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# How I Hosted A Website on S3



Tanay Shah





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# Introducing Amazon S3!

## What it does & how it's useful

Amazon S3 is an object storage service that allows users store and retrieve any amount of data at anytime.

Developers and teams use Amazon S3 because:

- S3 automatically scales storage infrastructure to meet user demand.
- S3 is designed to be highly available and durable.
- S3 provides multiple security features, such as access control policies, encryption. S3 provides global reach by operating in multiple geographic regions worldwide

## How I'm using it in today's project

I'm using Amazon S3 in this project to host a static website

## This project took me...

This project took 30 minutes to complete  
Documentation took an additional 30 minutes

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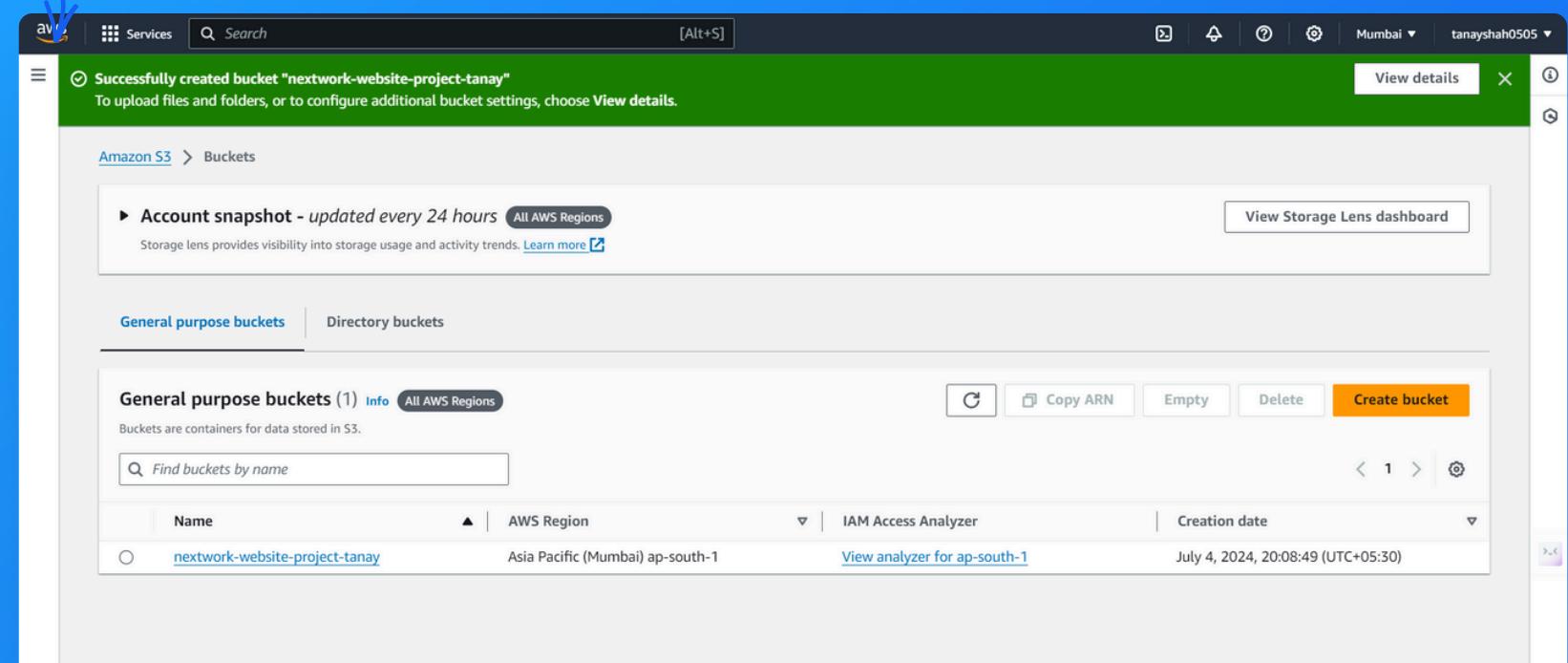
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# Create an S3 bucket

- Creating an Amazon S3 bucket took me... 2mins
- Some of the configuration steps include:
  - The bucket's Region: Affects latency, compliance, cost, and data redundancy. (Asia Pacific (Mumbai) ap-south-1)
  - Access Control Lists: A set of rules that decides who can get access to a resource.(ACLs enabled)
  - Bucket versioning: Enables
  - Public Access: Bucket and the objects within becomes public (Allowed)
- S3 bucket names have to be globally unique, which means no other AWS user in any region can create a bucket with the same name.

My created bucket!



