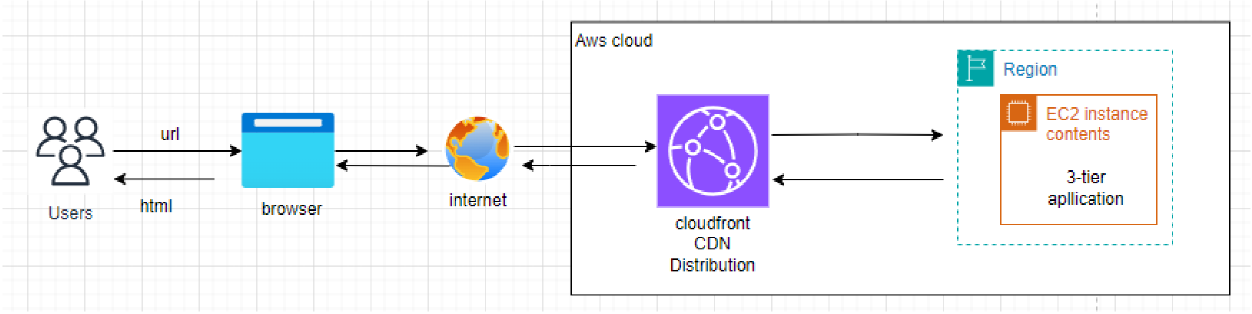
CLOUDFRONT

Amazon CloudFront is a web service that speeds up distribution of your static and dynamic web content, such as .html, .css, .js, and image files, to your users. CloudFront delivers your content through a worldwide network of data centers called edge locations. When a user requests content that you're serving with CloudFront, the request is routed to the edge location that provides the lowest latency (time delay), so that content is delivered with the best possible performance.

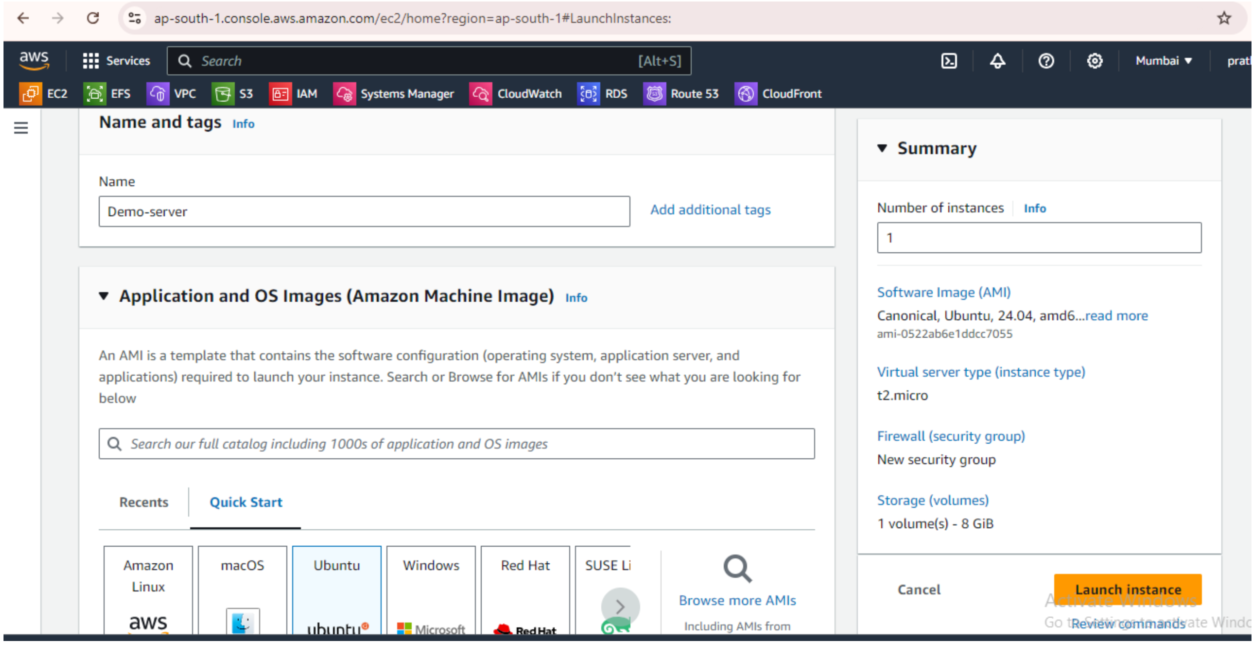
- If the content is already in the edge location with the lowest latency, CloudFront delivers it immediately.
- If the content is not in that edge location, CloudFront retrieves it from an origin that you've defined—such as an Amazon S3 bucket, a MediaPackage channel, or an HTTP server (for example, a web server) that you have identified as the source for the definitive version of your content.

Task :- create a cloudfront (distribution) service using Ec2 Instance & S3 Bucket

Diagram :-



Step 1:- create an Ec2 instance



Name and tags Info

Name

Demo-server

Add additional tags

▼ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

▼ Summary

Number of instances Info

1

Software Image (AMI)

Canonical, Ubuntu, 24.04, amd6...read more

ami-0522ab6e1ddcc7055

Virtual server type (instance type)

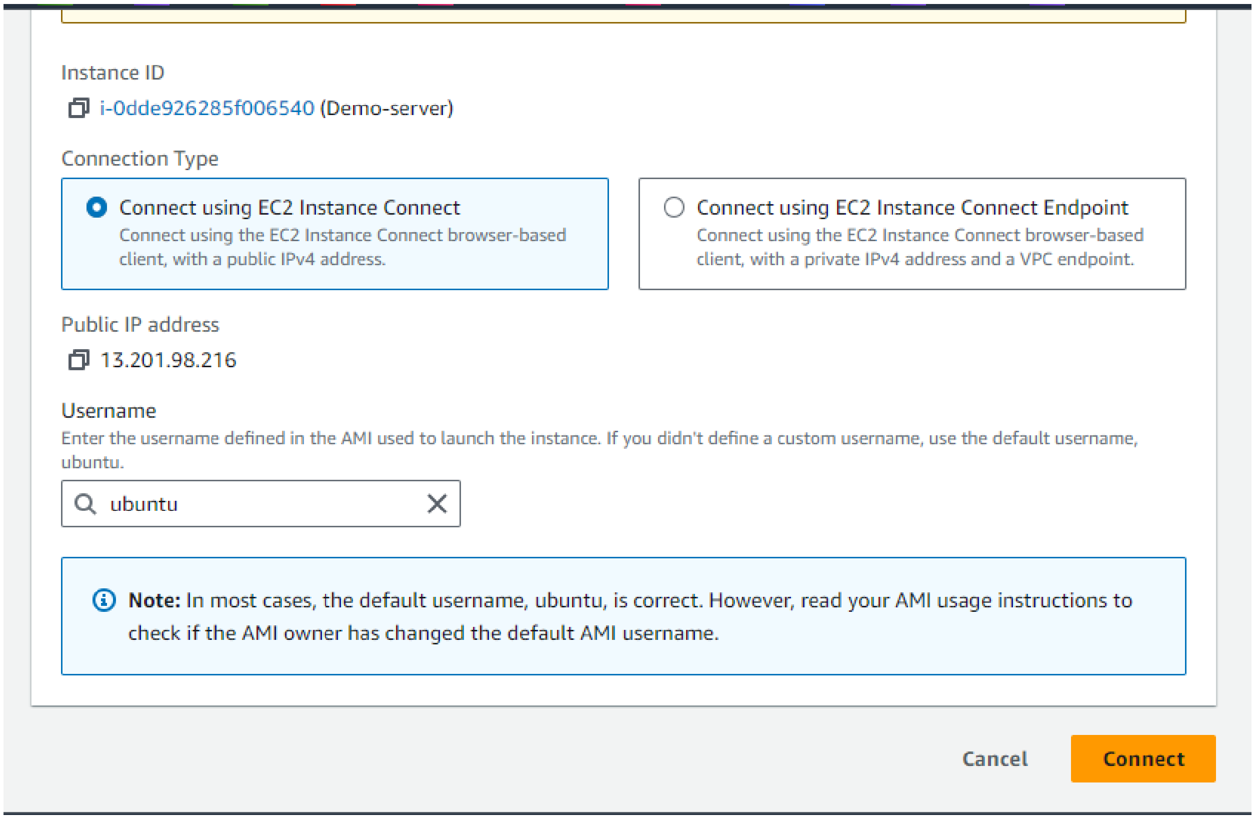
t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB



Instance ID

i-0dde926285f006540 (Demo-server)

Connection Type

● Connect using EC2 Instance Connect
Connect using the EC2 Instance Connect browser-based client, with a public IPv4 address.

○ Connect using EC2 Instance Connect Endpoint
Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.

