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## **Project Development** **Phase**

### **Sprint - II**

Date	19 November 2022
Team ID	PNT2022TMID18446
Project Name	Industry-Specific Intelligent Fire Management System

**OUTPUT:**

## WOKWI OUTPUT

WOKWI

SAVE

SHARE

Docs

sketch.ino

diagram.json

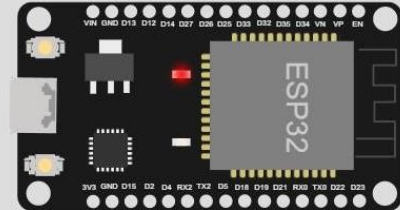
libraries.txt

Library Manager

```
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     srand(time(0));
21
22     //initial variable
23
24     temperature = random(-20,125);
25     gas = random(0,1000);
26     int flamereading = random(200,1024);
27     flame = map(flamereading,0,1024,0,2);
28
29     //set a flame status
30
31     switch (flame) {
32     case 0:
33         flame_status = "No Fire";
```

Simulation

00:05.336 100%



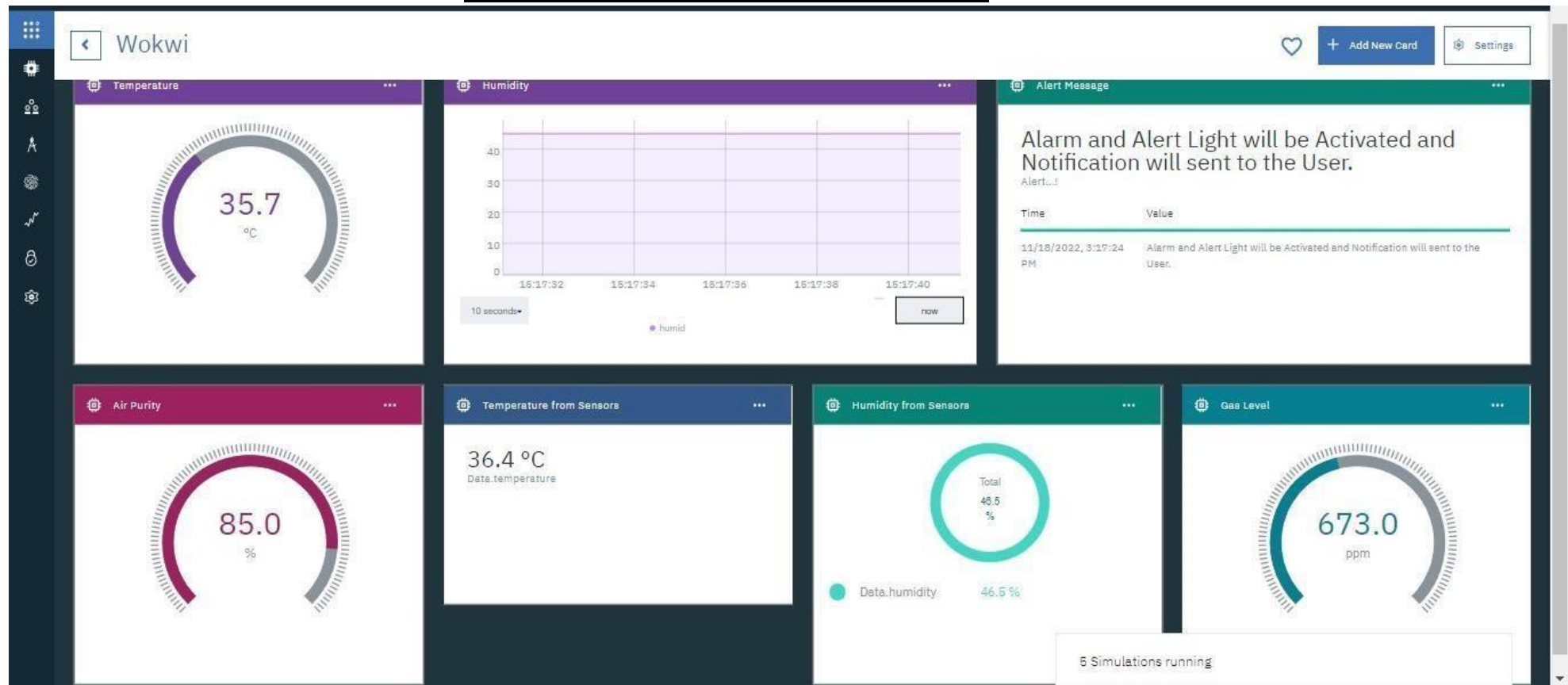
Sprinkler Status : working  
Exhaust fan Status : Working

