

SPRINT 2

REAL TIME RIVER WATER QUALITY MONITORING AND CONTROL SYSTEM

TEAMID:PNT2022TMID06145

Team Members:

1. Hari Raama Krishnan S- Team Leader
2. Saran R -Team Member
3. Sasikumar M- Team Member
4. Parthasarathi S – Team Member
5. Mohammed Alla Pitchai M- Team Member

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 IoT functions. The main content area shows details for a device with ID 12345, which is currently 'Disconnected'. The 'Recent Events' tab is active, displaying a table of live data events. The table has columns for 'Event', 'Value', 'Format', and 'Last Received'. Below the table, it indicates 'Items per page 50' and '1-1 of 1 item'. At the bottom right, it shows '0 Simulations running'. The browser's address bar shows the URL '4g68fe.internetofthings.ibmcloud.com/dashboard/devices/browse'. The system tray at the bottom indicates a temperature of 28°C and 'Haze' weather.

Event	Value	Format	Last Received
event	{"T":81,"pH":57,"conductivity":25,"oxygen":92,"t...	json	a few seconds ago
event	{"T":48,"pH":99,"conductivity":70,"oxygen":88,"t...	json	a few seconds ago
event	{"T":55,"pH":14,"conductivity":45,"oxygen":64,"t...	json	a few seconds ago
event	{"T":73,"pH":87,"conductivity":0,"oxygen":60,"tu...	json	a few seconds ago
event	{"T":1,"pH":2,"conductivity":94,"oxygen":93,"tur...	json	a few seconds ago

node-red-encqtd-2022-11-18.eu-gb.mybluemix.net/red/#flow/1031e92373fc1bd4

Node-RED

Flow 1

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change
- range

Flow 1

IBM IoT

msg.payload

pH

conductivity

T

oxygen

turbidity

Light on

IBM IoT out

debug

all nodes

11/19/2022, 1:28:34 PM node: b859f25535802cd4
iot-2/type/HSSPM/Id/12345/event/float/json :
msg.payload : number
76

11/19/2022, 1:28:35 PM node: b859f25535802cd4
iot-2/type/HSSPM/Id/12345/event/float/json :
msg.payload : number
68

11/19/2022, 1:28:36 PM node: b859f25535802cd4
iot-2/type/HSSPM/Id/12345/event/float/json :
msg.payload : number
89

11/19/2022, 1:28:37 PM node: b859f25535802cd4
iot-2/type/HSSPM/Id/12345/event/float/json :
msg.payload : Object
{ T: 11, pH: 8, conductivity: 42, oxygen: 38, turbidity: 17 }

11/19/2022, 1:28:38 PM node: b859f25535802cd4
iot-2/type/HSSPM/Id/12345/event/float/json :
msg.payload : number
8

11/19/2022, 1:28:39 PM node: b859f25535802cd4
iot-2/type/HSSPM/Id/12345/event/float/json :
msg.payload : number
42

11/19/2022, 1:28:40 PM node: b859f25535802cd4

28°C Haze

ENG IN

18:03 19-11-2022

node-red-encqd-2022-11-18.eu-gb.mybluemix.net/red/#flow/1031e92373fc1bd4

Node-RED

Flow 1

common

- inject
- debug
- complete
- catch
- status
- link in
- link call
- link out
- comment

function

- function
- switch
- change
- range

Flow 1

Light on

Light off

[get] /command

[get] /sensor

IBM IoT out

msg.payload

http

mit

debug

11/19/2022, 1:28:34 PM node: b859f25535802cd4
iot-2/type/HSSPM/id/12345/event/tnt/json :
msg.payload : number
76

11/19/2022, 1:28:35 PM node: b859f25535802cd4
iot-2/type/HSSPM/id/12345/event/tnt/json :
msg.payload : number
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11/19/2022, 1:28:40 PM node: b859f25535802cd4

28°C Haze

18:03 19-11-2022

Node-RED interface showing a flow with an IBM IoT node connected to several output nodes (pH, conductivity, T, oxygen, turbidity) and a Light on node. The IBM IoT node is configured with the following properties:

- Authentication: API Key
- API Key: IBM IoT out
- Input Type: Device Event
- Device Type: All or HSSPM
- Device Id: All or 12345
- Event: All or +
- Format: All or json
- QoS: 0
- Name: IBM IoT
- Service: registered

The debug console shows the following messages:

```
11/19/2022, 1:28:34 PM node: b859f25535802c04  
iot-2/type/HSSPM/Id/12345/event/tn:json :  
msg.payload: number  
76  
11/19/2022, 1:28:35 PM node: b859f25535802c04  
iot-2/type/HSSPM/Id/12345/event/tn:json :  
msg.payload: number  
68  
11/19/2022, 1:28:36 PM node: b859f25535802c04  
iot-2/type/HSSPM/Id/12345/event/tn:json :  
msg.payload: number  
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11/19/2022, 1:28:37 PM node: b859f25535802c04  
iot-2/type/HSSPM/Id/12345/event/tn:json :  
msg.payload: Object  
{ T: 11, pH: 8, conductivity: 42,  
oxygen: 38, turbidity: 17 }  
11/19/2022, 1:28:38 PM node: b859f25535802c04  
iot-2/type/HSSPM/Id/12345/event/tn:json :  
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11/19/2022, 1:28:39 PM node: b859f25535802c04  
iot-2/type/HSSPM/Id/12345/event/tn:json :  
msg.payload: number  
42  
11/19/2022, 1:28:40 PM node: b859f25535802c04
```

Node-RED interface showing a flow with a Light on node, a Light off node, a [get]/command node, and a [get]/sensor node. The [get]/sensor node is connected to a mit node. The [get]/command node is connected to a mit node. The mit node is connected to a turbidity node. The Light on node is connected to a mit node. The Light off node is connected to a mit node. The mit node is connected to a turbidity node. The [get]/command node is connected to a mit node. The [get]/sensor node is connected to a mit node. The mit node is connected to a turbidity node.

The debug console shows the following messages:

```
11/19/2022, 1:28:34 PM node: b859f25535802c04  
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iot-2/type/HSSPM/Id/12345/event/tn:json :  
msg.payload: number  
89  
11/19/2022, 1:28:37 PM node: b859f25535802c04  
iot-2/type/HSSPM/Id/12345/event/tn:json :  
msg.payload: Object  
{ T: 11, pH: 8, conductivity: 42,  
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iot-2/type/HSSPM/Id/12345/event/tn:json :  
msg.payload: number  
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11/19/2022, 1:28:39 PM node: b859f25535802c04  
iot-2/type/HSSPM/Id/12345/event/tn:json :  
msg.payload: number  
42  
11/19/2022, 1:28:40 PM node: b859f25535802c04
```

