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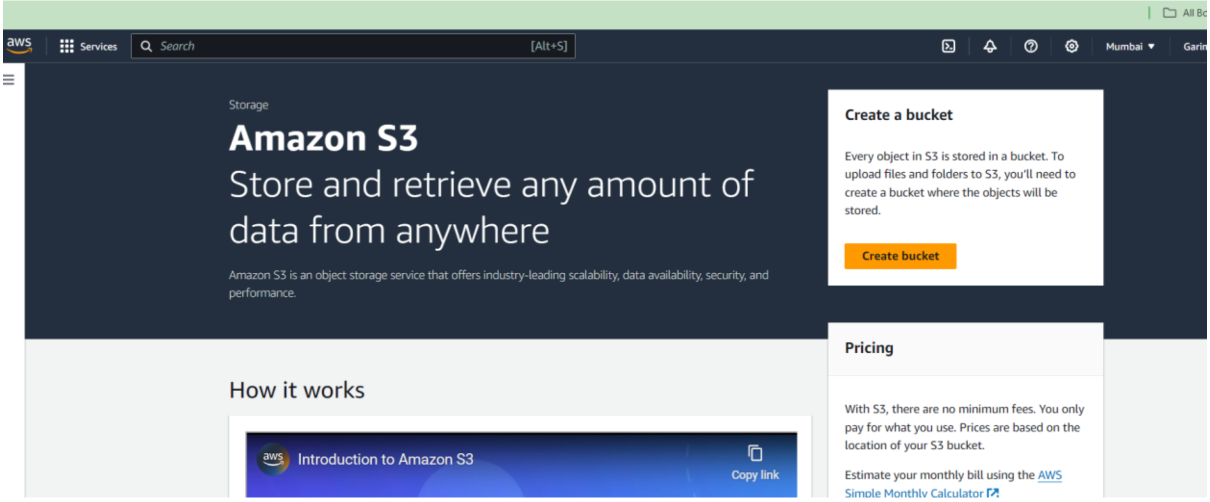
Cloud Computing: Storage as a service using AWS

Q.) Implement S3 for:

1. uploading a file, video, etc.
2. uploading a static website

Ans:



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.

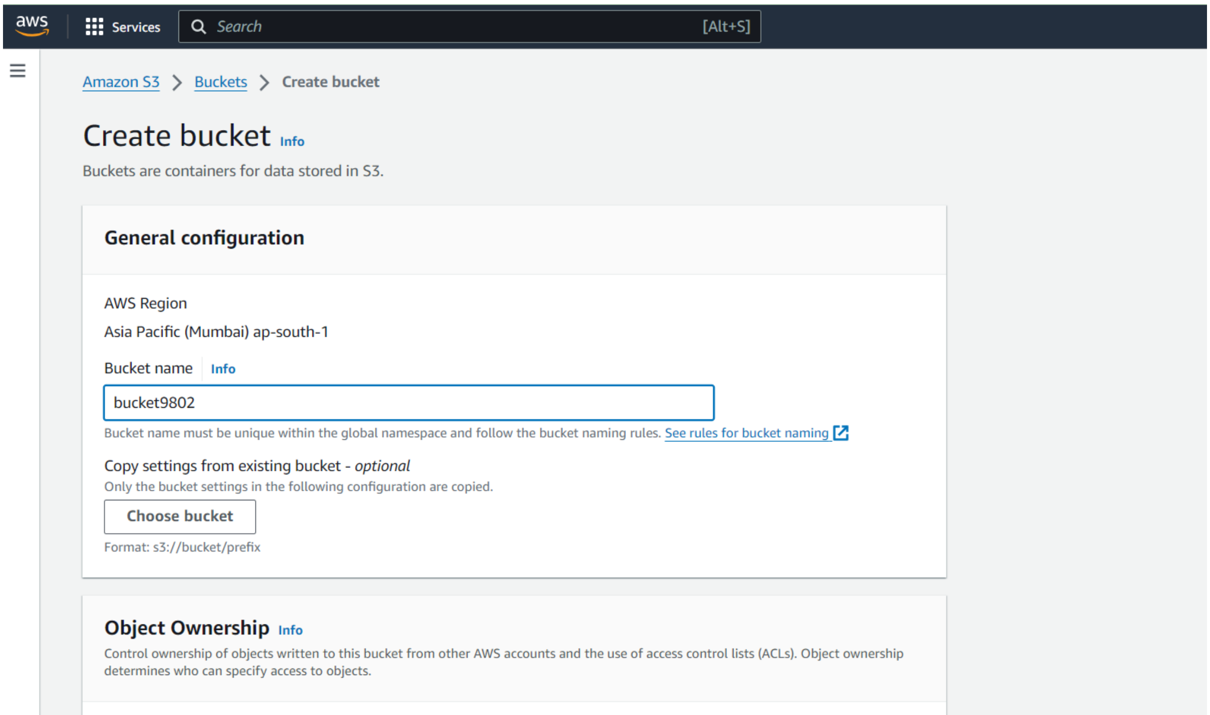
Estimate your monthly bill using the AWS Simple Monthly Calculator

How it works

Introduction to Amazon S3

Copy link

Click on create bucket button



Create bucket Info

Buckets are containers for data stored in S3.