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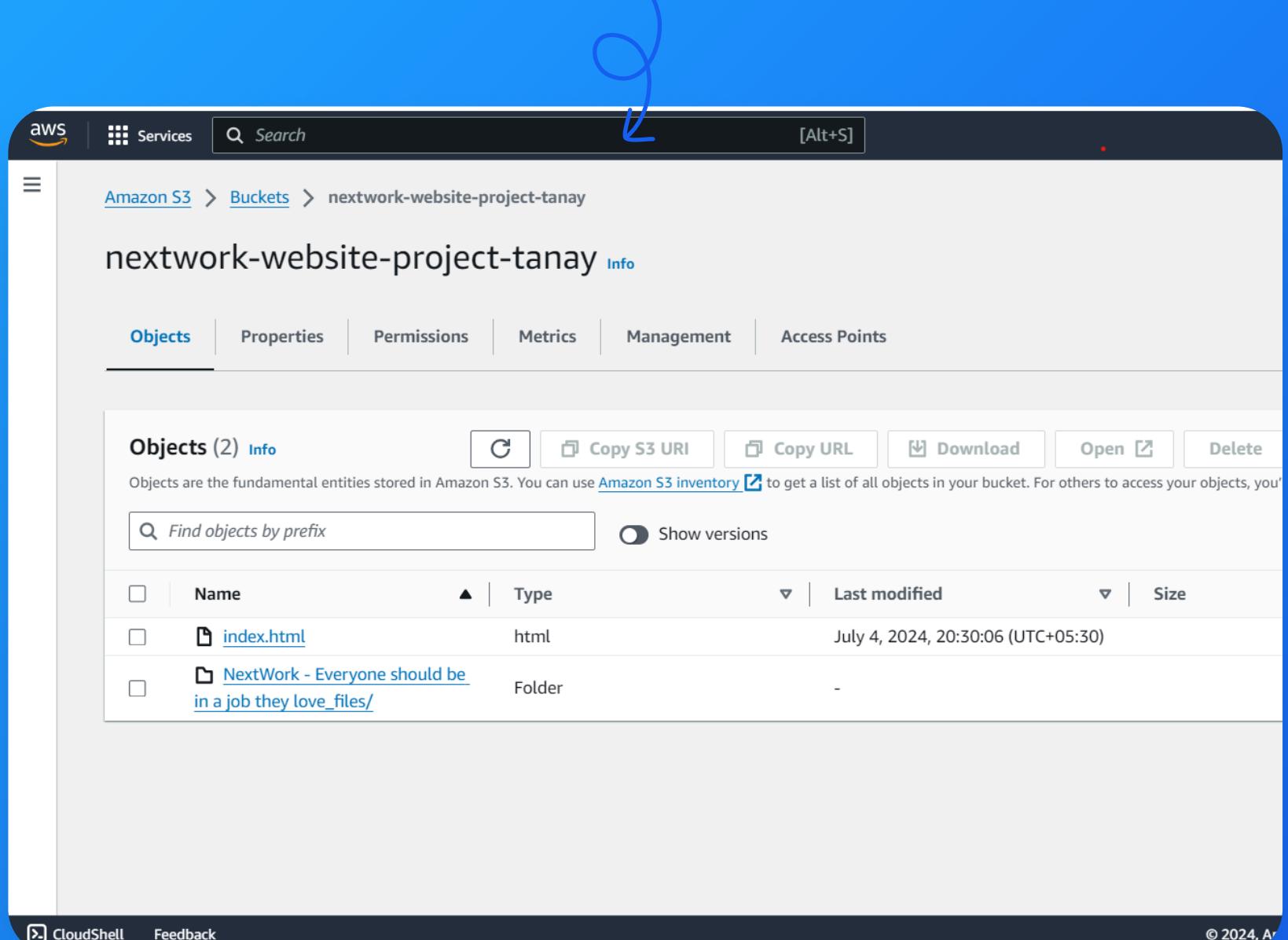
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# Upload website files to S3

- Next, I uploaded my website's files into my S3 bucket.
- There were two files to upload:  
index.html  
Network - Everyone should be in a job they love\_files(folder)  
for CSS of HTML file

Objects successfully uploaded!



