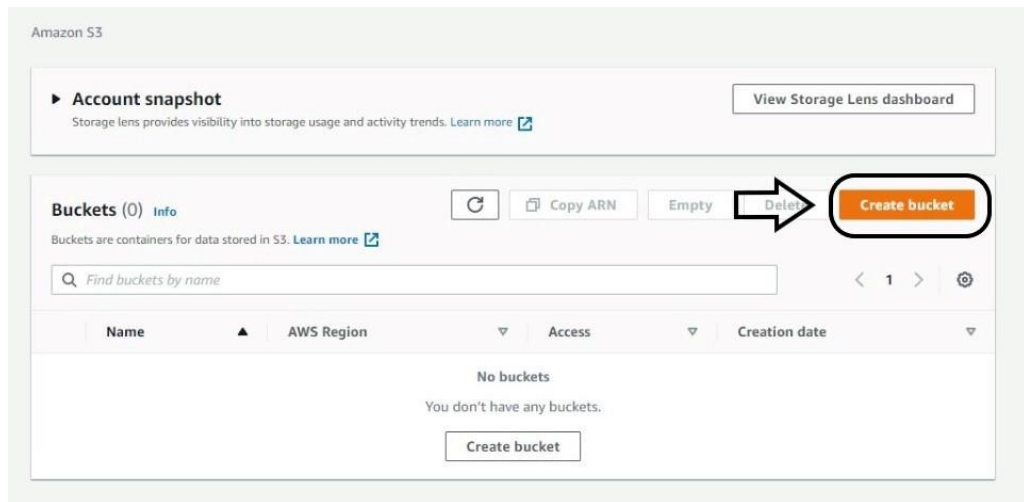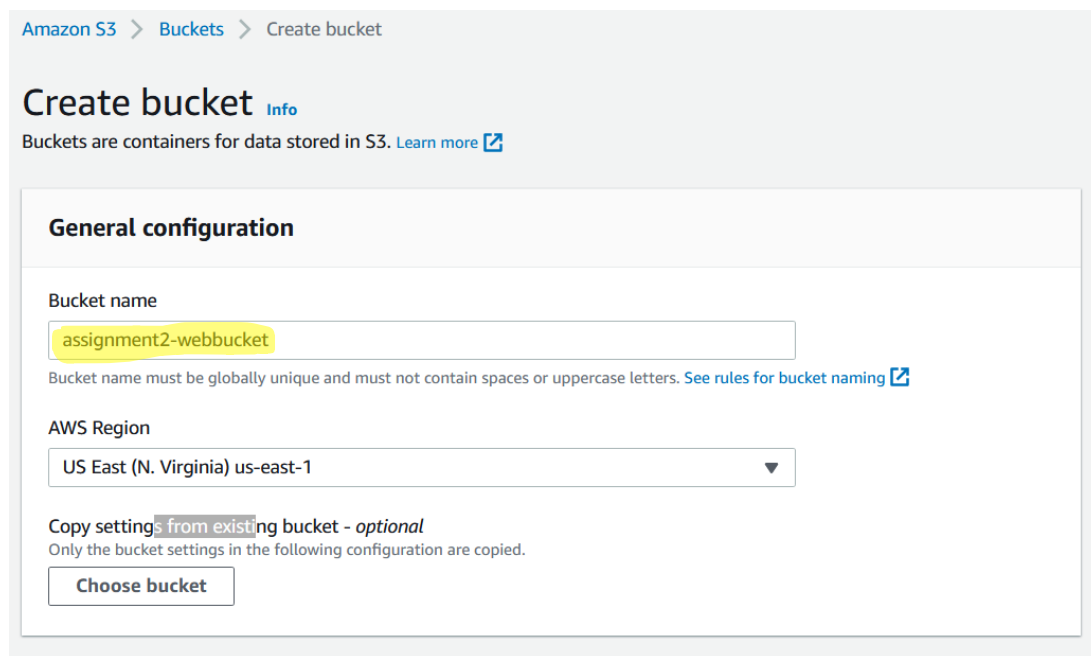Assignment 2:
Implement versioning in S3 bucket and attach bucket policies, ACL on objects of bucket to implement user access permissions.

Step 1: Log in to your Amazon Web Services Account → In your console search bar, search S3 → then select the S3.

Step 2: On the Amazon S3 page click on create a bucket.

Step 3: In create bucket page, Give the bucket a Name

NOTE:

1. **Name must be unique and should not contain any space or uppercase letter**
2. Select any region
3. Enable ACL (Access Control List basically helps to manage access to created buckets and it's a different version of object)
4. Un-tick Block all public access option (If you want to give it public access)
5. Click on "I acknowledge"
6. Keep default encryption disabled
7. Click on Create Bucket

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.

● 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.

Object Ownership

Bucket owner enforced

Block Public Access settings for this bucket

Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to this bucket or objects within, you can customize the individual settings below to suit your specific storage use cases. Learn more ⬈

☐ **Block *all* public access**
Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

☐ **Block public access to buckets and objects granted through *new* access control lists (ACLs)**
S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.

