

## PROJECT DEVELOPMENT - DELIVERY OF SPRINT 3

Date:	15 November 2022
Team ID:	PNT2022TMID22571
Name:	Real-Time River Water Quality Monitoring and Control System

### Installation of node-Red:

The screenshot shows the IBM Cloud Developer console for an application named 'Node RED TTDHY 2022-10-06'. The interface includes a top navigation bar with 'IBM Cloud', a search bar, and user account information. The main content area is divided into two columns. The left column contains 'Details' and 'Services' sections. The 'Details' section shows 'App URL' (a placeholder), 'Source' (with a 'Download code' button), 'Resource group' (Default), 'Deployment target' (placeholder), and 'Created' (06/10/2022). The 'Services' section lists 'Cloudant' with links to 'Open dashboard', 'Documentation', and 'API reference', and a 'Credentials' dropdown. The right column features a 'Deployment Automation' section with a 'Configure Continuous Delivery' card, which states 'Continuous Delivery is not enabled for this app' and includes a 'Deploy your app' button. A 'Create service' button is at the bottom left. The bottom of the screen shows a Windows taskbar with various application icons and system status information.

The screenshot shows the IBM Cloud Developer console for an application named 'node-red-ijznf-2022-11-16'. The interface is similar to the previous one, but the main content area is a configuration page for an API key. It includes fields for 'IBM Cloud API key' (masked with dots), 'Number of instances' (set to 1), 'Memory allocation per instance' (a slider from 64 MB to 2000 MB, currently at 256 MB), 'Region' (London), 'Organization' (Water quality monitoring), 'Space' (WQM), 'Host' (node-red-ijznf-2022-11-16), and 'Domain' (eu-gb.mybluemix.net). There are 'Cancel' and 'Next' buttons at the bottom left. The bottom of the screen shows a Windows taskbar with various application icons and system status information.



## Ibm Watson connected with node red:

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A search bar is present. The main content area displays a table of devices. The selected device is 'PNT2022TMID22571\_1', which is 'Connected'. Below the table, the 'Recent Events' tab is active, showing a live stream of data. The events table has columns: Event, Value, Format, and Last Received.

Event	Value	Format	Last Received
event_1	{"data":13}	json	a few seconds ago
event_1	{"data":72}	json	2 minutes ago

1 Simulation running

## Node red dashboard connection:

The screenshot shows the Node-RED dashboard with a flow titled 'Flow 2'. The flow starts with an 'IBM IoT' node (connected). It branches into five parallel paths, each leading to a function node (f) and then to a specific sensor value node (ph, temperature, conductivity, turbidity, oxygen). These paths converge into a 'request website server' node, which then connects to an 'http request' node. The 'http request' node connects to a 'msg payload' node, which then connects to an 'IBM IoT' node (connected). This node connects to a '[GET] sensor values' node, which then connects to a 'function' node, and finally to an 'http response' node. The right sidebar shows the 'Flows' list with 'Flow 2' selected, displaying its ID '4a573a98b6c5c71'.

## Output of dashboard connection in node red:

```
05/11/2022, 11:42:31 node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/2002/evt/event/fmt/json : msg.payload : string[62]
{"message":"temperature value increased beyond certain limit"}

05/11/2022, 11:42:36 node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/2002/evt/event/fmt/json : msg.payload : string[62]
{"message":"temperature value increased beyond certain limit"}

05/11/2022, 11:42:41 node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/2002/evt/event/fmt/json : msg.payload : string[62]
{"message":"temperature value increased beyond certain limit"}

06/11/2022, 20:49:17 node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/2002/evt/event/fmt/json : msg.payload : string[43]
{"message":"Water quality is good for use"}

06/11/2022, 20:49:18 node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/2002/evt/event/fmt/json : msg.payload : string[43]
{"message":"Water quality is good for use"}

06/11/2022, 20:49:20 node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/2002/evt/event/fmt/json : msg.payload : string[43]
{"message":"Water quality is good for use"}

06/11/2022, 20:49:25 node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/2002/evt/event/fmt/json : msg.payload : string[43]
{"message":"Water quality is good for use"}

06/11/2022, 20:49:30 node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/2002/evt/event/fmt/json : msg.payload : string[43]
{"message":"Water quality is good for use"}

06/11/2022, 20:49:35 node: f2f2649a.0d0d98
iot-2/type/NodeMCU/id/2002/evt/event/fmt/json : msg.payload : string[43]
{"message":"Water quality is good for use"}


```

## Output of UI web application:

