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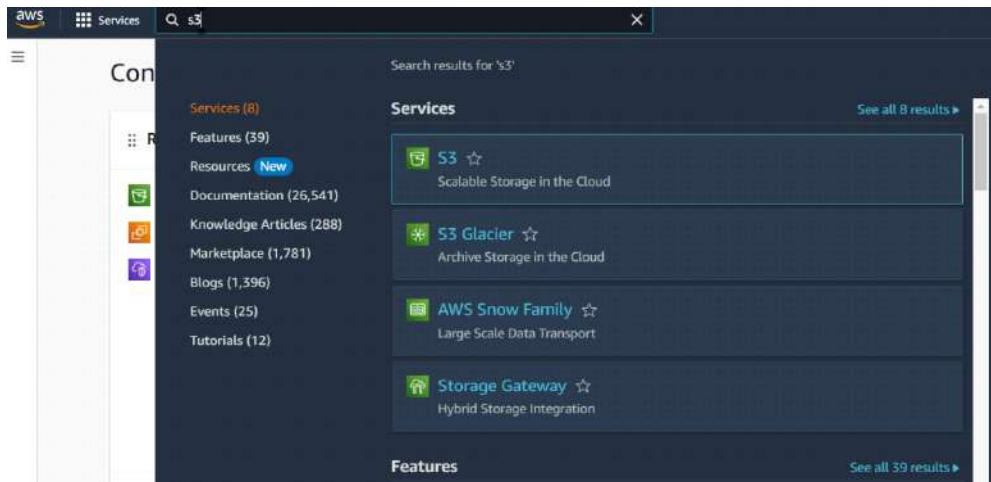
TOPIC:S3-cross region replication

### **Introduction of Simple Storage Service(S3)**

- You can use Amazon S3 to store and retrieve any amount of data at anytime from anywhere on the web.
- It is designed for large-capacity, low-cost storage provision across multiple geographical regions.
- Amazon S3 provides developers and IT teams with Secure, Durable and Highly Scalable object storage.
- The volume and the number of objects that we can store in S3 are unlimited.

### **Process of s3- cross region replication**

- Enter S3 in search bar and click on “s3” option from the window as shown in the below fig.



## Introduction of Bucket

- A bucket can be stored in one of several Regions.
- You can choose a Region to optimize for latency, minimize costs, or address regulatory requirements.
- Objects stored in a Region never leave the Region unless you transfer them out.
- Data in S3 is organized in the form of buckets.
- A Bucket is a logical unit of storage in S3.
- Before adding any data in S3 the user has to create a bucket which Bucket will be used to store objects.

- Click on the “**create bucket**” option from the amazon s3 dashboard.



- Select any region like “**mumbai**”
- Give a unique “**bucket name**” as per the naming rule ie., “source2003”

## Create bucket [Info](#)

Buckets are containers for data stored in S3.

### General configuration

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

Bucket name [Info](#)

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.

Format: `<</>/bucket/prefix`

- Enable the “**Bucket 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

- Leave the rest fields as default then click on “**Create Bucket**”.

### ▼ Advanced settings

Object Lock  
 Store objects using a write-once-read-many (WORM) model to help you prevent objects from being deleted or overwritten for a fixed amount of time or indefinitely. Object Lock works only in versioned buckets. [Learn more](#)