General configuration

AWS Region
Asia Pacific (Mumbai) ap-south-1

Bucket name Info

bucket9802

Bucket name must be unique within the global namespace and follow the bucket naming rules. See rules for bucket naming

Copy settings from existing bucket - *optional*
Only the bucket settings in the following configuration are copied.

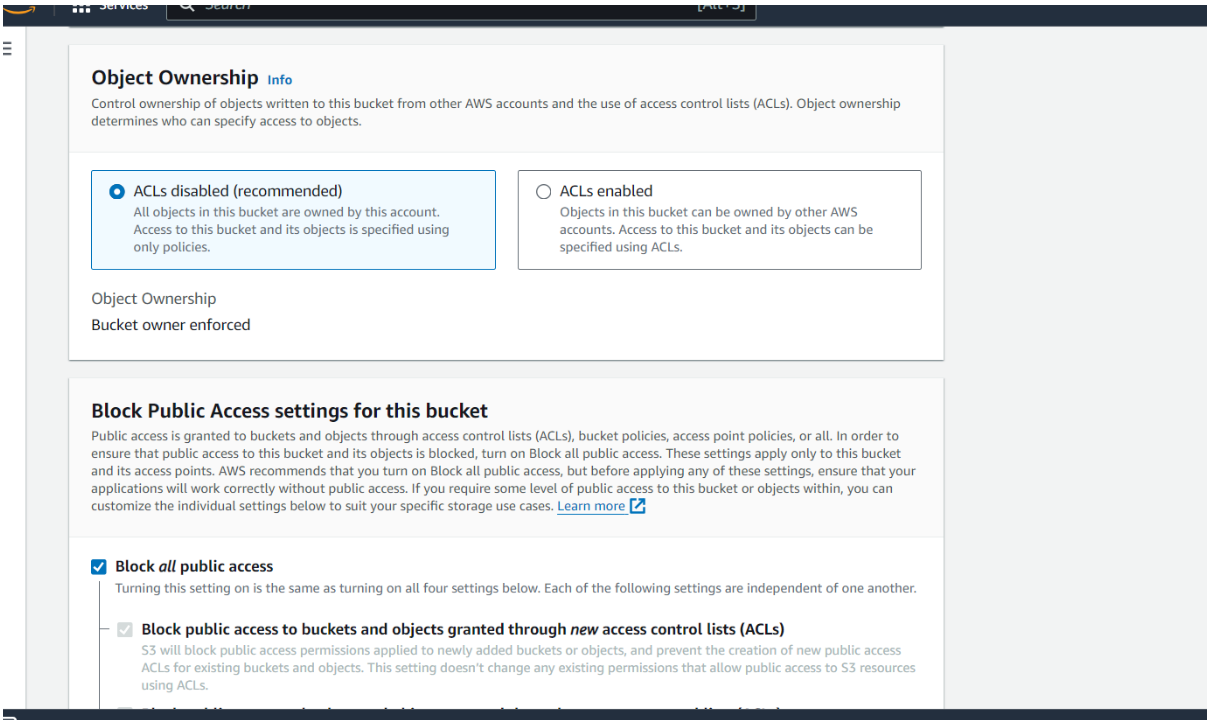
Choose bucket

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.

Assign a name to the new 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

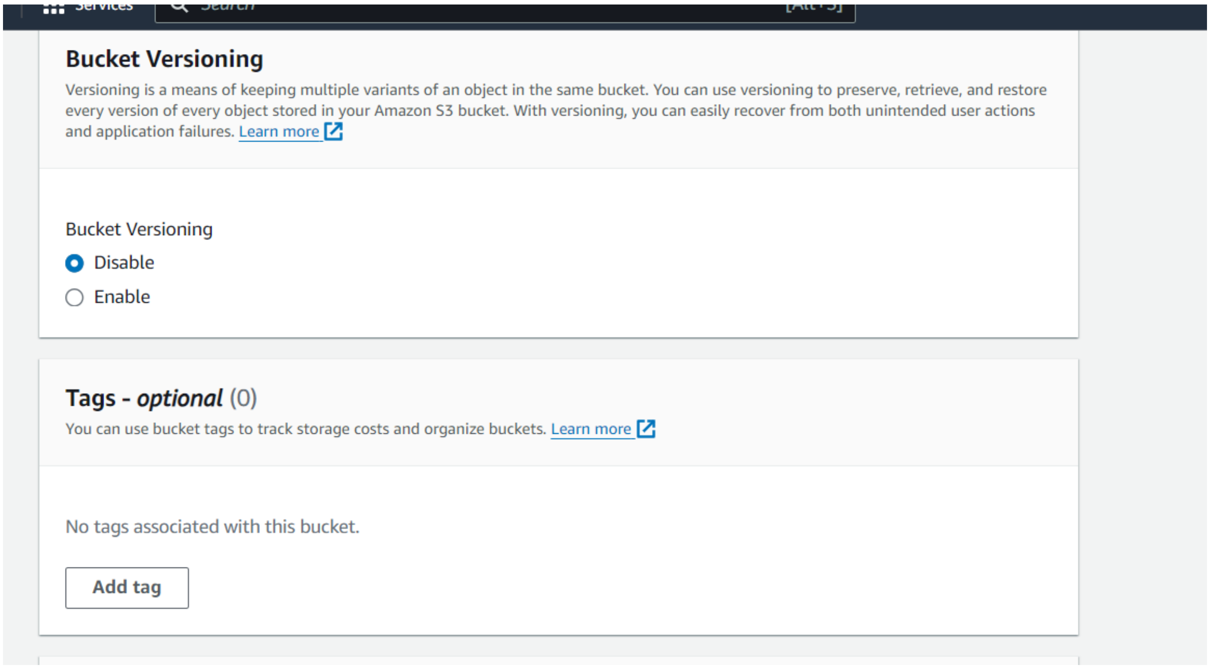
Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to this bucket and its objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access 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.

