

Static Website Hosting using Amazon S3

1. Project Overview

This project demonstrates how to host a **static website** using **Amazon S3**, one of the core storage services in AWS.

The goal is to store website files (HTML and images) in an S3 bucket, configure it for static website hosting, allow public access securely, and verify access using the S3 website endpoint.

2. Objective

- Create an S3 bucket to store website files
 - Enable static website hosting on the bucket
 - Upload a simple `index.html` webpage
 - Configure public access permissions correctly
 - Verify the website using the S3 website endpoint
-

3. Architecture Overview

The architecture is simple and serverless:

- **Amazon S3 Bucket** → Stores static website files

- **S3 Static Website Hosting** → Serves content over HTTP
- **Bucket Policy** → Allows public read-only access

No EC2, database, or backend services are involved.

4. Implementation Steps



STEP 1: Create an S3 Bucket

Meaning:

This step creates storage in AWS to hold the static website files such as `index.html` and images.

Procedure:

1. Login to the AWS Management Console
2. Search and open **Amazon S3**
3. Click **Create bucket**

Bucket Settings:

Bucket name:

`my-static-site-anandu-001`

-

Region:

Asia Pacific (Mumbai) – ap-south-1

-

Public Access Configuration:

- Scroll to **Block Public Access**
- Uncheck **Block all public access**
- Acknowledge the warning by ticking **I acknowledge...**

Click **Create bucket**

The screenshot shows the AWS S3 buckets console in the Asia Pacific (Mumbai) region. A green success message at the top states: "Successfully created bucket 'my-static-site-anandu-001'. To upload files and folders, or to configure additional bucket settings, choose View details." Below this, the "General purpose buckets" section is visible, showing one bucket named "my-static-site-anandu-001" created on December 25, 2025, at 16:15:10 (UTC+05:30). The "Account snapshot" section indicates that Storage Lens provides visibility into storage usage and activity trends, updated daily. The bottom navigation bar includes links for CloudShell, Feedback, Console Mobile App, Privacy, Terms, and Cookie preferences.

Name	AWS Region	Creation date
my-static-site-anandu-001	Asia Pacific (Mumbai) ap-south-1	December 25, 2025, 16:15:10 (UTC+05:30)

Outcome:

- S3 bucket is created successfully.
-

STEP 2: Enable Static Website Hosting

Meaning:

This step configures the S3 bucket to behave like a web server and serve web pages.

Procedure:

1. Open the bucket **my-static-site-anandu-001**
2. Go to **Properties**
3. Scroll to **Static website hosting**
4. Click **Edit**
5. Enable **Static website hosting**
6. Select:
 - Hosting type: **Host a static website**

Index document:

index.html

○

7. Save changes

Note:

After enabling this option, AWS generates a **Website endpoint URL**.

The screenshot shows the AWS S3 console interface for a bucket named "my-static-site-anandu-001". A green success message at the top states "Successfully edited static website hosting." Below it, the "Static website hosting" section is displayed. It includes a recommendation to use AWS Amplify Hosting, a "Create Amplify app" button, and sections for "S3 static website hosting" (Enabled), "Hosting type" (Bucket hosting), and "Bucket website endpoint" (http://my-static-site-anandu-001.s3-website.ap-south-1.amazonaws.com). The bottom navigation bar includes CloudShell, Feedback, Console Mobile App, Privacy, Terms, and Cookie preferences.

Successfully edited static website hosting.

Static website hosting

Use this bucket to host a website or redirect requests. [Learn more ↗](#)

ⓘ We recommend using AWS Amplify Hosting for static website hosting
Deploy a fast, secure, and reliable website quickly with AWS Amplify Hosting. Learn more about [Amplify Hosting ↗](#) or [View your existing Amplify apps ↗](#)

[Create Amplify app ↗](#)

S3 static website hosting
Enabled

Hosting type
Bucket hosting

Bucket website endpoint
When you configure your bucket as a static website, the website is available at the AWS Region-specific website endpoint of the bucket. [Learn more ↗](#)

[http://my-static-site-anandu-001.s3-website.ap-south-1.amazonaws.com ↗](http://my-static-site-anandu-001.s3-website.ap-south-1.amazonaws.com)

CloudShell Feedback [Console Mobile App](#) Privacy Terms [Cookie preferences](#)

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STEP 3: Create and Upload `index.html`

Meaning:

This file represents the homepage of the static website.