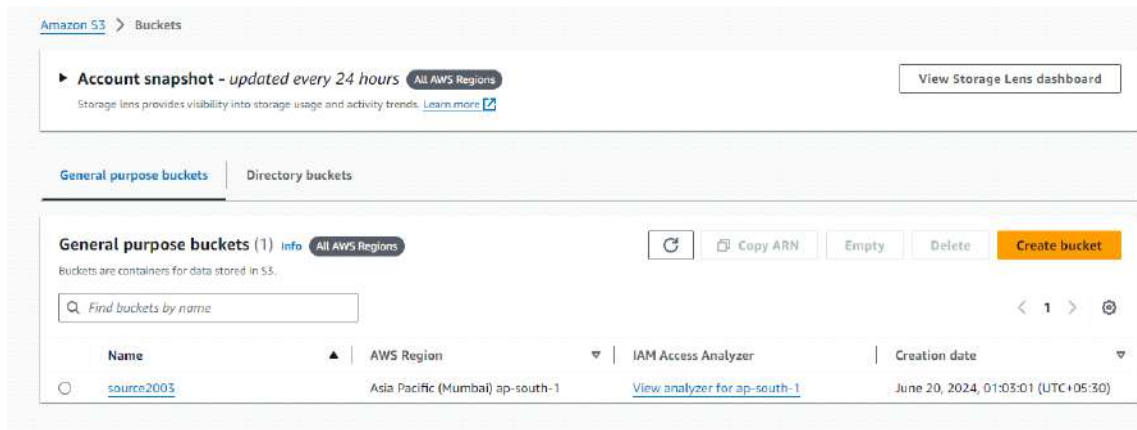
☒ Disable

☐ Enable  
 Permanently allows objects in this bucket to be locked. Additional Object Lock configuration is required in bucket details after bucket creation to protect objects in this bucket from being deleted or overwritten.

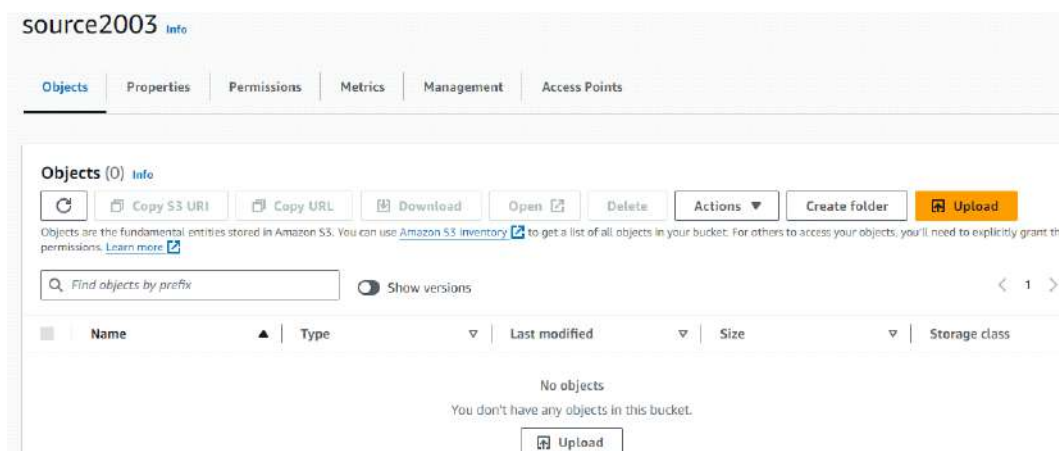
[i](#) Object Lock works only in versioned buckets. Enabling Object Lock automatically enables Versioning.

[i](#) After creating the bucket, you can upload files and folders to the bucket, and configure additional bucket settings.

