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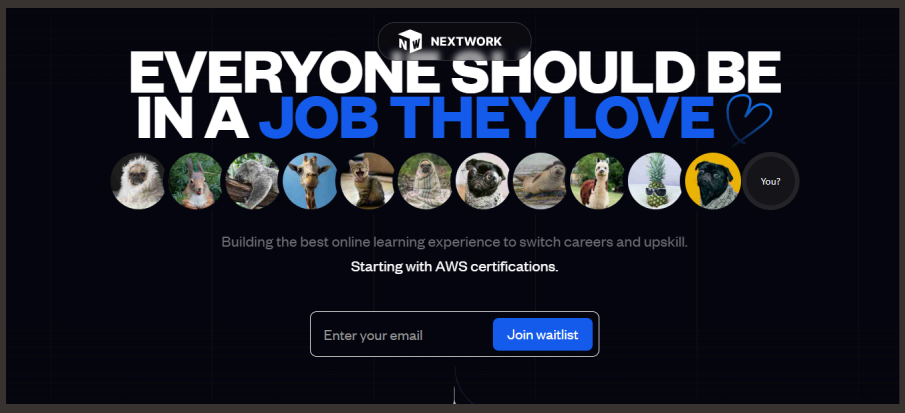
Host a Website on Amazon S3

CH Arpita Chowdhury



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Introducing Today's Project!

In this project, I will demonstrate how to use S3 to host a static website. I'm doing this project to learn to learn about AWS and cloud services and how they can be used to store object in cloud AND host websites. How they work.

Tools and concepts

Services I used were Amazon S3. Key concepts I learnt include bucket policies, uploading static website files index.html, bucket endpoint urls and ACLs and how they control access to bucket objects.

Project reflection

This project took me approximately 2 hrs. The most challenging part was resolving 403 forbidden error. It was most rewarding to se the webpage come live after refreshing the page.

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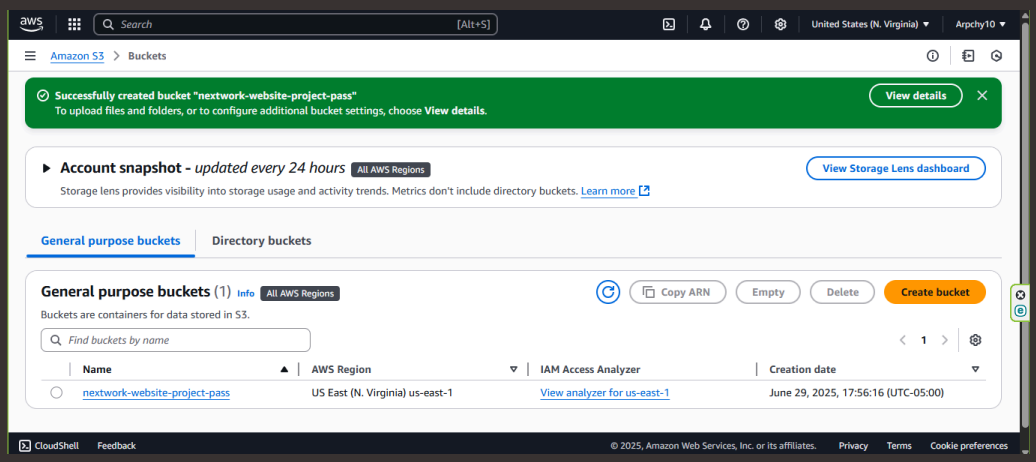
How I Set Up an S3 Bucket

Creating an S3 bucket took me less than 5 minutes.

The Region I picked for my S3 bucket was North Virginia because as per google search it was the closest one.I live in San Marcos, Texas. It is recommended to choose the closest region to avoid latency.

S3 bucket names are globally unique! This means it is unique all around the world. The name will not be repeated for another Amazon S3 bucket in the world. They will be unique regardless of region for the account ID



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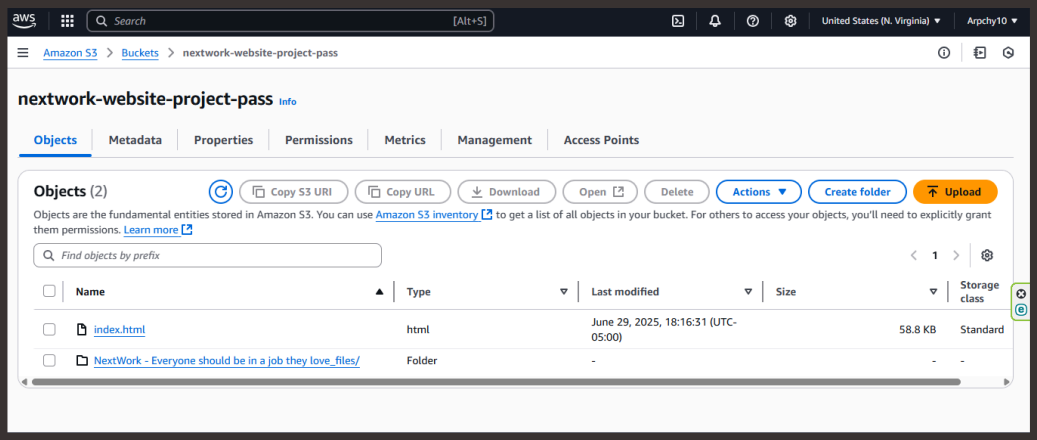
Upload Website Files to S3

index.html and image assets

I uploaded two files to my S3 bucket - they were index.html this determines the blueprint for the website and folder of images and access that will fill the website with the requested images and required acls.

Both files are necessary for this project as the html alone cannot determine the content of the website. If a picture is needed which is present in the folder can be provided from the folder as html file do not have it.



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Static Website Hosting on S3

Website hosting means means putting our website files on a webserver which is a computer designed to turn the files into website which is public.

To enable website hosting with my S3 bucket, I went into the property tab of my bucket and enabled static website hosting and typed index.html in index document which the documnet that will be hosted.

An ACL is access control list is a way to configure permission settings inside a bucket. I enabled ACL so I can access control files later. A pop up where AWS recommended to disable ACl but I kept ACL enable to compare how policies work later.

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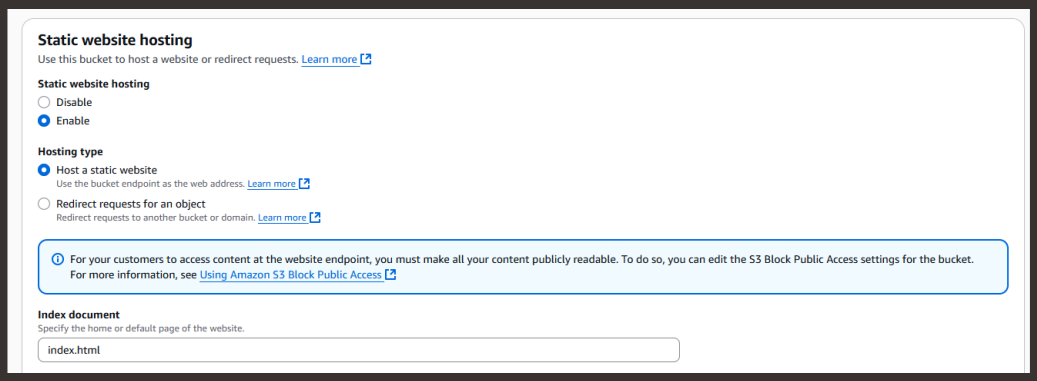
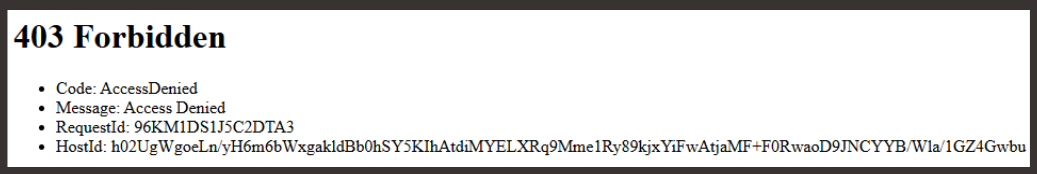


Bucket Endpoints

Once static website is enabled, S3 produces a bucket endpoint URL, which is url that takes u to the webserver hosting the website.

