# Cross-region replication in S3

Cross-Region Replication (CRR): AWS S3 allows you to replicate objects from one S3 bucket to another in a different AWS region. This feature provides benefits such as reduced latency, compliance, security, disaster recovery, and regional efficiency.

Follow the below steps for set the CRR:

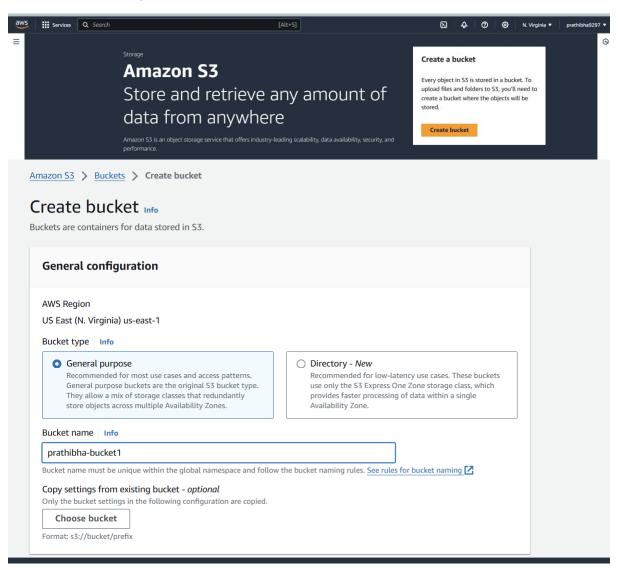
Step1: creating 2 buckets in different regions

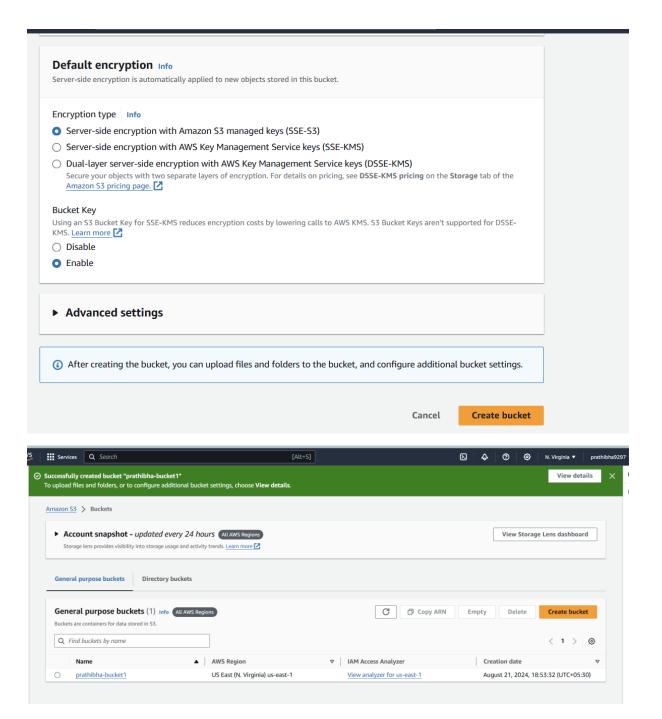
Step2: Enable the versioning

Step3: cross region replication

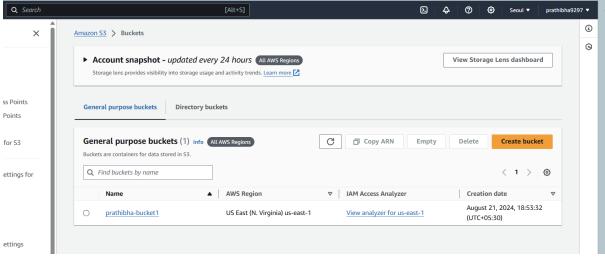
# Step1: Creating s3 buckets

- Open AWS console and N.virginia region
- Go to s3 service
- Click on create bucket
- Give name tag as Prathibha-bucket1
- Click on create bucket
- Follow the steps as shown in the below slides

