TEAM ID : PNT2022TMID19071

Date	5November2022
ProjectTitle	IOTBasedSafetyGadgetforChildSafetyMonitoringandNotification

Sprint 2 is about **LOGIN and NOTIFIACATION** of the IoT device in Parent's Web Application for gettinginformationaboutChild'sStatus.

LOGIN:

ThisCodingistobuiltloginpageofparent'sapplicationtogetinformationaboutchild'scondition.

Coding:

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

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

```
        width:auto;padding:
        10px
        18px;margin:10px5p
        x;
    }
 .container{
        padding:25px;
        background-color:#CCCCFF;
    }
</style></head>
<body>
    <center><h1>LoginForm</h1></center>
    <form>
        <divclass="container">
        <label>DeviceID/Number:</label>
            <inputtype="password"placeholder="EnterPassword"name="password"required>
            <label>E-Mail:</label>
            <inputtype="text"placeholder="EnterUsername"name="username"required>
            <label>Password:</label>
            <inputtype="password"placeholder="EnterPassword"name="password"required>
            <buttontype="submit">Login</button>
            <buttonclass="loginBtnloginBtn--facebook">LoginwithFacebook.</button>
            <buttonclass="loginBtnloginBtn--google">LoginwithGoogle.</button>
```

```
            <inputtype="checkbox"checked="checked"> Rememberme
            <button type="button" class="cancelbtn">
            Cancel</button>Forgot<ahref="#"> password? </a>
        </div>
    </form>
</body>
</html>
```

NOTIFICATION:

This coding will make connection between IoT Device & Parent's application. When the child crossacrossthegeofence messagewillbenotifiedonparent'sapplication.

Coding:

```
 #include<WiFi.h>//libraryforwifi#include<PubSubClient.h>
//libraryforMQTT
voidcallback(char*subscribetopic,byte*payload,unsignedintpayloadlength);
//---------------credentialsofIBMAccount------
#defineORG"45z3o2"//IBMORGANIZATIONID
#defineDEVICE_TYPE"ESP32_Controller"//DEVICETYPEMENTIONEDINIOTWATSONPLATFORM
#defineDEVICE_ID"bme2"//DEVICEIDMENTIONEDINIOTWATSONPLATEFORM
#define TOKEN
"OKZ+q@JfPWDOd6wBTj"//TokenStringdata3;
floatdist;
//------------customizetheabovevalue-------
charserver[]=ORG ".messaging.internetofthings.ibmcloud.com";//server name
charpublishtopic[]="ultrasonic/evt/Data/fmt/json";/*topicnameandtypeofeventperformandfor
 matinwhichdatatobesend*/
charsubscribetopic[]="ultrasonic/cmd/test/fmt/String";/*cmdREPRESENTCommandtupeand
COMMANDISTESTOFFORMAT STRING*/
```

```
charauthMethod[]="use-token-auth";//authenticationmethod
chartoken[]=TOKEN;
charclientid[]="d:"ORG":"DEVICE_TYPE":"DEVICE_ID;//CLIENTID
//.....
WiFiClientwifiClient;//creatinganinstanceforwificlient
PubSubClient client(server, 1883 , callback , wifiClient);/*calling the predefined client
idbypassingparameterlikeserverid,portandwificredential*/
intLED=4;
inttrig=5;int
echo=18;voids
etup(){
  Serial.begin(115200);
  pinMode(trig,OUTPUT);
  pinMode(echo,INPUT);pin
  Mode(LED,OUTPUT);
  delay(10);Serial.println()
  ;wificonnect();mqttconne
  ct();
}
```

```
voidloop(){digitalWrite(trig,LO
  W); digitalWrite(trig,HIGH);
  delayMicroseconds(10);digi
  talWrite(trig,LOW);
  floatdur=pulseIn(echo,HIGH);
  floatdist=(dur*0.0343)/2;
  Serial.print("distance in
  cm");Serial.println(dist);Publi
  shData(dist);delay(1000);
  if
    (!client.loop()){
    mqttconnect();
  }
}
/*.....retriving    tocloud ..... */
voidPublishData(floatdist){mqttconnect();//functionc
  allforconnectingtoibm
  /*creatingthestringinformofJSONtoupdatethedatatoibmcloud*/Stringobject;
```

