Hosting a Basic Static Website on AWS S3

Introduction

Amazon Simple Storage Service (Amazon S3) allows you to store files securely and serve them over the internet. One powerful feature of S3 is **Static Website Hosting**, which lets you host simple websites made of HTML, CSS, and JavaScript without managing servers.

In this document, we will create a **basic static website** using two HTML files (index.html and error.html) and host it publicly using AWS S3.

What Is a Static Website?

A **static website** consists of fixed files (HTML, CSS, JS) that are served directly to the browser.

Characteristics:

- No server-side processing (no PHP, Node.js, Python, etc.)
- Content does not change dynamically
- Fast, lightweight, and low cost

Why Use AWS S3 for Static Website Hosting?

Using S3 for static websites is popular because:

- **Serverless** – No EC2 or server management
- **Low cost** – Pay only for storage and bandwidth
- **Highly available & durable**
- **Scales automatically**
- Easy integration with **CloudFront, Route 53, HTTPS**

Architecture Overview

User Browser
S3 Static Website Endpoint
index.html or error.html

No backend server is involved.

Step 1: Prepare Website Files

1. Create Project Folder

On your local computer, create a folder named:

my-website

2. Create index.html

This is the **homepage**.

```
<!DOCTYPE html>
<html>
<head>
  <title>My Static Website</title>
</head>
<body>
  <h1>Welcome to My Website</h1>
  <p>This website is hosted on AWS S3.</p>
</body>
</html>
```

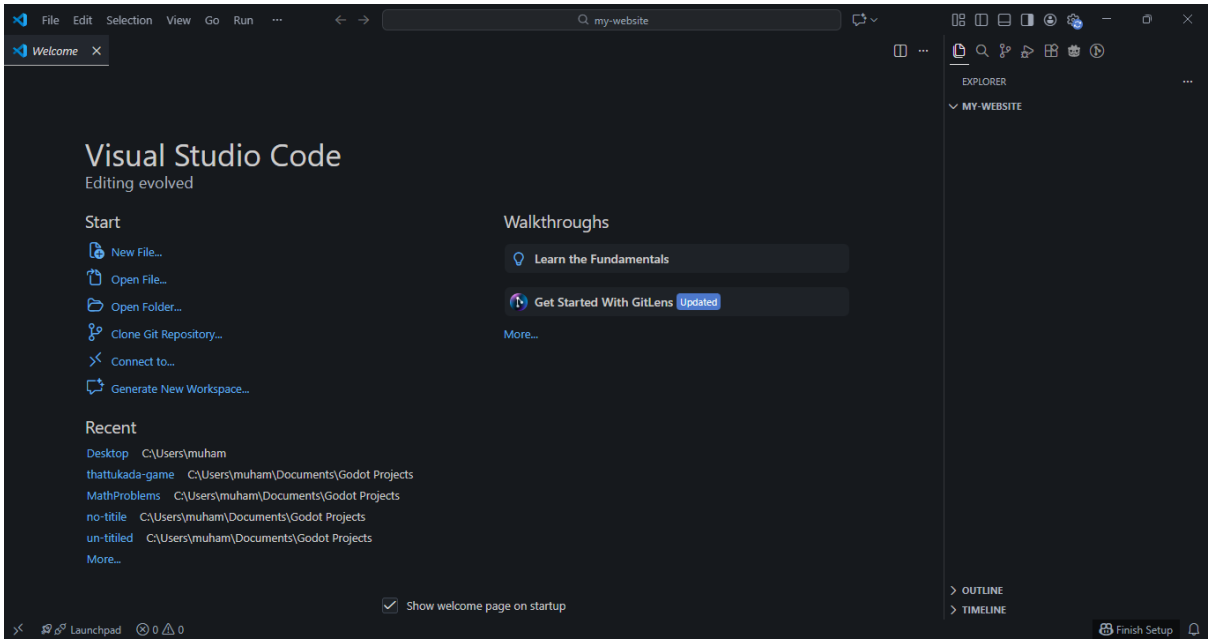
3. Create error.html

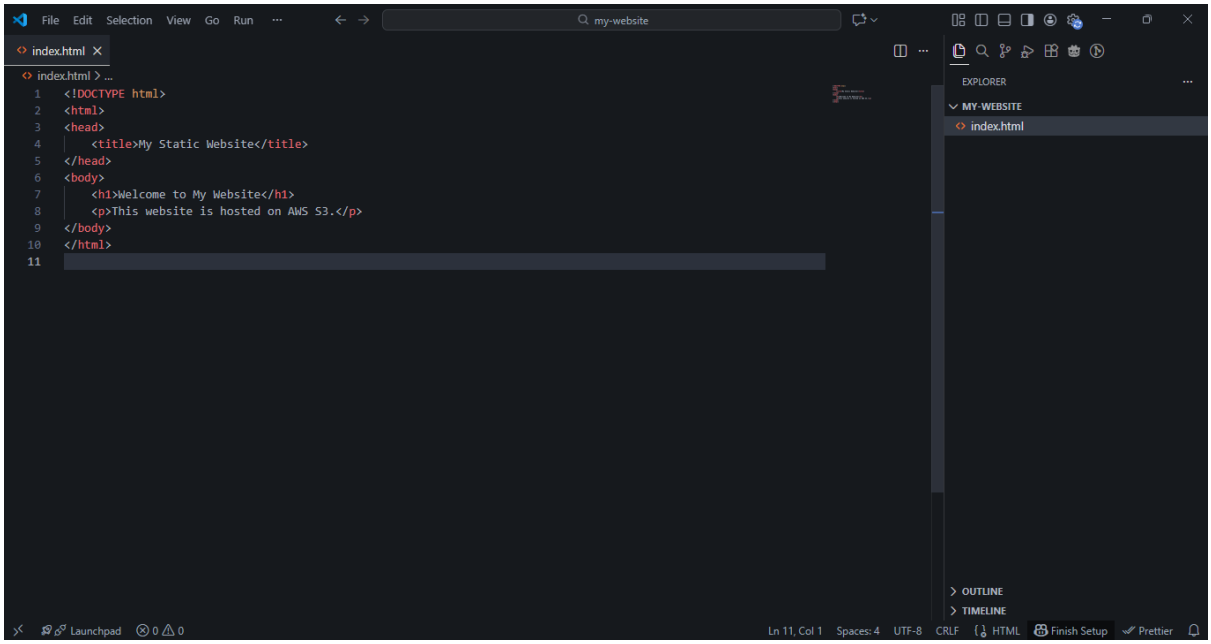
This page appears when a user visits a wrong URL.

