

SVKM'S NMIMS Nilkamal School of Mathematics, Applied Statistics & Analytics
Master of Science (Statistics & Data Science)
Practical-2: Storage as a service using AWS

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- **Storage as a service – S3**
- **S3 use cases**
- **Steps for S3**

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Practical 2: Storage as a service using AWS

1) Storage as a service using S3

- S3 (Simple Storage Service) is a highly scalable object storage service offered by Amazon Web Services (AWS).
- It provides industry leading scalability, data availability, security and performance.
- You can use S3 to store and protect any amount of data for a wide range of use cases, including data lakes, websites, mobile applications, backup and restore, archive, enterprise applications, IoT devices and big data analytics.
- S3 offers different storage classes to optimize for different use cases and cost requirements.
- You can control who can access your S3 buckets and objects also enables object versioning to protect against the accidental deletion.

2) S3 Usecases

- Data Archiving: Storing data for long periods at low cost.
- Backup and Disaster Recovery: Backing up data for business continuity and disaster recovery.
- Web and Mobile Applications: Storing static website content, images, videos and application data.
- Big data analytics: Storing large datasets for analysis.
- Content delivery: Distributing content globally using S3 and Cloudfront.
- IoT Data storage: Storing data generated by IoT devices.

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- DevOps and CI/CD: Storing build artifacts, development packages, and configuration files.
- Media and Entertainment: Storing and distributing media content like movies, TV shows and music.

3) Steps for S3

a) Create an AWS account & Sign in to AWS account

b) Create an S3 Bucket where you can store objects.

