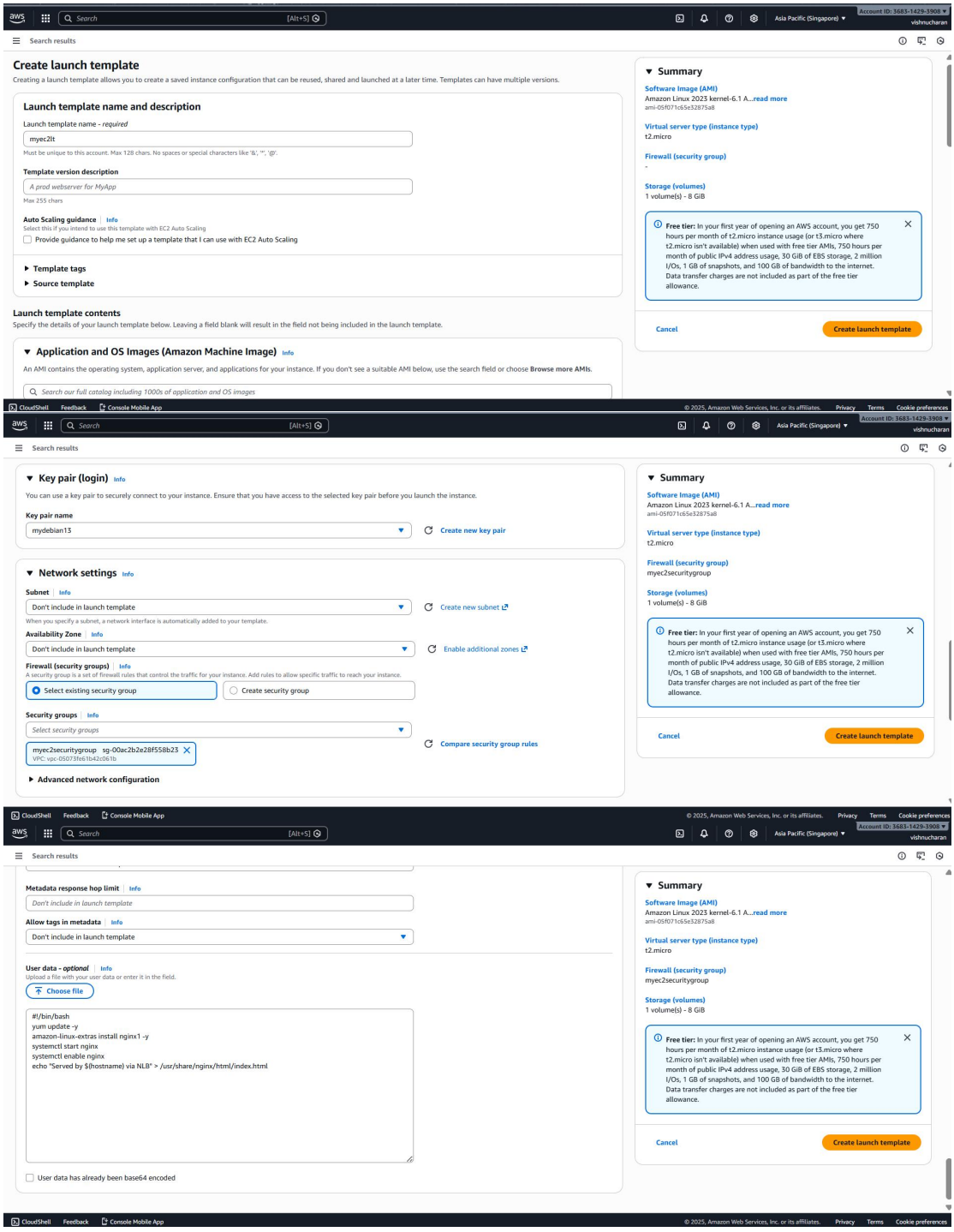
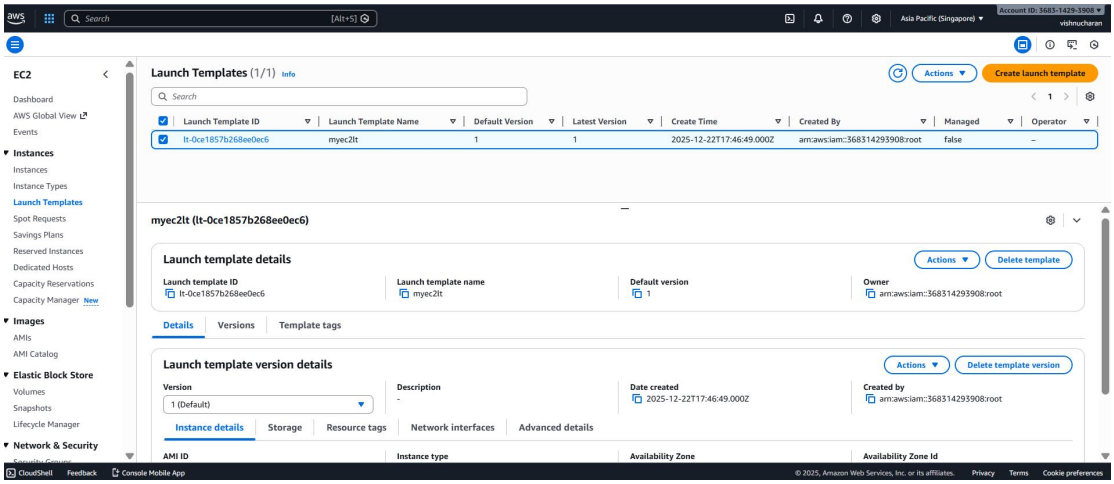
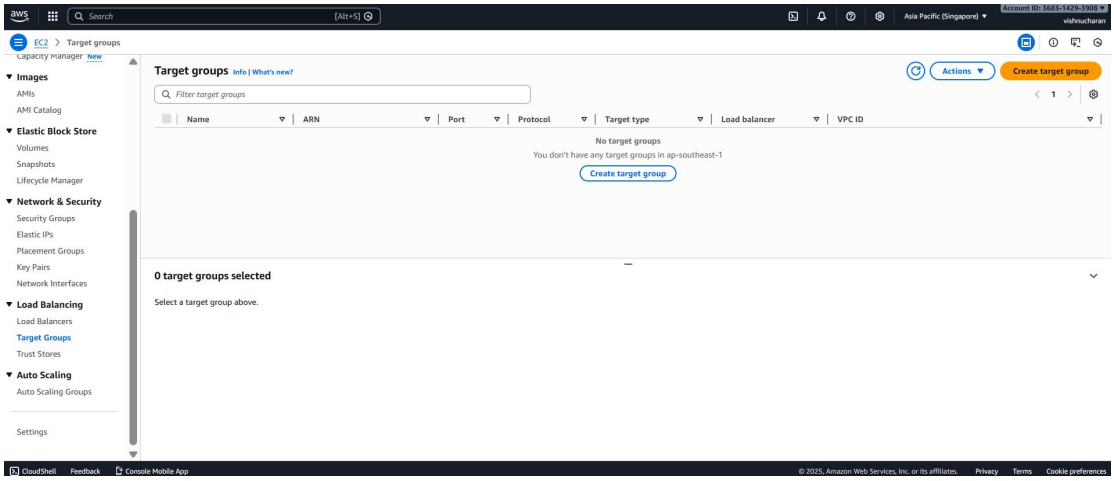
Scalable Web Application using **NLB + EC2 Auto Scaling**

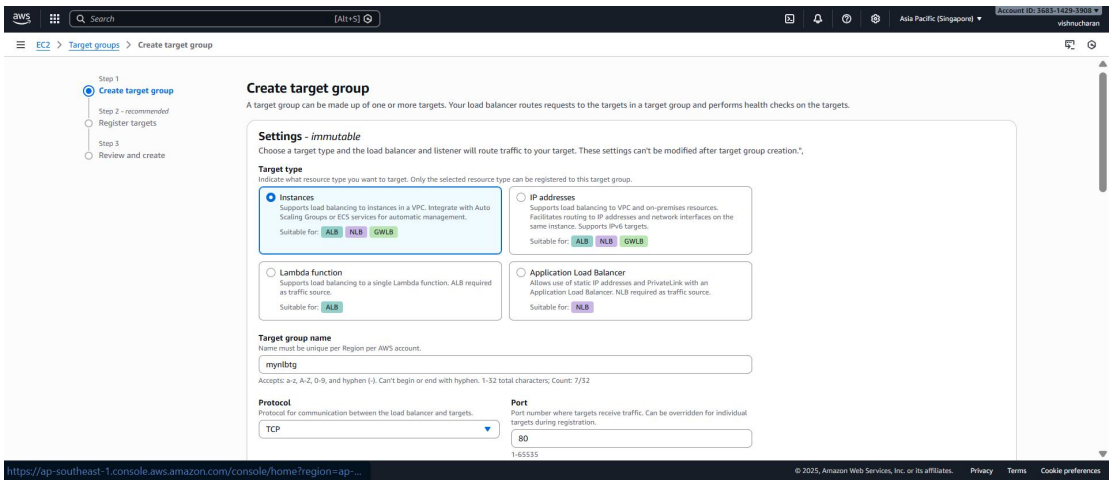
1. Create Launch Template (EC2)

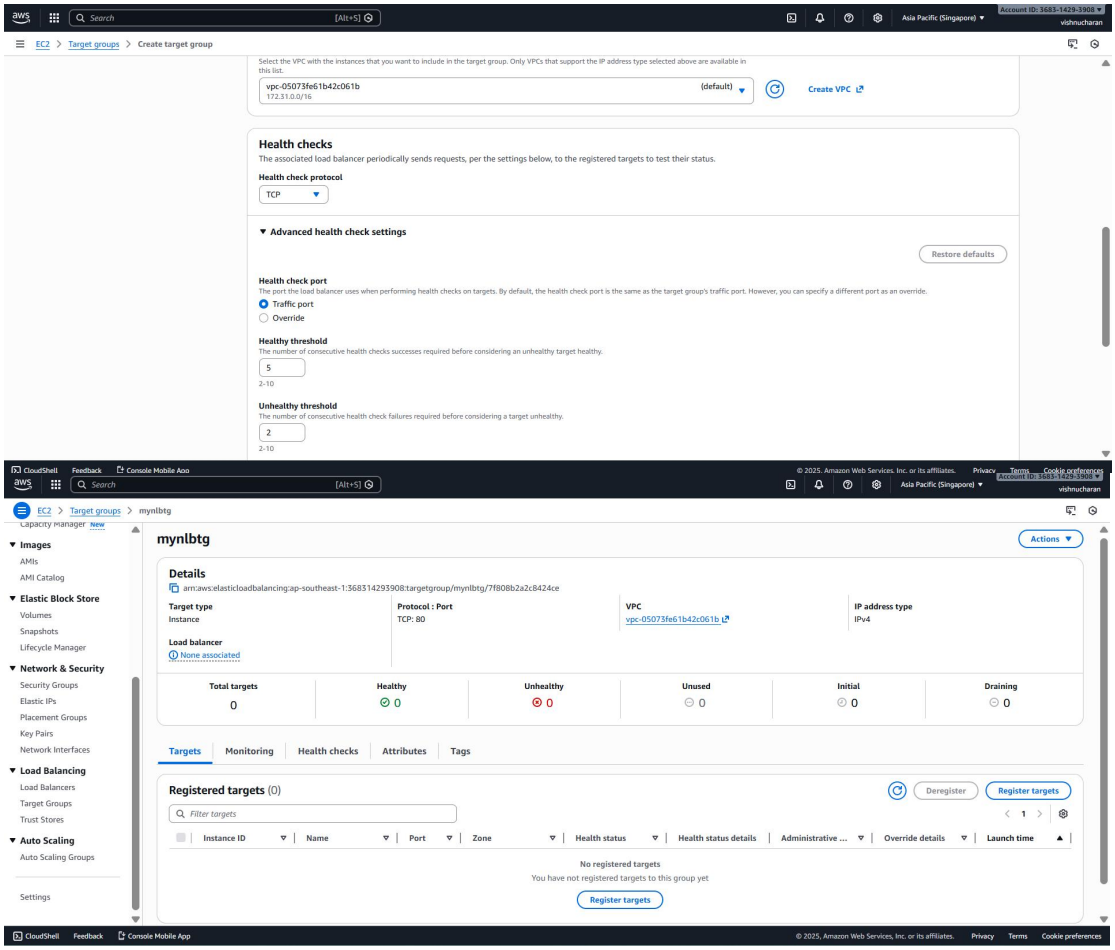