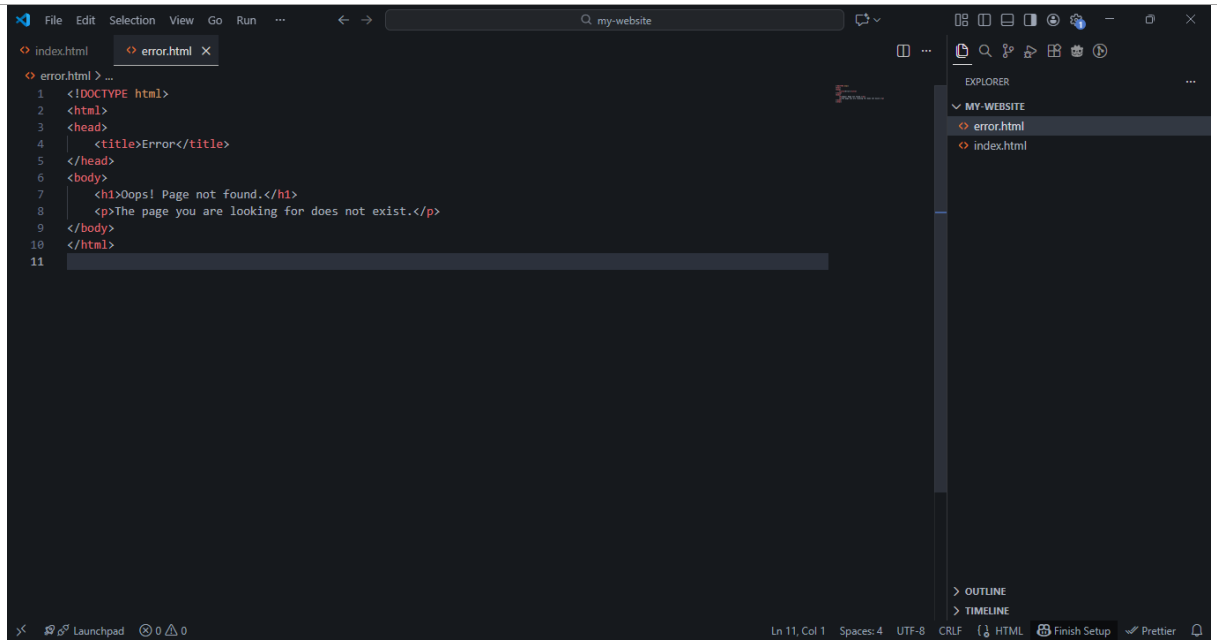
```
<!DOCTYPE html>
<html>
<head>
  <title>Error</title>
</head>
<body>
  <h1>Oops! Page not found.</h1>
  <p>The page you are looking for does not exist.</p>
```

```
</body>

</html>
```

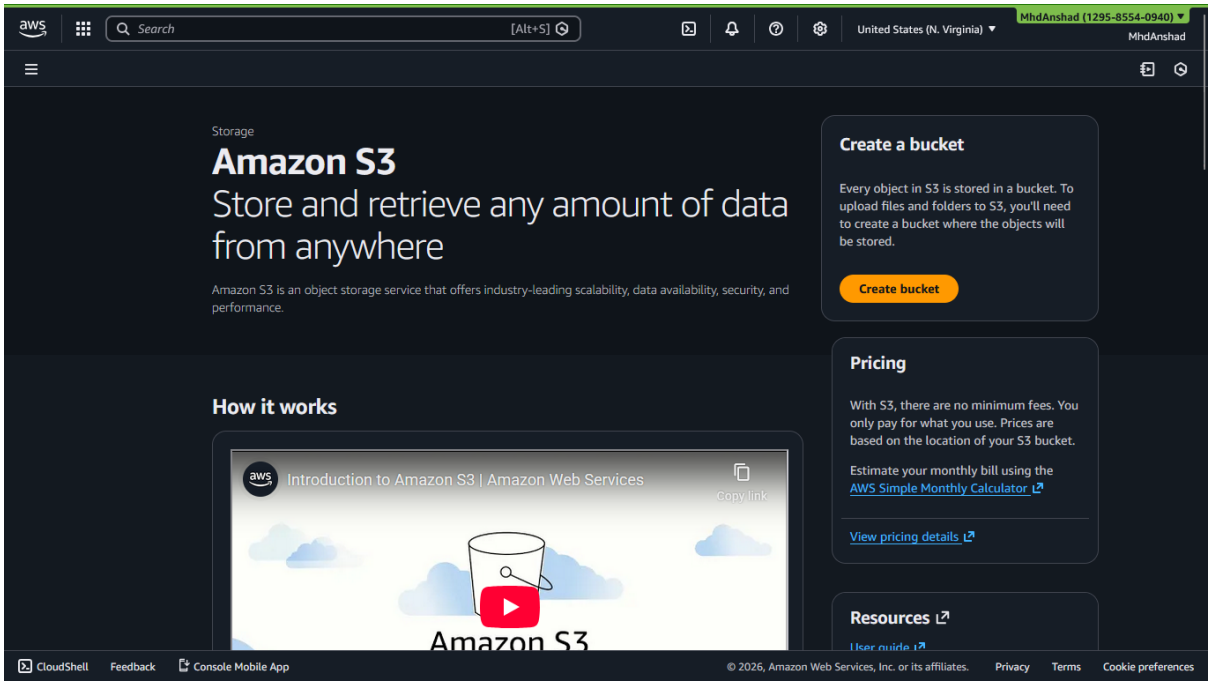

File Edit Selection View Go Run
my-website
Welcome
Visual Studio Code
Editing evolved
Start
New File...
Open File...
Open Folder...
Clone Git Repository...
Connect to...
Generate New Workspace...
Walkthroughs
Learn the Fundamentals
Get Started With GitLens
Updated
More...
Recent
Desktop C:\Users\muham
thattukada-game C:\Users\muham\Documents\Godot Projects
MathProblems C:\Users\muham\Documents\Godot Projects
no-titile C:\Users\muham\Documents\Godot Projects
un-titiled C:\Users\muham\Documents\Godot Projects
More...
Show welcome page on startup
EXPLORER
MY-WEBSITE
OUTLINE
TIMELINE
Launchpad
Finish Setup


File Edit Selection View Go Run
my-website
index.html
index.html > ...
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>My Static Website</title>
5 </head>
6 <body>
7 <h1>Welcome to My Website</h1>
8 This website is hosted on AWS S3.
9 </body>
10 </html>
11
EXPLORER
MY-WEBSITE
index.html
OUTLINE
TIMELINE
Launchpad
Ln 11, Col 1
Spaces: 4
UTF-8
CRLF
HTML
Finish Setup
Prettier