Under object ownership, we disable the ACLS so that the content of our bucket is owned only by us and the content access depends on the policies and not by using ACLs.

Under Block Public Access, we select the checkbox for Block all public access, meaning that only we can access the contents of the bucket. The contents cannot be accessed even through the ACLs or bucket policies or access point policies or all.



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

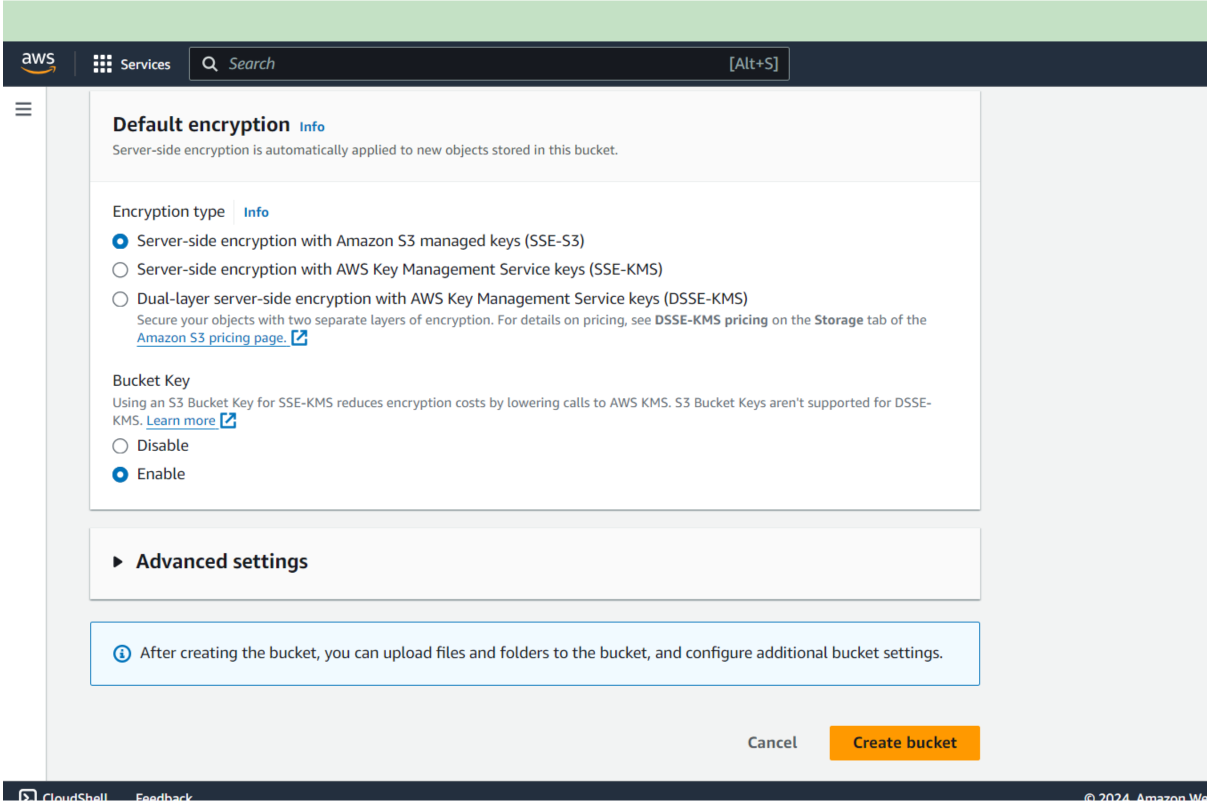
Tags - *optional* (0)

You can use bucket tags to track storage costs and organize buckets. Learn more

No tags associated with this bucket.

Add tag

Bucket versioning is disabled since we don’t want to have multiple variants of the objects that are present in the bucket.



Default encryption Info

Server-side encryption is automatically applied to new objects stored in this bucket.

Encryption type Info

● Server-side encryption with Amazon S3 managed keys (SSE-S3)

○ Server-side encryption with AWS Key Management Service keys (SSE-KMS)

○ Dual-layer server-side encryption with AWS Key Management Service keys (DSSE-KMS)

Secure your objects with two separate layers of encryption. For details on pricing, see **DSSE-KMS pricing** on the **Storage** tab of the Amazon S3 pricing page.

