

Lesson 04 Demo 05

Object Replication Between S3 Buckets

Objective: To demonstrate the replication of an object from a source to a destination S3 bucket using replication rules

Tools required: None

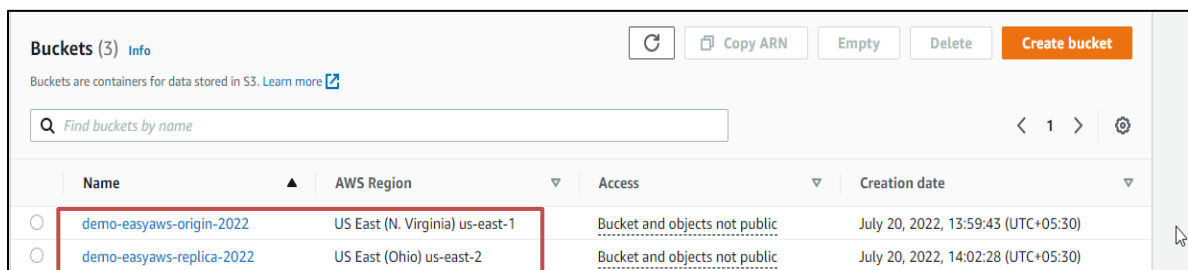
Prerequisites: None

Steps to be followed:

1. Create two S3 buckets for source and destination
2. Add a file to the source bucket
3. Create a replication rule from the source bucket
4. Replicate the object file from the source to destination bucket
5. Delete and verify the replicated object file

Step 1: Create two S3 buckets for source and destination

1.1 Create two new S3 buckets and use the different AWS regions



The screenshot shows the AWS S3 Buckets console. At the top, there are buttons for 'Copy ARN', 'Empty', 'Delete', and 'Create bucket'. Below these is a search bar labeled 'Find buckets by name'. A table lists the buckets with columns for Name, AWS Region, Access, and Creation date. Two buckets are listed: 'demo-easyaws-origin-2022' in 'US East (N. Virginia) us-east-1' and 'demo-easyaws-replica-2022' in 'US East (Ohio) us-east-2'. Both have 'Bucket and objects not public' access. The first bucket was created on July 20, 2022, at 13:59:43 (UTC+05:30), and the second was created at 14:02:28 (UTC+05:30).

Name	AWS Region	Access	Creation date
demo-easyaws-origin-2022	US East (N. Virginia) us-east-1	Bucket and objects not public	July 20, 2022, 13:59:43 (UTC+05:30)
demo-easyaws-replica-2022	US East (Ohio) us-east-2	Bucket and objects not public	July 20, 2022, 14:02:28 (UTC+05:30)