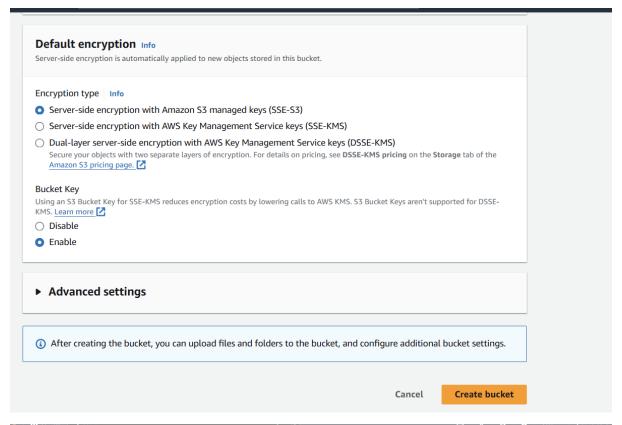


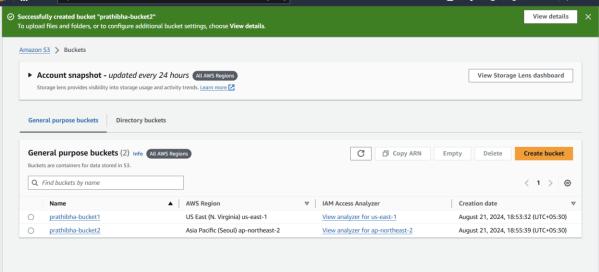


- Once created bucket in N.virginia and go to seoul region
- Go to s3 bucket and click on create bucket
- Give name as Prathibha-bucket2
- Remaining field leave it as default and click on create bucket



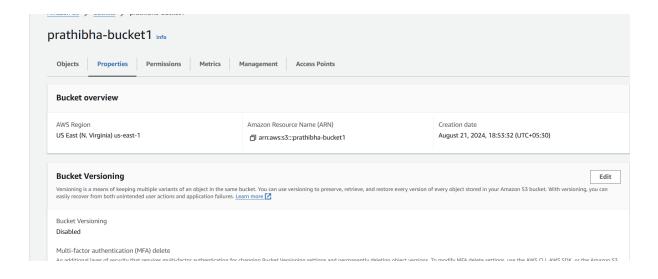
Amazon S3 > Buckets > Create bucket Create bucket Info Buckets are containers for data stored in S3. **General configuration AWS Region** Asia Pacific (Seoul) ap-northeast-2 Bucket name Info prathibha-bucket2 Bucket name must be unique within the global namespace and follow the bucket naming rules. See rules for bucket naming 🔀 Copy settings from existing bucket - optional Only the bucket settings in the following configuration are copied. **Choose bucket** Format: s3://bucket/prefix Object Ownership Info Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.





# Step2: Enable the versioning

- Open Prathibha-bucket1 and click on properties
- Go to bucket versioning and click on edit
- Enable the versioning and click on save changes
- Likewise need to enable versioning in Prathibha-bucket2 and save as shown in below slides



Amazon S3 > Buckets > prathibha-bucket1 > Edit Bucket Versioning

# Edit Bucket Versioning Info

#### **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**

Suspend

This suspends the creation of object versions for all operations but preserves any existing object versions.

Enable

 After enabling Bucket Versioning, you might need to update your lifecycle rules to manage previous versions of objects.

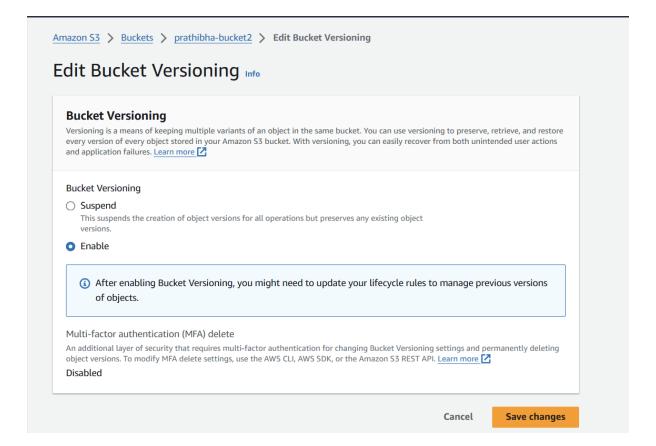
#### Multi-factor authentication (MFA) delete

An additional layer of security that requires multi-factor authentication for changing Bucket Versioning settings and permanently deleting object versions. To modify MFA delete settings, use the AWS CLI, AWS SDK, or the Amazon S3 REST API. Learn more

