

# Bucket versioning , bucket replication (SRR and CRR ) , static website hosting

## What it actually is

**Bucket Versioning in Amazon S3** means every time you upload, modify, or delete a file (object), S3 keeps the old version instead of overwriting it.

No versioning = new upload replaces old file permanently.

With versioning = old file stays, new file gets a unique **Version ID**.

## Why It Matters (Real Use Cases)

### 1. Accidental delete recovery

- If someone deletes project.zip, S3 just adds a **Delete Marker**.
- Old versions still exist.
- You can restore them.

### 2. Rollback capability

- Broke production config?
- Just restore previous version.

### 3. Protection from overwrites

- If someone uploads wrong data, you don't lose original.

Bucket versioning is only suspended not to be disabled , and I have enabled after creating the bucket.

The screenshot shows the 'Create bucket' wizard on the AWS S3 console. It includes sections for 'Block public access to buckets and objects granted through new public bucket or access point policies' and 'Block public and cross-account access to buckets and objects through any public bucket or access point policies'. A warning message states: 'Turning off block all public access might result in this bucket and the objects within becoming public. AWS recommends that you turn on block all public access, unless public access is required for specific and verified use cases such as static website hosting.' A checkbox labeled 'I acknowledge that the current settings might result in this bucket and the objects within becoming public.' is checked. Below this, there's a section for 'Bucket Versioning' with a note about keeping multiple variants of an object. A radio button for 'Enable' is selected. There's also a 'Tags - optional' section with a note about using tags for analysis and permissions, and a note about using s3 APIs for managing tags.

I upload the files in the bucket

The screenshot shows the 'Objects' tab for the 'ram211825' bucket. It lists five PDF files: 'DAY 6 Git.pdf', 'DAY 6.pdf', 'day 7.pdf', 'day 8.pdf', and 'DAY 9.pdf'. The table includes columns for Name, Type, Last modified, Size, and Storage class. All files are of type 'pdf' and stored in 'Standard' storage class. The 'Last modified' column shows dates from February 22, 2026, at 10:13:58 UTC+05:30 to 10:13:59 UTC+05:30.

Name	Type	Last modified	Size	Storage class
DAY 6 Git.pdf	pdf	February 22, 2026, 10:13:58 (UTC+05:30)	380.6 KB	Standard
DAY 6.pdf	pdf	February 22, 2026, 10:13:58 (UTC+05:30)	370.0 KB	Standard
day 7.pdf	pdf	February 22, 2026, 10:13:58 (UTC+05:30)	1.7 MB	Standard
day 8.pdf	pdf	February 22, 2026, 10:13:58 (UTC+05:30)	1.1 MB	Standard
DAY 9.pdf	pdf	February 22, 2026, 10:13:59 (UTC+05:30)	1.9 MB	Standard

I delete the Day 6 git.pdf file

The screenshot shows the AWS S3 console with a green success message: "Successfully deleted objects. View details below." It also displays a note: "After you navigate away from this page, the following information is no longer available." Below this, there's a summary table and a "Failed to delete" section which is currently empty.

Source	Successfully deleted	Failed to delete
s3://ram211825	1 object, 380.6 KB	0 objects

**Failed to delete** | Configuration

**Failed to delete (0)**

No objects failed to delete.

The deleted file is stored in the “delete marker”

The screenshot shows the AWS S3 console with the bucket "ram211825" selected. The "Objects" tab is active, displaying a list of files. One file, "DAY 6 Git.pdf", is listed as a "Delete marker". The table below shows the details of all objects in the bucket.

Name	Type	Version ID	Last modified	Size	Storage class
DAY 6 Git.pdf	Delete marker	2TbE28yOkqKrFx3bP9EDqKpD _39d22r	February 22, 2026, 10:14:32 (UTC+05:30)	0 B	-
DAY 6 Git.pdf	pdf	EJx54V2fikOsKrRUiGq_5RMbc HTvG_t	February 22, 2026, 10:13:58 (UTC+05:30)	380.6 KB	Standard
DAY 6.pdf	pdf	PBHFc7xytJuFE11WlV3lZLEVZ3 lRoqnd	February 22, 2026, 10:13:58 (UTC+05:30)	370.0 KB	Standard
day 7.pdf	pdf	BpZYrpcf1CO4hdqmf9ttipZ5W r60lDj	February 22, 2026, 10:13:58 (UTC+05:30)	1.7 MB	Standard
day 8.pdf	pdf	NILXBkSO.GD8ekrMvrbnEfEkrw pWujN2	February 22, 2026, 10:13:58 (UTC+05:30)	1.1 MB	Standard
DAY 9.pdf	pdf	hAo6y34UctFVJguHtNoy1V_Nu CLsl7Tj	February 22, 2026, 10:13:59 (UTC+05:30)	1.9 MB	Standard

The bucket versioning enabled means the bucket will create and version id we can retrieve the older version when we delete the file.

