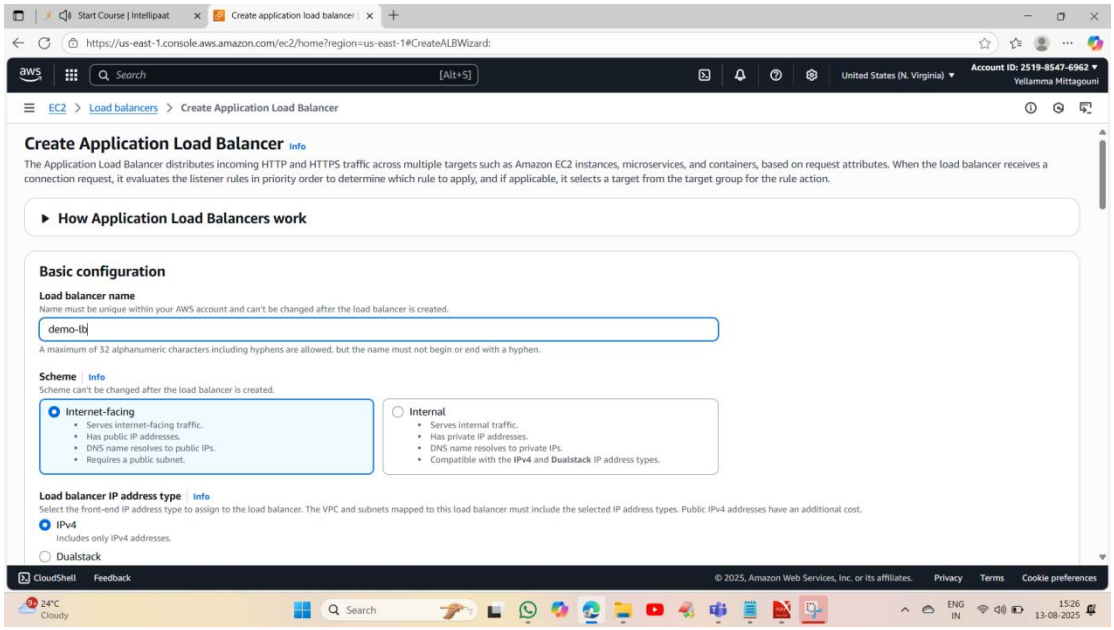
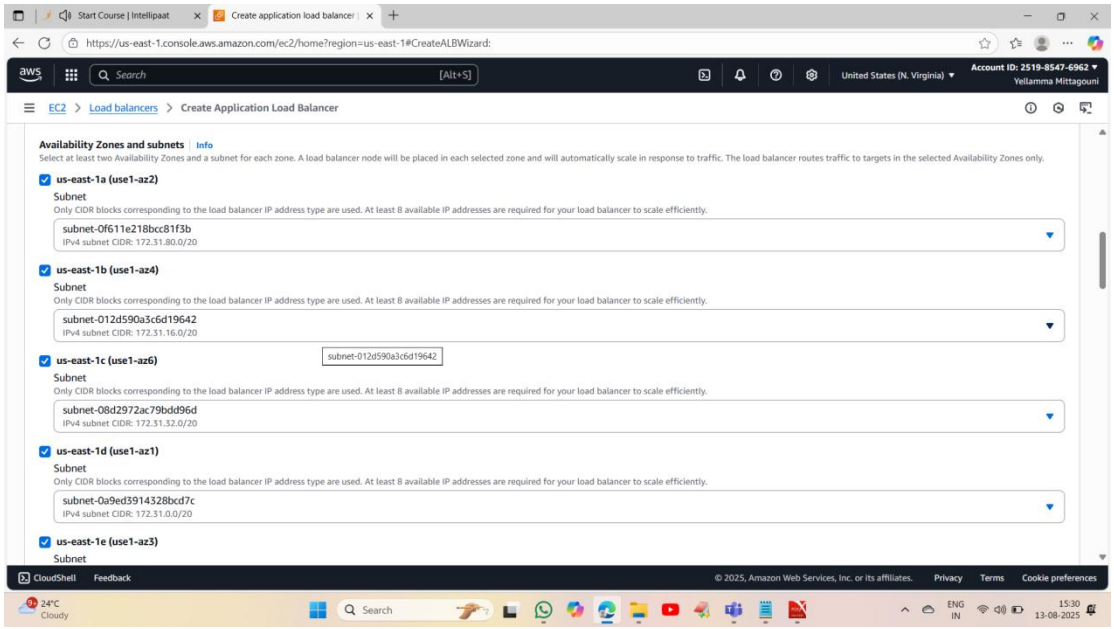
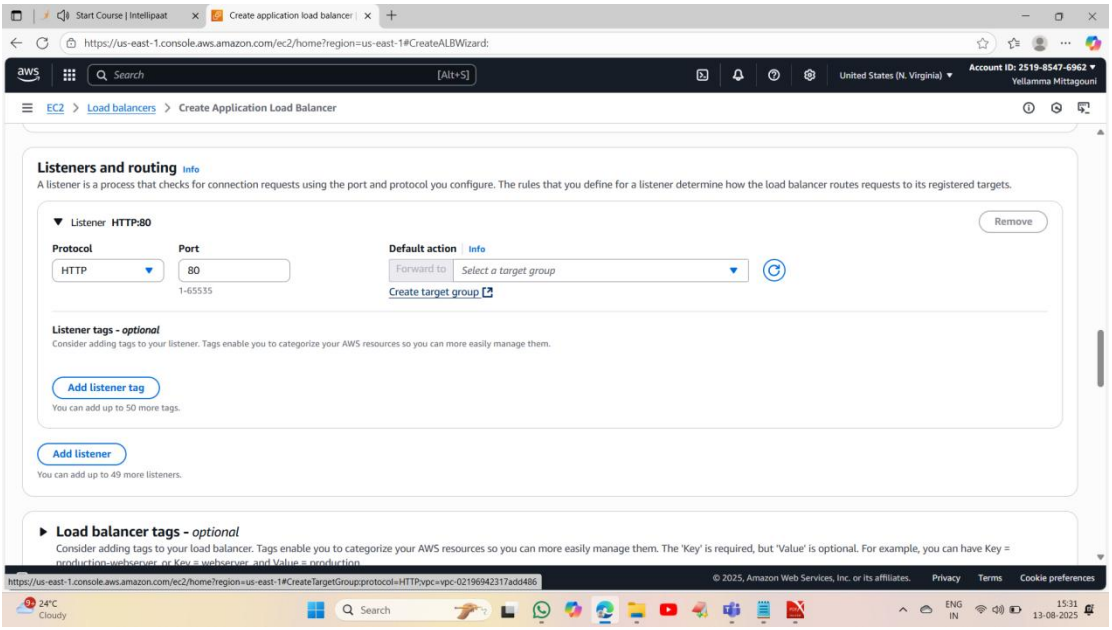
Problem Statement:

You work for XYZ Corporation that uses on premise solutions and a 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.

2. Create a load balancer to distribute the load between compute resources.



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Create application load balancer
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateALBWizard:
Search
[Alt+S]
United States (N. Virginia)
Account ID: 2519-8547-6962
Yellamma Mittagouni
EC2 > Load balancers > Create Application Load Balancer
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
Remove
Protocol
HTTP
Port
80
1-65535
Default action Info
Forward to
Select a target group
Create target group
Listener tags - optional
Consider adding tags to your listener. Tags enable you to categorize your AWS resources so you can more easily manage them.
Add listener tag
You can add up to 50 more tags.
Add listener
You can add up to 49 more listeners.