Note: Refer to the previous demos to understand how to create an S3 bucket

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

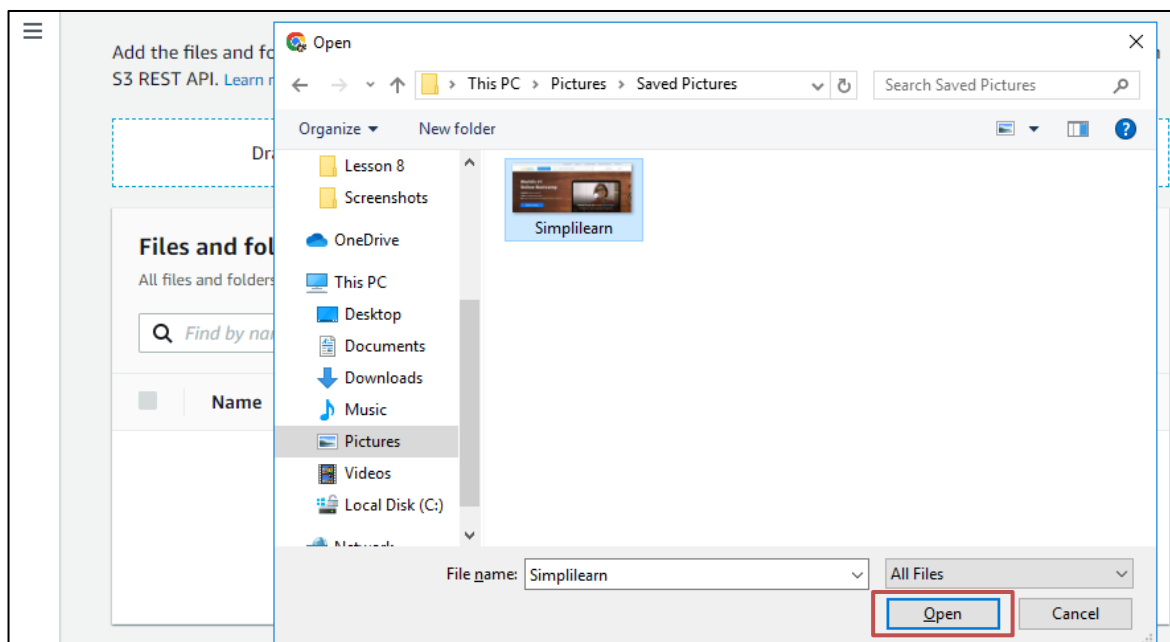
☐ Disable

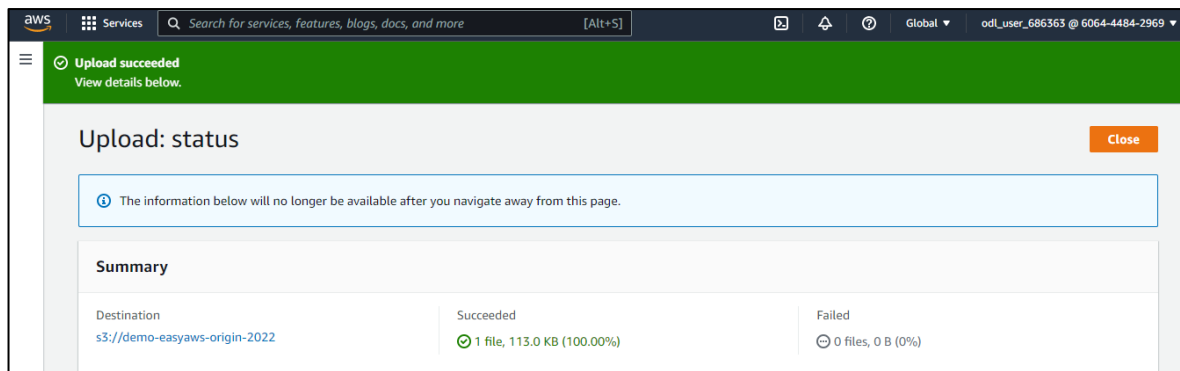
☒ Enable

Note: Please make sure the versioning is enabled while creating the buckets and select different AWS regions

Step 2: Add a file to the source bucket

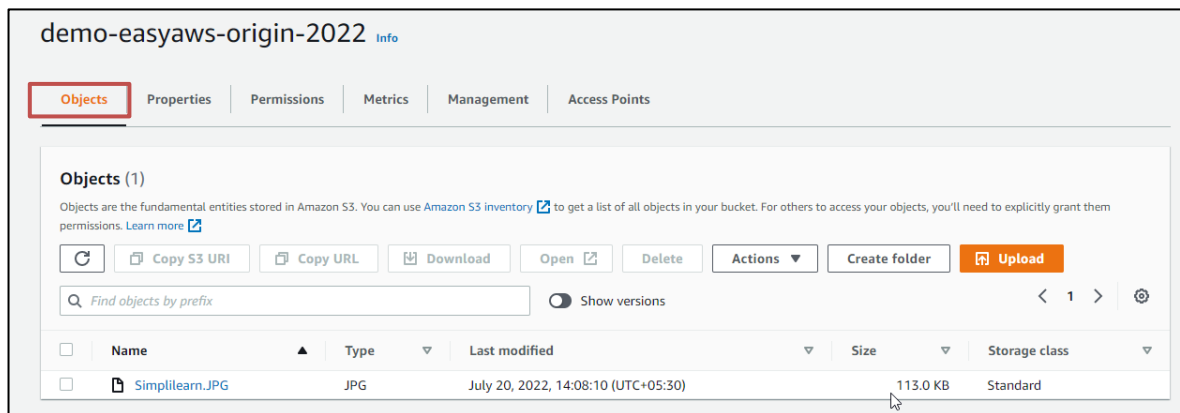
2.1 Upload a JPG file to the source bucket, named **demo-easyaws-origin-2022**, and click **Open**





The image is uploaded successfully.

