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// First we include the libraries

#include <OneWire.h> //for DS18B20 Sensor

#include <DallasTemperature.h> //for DS18B20 Sensor

#include "DHT.h" //for DHT11 Sensor

#include <DHT.h> //for DHT11 Sensor

#include <Arduino.h>

#include <ESP8266WiFi.h> //for ESP8266 Module

#include <WiFiClient.h>

#include <ESP8266HTTPClient.h>

#include <Hash.h>

#include <Adafruit\_Sensor.h>

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//we define our data pins for both of the sensors and

#define ONE\_WIRE\_BUS 4 //Data pin for DS18B20 temperature Sensor on pin 4

OneWire oneWire(ONE\_WIRE\_BUS); // Setup a oneWire instance to communicate with any OneWire devices

DallasTemperature sensors(&oneWire); // Pass our oneWire reference to Dallas Temperature.

float temperature = 0 ;

#define DHTPIN 2 //Data pin for DHT11 Sensor (Humidity) on pin 2

#define DHTTYPE DHT11 //Define our DHT sensor type

DHT dht(DHTPIN, DHTTYPE); //function to detect the type and pin of DHT sensor

String toJSON(float, float); //declaration of function called toJSON

int postValues(String json); //declaration of function called postValues

String user\_network\_name;

String user\_password;

String restURL = "http://192.168.100.3:3000/measures"; //

const char\* network\_name="MasterMind00 :D"; //here we enter our network name

const char\* password="mnmfe33776204"; //here we enter our password for that network

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void setup() {

Serial.begin(115200); //initialize the Serial Monitor for debugging purposes

dht.begin(); //Initialize the DHT sensor

delay(1000);

sensors.begin();

delay(1000);

connect\_to\_network(); //function shows the networks then takes ssid and password and connects to the network

}

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void loop() {

//get humidity readings from DHT11 Sensor

delay(2000); // Wait a few seconds between measurements.

float humidity = dht.readHumidity(); // Reading humidity takes about 250 milliseconds

Serial.print(F(" Humidity: "));

Serial.print(humidity);

//get temperature readings from DS18B20 Sensor

delay(2000); // Wait a few seconds between measurements.

sensors.requestTemperatures(); // Send the command to get temperature readings

float temperature = sensors.getTempCByIndex(0); // Why "byIndex"? because You can have more than one DS18B20 on the same bus, 0 refers to the first IC on the wire

Serial.print("Temperature is: ");

Serial.print(temperature); //printing tempearture readings on serial monitor

delay(1000);

String json = toJSON(temperature, humidity);

int httpCode = postValues(json);

if (httpCode == 201)

{

Serial.print("POSTED: ");

Serial.println(json);

delay(1000);

}

else

{

Serial.print("Fail. HTTP ");

Serial.println(httpCode);

Serial.println(WiFi.status());

}

} //end of void loop

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//function that scans for the networks around your device and displays it

void connect\_to\_network(){

WiFi.disconnect();

WiFi.scanNetworks();

Serial.print("Scan start ... ");

int n = WiFi.scanNetworks();

if ( n > 0 )

{

Serial.print(n);

Serial.println(" network(s) found");

for (int i = 0; i < n; i++)

{

Serial.println(WiFi.SSID(i));

}

Serial.println();

}

WiFi.begin(network\_name,password); //takes the ssid and password to connect

delay(1000);

Serial.print("Connected, IP address: ");

Serial.println(network\_name);

Serial.println(password);

Serial.println(WiFi.localIP());

}

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//convert the readings to JSON object

String toJSON(float temperature, float humidity) {

String temp = String(temperature);

String humi = String(humidity);

return String("{\"temperature\": ") + temp + ", \"humidity\": " + humi + "}";

}

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//sends the data to the server

int postValues(String json) {

WiFiClient ourClient;

HTTPClient http; //Declare object of class HTTPClient

Serial.print(restURL);

http.begin(restURL); //Specify request destination

//http.begin("0.0.0.0",3000,"/measures");

http.addHeader("Content-Type", "application/json"); //Specify content-type header

//http.addHeader("Accept", "application/json");

Serial.print(json);

int httpCode = http.POST(json); //Send the request

String payload = http.getString(); //Get the response payload

Serial.print(payload);

return httpCode;

}

// WiFi.mode(WIFI\_STA); 1st line after void connect\_to\_network

// Serial.print("HTTP Response: "); //Print HTTP return code

// Serial.print(httpCode);

// Serial.println(payload); //Print request response payload

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

// {

// Serial.print("Please enter a valid network name and password...\n");

// Serial.println("please enter network name");

// while (Serial.available() == 0)

// {}

// user\_network\_name = Serial.readString();

// Serial.println("The network name you have entered is");

// Serial.println(user\_network\_name);

//

// Serial.println("please enter network password");

// while (Serial.available() == 0)

// {}

// user\_password = Serial.readString();

// Serial.println("The password you have entered is:");

// Serial.println(user\_password);