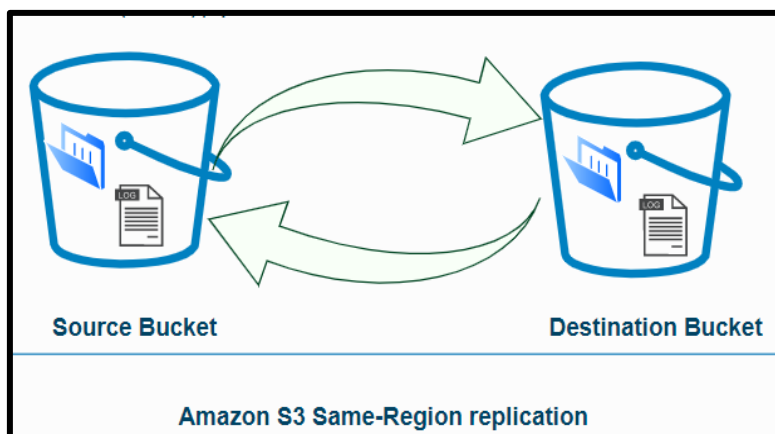




1. Same-Region Replication (SRR)

2. Cross-Region Replication (CRR)

Same Region Replication (SRR)

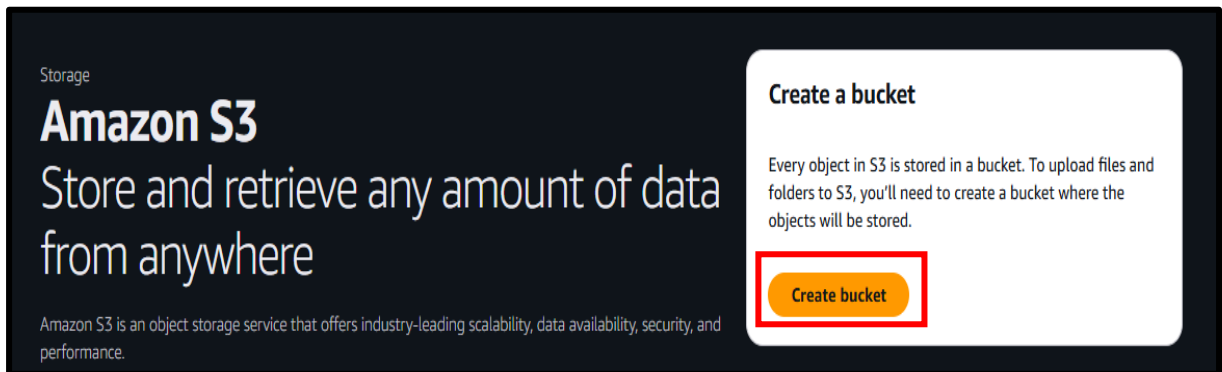


- **Buckets** in **same AWS region**.
- For compliance, backup, and log processing.
- SSR refers to the **retrieval of data** from Amazon S3 storage.
- **Use Case:** When you need to access or retrieve your stored data (objects) in S3, it is considered a retrieval operation.
- **Cost:** Retrieval might cost you depending on the storage class (e.g., Glacier vs Standard).

- **Steps for Same-Region Replication (SRR):**

1. **Enable Versioning:**

- Go to the **S3 Console**.
- Click **create bucket**



- **Name the bucket**

A screenshot of the 'General configuration' section in the Amazon S3 console. It shows the 'AWS Region' set to 'US East (N. Virginia) us-east-1'. Under 'Bucket type', 'General purpose' is selected with a radio button. Below this, there's a 'Bucket name' field with the text 'source-buck09' entered, which is highlighted with a red rectangular border. A note below the field states: '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](#)'. There's also a 'Copy settings from existing bucket - optional' section with a 'Choose bucket' button. At the bottom, it says 'Format: s3://bucket/prefix'.

- **Enable ACL**

A screenshot of the 'Object Ownership' section in the Amazon S3 console. It shows two options: 'ACLs disabled (recommended)' and 'ACLs enabled'. The 'ACLs enabled' option is selected with a radio button. Below this, it says: 'Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.'

- Uncheck the block public access

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.

