

**Team id:** PNT2022TMID05726

**Project title:** Real-Time River Water Quality Monitoring and Control System

**AIM:**

To create device in the IOT Watson Platform and Configure Node Red Services.

**REQUIREMENT:**

IBM cloud, IBM IOT WATSON PLATFORM,NODE RED SERVICES.

**WORKFLOW:**

**STEP 1:**

Log on to IBM cloud and create IBM Watson IOT Platform from IBM cloud Dashboard.

**STEP 2:**

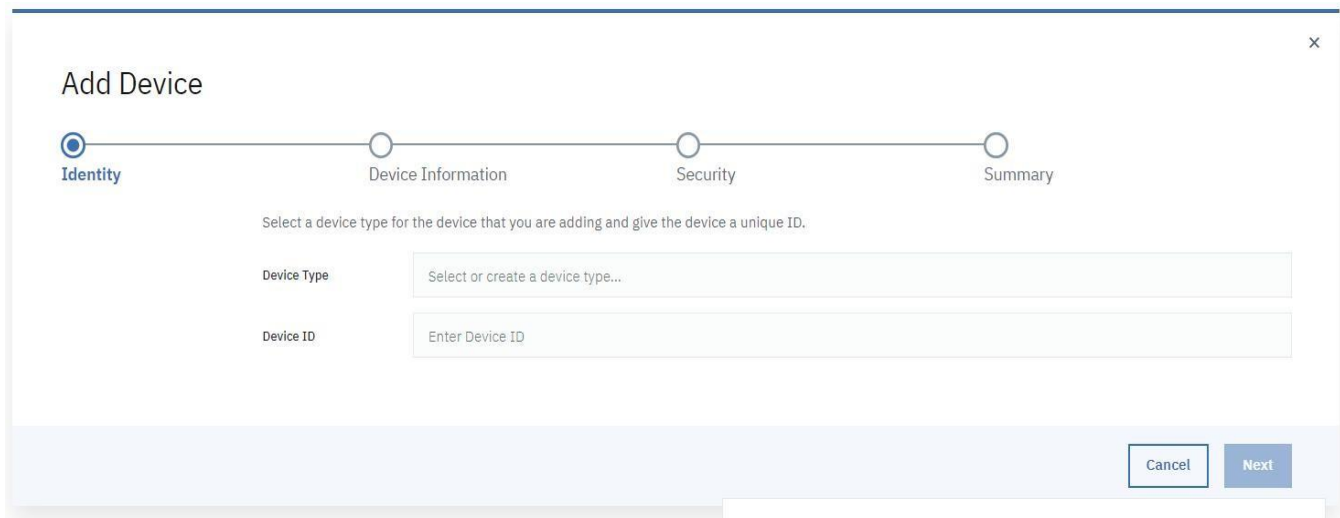
After Creating IBM Watson IOT Platform,create an Organization (ex.84708c ID: 84708c Bluemix Free)

The screenshot displays the IBM Watson IoT Platform's 'All Devices' management interface. At the top, there's a navigation bar with tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. A prominent 'Add Device' button is located in the top right corner. Below the navigation bar, there are two tabs: 'All Devices' (selected) and 'Diagnose'. A descriptive text states: '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.' Below this, there's a search bar labeled 'Search by Device ID' and a 'Device Simulator' toggle switch. The main content area features a table with the following columns: checkboxes for selection, 'Device ID', 'Status', 'Device Type', 'Class ID', and 'Date Added'. One device is listed with ID '123', status 'Connected' (indicated by a green dot), type 'raspberrypi', class 'Device', and added on 'Nov 16, 2022 3:09 PM'. At the bottom of the table, it shows 'Items per page 50' and '1 of 1 item'.

<input type="checkbox"/>	Device ID	Status	Device Type	Class ID	Date Added
<input type="checkbox"/>	123	Connected	raspberrypi	Device	Nov 16, 2022 3:09 PM

### STEP 3:

Create an device IBM IOT PALTFORM.



The 'Add Device' dialog box shows a four-step process: Identity, Device Information, Security, and Summary. The 'Identity' step is active. It prompts the user to 'Select a device type for the device that you are adding and give the device a unique ID.' There are two input fields: 'Device Type' with a dropdown menu showing 'Select or create a device type...' and 'Device ID' with a text input field showing 'Enter Device ID'. At the bottom right are 'Cancel' and 'Next' buttons.

TYPE THE REQUIRED FIELDS (TYPE: ESP32 , ID: 1234)  
GIVE AUTH-TOKEN.

