



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

Experiment 6

Student Name: Harshit Raj

Branch: CSE

Semester: 6

Subject Name: IOT Lab

UID: 20BCS9266

Section/Group: DM608-A

Subject Code: 20CSP-358

1. Aim: Interfacing of Arduino with temperature and humidity sensor.

2. Components Required:

- Arduino Uno R3 board
- DH11 Temperature and Humidity Sensor
- Breadboard • 3x Jumper Wires

3. Theory:

About DH11 Sensor:

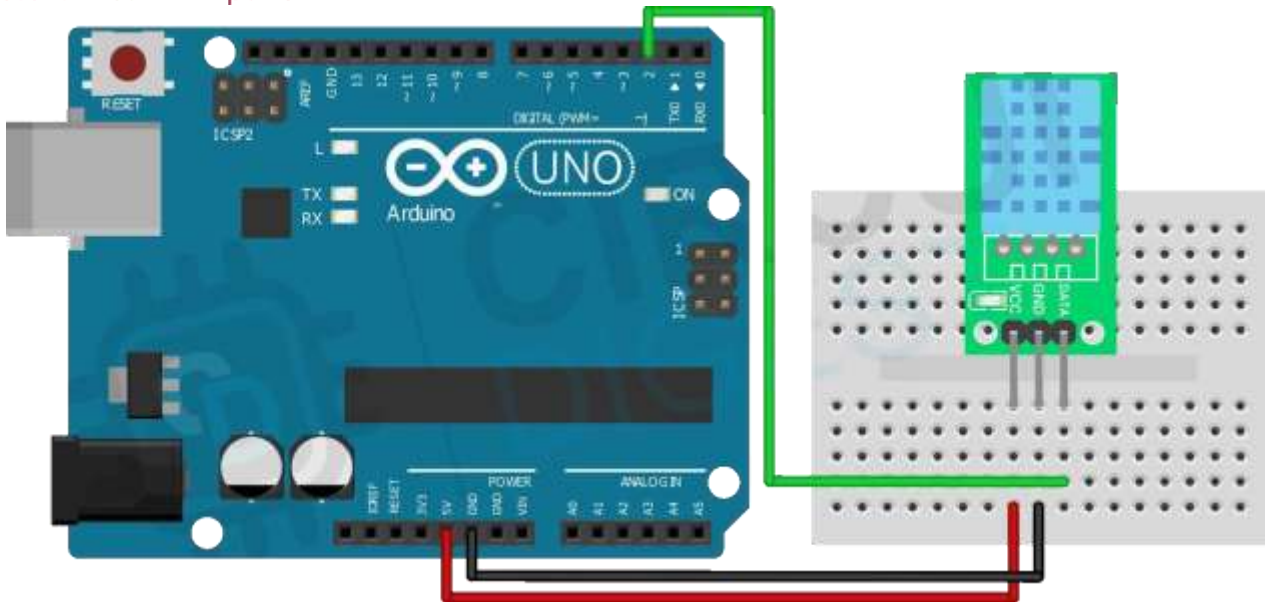
DHT11 Module features a temperature & humidity sensor complex with a calibrated digital signal output. The exclusive digital-signal-acquisition technique and temperature & humidity sensing technology ensure high reliability and excellent long-term stability.

DHT11 Module Pinout:

The DHT11 module has a total of 3 pins. In which two are for power and one is for communication. The pinout of a DHT11 Sensor module is as follows:

- DATA pin for 1-wire communication.
- GND Connected to Ground pin of the Arduino.
- VCC Provides power for the module, Connect to the 5V pin of the Arduino.

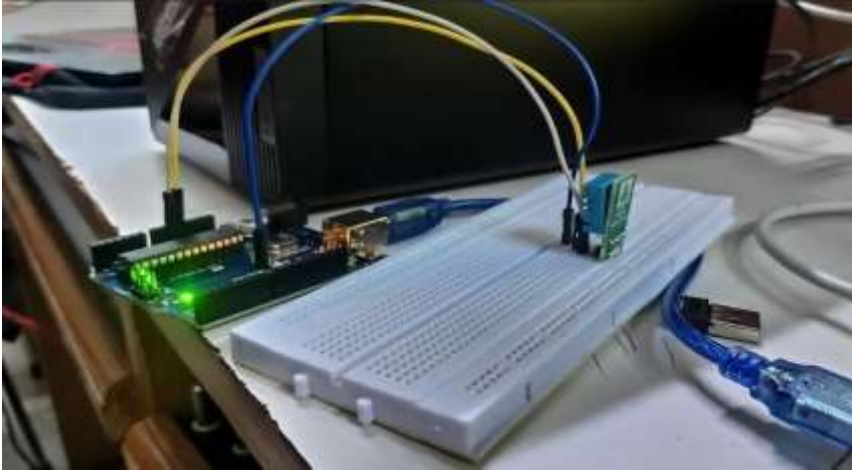
4. Circuit:



5. Script:

```
#include <dht.h> dht
  DHT1;
void setup()
{
  // put your setup code here, to run once:
  Serial.begin(9600);
}
void
loop() {
  // put your main code here, to run
  repeatedly:
  int chk=DHT1.read11(7);
  Serial.print("Temperature:");
  Serial.println(DHT1.temperature);
  Serial.print("Humidity:");
  Serial.println(DHT1.humidity);
}
```

6. Output:



```
Output  Serial Monitor X
Message (Enter to send message to 'Arduino U
Humidity = 45.00
Temperature = 27.00°C
Humidity = 45.00
Temperature = 27.00°C
Humidity = 45.00
Temperature = 27.00°C
Humidity = 45.00
Temperature = 27.00°C
Humidity = 45.00
Temperature = 27.00°C
Humidity = 45.00
```

7. Learning Outcome:

- Use of DHT11 temperature and humidity sensor
- Connection using breadboard
- Use of Arduino