Automated S3 Data Archival – Use S3 lifecycle rules to move data to Glacier.

Introduction

Amazon S3 (Simple Storage Service) provides lifecycle policies that allow automatic data archival and deletion. This project sets up an automated process where data stored in an S3 bucket is automatically moved to Amazon S3 Glacier for cost-effective long-term storage.

Estimate the cost for the AWS services.

Service : s3 Bucket

Tiered price for: 10 GB

10 GB x 0.023 USD = 0.23 USD

Total tier cost = 0.23 USD (S3 Standard storage cost)

S3 Standard cost (monthly): 0.23 USD

Service : s3 Glacier

S3 Standard storage overhead cost for metadata: 0.0001123 USD

10 GB per month x 0.0036 USD = 0.036 USD (Glacier Flexible Retrieval storage cost)

S3 Glacier Flexible Retrieval cost (monthly): 0.04 USD

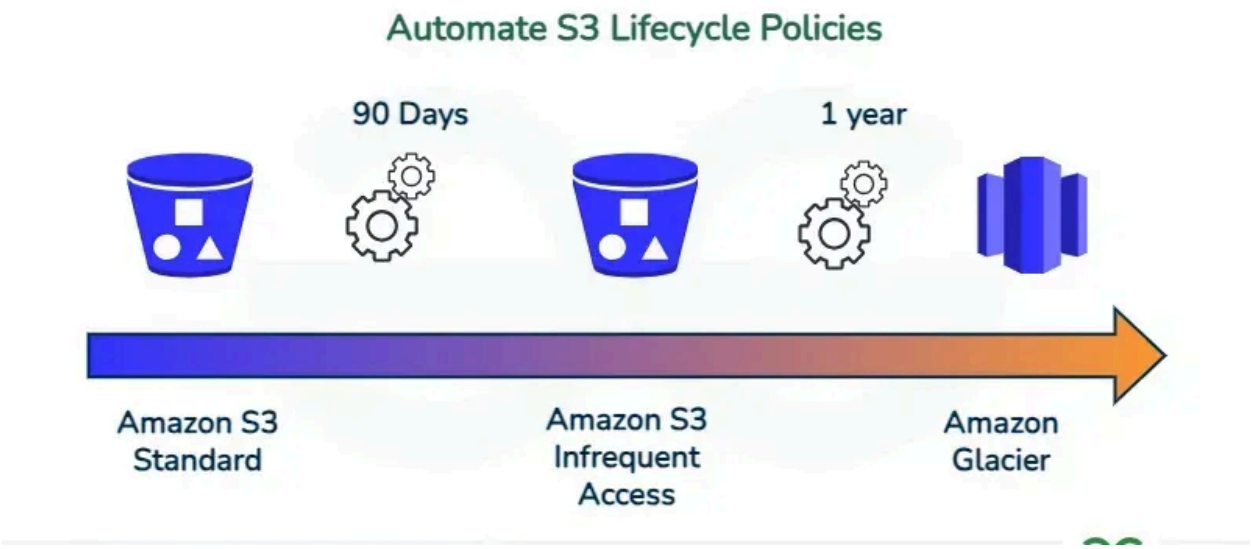
S3 Glacier Flexible Retrieval cost (upfront): 0.00 USD

Steps to Implement

Step 1: Create an S3 Bucket

1. Sign in to the AWS Management Console.

2. Navigate to **Amazon S3 → Create bucket**.
3. Provide a unique bucket name (e.g., my-archival-bucket).
4. Choose a region and configure other settings as needed.
5. Click **Create bucket**.



Step 2: Upload Sample Data

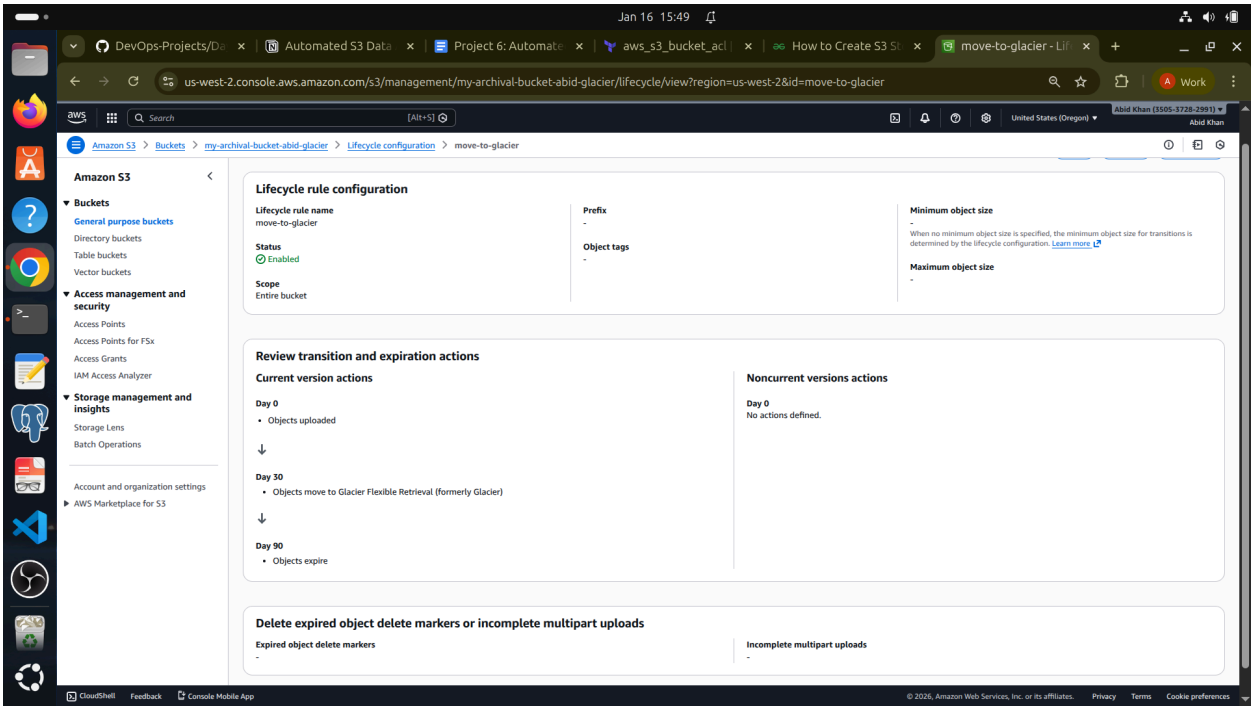
1. Open the created S3 bucket.
2. Click **Upload**, select some files, and confirm the upload.

