

Documentation

Hosting a Website on Amazon S3

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1 What is Amazon S3?

Amazon S3 is an object storage service that stores data as objects within buckets. It offers industry-leading scalability, data availability, security, and performance for storing and protecting any amount of data for various use cases[1].

2 How I Used Amazon S3 in This Project

I used Amazon S3 to store the data files of a webpage and make the webpage publicly accessible.

3 Unexpected Aspect

One thing I didn't expect in this project was how easy it is to host a website online for public access using S3.

4 Setting Up an S3 Bucket

I chose the US East region for my S3 bucket because it offers good latency for many global users. It's important to note that no two S3 buckets can have the same name across all AWS accounts and regions worldwide, ensuring each bucket has a distinct identity.

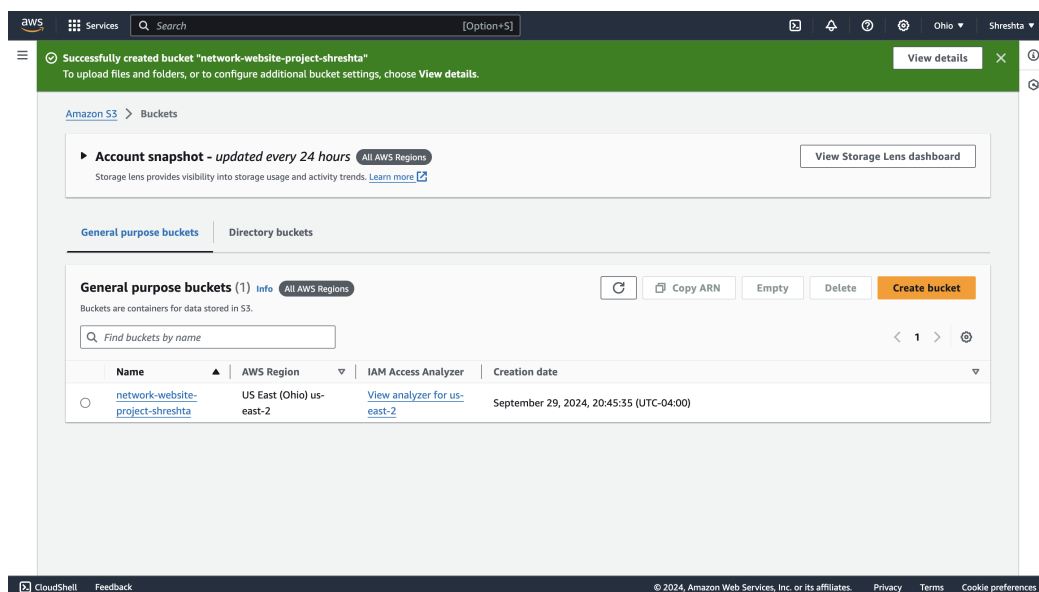


Figure 1: AWS S3 Bucket

5 Uploading Website Files to S3

5.1 index.html and image assets

I uploaded two files to my S3 bucket:

- index.html - The main HTML file for the website
- NextWork - Everyone should be in a job they love_files.zip - A zip file containing additional files for the website

The index.html file is the main entry point for the website, containing the structure and content of the web page in HTML format. The unzipped folder contains images, icons, or other graphical elements used in the webpage design.