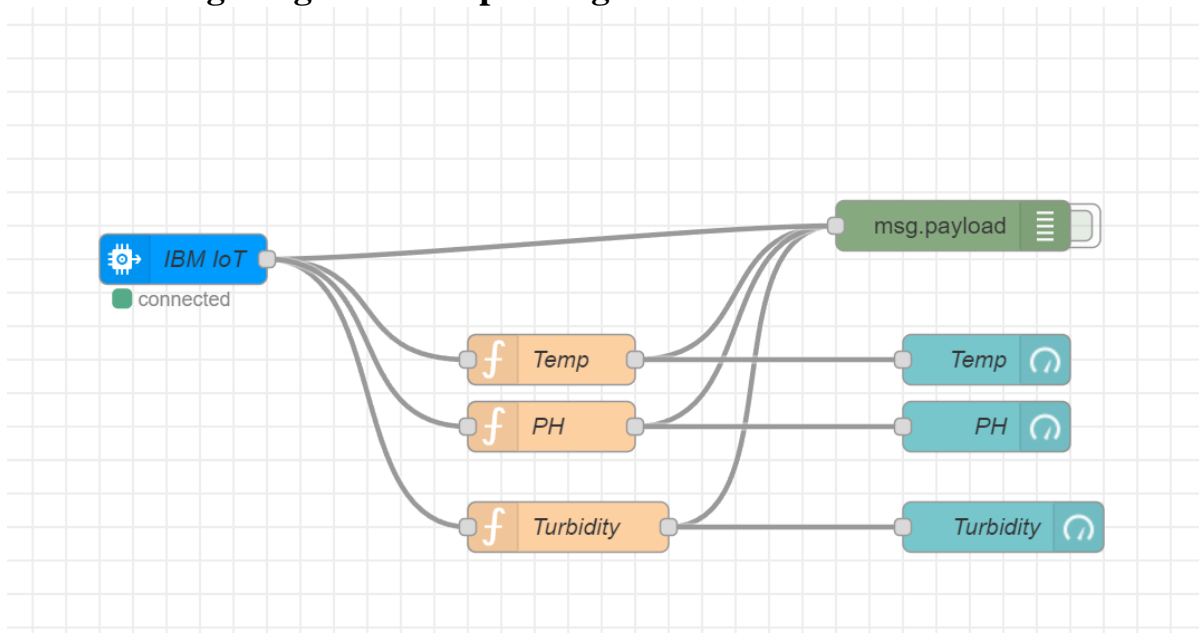
### STEP 4:

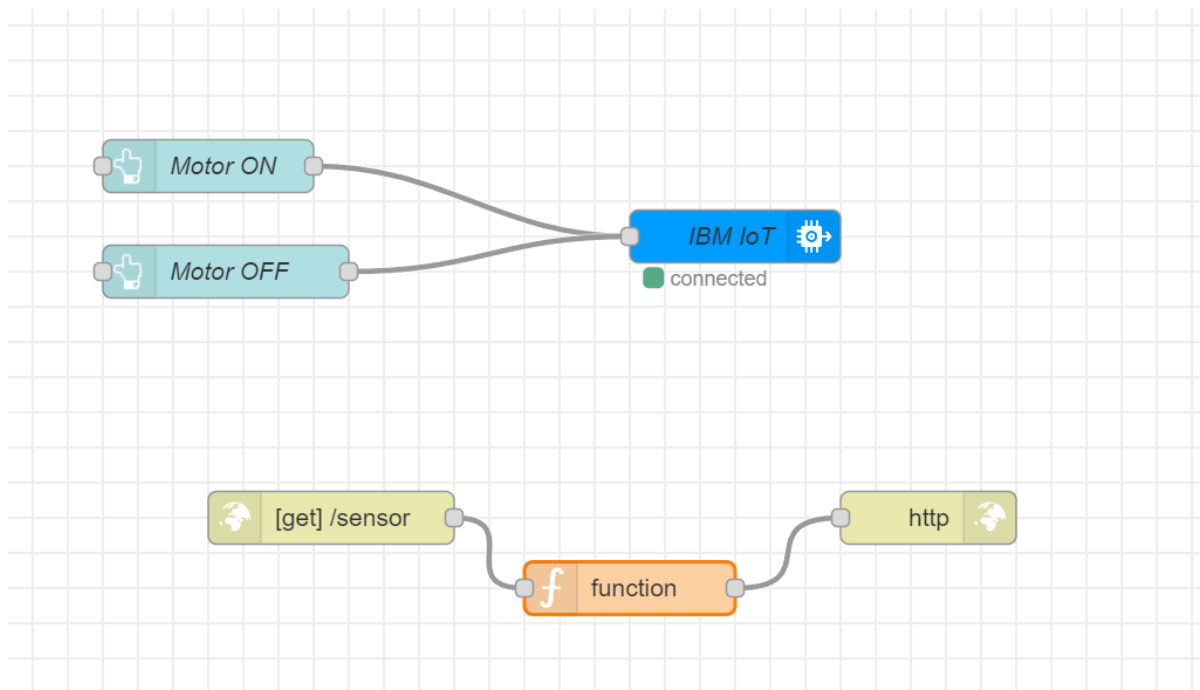
NODE RED SERVICE

- INSTALL IBM IOT IN MANGE PALETTE.
- INSTALL NODE RED DASHBOARD.

### STEP 5:

Configuring the corresponding nodes





### STEP 6:

Deploy the Services and verify the output values.

### OUTPUT IN IBM WATSON IOT PLATFORM:

**IBM Watson IoT Platform**

Browse Action Device Types Interfaces Add Device +

123 Connected raspberrypi Device Nov 16, 2022 3:09 PM → ...

**Identity Device Information Recent Events State Logs** X

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

Event	Value	Format	Last Received
demo	{"pH":3,"turbid":89,"temp":29}	json	a few seconds ago
demo	{"pH":9,"turbid":35,"temp":47}	json	a few seconds ago
demo	{"pH":4,"turbid":57,"temp":68}	json	a few seconds ago
demo	{"pH":7,"turbid":93,"temp":100}	json	a few seconds ago
demo	{"pH":13,"turbid":7,"temp":100}	json	a few seconds ago