

S3 service Replication rule creation.

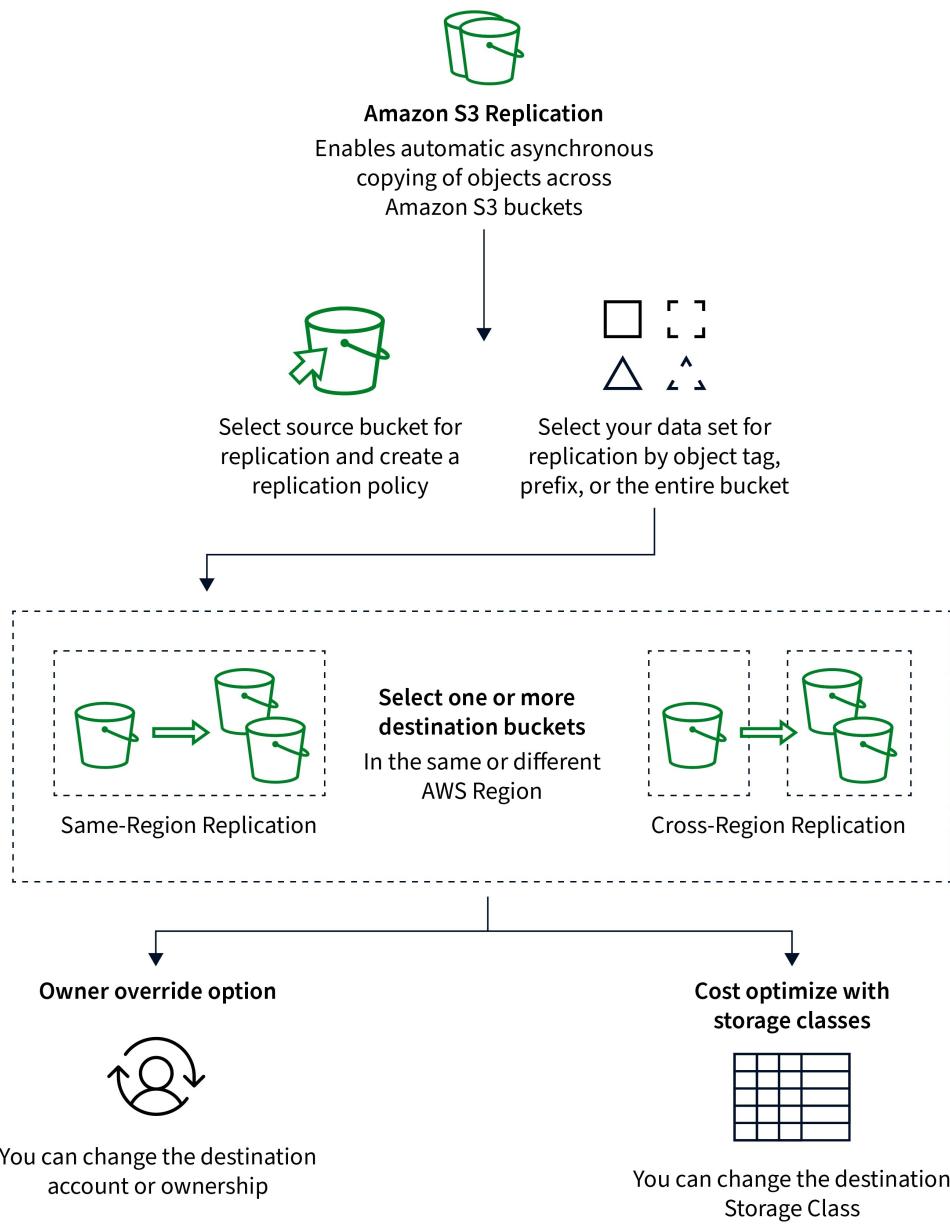
👋 Welcome to my-blog!

