

ATMOSPHERIC TEMPERATURE DETECTION SYSTEM USING IBM BLUEMIX

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Abstract

To control electronic devices using networks, IoT plays an important role in our daily life. Controlling is done by observing information concerning the functioning of these electronic devices. For this project LM35 temperature sensor will sense the atmospheric temperature and pass that data to the microcontroller, the sensor device streams data over Ethernet, which is further published on the cloud using programming and IBM platforms. For this project ESP8266 WiFi module is used for storing the data.

Keywords - IoT, Arduino UNO, sensors.

I Introduction

This proposed system aims to detect the temperature of the atmosphere and send that data to the IBM cloud platform using programming. This project also uses Message Queuing Telemetry Transport (MQTT) protocol to update/publish sensor data to the IoT cloud. IBM Bluemix cloud platform is developed by IBM supports services as well as integrated DevOps to build, run, deploy and manage applications on the cloud. IBM has a series of platforms namely IBM Bluemix, IBM Watson and Node RED. These platforms are used to connect devices, collect data, and publish the readings on cloud and also to create applications on the web.

II Hardware Components

Following are the hardware used for this project:

1. LM35 temperature sensor
2. Esp8266 WiFi module
3. Arduino UNO

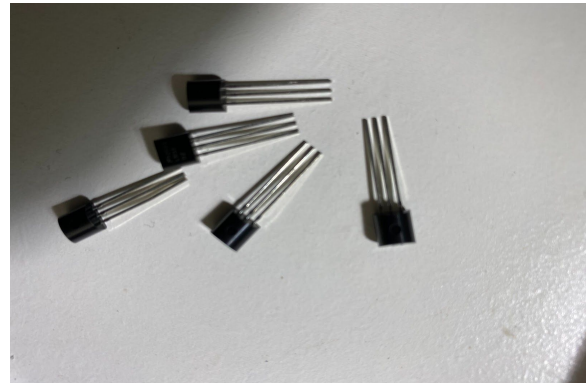


Fig 1. Temperature sensors

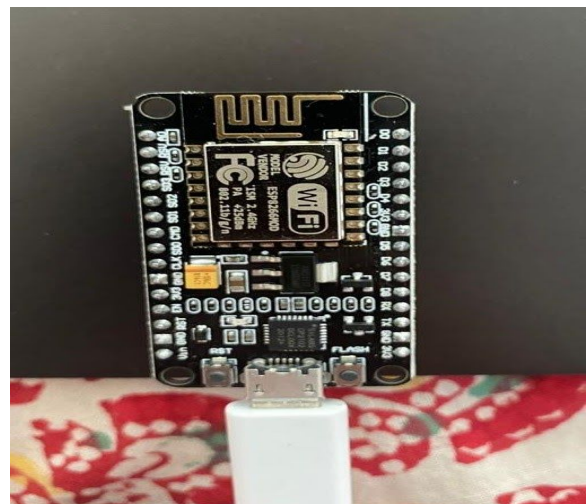


Fig 2. ESP8266 WiFi Module

9. Add the Device ID and Device type in the Arduino code. And run the code.

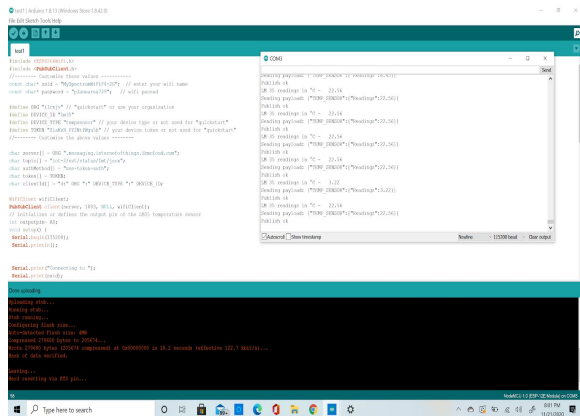


Fig 6.

10. In the IBM cloud platform the temperature reading will be displayed.

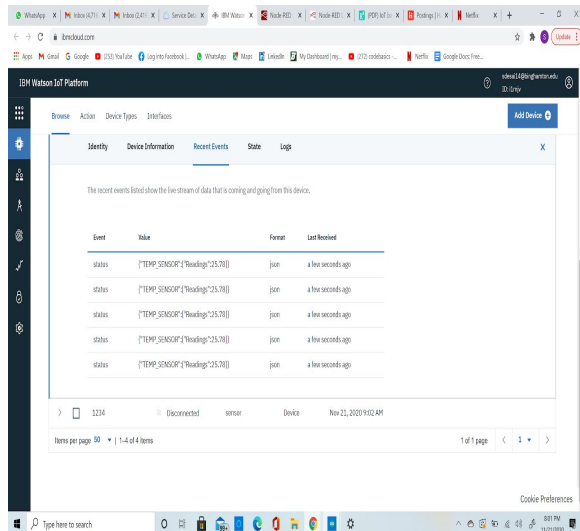


Fig 7. Readings in IBM cloud platform

11. The below figure shows the dashboard representation of the temperature readings and I have made it a UI design for that.

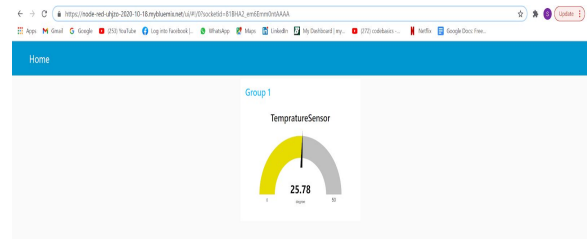


Fig 8.

IV Conclusion

In This project IBM Bluemix platform is used. The system will sense the data and send it to the cloud and a dashboard will display the data.

V Acknowledgement

I would like to thank Prof. Mo Sha and TA Junyang Shi for their continuous support and suggestions for this project.

VI References

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