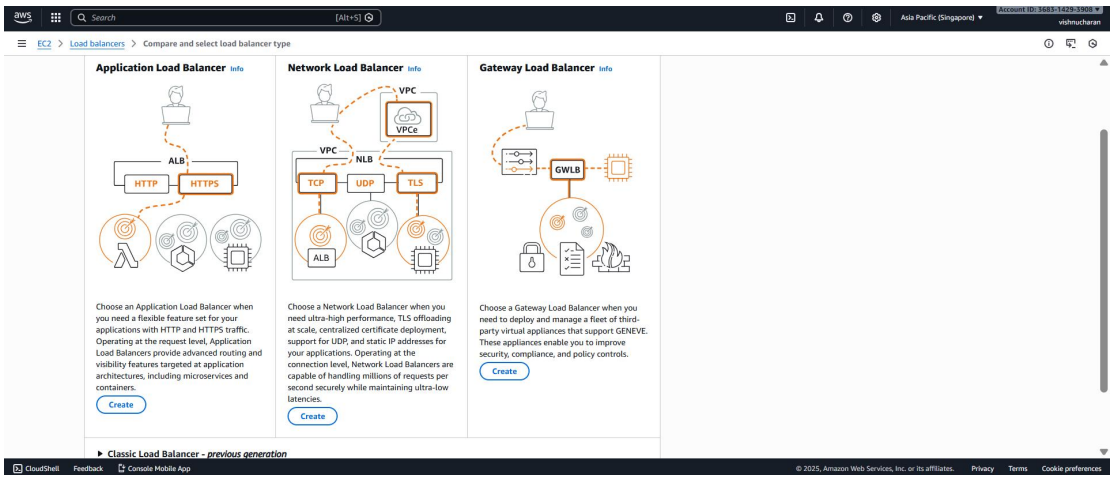
2. Create Target Group (Critical for NLB)

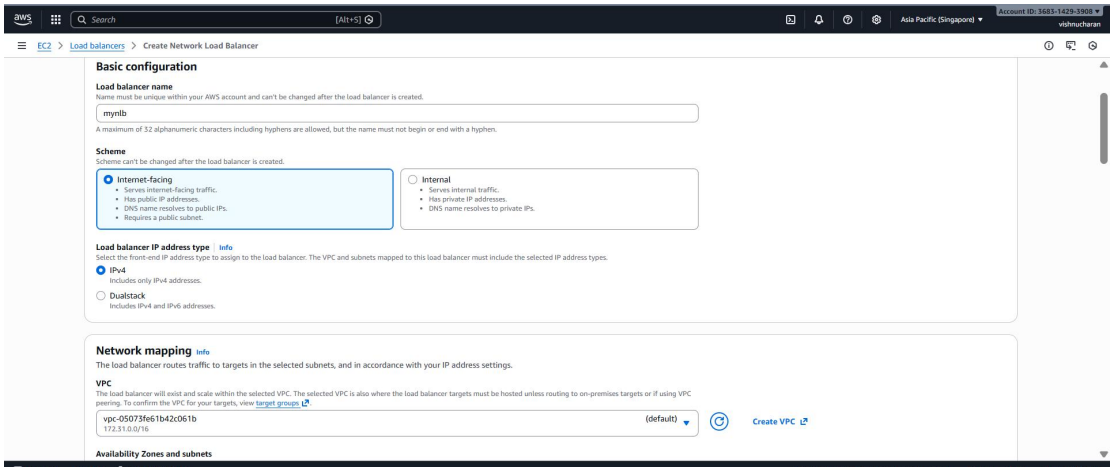






3. Create Network Load Balancer




Search
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Asia Pacific (Singapore)
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EC2 > Load balancers > Create Network Load Balancer
Basic configuration
Load balancer name
Name must be unique within your AWS account and can't be changed after the load balancer is created.
mynlb
A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.
