DTH22 Local

This module will connect local to the DHT22 and will print out temp and humidity on the serial monitor.

Setup

Use DHTesp library with DHT11/22 etc. with esp32/esp8266

Quoted from the following internet discussion:

https://www.reddit.com/r/esp8266/comments/acno0u/use_dhtesp_library_with_dht1122_etc_with/

> I had a lot of trouble getting stable readings from my DHT22 sensor. I used the another dht library which is often suggested. But around 40% of the time the sensor data failed to read, even after increasing the interval to 5 or 10 seconds.
>
> Then I came across this library: https://github.com/beegee-tokyo/DHTesp
> Now I have 100% successful readings for several days so it is a huge improvement. This library was developed for esp32 but it also works a lot better with esp8266 micro controllers.
>
> I just wanted to share this with you so maybe it is easier to find a solution for the "failed" reads problem occurring with esp32/esp8266.

In the Arduino IDE under Tools→Manage Libraries, add the DHT Sensor library for ESPx by beegee
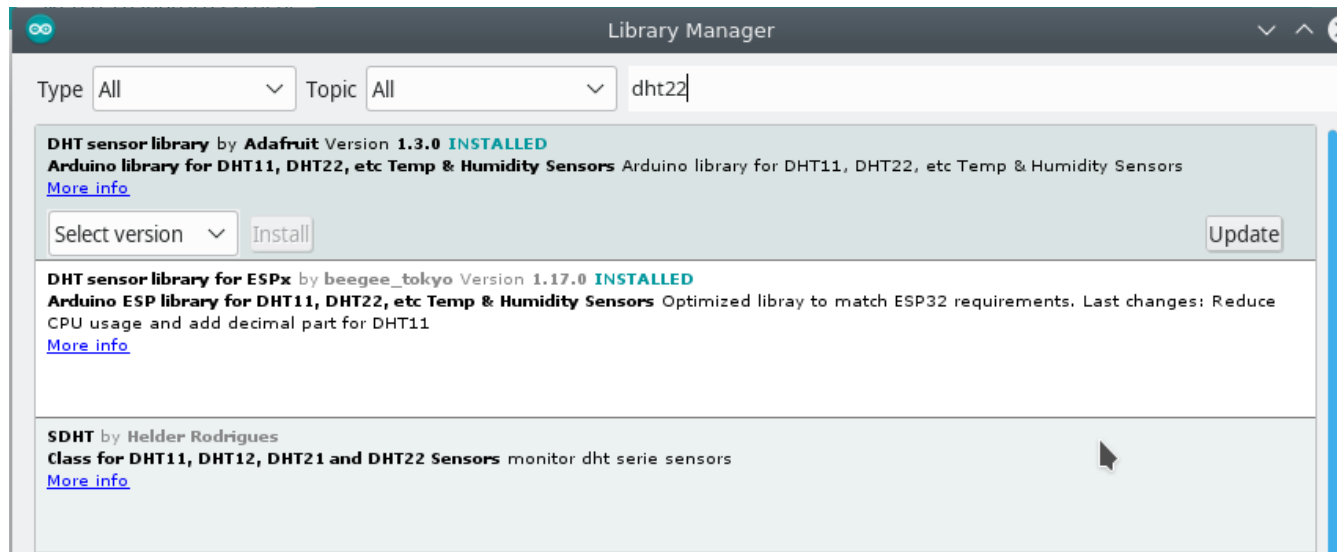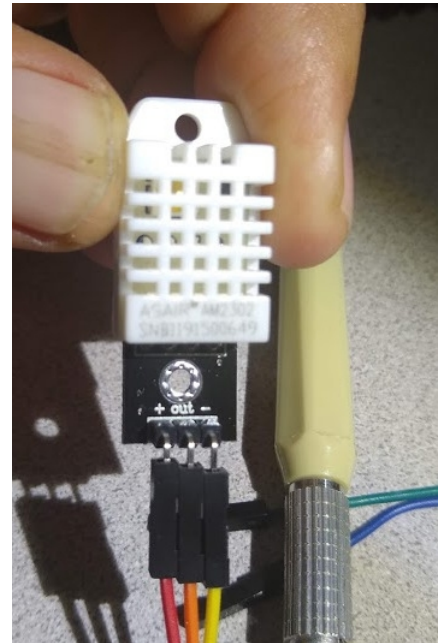
Wiring