Public IP address

13.201.98.216

Username

Enter the username defined in the AMI used to launch the instance. If you didn't define a custom username, use the default username, ubuntu.

ubuntu

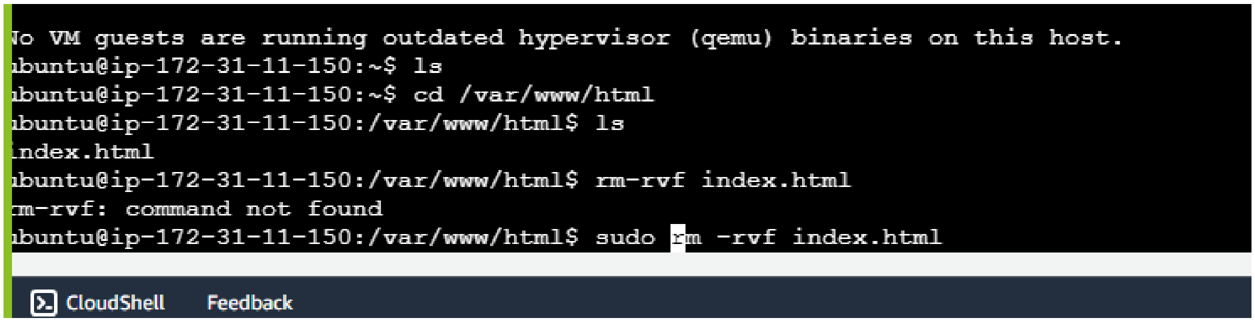
Note: In most cases, the default username, ubuntu, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

Step 2;- **sudo apt install apache2**

then move to home

directory of apache2 **cd /var/www/html/**

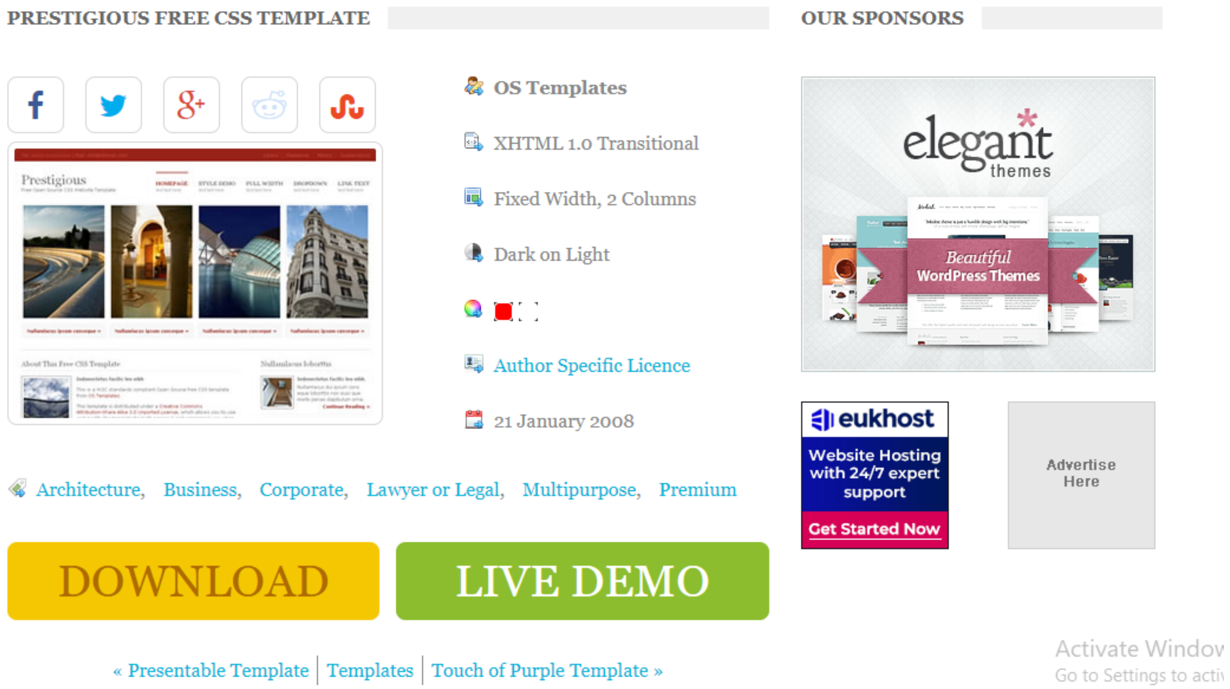
Remove **index.html** file that already exit



```
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-11-150:~$ ls
ubuntu@ip-172-31-11-150:~$ cd /var/www/html
ubuntu@ip-172-31-11-150:/var/www/html$ ls
index.html
ubuntu@ip-172-31-11-150:/var/www/html$ rm-rvf index.html
rm-rvf: command not found
ubuntu@ip-172-31-11-150:/var/www/html$ sudo rm -rvf index.html
```

step 3: Now download the free css template

wget https://www.free-css.com/assets/files/free-css-templates/download/page288/global.zip



PRESTIGIOUS FREE CSS TEMPLATE

OS Templates

XHTML 1.0 Transitional

Fixed Width, 2 Columns

Dark on Light

Author Specific Licence

21 January 2008

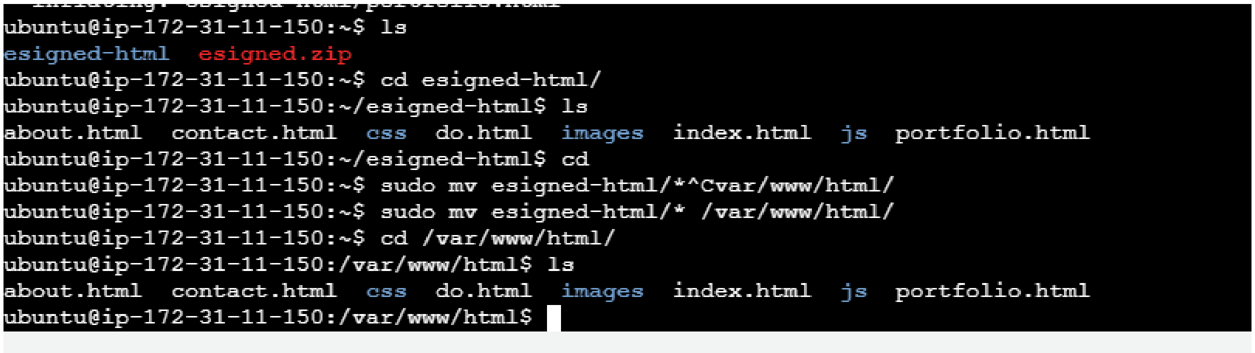
Architecture, Business, Corporate, Lawyer or Legal, Multipurpose, Premium

OUR SPONSORS

Unzip the file Sudo apt install unzip

Now move only file from unzip directory to HTML directory

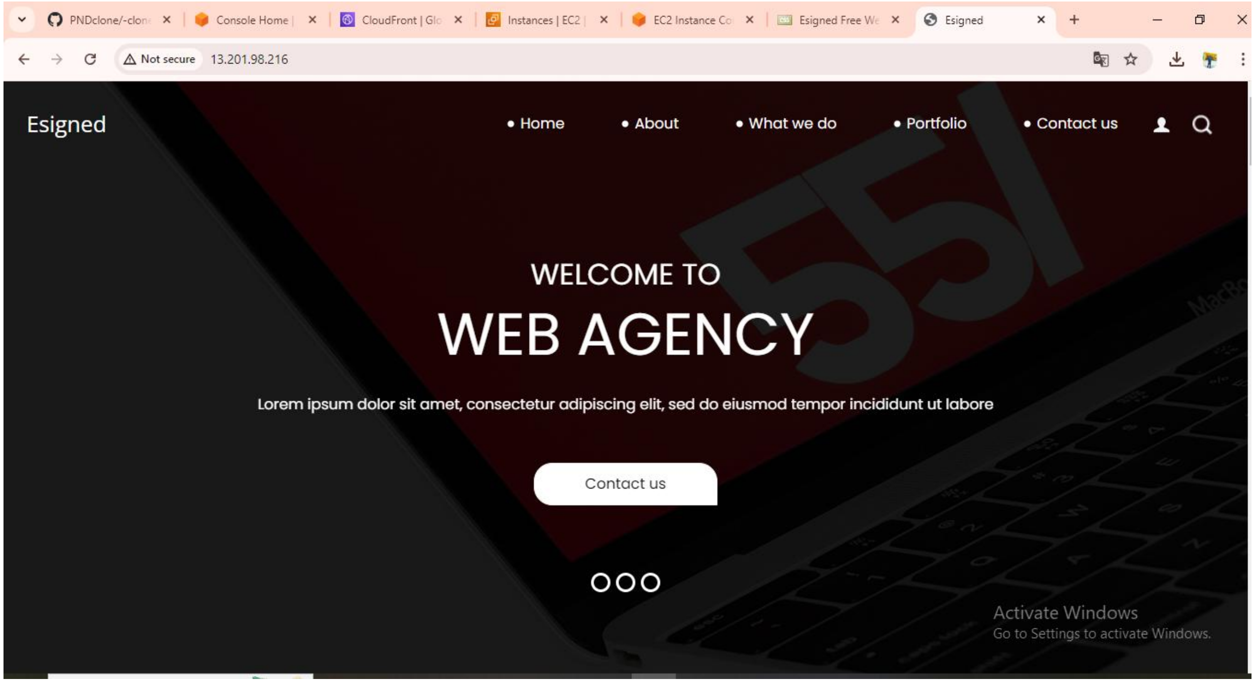
directory sudo mv esigned-html/* /var/www/html/



```
  inflating: esigned-html/portfolio.html
ubuntu@ip-172-31-11-150:~$ ls
esigned-html  esigned.zip
ubuntu@ip-172-31-11-150:~$ cd esigned-html/
ubuntu@ip-172-31-11-150:~/esigned-html$ ls
about.html  contact.html  css  do.html  images  index.html  js  portfolio.html
ubuntu@ip-172-31-11-150:~/esigned-html$ cd
ubuntu@ip-172-31-11-150:~$ sudo mv esigned-html/**^Cvar/www/html/
ubuntu@ip-172-31-11-150:~$ sudo mv esigned-html/* /var/www/html/
ubuntu@ip-172-31-11-150:~$ cd /var/www/html/
ubuntu@ip-172-31-11-150:/var/www/html$ ls
about.html  contact.html  css  do.html  images  index.html  js  portfolio.html
ubuntu@ip-172-31-11-150:/var/www/html$
```