Scheme
Scheme can't be changed after the load balancer is created.
Internet-facing
Serves internet-facing traffic.
Has public IP addresses.
DNS name resolves to public IPs.
Requires a public subnet.
Internal
Serves internal traffic.
Has private IP addresses.
DNS name resolves to private IPs.
Load balancer IP address type Info
Select the front-end IP address type to assign to the load balancer. The VPC and subnets mapped to this load balancer must include the selected IP address types.
IPv4
Includes only IPv4 addresses.
Dualstack
Includes IPv4 and IPv6 addresses.
Network mapping Info
The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.
VPC
The load balancer will exist and scale within the selected VPC. The selected VPC is also where the load balancer targets must be hosted unless routing to on-premises targets or if using VPC peering. To confirm the VPC for your targets, view target groups.
vpc-05073fe61b42c061b
172.31.0.0/16
(default)
Create VPC
Availability Zones and subnets
CloudShell
Feedback
Console Mobile App
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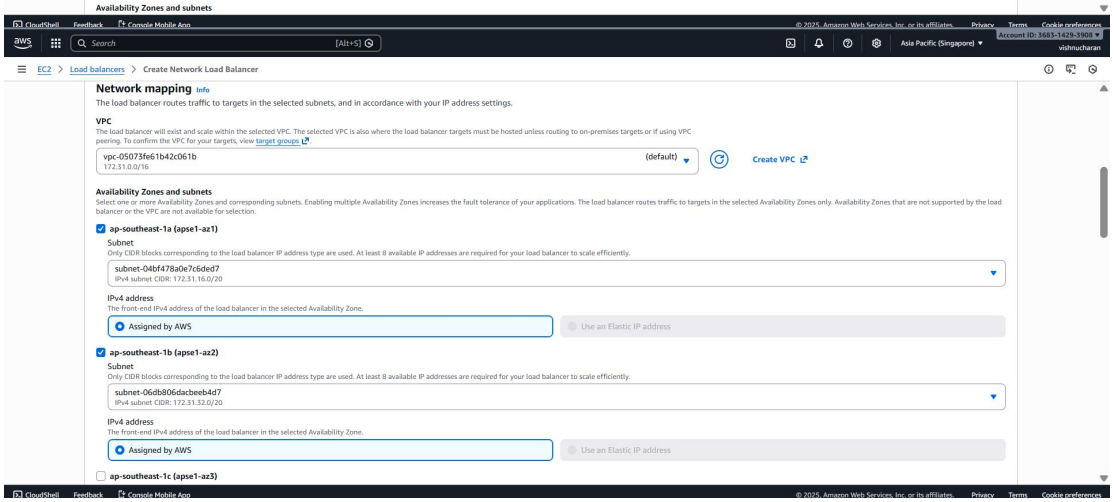
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Asia Pacific (Singapore)
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EC2 > Load balancers > Create Network Load Balancer
Network mapping Info
The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.
VPC
The load balancer will exist and scale within the selected VPC. The selected VPC is also where the load balancer targets must be hosted unless routing to on-premises targets or if using VPC peering. To confirm the VPC for your targets, view target groups.
vpc-05073fe61b42c061b
172.31.0.0/16
(default)
Create VPC
Availability Zones and subnets
Select one or more Availability Zones and corresponding subnets. Enabling multiple Availability Zones increases the fault tolerance of your applications. The load balancer routes traffic to targets in the selected Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.
ap-southeast-1a (apse1-az1)
Subnet
Only CIDR blocks corresponding to the load balancer IP address type are used. At least 8 available IP addresses are required for your load balancer to scale efficiently.
subnet-04bf478a0e7c6ded7
IPv4 subnet CIDR: 172.31.16.0/20
IPv4 address
The front-end IPv4 address of the load balancer in the selected Availability Zone.
Assigned by AWS
Use an Elastic IP address
ap-southeast-1b (apse1-az2)
Subnet
Only CIDR blocks corresponding to the load balancer IP address type are used. At least 8 available IP addresses are required for your load balancer to scale efficiently.
subnet-06db806dacbeeb4d7
IPv4 subnet CIDR: 172.31.32.0/20
IPv4 address
The front-end IPv4 address of the load balancer in the selected Availability Zone.
