St. JOSEPH'S GROUP OF INSTITUTIONS
OMR, CHENNAI - 119

aws

Placement Empowerment Program

Cloud Computing and DevOps Centre

Use Cloud Storage

"Create a storage bucket on your cloud platform and upload/download files. Configure access permissions for the bucket."

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Introduction

Cloud storage is a scalable and reliable solution for storing and managing data in the cloud. It enables users to store, retrieve, and share files efficiently without the need for on-premises hardware. Cloud storage services offer features like versioning, encryption, access control, and lifecycle management, making them ideal for various applications, from backups to data analytics

Overview

This Proof of Concept (POC) demonstrates how to create a cloud storage bucket, upload/download files, and configure access permissions. The POC will utilize **Amazon S3 (Simple Storage Service)** as the cloud storage platform, allowing users to securely manage their data. The same principles can be applied to other cloud providers like Google Cloud Storage or Azure Blob Storage.

Objective

The primary objectives of this POC are:

- **Create a storage bucket** in AWS S3.
- **Upload and download files** to/from the bucket.
- **Configure access permissions** to manage who can read, write, or delete objects in the bucket.
- **Test access control** by restricting or granting permissions to specific users or groups.

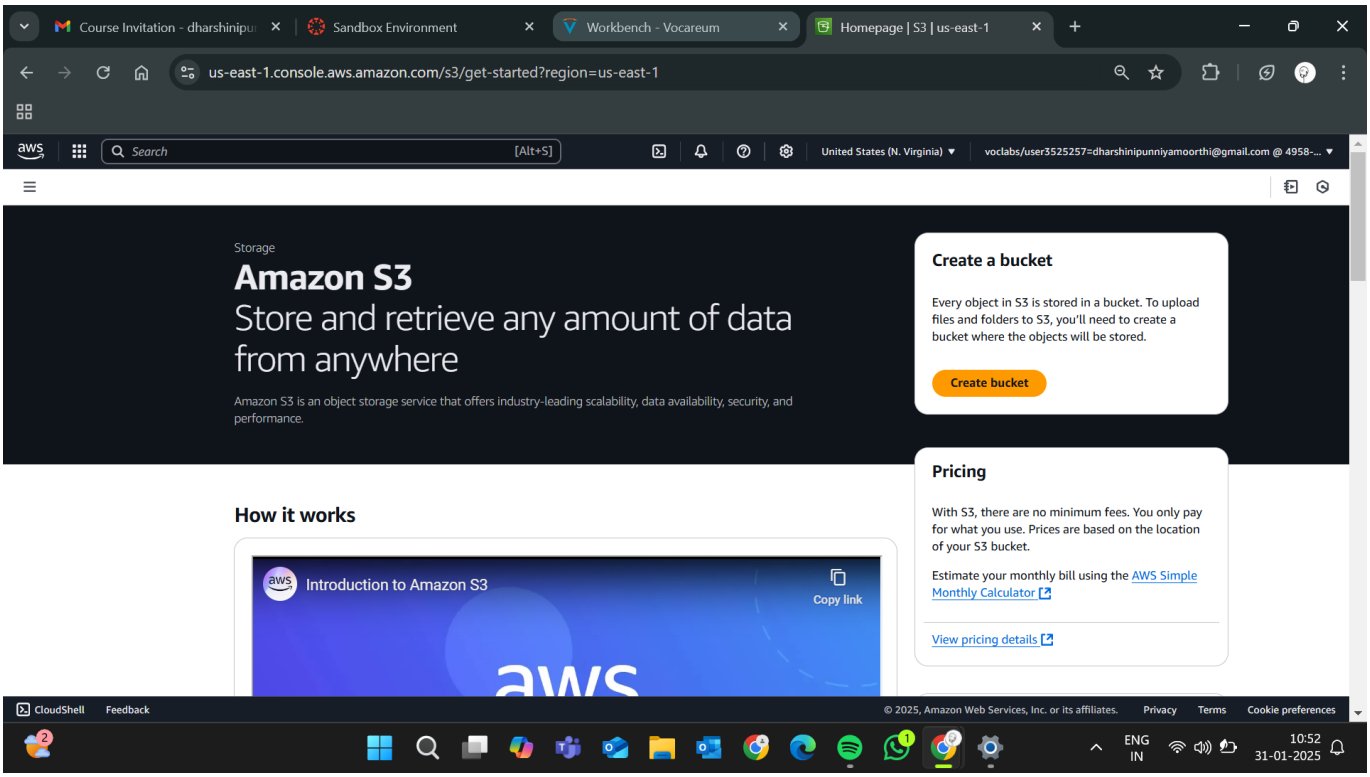
Important Concepts

- **Scalability:** Cloud storage grows with demand, eliminating the need for additional infrastructure.
- **Security:** Configurable access control and encryption protect sensitive data.
- **Durability & Reliability:** AWS S3 provides high availability and data redundancy.
- **Cost-Effectiveness:** Pay only for the storage used, reducing overall costs.
- **Easy Integration:** Cloud storage can be integrated with other cloud services like AWS Lambda, CloudFront, and RDS for advanced applications.