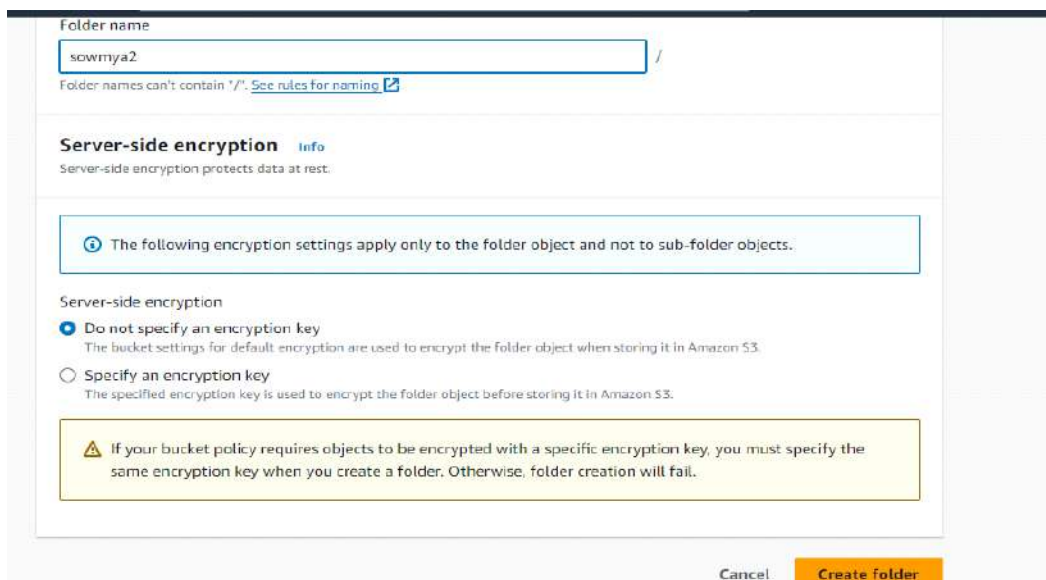
- After creation of bucket then Click on “**source2003**” bucket which was created



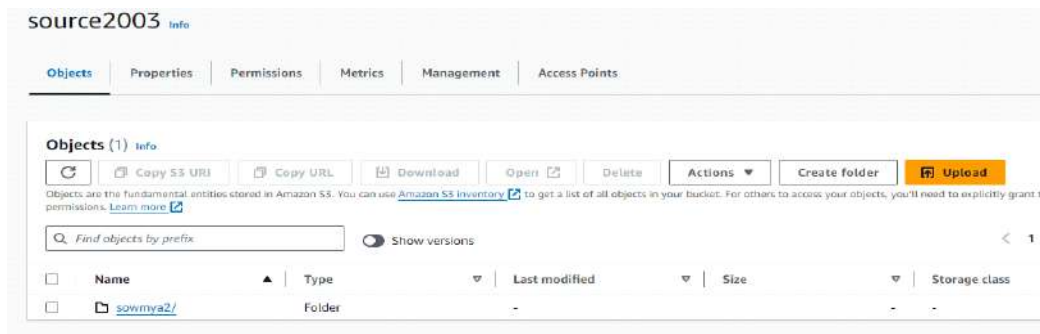
- now click on create folder



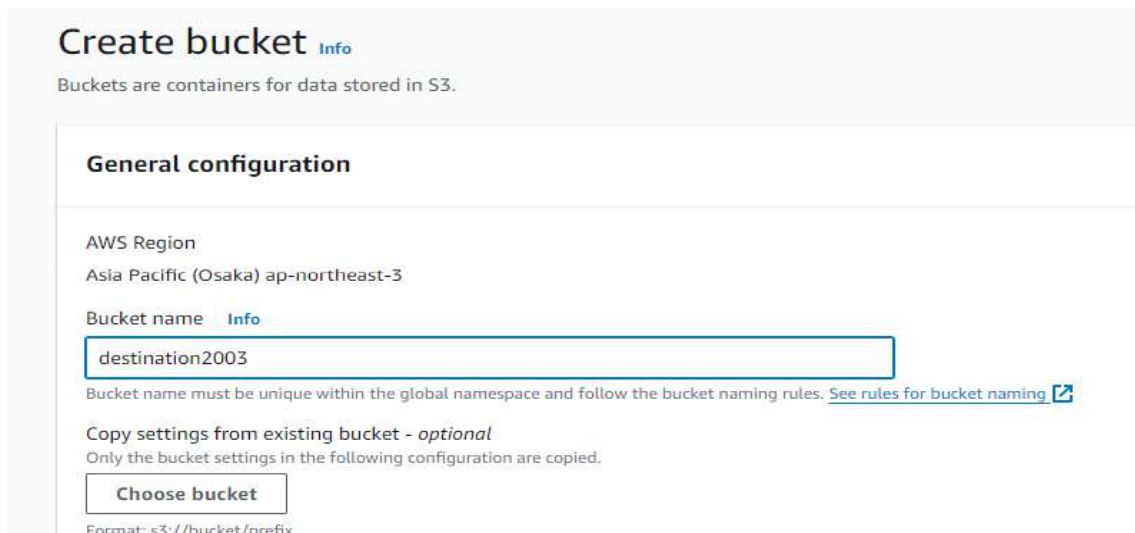
- give a folder name and click on create folder