2.2 Navigate to the **demo-easyaws-origin-2022** bucket and click on **Objects** to verify the file upload



Step 3: Create a Replication rule from the source bucket

3.1 Navigate to the **Management** tab of the source bucket, demo-easyaws-origin-2022, enter the name **Demo rule** under **Replication rule name**, and click on **Enabled** in Status

Amazon S3 > Buckets > demo-easyaws-origin-2022 > Replication rules > Create replication rule

Create replication rule [Info](#)

Replication rule configuration

Replication rule name

Demo rule

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.

Status

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

☒ **Enabled**

☐ Disabled

Priority

The priority value resolves conflicts that occur when an object is eligible for replication under multiple rules to the same destination. The rule is added to the configuration at the highest priority and the priority can be changed on the replication rules table.

0

3.2 Choose the rule scope as **Apply to all the objects in the bucket**

Source bucket

Source bucket name

demo-easyaws-origin-2022

Source Region

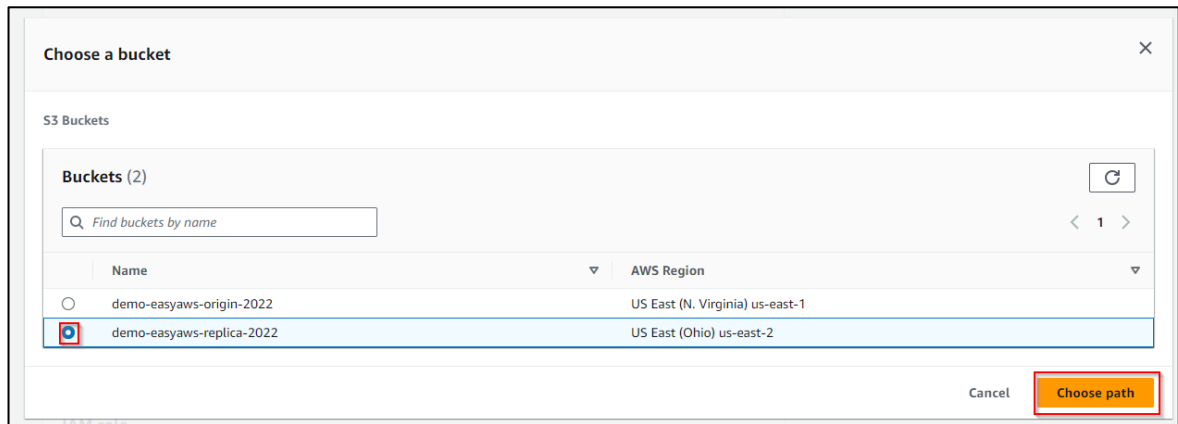
US East (N. Virginia) us-east-1

Choose a rule scope

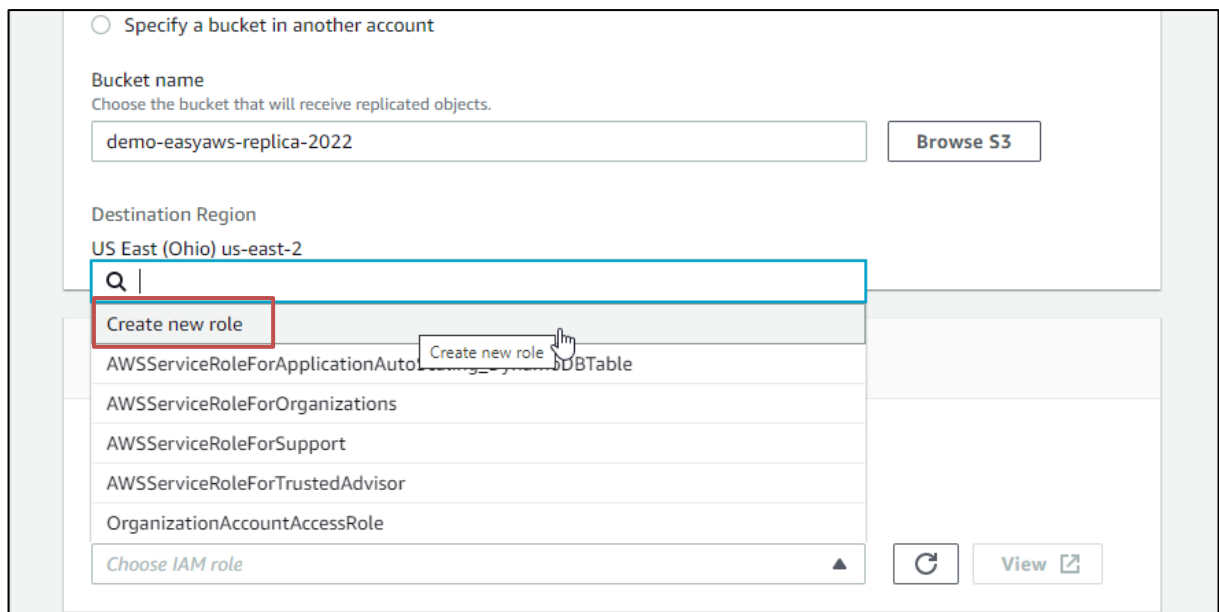
☐ Limit the scope of this rule using one or more filters