Step 5 :- copy public Ip and paste to host website

http://13.201.98.216/



WELCOME TO

WEB AGENCY

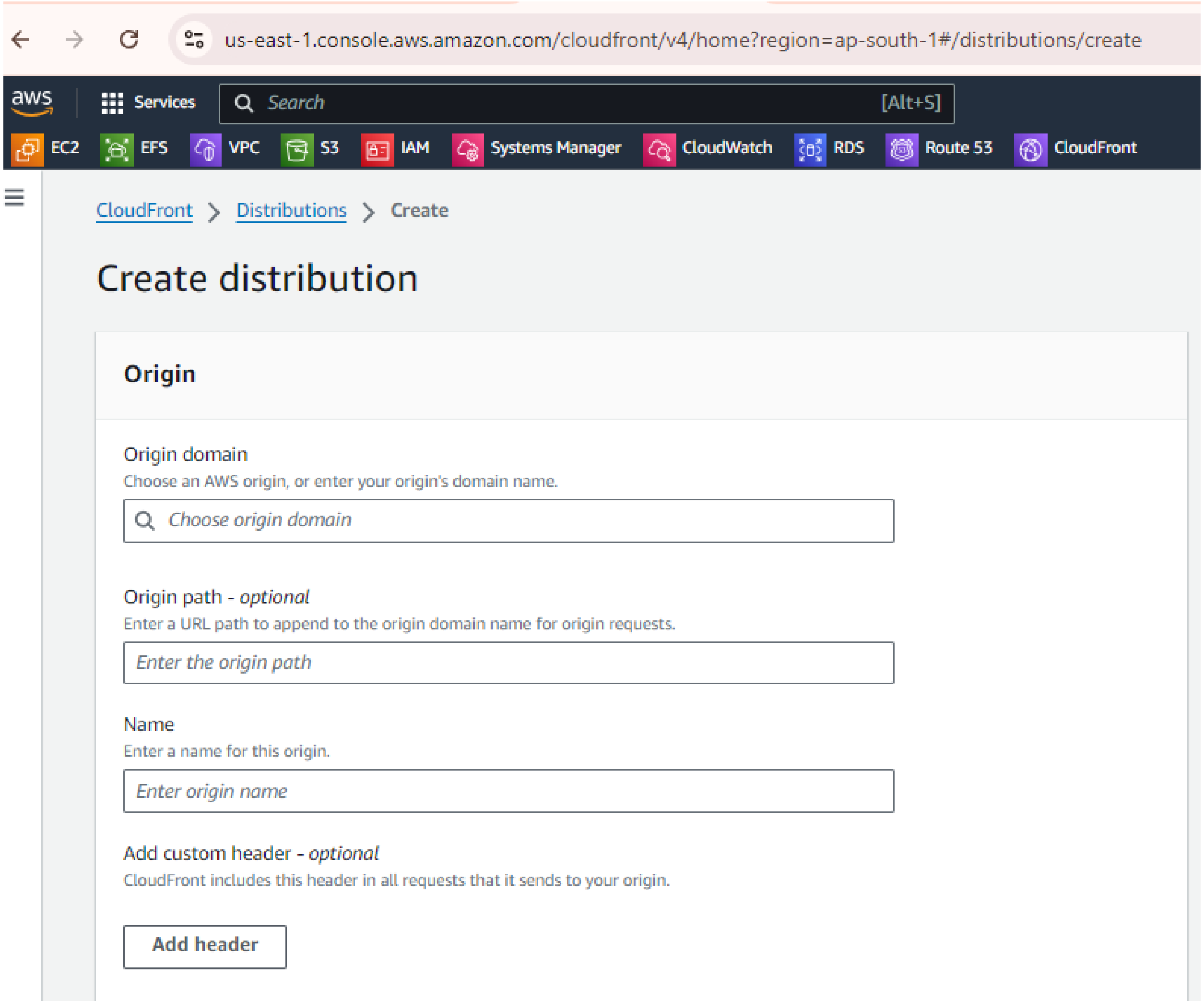
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore

Here we have a website on our instance

Now we will create a distribution in cloudfront (CDN) using this ec2 instance public DNS.

You can create a distribution in CloudFront to:- Deliver content faster, Deliver static content, Deliver dynamic content, Speed up serverless web applications, Protect your application.

Step 6:- create a distribution in cloudfront



us-east-1.console.aws.amazon.com/cloudfront/v4/home?region=ap-south-1#/distributions/create

Create distribution

Origin

Origin domain
Choose an AWS origin, or enter your origin's domain name.
Choose origin domain

Origin path - *optional*
Enter a URL path to append to the origin domain name for origin requests.
Enter the origin path

Name
Enter a name for this origin.
Enter origin name

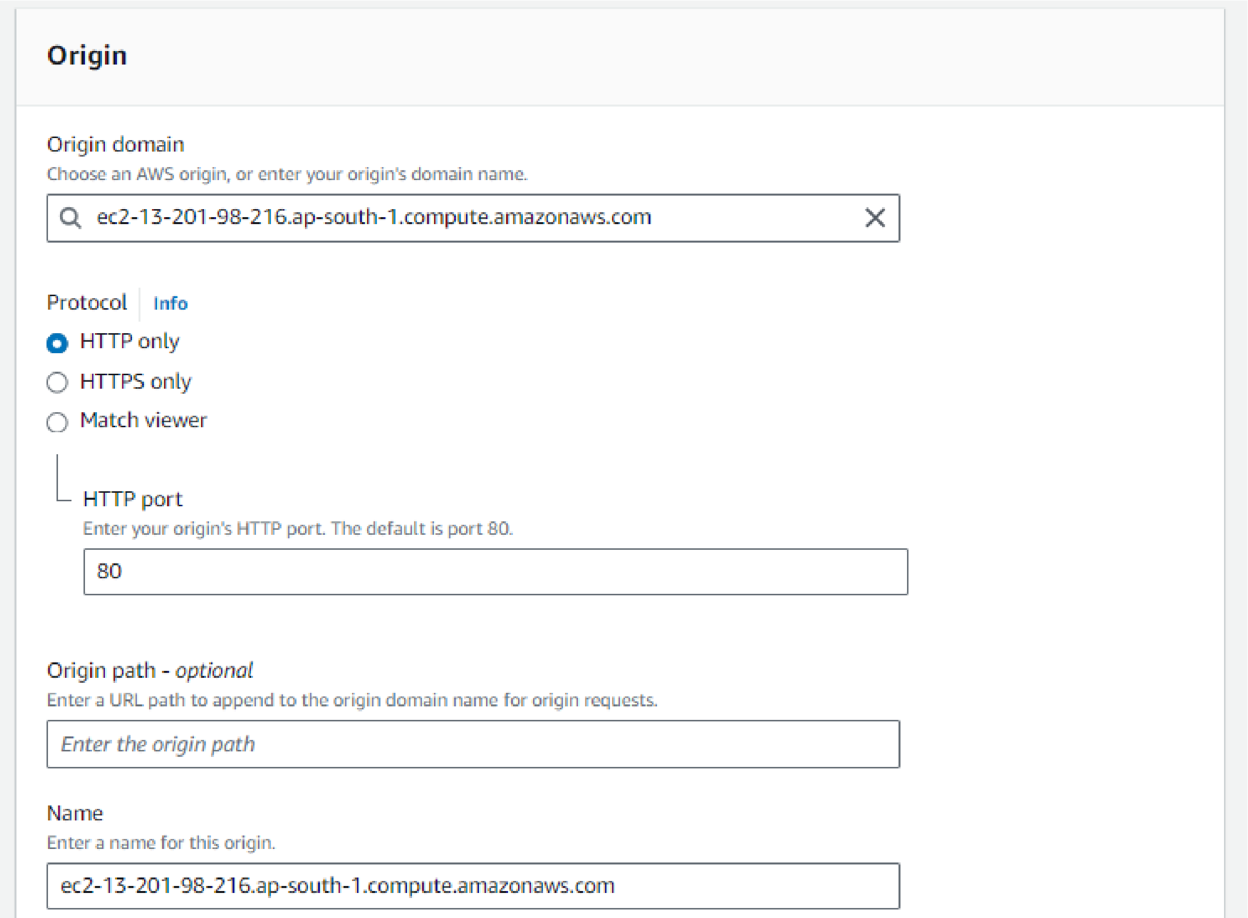
Add custom header - *optional*
CloudFront includes this header in all requests that it sends to your origin.

Here we will give our instance public ipv4 Dns in Origin domain

ec2-13-201-98-216.ap-south-1.compute.amazonaws.com

Here we have to select HTTP protocol only.

HTTP only is the default setting when the origin is an Amazon S3 static website hosting endpoint, because Amazon S3 doesn't support HTTPS connections for static website hosting endpoints.



Origin

Origin domain
Choose an AWS origin, or enter your origin's domain name.
ec2-13-201-98-216.ap-south-1.compute.amazonaws.com

Protocol | Info

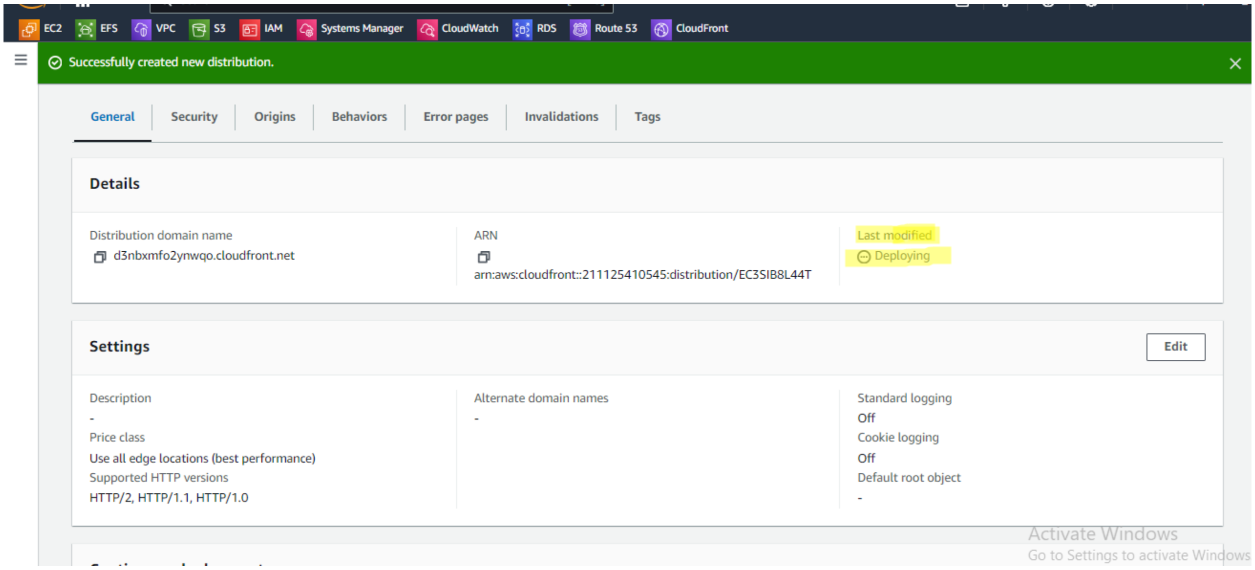
● HTTP only
○ HTTPS only
○ Match viewer

HTTP port
Enter your origin's HTTP port. The default is port 80.
80

Origin path - *optional*
Enter a URL path to append to the origin domain name for origin requests.
Enter the origin path

Name
Enter a name for this origin.
ec2-13-201-98-216.ap-south-1.compute.amazonaws.com

As we create a distribution we have to wait for deployment of file.