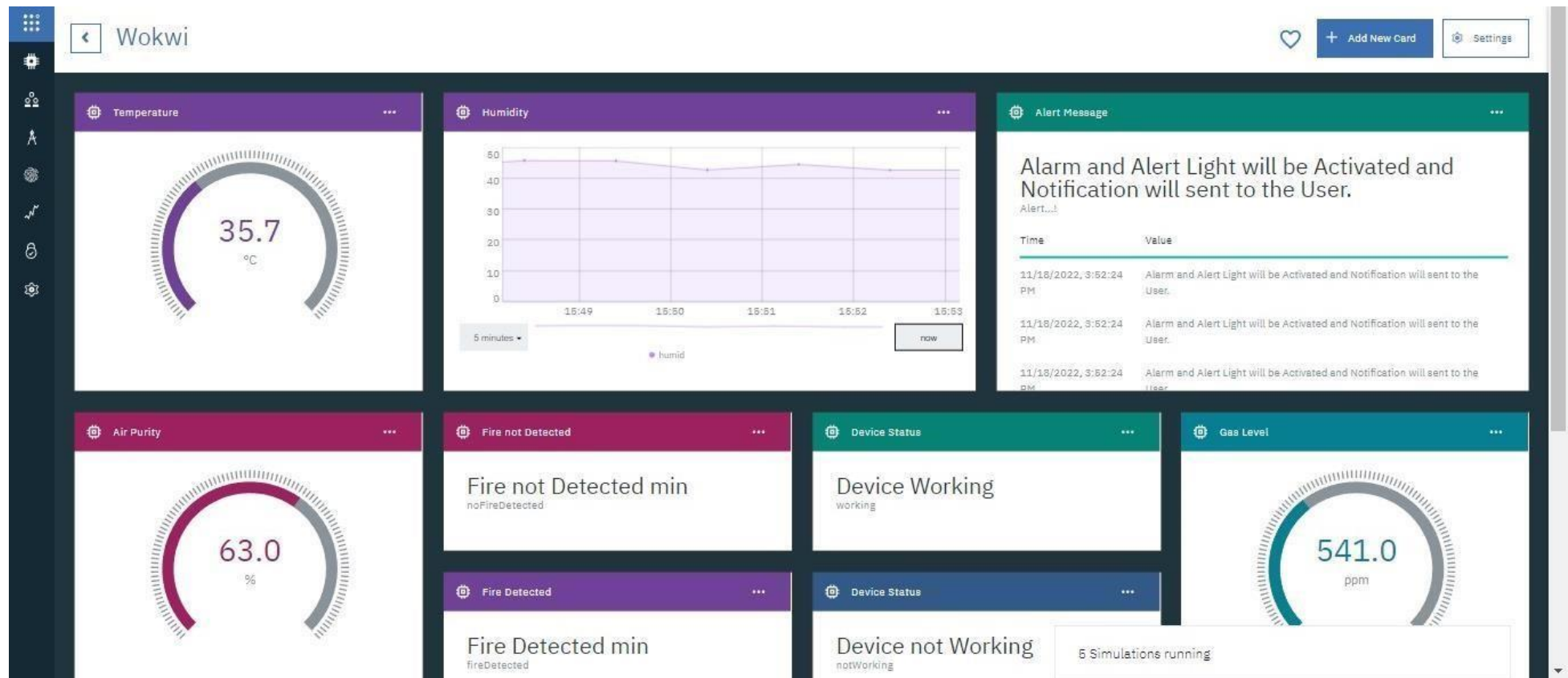
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## IBM WATSON OUTPUT



