

Assignment -4

ESP32 Program

Assignment Date	29 OCTOBER 2022
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Maximum Marks	2 Marks

Question-1:

Write code and connections in wokwi for ultrasonic sensor.

Whenever distance is less than 100 cms send "alert" to ibm cloud and display in device recent events

Upload document with wokwi share link and images of ibm cloud

WOKWi Link: <https://wokwi.com/projects/346841237203976788>

The screenshot shows the Wokwi web interface. On the left, the code for 'esp32-blink.ino' is displayed. It includes libraries for WiFi, WiFiClient, and PubSubClient. It defines trigPin as 5 and echoPin as 18. It defines sound speed in cm/uS as 0.034 and CH_TO_INCH as 0.393701. It uses a long duration variable and float variables for distance in cm and inches. The code sets up a callback function to send data to IBM Cloud Watson IoT. The simulation output on the right shows the sensor detecting a distance of 85.41 inches (216.94 cm) and sending a JSON payload: {"Distance (cm)":216.94}.

The screenshot shows the IBM Watson IoT Platform interface. The 'Recent Events' tab is selected, showing a table of events. The table has columns for Event, Value, Format, and Last Received. The events are listed as follows:

Event	Value	Format	Last Received
Data	{"Distance (cm)":217.01}	json	a few seconds ago
Data	{"Distance (cm)":216.94}	json	a minute ago
Data	{"Distance (cm)":216.94}	json	a minute ago
Data	{"Distance (cm)":217.38}	json	2 minutes ago
Data	{"Distance (cm)":216.97}	json	2 minutes ago