Successfully created new distribution.

Details

Distribution domain name
d3nbxmfo2ynwqo.cloudfront.net

ARN
arn:aws:cloudfront::211125410545:distribution/EC3SIB8L44T

Last modified
Deploying

Settings

Description
-
Price class
Use all edge locations (best performance)
Supported HTTP versions
HTTP/2, HTTP/1.1, HTTP/1.0

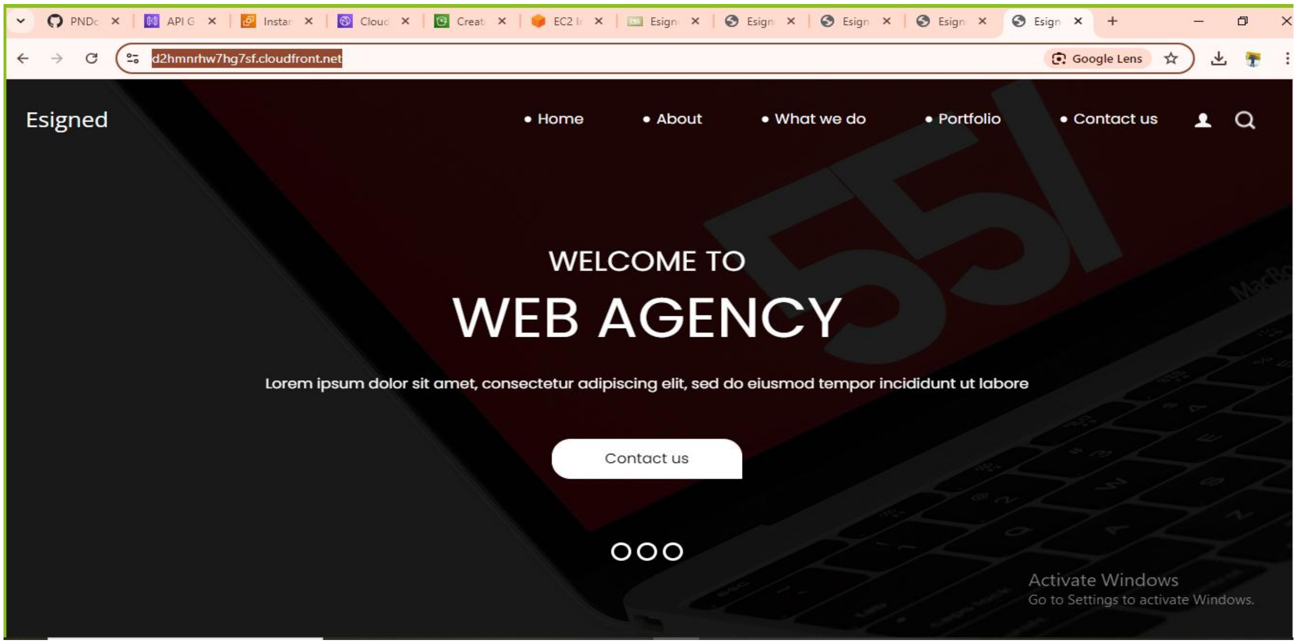
Alternate domain names
-

Standard logging
Off
Cookie logging
Off
Default root object
-

When deployment is done we will copy distribution domain name & paste on search bar.

https://d2hmnrhw7hg7sf.cloudfront.net/

output :-



WELCOME TO

WEB AGENCY

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore

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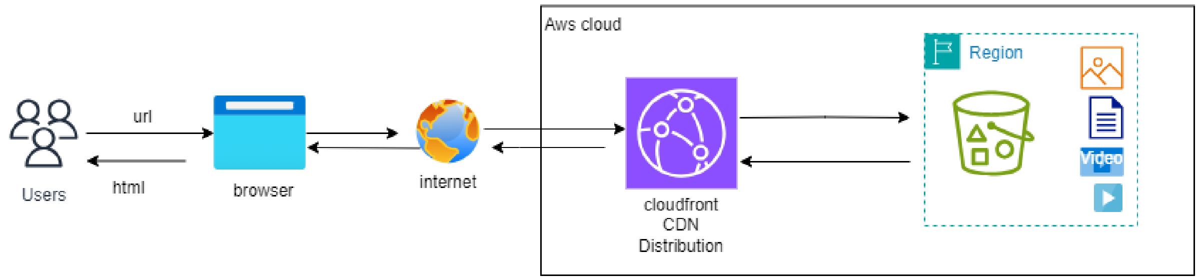
Now we will do using AWS S3 bucket

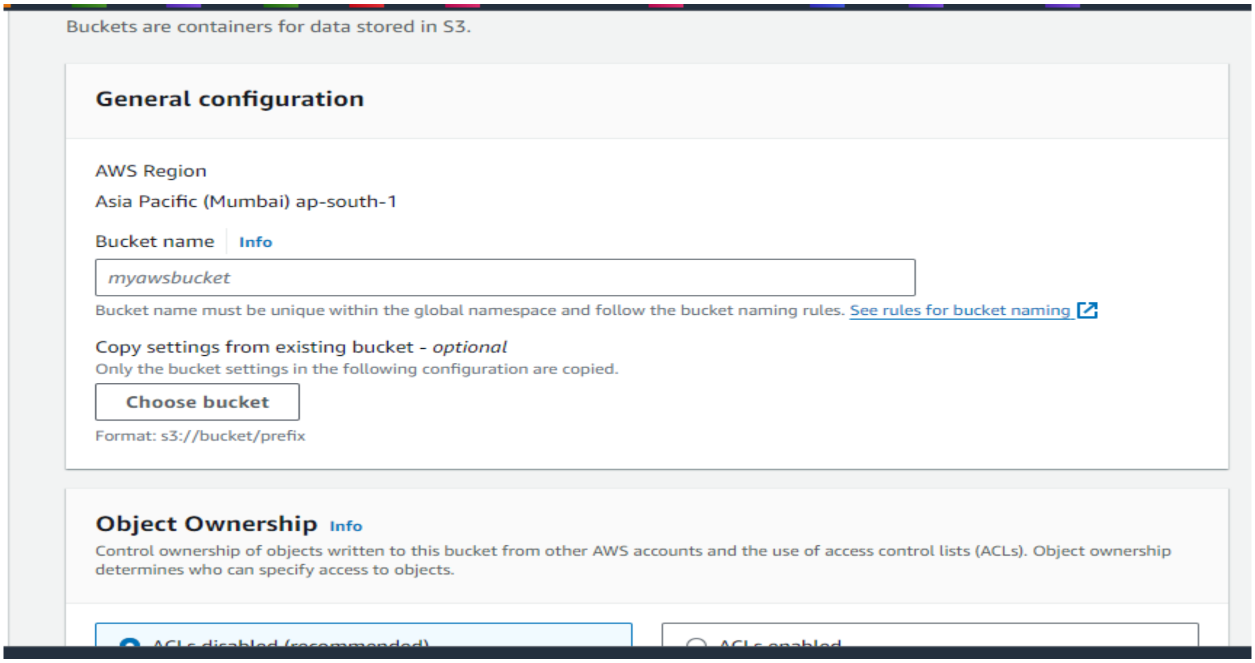
Diagram:-



Step 1 :- Create an AWS S3 bucket

Amazon Simple Storage Service (Amazon S3) is an object storage service that offers industry-leading scalability, data availability, security, and performance. Customers of all sizes and industries can use Amazon S3 to store and protect any amount of data for a range of use cases, such as data lakes, websites, mobile applications, backup and restore, archive, enterprise applications, IoT devices, and big data analytics. Amazon S3 provides management features so that you can optimize, organize, and configure access to your data to meet your specific business, organizational, and compliance requirements.

Give bucket name & create private bucket firstly



Buckets are containers for data stored in S3.

General configuration

AWS Region

Asia Pacific (Mumbai) ap-south-1

Bucket name | Info

myawsbucket

Bucket name must be unique within the global namespace and follow the bucket naming rules. See rules for bucket naming

Copy settings from existing bucket - *optional*

Only the bucket settings in the following configuration are copied.