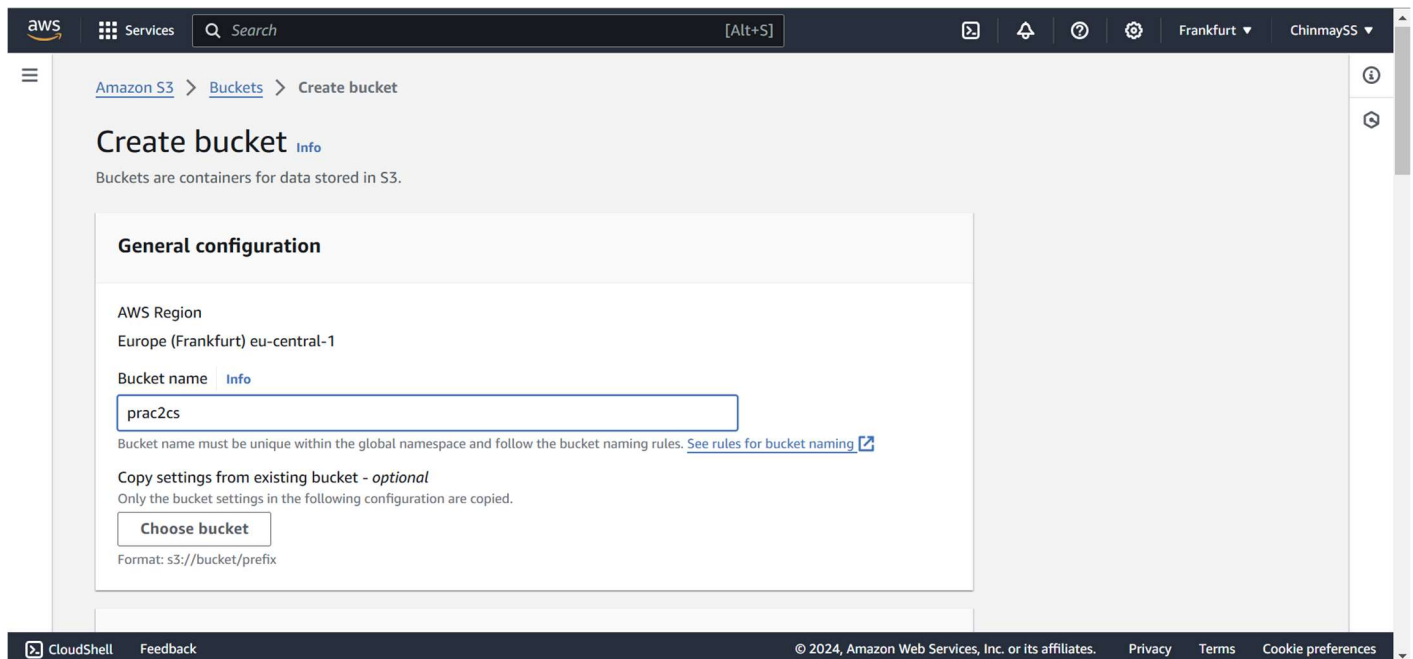
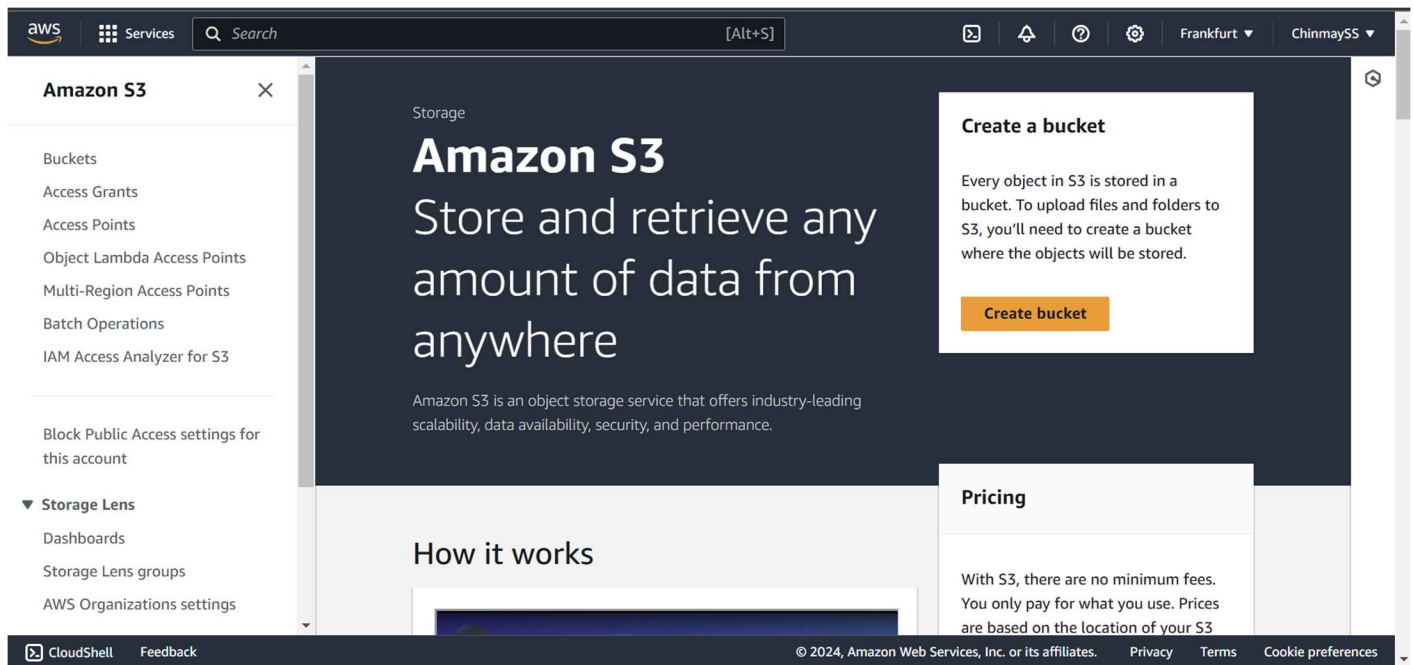
c) Configure bucket properties like region, access control, versioning and encryption.

d) Upload objects into basic unit of data in S3 using the AWS management console.

e) Manage objects by performing operations like creating, deleting, and copying objects.

f) Access objects and use S3 presigned URL to grant temporary access to objects.

1. Implement S3 for uploading a file, video, etc.



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Amazon S3 > Buckets

Account snapshot - updated every 24 hours

All AWS Regions

View Storage Lens dashboard

Storage lens provides visibility into storage usage and activity trends. [Learn more](#)

General purpose buckets

Directory buckets

General purpose buckets (1)

Info

All AWS Regions

Copy ARN

Empty

Delete

Create bucket

Buckets are containers for data stored in S3.