Step 2: Create an S3 Bucket

1. Sign in to the **AWS Management Console**
2. Open **Amazon S3**
3. Click **Create bucket**
4. Enter a **unique bucket name**
   Example:
5. my-static-website-anshad-05
6. Choose a region (example: us-east-1)
7. **Uncheck**:
8. Block all public access
9. Acknowledge the warning
10. Click **Create bucket**


Search
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Storage
Amazon S3
Store and retrieve any amount of data from anywhere
Amazon S3 is an object storage service that offers industry-leading scalability, data availability, security, and performance.
Create a bucket
Every object in S3 is stored in a bucket. To upload files and folders to S3, you'll need to create a bucket where the objects will be stored.
Create bucket
Pricing
With S3, there are no minimum fees. You only pay for what you use. Prices are based on the location of your S3 bucket.
Estimate your monthly bill using the AWS Simple Monthly Calculator
View pricing details
Resources
User guide
How it works
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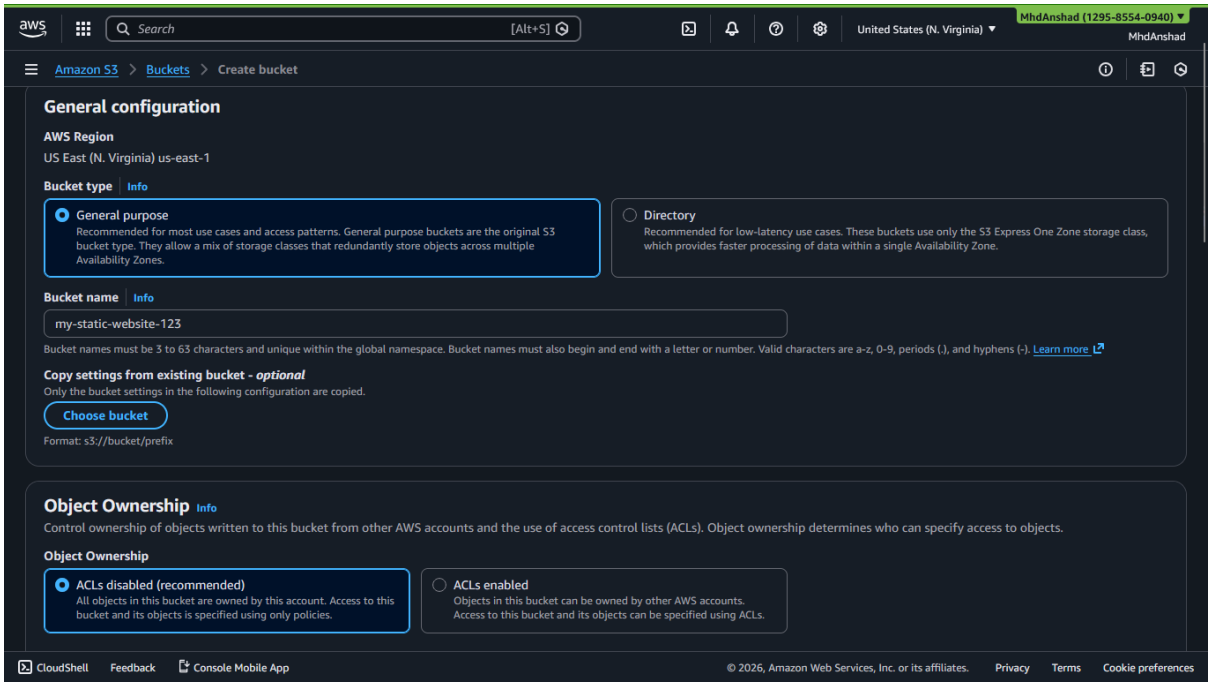
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Amazon S3 > Buckets > Create bucket
General configuration
AWS Region
US East (N. Virginia) us-east-1
