

Cloud Computing - Practical 2

⊛ S3 Storage :-

Amazon Simple Storage Service (S3) is a massively scalable storage services based on object storage technology. It provides a very high level of durability with high availability and high performance.

Data can be accessed from anywhere via Internet through Amazon console and powerful API.

S3 storage provides key features :-

- 1] Buckets - Data is stored in Bucket. Each bucket can store unlimited amount of unstructured data.
- 2] Elastic scalability - S3 has no storage limit.
- 3] Flexible data structure - Each object is identified using unique key and we can use metadata.
- 4] API - The S3 API provided both as REST and SOAP interface has become an industry standard.
- 5] Permission - Assign permission at the bucket.

④ S3 usecases

1] Backup and Archeival

One of the primary use case for S3 storage is backup and archival organization can leverage S3 durability and availability to ensure the safety and longevity of their data.

S3's redundant architecture and distributed data storage make it possible to store critical data that needs to be accessed quickly & securely.

2] Content Distribution

By leveraging S3 global network & edge locations, content creators can distribute their files seamlessly to end users, reducing latency and improving user experience. S3 integrates with content delivery network (CDN) for better.

3] Big Data and Analytics

S3's low cost storage objects make it suitable for storing large volumes raw data.

Organizations can ingest data from various sources into S3, including log files, sensor data and social media feeds.

It integrates with Apache Hadoop and Apache Spark enables business to process and analyse data at scale.

Common Use Cases :-

- 1) Web and Mobile Application : Build and deploy scalable web & mobile app
- 2) Data Analytics : Process and analyse large datasets and build machine learning model.

AWS offers many different tools & products for enterprise and software developers in 245 countries & territories. It is important because it provides a range of offerings for individual as well as public & private sector.

4) Amazon EC2

Amazon Elastic Compute Cloud (EC2) provides on demand scalable computing capacity in AWS cloud.

Using EC2 reduces hardware cost so you can use Amazon EC2 to ~~low~~ develop and deploy application faster.

EC2 instance is a virtual server in AWS cloud when you launch an EC2 instance the instance type that you specify determines hardware available to your instance.

④ Steps for S3

Follow These steps to create a bucket in your Amazon simple storage services.

- 1) log on to your AWS console. If you don't have an account you can create it for free as Amazon provides a 1-year free tier to its new users.
- 2) In the search bar located at the top of your AWS console "search Amazon S3"
- 3) Click on "S3 - Scalable storage in cloud and proceed further.
- 4) Click on "Create Bucket". A new pane will pop up where you have to enter the detail and configure your bucket.
- 5) Enter the name of your bucket. We are giving some rules for naming a bucket in S3.
 - should be unique across all S3 bucket
 - Name must be bet 3 & 63 chara long
 - Buckets name can consist only of lowercases.
 - Should not end with s3 alias
- 6) Choose an AWS region nearest to your location or where you want your data to reside.

