Project development phase
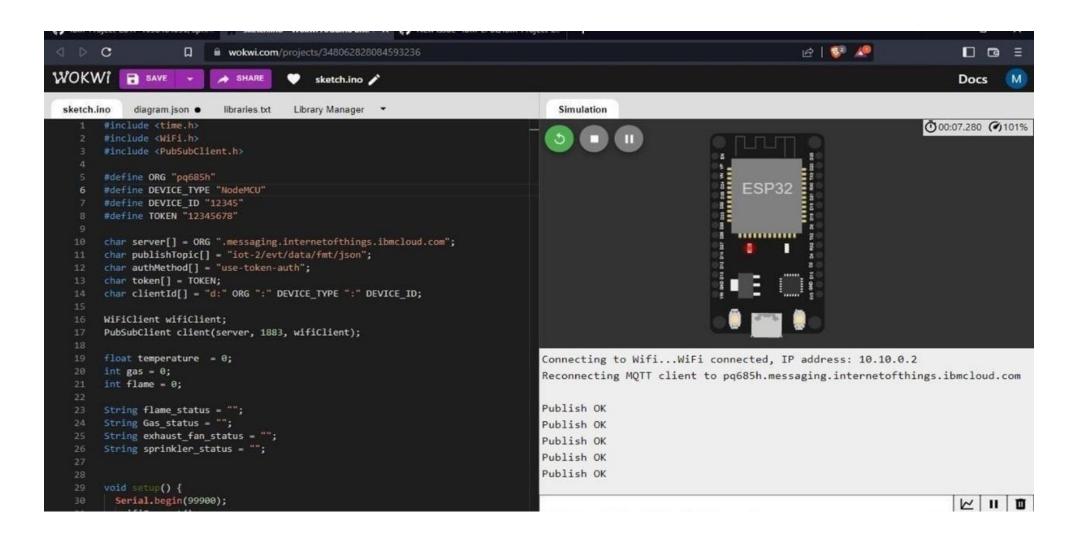
Sprint - II

Date	04 November 2022
Team ID	PNT2022TMID19483
Project Name	Project - Industry-specific intelligent fire management system

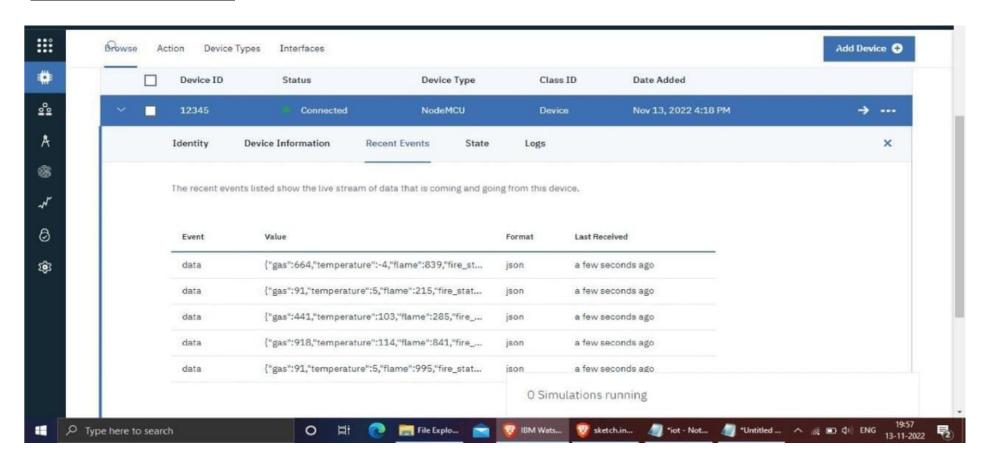**LINK:** https://wokwi.com/projects/348062828084593236

OUTPUT:

WOKWI OUTPUT


```
1   #include <time.h>
2   #include <WiFi.h>
3   #include <PubSubClient.h>
4
5   #define ORG "pq685h"
6   #define DEVICE_TYPE "NodeMCU"
7   #define DEVICE_ID "12345"
8   #define TOKEN "12345678"
9
10  char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
11  char publishTopic[] = "iot-2/evt/data/fmt/json";
12  char authMethod[] = "use-token-auth";
13  char token[] = TOKEN;
14  char clientId[] = "d:" ORG ":" DEVICE_TYPE ":" DEVICE_ID;
15
16  WiFiClient wifiClient;
17  PubSubClient client(server, 1883, wifiClient);
18
19  float temperature = 0;
20  int gas = 0;
21  int flame = 0;
22
23  String flame_status = "";
24  String Gas_status = "";
25  String exhaust_fan_status = "";
26  String sprinkler_status = "";
27
28
29  void setup() {
30    Serial.begin(99900);
```