Bucket type Info
General purpose
Recommended for most use cases and access patterns. General purpose buckets are the original S3 bucket type. They allow a mix of storage classes that redundantly store objects across multiple Availability Zones.
Directory
Recommended for low-latency use cases. These buckets use only the S3 Express One Zone storage class, which provides faster processing of data within a single Availability Zone.
Bucket name Info
my-static-website-123
Bucket names must be 3 to 63 characters and unique within the global namespace. Bucket names must also begin and end with a letter or number. Valid characters are a-z, 0-9, periods (.), and hyphens (-). Learn more
Copy settings from existing bucket - optional
Only the bucket settings in the following configuration are copied.
Choose bucket
Format: s3://bucket/prefix
Object Ownership Info
Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.
Object Ownership
ACLs disabled (recommended)
All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.
ACLs enabled
Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.
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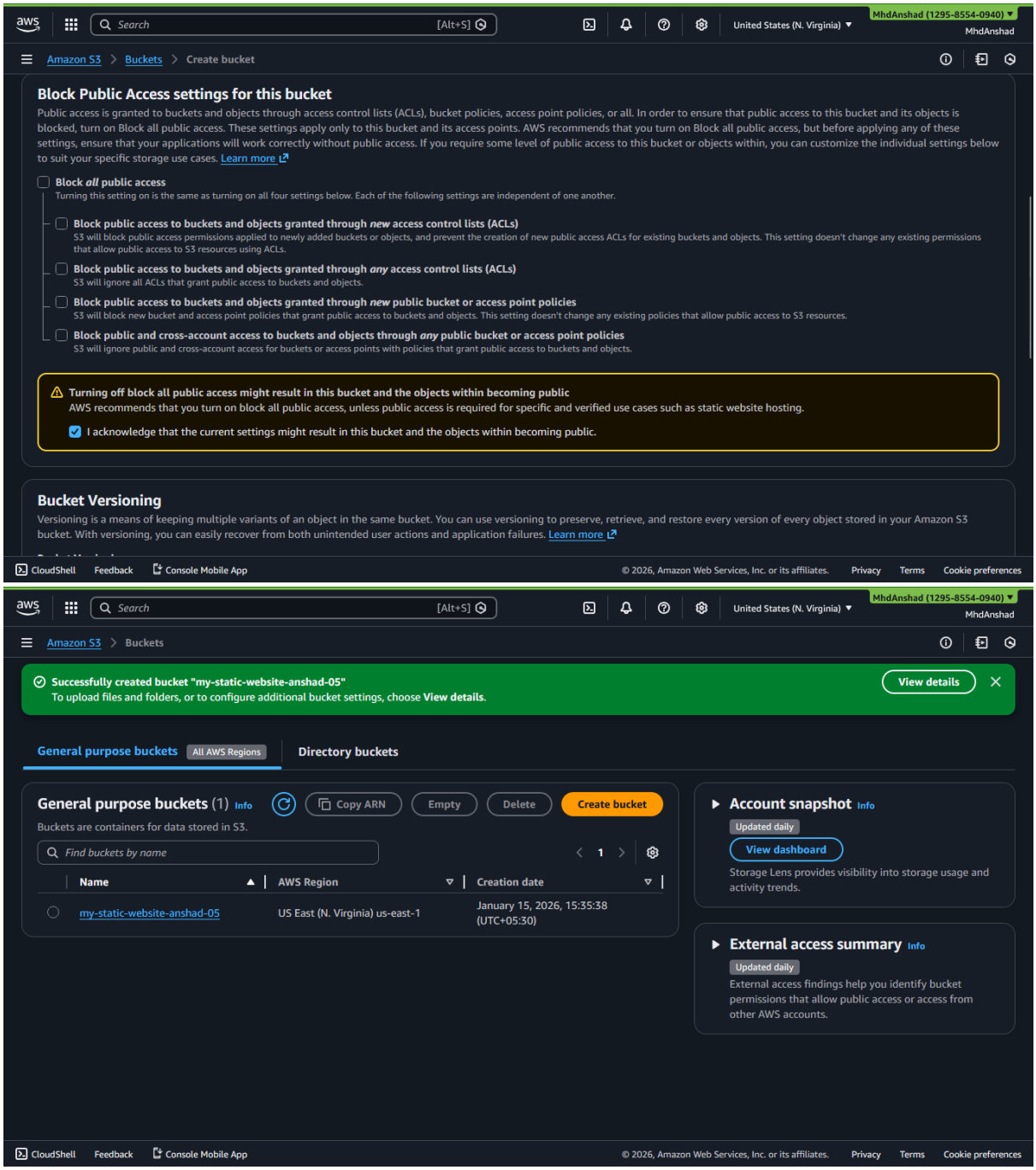
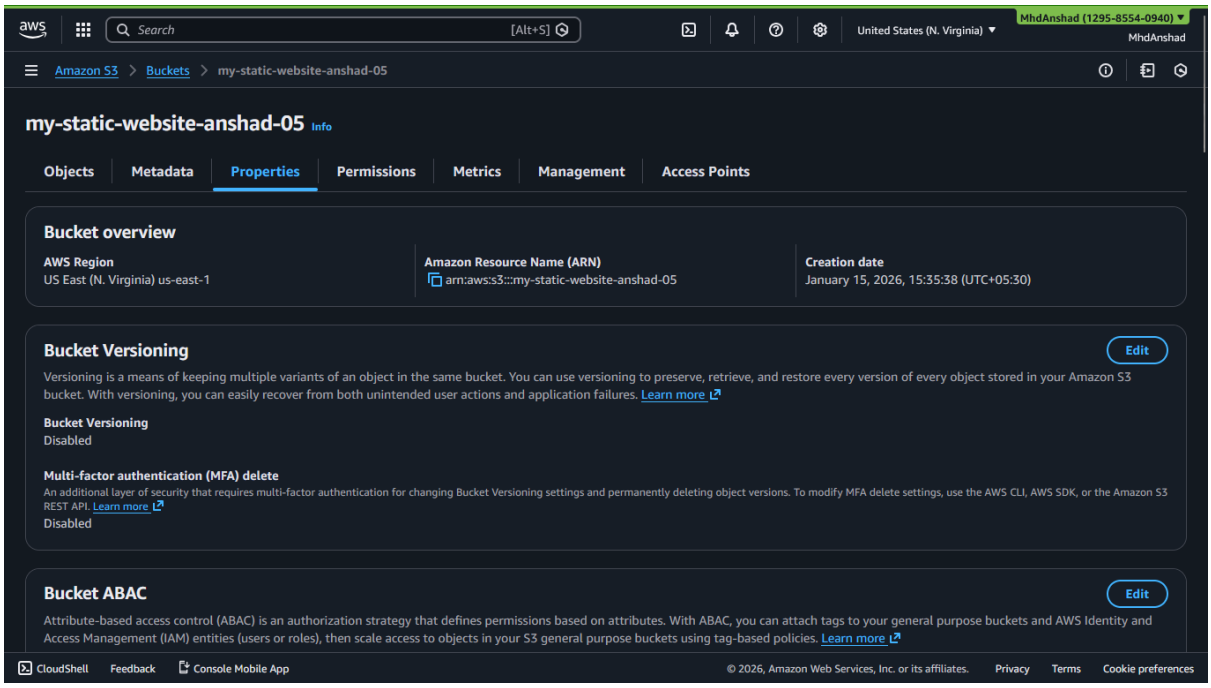
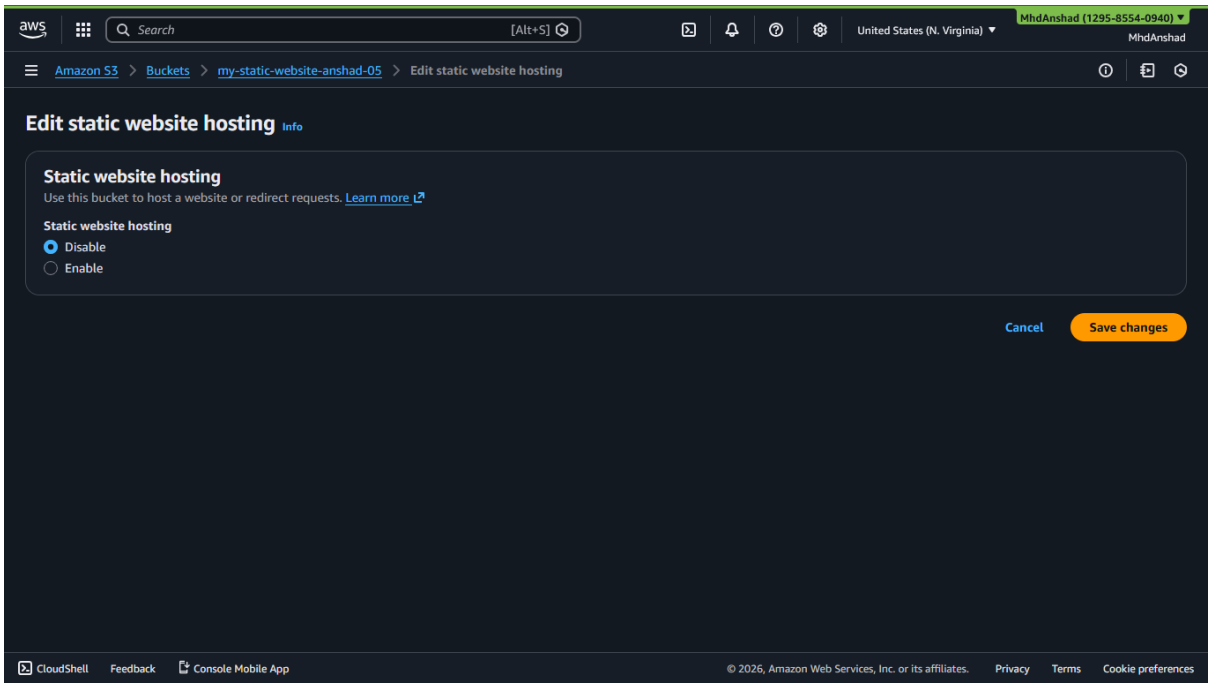