☒ **Apply to all objects in the bucket**

3.3 Choose the **demo-easyaws-replica-2022**, and click on **Choose path**



3.4 Click on the **Create new role**



3.5 Click on **Delete marker replication** before saving the replication rule and **save**

Additional replication options

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

☐ **Replication metrics and notifications**
Monitor the progress of your replication rule through Cloudwatch Metrics. Cloudwatch metrics fees apply. [Learn more](#) or see [Amazon Cloudwatch pricing](#)

☒ **Delete marker replication**
Delete markers created by S3 delete operations will be replicated. Delete markers created by lifecycle rules are not replicated. [Learn more](#)

☐ **Replica modification sync**
Replicate metadata changes made to replicas in this bucket to the destination bucket. [Learn more](#)

Cancel Save

3.6 Click on **Submit** without making any changes

yaws-origin-2022 > Replication rules

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

Replication configuration successfully updated
 Press the refresh button if changes to the configuration are not displayed.

Create replication job

[Amazon S3](#) > [Buckets](#) > [demo-easyaws-origin-2022](#) > Replication rules

Replication rules [Info](#)

Replication enables automatic and asynchronous copying of objects across buckets in the same or different AWS Regions. A replication configuration is a set of rules that define what options should be applied to a group of objects during replication.

Replication configuration settings
 Configuration settings affect all replication rules in the bucket.

Create replication job

Edit

Source bucket demo-easyaws-origin-2022	IAM role s3crr_role_for_demo-easyaws-origin-2022 ↗
Source Region US East (N. Virginia) us-east-1	

Replication rule is successfully created.

Step 4: Replicate the object file from the source to the destination bucket

4.1 Navigate to the destination bucket **demo-easyaws-replica-2022** to verify if the object file is reflecting or empty

demo-easyaws-replica-2022 [Info](#)

[Objects](#) | [Properties](#) | [Permissions](#) | [Metrics](#) | [Management](#) | [Access Points](#)

Objects (0)
 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](#)

