

## **Project 1 :**

### **DHT11 Temperature & Humidity sensor**

#### **1. INTRODUCTION: -**

The DHT11 is chosen because it is lab calibrated, accurate and stable and its signal output is digital. Most important of all, it is relatively inexpensive for the given performance. Below is the pinout of the sensor.

#### **COMPONENTS:-**

- 1. DHT 11**
- 2. WEMOS**

#### **APPLICATION:-**

This sensor is used in various applications such as measuring humidity and temperature values in heating, ventilation and air conditioning systems.

Weather stations also use these sensors to predict weather conditions. The humidity [sensor](#) is used as a preventive measure in homes where people are affected by humidity.

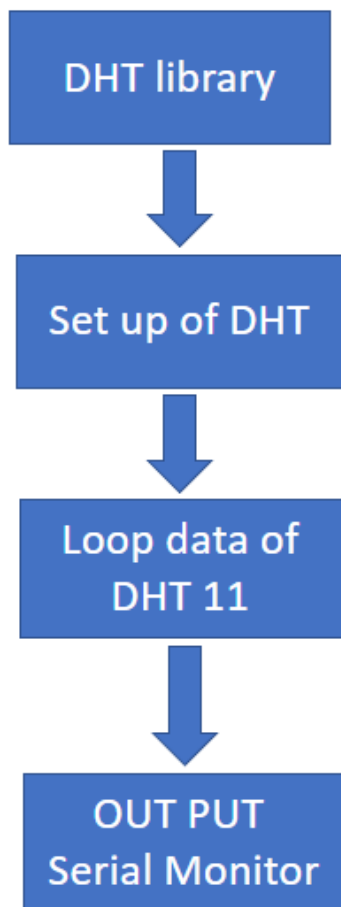
**Offices, cars, museums, greenhouses and industries use this sensor for measuring humidity values and as a safety measure.**

## **OBJECTIVES: -**

The DHT11 is a basic, ultra-low-cost digital temperature and humidity sensor.

It uses a capacitive humidity sensor and a thermistor to measure the surrounding air and spits out a digital signal on the data pin (no analog input pins needed). It's fairly simple to use but requires careful timing to grab data.

## FLOW CHART:-



## PROGRAMMING:-

```
#include "DHT.h"    // including the library of DHT11 temperature and humidity
sensor

#define DHTTYPE DHT11 // DHT 11

#define dht_dpin 0

DHT dht(dht_dpin, DHTTYPE);

void setup(void)
{
    dht.begin();
    Serial.begin(9600);
    Serial.println("Humidity and temperature\n\n");
    delay(700);

}

void loop() {
    float h = dht.readHumidity();
    float t = dht.readTemperature();
    Serial.print("Current humidity = ");
    Serial.print(h);
    Serial.print("% ");
```

```
Serial.print("temperature = ");  
Serial.print(t);  
Serial.println("C ");  
delay(800);  
}
```

## **HARDWARE CONNECTION :-**

1. Connect DHT 11 pin to D4.
2. Connect DHT 11 pin GND to GND.
3. Connect DHT 11 pin 5V TO 5V.

## CURCUIT DIAGRAM :-