Step 3: Create an S3 Lifecycle Rule

1. In the S3 bucket, go to the **Management** tab.
2. Click **Create lifecycle rule**.
3. Enter a rule name (e.g., move-to-glacier).
4. Choose **Apply to all objects in the bucket** or select a specific prefix.
5. Under **Lifecycle rule actions**, select **Move current versions of objects between storage classes**.
6. Configure the transition:

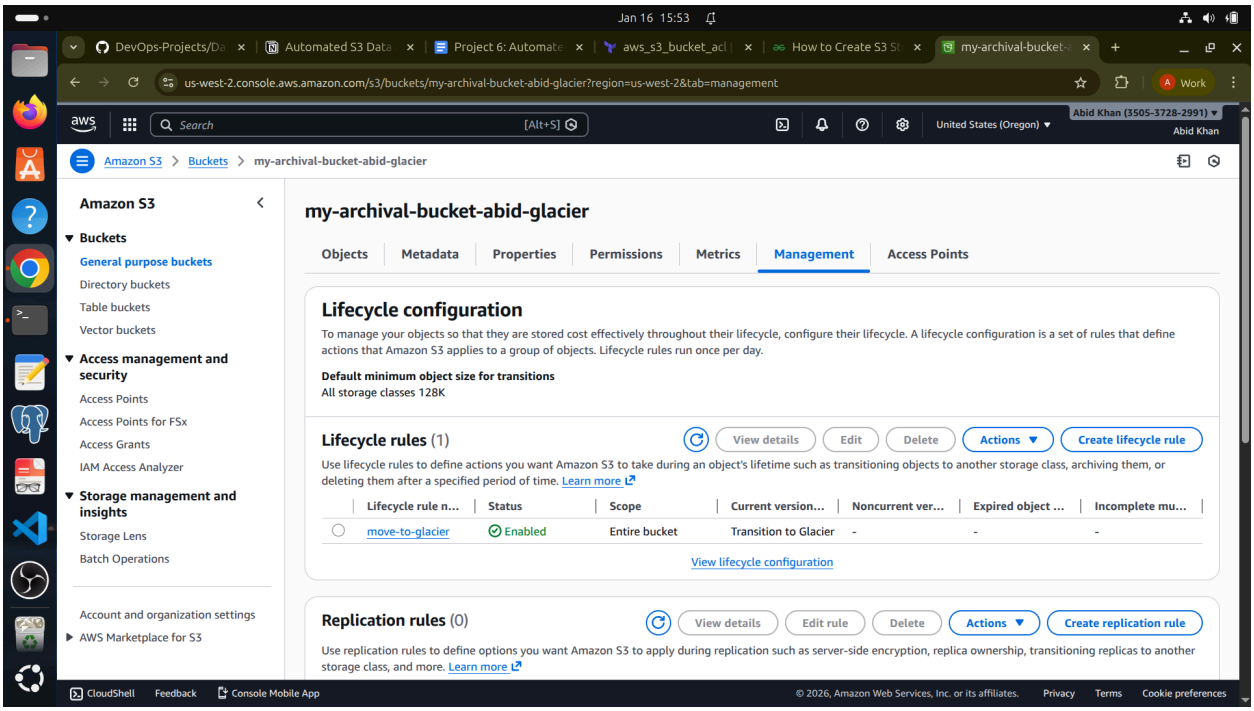
- **Move to Glacier Instant Retrieval after X days** (e.g., 30 days).
- **Move to Glacier Deep Archive after Y days** (e.g., 90 days) for further cost optimization.

7. Click **Create rule**.



Step 4: Verify the Lifecycle Rule

1. Wait for the configured time period (or adjust settings to test quickly).
2. Check object storage class changes in the **Objects** tab (should show **Glacier** after transition).



Step 5: Restore Archived Data (Optional)

1. Select an object stored in Glacier.
2. Click **Initiate restore** → Choose retrieval option (e.g., Standard, Expedited, or Bulk).
3. Set the duration for temporary access and confirm the restore request.

Conclusion

This project automates data archival using S3 lifecycle rules, reducing storage costs by moving older data to Amazon Glacier while keeping it retrievable when needed.