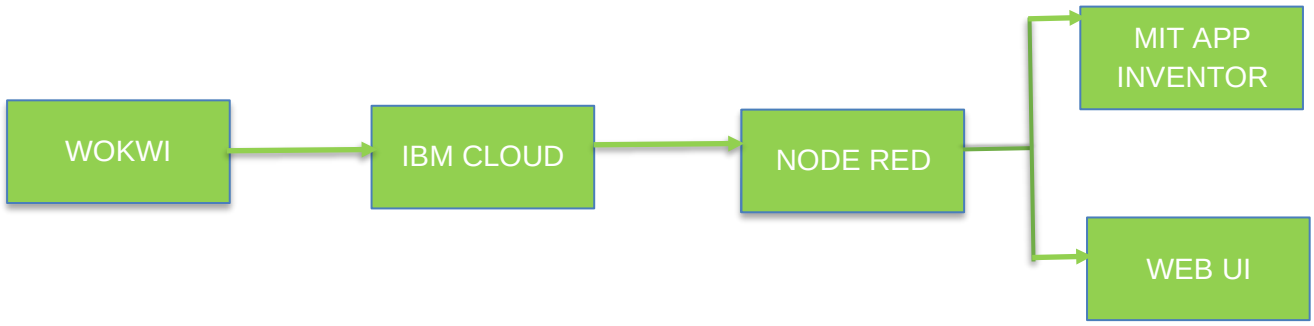
Project Development Phase
Sprint - 2

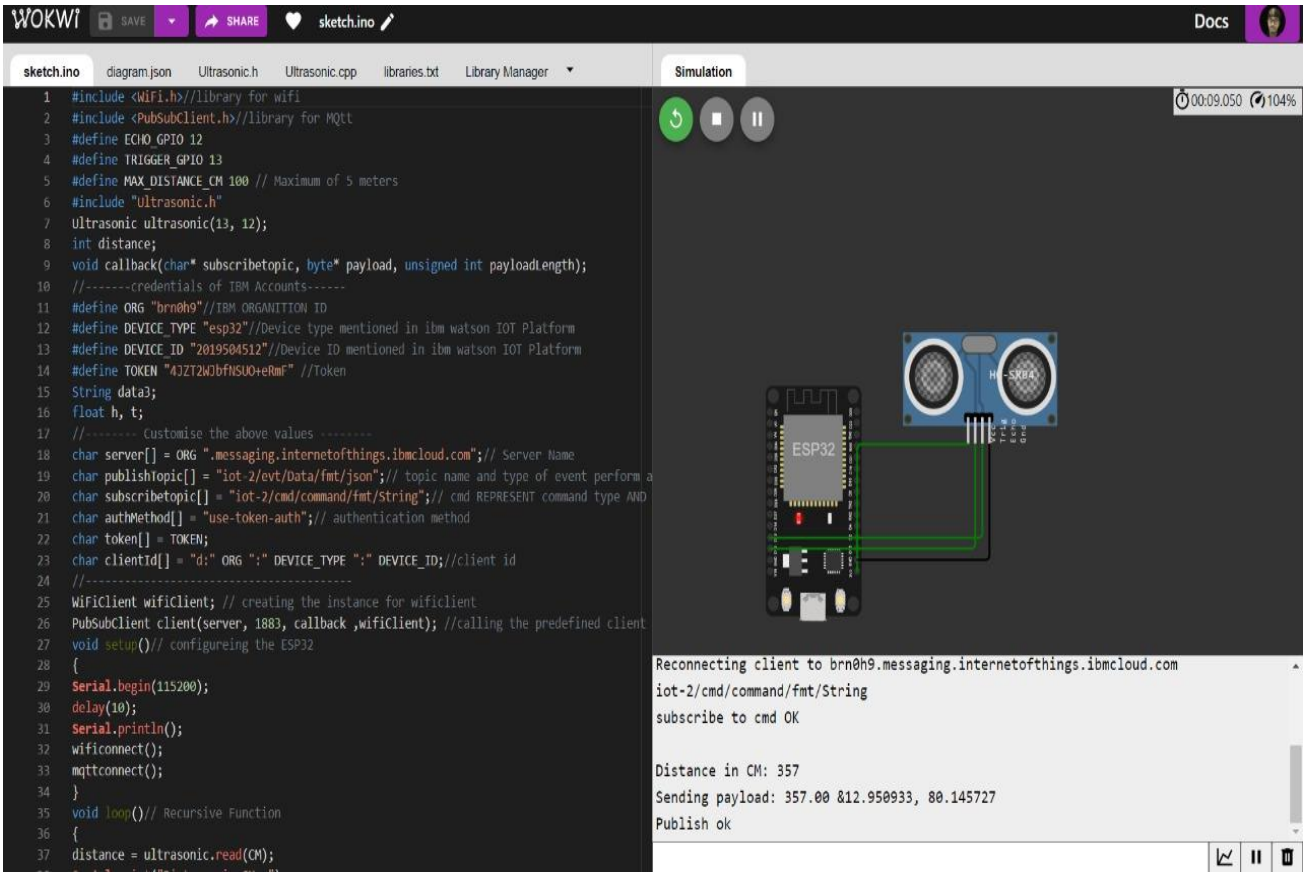
Date	29 October 2022
Team ID	PNT2022TMID35869
Project Name	Smart waste management system
Maximum Marks	4 Marks