Choose bucket

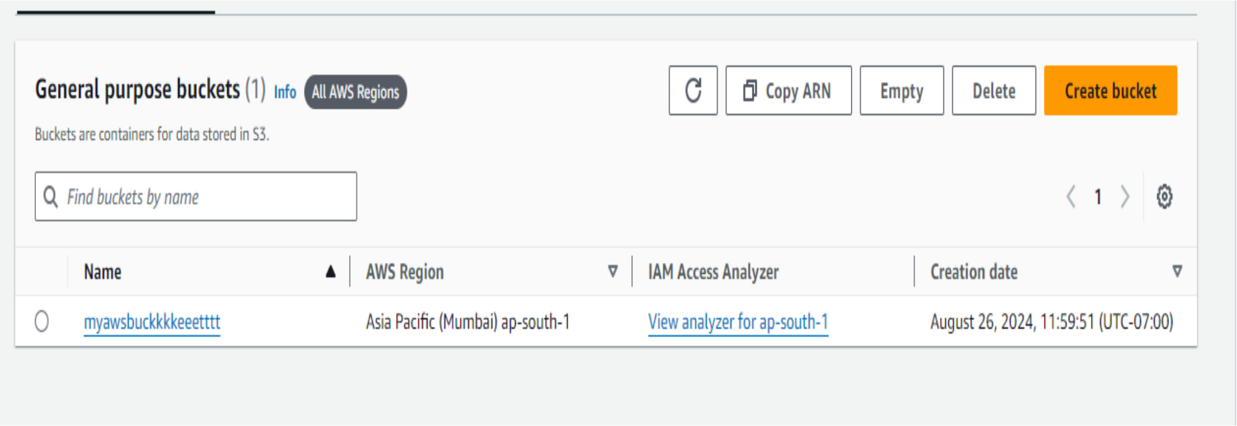
Format: s3://bucket/prefix

Object Ownership Info

Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

● ACLs disabled (recommended)

○ ACLs enabled



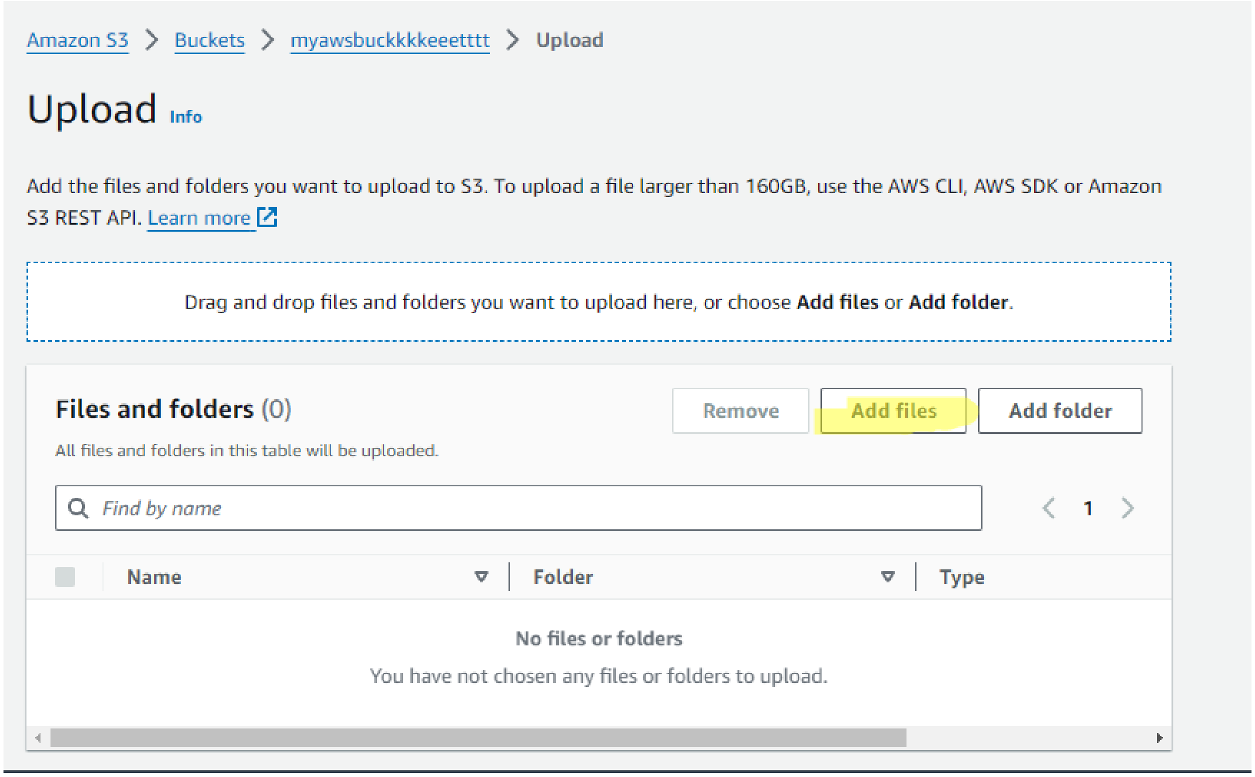
General purpose buckets (1) Info All AWS Regions

Buckets are containers for data stored in S3.

Find buckets by name

	Name ▲	AWS Region ▽	IAM Access Analyzer	Creation date ▽
○	myawsbuckkkkeeetttt	Asia Pacific (Mumbai) ap-south-1	View analyzer for ap-south-1	August 26, 2024, 11:59:51 (UTC-07:00)

Step 2:- Now we will upload file in bucket.



Upload

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**.

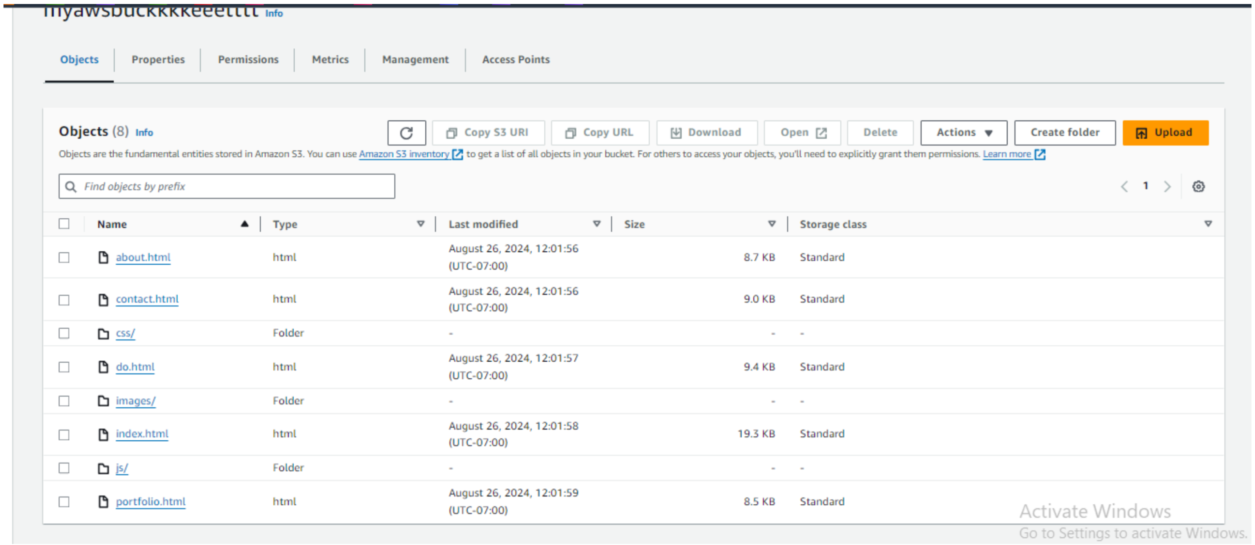
Files and folders (0)

All files and folders in this table will be uploaded.

Name	Folder	Type

No files or folders

You have not chosen any files or folders to upload.



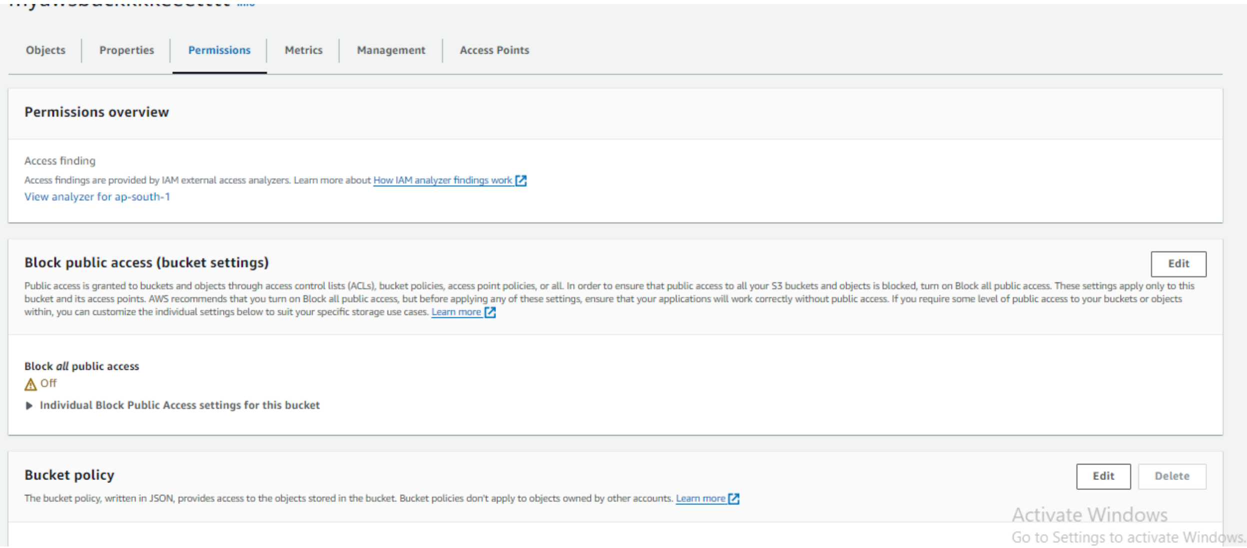
Objects (8)

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

□	Name	Type	Last modified	Size	Storage class
□	about.html	html	August 26, 2024, 12:01:56 (UTC-07:00)	8.7 KB	Standard
□	contact.html	html	August 26, 2024, 12:01:56 (UTC-07:00)	9.0 KB	Standard
□	css/	Folder	-	-	-
□	do.html	html	August 26, 2024, 12:01:57 (UTC-07:00)	9.4 KB	Standard
□	images/	Folder	-	-	-
□	index.html	html	August 26, 2024, 12:01:58 (UTC-07:00)	19.3 KB	Standard
□	js/	Folder	-	-	-
□	portfolio.html	html	August 26, 2024, 12:01:59 (UTC-07:00)	8.5 KB	Standard

Step 3:-Now we will make S3 bucket public

Go to permission of object & edit block public access.