Connecting to Wifi...WiFi connected, IP address: 10.10.0.2
Reconnecting MQTT client to pq685h.messaging.internetofthings.ibmcloud.com

Publish OK
Publish OK
Publish OK
Publish OK
Publish OK

IBM WATSON OUTPUT

CODE:

```
#include <time.h>
#include <WiFi.h>
#include <PubSubClient.h>

#define ORG "pq685h"
#define DEVICE_TYPE "NodeMCU"
#define DEVICE_ID "12345"
#define TOKEN "12345678"

char server[] = ORG ".messaging.internetofthings.ibmcloud.com";
char publishTopic[] = "iot-2/evt/data/fmt/json";
char authMethod[] = "use-token-auth";                    char token[]
= TOKEN;  char clientId[] = "d:" ORG ":" DEVICE_TYPE
```

```cpp
":" DEVICE_ID;

WiFiClient wifiClient;
PubSubClient client(server, 1883, wifiClient);

float temperature  = 0; int gas
= 0;   int
flame = 0;
String
flame_status
= "";
String Gas_status = "";
String exhaust_fan_status = "";
String sprinkler_status = "";


void setup() {   Serial.begin(99900);
wifiConnect();     mqttConnect();
}

void loop() {

  srand(time(0));

    //initial variables and random generated data
```

```
    temperature = random(-20,125);    gas
= random(0,1000);   int flamereading =
    random(200,1024); flame =
    map(flamereading,200,1024,0,2);    //set
    a flame status

    switch (flame) {    case 0:        flame_status
= "No Fire";        break;    case 1:
flame_status = "Fire is Detected";        break;
    }

    //send the sprinkler status

    if(flame==1){        sprinkler_status =
"Working";
    }    else{        sprinkler_status =
"Not Working";

    }
    //toggle the fan according to gas reading      if(gas
                            > 100){
        Gas_status = "Gas Leakage is Detected";        exhaust_fan_status = "Working";
```

```
    }
else{
      Gas_status = "No Gas Leakage is Detected";
exhaust_fan_status = "Not Working";
   }

   //json format for IBM Watson

   String payload = "{";
payload+="\"gas\":";     payload+=gas;
payload+=",";     payload+="\"temperature\":";
payload+=(int)temperature;
payload+=",";     payload+="\"flame\":";     payload+=flamereading;     payload+=",";
payload+="\"fire_status\":\""+flame_status+"\","; payload+="\"sprinkler_status\":\""+sprinkler_status+"\",";
    payload+="\"Gas_status\":\""+Gas_status+"\",";
    payload+="\"exhaust_fan_status\":\""+exhaust_fan_status+"\"}";     if(client.publish(publishTopic, (char*)
payload.c_str()))
   {
      Serial.println("Publish OK");
   }     else{
      Serial.println("Publish failed");
   }
   delay(1000);

if
```

```
(!client.loop())
    {
mqttConnect();
    }
}


void wifiConnect()
{
  Serial.print("Connecting to ");
  Serial.print("Wifi");
  WiFi.begin("Wokwi-GUEST", "", 6);
while (WiFi.status() != WL_CONNECTED)
  {
    delay(500);
    Serial.print(".");
  }
  Serial.print("WiFi connected, IP address: ");
  Serial.println(WiFi.localIP());

}


void mqttConnect()
{
```
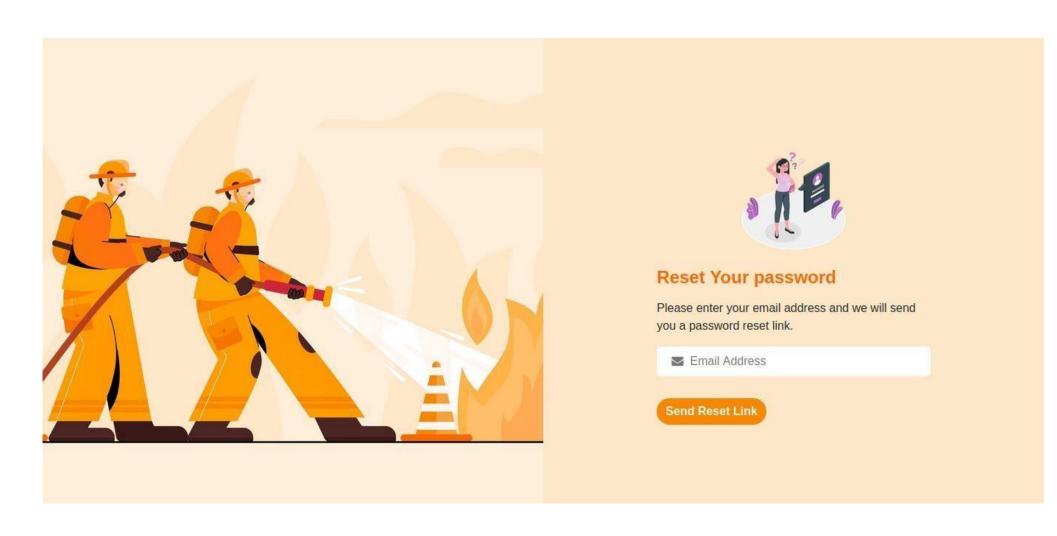
```
  if (!client.connected())
 {
    Serial.print("Reconnecting MQTT client to ");
Serial.println(server);      while
(!client.connect(clientId, authMethod, token))
   {
     Serial.print(".");
delay(500);
   }

   Serial.println();
 }
}
```

