

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

### **Sprint - II**

Date	04 November 2022
Team ID	PNT2022TMID15234
Project Name	Industry-Specific Intelligent Fire Management System

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

**OUTPUT:**

**WOKWI OUTPUT**

Welcome to Project! Delighted to x IBM x sketch.ino - Wokwi Arduino and x +

wokwi.com/projects/348658884417684052

WOKWI SAVE SHARE

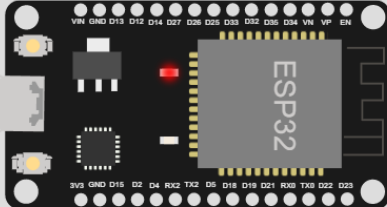
Docs

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";
34     }
```

Simulation

00:05.336 100%



Sprinkler Status : working  
Exhaust fan Status : Working

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

25°C Mostly clear

Search

ENG IN

23:54 18-11-2022

## IBM WATSON OUTPUT

**Browse**   Action   Device Types   Interfaces   Add Device +

	Device ID	Status	Device Type	Class ID	Date Added	Descriptive Location	Added By	Device Class	Firmware Version
>	iot_device_1	Connected	iot_device	Device	Nov 8, 2022 9:58 PM		tskarthicktskarthick6778@gmail.com		
>	iot_device_2	Connected	iot_device	Device	Nov 8, 2022 9:53 PM		tskarthicktskarthick6778@gmail.com		
>	iot_device_3	Connected	iot_device	Device	Nov 8, 2022 10:03 PM		tskarthicktskarthick6778@gmail.com		
▼	wokwi_us	Connected	iot_device	Device	Nov 2, 2022 10:21 AM		tskarthicktskarthick6778@gmail.com		→ ...

**Identity**   **Device Information**   Recent Events   State   Logs   ×

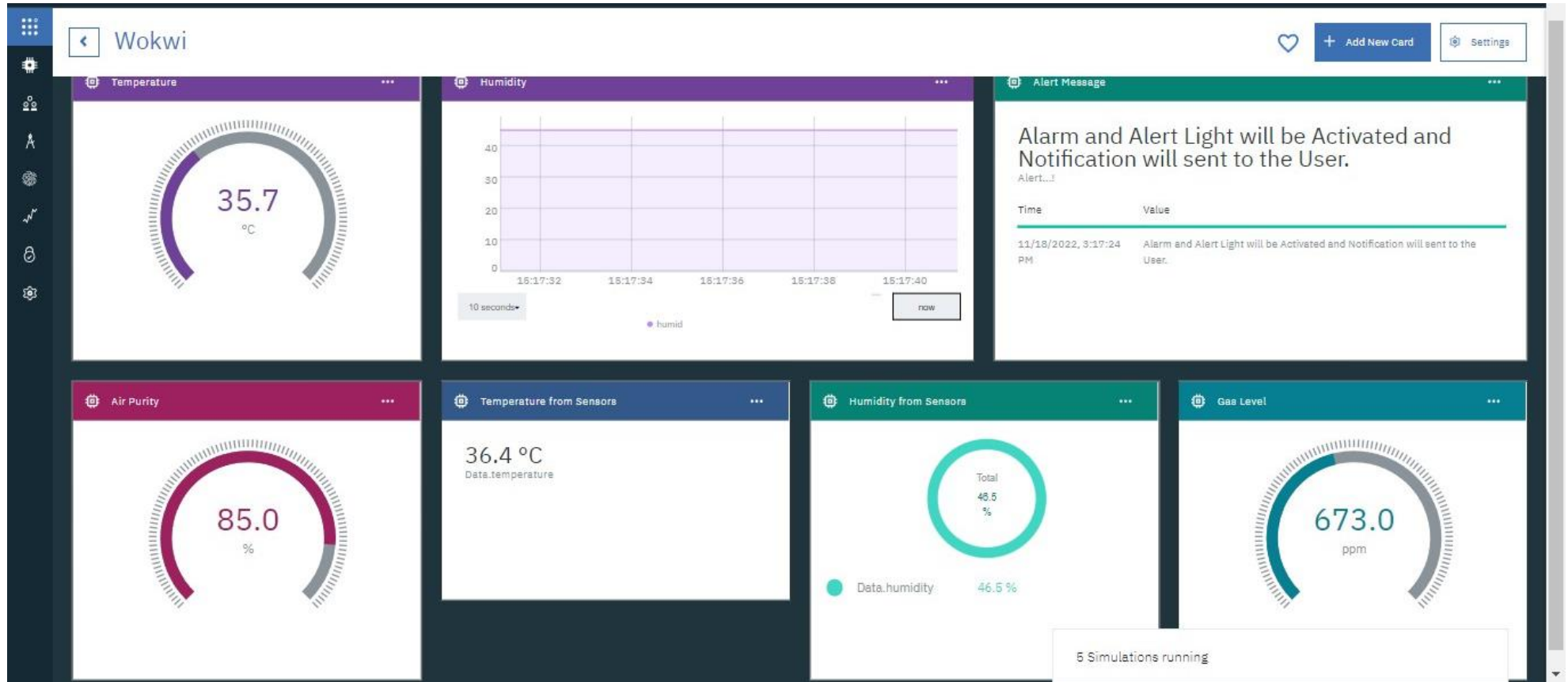
---

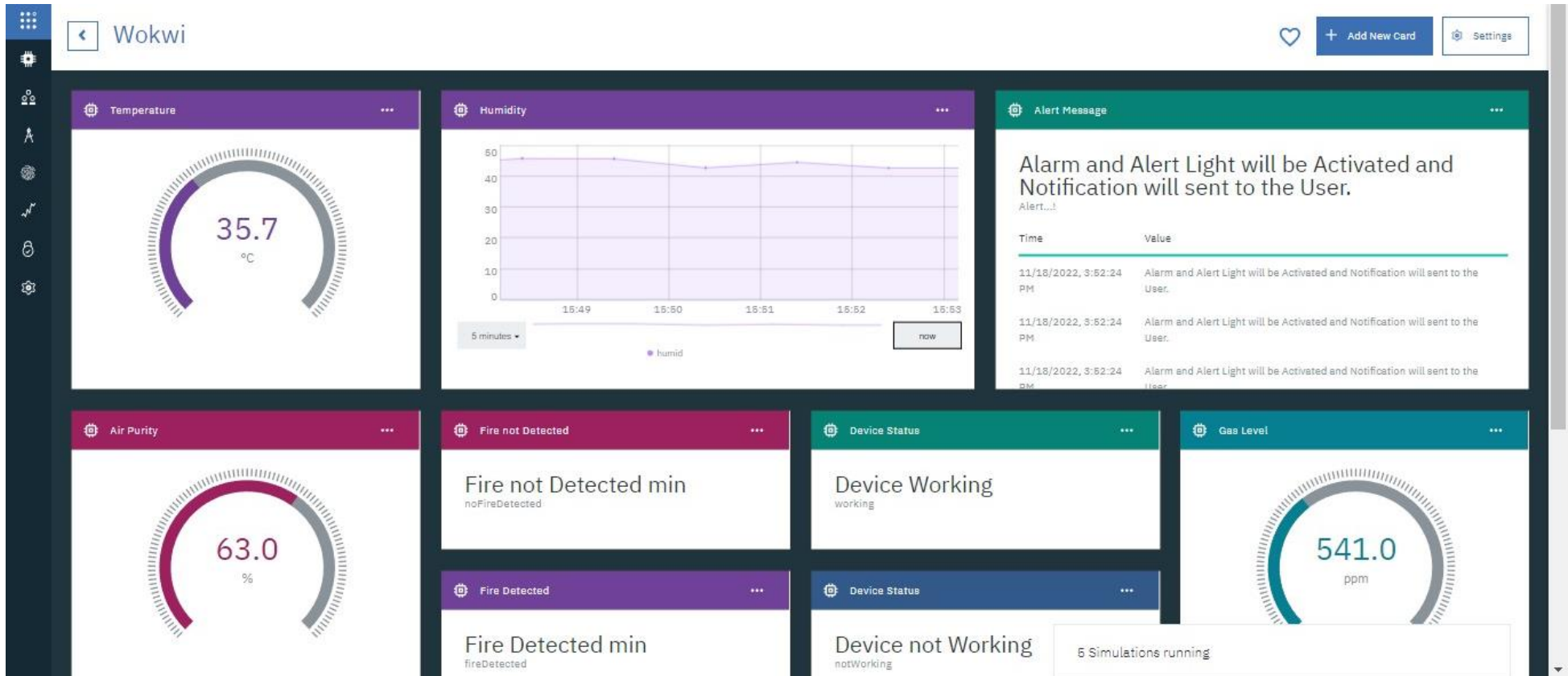
The recent events listed show the live stream of data that is coming and going from this device.

Event	Value	Format	Last Received
Data	{"Data":{"temperature":36.4,"humidity":46.5}}	json	a few seconds ago
Data	{"Data":{"temperature":36.4,"humidity":46.5}}	json	19 minutes ago
Data	{"Data":{"temperature":36.4,"humidity":46.5}}	json	19 minutes ago
Data	{"Data":{"temperature":36.4,"humidity":46.5}}	json	19 minutes ago
Data	{"Data":{"temperature":36.4,"humidity":46.5}}	json	19 minutes ago

5 Simulations running

## 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;
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();  
}
```

