

Temperature and Humidity Monitoring System

- Project using Arduino UNO and DHT11 Sensor

Objective

- To measure ambient temperature and humidity using DHT11 sensor and display values on Serial Monitor.

Components Required

- Arduino UNO
- DHT11 Sensor
- Jumper Wires
- Breadboard
- USB Cable

Circuit Connections

- DHT11 VCC -> 5V
- DHT11 GND -> GND
- DHT11 DATA -> Digital Pin 2

Working Principle

- DHT11 senses temperature & humidity
- Arduino reads digital data
- Values are converted & displayed

Output

- Temperature and humidity values visible in Serial Monitor

```
16
17 void loop() {
18     // read without samples.
19     byte temperature = 0;
20     byte humidity = 0;
21     int err = SimpleDHTerrSuccess;
```

Output Serial Monitor x

Message (Enter to send message to 'Arduino Uno' on 'COM9')

```
--  
Read DHT11 failed, err=16,16  
Read DHT11 failed, err=16,12  
Read DHT11 failed, err=16,12  
Read DHT11 failed, err=16,122  
Read DHT11 failed, err=16,12  
Read DHT11 failed, err=16,12  
Read DHT11 failed, err=16,12
```



Applications

- Weather monitoring
- Greenhouse monitoring
- Room environment monitoring

Future Improvements

- Add LCD display
- IoT cloud monitoring
- Mobile notification