Copy S3 URI
 Copy URL
 Download
 Open
 Delete

Actions ▾

Create folder

Upload

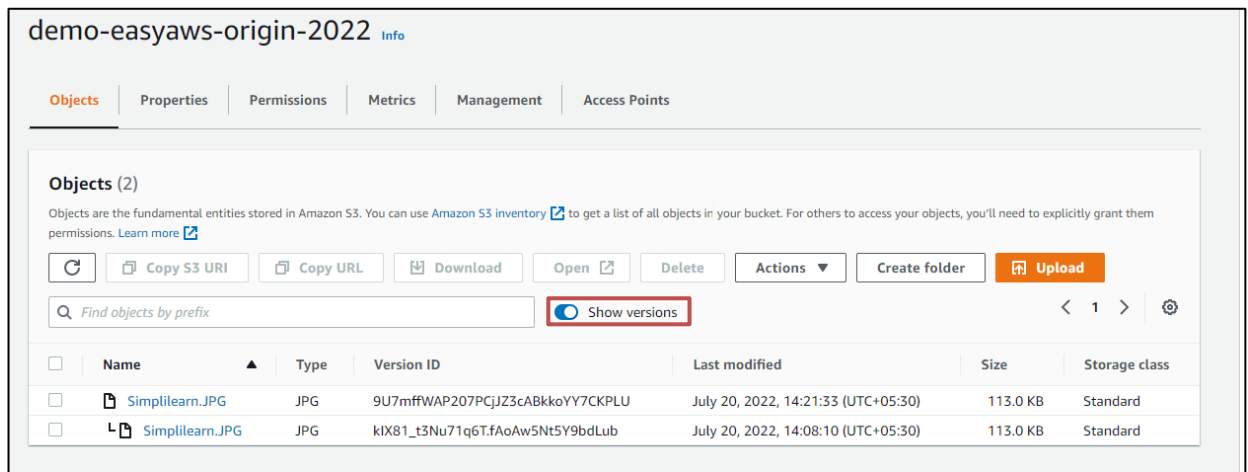
☒ Show versions

< 1 >

	Name	Type	Last modified	Size	Storage class
<div>No objects</div> <div>You don't have any objects in this bucket.</div> <div>Upload</div>					

Note: The destination bucket will be empty as we have enabled the property to not replicate the existing objects.

4.2 Go to the source bucket, **demo-easyaws-origin-2022**, to reupload the object file; click on the **Show versions** tab to view both the uploaded files



demo-easyaws-origin-2022 [Info](#)

Objects | Properties | Permissions | Metrics | Management | Access Points

Objects (2)

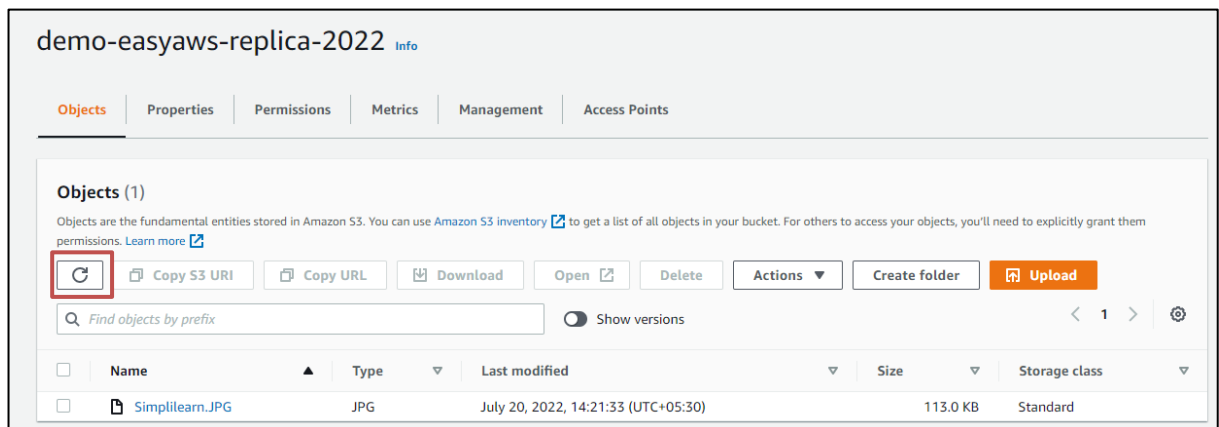
Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

[Refresh](#) [Copy S3 URI](#) [Copy URL](#) [Download](#) [Open](#) [Delete](#) [Actions](#) [Create folder](#) [Upload](#)

[Show versions](#) [<](#) [1](#) [>](#) [Settings](#)

<input type="checkbox"/>	Name	Type	Version ID	Last modified	Size	Storage class
<input type="checkbox"/>	Simplilearn.JPG	JPG	9U7mffWAP207PCJJZ3cABkkoYY7CKPLU	July 20, 2022, 14:21:33 (UTC+05:30)	113.0 KB	Standard
<input type="checkbox"/>	Simplilearn.JPG	JPG	kIX81_t3Nu71q6T.fAoAw5Nt5Y9bdLub	July 20, 2022, 14:08:10 (UTC+05:30)	113.0 KB	Standard

4.3 Navigate to the destination bucket, **demo-easyaws-replica-2022**, and click on the **refresh** icon to view the replicated object file



demo-easyaws-replica-2022 [Info](#)

Objects | Properties | Permissions | Metrics | Management | Access Points

Objects (1)

