**ASSIGNMENT NO 02**

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**Name:-** **Dattatray Suresh Gatkal**

**Roll No:- 17**

**Batch:- A**

**Batch :-** Design and implement parameter monitoring IoT system keeping records on Cloud such as 'environment humidity and temperature monitoring'

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**INPUT :-**

#include <DHT.h> // Including library for dht

#include <ESP8266WiFi.h>

String apiKey = "UA18DUOX2CS0S1XG"; // Write API key from ThingSpeak

const char \*ssid = "HarshalLapi"; // wifi ssid and wpa2 key

const char \*pass = "123456789";

const char\* server = "api.thingspeak.com";

#define DHTPIN D2 //pin where the dht11 is connected

DHT dht(DHTPIN, DHT11);

WiFiClient client;

void setup()

{

Serial.begin(115200);

delay(10);

dht.begin();

Serial.println("Connecting to ");

Serial.println(ssid);

WiFi.begin(ssid, pass);

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

{

delay(500);

Serial.print(".");

}

Serial.println("");

Serial.println("WiFi connected");

}

void loop()

{

float h = dht.readHumidity();

float t = dht.readTemperature();

delay(2000);

if (isnan(h) || isnan(t))

{

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

return;

}

if (client.connect(server,80)) // api.thingspeak.com

{

String postStr = apiKey; //X3CE4AWP0UFZ2NYZ&field1=25.8&field2=61.00

postStr +="&field1=";

postStr += String(t);

postStr +="&field2=";

postStr += String(h);

postStr += "\r\n\r\n";

client.print("POST /update HTTP/1.1\n");

client.print("Host: api.thingspeak.com\n");

client.print("Connection: close\n");

client.print("X-THINGSPEAKAPIKEY: "+apiKey+"\n");

client.print("Content-Type: application/x-www-form-urlencoded\n");

client.print("Content-Length: ");

client.print(postStr.length());

client.print("\n\n");

client.print(postStr);

Serial.print("Temperature: ");

Serial.print(t);

Serial.print(" degrees Celcius, Humidity: ");

Serial.print(h);

Serial.println("%. \nSend to Thingspeak.");

}

client.stop();

Serial.println("Waiting...");

// thingspeak needs minimum 15 sec delay between updates

delay(2000);

}