Disabled

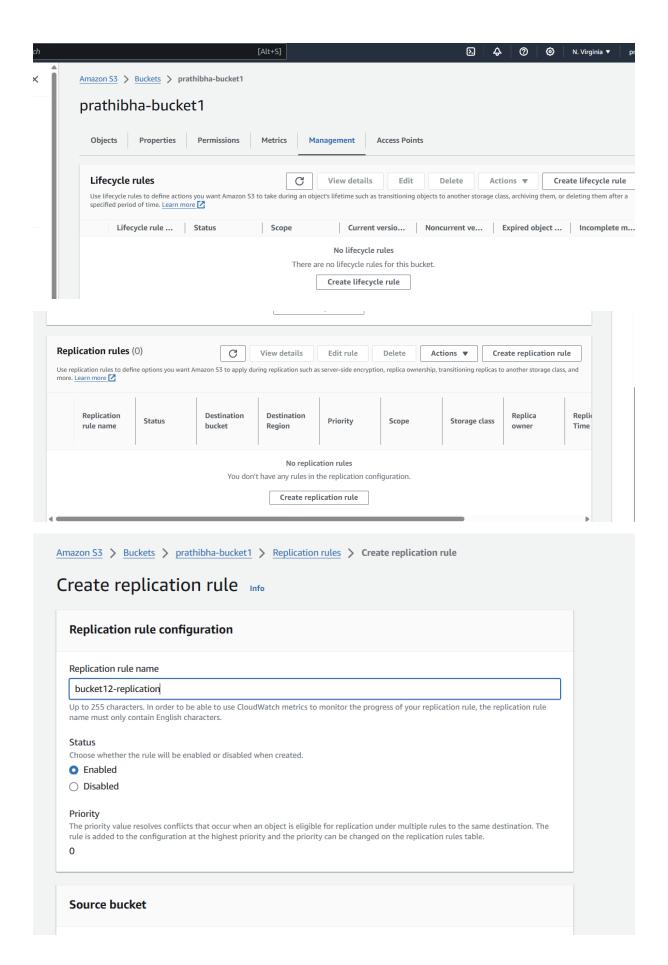
Cancel

Save changes



# Step-3: Cross region replication (CRR):

- Go to the first bucket which is created in N.virginia region
- Open Prathibha-bucket1 and click on management
- Go to cross region replication and click on replication rule
- Give name tag as bucket12-replication
- Click on apply to all objects in the bucket in source bucket field
- Select bucket name in destination field
- Click on replication time control (RTC) in Additional replication options field
- Remaining fields should be default and click on save
- The following will showcase the cross-region replication



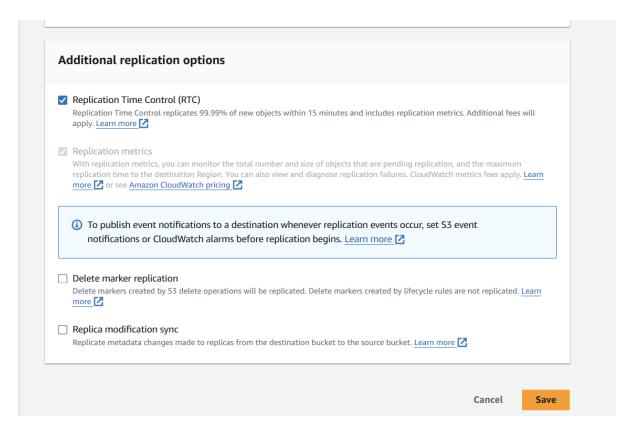
Source bucket			
Source bucket name			
orathibha-bucket1			
Source Region JS East (N. Virginia) us-east-1			
-			
Choose a rule scope  Choose a rule scope of this rule us	sing one or more filters		
• Apply to all objects in the bu	_		
Destination			
	ets in different AWS Regions (Cross-Regio Replication). You can also specify a differ		
Choose a bucket in this accou	unt		
Specify a bucket in another a	ccount		
Bucket name Choose the bucket that will receive rep	plicated objects.		
Destination			
	ets in different AWS Regions (Cross-Regi Replication). You can also specify a diffe		
Choose a bucket in this accor	unt		
Specify a bucket in another a	account		
Bucket name Choose the bucket that will receive re	eplicated objects.		
prathibha-bucket2		Browse S3	
Destination Region			
Asia Pacific (Seoul) ap-northeast	t-2		
AM role			

