

# Assignment-4

TEAM ID : PNT2022TMID42891

## IBM Watson IoT Platform

Device ID-987654321

Device Type-Ultrasonic\_sensor

Date Added-Oct 31, 2022 2:05 PM

Added By-712519104009@smartinternz.com

Connection Status-Disconnected

Last Connected: Nov 1, 2022 9:46 AM

Client Address: 145.40.94.93 Insecure

Duration: a few seconds

Data Transferred: 344 B

The screenshot displays the IBM Watson IoT Platform dashboard. The top navigation bar includes tabs for 'Browse', 'Action', 'Device Types', and 'Interfaces'. The main content area shows a list of devices. The selected device, ID 987654321, is an 'Ultrasonic\_sensor' with a status of 'Disconnected'. A detailed view of this device is shown, including its identity, device information, recent events, state, and logs. The device information section lists the following details:

- Device ID: 987654321
- Device Type: Ultrasonic\_sensor
- Date Added: Oct 31, 2022 2:05 PM
- Added By: 712519104009@smartinternz.com
- Connection Status: Disconnected
- Last Connected: Nov 1, 2022 9:34 AM
- Client Address: 145.40.94.93 Insecure
- Duration: a few seconds
- Data Transferred: 535 B

Below the detailed view, a table lists other devices:

ID	Status	Device Type	Device	Last Connected	Added By
demo_123_1	Connected	demo_123	Device	Nov 1, 2022 9:25 AM	712519104009@smartinternz.com
demo_123_2	Connected	demo_123	Device	Nov 1, 2022 9:25 AM	712519104009@smartinternz.com
demo_123_3	Connected	demo_123	Device	Nov 1, 2022 9:25 AM	712519104009@smartinternz.com

The bottom of the dashboard shows '4 Simulations running' and a status bar with the time 09:36 AM on 11/1/2022.

# Device Event Information

The screenshot displays the IBM Watson IoT Platform interface. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. The main content area shows a list of devices, with the 'Ultrasonic\_sensor' device selected. The 'Recent Events' tab is active, displaying a table of events. The table has columns for 'Event', 'Value', 'Format', and 'Last Received'. The events listed are all 'Data' events with a value of '{"Alert Distance":64.96}' or '{"Alert Distance":74.99}' or '{"Alert Distance":43.94}' or '{"Alert Distance":33.97}', all in 'json' format, and all received 'a few seconds ago'. Below the table, there is a section for 'demo\_123' devices, showing 'demo\_123\_1' (Disconnected), 'demo\_123\_2' (Connected), and 'demo\_123\_3' (Connected). A status bar at the bottom indicates '4 Simulations running'.

Event	Value	Format	Last Received
Data	{"Alert Distance":64.96}	json	a few seconds ago
Data	{"Alert Distance":64.96}	json	a few seconds ago
Data	{"Alert Distance":74.99}	json	a few seconds ago
Data	{"Alert Distance":43.94}	json	a few seconds ago
Data	{"Alert Distance":33.97}	json	a few seconds ago

# Wokwi project info

The screenshot shows the Wokwi project interface. The left sidebar contains a 'sketch.ino' file. The main area displays the Arduino code for the project. The code includes a setup function for the sensor and a loop function that publishes distance data to a topic. The right sidebar shows a 'Simulation' window with a visual representation of the sensor and its output. The output shows 'Distance: 61cm' and 'Publish OK'.

```
84 {
85   digitalWrite(trigpin, LOW);
86   digitalWrite(trigpin, HIGH);
87   delayMicroseconds(10);
88   digitalWrite(trigpin, LOW);
89   duration=pulseIn(echopin, HIGH);
90   dist=duration*speed/2;
91   if(dist<100){
92     String payload = "{\"Alert Distance\": ";
93     payload += dist;
94     payload += "}";
95
96     Serial.print("\n");
97     Serial.print("Sending payload: ");
98     Serial.println(payload);
99     if (client.publish(publishTopic, (char*) payload.c_str()))
100   {
101     Serial.println("Publish OK");
102   }
103 }
104
105 }
106
107 if(dist>101 && dist<400){
108   String payload = "{\"normal distance\": ";
109   payload += dist;
110   payload += "}";
111
112   Serial.print("\n");
113   Serial.print("Sending payload: ");
114   Serial.println(payload);
115   if(client.publish(publishTopic, (char*) payload.c_str()))
```

# Node Red Connection info

The screenshot displays the Node-RED web interface in a browser. The main workspace shows a flow named 'Flow 1' with two nodes: an 'IBM IoT' node (blue) and a 'debug 1' node (orange). The 'IBM IoT' node is connected to the 'debug 1' node. The left sidebar contains a palette of nodes categorized into 'common' and 'function'. The right sidebar shows the 'debug' console with a list of messages. The messages are JSON objects containing distance data.

Flow 1

debug 1

debug

```
{ "Normal Distance": 54.94 }
```

```
{ "Normal Distance": 60.94 }
```

```
{ "Normal Distance": 67.97 }
```

```
{ "Normal Distance": 94.96 }
```

```
{ "Alert distance": 108.97 }
```