Amazon S3

What:
Scalable object storage service for storing and retrieving any amount of data.

How:
Upload, retrieve, and manage data using the console, CLI, or API.

How Much:
Pay based on storage usage, data transfer, and number of requests.

Objective:
Create an S3 bucket, upload files, experiment with public vs private access, enable static website hosting, and apply common production best practices (CORS, lifecycle, versioning, encryption).

Estimated time: 20–45 minutes

Prerequisites: AWS account, Console access, (optional) AWS CLI configured (aws configure) and basic CLI familiarity.

Step 1 — Create the bucket (Console + CLI)

Console:

1. Open S3 in the AWS Console → Create bucket.
2. Bucket name: my-unique-bucket-name-12345.
3. Region: pick us-west-2 (or your preferred region).
4. Leave Block public access ON for now (we'll change later if you intentionally make it public).
5. Click Create bucket.

CLI:

aws s3api create-bucket --bucket my-unique-bucket-name-12345 --region us-west-2 --create-bucket-configuration LocationConstraint=us-west-2

Step 2 — Upload files (Console + CLI)

Console:

Open the bucket → Upload → drag & drop index.html, error.html, images, etc. → Click Upload.

CLI:
aws s3 cp index.html s3://my-unique-bucket-name-12345/index.html
aws s3 sync ./site s3://my-unique-bucket-name-12345/

Step 3 — Public vs Private: Blocking public access & bucket policy

By default, S3 Block Public Access is enabled. To make objects public, disable block public access and apply a bucket policy.

Example bucket policy:

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Principal": "*",
      "Action": "s3:GetObject",
      "Resource": "arn:aws:s3:::my-unique-bucket-name-12345/*"
    }
  ]
}
```

Step 4 — Enable Static Website Hosting

Console:

Bucket → Properties → Static website hosting → Enable → Index document = index.html, Error document = error.html.

CLI:
aws s3 website s3://my-unique-bucket-name-12345 --index-document index.html --error-document error.html

Step 5 — Serve via CloudFront (recommended)

Steps:
1. Create CloudFront distribution → Origin = your S3 bucket.
2. Restrict bucket access to CloudFront.
3. Add ACM certificate for HTTPS.
4. Point Route 53 domain to CloudFront.

Why: CloudFront gives HTTPS, caching, DDoS protection, and keeps S3 private.

Step 6 — CORS configuration

1.Click on the bucket and Choose **Permissions.**

2. In the **Cross-origin resource sharing (CORS)** section, choose **Edit**.

3.In the **CORS configuration editor** text box, type or copy and paste a new CORS configuration, or edit an existing configuration.

Example XML:

```
<CORSConfiguration>
 <CORSRule>
  <AllowedOrigin>https://example.com</AllowedOrigin>
  <AllowedMethod>GET</AllowedMethod>
  <AllowedMethod>HEAD</AllowedMethod>
  <AllowedHeader>*</AllowedHeader>
 </CORSRule>
</CORSConfiguration>
```

Step 7 — Versioning & Lifecycle

Enable versioning:
aws s3api put-bucket-versioning –bucket my-unique-bucket-name-12345 –versioning-configuration Status=Enabled
Lifecycle rule example: Transition to STANDARD_IA after 30 days, expire after 365 days.

Step 8 — Test & validate

Open the static site endpoint in browser or use curl:
curl -I http://my-unique-bucket-name-12345.s3-website-us-west-2.amazonaws.com

Step 9 — Troubleshooting

- 403 AccessDenied → Check Block Public Access and bucket policy.
- 404 Not Found → Ensure index.html exists.
- CORS issues → Fix AllowedOrigin in CORS config.
- HTTPS required → Use CloudFront + ACM.

Step 10 — Cleanup

Console:

1. Click on the bucket and choose empty buckets.

2. On the **Empty bucket** page, confirm that you want to empty the bucket by entering the bucket name into the text field, and then choose **Empty**.

3. In the buckets list, select the option button next to the name of the bucket that you want to delete, and then choose **Delete** at the top of the page.

4.On the **Delete bucket** page, confirm that you want to delete the bucket by entering the bucket name in the text field, and then choose **Delete bucket**.

CLI:

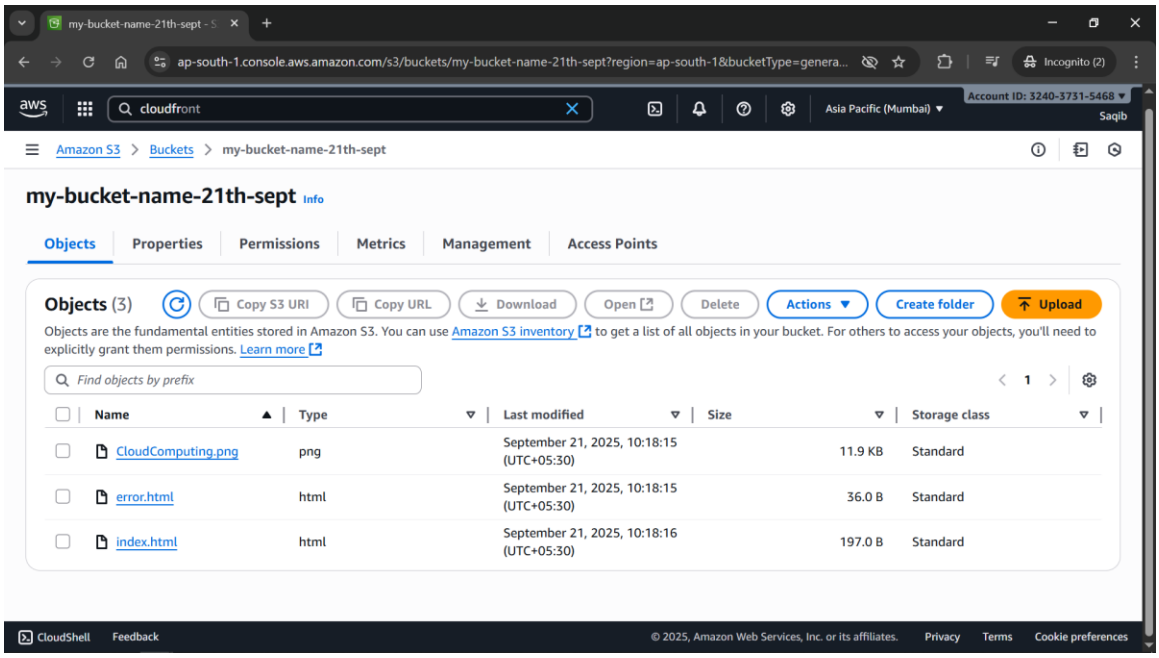
Delete objects:
aws s3 rm s3://my-unique-bucket-name-12345 --recursive

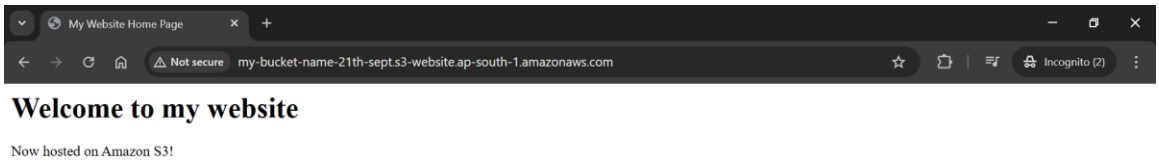
Delete bucket:
aws s3api delete-bucket --bucket my-unique-bucket-name-12345 --region us-west-2

Note: If versioning was enabled, you must delete all versions first.

Best Practices & Quick Tips ☑

- Prefer **CloudFront + Origin Access Control** over making buckets public.
- Use **least privilege** for any IAM principals that access the bucket.
- Enable **bucket encryption**, **versioning**, and **lifecycle rules** for data governance.
- Keep logs (access + CloudTrail) for audits.
- Use **signed URLs** for temporary private access to objects.
- Use naming conventions and tagging for cost/allocation tracking.


my-bucket-name-21th-sept - S
ap-south-1.console.aws.amazon.com/s3/buckets/my-bucket-name-21th-sept?region=ap-south-1&bucketType=genera...
Incognito (2)
cloudfront
Asia Pacific (Mumbai)
Account ID: 3240-3731-5468
Saqib
Amazon S3 > Buckets > my-bucket-name-21th-sept
my-bucket-name-21th-sept Info
Objects
Properties
Permissions
Metrics
Management
Access Points
Objects (3)
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
Type
Last modified
Size
Storage class
CloudComputing.png
png
September 21, 2025, 10:18:15 (UTC+05:30)
11.9 KB
Standard
error.html
html
September 21, 2025, 10:18:15 (UTC+05:30)
36.0 B
Standard
index.html
html
September 21, 2025, 10:18:16 (UTC+05:30)
197.0 B
Standard
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


My Website Home Page
Not secure
my-bucket-name-21th-sept.s3-website.ap-south-1.amazonaws.com
Incognito (2)
Welcome to my website
Now hosted on Amazon S3!