Find buckets by name

< 1 >

Name	AWS Region	IAM Access Analyzer	Creation date
prac2cs	Europe (Frankfurt) eu-central-1	View analyzer for eu-central-1	July 27, 2024, 16:07:24 (UTC+05:30)

CloudShell

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Amazon S3 > Buckets > prac2cs > Create folder

Create folder

Info

Use folders to group objects in buckets. When you create a folder, S3 creates an object using the name that you specify followed by a slash (/). This object then appears as folder on the console. [Learn more](#)

Your bucket policy might block folder creation

If your bucket policy prevents uploading objects without specific tags, metadata, or access control list (ACL) grantees, you will not be able to create a folder using this configuration. Instead, you can use the [upload configuration](#) to upload an empty folder and specify the appropriate settings.

Folder

Folder name

task1 /

Folder names can't contain "/". [See rules for naming](#)

Server-side encryption

Info

Server-side encryption protects data at rest.

CloudShell

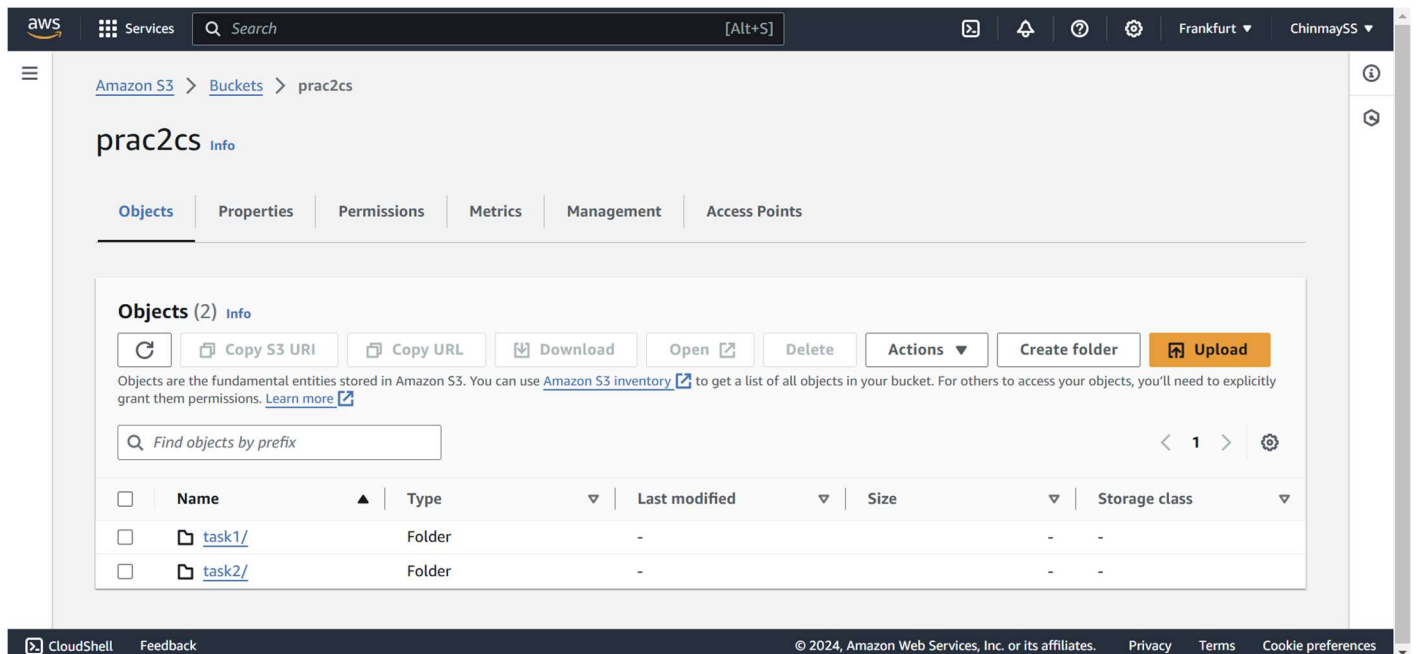
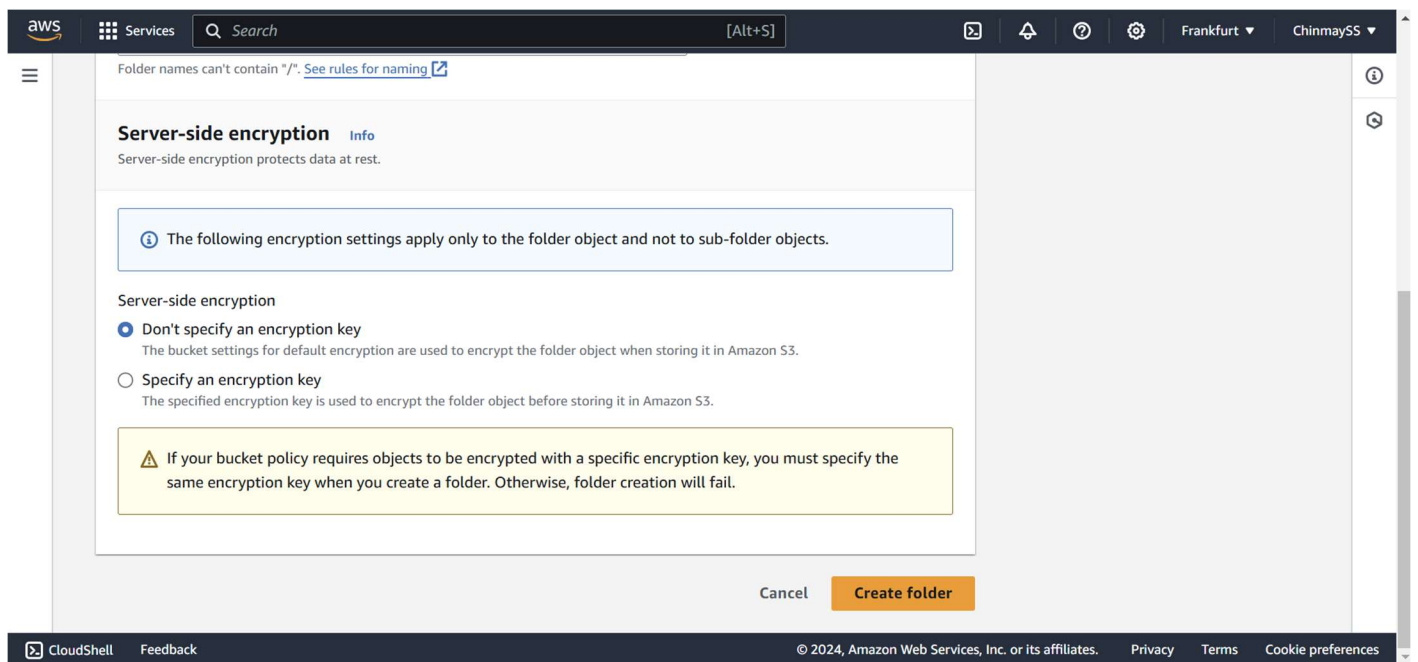
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Amazon S3

