Project 2

Create a static website in AWS

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Introduction

Overview:-

Static websites deliver HTML, JavaScript, images, video and other files to your website visitors. Static websites are very low cost, provide high-levels of reliability, require almost no IT administration, and scale to handle enterprise-level traffic with no additional work.

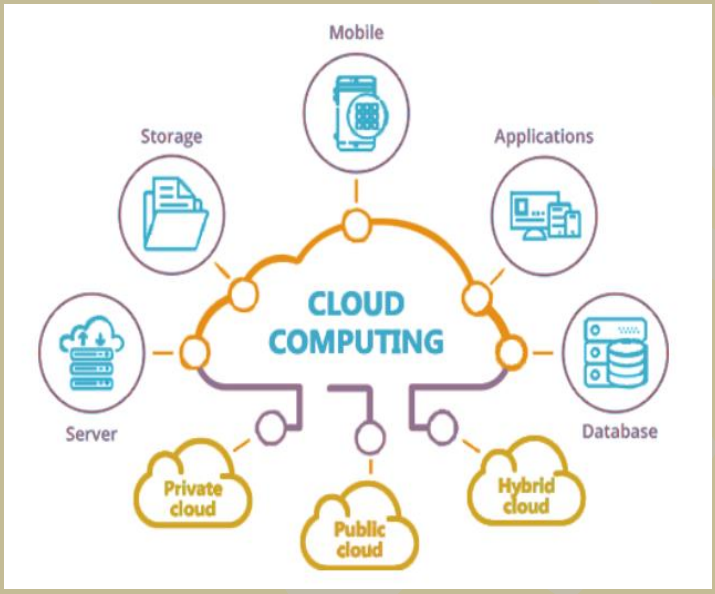
- Host a static website using AWS Amplify in the AWS console. AWS Amplify provides fully managed hosting for static websites and web apps. Amplify's hosting solution leverages Amazon CloudFront and Amazon S3 to deliver your site assets via the AWS content delivery network (CDN).

- Set up continuous deployment: Amplify offers a Git-based workflow with continuous deployment, allowing you to automatically deploy updates to your site on every code commit.

Background

Cloud Computing:-

Cloud computing is a paradigm shift in the IT industry, offering on-demand delivery of compute power, storage, applications, and other IT resources through the internet with a pay-as-you-go pricing model. It enables businesses to avoid upfront infrastructure costs, scale their operations according to demand, and improve their agility and innovation. Major cloud service providers, such as Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform (GCP), offer a wide range of services that cater to various computing needs, from data storage and machine learning to content delivery and database management.



Project introduction

Topic:-Create a static website and deploy it using AWS services

AWS S3 (Simple Storage Service) is a cloud data storage service. It is one of the most popular services of AWS. It has high scalability, availability, security and is cost effective. S3 has different storage tiers depending on the use case. Some common use cases of AWS S3 are:

1. **Storage:** It can be used for storing large amounts of data.
2. **Backup and Archive:** S3 has different storage tiers based on how frequent the data is accessed which can be used to backup critical data at low costs.
3. **Static website:** S3 offers static website hosting through HTML files stored in S3.
4. **Data lakes and big data analytics:** Companies can use AWS S3 as a data lake and then run analytics on it for getting business insights and take critical decisions.

