Website Hosting In Cloud With Proper Security



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Outlook

In this research we will conclude all the ideal ways to host a website in cloud and the manage it with proper security. Cloud hosting provides website hosting and data storage without relying on server equipment.

The objective of this project is to cast the major advantages and methods to implement Cloud Hosting with Cloud providers. It provides improved site performance, high reliability and uptime, website security.

Cloud hosting is the ability to make applications and websites available on the internet using the cloud. Cloud hosting pools computing resources from a network of virtual and physical servers, allowing for greater scalability and flexibility to quickly make changes.

Introduction to Web Hosting

Web hosting is a service that stores your website or web application and makes it easily accessible across different devices such as desktop, mobile, and tablets.

Any web application or website is typically made of many files, such as images, videos, text, and code, that you need to store on special computers called servers.

The web hosting service provider maintains, configures, and runs physical servers that you can rent for your files.

Web site and web application hosting services also provide additional support, such as security, website backup, and website performance, which free up your time so that you can the core functions of your website.



Importance of Web Hosting

Hosting your business website on an internal server can be n an internal server can be time-consuming and expensive. Web hosting providers offer the following benefits.

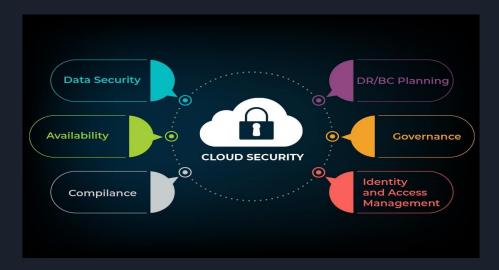
Performance: It invests in cutting-edge technology so that you get high-performing web servers with processing power, internal memory, and other computing resources. This improves website performance, and your visitors can load pages quickly.

Reliability: They perform regular system upgrades to maintain high security standards.

Technical Support: They also streamline website monitoring and analytics, data backup and recovery, and other similar features that make your website run more smoothly.

Importance of Web Hosting

Security and compliance: Web hosting services use an end-to-end approach to secure infrastructure, including physical, operational, and software measures that meet all compliance requirements.



Features of Web Hosting

The following are the main features generally provided:

- Storage space.
- Bandwidth and data transfer
- Email accounts
- POP3
- Forwarding mail
- Aliases
- FTP access



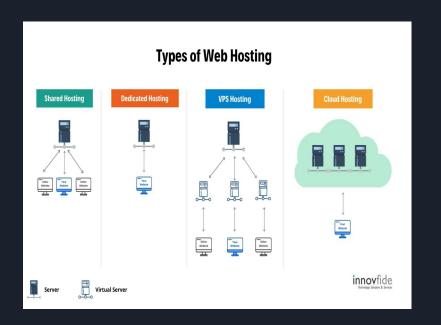
Features of Web Hosting

Apart from this your monthly web hosting cost can range from free to paid, depending on factors such as the following:

- Size of your website.
- Number of daily website visitors.
- Peak time website or webpage traffic.
- Web hosting features that you require.

Types of web hosting services

- Shared Hosting
- Dedicated Hosting
- VPS Hosting
- Cloud Hosting



Working of Web Hosting

Your web host reserves some space on its server for your website or web application when you open an account with them. From your hosting account dashboard, you can access and control this area. Additional resources like bandwidth, central processing unit (CPU), and random access memory (RAM) will also be made available to you. The kind of web hosting service you choose will determine how much server resources you get.

Selecting a web hosting package is comparable to leasing office space. Leasing a coworking space is the most affordable choice. You can eventually rent out an entire office or even an entire building as your business expands. On a server that you share with a number of other websites or web applications, you can also get started with free web hosting. You might eventually want to upgrade to more exclusive web server access or even rent the entire server!

