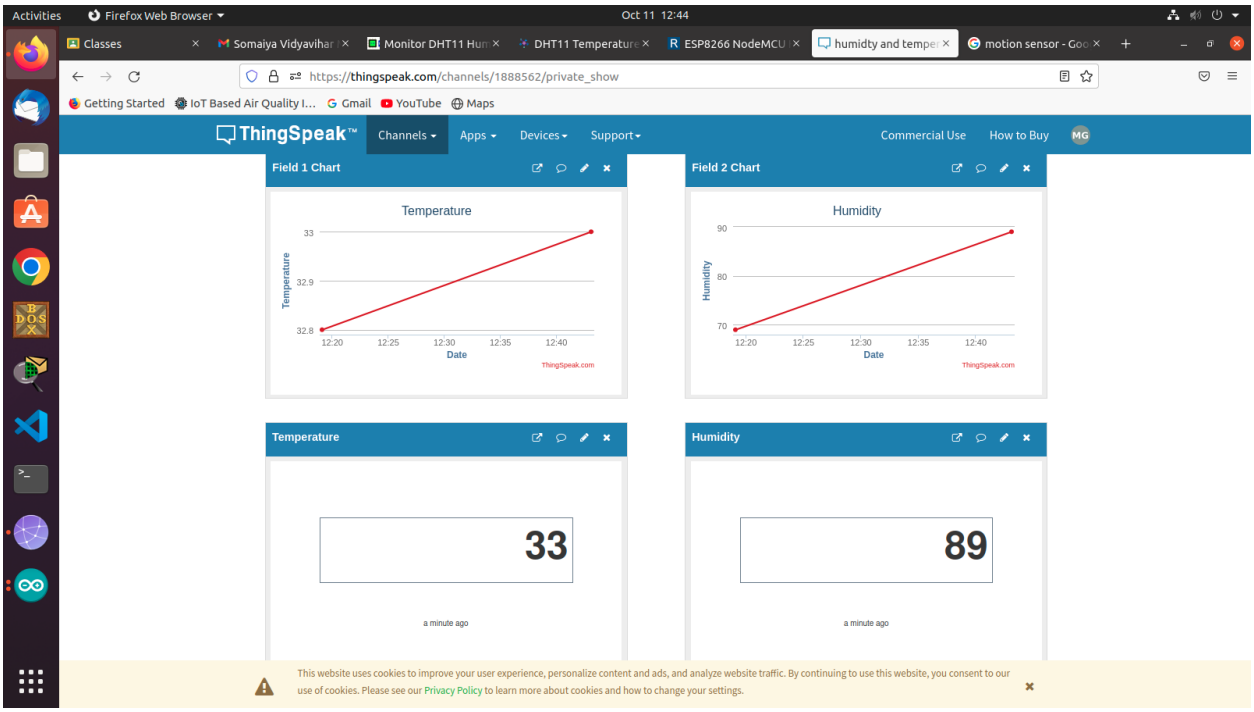
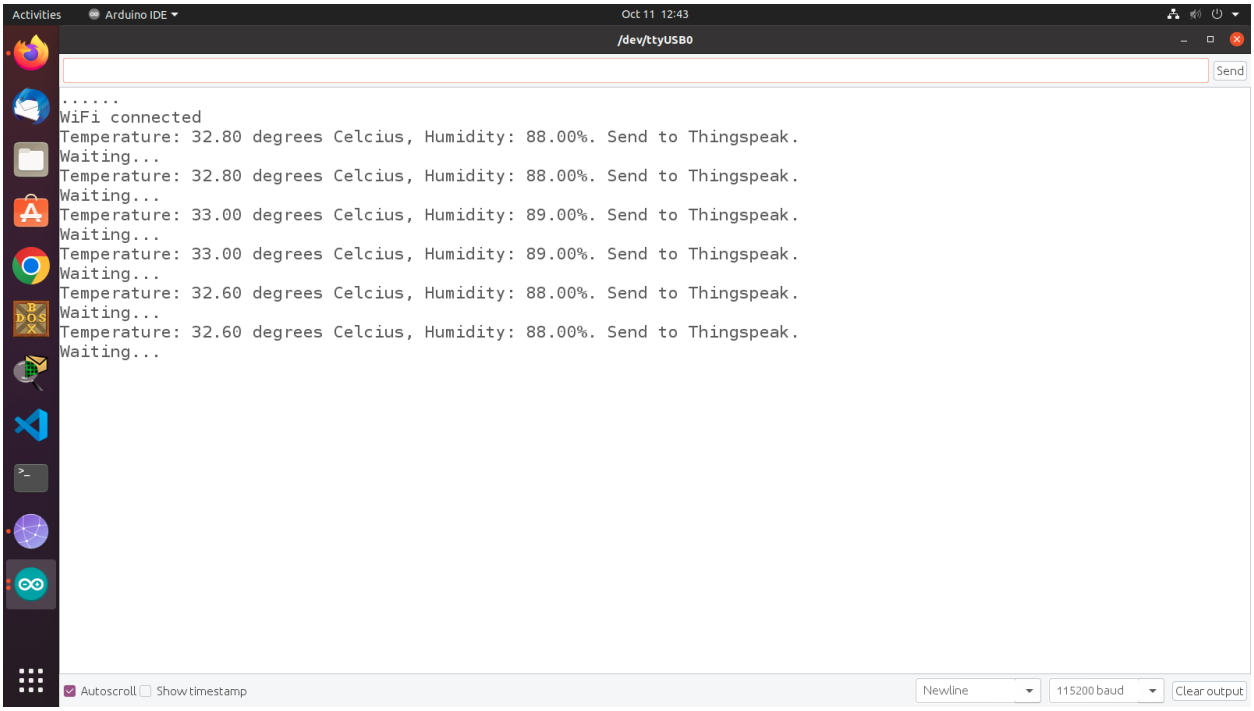
Experiment No.:08

