Tutorial NodeMCU V2: DHT11

1. KY-015 DHT-11 DHT11 Smart 3pin Digital Temperature And Relative Humidity.

   Spec: 3.3V - 5.0V

   Humidity: 20% - 90%

   Temperature: 0°C – 50°C

2. The connection.

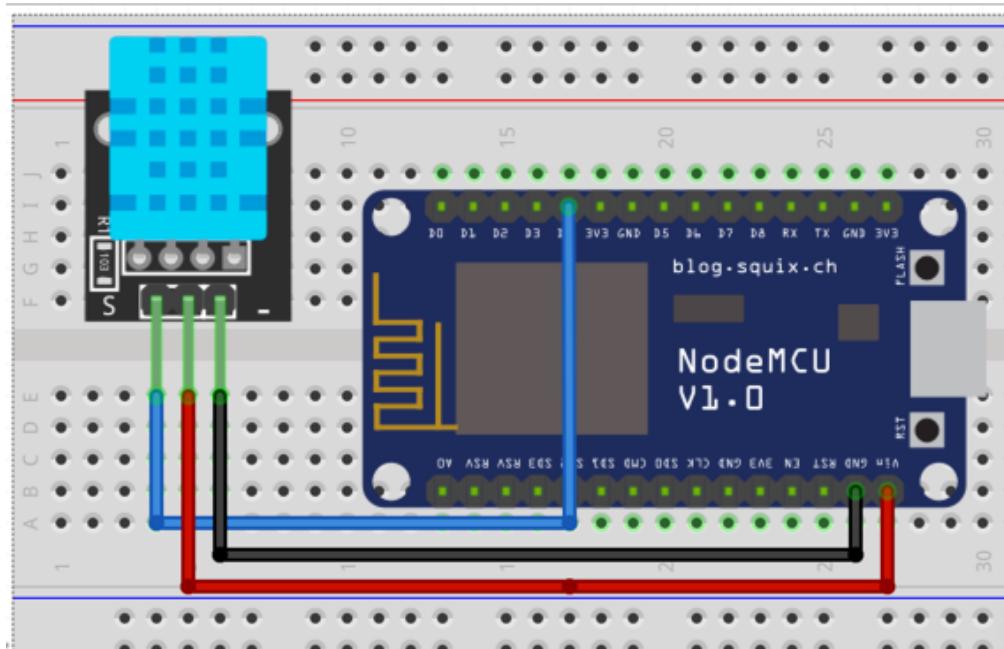   S   connect D4

   +   connect Vin

   -    connect GND

Figure 1: Standard pin layout of any LCD

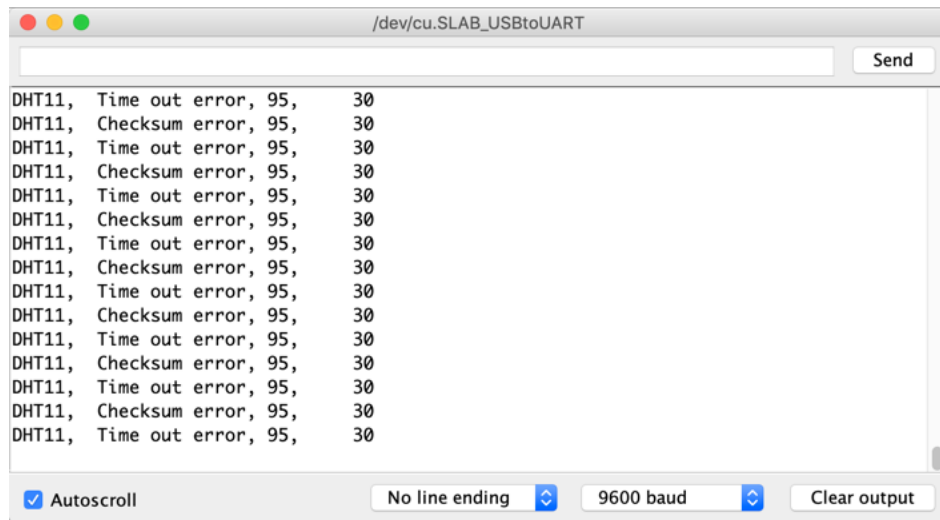3. Upload DHT11 library by using **Sketch>Input Library> Add .ZIP library**.