Cloud Hosting

To reduce web hosting costs and enhance website performance, cloud hosting providers use resource sharing and scale. Your website's files are automatically replicated across several servers by the cloud hosting company while you share access to a cluster of servers. The hosting company will automatically route your traffic to another server if one of the cloud servers is overloaded. This significantly enhances website performance while lowering your ongoing expenses.



Why Cloud Hosting?

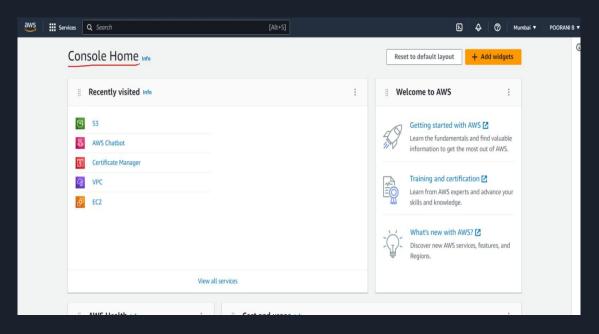
There are several options available in cloud hosting, it is suitable for all types of businesses, including the following:

- Small and medium businesses.
- Ecommerce and complex web applications.
- Government and nongovernmental organizations.
- Large enterprises with several domains.



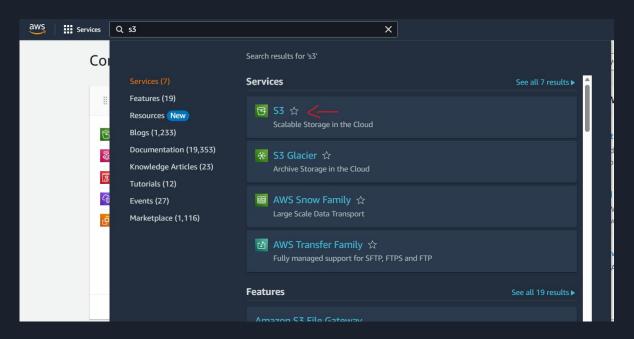
The following shows the best way to host a website in AWS Management Console

STEP 1 : Login to the AWS Console



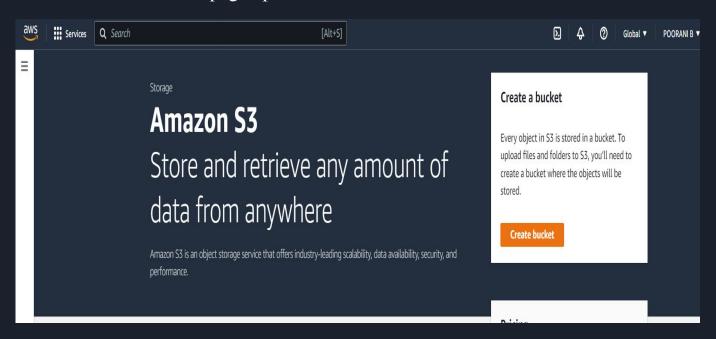
The following shows the best way to host a website in AWS Management Console

STEP 2: Select the S3 Service



The following shows the best way to host a website in AWS Management Console

STEP 3: Amazon S3 Service page opens



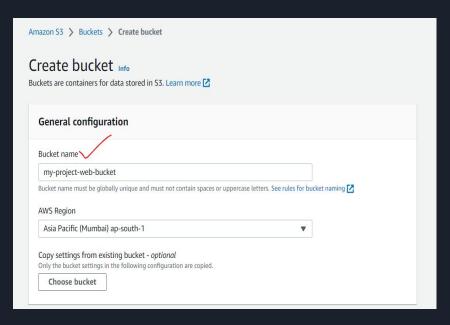
The following shows the best way to host a website in AWS Management Console