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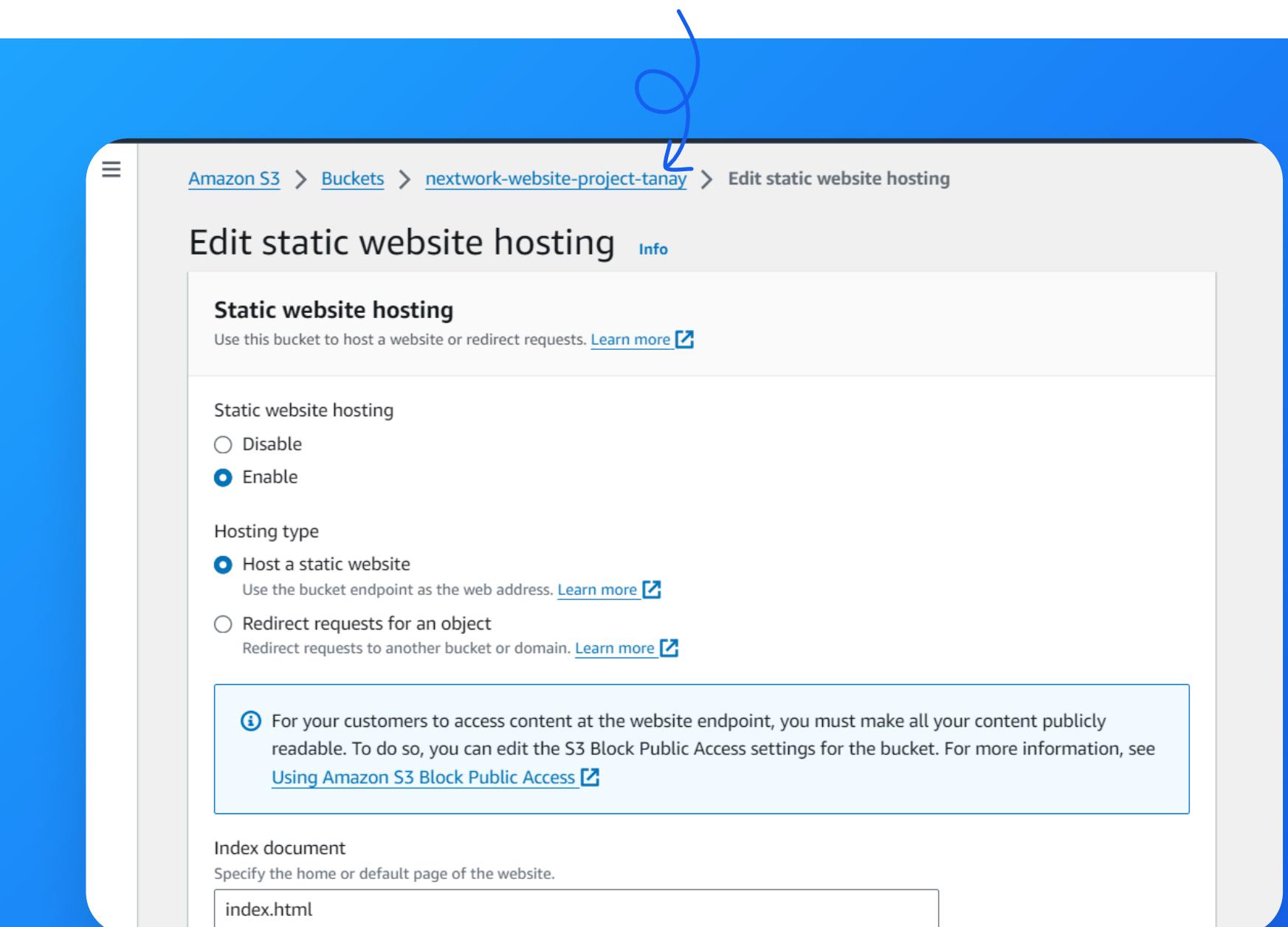
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# Static web hosting on S3

- Web hosting is a service that allows individuals, businesses, and organizations to make their websites accessible via the Internet.
- To enable website hosting, I navigated to the properties tab of the bucket, selected statics web hosting. Enabled static web hosting and specified the index.html file.
- Once static website is enabled, S3 produces a bucket endpoint URL. This endpoint URL becomes a public link for accessing the static website.

Setting up static website hosting...





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# An error!

- When I visited the bucket endpoint URL, I had a 403 Forbidden Error
- The reason for this error was...

The error message is telling you that your static website is being hosted by S3, but the actual HTML/image files you've uploaded are still private.

It's kind of like having a bucket on display, so everyone can see the bucket - but the contents are covered up, preventing anyone from seeing what's inside.

The error!



## 403 Forbidden

- Code: AccessDenied
- Message: Access Denied
- RequestId: CBRCQKE2TPVZ347D
- HostId: TLevNHz9vuR2Mbzb8fXgM7dxyeUiRHZrknzyZtxmV543mRT5CNX/e9+bRDC2U9neoEqGlEaSANQ=



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Voila! My website was up and running after resolving those errors

The screenshot shows the homepage of NextWork.org. At the top, there is a navigation bar with a search icon and a user profile icon. Below the navigation bar, a large banner features the text "EVERYONE SHOULD BE IN A JOB THEY LOVE" in bold white and blue letters. Underneath the banner is a row of ten circular images showing various animals: a squirrel, a koala, a giraffe, a cat, a pug, a dog, a seal, a llama, a pineapple, and another dog. Below these images, the text "Building the best online learning experience to switch careers and upskill. Starting with AWS certifications." is displayed. At the bottom, there is a call-to-action box containing the text "Enter your email" and a blue button labeled "Join waitlist".



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# My Key Learnings

1

Static website hosting is a method of hosting websites that serve static content—HTML, CSS, JavaScript, and images—directly to users without server-side processing or dynamic content generation.

2

The settings I used to make my website available to the public were ACL settings. The ACL setting was changed to public.

3

My bucket endpoint URL initially still returned an error because my objects uploaded to the bucket private ACL by default. I had to resolve this by selecting the objects and changing their ACL settings to public.

4

One thing I didn't expect was for this project to be this fun!!!

