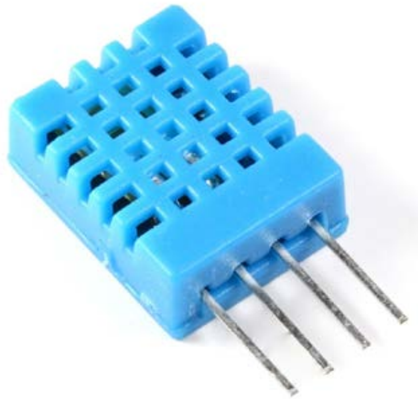
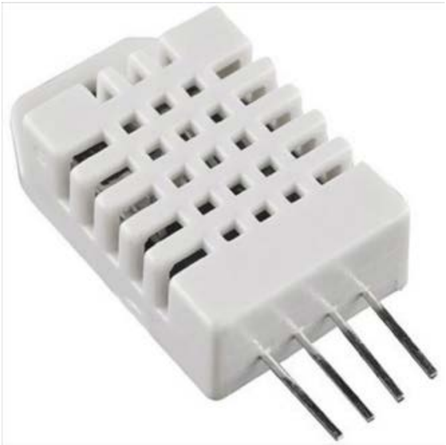
HOW TO USE A

TEMPERATURE and HUMIDITY SENSOR



DHT11



DHT22

DOCUMENTATION

DHT22 / DHT11

Both sensors measure ambient

temperature (°C / °F) and relative humidity (% RH).

WHICH ONE SHOULD YOU CHOOSE?

https://www.estartrade-ic.com/dht22-vs-dht11-which-one-to-choose/

MORE INFO:

https://www.makerguides.com/dht11-dht22-arduino-tutorial/

https://learn.adafruit.com/dht

Image		
Part Number	DHT11	DHT22
Price	$1 to $5	$4 to $10
Sampling period	1 second	2 seconds
Current supply	0.5 ~ 2.5 mA	1 ~ 1.5 mA
Operating voltage	3 ~ 5.5 V	3 ~ 6 V
Temperature range	0 ~ 50 ºC（+/-2 ºC）	-40 ~ 80 °C（+/-0.5° C）
Humidity range	20 ~ 90%（+/-5%）	0 ~ 100%（+/-2%）
Body size	15.5mm x 12mm x 5.5mm	15.1mm x 25mm x 7.7mm
Resolution	Humidity: 1% Temperature: 1ºC	Humidity: 0.1% Temperature: 0.1° C

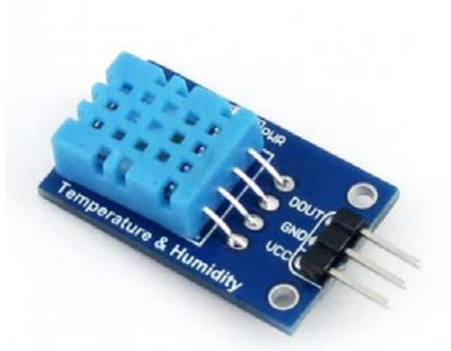
WARNING!

