Vidyavardhini's College of Engineering and Technology

Department of Artificial Intelligence & Data Science

AY: 2023-24

Class:	TE	**Semester:**	VI
Course Code:	CSL605	**Course Name:**	Skill Based Lab course : Cloud Computing

Name of Student:	Soham Ajit Dahanukar
Roll No. :	13
Experiment No.:	5
Title of the Experiment:	To study and Implement Storage as a Service using AWS S3.
Date of Performance:	
Date of Submission:	

Evaluation

Performance Indicator	Max. Marks	Marks Obtained
Performance	5	
Understanding	5	
Journal work and timely submission	10	
Total	20	

Performance Indicator	Exceed Expectations (EE)	Meet Expectations (ME)	Below Expectations (BE)
Performance	4-5	2-3	1
Understanding	4-5	2-3	1
Journal work and timely submission	8-10	5-8	1-4

Checked by

Name of Faculty :

Signature :

Date

Experiment No. 5

Aim: To study and Implement Storage as a Service using OwnCloud/ AWS S3, Glaciers/ Azure Storage.

Objective: Understand the concept of SaaS and implement using Own Cloud which gives universal access to files through a web interface.

Theory:

- SaaS is defined as the software distribution model deployed on the internet in which a cloud service provider provides applications.
- It is also known as "on-demand software" or "pay-as-you-go application". Here the customer licenses their product via SaaS-providers.
- SaaS market is a rapid-growing one, and with this fast-growing service, SaaS will soon become an active cloud service technology for every organization and company.
- In SaaS, the software & the applications associated with it are centrally located on the cloud server. Users can access them via a thin client connecting application, i.e., using a web browser.
- The SaaS provides various applications such as: CRM applications, Solution to Human Resource (HR), Pre-existing Billing & Invoicing systems, Other daily usable application suites.
- Advantages of SaaS
    - Easy to buy: SaaS's cost is based on monthly or yearly fees allowing new organizations to access the world of business at a low-cost, at least lesser than licensed application.
    - Minimization of Hardware Requirement: All SaaS software is hosted remotely & so there is no or lesser need for hardware for the organizations.
    - Special Software: No special software versions are required, as all the users will use the same software version. SaaS reduces IT costs by outsourcing hardware & software maintenance.
    - Low Maintenance: SaaS removes the daily problem of installing, maintaining, and updating software. The set-up cost of SaaS is also less in comparison to enterprise software.
- Disadvantages of SaaS
    - Latency factor: comes due to a variable distance of data between the cloud & the end-user, and hence a possibility of latency may arise while interacting with applications.
    - Internet Connection: is a major issue. Without an internet connection, SaaS applications are unusable.
    - Switching between SaaS vendors in case of any change is very difficult.
    - The SaaS cloud service is not very secure as in-house deployment.

Steps:

Step-1: click on create bucket

Step-2: Give Bucket name & select region for storage

Step-3: Keep object ownership setting as ACLs Disabled as by-default

Step-4: Disable block all public access checkbox

Step-5: Select the checkbox for Turning off block all public access might result in this bucket and the objects within becoming public

Step-6: Keep bucket versioning as disabled and add tags if required.

Step-7: Keep default encryption disabled and click on create bucket button

You can now see the successful creation of your bucket

Step-8: now click on the bucket that you have created

Step-9: You can either create a folder here or upload an existing file in the bucket

Step-10: now click on upload button and click on add files button browse your local machine and select which file you need to upload on S3 next click on upload button at bottom right end

Now you can check the upload status screen

Now click on close button

Step-11: Select properties and scroll down to Static website hosting option which is disabled now click on Edit option on right side

Step-12: Enable the radio button and specify the file name in Index document which you have added in S3

Scroll down and save the changes at bottom right

Step-13: Click on Permissions Tab

Step-14: In bucket policy click on Edit option

Step 15- after clicking on edit button paste the following code in bucket policy

```
{
        "Version": "2012-10-17",
        "Statement": [
                { "Sid": "PublicReadGetObject",
                "Effect": "Allow",
                 "Principal": "*",
```

```
                "Action": [
                        "s3:GetObject"
                        ],
                        "Resource": [
                                "arn:aws:s3:::Bucket-Name/*"
                                ]
                        }
]
}
```

Note-Make sure that you add your bucket name in the code above

Scroll down and click on Save Changes button

Step-16: open your html file and click on Object URL

Step-17: Now for delete files click on checkbox of your file and then click on Delete Button.