STEP 4: Choose the Create bucket option



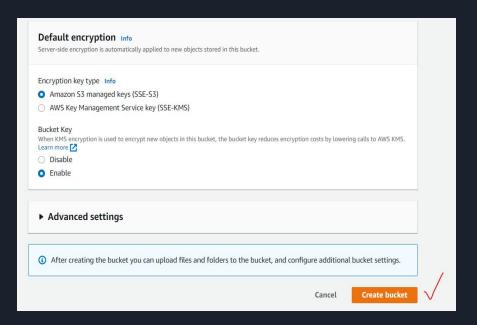
The following shows the best way to host a website in AWS Management Console

STEP 5 : Specify a unique name for the bucket



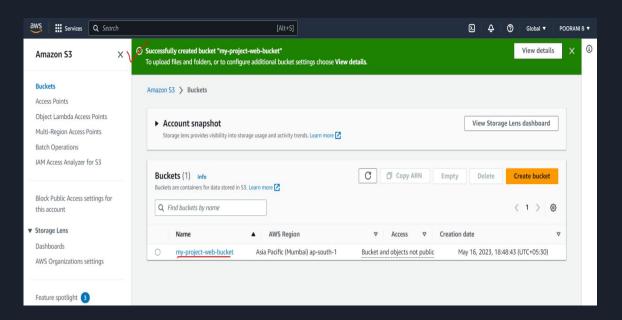
The following shows the best way to host a website in AWS Management Console

STEP 6 : Scroll down to click on CREATE BUCKET (modifications can be done on priorities)



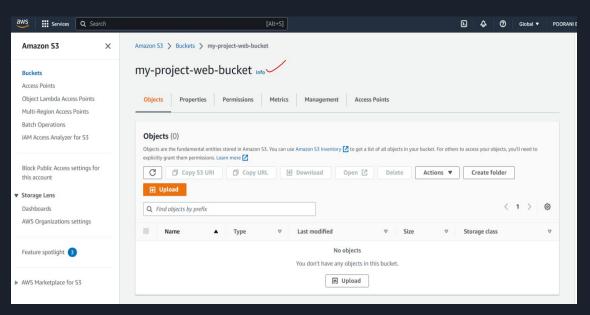
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STEP 7: my-project-web-bucket is created successfully



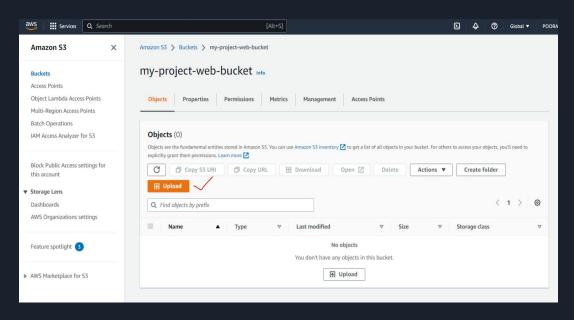
The following shows the best way to host a website in AWS Management Console

STEP 8 : Click on the bucket created



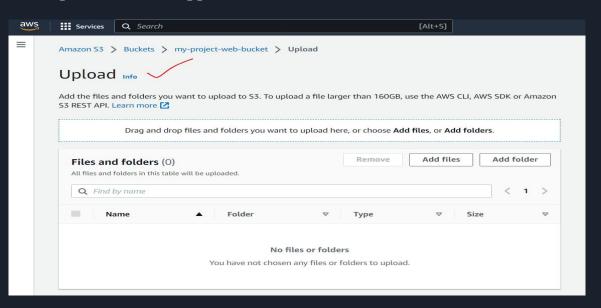
The following shows the best way to host a website in AWS Management Console

STEP 9 : Opt for the Upload button



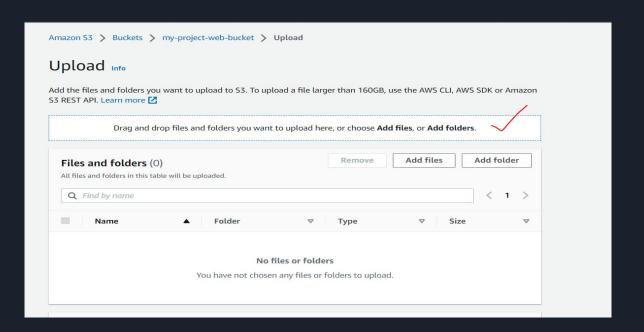
The following shows the best way to host a website in AWS Management Console