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[Refresh](#) [Copy S3 URI](#) [Copy URL](#) [Download](#) [Open](#) [Delete](#) [Actions](#) [Create folder](#) [Upload](#)

[Show versions](#) [<](#) [1](#) [>](#) [Settings](#)

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	Simplilearn.JPG	JPG	July 20, 2022, 14:21:33 (UTC+05:30)	113.0 KB	Standard


Step 5: Delete and verify the replicated object file

- 5.1 Navigate to the source bucket, demo-easyaws-origin-2022, and **delete** the uploaded object file

 **Deleting the specified objects adds delete markers to them**
If you need to undo the delete action, you can delete the delete markers. [Learn more](#) 

Specified objects

< 1 >

Name ▲	Type ▼	Last modified ▼	Size ▼
 Simplilearn.JPG	JPG	July 20, 2022, 14:21:33 (UTC+05:30)	113.0 KB

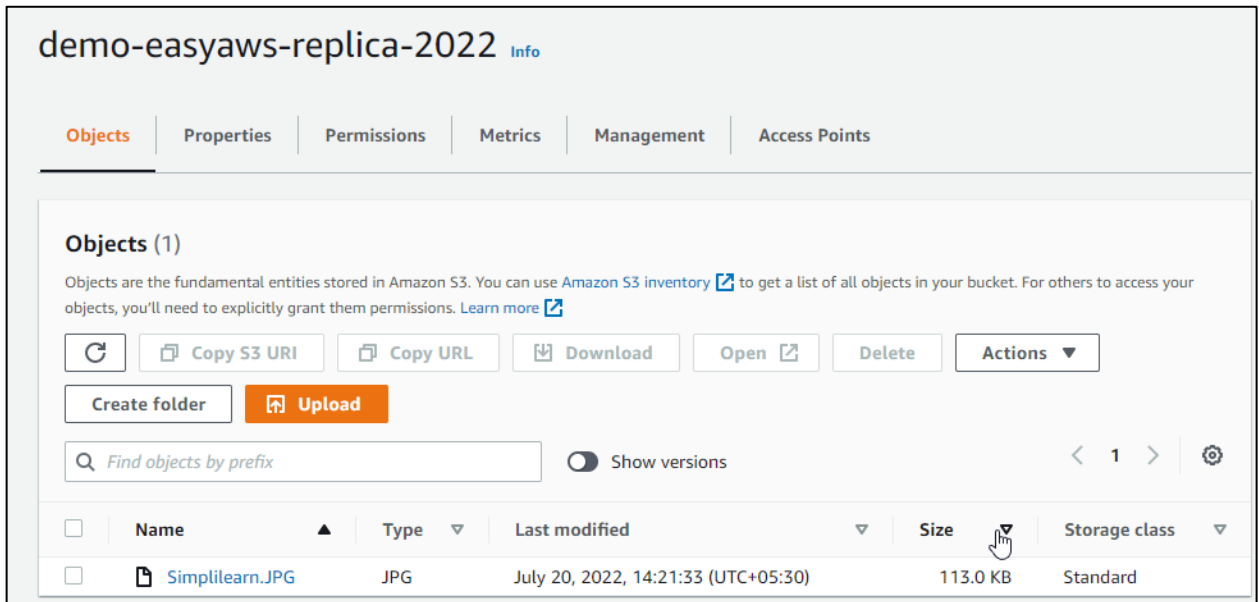
Delete objects?

To confirm deletion, type *delete* in the text input field.

Cancel

Delete objects

5.2 Navigate to the destination bucket, **demo-easyaws-replica-2022**, and verify if the replicated object file is still available and not deleted



demo-easyaws-replica-2022 [Info](#)

Objects | Properties | Permissions | Metrics | Management | Access Points

Objects (1)

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](#)

[Refresh](#) [Copy S3 URI](#) [Copy URL](#) [Download](#) [Open](#) [Delete](#) [Actions](#)

[Create folder](#) [Upload](#)

☐ Show versions < 1 > [Settings](#)

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	Simplilearn.JPG	JPG	July 20, 2022, 14:21:33 (UTC+05:30)	113.0 KB	Standard

Note: The object file is available in the **destination bucket** because the **Delete marker replication rule** has been enabled.

By following these steps, you have successfully implemented the process of replicating an object from a source bucket to a destination bucket within Amazon S3.