- **INTRODCUTION**

In simple terms, the replication rule in Amazon S3 is like setting up a magic spell that automatically copies your files from one storage bucket to another. You can decide which files get copied and where they go. This helps keep your files safe in case something happens to the original storage. It's like having a backup plan for your important stuff. So, if one storage bucket has a problem, you still have your files safe and sound in another bucket. It's a way to make sure your data is always available when you need it.

- **WHY WE USE REPLICATIONS ?**

Replication rule in S3 automates copying objects between buckets for redundancy, disaster recovery, and compliance, enhancing data durability and availability.



- **TASKS PERFORMS UNDER REPLICATIONS.**
 1. **Copy items while keeping metadata**
 2. **Replicate items across class**
 3. **Storage items across several AWS regions**

- 4. Sync Buckets, Reproduce Existing Objects, And Duplicate Items That Have Repeatedly Failed or Been Replicated**

- 5. Replication Of The Object And Failure Over To Buckets In That Other AWS Regions**

this are the common use cases where we use Replication rules.

- TYPES OF REPLICATION.**
- CROSS REGION REPLICATON**
- SIMPLE REGION REPPLICATION**

- CROSS REGION REPLICATON**

- **Features**

Comply With All Regulations

While AWS S3 defaults to storing the data across many geographically separated AZs, compliances may compel users to store information at an even larger distance. Using Cross-Region Replication to duplicate data across remote AWS Region to meet these criteria.

Reduced Latency

When your customers are spread across various geographical locations, Cross-Region Replication can help reduce latency. By storing copies of data in regions closer to your end users, you can ensure they have quick access to the data they need.

Boost Operational Effectiveness

When users have computing clusters in multiple AWS regions which evaluate the same collection of objects, you may want to save object duplicates.

- SAME REGION REPPLICATION**

- **Features**

Collect Logs Into The One Bucket

If users keep a log in a different bucket or across different accounts, one can quickly duplicate logs into a single, in-Region bucket. This enables more efficient log handling in a single place.

Set Up Live Replications Between The Production And Test Accounts

When the clients have production and a test account with the same data, they can duplicate objects between the two while preserving object information.

Follow Data Sovereignty Laws

You may be needed to keep numerous copies of your information in different AWS accounts within the same Region. When compliance requirements prevent data from leaving your nation, Same-Region Replication can assist you in automatically replicating vital data.

PRACTICLE ON REPLICATION RULE CREATION.

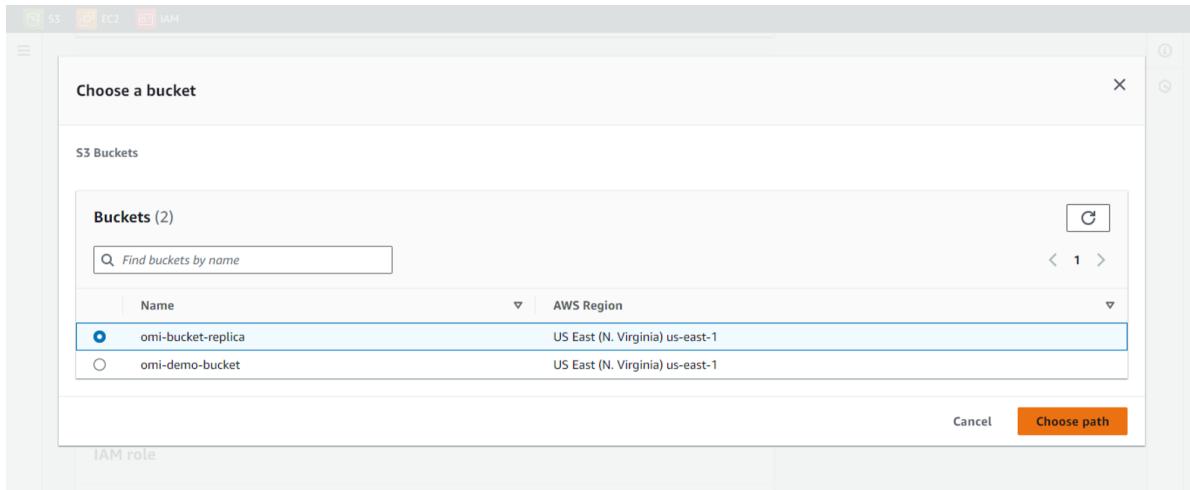
SENARIO.

