## Static Web Page Hosted on AWS

### Objective

Students will learn how to set up and deploy a basic web application in **AWS** using **Amazon S3 (for static website hosting)** and **AWS Lambda with API Gateway (for backend calculations)**.

### Step 1:

Login to AWS as a root user (<https://aws.amazon.com/>)

A screenshot of a login page

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Login and get to the console

**Step 2: Create an Amazon S3 Bucket for Static Web Hosting**

1. Log in to the **AWS Management Console**.
2. Search for **Amazon S3**.

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1. Click **Create bucket**.  
   A screenshot of a computer

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2. **Enter a unique bucket name** (e.g., temp-converter-lab).  
   A screenshot of a bucket

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3. Under **Block Public Access settings**, uncheck "**Block all public access**" (This allows the web app to be publicly accessible).  
   We will remove the Block All public access later. That is what gives the errors below.  
   A screenshot of a bucket

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4. Scroll down and click **Create bucket**.  
   A screenshot of a computer

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5. Review S3 Bucket Set Up  
   A screenshot of a computer

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6. **S3 Enable Static Website Hosting**
   1. Click on your newly created bucket.
   2. Go to the **Properties** tab.  
      A close up of a sign

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   3. Scroll down to **Static website hosting** and click **Edit**.  
      A screenshot of a computer

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   4. Select **Enable** and enter:
   5. **Index document:** index.html
   6. **Error document:** index.html
   7. Click **Save changes**.

**Step 3: Create the Web Application (index.html)**

Now, create an **HTML file** that includes a **simple user interface** for temperature conversion.

1. Open a **text editor** (e.g., Notepad, VS Code, NotePad++).
2. Copy the following code into a new file and **save it as** index.html:
3. Test this works locally.

html

CopyEdit

<!DOCTYPE html>

<html lang="en">

<head>

<meta charset="UTF-8">

<meta name="viewport" content="width=device-width, initial-scale=1.0">

<title>Temperature Converter</title>

<style>

body { font-family: Arial, sans-serif; text-align: center; padding: 50px; }

input, button { margin: 10px; padding: 10px; font-size: 18px; }

</style>

</head>

<body>

<h1>Temperature Converter</h1>

<label>Enter Temperature:</label>

<input type="number" id="temperature" placeholder="Enter value">

<button onclick="convertToFahrenheit()">Convert to Fahrenheit</button>

<button onclick="convertToCelsius()">Convert to Celsius</button>

<h2 id="result"></h2>

<script>

function convertToFahrenheit() {

let celsius = document.getElementById("temperature").value;

let fahrenheit = (celsius \* 9/5) + 32;

document.getElementById("result").innerHTML = celsius + "°C = " + fahrenheit.toFixed(2) + "°F";

}

function convertToCelsius() {

let fahrenheit = document.getElementById("temperature").value;

let celsius = (fahrenheit - 32) \* 5/9;

document.getElementById("result").innerHTML = fahrenheit + "°F = " + celsius.toFixed(2) + "°C";

}

</script>

</body>

</html>

**Step 4: Upload index.html to S3**

1. Navigate back to the **S3 bucket** you created.
2. Under Objects tab, click the **Upload** button.

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1. Click **Add files** and select the index.html file.  
   A screen shot of a computer

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2. Click **Upload**.  
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**Make index.html Public**

1. Select the uploaded index.html file.  
   A screenshot of a computer

   AI-generated content may be incorrect.
2. Click the **Permissions** tab.
3. Scroll down to **Object Ownership** and click **Edit**.
4. Select **ACLs enabled** and click **Save changes**.
5. Click **Make public using ACL** and confirm.

**Step 4: Test the Static Website**

1. Go to the **Properties** tab of your S3 bucket.
2. Scroll down to **Static website hosting**.
3. Copy the **Endpoint URL** and open it in your browser.
4. You should see your **temperature conversion web app** live!

[Setting permissions for website access - Amazon Simple Storage Service](https://docs.aws.amazon.com/AmazonS3/latest/userguide/WebsiteAccessPermissionsReqd.html)

Unset the full permissions and set the permissions for index.html Copy and Paste. Use URLS.

Part 2. Amplify Setup  
Set this up and walk through some of the ways to have a project.   
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