STEP 10 : Upload window appears



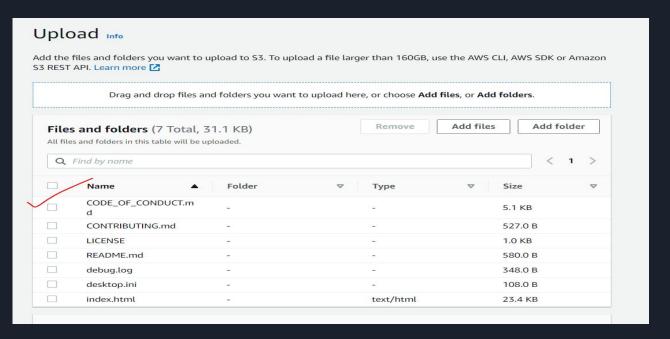
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STEP 11 : Adapt the "Add files" or "Add folders" to upload the necessary files



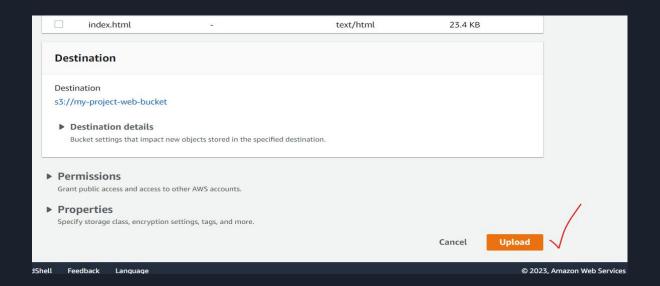
The following shows the best way to host a website in AWS Management Console

STEP 12: Make sure all the files are added



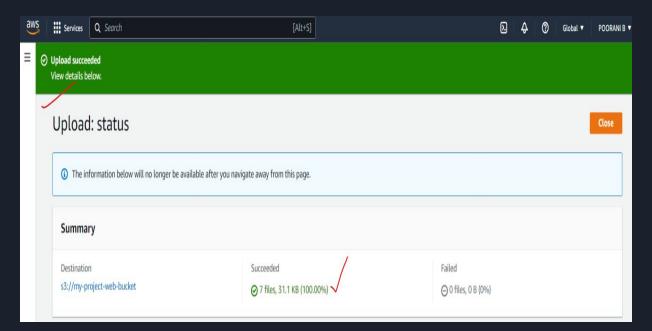
The following shows the best way to host a website in AWS Management Console

STEP 13: Click on "Upload" to continue



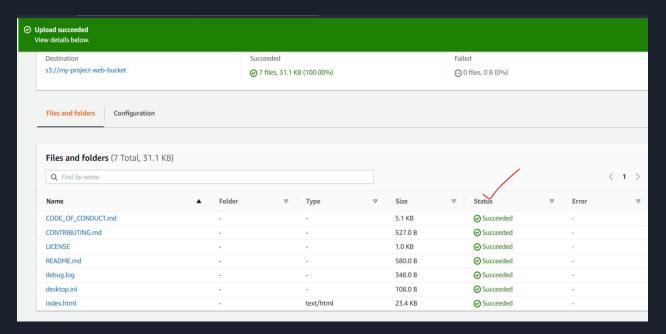
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STEP 14: Uploaded message pops up



