Amazon-ELB 4: Create CLB & Migrate into ALB Task1

Problem Statement:

You work for XYZ Corporation that uses on premise solutions and some limited number of systems. With the increase in requests in their application, the load also increases. So, to handle the load the corporation has to buy more systems almost on a regular basis. Realizing the need to cut down the expenses on systems, they decided to move their infrastructure to AWS.

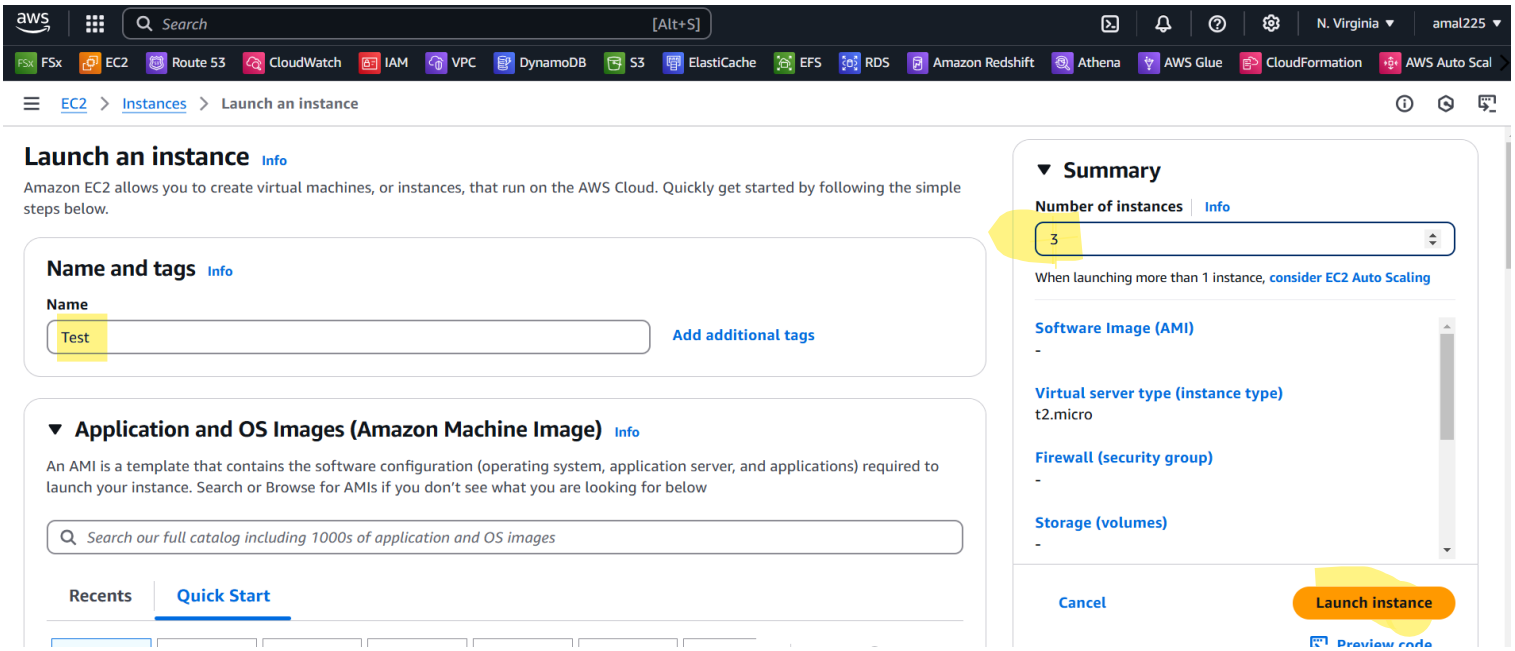
Tasks To Be Performed:

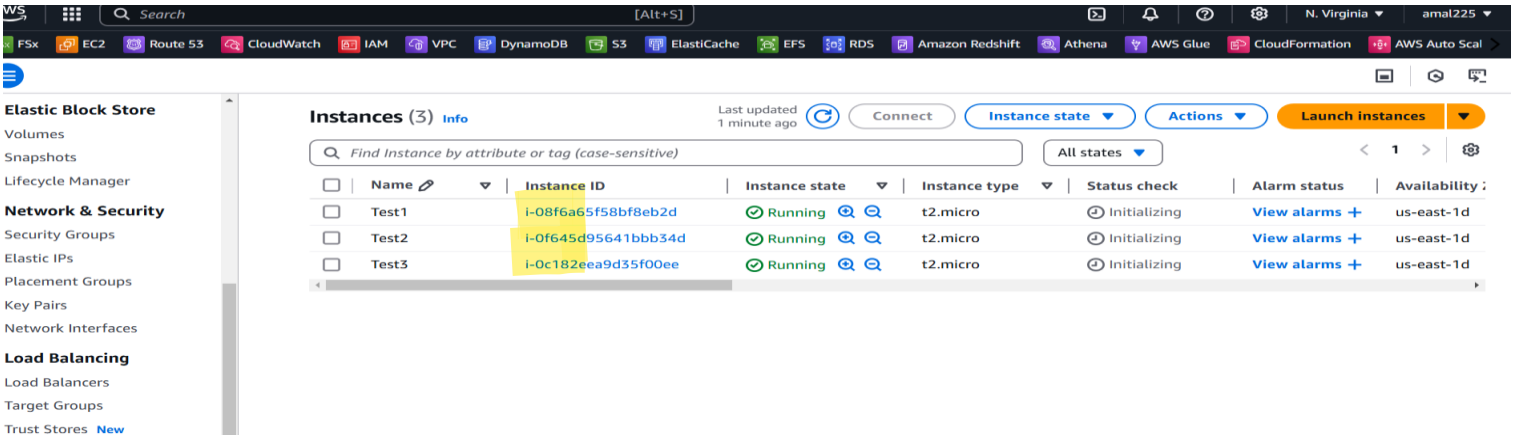
1. Create a Classic Load Balancer and register 3 EC2 instances with differentweb pages running in them.
2. Migrate the Classic Load Balancer into an Application Load Balancer.

Solution:

1. Create a Classic Load Balancer and register 3 EC2 instances with differentweb pages running in them.

- First create 3 EC2 , and then go to Load balancer dashboard .