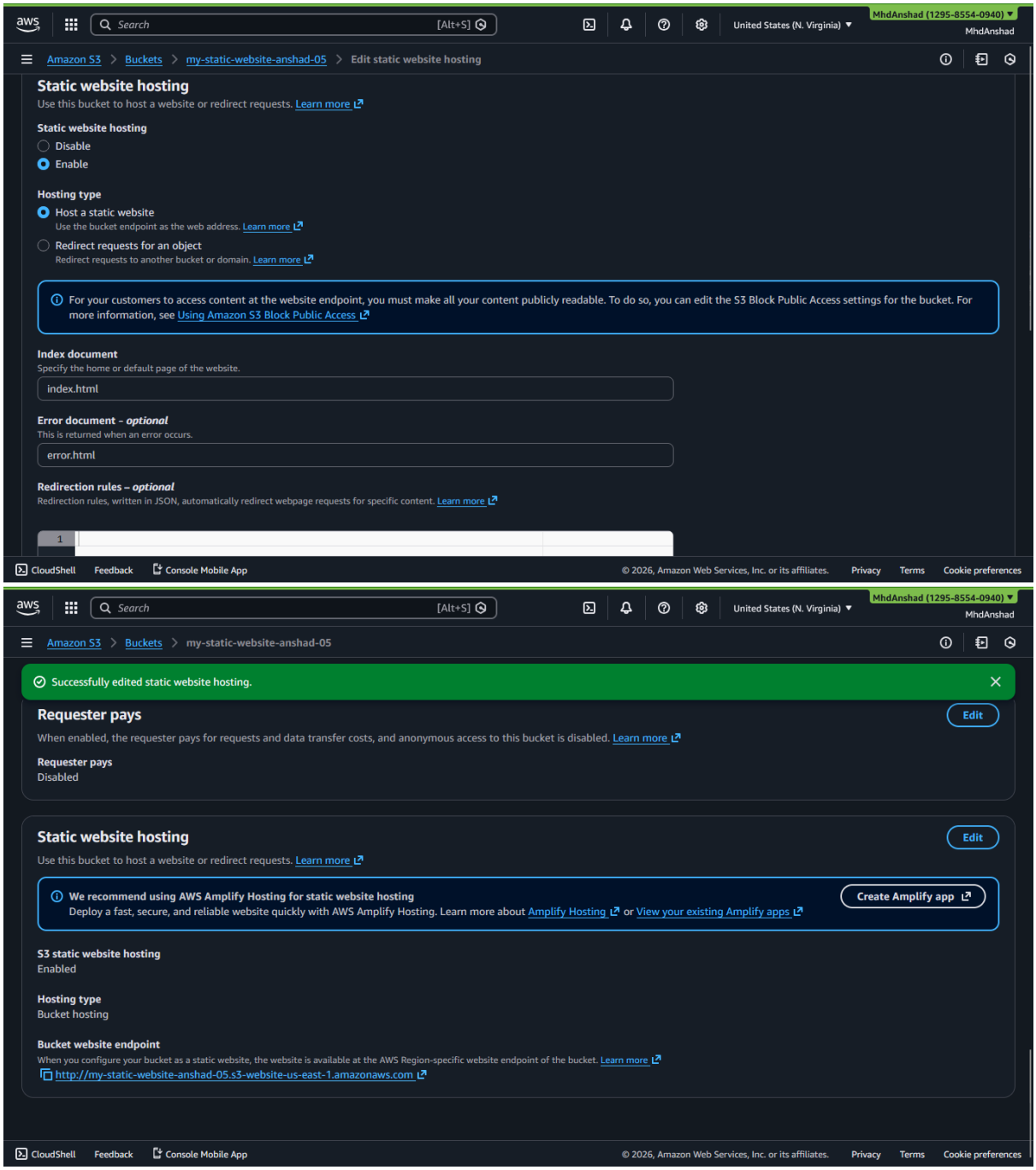
Step 3: Enable Static Website Hosting

1. Open the created bucket
2. Go to the **Properties** tab
3. Scroll to **Static website hosting**
4. Click **Edit**
5. Select **Enable**
6. Enter:

7. Index document: index.html
8. Error document: error.html
9. Save changes
10. Copy the **Bucket website endpoint** (used later for testing)

