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## Assignment 4

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**Aim:** - Deploy Web application using S3 Bucket (PHP/Python/Node.js any application)

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### Description :-

Amazon S3 (Simple Storage Service) is an object storage service provided by Amazon Web Services (AWS) that enables you to store, secure, and manage your data and static files in the cloud.

S3 is highly scalable, durable, and flexible, making it a popular choice for businesses of all sizes. With S3, you can store unlimited amounts of data and access it from anywhere in the world, through the internet. Some of the common use cases for S3 include:

Backup and disaster recovery

Data archiving

Big data analytics

Static web hosting

Media hosting and streaming

S3 is also highly secure, with options for encryption and access control, allowing you to ensure that your data is protected. Additionally, S3 is designed to offer high availability, so you can be sure that your data will be accessible when you need it.

Here are some of the key features and functionalities of Amazon S3 in detail:

1. **Object-based storage:** S3 stores data as objects, rather than as traditional block-level or file-level storage. Each object consists of a data file and its metadata, such as the file name, type, and access permissions. S3 supports multiple types of data, including text, binary data, images, audio and video files, and more.
2. **Scalability:** S3 is highly scalable, allowing you to store unlimited amounts of data. You can easily increase or decrease your storage capacity as needed, without any manual intervention.
3. **Durability:** S3 is designed to provide high durability by storing multiple copies of your data across multiple geographic locations. By default, S3 stores your data across multiple facilities within an AWS region, and you can choose to store your data in multiple regions as well.
4. **Accessibility:** S3 provides several options for accessing your data, including the AWS Management Console, the AWS CLI, and the S3 API. You can access your data from anywhere in the world, through the internet.
5. **Security:** S3 provides a number of security features to help you protect your data. You can encrypt your data at rest, in transit, and while it is being processed, using encryption methods such as AES-256. You can also control access to your data using S3's fine-grained access control system, which allows you to set access policies for specific users or groups.
6. **Cost:** S3 pricing is based on the amount of data you store, the number of requests you make to access your data, and the amount of data you transfer out of S3. S3 also offers several cost optimization features, such as Amazon S3 Transfer Acceleration and Amazon S3 Intelligent-Tiering, which can help you reduce your storage costs.
7. **Integration with other AWS services:** S3 integrates with a number of other AWS services, such as Amazon EC2, Amazon EBS, Amazon Redshift, and Amazon S3 Transfer Acceleration, allowing you to easily store and manage your data in the cloud.

These are some of the key features and functionalities of Amazon S3 in detail. S3 is a highly reliable and secure cloud storage service, which makes it a popular choice for businesses and individuals looking to store their data and static files in the cloud.

## Steps Output :-

→ Open AWS console and search & create S3 bucket

The screenshot shows the AWS Management Console's 'Create bucket' page for the 'ap-northeast-1' region. The breadcrumb navigation is 'Amazon S3 > Buckets > Create bucket'. The main heading is 'Create bucket' with an 'Info' link. Below it, a note states 'Buckets are containers for data stored in S3. Learn more'. The 'General configuration' section contains a 'Bucket name' field with the value 'myawsbucket', a note about global uniqueness, an 'AWS Region' dropdown set to 'Asia Pacific (Tokyo) ap-northeast-1', and a 'Copy settings from existing bucket - optional' section with a 'Choose bucket' button. The 'Object Ownership' section is partially visible. The footer includes 'Feedback', 'Language', and copyright information for Amazon Web Services India Private Limited.

This screenshot shows the 'Default encryption' section of the 'Create bucket' page for the 'ap-south-1' region. It explains that server-side encryption is automatically applied. Under 'Encryption key type', 'Amazon S3-managed keys (SSE-S3)' is selected. The 'Bucket Key' section, which explains that it reduces encryption costs, has 'Enable' selected. An 'Advanced settings' section is collapsed. A blue information box at the bottom states: 'After creating the bucket you can upload files and folders to the bucket, and configure additional bucket settings.' At the bottom right are 'Cancel' and 'Create bucket' buttons. The footer is identical to the previous screenshot.