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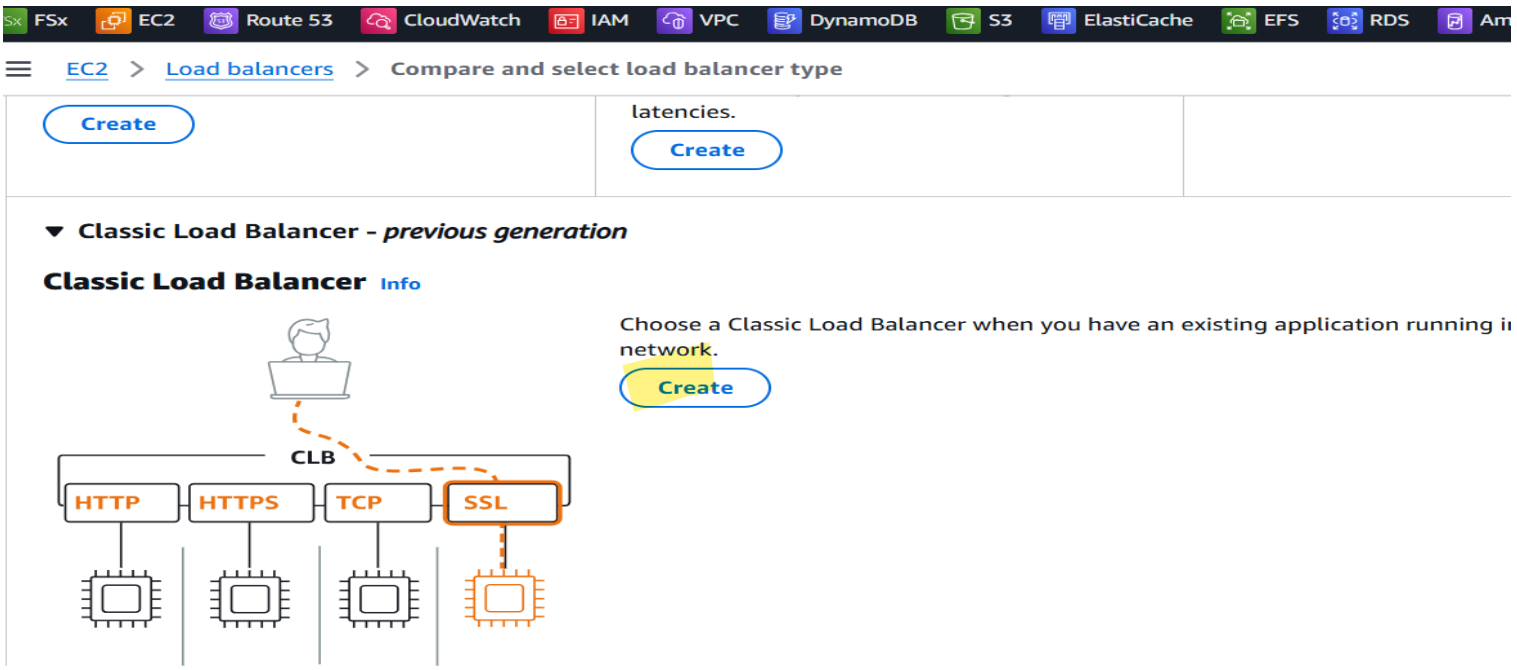
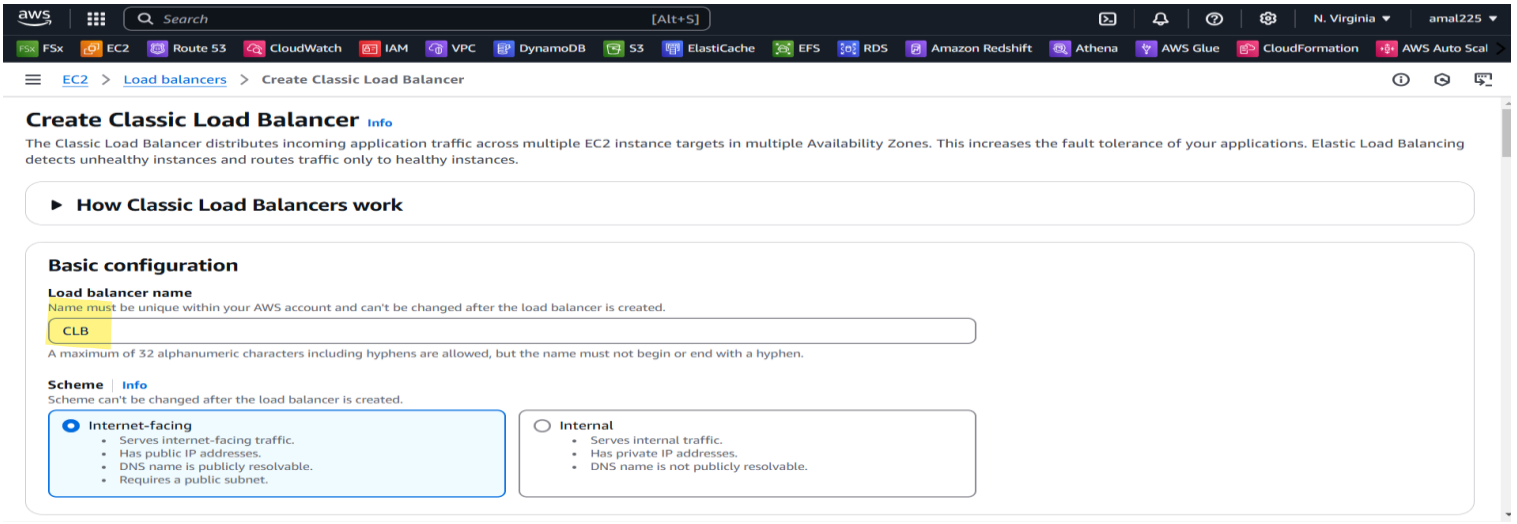
FSx EC2 Route 53 CloudWatch IAM VPC DynamoDB S3 ElastiCache EFS RDS Amazon Redshift Athena AWS Glue CloudFormation AWS Auto Scal
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
Load Balancers
Target Groups
Trust Stores New
Instances (3) Info
Last updated 1 minute ago
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability
Test1 i-08f6a65f58bf8eb2d Running t2.micro Initializing View alarms + us-east-1d
Test2 i-0f645d95641bbb34d Running t2.micro Initializing View alarms + us-east-1d
Test3 i-0c182eea9d35f00ee Running t2.micro Initializing View alarms + us-east-1d