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# SECRET MISSION #1

## What is a presigned URL?

When you need to temporarily and securely share an object with a person or group of people, you can create a presigned URL.

- A presigned URL is generated by an AWS user who has access to the object. When you create the URL, you must configure how long the URL will be valid. Then, you can share this URL with the users who will get access to the object.

Securely share objects with presigned URLs..

Time interval until the presigned URL expires

Using the S3 console, you can share an object with a presigned URL for up to 12 hours or until your session expires. To create a presigned URL with a longer time interval, use the AWS CLI or AWS SDK. Time intervals for presigned URLs can be restricted by your IAM policy.

Minutes

Hours

Number of minutes

2

Must be a whole number between 1 and 720.

After you create the presigned URL, it's automatically copied to your clipboard.

Cancel

Create presigned URL

The screenshot shows a modal dialog box titled "Securely share objects with presigned URLs..". Inside, there's a section for "Time interval until the presigned URL expires" with two radio button options: "Minutes" (which is selected) and "Hours". Below this, a text input field contains the value "2". A note below the input says "Must be a whole number between 1 and 720.". At the bottom of the dialog, a note states "After you create the presigned URL, it's automatically copied to your clipboard.". At the very bottom are two buttons: "Cancel" on the left and "Create presigned URL" on the right, which is highlighted with an orange background.

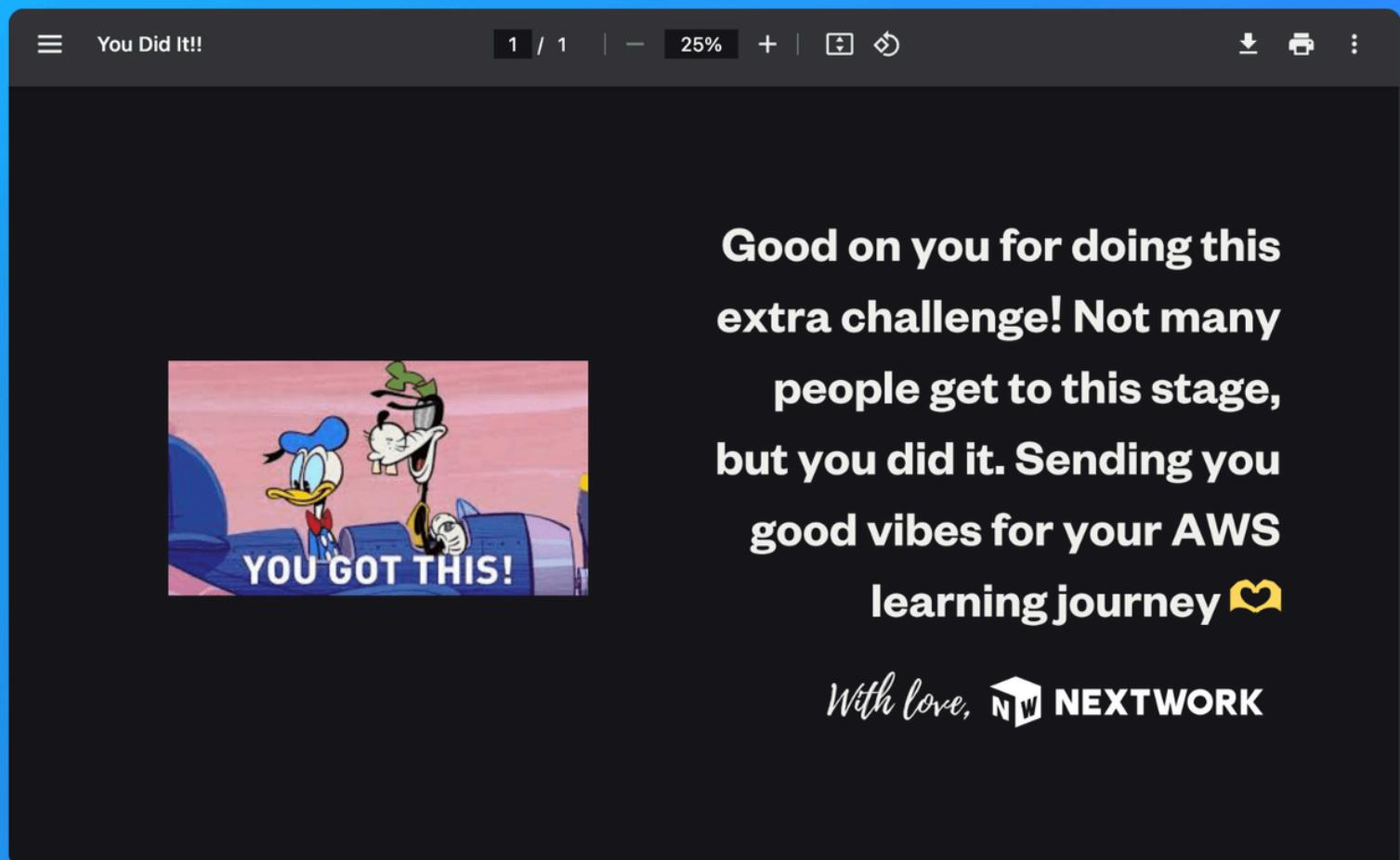


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Voila! It will run for 2 minutes





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# An error!