## STEP 2

→ Open the properties of the bucket & edit the static hosting property

The screenshot shows the AWS S3 console interface. On the left is a navigation pane with 'Amazon S3' selected. The main area displays the 'aniwebsitebucke' bucket properties. The 'Properties' tab is active, showing a 'Bucket overview' section with details like AWS Region (Asia Pacific (Mumbai) ap-south-1), Amazon Resource Name (ARN) (arn:aws:s3:::aniwebsitebucke), and Creation date (February 11, 2023, 23:30:12 (UTC+05:30)). Below this, the 'Bucket Versioning' section shows it is 'Disabled' with an 'Edit' button. A note about Multi-factor authentication (MFA) delete is also visible. The bottom of the console shows a footer with copyright information and links for Feedback, Language, Privacy, Terms, and Cookie preferences.

## STEP 3

→ Enable static web hosting & add name of index document as index.html

The screenshot shows the 'Edit static website hosting' configuration page in the AWS S3 console. The breadcrumb trail indicates the path: Amazon S3 > Buckets > aniwebsitebucke > Edit static website hosting. The 'Static website hosting' section has 'Enable' selected. Under 'Hosting type', 'Host a static website' is selected. A blue information box states: 'For your customers to access content at the website endpoint, you must make all your content publicly readable. To do so, you can edit the S3 Block Public Access settings for the bucket. For more information, see Using Amazon S3 Block Public Access'. The 'Index document' field is visible at the bottom. The footer of the console is also visible.

## STEP 4

→ Go to the permissions of the bucket & and generate a new policy for our bucket  
(We can use aws policy generator or can get a basic template for web hosting on aws)

(Add the asked things and click on add statement and generate policy)

The screenshot shows the AWS Policy Generator interface. At the top, there's a browser tab for 'aniwebsitebucket - S3 bucket' and another for 'AWS Policy Generator'. The URL is 'https://awspolicygen.s3.amazonaws.com/policygen.html'. Below the browser tabs, there's a section for 'Actions' with a dropdown menu set to '-- Select Actions --' and a checkbox for 'All Actions (\*\*)'. Below this, there's a text input for 'Amazon Resource Name (ARN)' with a placeholder text: 'ARN should follow the following format: arn:aws:s3:::{BucketName}/{KeyName}. Use a comma to separate multiple values.' Below the ARN input, there's a link 'Add Conditions (Optional)' and a yellow button 'Add Statement'. Below the 'Add Statement' button, there's a message: 'You added the following statements. Click the button below to Generate a policy.' Below this message, there's a table with the following content:

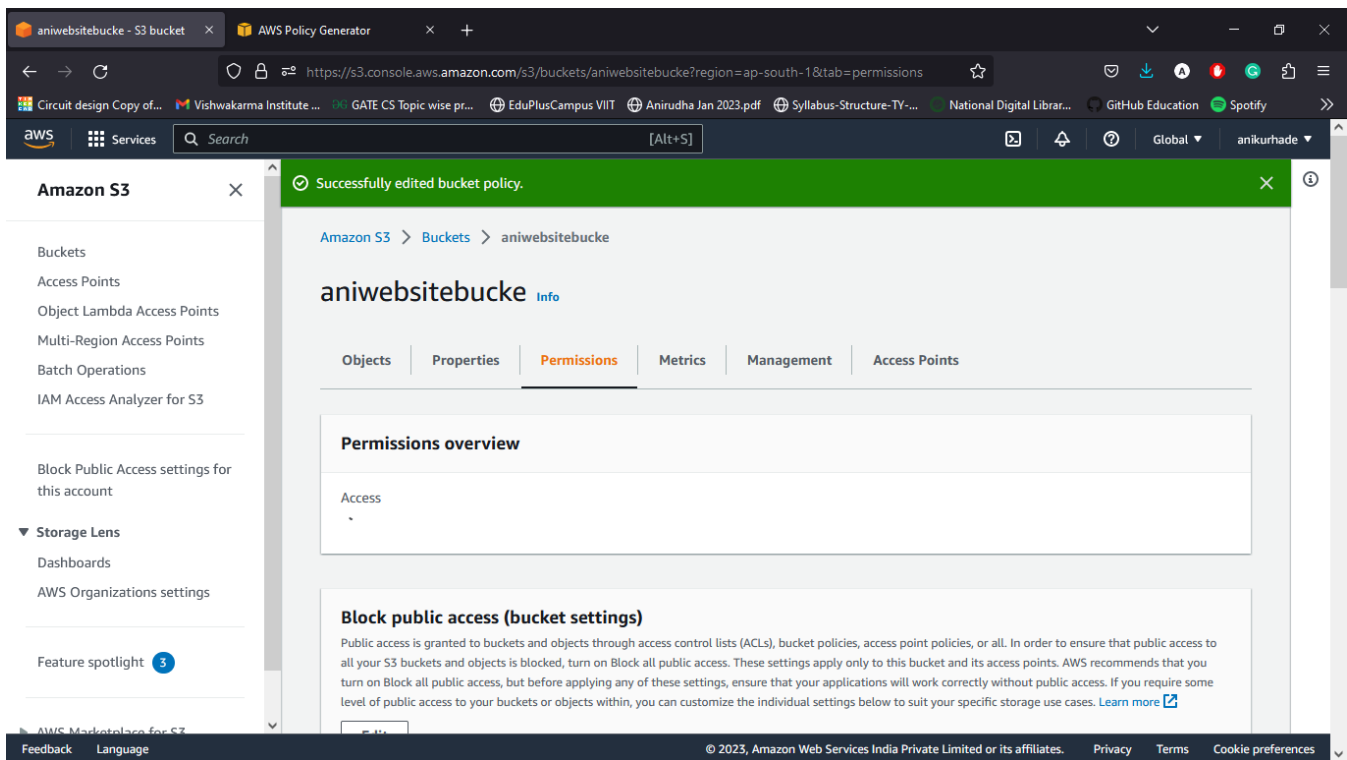
Principal(s)	Effect	Action	Resource	Conditions
s3:*	Allow	s3:*	arn:aws:s3:::aniwebsitebucket	None

Below the table, there's a section titled 'Step 3: Generate Policy' with a subtext: 'A policy is a document (written in the Access Policy Language) that acts as a container for one or more statements.' Below this, there's a yellow button 'Generate Policy' and a blue link 'Start Over'. At the bottom, there's a disclaimer: 'This AWS Policy Generator is provided for informational purposes only, you are still responsible for your use of Amazon Web Services technologies and ensuring that your use is in compliance with all applicable terms and conditions. This AWS Policy Generator is provided as is without warranty of any kind, whether express, implied, or statutory. This AWS Policy Generator does not modify the applicable terms and conditions governing your use of Amazon Web Services technologies.' Below the disclaimer, there's a copyright notice: '©2010, Amazon Web Services LLC or its affiliates. All rights reserved.' and a logo: 'An amazon.com company'.