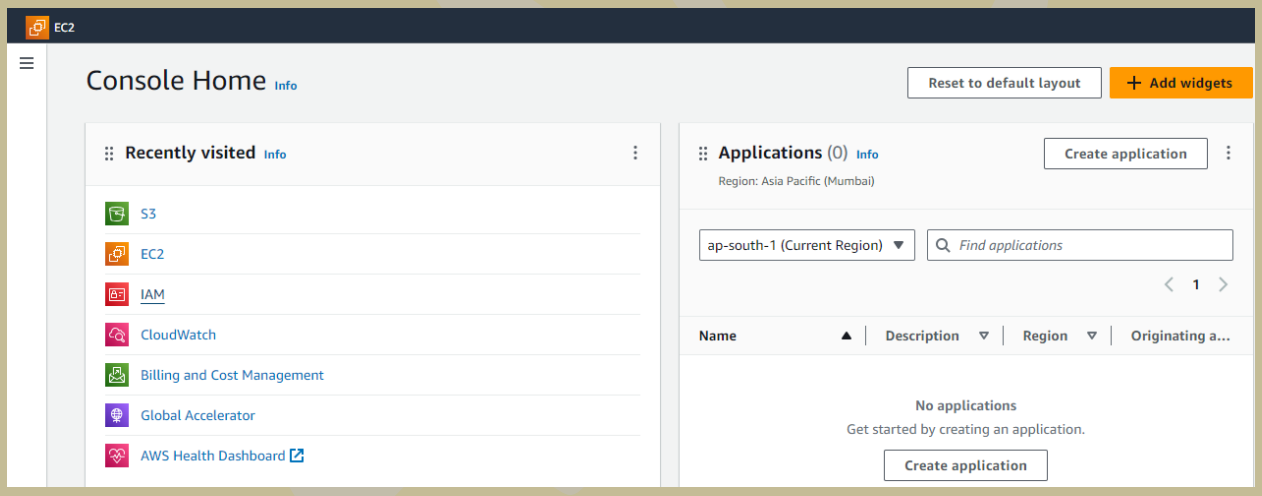
Lab Steps

Task 1: Sign in to AWS Management Console

1. Click on the **Open Console** button, and you will get redirected to AWS Console in a new browser tab.
2. On the AWS sign-in page,

- Leave the Account ID as default. Never edit/remove the 12-digit Account ID present in the AWS Console. otherwise, you cannot proceed with the lab.
- Now copy your **User Name** and **Password** in the Lab Console to the **IAM Username and Password** in AWS Console and click on the **Sign in** button.

3. Once Signed In to the AWS Management Console, Make the default AWS Region as **US East (N. Virginia) us-east-1.**



Task 2: Creating a S3 Bucket

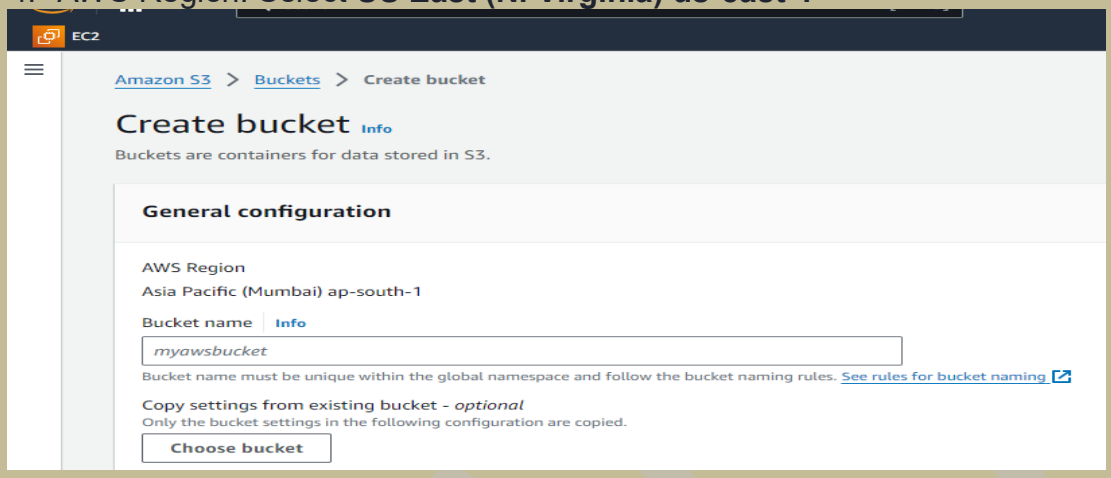
In this task, we are going to create a new S3 bucket in the US East (N. Virginia) region with a unique name disabling ACLs, and allowing public access for hosting the static website.