FSx EC2 Route 53 CloudWatch IAM VPC DynamoDB S3 ElastiCache EFS RDS Am
EC2 > Load balancers > Compare and select load balancer type
Create
latencies.
Create
Classic Load Balancer - previous generation
Classic Load Balancer Info
Choose a Classic Load Balancer when you have an existing application running i
network.
Create
CLB
HTTP
HTTPS
TCP
SSL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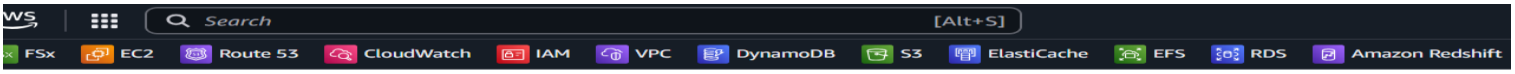
FSx EC2 Route 53 CloudWatch IAM VPC DynamoDB S3 ElastiCache EFS RDS Amazon Redshift Athena AWS Glue CloudFormation AWS Auto Scal
EC2 > Load balancers > Create Classic Load Balancer
Create Classic Load Balancer Info
The Classic Load Balancer distributes incoming application traffic across multiple EC2 instance targets in multiple Availability Zones. This increases the fault tolerance of your applications. Elastic Load Balancing detects unhealthy instances and routes traffic only to healthy instances.
How Classic 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.
CLB
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
Serves internet-facing traffic.
Has public IP addresses.
DNS name is publicly resolvable.
Requires a public subnet.
Internal
Serves internal traffic.
Has private IP addresses.
DNS name is not publicly resolvable.



EC2 > Load balancers > Create Classic Load Balancer

Network mapping Info

The load balancer routes traffic to targets in the selected subnets, and in accordance with your network 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 available for selection. The selected VP selecting a VPC for your load balancer, ensure each subnet has a CIDR block with at least a /27 bitmask and at least 8 free IP addresses. Learn more

-
vpc-067409b5122bc64b5
IPv4 VPC CIDR: 172.31.0.0/16

Mappings

Select at least one Availability Zone and one subnet for each zone. We recommend selecting at least two Availability Zones. The load balancer will route traffic only to not supported by the load balancer or the VPC are not available for selection.

Availability Zones

- [x] **us-east-1a (use1-az4)**

Subnet

subnet-0fdc5ebe24470e0f6
IPv4 subnet CIDR: 172.31.16.0/20

IPv4 address

Assigned by AWS

- [x] **us-east-1b (use1-az6)**

Subnet

Subnet

subnet-0b7bea0ab37ddb90c
IPv4 subnet CIDR: 172.31.0.0/20

IPv4 address

Assigned by AWS

- [x] **us-east-1d (use1-az2)**

Subnet

subnet-0731c57f70213af26
IPv4 subnet CIDR: 172.31.80.0/20

IPv4 address

Assigned by AWS

- [x] **us-east-1e (use1-az3)**

Subnet

subnet-0386fb04354750ec2
IPv4 subnet CIDR: 172.31.48.0/20

IPv4 address

Assigned by AWS

- [x] **us-east-1f (use1-az5)**

Subnet

Security groups Info

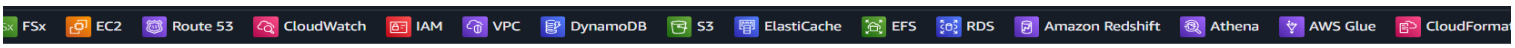
A security group is a set of firewall rules that control the traffic to your load bala

