Project Tested:

**Steps to Test the Scenario Immediately**

**1. Create an S3 Bucket**

* **Create an S3 Bucket:**
  + Open the **S3 Console** and click **Create bucket**.
  + Choose a unique name for your bucket (e.g., test-glacier-bucket).
  + Choose a region (any region will work).
  + Enable versioning if you wish to test with multiple versions.
  + Click **Create**.

**2. Upload an Object**

* **Upload a File:**
  + Go to the **S3 bucket** you just created.
  + Click **Upload**, choose a file (e.g., testfile.txt), and upload it to the bucket.

**3. Create a Lifecycle Policy to Transition to Glacier**

You want to transition the file to Glacier immediately (or in a very short period) to test this action.

* **Create Lifecycle Rule for Immediate Transition:**
  + In your S3 bucket, click the **Management** tab.
  + Under **Lifecycle rules**, click **Create lifecycle rule**.
  + Give it a name (e.g., TestGlacierTransition).
  + Under **Filter**, leave it as "None" or specify a prefix if needed.
  + For **Lifecycle rule actions**, select **Transition**.
  + Set the **Transition to Glacier** action, but set the **Days** to 1 day (or as low as possible).
  + Save the rule.

Now, the object will transition to Glacier based on the lifecycle policy. However, since you want to test immediately, you can adjust the timeline by:

* **Changing the Transition to Glacier:** Set the "Transition" to happen after 1 day to simulate a near-immediate move, or you can manually move the object to Glacier for testing purposes by choosing **Transition to Glacier** on the object’s metadata directly.

**4. Simulate Immediate Glacier Transition (Manual Method)**

* **Manually Transition an Object to Glacier:** If you want to test immediately, you can use the **AWS CLI** or S3 console to **move the object to Glacier manually**.
  + Alternatively, in the **S3 Console**:
    - Go to your object (testfile.txt).
    - Click **Actions** → **Change Storage Class**.
    - Select **Glacier** and save.

5. Delete the object from the s3 bucket and refresh cache and checkthe smb storage

**6. Restore the Object from Glacier**

Now that the object is in Glacier, you can initiate a restoration process to retrieve it quickly.

* **Restore from Glacier:**
  + Go to your **S3 bucket** and find the object (testfile.txt).
  + Click on the object name.
  + In the **Object details** section, click **Restore**.
  + Select a retrieval option:
    - **Expedited** (fastest retrieval, typically within minutes, but more expensive).
    - **Standard** (may take several hours).
    - **Bulk** (slowest, takes several hours, cheapest).
  + Choose the **restore duration** (e.g., 1 day).
  + Click **Restore**.

**6. Monitor and Download the Object**

* **Monitor the Restore Status:**
  + The object will show a **Restoring** status initially. Once it’s ready, it will show as **Restored**.
  + You can now download the object or use it normally from S3.
* **Download the Object:** Once the restore is complete (which should be faster with **Expedited** retrieval), you can click the **Download** button to retrieve the object.

7. Click on show version and delete marker.

8. Check the resource in s3 bucket and refresh the share.

9. Check resource has restored in volume

10. Refresh cache and check smb storage