

Sprint 2

Software- Create device in the IoT Watson Platform,
workflow for IoT Scenarios using Local Node

Date	8 October 2022
Team ID	PNT2022TMID32919
Project Name	Project – Smart Farmer-IoT Enabled smart Farming Application
Maximum Marks	4 Marks

Launch IBM Watson IoT Platform:

The screenshot displays the IBM Cloud IoT Platform console. At the top, there's a navigation bar with 'IBM Cloud' and a search bar. Below it, the resource 'Internet of Things Platform-v6' is shown with a status of 'Active'. The left sidebar contains 'Manage', 'Plan', and 'Connections'. The main area has a 'Let's get started with IBM Watson IoT Platform' section with a 'Launch' button. Below this, the 'IBM Watson IoT Platform Journey' is shown with three stages: 'Lite' (checked), 'Non-Production', and 'Production'. Each stage has a brief description and a 'Start' button.

Steps to configure:

- Create an account in IBM cloud using your email ID
- Create IBM Watson Platform in services in your IBM cloud account
- Launch the IBM Watson IoT Platform
- Create a new device
- Give credentials like device type, device ID, Auth. Token
- Create API key and store API key and token elsewhere.

Create a new device:

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains icons for various functions. The main content area displays a table with one device entry: '123', 'Disconnected', 'abcde', 'Device', and 'Nov 17, 2022 7:34 PM'. Below the table, a modal window shows the device details:

Identity	Device Information	Recent Events	State	Logs
Device ID	123			
Device Type	abcde			
Date Added	Nov 17, 2022 7:34 PM			
Added By	820419104038@smartinternz.com			
Connection Status	Disconnected			

At the bottom of the modal, it says 'Items per page 50 | 1-1 of 1 item' and '1 of 1 page'. Below the modal, a status bar indicates '1 Simulation running'.

IoT Simulator:

In our project in the place of sensors we are going to use IoT sensor simulator which give random readings to the connected cloud.

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains icons for various functions. The main content area displays a line chart for a device named 'MAMK'. The chart shows two data series: 'temp' (blue line) and 'hum' (green line). The x-axis represents time from 10:20:10 to 10:21:00. The y-axis represents values from 0 to 100. A modal window is open on the right, titled 'Device Type: abcde'. It shows the configuration for a new event type named 'eventflow'. The 'Schedule' is set to 'Every Minute'. The 'Payload' is defined as:

```
{
  "randomNumber": random(0,30),
  "temp": random(60,100),
  "hum": random(20,40)
}
```

You can see the received data in graphs by creating cards in Boards tab

- You will receive the simulator data in cloud
- You can see the received data in Recent Events under your device

Data received in this format(json)

The screenshot displays the IBM Watson IoT Platform interface. The main dashboard shows a table of recent events for a device named 'abcde'. The table has two columns: 'Event' and 'Value'. The events are all of type 'eventflow' and contain JSON payloads with random values for 'randomNumber', 'temp', and 'hum'.

Event	Value
eventflow	{"randomNumber":27,"temp":61,"hum":22}
eventflow	{"randomNumber":42,"temp":88,"hum":36}
eventflow	{"randomNumber":73,"temp":95,"hum":23}
eventflow	{"randomNumber":42,"temp":67,"hum":28}

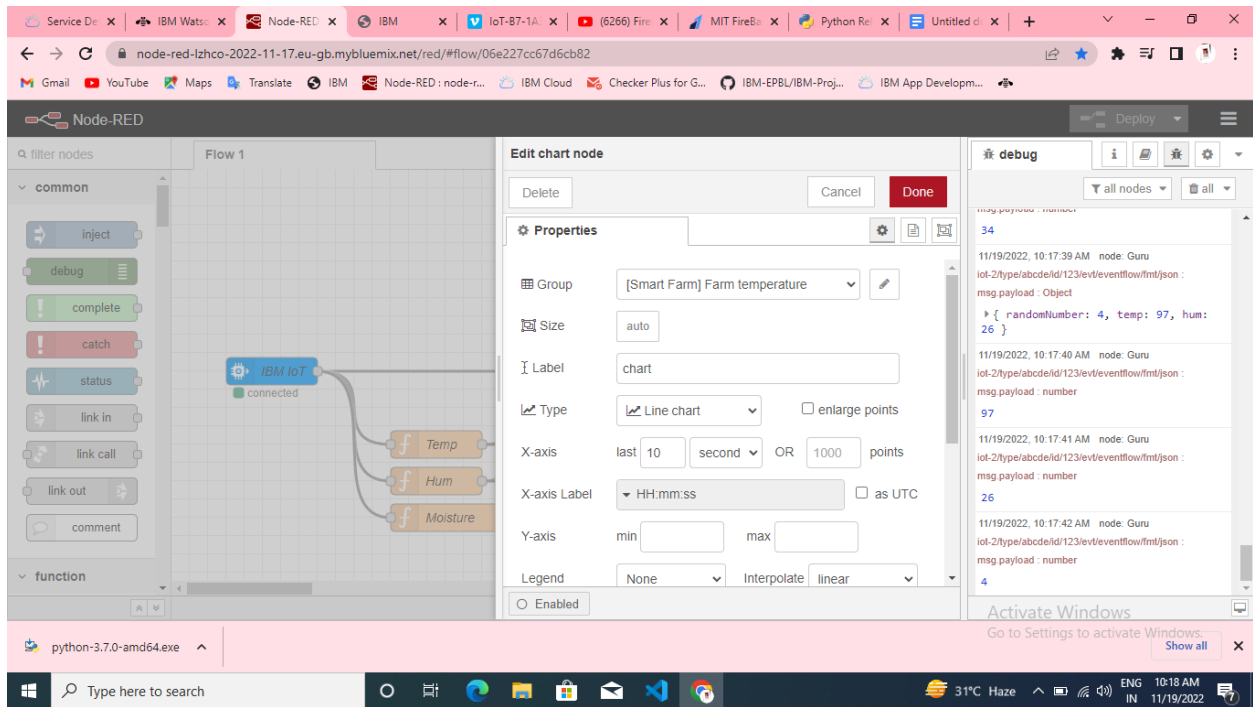
Below the table, it indicates 'Items per page 50' and '1-1 of 1 item'.