## 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());

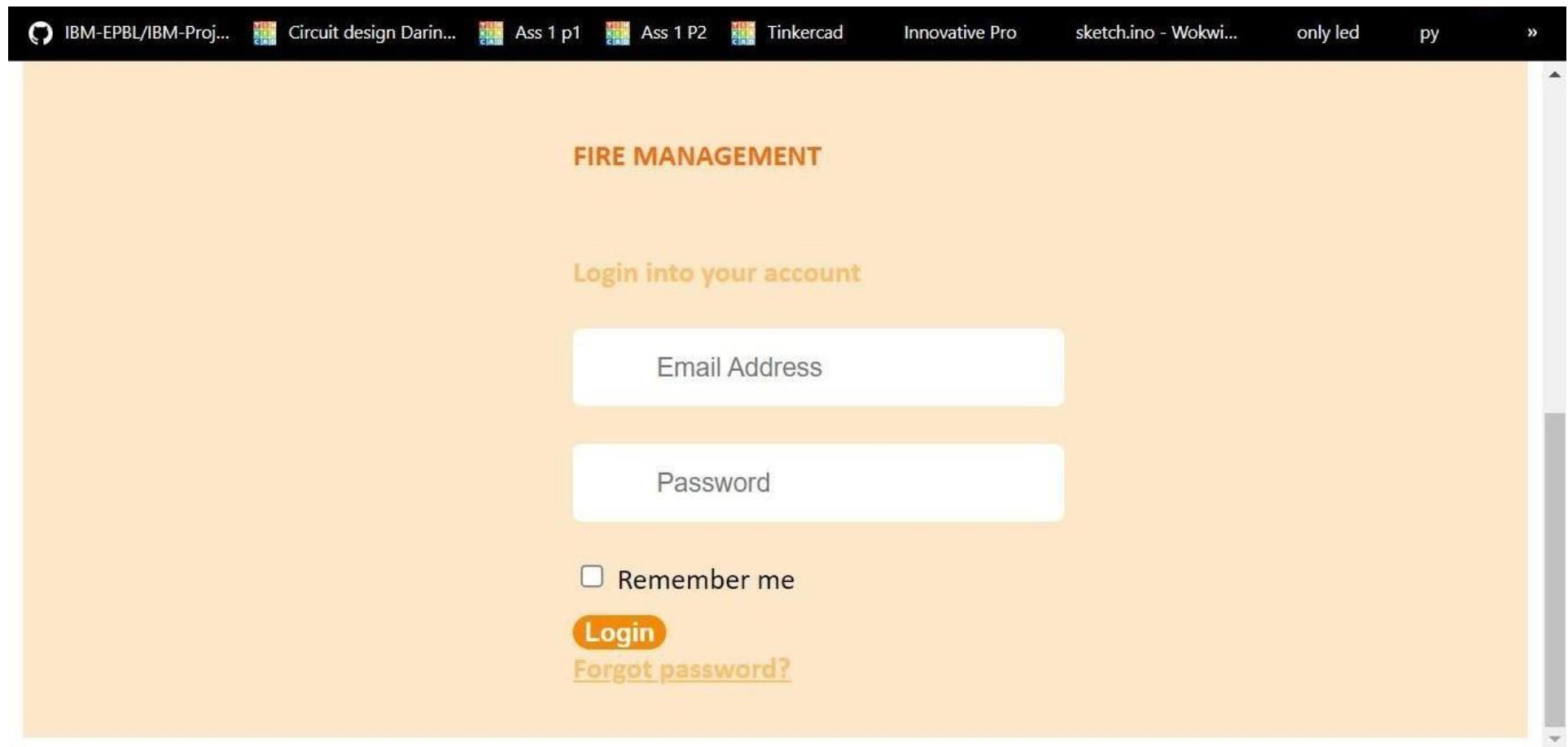
}

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

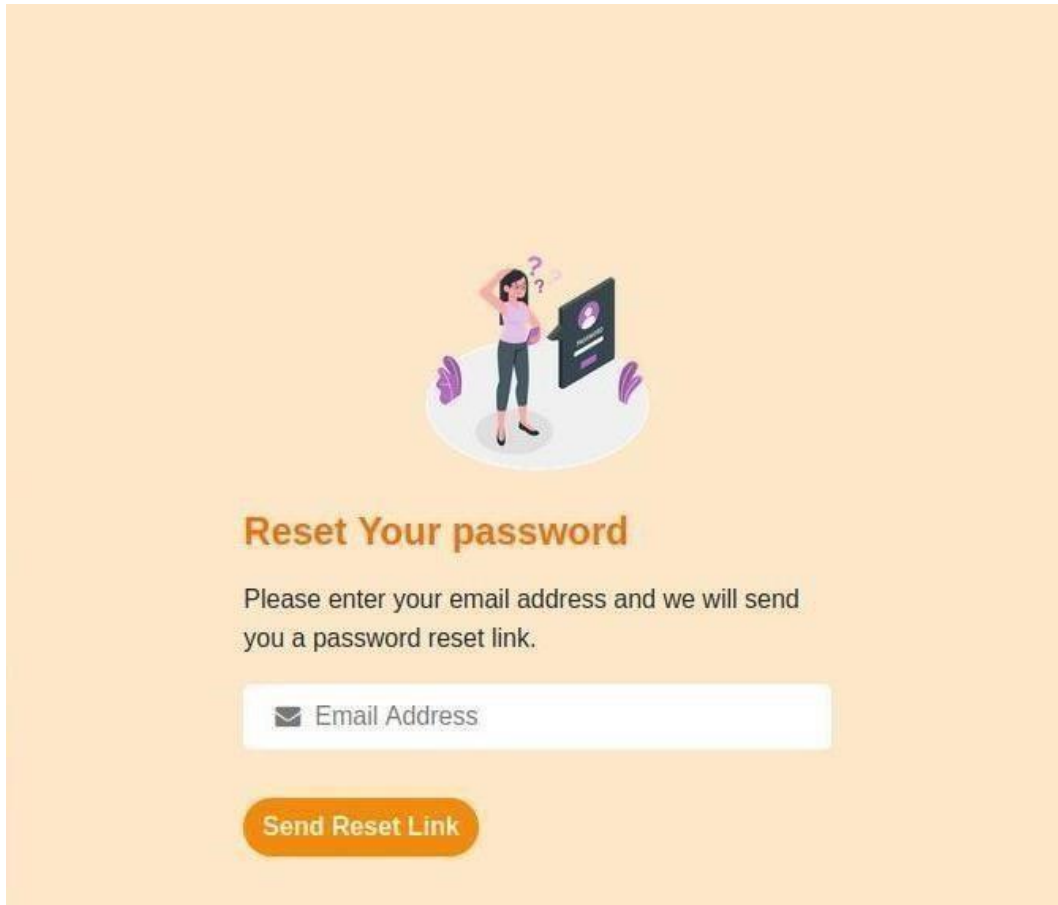
        Serial.println();
    }
}

```

**LOGIN PAGE OUTPUT:**



**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 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>

<!-- 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>

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

```

```

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

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

.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; paddingleft: 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:
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:  
#ffb66a; font-weight: bold;  
}  
.forget-link:hover , .login-link:hover , .register-link:hover { color:  
#feb449; text-decoration: none;  
}
```