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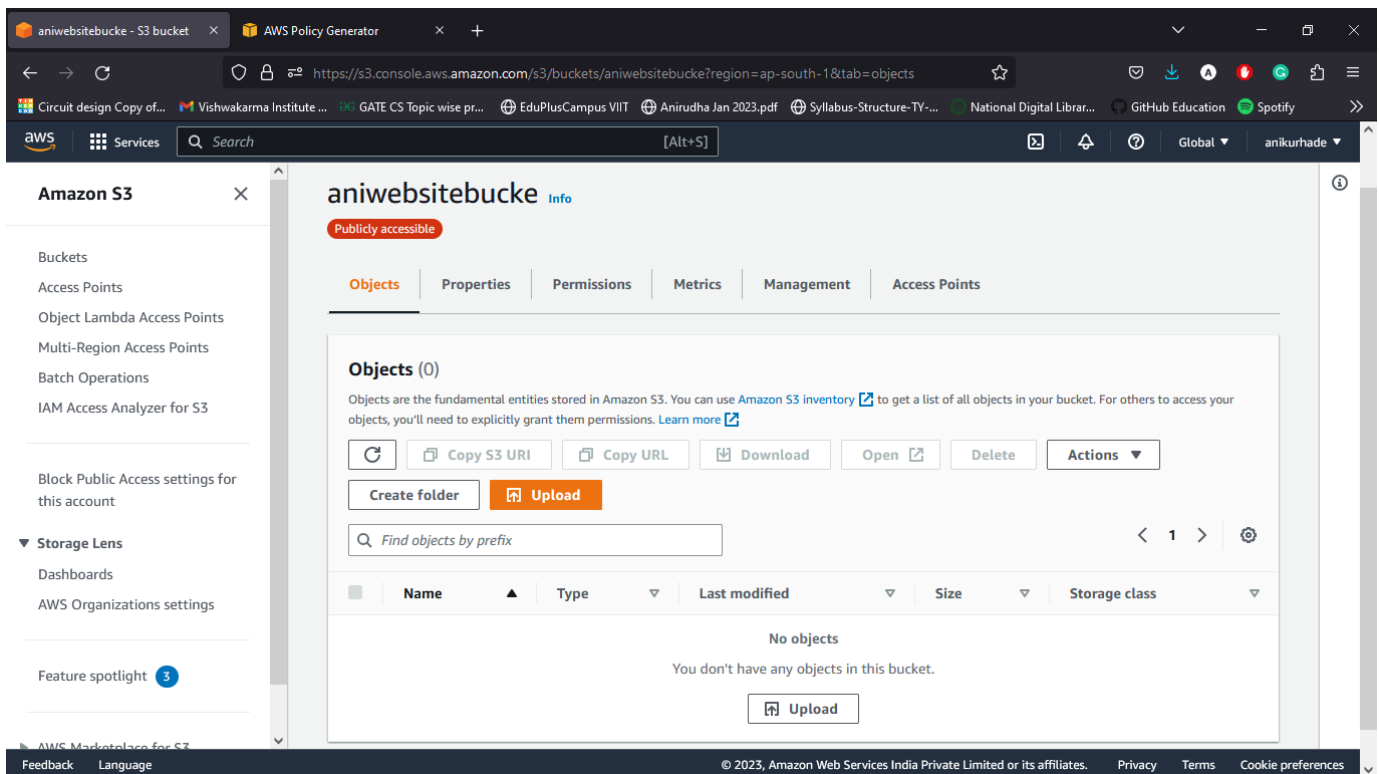
Principal(s)	Effect	Action	Resource	Conditions
s3:*	Allow	s3:*	arn:aws:s3:::aniwebsitebucket	None