1. Navigate to **S3** by clicking on the **Services** menu at the top, then click on **S3** in the **Storage** section.
2. In the S3 dashboard, click on the **Create Bucket** button.

3. In the General Configuration, **Bucket name**: Enter **abcxyz**

- **Note:** S3 Bucket names are globally unique, choose a name that is available. Maybe you can enter your name and create one.

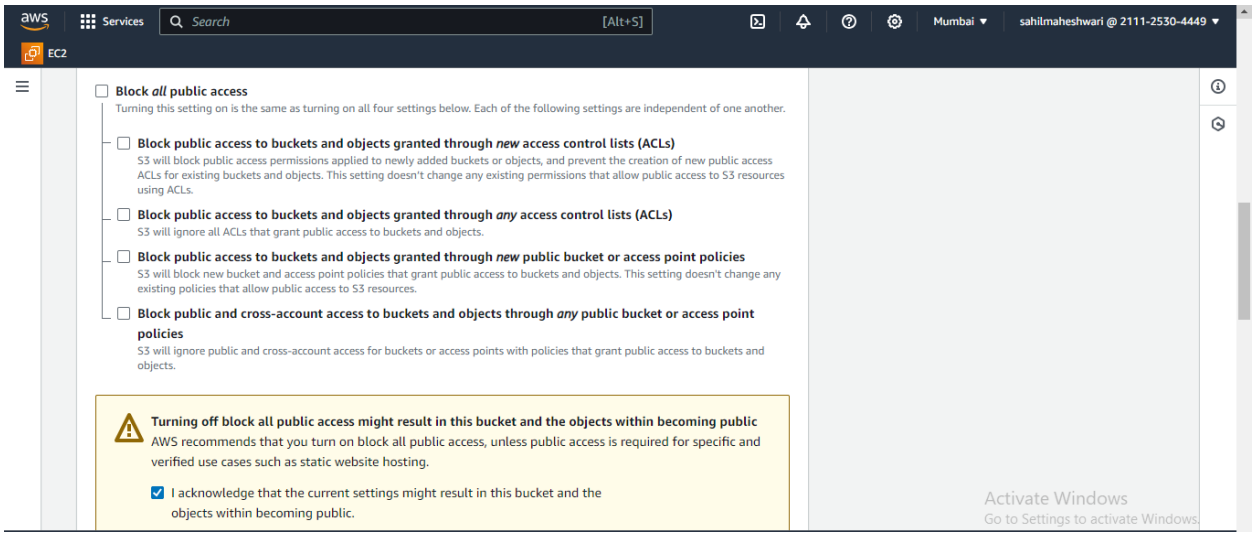
4. AWS Region: Select **US East (N. Virginia) us-east-1**



5. Object ownership: Select **ACLs disabled (recommended)** option
6. In the option of **Block Public Access settings for this bucket**, **Uncheck** the option of **Block all public access**.

- **Check** the I acknowledge that the current settings might result in this bucket and the objects within becoming public checkbox.

