

Weather monitoring system



VENTURES

JB GOLD CUBE VENTURES

EXPERIMENT 5

AIM: To be updated with Temperature, Humidity and Air quality of the surrounding. Also display this data on both the OLED and in a web browser.

HARDWARE:

1. NodeMCU board
2. ESP8266 module
3. DHT sensor (if not present in the board)
4. Air Quality sensor (MQ135)
5. OLED
6. USB cable
7. Jumper wire

SOFTWARE: Arduino IDE,
(Proper Wi-fi Connection is required in this experiment.)

CONNECTIONS:

OLED	ESP8266
GND	GND
VCC	3.3V
SCL	D1
SDA	D2

DHT sensor	ESP8266
GND	GND
DATA	D4
3V3	3V3

MQ135 sensor	ESP8266
GND	GND
A0	A0
PWR	3V3

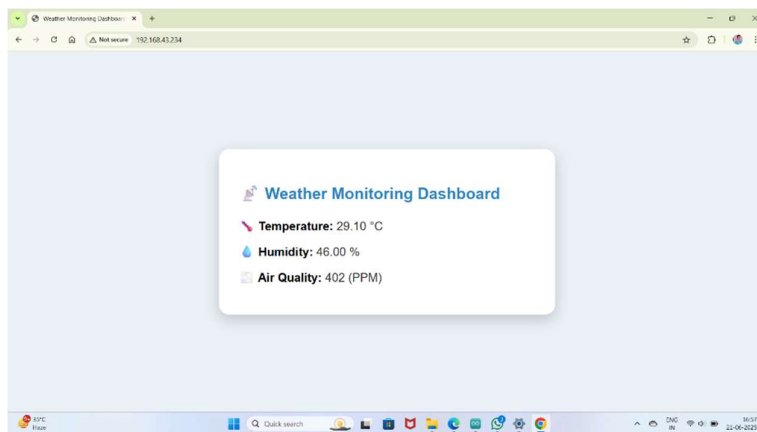
PROCEDURE:

1. Take NodeMCU board, mount the OLED screen and Air quality sensor at their respective place in the board (DHT sensor is already mounted).
2. Connect the OLED, DHT sensor, Air quality sensor (MQ135) and ESP8266 according to above table. (Note: These connections must also be defined in the code.)

3. Open Arduino IDE.
4. Connect NodeMCU board with your laptop using USB cable.
5. Go to Board manager tab and connect NodeMCU board with Arduino IDE by selecting the board (NodeMCU 12E module).
6. Write the program for weather monitoring system in the IDE and installed the required library mentioned in the program from library manager.
7. In the program write your own wi-fi credentials in the line where wi-fi credentials is mentioned.
8. Once the program is ready to upload, upload it by clicking on the arrow present in the top left corner.
9. Once the program is successfully uploaded, open serial monitor, set the baud rate as 115200 (as written in code) and note the IP address.
10. Enter the IP address in the web browser to see the result.

Result:

Result on the web browser



Result on OLED

