

Project Development Phase

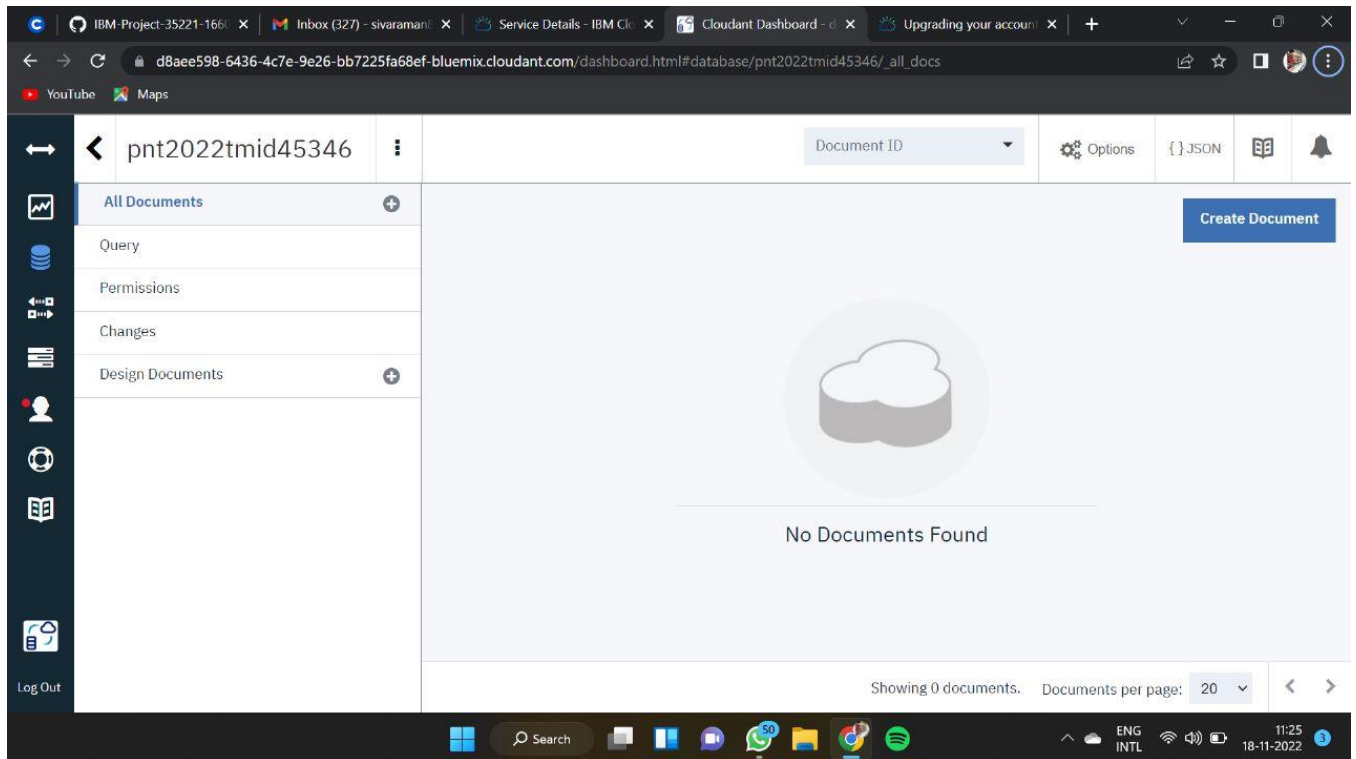
Sprint - 2

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|--------------|---|
| Date | 10 November 2022 |
| Team ID | PNT2022TMID45346 |
| Project Name | Smart Waste Management System for Metropolitan Cities |