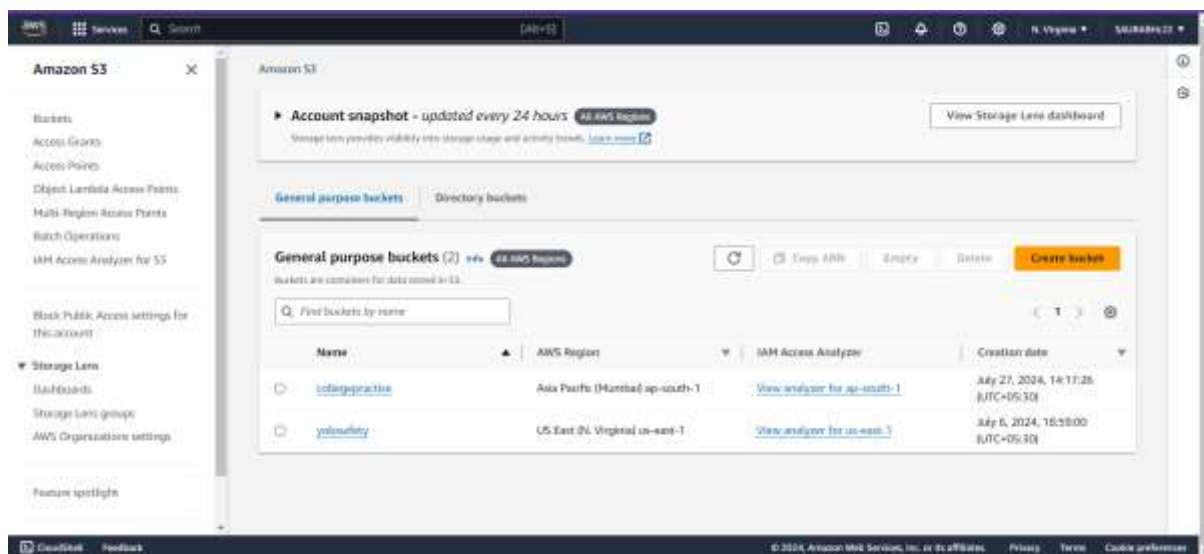
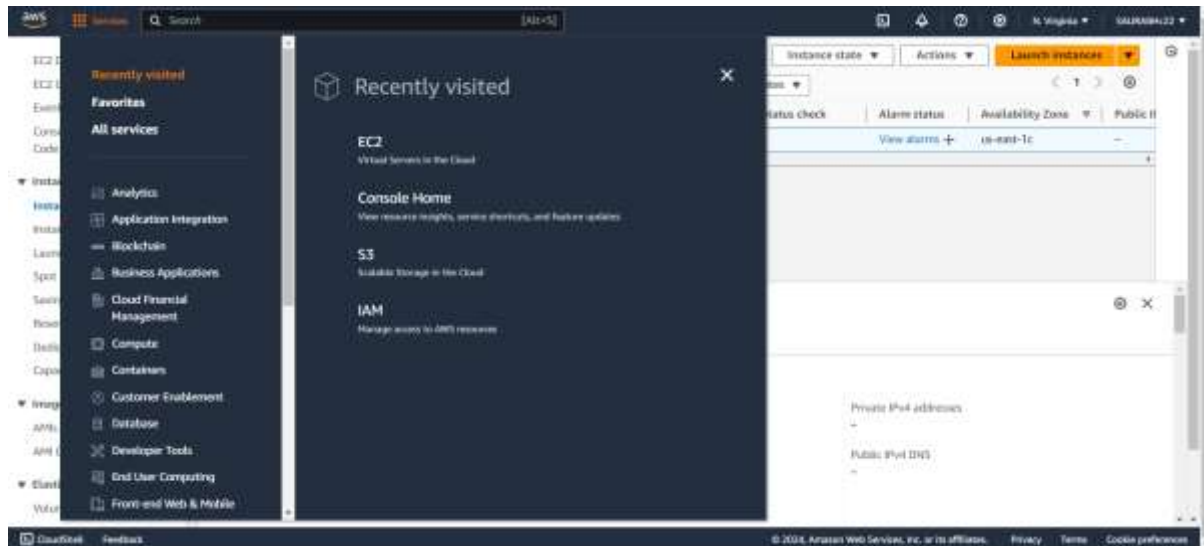
In Bucket versioning category choose disabled bucket versioning is helpful when we want to.

CLOUD COMPUTING – PRACTICAL 2

Name: Saurabh Chaudhari

Roll no:- A005

MSc SDS – 2nd Year



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Amazon S3

Buckets

Create bucket

Create bucket

Buckets are containers for data stored in S3.

General configuration

AWS Region

Asia Pacific (Mumbai) ap-south-1

Bucket name

practical2

Copy settings from existing bucket - optional

Only the bucket settings in the following configurations are copied.

Choose bucket

From: s3://bucket/prefix

Object Ownership

Control ownership of objects within this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

https://ap-south-1.console.aws.amazon.com/s3/home?region=ap-south-1

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Block all public access

Saving this setting will take time to turning on all four settings below. Each of the following settings are independent of one another.

