

P

Project Development **Phase**

Sprint - II

Date	14 November 2022
Team ID	PNT2022TMID54479
Project Name	Industry-Specific Intelligent Fire Management System

LINK: <https://wokwi.com/projects/348658884417684052>

OUTPUT:

WOKWI OUTPUT

Wokwi Arduino IDE interface showing a sketch and its simulation output.

Sketch Code (sketch.ino):

```
1 #include <time.h>
2
3 bool exhaust_fan_on = false;
4 bool sprinkler_on = false;
5
6 float temperature = 0;
7 int gas = 0;
8 int flame = 0;
9
10 String flame_status = "";
11 String accident_status = "";
12 String sprinkler_status = "";
13
14 void setup() {
15   Serial.begin(99900);
16 }
17
18 void loop() {
19   //setting a random seed
20
21   srand(time(0));
22
23   //initial variable
24
25   temperature = random(-20,125);
26   gas = random(0,1000);
27   int flamereading = random(200,1024);
28   flame = map(flamereading,0,1024,0,2);
29
30   //set a flame status
31
32   switch (flame) {
33   case 0:
34     flame_status = "No Fire";
35   }
```

Simulation Output:

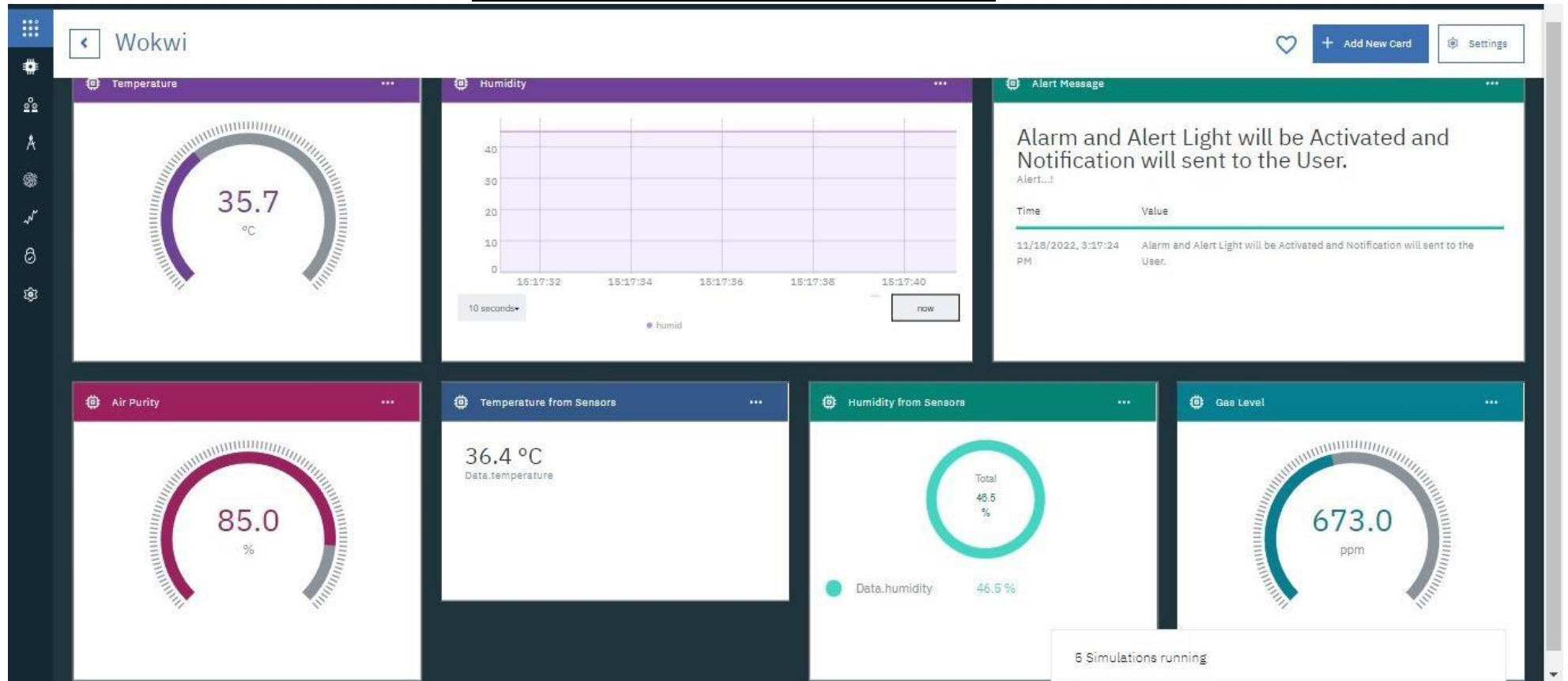
Sprinkler Status : working
Exhaust fan Status : Working