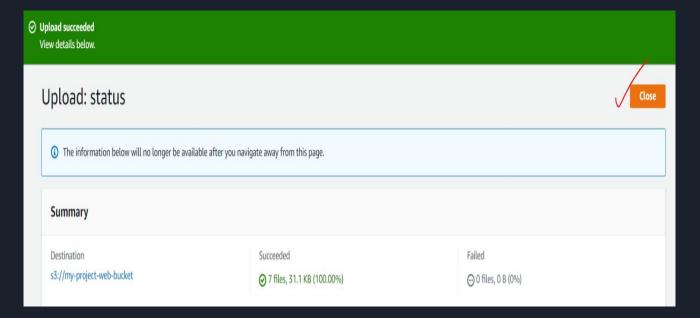
The following shows the best way to host a website in AWS Management Console

STEP 15 : All the files are uploaded properly



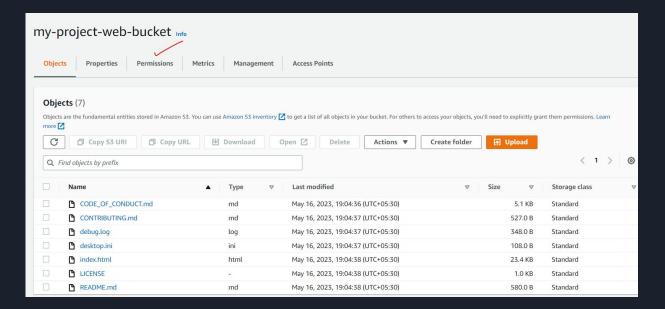
The following shows the best way to host a website in AWS Management Console

STEP 16: Now close the upload page



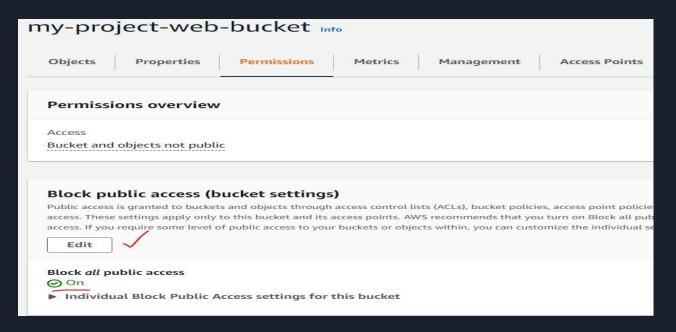
The following shows the best way to host a website in AWS Management Console

STEP 17 : Proceed with the "Permission" option



The following shows the best way to host a website in AWS Management Console

STEP 18 : Select the "Edit" button



The following shows the best way to host a website in AWS Management Console

STEP 19: Uncheck the box "Block all public access"

Edit Block public access (bucket settings) Info

Block public access (bucket settings)

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

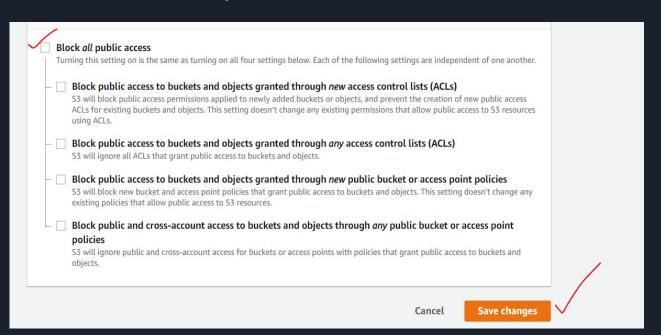
Turning this setting on is the same as turning on all four settings below. Each of the following settings are independent of one another.

Block public access to buckets and objects granted through new access control lists (ACLs)

S3 will block public access permissions applied to newly added buckets or objects, and prevent the creation of new public access ACLs for existing buckets and objects. This setting doesn't change any existing permissions that allow public access to S3 resources using ACLs.