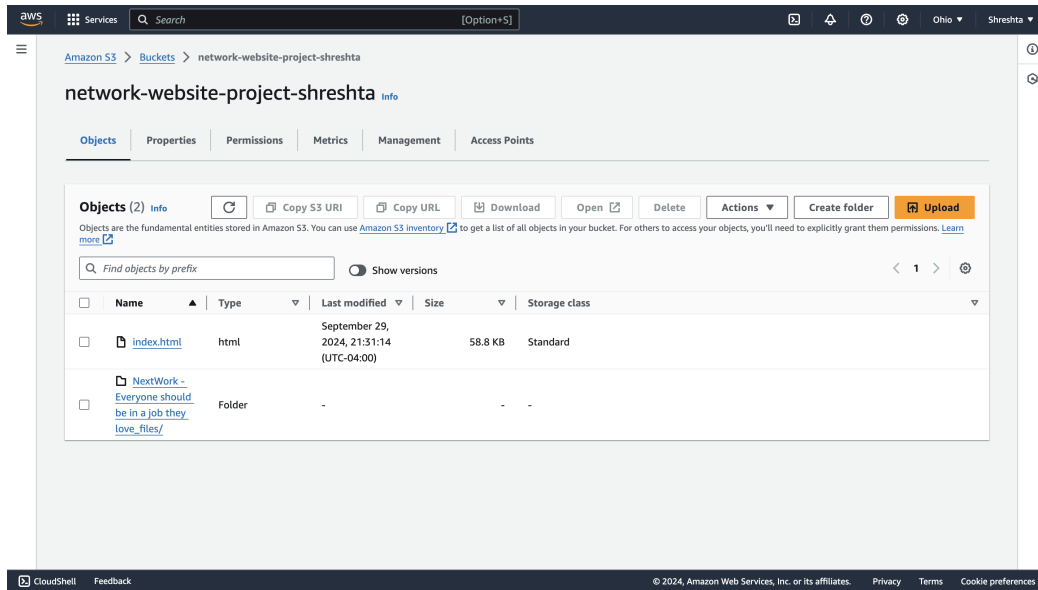


Figure 2: Website files

6 Static Website Hosting on S3

To enable website hosting with my S3 bucket, I enabled static hosting and set index.html as the index document.

6.1 Access Control Lists (ACL)

- An ACL is a set of rules that defines which AWS accounts or groups can access S3 buckets and objects, and what actions they can perform. ACLs provide granular control over access permissions at both the bucket and object level, allowing you to specify read, write, and other permissions for individual AWS accounts or groups.
- However, it's worth noting that AWS now recommends using bucket policies and IAM policies for most access control scenarios, as they offer more flexibility and are easier to manage at scale

7 Bucket Endpoints

Once static website hosting is enabled, S3 produces a bucket endpoint URL, which is a unique web address for accessing the static website hosted in the S3 bucket.

7.1 Bucket endpoint URL

- The bucket endpoint URL follows a specific format.
- `http:// [bucket-name] .s3-website. [region] .amazonaws.com`

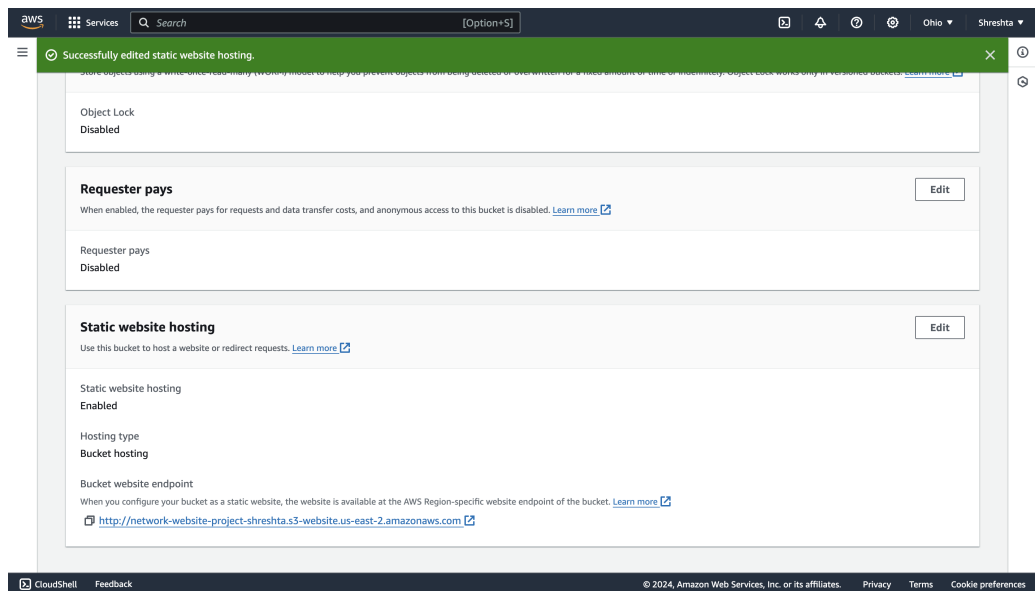


Figure 3: Static website hosting

8 Initial Error

When I first visited the bucket endpoint URL, I saw a "Forbidden 403 - Access Denied" error message. This occurred because the objects in the S3 bucket were still set to private by default, even though the bucket itself is configured for static website hosting.

