

Date: 2/19/2022

Storage- About S3(Simple Storage Service)

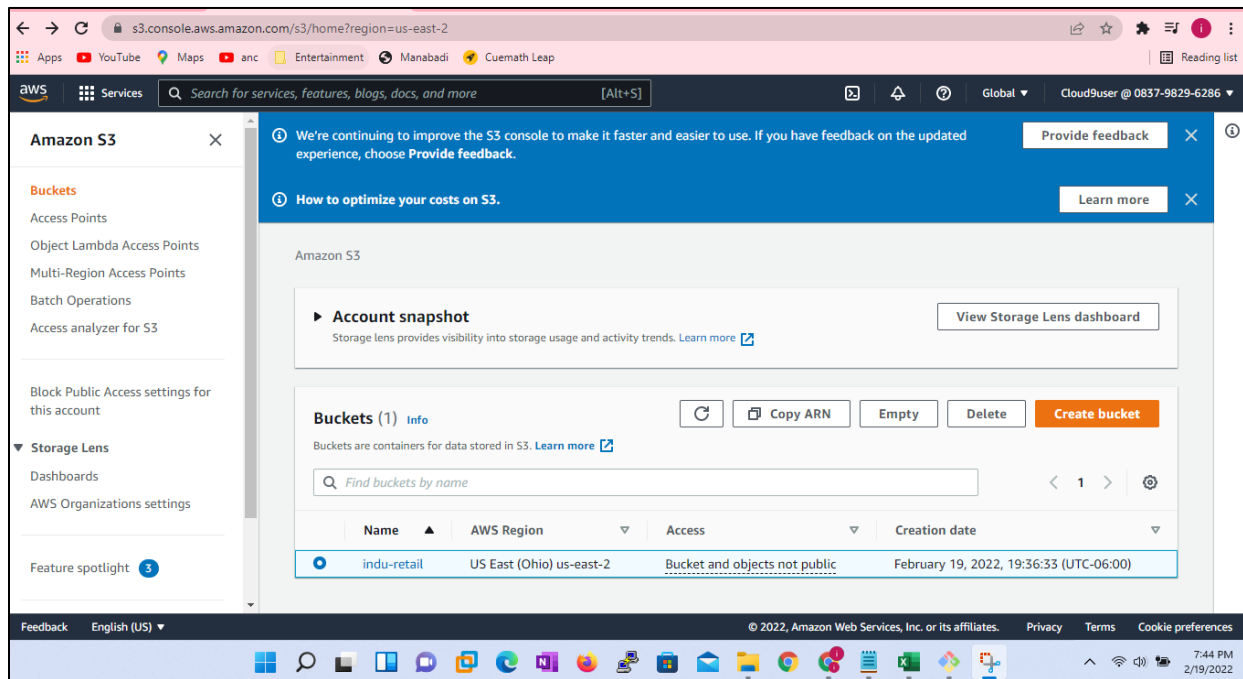


Figure 1 Created bucket with name indu-retail

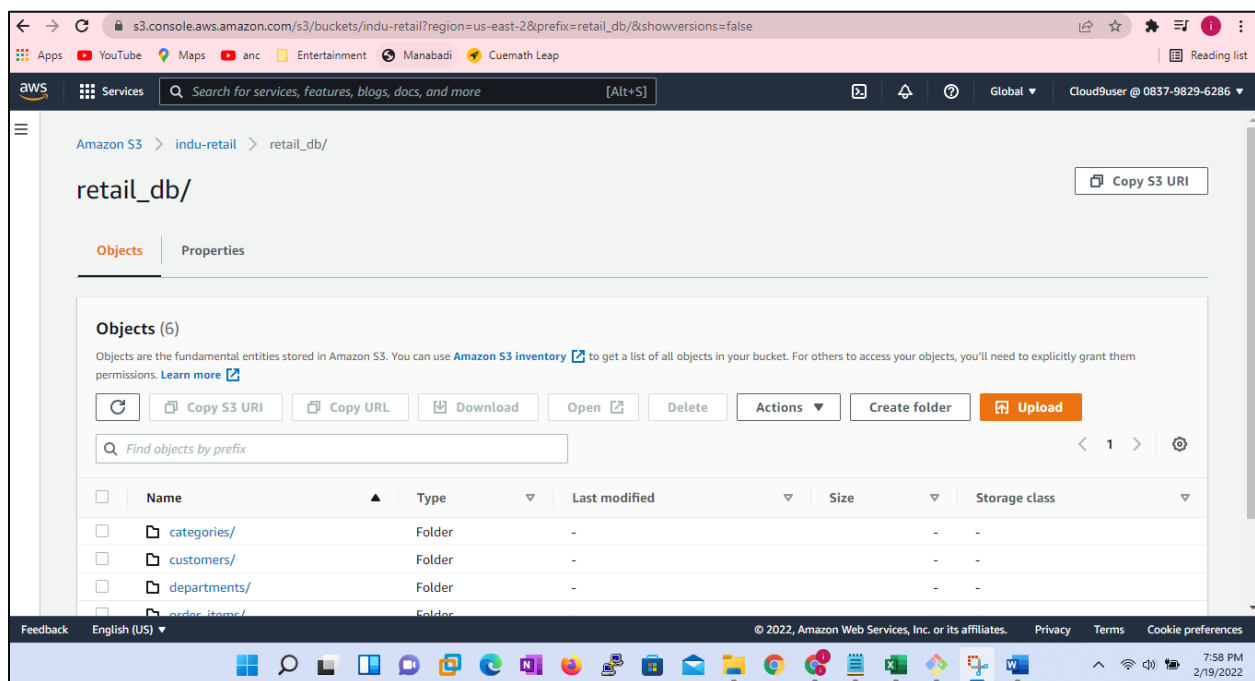


Figure 2 Added folders/files as objects into bucket

Version Control in s3

Once versioning is enabled we can go to Management and add Life cycle rules. We will add a basic life cycle rule to delete previous versions older than 3 days.

- Click on Management then click on **Create Lifecycle Rule**.
- Name: **Archive Old Retail Files**

The screenshot shows the Amazon S3 console's Lifecycle configuration page. The breadcrumb trail is "Amazon S3 > indu-retail > Lifecycle configuration". The page title is "Lifecycle configuration" with an "Info" link. A descriptive paragraph explains that lifecycle rules define actions for objects over time. Below this, there's a section for "Lifecycle rules (1)" with a "Learn more" link and buttons for "View details", "Edit", "Delete", and "Actions". A search bar "Find lifecycle rules by name" is present. A table lists the existing rule:

| | Lifecycle rule name | Status | Scope | Current version actions | Noncurrent versions actions | Expired object delete markers | Incomplete multipart uploads |
|-----------------------|--------------------------|---------|----------|-------------------------|-----------------------------|-------------------------------|------------------------------|
| <input type="radio"/> | Archive Old Retail Files | Enabled | Filtered | - | Permanently delete | - | - |

The bottom of the screenshot shows the Windows taskbar with various application icons and the system clock at 8:26 PM on 2/19/2022.

The screenshot shows the Amazon S3 console's object view for the "orders/" prefix. The breadcrumb trail is "Amazon S3 > indu-retail > retail_db/ > orders/". There's a "Copy S3 URI" button. The "Objects" tab is selected, showing "Objects (2)". A descriptive paragraph explains that objects are fundamental entities. Below, there are buttons for "Copy S3 URI", "Copy URL", "Download", "Open", "Delete", "Actions", "Create folder", and "Upload". A search bar "Find objects by prefix" and a "Show versions" toggle are also present. A table lists the objects:

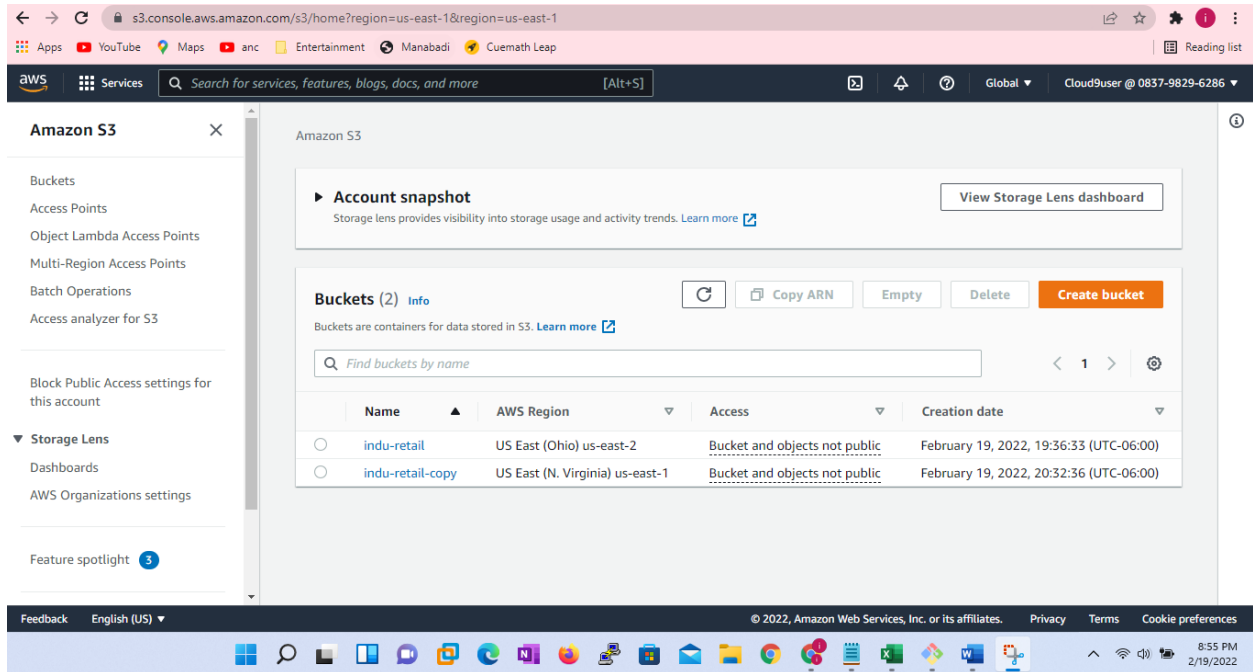
| <input type="checkbox"/> | Name | Type | Version ID | Last modified | Size | Storage class |
|--------------------------|------------|------|--------------------------------|---|--------|---------------|
| <input type="checkbox"/> | part-00000 | - | ojN7ocRKXzPVxVyHM0ovVZHjJZLbgw | February 19, 2022, 20:13:32 (UTC-06:00) | 2.9 MB | Standard |
| <input type="checkbox"/> | part-00000 | - | null | February 19, 2022, 19:57:47 (UTC-06:00) | 2.9 MB | Standard |

The bottom of the screenshot shows the Windows taskbar with various application icons and the system clock at 8:27 PM on 2/19/2022.