Load balancer tags - optional
Consider adding tags to your load balancer. Tags enable you to categorize your AWS resources so you can more easily manage them. The 'Key' is required, but 'Value' is optional. For example, you can have Key = production-webserver, or Key = webserver, and Value = production
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:protocol=HTTP;vpc=vpc-02196942317add486
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24°C
Cloudy
Search
ENG
IN
15:31
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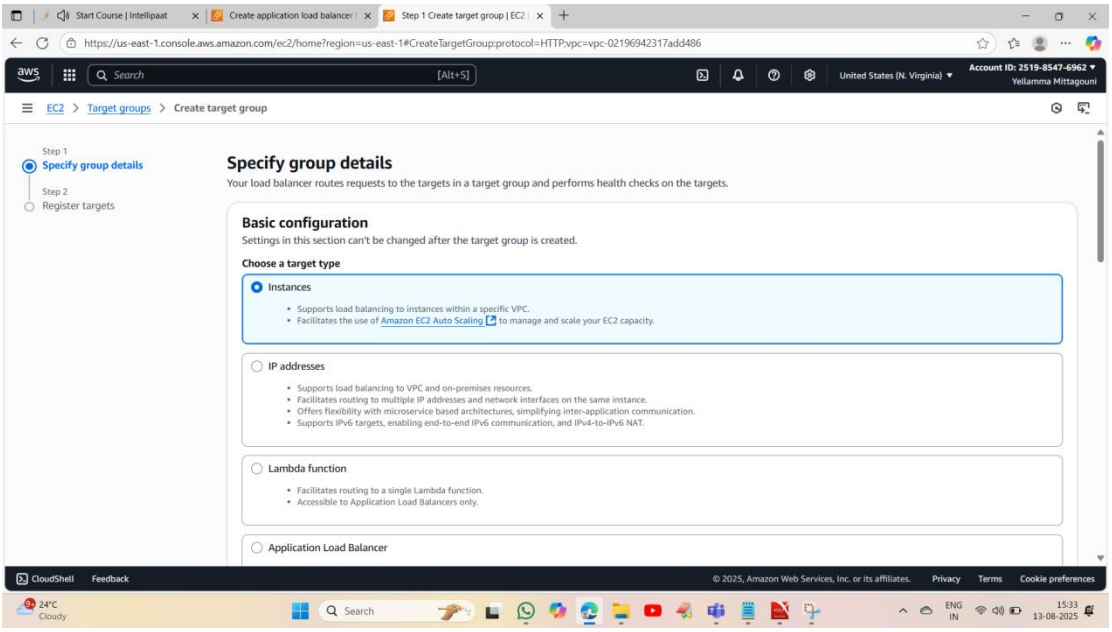
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Create application load balancer
Step 1 Create target group | EC2
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:protocol=HTTP;vpc=vpc-02196942317add486
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EC2 > Target groups > Create target group
Step 1
Specify group details
Step 2
Register targets
Specify group details
Your load balancer routes requests to the targets in a target group and performs health checks on the targets.
Basic configuration
Settings in this section can't be changed after the target group is created.
Choose a target type
Instances
Supports load balancing to instances within a specific VPC.
Facilitates the use of Amazon EC2 Auto Scaling to manage and scale your EC2 capacity.
IP addresses
Supports load balancing to VPC and on-premises resources.
Facilitates routing to multiple IP addresses and network interfaces on the same instance.
Offers flexibility with microservice based architectures, simplifying inter-application communication.
Supports IPv6 targets, enabling end-to-end IPv6 communication, and IPv4-to-IPv6 NAT.
Lambda function
Facilitates routing to a single Lambda function.
Accessible to Application Load Balancers only.
