Team ID	**PNT2022TMID14548**
Date	**25 November2022**
Project Title	**IoT Based Safety Gadget for Child Safety Monitoring and Notification**

Sprint 2 is about **LOGINandNOTIFIACATION** of the IoT device in Parent's Web Application for getting information about Child's Status. ***LOGIN:***

This Coding is to built login page of parent's application to get information about child's condition. **Coding:**

```
<!DOCTYPE html>
<html> <head>
<meta name="viewport" content="width=device-width, initial-scale=1">
<title> Login Page </title>
<style>
Body {
  font-family: Calibri, Helvetica, sans-serif; background-
  color: #9FE2BF;
}
button {
      background-color: #9FE2BF;
```

```
        width: 100%; color:
         black; padding:
         15px; margin:
         10px 0px; border:
         none; cursor:
         pointer;
          } form { border: 3px solid
 #f1f1f1;
    }
input[type=text], input[type=password]
        { width: 100%; margin: 8px 0;
        padding: 12px 20px; display:
        inline-block; border: 2px white;
        box-sizing: border-box;
    }
button:hover {
          opacity: 0.7;
    }
  .cancelbtn {
         width: auto; padding:
         10px 18px; margin:
         10px 5px;
    }
.container { padding: 25px;
        background-color: #CCCCFF;
```

```
    }
</style> </head>
<body>
    <center> <h1> Login Form </h1> </center>
    <form>
        <div class="container">
        <label>Device ID/Number: </label>
            <input type="password" placeholder="Enter Password" name="password" required>
            <label>E-Mail : </label>
            <input type="text" placeholder="Enter Username" name="username" required>
            <label>Password : </label>
            <input type="password" placeholder="Enter Password" name="password" required>
            <button type="submit">Login</button>
            <button class="loginBtn loginBtn--facebook">Login with Facebook.</button>
            <button class="loginBtn loginBtn--google">Login with Google.</button>
            <input type="checkbox" checked="checked"> Remember me
            <button type="button" class="cancelbtn"> Cancel</button>
            Forgot <a href="#"> password? </a>
        </div>
    </form>
</body>
</html>
```

NOTIFICATION:

This coding will make connection between IoT Device & Parent's application. When the child cross across the geofence message will be notified on parent's application.

Coding:

```
 #include<WiFi.h>//library for wifi #include<PubSubClient.h>//library for MQTT
void callback(char* subscribetopic, byte* payload,unsigned int payloadlength);
//---------------credentials of IBM Account------
#define ORG "45z3o2"// IBM ORGANIZATION ID
#define DEVICE_TYPE "ESP32_Controller"//DEVICE TYPE MENTIONED IN IOT WATSON PLATFORM
#define DEVICE_ID "bme2"//DEVICE ID MENTIONED IN IOT WATSON PLATEFORM
#define    TOKEN    "OKZ+q@JfPWDOd6wBTj"//Token
 String data3;
float dist;
//------------customize the above value-------
char server[]=ORG ".messaging.internetofthings.ibmcloud.com";//server name
char publishtopic[]="ultrasonic/evt/Data/fmt/json";/*topic name and type of event perform
  and format in which data to be send*/
char subscribetopic[]="ultrasonic/cmd/test/fmt/String";/*cmd REPRESENT Command tupe and
COMMAND IS TEST OF FORMAT STRING*/
```

```
char authMethod[]="use-token-auth";//authentication method char
token[]=TOKEN;
char clientid[]="d:" ORG ":" DEVICE_TYPE":" DEVICE_ID;//CLIENT ID
//  .....
WiFiClient wifiClient;// creating an instance for wificlient
PubSubClient client(server, 1883 , callback , wifiClient);/*calling the predefined client id by passing parameter like
server id,portand wificredential*/ int LED =4; int trig =5; int echo=18; void setup(){ Serial.begin(115200);
pinMode(trig,OUTPUT); pinMode(echo,INPUT); pinMode(LED,OUTPUT); delay(10);
   Serial.println(); wificonnect();
   mqttconnect();
}
void loop()
   {                digitalWrite(trig,LOW);
   digitalWrite(trig,HIGH);
   delayMicroseconds(10);
   digitalWrite(trig,LOW);            float
   dur=pulseIn(echo,HIGH);        float
   dist=(dur * 0.0343)/2;
   Serial.print("distance in cm");
   Serial.println(dist); PublishData(dist);
   delay(1000);
   if
      (!client.loop()){ mqttconne
```