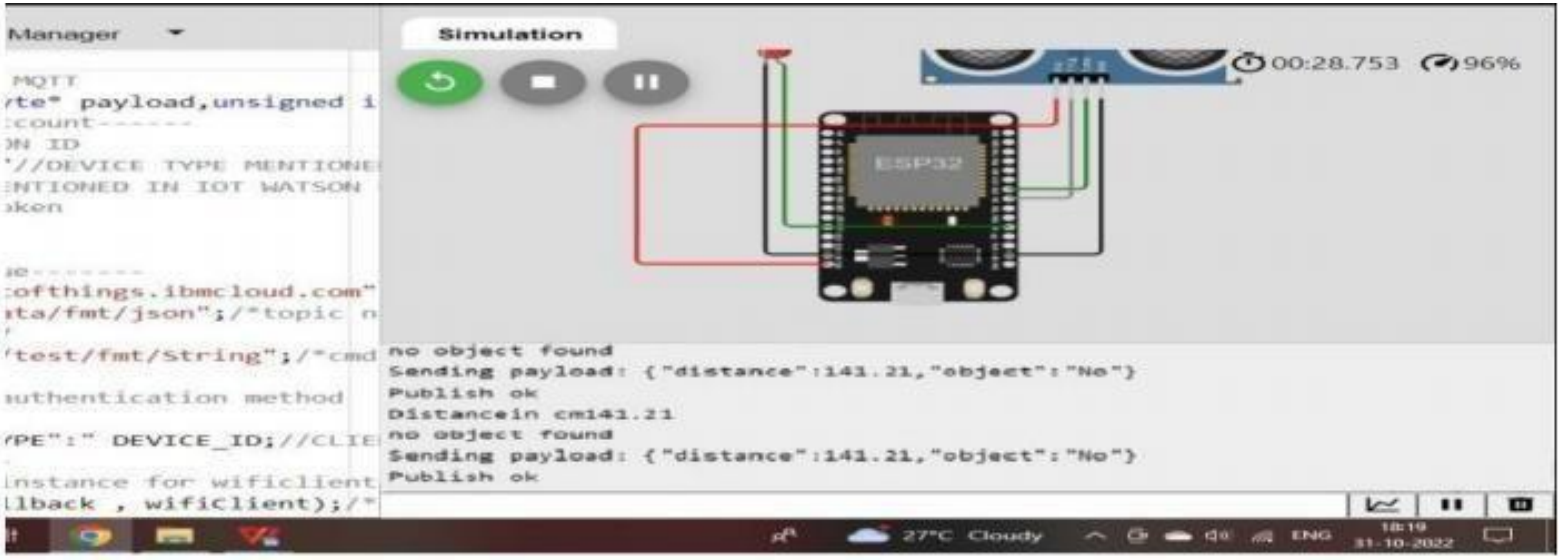
```
if(dist<100)
{
  digitalWrite(LED,HIGH);
  Serial.println("noobjectisnear");obj
  ect="Near";
}
else
{
  digitalWrite(LED,LOW);
  Serial.println("no object
  found");object="No";
}
String
payload="{\"distance\":";payloa
d+=dist;
payload +=","
"\"object\":\"";payload+=obj
ect;
payload+="\"}";

Serial.print("Sendingpayload:");
Serial.println(payload);
```