Assigned by AWS
Use an Elastic IP address
ap-southeast-1c (apse1-az3)
CloudShell
Feedback
Console Mobile App
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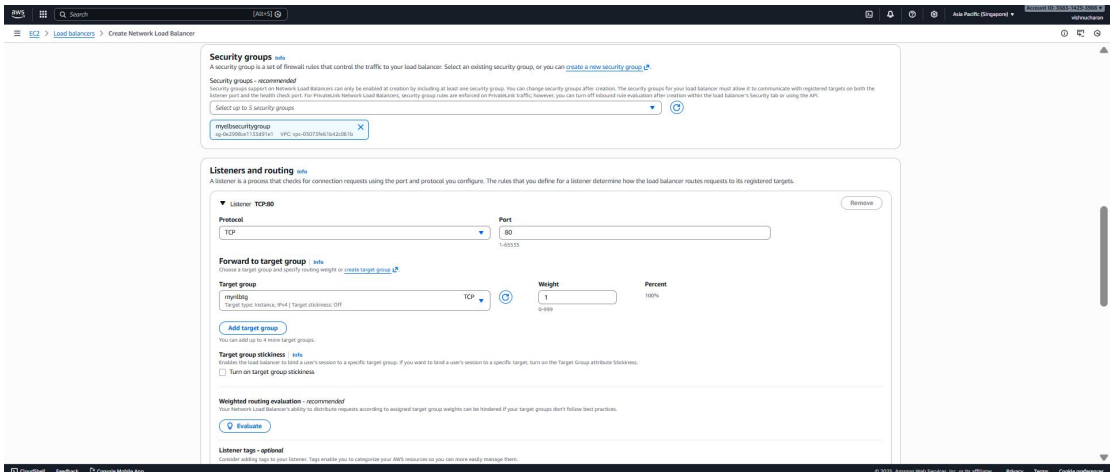
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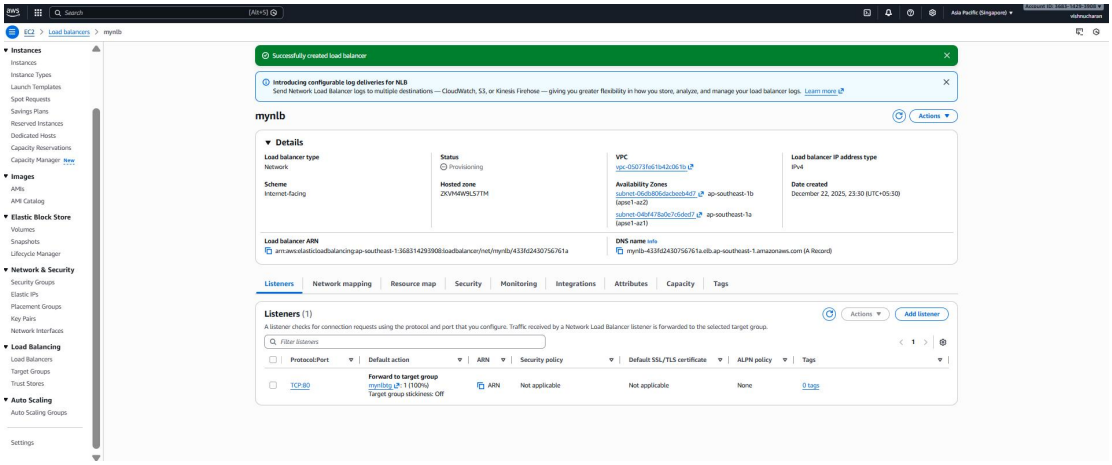
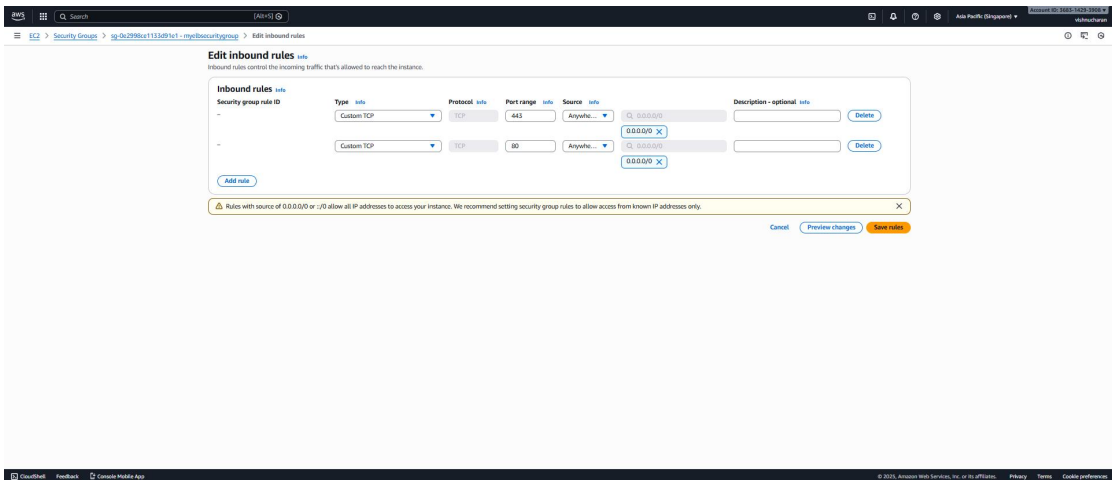
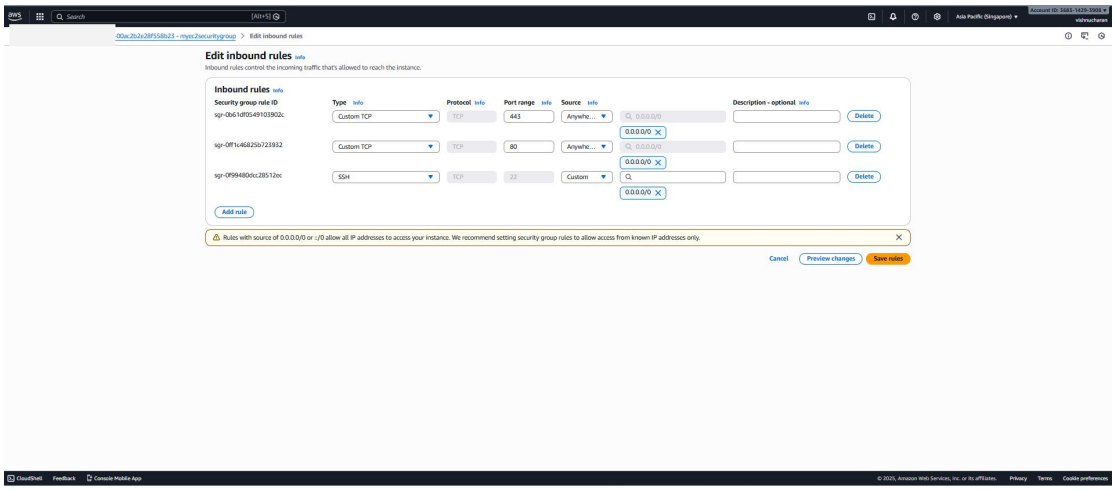
EC2 > Load balancers > Create Network Load Balancer
Security groups Info
A security group is a set of firewall rules that control the traffic to your load balancer. Select an existing security group, or you can create a new security group.
Security groups - recommended
Select up to 5 security groups
myelbsecuritygroup
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 TCP:80
Remove
Protocol
TCP
Port
80
1-65535
Forward to target group Info
Choose a target group and specify routing weight or create target group.
Target group
mynltg
TCP
Target type: Instance, IPv4 | Target stickiness: Off
Weight
1
0-999
Percent
100%
Add target group
You can add up to 4 more target groups.
Target group stickiness Info