When I first visited the bucket endpoint URL, I saw 403 forbidden Error. The reason for this error was objects in this bucket are public by default eventhough I switched off block all public access but website files themselves are still completly private. I needed to manage their access setting seperately. They need to be public files to for the public to see the content of our website.

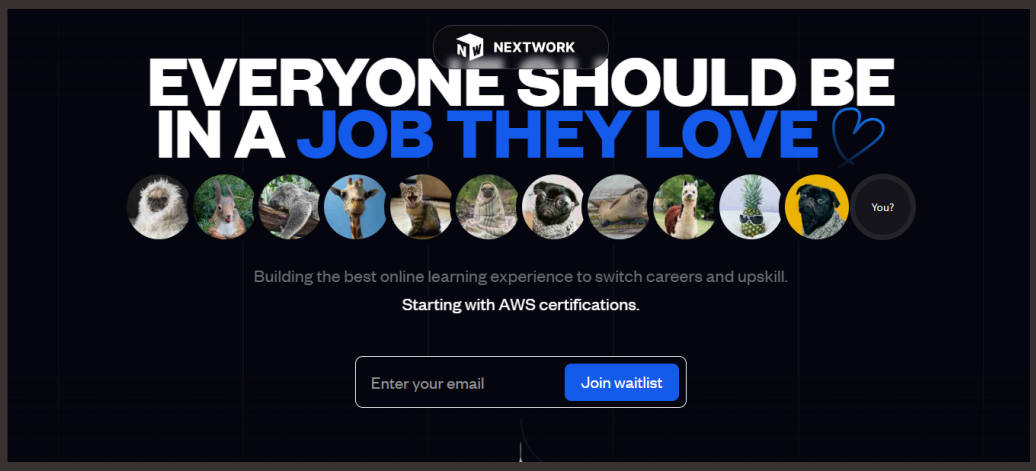


403 Forbidden

- Code: AccessDenied
- Message: Access Denied
- RequestId: 96KM1DS1J5C2DTA3
- HostId: h02UgWgoeLn/yH6m6bWxgakldBb0hSY5KIhAtdiMYELXRq9Mme1Ry89kjxYiFwAtjaMF+F0RwaoD9JNCYYB/Wla/1GZ4Gwbu

Success!

To resolve this 403 Forbidden error, I updated the access setting of the files inside the bucket. Using ACLs I made the bucket files public. Once the bucket endpoint is checked the website was reloaded and the website was visible.



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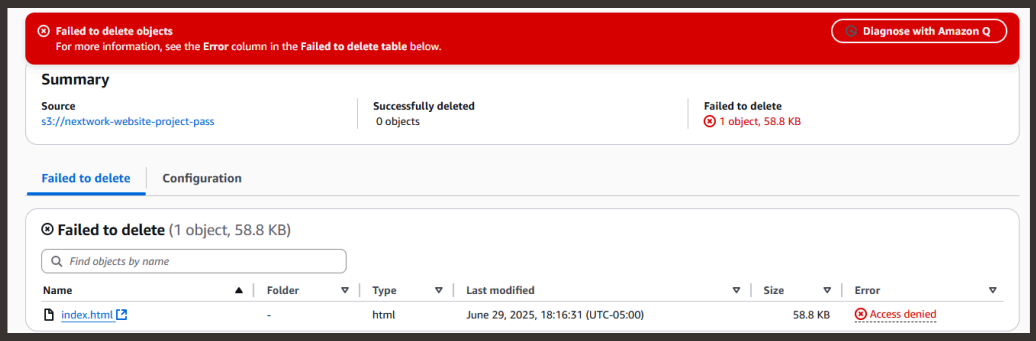
Bucket Policies

An alternative to ACLs are bucket policies, which are rules that determine who is allowed or not allowed to do something. The benefit of using bucket policies is that you can have greater control of the peoples access while ACLs are useful for controlling public access to individual objects inside the bucket.

My bucket policy denies everyone from deleting the index.html file in the bucket. I tested this by trying to delete index.html from bucket and saw a permission denied error which means the policy worked as it succesfully stopped the deletion of an object.



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