Lampiran

Codingan Push Button

```
#include <LiquidCrystal_I2C.h>
#include <Wire.h>
#include <ESP8266WiFi.h>
#include <PCF8574.h>
#include <BlynkSimpleEsp8266.h>
#include "RTClib.h"
#include <TimeLib.h>
#include <WidgetRTC.h>

#define  BLYNK_PRINT Serial
#define button1 0
#define button2 1
#define button3 2
#define button4 3
#define relay1 4
#define relay2 5
#define relay3 6
#define relay4 7

char t[32];
WidgetRTC rtcy;
RTC_DS3231 rtc;
BlynkTimer timer;
PCF8574 io(0x20);
LiquidCrystal_I2C lcd(0x27, 16, 2);
WidgetLCD mylcd(V11);

char auth[] = "6PhWjURvjAUhNgpWU9tnJlwMslq-aUa1";
char ssid[] = "abcd";
char pass[] = "123456789";

void setup() {
  io.write(relay1, HIGH);
  io.write(relay2, HIGH);
  io.write(relay3, HIGH);
  io.write(relay4, HIGH);

  setSyncInterval(10 * 60);
  timer.setInterval(500L, clockDisplay);
  timer.setInterval(500L, notifyLampu);
  io.begin();
  Serial.begin(9600);
  Blynk.begin(auth, ssid, pass);

  Wire.begin(5, 4);
```

```
  rtc.begin();
  rtc.adjust(DateTime(F(__DATE__),F(__TIME__)));

  lcd.backlight();
  lcd.init();
  lcd.setCursor(0, 0);
  lcd.print("SISTEM KONTROL");
  lcd.setCursor(0, 1);
  lcd.print("LAMPU IOT");
  delay(1500);
  lcd.clear();
}

void clockDisplay()
{
  String currentTime = String(hour()) + ":" + minute() + ":" + second();
  String currentDate = String(day()) + " " + month() + " " + year();
  Serial.print("Current time: ");
  Serial.print(currentTime);
  Serial.print(" ");
  Serial.print(currentDate);
  Serial.println();

  // Send time to the App
  Blynk.virtualWrite(V12, currentTime);
  // Send date to the App
  Blynk.virtualWrite(V13, currentDate);
}

BLYNK_CONNECTED() {
  rtcy.begin();
}

void rtcwaktu (){
   DateTime now = rtc.now();       //Menampilkan RTC pada variable now

  Serial.print("Tanggal : ");
  Serial.print(now.day());        //Menampilkan Tanggal
  Serial.print("/");
  Serial.print(now.month());      //Menampilkan Bulan
  Serial.print("/");
  Serial.print(now.year());       //Menampilkan Tahun
  Serial.print(" ");

  Serial.print("Jam : ");
  Serial.print(now.hour());       //Menampilkan Jam
  Serial.print(":");
  Serial.print(now.minute());     //Menampilkan Menit
  Serial.print(":");
  Serial.print(now.second());     //Menampilkan Detik
```

```
  Serial.println();
  delay(100);

 if ((now.hour() == 06) && (now.minute() == 00)){
  io.write(relay1, HIGH); //ruang tamu mati
  io.write(relay2, HIGH); //dapur mati
  io.write(relay3, HIGH); //kamar1 mati
  io.write(relay4, HIGH); //kamar2 mati
  }

  if ((now.hour() == 10) && (now.minute() == 00)){
  io.write(relay1, LOW); //ruang tamu hidup
  io.write(relay2, LOW); //dapur hidup
  io.write(relay3, HIGH); //kamar1 mati
  io.write(relay4, HIGH); //kamar2 mati
  }

  if ((now.hour() == 12) && (now.minute() == 00)){
  io.write(relay1, HIGH); //ruang tamu hidup
  io.write(relay2, HIGH); //dapur hidup
  io.write(relay3, LOW); //kamar1 mati
  io.write(relay4, LOW); //kamar2 mati
  }

  if ((now.hour() == 16) && (now.minute() == 00)){
  io.write(relay1, LOW); //ruang tamu hidup
  io.write(relay2, HIGH); //dapur mati
  io.write(relay3, HIGH); //kamar1 mati
  io.write(relay4, LOW); //kamar2 hidup
  }

   if ((now.hour() == 19) && (now.minute() == 00)){
  io.write(relay1, LOW); //ruang tamu hidup
  io.write(relay2, LOW); //dapur hidup
  io.write(relay3, LOW); //kamar1 hidup
  io.write(relay4, LOW); //kamar2 hidup
  }

  //SETTING RTC UNTUK PERSENTASI
   if ((now.hour() == 19 ) && (now.minute() == 32)){
  io.write(relay1, LOW); //ruang tamu hidup
  io.write(relay2, LOW); //dapur hidup
  io.write(relay3, LOW); //kamar1 hidup
  io.write(relay4, LOW); //kamar2 hidup
  }
}

// LAMPU ON
void LAMPUON1() {
  io.write(relay1, LOW);
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```
}

void LAMPUON2() {
  io.write(relay2, LOW);
}

void LAMPUON3() {
  io.write(relay3, LOW);
}

void LAMPUON4() {
  io.write(relay4, LOW);
}

BLYNK_WRITE(V1) {
  int pinvalue = param.asInt();
  if (pinvalue == 1) {
    mylcd.print(6,0,"[RUANG  ]");
    mylcd.print(6,1,"TAMU [ON]");