Bucket Key

Using an S3 Bucket Key for SSE-KMS reduces encryption costs by lowering calls to AWS KMS. S3 Bucket Keys aren't supported for DSSE-KMS. Learn more

○ Disable

● Enable

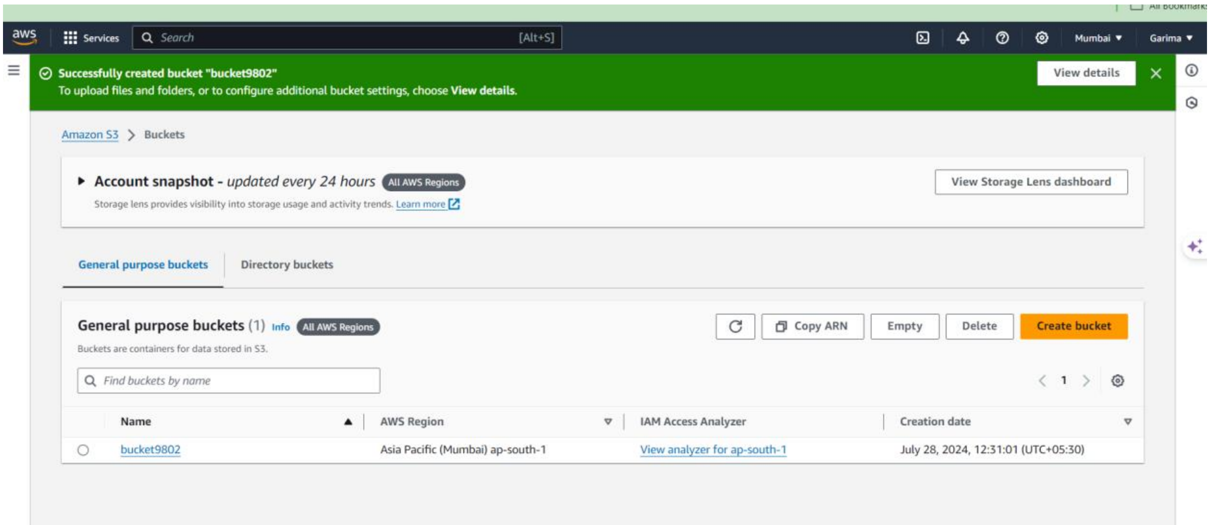
▸ Advanced settings

After creating the bucket, you can upload files and folders to the bucket, and configure additional bucket settings.

Select the Server-side encryption with Amazon S3 managed keys is (SSE-S3). This gives basic protection for our bucket. Here, we don’t need to bother about the protection. Amazon takes care of everything regarding the protection and safety.

We enable the Bucket Key to reduce the cost of server-side encryption process and simplify the encryption process by using a single, bucket level key to encrypt the multiple objects in the bucket rather than having to handle individual encryption keys for each object in the bucket.

Click on Create Bucket button to create the bucket.



Successfully created bucket "bucket9802"

To upload files and folders, or to configure additional bucket settings, choose **View details**.

▸ Account snapshot - *updated every 24 hours* All AWS Regions

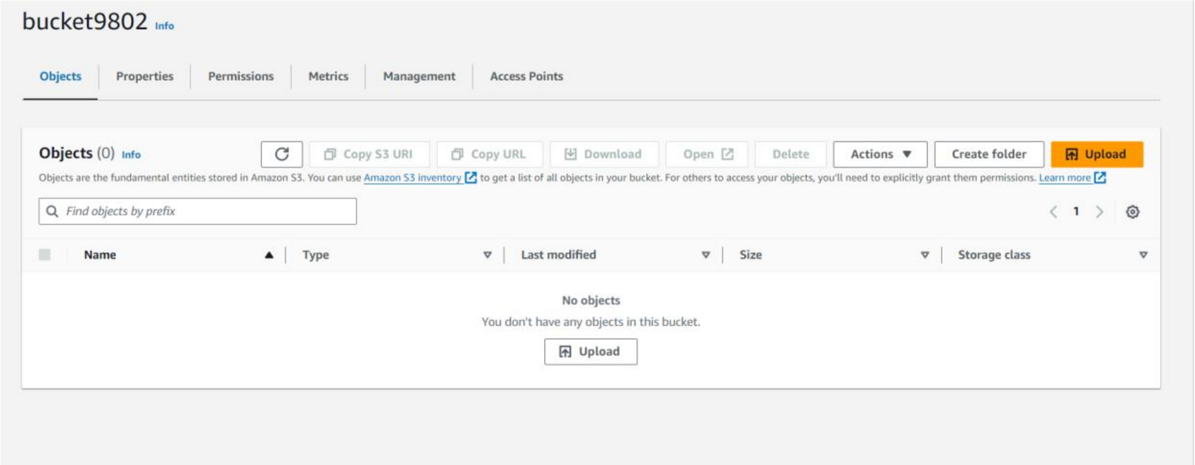
Storage lens provides visibility into storage usage and activity trends. Learn more

General purpose buckets (1) Info All AWS Regions

Buckets are containers for data stored in S3.

	Name	AWS Region	IAM Access Analyzer	Creation date
○	bucket9802	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	July 28, 2024, 12:31:01 (UTC+05:30)

Once the bucket is created, we get the following page.