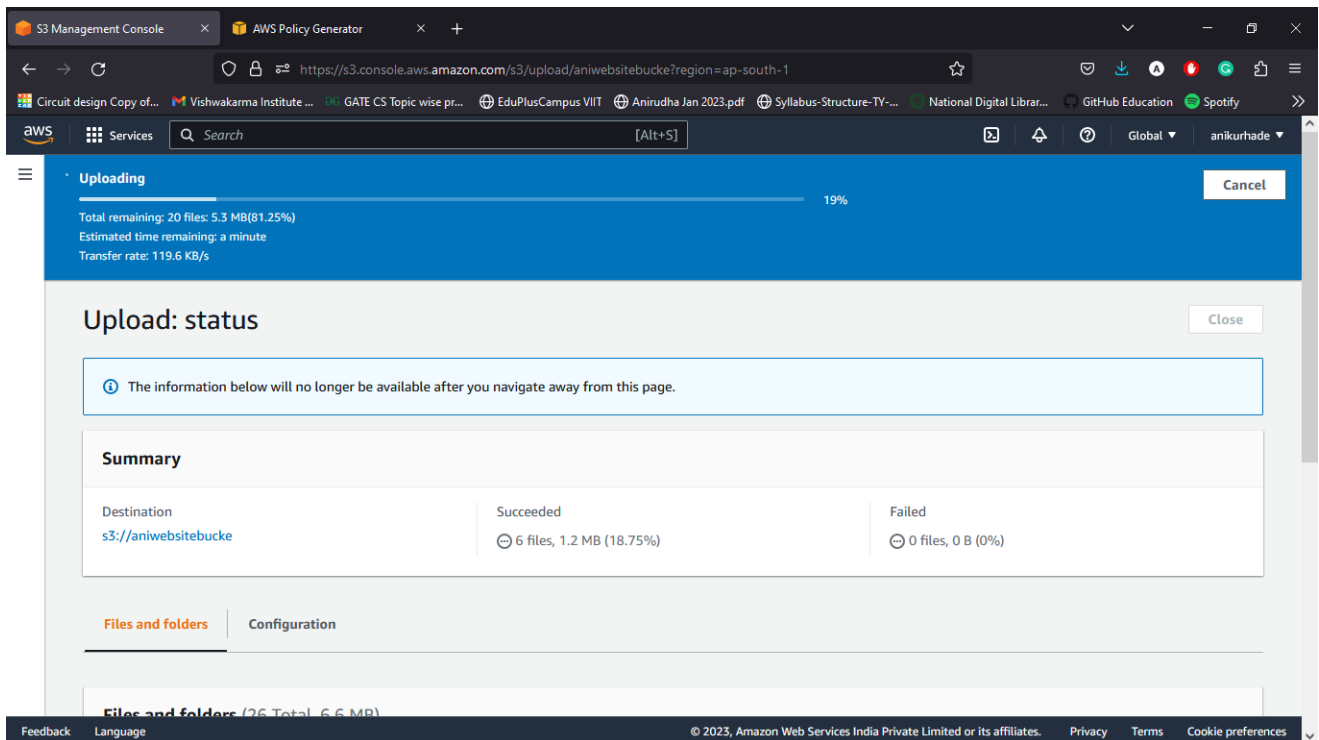
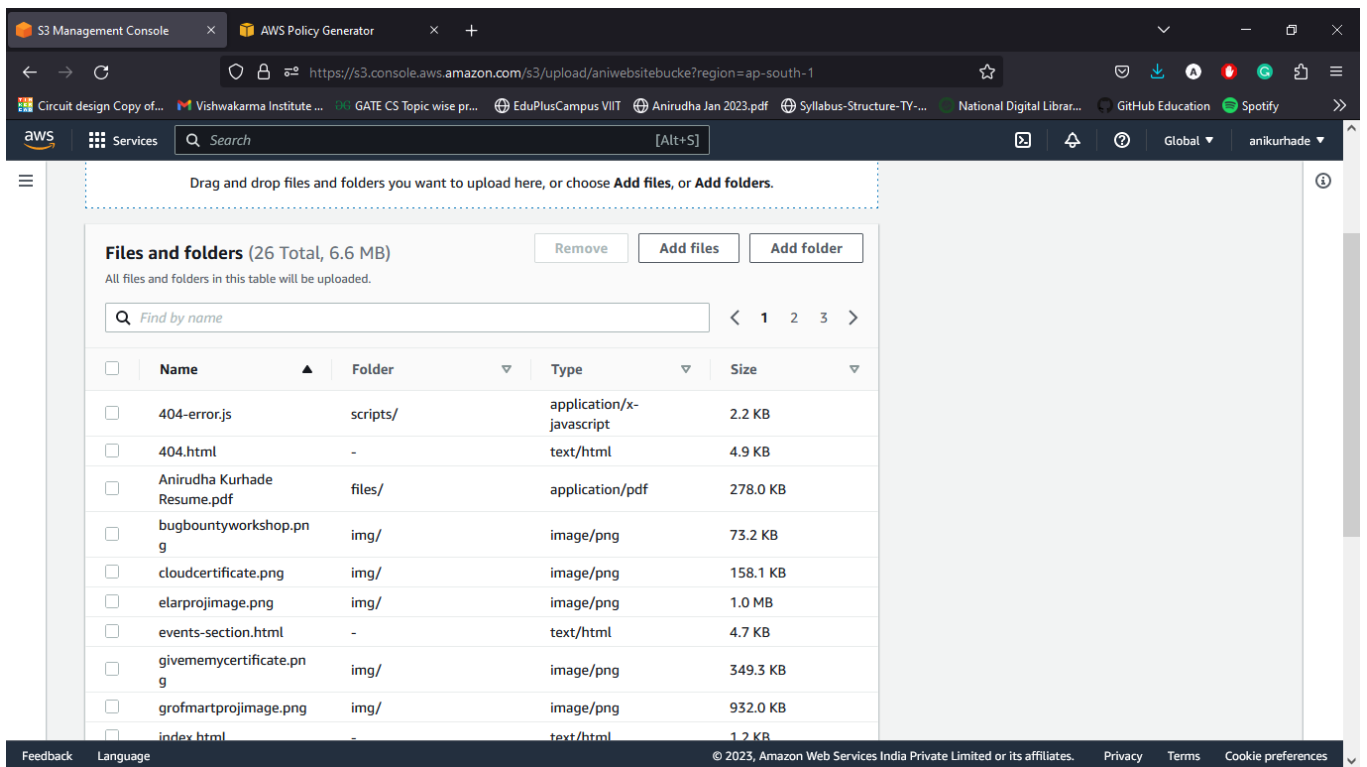
Below the table, there's a section titled 'Step 3: Generate Policy' with a subtext: 'A policy is a document (written in the Access Policy Language) that acts as a container for one or more statements.' Below this, there's a yellow button 'Generate Policy' and a blue link 'Start Over'. At the bottom, there's a disclaimer: 'This AWS Policy Generator is provided for informational purposes only, you are still responsible for your use of Amazon Web Services technologies and ensuring that your use is in compliance with all applicable terms and conditions. This AWS Policy Generator is provided as is without warranty of any kind, whether express, implied, or statutory. This AWS Policy Generator does not modify the applicable terms and conditions governing your use of Amazon Web Services technologies.' Below the disclaimer, there's a copyright notice: '©2010, Amazon Web Services LLC or its affiliates. All rights reserved.' and a logo: 'An amazon.com company'.