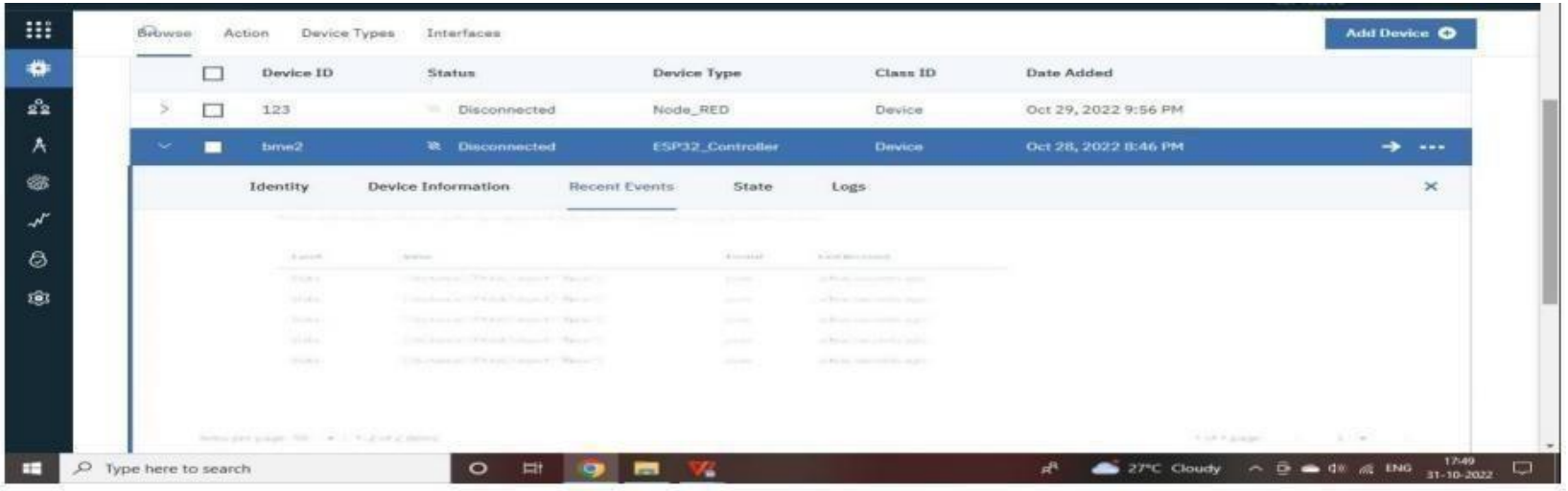
```
  if(client.publish(publishtopic,(char*)payload.c_str())){
    Serial.println("Publishok");/*ifitssucessfullyuploaddataonthecloudthenitwillprint publishokin serial
    monitororelseitwillprintpublishfailed*/
  }else{
    Serial.println("Publishfailed");
  }
}
voidmqttconnect(){if(!cli
  ent.connected()){
    Serial.print("Reconnectingclientto");
    Serial.println(server);while(!!!client.connect(clientid,aut
    hMethod,token)){
      Serial.print(".");
      delay(500);
    }
    initManagedDevice();
    Serial.println();
  }
}
voidwificonnect()//functiondefenitionforwificonnect
```

```
{
  Serial.println();Serial.print("Co
  nnectingto");
  WiFi.begin("vivo1816","taetae95",6);//PASSINGTHEWIFICREDIDENTIALSTOESTABLISHCONNECTION
  while(WiFi.status()!=WL_CONNECTED){delay
    (500);
    Serial.print(".");
  }
  Serial.println("");Serial.println("
  WiFi
  connected");Serial.println("IPad
  dress");Serial.println(WiFi.localI
  P());
}
voidinitManagedDevice(){if(client.su
  bscribe(subscribetopic)){
    Serial.println((subscribetopic));Serial.println("subscr
    ibetocmdOK");
  }else{
    Serial.println("subscribetocmdfailed");
  }
```

```
}
voidcallback(char*subscribetopic,byte*payload,unsignedintpayloadLength)
{
  Serial.print("callbackinvoked fortopic:");
  Serial.println(subscribetopic);for(i
  nti=0;i<payloadLength;i++){
    //Serial.print((char)payload[i]);dat
    a3+=(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:


Manager
Simulation
00:28.753
96%
ESP32
no object found
Sending payload: {"distance":141.21,"object":"No"}
Publish ok
Distancein cm141.21
no object found
Sending payload: {"distance":141.21,"object":"No"}
Publish ok
27°C Cloudy
ENG
18:19
31-10-2022


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
bme2
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