Step-by-Step Overview

Step1:

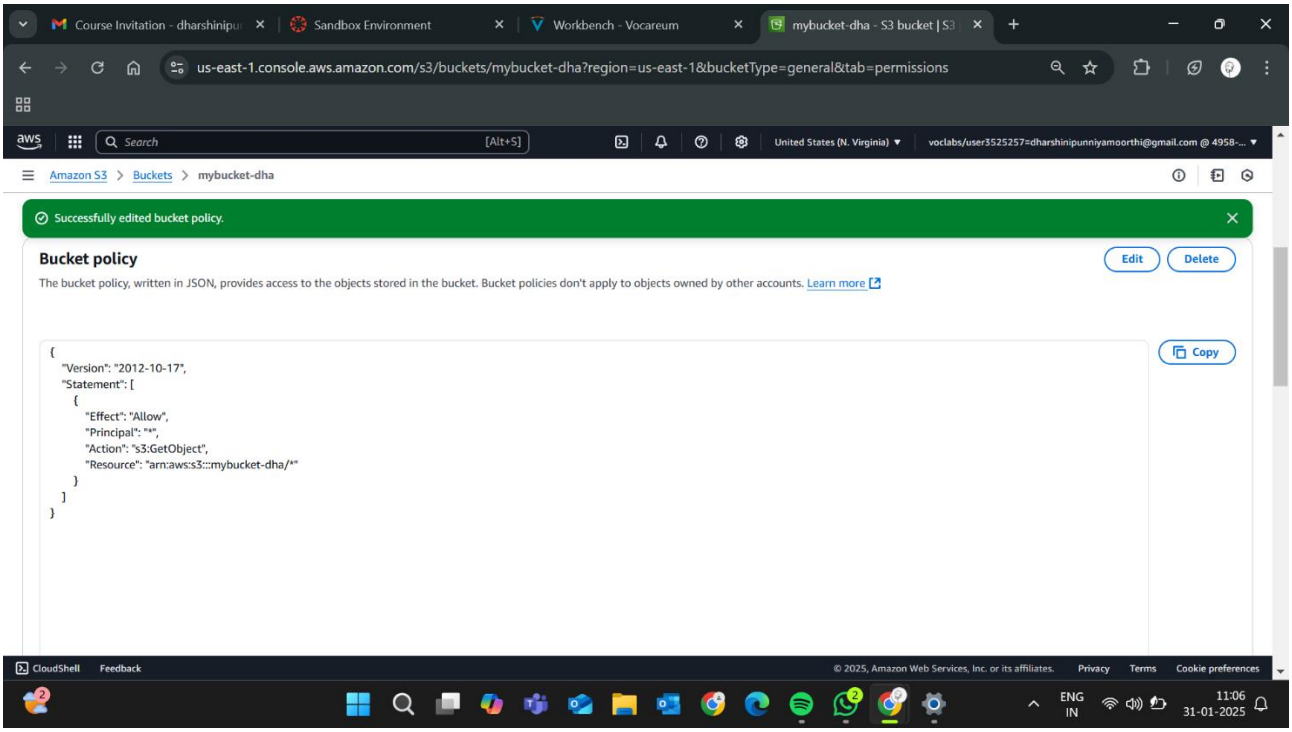
Go to the AWS Management Console, Search for and click on S3



Step 2 :