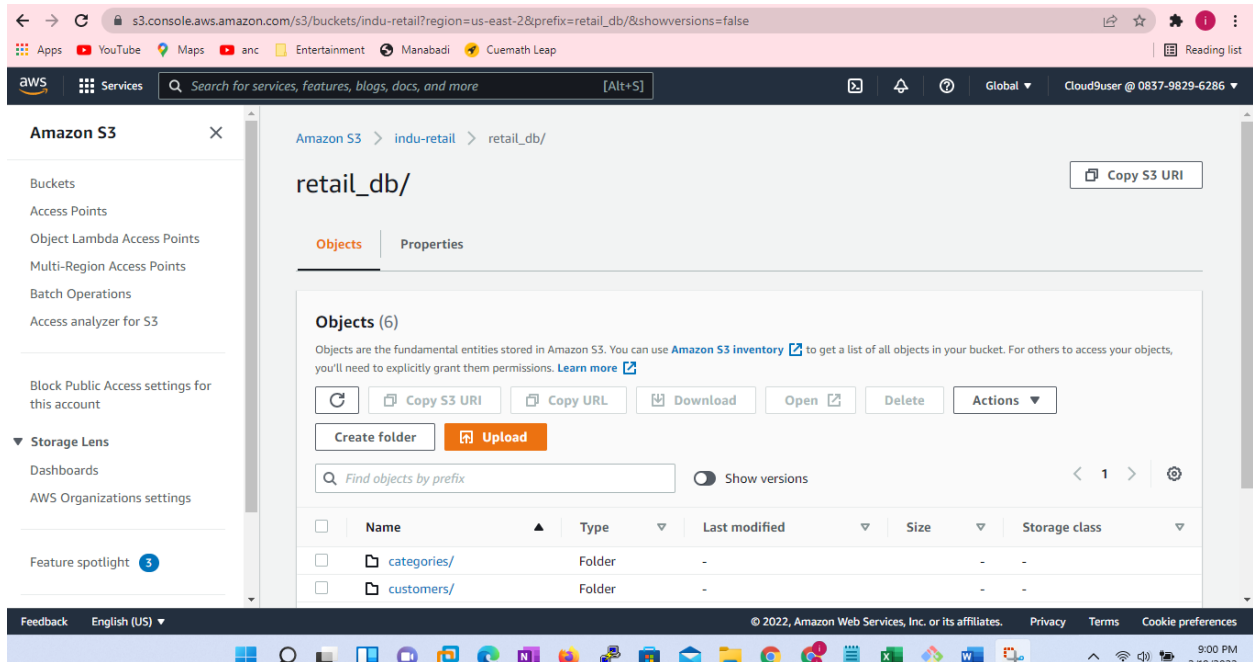
Enabling the version control

Cross Region Replication:

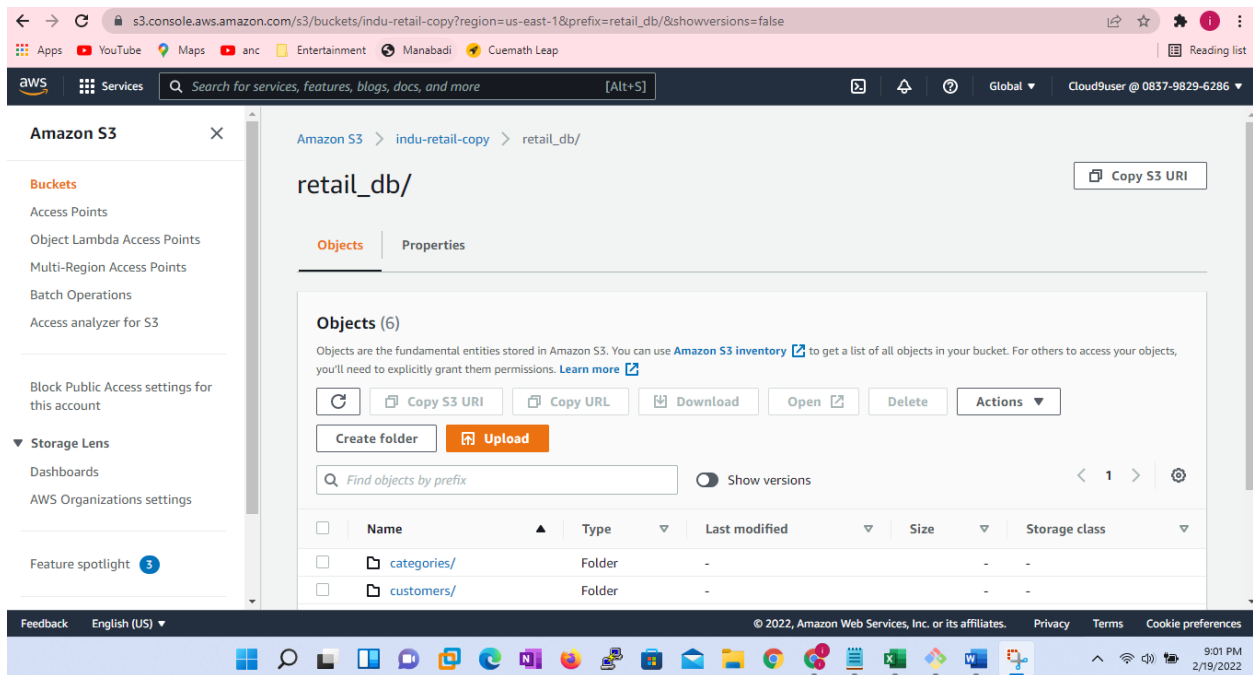
First we created the new bucket as a copy of first bucket in different region