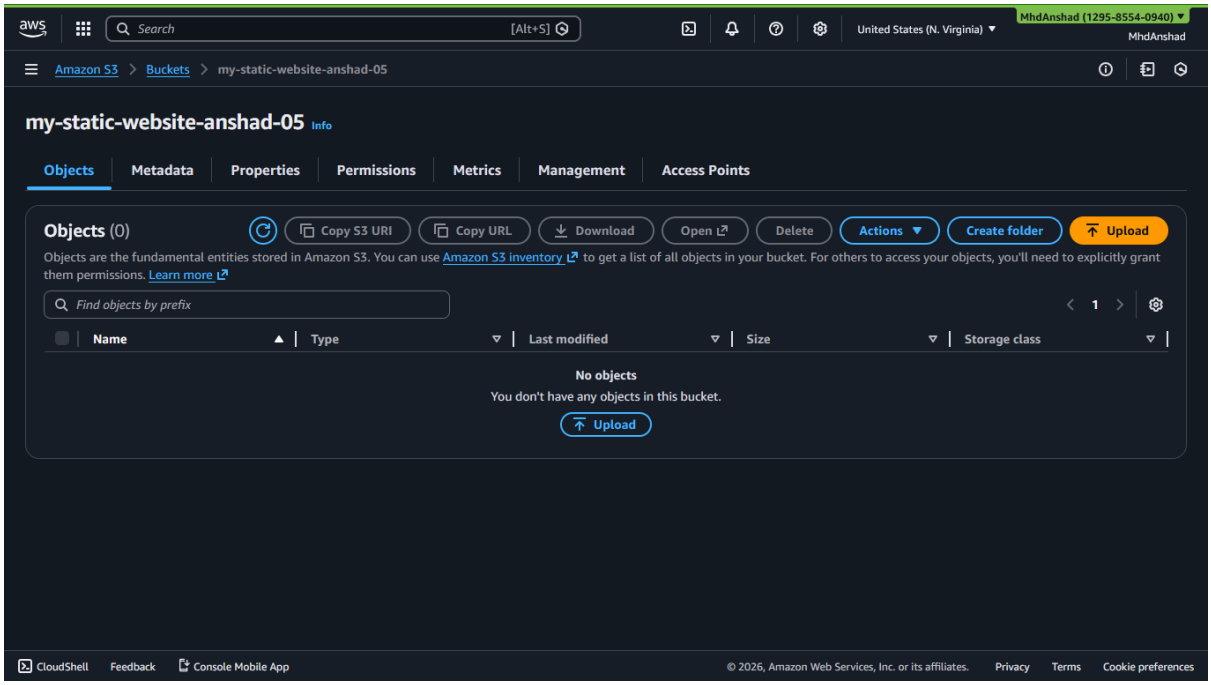






Step 4: Upload Website Files

1. Open the **Objects** tab
2. Click **Upload**
3. Add:
    - index.html
    - error.html
4. Click **Upload**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Amazon S3 > Buckets > my-static-website-anshad-05
my-static-website-anshad-05 Info
Objects
Metadata
Properties
Permissions
Metrics
Management
Access Points
Objects (0)
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
Name
Type
Last modified
Size
Storage class
No objects
You don't have any objects in this bucket.
Upload
CloudShell
Feedback
Console Mobile App
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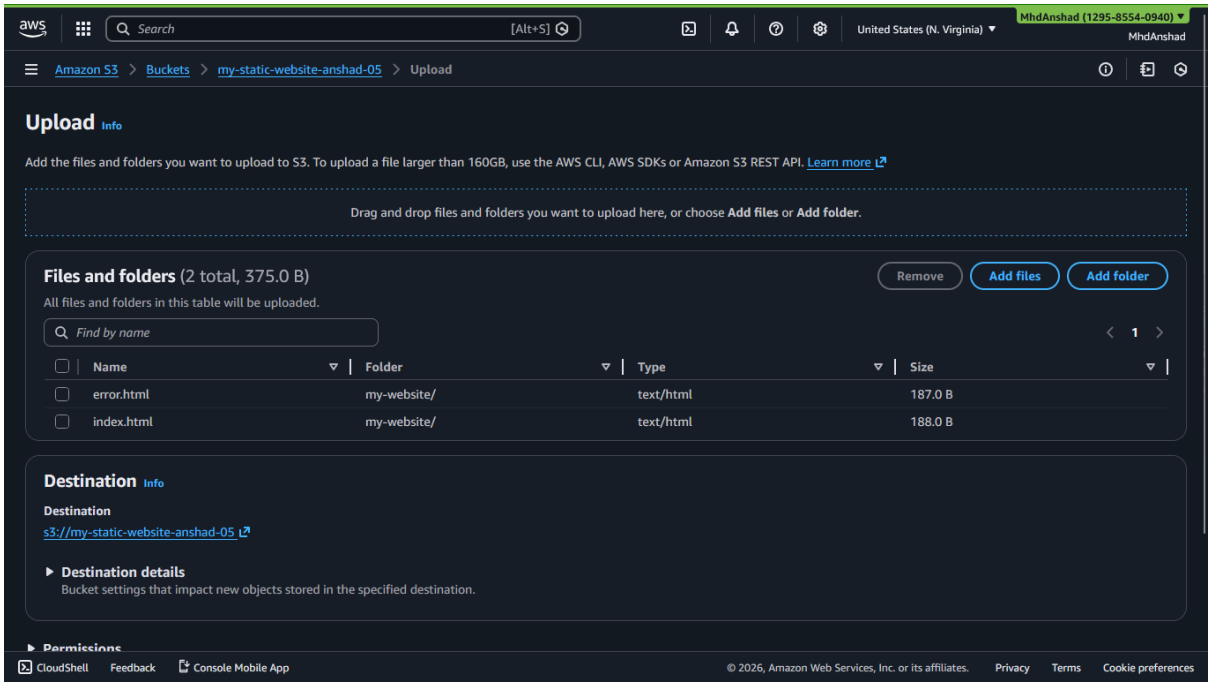
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Amazon S3 > Buckets > my-static-website-anshad-05 > Upload
Upload Info
Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDKs or Amazon S3 REST API. Learn more
Drag and drop files and folders you want to upload here, or choose Add files or Add folder.
Files and folders (2 total, 375.0 B)
Remove
Add files
Add folder
All files and folders in this table will be uploaded.
Find by name
Name
Folder
Type
Size
error.html
my-website/
text/html
187.0 B
index.html
my-website/
text/html
188.0 B
Destination Info
Destination
s3://my-static-website-anshad-05
Destination details
Bucket settings that impact new objects stored in the specified destination.
Permissions
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Feedback
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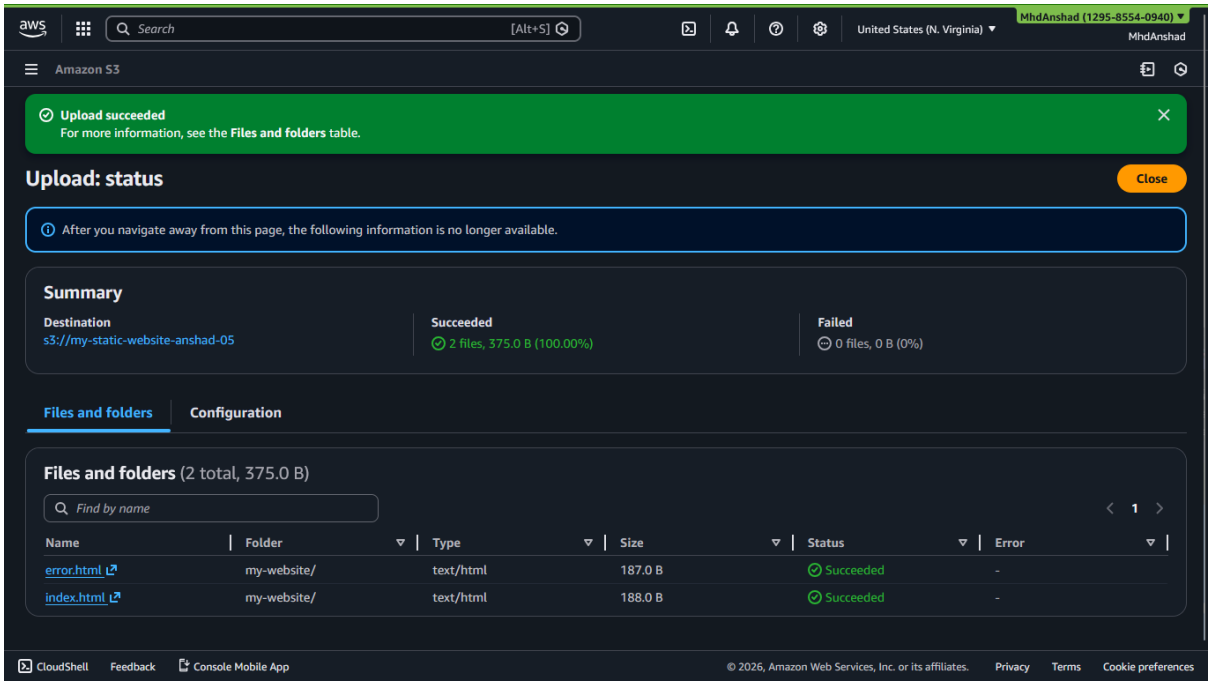