If you wait 2 minutes and use the link again, you will find that the URL has expired and no longer works. Nice - that's the presigned URL closing off access!

The error!

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
▼<Error>
  <Code>AccessDenied</Code>
  <Message>Request has expired</Message>
  <X-Amz-Expires>120</X-Amz-Expires>
  <Expires>2024-07-04T15:44:46Z</Expires>
  <ServerTime>2024-07-04T15:45:04Z</ServerTime>
  <RequestId>BSPJDDW3RB4ANCJ7</RequestId>
  <HostId>Ur3N/8117Bi6RUKYRYkLAyBui2mh8TGrnp8s3laJqnLuSPa/PXpNYDhTuZWR9qHhkcn/DEZQGvY=</HostId>
</Error>
```

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# SECRET MISSION #2

## Using a bucket policy to secure your bucket

- Let's say you want to protect your HTML file and make sure that no one can delete them. To do this, you apply a bucket policy! This policy will deny delete privileges on your website files.

Updating the buket policy

### Edit bucket policy

[Info](#)

#### Bucket policy

The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to

#### Bucket ARN

arn:aws:s3:::nextnetwork-website-project-tanay

#### Policy

```
1 ▾ {  
2     "Version": "2012-10-17",  
3     "Id": "MyBucketPolicy",  
4 ▾     "Statement": [  
5         "Sid": "BucketPutDelete",  
6         "Effect": "Deny",  
7         "Principal": "*",  
8         "Action": "s3:DeleteObject",  
9         "Resource": "arn:aws:s3:::nextnetwork-website-project-tanay/index.html"]}
```

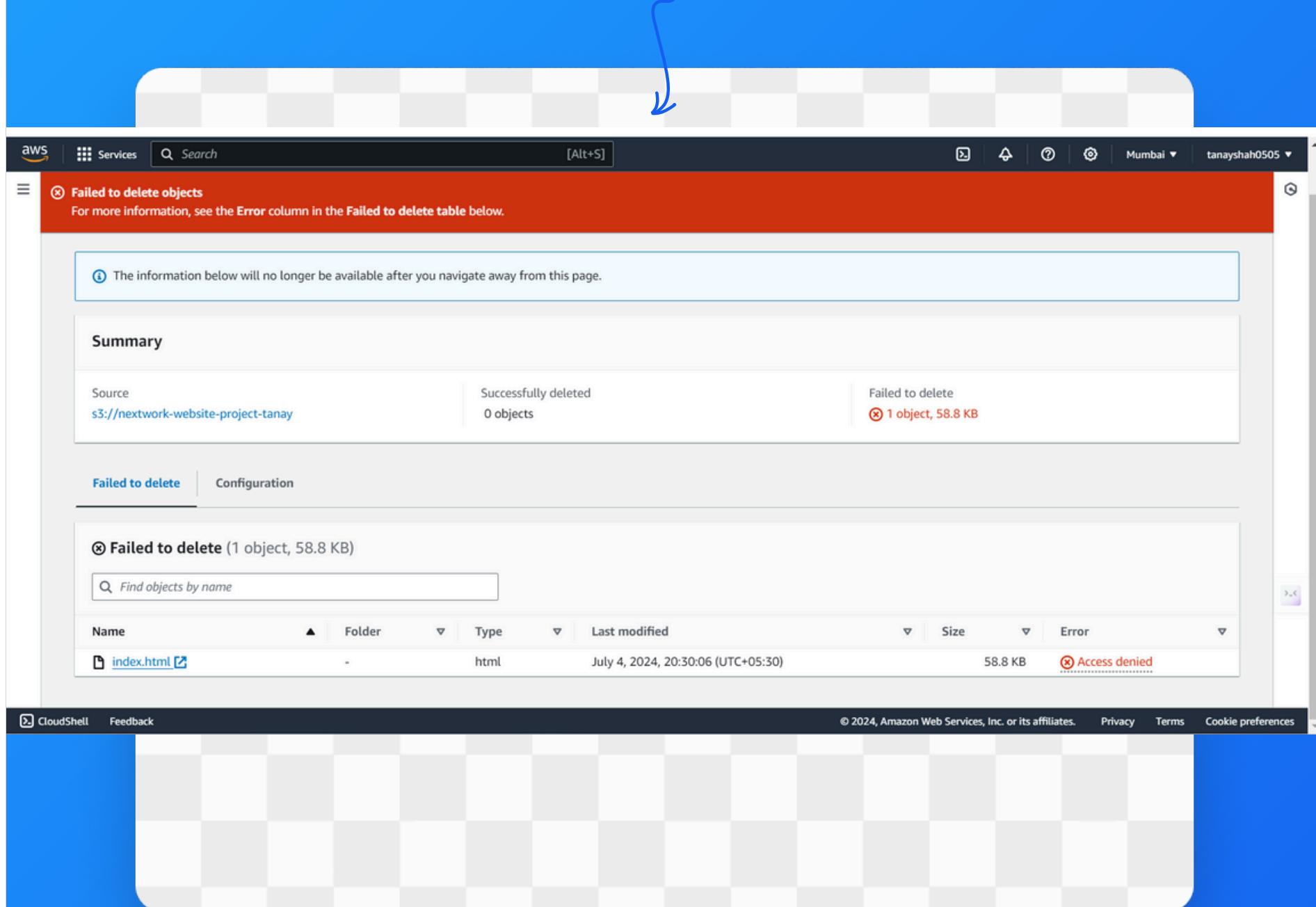


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Voila! Access Denied



The screenshot shows the AWS S3 console interface. At the top, there is a red banner with the message: "Failed to delete objects. For more information, see the Error column in the Failed to delete table below." Below this, a message states: "The information below will no longer be available after you navigate away from this page." The "Summary" section shows the following statistics:

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

The "Failed to delete" tab is selected, displaying a table with one row:

| Name       | Folder | Type | Last modified                      | Size    | Error         |
|------------|--------|------|------------------------------------|---------|---------------|
| index.html | -      | html | July 4, 2024, 20:30:06 (UTC+05:30) | 58.8 KB | Access denied |

A blue arrow points from the text "Voila! Access Denied" to the "Access denied" link in the table.



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Updated

The screenshot shows a code editor window with several tabs at the top: 'adhaar.txt', 'My Resume.txt', 'survival island', and 'index.h'. The 'My Resume.txt' tab is active. A blue arrow points from the word 'Updated' above the editor down to the tooltip. The tooltip is a light gray box containing the text 'Everyone <First Name> should be in a <span class="text-span">' followed by a close button 'X'.