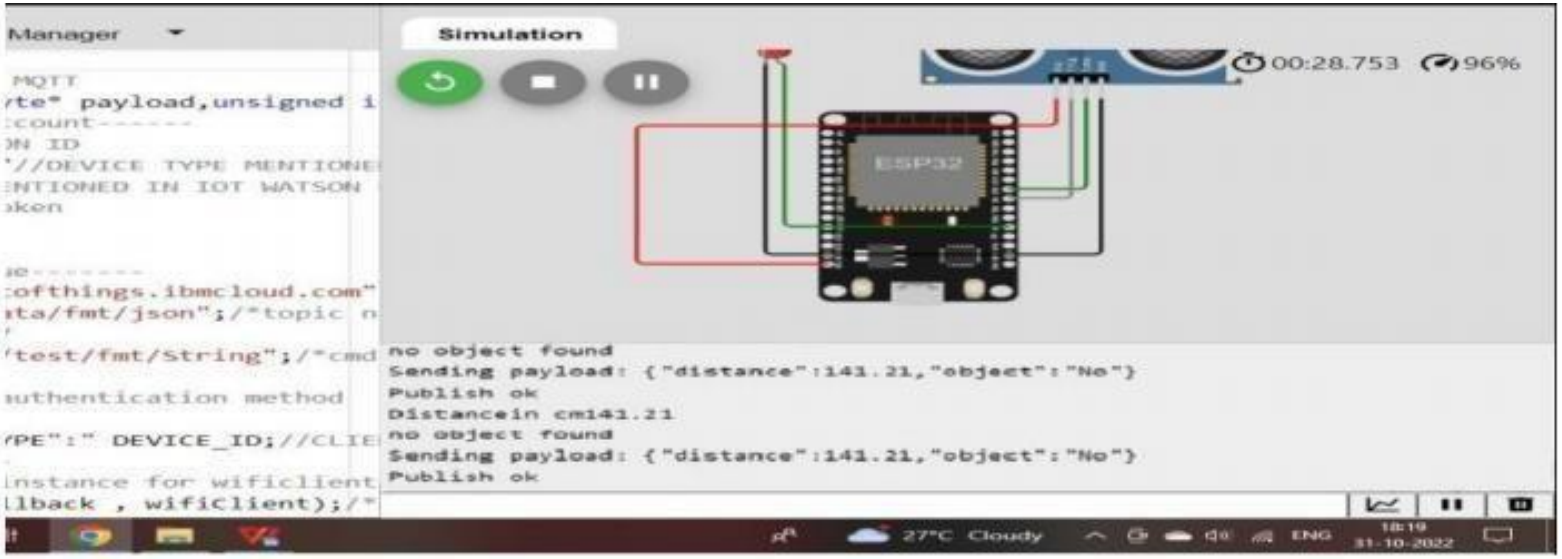
```
        ct();
    } }
/*.....retriving to cloud..... */ void PublishData(float
    dist){ mqttconnect();//function call for connecting to ibm
    /*creating the string in form of JSON to update the data to ibm cloud*/
    String object;
    if(dist<100)
    {   digitalWrite(LED,HIGH);   Serial.println("no
    object is near"); object="Near"; } else
    { digitalWrite(LED,LOW); Serial.println("no
        object found"); object="No";
    }
    String payload="{\"distance\":"; payload
    +=dist; payload +="," "\"object\":\"";
    payload += object; payload += "\"}";

            Serial.print("Sending payload:            ");
    Serial.println(payload); if(client.publish(publishtopic, (char*) payload.c_str())){
        Serial.println("Publish ok");/* if its sucessfully upload data on the cloud then it will print publish ok in serial monitor or else it
        will print publish failed*/
    } else{
        Serial.println("Publish failed");
    }
```