LOGIN PAGE OUTPUT:

FIRE MANAGEMENT

Login into your account

✉ Email Address

🔒 Password

☐ Remember me

Login

Forgot password?

RESET PAGE OUTPUT:

LOGIN CODE:

```html
<!DOCTYPE html>
<html>
<head>
        <title>Login</title>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
        <link href="style.css" rel="stylesheet" type="text/css">
        <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css">   <link
href="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-awesome.min.css" rel="stylesheet">  <script
src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
</head>
<body>
        <div class="container-fluid">
                <div class="row ">
                        <!-- IMAGE CONTAINER BEGIN -->
                        <div class="col-lg-6 col-md-6 d-none d-md-block infinity-image-container"></div>
                        <!-- IMAGE CONTAINER END -->

                        <!-- FORM CONTAINER BEGIN -->
                        <div class="col-lg-6 col-md-6 infinity-form-container">
                                <!-- <h4 class = "test" style="color:#fa6903;">FIRE MANAGEMENT</h4> -->
                                <div class="col-lg-9 col-md-12 col-sm-9 col-xs-12 infinity-form">
                                        <!-- Company Logo -->
                                        <div class="text-center mb-3 mt-5">
                                                <h4 class = "test" style="color:#fa6903;">FIRE MANAGEMENT</h4>
                                        </div>
                                        <div class="text-center mb-4">
                                <h4>Login into your account</h4>
```

```html
</div>
<!-- Form -->
            <form class="px-3">
                    <!-- Input Box -->
                    <div class="form-input">
                            <span><i class="fa fa-envelope-o"></i></span>
                            <input type="email" name="" placeholder="Email Address" tabindex="10"required>
                    </div>
                    <div class="form-input">
                            <span><i class="fa fa-lock"></i></span>
                            <input type="password" name="" placeholder="Password" required>
                    </div>
                    <div class="row mb-3">
                    <!-- Remember Checkbox -->
  <div class="col-auto d-flex align-items-center">
    <div class="custom-control custom-checkbox">
      <input type="checkbox" class="custom-control-input" id="cb1">
      <label class="custom-control-label text-black" for="cb1" style = >Remember me</label>
    </div>
  </div>
        </div>
        <!-- Login Button -->
  <div class="mb-3">
                                    <button type="submit" class="btn btn-block">Login</button>
                    </div>
                    <div class="text-right ">
  <a href="reset.html" class="forget-link">Forgot password?</a>
</div>
            </form>
    </div>
```

```
                    </div>
                    <!-- FORM CONTAINER END -->
                </div>
            </div>
    </div>
</body>
</html>
```

