

S3 Bucket Replication

What is S3 Bucket Replication?



Replication is making a copy of the objects in the same AWS Region or different AWS Regions.

It allows automated, distributed copying of objects over buckets of Amazon S3. When enabled, each object uploaded to a specific S3 bucket will be replicated automatically to a specified destination bucket located in a given AWS Regions

Objects in S3 buckets can be replicated between different AWS Regions or within the same AWS Region. Here are the types of replication in S3:

- **Cross-Region Replication (CRR)** is used to copy objects in **different AWS Regions** across Amazon S3 buckets.
- **Same-Region Replication (SRR)** is used to copy objects in the **same AWS Region** across Amazon S3 buckets.

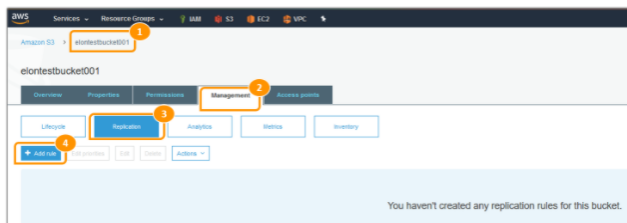
Why Replication?



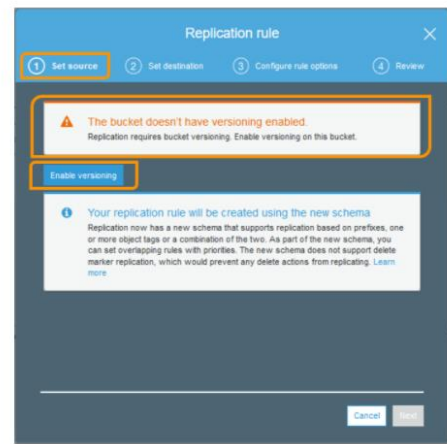
As it is mentioned in AWS documentation, replication can help you do the following;

- **Replicate objects while retaining metadata** — You can use replication to **make copies of your objects that retain all metadata**, such as the original object creation time and version IDs. This capability is important if you need to ensure that your replica is identical to the source object.
- **Replicate objects into different storage classes** — You can use replication to **directly put objects into Glacier, DEEP ARCHIVE, or another storage class** in the destination bucket. You can also replicate your data to the same storage class and use lifecycle policies on the destination bucket to move your objects to a colder storage class as it ages.
- **Maintain object copies under different ownership** — Regardless of who owns the source object, you can tell Amazon S3 to **change replica ownership** to the AWS account that owns the destination bucket. This is referred to as the *owner's override* option. You can use this option to restrict access to object replicas.
- **Replicate objects within 15 minutes** — You can use S3 Replication Time Control (S3 RTC) to replicate your data in the same AWS Region or across different Regions in a predictable time frame. S3 RTC replicates 99.99 percent of new objects stored in Amazon S3 within **15 minutes** (backed by a service level agreement).

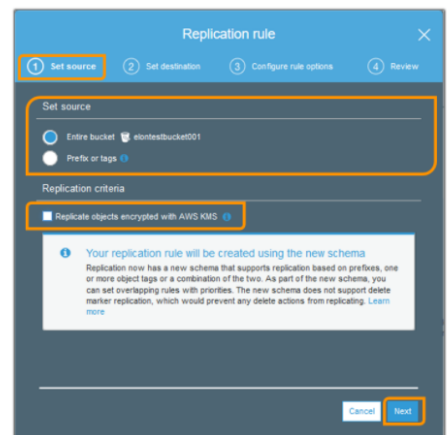
Creating Replication Rule - Set Source



- To create a replication rule, go to the **source bucket** which you will replicate in another region.
- Select **Management**, **Replication** tabs respectively and click **Add rule** button.

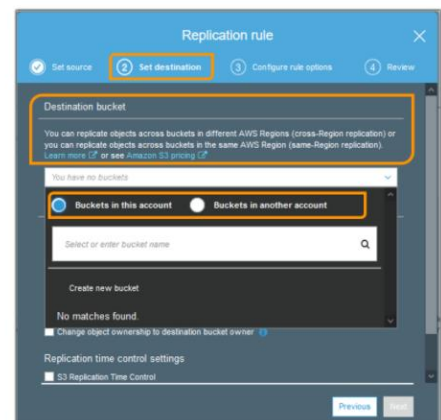


- Since replication requires versioning, a warning message would appear if the versioning is not enabled for the source bucket.
- To enable bucket versioning on this panel, click the **Enable versioning** tab.

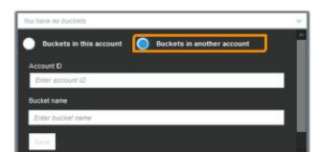
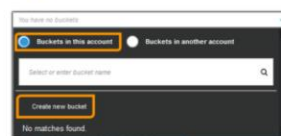


- Versioning for the source bucket will be enabled automatically.
- At this stage, we can select either **Entire bucket** or **Prefix tags** options.
- If **Entire bucket** selected, replication will be applied to all the objects in the source bucket.
- By selecting **Prefix tags** options, specific objects according to the given prefix or tags can be replicated also.
- Let's select the **Entire bucket** option.
- Then, the encryption option can also be selected for the bucket, but let's leave it as default.
- Click the **Next** button to go on the next step.

