

PROJECT DEVELOPMENT PHASE

Date	17 November 2022
Team ID	PNT2022TMID42644
Project Title	INDUSTRY – SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM

SPRINT 2 : Software (Create a device in IoT Watson Platform,

Workflow for IoT Scenarios in Local Node-RED :

Creating a device in IoT Watson Platform_:

The screenshot shows the 'Add Device' page in the IBM Watson IoT Platform. The browser address bar indicates the URL: 0bm892.internetofthings.ibmcloud.com/dashboard/devices/browse/add. The page header shows the user's email (praveenkumarraj111@gmail.com) and ID (0bm892). The left sidebar contains various icons for navigation. The main content area is titled 'Add Device' and features a progress bar with four steps: Identity, Device Information, Security, and Summary. The 'Identity' step is currently active. Below the progress bar, there is a text prompt: 'Select a device type for the device that you are adding and give the device a unique ID.' Two input fields are present: 'Device Type' with the value 'ESP32_Controller' and 'Device ID' with the value 'Sensor'. At the bottom right of the form, there are 'Cancel' and 'Next' buttons. Below the form, there is a 'Browse Devices' section and a status indicator showing '0 Simulations running'.

IBM Watson IoT Platform

praveenkumarraj111@gmail.com
ID: 0bm892

Browse Action Device Types Interfaces

Add Device

Identity Device Information Security Summary

Select a device type for the device that you are adding and give the device a unique ID.

Device Type ESP32_Controller

Device ID Sensor

Cancel Next

Browse Devices

0 Simulations running

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BrowseActionDevice TypesInterfaces

There are two options for selecting a device authentication token.

Auto-generated authentication token (default)

Allow the service to generate an authentication token for you. Tokens are 18 characters and contain a mix of alphanumeric characters and symbols. The token is returned to you at the end of the device registration process.

Self-provided authentication token

Provide your own authentication token for this device. The token must be between 8 and 36 characters and contain a mix of lowercase and uppercase letters, numbers, and symbols, which can include hyphens, underscores, and periods. Do not use repeated characters, dictionary words, user names, or other predefined sequences.

Authentication Token

12345678

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Make a note of the generated token. Lost authentication tokens cannot be recovered. Tokens are encrypted before being stored.

Authentication token are encrypted before we store them.

0 Simulations running

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BrowseActionDevice TypesInterfaces

Add Device

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IdentityDevice InformationSecuritySummary

Verify that the following information is correct then select Finish

Device Type

ESP32_Controller

Device ID

Sensors

View Metadata

Security Token

12345678

0 Simulations running

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Browse Action Device Types Interfaces

Add Device +

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Sensor

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Disconnected

ESP32_Controller

Device

30 Oct 2022 16:42

→ ...

Identity

Device Information

Recent Events

State

Logs

✕

Device ID

Sensor

Device Type

ESP32_Controller

Date Added

30 Oct 2022 16:42

Added By

praveenkumarraj111@gmail.com

Connection Status

Disconnected

Last Connected: 17 Nov 2022 11:11

Client Address: 157.51.49.8 SecureToken

Duration: a minute

Data Transferred: 1.1 KB

Items per page 50

1-2 of 2 items

0 Simulations running

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0bm892.internetofthings.ibmcloud.com/dashboard/devices/browse

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Browse Action Device Types Interfaces

Add Device +

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Sensor

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Disconnected

ESP32_Controller

Device

30 Oct 2022 16:42

→ ...