The following shows the best way to host a website in AWS Management Console

STEP 20 : Click on "Save changes"



The following shows the best way to host a website in AWS Management Console

STEP 21: Type in "confirm" and then enter confirm

Δ	Updating the Block Public Access settings for this bucket will affect this	
	bucket and all objects within. This may result in some objects becoming public.	
	page.	
cor	firm the settings, enter <i>confirm</i> in the field.	
conf	irm 🗸	

The following shows the best way to host a website in AWS Management Console

STEP 22: The "on" changed to "off" for Block all public access



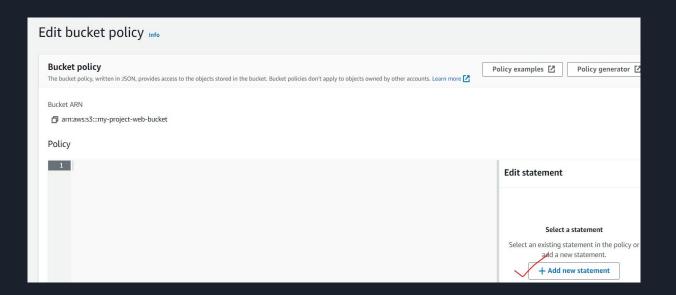
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STEP 23 : Select "Edit" option under Bucket policy

Bucket policy The bucket policy, written in JSON, provides access to the objects stored in the bucket. Bucket policies don't apply to objects owned by other accounts. Learn more 🔀	Edit Delete
No policy to display.	<u></u> Сору

The following shows the best way to host a website in AWS Management Console

STEP 24: In "Edit statement" section go to "Add new statement"



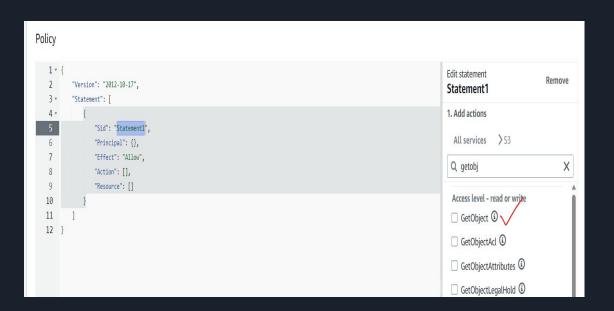
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STEP 25: For "Add actions" select S3

```
Policy
    1 - {
                                                                                                                                       Edit statement
                                                                                                                                                                        Remove
            "Version": "2012-10-17",
                                                                                                                                       Statement1
           "Statement": [
                                                                                                                                       1. Add actions
                   "Sid": "Statement1",
                                                                                                                                      Choose a service
                  "Principal": {},
                   "Effect": "Allow",
                                                                                                                                        Q 53
                   "Action": [],
                   "Resource": []
                                                                                                                                         Available .
                                                                                                                                        S3 Object Lambda
   12
                                                                                                                                        S3 Outposts
```

The following shows the best way to host a website in AWS Management Console

STEP 26 : Check the GetObject option



The following shows the best way to host a website in AWS Management Console

STEP 27 : Change — "Principal":"{}" ——— > "Principal":{"AWS": "*"}

"Resource": []—----------- Resource": "arn:aws:s3:::my-project-web-bucket/*"(bucket ARN)

```
Bucket ARN
 arn:aws:s3:::my-project-web-bucket
Policy
            "Version": "2012-10-17",
            "Statement": [
                    "Sid": "Statement1",
                    "Principal": {"AWS": "*"}.
                    "Effect": "Allow",
                    "Action": "s3:GetObject",
                    "Resource": "arn:aws:s3:::my-project-web-bucket/*
   10
   11
   12
```

