SMART FARMER - IOT ENABLED SMART FARMING APPLICATION

TITLE	Smart Farmer IOT Enabled Smart Farming Application
DOMAIN NAME	INTERNET OF THINGS
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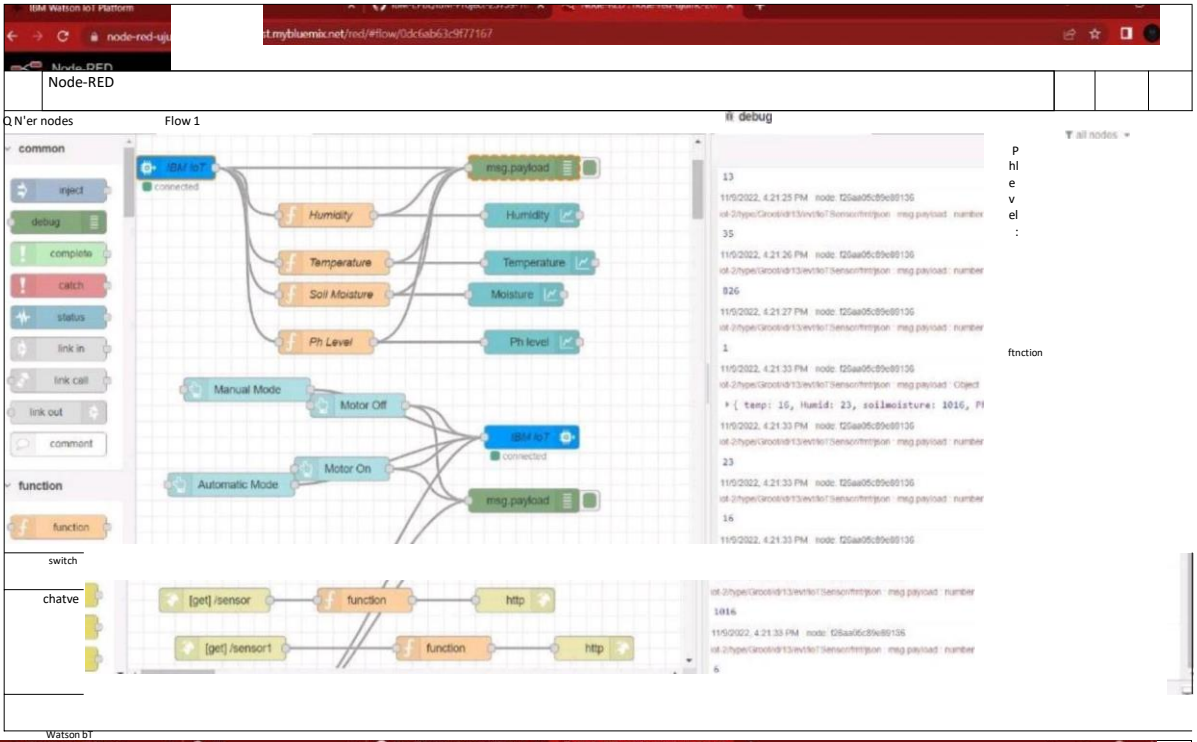
Build a Web Application Using Node-RED

1. Create a Node-RED Starter application running on IBM Cloud.
2. Install and work with nodes available in the Node-RED Library.
3. Make external packages or modules available to a function node.
4. Work with Dashboard nodes.
5. Secure a Web API that was created in a Node-RED Starter application
6. In this tutorial, you'll familiarize yourself with Node-RED, its nodes, and its flow-based programming model. You'll learn how to extend Node-RED by installing additional nodes, working with an external library, and creating dashboards. With this tutorial, you build an application that analyzes earthquake-related data along with weather data to understand when and where earthquakes are happening around the world.
7. Node-RED is an open-source visual flow-based programming tool used for wiring not only Internet of Things (IoT) components, but also integrating an ensemble of service APIs, including ones provided by IBM Cloud. A node in Node-RED performs a particular functionality, which typically minimizes the amount of coding that is required to build a given application. If you've never used Node-RED before, you might want to start by reviewing these "Node-RED Essentials videos."

In this tutorial, you will create a simplified Earthquake Monitoring System. The application has two main components:

- A *web service* that uses real-time GeoJSON feeds from the USGS Earthquake Hazard Program for displaying earthquake information every hour. Based on the location coordinates (longitude & latitude) of a given earthquake point, the current weather conditions are retrieved using an OpenWeatherMap.
- A *dashboard* that displays the earthquake points retrieved from the web service component, whose details are also saved in a Cloudant database, onto a world map. Additionally, the latest earthquake-related tweets, as well as the frequency of the earthquakes happening in each region, are presented.