Delete the “delete marker”file to retrieve the older version

The screenshot shows the AWS S3 console interface. The top navigation bar includes the AWS logo, a search bar, and tabs for 'Objects', 'Metadata', 'Properties', 'Permissions', 'Metrics', 'Management', and 'Access Points'. The main content area is titled 'ram211825 Info' and displays a table of objects. The table has columns for Name, Type, Version ID, Last modified, Size, and Storage class. One object, 'DAY 6 Git.pdf', is selected and highlighted with a blue border. The table shows several other PDF files named 'DAY 6.pdf', 'day 7.pdf', 'day 8.pdf', and 'day 9.pdf'. At the bottom of the table, there are buttons for 'Actions' (Delete, Create folder, Upload), 'Copy S3 URI', 'Copy URL', 'Download', 'Open in new tab', and 'Delete'.

The screenshot shows the AWS S3 console after a delete operation. A green success message at the top states 'Successfully deleted objects' with a link to 'View details below.' Below this, a summary table shows 'Successfully deleted' 1 object and 'Failed to delete' 0 objects. The 'Failed to delete' section is expanded, showing a table with a single row for 'Failed to delete (0)'. The table has columns for Name, Version ID, Type, Last modified, Size, and Error. A note at the bottom of this section says 'After you navigate away from this page, the following information is no longer available.'

The older version of the file is retrieved

The screenshot shows the AWS S3 console interface. At the top, there's a navigation bar with tabs for Objects, Metadata, Properties, Permissions, Metrics, Management, and Access Points. Below the navigation bar is a search bar and a toolbar with actions like Copy S3 URI, Copy URL, Download, Open, Delete, Actions, Create folder, and Upload. The main area displays a table of objects with columns for Name, Type, Version ID, Last modified, Size, and Storage class. The objects listed are:

Name	Type	Version ID	Last modified	Size	Storage class
DAY 6 Git.pdf	pdf	EJx5AV2fIKOsKrRULjGq_5RMbCHtV6_t	February 22, 2026, 10:13:58 (UTC+05:30)	380.6 KB	Standard
DAY 6.pdf	pdf	PBHFc7xytJuFE11WlV3IZLEVZ3lRqgnrd	February 22, 2026, 10:13:58 (UTC+05:30)	370.0 KB	Standard
day 7.pdf	pdf	BiP2Yrpf1C04hdqm9ttlpZ5Wrf60Dj	February 22, 2026, 10:13:58 (UTC+05:30)	1.7 MB	Standard
day 8.pdf	pdf	NILXBkS0.GD8ekrMvrbnEfekrwpwLijN2	February 22, 2026, 10:13:58 (UTC+05:30)	1.1 MB	Standard
DAY 9.pdf	pdf	hAo6y34UctfVjguHtNoy1V_NuCLS17TJ	February 22, 2026, 10:13:59 (UTC+05:30)	1.9 MB	Standard

# Bucket Replication.

## What It Actually Is

**S3 Bucket Replication** automatically copies objects from one S3 bucket to another.

There are two types:

- **CRR (Cross-Region Replication)** → Different AWS regions
- **SRR (Same-Region Replication)** → Same region

## Why Replication Exists

### Disaster Recovery

- If your primary region fails, your data exists elsewhere.

### Low Latency Access

- Users in another country? Store data closer to them.

### Compliance

- Some laws require data to exist in specific regions.

## Multi-Account Strategy

- Replicate from production account → backup account.

## **TYPES OF REPLICATION.**

### **1. Cross-Region Replication (CRR)**

Replicates objects to a **different AWS region**.

#### **Example:**

- Source → Mumbai region
- Destination → Singapore region

#### **Used for:**

- Disaster Recovery
- Global applications
- Region-level failure protection

#### **Reality:**

- Costs more (data transfer charges apply)
- Good for serious production setups

### **2. Same-Region Replication (SRR)**

Replicates objects to another bucket in the **same region**.

#### **Used for:**

- Log copying
- Compliance separation
- Multi-team access segregation

**Cheaper than CRR** (no cross-region transfer cost)

### **3. Cross-Account Replication**

Replication between **different AWS accounts**.

#### **Used for:**

- Production account → Backup account

- Security isolation
- Enterprise setups

Requires:

- IAM role permissions
- Bucket policy on destination

This is how mature DevOps teams operate.

#### 4. Delete Marker Replication

Controls whether object deletions are replicated.

- Enabled → Delete in source = Delete in destination
- Disabled → Destination keeps object even if source deletes

I have created two bucket in different regions.