Buckets

prac2cs

task1/

task1/

Copy S3 URI

Objects

Properties

Objects (0)

Info

Refresh

Copy S3 URI

Copy URL

Download

Open

Delete

Actions

Create folder

Upload

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Find objects by prefix

< 1 >

	Name	Type	Last modified	Size	Storage class
No objects					
You don't have any objects in this folder.					

Upload

CloudShell

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task1/

Upload

Upload

Info

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDK or Amazon S3 REST API. [Learn more](#)

Drag and drop files and folders you want to upload here, or choose **Add files** or **Add folder**.

Files and folders (1 Total, 62.2 KB)

Remove

Add files

Add folder

All files and folders in this table will be uploaded.

Find by name

< 1 >

<input checked="" type="checkbox"/>	Name	Folder	Type
<input checked="" type="checkbox"/>	cloud-computing-background.avif	-	image/avif

Destination

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Amazon S3

Buckets

prac2cs

task1/

cloud-computing-background.avif

cloud-computing-background.avif

Copy S3 URIDownloadOpenObject actions

PropertiesPermissionsVersions

Object overview

Owner

e761ffb799f7ff5fbb18a4c8e819a4140d68be4a50e51c6daeb28b3ab233054b

AWS Region

Europe (Frankfurt) eu-central-1

Last modified

August 2, 2024, 23:30:51 (UTC+05:30)