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	{"Temperature":36,"Humidity":68,"CO2":24,"Fla...	json	a few seconds ago
event_1	{"Temperature":25,"Humidity":56,"CO2":17,"Fla...	json	a few seconds ago
event_1	{"Temperature":49,"Humidity":98,"CO2":29,"Fla...	json	a few seconds ago
event_1	{"Temperature":47,"Humidity":65,"CO2":42,"Fla...	json	a few seconds ago
event_1	{"Temperature":64,"Humidity":3,"CO2":26,"Flam...	json	a few seconds ago

1 Simulation running

The screenshot displays the Node-RED web interface in a browser. The top bar shows the URL: `node-red-wppej-2022-11-08.eu-gb.mybluemix.net/red/#flow/5425640e3149be07`. The main workspace shows a flow named "Flow 1" with the following components:

- Inputs/Triggers:**
 - `IBM IoT` (connected)
 - `firemanagement_db` (cloud icon)
 - `MOTOR ON` (button icon)
 - `Retrive Data` (button icon)
- Processing/Logic:**
 - Four function nodes (`f`) labeled `Temperature`, `Flame`, `Gas`, and `Humidity`.
 - Another `firemanagement_db` node connected to the `Retrive Data` button.
 - `IBM IoT` (connected) node connected to the `MOTOR ON` button.
- Outputs:**
 - Four output nodes labeled `temp`, `Flame`, `Gas`, and `Humidity`.
 - `MOTOR OFF` (button icon).
 - `msg.payload` (message box icon).

The `msg.payload` node is connected to the `IBM IoT` node and the `MOTOR ON` button. The `msg.payload` node's output is shown in the debug console:

```

: msg.payload : Object
  > { Temperature: 30, Humidity: 36,
    CO2: 68, Flame: 61 }
  
```

The debug console also shows a log of messages from the `IBM IoT` node, including timestamps, node IDs, and event types.

The screenshot displays the Node-RED web interface. On the left, a flow named 'Flow 1' is visible, featuring an 'IBM IoT' node (status: connected) that triggers five function nodes: 'Temperature', 'Flame', 'Gas', 'Humidity', and 'MOTOR ON'. The 'MOTOR ON' node is a light blue action node, while the others are orange function nodes. The central panel shows the 'Edit function node' configuration for the 'Temperature' node. The 'Name' field is set to 'Temperature'. The 'On Message' tab is selected, showing the following JavaScript code:

```
1 msg.payload=msg.payload.Temperature
2 global.set('t',msg.payload)
3 return msg;
```

The right sidebar contains a 'debug' console showing five log entries. Each entry includes a timestamp (11/17/2022, 1:32:39 PM), a node ID (132532cb33f52820), and a JSON payload. The payloads are as follows:

- iot-
2/hype/ESP32_Controller/id/Sensor/evt/event_1/fmt/json
: msg.payload : number
13
- iot-
2/hype/ESP32_Controller/id/Sensor/evt/event_1/fmt/json
: msg.payload : number
7
- iot-
2/hype/ESP32_Controller/id/Sensor/evt/event_1/fmt/json
: msg.payload : number
466
- iot-
2/hype/ESP32_Controller/id/Sensor/evt/event_1/fmt/json
: msg.payload : number
56
- iot-
2/hype/ESP32_Controller/id/Sensor/evt/event_1/fmt/json
: msg.payload : number

https://node-red-wppej-2022-11-08.eu-gb.mybluemix.net/sensor_data

JSONRaw DataHeaders

SaveCopyCollapse AllExpand AllFilter JSON

Temperature:122
Humidity:14
CO2 Percentage:138
Flame:59

IBM OUTPUT :

Obm892.internetofthings.ibmcloud.com/dashboard/devices/browse

IBM Watson IoT Platformpraveenkumarraj111@gmail.comID: 0bm892

BrowseActionDevice TypesInterfaces

Add Device+

IdentityDevice InformationRecent EventsStateLogs

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	{"Temperature":64,"Humidity":77,"CO2":10,"Fla...	json	a few seconds ago
event_1	{"Temperature":36,"Humidity":68,"CO2":24,"Fla...	json	a few seconds ago
event_1	{"Temperature":25,"Humidity":56,"CO2":17,"Fla...	json	a few seconds ago
event_1	{"Temperature":49,"Humidity":98,"CO2":29,"Fla...	json	a few seconds ago
event_1	{"Temperature":47,"Humidity":65,"CO2":42,"Fla...	json	a few seconds ago

1 Simulation running