They are not waterproof

ACTIVITY

SENSING AMBIENT TEMPERATURE AND HUMIDITY

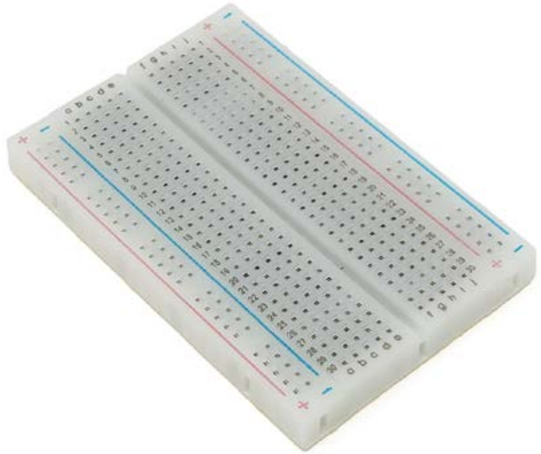
HARDWARE COMPONENTS



DHT11 sensor

Arduino UNO board

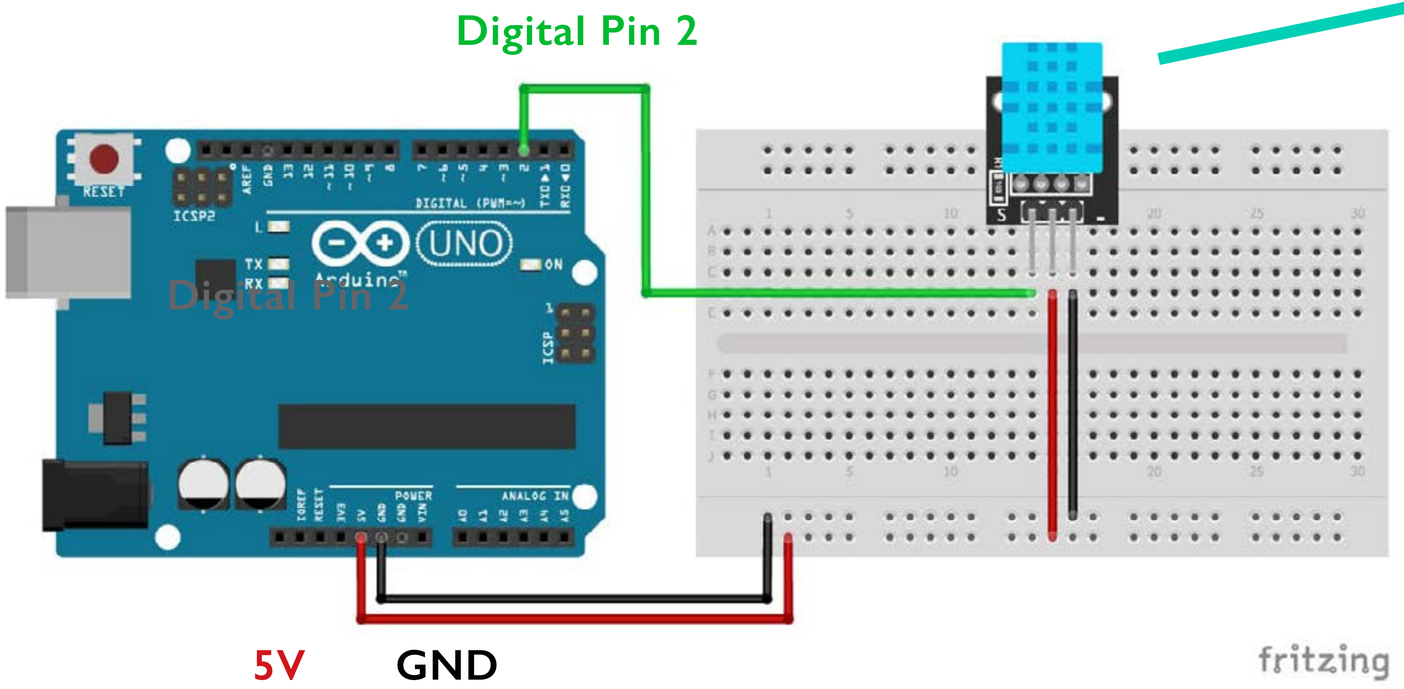
Jumpers

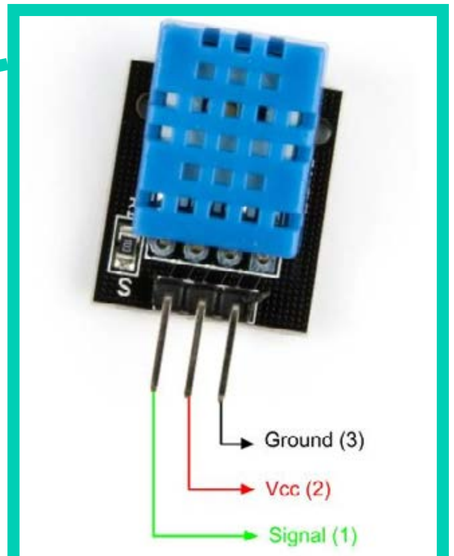


Breadboard

Sensing Environmental Temperature and Humidity

WIRING





WARNING!

