Bansilal Ramnath Agarwal Charitable Trust's
VISHWAKARMA INSTITUTE OF TECHNOLOGY – PUNE

CLOUD COMPUTING

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Experiment No. 05:

TITLE:
To create login into AWS and use S3 Bucket Service for storage.

OBJECTIVES:
1) Create an AWS account and log in to the AWS Management Console.
2) Access the S3 service.
3) Create and configure an S3 bucket for storing files.
4) Upload and manage data in the bucket.

PROBLEM STATEMENT

Cloud storage is a vital service in modern computing, enabling users to store, manage, and retrieve data without worrying about local storage constraints. Amazon Simple Storage Service (Amazon S3) is one of the most widely used cloud storage solutions, providing secure, scalable, and durable object storage.

THEORY:

1) **Cloud Computing Overview**

Cloud computing is the delivery of computing services (servers, storage, databases, networking, software, etc.) over the Internet ("the cloud") to offer faster innovation, flexible resources, and economies of scale.

2) **Amazon Web Services (AWS)**

AWS is a comprehensive cloud platform offering infrastructure as a service (IaaS), platform as a service (PaaS), and software as a service (SaaS). It includes a wide range of tools and services for computing, storage, and networking.

3) **Amazon S3 (Simple Storage Service)**

Amazon S3 is an object storage service that offers industry-leading scalability, data availability, security, and performance.

- **Objects**: Files stored in S3 with metadata.
- **Buckets**: Containers for storing objects.
- **Features**:
    - Virtually unlimited storage.
    - High durability (99.999999999%).
    - Flexible storage classes.
    - Secure data with encryption and access control.

4) **Benefits of S3 Storage**

- Easy to use.
- Pay-as-you-go pricing.
- Integration with multiple AWS services.
- Supports versioning and lifecycle rules.

PROCEDURE:

1) **Prerequisites:**

- A valid email address.
- Internet connection.

2) Procedure:

1. Create an AWS Account
    - Go to https://aws.amazon.com/.
    - Click on Create an AWS Account.
    - Provide required details (email, password, account name).
    - Enter billing information (credit/debit card for verification).
    - Complete identity verification via phone/OTP.
    - Choose the Free Tier plan.

2. Login into AWS
    - Visit AWS Management Console.
    - Enter registered email and password.
    - Complete MFA (if enabled).

3. Access Amazon S3
    - In the AWS console search bar, type S3 and select S3.
    - Click Create Bucket.

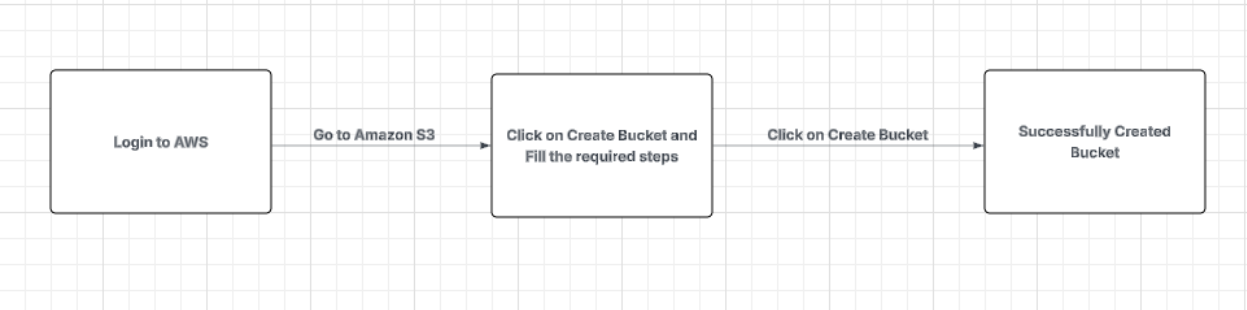
4. Create an S3 Bucket
    - Enter a unique bucket name (e.g., prajwal-s3-storage).
    - Select AWS region (e.g., Asia Pacific (Mumbai)).
    - Keep default settings or enable Versioning if needed.
    - Click Create bucket.