A modal window titled 'Device Type: abcde' is open, showing the configuration for the 'eventflow' event type. The modal includes a 'New event type' button, a 'Send' button, and a 'Schedule' dropdown set to 'Every Minute'. The 'Payload' section shows a JSON template with random values for 'randomNumber', 'temp', and 'hum'.

```
{
  "randomNumber": random(0, 100),
  "temp": random(60, 100),
  "hum": random(20, 40)
}
```

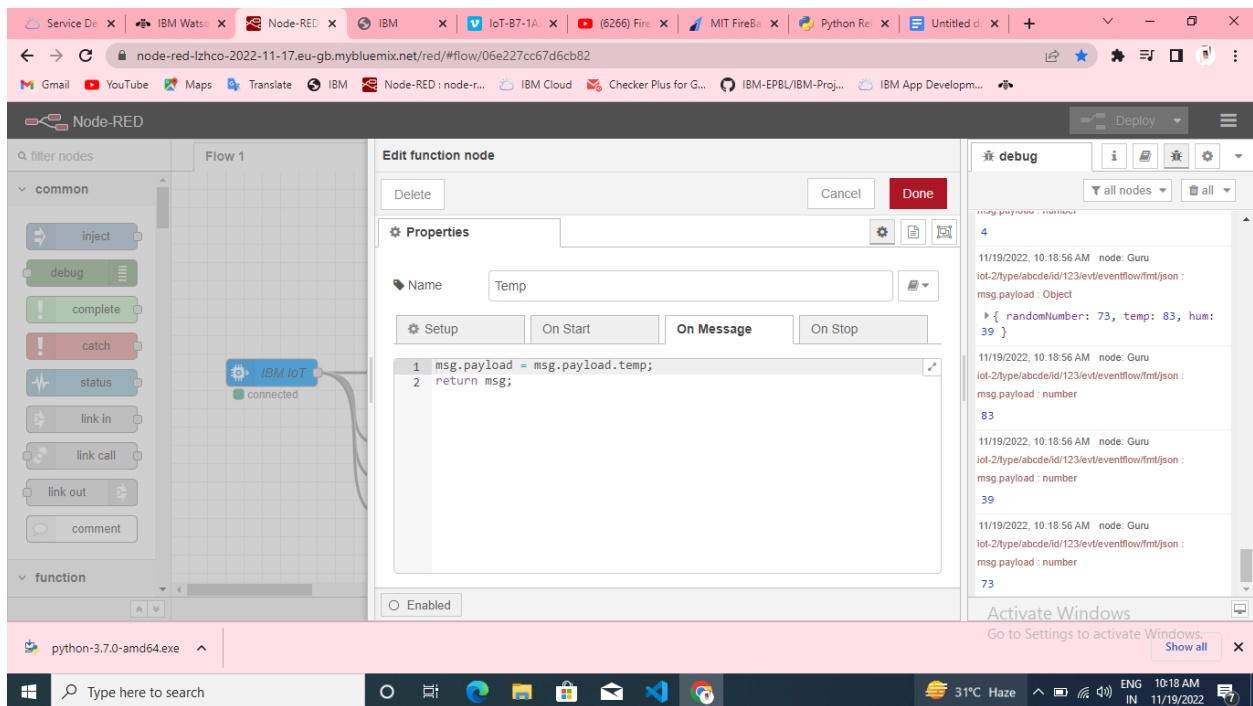
The Windows taskbar at the bottom shows the system clock as 10:14 AM on 11/19/2022, with a temperature of 31°C and a 'Haze' weather condition.

Configuring IBM-IoT to Node-RED connection



Configuration of Node-Red to collect data from OpenWeather

The Node-Red also receive data from the OpenWeather API by HTTP GET request. An inject trigger is added to perform HTTP request for every certain interval.



Output in Node-RED Dashboard:

