

DATE	02 November 2022
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MAXIMUM MARKS	2 Marks

WOKWI WEB URL:

<https://wokwi.com/projects/346135768783127123>

SNAPSHOTS OF SIMULATION:

The screenshot displays the Wokwi web interface for a project titled "sketch.ino". The code on the left is as follows:

```

1 #include <WiFi.h>
2 #include <PubSubClient.h>
3 void callback(char* topic, byte* payload, unsigned int payloadLength);
4 #define ORG "29mvee"
5 #define DEVICE_TYPE "kumudhapriya"
6 #define DEVICE_ID "kumudhapriya"
7 #define TOKEN "zwFfdq3G(hNs+D6tI"
8 String data;
9
10 char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
11 char publishTopic[] = "iot-2/evt/KUMUDHAPRIYA.T/fmt/json";
12 char subscribeTopic[] = "iot-2/cmd/test/fmt/String";
13 char authMethod[] = "use-token-auth";
14 char token[] = TOKEN;
15 char clientId[] = "c:" + ORG + ":" + DEVICE_TYPE + ":" + DEVICE_ID;
16
17 WiFiClient wifiClient;
18 PubSubClient client(server, 1883, callback, wifiClient);
19
20 #define ECHO_PIN 12
21 #define TRIG_PIN 13
22 #define led 14
23
24 void setup() {
25   // put your setup code here, to run once:
26   Serial.begin(115200);
27   pinMode(led, OUTPUT);
28   pinMode(TRIG_PIN, OUTPUT);
29   pinMode(ECHO_PIN, INPUT);

```

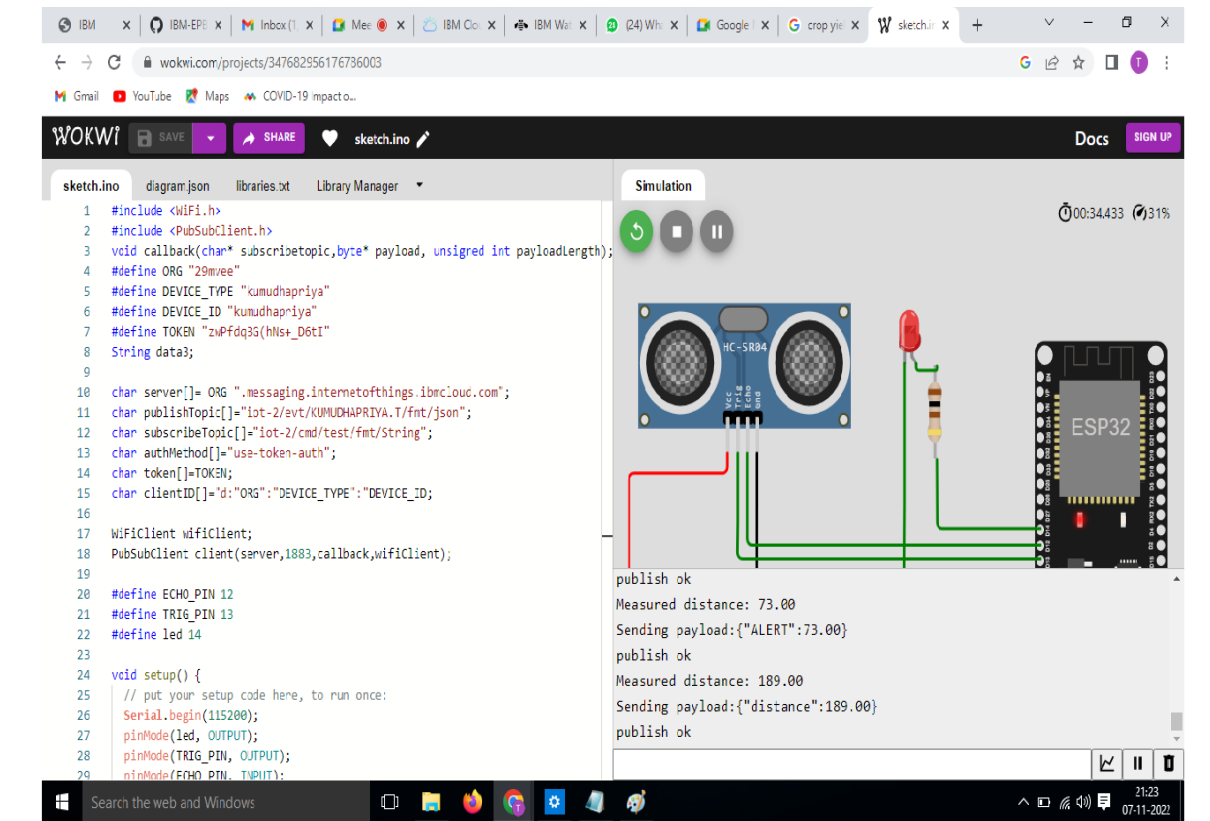
The simulation window on the right shows the following output:

```

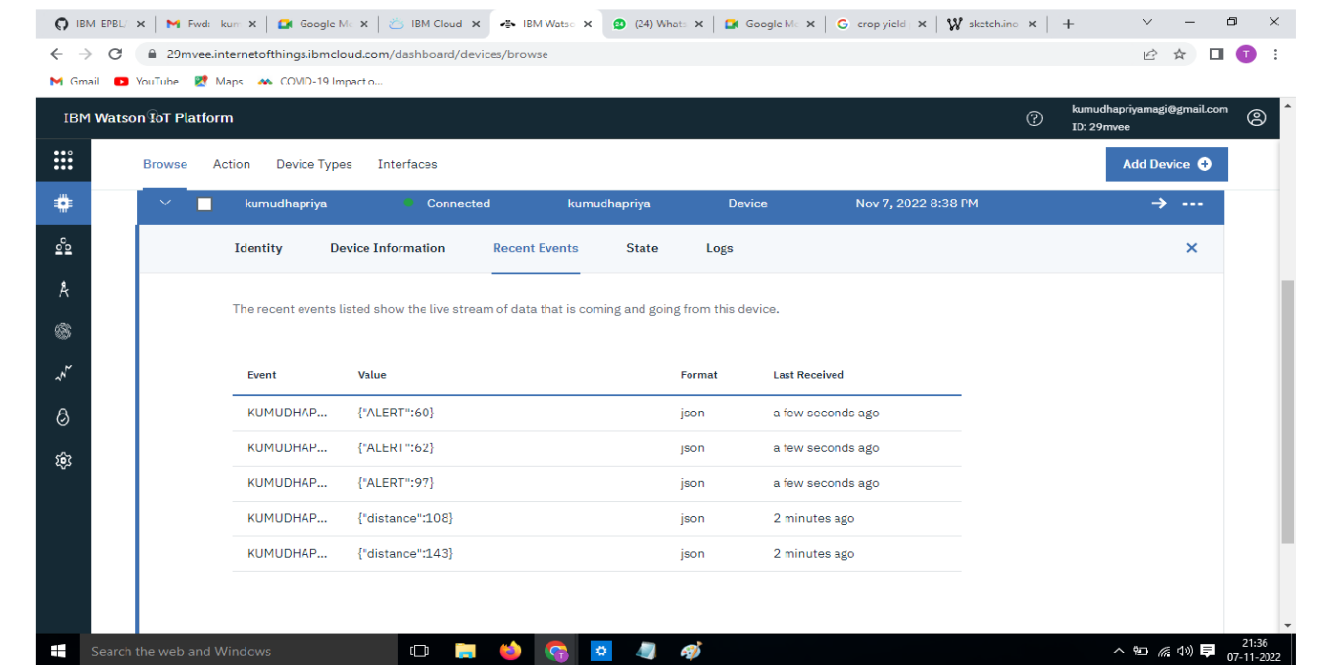
publish ok
Measured distance: 108.00
Sending payload: {"distance":108.00}
publish ok
Reconnecting to 29mvee.messaging.internetofthings.ibmcloud.com
iot-2/cmd/test/fmt/String
subscribe to cmd ok

```

The simulation also shows a timer at 00:05.366 and a CPU usage of 35%.



IMAGES OF IBM CLOUD:



IBM Watson IoT Platform

29mvee.internetofthings.ibmcloud.com/dashboard/devices/browse

Identity Device Information Recent Events State Logs

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

Event	Value	Format	Last Received
KUMUDHAP...	{"distance":190}	json	a few seconds ago
KUMUDHAP...	{"distance":199}	json	a minute ago
KUMUDHAP...	{"ALERT":78}	json	2 minutes ago
KUMUDHAP...	{"ALERT":41}	json	5 minutes ago
KUMUDHAP...	{"ALERT":68}	json	6 minutes ago

IBM Watson IoT Platform

29mvee.internetofthings.ibmcloud.com/dashboard/devices/browse

Identity Device Information Recent Events State Logs

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

Event	Value	Format	Last Received
KUMUDHAP...	{"ALERT":41}	json	a few seconds ago
KUMUDHAP...	{"ALERT":23}	json	a few seconds ago
KUMUDHAP...	{"distance":115}	json	a few seconds ago
KUMUDHAP...	{"ALERT":88}	json	a few seconds ago
KUMUDHAP...	{"distance":116}	json	a minute ago