Reading temperature and humidity from seeedstudio grove DHT-11 sensor using STM32F103RCT6 board

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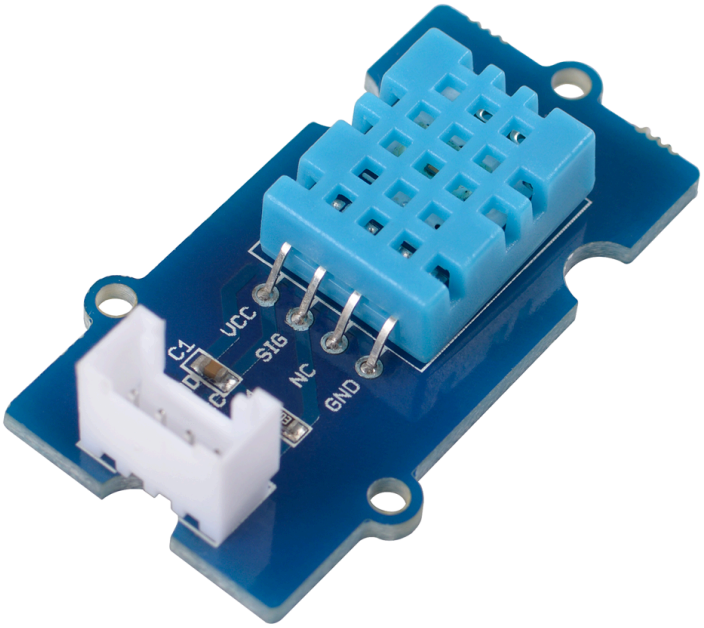
Dec 06,2020

DHT-11 sensor info https://www.seeedstudio.com/Grove-Temperature-Humidity-Sensor-DHT11.html



Grove - Temperature & Humidity Sensor (DHT11)

to be able to compile arduino sketch for DHT-11 sensor , we need to install Grove_Temperature_And_Humidity_Sensor, library, it can be downloaded from

https://github.com/Seeed-Studio/Grove_Temperature_And_Humidity_Sensor

to install Grove_Temperature_And_Humidity_Sensor, library

a terminal window (linux or Mac OS) or (cmd on windows) , change directory to Documents/Arduino/libraries and use following command to install library

git clone https://github.com/Seeed-Studio/Grove_Temperature_And_Humidity_Sensor.git

after this restart Arduino IDE

in this modified sketch DHT-11 sensor pin is connected to PB7 of STM32F103RCT6 board

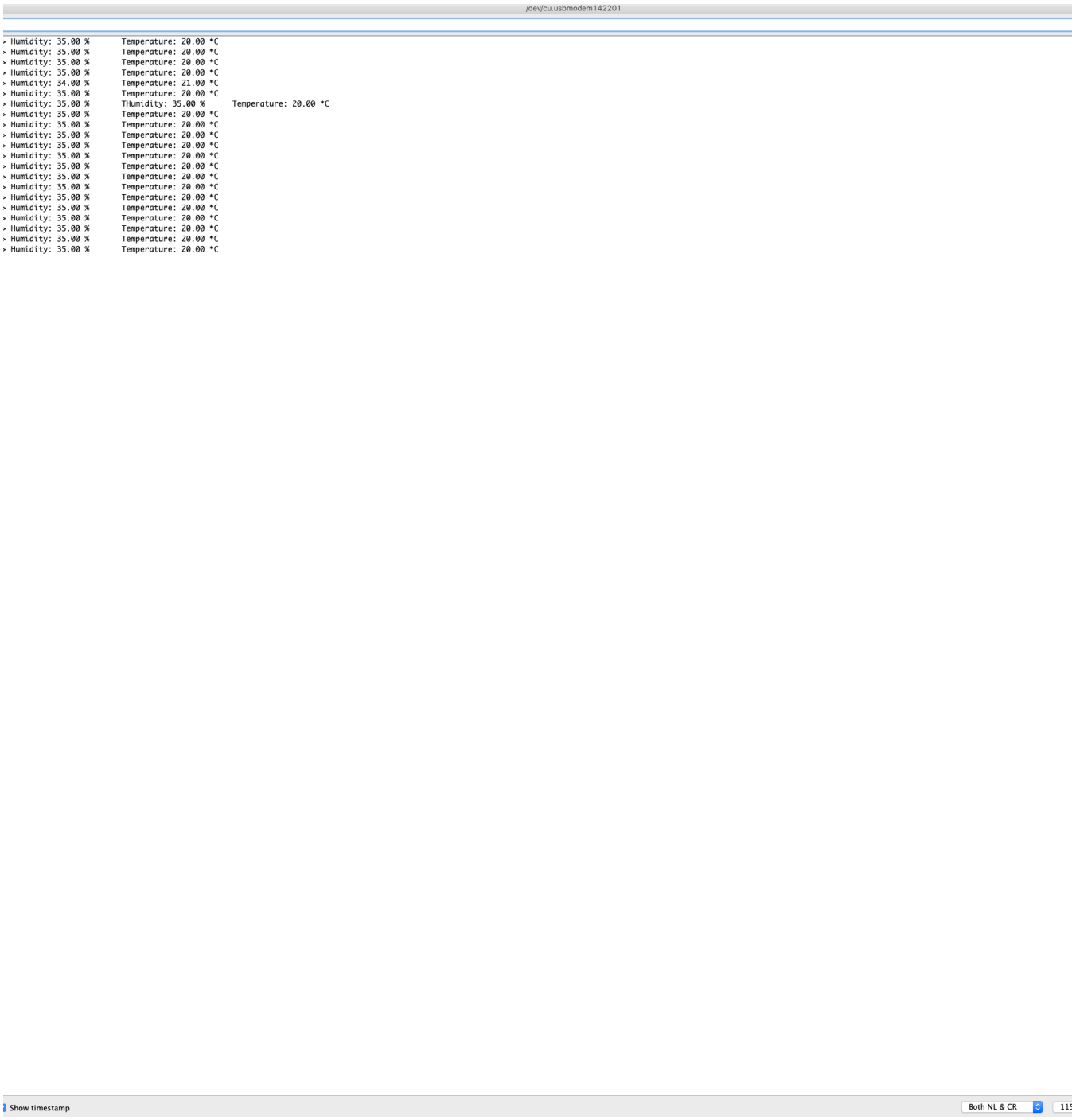
to make connections to STM32F103RCT6 board and DHT-11 sensor , connect grove cable with socket to DHT-11 and other end of red wire to 3.3 v of STM32F103RCT6 board and ground (black) wire to ground of STM32F103RCT6 board, also connect yellow wire of grove cable to PB7 pin of STM32F103RCT6 board