7. Keep everything default and click on **Create Bucket** button.



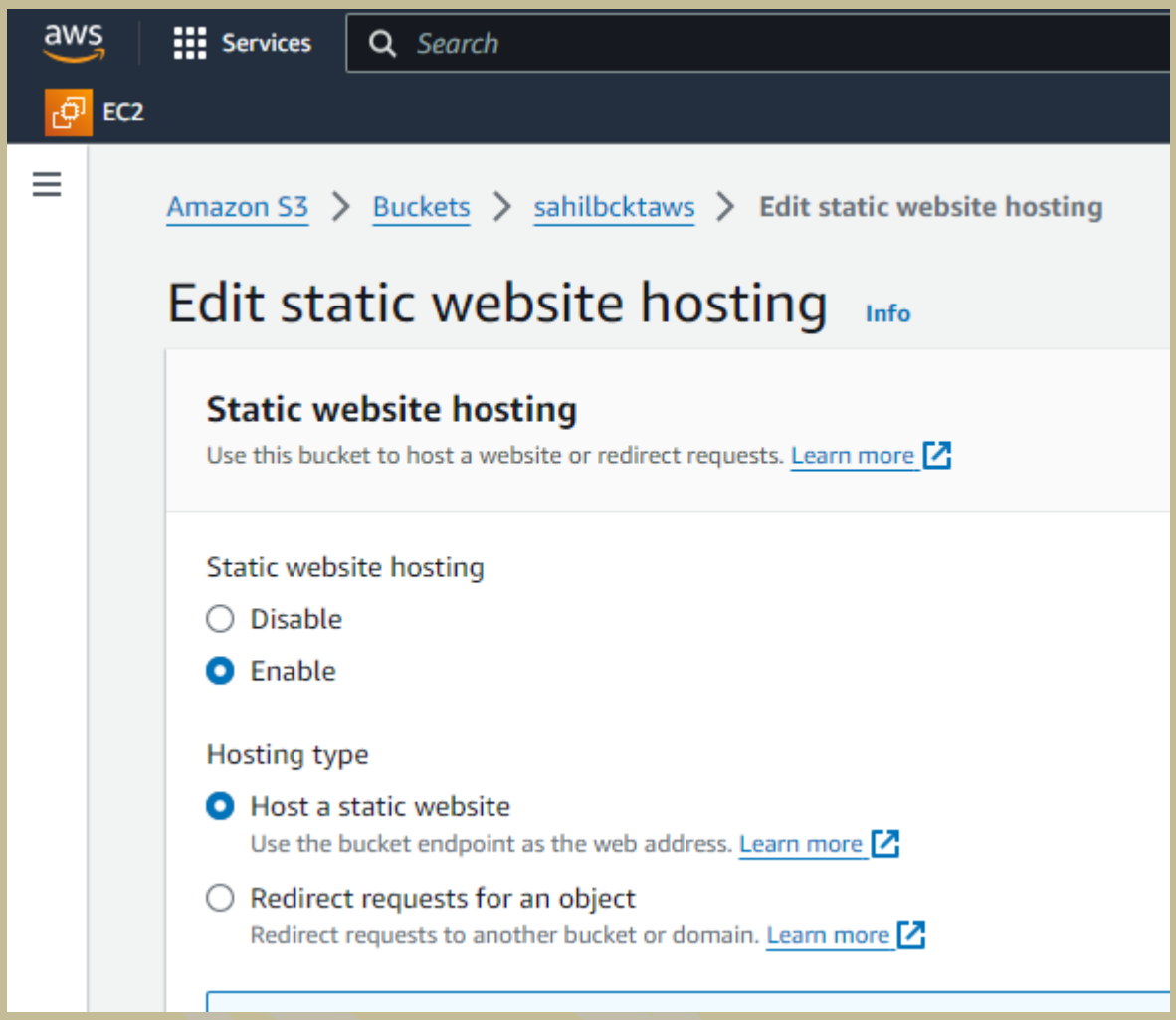
Task 3: Enable Static Website Hosting settings

In this task, we will enable static website hosting for our S3 bucket, configure it to use index.html and error.html, copy the provided endpoint, upload two files, and configure the bucket policy by copying its ARN and pasting the provided policy code.

1. To proceed, go to the **S3 bucket name** that you created and click on it. After that, navigate to the **Properties** tab which can be found at the top of the screen .
2. Scroll down to the **Static website hosting** section and click on **Edit** button .