Objects (0) Info

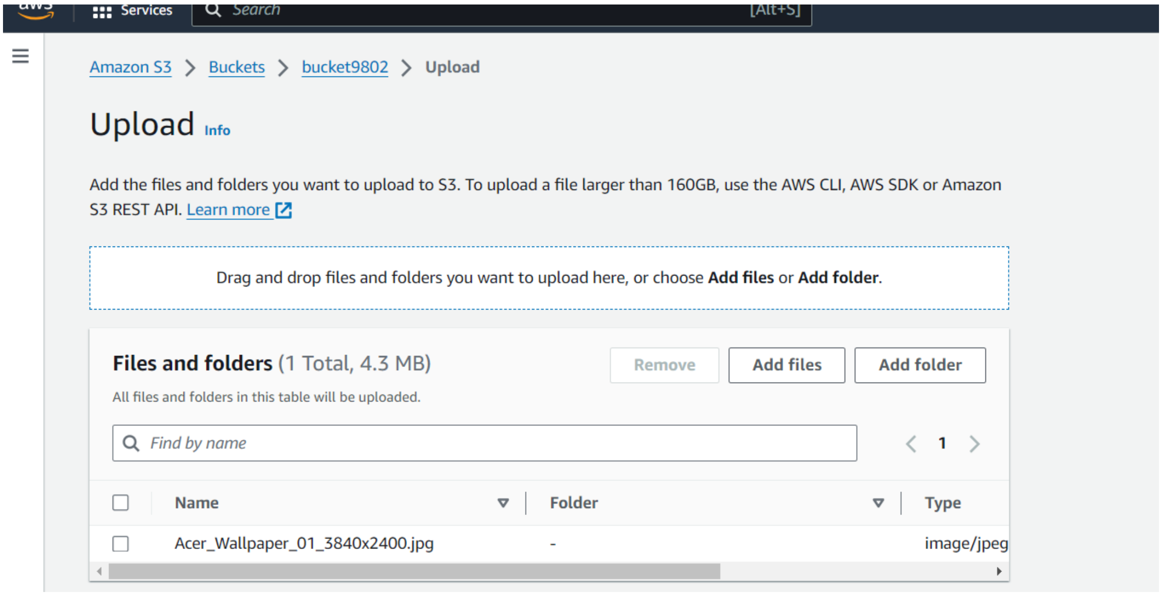
Objects are the fundamental entities stored in Amazon S3. You can use Amazon S3 inventory to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. Learn more

Name	Type	Last modified	Size	Storage class

No objects

You don't have any objects in this bucket.

We select the bucket and come to this page where we can upload the required file in the bucket. Click on 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 SDK or Amazon S3 REST API. Learn more

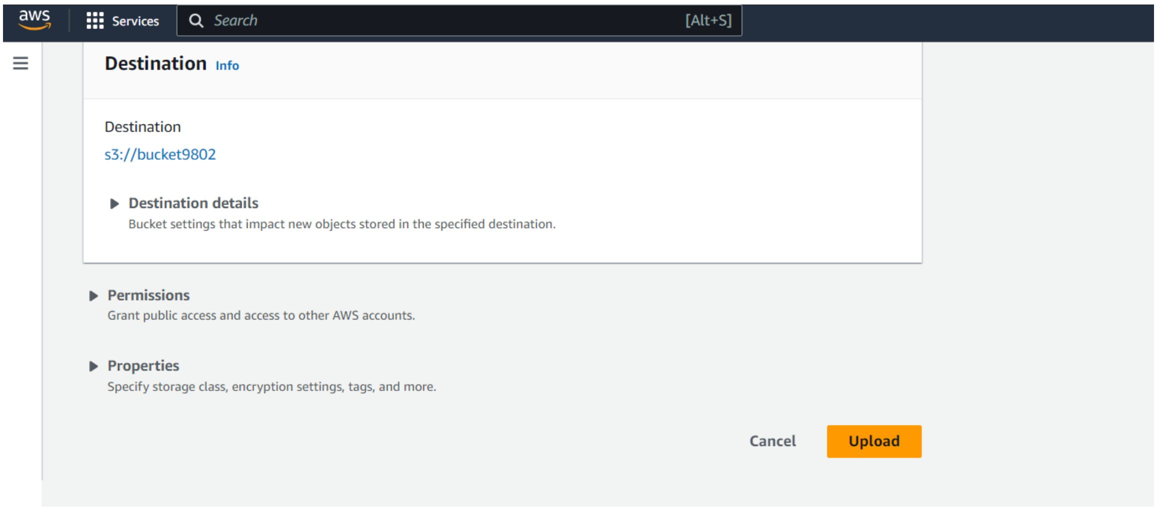
Drag and drop files and folders you want to upload here, or choose **Add files** or **Add folder**.

Files and folders (1 Total, 4.3 MB)

All files and folders in this table will be uploaded.

□	Name	Folder	Type
□	Acer_Wallpaper_01_3840x2400.jpg	-	image/jpeg

Click on add files or add folders depending on the object. After selecting, we get to see the object to be uploaded. Here, we have selected an image we want to upload.



Destination Info

Destination

s3://bucket9802

▶ Destination details

Bucket settings that impact new objects stored in the specified destination.