☐ **Block public access to buckets and objects granted through *any* access control lists (ACLs)**
S3 will ignore all ACLs that grant public access to buckets and objects.

☐ **Block public access to buckets and objects granted through *new* public bucket or access point policies**
S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.

☐ **Block public and cross-account access to buckets and objects through *any* public bucket or access point policies**
S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.

⚠️ **Turning off block all public access might result in this bucket and the objects within becoming public**
AWS recommends that you turn on block all public access, unless public access is required for specific and verified use cases such as static website hosting.

☑ I acknowledge that the current settings might result in this bucket and the objects within becoming public.

To enable versioning, we will follow below mentioned steps.

1. In the Buckets list, choose the **name of the bucket** that you want to enable versioning for.
2. Choose Properties.
3. Under Bucket Versioning, choose Edit.
4. Choose **Enable**, and then choose Save changes.

Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. Learn more ⬈

Bucket Versioning
○ Disable
● Enable

Note: While creating bucket, select encryption enable/disable based on the requirement.

Step 4: Click on your created bucket → Click on upload →Upload any file

Select objects uploaded and go to object action → Click on the public using ACL.

By default, the static website hosting will be **disabled**. To get S3 object as website, **enable** the static website hosting.

Static website hosting

Use this bucket to host a website or redirect requests. Learn more ⤢

Edit

Static website hosting

Disabled

Edit static website hosting Info

Static website hosting

Use this bucket to host a website or redirect requests. Learn more ⤢

Static website hosting

○ Disable

◉ Enable

Hosting type

◉ Host a static website
  Use the bucket endpoint as the web address. Learn more ⤢

○ Redirect requests for an object
  Redirect requests to another bucket or domain. Learn more ⤢

ⓘ 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 ⤢

Index document

Specify the home or default page of the website.

index.html

Error document - *optional*

This is returned when an error occurs.

error.html

Static website hosting

Use this bucket to host a website or redirect requests. Learn more ⤢

Edit

Static website hosting

Enabled

Hosting type

Bucket hosting

Bucket website endpoint

When you configure your bucket as a static website, the website is available at the AWS Region-specific website endpoint of the bucket. Learn more ⤢

⧉ http://assignment2-webbucket.s3-website-us-east-1.amazonaws.com ⤢

Using the website endpoint, we will access the web hosted S3.

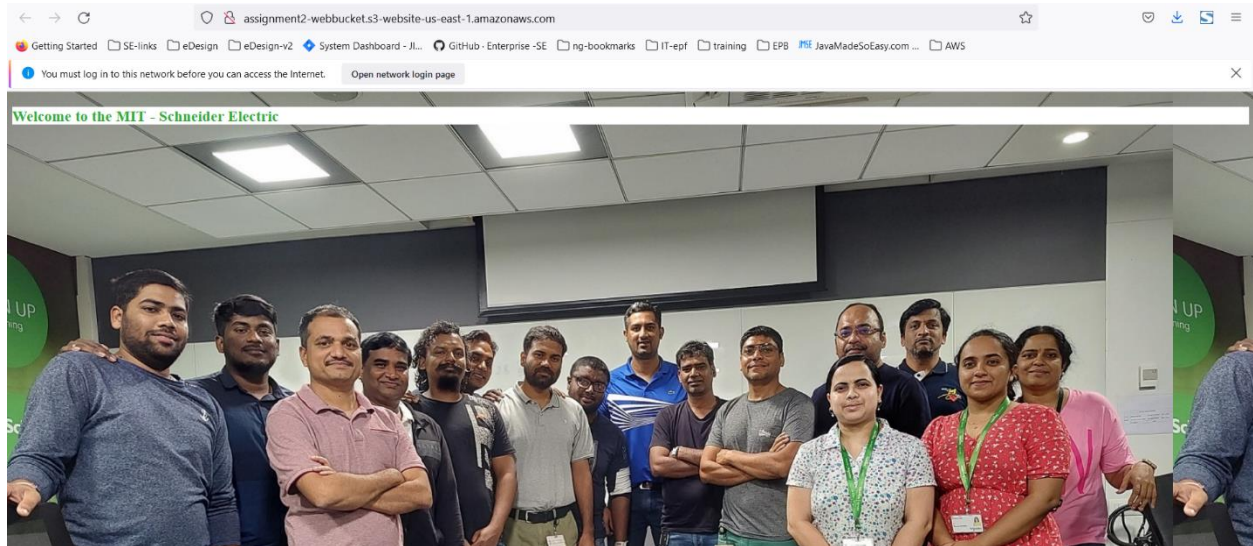⊘ **Successfully edited public access**
View details below.

✕

Make public: status

Close

ⓘ The information below will no longer be available after you navigate away from this page.

Summary

Source	Successfully edited public access	Failed to edit public access
s3://assignment2-webbucket	⊘ 1 object, 1.7 KB	0 objects

Finally, we can see the **number of versions** for the file **index.html**. We have uploaded the file multiple times and its available with version ID's. So that we can restore if it is required for later use or if we want to revert the content.