Introducing the Project

In this project, I explored how to host a static website using Amazon S3 (Simple Storage Service). The main objective was to take a basic static website and deploy it online using cloud infrastructure provided by AWS.

Tools and Concepts

The primary service used was Amazon S3. Throughout the process, I gained hands-on experience with the following tools and concepts:

- Creating and configuring S3 buckets
- Uploading static website files (e.g., index.html and media assets)
- Assigning and managing Bucket Policies and Access Control Lists (ACLs)
- Understanding Endpoint URLs
- Enabling Static Website Hosting through the AWS Console

I also learned about how permissions and access settings (such as ACLs and public access configurations) impact whether a website is successfully rendered or results in errors.

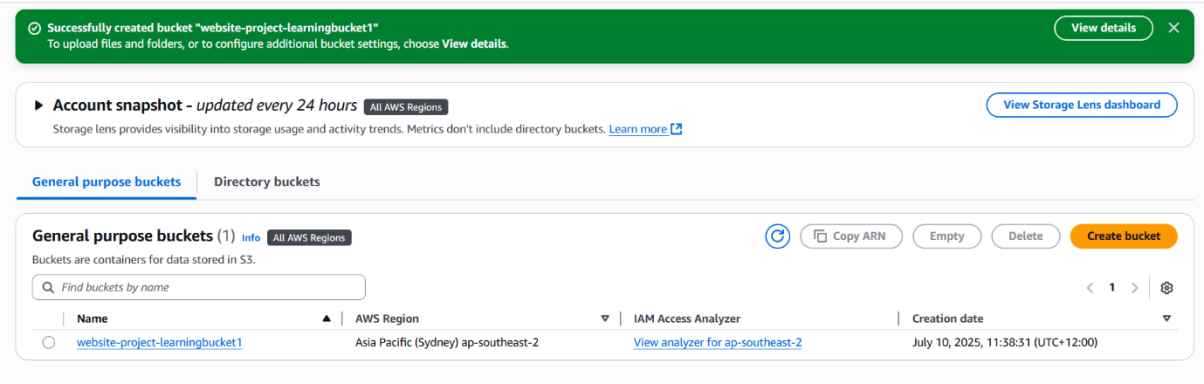
Project Reflection

This project took me approximately 30 minutes to complete. One of the more challenging parts was troubleshooting an error that initially prevented my website from displaying correctly. This was due to a misconfiguration in the index.html file and the access settings, which I later corrected through careful analysis and updates to the file and permission structures.

How I Set Up the S3 Bucket

Creating the S3 bucket was quick and straightforward. I chose the Sydney (ap-southeast-2) region as it is geographically closest to my hosting location, which can help reduce latency.

One key learning point is that S3 bucket names must be globally unique. This is because they form part of the public URL and must avoid naming conflicts with other buckets around the world.

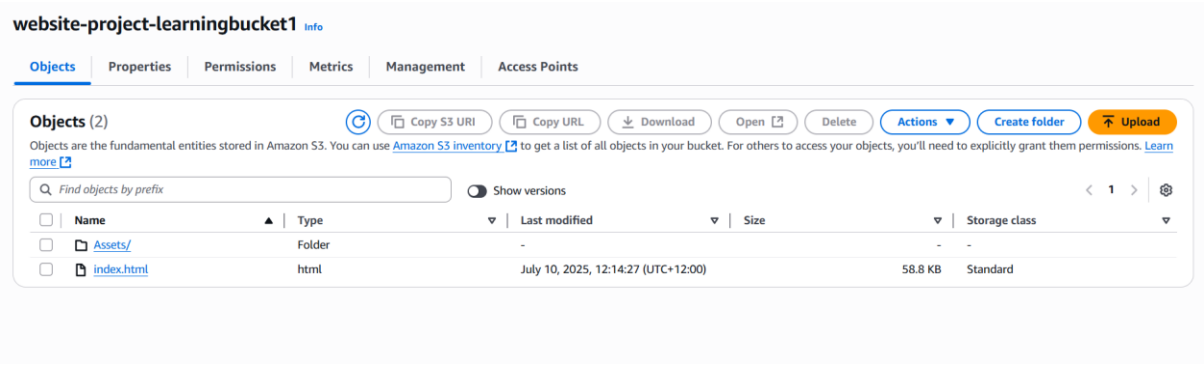


Uploading Website Files to S3

To build the website structure, I uploaded:

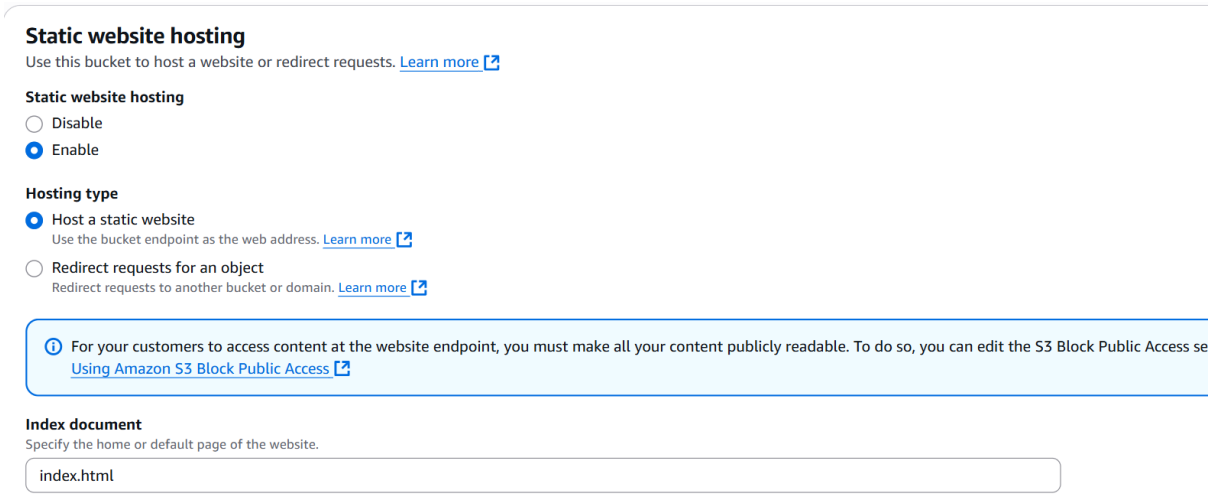
- A single file: index.html
- One folder containing images and other static assets

The index.html file serves as the backbone of the site, providing the page layout and structure, while the asset folder includes all the images and resources that appear on the page.



Static Website Hosting on Amazon S3

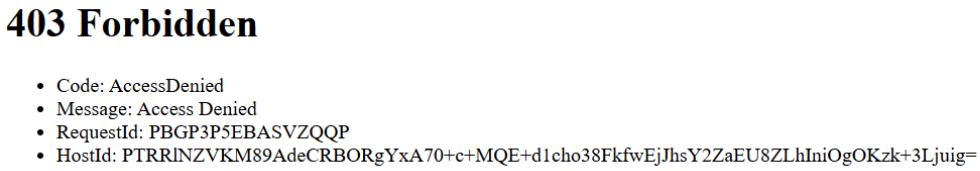
To enable hosting, I navigated to the Properties tab of my S3 bucket and enabled the Static Website Hosting feature. I designated index.html as the index document, ensuring visitors are presented with the main page upon accessing the site.



Understanding Bucket Endpoints

Once static hosting was enabled, AWS automatically generated a bucket endpoint URL, which acts as the public address of the website. However, upon my first attempt to access the site, I encountered a 403 Forbidden error.