Enables the load balancer to bind a user's session to a specific target group. If you want to bind a user's session to a specific target, turn on the Target Group attribute stickiness.
Turn on target group stickiness
Weighted routing evaluation - recommended
Your Network Load Balancer's ability to distribute requests according to assigned target group weights can be hindered if your target groups don't follow best practices.
Evaluate
Listener tags - optional
Consider adding tags to your listener. Tags enable you to categorize your AWS resources so you can more easily manage them.



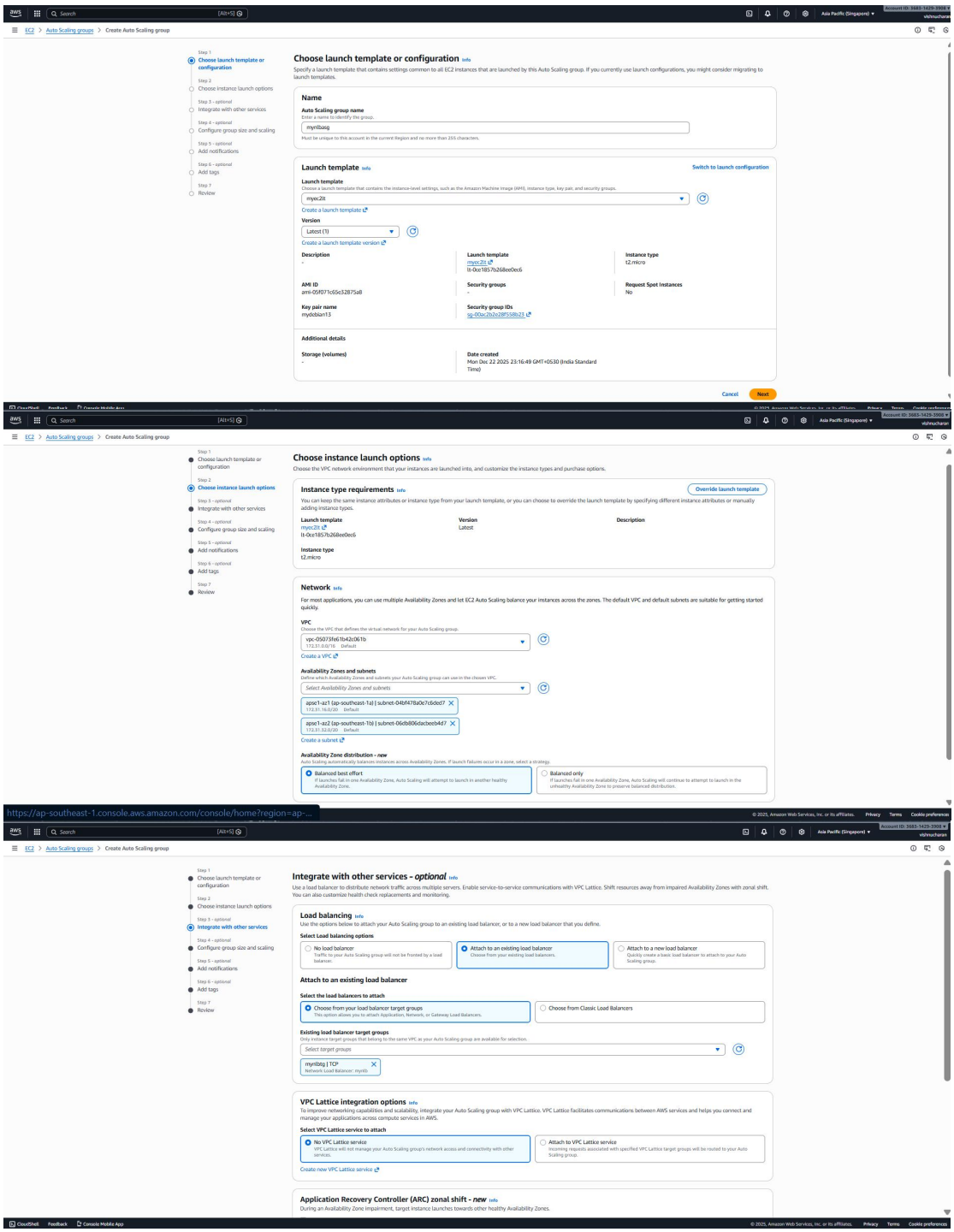
NLB Security group(Inbound rules):-

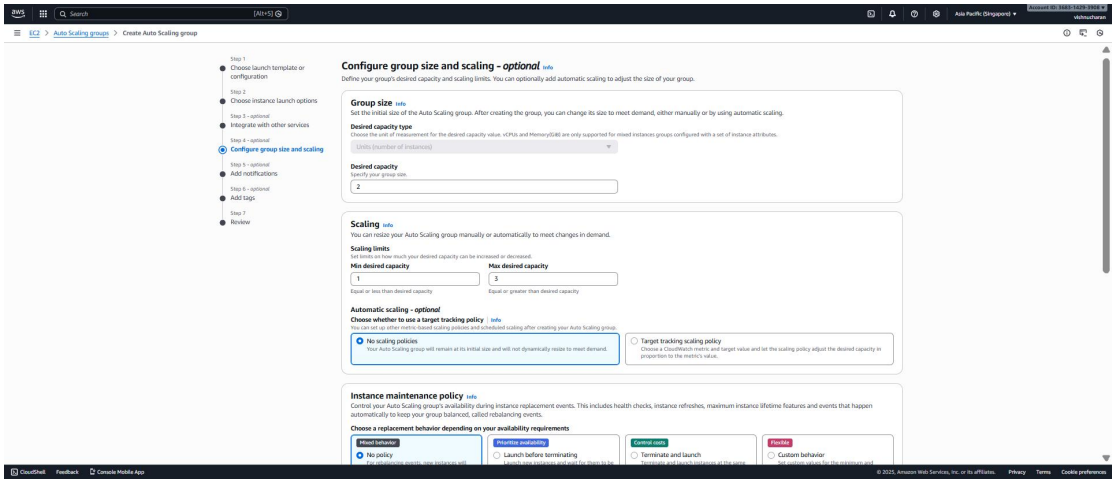


EC2 Security group(Inbound rules):-



4. Create Auto Scaling Group




EC2 > Auto Scaling groups > Create Auto Scaling group
Step 1
Choose launch template or configuration
Step 2
Choose instance launch options
Step 3 - optional
Integrate with other services
Step 4 - optional
Configure group size and scaling
Step 5 - optional
Add notifications
Step 6 - optional
Add tags
Step 7
Review
Configure group size and scaling - optional Info
Define your group's desired capacity and scaling limits. You can optionally add automatic scaling to adjust the size of your group.
Group size Info
Set the initial size of the Auto Scaling group. After creating the group, you can change its size to meet demand, either manually or by using automatic scaling.
Desired capacity type
Units (number of instances)
Desired capacity
2
Scaling Info
You can resize your Auto Scaling group manually or automatically to meet changes in demand.
Scaling limits
Min desired capacity
1
Max desired capacity
3
Automatic scaling - optional
Choose whether to use a target tracking policy Info
No scaling policies
Your Auto Scaling group will remain at its initial size and will not dynamically resize to meet demand.
Target tracking scaling policy
Instance maintenance policy Info
Control your Auto Scaling group's availability during instance replacement events. This includes health checks, instance refreshes, maximum instance lifetime features and events that happen automatically to keep your group balanced, called rebalancing events.