- Select the **source bucket**.
- Go to **Properties > Versioning > Enable Versioning**.

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

- Scroll and click **create Bucket**

- Do the same **for the destination bucket (the bucket within the same region)**.

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](#)

dest-buck09

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](#)

HERE,

You can see both the buckets - source and destination

Amazon S3 > Buckets

Account snapshot - updated every 24 hours All AWS Regions

Storage lens provides visibility into storage usage and activity trends. Metrics don't include directory buckets. [Learn more](#)

General purpose buckets

Directory buckets

General purpose buckets (2) [Info](#) All AWS Regions

Find buckets by name

Copy ARN

Empty

Delete

Create bucket

Buckets are containers for data stored in S3.

Name	AWS Region	IAM Access Analyzer	Creation date
dest-buck09	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 29, 2025, 11:05:35 (UTC+05:30)
source-buck09	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 29, 2025, 11:04:41 (UTC+05:30)

2. Create a Replication Rule:

- In the **source bucket**, go to the **Management** tab.

source-buck09 [Info](#)

Objects

Metadata

Properties


Permissions

Metrics

Management

Access Points

- Click on **Replication > Add Rule.**

Replication rules (0)  [View details](#) [Edit rule](#) [Delete](#) [Actions ▼](#) [Create replication rule](#)

Use replication rules to define options you want Amazon S3 to apply during replication such as server-side encryption, replica ownership, transitioning replicas to another storage class, and more. [Learn more](#)

Replication rule name	Status	Destination bucket	Destination Region	Priority	Scope	Storage class	Replica owner	Replication Time Control	KMS-encrypted objects (SSE-KMS or DSSE-KMS)	Replication modification
No replication rules										
You don't have any rules in the replication configuration.										
Create replication rule										

3. Set Replication Details:

Create replication rule [Info](#)

Replication rule configuration

Replication rule name

Up to 255 characters. In order to be able to use CloudWatch metrics to monitor the progress of your replication rule, the replication rule name must only contain English characters and numbers.

Status
Choose whether the rule will be enabled or disabled when created.
☒ **Enabled**
☐ Disabled

Source bucket

Source bucket name
sourcebucket-01

Source Region
US East (N. Virginia) us-east-1

Choose a rule scope
☒ Limit the scope of this rule using one or more filters
☐ Apply to all objects in the bucket

Filter type
You can filter objects by prefix, object tags, or a combination of both.

Prefix
Add a filter to limit the scope of this rule to a single prefix.

Don't include the bucket name in the prefix. Using certain characters in key names can cause problems with some applications and protocols.

- Choose the **destination bucket** (same region).

Destination

Destination
You can replicate objects across buckets in different AWS Regions (Cross-Region Replication) or you can replicate objects across buckets in the same AWS Region (Same-Region Replication). You can also specify a different bucket for each rule in the configuration. [Learn more](#) or see [Amazon S3 pricing](#)

☒ Choose a bucket in this account
☐ Specify a bucket in another account

Bucket name
Choose the bucket that will receive replicated objects.

dest-buck09 Browse S3

Destination Region
US East (N. Virginia) us-east-1

Choose a bucket

S3 Buckets

Buckets (1/2)

Find buckets by name

Name	AWS Region
<input checked="" type="radio"/> dest-buck09	US East (N. Virginia) us-east-1
<input type="radio"/> source-buck09	US East (N. Virginia) us-east-1

Cancel Choose path

- Select the **IAM role** (you can use the default role).

IAM role

Permission to access the specified resources

☒ Create new role
☐ Choose from existing IAM roles
☐ Enter IAM role ARN

- Choose whether to replicate **all objects** or just those with specific **prefixes/tags**.

Additional replication options

☒ Replication Time Control (RTC)

Replication Time Control replicates 99.99% of new objects within 15 minutes and includes replication metrics. Additional fees will apply. [Learn more](#)

☒ Replication metrics

With replication metrics, you can monitor the total number and size of objects that are pending replication, and the maximum replication time to the destination Region. You can also view and diagnose replication. CloudWatch metrics fees apply. [Learn more](#) or see [Amazon CloudWatch pricing](#)

- (Optional) Enable **delete marker replication** if you want deletions to be replicated.

