

P

Project Development **Phase**

Sprint - II

Date	04 November 2022
Team ID	PNT2022TMID47980
Project Name	Industry-Specific Intelligent Fire Management System

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

OUTPUT:

WOKWI OUTPUT

GitHub - IBM-EPBL/IB...DownloadsOpenWeatherMap A...MembersW sketch.ino - Wokwi A...W esp32-dht22.ino - Wokwi A...

wokwi.com/projects/322410731508073042

Circuit design Edit...GmailYouTubeMapsNewsTranslateAssignment - 4ESP32 - Ultrasonic...ep32 with ultrasoni...Internet of Things P...Review Estimate - I...

WOKWI

SAVE

SHARE

esp32-dht22.ino
by urish

Docs

esp32-dht22.ino • diagram.json • libraries.txt • Library Manager

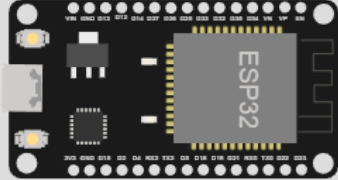
```
1 #include <time.h>
2
3 bool exhaust_fan_on = false;
4 bool sprinkler_on = false;
5
6 float temperature = 0;
7 int gas = 0;
8 int flame = 0;
9
10 String flame_status = "";
11 String accident_status = "";
12 String sprinkler_status = "";
13
14 void setup() {
15   Serial.begin(99900);
16 }
17
18 void loop() {
19   //setting a random seed
20
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       Serial.println("Flame Status : "+flame_status);
36       break;
```

Simulation

▶

+

⋮



Flame Status : No Fire
Gas Status : Gas leakage Detected
Sprinkler Status : not working
Exhaust fan Status : Working

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

Flame Status : Fire is Detected
Gas Status : Gas leakage Detected
Sprinkler Status : working
Exhaust fan Status : Working

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

TS Karthick
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Discord

<> My projects

∞ The Club

🗺 Feature Roadmap

🌐 Language

🔌 Logout

🏠▶🗑

IBM WATSON OUTPUT

IBM Cloud

IBM Watson IoT Platform

W sketch.ino - Wokwi Arduino and

W sketch.ino - Wokwi Arduino and

+

88653s.internetofthings.ibmcloud.com/dashboard/devices/browse

Circuit design Editi... Gmail YouTube Maps News Translate W Assignment - 4 ESP32 - Ultrasonic... ep32 with ultrasoni... Internet of Things P... Review Estimate - I...

IBM Watson IoT Platform

tskarthickttskarthick6778@gmail.com ID: 88653s

IBM

Device Types

Interfaces

...

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

tskarthickttskarthick6778@gmail.com

>

iot_device_2

Connected

iot_device

Device

Nov 8, 2022 9:53 PM

tskarthickttskarthick6778@gmail.com

>

iot_device_3

Connected

iot_device

Device

Nov 8, 2022 10:03 PM

tskarthickttskarthick6778@gmail.com

▼

wokwi_us

Connected

iot_device

Device

Nov 2, 2022 10:21 AM

tskarthickttskarthick6778@gmail.com

→ ...