Choose a replacement behavior depending on your availability requirements
Mixed behavior
No policy
Prioritize availability
Launch before terminating
Control costs
Terminate and launch
Flexible
Custom behavior
CloudShell
Feedback
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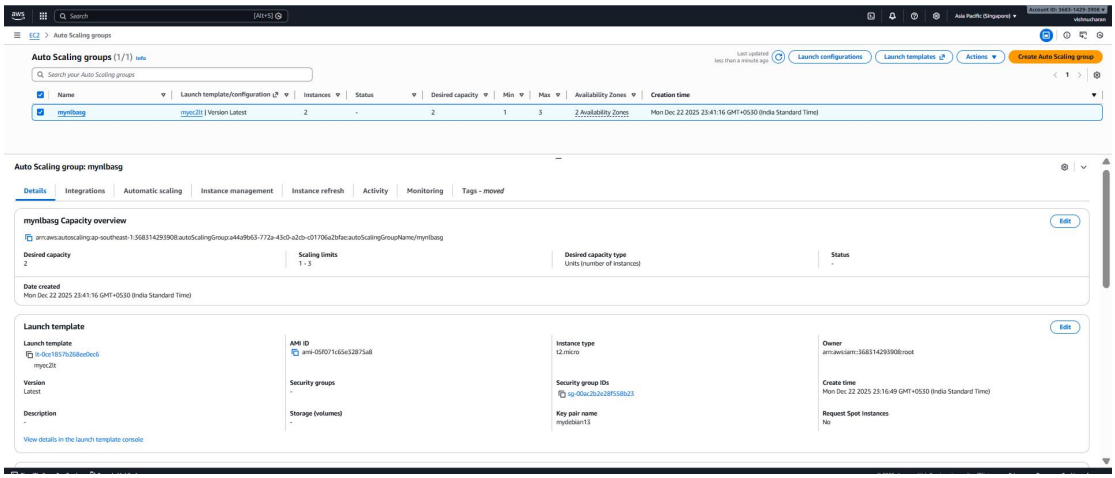
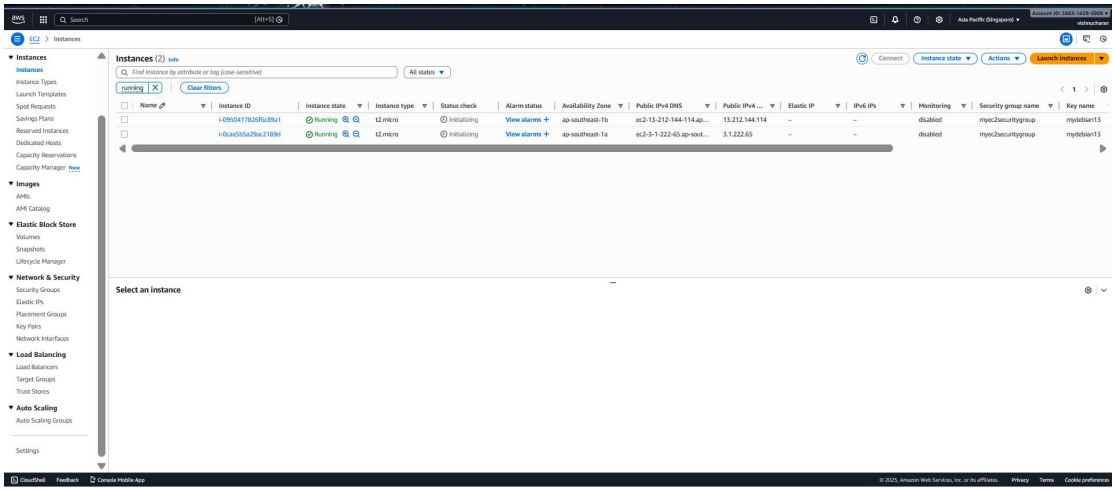

EC2 > Auto Scaling groups
Auto Scaling groups (1/1) Info
Search your Auto Scaling groups
Launch configurations
Launch templates
Actions
Create Auto Scaling group
Name
Launch template/configuration
Instances
Status
Desired capacity
Min
Max
Availability Zones
Creation time
mynlbasg
myec2lt | Version Latest
2
-
2
1
3
2 Availability Zones
Mon Dec 22 2025 23:41:16 GMT+0530 (India Standard Time)
Auto Scaling group: mynlbasg
Details
Integrations
Automatic scaling
Instance management
Instance refresh
Activity
Monitoring
Tags - moved
mynlbasg Capacity overview
Edit
arn:aws:autoscaling:ap-southeast-1:368314293908:autoScalingGroup:a44a9b63-772a-45c0-a2cb-c01706a2bfac:autoScalingGroupName/mynlbasg
Desired capacity
2
Scaling limits
1 - 3
Desired capacity type
Units (number of instances)
Status
-
Date created
Mon Dec 22 2025 23:41:16 GMT+0530 (India Standard Time)
Launch template
Edit
Launch template
lt-0ce18579268ee0ec6
myec2lt
AMI ID
ami-05f071c65e32875a8
Instance type
t2.micro
Owner
arn:aws:iam::368314293908:root
Version
Latest
Security groups
-
Security group IDs
sg-00ac2b2b28f558b23
Create time
Mon Dec 22 2025 23:16:49 GMT+0530 (India Standard Time)
Description
-
Storage (volumes)
Key pair name
mydebian13
Request Spot Instances
No
View details in the launch template console


EC2 > Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
Capacity Manager New
Images
AMIs
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
Instances (2) Info
Find Instance by attribute or tag (case-sensitive)
All states
running
Clear filters
Connect
Instance state
Actions
Launch instances
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public IPv4 DNS
Public IPv4 ...
Elastic IP
IPv6 IPs
Monitoring
Security group name
Key name
i-095041782bf6c89a1
Running
t2.micro
Initializing
View alarms
ap-southeast-1b
ec2-13-212-144-114.ap...
13.212.144.114
disabled
myec2securitygroup
mydebian13
i-0caa5b5a298e2189d
Running
t2.micro
Initializing
View alarms
ap-southeast-1a
ec2-3-1-222-65.ap-sout...
3.1.222.65
disabled
myec2securitygroup
mydebian13
Select an instance
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Feedback
Console Mobile App
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