☒ Block public access to buckets and objects granted through new access control lists (ACLs)

☒ Block public access to buckets and objects granted through any access control lists (ACLs)

☒ Block public access to buckets and objects granted through new public bucket or access point policies

☒ Block public and cross-account access to buckets and objects through any public bucket or access point policies

Bucket Versioning

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to protect, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintentional user actions and application failures. [Learn more](#)

Bucket Versioning

☒ Disable

☐ Enable

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Successfully created bucket "practical2"

To upload files and folders, or to configure additional bucket settings, choose [View details](#).

Amazon S3

Buckets

Account snapshot - updated every 24 hours

View Storage Lens dashboard

General purpose buckets

Directory buckets

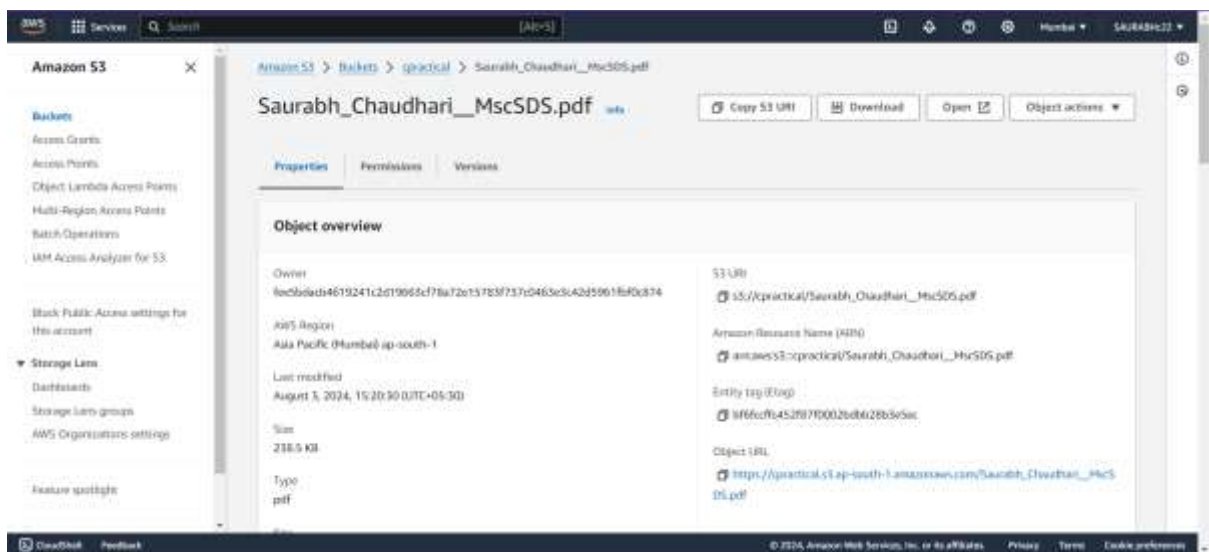
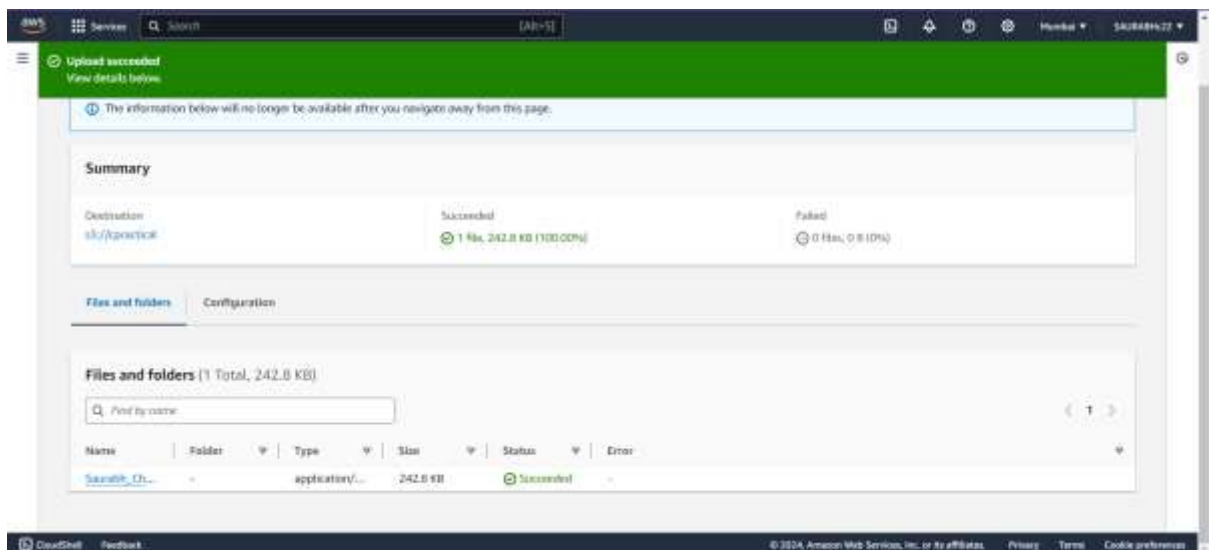
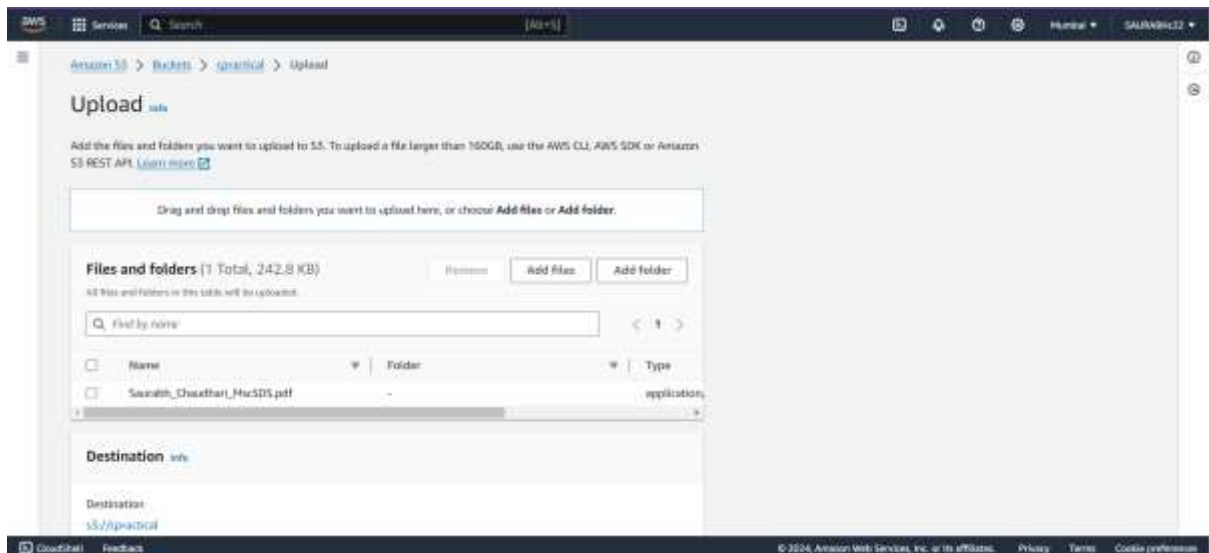
General purpose buckets (5)