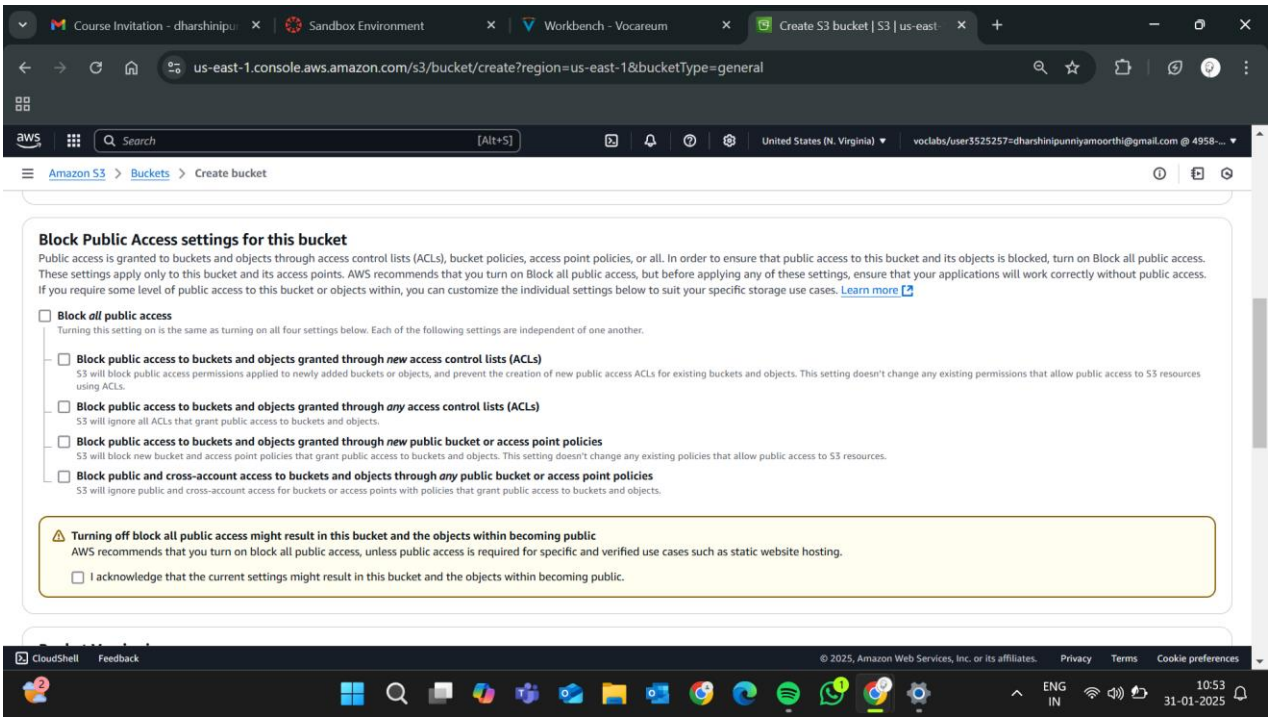
Create an S3 Storage Bucket

1. Navigate to **Amazon S3** service.
2. Click on **"Create bucket"** and provide a unique bucket name



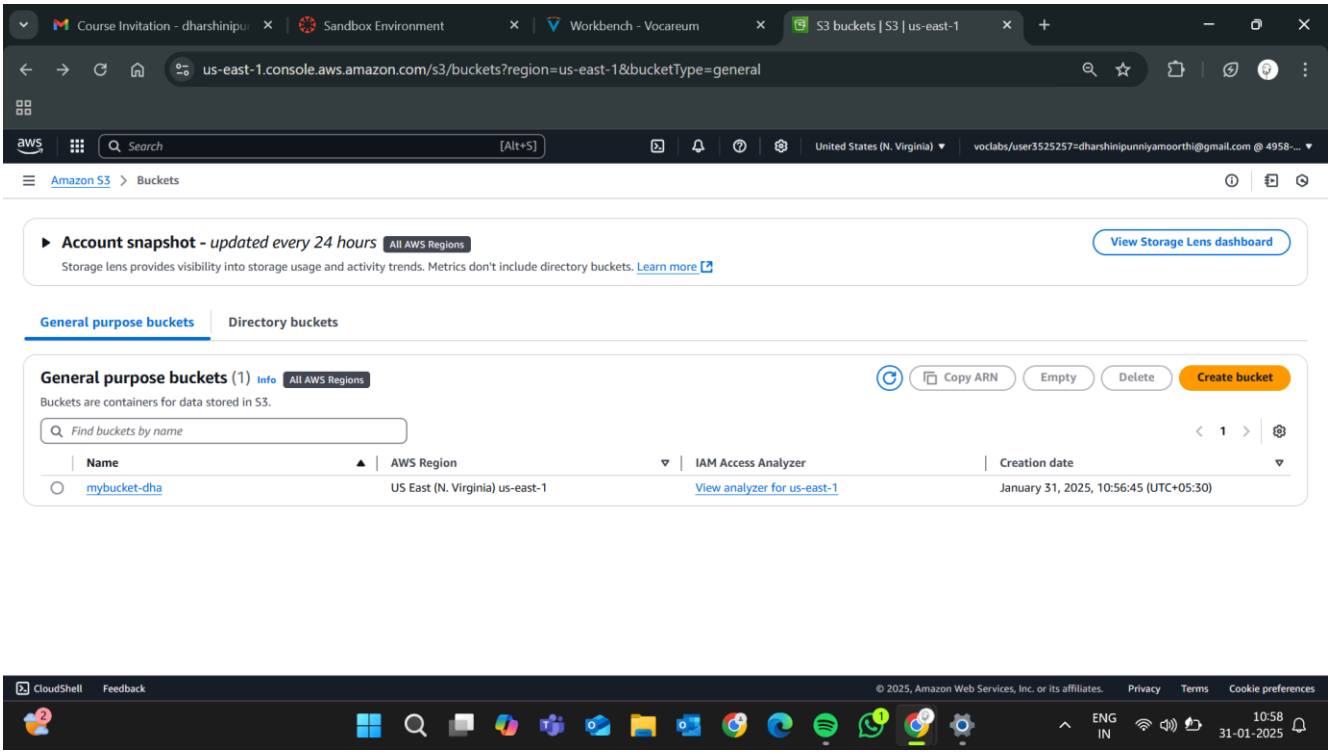
Step 3:

Leave **"Block all public access"** enabled for now (you can modify it later).



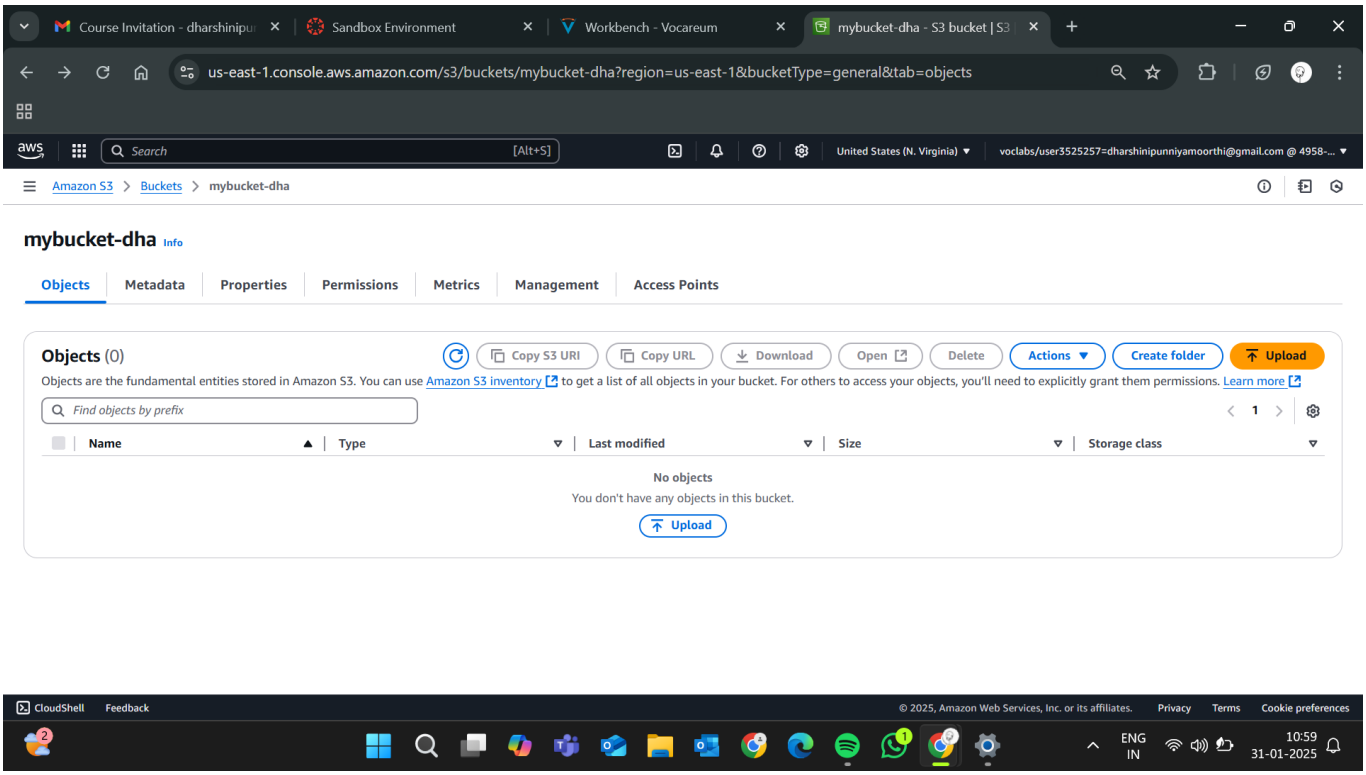
Step 4:

Click "Create bucket".