4. Save the Rule:

- Click **Save** to apply the rule.

Replicate existing objects?

You can enable a one-time Batch Operations job from this replication configuration to replicate objects that already exist in the bucket and to synchronize the source and destination buckets. [Learn more](#) or [see pricing](#)

Existing objects

☐ No, do not replicate existing objects.

☒ Yes, replicate existing objects.

[Cancel](#) [Submit](#)

5. Verify Replication:

- Upload a file to the **source bucket**.
- Click source bucket

Amazon S3 > Buckets

Account snapshot - updated every 24 hours All AWS Regions [View Storage Lens dashboard](#)

Storage lens provides visibility into storage usage and activity trends. Metrics don't include directory buckets. [Learn more](#)

General purpose buckets | Directory buckets

General purpose buckets (2) All AWS Regions [Copy ARN](#) [Empty](#) [Delete](#) [Create bucket](#)

Buckets are containers for data stored in S3.

Find buckets by name

Name	AWS Region	IAM Access Analyzer	Creation date
dest-buck09	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 29, 2025, 11:05:35 (UTC+05:30)
source-buck09	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 29, 2025, 11:04:41 (UTC+05:30)

- Click **upload**
- Click **Add files**

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 (1 total, 17.4 KB) [Remove](#) [Add files](#) [Add folder](#)

All files and folders in this table will be uploaded.