4. The sketch **Files > Examples > dht11**.


```
1 //
2 //    FILE:  dht11_test1.pde
3 // PURPOSE: DHT11 library test sketch for Arduino
4 //
5 #include <dht11.h>
6 dht11 DHT;
7 #define DHT11_PIN D4
8
9 void setup(){
10    Serial.begin(9600);
11    Serial.println("DHT TEST PROGRAM ");
12    Serial.print("LIBRARY VERSION: ");
13    Serial.println(DHT11LIB_VERSION);
14    Serial.println();
15    Serial.println("Type,\tstatus,\tHumidity (%),\tTemperature (C)");
16 }
17
```
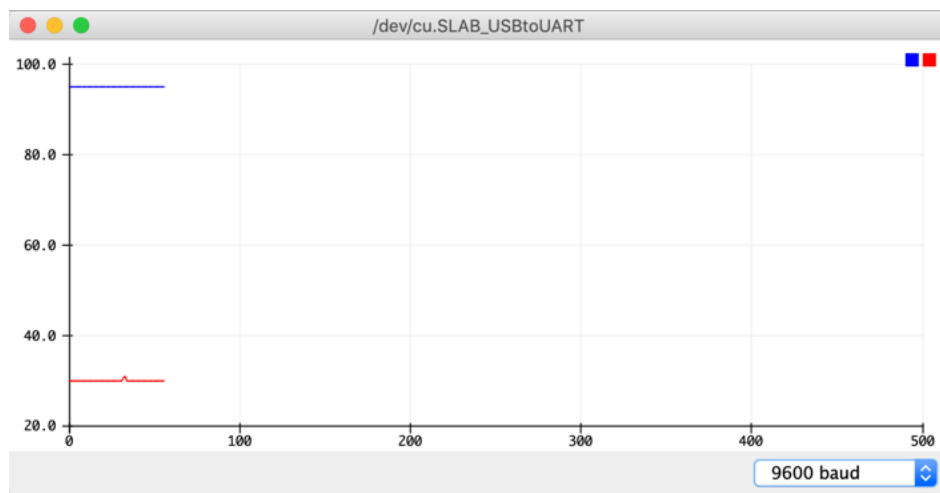
```
18 void loop(){
19    int chk;
20    Serial.print("DHT11, \t");
21    chk = DHT.read(DHT11_PIN);     // READ DATA
22    switch (chk){
23      case DHTLIB_OK:
24                Serial.print("OK,\t");
25                break;
26      case DHTLIB_ERROR_CHECKSUM:
27                Serial.print("Checksum error,\t");
28                break;
29      case DHTLIB_ERROR_TIMEOUT:
30                Serial.print("Time out error,\t");
31                break;
32      default:
33                Serial.print("Unknown error,\t");
34                break;
35    }
36 // DISPLAT DATA
37    Serial.print(DHT.humidity,1);
38    Serial.print(",\t");
39    Serial.println(DHT.temperature,1);
40
41    delay(1000);
42 }
43
```

Figure 3: The sketch

5. The output from Serial Monitor.

```
●●●                    /dev/cu.SLAB_USBtoUART
                                                          Send
DHT11,  Time out error, 95,      30
DHT11,  Checksum error, 95,      30
DHT11,  Time out error, 95,      30
DHT11,  Checksum error, 95,      30
DHT11,  Time out error, 95,      30
DHT11,  Checksum error, 95,      30
DHT11,  Time out error, 95,      30
DHT11,  Checksum error, 95,      30
DHT11,  Time out error, 95,      30
DHT11,  Checksum error, 95,      30
DHT11,  Time out error, 95,      30
DHT11,  Checksum error, 95,      30
DHT11,  Time out error, 95,      30
DHT11,  Checksum error, 95,      30
DHT11,  Time out error, 95,      30

☑ Autoscroll          No line ending  ◇  9600 baud  ◇  Clear output
```

6. The output from Serial Plotter.

```
●●●                    /dev/cu.SLAB_USBtoUART
100.0                                              ■ ■

 80.0

 60.0

 40.0

 20.0
      0      100      200      300      400      500
                                         9600 baud  ◇
```

```
18 void loop(){
19   int chk;
20   //Serial.print("DHT11, \t");
21   chk = DHT.read(DHT11_PIN);    // READ DATA
22 /* switch (chk){
23     case DHTLIB_OK:
24               Serial.print("OK,\t");
25               break;
26     case DHTLIB_ERROR_CHECKSUM:
27               Serial.print("Checksum error,\t");
28               break;
29     case DHTLIB_ERROR_TIMEOUT:
30               Serial.print("Time out error,\t");
31               break;
32     default:
33               Serial.print("Unknown error,\t");
34               break;
35   }*/
36 // DISPLAT DATA
37   Serial.print(DHT.humidity,1);
38   Serial.print(",");
39   Serial.println(DHT.temperature,1);
40
41   delay(1000);
42 }
43
```

Big Data Analytics & Connecting Things

11 Mar 2019@PMJ