Find buckets by name

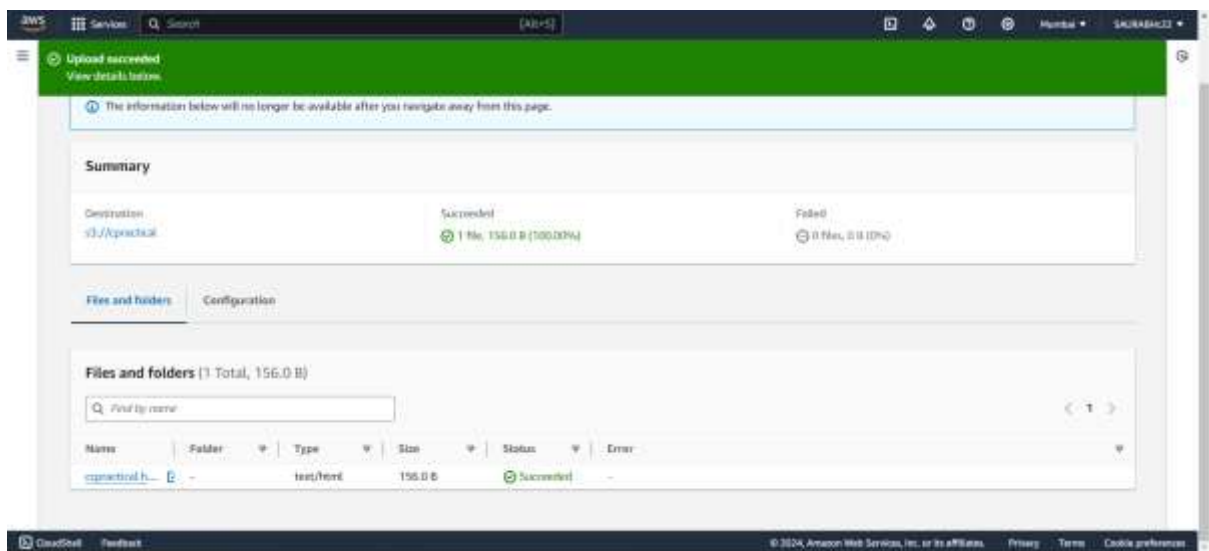
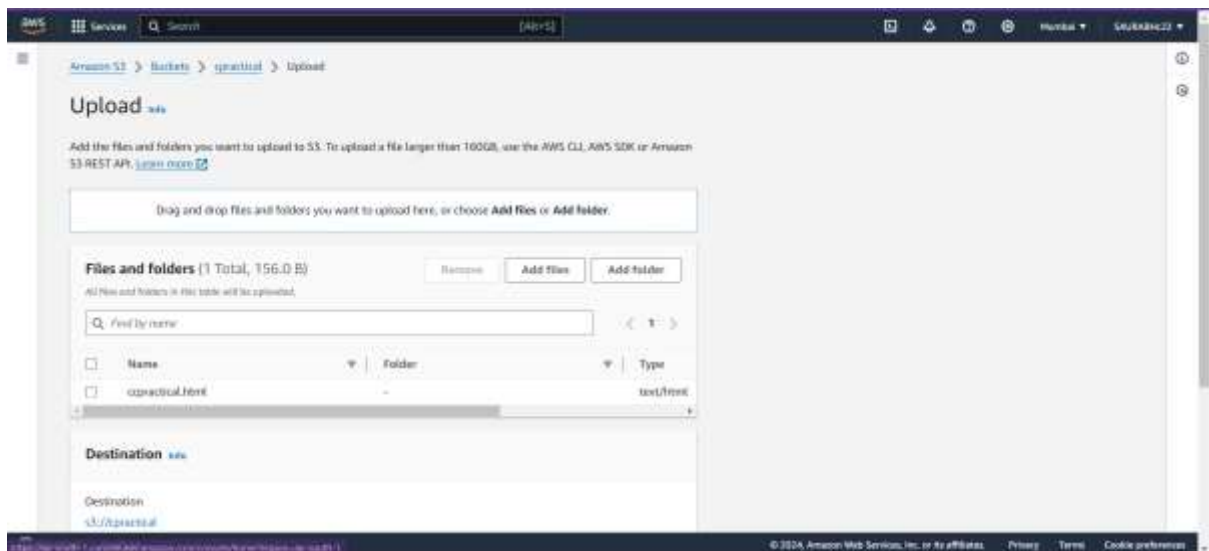
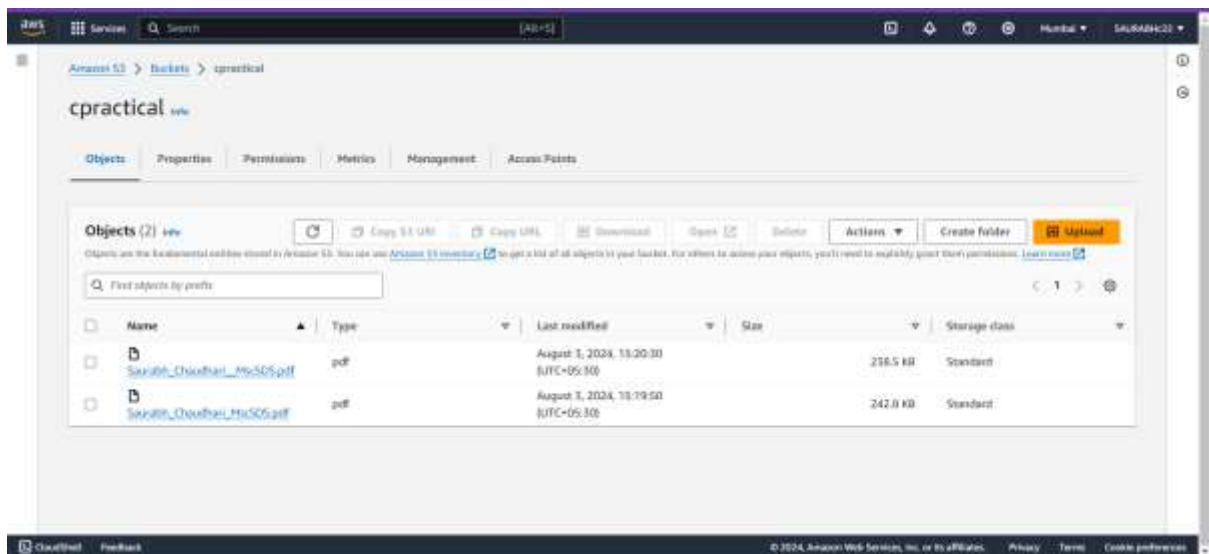
Name	AWS Region	IAM Access Analyzer	Creation date
collegereactive	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	July 27, 2024, 14:17:26 (UTC+05:30)
practical	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	August 3, 2024, 15:16:33 (UTC+05:30)
pilotsefety	US East (N. Virginia) us-east-1	View analyzer for us-east-1	July 6, 2024, 18:59:00 (UTC+05:30)