Find by name

Name	Folder	Type	Size
cat1.jpeg	-	image/jpeg	17.4 KB

Note: Set the object ACL Permissions

- **Copy the Object URL** and access through Browser

Amazon S3 > Buckets > source-buck09 > cat1.jpeg

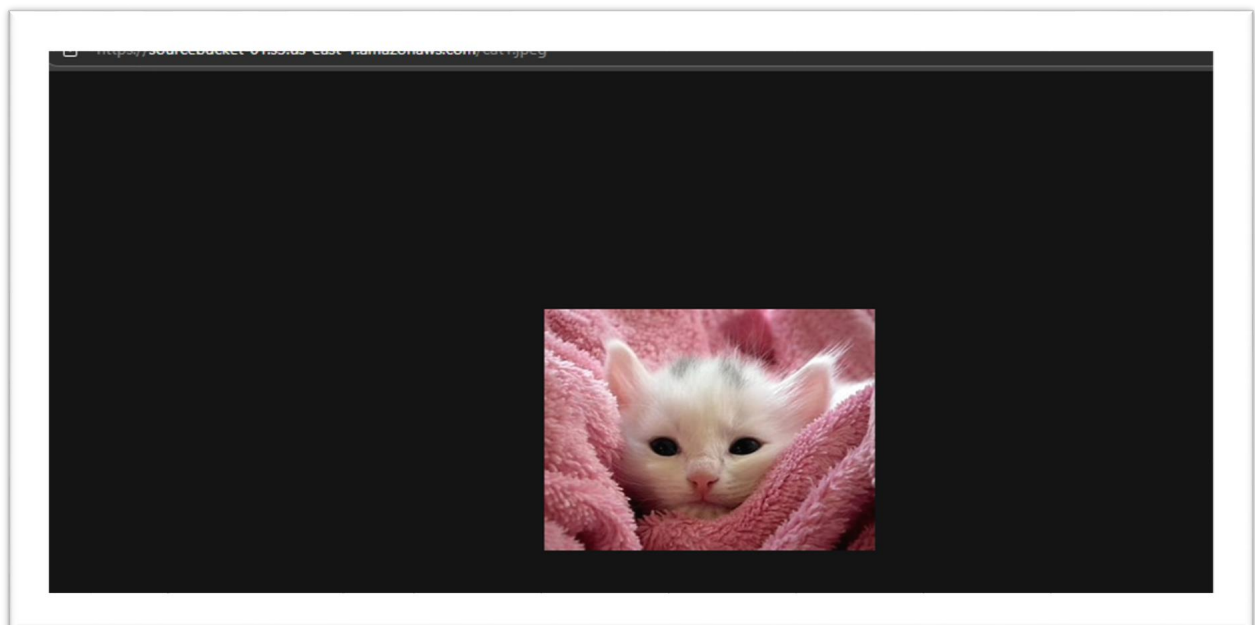
cat1.jpeg Info

Copy S3 URI Download Open Object actions

Properties Permissions Versions

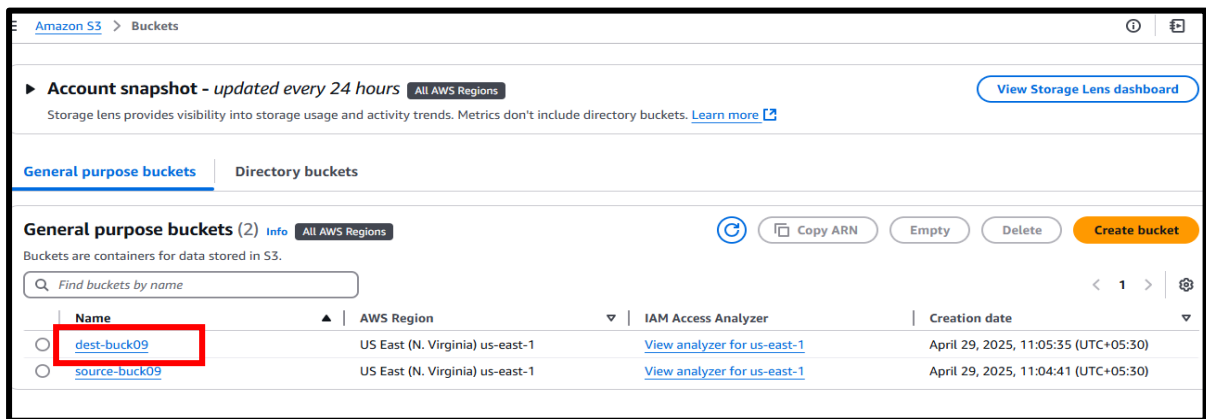
Object overview

Owner ruchalokhande09	S3 URI s3://source-buck09/cat1.jpeg
AWS Region US East (N. Virginia) us-east-1	Amazon Resource Name (ARN) arn:aws:s3::source-buck09/cat1.jpeg
Last modified April 29, 2025, 11:12:26 (UTC+05:30)	Entity tag (Etag) 843960d9d0089c86a9436ddc47d8d784
Size 17.4 KB	Object URL https://source-buck09.s3.us-east-1.amazonaws.com/cat1.jpeg

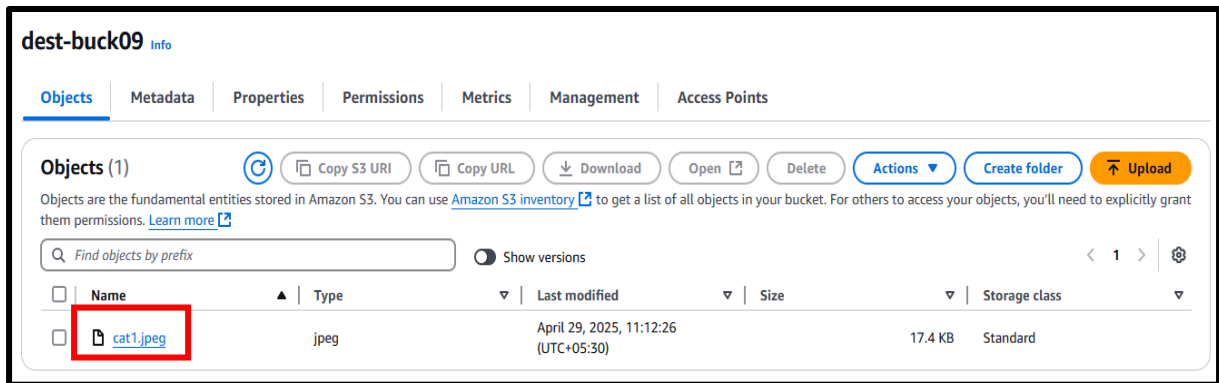


- o Check the **destination bucket** to see if the file is replicated.