Connect three wires to the DHT22: Gnd, V+3, Output. The labeling on DHT22 is different from the reference article, but the photos below show the connection. The DHT22 pins should be labeled, connect as follows

DHT22 PIN	NodeMCU PIN
+	3.3V
Out	D5 – GPIO 14
-	Gnd

Code

URL: http://web.eng.fiu.edu/watsonh/eel4730/MQTT/sketch_LosantDHT22Local.ino

```
/**
 * Example for reading temperature and humidity
 * using the DHT22 and ESP8266 with beegee library
 * sketch_LosantDHT22Local
 * no Adafruit - better accuracy
 *
 * Copyright (c) 2016 Losant IoT. All rights reserved.
 * https://www.losant.com
 *  Modified by H. Watson for NodeMCU  03/2020
 */

//#include "DHT.h"
#include "DHTesp.h"

#define DHTPIN 14     // what digital pin the DHT22 is conected to
#define DHTTYPE DHT22   // there are multiple kinds of DHT sensors

//DHT dht(DHTPIN, DHTTYPE);
DHTesp dht;

void setup() {
  Serial.begin(115200);
  Serial.setTimeout(2000);

  // Wait for serial to initialize.
  while(!Serial) { }

  Serial.println("Device Started");
  Serial.println("-------------------------------------");
  Serial.println("Running DHT!");
  Serial.println("-------------------------------------");
  dht.setup(14, DHTesp::DHT22); // Connect DHT sensor to GPIO 14//17
}

int timeSinceLastRead = 0;
void loop() {

  // Report every 2 seconds.
  if(timeSinceLastRead > 2000) {
    // Reading temperature or humidity takes about 250 milliseconds!
    // Sensor readings may also be up to 2 seconds 'old' (its a very
slow sensor)
    //float h = dht.readHumidity();
    float h = dht.getHumidity();
    // Read temperature as Celsius (the default)
    float t = dht.getTemperature();
    //float t = dht.readTemperature();
    // Read temperature as Fahrenheit (isFahrenheit = true)
    //float f = dht.readTemperature(true);
    float f = dht.toFahrenheit(t);

    // Check if any reads failed and exit early (to try again).
    if (isnan(h) || isnan(t) || isnan(f)) {
      Serial.println("Failed to read from DHT sensor!");
```

```
            timeSinceLastRead = 0;
            return;
        }

        // Compute heat index in Fahrenheit (the default)
        float hif = dht.computeHeatIndex(f, h, true);
        // Compute heat index in Celsius (isFahreheit = false)
        float hic = dht.computeHeatIndex(t, h, false);

        Serial.print("Humidity: ");
        Serial.print(h);
        Serial.print(" ");
        Serial.print("Temperature: ");
        Serial.print(t);
        Serial.print(" *C ");
        Serial.print(f);
        Serial.print(" *F\t");
        Serial.print("Heat index: ");
        Serial.print(hic);
        Serial.print(" *C ");
        Serial.print(hif);
        Serial.println(" *F");

        timeSinceLastRead = 0;
    }
    delay(100);
    timeSinceLastRead += 100;
}
```

Running the Code

Download, compile, and upload the code to the NodeMCU. Open the Serial Monitor to see the values printed. DO NOT OPEN SERIAL MONITOR until code is completely uploaded. Make sure you capture time and date as well as the Serial Monitor output. Turn this in for Module 3 submission.