- Create a role by the name **AWSS3FullAccessRole** with **AmazonS3FullAccess** policy.
- Go to the bucket (**indu-retail** in my case).
- Click on Management and go to **Replication rules**.
- Click on **Create replication rule**.
- Replication rule name: **Retail replication**
- Status: **Enabled**
- Choose a Rule Scope: Choose to **Limit the scope of this rule using one or more filters**
- Prefix: **retail_db** (all objects under retail_db will be replicated)
- Enter bucket name: **indu-retail-copy**
- Make sure to enable versioning on the destination bucket.
- Make sure to choose **AWSS3FullAccessRole** and click on Save.

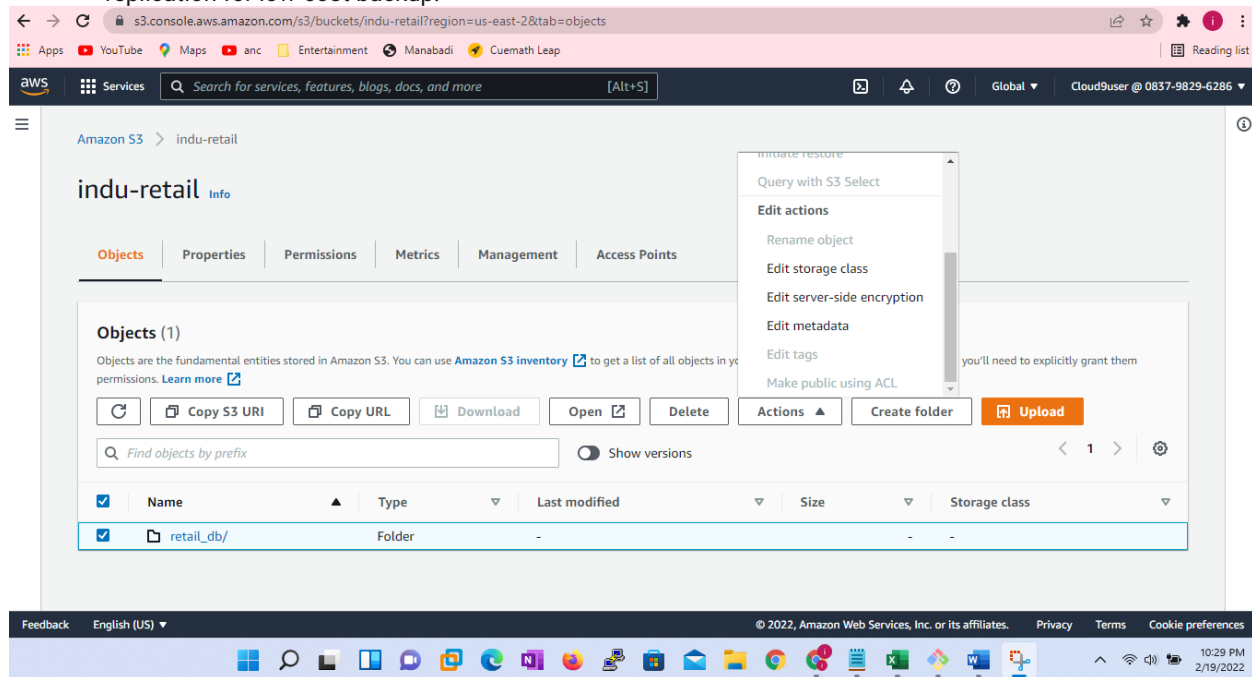


Objects are replicated into the copy of the bucket in different AWS region



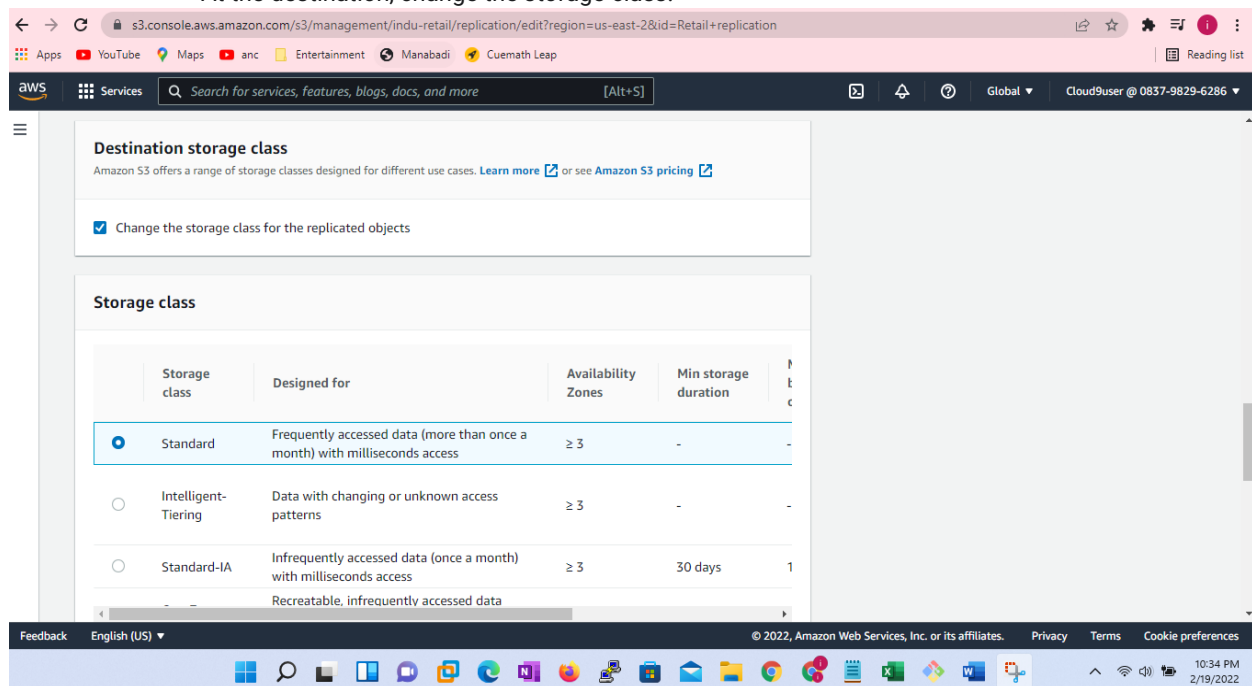
S3 Storage Classes:

- We can edit the storage class at the level of an object or folder. It is available under **Actions**.
- We can configure the storage class as part of the **Replication Rule**. It is useful when you are using replication for low-cost backup.

