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Host a Website on Amazon S3



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Introducing Today's Project!

What is Amazon S3

Amazon S3 is a scalable storage service that allows you to store and retrieve any amount of data. It's useful for its durability, scalability, and ease of integration with other AWS services.

How I used Amazon S3 in this project

In today's project, I used Amazon S3 to host a static website. I uploaded the website files to an S3 bucket, configured static website hosting, and set permissions for public access to make the site available online.

One thing I didn't expect in this project was...

One thing I didn't expect was the need to adjust the bucket's permissions and policies so thoroughly to ensure proper public access. It required more configuration than initially anticipated.

This project took me...

The project took me about 2 to 3 hours. This included setting up the S3 bucket, uploading files, configuring permissions, and troubleshooting any issues that arose along the way.



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How I Set Up an S3 Bucket

Creating an S3 bucket took me just a few minutes. The process involved logging into the AWS Management Console, navigating to the S3 service, entering a unique bucket name, selecting the region, and configuring basic settings.

The Region I picked for my S3 bucket was Asia Pacific (Mumbai) because it is geographically closer to my primary audience, ensuring faster access and lower latency for users in the region

S3 bucket names are globally unique! This means that each bucket name must be unique across all AWS accounts, ensuring no two buckets in S3 have the same name, and preventing naming conflicts.

The screenshot shows the AWS S3 Buckets page. At the top, there's a header with 'Amazon S3 > Buckets'. Below the header, a section titled 'Account snapshot - updated every 24 hours' includes a link to 'All AWS Regions' and a note about Storage lens. A 'Create bucket' button is prominently displayed. The main area shows a table of 'General purpose buckets'. The table has columns for 'Name', 'AWS Region', 'IAM Access Analyzer', and 'Creation date'. One row is visible, showing a bucket named 'network-website-project-shalini' created in the 'Asia Pacific (Mumbai) ap-south-1' region on August 29, 2024, at 14:29:35 (UTC+05:30). There are also links to 'View analyzer for ap-south-1' and 'Copy ARN'.



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Upload Website Files to S3

index.html and image assets

I uploaded two files to my S3 bucket - they were a)index.html and b) NextWork - Everyone should be in a job they love_files

Both files are necessary for this project as index.html serves as the main webpage, while NextWork - Everyone should be in a job they love_files likely contains the associated resources like images.

The screenshot shows the Amazon S3 console interface. At the top, the path is shown as 'Amazon S3 > Buckets > network-website-project-shalini'. Below this, the bucket name 'network-website-project-shalini' is displayed with a 'Info' link. A navigation bar below the bucket name includes tabs for 'Objects', 'Properties', 'Permissions', 'Metrics', 'Management', and 'Access Points'. The 'Objects' tab is selected, showing a list of objects with the following details:

Name	Type	Last modified	Size	Storage class
index.html.html	html	August 29, 2024, 16:57:06 (UTC+05:30)	58.8 KB	Standard
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At the bottom of the object list, there are buttons for 'Actions', 'Create folder', and 'Upload'. There is also a note: 'Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 Inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)'.



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Static Website Hosting on S3

Website hosting means providing storage space and access for websites on a server connected to the internet. When a website is hosted, it is stored on a server that allows users from anywhere in the world to access the site's content.

To enable website hosting with my S3 bucket, I configured the bucket settings to enable static website hosting, uploaded my website files, and set the permissions to allow public access to the content.

Access Control Lists (ACL)

An ACL is a set of permissions that defines who can access and modify objects in an S3 bucket. I disabled ACLs to rely on bucket policies for better control and security management.



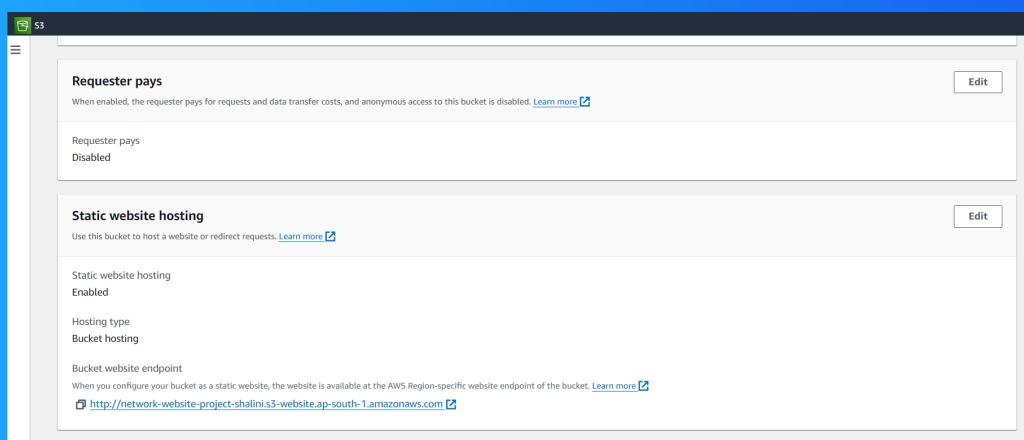
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Bucket Endpoints

Once static website hosting is enabled, S3 produces a bucket endpoint URL, which is a unique web address that allows access to the files stored in the S3 bucket as a website.





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An error!

When I first visited the bucket endpoint URL, I saw my static website displayed as intended. The HTML, CSS, and JavaScript files I uploaded to the S3 bucket were rendered correctly, allowing me to view the website in my browser.

The reason for this error was that the S3 bucket permissions were not set correctly to allow public access. I needed to update the bucket policy to grant read permissions or configure the ACL settings to make the content publicly accessible.

403 Forbidden

- Code: AccessDenied
- Message: Access Denied
- RequestId: J988N0Y0ZKAVZNGM
- HostId: UjzjjJMYyJGu8epECwZkDJ0wzouytNdDCXcQn5DryrJRI6UU7uC5lsM+UW6xZ5UxQFsDk5QgP8A=



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Success!

To resolve this connection error, I checked and updated the bucket policy and permissions to ensure public access, verified the correct bucket name, and ensured the URL was properly configured.

The image shows a screenshot of the NextWork website. The main background is a solid blue color. Overlaid on this is a white rectangular banner. In the top left corner of the banner is the NextWork logo, which consists of a stylized 'N' and 'W' icon followed by the word 'NEXTWORK'. Below the logo, the text 'EVERYONE SHOULD BE IN A JOB THEY LOVE' is displayed in large, bold, white and blue letters. To the right of the text is a small blue heart icon. Below this main section is a row of twelve circular icons, each containing a different animal: a koala, a squirrel, a koala, a giraffe, a tiger, a sloth, a pug, a seal, a llama, a pineapple, a dog, and a person's face with the text 'You?'. Underneath these icons, the text 'Building the best online learning experience to switch careers and upskill.' is written in a smaller white font. Below that, it says 'Starting with AWS certifications.' At the bottom of the banner, there is a white input field with the placeholder 'Enter your email' and a blue button to its right that says 'Join waitlist'.



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