**RETO 2 – APP + FIREBASE**

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#include <ArduinoJson.h>

#include <ESP8266WiFi.h>

#include <FirebaseArduino.h>

#define FIREBASE\_HOST "nodemcu-4974a.firebaseio.com"

#define FIREBASE\_AUTH "pM4xOoLlT0tpIQgCxgE5I2Zh4zRz9gjIBiUaohE3"

#define WIFI\_SSID "Tec-IoT"

#define WIFI\_PASSWORD "spotless.magnetic.bridge"

#include "DHT\_U.h"

#include "DHT.h"

#define dht\_dpin 15

#define DHTTYPE DHT11

int sensor = 13;

int disparador = 2;

int entrada=0;

int shock= 14;

int led=5;

long tiempo;

float distancia;

DHT dht(dht\_dpin, DHTTYPE);

void setup() {

Serial.begin(9600);

dht.begin();

pinMode(sensor, INPUT);

pinMode(led, OUTPUT);

pinMode(disparador, OUTPUT);

pinMode(entrada, INPUT);

pinMode(shock, INPUT);

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

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

delay(500);

Serial.print(".");

}

Serial.println("");

Serial.println("WiFi Conectado!");

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

Firebase.setString("LED","false");

}

void loop() {

if(Firebase.getString("LED").equals("true"))

{digitalWrite(led,HIGH);}

else{digitalWrite(led,LOW);

}

float h= dht.readHumidity();

if(h!=h){

h=0;

}

else{

Firebase.setFloat("Humedad", h);

}

float t= dht.readTemperature();

if(t!=t){

t=0;

}

else{

Firebase.setFloat("Temperatura", t);

}

float state = digitalRead(sensor);

Serial.println(h);

Serial.println(t);

digitalWrite(disparador, HIGH);

delayMicroseconds(10);

digitalWrite(disparador, LOW);

tiempo = (pulseIn(entrada,HIGH)/2);

distancia = float(tiempo\*0.0343);

float shockVal = digitalRead(shock);

// set value

Firebase.setFloat("Movimiento", state);

Firebase.setFloat("Distancia", distancia);

Firebase.setFloat("Shock", shockVal );

// handle error

if (Firebase.failed()) {

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

Serial.println(Firebase.error());

return;

}

delay(1000);

}