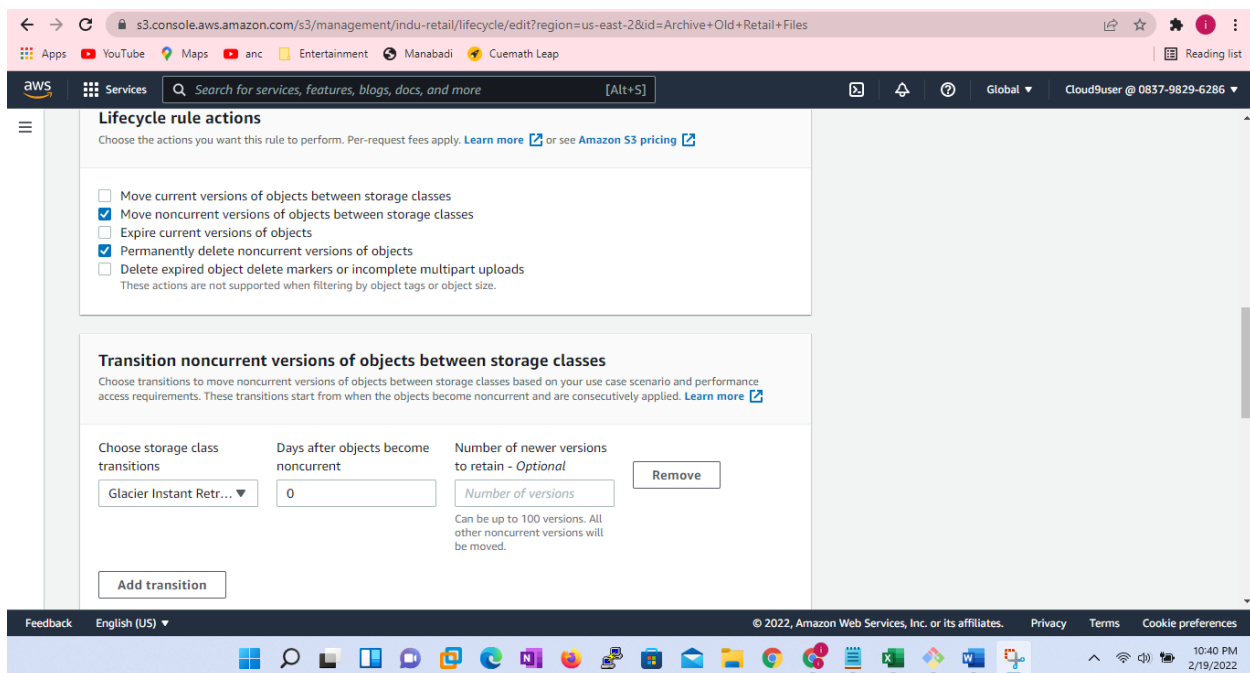


We can configure the storage class as part of the **Replication Rule**. It is useful when you are using replication for low-cost backup.

- Click on edit for replication rule.
- At the destination, change the storage class.



We can also configure the storage class as part of the Life Cycle. Update lifecycle rule **Archive Old Retail Files** as follows.
Change the storage class of noncurrent versions to Glacier with 0 days.



Managing Objects in S3 using CLI - Lab

```
ON Command Prompt - aws s3 help
Microsoft Windows [Version 10.0.22000.493]
(c) Microsoft Corporation. All rights reserved.

C:\Users\pchra>aws s3 help

s3
^^

Description
*****

This section explains prominent concepts and notations in the set of
high-level S3 commands provided.

Path Argument Type
*****

Whenever using a command, at least one path argument must be
specified. There are two types of path arguments: "LocalPath" and
"S3Uri".

"LocalPath": represents the path of a local file or directory. It can
be written as an absolute path or relative path.

"S3Uri": represents the location of a S3 object, prefix, or bucket.
This must be written in the form "s3://mybucket/mykey" where
"mybucket" is the specified S3 bucket, "mykey" is the specified S3
key. The path argument must begin with "s3://" in order to denote
that the path argument refers to a S3 object. Note that prefixes are
separated by forward slashes. For example, if the S3 object "myobject"
had the prefix "myprefix", the S3 key would be "myprefix/myobject",
-- More --
```

