "pool.ntp.org", "time.nist.gov");

  waktuawal = millis();
}

```

```
led1(1);
}

void loop() {
  if (WiFi.status() != WL_CONNECTED) {
    Serial.println("WiFi not connected!");
  } else {
    Serial.println("WiFi connected");
  }

  if (Blynk.connected()) {
    Serial.println("Blynk connected");
  } else {
    Serial.println("Blynk not connected");
    Blynk.connect();
  }

  Blynk.run();
  baca_sensor();

  unsigned long waktuakhir = millis() - waktuawal;
  if (waktuakhir >= five_minute) {
    led1(0);
    ledOn = true;
  }
  if (ledOn) {
    led1(0);
    buzzer(1);
    delay(250);
    led1(1);
    buzzer(0);
    // delay(100);
  }
}
```