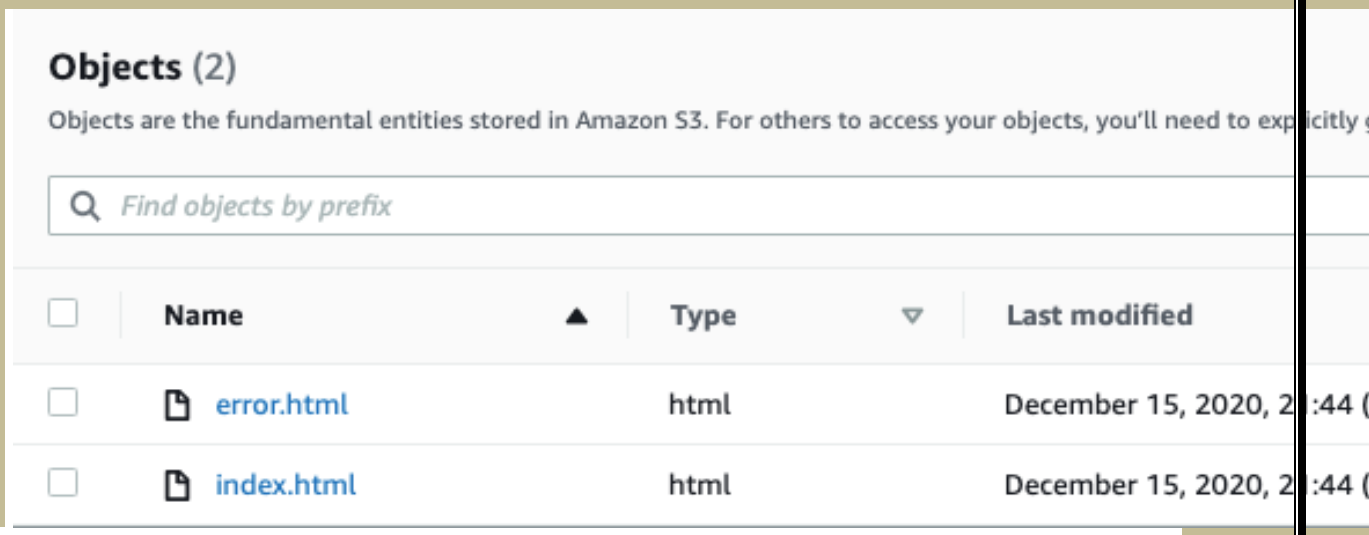
3. In the **Static website hosting** dialog box

- Static website hosting: Select **Enable**
- Hosting type: Choose **Host a static website**
- Index document: Type ***index.html***
- Error document: Type ***error.html***
- Click on **Save Changes**.



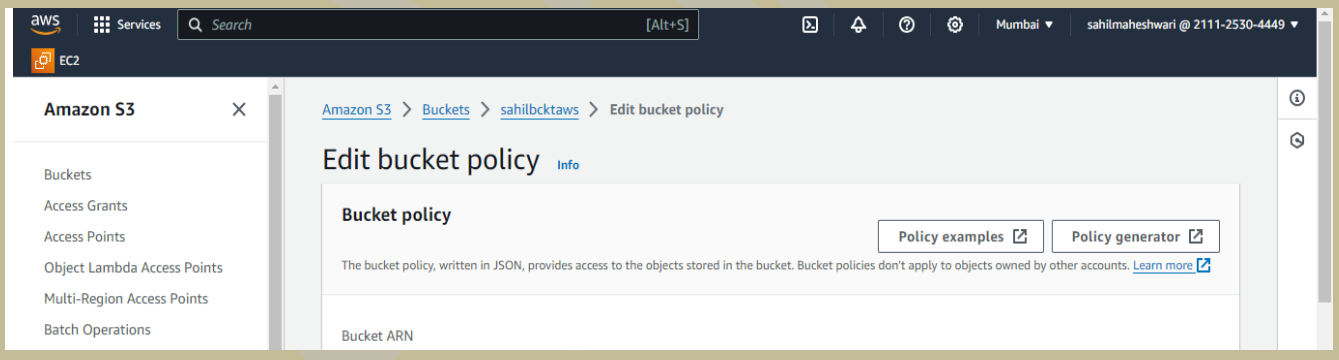
4. Go to the **Properties** tab of your S3 bucket, and find the **Static website hosting** section. **Copy** the Endpoint provided in this section to your clipboard and **save** it for future reference.

5. The next step is to download the zip file by clicking on the link, extract it, and upload two files named **index.html** and **error.html** to the S3 bucket you created earlier.



6. To configure your S3 bucket, access the **Permissions** tab and make the necessary configurations.

- In the **Permissions** tab, Click on the **Edit** button beside the **Bucket Policy**.