    LAMPUON1();
    Blynk.run();
    int pinvalue = 0;
    Blynk.syncVirtual(V1);
  }
}

BLYNK_WRITE(V2) {
  int pinvalue = param.asInt();
  if (pinvalue == 1) {
    mylcd.print(6,0,"DAPUR [ON]");
    mylcd.print(6,1,"          ");
    LAMPUON2();
    Blynk.run();
    int pinvalue = 0;
    Blynk.syncVirtual(V2);
  }
}

BLYNK_WRITE(V3) {
  int pinvalue = param.asInt();
  if (pinvalue == 1) {
     mylcd.print(6,0,"KAMAR1[ON]");
     mylcd.print(6,1,"          ");
    LAMPUON3();
    Blynk.run();
    int pinvalue = 0;
    Blynk.syncVirtual(V3);
  }
}
```

```
BLYNK_WRITE(V4) {
  int pinvalue = param.asInt();
  if (pinvalue == 1) {
     mylcd.print(6,0,"KAMAR2[ON]");
     mylcd.print(6,1,"          ");
    LAMPUON4();
    Blynk.run();
    int pinvalue = 0;
    Blynk.syncVirtual(V4);
  }
}

// LAMPU OFF
void LAMPUOFF1() {
  io.write(relay1, HIGH);
}

void LAMPUOFF2() {
  io.write(relay2, HIGH);
}

void LAMPUOFF3() {
  io.write(relay3, HIGH);
}

void LAMPUOFF4() {
  io.write(relay4, HIGH);
}

BLYNK_WRITE(V5) {
  int pinvalue = param.asInt();
  if (pinvalue == 1) {
     mylcd.print(6,0,"[RUANG   ]");
    mylcd.print(6,1,"TAMU[OFF]");
    LAMPUOFF1();
    Blynk.run();
    int pinvalue = 0;
    Blynk.syncVirtual(V5);
  }
}

BLYNK_WRITE(V6) {
  int pinvalue = param.asInt();
  if (pinvalue == 1) {
    mylcd.print(6,0,"DAPUR[OFF]");
    mylcd.print(6,1,"          ");
    LAMPUOFF2();
    Blynk.run();
    int pinvalue = 0;
    Blynk.syncVirtual(V6);
```

```
  }
}

BLYNK_WRITE(V7) {
  int pinvalue = param.asInt();
  if (pinvalue == 1) {
    mylcd.print(6,0,"KAMAR1 OFF");
    mylcd.print(6,1,"           ");
    LAMPUOFF3();
    Blynk.run();
    int pinvalue = 0;
    Blynk.syncVirtual(V7);
  }
}

BLYNK_WRITE(V8) {
  int pinvalue = param.asInt();
  if (pinvalue == 1) {
     mylcd.print(6,0,"KAMAR2 OFF");
     mylcd.print(6,1,"           ");
    LAMPUOFF4();
    Blynk.run();
    int pinvalue = 0;
    Blynk.syncVirtual(V8);
  }
}

void LAMPUONSEMUA() {
  io.write(relay1, LOW);
  io.write(relay2, LOW);
  io.write(relay3, LOW);
  io.write(relay4, LOW);
}

void LAMPUOFFSEMUA() {
  io.write(relay1, HIGH);
  io.write(relay2, HIGH);
  io.write(relay3, HIGH);
  io.write(relay4, HIGH);
}

BLYNK_WRITE(V9) {
  int pinvalue = param.asInt();
  if (pinvalue == 1) {
    mylcd.print(6,0,"[SEMUA   ]");
    mylcd.print(6,1,"RUANG[ON]");
    LAMPUONSEMUA();
    Blynk.run();
    int pinvalue = 0;
    Blynk.syncVirtual(V9);
```

```
  }
}

BLYNK_WRITE(V10) {
  int pinvalue = param.asInt();
  if (pinvalue == 1) {
    mylcd.print(6,0,"[SEMUA   ]");
    mylcd.print(6,1,"RUANG[OFF]");
    LAMPUOFFSEMUA();
    Blynk.run();
    int pinvalue = 0;
    Blynk.syncVirtual(V10);
  }
}

void notifyLampu() {
  if (io.read(button1) == LOW) {
    Blynk.notify("LAMPU RUANG TAMU [ON]");
  }

  if (io.read(button2) == LOW) {
    Blynk.notify("LAMPU KAMAR 1 DAN KAMAR 2 [ON]");
  }

  if (io.read(button3) == LOW) {
    Blynk.notify("LAMPU DAPUR [ON]");
  }
  if (io.read(button4) == LOW) {
    Blynk.notify("SEMUA LAMPU [OFF]");
  }
}

void loop() {
  Blynk.run();
  timer.run();
  rtcwaktu();

  mylcd.print(0,0,"LAMPU:");
  lcd.setCursor(0, 0);
  lcd.print("LAMPU:");

  if (io.read(button1) == LOW) {
    lcd.setCursor(6, 0);
    lcd.print("[RUANG  ]");
    lcd.setCursor(6, 1);
    lcd.print("TAMU [ON]");
    delay(500);

    io.write(relay1, LOW);
  }
```

```
  if (io.read(button2) == LOW) {

    lcd.setCursor(6, 0);
    lcd.print("KAMAR1[ON]");
    lcd.setCursor(6, 1);
    lcd.print("KAMAR2[ON]");
    delay(500);

    io.write(relay3, LOW);
    io.write(relay4, LOW);
  }

  if (io.read(button3) == LOW) {
    lcd.setCursor(6, 0);
    lcd.print("DAPUR [ON]");
    lcd.setCursor(6, 1);
    lcd.print("          ");
    delay(500);
    io.write(relay2, LOW);
  }

  if (io.read(button4) == LOW) {
    lcd.setCursor(6, 0);
    lcd.print("[SEMUA   ]");
    lcd.setCursor(6, 1);
    lcd.print("RUANG[OFF]");
    delay(500);

    io.write(relay1, HIGH);
    io.write(relay2, HIGH);
    io.write(relay3, HIGH);
    io.write(relay4, HIGH);
  }
}
```