- HERE NOW LET'S DO ONE SENARIO WHERE WE WANT TO CREATE ONE REPLICATION BUCKET IN SAME REGION .

STEPS ARE AS BELOW

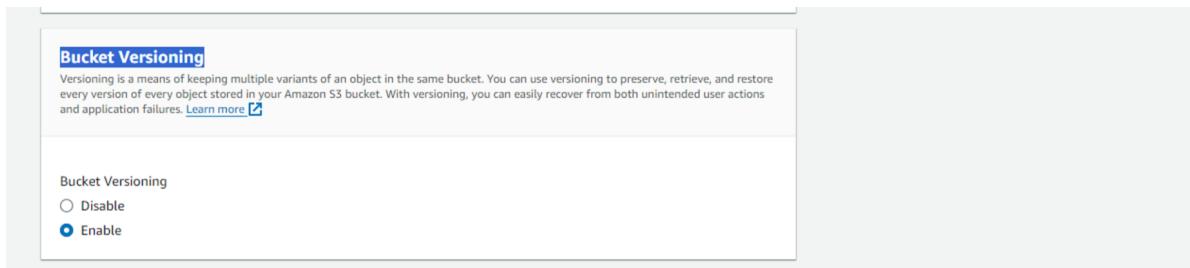
1) Create 2 buckets in same region.

here I'm creating a two bucket names as (**omi-demo-bucket**) and (**omi-bucket-replica**) in **same region** and **same availability zone**



At the time of creating bucket **enable** the option of **Bucket Versioning** to the both buckets.

When you **enable versioning** in a bucket, all new objects are versioned and given a unique version ID.



2) file upload.

now I'm uploading the some random.**html file** in my **origin bucket** named as **omi-demo-bucket**.

Amazon S3 > Buckets > omi-demo-bucket

omi-demo-bucket [Info](#)

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

Objects (5) [Info](#)

[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](#)

<input type="checkbox"/>	Name	Type	Version ID	Last modified	Size	Storage class
<input type="checkbox"/>	assets/	Folder	-	-	-	-
<input type="checkbox"/>	beach.jpg	jpg	NqgLUzz8.6.2yONHE4 wSa24RuCQvnqLw	May 17, 2024, 16:17:52 (UTC+05:30)	85.8 KB	Standard
	rvlJ4_15iTh0HvI G6n6			May 17, 2024.		

3) Create Replication Rule.

now i click on **management** tab in origin bucket and then click on **create Replication Rule** and **name it**.

I name it as a **testing** you can change it as per your accordance by keeping status as default **Enable**.

Amazon S3 > Buckets > omi-demo-bucket > [Replication rules](#) > Create replication rule

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.

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.

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After naming when we scroll down we see the option as **Choose a rule scope** in **Source bucket** .

click on the option **Apply to all object in the bucket** so we can **replicate all the objects present in bucket**.we can also give the **limited replication access to the bucket objects** by clicking on option **Limit the scope of this rule using one or more filters**.

Source bucket

Source bucket name
omi-demo-bucket

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

now specify the **Destination** as **Choose a bucket in this account** because I created the both buckets in same account, we can choose the other option when **we have to replicate bucket from different account**.

now click on **Browse S3**

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](#)

Choose a bucket in this account

Specify a bucket in another account

Bucket name

Choose the bucket that will receive replicated objects.