Application Load Balancer
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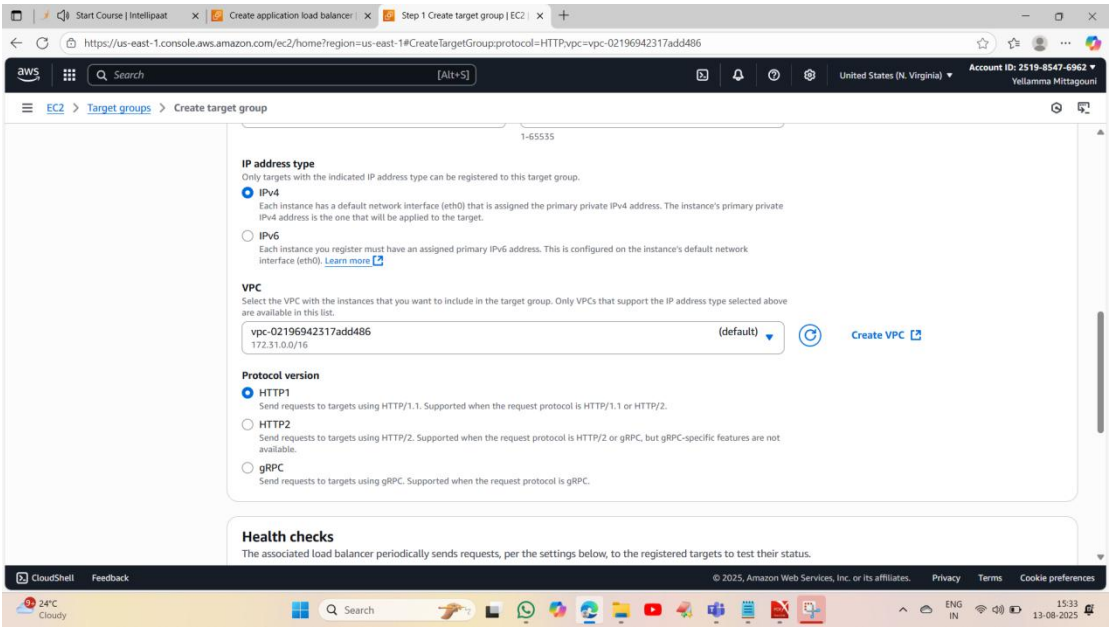
Start Course | Intellipaat
Create application load balancer
Step 1 Create target group | EC2
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:protocol=HTTP;vpc=vpc-02196942317add486
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EC2 > Target groups > Create target group
1-65535
IP address type
Only targets with the indicated IP address type can be registered to this target group.
IPv4
Each instance has a default network interface (eth0) that is assigned the primary private IPv4 address. The instance's primary private IPv4 address is the one that will be applied to the target.
IPv6
Each instance you register must have an assigned primary IPv6 address. This is configured on the instance's default network interface (eth0). Learn more
VPC
Select the VPC with the instances that you want to include in the target group. Only VPCs that support the IP address type selected above are available in this list.
vpc-02196942317add486
172.31.0.0/16
(default)
Create VPC
Protocol version
HTTP1
Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTP/2.
HTTP2
Send requests to targets using HTTP/2. Supported when the request protocol is HTTP/2 or gRPC, but gRPC-specific features are not available.
gRPC
Send requests to targets using gRPC. Supported when the request protocol is gRPC.
Health checks
The associated load balancer periodically sends requests, per the settings below, to the registered targets to test their status.