## STEP 5

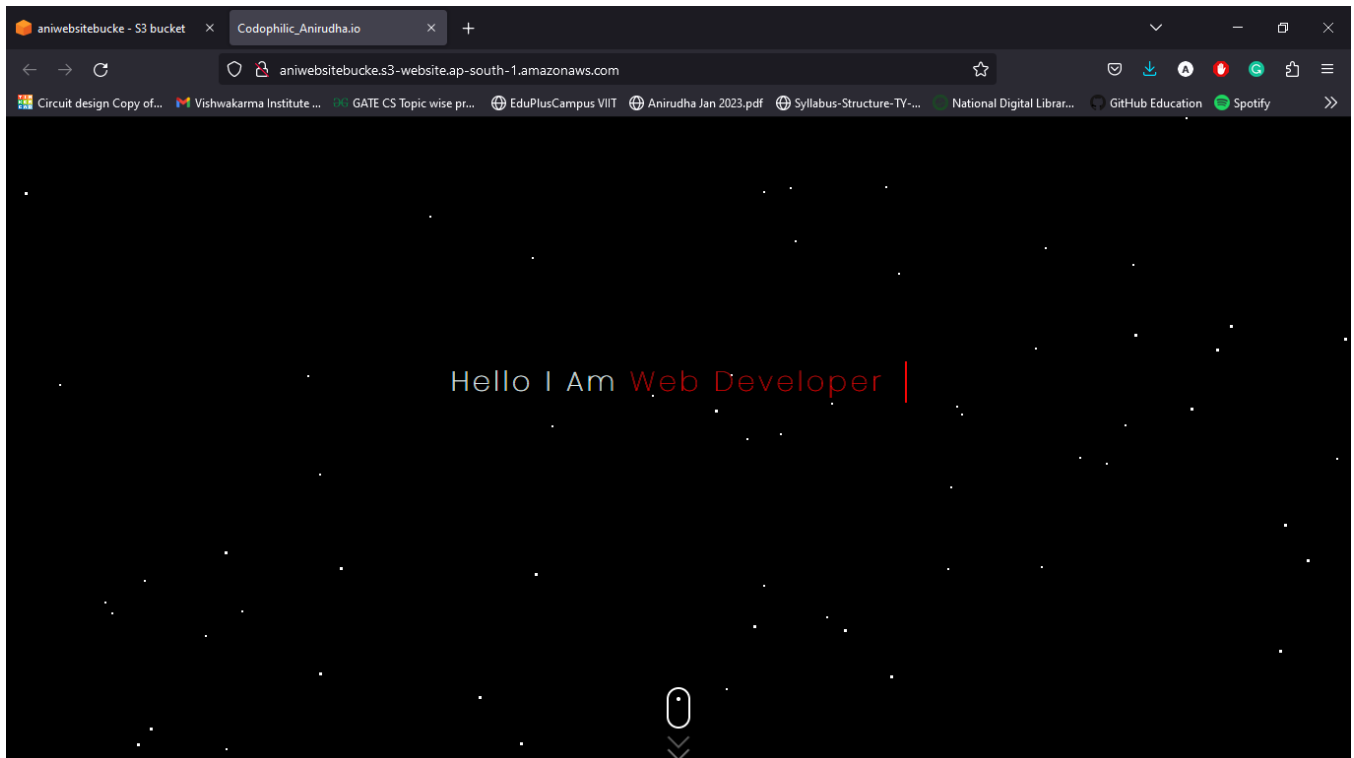
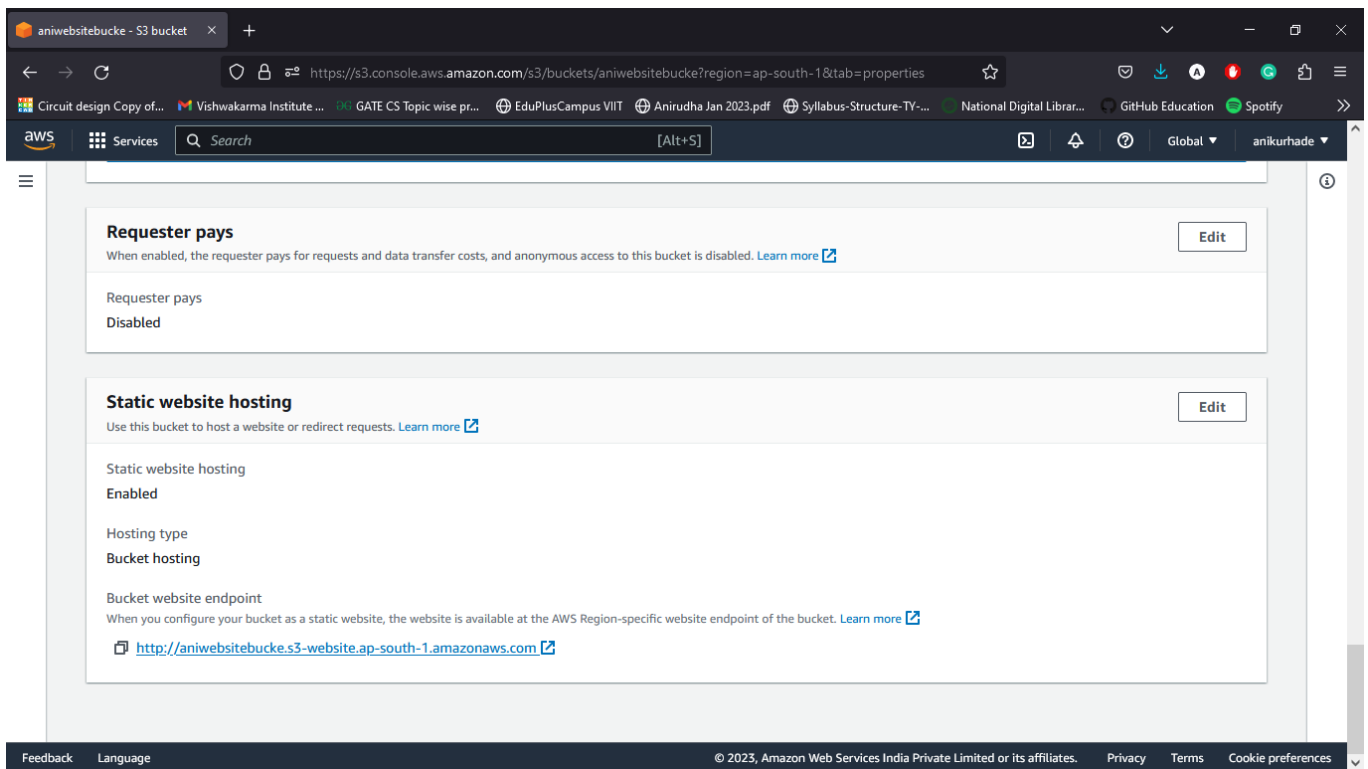
→ Open the bucket you are using & click on upload