RESET CODE:

```
<!DOCTYPE html>
<html>
<head>
        <title>Reset</title>
        <meta charset="utf-8">
        <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
        <link href="style.css" rel="stylesheet" type="text/css">
        <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css">   <link
href="https://stackpath.bootstrapcdn.com/font-awesome/4.7.0/css/font-awesome.min.css" rel="stylesheet">  <script
src="https://code.jquery.com/jquery-3.5.1.slim.min.js"></script>
</head>
<body>
        <div class="container-fluid">
                <div class="row">
                        <!-- IMAGE CONTAINER BEGIN -->
                        <div class="col-lg-6 col-md-6 d-none d-md-block infinity-image-container"></div>
                        <!-- IMAGE CONTAINER END -->


                        <!-- FORM CONTAINER BEGIN -->
```

```html
<div class="col-lg-6 col-md-6 infinity-form-container">
    <div class="col-lg-8 col-md-12 col-sm-8 col-xs-12 infinity-form">
        <div class="text-center mb-3 mt-5">
            <img src="ps.webp" width="150px">
        </div>
<div class="reset-form d-block">
        <form class="reset-password-form px-3">
          <h4 class="mb-3" style="color:#fa6903">Reset Your password</h4>
                <p class="mb-3 text-black">
         Please enter your email address and we will send you a password reset link.
        </p>
        <div class="form-input">
                        <span><i class="fa fa-envelope"></i></span>
                        <input type="email" name="" placeholder="Email Address" tabindex="10"required>
            </div>
        <div class="mb-3">
                        <button type="submit" class="btn" >Send Reset Link</button>
            </div>
         </form>
        </div>


        <div class="reset-confirmation d-none px-3">
            <div class="mb-4">
                    <h4 class="mb-3">Link was sent</h4>
            <h6 class="text-white">Please, check your inbox for a password reset link.</h6>
            </div>

            <a href="login.html">
                    <button type="submit" class="btn">Login Now</button>
                    </a>
            <div>
        </div>
    </div>
```

```html
                                  <!-- FORM CONTAINER END -->
                    </div>
          </div>

<script type="text/javascript">
        function PasswordReset() {
        $('form.reset-password-form').on('submit', function(e) {      e.preventDefault();
$('.reset-form')
    .removeClass('d-block')
   .addClass('d-none');
            $('.reset-confirmation').addClass('d-block');
                });
        }

        window.addEventListener('load', function() {
PasswordReset();
        });
</script>

</body>
</html>
```

STYLE CODE:

```css
.container-fluid{
   background-color: black;
}

.infinity-image-container{     background:
```

```css
url('fire.jpg') center no-repeat;
background-size: cover;
height: 100vh;
}


.infinity-form-container{
background: #fce7c9;
display: flex;     flex-direction:
column;     align-items: center;
    justify-content: center;
}


.infinity-form{     display:
flex;     flex-direction:
column;     justifycontent:
center;     minheight:
100vh;
}


.infinity-form h4 {
fontweight: bold;     color:
#ffbe6a;     font-weight:
bol;  }


.infinity-form .form-input {     position:
relative;
}


.infinity-form .form-input input {
width: 100%;     marginbottom:
20px;     height: 40px;
border: none;     border-radius:
5px;     outline: none;
background: white;
    padding-left: 45px;
}
```

```css
.infinity-form .form-input span {    position:
absolute;    top: 8px;    padding-left:
20px;    color:
#777;
}


.infinity-form .form-input input:focus, .infinity-form
.form-input input:valid {
border: 2px solid #fbae4e;
}


.infinity-form input[type="checkbox"]:not(:checked) + label:before{
background: transparent;    border:2px solid #ffbe6a;    fontweight:
bol;    width: 15px;
   height: 15px;
}
.infinity-form .custom-checkbox .custom-control-input:checked ~ .custom-control-label::before {   background-color:
#feb449 !important;   border:0px;
}


.infinity-form button[type="submit"] {
margin-top: 10px;    border: none;    cursor:
pointer;    border-radius:
20px;    background: linear-gradient(45deg, #f88702,#f88702);   /*Button
Color*/
color: #ffFF;    font-weight: bol;    font-weight: bold;
   transition: 0.5s;
}


.infinity-form button[type="submit"]:hover {
   background: linear-gradient(45deg, #FEB449, #feb449);   /*Button color when hover*/
}


.forget-link , .login-link , .register-link {    color:
#ffbe6a;    font-weight: bold;
```

```css
}

.forget-link:hover , .login-link:hover , .register-link:hover {
color: #feb449;    text-decoration: none;
}
```