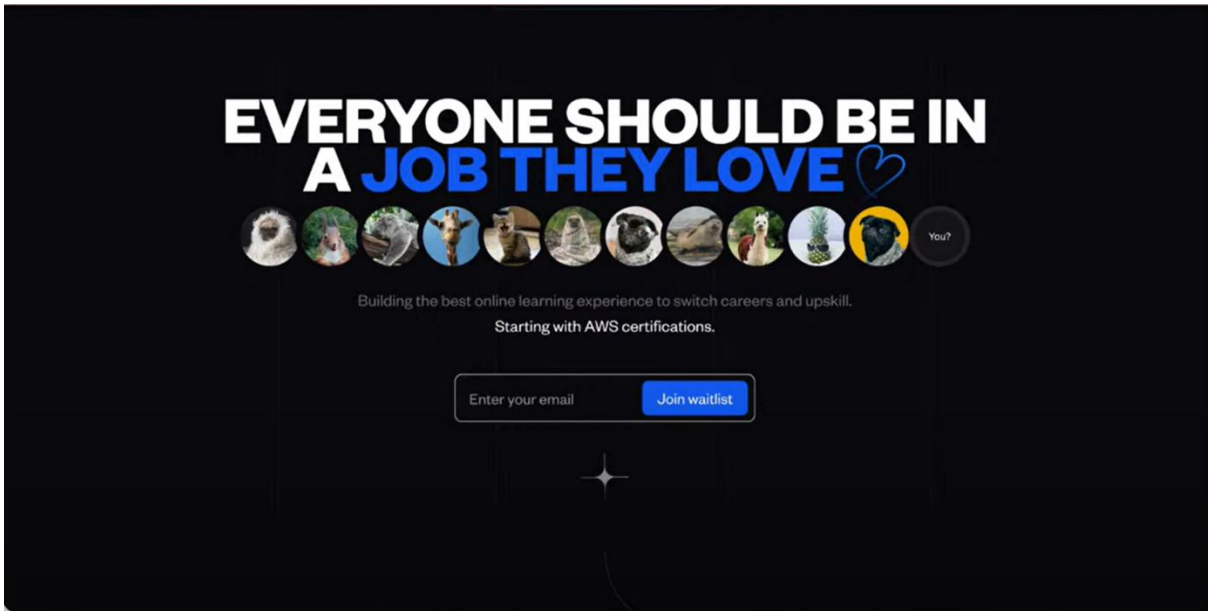
Although I had disabled “Block all public access” during bucket creation, I discovered that each object also needed its own public permissions. After applying ACL settings to allow public read access to all objects, the site became accessible.



Resolution and Success

To resolve the access issue, I updated the ACL settings to grant public read permissions for all uploaded objects. This change allowed the website to become publicly accessible, and the static content displayed as intended.

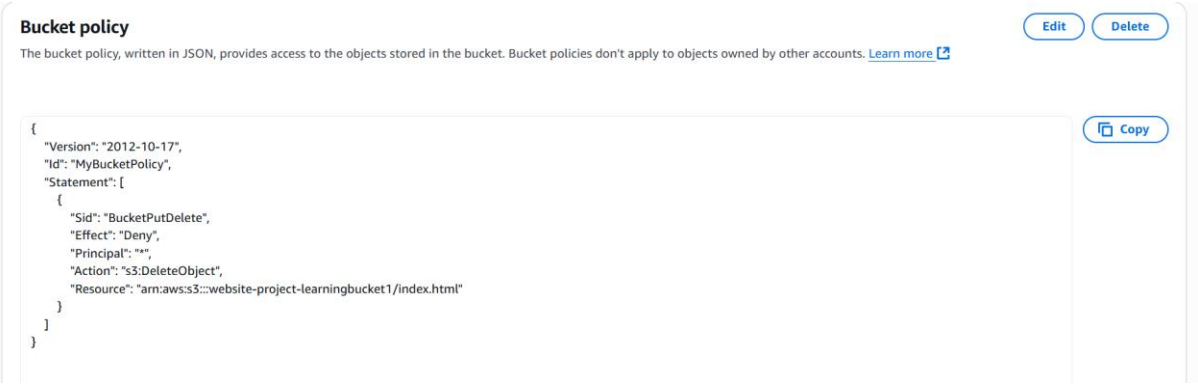
The final result was a fully functional static website hosted entirely on Amazon S3, an important step forward in my understanding of cloud-based deployment and web hosting



Final Touches and Security

After the website was working, I took the opportunity to explore more advanced permission controls by configuring a bucket policy.

As a learning exercise, I created a policy that prevents the deletion of the index.html file. This protects the main landing page from being accidentally removed or overwritten, which could break the site. It also helped me better understand how fine-grained access controls can be applied at the bucket level using JSON policy documents.



Failed to delete objects
For more information, see the **Error** column in the **Failed to delete table** below.

Diagnose with Amazon Q

After you navigate away from this page, the following information is no longer available.

Summary

Source	Successfully deleted	Failed to delete
s3://website-project-learningbucket1	0 objects	1 object, 58.8 KB

Failed to delete | Configuration

Failed to delete (1 object, 58.8 KB)

Find objects by name

Name	Folder	Type	Last modified	Size	Error
index.html	-	html	July 10, 2025, 13:50:25 (UTC+12:00)	58.8 KB	Access denied