Size

62.2 KB

S3 URI

s3://prac2cs/task1/cloud-computing-background.avif

Amazon Resource Name (ARN)

arn:aws:s3:::prac2cs/task1/cloud-computing-background.avif

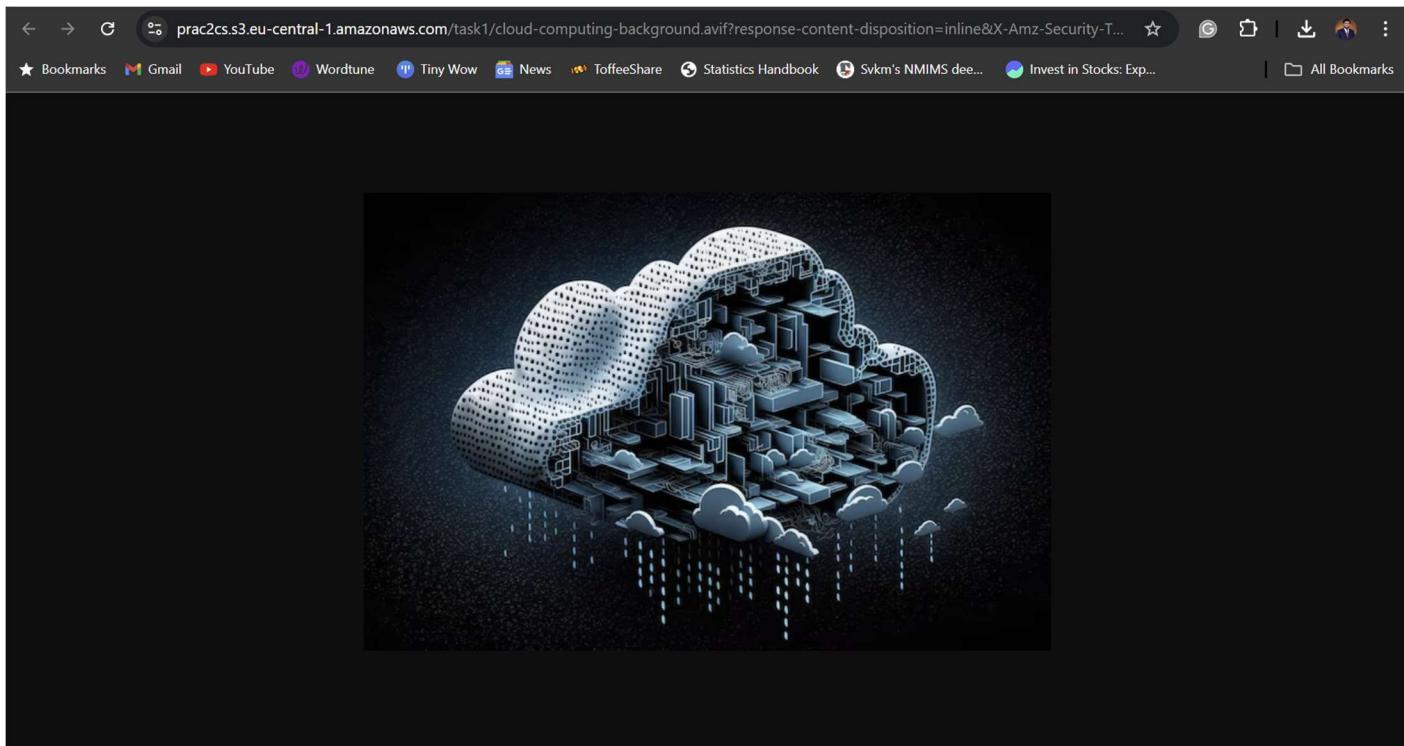
Entity tag (Etag)

4fe48d8c376467644cd848f599b791b8

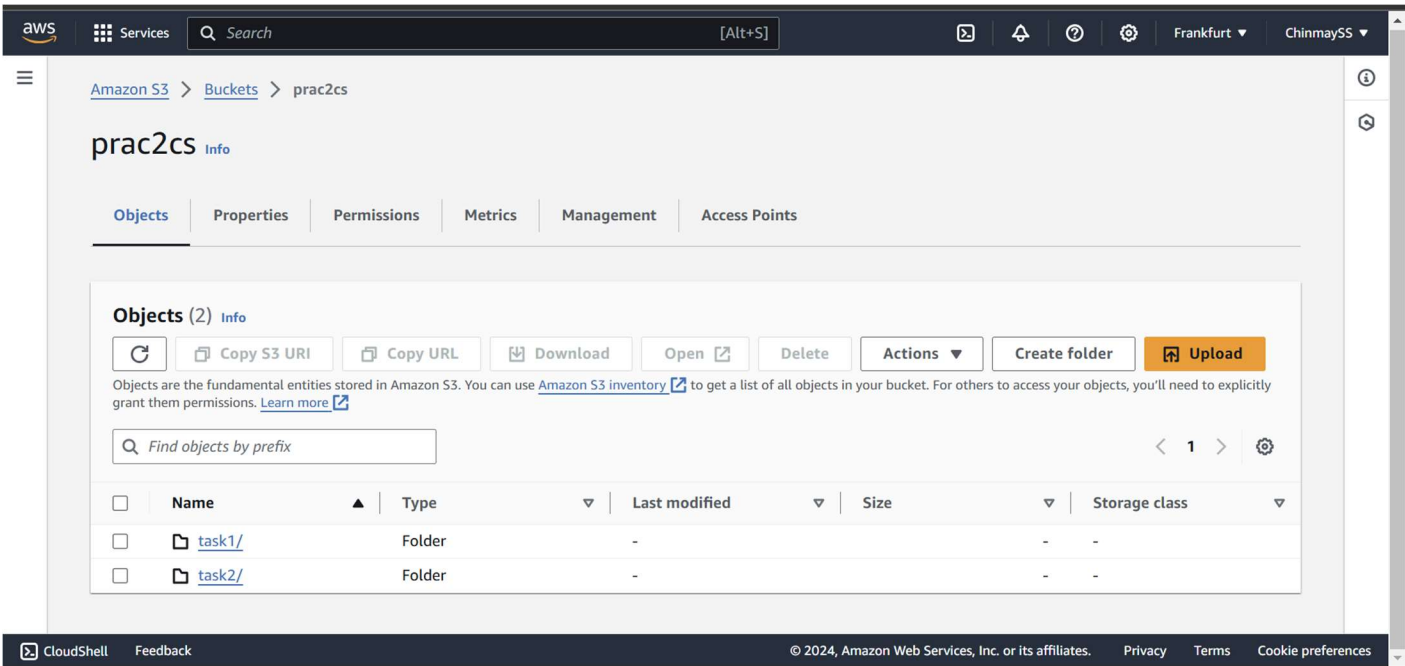
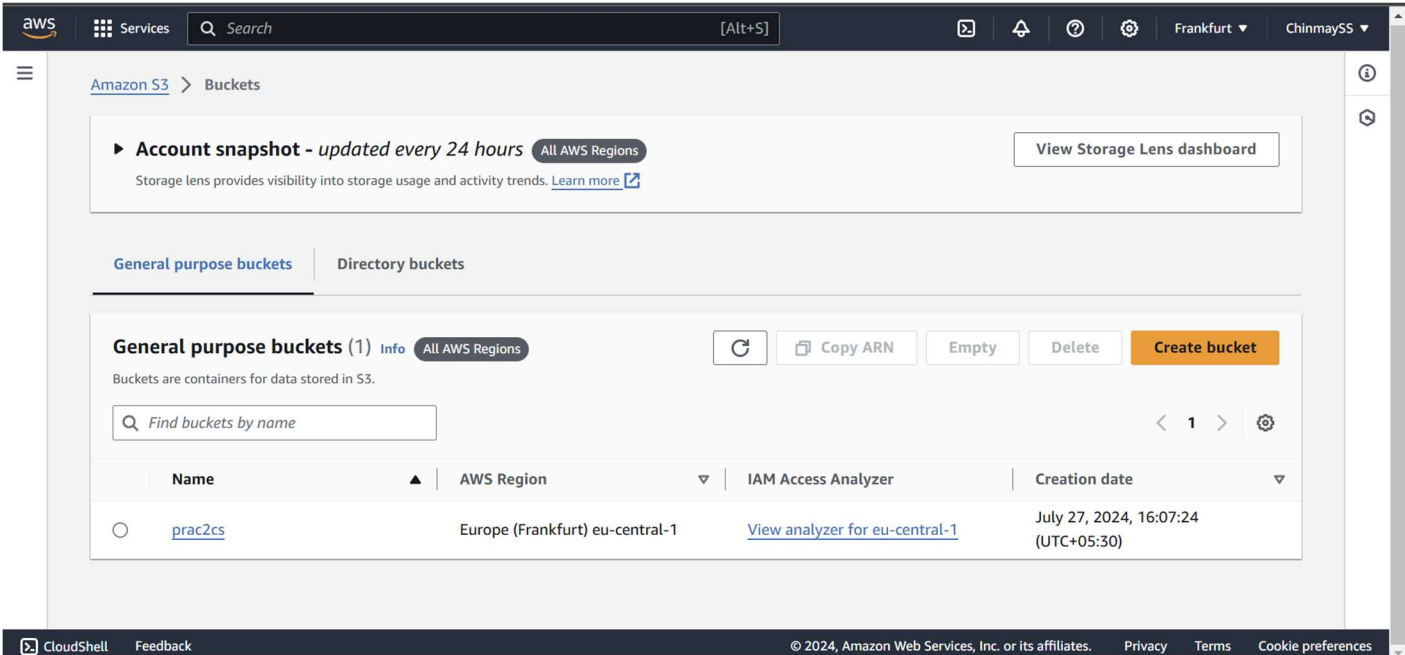
Object URL

CloudShellFeedback

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2. Implement S3 for uploading a static website




```
File Edit Selection View Go Run ... Search
css11.html X
C:\Users\chinm\Downloads> css11.html > ...
1 <!DOCTYPE html>
2 <html lang="en">
3
4 <head>
5   <meta charset="UTF-8">
6   <meta name="viewport" content="width=device-width, initial-scale=1.0">
7   <title>Flight Booking Demo</title>
8   <link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">
9   <link href="https://fonts.googleapis.com/css2?family=Open+Sans:wght@300;400;600&display=swap" rel="stylesheet">
10  <style>
11    body {
12      font-family: 'Open Sans', sans-serif;
13      background-color: #f4f4f9;
14      margin: 0;
15      padding: 0;
16    }
17
18    .hero-section {
19      background-image: url('https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQFE8FvpRDQw3LvccnMAY2Zi8lqoKuR_ifMTA&s');
20      background-size: cover;
21      background-position: center;
22      color: white;
23      text-align: center;
24      padding: 150px 0;
25      position: relative;
26    }
27
28    .hero-section::before {
29      content: "";
30      position: absolute;
31      top: 0;
32      left: 0;
33      right: 0;
```

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Amazon S3 > Buckets > prac2cs > task2/

task2/

Copy S3 URI

Objects Properties

Objects (1) Info

Refresh

Copy S3 URI

Copy URL

Download

Open

Delete

Actions

Create folder

Upload

Objects are the fundamental entities stored in Amazon S3. You can use [Amazon S3 inventory](#) to get a list of all objects in your bucket. For others to access your objects, you'll need to explicitly grant them permissions. [Learn more](#)

Find objects by prefix

☐

Name

☐

css11.html

Type

html

Last modified

July 27, 2024, 16:58:35 (UTC+05:30)

Size

7.4 KB

Storage class

Standard

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Amazon S3

Buckets

prac2cs

task2/

css11.html

css11.html

Info

Copy S3 URI

Download

Open

Object actions

Properties

Permissions

Versions

Object overview

Owner

e761ffb799f7ff5fbb18a4c8e819a4140d68be4a50e51c6daeb28b3ab233054b

AWS Region

Europe (Frankfurt) eu-central-1

Last modified

July 27, 2024, 16:58:35 (UTC+05:30)

Size

7.4 KB

S3 URI

s3://prac2cs/task2/css11.html

Amazon Resource Name (ARN)

arn:aws:s3:::prac2cs/task2/css11.html

Entity tag (Etag)

d561c3c81e3e3617f4f7690973785faa

Object URL

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prc2cs.s3.eu-central-1.amazonaws.com/task2/css11.html?response-content-disposition=inline&X-Amz-Security-Token=IQoJb3JpZ2luX2Vj...

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From To

Departure Date Return Date

Adults

August, 2024


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18	19	20	21	22	23	24
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1	2	3	4	5	6	7

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Work in Progress

We are currently working on this feature. Please check back later.

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