5. Upload Files to S3
    - Open the created bucket.
    - Click Upload.
    - Add files/folders from your system.
    - Click Upload to store them in the bucket.

6. Verify and Manage Storage
    - Check uploaded files in the bucket.
    - Test file access by generating a pre-signed URL or making the file public.
    - Manage permissions via Access Control List (ACL) or Bucket Policy.

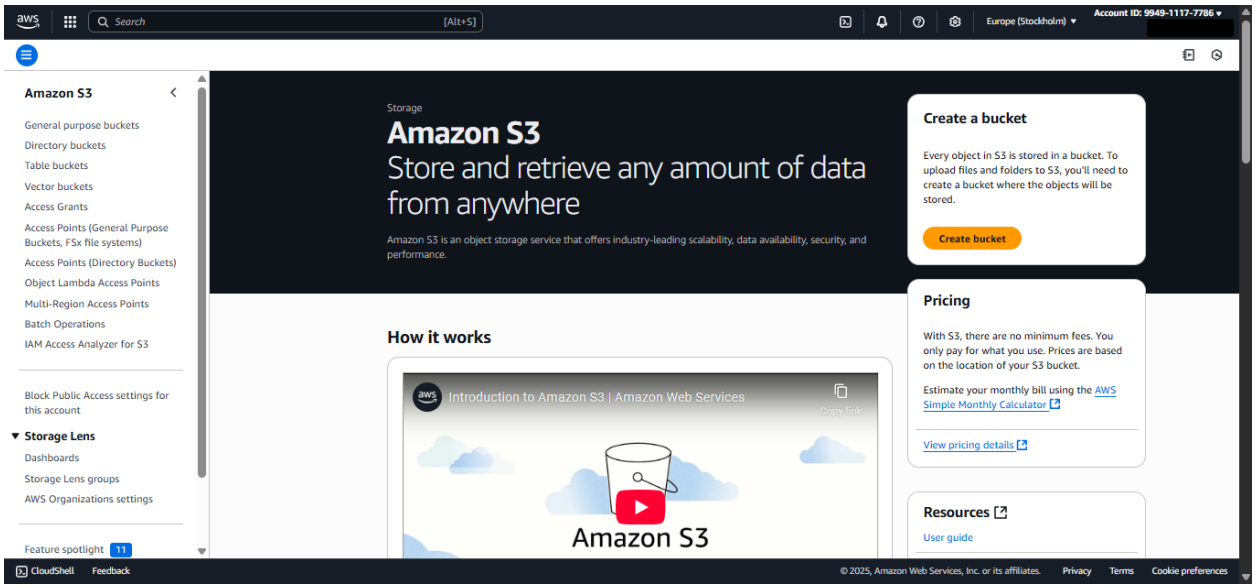
SCREENSHOTS:

Flowchart:

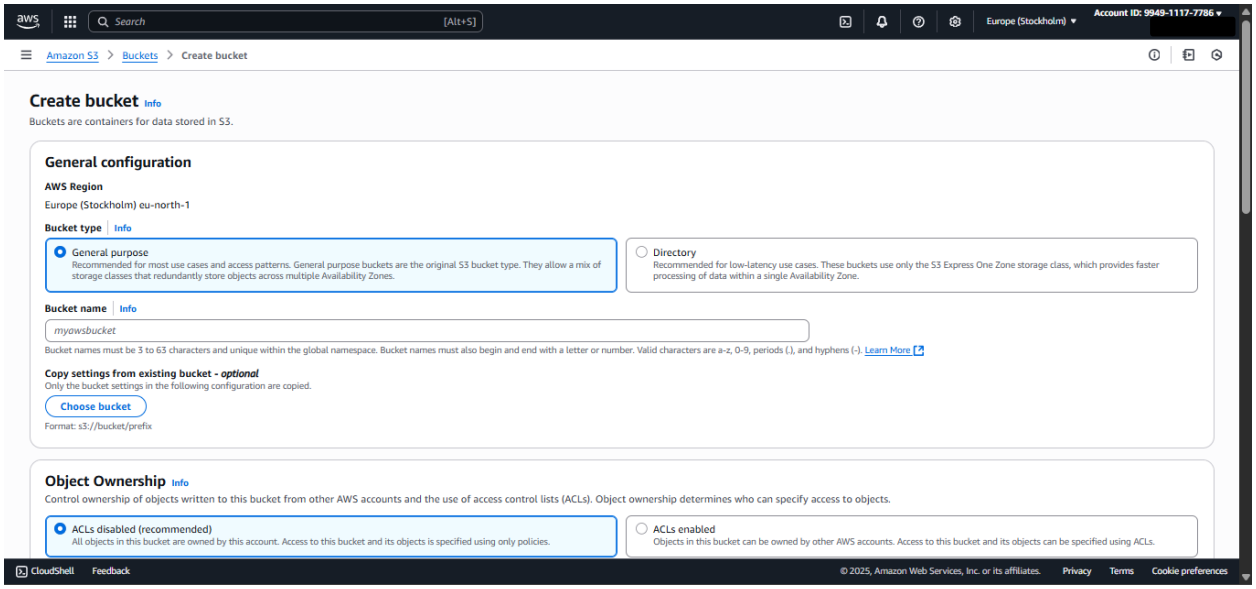


Steps:

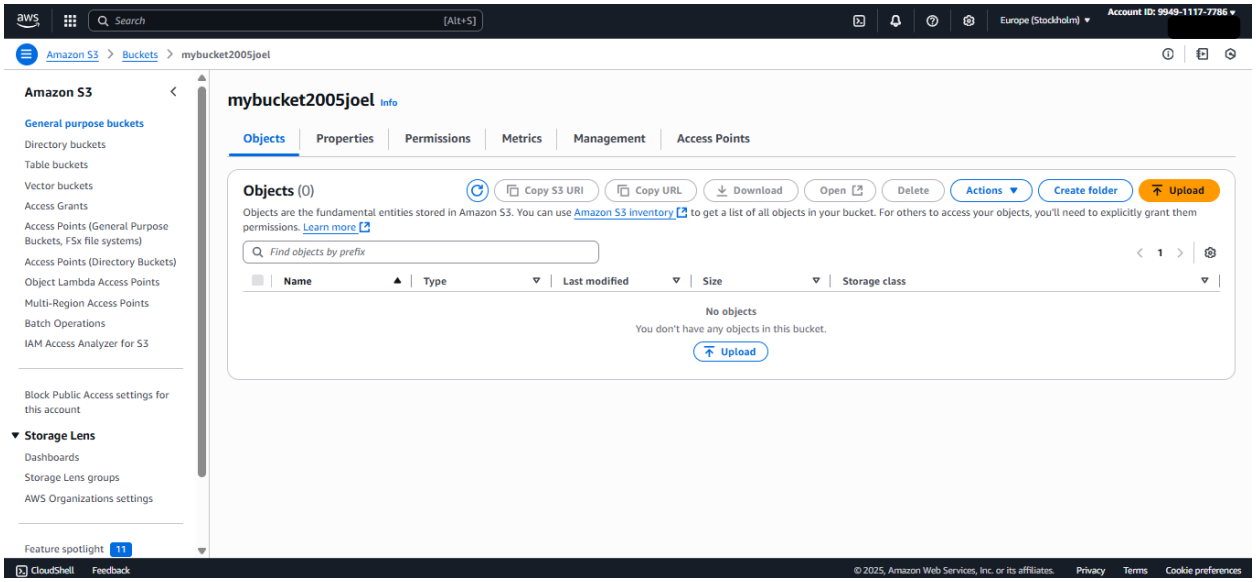
1) Login with you AWS account
2) Go to the Amazon S3 option.



3) Click Create Button



4) Enter the name and the required details and click Create



CONCLUSION:

In this experiment, we successfully:

- Created and logged into an AWS account.
- Accessed the Amazon S3 service.
- Created an S3 bucket and uploaded files for storage. This demonstrated how cloud storage services like Amazon S3 provide scalable, secure,

and cost-effective solutions for storing and managing data. The simplicity of use, combined with AWS's robust security and integration capabilities, makes it an excellent choice for both individuals and enterprises.