Some sensors may have different pin order. Look at your sensor and identify the pins for correct wiring:

DHT		Arduino UNO
VCC	———	5V
GND	———	GND
Data or Signal		Digital Pin 2

INSTALLING ARDUINO LIBRARIES

STEP 1: Download Libraries

DHT-sensor-library-master.zip

Adafruit_Sensor-master.zip

STEP 2: Install Libraries

- Open Arduino IDE

- Go to
Sketch > Include Library > Add .ZIP Library

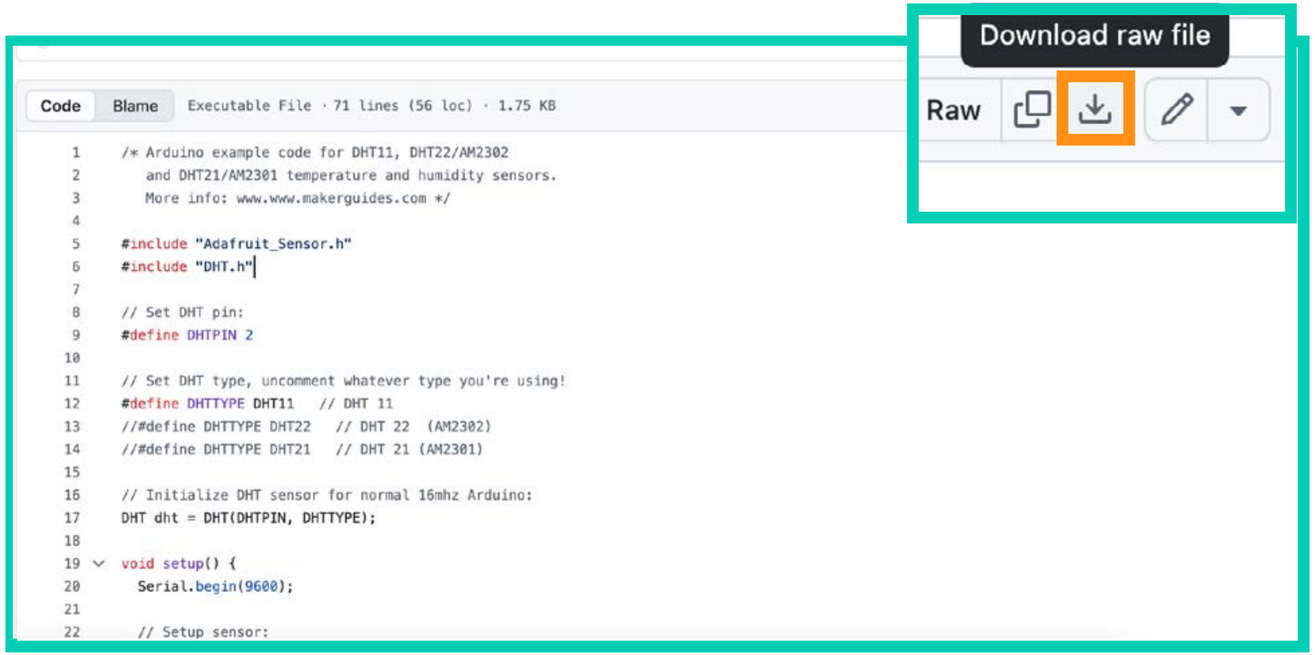
- Select the libraries previously downloaded

Sensing Environmental Temperature and Humidity

CODING

The link below will direct you to a GitHub website.
Download the code from there.

[Link to download Arduino Code for DHT11 sensor]