- You will be able to see a Blank policy editor.

- Before creating the policy, you will need to copy the **ARN** (Amazon Resource Name) of your bucket.

- Copy the **ARN** of your bucket to the clipboard. It is displayed at the top of the policy editor. it will look like **ARN:"arn:aws:s3:::your-bucket-name**".

- In the policy below, **Update** the bucket ARN on the Resource key value and **paste** the below policy code in the editor.
-

Click on **Save changes** button.

Task 4: Test the website

1. Now copy the **static website URL** (that we saved earlier) and run it in your browser. You will be able to see the index.html file's text. A sample screenshot is attached below:

Task 5: Test the website's error page

1. Copy the static website URL (which we saved earlier) , but this time, add some random characters to the end of the url to break it. When satisfied, hit **[Enter]**. You will be redirected to the **error.html** page automatically.

403 Forbidden

- Code: AccessDenied
- Message: Access Denied
- RequestId: YCANZHRZKYT8GK5A
- HostId: WW6Cgxf0qvbvEkg72ZG+m0paktI4hgkrriUauuNLZRDuQE7X6nDfU/8EMBrKy278Bj9cGhck23g=

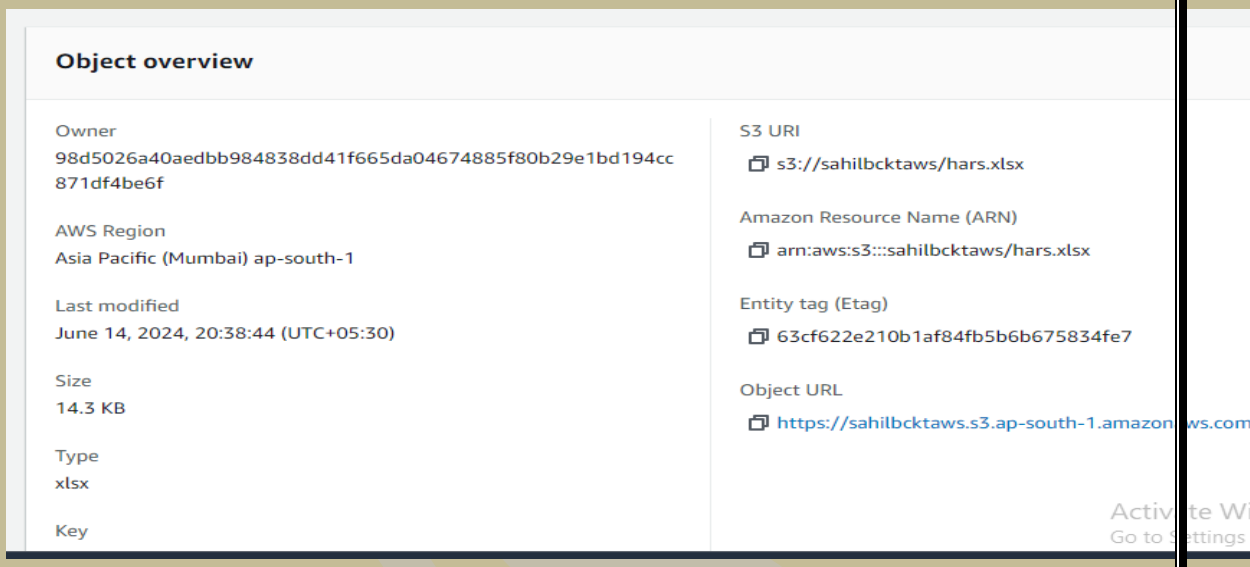
An Error Occurred While Attempting to Retrieve a Custom Error Document

- Code: AccessDenied
- Message: Access Denied

Task 6: upload file in bucket

1. In this project we upload the URL (uniform resource locater) of YouTube for create a static website and deploy it using AWS services.

2. After upload of file in source bucket .press save and then enter in the URL for seeing the static website.



3.After completion of full step we get the static website of youtube.