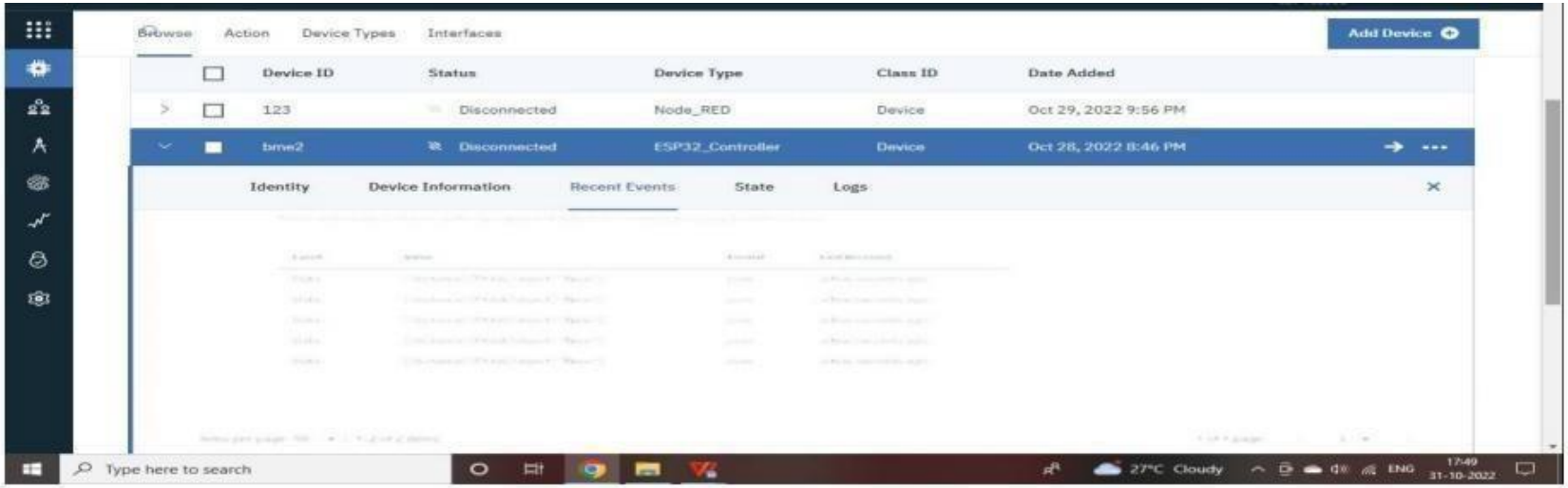
```
} void
    mqttconnect(){ if(!clie nt.connected()){
        Serial.print("Reconnecting client to "); Serial.println(server);
        while(!!!client.connect(clientid,authMethod, token)){
            Serial.print("."); delay(500);
        }
        initManagedDevice();
        Serial.println();
    } }
void wificonnect()//function defenition for wificonnect
{
    Serial.println();
    Serial.print("Connecting to ");
    WiFi.begin("vivo 1816", "taetae95",6);//PASSING THE WIFI CREDIDENTIALS TO ESTABLISH CONNECTION
    while
        (WiFi.status() !=WL_CONNECTED){ de
        lay(500);
        Serial.print("."); }
    Serial.println("");
    Serial.println("WiFi connected");
    Serial.println("IP address");
    Serial.println(WiFi.localIP());
} void initManagedDevice(){ if(client.subscribe(subscribetopic)
```

```
  ){
    Serial.println((subscribetopic));
    Serial.println("subscribe to cmd OK");
  }else{
    Serial.println("subscribe to cmd failed");
  }
}
void callback(char* subscribetopic,byte*payload,unsigned int payloadLength)
{
  Serial.print("callback invoked for topic: ");
  Serial.println(subscribetopic); for(int i=0; i<
  payloadLength; i++){
    //Serial.print((char)payload[i]); data3
    +=(char)payload[i];
  }
  //Serial.println("dta: "+ data3);
  //if(data3=="Near")
  //{
  //Serial.println(data3);
  //digitalWrite(LED,HIGH);
  //}
  //else //{
```

```
    //Serial.println(data3);
    //digitalWrite(LED,LOW);//} data3="";
}
```

Output:




Browse
Action
Device Types
Interfaces
Add Device
Device ID
Status
Device Type
Class ID
Date Added
123
Disconnected
Node_RED
Device
Oct 29, 2022 9:56 PM
bnve2
Disconnected
ESP32_Controller
Device
Oct 28, 2022 8:46 PM
Identity
Device Information
Recent Events
State
Logs
Type here to search
27°C Cloudy
ENG
17:49
31-10-2022