Step 5:

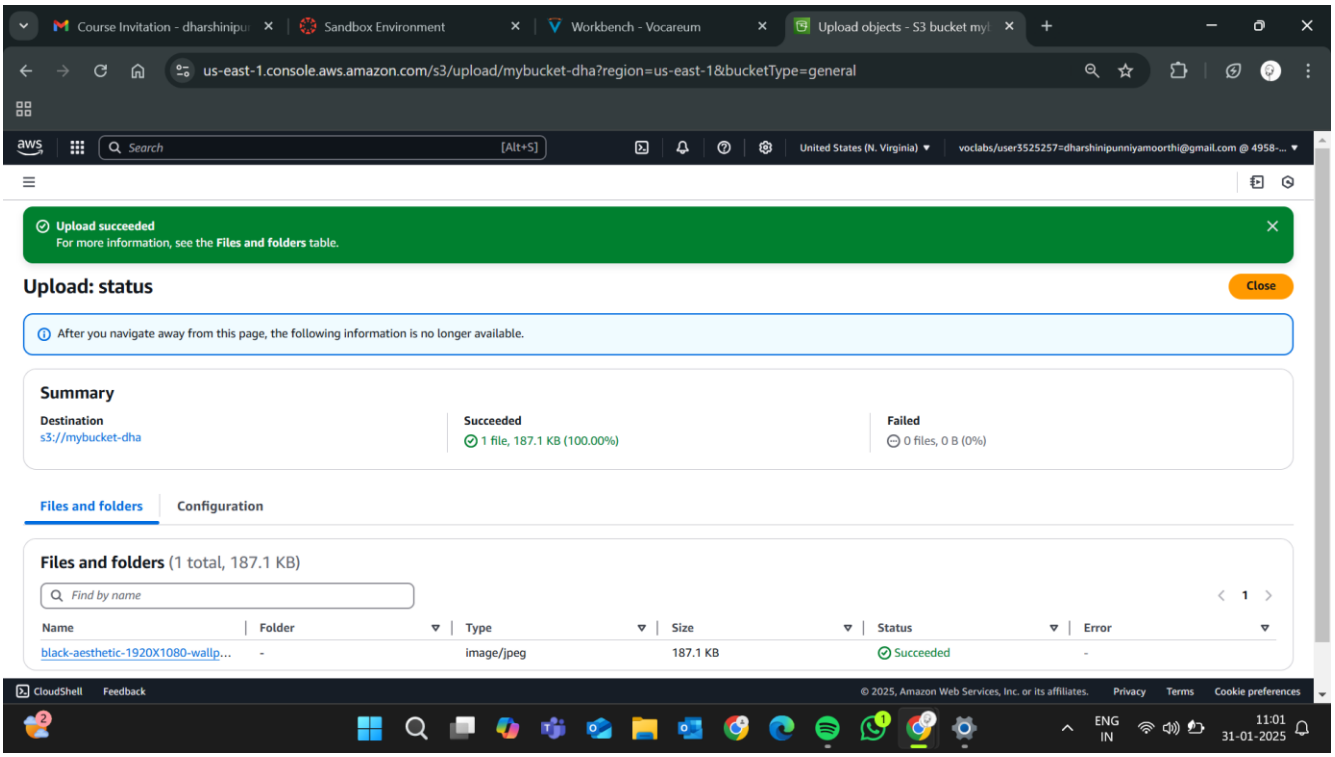
Open your newly created bucket from the S3 console.



Step 6:

Click "Upload" and then,

Drag and drop your file(s) or use the Add files button.Click Upload to complete.

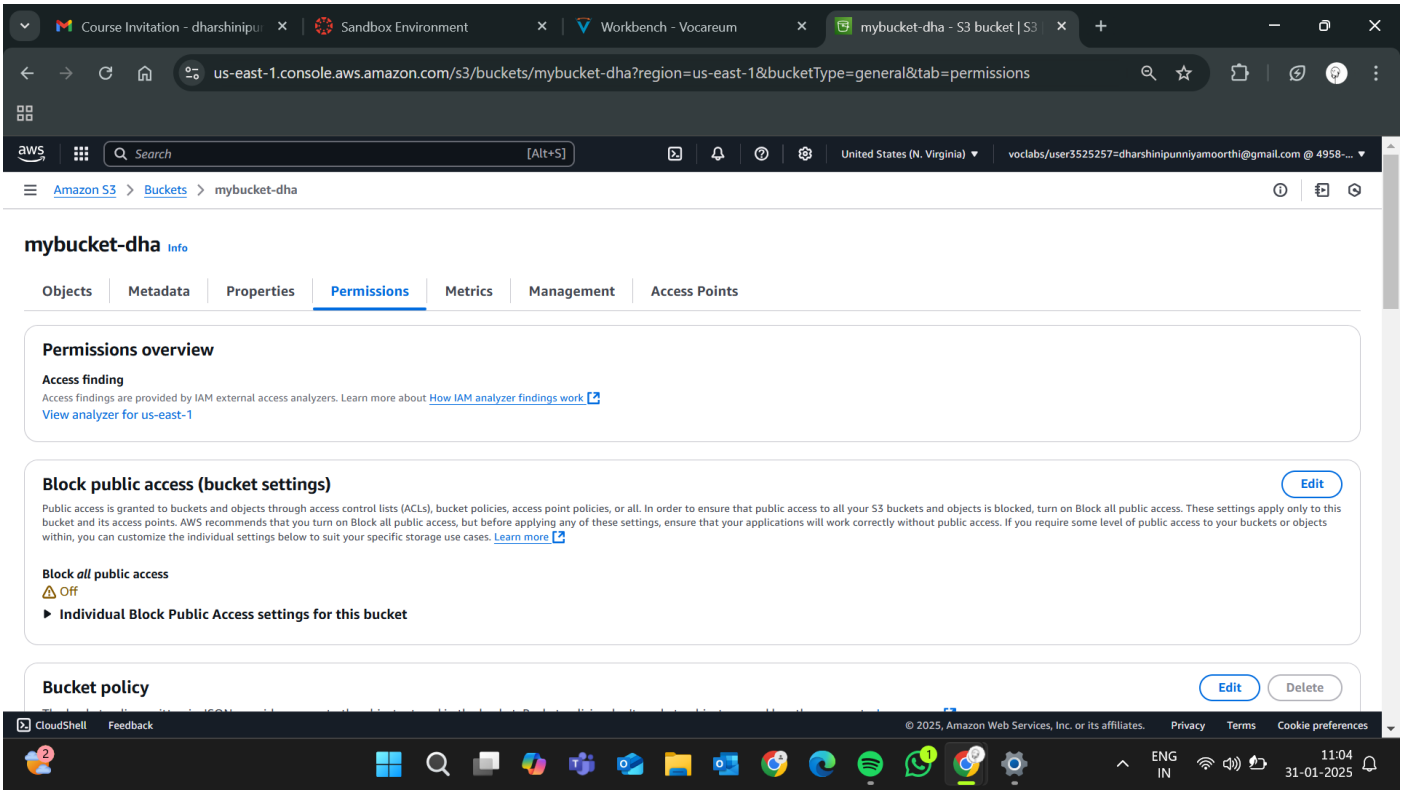


Step 7:

Go to the uploaded file in your bucket. Click the file name to open its details. Select Download to save the file locally.

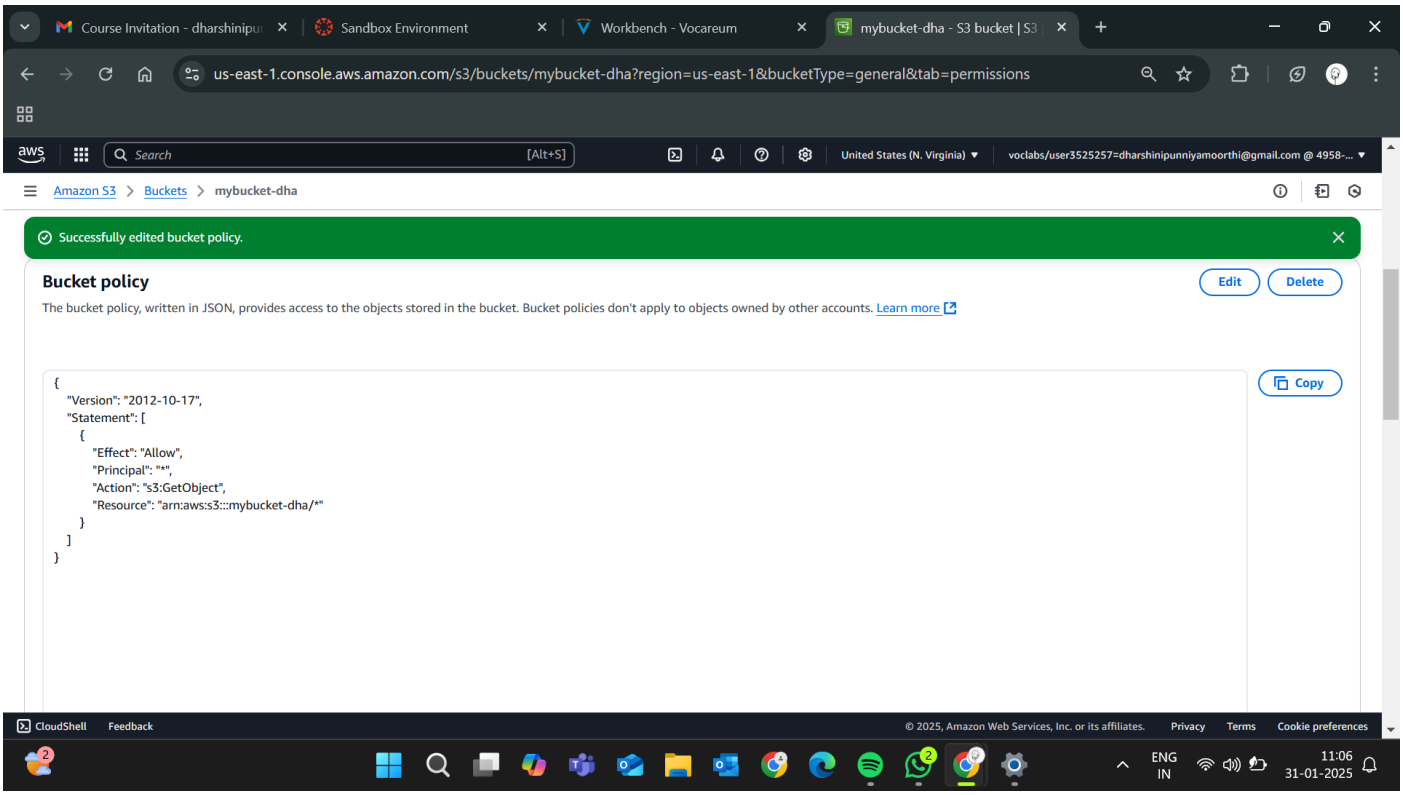
Step 8:

- Open your bucket and navigate to the **"Permissions"** tab.
- Under Block public access, click Edit and uncheck **"Block all public access"**. Confirm by typing **"confirm"** and save.



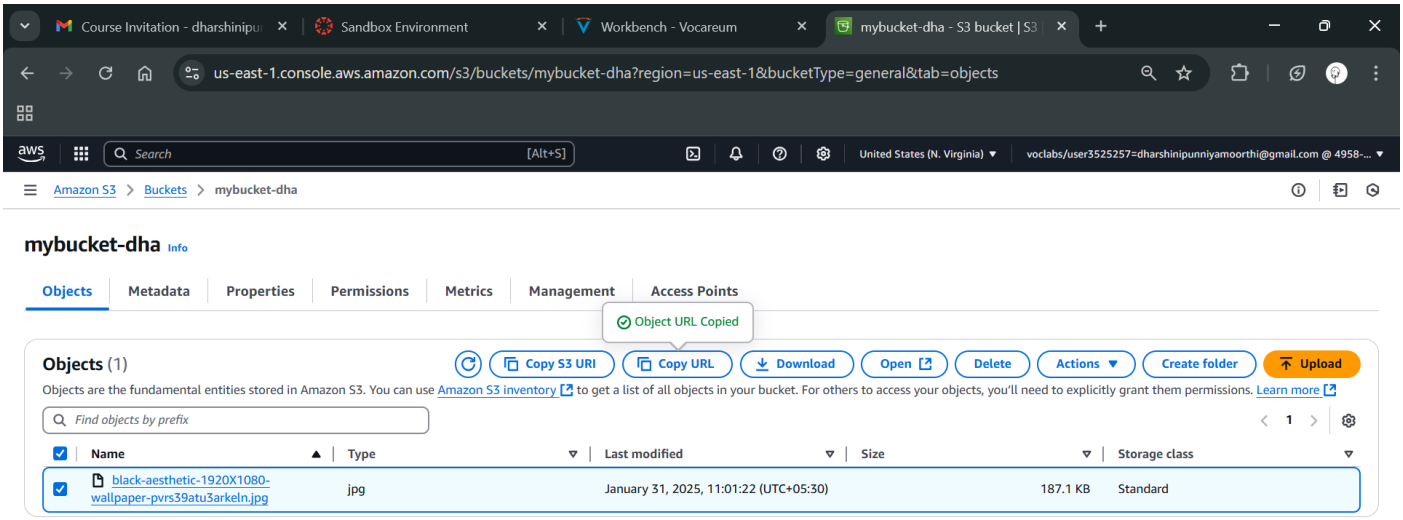
Step 9 :

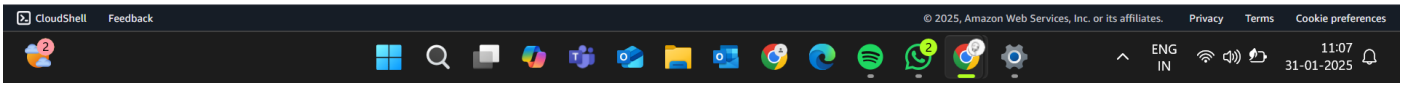
In the **"Permissions"** tab, scroll to Bucket Policy and click Edit.Replace your-bucket-name with your actual bucket name.Save changes.