Copy all the folders along with files in the retail_db folder from the local file system to s3. Make sure to copy these folders along with the files in them

```
Command Prompt
C:\>aws configure
AWS Access Key ID [*****ANX6]: AKIARHAWEQ3PCD5SANX6
AWS Secret Access Key [*****d/na]: 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
Default region name [us east]: us-east-2
Default output format [None]:

C:\>aws s3 ls s3://indu-retail
      PRE retail_db/

C:\>aws s3 ls s3://indu-retail --recursive
2022-02-19 19:38:54      0 retail_db/
2022-02-19 20:52:56    1087 retail_db/categories/part-00000
2022-02-19 20:52:57   966154 retail_db/customers/part-00000
2022-02-19 20:52:57     66 retail_db/departments/part-00000
2022-02-19 20:53:00   5581078 retail_db/order_items/part-00000
2022-02-19 20:53:03   3068827 retail_db/orders/part-00000
2022-02-19 20:53:03   175500 retail_db/products/part-00000

C:\>aws s3 ls s3://indu-retail --summarize
      PRE retail_db/

Total Objects: 0
Total Size: 0

C:\>aws s3 ls s3://indu-retail/retail_db --summarize
      PRE retail_db/

Total Objects: 0
Total Size: 0

C:\>aws s3 ls s3://indu-retail/retail_db --summarize --recursive
2022-02-19 19:38:54      0 retail_db/
2022-02-19 20:52:56    1087 retail_db/categories/part-00000
2022-02-19 20:52:57   966154 retail_db/customers/part-00000
2022-02-19 20:52:57     66 retail_db/departments/part-00000
2022-02-19 20:53:00   5581078 retail_db/order_items/part-00000
2022-02-19 20:53:03   3068827 retail_db/orders/part-00000
2022-02-19 20:53:03   175500 retail_db/products/part-00000

Total Objects: 7
Total Size: 9792712

C:\>aws s3 ls s3://indu-retail/retail_db --summarize --recursive --human-readable
```

```
C:\>aws s3 ls s3://indu-retail/retail_db --summarize --recursive --human-readable
2022-02-19 19:38:54      0 Bytes retail_db/
2022-02-19 20:52:56    1.1 KiB retail_db/categories/part-00000
2022-02-19 20:52:57  943.5 KiB retail_db/customers/part-00000
2022-02-19 20:52:57     66 Bytes retail_db/departments/part-00000
2022-02-19 20:53:00    5.3 MiB retail_db/order_items/part-00000
2022-02-19 20:53:03    2.9 MiB retail_db/orders/part-00000
2022-02-19 20:53:03  171.4 KiB retail_db/products/part-00000

Total Objects: 7
Total Size: 9.3 MiB
```

```
C:\>aws s3 rm s3://indu-retail/retail_db
delete: s3://indu-retail/retail_db

C:\>aws s3 cp development/practice/retail_db/departments s3://indu-retail/retail_db/departments/ --recursive
upload: development\practice\retail_db\departments\part-00000 to s3://indu-retail/retail_db/departments/part-00000

C:\>aws s3 cp development/practice/retail_db/categories s3://indu-retail/retail_db/categories/ --recursive
upload: development\practice\retail_db\categories\part-00000 to s3://indu-retail/retail_db/categories/part-00000

C:\>aws s3 cp development/practice/retail_db/products s3://indu-retail/retail_db/products/ --recursive
upload: development\practice\retail_db\products\part-00000 to s3://indu-retail/retail_db/products/part-00000

C:\>aws s3 cp development/practice/retail_db/orders s3://indu-retail/retail_db/orders/ --recursive
upload: development\practice\retail_db\orders\part-00000 to s3://indu-retail/retail_db/orders/part-00000

C:\>aws s3 cp development/practice/retail_db/customers s3://indu-retail/retail_db/customers/ --recursive
upload: development\practice\retail_db\customers\part-00000 to s3://indu-retail/retail_db/customers/part-00000

C:\>aws s3 ls indu-retail --recursive
2022-02-20 00:22:27      1087 retail_db/categories/part-00000
2022-02-20 00:24:09    966154 retail_db/customers/part-00000
2022-02-20 00:20:57       66 retail_db/departments/part-00000
2022-02-20 00:23:30   3068827 retail_db/orders/part-00000
2022-02-20 00:18:48       66 retail_db/part-00000
2022-02-20 00:23:00    175500 retail_db/products/part-00000
```