Enter bucket name

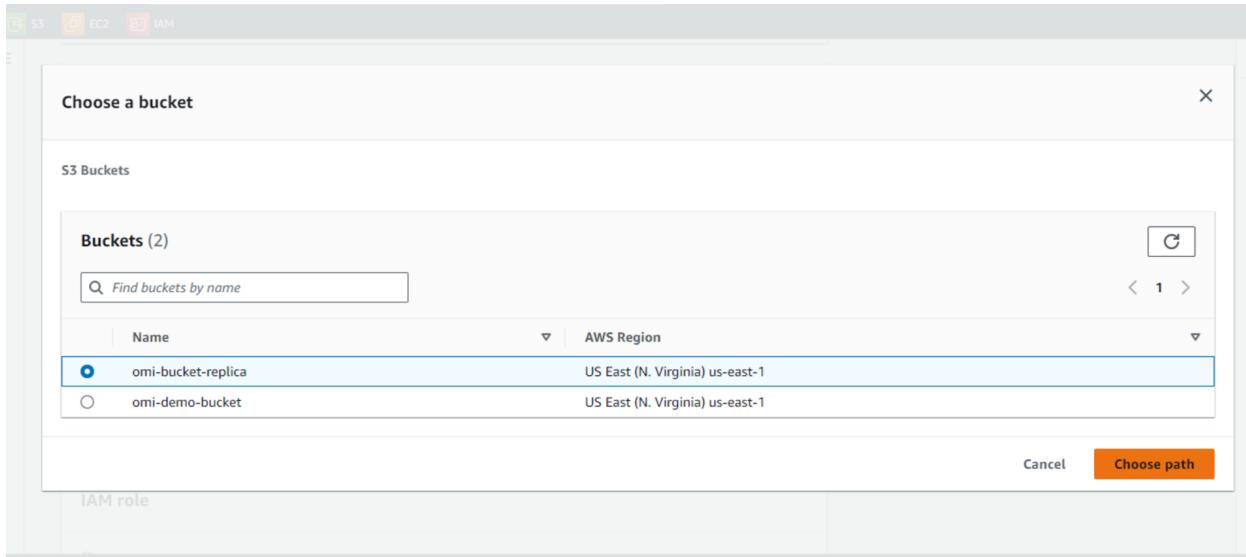
Browse S3

Destination Region

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now we will click the desired bucket option, where we can **choose the bucket that will receive replicated object.**

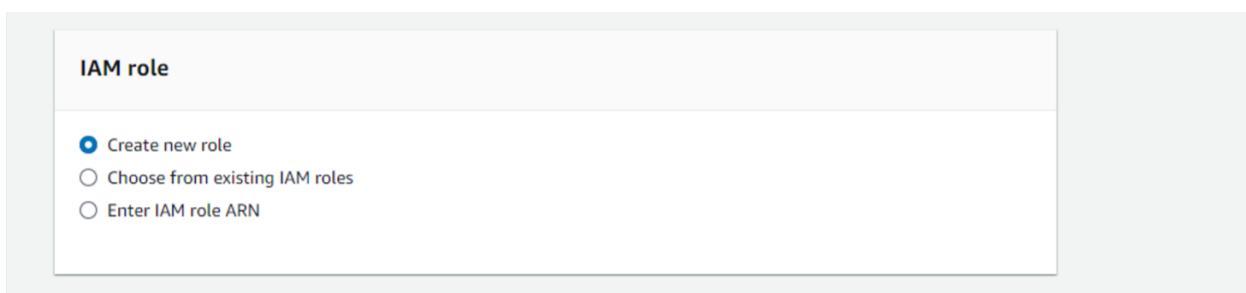
here I choose the **omi-bucket-replica**. and click on **choose path** at below corner.