Security groups

Select up to 5 security groups

launch-wizard-1
sg-00aa69cedd5194b19 VPC: vpc-067409b5122bc64b5

-



EC2 > Load balancers > Create Classic Load Balancer

Listener **HTTP:80**

Instance HTTP:80

Listener protocol	Listener port	Instance protocol	Instance port
HTTP	80 (1-65535)	HTTP	80 (1-65535)

Add listener

Health checks Info

Your load balancer automatically performs health checks to test the availability of all registered instances. Traffic is only routed to healthy instances, which is determined on their response check.

Ping target

The health check ping is sent using the protocol and port you specify. If using HTTP/HTTPS protocol, you must also provide the destination path.

Ping protocol	Ping port	Ping path
HTTP	80 (1-65535)	/index.html

▶ Advanced health check settings

Instances (0)

Remove | Add instances

You can add instances to register as targets of the load balancer. Alternatively, after your load balancer is created, you can add it to an Amazon EC2 Auto Scaling group to ensure you maintain the correct number of instances to handle the load for your application. For maximum fault tolerance, we recommend maintaining approximately equivalent numbers of instances in each Availability Zone.

Filter instances

Instance ID	Name	State	Security groups	Zone	Public II
No instances added					

EC2 > Load balancers > Create Classic Load Balancer

Add instances

Select EC2 instances to register to your load balancer. Requests will be routed to registered instances that meet the health check requirements. For maximum fault tolerance, we recommend maintaining approximately equivalent numbers of instances in each Availability Zone enabled for the load balancer. If demand on your instances changes, you can register or deregister instances without disrupting the flow of requests to your application. Learn more

VPC

vpc-067409b5122bc64b5

Available instances (3/3)

Filter available instances

Instance ID	Name	State	Security groups	Zone
i-08f6a65f58bf8eb2d	Test1	Running	launch-wizard-52	us-east-1d
i-0f645d95641bbb34d	Test2	Running	launch-wizard-52	us-east-1d
i-0c182eea9d35f00ee	Test3	Running	launch-wizard-52	us-east-1d

Cancel | Confirm

EC2 > Load balancers > Create Classic Load Balancer

Attributes

Creating your load balancer using the console gives you the opportunity specify additional features at launch. You can also find and adjust these settings in your load balancer is created.

☑ **Enable cross-zone load balancing**

With cross-zone load balancing, each load balancer node for your Classic Load Balancer distributes requests evenly across the registered instances in all enabled Availability Zor balancer node distributes requests evenly across the registered instances in its Availability Zone only. Classic Load Balancers created with the API or CLI have cross-zone load ba Load Balancer, you can enable or disable cross-zone load balancing at any time.