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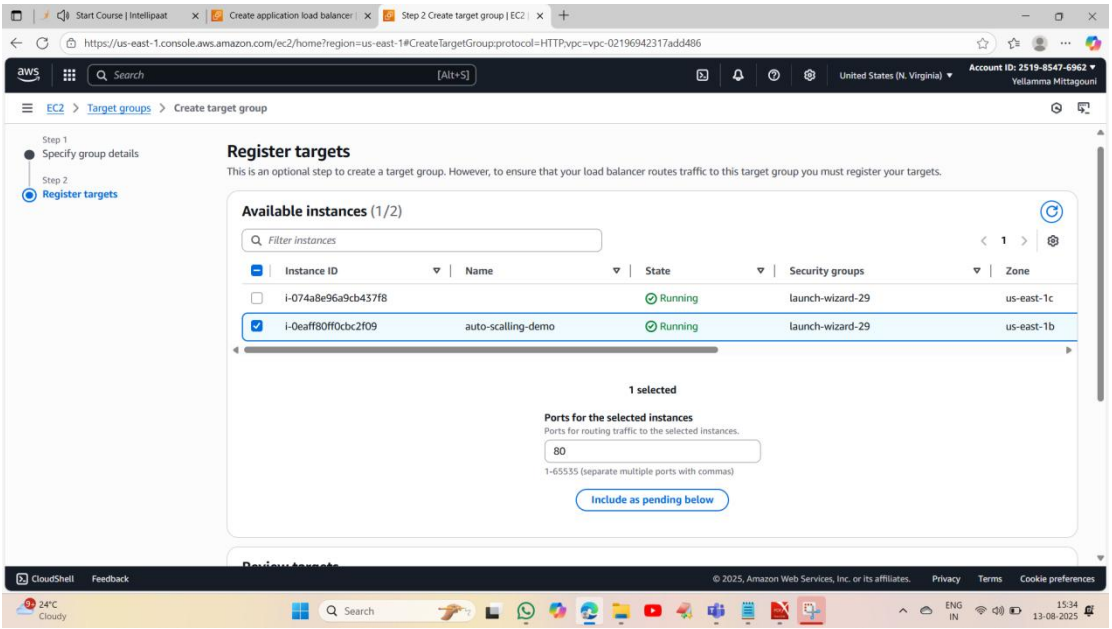
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Create application load balancer
Step 2 Create target group | EC2
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:protocol=HTTP;vpc=vpc-02196942317add486
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Account ID: 2519-8547-6962
Yellamma Mittagouni
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 (1/2)
Filter instances
1
Instance ID
Name
State
Security groups
Zone
i-074a8e96a9cb437f8
Running
launch-wizard-29
us-east-1c
i-0eaff80ff0cbc2f09
auto-scalling-demo
Running
launch-wizard-29
us-east-1b
1 selected
Ports for the selected instances
Ports for routing traffic to the selected instances.
80
1-65535 (separate multiple ports with commas)
Include as pending below
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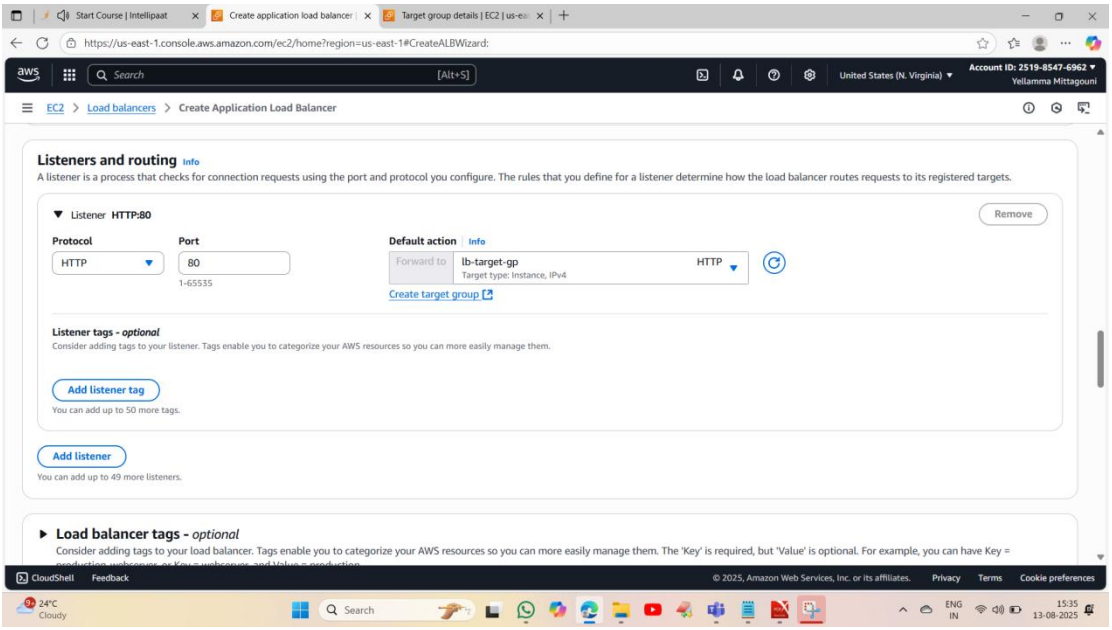
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Create application load balancer
Target group details | EC2 | us-ea
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateALBWizard:
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EC2 > Load balancers > Create Application Load Balancer
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
Remove
Protocol
HTTP
Port
80
1-65535
Default action Info
Forward to
lb-target-gp
Target type: Instance, IPv4
HTTP
Create target group
Listener tags - optional
Consider adding tags to your listener. Tags enable you to categorize your AWS resources so you can more easily manage them.