File Content (`index.html`):

```
<!DOCTYPE html>

<html lang="en" class="scroll-smooth">

<head>

    <meta charset="UTF-8">

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

    <title>Lumina | Professional Photography Portfolio</title>

    <script src="https://cdn.tailwindcss.com"></script>

    <link rel="preconnect" href="https://fonts.googleapis.com">

    <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>

    <link
        href="https://fonts.googleapis.com/css2?family=Inter:wght@300;400;500;600&
family=Playfair+Display:ital,wght@0,400;0,600;1,400&display=swap"
        rel="stylesheet">

    <script>

        tailwind.config = {

            theme: {

                extend: {

                    fontFamily: {

                        sans: ['Inter', 'sans-serif'],

                        serif: ['Playfair Display', 'serif'],

                    },
                },
            },
        },
    
```

```
        colors: {

            gold: {

                50: '#ffffaeb',
                100: '#fef0c7',
                200: '#fde08a',
                300: '#fcdb34d',
                400: '#fbbe24',
                500: '#f59e0b', // Main Gold
                600: '#d97706',
                700: '#b45309',
                800: '#92400e',
                900: '#78350f',

            }

        }

    }

}

}

}

</script>

<style>

    .hero-bg {

        background-image: linear-gradient(rgba(0,0,0,0.5),
        rgba(0,0,0,0.5)), url('images/hero_bg.png');

        background-size: cover;

        background-position: center;
```

```
background-attachment: fixed;

}

</style>

</head>

<body class="bg-zinc-950 text-white font-sans antialiased">




<!-- Navigation -->

<nav class="fixed w-full z-50 bg-zinc-950/80 backdrop-blur-md border-b border-white/5 transition-all duration-300">

    <div class="max-w-7xl mx-auto px-6 py-4 flex justify-between items-center">

        <a href="#" class="text-2xl font-serif font-semibold tracking-wider hover:text-gold-500 transition-colors">LUMINA</a>

        <div class="hidden md:flex space-x-8 text-sm uppercase tracking-widest text-zinc-400">

            <a href="#gallery" class="hover:text-white transition-colors">Gallery</a>

            <a href="#about" class="hover:text-white transition-colors">About</a>

            <a href="#contact" class="hover:text-white transition-colors">Contact</a>

        </div>

    </div>

</nav>




<!-- Hero Section -->
```

```
<header class="relative h-screen flex items-center justify-center text-center px-4 hero-bg">

    <div class="z-10 max-w-4xl space-y-6 animate-fade-in-up">

        <h1 class="text-5xl md:text-7xl lg:text-8xl font-serif font-medium leading-tight tracking-tight">

            Capturing <span class="italic text-gold-500">Life's</span>
<br> Finer Moments

        </h1>

        <p class="text-lg md:text-xl text-zinc-300 font-light max-w-2xl mx-auto leading-relaxed">

            Specializing in cinematic landscapes, emotive portraits,
and abstract fine art photography.

        </p>

        <div class="pt-8">

            <a href="#gallery" class="inline-block border border-white/30 bg-white/5 backdrop-blur-sm px-8 py-3 text-sm uppercase tracking-widest hover:bg-white hover:text-black transition-all duration-300">

                View Portfolio

            </a>

        </div>

    </div>

    <!-- Scroll Indicator -->

    <div class="absolute bottom-10 left-1/2 -translate-x-1/2 animate-bounce opacity-50">
```

```
        <svg class="w-6 h-6" fill="none" stroke="currentColor"
viewBox="0 0 24 24"><path stroke-linecap="round" stroke-linejoin="round"
stroke-width="2" d="M19 14l-7 7m0 0l-7-7m7 7V3"></path></svg>

    </div>

</header>

<!-- Gallery Section --&gt;

&lt;section id="gallery" class="py-24 bg-zinc-950"&gt;

    &lt;div class="max-w-7xl mx-auto px-6"&gt;

        &lt;div class="flex flex-col md:flex-row justify-between
items-end mb-16"&gt;

            &lt;div&gt;

                &lt;span class="text-gold-500 text-sm uppercase
tracking-widest font-medium block mb-2"&gt;Selected Works&lt;/span&gt;

                &lt;h2 class="text-4xl md:text-5xl font-serif"&gt;Visual
Stories&lt;/h2&gt;

            &lt;/div&gt;

            &lt;div class="mt-6 md:mt-0"&gt;

                &lt;p class="text-zinc-500 max-w-sm text-sm
leading-relaxed text-right md:text-left"&gt;

                    A curation of recent projects exploring light,
shadow, and human connection across the globe.

                &lt;/p&gt;

            &lt;/div&gt;

        &lt;/div&gt;

    &lt;/div&gt;</pre>