☑ **Enable connection draining**

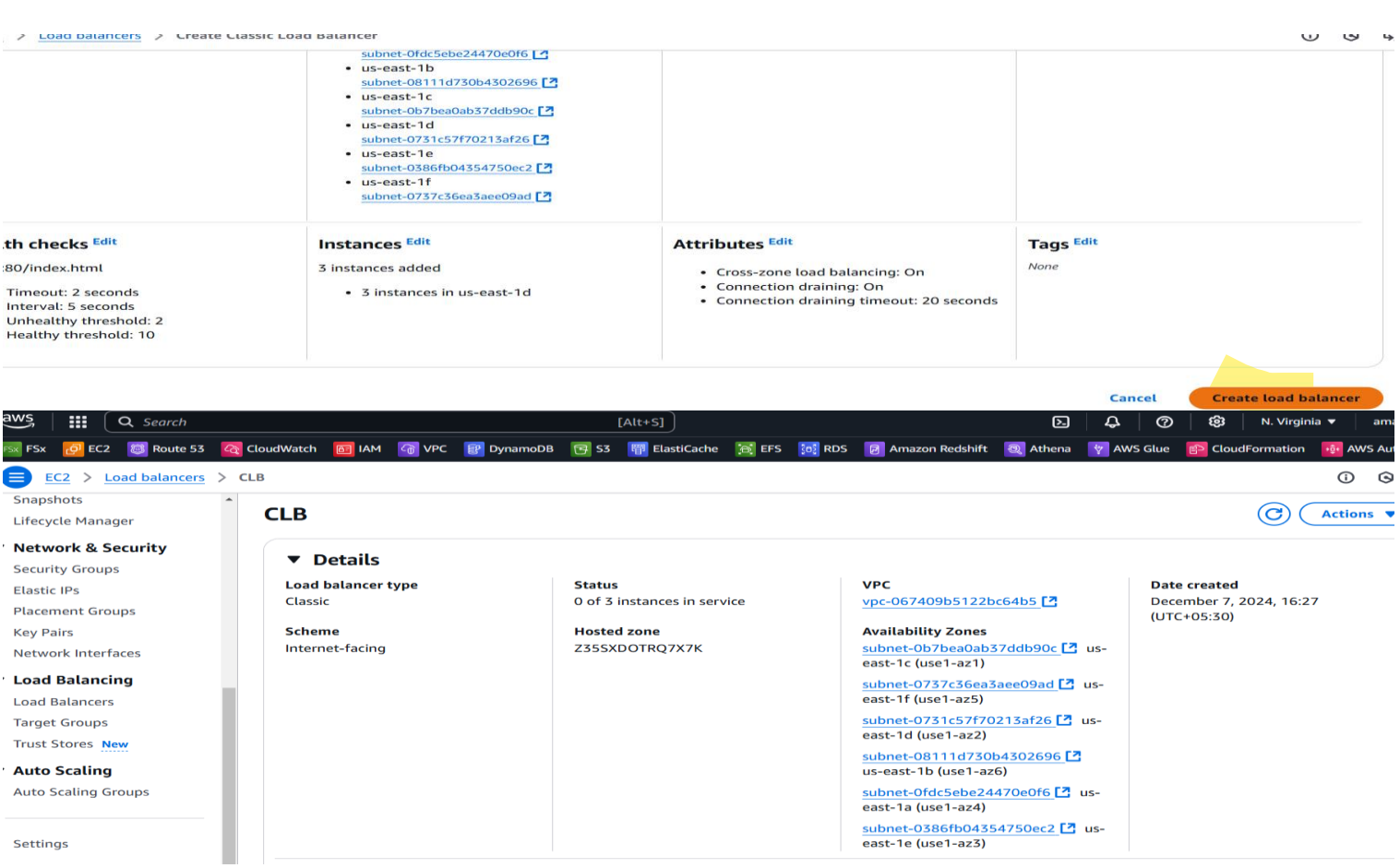
Applicable to instances that are deregistering, this feature allows existing connections to complete (during a specified draining interval) before reporting the instance as deregis

Timeout (draining interval)