Write permanently delete and click on delete object button

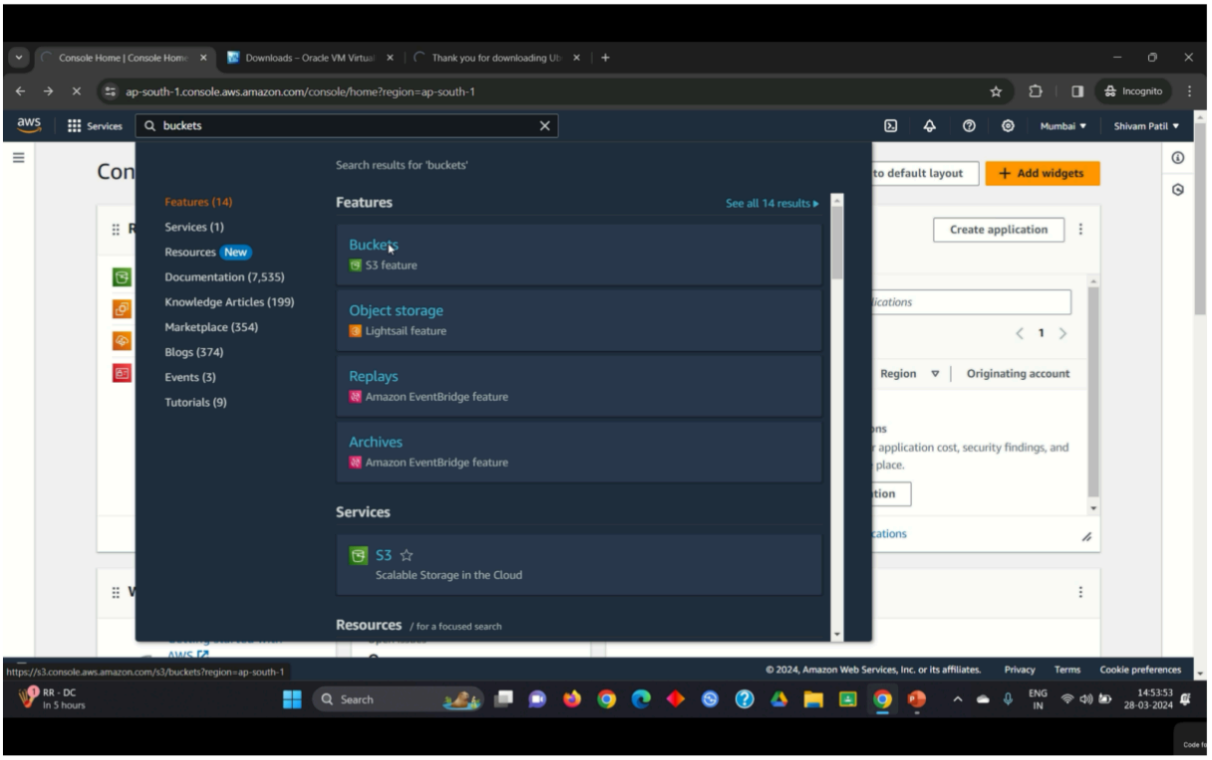
Now click on close button

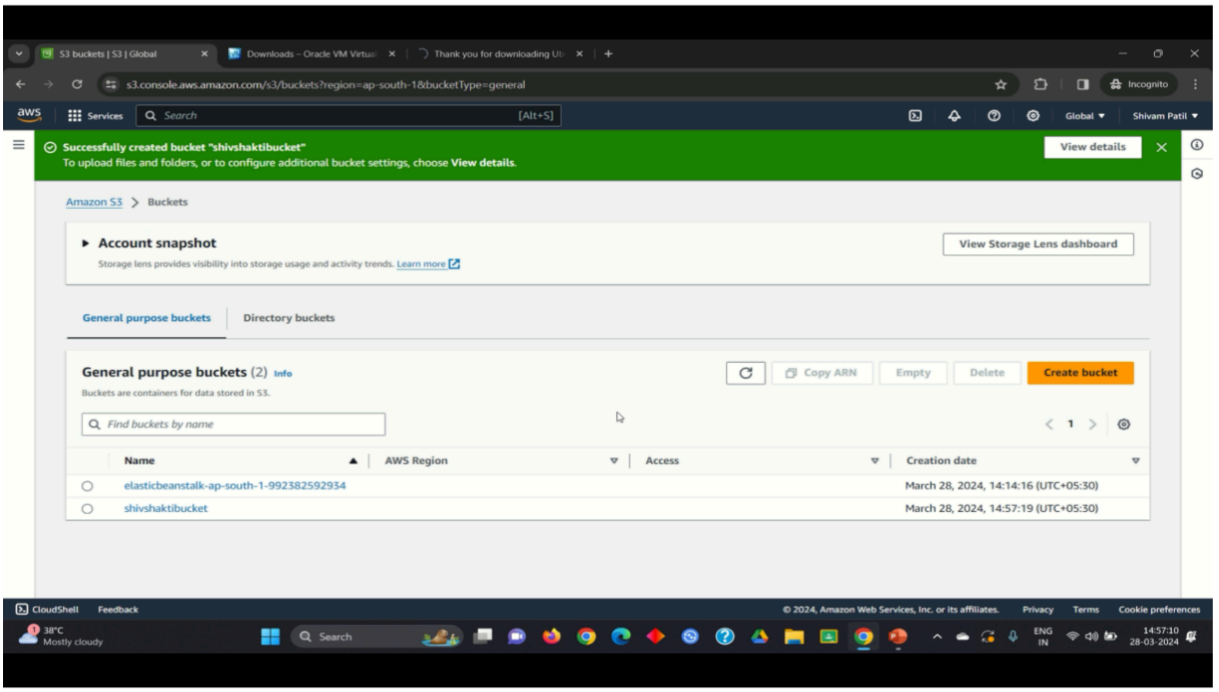
Step-18: now come to Amazon S3 tab and select your bucket and then click on delete button

