

## SPRINT-3

### IoT Device – Watson communication

The data from IoT device should reach IBM Cloud

(The data stored in IBM Cloud should be properly integrated with Cloudant DB)

The top screenshot shows the 'Browse Devices' page in the IBM Watson IoT Platform. It features a sidebar with navigation icons and a top bar with tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A 'Browse Devices' section includes buttons for 'All Devices' and 'Diagnose'. Below this is a search bar and a table of devices. The table has columns for Device ID, Status, Device Type, Class ID, Date Added, and Descriptive Location. A single device is listed with ID 12345, status 'Disconnected', and type 'NodeMCU'. The bottom screenshot shows the 'Recent Events' page for the selected device. It displays a table of events with columns for Event, Value, Format, and Last Received. The events are JSON warnings received at different times.

**Browse Devices**

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 ID | Status       | Device Type | Class ID | Date Added           | Descriptive Location |
|-----------|--------------|-------------|----------|----------------------|----------------------|
| 12345     | Disconnected | NodeMCU     | Device   | Nov 14, 2022 7:59 PM |                      |

Items per page 50 | 1–1 of 1 item

**Recent Events**

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

| Event | Value             | Format | Last Received     |
|-------|-------------------|--------|-------------------|
| data  | {"Warning":28.95} | json   | a few seconds ago |
| data  | {"Warning":28.95} | json   | a few seconds ago |
| data  | {"Warning":49.98} | json   | a minute ago      |
| data  | {"Warning":49.98} | json   | a minute ago      |
| data  | {"Warning":11.03} | json   | a minute ago      |

# NODE RED-CLOUDANTDB COMMUNICATION:

The screenshot displays the Node-RED web interface. The top section shows a flow diagram with nodes including 'inject', 'function', 'msg.payload', 'worldmap', 'geofence', 'rbe', 'switch', 'http request', 'show dialog', 'child', and 'msg.payload'. The bottom section shows a Python console output with the following code and results:

```
1 import json
2 import wiotp.sdk.device
3 import time
4
5 myConfig = {
6     "identity": {
7         "orgId": "hj5fmy",
8         "typeId": "NodeMCU",
9         "deviceId": "12345"
10    },
11    "auth": {
12        "token": "12345678"
13    }
14 }
15 client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
16 client.connect()
17
18 while True:
19     name= "Smartbridge"
20     #in area location
21
22     #latitude= 17.4225176
23     #longitude= 78.5458842
24
25     #out area location
26
27     latitude= 17.4219272
28     longitude= 78.5488783
29     myData={'name': name, 'lat':latitude, 'lon':longitude}
30     client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=0, onPub
31     print("Data published to IBM IoT platform: ",myData)
32     time.sleep(5)
33
34 client.disconnect()
35
36
```

The console output shows the following message repeated 20 times:

```
Data published to IBM IoT platform:
```

The bottom section of the interface shows a 'Databases' table with the following data:

| Name                 | Size    | # of Docs | Partitioned | Actions |
|----------------------|---------|-----------|-------------|---------|
| login_credentials    | 13.7 KB | 111       | No          | [Icons] |
| noderedwjldy20221105 | 37.4 KB | 4         | No          | [Icons] |
| sample               | 59.4 KB | 351       | No          | [Icons] |
| sensor_data          | 15.7 KB | 90        | No          | [Icons] |

Showing 1-4 of 4 databases. Databases per page: 20

All Documents

Query

Permissions

Changes











Design Documents

Table

Metadata

{ }JSON

Create Document

|                          | id   | key                            | value                             |
|--------------------------|--|--------------------------------|-----------------------------------|
| <input type="checkbox"/> |  0198213c192cb2c244cc2433f1...  | 0198213c192cb2c244cc2433f1...  | { "rev": "1-cde2dd17c519394df...  |
| <input type="checkbox"/> |  0198213c192cb2c244cc2433f1...  | 0198213c192cb2c244cc2433f1...  | { "rev": "1-d26c5b40891e136c...   |
| <input type="checkbox"/> |  0198213c192cb2c244cc2433f1...  | 0198213c192cb2c244cc2433f1...  | { "rev": "1-cde2dd17c519394df...  |
| <input type="checkbox"/> |  0198213c192cb2c244cc2433f1...  | 0198213c192cb2c244cc2433f1...  | { "rev": "1-f96eb0460bc16cfab0... |
| <input type="checkbox"/> |  1a921f21cbe229b86f599acb45...  | 1a921f21cbe229b86f599acb45...  | { "rev": "1-7226f08794cd7b7c...   |
| <input type="checkbox"/> |  1a921f21cbe229b86f599acb45...  | 1a921f21cbe229b86f599acb45...  | { "rev": "1-1bbdd9a985bd56cf9...  |
| <input type="checkbox"/> |  20a854e5445fa818e6c1de049...   | 20a854e5445fa818e6c1de049...   | { "rev": "1-7226f08794cd7b7c...   |
| <input type="checkbox"/> |  20a854e5445fa818e6c1de049...   | 20a854e5445fa818e6c1de049...   | { "rev": "1-3ad288ecd57f039e...   |
| <input type="checkbox"/> |  20a854e5445fa818e6c1de049...   | 20a854e5445fa818e6c1de049...   | { "rev": "1-1bbdd9a985bd56cf9...  |
| <input type="checkbox"/> |  298ed6fthr9h3b815f5ac7c061e... | 298ed6fthr9h3b815f5ac7c061e... | { "rev": "1-a47240f6e5307a1b9...  |

Showing document 1 - 20.
Documents per page: 20