

## **Project summary**

Firstly we will create a device in IBM Watson IOT platform. And connect this device to the Watson IOT sensor simulator which will act as the sensor data in our project.

In the recent events we can see the sensor simulator will start sending the data to the cloud platform. Then we will configure the Node-RED to separate the different parameters of the IoT sensor simulator. Create an OpenWeather API account and install its nodes in the Node-RED. After this we will use HTTP request node to get real-time weather data from OpenWeather API's per our requirement and separate the required parameters from weather data.

Then we will create some button nodes which will be used as motor buttons, connected to another device in the IBM Watson IOT platform. With the help of Python code we will configure the button to send notification when they are pressed.

At the end, to show the real-time data in the Node-RED UI dashboard we will connect all the parameters with the dashboard nodes. All the data will be visible in the web application. The web application will also have two motor buttons which can switch off and on the motor.

# Project requirements

## **Functional requirements**

- Open Weather API Account:- This will help us to get the weather data.
- IBM Cloud Account:- This account will give us access to the IBM cloud platform.
- IBM Watson IoT Platform:- This will enable us to create devices through which we can exchange data.

## **Technical requirements**

- Python:- Its knowledge will be required to write and run a code which will show notifications while pressing motor buttons.
- Node-Red:- We will connect all the system on this platform.

## **Software Requirements**

- Nodered locally installed:- We will need the node-red locally installed so that we can assemble and connect our nodes.
- Python IDLE:- The python code will be written in this software.

## **Project Deliverables**

It will provide the real time data such as temperature and humidity. It will also provide weather forecasts.

In the web application, the farmer will also be able to control the motor using the motor buttons provided in the web applications.

## **Project Schedule**

4 weeks.