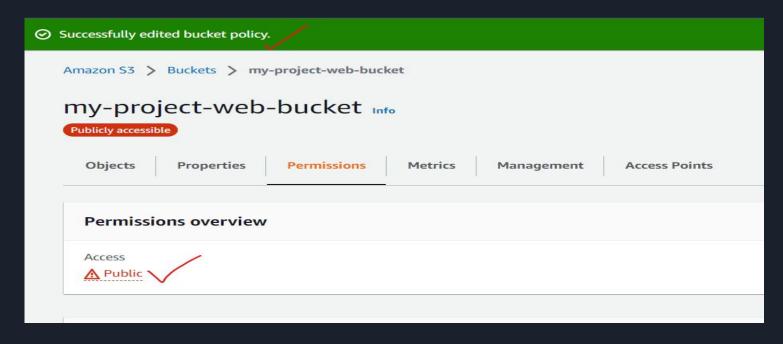
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STEP 28: Then Save the changes made

	2. Add a resource Add
+ Add new statement	3. Add a condition (optional) Add
JSON Ln 9, Col 50 ① Security: 0 ⊗ Errors: 1 ∧ Warnings: 0 ♀ Suggestions: 0	Preview external access

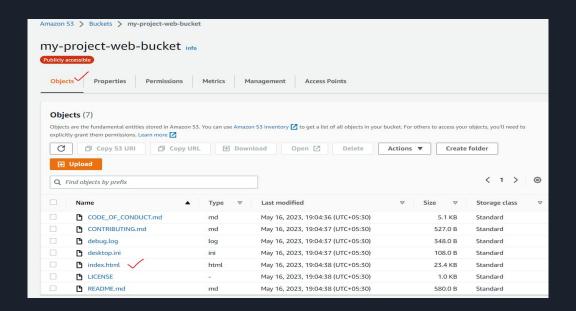
The following shows the best way to host a website in AWS Management Console

STEP 29: The bucket policy is edited and access is made public



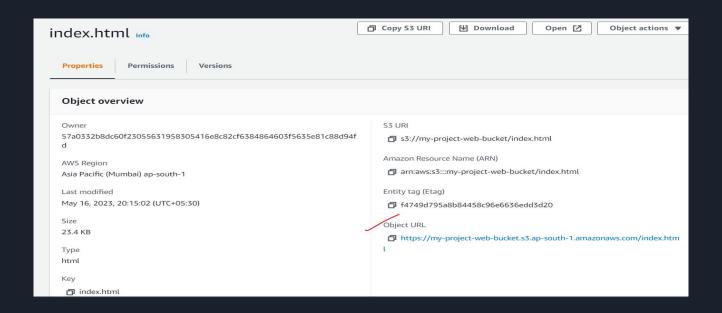
The following shows the best way to host a website in AWS Management Console

STEP 30: Under "Object" section click on "index.html"



The following shows the best way to host a website in AWS Management Console

STEP 31: Click the Object URL from "Object URL"



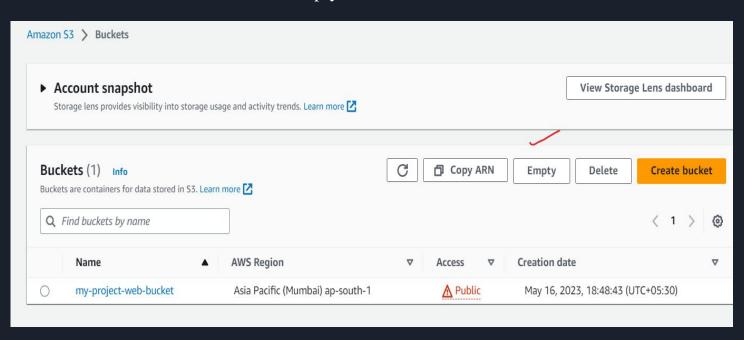
The following shows the best way to host a website in AWS Management Console

STEP 32: The website is displayed!