Add listener tag
You can add up to 50 more tags.
Add listener
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Load balancer tags - optional
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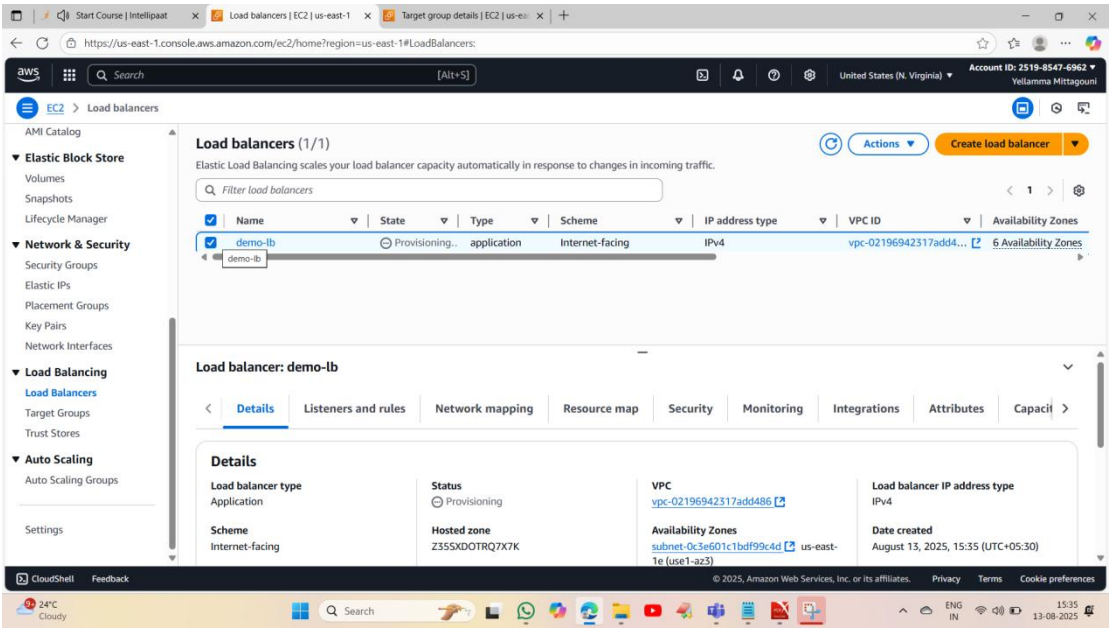
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Load balancers | EC2 | us-east-1
Target group details | EC2 | us-ea
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LoadBalancers:
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Account ID: 2519-8547-6962
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EC2 > Load balancers
AMI Catalog
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
Auto Scaling
Auto Scaling Groups
Settings
Load balancers (1/1)
Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.
Actions
Create load balancer
Filter load balancers
Name
State
Type
Scheme
IP address type
VPC ID
Availability Zones
demo-lb
Provisioning..
application
Internet-facing
IPv4
vpc-02196942317add4...
6 Availability Zones
Load balancer: demo-lb
Details
Listeners and rules
Network mapping
Resource map
Security
Monitoring
Integrations
Attributes
Details
Load balancer type
Application
Status
Provisioning
VPC
vpc-02196942317add486
Load balancer IP address type
IPv4
Scheme
Internet-facing
Hosted zone
Z35SXDOTRQ7X7K
Availability Zones
subnet-0c3e601c1bdf99c4d us-east-1e (use1-az3)
Date created
August 13, 2025, 15:35 (UTC+05:30)
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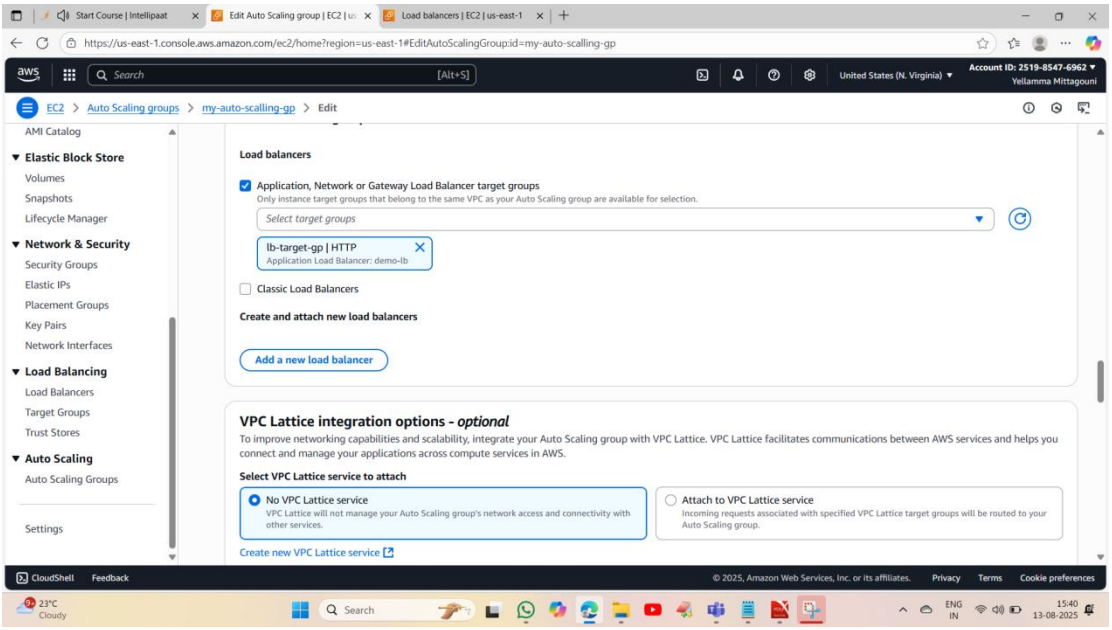
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Edit Auto Scaling group | EC2 | us
Load balancers | EC2 | us-east-1
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#EditAutoScalingGroup:id=my-auto-scalling-gp
Search
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United States (N. Virginia)
Account ID: 2519-8547-6962
Yellamma Mittagouni
EC2 > Auto Scaling groups > my-auto-scalling-gp > Edit
AMI Catalog
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
Auto Scaling
Auto Scaling Groups
Settings
Load balancers
Application, Network or Gateway Load Balancer target groups
Only instance target groups that belong to the same VPC as your Auto Scaling group are available for selection.
Select target groups
lb-target-gp | HTTP
Application Load Balancer: demo-lb
Classic Load Balancers
Create and attach new load balancers
Add a new load balancer
VPC Lattice integration options - optional
To improve networking capabilities and scalability, integrate your Auto Scaling group with VPC Lattice. VPC Lattice facilitates communications between AWS services and helps you connect and manage your applications across compute services in AWS.
Select VPC Lattice service to attach
No VPC Lattice service
VPC Lattice will not manage your Auto Scaling group's network access and connectivity with other services.
Attach to VPC Lattice service
Incoming requests associated with specified VPC Lattice target groups will be routed to your Auto Scaling group.
Create new VPC Lattice service
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