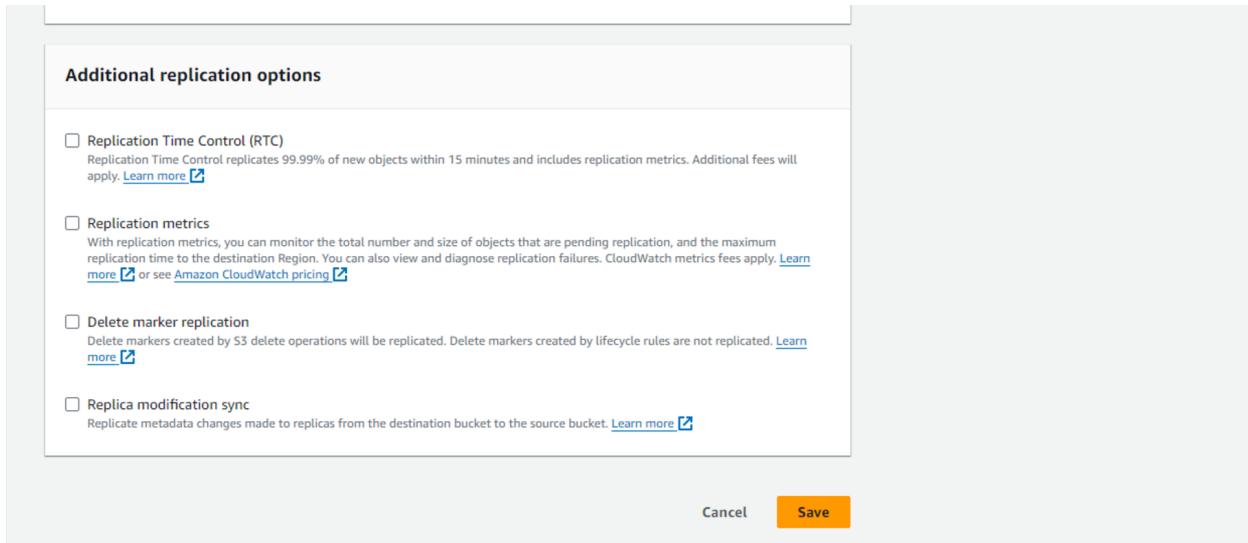
4) IAM Role.

now we will **Assign** the **IAM Role** to the bucket to **get access of one s3 bucket to the other s3 bucket.**

now I click on **Create new role**.



now **save** the process and that's it !



Congratulations you set replication rule successfully ! 😊

5) Check if it is working properly !

now we will add some extra .Html files and lets see if its replicating in our desired bucket or not ?

here i added 2 new files named as **coffee.jpg**, **index.html** and its showing me the **version id's** of this objects after sliding the **show versions** icon.

Objects (5) Info						
<input type="checkbox"/>	Name	Type	Version ID	Last modified	Size	Storage class
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						
<input type="checkbox"/>	coffee.jpg	jpg	rvU4_15iTh OtHvLG6q6 POFzc1Vf_w6G	May 17, 2024, 16:17:55 (UTC+05:30)	108.4 KB	Standard
<input type="checkbox"/>	index.html	html	1nQNF7b.1q sCa6VMB6f Oo5H3Woc Ke44h	May 17, 2024, 16:17:58 (UTC+05:30)	200.0 B	Standard
<input type="checkbox"/>	index.html	html	null	May 17, 2024, 15:49:53 (UTC+05:30)	30.2 KB	Standard

when come to the our **desired bucket** which is a **omi-bucket-replica**. we see the same objects are replicated in it.

The screenshot shows the AWS S3 console interface for the 'omi-bucket-replica' bucket. The 'Objects' tab is active, showing three objects: 'beach.jpg', 'coffee.jpg', and 'index.html'. The objects are listed in a table with columns for Name, Type, Last modified, Size, and Storage class. The objects were last modified on May 17, 2024, at 16:17:52 (UTC+05:30). The sizes are 85.8 KB, 108.4 KB, and 200.0 B respectively, and all are stored in the Standard storage class.

Name	Type	Last modified	Size	Storage class
beach.jpg	jpg	May 17, 2024, 16:17:52 (UTC+05:30)	85.8 KB	Standard
coffee.jpg	jpg	May 17, 2024, 16:17:55 (UTC+05:30)	108.4 KB	Standard
index.html	html	May 17, 2024, 16:17:58 (UTC+05:30)	200.0 B	Standard

as we see both objects are replicated in other bucket situated in same region.

thank you !