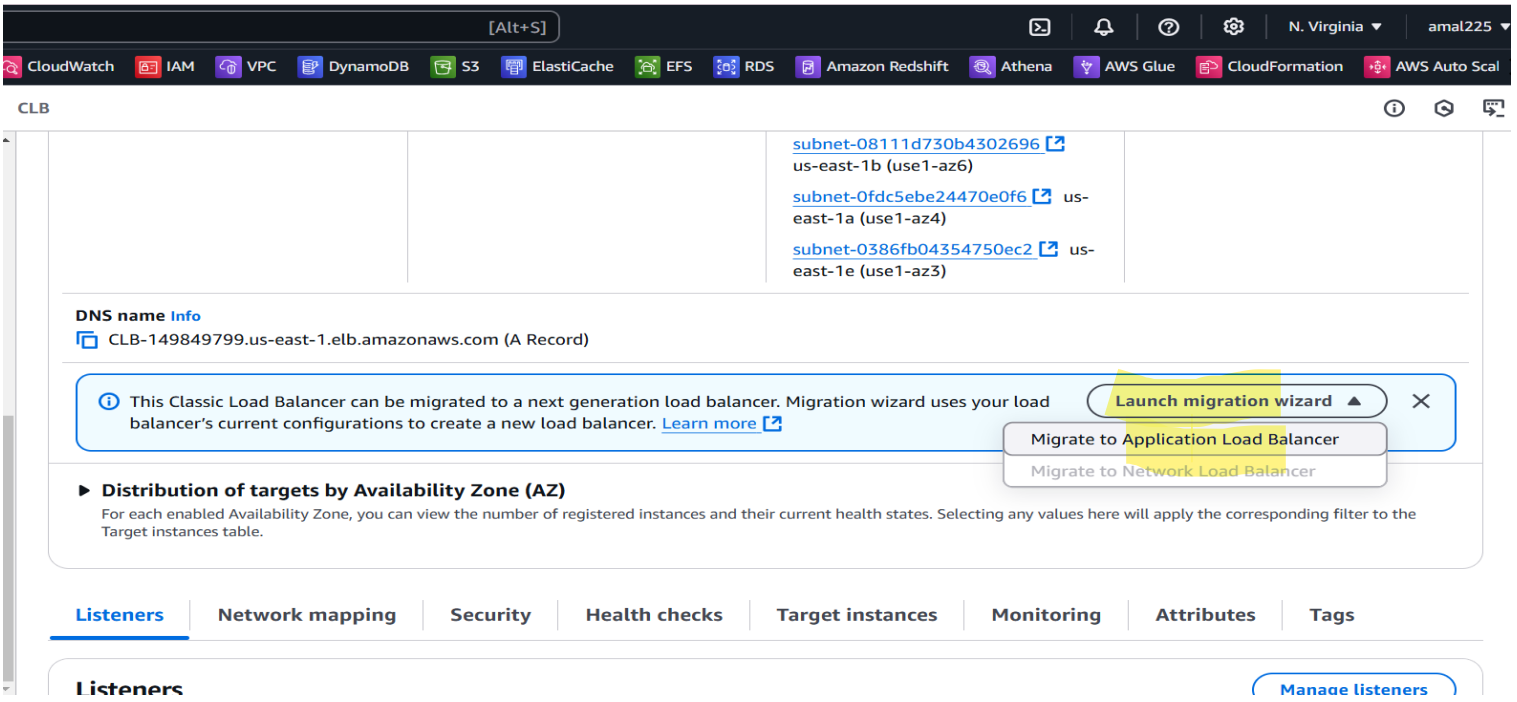
The maximum time for the load balancer to allow existing connections to complete. When the maximum time limit is reached, the load balancer forcibly closes any remaining co

