



SNS COLLEGE OF TECHNOLOGY

Coimbatore-35

An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with
'A++' Grade

Approved by AICTE, New Delhi & Affiliated to Anna University,
Chennai



DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

19ECT213- IoT SYSTEM ARCHITECTURE

II ECE / IV SEMESTER

UNIT 2 – MICROCONTROLLER AND INTERFACING TECHNIQUES FOR IoT

DEVICES

Application that uses sensor data for decision making process.



Components Needed:

- Arduino board (e.g., Arduino Uno)
- Temperature sensor (e.g., DHT11 or DHT22)
- Fan or relay module to control a fan
- Breadboard and jumper wires



Steps to Create the Application

- 1.Setup Arduino and Sensors:** Connect the temperature sensor and fan to the Arduino board.
- 2.Read Sensor Data:** Write code to read temperature data from the sensor.
- 3.Decision Logic:** Implement algorithms or rules to make decisions based on the sensor data.
- 4.Actuation:** Control the fan or other actuators based on the decisions made.



```
#include <DHT.h>

#define DHTPIN 2// Digital pin connected to the DHT sensor

#define DHTTYPE DHT11 // DHT

11 DHT dht(DHTPIN, DHTTYPE);

const int ledPin = 13; // LED connected to digital pin
13 const float tempThreshold = 25.0; // Temperature
threshold in Celsius

void setup() {
  Serial.begin(9600);
  pinMode(ledPin, OUTPUT);
  dht.begin();
}
```



```
void loop() {  
  // Read temperature and humidity  
  float temperature =  
  dht.readTemperature(); float  
  humidity = dht.readHumidity();  
  
  // Check if any reads failed and exit early (to  
  try again). if (isnan(temperature) ||  
  isnan(humidity)) { Serial.println("Failed to  
  read from DHT sensor!"); return;  
  }  
  
  // Print temperature and humidity  
  Serial.print("Temperature: ");  
  Serial.print(temperature);  
  Serial.print(" °C\t");  
  Serial.print("Humidity: ");  
  Serial.print(humidity);  
  Serial.println(" %");  
}
```



```
// Decision making based on
temperature if (temperature >
tempThreshold) {
    digitalWrite(ledPin, HIGH); // Turn on LED
    Serial.println("Temperature above threshold. LED ON.");
} else { digitalWrite(ledPin, LOW);
// Turn off LED
    Serial.println("Temperature below threshold. LED OFF.");
}

delay(2000); // Delay between sensor readings
}
```



THANK YOU