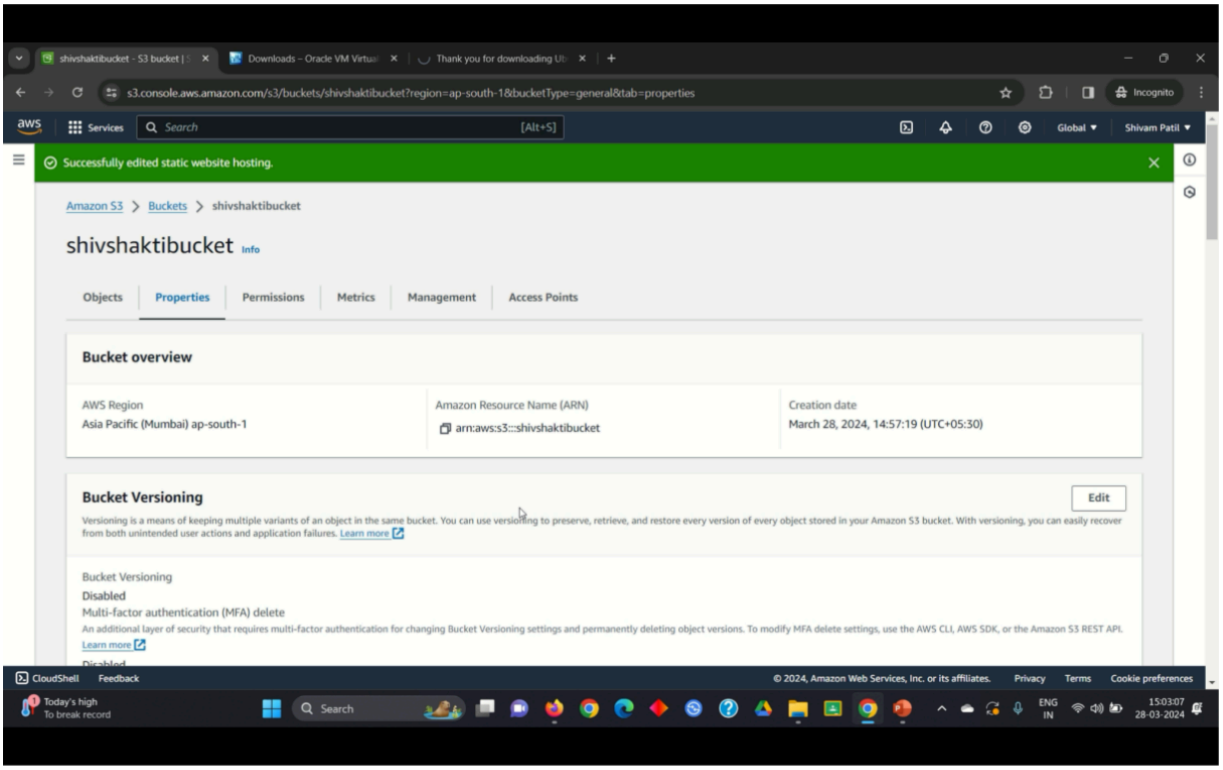
Write down your bucket name in delete bucket tab and click on delete button at bottom right

