

Lampiran Source Code

```
#include <SPI.h>
#include <SD.h>
#include <LiquidCrystal_I2C.h>
#include <Wire.h>
#include "RTClib.h"

RTC_DS3231 rtc;
LiquidCrystal_I2C lcd(0x3F, 2, 1, 0, 4, 5, 6, 7, 3, POSITIVE);
File myFile;
int x = 1;
float sensorVoltage;
float sensorValue;
float co;
int hijau = 5; // Memberikan variabel ke lampu hijau dengan pin 5
int kuning = 6; // Memberikan variabel ke lampu Kuning dengan pin 6
int merah = 7;
char daysOfTheWeek[7][12] = {"Minggu", "Senin", "Selasa", "Rabu",
"Kamis", "Jumat", "Sabtu"};

void setup()
{
  Serial.begin(9600);
  pinMode(10, OUTPUT);
  SD.begin(10);
  lcd.begin(16, 2); // initialize the lcd for 16 chars 2 lines, turn on backlight
  lcd.setCursor(2, 1);
  lcd.print("Bismillah...");
  delay(1000);
  lcd.clear();
  lcd.backlight();
  delay(250);
  lcd.noBacklight();
  delay(250);
  lcd.backlight();
  pinMode(merah, OUTPUT); // Memberikan perintah pin 5 sebagai
keluaran
  pinMode(kuning, OUTPUT); // Memberikan perintah pin 6 sebagai
keluaran
  pinMode(hijau, OUTPUT);
```

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if (! rtc.begin()) {
  Serial.println("Couldn't find RTC");
  while (1);
}

if (rtc.lostPower()) {
  Serial.println("RTC lost power, lets set the time!");
  rtc.adjust(DateTime(F(__DATE__), F(__TIME__))); // following line
sets the RTC to the date & time this sketch was compiled

  // Set the current date, and time in the following format:
  // rtc.adjust(DateTime(2014, 1, 21, 3, 0, 0)); // This line sets the RTC
with an explicit date & time, for example to set
}
}
void loop() {
  DateTime now = rtc.now();
  sensorValue = analogRead(A0);
  int i;
  myFile = SD.open("data-log.txt", FILE_WRITE);
  if (myFile) {
    myFile.print(x);
    myFile.print("Kadar CO ");

    myFile.print("=");
    myFile.println(sensorValue / 1024 * 5.0);
    myFile.print(daysOfTheWeek[now.dayOfTheWeek()]);
    myFile.print(',');
    myFile.print(now.day(), DEC);
    myFile.print('/');
    myFile.print(now.month(), DEC);
    myFile.print('/');
    myFile.print(now.year(), DEC);
    myFile.print('\t');
    myFile.print(now.hour(), DEC);
    myFile.print(':');
    myFile.print(now.minute(), DEC);
    myFile.print(':');
    myFile.print(now.second(), DEC);
    myFile.println();

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myFile.println();

}
x++-1;
myFile.close();

delay(1000);
co = sensorValue / 1024 * 5.0;
if (co <= 50) {
  digitalWrite(hijau, HIGH);
  digitalWrite(kuning, LOW);
  digitalWrite(merah, LOW);
  lcd.setCursor(0, 0);
  lcd.print("Status Baik  ");
  lcd.setCursor(0, 1);
  lcd.print(" CO ");
  lcd.setCursor(5, 1);
  lcd.print(co);
  lcd.setCursor(10, 1);
  lcd.print(" Ppm ");
  delay(1000);
}
else if (co <= 100) {
  digitalWrite(hijau, LOW);
  digitalWrite(kuning, HIGH);
  digitalWrite(merah, LOW);
  lcd.setCursor(0, 0);
  lcd.print("Status Sedang  ");
  lcd.setCursor(0, 1);
  lcd.print(" CO ");
  lcd.setCursor(5, 1);
  lcd.print(co);
  lcd.setCursor(10, 1);
  lcd.print(" Ppm ");
  delay(1000);
}
}

```

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else if (co <= 150) {
  lcd.setCursor(0, 0);
  lcd.print("Status Tdk Sehat");
  lcd.setCursor(0, 1);
  lcd.print(" CO ");
  lcd.setCursor(5, 1);
  lcd.print(co);
  lcd.setCursor(10, 1);
  lcd.print(" Ppm ");
  digitalWrite(hijau, LOW);
  digitalWrite(kuning, LOW);
  digitalWrite(merah, HIGH);
  delay(1000);
}

Serial.println("co : " + String(co));
Serial.print(daysOfTheWeek[now.dayOfTheWeek()]);
Serial.print(',');

Serial.print(now.day(), DEC);
Serial.print('/');
Serial.print(now.month(), DEC);
Serial.print('/');
Serial.print(now.year(), DEC);
Serial.print('\t');

Serial.print(now.hour(), DEC);
Serial.print(':');
Serial.print(now.minute(), DEC);
Serial.print(':');
Serial.print(now.second(), DEC);
Serial.println();

Serial.println();
delay(1000);
}

```