

Publish Data to the IBM Cloud

Team ID	PNT2022TMID00340
Project Name	Hazardous Area Monitoring for Industrial Plant powered by IoT

WOKWI Simulation using ESP32 and Ultrasonic Sensor:

The screenshot displays the WOKWI simulation interface. On the left, the 'sketch.ino' file is open, showing the Arduino code for an ESP32 microcontroller. The code includes the necessary libraries for Wi-Fi and MQTT, defines the pin numbers for the ultrasonic sensor, and sets up the IBM Watson IoT Platform credentials and device information. The main loop publishes distance data to the IoT platform. On the right, the 'Simulation' window shows a visual representation of the ESP32 and the ultrasonic sensor. Below the simulation, the output console shows the following messages:

```

Publish ok
Distance in Centimeters: 84
Sending payload: {"Alert Distance":84.00}
Publish ok
Distance in Centimeters: 35
Sending payload: {"Alert Distance":35.00}
Publish ok
  
```

IBM WATSON PLATFORM DEVICE-EVENT LOG:

The screenshot shows the IBM Watson IoT Platform dashboard. The 'Browse' tab is selected, and the 'Device ID' column is filtered to show the device 'ibm4-4'. The device is in a 'Connected' state. The 'Recent Events' tab is selected, showing a list of events received from the device. The events are as follows:

Event	Value	Format	Last Received
Data	{"Alert Distance":76}	json	a few seconds ago
Data	{"Alert Distance":80}	json	a few seconds ago
Data	{"Alert Distance":73}	json	a few seconds ago
Data	{"Alert Distance":69}	json	a few seconds ago
Data	{"Alert Distance":68}	json	a few seconds ago

IBM WATSON PLATFORM DEVICE-EVENT PAYLOAD:

The screenshot displays the IBM Watson IoT Platform interface. A modal window titled "Event Payload" is open, showing the following details:

- Event Name: Data
- Time Received: Nov 7, 2022 10:55 PM
- Event Data (JSON):

```
{  "Alert Distance": 80}
```

The background shows a list of events for device "ibm/A-4". The table below represents the data visible in the interface:

Event	Value
Data	(*Alert Distance: 80)
Data	(*Alert Distance: 80)
Data	(*Alert Distance: 80)
Data	(*Alert Distance: 80)
Data	(*Alert Distance: 80)

IBM WATSON PLATFORM DEVICE-BOARD AND GRAPHICAL REPRESENTATION OF DATA FROM WOKWI SIMULATION:



IBM CLOUDANT DB DATA LOG:

[illegible]