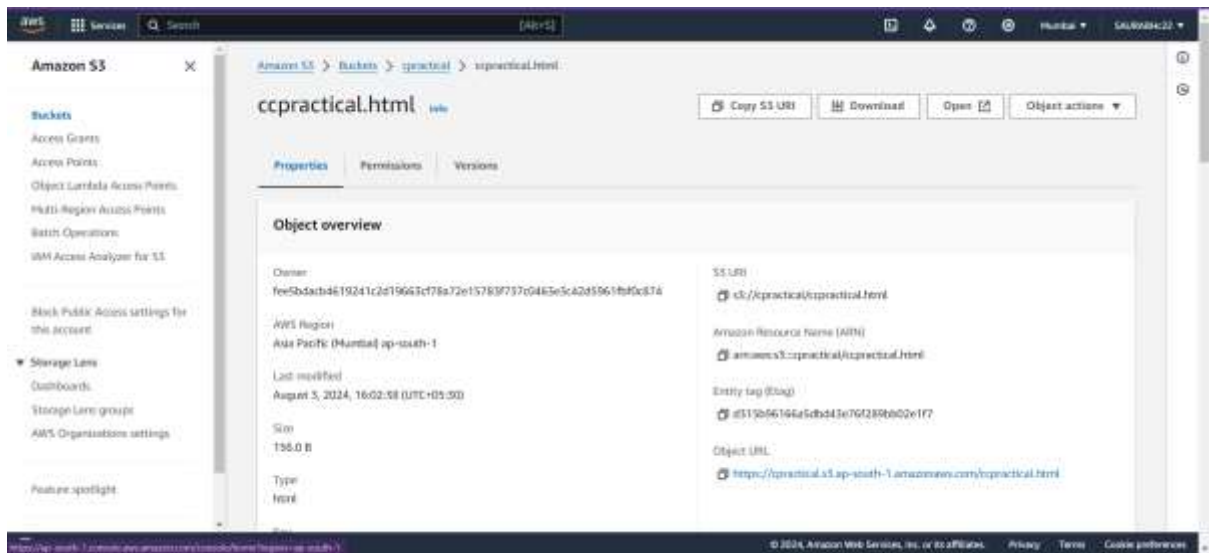
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My First Heading

My first paragraph.