```

```
<!-- Masonry Grid -->

<div class="grid grid-cols-1 md:grid-cols-2 lg:grid-cols-3 gap-6 auto-rows-[400px]">

    <!-- Landscape: Large Wide Item -->

    <div class="group relative overflow-hidden md:col-span-2 row-span-1 border border-white/5 bg-zinc-900 cursor-pointer">

            <div class="absolute inset-0 bg-gradient-to-t from-black/80 via-transparent to-transparent opacity-0 group-hover:opacity-100 transition-opacity duration-300 flex flex-col justify-end p-8">

                <h3 class="text-2xl font-serif">Golden Horizon</h3>

                <p class="text-zinc-400 text-sm">Iceland</p>

            </div>

        </div>

    </div>

    <!-- Portrait: Tall Item -->

    <div class="group relative overflow-hidden md:col-span-1 lg:row-span-2 border border-white/5 bg-zinc-900 cursor-pointer">

            <div class="absolute inset-0 bg-gradient-to-t from-black/80 via-transparent to-transparent opacity-0 group-hover:opacity-100 transition-opacity duration-300 flex flex-col justify-end p-8">
```

```
group-hover:opacity-100 transition-opacity duration-300 flex flex-col
justify-end p-8">

    <h3 class="text-2xl font-serif">The Artist</h3>

    <p class="text-zinc-400 text-sm">Studio Series</p>

    </div>

</div>

<!-- Abstract: Square Item --&gt;

&lt;div class="group relative overflow-hidden border
border-white/5 bg-zinc-900 cursor-pointer"&gt;

    &lt;img src="images/gallery_abstract.png" alt="Abstract"
class="w-full h-full object-cover transition-transform duration-700
group-hover:scale-110 opacity-90 group-hover:opacity-100"&gt;

        &lt;div class="absolute inset-0 bg-gradient-to-t
from-black/80 via-transparent to-transparent opacity-0
group-hover:opacity-100 transition-opacity duration-300 flex flex-col
justify-end p-8"&gt;

            &lt;h3 class="text-2xl font-serif"&gt;Modern Angles&lt;/h3&gt;

            &lt;p class="text-zinc-400 text-sm"&gt;Architecture&lt;/p&gt;

            &lt;/div&gt;

        &lt;/div&gt;

    &lt;/div&gt;

<!-- Nature: Square Item --&gt;

&lt;div class="group relative overflow-hidden border
border-white/5 bg-zinc-900 cursor-pointer"&gt;</pre>
```

```
        

        <div class="absolute inset-0 bg-gradient-to-t
from-black/80 via-transparent to-transparent opacity-0
group-hover:opacity-100 transition-opacity duration-300 flex flex-col
justify-end p-8">

            <h3 class="text-2xl font-serif">Morning Dew</h3>

            <p class="text-zinc-400 text-sm">Macro</p>

        </div>

    </div>

</div>

</div>

</section>

<!-- Contact Section --&gt;

&lt;section id="contact" class="py-24 bg-zinc-900 border-t
border-white/5"&gt;

    &lt;div class="max-w-4xl mx-auto px-6"&gt;

        &lt;div class="text-center mb-16 space-y-4"&gt;

            &lt;h2 class="text-4xl font-serif"&gt;Let's Create Together&lt;/h2&gt;

            &lt;p class="text-zinc-400 font-light"&gt;Available for
commissions and collaborations worldwide.&lt;/p&gt;

        &lt;/div&gt;

    &lt;/div&gt;</pre>
```

```
<form class="space-y-8">

  <div class="grid grid-cols-1 md:grid-cols-2 gap-8">

    <div class="space-y-2">

      <label for="name" class="text-xs uppercase tracking-widest text-zinc-500">Name</label>

      <input type="text" id="name" class="w-full bg-zinc-950 border border-white/10 p-4 text-white focus:outline-none focus:border-gold-500 transition-colors" placeholder="John Doe">

    </div>

    <div class="space-y-2">

      <label for="email" class="text-xs uppercase tracking-widest text-zinc-500">Email</label>

      <input type="email" id="email" class="w-full bg-zinc-950 border border-white/10 p-4 text-white focus:outline-none focus:border-gold-500 transition-colors" placeholder="john@example.com">

    </div>

  </div>

  <div class="space-y-2">

    <label for="message" class="text-xs uppercase tracking-widest text-zinc-500">Message</label>

    <textarea id="message" rows="5" class="w-full bg-zinc-950 border border-white/10 p-4 text-white focus:outline-none focus:border-gold-500 transition-colors" placeholder="Tell me about your project..."/></textarea>

  </div>
```

```
<div class="text-center pt-8">

    <button type="submit" class="bg-gold-500 text-black
font-medium text-sm uppercase tracking-widest px-10 py-4 hover:bg-gold-400
transition-colors">

        Send Message

    </button>

</div>

</form>

</div>

</section>

<!-- Footer -->

<footer class="py-12 bg-zinc-950 border-t border-white/5 text-center
text-zinc-600 text-sm">

    <p>&copy; 2024 Lumina Photography. All rights reserved.</p>

</footer>

</body>

</html>
```