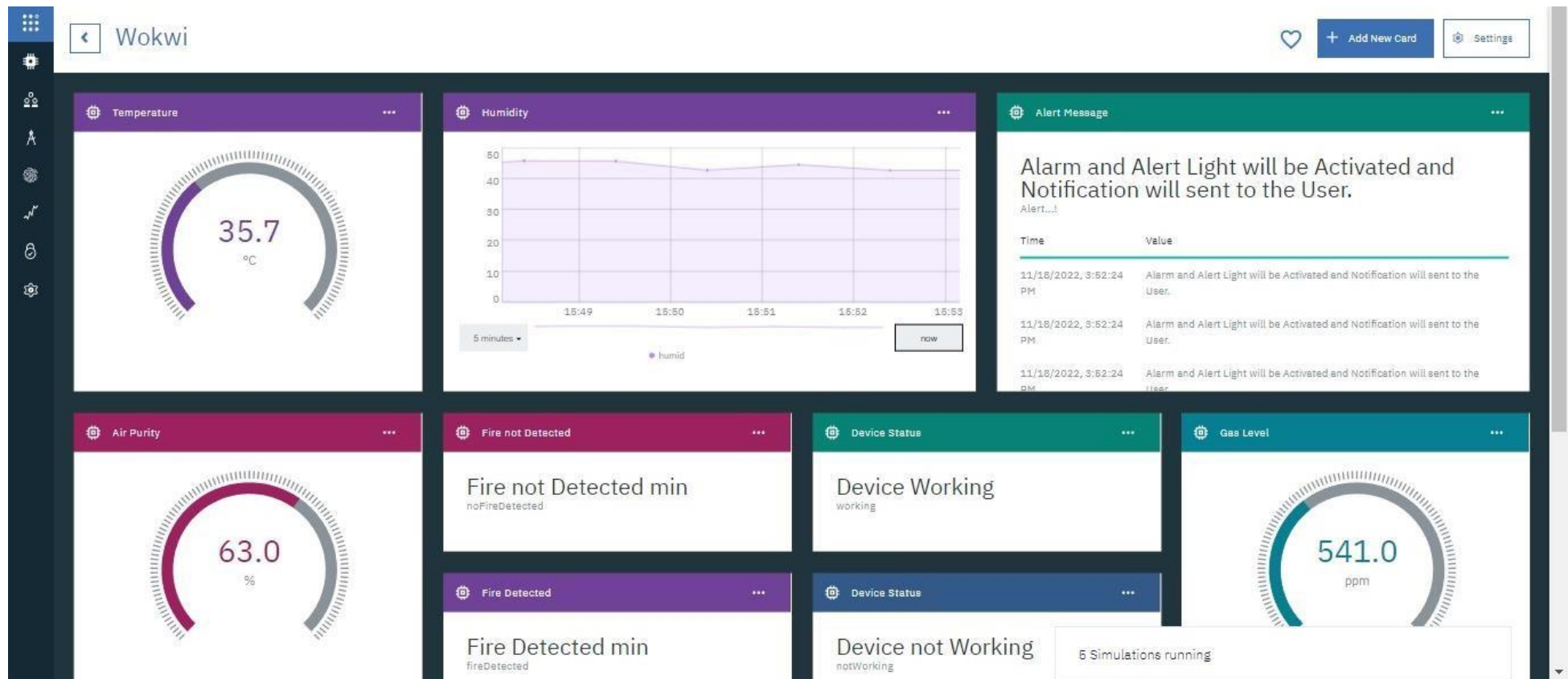
-----/-----/-----

The simulation shows a digital circuit board with an ESP32 microcontroller. The output text indicates that the Sprinkler Status is "working" and the Exhaust fan Status is "Working".

