EX-NO:13 DATE:	TEMPERATURE AND HUMIDITY MONITORING SYSTEM

AIM :

Develope an ESP-8266 based temperature and humidity monitoring system using sensors to accurately measure and upload real-time data to the cloud platform like “Thingspeak” to tracking and monitoring.

STEPS :

Step 1: Gather Components:

- ESP8266 Development Board
- DHT11 Temperature and Humidity Sensor
- Jumper Wires
- Breadboard
- USB Cable for Power

Step 2: Setup ThingSpeak:

- Sign up or log in to ThingSpeak (https://thingspeak.com/).
- Create a new channel and note down the Channel ID and Write API Key.

Step 3: Setup Arduino IDE:

- Install Arduino IDE (if not already installed).
- Install the ESP8266 board support package in Arduino IDE.
- Install the DHT sensor library.

Step 4: Wiring:

- Connect the DHT11 sensor to the ESP8266 as follows:
- DHT11 VCC -> ESP8266 3.3V
- DHT11 DATA -> ESP8266 GPIO (e.g., D4)
- DHT11 GND -> ESP8266 GND

Step 5: Arduino Code:

- Open Arduino IDE.
- Write the code to read temperature and humidity from the DHT11 sensor and send it to ThingSpeak using ESP8266.

Step 6: Testing:

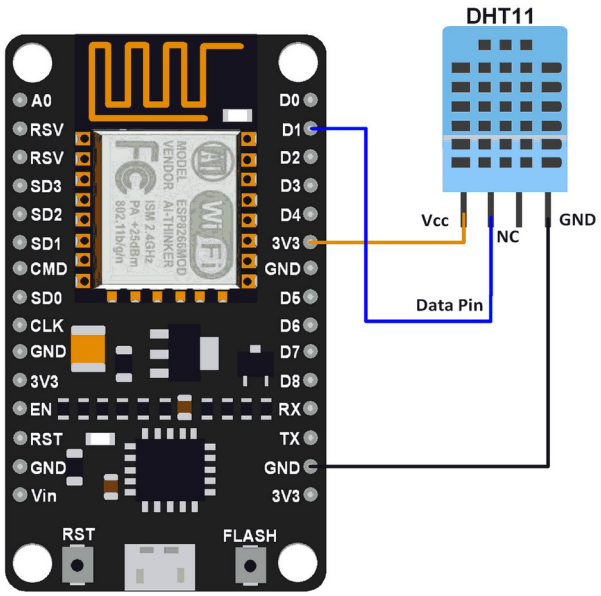
-Power up the ESP8266 board.

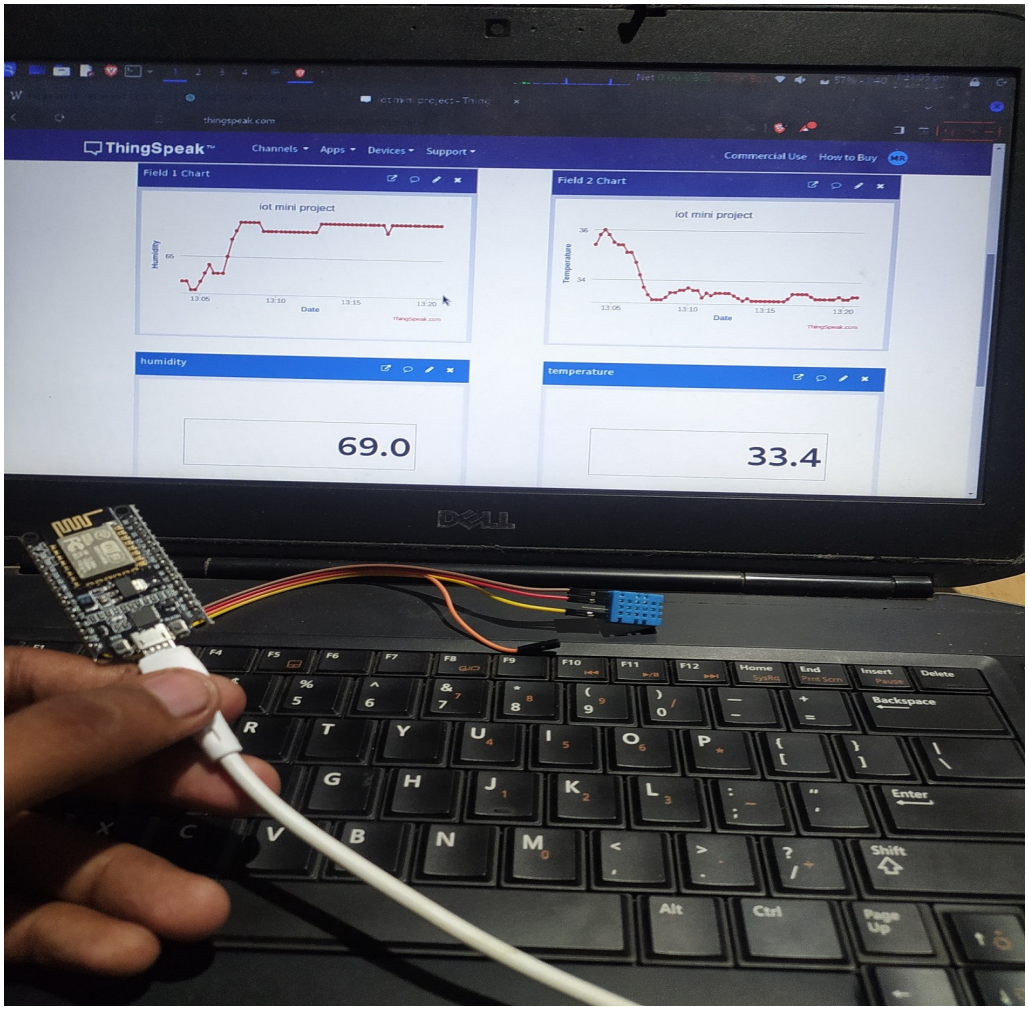
-Monitor the serial monitor in Arduino IDE to see if the sensor readings are being printed.

-Check your ThingSpeak channel to see if the data is being updated in real-time.

Step 7: Deploying

OUTPUT :


DHT11
A0
RSV
RSV
SD3
SD2
SD1
CMD
SD0
CLK
GND
3V3
EN
RST
GND
Vin
D0
D1
D2
D3
D4
3V3
GND
D5
D6
D7
D8
RX
TX
GND
3V3
RST
FLASH
Vcc
NC
GND
Data Pin


ThingSpeak
Channels
Apps
Devices
Support
Commercial Use
How to Buy
Field 1 Chart
iot mini project
Field 2 Chart
iot mini project
humidity
69.0
temperature
33.4