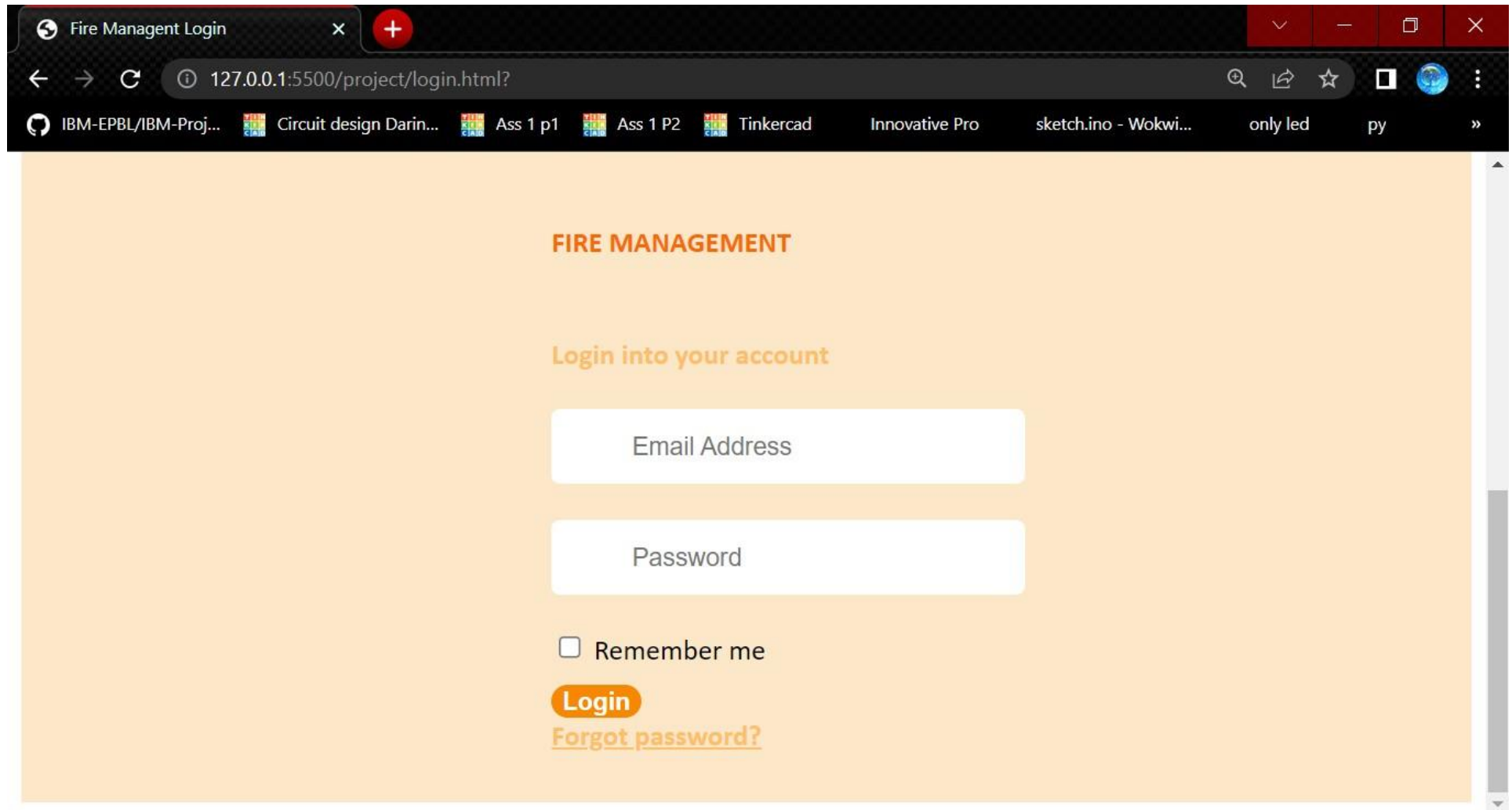
```
void wifiConnect()  
{  
  Serial.print("Connecting to ");  
  Serial.print("Wifi");  
  WiFi.begin("Wokwi-GUEST", "", 6);  
  while (WiFi.status() != WL_CONNECTED)  
  {  
    delay(500);  
    Serial.print(".");  
  }  
  Serial.print("WiFi connected, IP address: ");  
  Serial.println(WiFi.localIP());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

```
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 Managent Login

127.0.0.1:5500/project/login.html?

IBM-EPBL/IBM-Proj... Circuit design Darin... Ass 1 p1 Ass 1 P2 Tinkercad Innovative Pro sketch.ino - Wokwi... only led py »

### FIRE MANAGEMENT

Login into your account

Email Address

Password

☐ Remember me

**Login**

[Forgot password?](#)

## RESET PAGE OUTPUT:



### Reset Your password

Please enter your email address and we will send you a password reset link.

 Email Address

Send Reset Link

## 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>
        </div>
      </div>
    </div>
  </div>
</body>
</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>
            </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>

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

  <div>
</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: bold; 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;  
}
```