WORKFLOW:

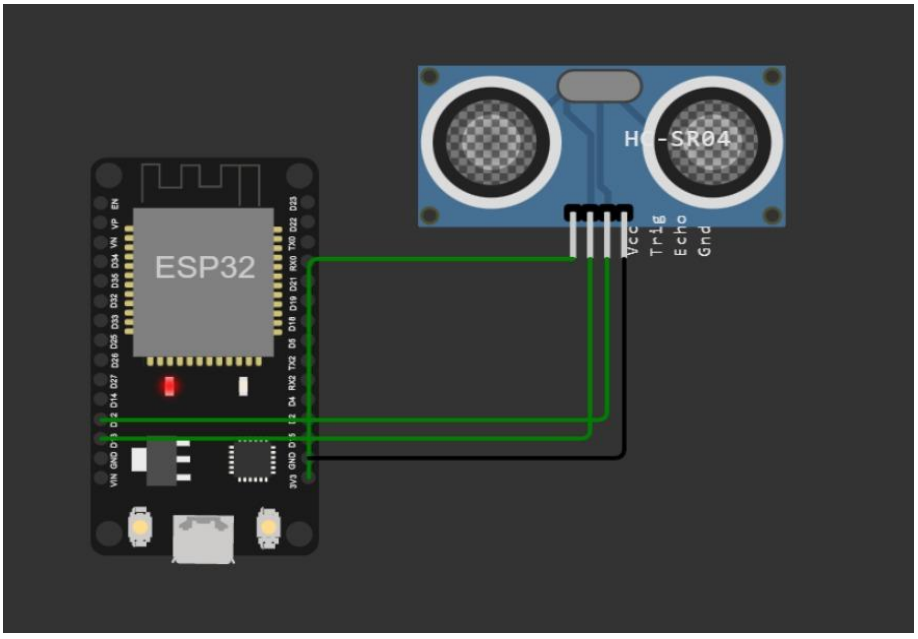


Sprint 2 – We have attached the wokwi code and wokwi simulation

Wokwi simulation:




```
#include <WiFi.h>//library for wifi
#include <PubSubClient.h>//library for MQtt
#define ECHO_GPIO 12
#define TRIGGER_GPIO 13
#define MAX_DISTANCE_CM 100 // Maximum of 5 meters
#include "Ultrasonic.h"
Ultrasonic ultrasonic(13, 12);
int distance;
void callback(char* subscribetopic, byte* payload, unsigned int payloadLength);
//-------credentials of IBM Accounts------
#define ORG "brn0h9"//IBM ORGANITION ID
#define DEVICE_TYPE "esp32"//Device type mentioned in ibm watson IOT Platform
#define DEVICE_ID "2019504512"//Device ID mentioned in ibm watson IOT Platform
#define TOKEN "4JZT2WJbfNSUO+eRmF" //Token
String data3;
float h, t;
//-------- Customise the above values --------
char server[] = ORG ".messaging.internetofthings.ibmcloud.com";// Server Name
char publishTopic[] = "iot-2/evt/Data/fmt/json";// topic name and type of event perform a
char subscribetopic[] = "iot-2/cmd/command/fmt/String";// cmd REPRESENT command type AND
char authMethod[] = "use-token-auth";// authentication method
char token[] = TOKEN;
char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;//client id
//-----------------------------------------
WiFiClient wifiClient; // creating the instance for wificlient
PubSubClient client(server, 1883, callback ,wifiClient); //calling the predefined client
void setup()// configureing the ESP32
{
Serial.begin(115200);
delay(10);
Serial.println();
wificonnect();
mqttconnect();
}
void loop()// Recursive Function
{
distance = ultrasonic.read(CM);
```



SERIAL MONITOR OUTPUT:

```
Connecting to ...
WiFi connected
IP address:
10.10.0.2
Reconnecting client to brn0h9.messaging.internetofthings.ibmcloud.com
iot-2/cmd/command/fmt/String
subscribe to cmd OK

Distance in CM: 357
Sending payload: 357.00 &12.950933, 80.145727
Publish ok
Distance in CM: 357
Sending payload: 357.00 &12.950933, 80.145727
Publish ok
```

Wokwi simulation: https://wokwi.com/projects/348234599030063698