#include <ESP8266WiFi.h>

#include <WiFiUdp.h>

#include <DHT.h>

const char\* ssid = "Galaxy A21sE600";

const char\* password = "zilh8480";

const char\* udpAddress = "192.168.68.144";

const int udpPort = 1234;

#define DHTPIN D3

#define DHTTYPE DHT11

DHT dht(DHTPIN, DHTTYPE);

WiFiUDP udp;

void setup() {

Serial.begin(115200);

Serial.println();

Serial.println("Connecting to WiFi...");

WiFi.begin(ssid, password);

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

delay(1000);

Serial.print("Connecting");

}

Serial.println();

Serial.print("Connected to WiFi.IP:");

dht.begin();

}

void loop() {

delay(10000);

float temperature = dht.readTemperature();

float humidity = dht.readHumidity();

if (isnan(temperature) || isnan(humidity)) {

Serial.println("Failed to read from DHT sensor!");

return;

}

Serial.print("Temperature: ");

Serial.print(temperature);

Serial.print(" °C\tHumidity: ");

Serial.print(humidity);

Serial.println(" %");

Serial.println("Sending data over UDP...");

udp.beginPacket(udpAddress, udpPort);

udp.print("Temperature: ");

udp.print(temperature);

udp.print(" °C, Humidity: ");

udp.print(humidity);

udp.println(" %");

udp.endPacket();

Serial.println("Data sent over UDP.");

}

Week10

#include <ESP8266WiFi.h>

#include <WiFiUdp.h>

#include "DHT.h"

#define DHTPIN D4 // Connect DHT data pin to D4 (GPIO2)

#define DHTTYPE DHT11 // or DHT22

const char\* ssid = "Your\_SSID"; // replace with your WiFi name

const char\* password = "Your\_PASSWORD"; // replace with your WiFi password

WiFiUDP Udp;

unsigned int localUdpPort = 4210; // Port to listen on

char incomingPacket[255]; // buffer for incoming packets

char replyPacket[255]; // buffer for reply

DHT dht(DHTPIN, DHTTYPE);

void setup() {

Serial.begin(115200);

dht.begin();

WiFi.begin(ssid, password);

Serial.print("Connecting to WiFi...");

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

delay(500);

Serial.print(".");

}

Serial.println("\nConnected to WiFi");

Serial.print("IP address: ");

Serial.println(WiFi.localIP());

Udp.begin(localUdpPort);

Serial.printf("UDP server started at port %d\n", localUdpPort);

}

void loop() {

int packetSize = Udp.parsePacket();

if (packetSize) {

// Receive incoming UDP packet

int len = Udp.read(incomingPacket, 255);

if (len > 0) {

incomingPacket[len] = '\0'; // null-terminate the string

}

Serial.printf("Received UDP packet: %s\n", incomingPacket);

// Respond only if command is "humidity"

if (strcmp(incomingPacket, "humidity") == 0) {

float hum = dht.readHumidity();

if (isnan(hum)) {

sprintf(replyPacket, "Error reading humidity");

} else {

sprintf(replyPacket, "Humidity: %.2f %%", hum);

}

// Send back the humidity data to the client

Udp.beginPacket(Udp.remoteIP(), Udp.remotePort());

Udp.write(replyPacket);

Udp.endPacket();

Serial.printf("Sent response: %s\n", replyPacket);

}

}

delay(100);

}