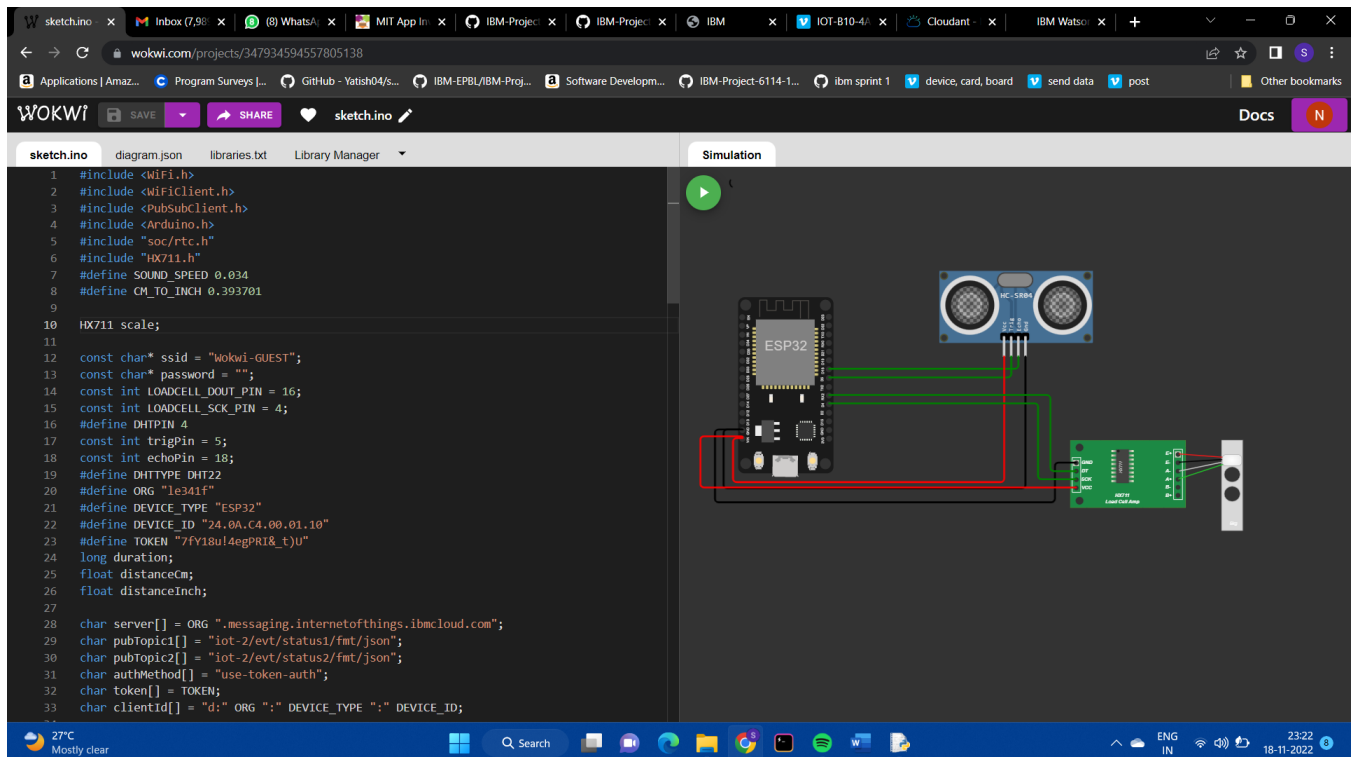
INITIALISE CLOUDANT:

The screenshot displays the IBM Cloud console interface for a resource named 'Cloudant-i5'. The top navigation bar includes the IBM Cloud logo, a search bar, and user information. The main content area shows the 'Cloudant-i5' resource as 'Active' with an 'Add tags' link. A sidebar on the left lists 'Manage', 'Service credentials', 'Plan', and 'Connections'. The 'Overview' tab is selected, displaying deployment details: CRN (crm:v1:bluemix:public:cloudantnosqldb:au-syd:a/dd35ee5ef40f430699e60a1df46a8518:e993c4cf-a323-4bd7-8e82-d7313b5360a1::), Location (Sydney), External endpoint (https://d8aee598-6436-4c7e-9e26-bb7225fa68ef-bluemix.cloudant.com), External endpoint (preferred) (https://d8aee598-6436-4c7e-9e26-bb7225fa68ef-bluemix.cloudantnosqldb.appdomain.cloud), and Authentication methods (IBM Cloud IAM). A 'Launch Dashboard' button is visible in the top right of the details section.

CREATE DATABASE:



LINK IOT DEVICE TO CLOUD :



Wokwi.com interface showing a sketch for an ESP32 connected to an HC-SR04 ultrasonic sensor and a DHT22 temperature and humidity sensor. The sketch is configured to connect to a Wokwi-GUEST WiFi network and send data to the IBM Cloud IoT platform.

```

1 #include <WiFi.h>
2 #include <WiFiClient.h>
3 #include <PubSubClient.h>
4 #include <Arduino.h>
5 #include "soc/rtc.h"
6 #include "HX711.h"
7 #define SOUND_SPEED 0.034
8 #define CM_TO_INCH 0.393701
9
10 HX711 scale;
11
12 const char* ssid = "Wokwi-GUEST";
13 const char* password = "";
14 const int LOADCELL_DOUT_PIN = 16;
15 const int LOADCELL_SCK_PIN = 4;
16 #define DHTPIN 4
17 const int trigPin = 5;
18 const int echoPin = 18;
19 #define DHTTYPE DHT22
20 #define ORG "le341f"
21 #define DEVICE_TYPE "ESP32"
22 #define DEVICE_ID "24.0A.C4.00.01.10"
23 #define TOKEN "7fy18u14egPRI&t)U"
24 long duration;
25 float distanceCm;
26 float distanceInch;
27
28 char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
29 char pubTopic1[] = "iot-2/evt/status1/fmt/json";
30 char pubTopic2[] = "iot-2/evt/status2/fmt/json";
31 char authMethod[] = "use-token-auth";
32 char token[] = TOKEN;
33 char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;

```

Simulation output:

```

Connecting to Wokwi-GUEST....
WiFi connected, IP address: 10.10.0.2
Reconnecting client to le341f.messaging.internetofthings.ibmcloud.com

```

SEND DATA TO CLOUD :

Wokwi.com interface showing the same sketch as above, but with the simulation output displaying the distance and weight data being sent to the cloud.

```

Distance (cm): 399.96
Distance (cm): 399.96
43
Sending payload: {"d":{"Name":"24.0A.C4.00.01.10","distance":399.96,"Weight":43}}
Publish ok
Distance (cm): 399.92
Distance (cm): 399.96

```