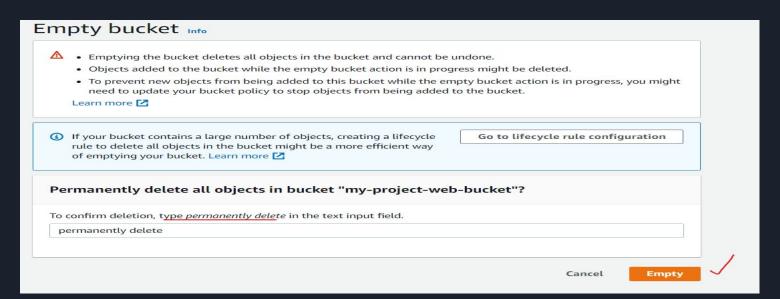
The following shows the way to delete a website in AWS Management Console

STEP 1 : To delete the bucket first empty the bucket



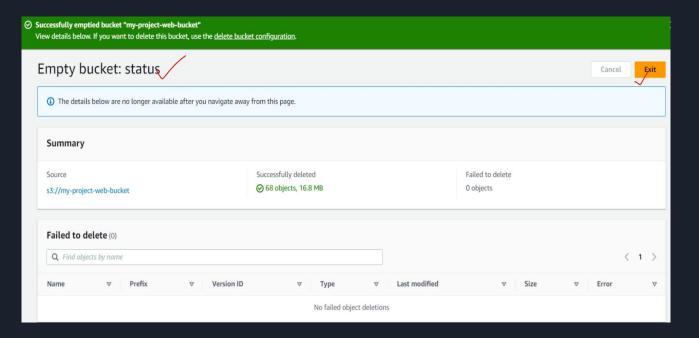
The following shows the way to delete a website in AWS Management Console

STEP 2 : Now click on "Empty"



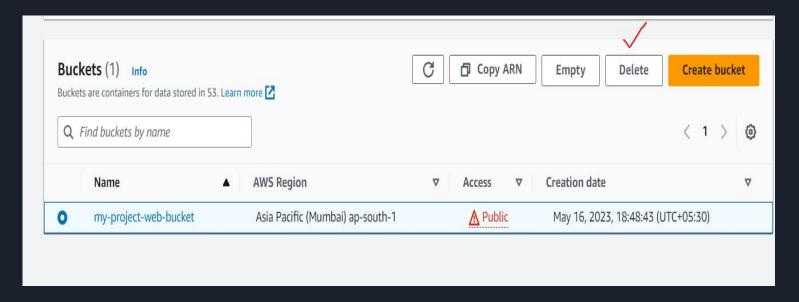
The following shows the way to delete a website in AWS Management Console

STEP 3: The bucket is completely emptied now, then select "Exit"



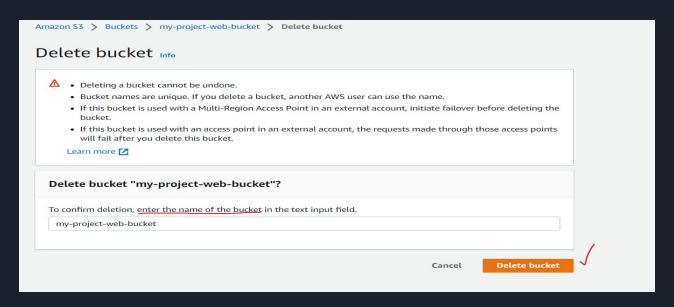
The following shows the way to delete a website in AWS Management Console

STEP 4: Now click "Delete" to delete the bucket



The following shows the way to delete a website in AWS Management Console

STEP 5 :Click on "Delete bucket" now



The following shows the way to delete a website in AWS Management Console

STEP 6: The Bucket is Successfully deleted permanently



Security In Web Hosting

Raise your security posture with AWS infrastructure and services. AWS allows you to automate manual security tasks so that you can shift your focus to scaling and innovating your business.

- Identity and access management
- Detection
- Network and application protection
- Data protection
- Compliance



Benefits of security

- Scale Securely with Superior Visibility and Control
- Automate and Reduce Risk with Deeply Integrated Services
- Build with the Highest Standards for Privacy and Data Security
- Largest Ecosystem of Security Partners and Solutions
- Inherit the Most Comprehensive Security and Compliance Controls

THANK YOU!