This is the source bucket.

The screenshot shows the 'Create replication rule' interface in the AWS S3 console. The replication rule configuration section includes:

- Replication rule name:** ramseetha211825
- Status:** Enabled (radio button selected)
- Priority:** 0

The source bucket section shows:

- Source bucket name:** ram211825
- Source Region:** Asia Pacific (Mumbai) ap-south-1

The replication role name is <>

Select the enable checkbox

The screenshot shows the 'Create replication rule' configuration page in the AWS S3 console. The 'Replication rule configuration' section is active, showing:

- Replication rule name:** ramseetha211825
- Status:** Enabled (radio button selected)
- Priority:** 0

The 'Source bucket' section shows:

- Source bucket name:** ram211825
- Source Region:** Asia Pacific (Mumbai) ap-south-1

At the bottom, there are links for CloudShell, Feedback, and Console Mobile App, along with standard AWS footer links for Privacy, Terms, and Cookie preferences.

Select the apply to all objects in the buckets

The screenshot shows the 'Create replication rule' configuration page in the AWS S3 console. The 'Source' section is active, showing:

- Source bucket:** ram211825
- Source Region:** Asia Pacific (Mumbai) ap-south-1
- Choose a rule scope:** Apply to all objects in the bucket (radio button selected)

The 'Destination' section is partially visible below it.

Select the destination bucket

Choose a rule scope

Limit the scope of this rule using one or more filters

Apply to all objects in the bucket

**Choose a bucket**

S3 Buckets

Buckets (1/2)

Name AWS Region

ram211825 Asia Pacific (Mumbai) ap-south-1

seetha211825 Asia Pacific (Hyderabad) ap-south-2

Cancel Choose path

## Create the IAM role

Permission to access the specified resources

Create new role

Choose from existing IAM roles

Enter IAM role ARN

**IAM role**

Browse S3

**Destination Region**  
Asia Pacific (Hyderabad) ap-south-2

**IAM role**

Permission to access the specified resources

Create new role

Choose from existing IAM roles

Enter IAM role ARN

**Encryption**  
Server-side encryption protects data at rest.

Replicate objects encrypted with AWS Key Management Service (AWS KMS)  
Replicate SSE-KMS and DSSE-KMS encrypted objects.

**Destination storage class**  
Amazon S3 offers a range of storage classes designed for different use cases. [Learn more](#) or see [Amazon S3 pricing](#)

Change the storage class for the replicated objects

## Check the existing objects replication

The file day 19 is replicated in the destination file

The both files are replicated in the destination file

The screenshot shows the AWS S3 console interface. On the left, there's a sidebar with navigation links like 'Amazon S3', 'Buckets', 'Access management and security', 'Storage management and insights', and 'Account and organization settings'. The main area is titled 'seetha211825 info' and shows a table of objects. The table has columns for Name, Type, Last modified, Size, and Storage class. There are buttons for Actions, Create folder, and Upload at the top of the object list.

Name	Type	Last modified	Size	Storage class
day 19.pdf	pdf	February 22, 2026, 10:39:02 (UTC+05:30)	928.2 KB	Standard
hariharan_portfolio.html	html	February 22, 2026, 10:50:24 (UTC+05:30)	9.3 KB	Standard

# Static Web Hosting.

## What You Actually Get

- Cheap hosting
- High durability (11 9's)
- Auto scaling
- Public HTTP endpoint
- No server management

What you don't get:

- No server-side code execution
- No HTTPS by default (you need CloudFront for that)
- No database

To enable the static web hosting in the s3 we have to enable ACLs , Bucket versioning , and allow all public access (I have already done it).

The screenshot shows the AWS S3 console for a bucket named 'ram211825'. In the left sidebar, under 'Buckets', the 'General purpose buckets' section is selected. Under 'Static website hosting', the 'Disabled' status is shown. A callout box highlights the 'Edit' button next to the 'Requester pays' section. Another callout box highlights the 'Create Amplify app' button within a 'We recommend using AWS Amplify Hosting for static website hosting' section.

## Enable the static web hosting checkbox

The screenshot shows the 'Edit static website hosting' configuration page for the same bucket. The 'Static website hosting' section is now set to 'Enable'. The 'Hosting type' section shows 'Host a static website' selected. A callout box highlights the 'Info' link next to the 'Static website hosting' heading. Another callout box highlights the 'Using Amazon S3 Block Public Access' link within a note about public readability.