So let's get started!



Node-RED

Q N'er nodes Flow 1

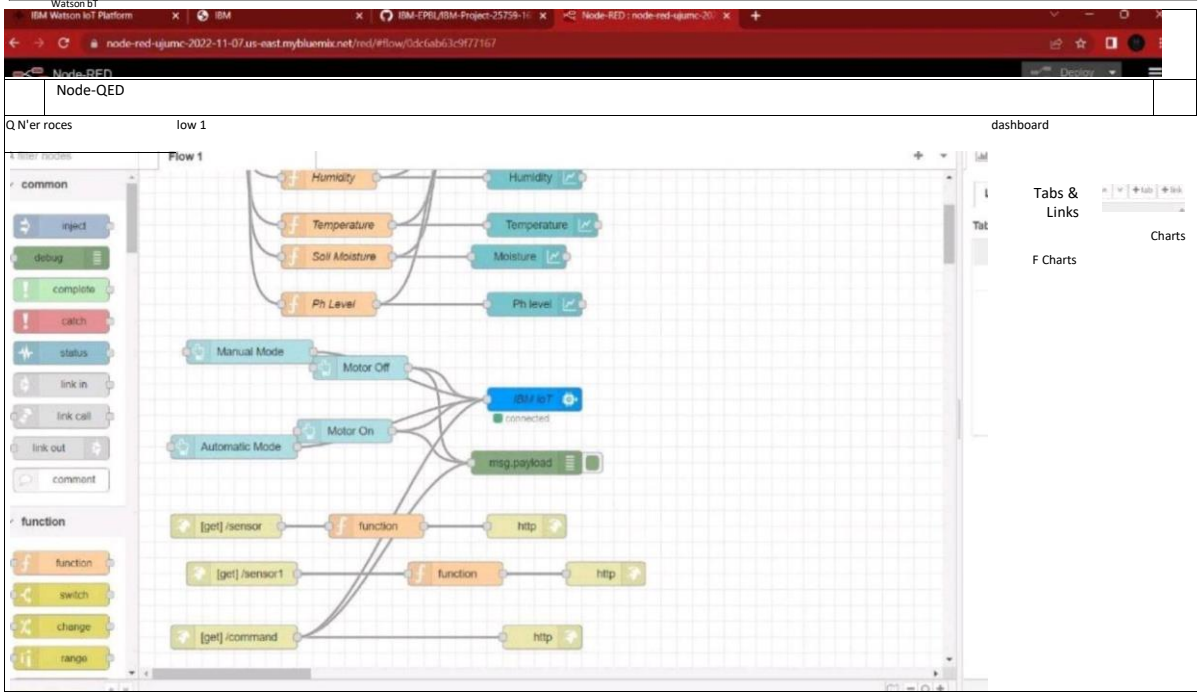
P hl e v el :