Identity

Device Information

Recent Events

State

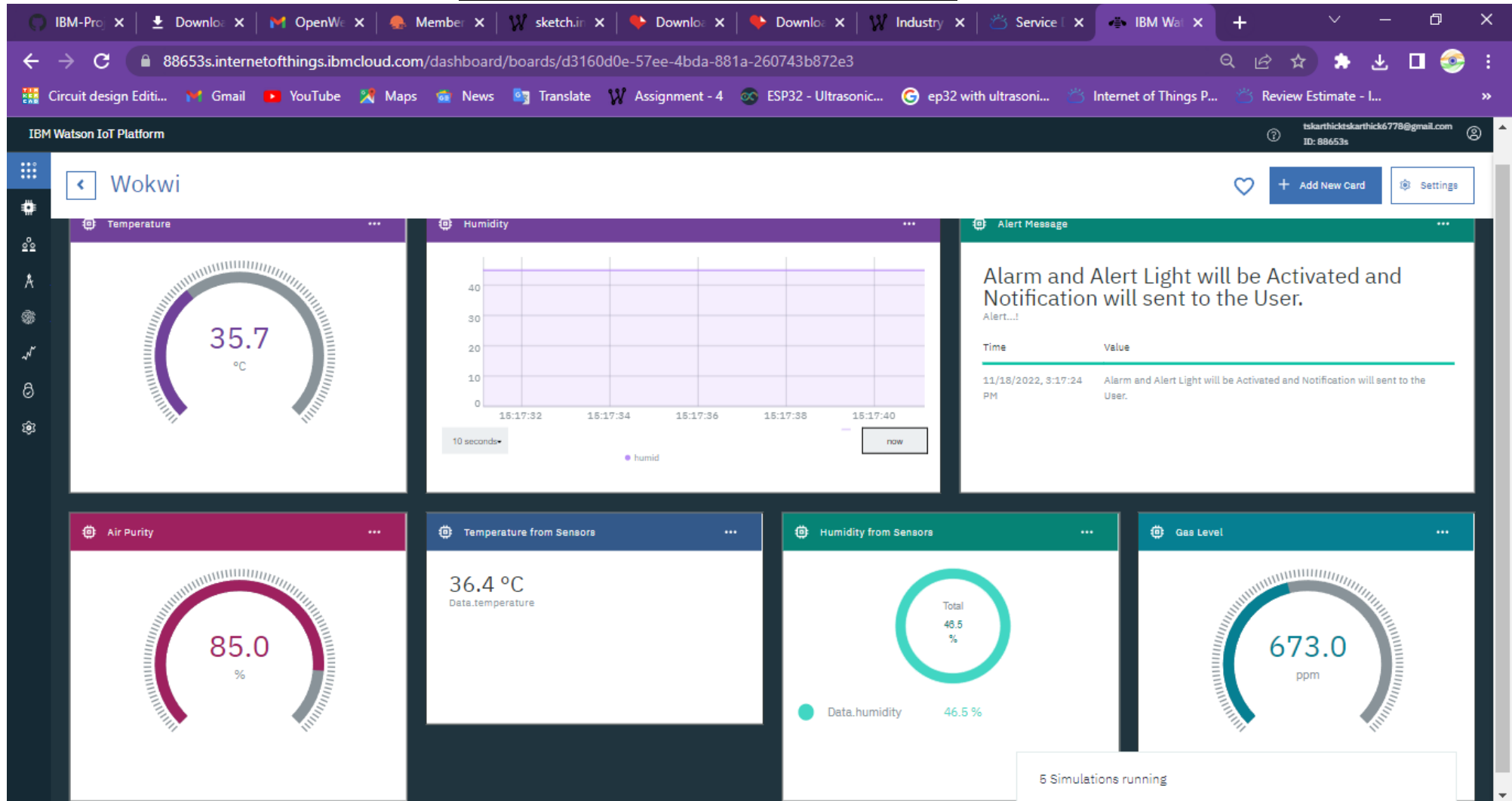
Logs

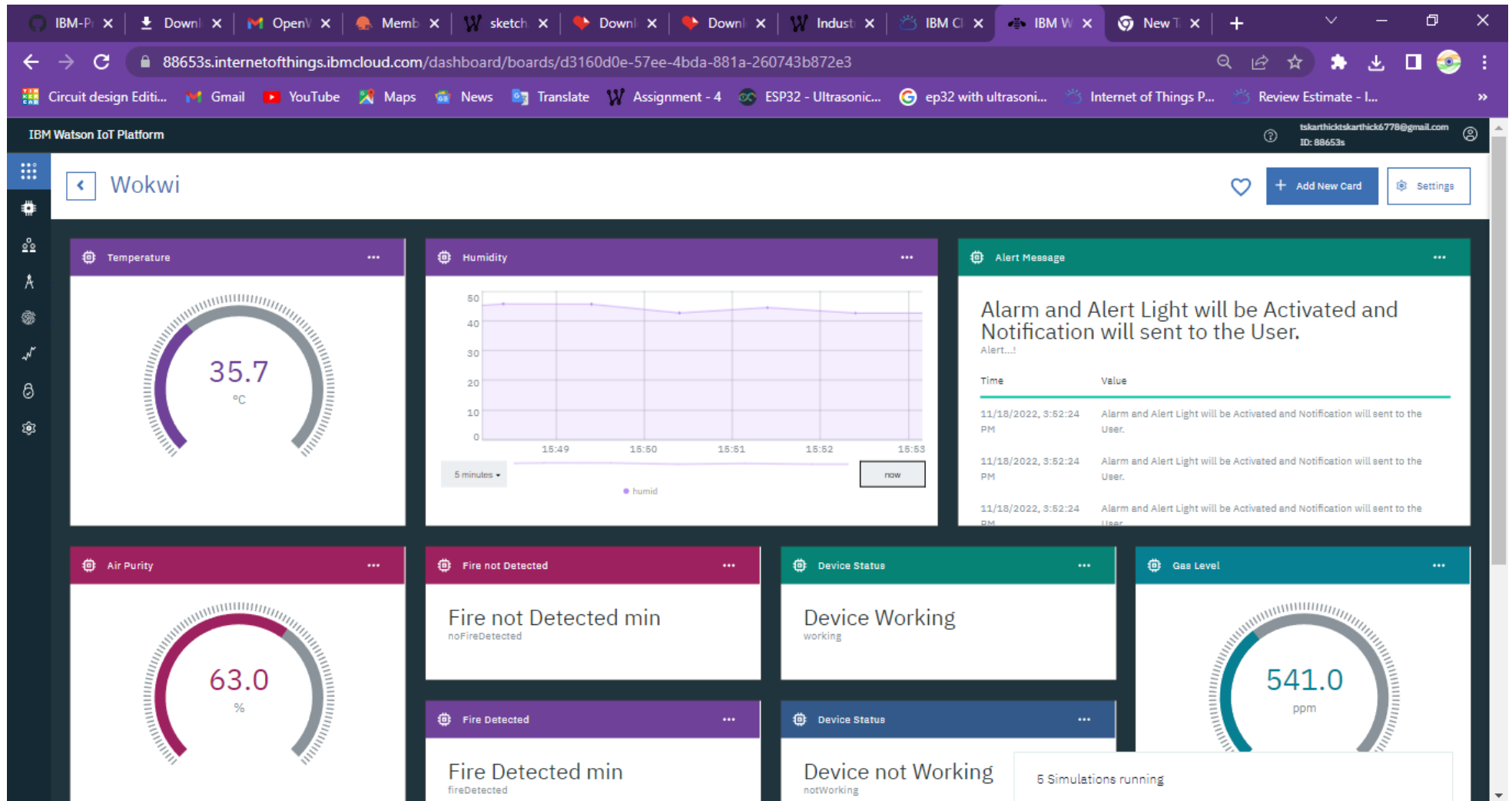
The recent events listed show the live stream of data that is coming and going from this device.

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>
            </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();      $('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:  
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;  
}
```