

Assignment-4

TEAM ID : PNT2022TMID26530

IBM Watson IoT Platform

Device ID-987654321

Device Type-Ultrasonic_sensor

Date Added-17/11/22

Added By-211719106070@smartinternz.com

Connection Status-Disconnected

Last Connected: nov 17, 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 below the list, 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: 344 B

Below the detailed view, a table lists other devices in the system:

ID	Status	Device Type	Device	State	Last Connected	Client Address
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 a status bar with '4 Simulations running' and a system clock indicating 09:36 AM on 11/1/2022.

Device Event Information

The screenshot shows the IBM Watson IoT Platform dashboard. The top navigation bar includes 'Browse', 'Action', 'Device Types', and 'Interfaces'. A sidebar on the left contains various icons for navigation. The main content area displays a list of devices. The selected device, '987654321', is an 'Ultrasonic_sensor' that is 'Disconnected'. Below the device header, there is a tabbed interface with 'Identity', 'Device Information', 'Recent Events', 'State', and 'Logs'. The 'Recent Events' tab is active, showing 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 similar, in 'json' format, received 'a few seconds ago'. Below the table, there is a section for 'demo_123' with three sub-devices: '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 top navigation bar includes 'SAVE', 'SHARE', and 'Docs'. The main content area is divided into two sections: 'sketch.ino' and 'Simulation'. The 'sketch.ino' section displays the following code:

```
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 if (dist > 101 && dist < 400) {
106   String payload = "{"normal distance\":";
107   payload += dist;
108   payload += "}";
109
110   Serial.print("\n");
111   Serial.print("Sending payload: ");
112   Serial.println(payload);
113   if (client.publish(publishTopic, (char*) payload.c_str()))
114   {
115     Serial.println("Publish OK");
116   }
117 }
```

The 'Simulation' section shows a visual representation of the ultrasonic distance sensor circuit. A status bar at the top of the simulation area indicates '00:16.527' and '74%'. Below the circuit diagram, there is a text area showing the simulation output:

```
Publish OK
Sending payload: {"Alert Distance":60.94}
Publish OK
Sending payload: {"Alert Distance":60.94}
Publish OK
```

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 (green). 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 received from the flow. The messages are JSON objects containing distance data.

Flow 1

debug

Normal Distance: 54.94

11/1/2022, 9:33:21 AM node: debug 1

lot: 2/type/Ultrasonic_sensorId/687854321/evts/Data/frnt/json

msg.payload: Object

Normal Distance: 60.94

11/1/2022, 9:34:30 AM node: debug 1

lot: 2/type/Ultrasonic_sensorId/687854321/evts/Data/frnt/json

msg.payload: Object

Normal Distance: 67.94

11/1/2022, 9:34:30 AM node: debug 1

lot: 2/type/Ultrasonic_sensorId/687854321/evts/Data/frnt/json

msg.payload: Object

Normal Distance: 94.96

11/1/2022, 9:34:31 AM node: debug 1

lot: 2/type/Ultrasonic_sensorId/687854321/evts/Data/frnt/json

msg.payload: Object

Alert distance: 108.97