

Project Development Phase

Sprint 2

Date	31 October 2022
Team ID	PNT2022TMID41539
Project Name	Project-Signs with Smart Connectivity for Better Road Safety
Maximum marks	8 Marks

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-2	Create And Configure IBM Cloud Services	USN-4	Create IBM Watson IoT Platform And Device <ul style="list-style-type: none"> IBM Watson IoT platform acts as the mediator to connect the web application to IoT device, so create the IBM Watson IoT platform. In order to connect the IoT device to the IBM cloud, create a device in the IBM Watson IoT platform and get the device credentials. Configure the connection security and create API keys that are used in the Node-RED service for accessing the IBM IoT Platform. 	10	High	1.Mugila R 2.Ishwariya P 3.Kalpana T 4.Shreein Fathima S

IBM Watson IoT Device created

IBM Watson IoT Platform

621119106017@smartinternz.com
ID: 74k16v

Browse Action Device Types Interfaces

Add Device +

Browse Devices

All Devices Diagnose

This table shows a summary of all devices that have been added. It can be filtered, organized, and searched on using different criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

Device Simulator ☒

<input type="checkbox"/>	Device ID	Status	Device Type	Class ID	Date Added
> <input type="checkbox"/>	20082001	Disconnected	Board	Device	Oct 3, 2022 7:40 PM

Items per page 50 | 1-1 of 1 item

1 of 1 page < 1 >

0 Simulations running

23:15
18-11-2022

IBM Watson IoT Device simulated

The screenshot displays the IBM Watson IoT Platform dashboard in a web browser. The browser's address bar shows the URL `74k16v.internetofthings.ibmcloud.com/dashboard/devices/browse`. The dashboard has a dark sidebar with navigation icons and a main content area. The main area has tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. Under 'Browse', there are buttons for 'All Devices' and 'Diagnose'. A text block explains that the table shows a summary of all devices and can be filtered. Below this is a search bar labeled 'Search by Device ID'. A table lists the devices, with one device shown: ID '20082001', status 'Disconnected', and type 'Board'. At the bottom of the table, it says 'Items per page 50 | 1-1 of 1 item'. A 'Simulations' modal is open on the right, showing '0/50 Simulations Running' and a '+ New Simulation' button. The modal also shows the device type 'Board' with '1 Event' and a '1 Device' section containing the device ID '20082001'. At the bottom of the modal are buttons for '1 x Create Simulated Device' and 'Use Registered Device'. The Windows taskbar at the bottom shows various application icons and the system clock indicating 23:52 on 18-11-2022.

IBM Watson IoT Platform

Browse Action Device Types Interfaces

All Devices Diagnose

This table shows a summary of all devices that have been added. It can be filtered, organized, criteria. To get started, you can add devices by using the Add Device button, or by using API.

Search by Device ID

<input type="checkbox"/>	Device ID	Status	Device Type
> <input type="checkbox"/>	20082001	Disconnected	Board

Items per page 50 | 1-1 of 1 item

Simulations Import/Export simulation

0/50 Simulations Running + New Simulation

Device Type Board 1 Event

1 Device

20082001

1 x Create Simulated Device Use Registered Device

Screenshot_2021....jpg

23:52 18-11-2022

IBM Watson IoT Device code created - saved - send

The screenshot displays the IBM Watson IoT Platform dashboard. The main view is the 'Recent Events' tab for a device, showing a list of events with their values. A modal window is open for configuring a new event type named 'event_1'.

IBM Watson IoT Platform

Navigation: Browse | Action | Device Types | Interfaces

Recent Events

The recent events listed show the live stream of data that is coming and going

Event	Value
event_1	{"distance":60}
event_1	{"distance":21}
event_1	{"distance":36}
event_1	{"distance":92}
event_1	{"distance":7}

Device Type: Board

Events 1

Event type name: event_1 Send 🗑️

Schedule

1 Every Minute

Payload

Specify the event payload in the editor window or by uploading a [CSV file](#).

```
0 {  
1   "distance": random(0,100)  
2 }  
3
```

Upload a CSV file

[What functions can I apply?](#)

Cancel Save

Item per page: 50 1 of 1 page

05:38 19-11-2022

IBM Watson IoT Device output got in Recent events

The screenshot displays the IBM Watson IoT Platform dashboard. The browser's address bar shows the URL `74k16v.internetofthings.ibmcloud.com/dashboard/devices/browse`. The dashboard header includes the IBM Watson IoT Platform logo, a user profile icon, and the email `621119106017@smartinternz.com` with the device ID `ID: 74k16v`. The main navigation bar has tabs for **Browse**, **Action**, **Device Types**, and **Interfaces**, along with an **Add Device** button. The **Recent Events** tab is selected, showing a table of live data streams. The table has columns for **Event**, **Value**, **Format**, and **Last Received**. It lists three events, all labeled `event_1`, with values `{"distance":19}`, `{"distance":71}`, and `{"distance":26}`, all in `json` format and received 'a few seconds ago'. A status box at the bottom right indicates **0 Simulations running**. The bottom of the image shows a Windows taskbar with various application icons and a system clock showing **23:56** on **18-11-2022**.