Permissions overview

Access finding

Access findings are provided by IAM external access analyzers. Learn more about How IAM analyzer findings work

View analyzer for ap-south-1

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

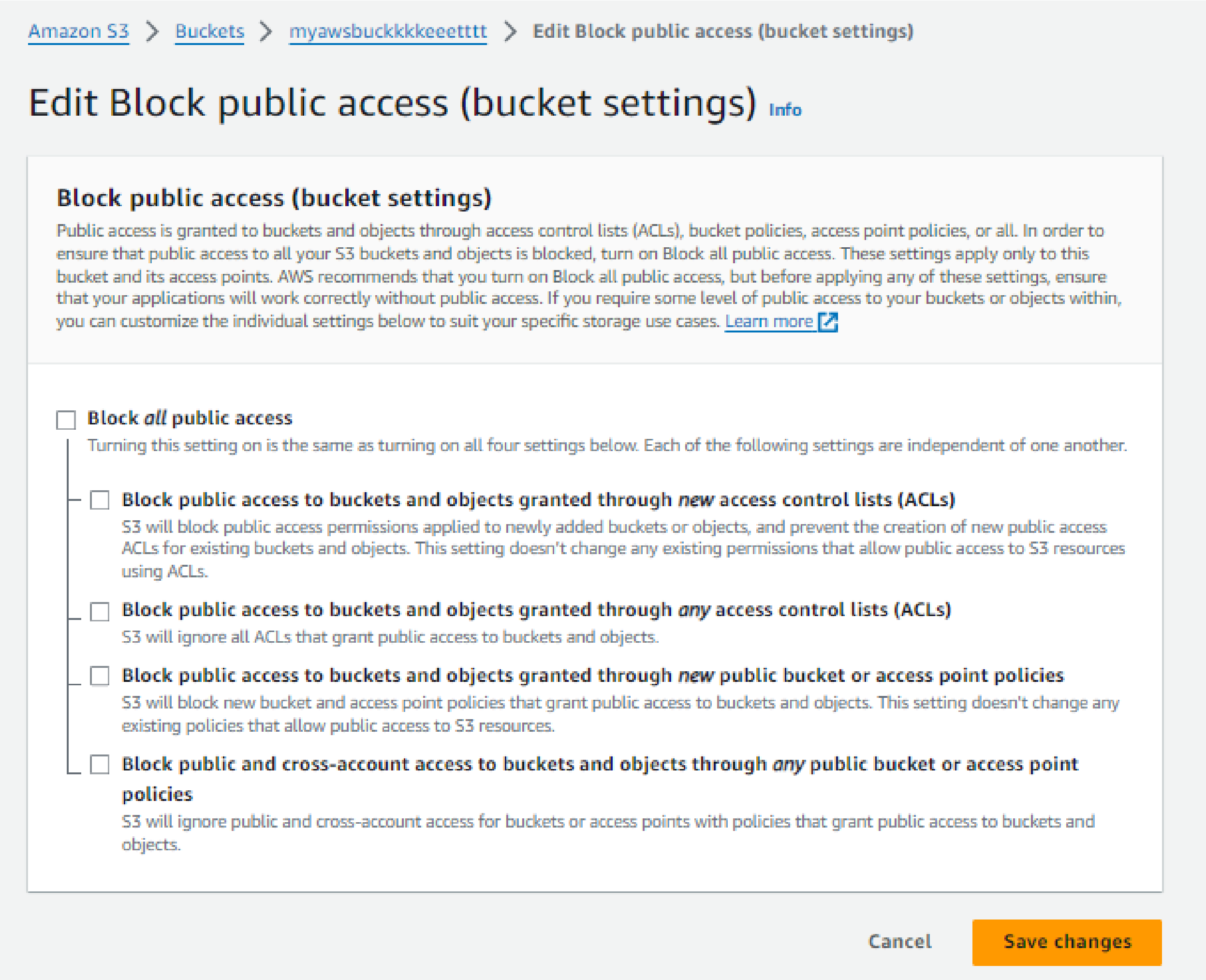
Block *all* public access

⚠ Off

▶ Individual Block Public Access settings for this bucket

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



Amazon S3 > Buckets > myawsbuckkkkeeetttt > Edit Block public access (bucket settings)

Edit Block public access (bucket settings) Info

Block public access (bucket settings)

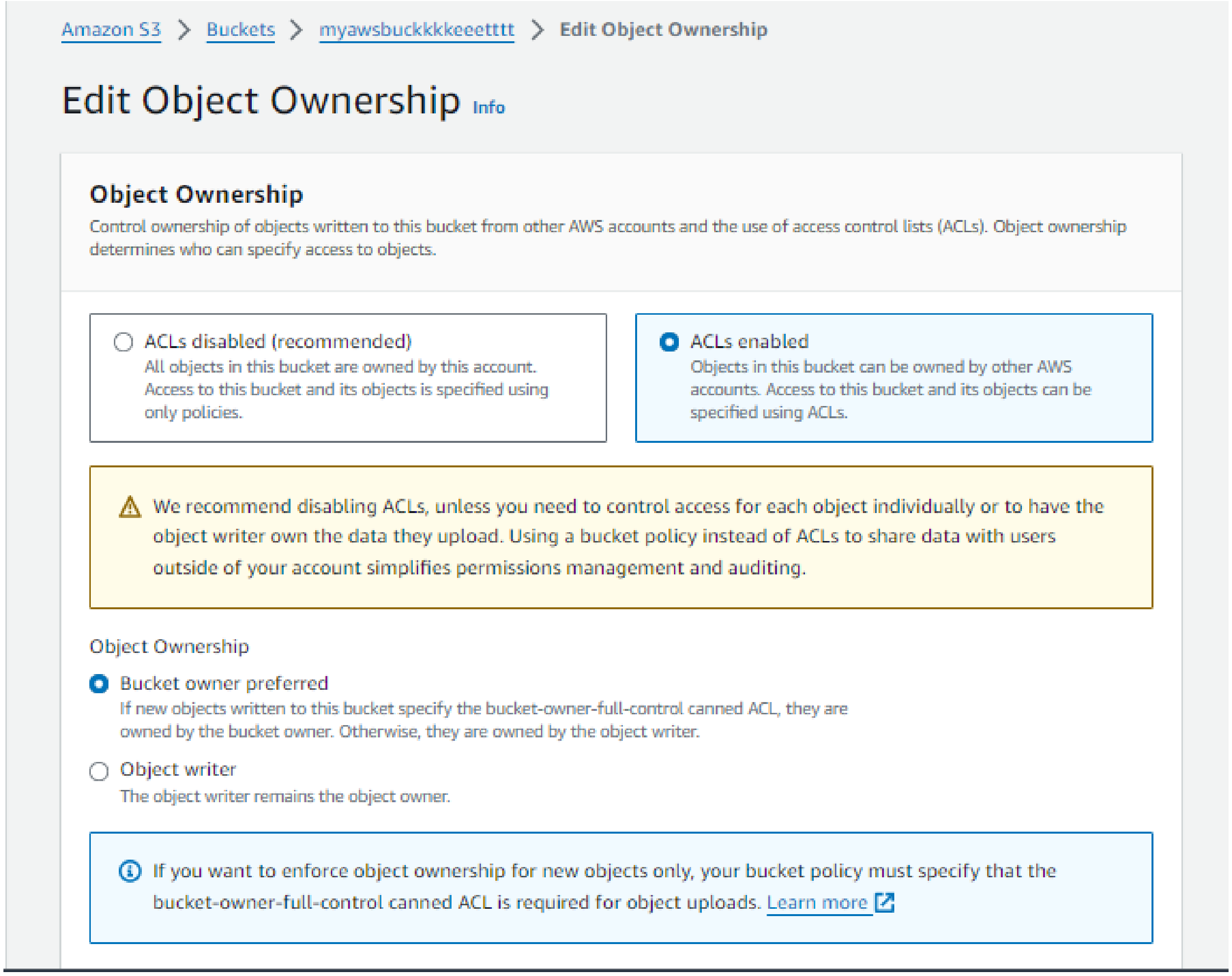
Public access is granted to buckets and objects through access control lists (ACLs), bucket policies, access point policies, or all. In order to ensure that public access to all your S3 buckets and objects is blocked, turn on Block all public access. These settings apply only to this bucket and its access 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.
- ☐ Block public access to buckets and objects granted through *any* access control lists (ACLs)
  S3 will ignore all ACLs that grant public access to buckets and objects.
- ☐ Block public access to buckets and objects granted through *new* public bucket or access point policies
  S3 will block new bucket and access point policies that grant public access to buckets and objects. This setting doesn't change any existing policies that allow public access to S3 resources.
- ☐ Block public and cross-account access to buckets and objects through *any* public bucket or access point policies
  S3 will ignore public and cross-account access for buckets or access points with policies that grant public access to buckets and objects.

Now we will edit object ownership permission & make ACLs enabled



Amazon S3 > Buckets > myawsbuckkkkeeetttt > Edit Object Ownership

Edit Object Ownership

Object Ownership

Control ownership of objects written to this bucket from other AWS accounts and the use of access control lists (ACLs). Object ownership determines who can specify access to objects.

○ ACLs disabled (recommended)
All objects in this bucket are owned by this account. Access to this bucket and its objects is specified using only policies.

● ACLs enabled
Objects in this bucket can be owned by other AWS accounts. Access to this bucket and its objects can be specified using ACLs.

⚠ We recommend disabling ACLs, unless you need to control access for each object individually or to have the object writer own the data they upload. Using a bucket policy instead of ACLs to share data with users outside of your account simplifies permissions management and auditing.