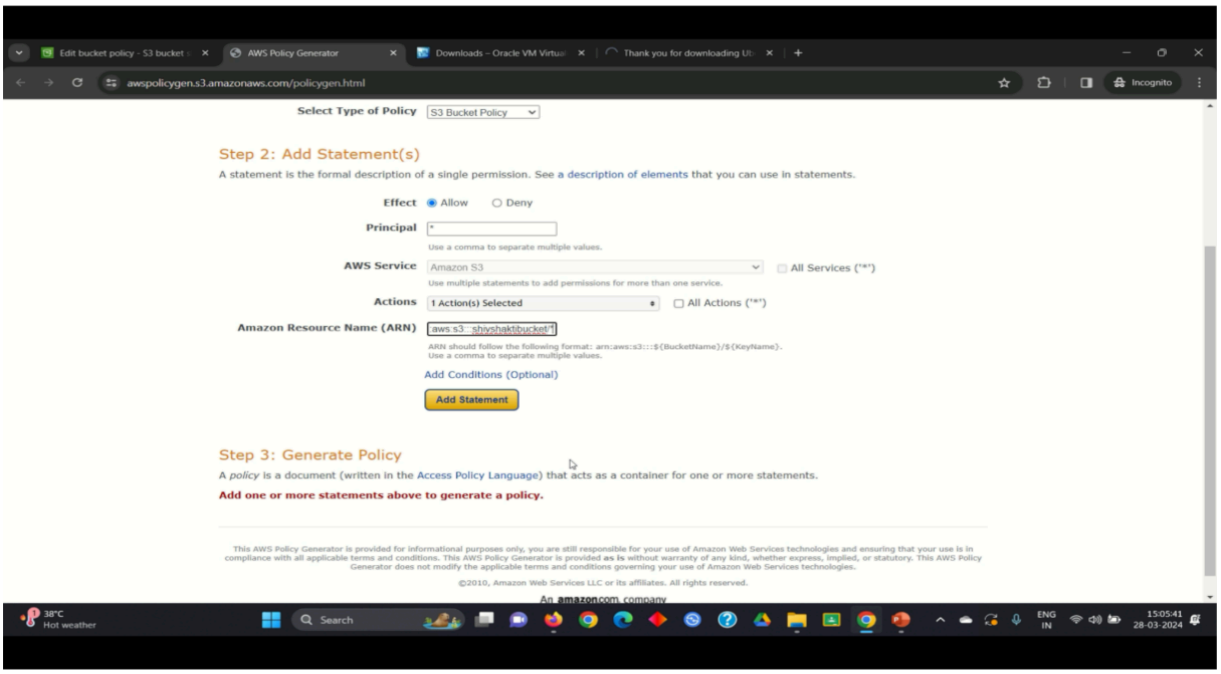
You can see that the bucket is deleted.

Output/Observation:






s3.console.aws.amazon.com/s3/buckets/shivshaktibucket?region=ap-south-1&bucketType=general&tab=properties
Successfully edited static website hosting.
Amazon S3 > Buckets > shivshaktibucket
shivshaktibucket Info
Objects
Properties
Permissions
Metrics
Management
Access Points
Bucket overview
AWS Region
Asia Pacific (Mumbai) ap-south-1
Amazon Resource Name (ARN)
arn:aws:s3:::shivshaktibucket
Creation date
March 28, 2024, 14:57:19 (UTC+05:30)
Bucket Versioning
Edit
Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. Learn more
Bucket Versioning
Disabled
Multi-factor authentication (MFA) delete
An additional layer of security that requires multi-factor authentication for changing Bucket Versioning settings and permanently deleting object versions. To modify MFA delete settings, use the AWS CLI, AWS SDK, or the Amazon S3 REST API.
Learn more
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


awspolicygen.s3.amazonaws.com/policygen.html
Select Type of Policy
S3 Bucket Policy
Step 2: Add Statement(s)
A statement is the formal description of a single permission. See a description of elements that you can use in statements.
Effect
Allow
Deny
Principal
Use a comma to separate multiple values.
AWS Service
Amazon S3
All Services ('*')
Use multiple statements to add permissions for more than one service.
Actions
1 Action(s) Selected
All Actions ('*')
Amazon Resource Name (ARN)
arn:aws:s3:::shivshaktibucket/*
ARN should follow the following format: arn:aws:s3:::${BucketName}/${KeyName}.
Use a comma to separate multiple values.
Add Conditions (Optional)
Add Statement
Step 3: Generate Policy
A policy is a document (written in the Access Policy Language) that acts as a container for one or more statements.
Add one or more statements above to generate a policy.
This AWS Policy Generator is provided for informational purposes only, you are still responsible for your use of Amazon Web Services technologies and ensuring that your use is in compliance with all applicable terms and conditions. This AWS Policy Generator is provided as is without warranty of any kind, whether express, implied, or statutory. This AWS Policy Generator does not modify the applicable terms and conditions governing your use of Amazon Web Services technologies.
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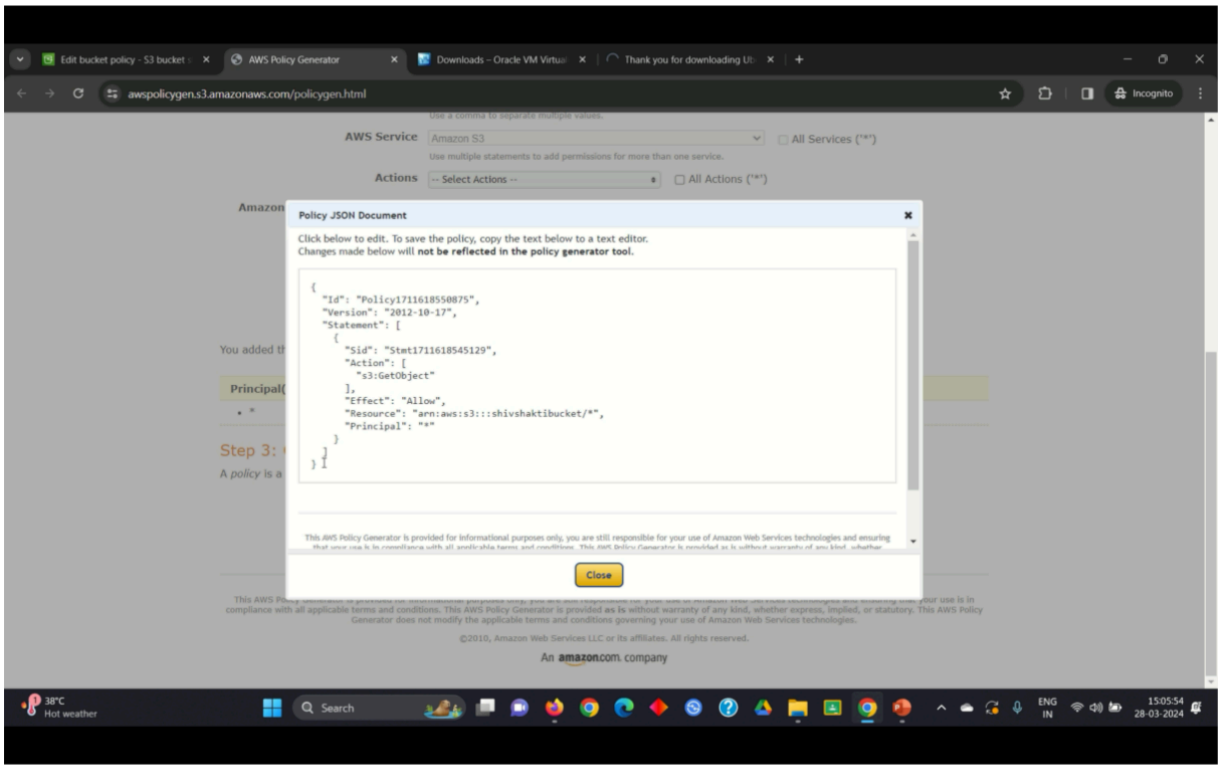
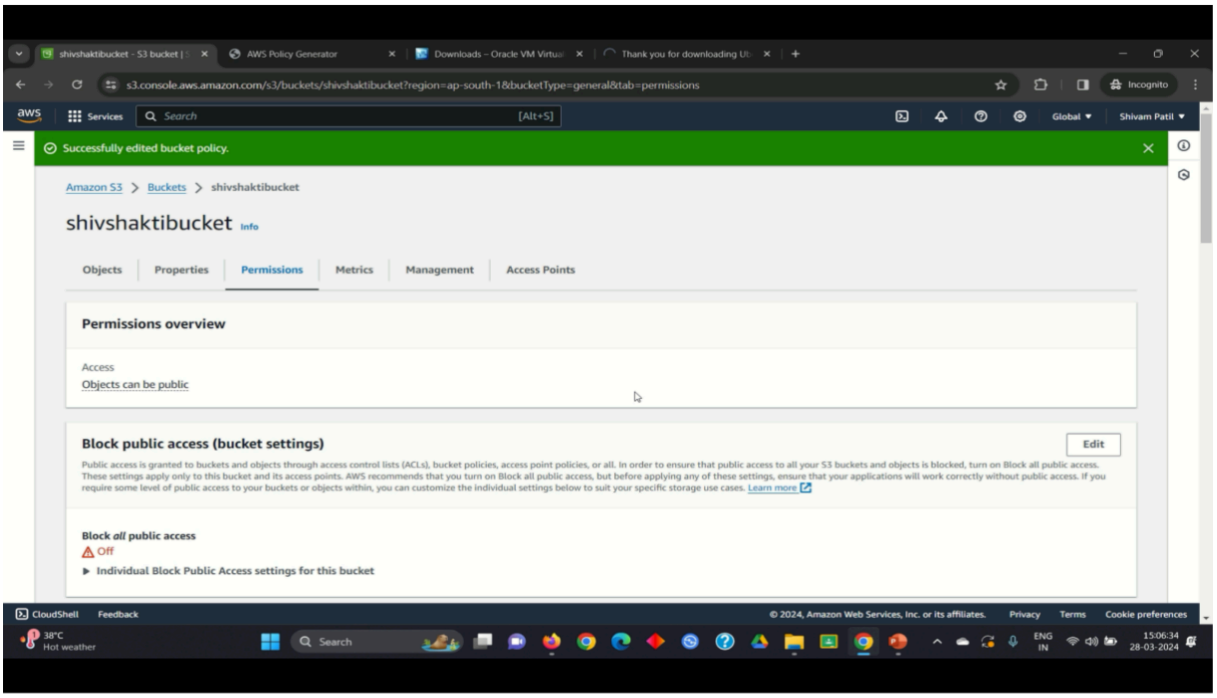
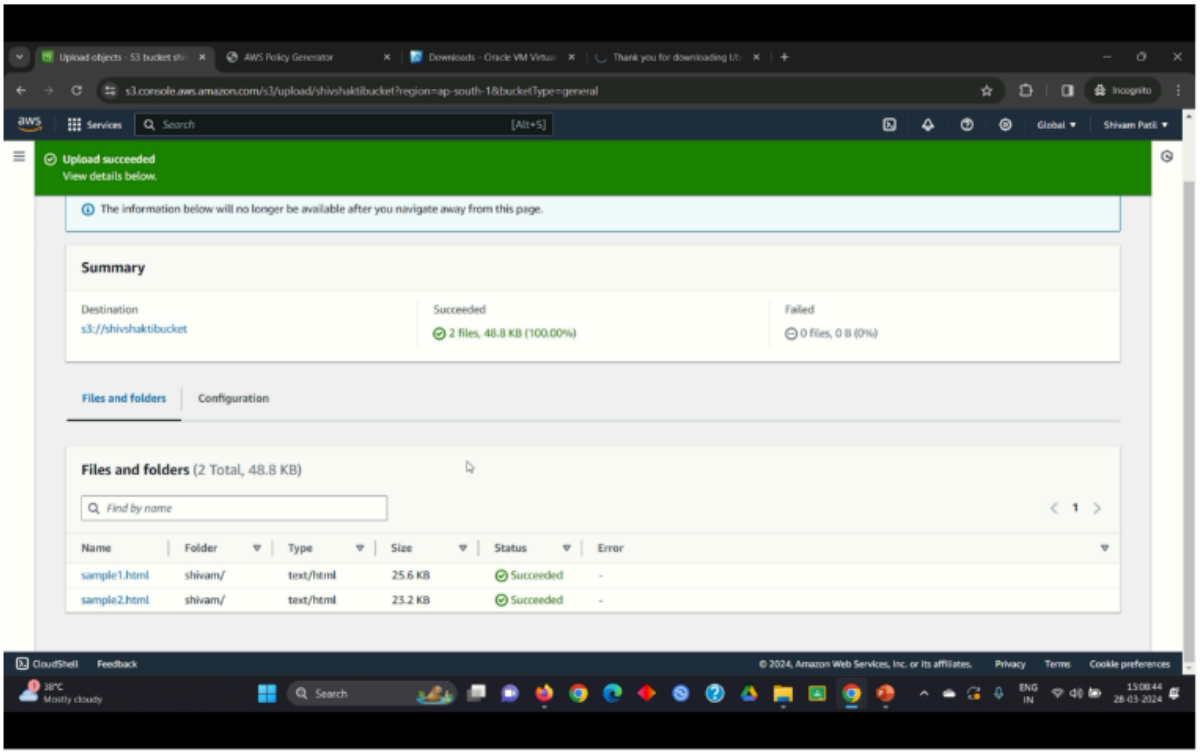
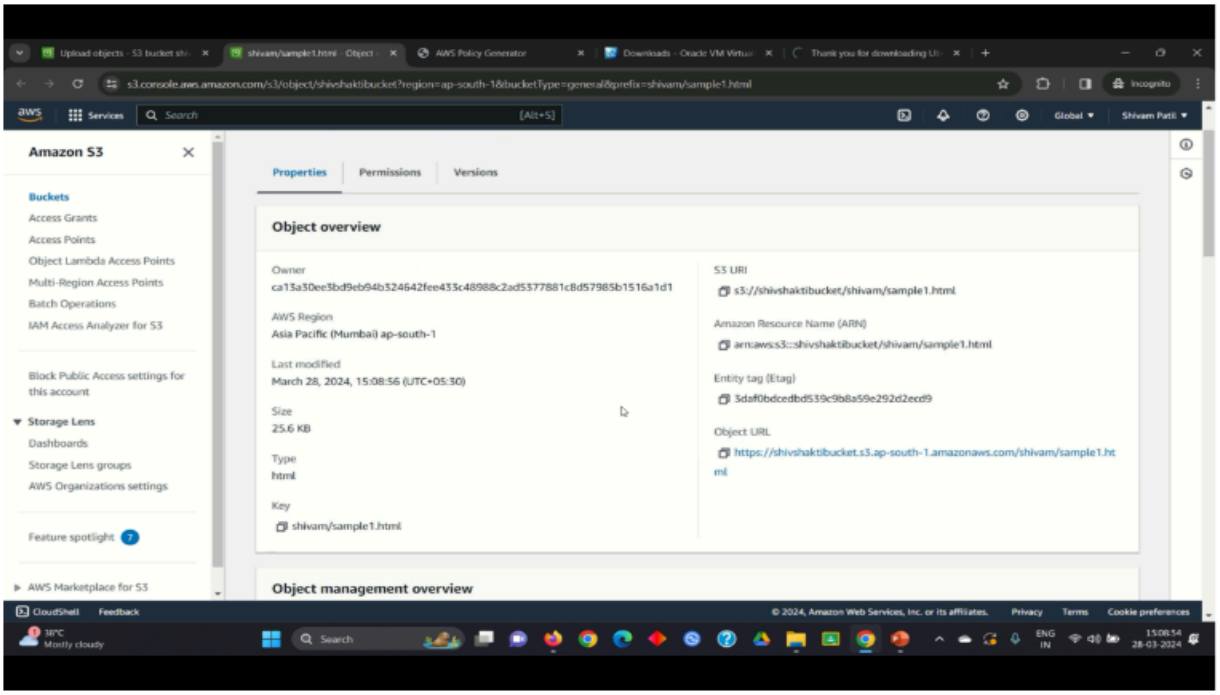
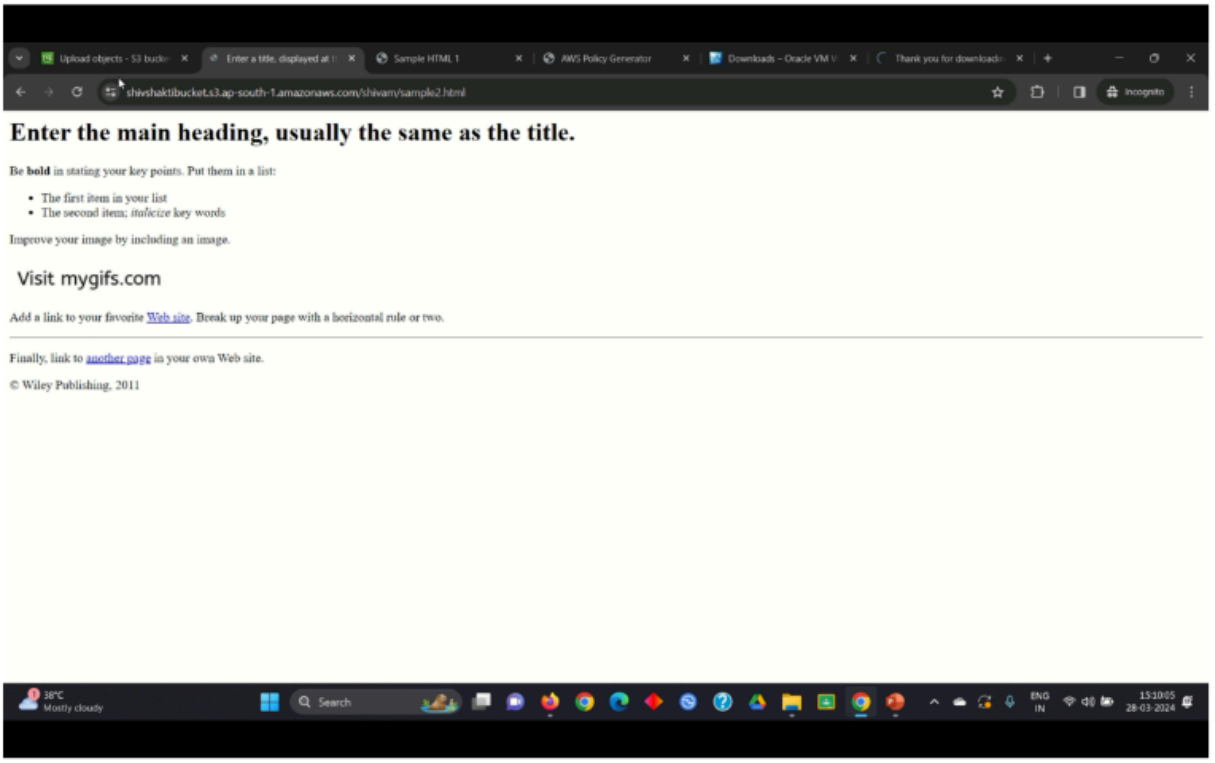

Edit bucket policy - S3 bucket
AWS Policy Generator
Downloads – Oracle VM Virtual
Thank you for downloading UT
awspolicygen.s3.amazonaws.com/policygen.html
Incognito
AWS Service
Amazon S3
All Services ('*')
Use multiple statements to add permissions for more than one service.
Actions
-- Select Actions --
All Actions ('*')
Policy JSON Document
Click below to edit. To save the policy, copy the text below to a text editor.
Changes made below will not be reflected in the policy generator tool.
{
"Id": "Policy1711618550875",
"Version": "2012-10-17",
"Statement": [
{
"Sid": "Stmt1711618545129",
"Action": [
"s3:GetObject"
],
"Effect": "Allow",
"Resource": "arn:aws:s3:::shivshaktibucket/*",
"Principal": "*"
}
]
}
Close
Step 3:
A policy is a
©2010, Amazon Web Services LLC or its affiliates. All rights reserved.
An amazon.com company
38°C
Hot weather
Search
ENG
IN
15:05:54
28-03-2024


shivshaktibucket - S3 bucket
AWS Policy Generator
Downloads – Oracle VM Virtual
Thank you for downloading UT
s3.console.aws.amazon.com/s3/buckets/shivshaktibucket?region=ap-south-1&bucketType=general&tab=permissions
Incognito
aws
Services
Search
[Alt+S]
Global
Shivam Patil
Successfully edited bucket policy.
Amazon S3 > Buckets > shivshaktibucket
shivshaktibucket Info
Objects
Properties
Permissions
Metrics
Management
Access Points
Permissions overview
Access
Objects can be public
Block public access (bucket settings)
Edit
Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to all your S3 buckets and objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access points. AWS recommends that you turn on Block all public access, but before applying any of these settings, ensure that your applications will work correctly without public access. If you require some level of public access to your buckets or objects within, you can customize the individual settings below to suit your specific storage use cases. Learn more
Block all public access
Off
Individual Block Public Access settings for this bucket
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
38°C
Hot weather
Search
ENG
IN
15:06:34
28-03-2024


Upload succeeded
View details below.
The information below will no longer be available after you navigate away from this page.
Summary
Destination
s3://shivshaktibucket
Succeeded
2 files, 48.8 KB (100.00%)
Failed
0 files, 0 B (0%)
Files and folders
Configuration
Files and folders (2 Total, 48.8 KB)
Find by name
Name
Folder
Type
Size
Status
Error
sample1.html
shivam/
text/html
25.6 KB
Succeeded
sample2.html
shivam/
text/html
23.2 KB
Succeeded


Amazon S3
Properties
Permissions
Versions
Object overview
Owner
ca13a30ee3bd9eb94b524642fee433c48988c2ad5377881c8d57985b1516a1d1
AWS Region
Asia Pacific (Mumbai) ap-south-1
Last modified
March 28, 2024, 15:08:56 (UTC+05:30)
Size
25.6 KB
Type
html
Key
shivam/sample1.html
S3 URI
s3://shivshaktibucket/shivam/sample1.html
Amazon Resource Name (ARN)
arn:aws:s3:::shivshaktibucket/shivam/sample1.html
Entity tag (Etag)
3daf0bdcedbd539c9b8a59e292d2ecd9
Object URL
https://shivshaktibucket.s3.ap-south-1.amazonaws.com/shivam/sample1.html
Object management overview



Conclusion: Storage as a Service in Amazon Web Services (AWS) provides scalable and durable storage solutions, such as Amazon S3 (Simple Storage Service) and Amazon EBS (Elastic Block Store), accessible via APIs. It offers reliable data storage with high availability, durability, and security, eliminating the need for provisioning and managing physical storage infrastructure. Additionally, AWS storage services offer flexible pricing options, pay-as-you-go billing, and seamless integration with other AWS services, empowering organizations to store, manage, and access data efficiently in the cloud.