

Project Development Phase

Sprint-4

(Web Application IBM Watson Simulator Data Testing)

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Team ID	PNT2022TMID44926
Project Name	Smart Farmer IOT Enabled Smart Farming Application

Open IBM Watson IOT Platform and Simulate the Created Device

The screenshot shows the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. The 'Browse Devices' section is active, showing a table of devices. The table has columns for Device ID, Status, Device Type, Class ID, and Date Added. One device is listed: b11m3edevicetid, which is Disconnected. The 'Device Simulator' toggle is turned on, and a message indicates '1 Simulation running'.

Device ID	Status	Device Type	Class ID	Date Added
b11m3edevicetid	Disconnected	b11m3edevicetype	Device	Nov 6, 2022 6:04 PM

The Simulated Data will be shown in Device Recent Events

The screenshot displays the IBM Watson IoT Platform interface. 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 shows a table of devices with columns: Device ID, Status, Device Type, Class ID, and Date Added. The device 'b11m3edevicid' is listed as 'Disconnected' with type 'b11m3edevicetype'. Below this, the 'Recent Events' tab is selected, showing a list of events with columns: Event, Value, Format, and Last Received. The events are simulated data points for Temperature, Humidity, and Moisture. A notification at the bottom right indicates '1 Simulation running'.

Event	Value	Format	Last Received
event_1	{"Temperature":38,"Humidity":5,"Moisture":22}	json	a few seconds ago
event_1	{"Temperature":60,"Humidity":40,"Moisture":59}	json	a few seconds ago
event_1	{"Temperature":75,"Humidity":96,"Moisture":45}	json	a few seconds ago
event_1	{"Temperature":87,"Humidity":10,"Moisture":31}	json	a few seconds ago
event_1	{"Temperature":71,"Humidity":25,"Moisture":27}	json	a few seconds ago

This screenshot shows the configuration interface for a new event type in the IBM Watson IoT Platform. The 'Device Type: b11m3edevicetype' is selected. The 'Events' section shows a single event type named 'event_1'. The 'Schedule' is set to 'Every Minute' with a delay of '20'. The 'Payload' section contains a JSON template for the event data, using random values for Temperature, Humidity, and Moisture. The 'Send' button is visible, and there is an option to 'Upload a CSV file'.

Device Type: b11m3edevicetype

Events 1

Event type name: event_1

Schedule: 20 Every Minute

Payload: Specify the event payload in the editor window or by uploading a CSV file.

```
{
  "Temperature": random(0, 100),
  "Humidity": random(0, 100),
  "Moisture": random(0, 100)
}
```

Then the Device Recent Event Data's Will Shown in Node-RED

The screenshot shows the Node-RED web interface in a browser. The main workspace contains a flow with the following components:

- Inject** node (connected) feeds into three **function** nodes: *Temperature Data*, *Moisture Data*, and *Humidity Data*.
- Each *function* node outputs to a corresponding **msg.payload** node, which then feeds into a **Gauge** and a **Chart** node (e.g., *Temperature Gauge*, *Temperature chart*, etc.).
- Below this, there is a **[get] /sensor** node connected to a **function** node, which outputs to an **http** node.
- At the bottom, an **inject** node feeds into a **database** node, which outputs to a **msg.payload** node and another **database** node.

The **debug** console on the right displays a series of logs from the IBM IoT device, showing timestamps, node IDs, and the payload objects. The payloads are JSON objects containing temperature, humidity, and moisture data.

```
11/10/2022, 8:08:09 AM node: 25b89b8157a9c036  
iot-2/typeb1m3edevicetypeid/b1m3edevicetid/event_1/fmtjson : msg.payload :  
Object  
  { Temperature: 82, Humidity: 75, Moisture: 98 }  
11/10/2022, 8:08:12 AM node: 25b89b8157a9c036  
iot-2/typeb1m3edevicetypeid/b1m3edevicetid/event_1/fmtjson : msg.payload :  
Object  
  { Temperature: 27, Humidity: 77, Moisture: 1 }  
11/10/2022, 8:08:16 AM node: 25b89b8157a9c036  
iot-2/typeb1m3edevicetypeid/b1m3edevicetid/event_1/fmtjson : msg.payload :  
Object  
  { Temperature: 7, Humidity: 76, Moisture: 93 }  
11/10/2022, 8:08:19 AM node: 25b89b8157a9c036  
iot-2/typeb1m3edevicetypeid/b1m3edevicetid/event_1/fmtjson : msg.payload :  
Object  
  { Temperature: 50, Humidity: 47, Moisture: 95 }  
11/10/2022, 8:08:22 AM node: 25b89b8157a9c036  
iot-2/typeb1m3edevicetypeid/b1m3edevicetid/event_1/fmtjson : msg.payload :  
Object  
  { Temperature: 36, Humidity: 88, Moisture: 23 }
```

The screenshot shows a browser window with the address bar containing the URL: `node-red-undcc-2022-10-04.eu-gb.cf.appdomain.cloud/sensor`. The browser tabs and other interface elements are visible.

```
{"temp":98,"humid":88,"moist":33}
```

The screenshot shows the Windows taskbar at the bottom of the screen. The system clock indicates the time is 08:20 on 10-11-2022. The taskbar also shows various application icons and the network status.