Here is arduino sketch (it is modified from sketch DHTtester.ino in library Grove_Temperature_And_Humidity_Sensor)

```
// Example testing sketch for various DHT humidity/temperature sensors
// Written by ladyada, public domain

#include "DHT.h"

// #define DHTPIN 2     // what pin we're connected to, on STM32F103RCT6  board it is B7
#define DHTPIN PB7
// Uncomment whatever type you're using!
#define DHTTYPE DHT11   // DHT 11
// #define DHTTYPE DHT22   // DHT 22  (AM2302)
//#define DHTTYPE DHT21   // DHT 21 (AM2301)

/*Notice: The DHT10 is different from other DHT* sensor ,it uses i2c interface rather than one wire*/
/*So it doesn't require a pin.*/

//#define DHTTYPE DHT10

// Connect pin 1 (on the left) of the sensor to +5V
// Connect pin 2 of the sensor to whatever your DHTPIN is
// Connect pin 4 (on the right) of the sensor to GROUND
// Connect a 10K resistor from pin 2 (data) to pin 1 (power) of the sensor

DHT dht(DHTPIN, DHTTYPE);

#if defined(ARDUINO_ARCH_AVR)
   #define debug  Serial

#elif defined(ARDUINO_ARCH_SAMD) ||  defined(ARDUINO_ARCH_SAM)
   #define debug  SerialUSB
```

```
#else
    #define debug  Serial
#endif

void setup() {

    debug.begin(115200);
    debug.println("DHTxx test!");
    Wire.begin();

    /*if using WIO link,must pull up the power pin.*/
    // pinMode(PIN_GROVE_POWER, OUTPUT);
    // digitalWrite(PIN_GROVE_POWER, 1);

    dht.begin();
}

void loop() {
    float temp_hum_val[2] = {0};
    // Reading temperature or humidity takes about 250 milliseconds!
    // Sensor readings may also be up to 2 seconds 'old' (its a very slow sensor)


    if (!dht.readTempAndHumidity(temp_hum_val)) {
        debug.print("Humidity: ");
        debug.print(temp_hum_val[0]);
        debug.print(" %\t");
        debug.print("Temperature: ");
        debug.print(temp_hum_val[1]);
        debug.println(" *C");
    } else {
        debug.println("Failed to get temprature and humidity value.");
    }

    delay(1500);
}
```

compile above sketch in arduino IDE and download to STM32F103RCT6 board and Arduino’s serial monitor we” get following outputs



output of DHT-11 in arduino serial monitor