```
expanded="false"><div class="menu-icon2-3"><div class="menu-icon2 line-top-5"></div><div class="menu-icon_line-m overlay" data-wf-ignore>Everyone <First Name> should be in a <span class="text-span"> ^ <div class="utility-gradient top"></div><div class="utility-gradient bottom"></div><div class="id="w-node-_76ffb316-27b5-7913-81d9-677487b854a1-6a24a967" class="grid-lines"></div><div id="d413-0cf3-59a4-1b5d32f61ddd-6a24a967" class="grid-lines"></div><div id="w-node-_7f9962cb-233 class="grid-lines"></div><div id="w-node-_63833894-4bdf-c01e-8ab1-f4fd9ea846b7-6a24a967" class="grid-lines right"></div></div></div><div class="padding-global"><div class="container-large hero"><div class="padding-huge align-center max-width-xxlarge"><h1 data-w-id="c91f9ffe-69bc-c131-56af-9249d81c341b" style="transform: rotateX(0deg) rotateY(0deg) rotateZ(0deg) skew(0deg, 0deg); opacity: 1; transform-style: pre-squeeze-height jumbo">Tanay should be in a <span class="text-span">job </span><span class="h they love </span><span class="heart-desktop">ll</span></h1></div><div data-w-id="c91f9ffe-69 translate3d(0px, 0px, 0px) scale3d(1, 1, 1) rotateX(0deg) rotateY(0deg) rotateZ(0deg) skew(0deg, 0deg, 0deg) perspective(3d); class="w-layout-grid avatars margin-bottom margin-medium">Everyone should be in a job they love_files/3.jpg" alt="nextwork alumni student" id="w-node-c91f9ffe-69bc-c131-56af-9249d81c3425-6a24a967" class="student-avatar">Everyone should be in a job they love_files/11.jpg" alt="nextwork alumni student" id="w-node-c91f9ffe-69bc-c131-56af-9249d81c3429-6a24a967" class="student-avatar">
```

Ln 26, Col 27 | 45 of 60,132 characters



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Updated

Building the best online learning experience to switch careers and upskill.  
Starting with AWS certifications.

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# SECRET MISSION #4