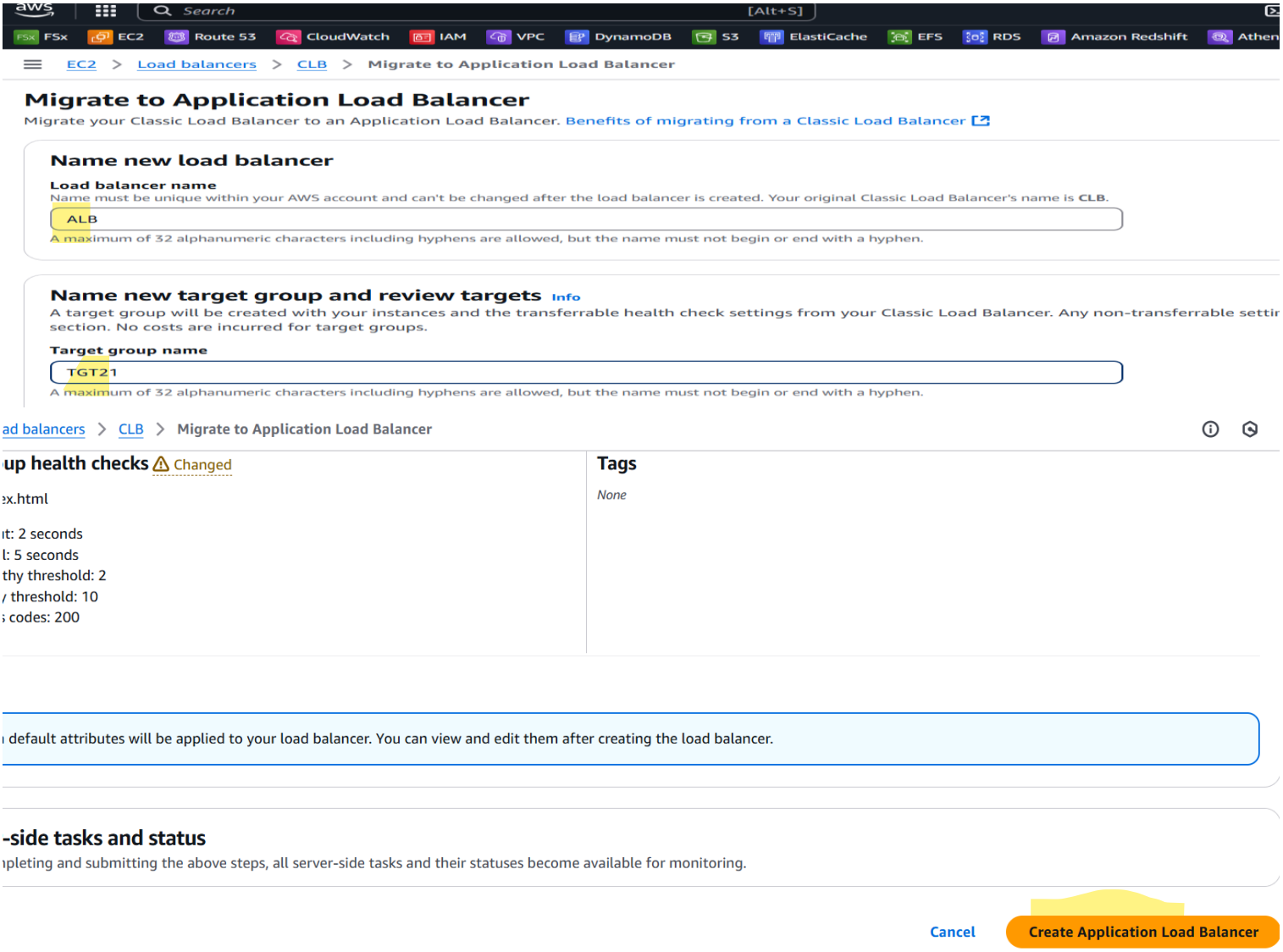
20 seconds

Valid values: **1-3600** (integers only)



2.Migrate the Classic Load Balancer into an Application Load Balancer.

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FSx
EC2
Route 53
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IAM
VPC
DynamoDB
S3
ElastiCache
EFS
RDS
Amazon Redshift
EC2 > Load balancers > CLB > Migrate to Application Load Balancer
Migrate to Application Load Balancer
Migrate your Classic Load Balancer to an Application Load Balancer. Benefits of migrating from a Classic Load Balancer
Name new load balancer
Load balancer name
Name must be unique within your AWS account and can't be changed after the load balancer is created. Your original Classic Load Balancer's name is CLB.
ALB
A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.
Name new target group and review targets Info
A target group will be created with your instances and the transferrable health check settings from your Classic Load Balancer. Any non-transferrable settir
section. No costs are incurred for target groups.
Target group name
TGT21
A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.
ad balancers > CLB > Migrate to Application Load Balancer
up health checks Changed
ex.html
it: 2 seconds
l: 5 seconds
thy threshold: 2
/ threshold: 10
s codes: 200
Tags
None
default attributes will be applied to your load balancer. You can view and edit them after creating the load balancer.
-side tasks and status
npleting and submitting the above steps, all server-side tasks and their statuses become available for monitoring.
Cancel
Create Application Load Balancer