ftnction

switch

chatve

Watson bT



Node-QED

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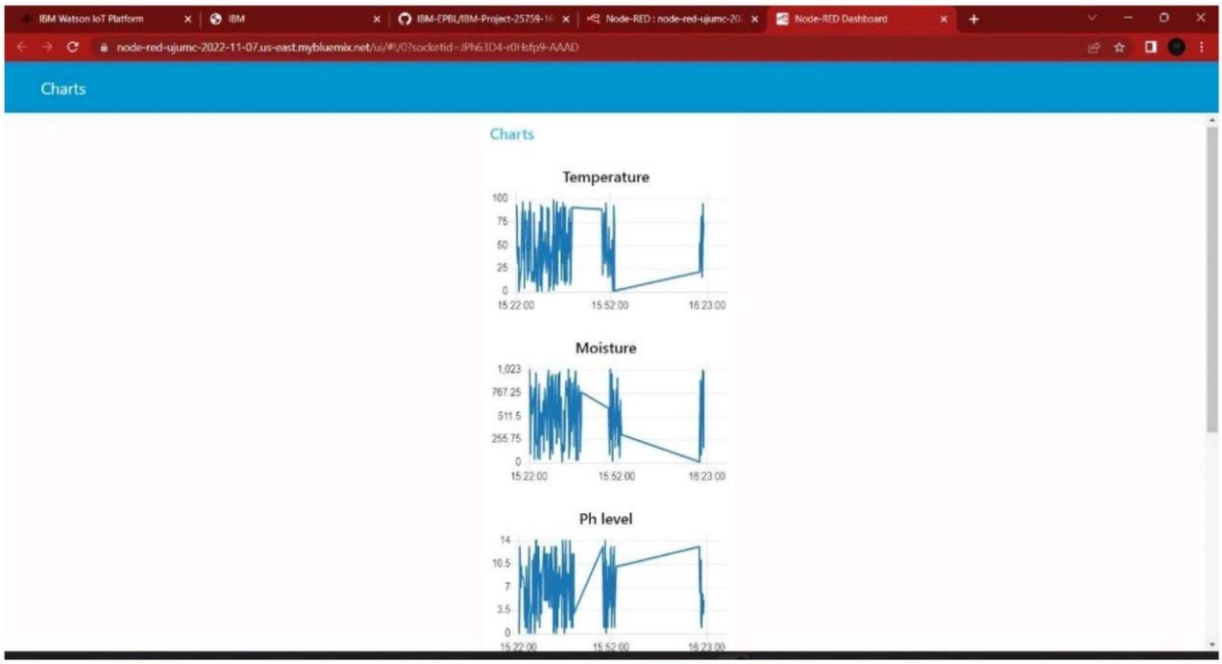
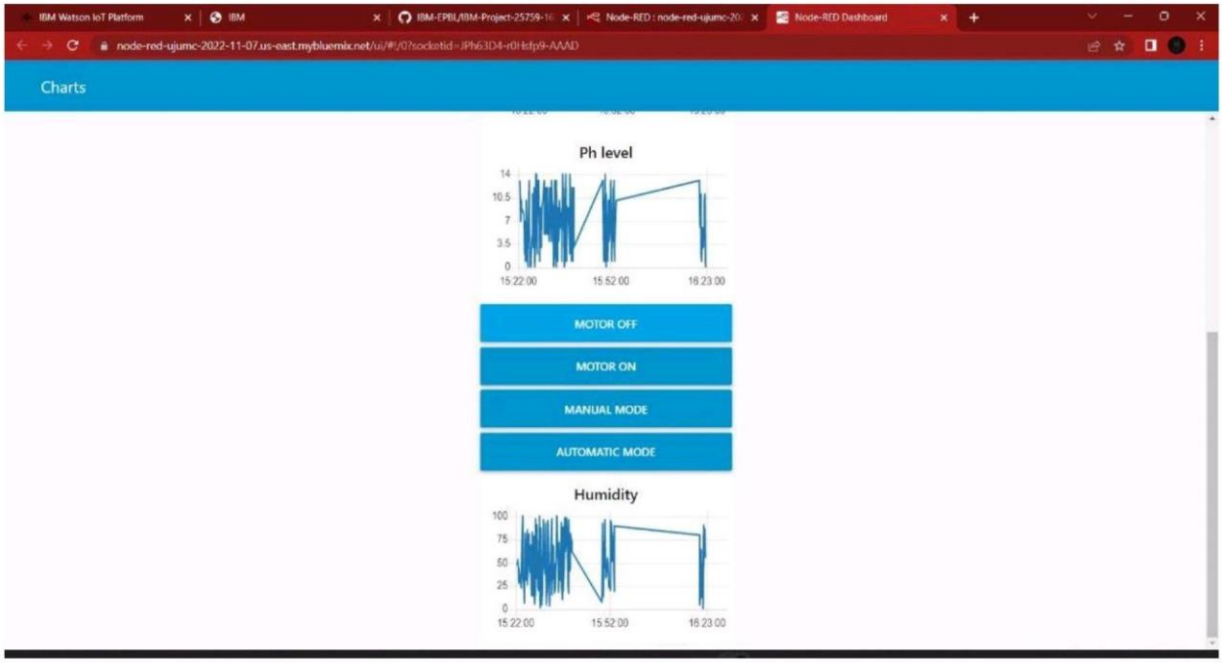
Tabs & Links

Charts

F Charts


IBM Watson IoT Platform
IBM
Node-RED Dashboard
node-red-ujumc-2022-11-07.us-east.mybluemix.net
Charts
Charts
Temperature
100
75
50
25
0
15:22:00
15:52:00
16:23:00
Moisture
1,023
767.25
511.5
255.75
0
Ph level
14
10.5
7
3.5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IBM
Node-RED Dashboard
node-red-ujumc-2022-11-07.us-east.mybluemix.net
Charts
Ph level
14
10.5
7
3.5
0
15:22:00
15:52:00
16:23:00
MOTOR OFF
MOTOR ON
MANUAL MODE
AUTOMATIC MODE
Humidity
100
75
50
25
0