IBM WATSON OUTPUT

IBM WATSON DASHBOARD OUTPUT





CODE:

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

```
#define ORG "88653s"
#define DEVICE_TYPE "iot_device"
```

```
#define DEVICE_ID "wokwi_us"
#define TOKEN ")l(u!YYO)NmKr9sk(k"

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 ":" 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);
//seta flame status
switch (flame) { case 0:
flame_status = "No Fire";
break;
case1: 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)
```

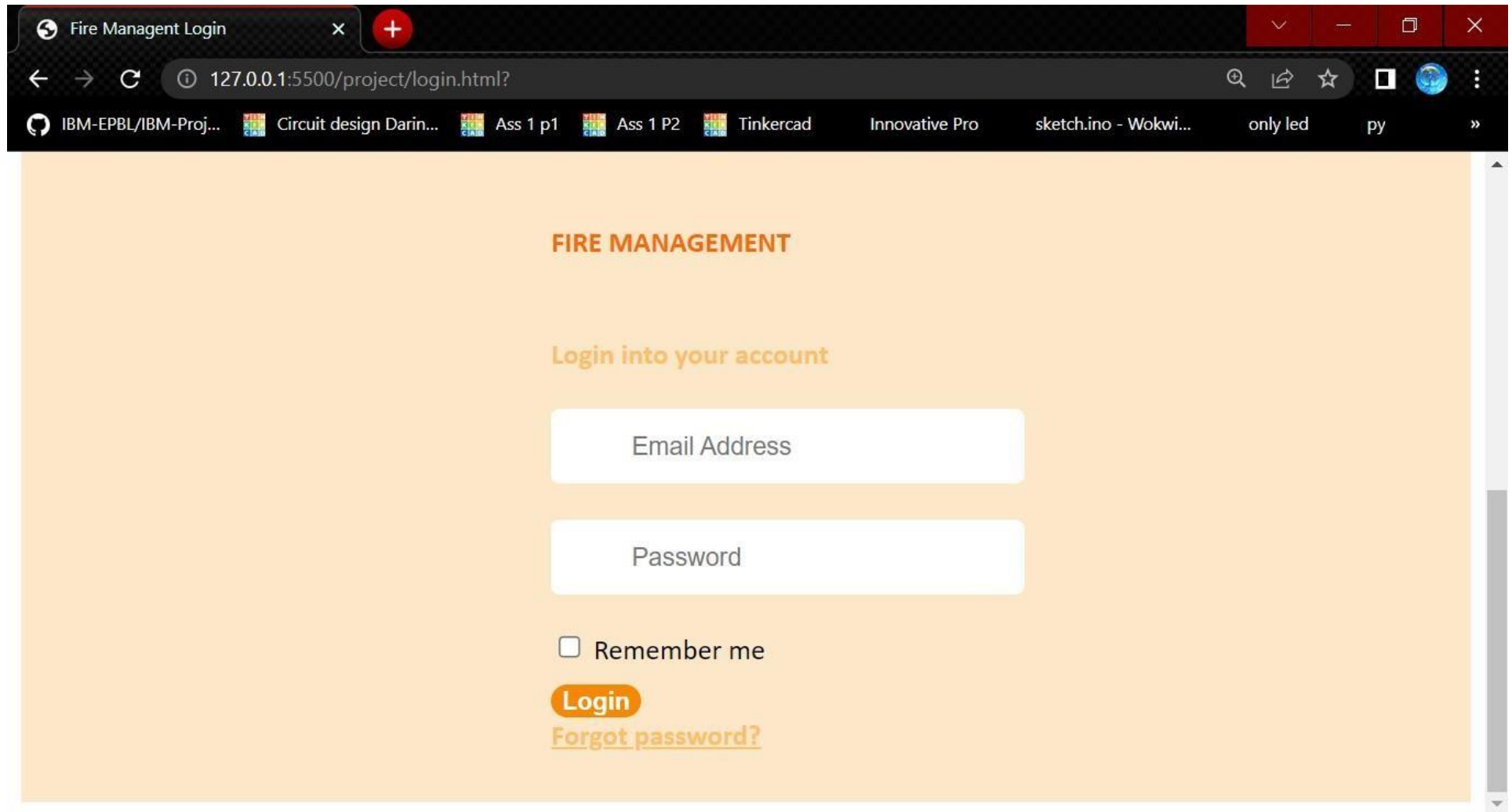
```
{
  delay(500);
  Serial.print(".");
}
Serial.print("WiFi connected, IP address: ");
Serial.println(WiFi.localIP());

}

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:

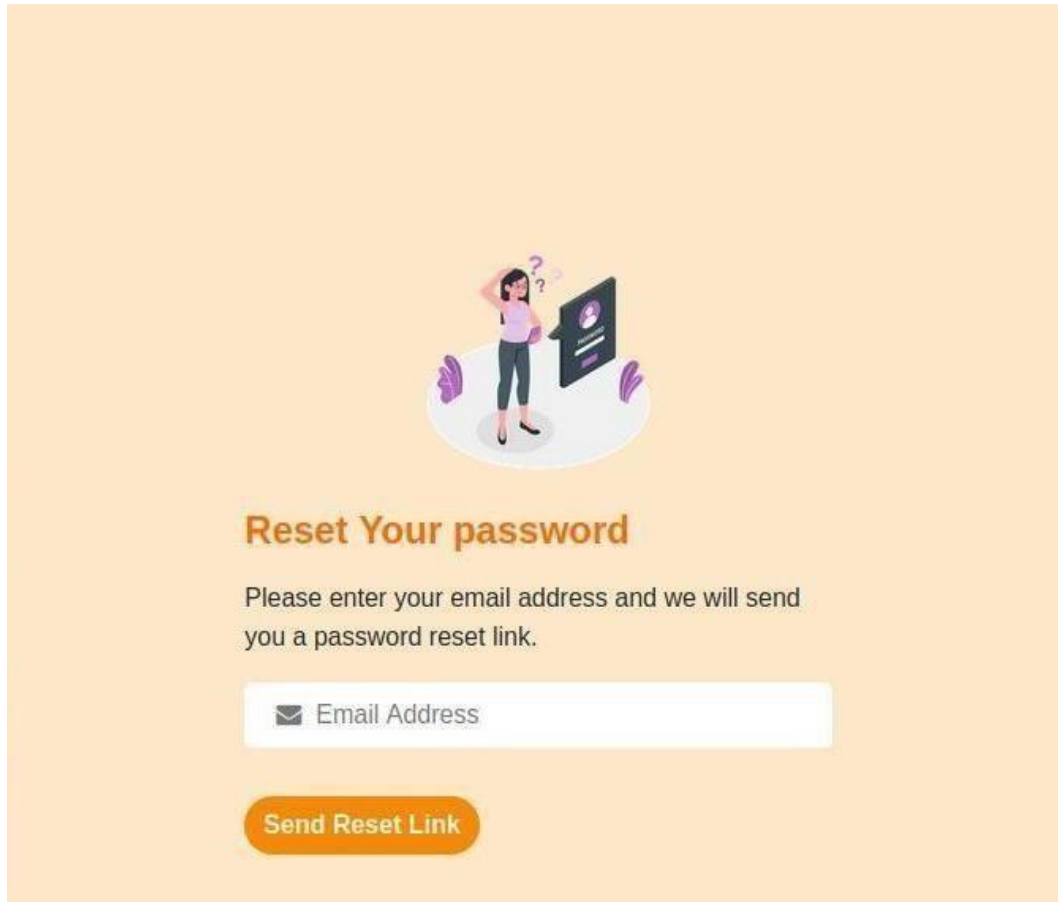


The screenshot shows a web browser window with the title "Fire Managent Login". The address bar displays the URL "127.0.0.1:5500/project/login.html?". The browser's tab bar shows several open tabs, including "IBM-EPBL/IBM-Proj...", "Circuit design Darin...", "Ass 1 p1", "Ass 1 P2", "Tinkercad", "Innovative Pro", "sketch.ino - Wokwi...", "only led", and "py".

The main content area of the browser has an orange background and contains the following elements:

- The heading "FIRE MANAGEMENT" in orange text.
- The instruction "Login into your account" in orange text.
- A white input field labeled "Email Address".
- A white input field labeled "Password".
- A checkbox labeled "Remember me".
- An orange "Login" button.
- A link labeled "Forgot password?" in orange text.

RESET PAGE OUTPUT:



LOGIN CODE:

```
<!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>
          </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>
</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 -->
      <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">
            
          </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>
        </div>
      </div>
    </div>
  </div>

```

```

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

```

.container-fluid{ background-
color: black; }
.infinity-image-container{ background:
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; justify-
content: center; min-
height: 100vh; }
```

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

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

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

```
.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; font-weight: bold;
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;
}
```

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