# **Encryption**

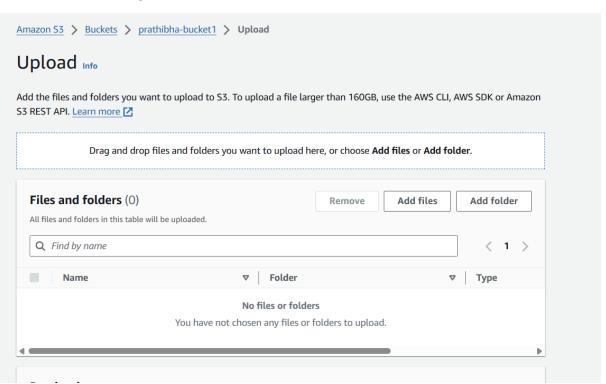
Server-side encryption protects data at rest.

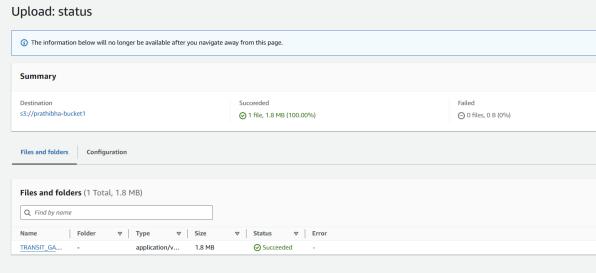
 $\bigcirc$  Choose from existing IAM roles

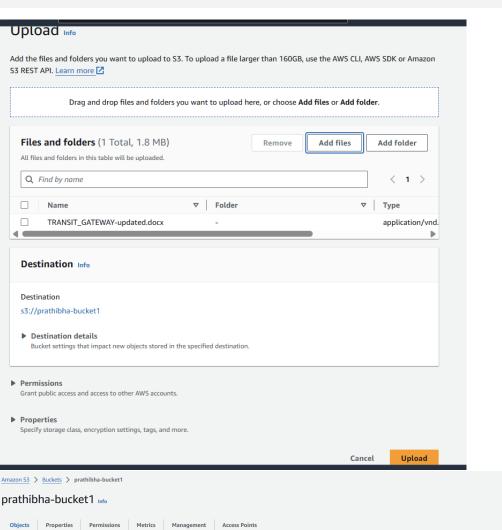
 $\bigcirc$  Enter IAM role ARN

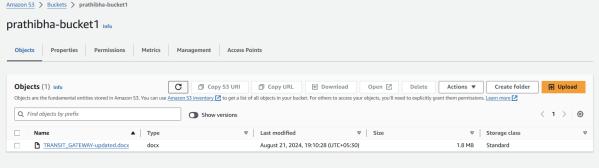


 Once created the cross-region replication upload a file or folder in bucket one which is created in N.virginia as shown in below slides.

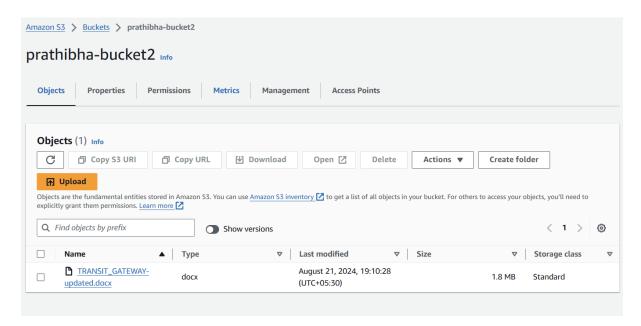








- We uploaded file in bucket1 and it was replicated in bucket2 because of we enable the crossregion replication
- It was shown in below slide



### **Conclusion:**

cross-region replication in AWS is a powerful strategy for enhancing the availability, durability, and resilience of critical data across geographically dispersed locations. By replicating data to multiple AWS regions, organizations can ensure high levels of redundancy and disaster recovery capabilities, effectively mitigating the risk of data loss due to regional failures or outages