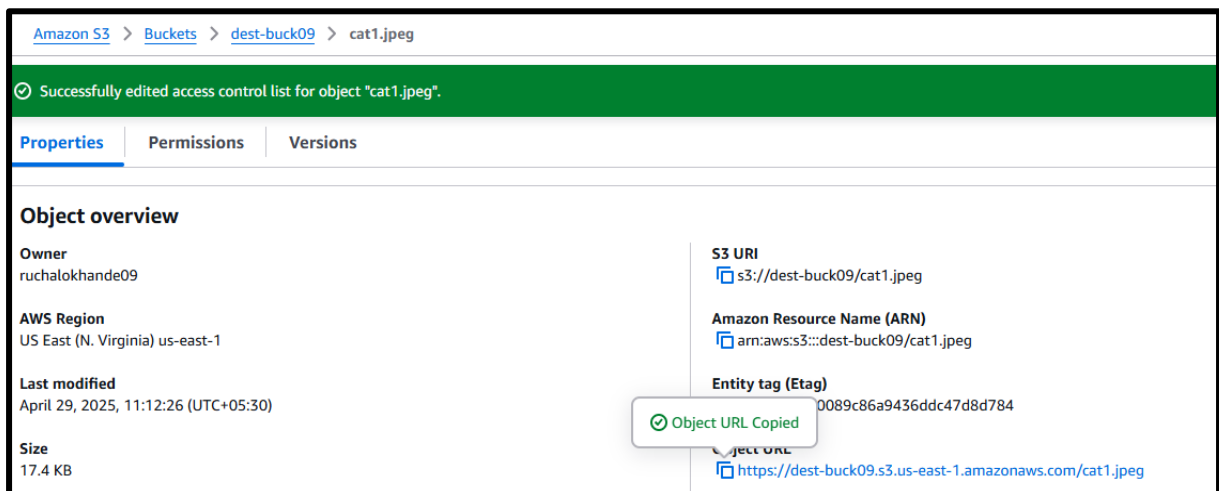
- Click the Destination Bucket



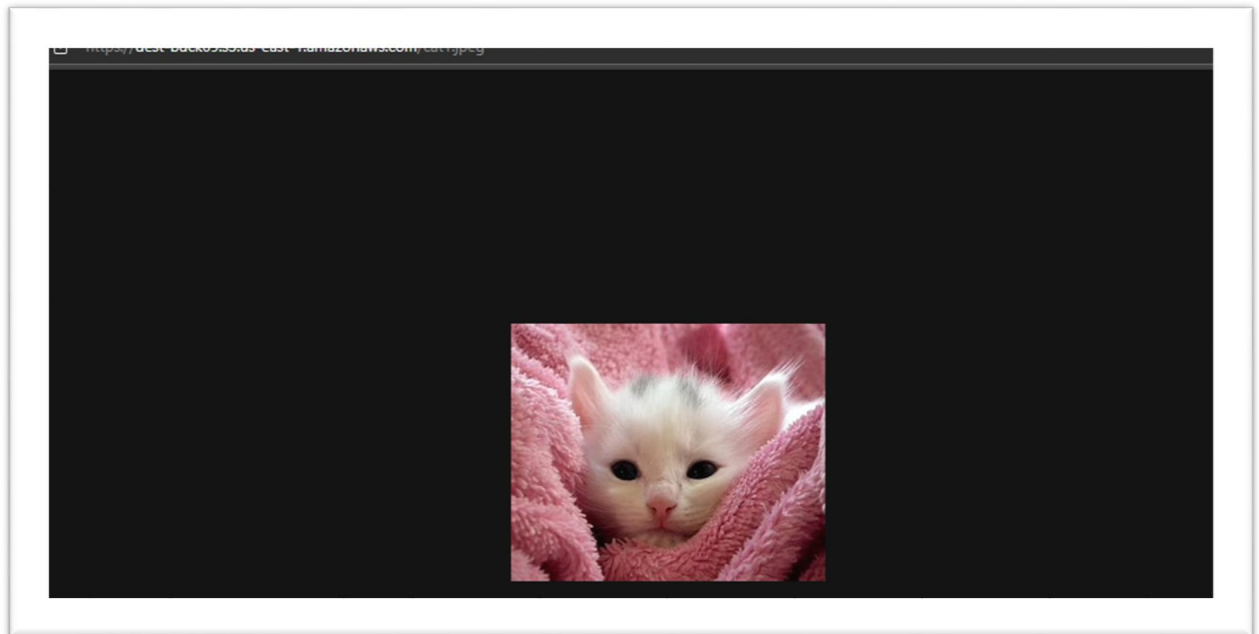
- Check the file is replicated

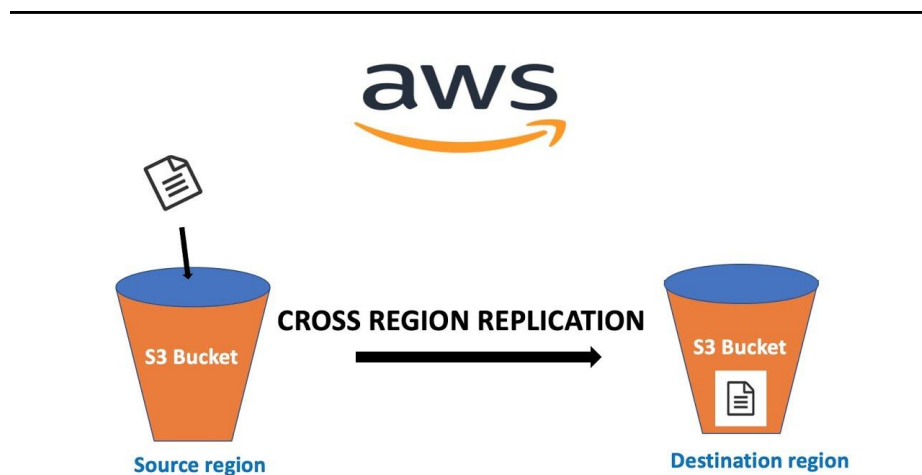


- Copy the Object URL



Destination bucket file is also accessible :---





Cross-Region Replication (CRR)

- **Buckets** in **different AWS regions**.
- Used for disaster recovery, global access, and compliance
- *“CRR is the process of automatically copying data from one S3 bucket in one AWS region to another S3 bucket in a different AWS region.”*
- **Purpose:** It provides data redundancy across regions, helping with disaster recovery, compliance, and better performance in different geographical locations.
- **Use Case:** If you want to ensure that your data is replicated and accessible in multiple regions, you can enable CRR. For example, having your primary bucket in US-East and a replica in EU-West for fault tolerance.
- **Automatic:** Once configured, replication happens automatically whenever an object is added or updated in the source bucket.

Steps :

1. Create a Bucket in **another region**

Create bucket [Info](#)

Buckets are containers for data stored in S3.

General configuration

AWS Region
US East (Ohio) us-east-2

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](#)
cross-buck09

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](#)

- Buckets Available

General purpose buckets (3) [Info](#) All AWS Regions

Buckets are containers for data stored in S3.

< 1 > [Settings](#)

	Name	AWS Region	IAM Access Analyzer	Creation date
<input type="radio"/>	cross-buck09	US East (Ohio) us-east-2	View analyzer for us-east-2	April 29, 2025, 11:36:40 (UTC+05:30)
<input type="radio"/>	dest-buck09	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 29, 2025, 11:05:35 (UTC+05:30)
<input type="radio"/>	source-buck09	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 29, 2025, 11:04:41 (UTC+05:30)

- Click source bucket
- Navigate **Management** > Create Replication Rule

Create replication rule [Info](#)

Replication rule configuration

Replication rule name
cross-region-replication

Up to 255 characters. In order to be able to use CloudWatch metrics to monitor the progress of your replication rule, the replication rule name must only

Status
Choose whether the rule will be enabled or disabled when created.

