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HALAMANAN INI SENGAJA DIKOSONGKAN

LAMPIRAN A

Program Arduino

```
#include <Keypad_I2C.h>
#include <Keypad.h>        // GDY120705
#include <Wire.h>
#include <LiquidCrystal_I2C.h>
#if defined(ESP32) #include <WiFi.h>
#include <FirebaseESP32.h>
#elif defined(ESP8266)
#include <ESP8266WiFi.h>
#include <FirebaseESP8266.h>
#endif
#include <addons/TokenHelper.h>
#include <addons/RTDBHelper.h>

#define WIFI_SSID "TA LELI"
#define WIFI_PASSWORD "00000000"
#define API_KEY
"AIzaSyCBPQ8BaAm4lKyKJQPKDNxhZgnPPTos1k8"
#define DATABASE_URL "https://-default-rtdb.firebaseio.com"
#define USER_EMAIL "tadhamar1@gmail.com"
#define USER_PASSWORD "tadhamar1802"

#define I2CADDR 0x26
#define SENSOR  27
#define selenoid  13
#define buzz 5
#define pompa 26
#define limit1 14

const byte ROWS = 4; //four rows
const byte COLS = 4; //four columns
//define the cymbols on the buttons of the keypads
char hexaKeys[ROWS][COLS] = {
  {'D', '#', '0', '*'},
  {'C', '9', '8', '7'},
  {'B', '6', '5', '4'},
  {'A', '3', '2', '1'}
```

```
};
byte rowPins[ROWS] = {3, 2, 1, 0}; //connect to the row pinouts of the
keypad
byte colPins[COLS] = {7, 6, 5, 4}; //connect to the column pinouts of
the keypad

unsigned long random10, random20, random50, random100;
unsigned long SETrandom10;
unsigned long SETrandom20;
unsigned long SETrandom50;
unsigned long SETrandom100;

char customKey ;

unsigned long sendDataPrevMillis = 0;
unsigned long currentMillis = 0;
unsigned long previousMillis = 0;
unsigned long resetMillis = 0;
int interval = 1000;
boolean ledState = LOW;
float calibrationFactor = 6.2;
//float calibrationFactor = 7.5;
volatile unsigned long pulseCount, pulseCount1;
byte pulse1Sec = 0;
float flowRate = 0.0;
float m3;
unsigned int flowMilliLitres;
unsigned long totalMilliLitres;
unsigned long pref;
unsigned long prefi;
unsigned long prefio;
String trig10, trig20, trig50, trig100 ;
String indikatorPulsa = "";
float totalBaca, sisa_pulsa, sisa_dapetPulsa;
float flowlewat, lastflow, air_keluar;
String setToken;
String setToken10, setToken20, setToken50, setToken100;
double pulsaAir, dapetPulsa, keluaran, total;
int hargaLiter = 3000;
```

```
int countSW = 0;
int flagRun;
unsigned long timeShow ;
int pulsa, totalPulsa;
int u;
Keypad_I2C customKeypad( makeKeymap(hexaKeys), rowPins,
colPins, ROWS, COLS, I2CADDR);
LiquidCrystal_I2C lcd(0x27, 16, 2);
FirebaseData fbdo;
FirebaseAuth auth;
FirebaseConfig config;
unsigned long previousMill = 0;
unsigned long interva = 30000;

void IRAM_ATTR pulseCounter()
{
  pulseCount1++;
  pulseCount++;

  //  if (millis() - previousMillis > 1000) {
  //    int cont = pulseCount;
  //    pulseCount = 0;
  //    flowRate = ((1000.0 / (millis() - previousMillis)) * cont) /
calibrationFactor;
  //    previousMillis = millis();
  //    flowMilliLitres = (flowRate / 60) * 1000 * 0.42 * 0.66;
  //    totalMilliLitres += flowMilliLitres;
  //  }
}
bool getToken;

float lastLiter,debit;
int arasyid;
unsigned long waktudebit;

void setup() {
  pinMode(SENSOR, INPUT_PULLUP);
  pinMode(limit1, INPUT_PULLUP);
  pinMode(selenoid, OUTPUT);
```

```
  pinMode(pompa, OUTPUT);
  pinMode(buzz, OUTPUT);
  digitalWrite(selenoid, HIGH);
  digitalWrite(pompa, HIGH);
  digitalWrite(buzz, LOW);
  Serial.begin(115200);
  lcd.begin();
  WiFi.begin(WIFI_SSID, WIFI_PASSWORD);
  Serial.print("Connecting to Wi-Fi");
  while (WiFi.status() != WL_CONNECTED)
  {
    lcd.setCursor(0, 0);
    lcd.print(WIFI_SSID);
    lcd.setCursor(0, 1);
    lcd.print(WIFI_PASSWORD);
    Serial.print(".");
    delay(300);
  }
  Serial.println();
  Serial.print("Connected with IP: ");
  Serial.println(WiFi.localIP());
  Serial.println();

  Serial.printf("Firebase Client v%s\n\n",
FIREBASE_CLIENT_VERSION);
  config.api_key = API_KEY;
  auth.user.email = USER_EMAIL;
  auth.user.password = USER_PASSWORD;
  config.database_url = DATABASE_URL;
  config.token_status_callback = tokenStatusCallback; //see
addons/TokenHelper.h
  Firebase.begin(&config, &auth);
  Firebase.reconnectWiFi(true);
  Firebase.setDoubleDigits(5);
  pulseCount = 0;
  flowRate = 0.0;
  flowMilliLitres = 0;
  totalMilliLitres = 0;
  previousMillis = 0;
```

```
  attachInterrupt(digitalPinToInterrupt(SENSOR), pulseCounter,
FALLING);
  //  Wire.begin( );                // GDY200622
  customKeypad.begin( );        // GDY120705
  lcd.clear();
  lcd.begin();
  delay(10);
  showLcd();
}
unsigned long waktulcd;
void loop()
{  if (millis() > waktulcd) {
    waktulcd = millis() + 4000;
    lcd.begin();
  }
  Serial.println(digitalRead(limit1));
  Serial.println("firebase");
  if (digitalRead(limit1) == LOW)firebaseGetData();
  Serial.println("read");
  readingAll();
  Serial.println("logicall");
  logicAll();
}
```

LAMPIRAN B
GAMBAR DOKUMENTASI

Tampilan Token