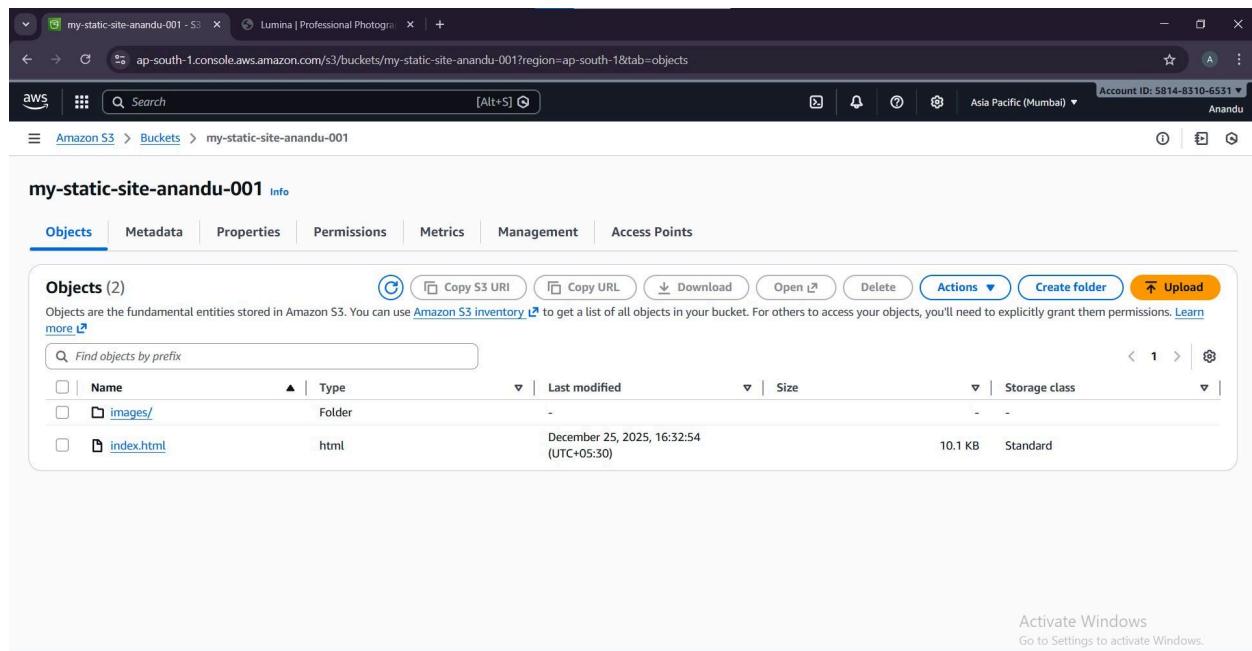
Upload Procedure:

1. Go to Bucket → Objects

2. Click Upload

3. Add file → index.html

4. Click Upload



The screenshot shows the AWS S3 console interface. The top navigation bar includes tabs for 'Objects', 'Metadata', 'Properties', 'Permissions', 'Metrics', 'Management', and 'Access Points'. Below this, there's a toolbar with actions like 'Copy S3 URI', 'Copy URL', 'Download', 'Open', 'Delete', 'Actions', 'Create folder', and 'Upload'. A search bar is also present. The main content area displays a table of objects. The table has columns for 'Name', 'Type', 'Last modified', 'Size', and 'Storage class'. Two objects are listed: 'images/' (Folder) and 'index.html' (html). The 'index.html' file was uploaded on December 25, 2025, at 16:32:54 (UTC+05:30), is 10.1 KB in size, and is stored in the Standard storage class. At the bottom right of the page, there's a message: 'Activate Windows' and 'Go to Settings to activate Windows.'

Outcome:

- ✓ The webpage file is uploaded successfully.

🔒 STEP 4: Configure Bucket Permissions (Critical Step)

Meaning:

This step allows public users on the internet to view the website.

Without this configuration, users will receive an **Access Denied** error.

🔒 Disable Block Public Access (Bucket Level)

Procedure:

1. Open the bucket → **Permissions**
2. Locate **Block public access (bucket settings)**
3. Click **Edit**
4. Uncheck **all four options:**
 - Block public access to buckets and objects
 - Block public access through ACLs
 - Block public access through policies
 - Block public access to public ACLs
5. Click **Save changes**
6. Type **confirm** and save

Outcome:

-  The master public-access lock is removed.
-



Add Bucket Policy

Procedure:

1. Go to **Permissions** → **Bucket policy**
2. Paste the following policy:

```
{  
  "Version": "2012-10-17",  
  "Statement": [  
    {  
      "Sid": "PublicReadGetObject",  
      "Effect": "Allow",  
      "Principal": "*",  
      "Action": "s3:GetObject",  
      "Resource":  
        "arn:aws:s3:::my-static-site-anandu-001/*"  
    }  
  ]  
}
```

3. Save changes

The screenshot shows the AWS S3 console with the bucket 'my-static-site-anandu-001' selected. The left sidebar shows navigation options like 'Buckets', 'Access management and security', and 'Storage management and insights'. The main area displays the 'Bucket policy' section, which includes a success message 'Successfully edited bucket policy.' and the JSON policy code:

```
{  
    "Version": "2012-10-17",  
    "Statement": [  
        {  
            "Sid": "PublicReadGetObject",  
            "Effect": "Allow",  
            "Principal": "*",  
            "Action": "s3:GetObject",  
            "Resource": "arn:aws:s3:::my-  
static-site-anandu-001/*"  
        }  
    ]  
}
```

Outcome:

- ✓ The website becomes publicly readable.

📁 Folder Structure Fix (Issue Resolution)

Problem Identified:

Initially, the website files were uploaded inside a folder named `photographer_portfolio`, which caused a `404 NoSuchKey` error.

Correct Bucket Structure:

Bucket

```
|__ index.html  
└__ images/
```

Fix Procedure:

1. Open **Bucket → Objects**
2. Open folder → `photographer_portfolio`
3. Select **all files**
4. Click **Actions → Move**
5. Set destination to **bucket root**
6. Complete the move
7. Delete the empty `photographer_portfolio` folder

Outcome:

`index.html` and `images/` are now at the root level.

STEP 5: Verify Website Using Endpoint

Meaning:

This step confirms that the static website is accessible over the internet.

Procedure:

1. Go to **Properties** → **Static website hosting**

Copy the **Website endpoint**, for example:

`http://my-static-site-anandu-001.s3-website-ap-south-1.amazonaws.com`

- 2.
3. Paste the URL into a web browser

Result:



The static website loads successfully.

5. Final Result

- Static website successfully hosted on Amazon S3
- Public access configured securely
- Website accessible via S3 website endpoint
- Common configuration issues identified and resolved



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GALLERY ABOUT CONTACT

SELECTED WORKS

Visual Stories

A curation of recent projects exploring light, shadow, and human connection across the globe.

Golden Horizon
Iceland

Activate Windows
Go to Settings to activate Windows.

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GALLERY ABOUT CONTACT

Let's Create Together

Available for commissions and collaborations worldwide.

NAME

John Doe

EMAIL

john@example.com

MESSAGE

Tell me about your project...

SEND MESSAGE

Activate Windows
Go to Settings to activate Windows.

6. Learning Outcomes

- Understood Amazon S3 static website hosting
 - Learned how Block Public Access overrides bucket policies
 - Gained experience resolving **404 NoSuchKey** errors
 - Practiced secure public access configuration in AWS
-

7. Conclusion

This project demonstrates a complete and practical implementation of static website hosting using Amazon S3. It highlights real-world AWS configuration steps, common mistakes, and their solutions. The project serves as a strong foundation for further enhancements such as CloudFront integration, HTTPS, and custom domain mapping.