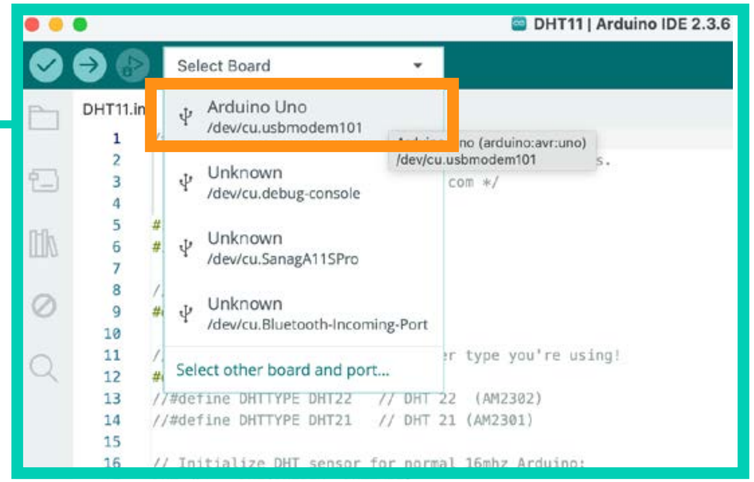


Sensing Environmental Temperature and Humidity

- Plug The Arduino Board to your computer

- Open the Arduino file (.ino) that you previously downloaded

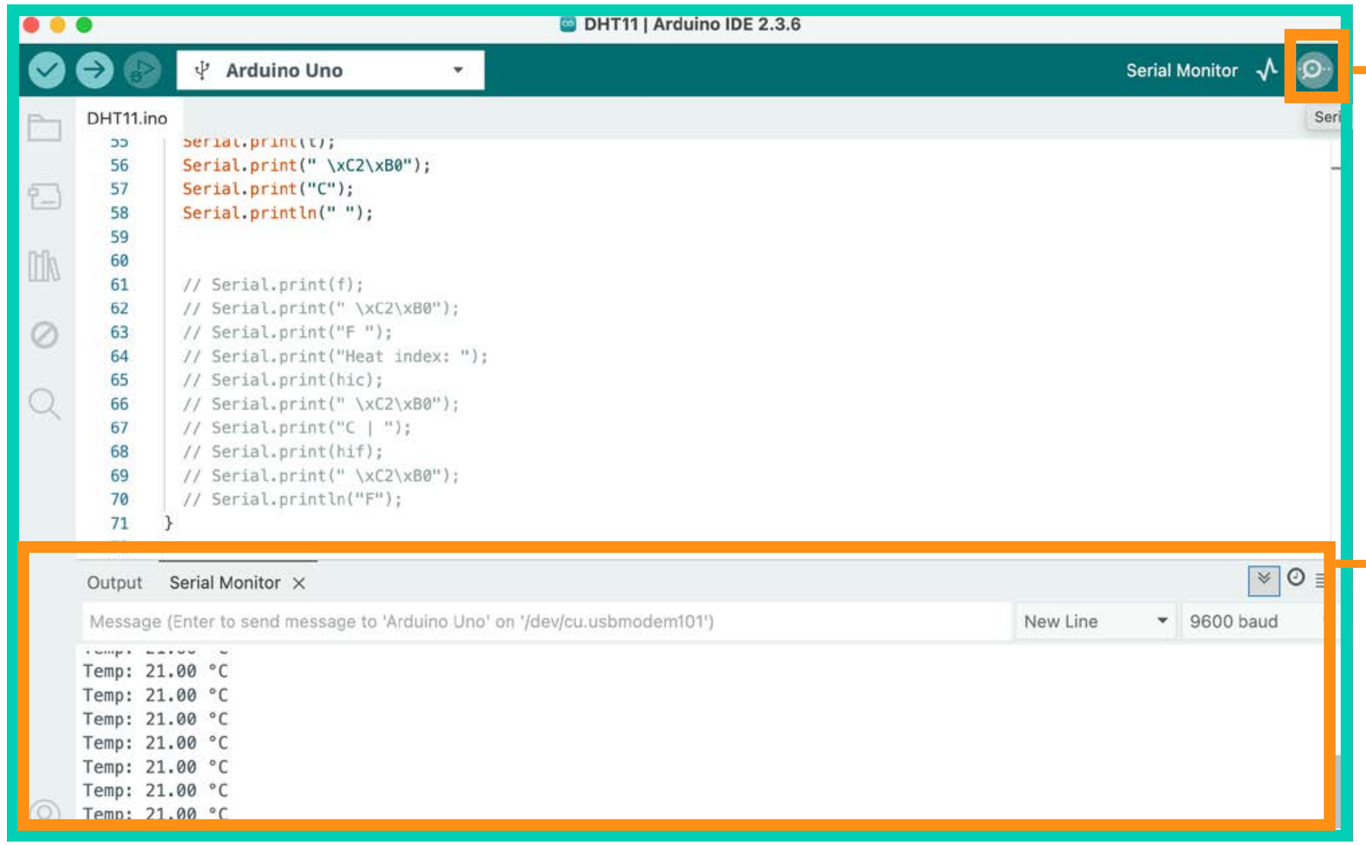
- Select the Arduino UNO Board



- Upload the code to the board

Sensing Environmental Temperature and Humidity

Open the Serial Monitor to see the incoming data from your DHT11



Click to open Serial Monitor

Serial Monitor:

Printing Data in-real-time from your DHT11 sensor

Sensing Environmental Temperature and Humidity

Incoming Data:

```
dht.readTemperature()                    // Ambient Temperature °C (Celsius)
dht.readTemperature(true)                // Ambient Temperature  °F (Fahrenheit)
dht.readHumidity()                       // Relative Humidity(RH) in %
dht.computeHeatIndex(t, h, false/true);  // Heat Index (“Feels Like” Temp °C/°F)
```

Troubleshooting:

- Research online sources, look for examples.

- Approach to a hackSpace technician. Bring your code and equipment.