- click on upload the folder, go to files and select a folder then upload it



- Similarly create another Bucket but on the different region which is “Osaka”
- click on create bucket
- Give the Bucket name which must be unique for the destination “**destination2003**”



- go to source bucket and click on it
- click on management and come down
- click on create replication rule "replica-1"



- give replication rule name

## Create replication rule [Info](#)

### Replication rule configuration

Replication rule name

replica-1

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

...

- scroll down and choose a rule scope "Apply to all the objects in the bucket"

### Source bucket

Source bucket name

source2003

Source Region

Asia Pacific (Mumbai) ap-south-1

Choose a rule scope

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

☒ Apply to all objects in the bucket

- click on browse s3 and select destination bucket which we created "destination2003"

### 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.

destination2003

Browse S3

- select create new role

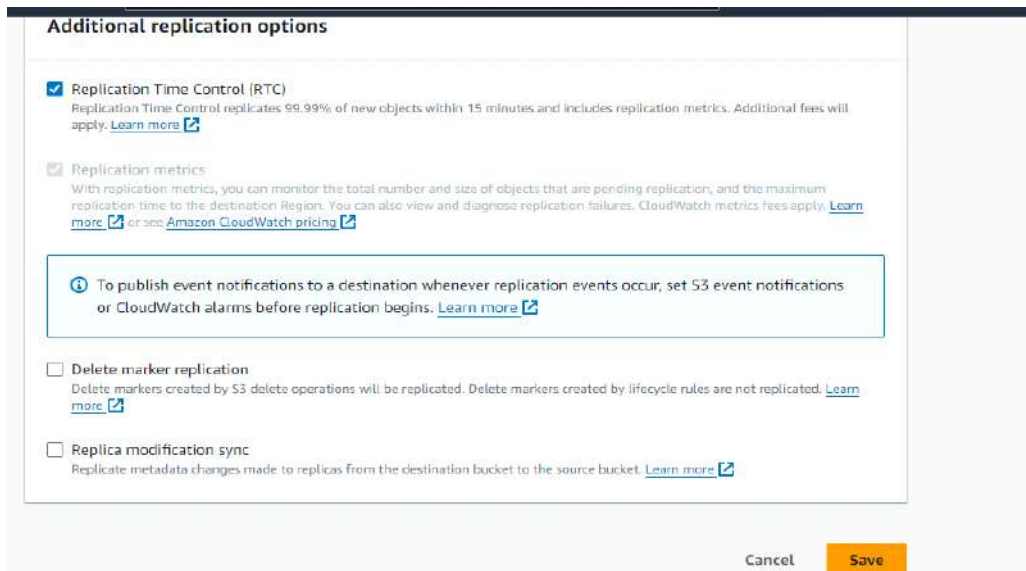
### IAM role

☒ Create new role

☐ Choose from existing IAM roles

☐ Enter IAM role ARN

- In the additional replication options select "Replication time control (RTC)"
- click on save button



**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 failures. CloudWatch metrics fees apply. [Learn more](#) or see [Amazon CloudWatch pricing](#)

