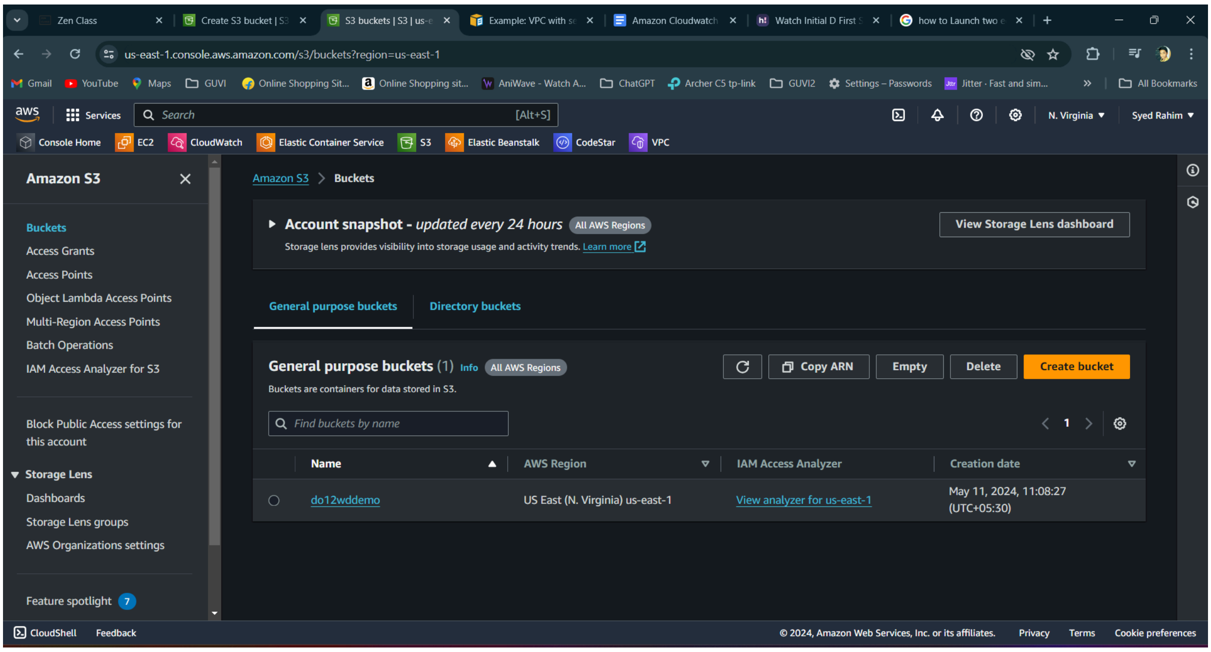
01. Create a S3 bucket, with no public access and upload files to the bucket & view the logs for the uploaded files.

Step 1: Create or Select the Bucket



Account snapshot - *updated every 24 hours*

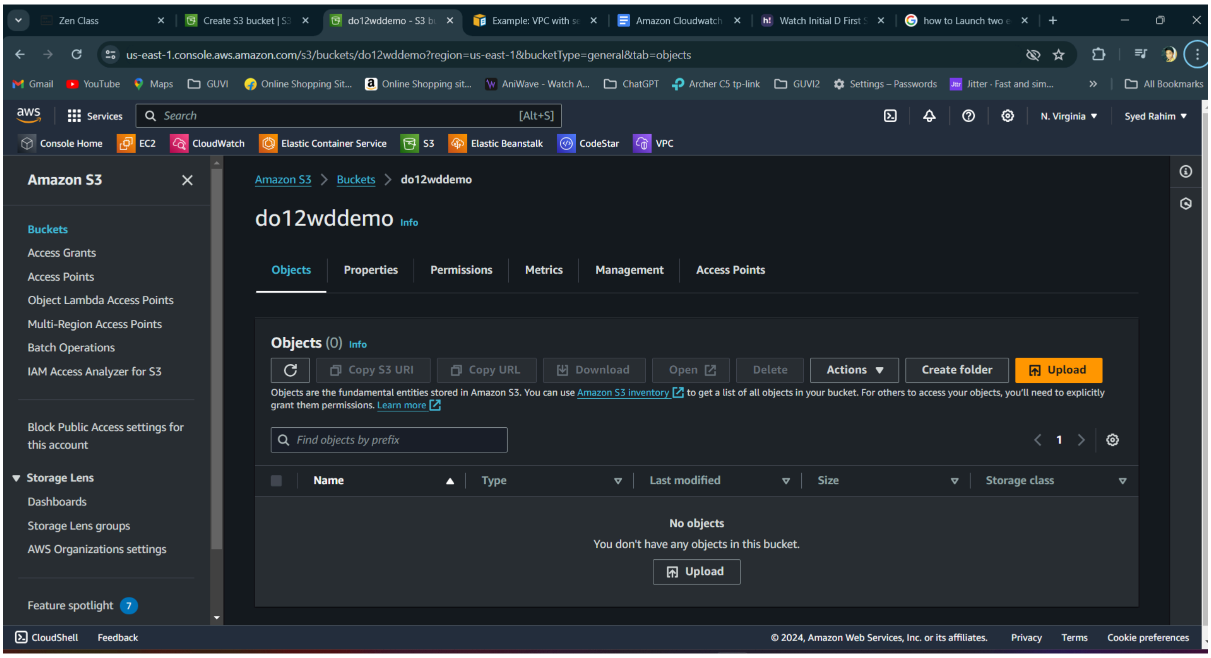
Storage lens provides visibility into storage usage and activity trends. Learn more

General purpose buckets (1)

Buckets are containers for data stored in S3.

Name	AWS Region	IAM Access Analyzer	Creation date
○ do12wddemo	US East (N. Virginia) us-east-1	View analyzer for us-east-1	May 11, 2024, 11:08:27 (UTC+05:30)

Step 2: Click on the created or selected bucket



do12wddemo

Objects (0)

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

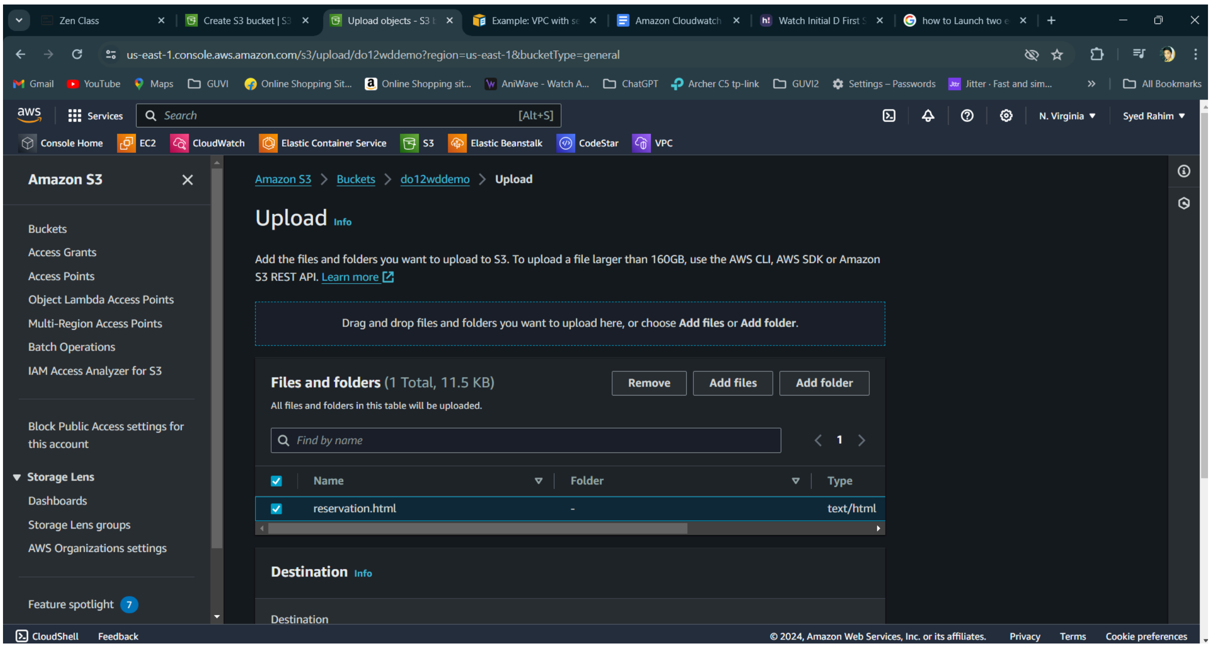
□	Name	Type	Last modified	Size	Storage class

No objects

You don't have any objects in this bucket.

Upload

Step 3: Click on Upload —> click on Add file and click Upload


us-east-1.console.aws.amazon.com/s3/upload/do12wddemo?region=us-east-1&bucketType=general
Services
Search [Alt+S]
N. Virginia
Syed Rahim
Console Home
EC2
CloudWatch
Elastic Container Service
S3
Elastic Beanstalk
CodeStar
VPC
Amazon S3
Buckets
Access Grants
Access Points
Object Lambda Access Points
Multi-Region Access Points
Batch Operations
IAM Access Analyzer for S3
Block Public Access settings for this account
Storage Lens
Dashboards
Storage Lens groups
AWS Organizations settings
Feature spotlight 7
Amazon S3 > Buckets > do12wddemo > Upload
Remove
Add files
Add folder
Find by name
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences

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, 11.5 KB)

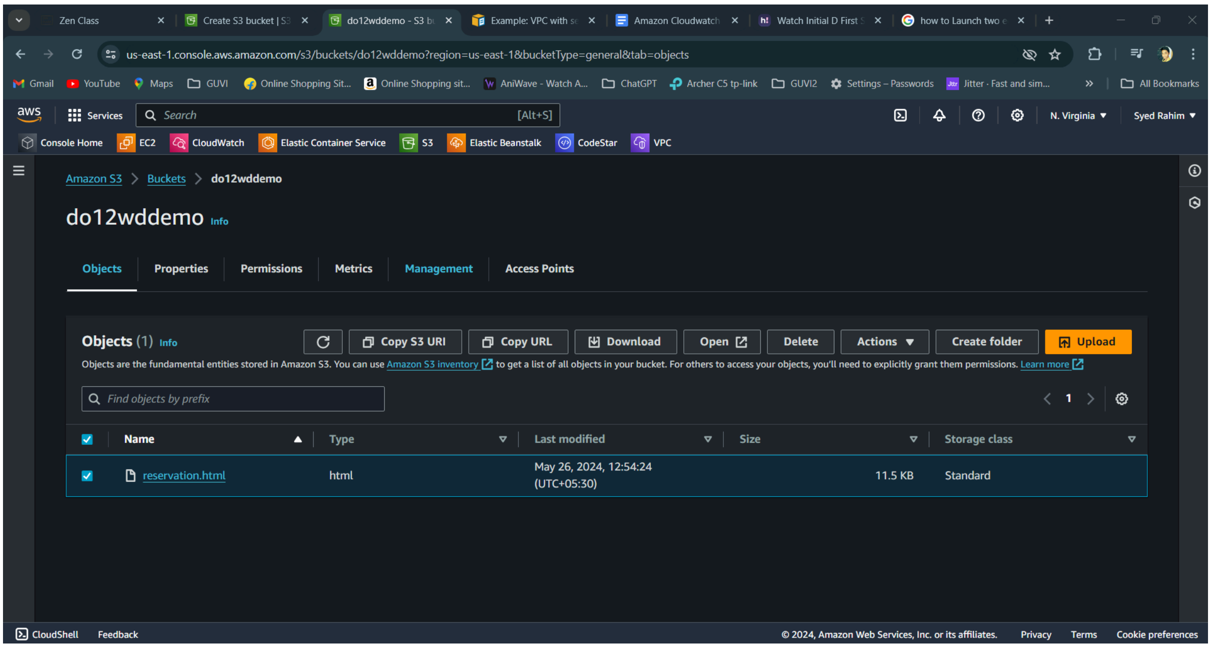
All files and folders in this table will be uploaded.

☑	Name	Folder	Type
☑	reservation.html	-	text/html

Destination Info

Destination

Step 4: Click on Properties —> search for Server access logging and click Edit

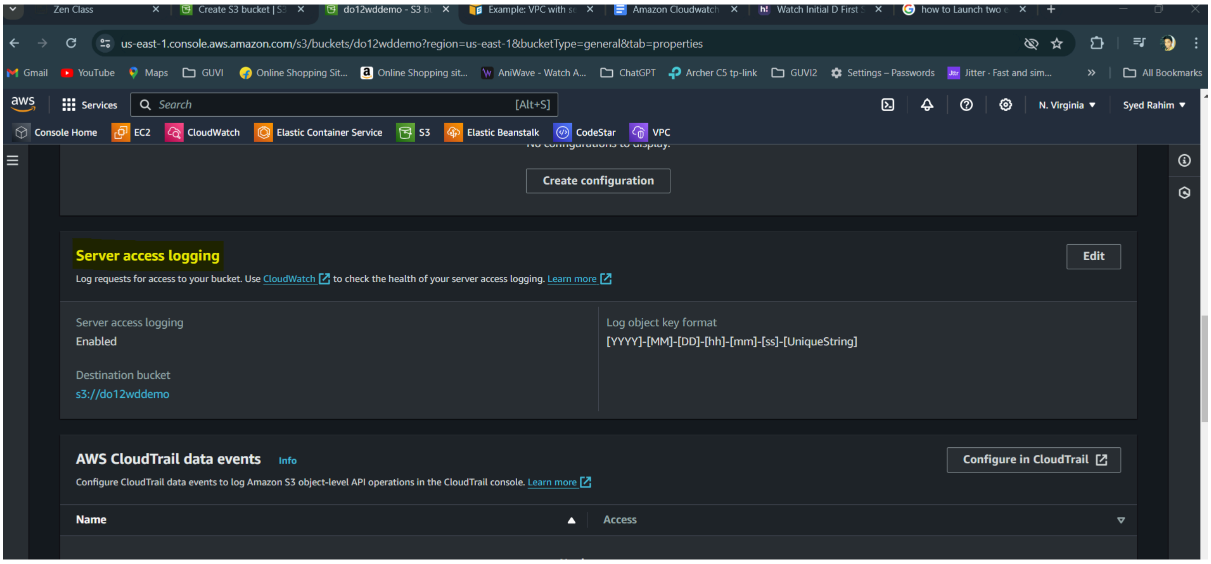


do12wddemo Info

Objects (1) 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 permissions. Learn more

☑	Name	Type	Last modified	Size	Storage class
☑	reservation.html	html	May 26, 2024, 12:54:24 (UTC+05:30)	11.5 KB	Standard



Server access logging

Log requests for access to your bucket. Use CloudWatch to check the health of your server access logging. Learn more

Server access logging: Enabled

Destination bucket: s3://do12wddemo

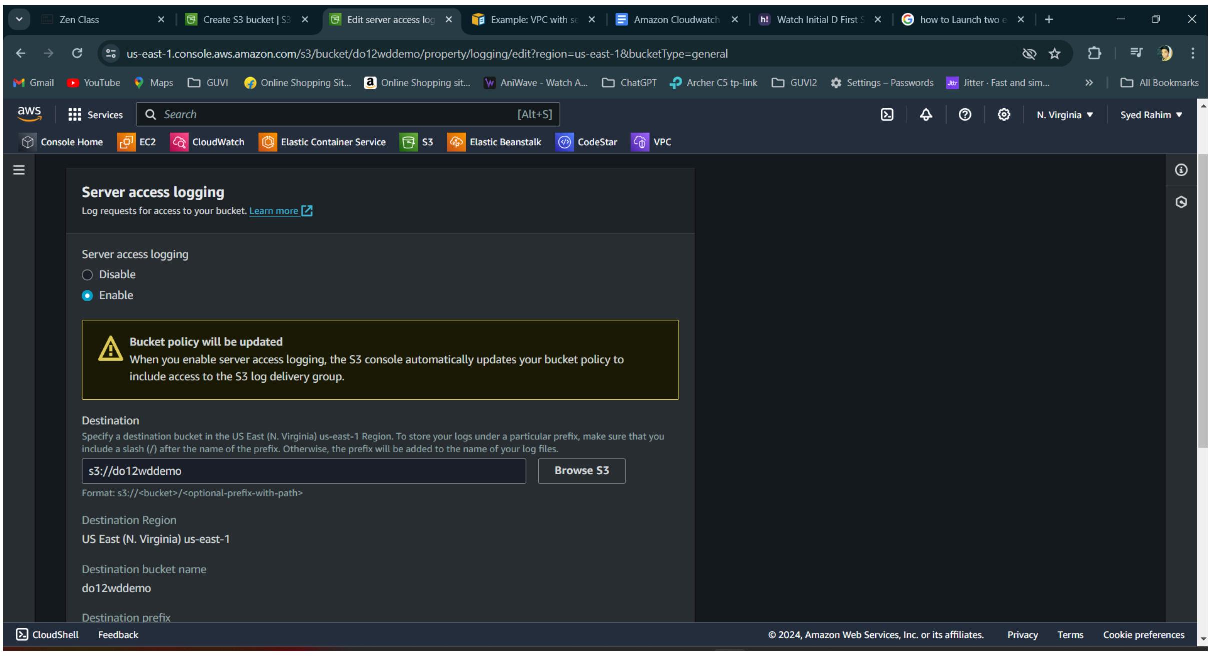
Log object key format: [YYYY]-[MM]-[DD]-[hh]-[mm]-[ss]-[UniqueString]

AWS CloudTrail data events

Configure CloudTrail data events to log Amazon S3 object-level API operations in the CloudTrail console. Learn more

Name	Access

Step 5: Enable Server access logging and select the same bucket or create a new bucket —> click on save destination were you can save this info —> Select the format in which your loggs want to be saved —> Click save changes


us-east-1.console.aws.amazon.com/s3/bucket/do12wddemo/property/logging/edit?region=us-east-1&bucketType=general
Services
Search [Alt+S]
N. Virginia
Syed Rahim
Console Home
EC2
CloudWatch
Elastic Container Service
S3
Elastic Beanstalk
CodeStar
VPC
Browse S3
CloudShell
Feedback
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Privacy
Terms
Cookie preferences

Server access logging

Log requests for access to your bucket. Learn more

Server access logging

○ Disable

● Enable

Bucket policy will be updated
When you enable server access logging, the S3 console automatically updates your bucket policy to include access to the S3 log delivery group.

Destination

Specify a destination bucket in the US East (N. Virginia) us-east-1 Region. To store your logs under a particular prefix, make sure that you include a slash (/) after the name of the prefix. Otherwise, the prefix will be added to the name of your log files.

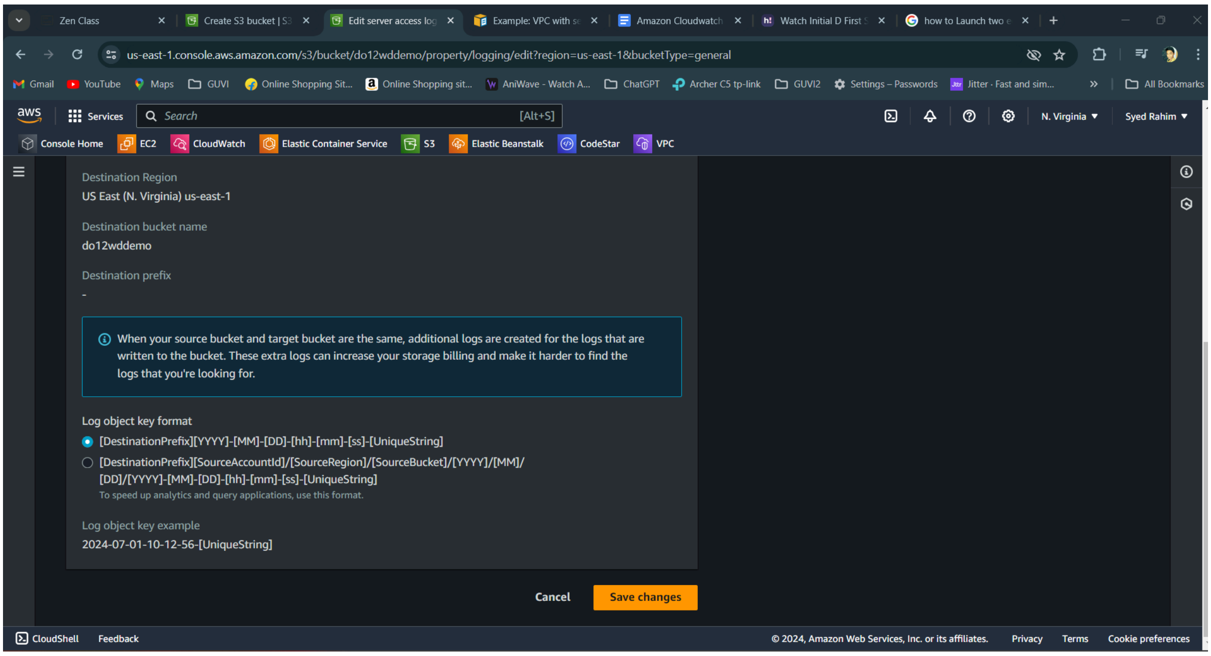
s3://do12wddemo

Format: s3://<bucket>/<optional-prefix-with-path>

Destination Region: US East (N. Virginia) us-east-1

Destination bucket name: do12wddemo

Destination prefix


us-east-1.console.aws.amazon.com/s3/bucket/do12wddemo/property/logging/edit?region=us-east-1&bucketType=general
Services
Search [Alt+S]
N. Virginia
Syed Rahim
Console Home
EC2
CloudWatch
Elastic Container Service
S3
Elastic Beanstalk
CodeStar
VPC
Cancel
Save changes
CloudShell
Feedback
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Privacy
Terms
Cookie preferences

Destination Region
US East (N. Virginia) us-east-1

Destination bucket name
do12wddemo

Destination prefix
-

When your source bucket and target bucket are the same, additional logs are created for the logs that are written to the bucket. These extra logs can increase your storage billing and make it harder to find the logs that you're looking for.

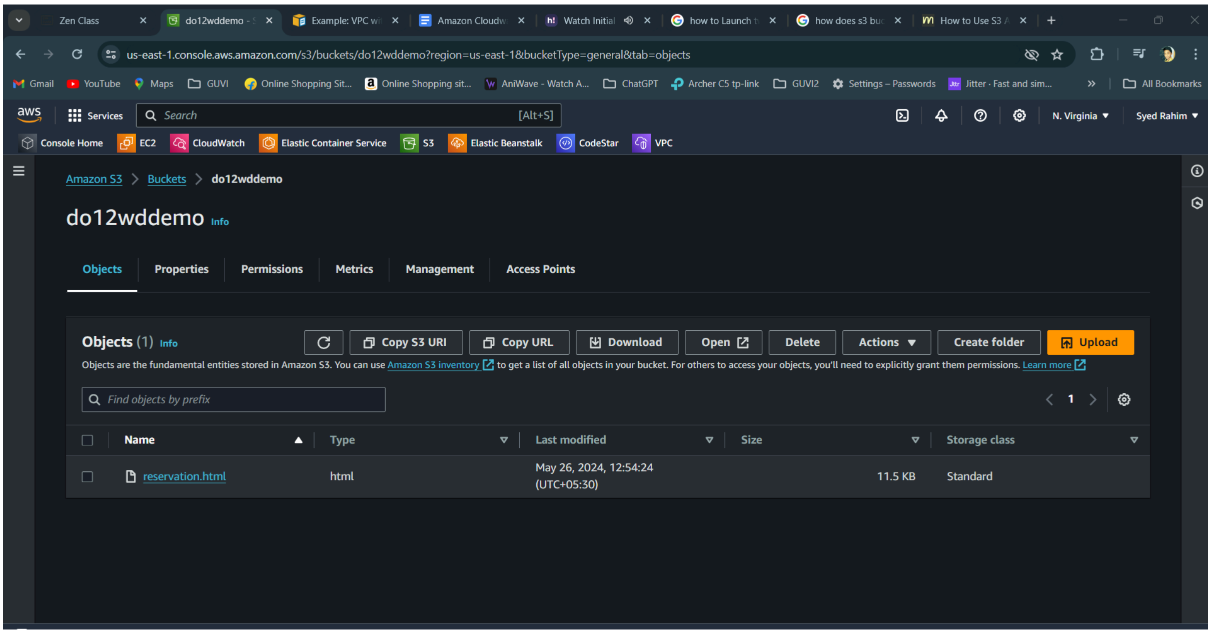
Log object key format

● [DestinationPrefix][YYYY]-[MM]-[DD]-[hh]-[mm]-[ss]-[UniqueString]

○ [DestinationPrefix][SourceAccountId]/[SourceRegion]/[SourceBucket]/[YYYY]/[MM]/[DD]/[YYYY]-[MM]-[DD]-[hh]-[mm]-[ss]-[UniqueString]
To speed up analytics and query applications, use this format.

Log object key example
2024-07-01-10-12-56-[UniqueString]

Step 6: We can view the loggs

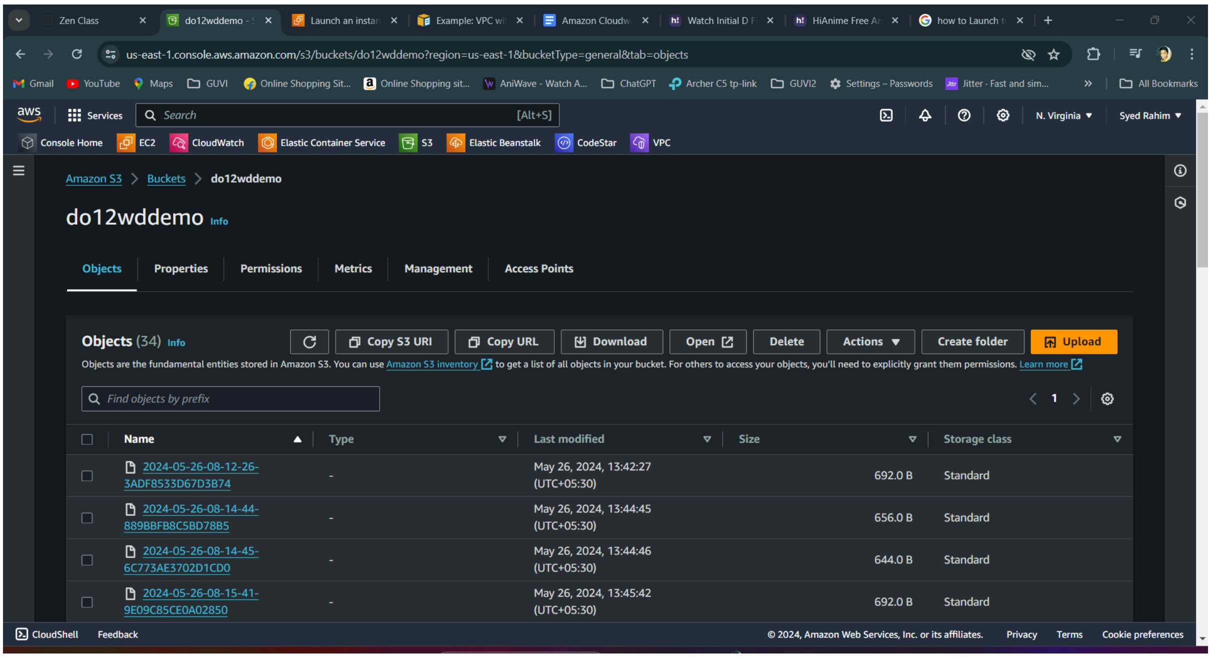


do12wddemo Info

Objects (1) 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 permissions. Learn more

Name	Type	Last modified	Size	Storage class
reservation.html	html	May 26, 2024, 12:54:24 (UTC+05:30)	11.5 KB	Standard



us-east-1.console.aws.amazon.com/s3/buckets/do12wddemo?region=us-east-1&bucketType=general&tab=objects

Amazon S3 > Buckets > do12wddemo

do12wddemo Info

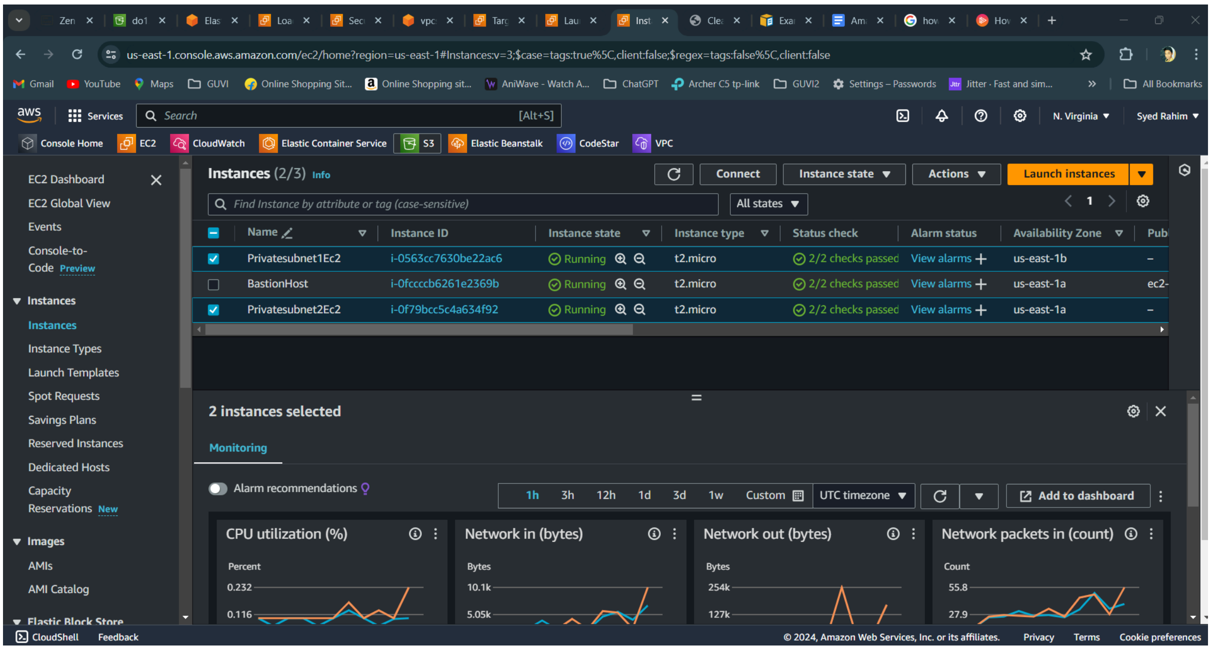
Objects (34) Info

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 permissions. Learn more

Name	Type	Last modified	Size	Storage class
2024-05-26-08-12-26-3ADF8533D67D3B74	-	May 26, 2024, 13:42:27 (UTC+05:30)	692.0 B	Standard
2024-05-26-08-14-44-889BBFB8C5BD78B5	-	May 26, 2024, 13:44:45 (UTC+05:30)	656.0 B	Standard
2024-05-26-08-14-45-6C773AE3702D1CD0	-	May 26, 2024, 13:44:46 (UTC+05:30)	644.0 B	Standard
2024-05-26-08-15-41-9E09C85CE0A02850	-	May 26, 2024, 13:45:42 (UTC+05:30)	692.0 B	Standard

02. Launch two ec2-instances and connect it to a application load balancer, where the output traffic from the server must be an load balancer IP address

Step 1: Launch two Ec2-instances



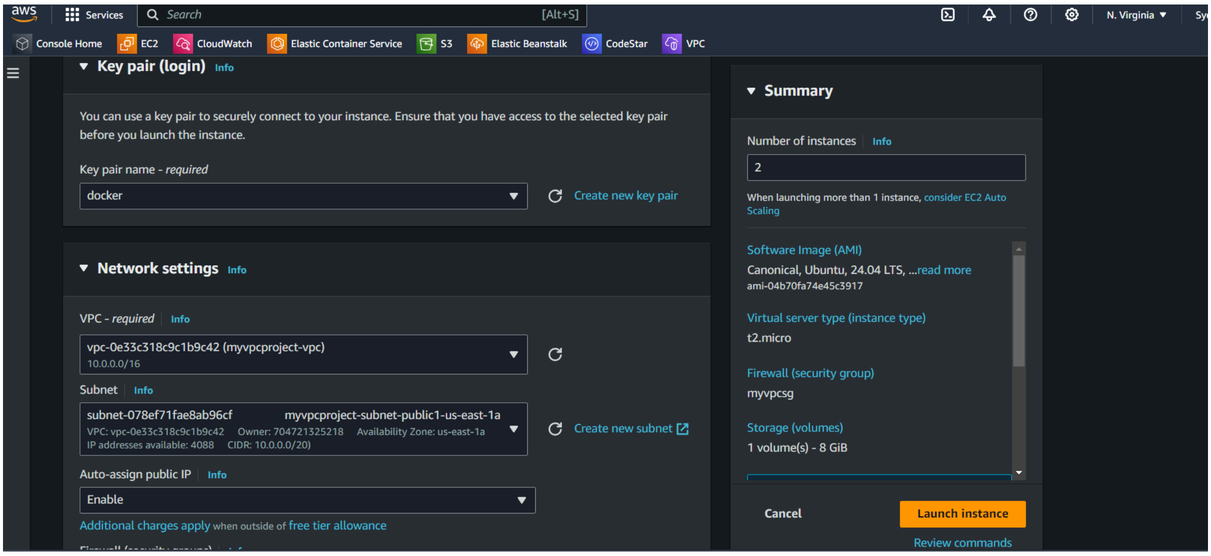
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:v=3;$case=tags:true%5C,client:false;$regex=tags:false%5C,client:false

Instances (2/3) Info

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Pub
☑	Privatesubnet1Ec2	i-0563cc7630be22ac6	Running	t2.micro	2/2 checks passed	View alarms	us-east-1b	–
□	BastionHost	i-0fcccb6261e2369b	Running	t2.micro	2/2 checks passed	View alarms	us-east-1a	ec2-
☑	Privatesubnet2Ec2	i-0f79bcc5c4a634f92	Running	t2.micro	2/2 checks passed	View alarms	us-east-1a	–

2 instances selected

Step 2: Select the select and filling the following —> Give a Key pair —> Select the custom VPC that was created —> select the Public subnet —> Click on Launch Instance



Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - *required*: docker

Create new key pair

Network settings Info

VPC - *required* Info: vpc-0e33c318c9c1b9c42 (myvpcproject-vpc) 10.0.0.0/16

Subnet Info: subnet-078ef71fae8ab96cf myvpcproject-subnet-public1-us-east-1a
VPC: vpc-0e33c318c9c1b9c42 Owner: 704721325218 Availability Zone: us-east-1a
IP addresses available: 4088 CIDR: 10.0.0.0/20)

Create new subnet

Auto-assign public IP Info: Enable

Additional charges apply when outside of free tier allowance

Summary

Number of instances Info: 2

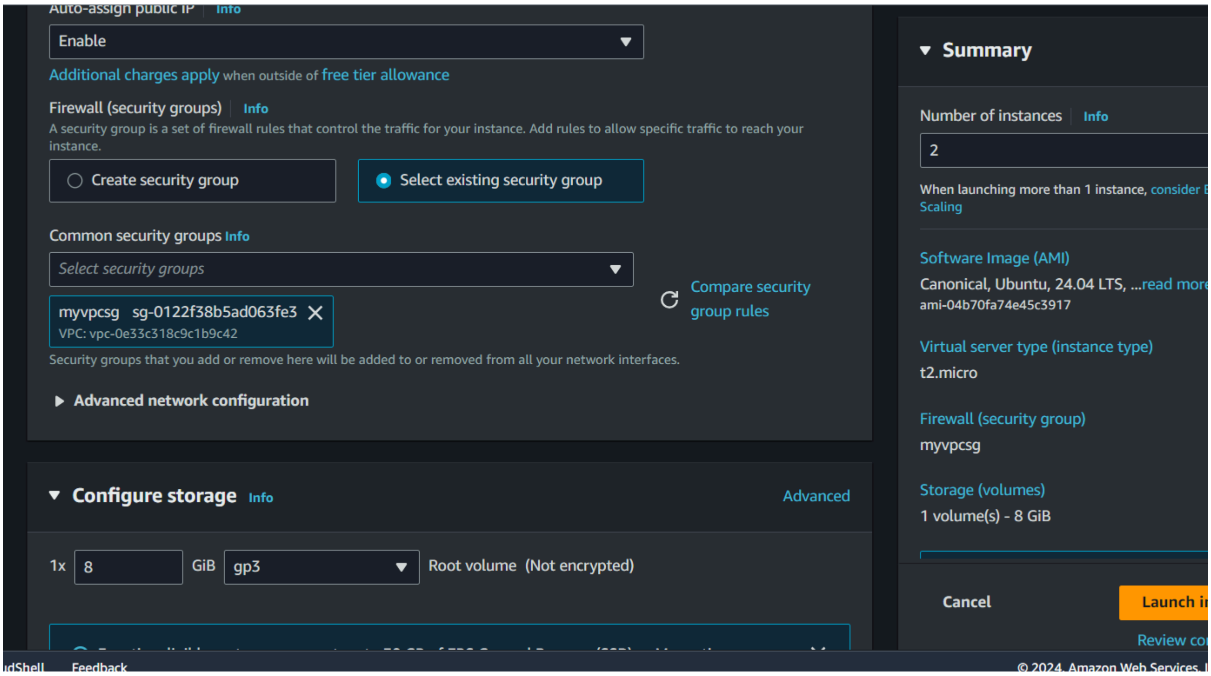
When launching more than 1 instance, consider EC2 Auto Scaling

Software Image (AMI): Canonical, Ubuntu, 24.04 LTS, ...read more
ami-04b70fa74e45c3917

Virtual server type (instance type): t2.micro

Firewall (security group): myvpcsg

Storage (volumes): 1 volume(s) - 8 GiB



Auto-assign public IP Info: Enable

Additional charges apply when outside of free tier allowance

Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

○ Create security group ● Select existing security group

Common security groups Info: Select security groups

myvpcsg sg-0122f38b5ad063fe3
VPC: vpc-0e33c318c9c1b9c42

Compare security group rules

Security groups that you add or remove here will be added to or removed from all your network interfaces.

Advanced network configuration

Configure storage Info

Advanced

1x 8 GiB gp3 Root volume (Not encrypted)

Summary

Number of instances Info: 2

When launching more than 1 instance, consider E Scaling

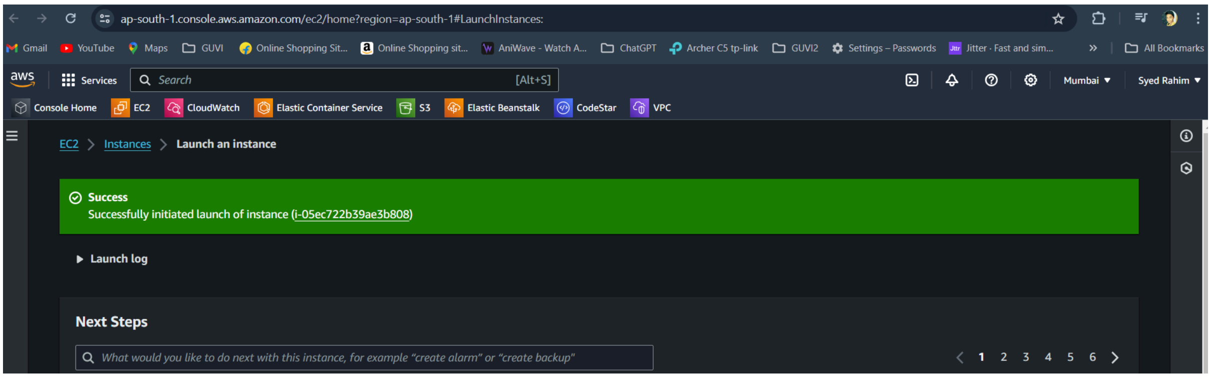
Software Image (AMI): Canonical, Ubuntu, 24.04 LTS, ...read more
ami-04b70fa74e45c3917

Virtual server type (instance type): t2.micro

Firewall (security group): myvpcsg

Storage (volumes): 1 volume(s) - 8 GiB

Step 3: Click Launch Instance..



ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LaunchInstances:

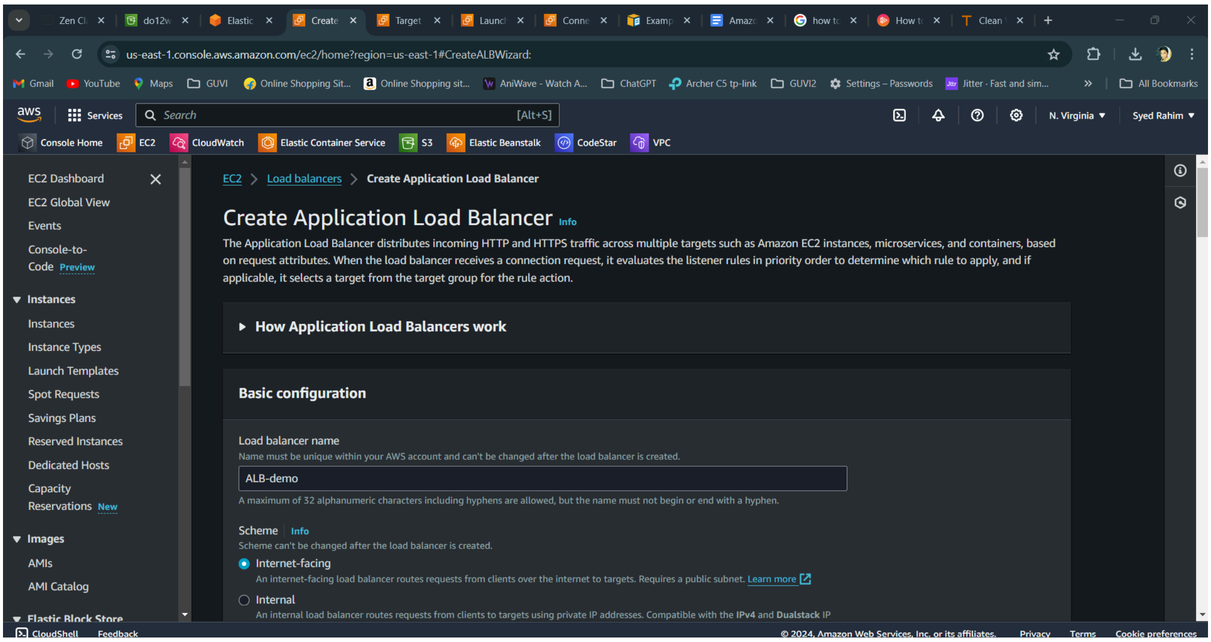
Success
Successfully initiated launch of instance (i-05ec722b39ae3b808)

Launch log

Next Steps

What would you like to do next with this instance, for example "create alarm" or "create backup"

Step 4: Create Application Load balancer



us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateALBWizard:

Create Application Load Balancer Info

The Application Load Balancer distributes incoming HTTP and HTTPS traffic across multiple targets such as Amazon EC2 instances, microservices, and containers, based on request attributes. When the load balancer receives a connection request, it evaluates the listener rules in priority order to determine which rule to apply, and if applicable, it selects a target from the target group for the rule action.

How Application Load Balancers work

Basic configuration

Load balancer name
Name must be unique within your AWS account and can't be changed after the load balancer is created.
ALB-demo
A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Scheme Info
Scheme can't be changed after the load balancer is created.
● Internet-facing
An internet-facing load balancer routes requests from clients over the internet to targets. Requires a public subnet. Learn more
○ Internal
An internal load balancer routes requests to targets using private IP addresses. Compatible with the IPv4 and Dualstack IP

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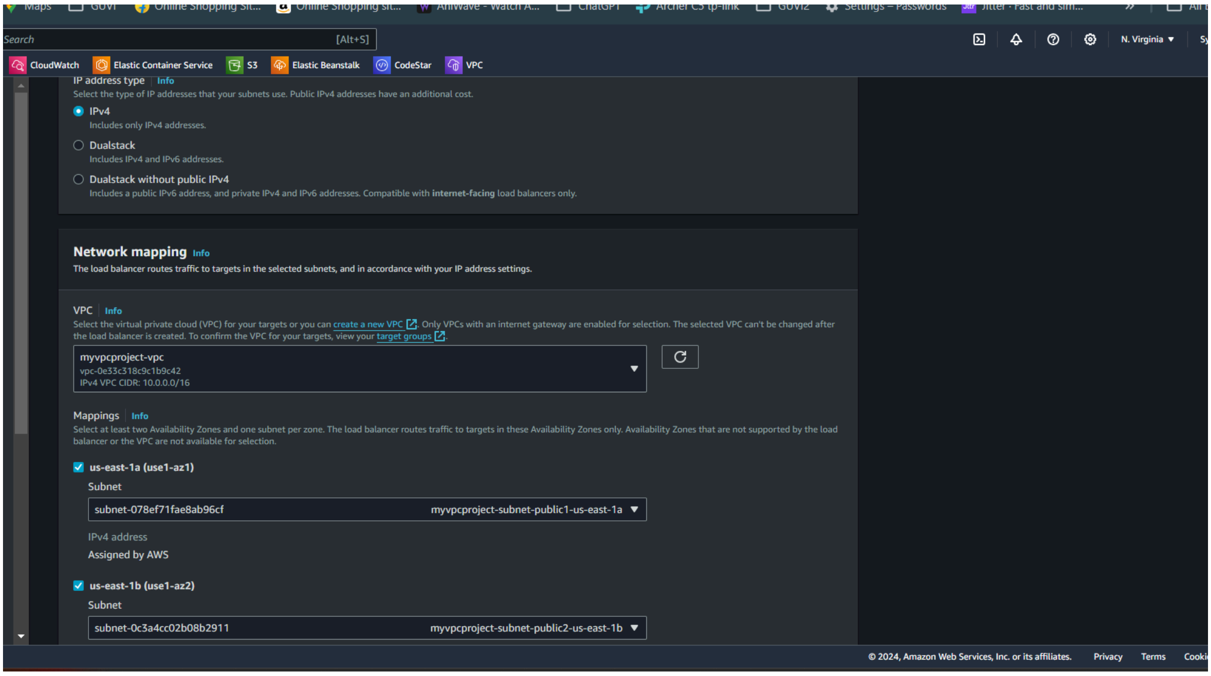
Step 5: Select the newly created VPC —> Tick mark both Mappings with both Public subnet —> Create a new Security group or Select the already existing Security group —> Listeners and routing (Target Group) as below



IP address type Info

Select the type of IP addresses that your subnets use. Public IPv4 addresses have an additional cost.

● IPv4
Includes only IPv4 addresses.

○ Dualstack
Includes IPv4 and IPv6 addresses.

○ Dualstack without public IPv4
Includes a public IPv6 address, and private IPv4 and IPv6 addresses. Compatible with **internet-facing** load balancers only.

Network mapping Info

The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.

VPC | Info

Select the virtual private cloud (VPC) for your targets or you can create a new VPC. Only VPCs with an internet gateway are enabled for selection. The selected VPC can't be changed after the load balancer is created. To confirm the VPC for your targets, view your target groups.

myvpcproject-vpc
vpc-0e33c318c9c1b9c42
IPv4 VPC CIDR: 10.0.0.0/16

Mappings | Info

Select at least two Availability Zones and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

☑ us-east-1a (use1-az1)

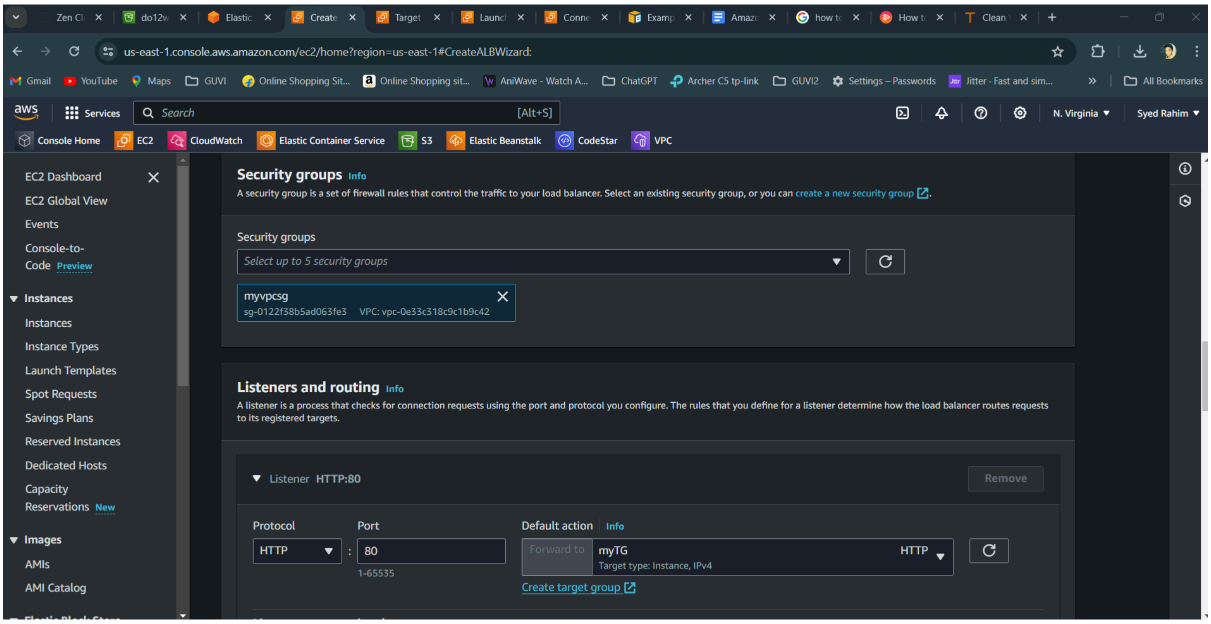
Subnet: subnet-078ef71fae8ab96cf myvpcproject-subnet-public1-us-east-1a

IPv4 address: Assigned by AWS

☑ us-east-1b (use1-az2)

Subnet: subnet-0c3a4cc02b08b2911 myvpcproject-subnet-public2-us-east-1b

Search [Alt+S]
CloudWatch
Elastic Container Service
S3
Elastic Beanstalk
CodeStar
VPC
N. Virginia
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms



us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateALBWizard:

Security groups Info

A security group is a set of firewall rules that control the traffic to your load balancer. Select an existing security group, or you can create a new security group.

Security groups: Select up to 5 security groups

myvpcsg
sg-0122f38b5ad063fe3 VPC: vpc-0e33c318c9c1b9c42

Listeners and routing Info

A listener is a process that checks for connection requests using the port and protocol you configure. The rules that you define for a listener determine how the load balancer routes requests to its registered targets.

Listener HTTP:80

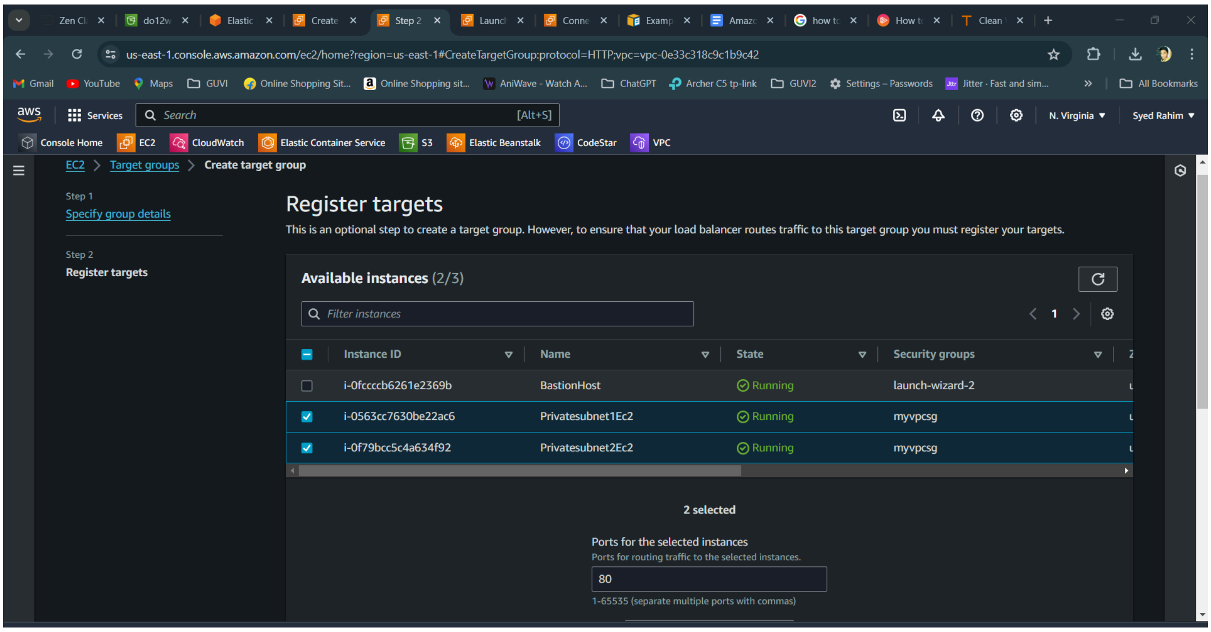
Protocol: HTTP

Port: 80 (1-65535)

Default action | Info: Forward to myTG HTTP
Target type: Instance, IPv4

Create target group

Step 6: Create Traget group for both Private Subnet —> Click includ as pending below —> Click create Target group


us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:protocol=HTTP;vpc=vpc-0e33c318c9c1b9c42
Services
Search [Alt+S]
N. Virginia
Syed Rahim
Console Home
EC2
CloudWatch
Elastic Container Service
S3
Elastic Beanstalk
CodeStar
VPC
EC2 > Target groups > Create target group
Step 1
Specify group details
Step 2
Register targets

Register targets

This is an optional step to create a target group. However, to ensure that your load balancer routes traffic to this target group you must register your targets.

Available instances (2/3)

	Instance ID	Name	State	Security groups
□	i-0fcccb6261e2369b	BastionHost	Running	launch-wizard-2
☑	i-0563cc7630be22ac6	Privatesubnet1Ec2	Running	myvpcsg
☑	i-0f79bcc5c4a634f92	Privatesubnet2Ec2	Running	myvpcsg

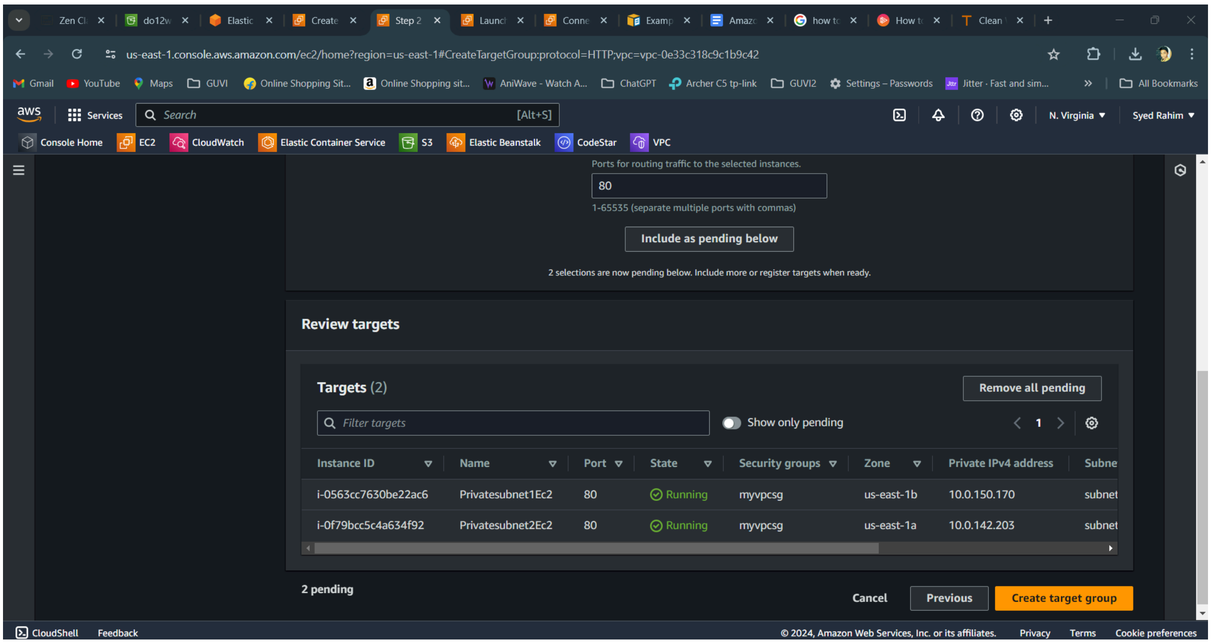
2 selected

Ports for the selected instances

Ports for routing traffic to the selected instances.

80

1-65535 (separate multiple ports with commas)



Ports for routing traffic to the selected instances.

80

1-65535 (separate multiple ports with commas)

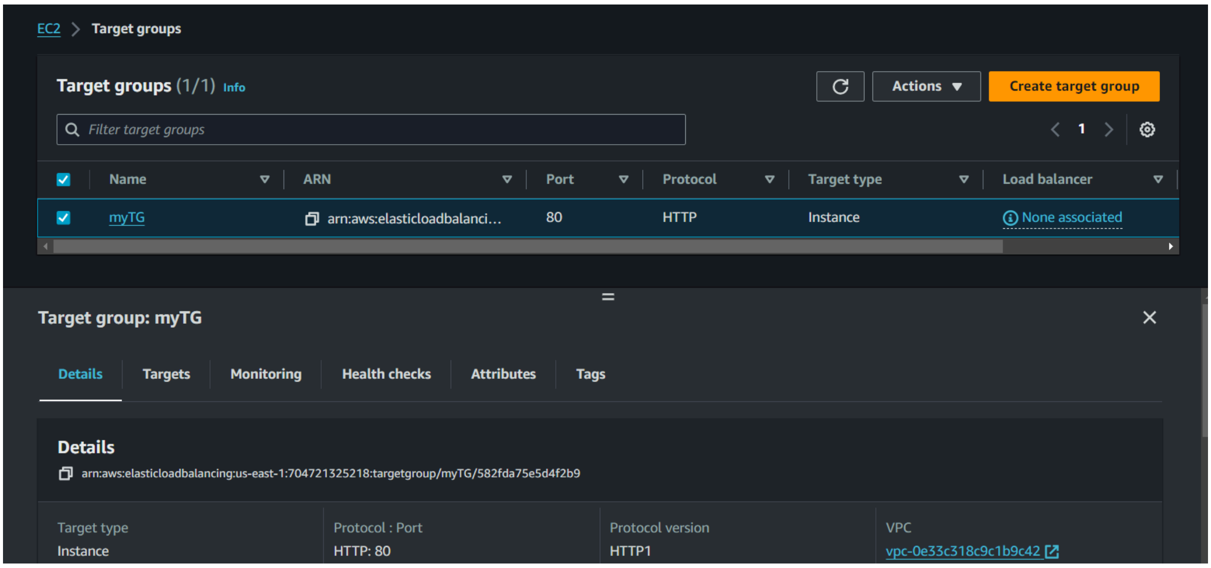
2 selections are now pending below. Include more or register targets when ready.

Review targets

Targets (2)

Instance ID	Name	Port	State	Security groups	Zone	Private IPv4 address	Subne
i-0563cc7630be22ac6	Privatesubnet1Ec2	80	Running	myvpcsg	us-east-1b	10.0.150.170	subnet
i-0f79bcc5c4a634f92	Privatesubnet2Ec2	80	Running	myvpcsg	us-east-1a	10.0.142.203	subnet

2 pending



☑	Name	ARN	Port	Protocol	Target type	Load balancer
☑	myTG	arn:aws:elasticloadbalanci...	80	HTTP	Instance	None associated

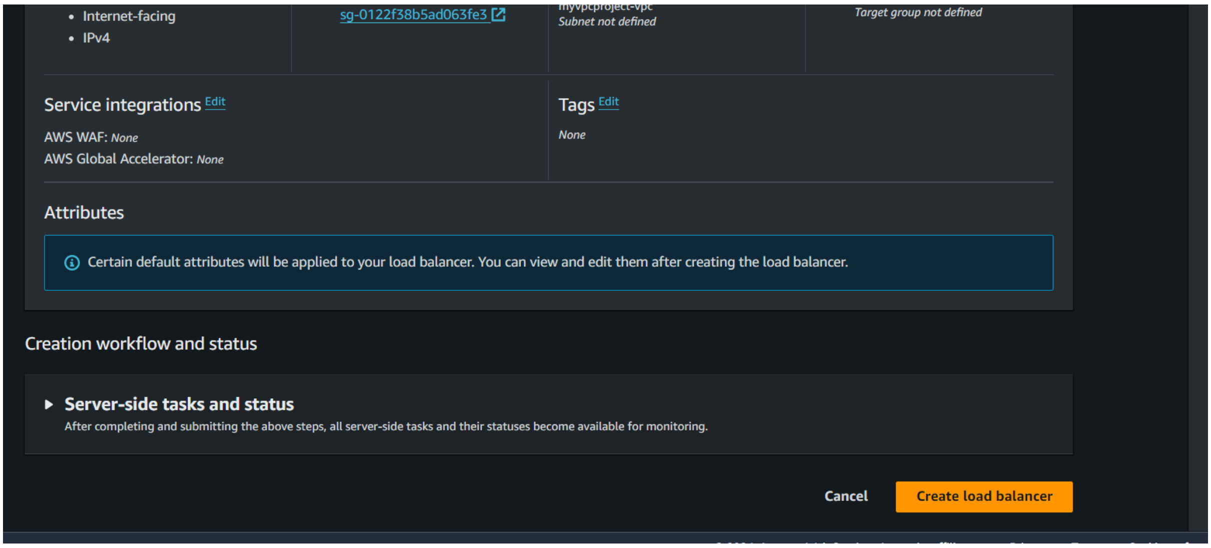
Target group: myTG

Details

arn:aws:elasticloadbalancing:us-east-1:704721325218:targetgroup/myTG/582fda75e5d4f2b9

Target type	Protocol : Port	Protocol version	VPC
Instance	HTTP: 80	HTTP1	vpc-0e33c318c9c1b9c42

Step 7: After creating and updating Target group —> Click on Create (Application) Load balancer


- Internet-facing
- IPv4

sg-0122f38b5ad063fe3

myvpcproject-vpc
Subnet not defined

Target group not defined

Service integrations Edit

AWS WAF: *None*

AWS Global Accelerator: *None*

Tags Edit

None

Attributes

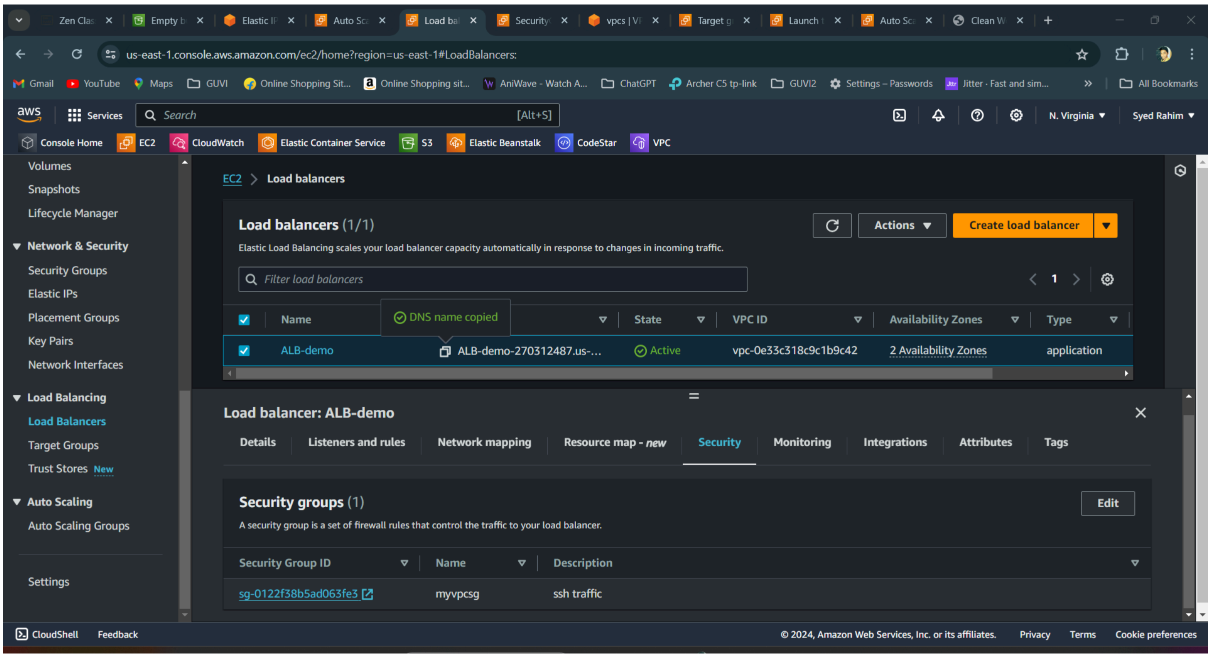
Certain default attributes will be applied to your load balancer. You can view and edit them after creating the load balancer.

Creation workflow and status

Server-side tasks and status

After completing and submitting the above steps, all server-side tasks and their statuses become available for monitoring.

Step 8: Goto Load balancer and copy the DNS —> search it in a new browser tab



us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LoadBalancers:

EC2 > Load balancers

Load balancers (1/1)

Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.

☑	Name	DNS name copied	State	VPC ID	Availability Zones	Type
☑	ALB-demo	ALB-demo-270312487.us-...	Active	vpc-0e33c318c9c1b9c42	2 Availability Zones	application

Load balancer: ALB-demo

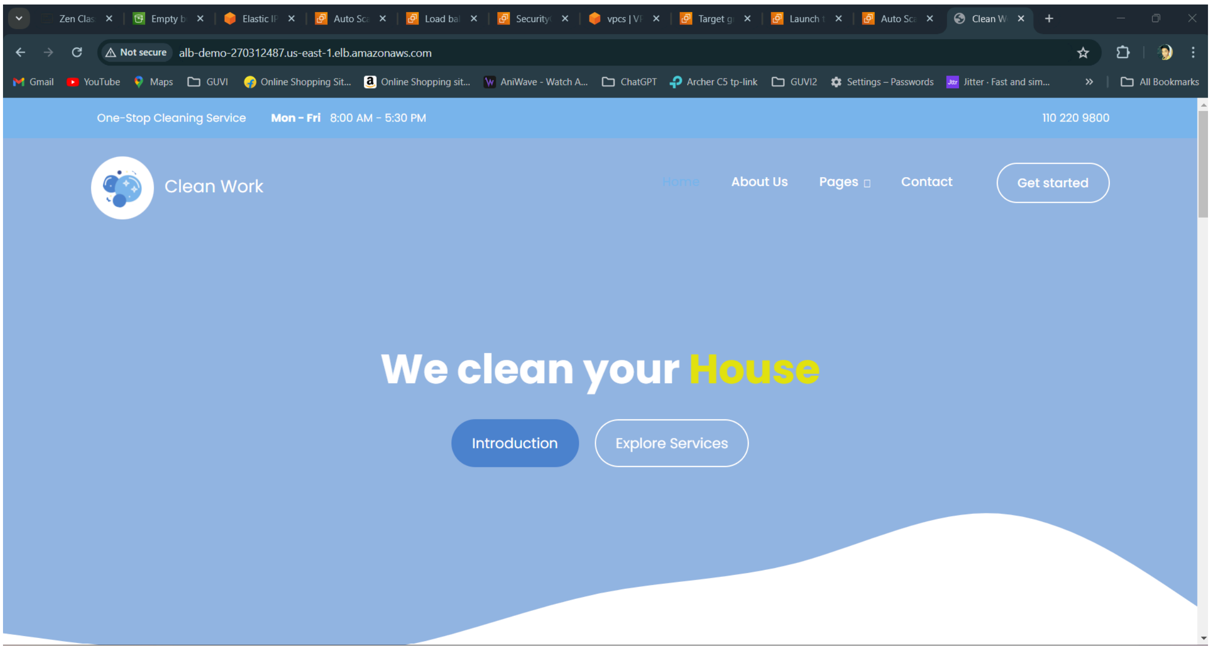
Security groups (1)

A security group is a set of firewall rules that control the traffic to your load balancer.

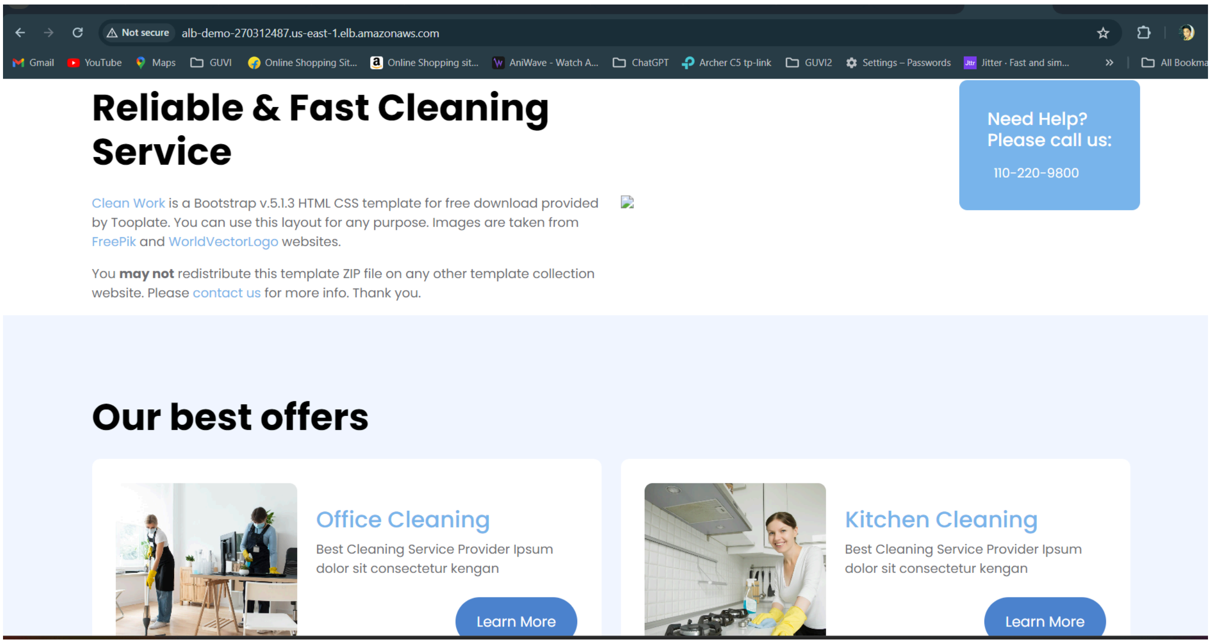
Security Group ID	Name	Description
sg-0122f38b5ad063fe3	myvpcsg	ssh traffic

Step 9: Search results of Load balancer through IP address

a.



alb-demo-270312487.us-east-1.elb.amazonaws.com



alb-demo-270312487.us-east-1.elb.amazonaws.com

Reliable & Fast Cleaning Service

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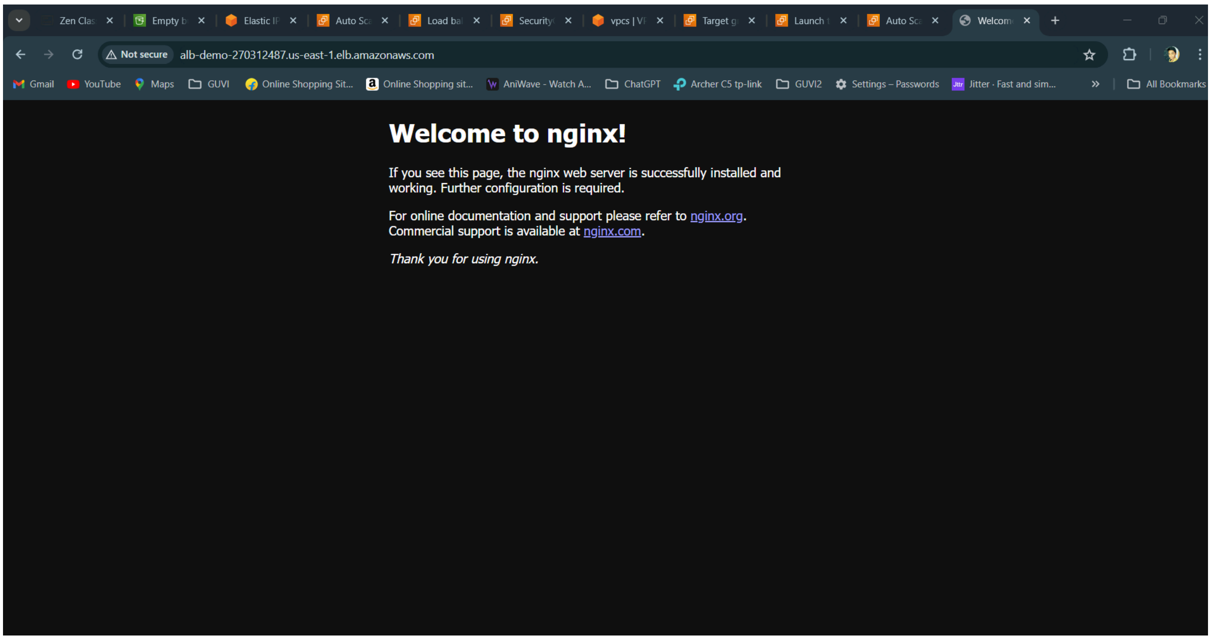
Kitchen Cleaning

Best Cleaning Service Provider Ipsum dolor sit consectetur kengan

b.



alb-demo-270312487.us-east-1.elb.amazonaws.com

Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to nginx.org.
Commercial support is available at nginx.com.

Thank you for using nginx.

Done.