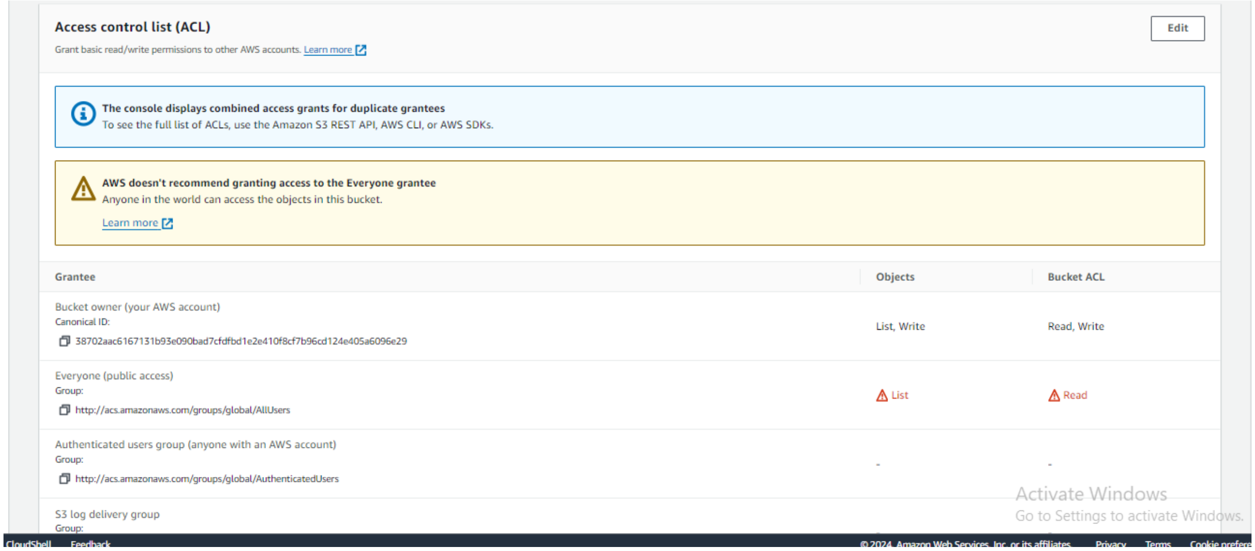
Object Ownership

● Bucket owner preferred
If new objects written to this bucket specify the bucket-owner-full-control canned ACL, they are owned by the bucket owner. Otherwise, they are owned by the object writer.

○ Object writer
The object writer remains the object owner.

ⓘ If you want to enforce object ownership for new objects only, your bucket policy must specify that the bucket-owner-full-control canned ACL is required for object uploads. Learn more

After this we will edit ACLs & give list & Read permission for everyone.



Access control list (ACL)

Grant basic read/write permissions to other AWS accounts. Learn more

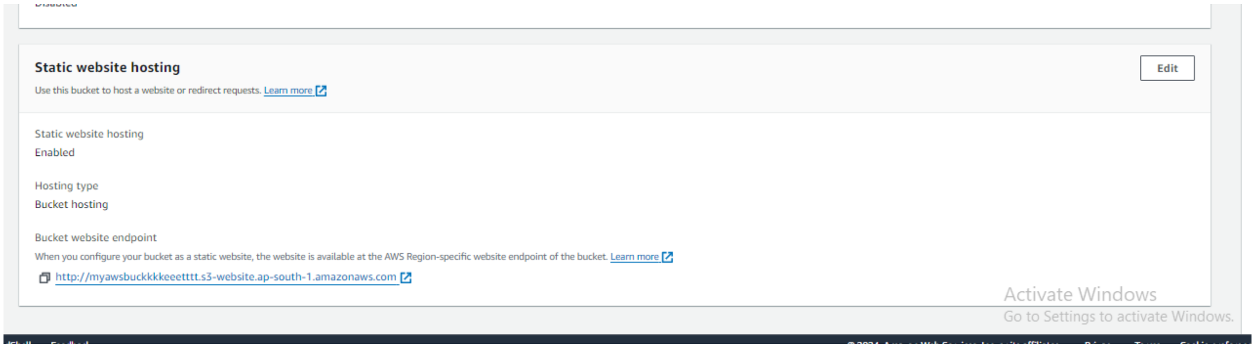
ⓘ **The console displays combined access grants for duplicate grantees**
To see the full list of ACLs, use the Amazon S3 REST API, AWS CLI, or AWS SDKs.

⚠ **AWS doesn't recommend granting access to the Everyone grantee**
Anyone in the world can access the objects in this bucket.
Learn more

Grantee	Objects	Bucket ACL
Bucket owner (your AWS account) Canonical ID: 38702aac6167131b93e090bad7cfdfbd1e2e410f8cf7b96cd124e405a6096e29	List, Write	Read, Write
Everyone (public access) Group: http://acs.amazonaws.com/groups/global/AllUsers	⚠ List	⚠ Read
Authenticated users group (anyone with an AWS account) Group: http://acs.amazonaws.com/groups/global/AuthenticatedUsers	-	-
S3 log delivery group Group:		

Activate Windows
Go to Settings to activate Windows.
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie prefere

After this we will go to object properties & edit static website Hosting & make it enable.



Static website hosting

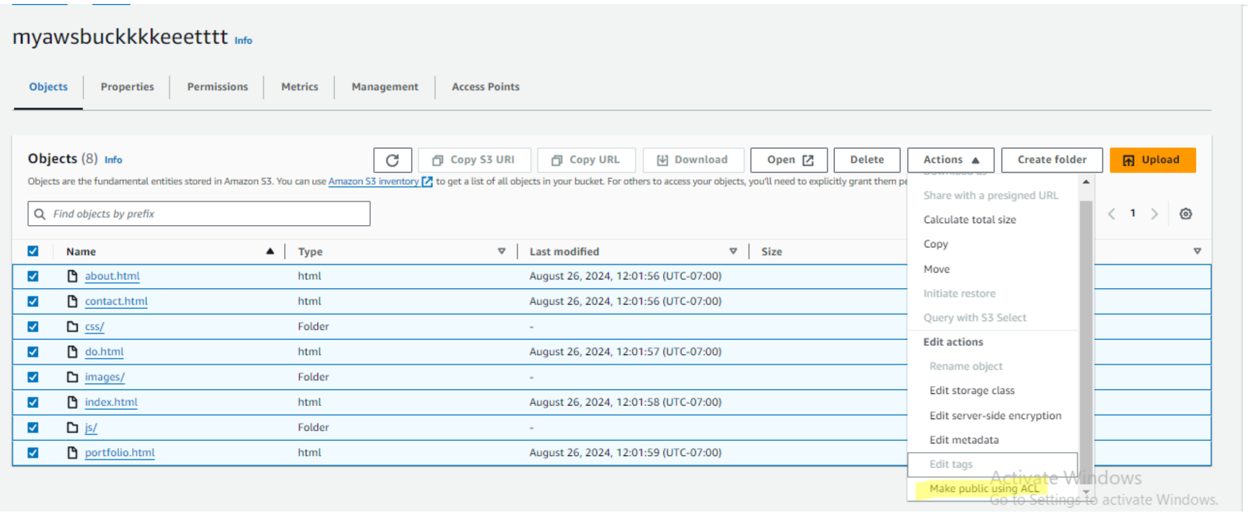
Use this bucket to host a website or redirect requests. Learn more

Static website hosting
Enabled

Hosting type
Bucket hosting

Bucket website endpoint
When you configure your bucket as a static website, the website is available at the AWS Region-specific website endpoint of the bucket. Learn more
http://myawsbuckkkkeeetttt.s3-website.ap-south-1.amazonaws.com

Now will select all object & go to action & select make public using ACL option.



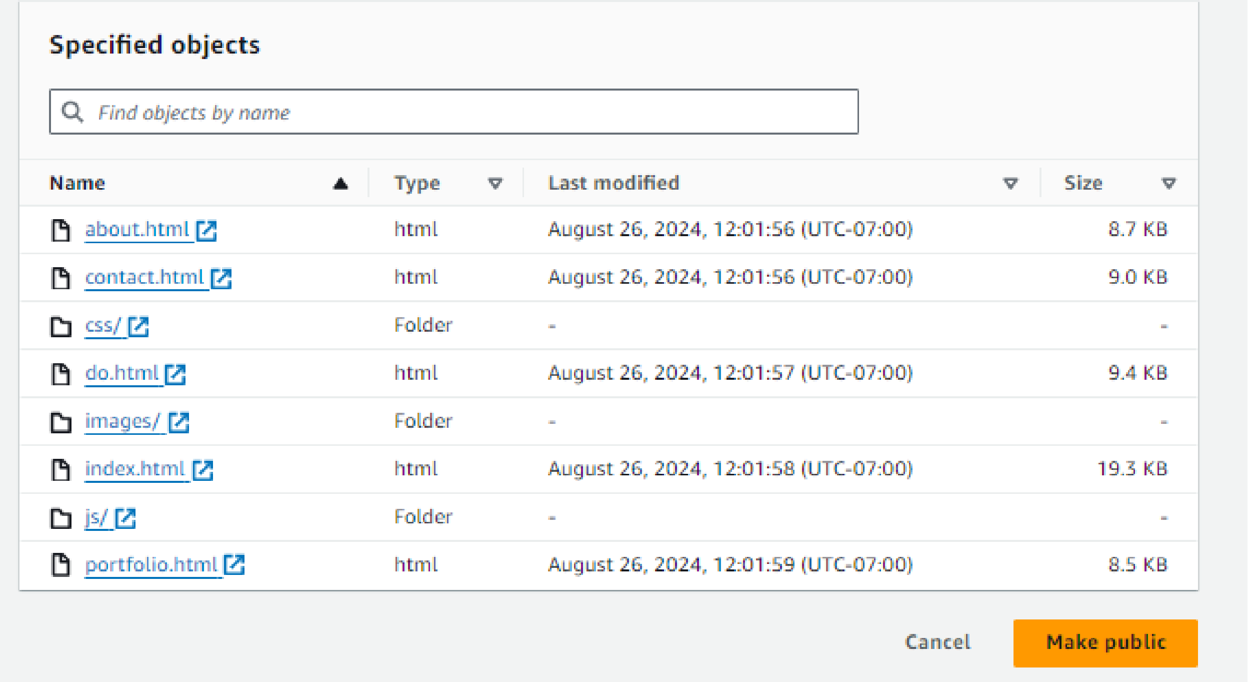
myawsbuckkkkeeetttt Info

Objects (8) Info

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 pe

Find objects by prefix

☑	Name ▲	Type	Last modified	Size
☑	about.html	html	August 26, 2024, 12:01:56 (UTC-07:00)	
☑	contact.html	html	August 26, 2024, 12:01:56 (UTC-07:00)	
☑	css/	Folder	-	
☑	do.html	html	August 26, 2024, 12:01:57 (UTC-07:00)	
☑	images/	Folder	-	
☑	index.html	html	August 26, 2024, 12:01:58 (UTC-07:00)	
☑	js/	Folder	-	
☑	portfolio.html	html	August 26, 2024, 12:01:59 (UTC-07:00)	