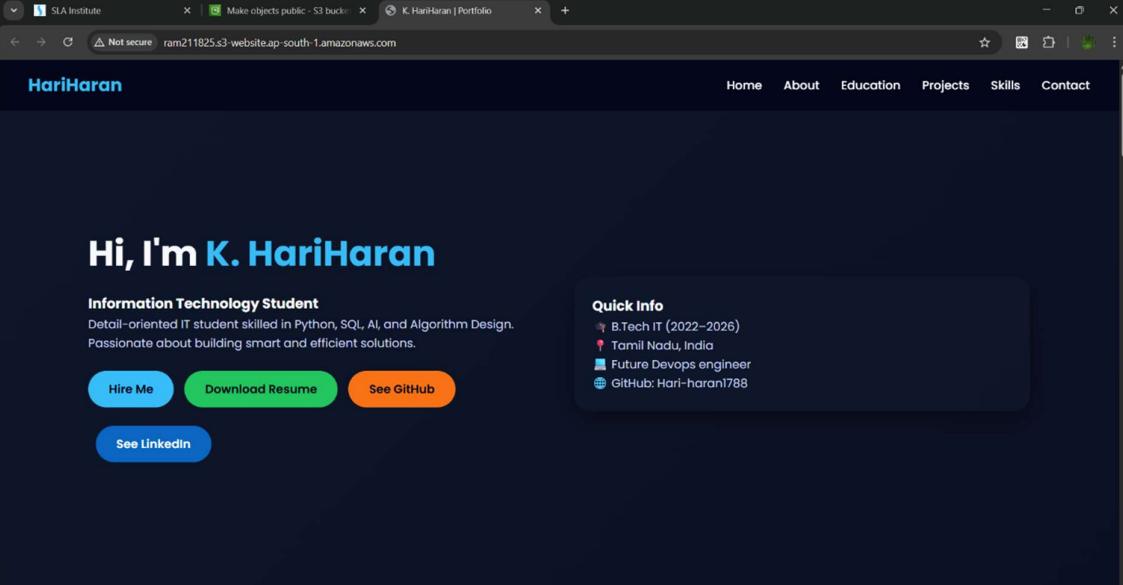
## Add file name of the hosting file

The screenshot shows the AWS S3 console interface. In the top navigation bar, the URL is `ap-south-1.console.aws.amazon.com/s3/upload/ram211825?region=ap-south-1`. The main area is titled "Upload" with a sub-section "Files and folders". A table lists one file: "k\_hariharan\_portfolio.html" (text/html, 9.3 KB). Below this is a "Destination" section with the URL "s3://ram211825". A note says "Bucket settings that impact new objects stored in the specified destination". At the bottom, there are links for "CloudShell", "Feedback", and "Console Mobile App". The footer includes copyright information and links for "Privacy", "Terms", and "Cookie preferences".

The web hosting is enabled

The screenshot shows the AWS S3 console interface. In the top navigation bar, the URL is `ap-south-1.console.aws.amazon.com/s3/buckets/ram211825?region=ap-south-1&tab=properties`. The main area shows a green success message: "Successfully edited static website hosting." It notes that requester pays is disabled. Below this is a "Static website hosting" section with an "Edit" button. It includes a recommendation to use AWS Amplify Hosting, a "Create Amplify app" button, and sections for "S3 static website hosting" (Enabled), "Hosting type" (Bucket hosting), and "Bucket website endpoint" (<http://ram211825.s3-website.ap-south-1.amazonaws.com>). At the bottom, there are links for "CloudShell", "Feedback", and "Console Mobile App". The footer includes copyright information and links for "Privacy", "Terms", and "Cookie preferences".

This is the hosted web



A screenshot of a dark-themed portfolio website for K. HariHaran. The header features the name "HariHaran" in blue. A navigation bar at the top right includes links for Home, About, Education, Projects, Skills, and Contact. The main content area has a dark background with white text. It starts with a large heading "Hi, I'm K. HariHaran". Below it is a section titled "Information Technology Student" with a brief description: "Detail-oriented IT student skilled in Python, SQL, AI, and Algorithm Design. Passionate about building smart and efficient solutions." There are four call-to-action buttons: "Hire Me" (blue), "Download Resume" (green), "See GitHub" (orange), and "See LinkedIn" (blue). To the right, a "Quick Info" box contains the following details: "B.Tech IT (2022–2026)", "Tamil Nadu, India", "Future Devops engineer", and "GitHub: Hari-harani788".

HariHaran

Home About Education Projects Skills Contact

# Hi, I'm K. HariHaran

**Information Technology Student**  
Detail-oriented IT student skilled in Python, SQL, AI, and Algorithm Design.  
Passionate about building smart and efficient solutions.

[Hire Me](#) [Download Resume](#) [See GitHub](#)

[See LinkedIn](#)

**Quick Info**

- B.Tech IT (2022–2026)
- Tamil Nadu, India
- Future Devops engineer
- Github: Hari-harani788