IBM Watson IoT Platform

621119106017@smartinternz.com
ID: 74k16v

Browse Action Device Types Interfaces Add Device +

Identity Device Information **Recent Events** State Logs

The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
event_1	<code>{"distance":19}</code>	json	a few seconds ago
event_1	<code>{"distance":71}</code>	json	a few seconds ago
event_1	<code>{"distance":26}</code>	json	a few seconds ago

Items per page 50 | 1-1 of 1 item

0 Simulations running

23:56
18-11-2022

IBM Watson IoT Board created

The screenshot shows the IBM Watson IoT Platform interface. The browser's address bar displays the URL: `74k16v.internetofthings.ibmcloud.com/dashboard/boards/04723132-8dd0-4da5-98c2-63ba65d3347d`. The page header includes the text "IBM Watson IoT Platform" and the user's email "621119106017@smartinternz.com" with the ID "74k16v".

The main content area is titled "Batch11" and features a "Line chart" card. The chart displays a single data point at the time "23:50" with a value of approximately 0.7. The y-axis is labeled with values 0, 0.5, and 1. The card also includes a settings icon and a menu icon.

Below the chart, a status box indicates "0 Simulations running".

The bottom of the image shows a Windows taskbar with various application icons (including Edge, File Explorer, Chrome, Firefox, Word, and PDF Reader) and a system tray showing the time "23:54" and date "18-11-2022".

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-2	Create And Configure IBM Cloud Services	USN-5	Create Node-RED Service To create a web application create a Node-RED service.	10	High	1.Mugila R 2.Ishwariya P 3.Kalpna T 4.Shreein Fathima S

Node-Red service created

The screenshot displays the Node-RED web interface in a browser. The address bar shows the URL: `node-red-xqkno-2022-10-03.mybluemix.net/red/#flow/895a58d22de00831`. The interface includes a left sidebar with node categories (common, function), a central workspace for 'Flow 1', and a right sidebar with dashboard settings.

Flow 1 Details:

- Start:** A 'Batch 11' trigger node.
- Input:** An 'IBM IoT' node (connected).
- Processing:** Five function nodes (f) are connected to the IoT node:
 - `msg.payload`
 - `temperature`
 - `MESSAGE`
 - `sign`
 - `Speed`
 - `Visibility`
- Output:** Five corresponding output nodes:
 - `temperature` (with a refresh icon)
 - `Message` (with a code icon)
 - `Sign` (with a code icon)
 - `Speed` (with a code icon)
 - `Visibility` (with a code icon)

The right sidebar shows the 'dashboard' settings, including 'Layout', 'Site', 'Theme', and 'Tabs & Links'. The 'Tabs & Links' section lists: Home, Signs with smart connectivity, Hall AC, and Smart switch board.

Node-Red connected with IBM Watson IoT device using device API and Authentication Keys

The screenshot displays the Node-RED web interface in a browser. The address bar shows the URL: `node-red-xqkno-2022-10-03.mybluemix.net/red/#flow/895a58d22de00831`. The interface is divided into several panels:

- Left Panel (Nodes):** Contains a search bar and two categories of nodes: **common** (inject, debug, complete, catch, status, link in, link call, link out, comment) and **function** (function, switch).
- Flow Canvas:** Shows a flow named "Flow 1". It starts with a "Batch 11" node, followed by an "IBM IoT" node (labeled "connected"). The output of the IBM IoT node is connected to five function nodes (labeled "f") via multiple parallel lines.
- Right Panel (Edit ibmiot in node):** A configuration panel for the selected IBM IoT node. It includes a "Delete" button, "Cancel", and "Done" buttons. The "Properties" section contains the following settings:
 - Authentication:** API Key
 - API Key:** IBMIOT APIKEY
 - Input Type:** Device Event
 - Device Type:** ☒ All or +
 - Device Id:** ☐ All or device id e.g. ab12cd231a21
 - Event:** ☒ All or +
 - Format:** ☐ All or json
 - QoS:** 0
 - Name:** IBM IoT
 - Service:** registered
- Far Right Panel (Dashboard):** Shows a "dashboard" view with tabs for "Layout", "Site", and "Theme". It also includes a "Tabs & Links" section with a "Home" tab and a list of links: "Signs with smart connectiv", "Hall AC", and "Smart switch board".

The Windows taskbar at the bottom shows the time as 23:57 on 18-11-2022, along with various system icons and application icons.

Node-Red nodes created using Dashboard

Node-RED

Dashboard layout editor : Home

Cancel Done

Signs with smart connectivity for better road safety Width: 6

		Message template			
		Sign template			
		Speed template			
		Visibility template			
		temperature gauge			

Hall AC Width: 6

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Smart switch board Width: 6

--	--	--	--	--	--

dashboard

Layout Site Theme

Tabs & Links

- Home
 - Signs with smart connectivity
 - spacer 6x1
 - Message
 - Sign
 - Speed
 - Visibility
 - temperature
 - Hall AC
 - Smart switch board

06:06 19-11-2022

Node-Red nodes Preview