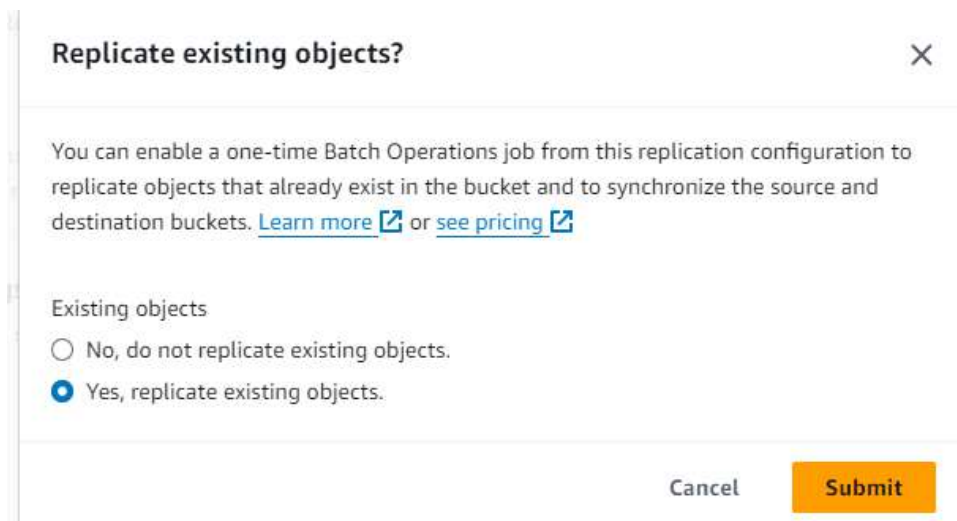
**Info** To publish event notifications to a destination whenever replication events occur, set S3 event notifications or CloudWatch alarms before replication begins. [Learn more](#)

☐ **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 from the destination bucket to the source bucket. [Learn more](#)

Cancel **Save**

- In the replication exsisting objects we have to select "yes,replicate existing objects"
- click on submit



**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**

- We will redirect to the page of “**Create Batch Operations job**” under that, enable “**automatically run the job when it’s ready**” option and enable the check box of “**generate completion report**”. Select “**All tasks**” in completion report scope.
- Click on “**Browse S3**” button and select the “**s3://destination2003**” path which was created.

## Completion report

Generate a CSV completion report that lists your target objects, task success or error codes, outputs, and descriptions. Completion reports are encrypted using SSE-S3. [Learn more](#)

☒ Generate completion report

Completion report scope

☐ Failed tasks only

☒ All tasks

Completion report destination

Specify a general purpose bucket location to store the completion report. '/job-{job-id}/report.json' will automatically be appended to the specified destination. [Learn more](#)

s3://destination2003

View

Browse S3

Format: s3://<bucket>/<optional-prefix-with-path>. S3 will append the path with a "/". If you add a "/" to the prefix, it will appear as an extra folder in the S3 console.

- In the permissions we need to select create new role
- click on save

## Permissions

Choose an IAM role with the [required access permissions and trust relationships](#). An IAM role policy template based on your job configuration, and the IAM trust policy required for batch operations to assume the IAM role are available below. [Learn more about IAM roles](#)

► View IAM role policy template and IAM trust policy

☒ Create new role

☐ Choose from existing IAM roles

☐ Enter IAM role ARN



Cancel

Save

- we can the status as "Active"
- On click on “**Destination2003**” to check the file has transferred

objects, you will need to explicitly grant them permissions. [Learn more](#)

Find objects by prefix  Show versions ☐

<input type="checkbox"/>	Name	Type	Last modified	Size	Storage class
<input type="checkbox"/>	 <a href="#">job-aa9fa68f-583d-40e1-a170-a60436873329/</a>	Folder	-	-	-
<input type="checkbox"/>	 <a href="#">sowmya2/</a>	Folder	-	-	-

- The File which was uploaded in the source bucket was successfully transferred to destination bucket



Objects (1) [Info](#)

Copy S3 URI

Copy URL

Download

Open

Delete

Actions ▼

Create folder

Upload

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

☐ Show versions

< 1 >

<input type="checkbox"/>	Name ▲	Type ▼	Last modified ▼	Size ▼	Storage class
<input type="checkbox"/>	<a href="#">html code/</a>	Folder	-	-	-