## Bucket versioning

- When bucket versioning is turned off, changes to objects can't be undone.
- For example, if you upload a new version of a file, the old file is replaced with the new one. The original file is lost. If you delete a file, it is permanently deleted, and you can't get it back.
- Bucket versioning is turned off by default. However, when versioning is turned on, changed and deleted versions of files are saved. It's also important to remember that once you turn on bucket versioning, you cannot turn it off.

All versions uploaded overtime

Objects (4) [Info](#)

[C](#) [Copy S3 URI](#) [Copy URL](#) [Download](#) [Open](#) [Delete](#) [Actions ▾](#) [Create folder](#) [Upload](#)

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](#)

[Find objects by prefix](#)  Show versions [◀](#) [1](#) [▶](#) [⚙️](#)

| <input type="checkbox"/> | Name  | Type   | Version ID                                   | Last modified                         | Size     | Storage class |
|--------------------------|---|--------|--|---------------------------------------|----------|---------------|
| <input type="checkbox"/> | <a href="#">index.html</a>  | html   | ivUWL_ymNj<br>rfkjd3UPSb<br>eOoA3js9_h<br>_a | July 4, 2024, 21:51:53<br>(UTC+05:30) | 58.7 KB  | Standard      |
| <input type="checkbox"/> | <a href="#">↳ index.html</a>  | html   | 47Fmz1h86<br>KF2BVdvfM<br>g2LwbuYSr.<br>vF.N | July 4, 2024, 20:30:06<br>(UTC+05:30) | 58.8 KB  | Standard      |
| <input type="checkbox"/> | <a href="#">↳ NextWork - Everyone should be in a job they love_files/</a> | Folder | -  | -                                     | -        | -             |
| <input type="checkbox"/> | <a href="#">Secret extra mission.pdf</a>                                  | pdf    | XHuIVRh0m<br>t2B0GZdY4<br>PSEfDoBoVJ<br>3srw | July 4, 2024, 21:10:18<br>(UTC+05:30) | 116.9 KB | Standard      |