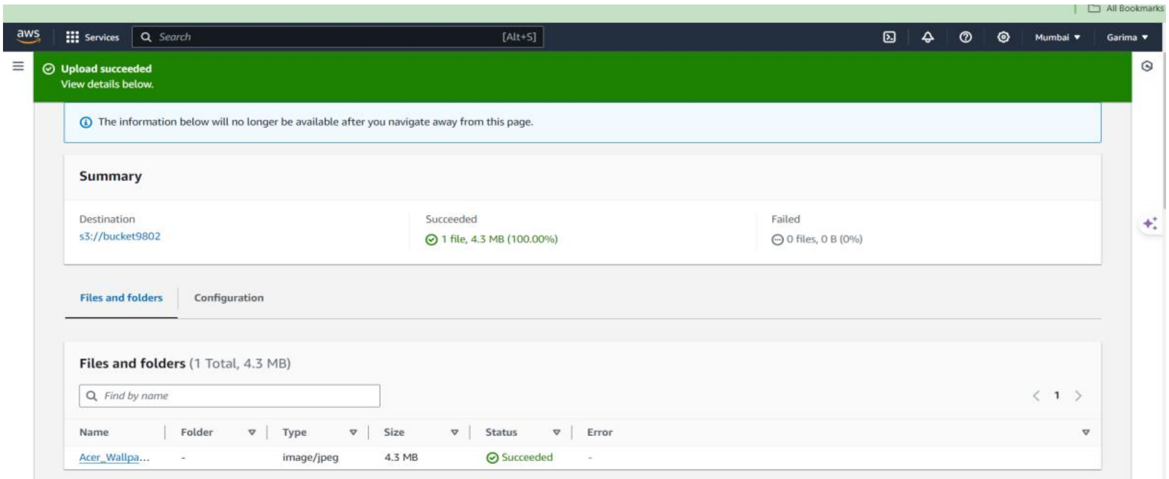
▶ Permissions

Grant public access and access to other AWS accounts.

▶ Properties

Specify storage class, encryption settings, tags, and more.

The destination section tells us in which bucket the object will be uploaded. Click on Upload to upload the object in the bucket.



Upload succeeded
View details below.

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

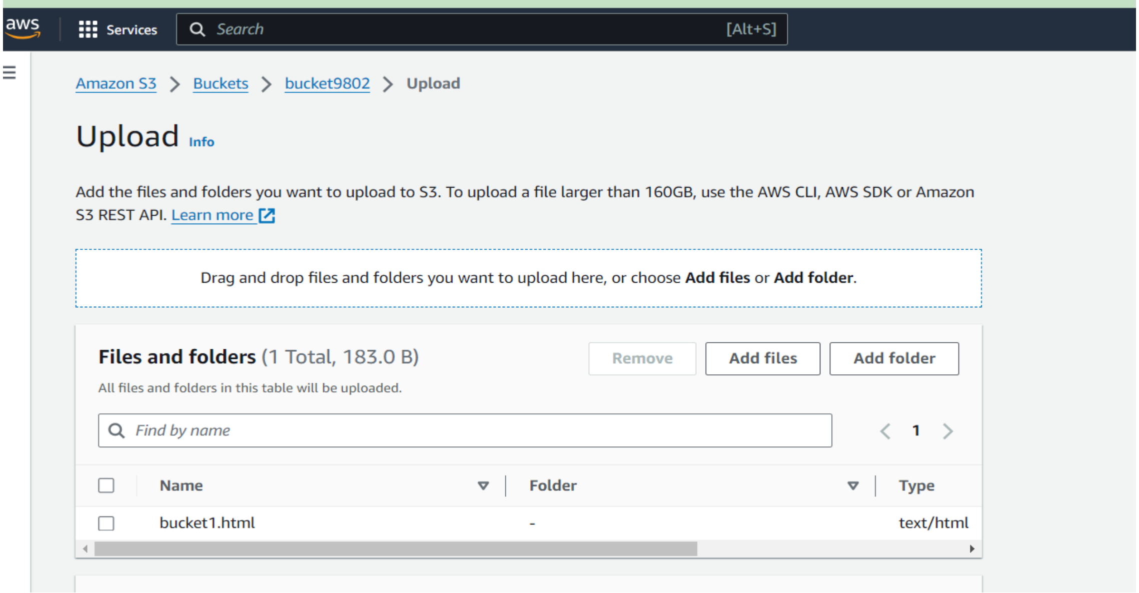
Summary

Destination	Succeeded	Failed
s3://bucket9802	1 file, 4.3 MB (100.00%)	0 files, 0 B (0%)

Files and folders (1 Total, 4.3 MB)

Name	Folder	Type	Size	Status	Error
Acer_Wallpa...	-	image/jpeg	4.3 MB	Succeeded	-

On successful uploading, we get above page.



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 SDK or Amazon S3 REST API. Learn more

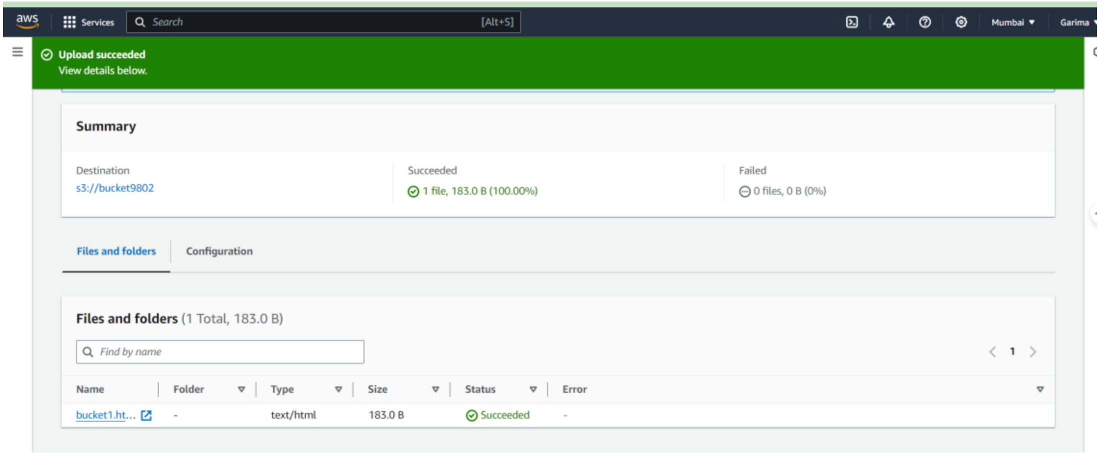
Drag and drop files and folders you want to upload here, or choose **Add files** or **Add folder**.

