

Project: Static Website Hosting using AWS S3

Overview

This project demonstrates how to host a static website using **Amazon S3**, one of the core storage services provided by AWS. You will upload website files (like HTML, CSS, images) to a public S3 bucket, configure it for web hosting, and access it via a public URL.

Prerequisites

- AWS account
 - Basic knowledge of HTML
 - A simple static website (like `index.html`)
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Step 1: Prepare Your Website Files Locally

1. Create a folder on your computer named: `my-static-website`
2. Create a file called `index.html` inside it with the following content:

```
<!DOCTYPE html>
<html>
<head>
  <title>My First AWS Website</title>
</head>
<body>
  <h1>Hello from Madhu Nadh!</h1>
  <p>This is a static website hosted on AWS S3.</p>
</body>
</html>
```

Step 2: Log into AWS Console

1. Go to <https://aws.amazon.com/>
 2. Sign in with your credentials.
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Step 3: Create an S3 Bucket

1. Search for **S3** in the AWS console.
2. Click **Create bucket**.

3. Fill in the form:
 4. **Bucket name:** e.g., `madhu-static-site` (must be globally unique)
 5. **Region:** Select the nearest (e.g., Asia Pacific - Mumbai)
 6. Under **Object Ownership**, leave default:
 7. ACLs disabled (recommended)
 8. Uncheck **Block all public access**
 9. Confirm the warning box. Click acknowledge
 10. Leave other options as default and click **Create bucket**
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Step 4: Upload Website Files to S3

1. Click on your bucket name.
 2. Go to the **Objects** tab.
 3. Click **Upload > Add files**, select `index.html`. If you have many files or folders, you can add folders as well.
 4. Click **Upload**
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Step 5: Make the Files Public (Using Bucket Policy)

1. Select bucket and go to the **Permissions** tab of your bucket.
2. Scroll to **Bucket Policy** and click **Edit**
3. Paste this policy (replace bucket name if needed):

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

You have to cross-check your bucket name in the above policy before clicking on save.

1. Click **Save changes**
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Step 6: Enable Static Website Hosting

1. Go to the **Properties** tab of your bucket.

2. Scroll to **Static website hosting**
3. Click **Edit**
4. Enable static website hosting
5. Set `index.html` as the **Index document**
6. Click **Save changes**

Step 7: Access the Website

1. Scroll down to the **Static website hosting** section under **Properties**
2. Copy the **Website endpoint URL**
3. Paste it in your browser to view your live website

Example:

`http://madhu-static-site.s3-website-ap-south-1.amazonaws.com/`

What You Learned

- How to use Amazon S3 for hosting
- Bucket policies for public access
- Difference between static and dynamic websites

Static vs Dynamic Websites

Feature	Static Website	Dynamic Website
Content	Fixed (pre-written HTML/CSS)	Generated on-the-fly (via server-side scripting)
Server Interaction	No server logic, just files	Needs backend logic (PHP, Node.js, databases, etc.)
Hosting Cost	Low / Free	Typically higher due to server requirements
Use Case Examples	Portfolios, Blogs, Resumes	E-commerce, Social Media, Web Apps
Speed	Very fast (no processing needed)	Slower (data fetched/generated dynamically)

Why Static Website Hosting?

Benefit	Explanation
Simple & Fast	No backend needed, quick to load
Cost Effective	Free tier eligible in AWS
Easy to Maintain	Just upload files, no servers involved

Next Steps (Optional but Recommended)

- Add a custom domain using **Route 53**
- Enable **HTTPS** using **CloudFront** (for secure access)
- Auto-deploy your site from **GitHub** using **AWS CLI** or **CodePipeline**
- Explore versioning and backups for your bucket
- Track website traffic using AWS CloudWatch or third-party tools

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