A circular portrait of a young man with dark hair, wearing a black long-sleeved shirt and tan pants. He is standing outdoors at night, with a blurred background of trees and lights.

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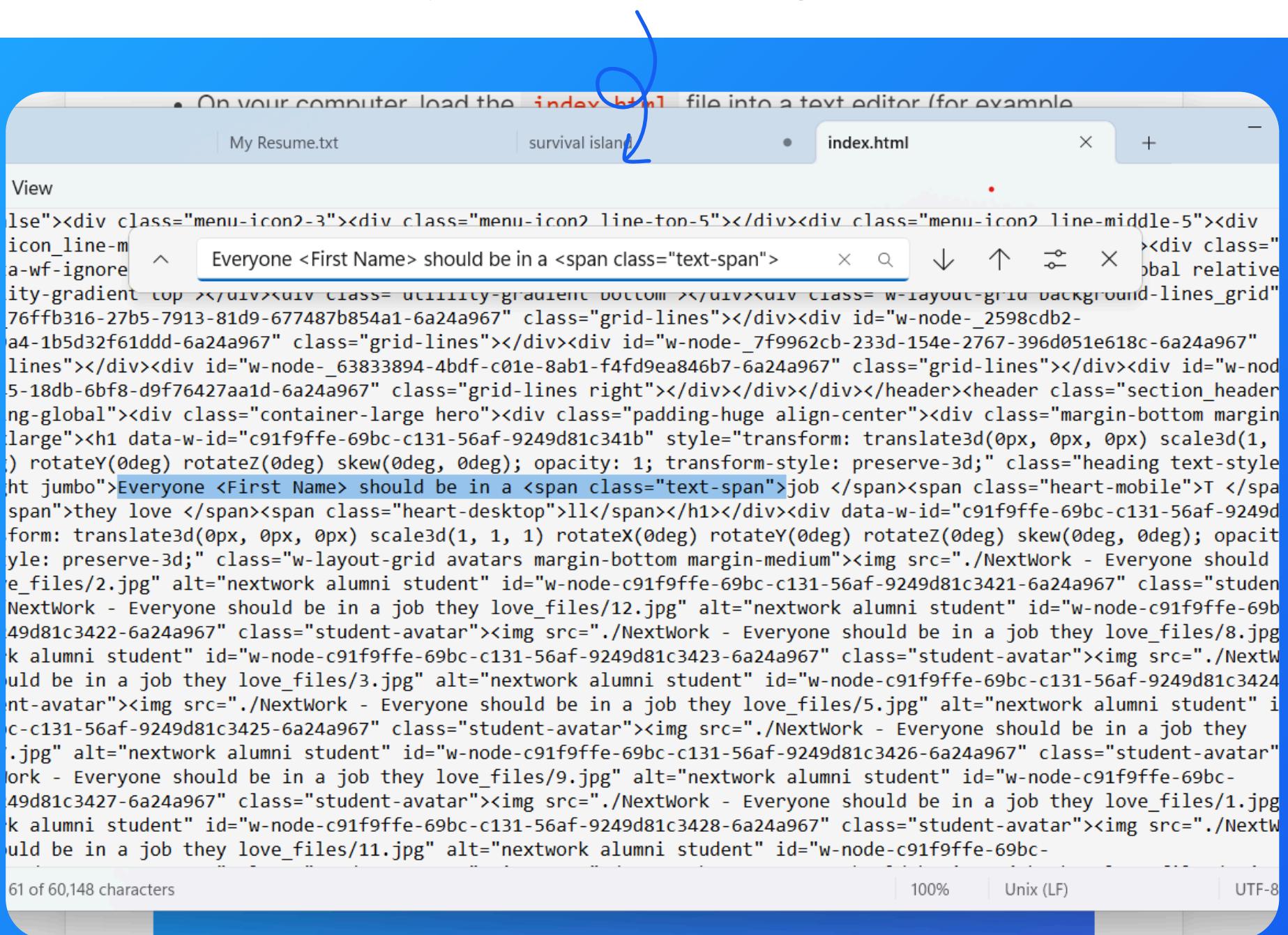
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# **SECRET MISSION #5**

# Host your website on your own special domain!

- Will learn how to purchase a domain name AND connect your own website to the domain.
  - Will own a domain that's now uniquely yours in the entire world!
  - Can use this purchased domain to eventually host your own blog, CV and/or portfolio.
  - Get to use your domain in another special project lined up.

Securely share objects with presigned URLs..





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## Domains



### Register domains Info

Pricing for domain names varies by top-level domain (TLD). For more information, view [price with different TLDs](#).

#### Search for domain

Check availability for a domain

TanayShah.click

X

Search

#### Search result

| Domain                                     | Price/year | Actions                |
|--|------------|------------------------|
| tanayshah.click <small>Exact match</small> | 3.00 USD   | <a href="#">Select</a> |

#### Suggested available domains (9)

You can register up to five domains at a time.

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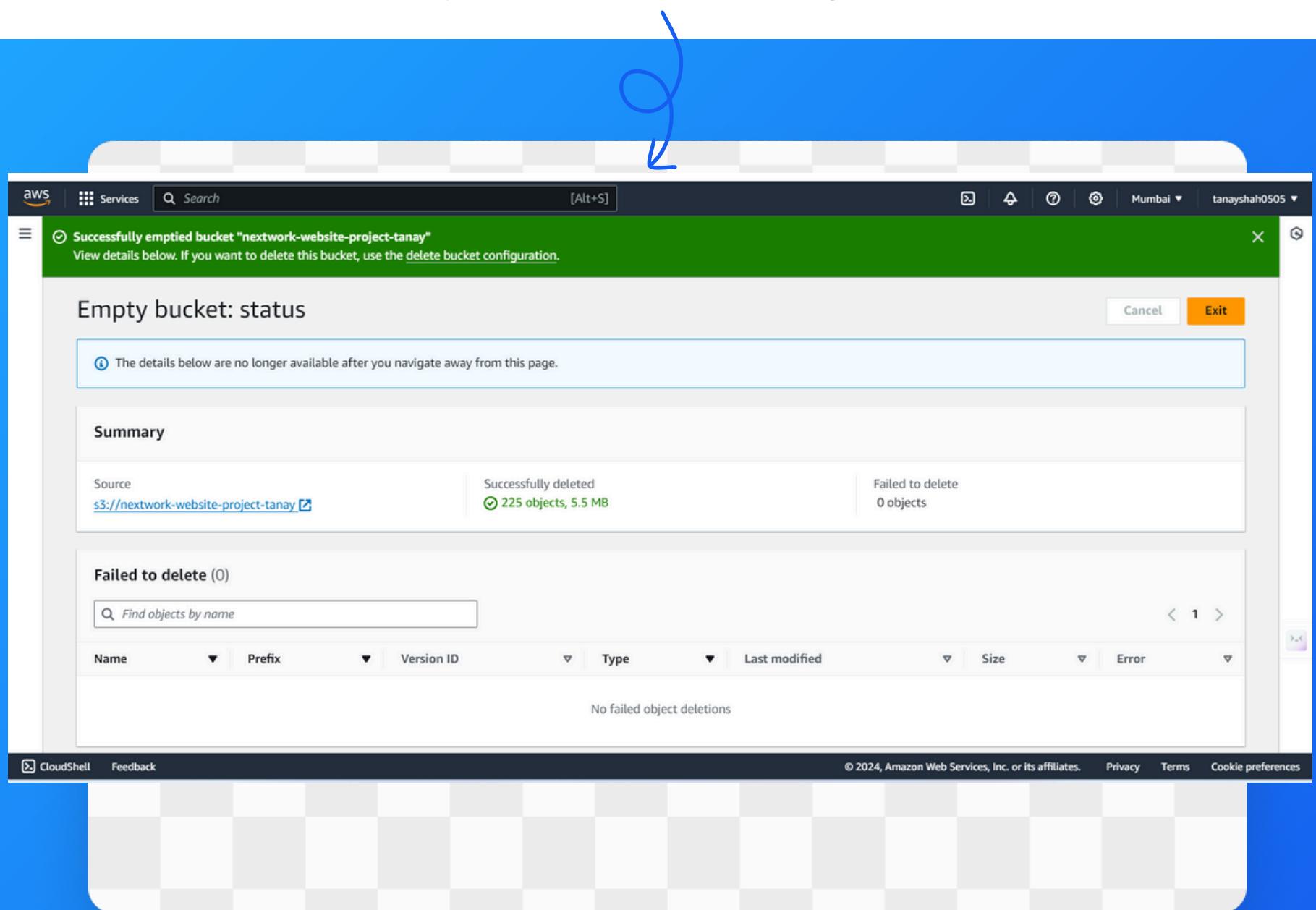
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# Delete your resources

- Make sure you delete all your resources to avoid getting charged.
- This is a super important task for every single project you set up.

Securely share objects with presigned URLs..



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