Files and folders (1 Total, 183.0 B)

All files and folders in this table will be uploaded.

□	Name	Folder	Type
□	bucket1.html	-	text/html

Here, we have selected an html file to be uploaded.



Upload succeeded
View details below.

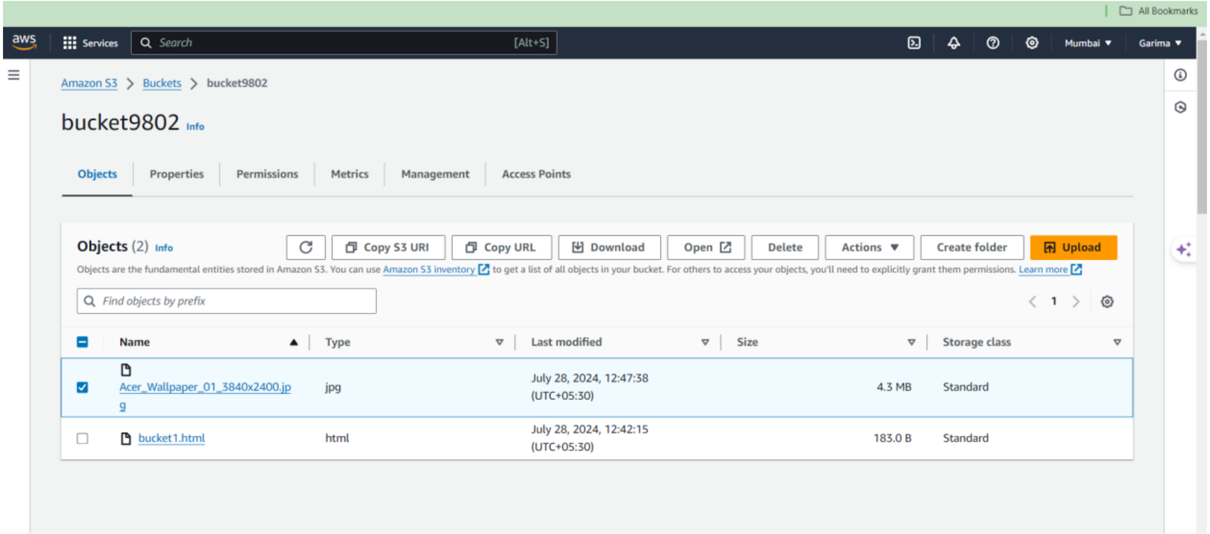
Summary

Destination	Succeeded	Failed
s3://bucket9802	1 file, 183.0 B (100.00%)	0 files, 0 B (0%)

Files and folders (1 Total, 183.0 B)

Name	Folder	Type	Size	Status	Error
bucket1.ht...	-	text/html	183.0 B	Succeeded	-

On successful uploading of object, we get this page.