Aim:

To study and demonstrate use of thingsboard using nodemcu

Objective:





Code :

```
#include <DHT_U.h>
#include <DHT.h>
#include <DHT.h>  // Including library for dht
#include <ESP8266WiFi.h>
String apiKey = "ZNIZ1OI58L7POGK3 ";     //  Enter your Write API key from ThingSpeak
const char *ssid =  "lelebhai";     // replace with your wifi ssid and wpa2 key
const char *pass =  "milan1234";
const char* server = "api.thingspeak.com";
#define DHTPIN 0          //pin where the dht11 is connected
DHT dht(DHTPIN, DHT11);
WiFiClient client;
void setup() {
        Serial.begin(115200);
        delay(10);
        dht.begin();
        Serial.println("Connecting to ");
        Serial.println(ssid);
        WiFi.begin(ssid, pass);
        while (WiFi.status() != WL_CONNECTED)
        {
                delay(500);
```

```
                Serial.print(".");
        }
        Serial.println("");
        Serial.println("WiFi connected");
}
void loop() {
        float h = dht.readHumidity();
        float t = dht.readTemperature();
        if (isnan(h) || isnan(t))
         {
        Serial.println("Failed to read from DHT sensor!");
         return;
        }
        if (client.connect(server,80))   //   "184.106.153.149" or api.thingspeak.com
        {
        String postStr = apiKey;
        postStr +="&field1=";
         postStr += String(t);
        postStr +="&field2=";
        postStr += String(h);
        postStr += "\r\n\r\n";
        client.print("POST /update HTTP/1.1\n");
        client.print("Host: api.thingspeak.com\n");
        client.print("Connection: close\n");
         client.print("X-THINGSPEAKAPIKEY: "+apiKey+"\n");
        client.print("Content-Type: application/x-www-form-urlencoded\n");
        client.print("Content-Length: ");
        client.print(postStr.length());
         client.print("\n\n");
         client.print(postStr);
         Serial.print("Temperature: ");
        Serial.print(t);
         Serial.print(" degrees Celcius, Humidity: ");
         Serial.print(h);
        Serial.println("%. Send to Thingspeak.");
         }
         client.stop();
         Serial.println("Waiting...");     // thingspeak needs minimum 15 sec delay between
        updates   delay(1000);
}
```