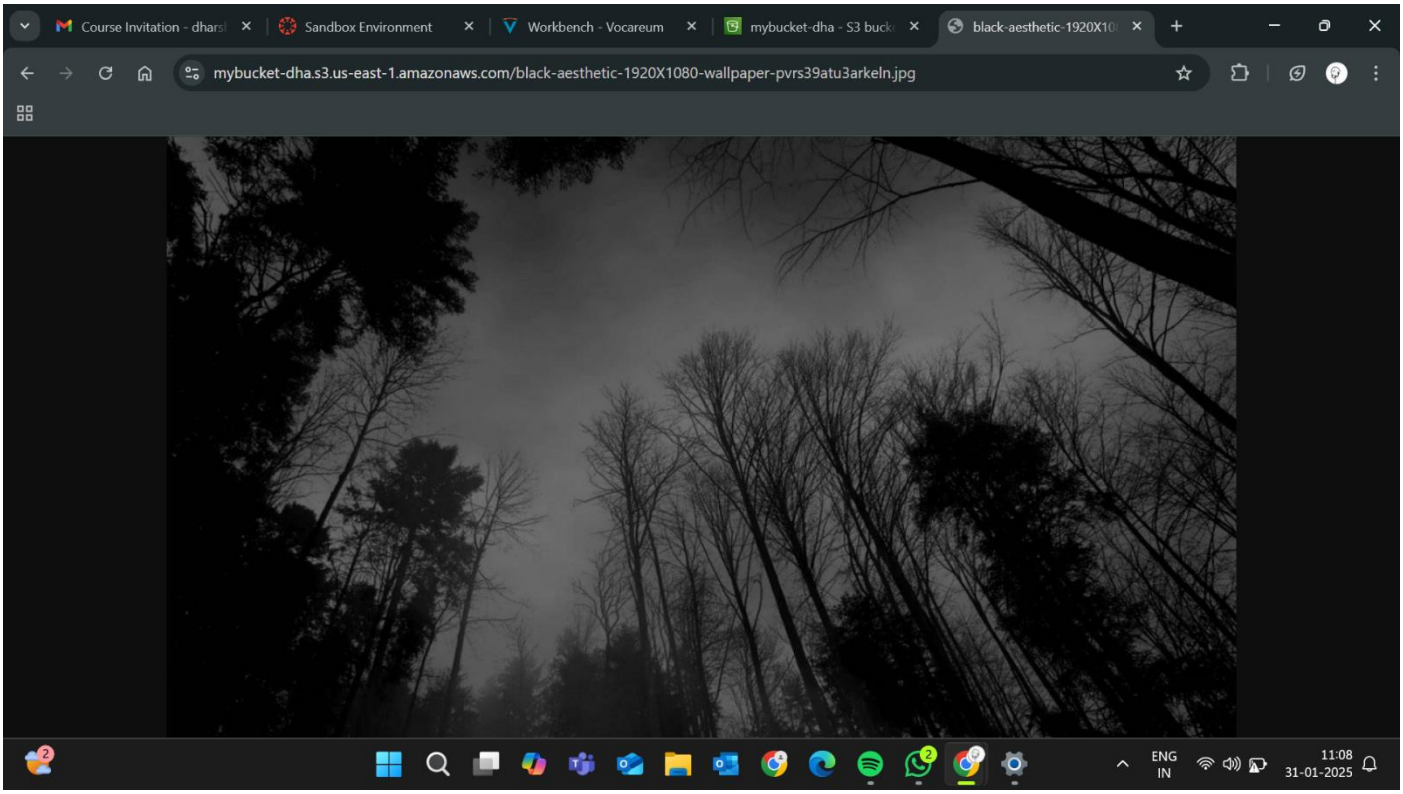


Step10:

Use the S3 bucket URL or public file URL to test access permissions.







Expected Outcome:

By completing this POC, you will:

1. Successfully create an AWS S3 bucket and perform file upload/download operations.
2. Configure and validate access permissions, ensuring secure or public access as needed.

Gain a solid understanding of S3's functionality, enabling its use in real-world cloud-based applications