Amazon S3 > Buckets > bucket9802

bucket9802 Info

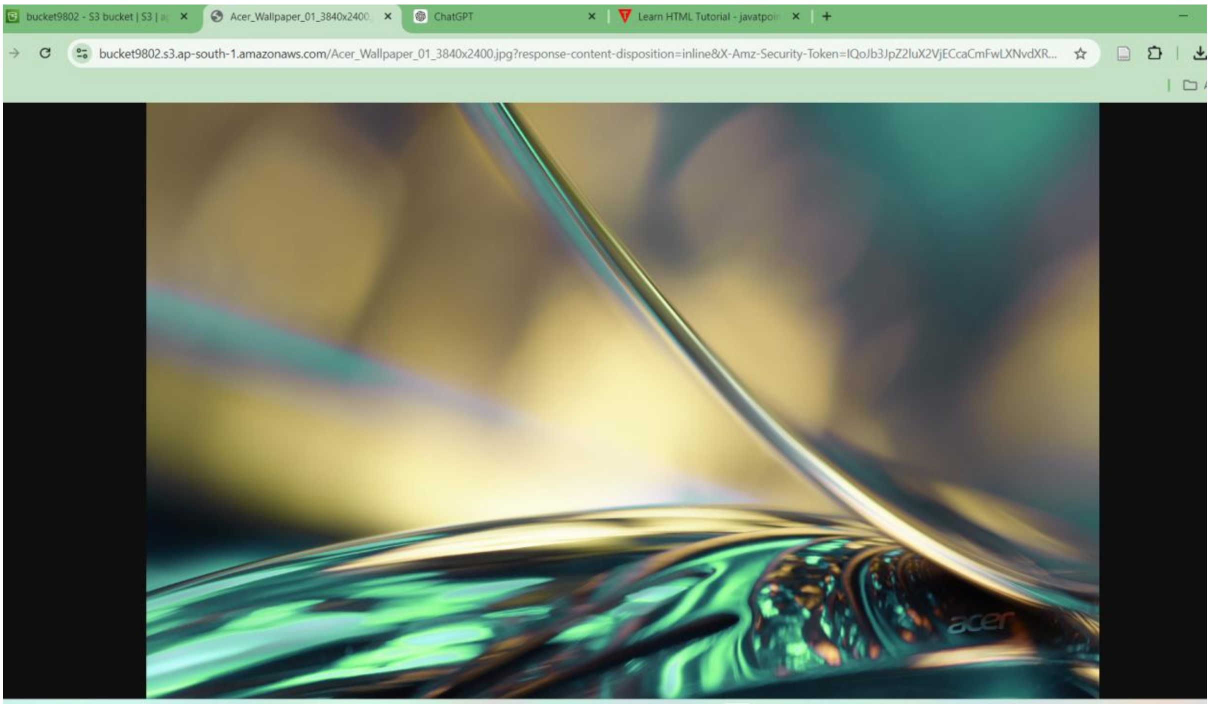
Objects (2) Info

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

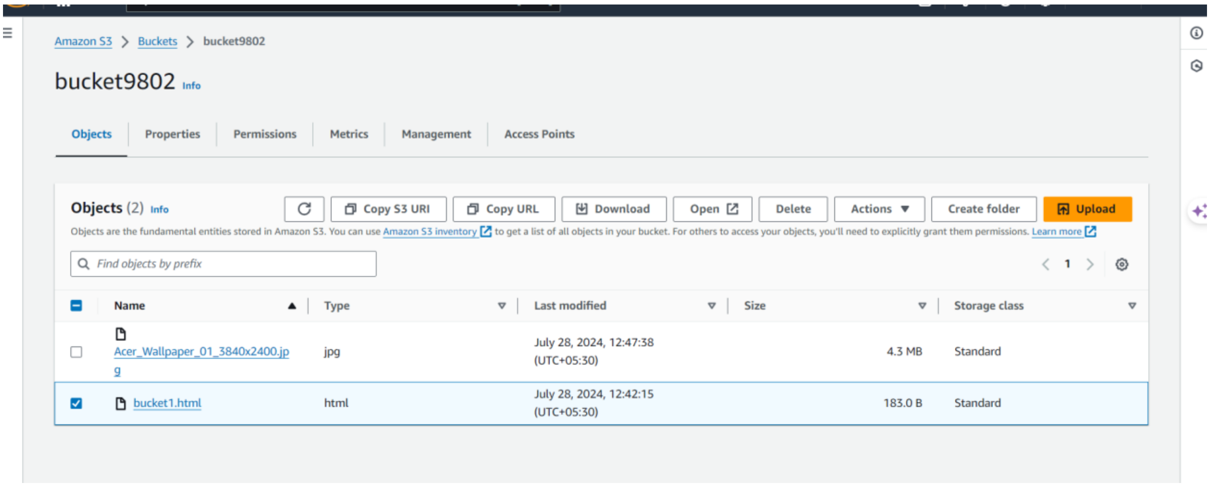
	Name	Type	Last modified	Size	Storage class
☑	Acer_Wallpaper_01_3840x2400.jpg	jpg	July 28, 2024, 12:47:38 (UTC+05:30)	4.3 MB	Standard
□	bucket1.html	html	July 28, 2024, 12:42:15 (UTC+05:30)	183.0 B	Standard

To open the image, select the image from list of objects, click open button.


bucket9802 - S3 bucket | S3 | a
Acer_Wallpaper_01_3840x2400
ChatGPT
Learn HTML Tutorial - javatpoi

bucket9802.s3.ap-south-1.amazonaws.com/Acer_Wallpaper_01_3840x2400.jpg?response-content-disposition=inline&X-Amz-Security-Token=IQoJb3JpZ2luX2VjECcaCmFwLXNvdXR...

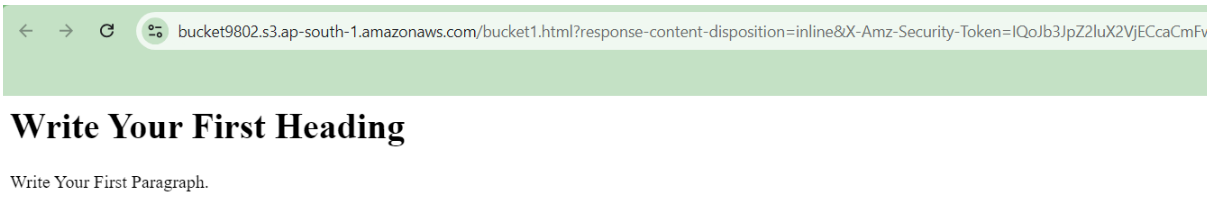
The image gets opened in a new tab.



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

	Name	Type	Last modified	Size	Storage class
☐	Acer_Wallpaper_01_3840x2400.jpg	jpg	July 28, 2024, 12:47:38 (UTC+05:30)	4.3 MB	Standard
☑	bucket1.html	html	July 28, 2024, 12:42:15 (UTC+05:30)	183.0 B	Standard

To open the website, go to the bucket, select the object, click on Open button above.



bucket9802.s3.ap-south-1.amazonaws.com/bucket1.html?response-content-disposition=inline&X-Amz-Security-Token=IQoJb3JpZ2luX2VjECcaCmFv

Write Your First Heading

Write Your First Paragraph.

The above website opens.