Creating Replication Rule - Set Destination



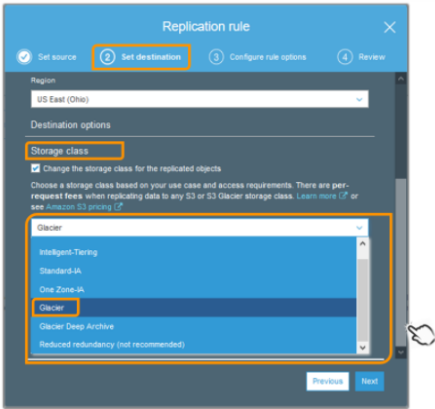
- Now, the destination bucket must be selected.
- You can select a destination bucket from either **in this account** or **in another account**.



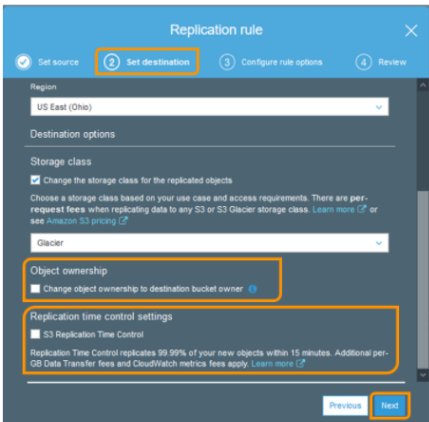
- If **Buckets in another account** option is selected, then **Account ID** for that account and the destination **Bucket name** information has to be typed here.
- If **Buckets in this account** option is selected, you can select an already current bucket name or create a new bucket.
- Let's click **Create new bucket** option to create a new one.



- Type a **bucket name** for the destination bucket.
- Select a region for the bucket. If you select a different region from the source bucket's region, replication will be **Cross-Region Replication (CRR)**. Otherwise, if you select the same region, replication will be **Same-Region Replication (SRR)**.
- In this example, because the region of the **source** bucket is **US East (N.Virginia)**, **US East (Ohio)** is selected as **destination** bucket's region to make replication CRR for the demo purposes.
- Then scroll down to define other **Destination options**.

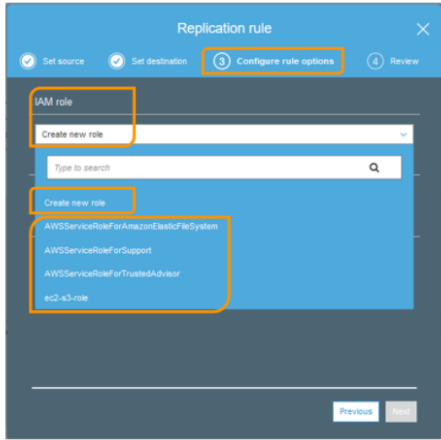


- At this stage, we can select a different storage class for the destination bucket than the source bucket.
- Let's select the **Glacier** storage class option.
- Then scroll down on the page again.

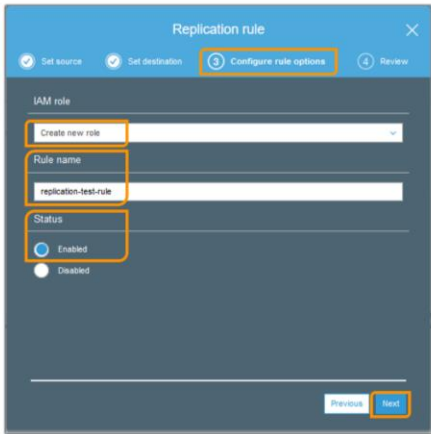


- At this stage, you can change destination bucket **Object ownership** and/or select **Replication time control settings**.
- Let's leave then as default and click **Next** button.

Creating Replication Rule - Configure Rule Options



- Now, an IAM role should be selected for the replication.
- You can either select an existing rule or create a new one.
- Let's select **Create new role** option.

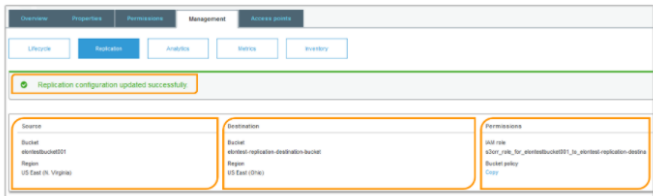


- Type a **Rule name** and select **Enabled** as the **status** to enable the replication rule.
- Click the **Next** button.

Creating Replication Rule - Review



- **Review** the Replication Rule.
- Click the **Save** button.



- Congratulations! The replication configuration is set successfully.