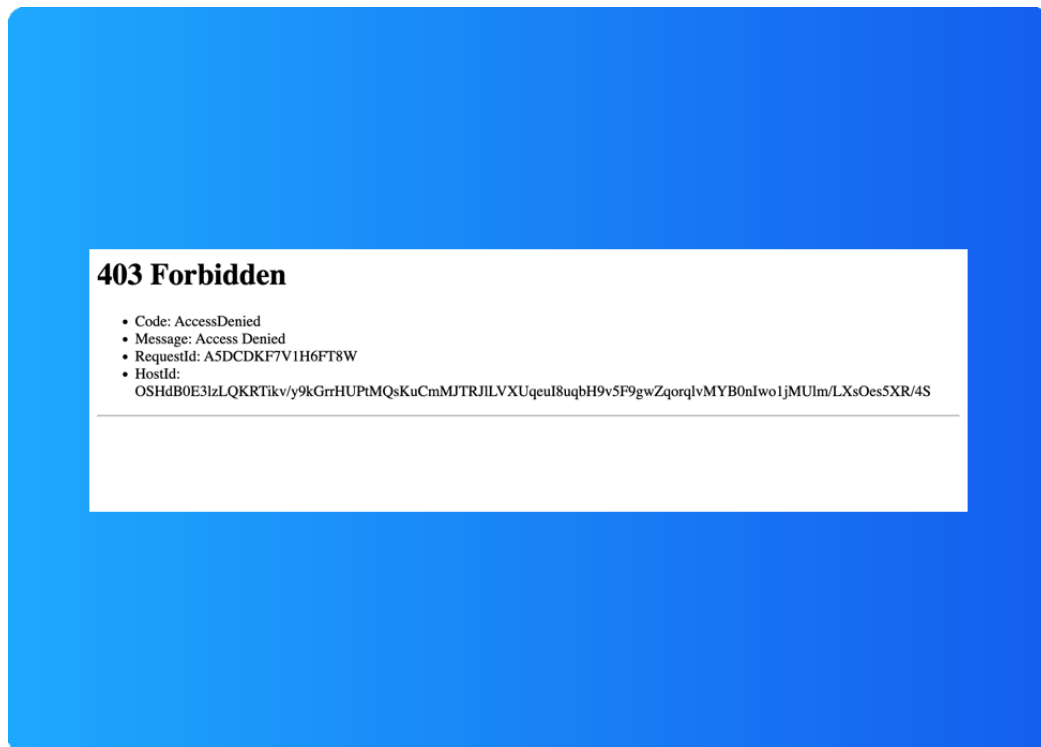


Figure 4: Access Denied Error

9 Resolving the Error

To resolve this connection error, I made the objects in the S3 bucket publicly accessible using ACLs.

10 Success

After making the necessary changes, the website was successfully hosted and accessible to the public.

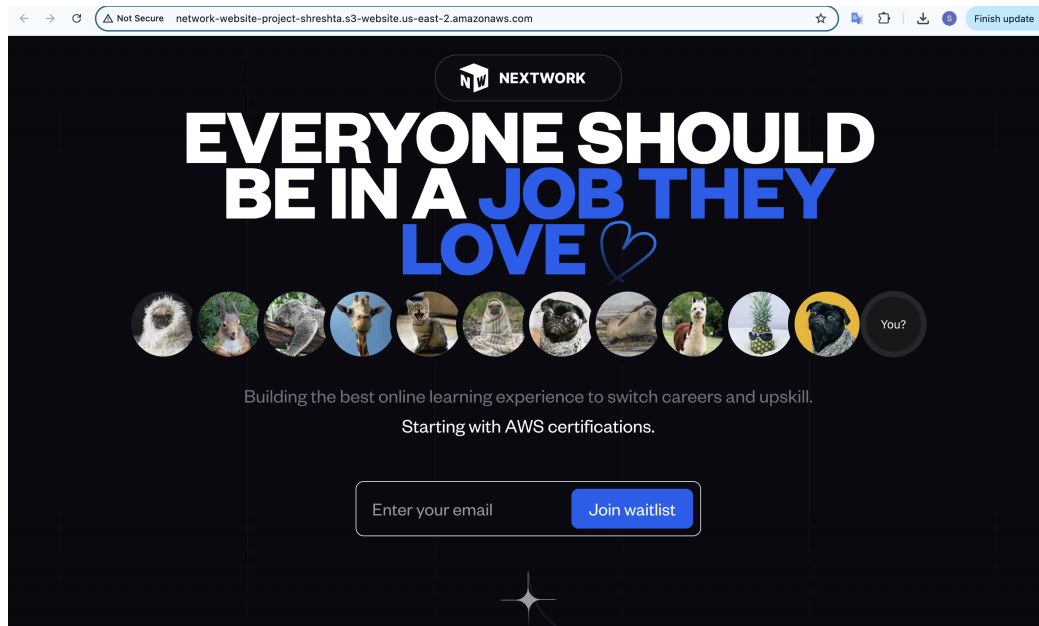


Figure 5: Website hosted successfully for public access