

CLOUD COMPUTING USING DHT11

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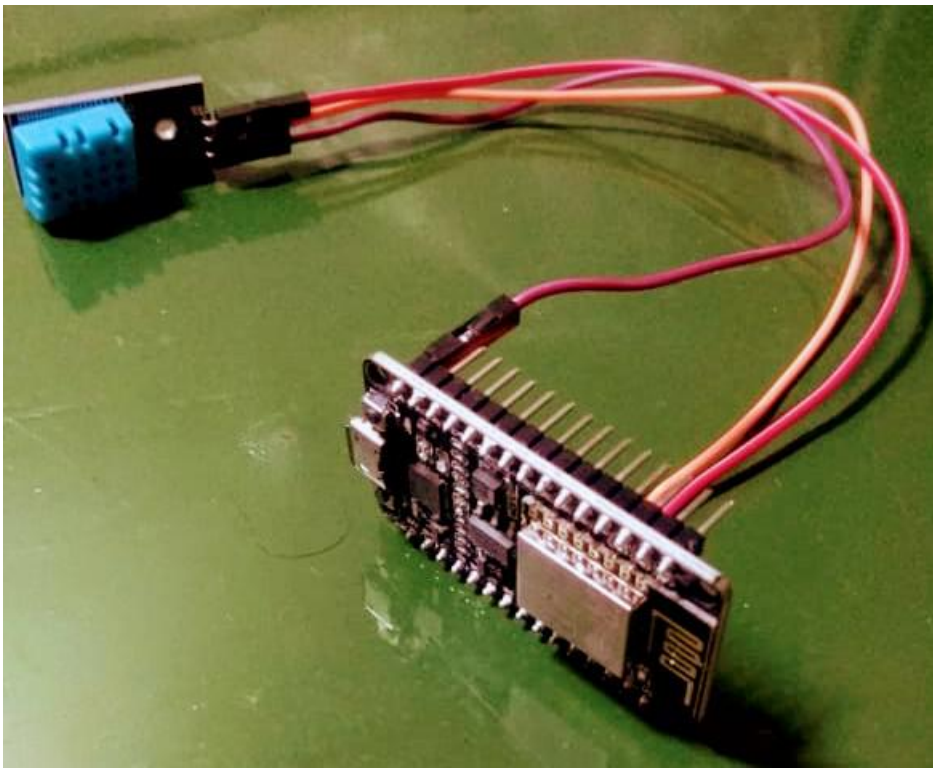
AIM

To analyze the data obtained by the DHT11 sensor on cloud server.

COMPONENTS REQUIRED

NodeMCU
DHT11
JUMPER WIRES

CIRCUIT



CODE

```
#include <DHT.h>
#include <ESP8266WiFi.h>
#include <WiFiClient.h>
#include <ThingSpeak.h>
#define DHTPIN D5
#define DHTTYPE DHT11
DHT dht(DHTPIN, DHTTYPE);
const char* ssid = "Mridul";
const char* password = "123456789";
WiFiClient client;
unsigned long myChannelNumber = 645371;
const char * myWriteAPIKey = "1YLMRO4IK23SDVJG";
uint8_t temperature, humidity, k=0, l=0;
void setup()
{
  Serial.begin(9600);
  dht.begin();
  delay(10);
  // Connect to WiFi network
  Serial.println();
  Serial.println();
  Serial.print("Connecting to ");
  Serial.println(ssid);
  WiFi.begin(ssid, password);
  while (WiFi.status() != WL_CONNECTED)
  {
    delay(500);
    Serial.print(".");
  }
  Serial.println("");
```

```
Serial.println("WiFi connected");
// Print the IP address
Serial.println(WiFi.localIP());
ThingSpeak.begin(client);
}
void loop()
{
static boolean data_state = false;
temperature = dht.readTemperature();
humidity = dht.readHumidity();
Serial.print("Temperature Value is :");
Serial.print(temperature);
Serial.println("C");
Serial.print("Humidity Value is :");
Serial.print(humidity);
Serial.println("%");
// Write to ThingSpeak. There are up to 8 fields in a channel,
allowing you to store up to 8 different
// pieces of information in a channel. Here, we write to field 1.
if(temperature < 255)
{
k=temperature;
}
if(humidity < 255)
{
l=humidity;
}
if( data_state )
{
ThingSpeak.writeField(myChannelNumber, 1, k, myWriteAPIKey);
data_state = false;
```

```
}  
else  
{  
ThingSpeak.writeField(myChannelNumber, 2, I, myWriteAPIKey);  
data_state = true;  
}  
delay(30000); // ThingSpeak will only accept updates every 15  
seconds.  
}
```

OUTPUT

Serial Monitor

COM17

```
Temperature Value is :26C
Humidity Value is :79%
Temperature Value is :27C
Humidity Value is :78%
Temperature Value is :27C
Humidity Value is :78%
Temperature Value is :30C
Humidity Value is :95%
Temperature Value is :29C
Humidity Value is :95%
Temperature Value is :28C
Humidity Value is :95%
Temperature Value is :27C
Humidity Value is :95%
Temperature Value is :27C
Humidity Value is :95%
Temperature Value is :27C
Humidity Value is :95%
Temperature Value is :27C
Humidity Value is :93%
Temperature Value is :27C
Humidity Value is :93%
Temperature Value is :26C
Humidity Value is :92%
Temperature Value is :26C
Humidity Value is :92%
Temperature Value is :26C
Humidity Value is :92%
Temperature Value is :26C
Humidity Value is :92%
```

OUTPUT ON CLOUD SERVER

Field 1 Chart



Temperature Plot

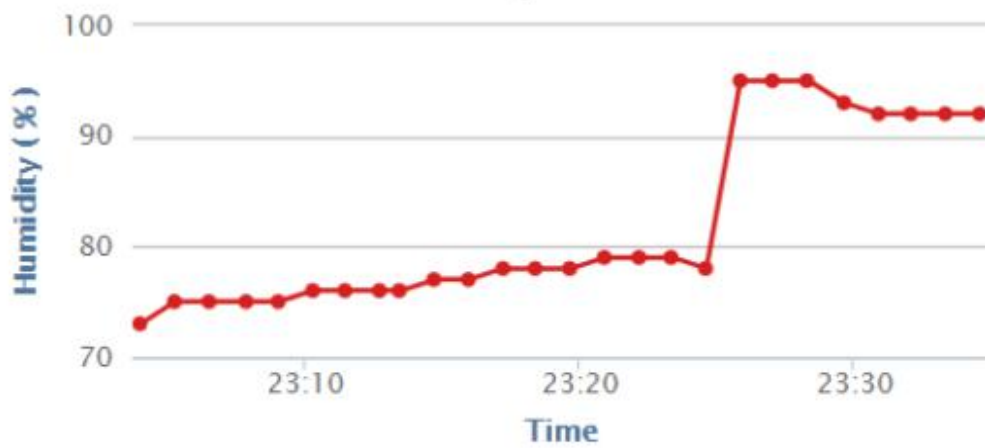


ThingSpeak.com

Field 2 Chart



Humidity Plot



ThingSpeak.com