Step 5: Configure Public Access (Bucket Policy)

Why This Step Is Required

By default, S3 blocks public access. To allow anyone on the internet to view your website, we must add a **bucket policy**.

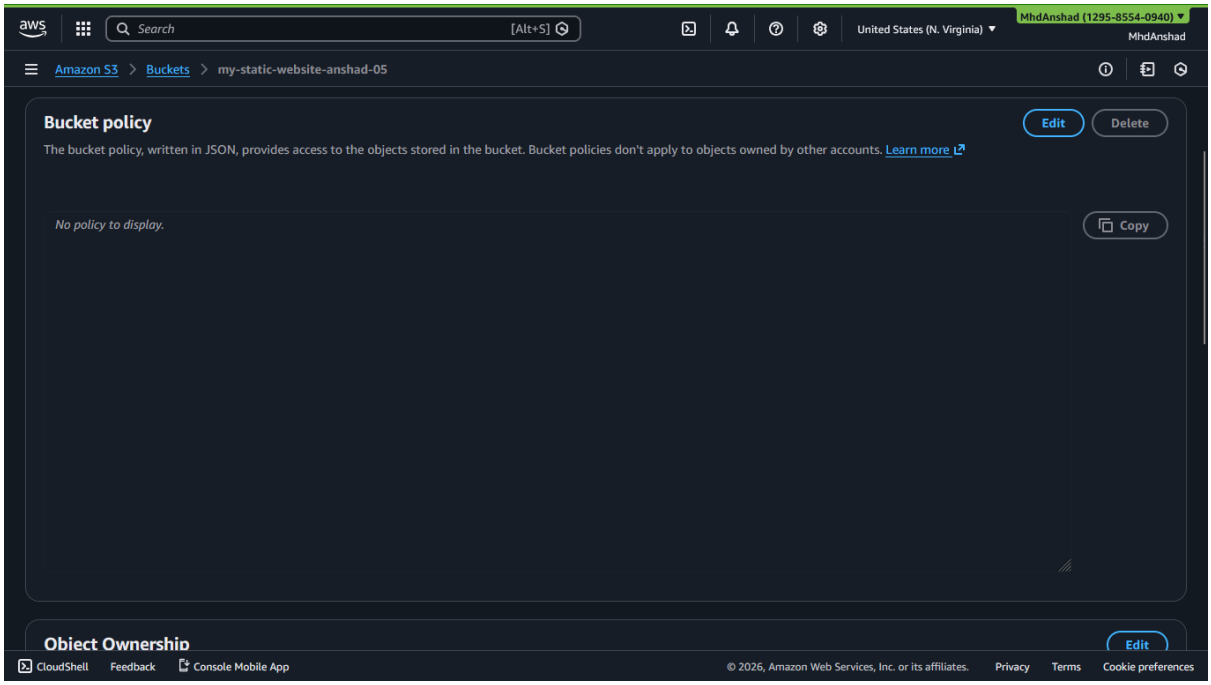
Bucket Policy JSON

Replace my-static-website-123 with **your bucket name**.

```
{
 "Version": "2012-10-17",
 "Statement": [
  {
   "Sid": "PublicReadGetObject",
   "Effect": "Allow",
   "Principal": "*",
   "Action": "s3:GetObject",
   "Resource": "arn:aws:s3:::my-static-website-123/*"
  }
 ]
}
```