☒ Enabled

☐ Disabled

- Choose the Bucket Created in another Region

Destination

Destination
You can replicate objects across buckets in different AWS Regions (Cross-Region Replication) or you can replicate objects across buckets in the same AWS Region (Same-Region Replication). You can also specify a different bucket for each rule in the configuration. [Learn more](#) or see [Amazon S3 pricing](#)

☒ Choose a bucket in this account
☐ Specify a bucket in another account

Bucket name
Choose the bucket that will receive replicated objects.

cross-buck09 Browse S3

Choose a bucket

S3 Buckets

Buckets (1/3)

Find buckets by name

Name	AWS Region
<input checked="" type="radio"/> cross-buck09	US East (Ohio) us-east-2
<input type="radio"/> dest-buck09	US East (N. Virginia) us-east-1
<input type="radio"/> source-buck09	US East (N. Virginia) us-east-1

Cancel Choose path

Additional replication options

- ☒ Replication Time Control (RTC)
Replication Time Control replicates 99.99% of new objects within 15 minutes and includes replication metrics. Additional fees will apply. [Learn more](#)

- Click **Save Changes**

Now,

- Click on source bucket - **(source-buck09)** > upload files

General purpose buckets (3) [Info](#) [All AWS Regions](#)

Buckets are containers for data stored in S3.

Find buckets by name

Name	AWS Region	IAM Access Analyzer	Creation date
<input type="radio"/> cross-buck09	US East (Ohio) us-east-2	View analyzer for us-east-2	April 29, 2025, 11:36:40 (UTC+05:30)
<input type="radio"/> dest-buck09	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 29, 2025, 11:05:35 (UTC+05:30)
<input type="radio"/> source-buck09	US East (N. Virginia) us-east-1	View analyzer for us-east-1	April 29, 2025, 11:04:41 (UTC+05:30)

- Add files

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 (1 total, 65.3 KB)

[Remove](#) [Add files](#) [Add folder](#)

All files and folders in this table will be uploaded.

☐

Name

▼

Folder

▼

Type

▼

Size

▼

☐

dog6.jpeg

-

image/jpeg

65.3 KB

- Set the Object Permissions

dog6.jpeg [Info](#)

[Copy S3 URI](#) [Download](#) [Open](#) [Object actions](#) ▼

[Properties](#) [Permissions](#) [Versions](#)

Access control list (ACL)

[Grant basic read/write permissions to AWS accounts. Learn more](#)

[Edit](#)

Grantee	Object	Object ACL
Object owner (your AWS account) Canonical ID: 3c21ca9ebf918c1968c453232b96738093fc5b14da696a0784f1952576653afa	Read	Read, Write
Everyone (public access) Group: http://acs.amazonaws.com/groups/global/AllUsers	-	-
Authenticated users group (anyone with an AWS account) Group: http://acs.amazonaws.com/groups/global/AuthenticatedUsers	-	-

Edit access control list [Info](#)

Access control list (ACL)

[Grant basic read/write permissions to AWS accounts. Learn more](#)

Grantee	Objects	Object ACL
Object owner (your AWS account) Canonical ID: 3c21ca9ebf918c1968c453232b96738093fc5b14da696a0784f1952576653afa	<input checked="" type="checkbox"/> Read	<input checked="" type="checkbox"/> Read <input checked="" type="checkbox"/> Write
Everyone (public access) Group: http://acs.amazonaws.com/groups/global/AllUsers	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Read	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> Read <input type="checkbox"/> Write
Authenticated users group (anyone with an AWS account) Group: http://acs.amazonaws.com/groups/global/AuthenticatedUsers	<input type="checkbox"/> Read	<input type="checkbox"/> Read <input type="checkbox"/> Write