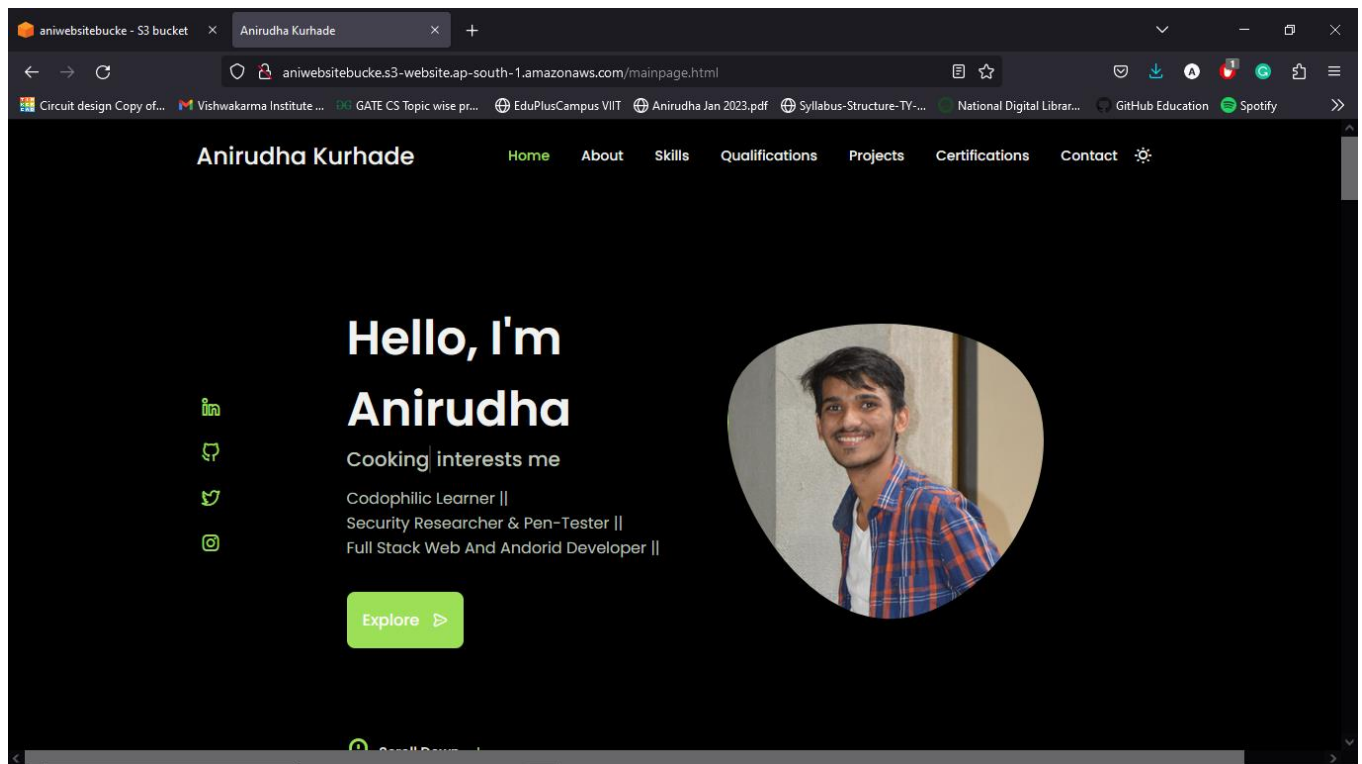


## STEP 6

→ Click on this link







## Conclusion :-

Thus, We Have Studied And Deployed Web application using S3 Bucket.