Apply the Policy

1. Go to **Permissions** tab
2. Open **Bucket policy**
3. Paste the JSON
4. Save changes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Amazon S3 > Buckets > my-static-website-anshad-05
Bucket policy
Edit
Delete
The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts. Learn more
No policy to display.
Copy
Object Ownership
Edit
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Feedback
Console Mobile App
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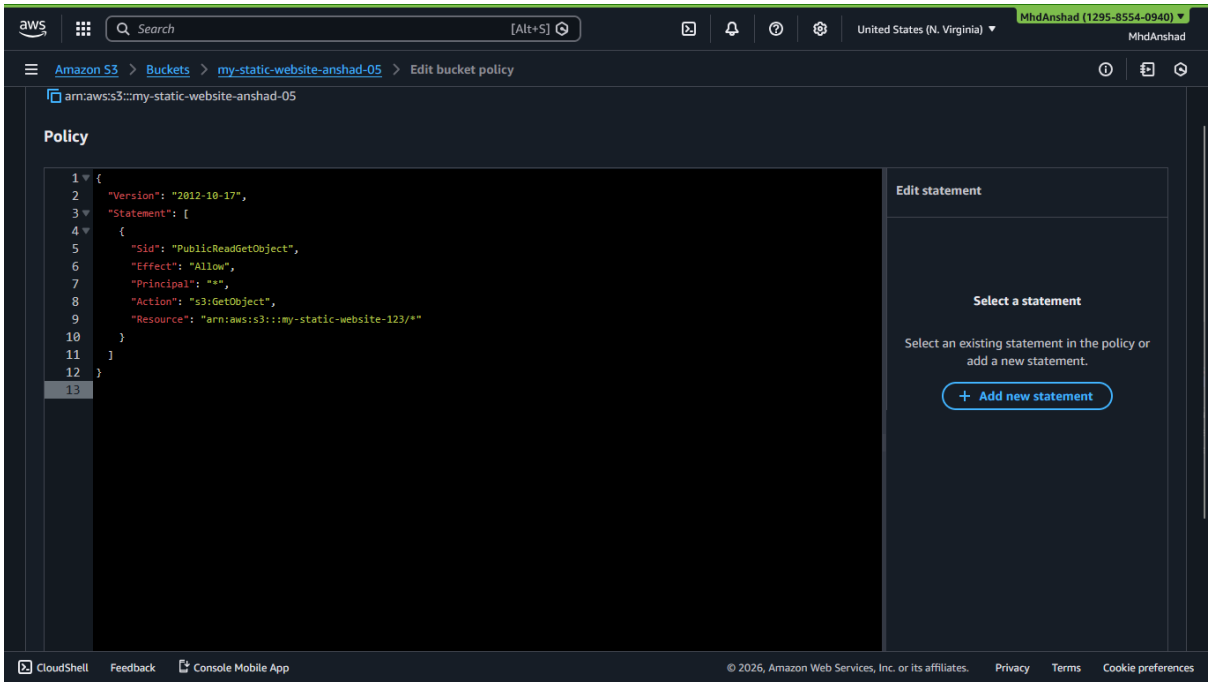
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United States (N. Virginia)
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MhdAnshad
Amazon S3 > Buckets > my-static-website-anshad-05 > Edit bucket policy
arn:aws:s3:::my-static-website-anshad-05
Policy
{
"Version": "2012-10-17",
"Statement": [
{
"Sid": "PublicReadGetObject",
"Effect": "Allow",
"Principal": "*",
"Action": "s3:GetObject",
"Resource": "arn:aws:s3:::my-static-website-123/*"
}
]
}
Edit statement
Select a statement
Select an existing statement in the policy or add a new statement.
+ Add new statement
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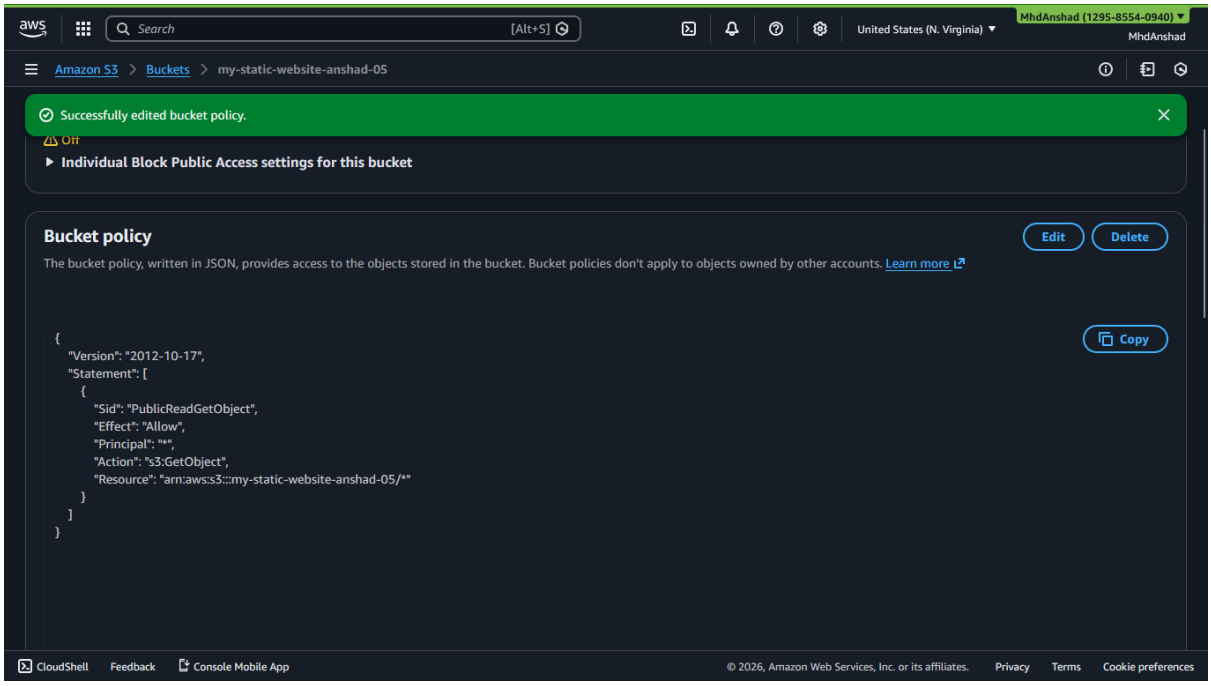


Step 6: Test the Website

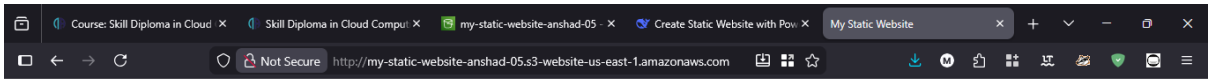
1. Go back to the **Properties** tab
2. Copy the **Static website endpoint URL**

http://my-static-website-anshad-05.s3-website-us-east-1.amazonaws.com/non-existent-page

3. Open it in your browser

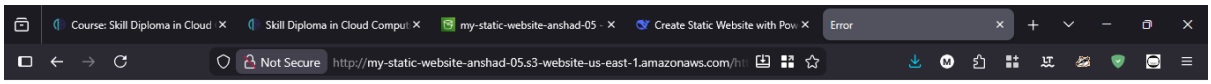
Expected Results:

- Homepage loads → index.html
- Wrong URL (e.g. http://my-static-website-anshad-05.s3-website-us-east-1.amazonaws.com/non-existent-page) → error.html



Welcome to My Website

This website is hosted on AWS S3.



Oops! Page not found.

The page you are looking for does not exist.

Common Mistakes & Fixes

Issue	Reason	Fix
403 Forbidden	Bucket policy missing	Add public read policy
Access denied	Public access blocked	Disable “Block all public access”
Blank page	Wrong index name	Use index.html exactly
404 not showing	Error doc missing	Set error.html

Advantages of This Setup

- No server cost
- Easy deployment
- Highly scalable
- Ideal for:
    - Portfolio websites
    - Landing pages
    - Documentation sites
    - Resume websites

Limitations

- No backend logic
- No database support
- Only static content

(Backend can be added later using API Gateway + Lambda if needed.)

Conclusion

Hosting a static website on AWS S3 is one of the **simplest and most cost-effective** ways to publish content on the internet. By enabling static website hosting, uploading HTML files, and configuring public access, you can make your website live within minutes—without managing any servers.