Specified objects

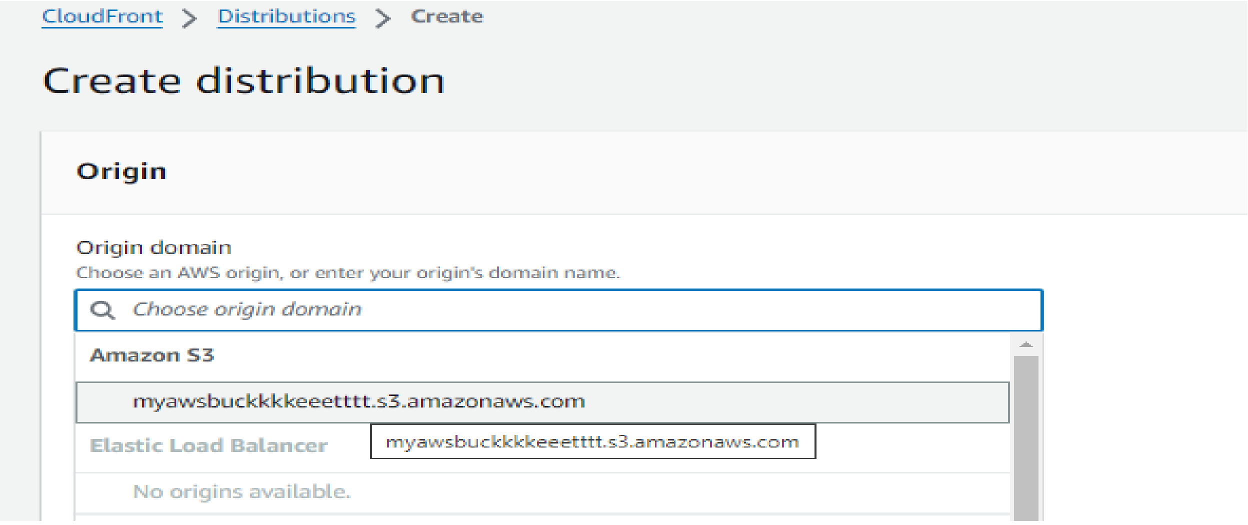
Find objects by name

Name	Type	Last modified	Size
about.html	html	August 26, 2024, 12:01:56 (UTC-07:00)	8.7 KB
contact.html	html	August 26, 2024, 12:01:56 (UTC-07:00)	9.0 KB
css/	Folder	-	-
do.html	html	August 26, 2024, 12:01:57 (UTC-07:00)	9.4 KB
images/	Folder	-	-
index.html	html	August 26, 2024, 12:01:58 (UTC-07:00)	19.3 KB
js/	Folder	-	-
portfolio.html	html	August 26, 2024, 12:01:59 (UTC-07:00)	8.5 KB

Now we will create a distribution in cloudfront (CDN) using this S3 Bucket Endpoint

Step 4:- create a distribution in cloudfront

Here in origin domain we will select the amazon S3 bucket endpoint.



CloudFront > Distributions > Create

Create distribution

Origin

Origin domain

Choose an AWS origin, or enter your origin's domain name.

Amazon S3

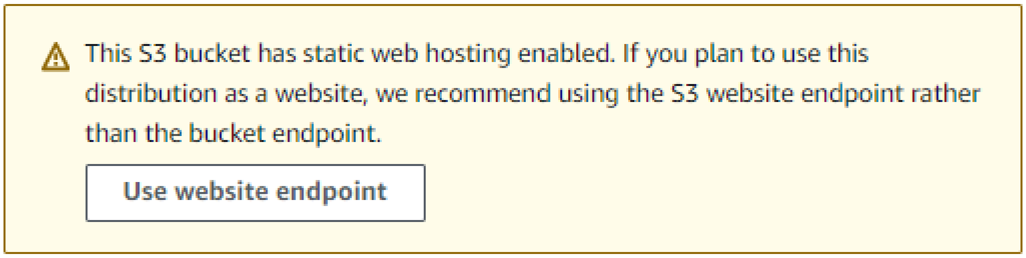
myawsbuckkkkeeetttt.s3.amazonaws.com

Elastic Load Balancer

myawsbuckkkkeeetttt.s3.amazonaws.com

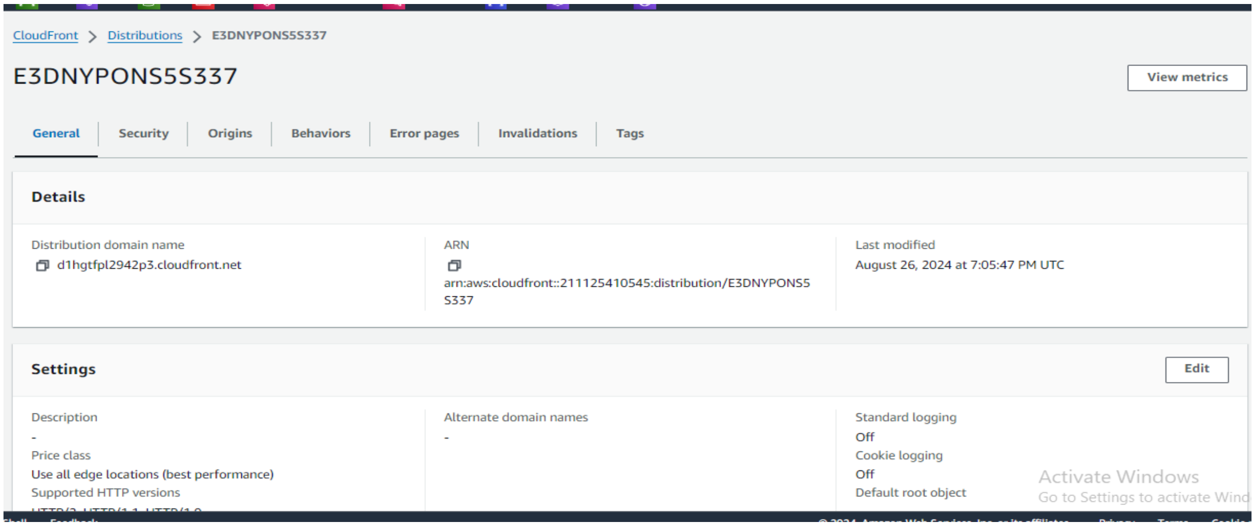
No origins available.

Select the use website endpoint popup given by aws.



This S3 bucket has static web hosting enabled. If you plan to use this distribution as a website, we recommend using the S3 website endpoint rather than the bucket endpoint.

As we create a distribution we have to wait for deployment of file.



CloudFront > Distributions > E3DNYPONS5S337

E3DNYPONS5S337

Details

Distribution domain name
d1hgtfpl2942p3.cloudfront.net

ARN
arn:aws:cloudfront::211125410545:distribution/E3DNYPONS5S337

Last modified
August 26, 2024 at 7:05:47 PM UTC

Settings

Description
-

Price class
Use all edge locations (best performance)

Supported HTTP versions

Alternate domain names
-

Standard logging
Off

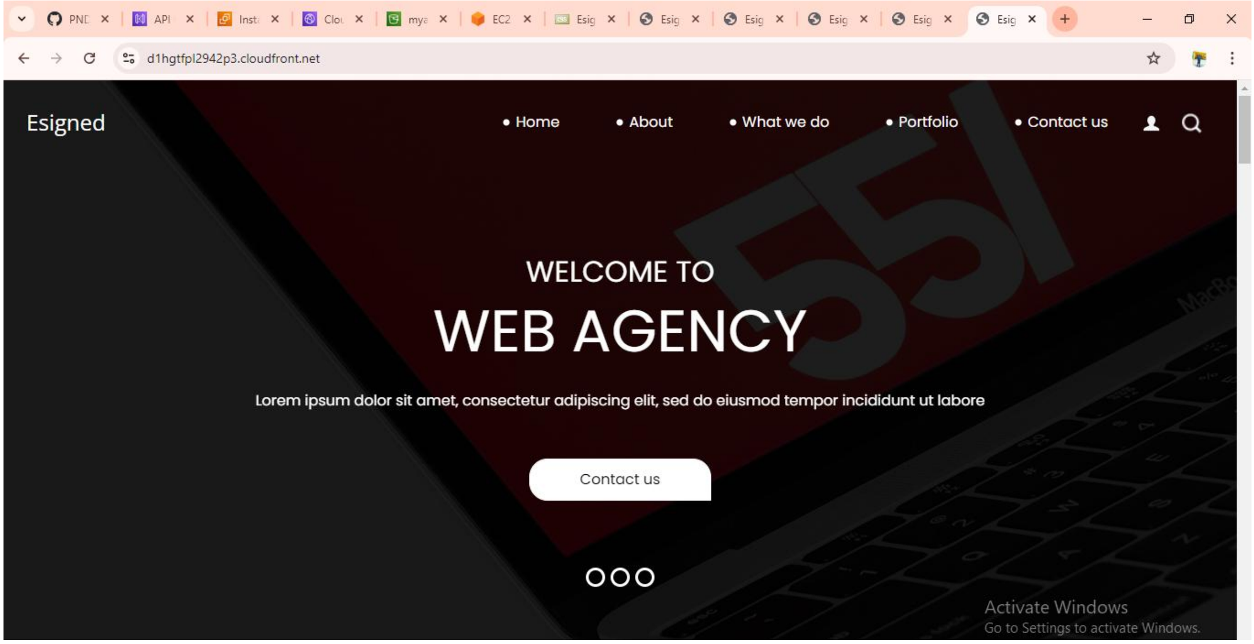
Cookie logging
Off

Default root object

When deployment is done we will copy distribution domain name & paste on search bar.

https://d1hgtfpl2942p3.cloudfront.net

output :-



d1hgtfpl2942p3.cloudfront.net

WELCOME TO

WEB AGENCY

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore