**SOURCE CODE**

#include <ESP8266WiFi.h>

#include<Firebase.h>

#include<FirebaseArduino.h>

#include<Servo.h>

Servo servo;

#include "DHT.h"

int data=0;

#define FIREBASE\_HOST "yourFirebase.firebaseio.com"

//Your Firebase link

#define FIREBASE\_AUTH "\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*" //Your Firebase Database Secret goes here

#define WIFI\_SSID "SSID"

//your WiFi SSID for which yout NodeMCU connects

#define WIFI\_PASSWORD "password"

#define flamePin D6

#define DHTPIN D5 // Data Pin of DHT 11 , for NodeMCU D5 GPIO no. is 14

int r=2; //D4

int g=13; //D7

int b=15; //D8

int color=9;

#define DHTTYPE DHT11 // DHT 11

int Relay1 =D1; //D1

DHT dht(DHTPIN, DHTTYPE);

int val1=0;

int Relay2= D2; //D2

int val2=0;

void setup() {

servo.attach(0); //D3

servo.write(0);

delay(1000);

servo.detach();

Serial.begin(115200);

// Select the same baud rate if you want to see the datas on Serial Monitor

pinMode(Relay1,OUTPUT);

pinMode(Relay2,OUTPUT);

digitalWrite(Relay1,HIGH);

digitalWrite(Relay2,HIGH);

pinMode(r,OUTPUT);

pinMode(g,OUTPUT);

pinMode(b,OUTPUT);

WiFi.begin(WIFI\_SSID,WIFI\_PASSWORD);

Serial.print("connecting");

while (WiFi.status()!=WL\_CONNECTED){

Serial.print(".");

delay(500);

}

dht.begin();

Serial.println();

Serial.print("connected:");

Serial.println(WiFi.localIP());

Firebase.begin(FIREBASE\_HOST,FIREBASE\_AUTH);

Firebase.setInt("S1",1);

/\* Here the varialbe"S1","S2" needs to be the one which is used in our Firebase and MIT App Inventor \*/

Firebase.setInt("S2",0);

pinMode(3,OUTPUT);

Firebase.setInt("color",9);

Firebase.setInt("l",0);

}

void loop() {

// put your main code here, to run repeatedly:

if (Firebase.failed())

{

Serial.print("setting number failed:");

Serial.println(Firebase.error());

Firebase.begin(FIREBASE\_HOST,FIREBASE\_AUTH);

servof();

}

relay();

tempe();

flamef();

led();

servof();

}

void relay()

{

val1=Firebase.getString("S1").toInt();

if(val1==1) // If, the Status is 1, turn on the Relay1

{

digitalWrite(Relay1,LOW);

Serial.println("light 1 ON");

}

else if(val1==0) // If, the Status is 0, turn Off the Relay1

{

digitalWrite(Relay1,HIGH);

Serial.println("light 1 OFF");

}

val2=Firebase.getString("S2").toInt(); //Reading the value of the varialble Status from the firebase

if(val2==1)

// If, the Status is 1, turn on the Relay2

{

digitalWrite(Relay2,LOW);

Serial.println("light 2 ON");

}

else if(val2==0)

// If, the Status is 0, turn Off the Relay2

{

digitalWrite(Relay2,HIGH);

Serial.println("light 2 OFF");

}

}

void tempe()

{

float h = dht.readHumidity();

float t = dht.readTemperature(); // Reading temperature as Celsius (the default)

Serial.print(t);

Serial.print(h);

Firebase.setFloat ("Temp",t);

Firebase.setFloat ("Humidity",h);

delay(200);

}

void flamef(){

int Flame = digitalRead(flamePin);

if (Flame == LOW)

{

Firebase.setString("Flame"," Detected");

}

else if (Flame == HIGH)

{

Firebase.setString("Flame"," No ");

}

delay(800);

}

void led(){

color=Firebase.getString("color").toInt();

switch(color){

case 1:

digitalWrite(r,255);

digitalWrite(g,0);

digitalWrite(b,0);

break;

case 2:

digitalWrite(r,0);

digitalWrite(g,0);

digitalWrite(b,255);

break;

case 3:

digitalWrite(r,0);

digitalWrite(g,255);

digitalWrite(b,0);

break;

case 4:

digitalWrite(r,255);

digitalWrite(g,0);

digitalWrite(b,255);

break;

case 5:

digitalWrite(r,0);

digitalWrite(g,255);

digitalWrite(b,255);

break;

case 6:

digitalWrite(r,255);

digitalWrite(g,255);

digitalWrite(b,0);

break;

case 7:

digitalWrite(r,255);

digitalWrite(g,255);

digitalWrite(b,255);

break;

case 8:

digitalWrite(r,255);

digitalWrite(g,153);

digitalWrite(b,51);

break;

case 9:

digitalWrite(r,0);

digitalWrite(g,0);

digitalWrite(b,0);

break;

}

}

void servof(){

servo.attach(0); //D3

data=Firebase.getString("l").toInt();

if(data==1)

{

servo.write(90);

Serial.println("90");

}

else if(data==0)

{

servo.write(0);

Serial.println("0");

}

servo.detach();

}