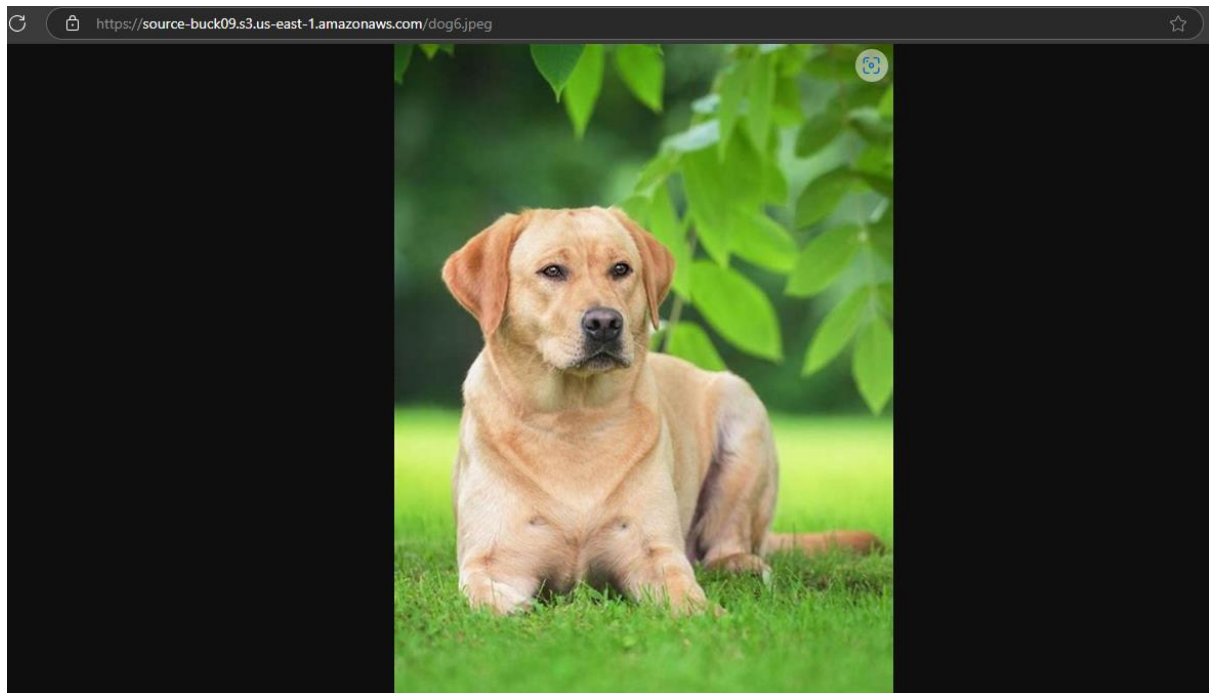
⚠ When you grant access to the Everyone or Authenticated users group grantees, anyone in the world can access this object.

[Learn more](#)

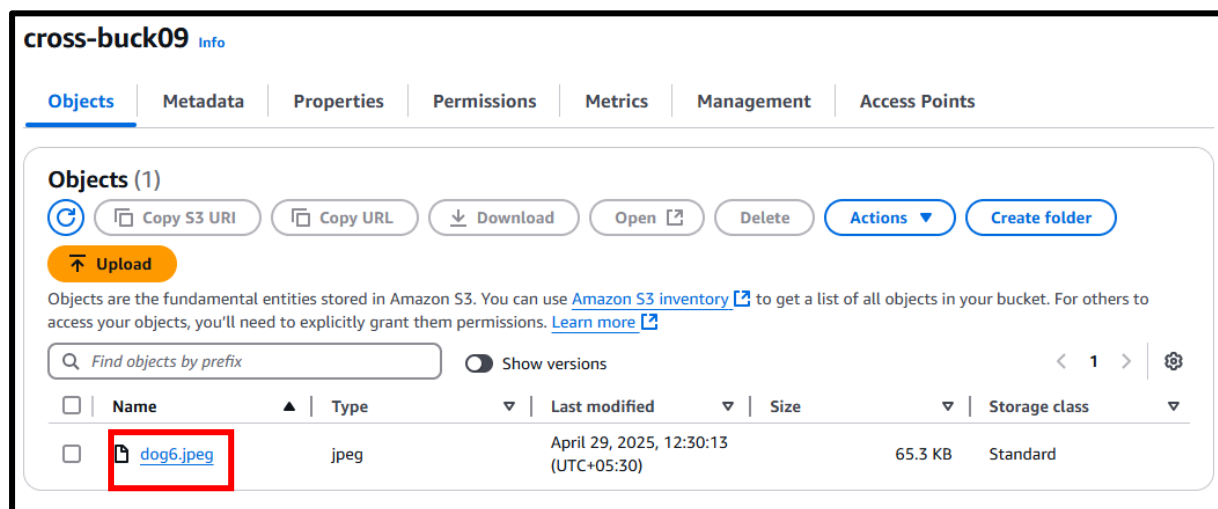
☒ I understand the effects of these changes on this object.

- Click **Save changes**

Click object > copy Object URL > Access through Browser



- Check the **destination bucket** If file is replicated or not .



- Copy Object URL and Verify it by accessing through browser

