

Assignment 4 – ALB and ASG – Reference

You should follow the specs only. If you get stuck, try to figure it out yourself by putting some efforts and time and referring the official AWS docs. Don't blindly follow these step by step screenshots. They are tend to outdated.

Task 1 - Run two web servers behind ALB

Create Security Groups for ALB

- Create an SG for the ALB which is open to the world. Create an SG for web servers that allows ALB's SG

Create Application Load Balancer Security Group (Outbound Rule is Default - All Traffic)

Security group name: my-lab-alb-sg
Security group ID: sg-03e5e025e377518eb
Description: Lab Application Load Balancer Security Group
VPC ID: vpc-0b978358e22761686

Owner: 409673912482
Inbound rules count: 1 Permission entry
Outbound rules count: 1 Permission entry

Inbound rules (1/1)

| Type | Protocol | Port range | Source | Description |
|------|----------|------------|-----------|-------------|
| HTTP | TCP | 80 | 0.0.0.0/0 | - |

Create EC2 Web Server Security Group (Outbound Rule is Default - All Traffic)

Security group name: my-lab-EC2-Server-sg
Security group ID: sg-0a370c15c5b405b61
Description: Web Server Security Group
VPC ID: vpc-0b978358e22761686

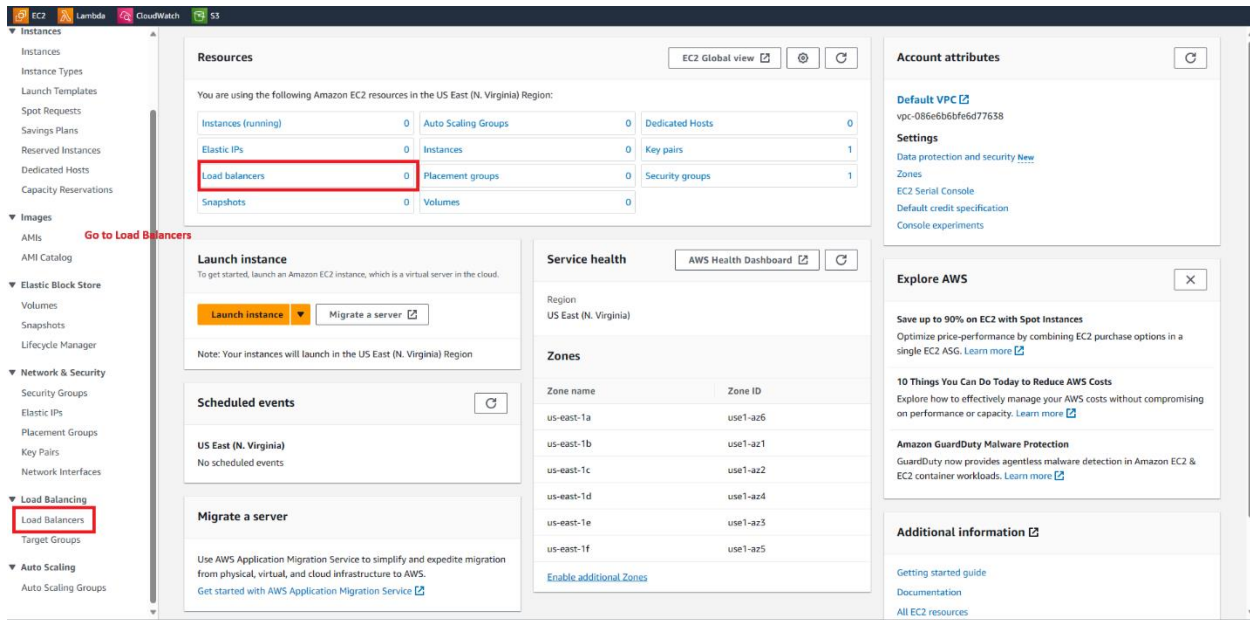
Owner: 409673912482
Inbound rules count: 1 Permission entry
Outbound rules count: 1 Permission entry

Inbound rules (1/1)

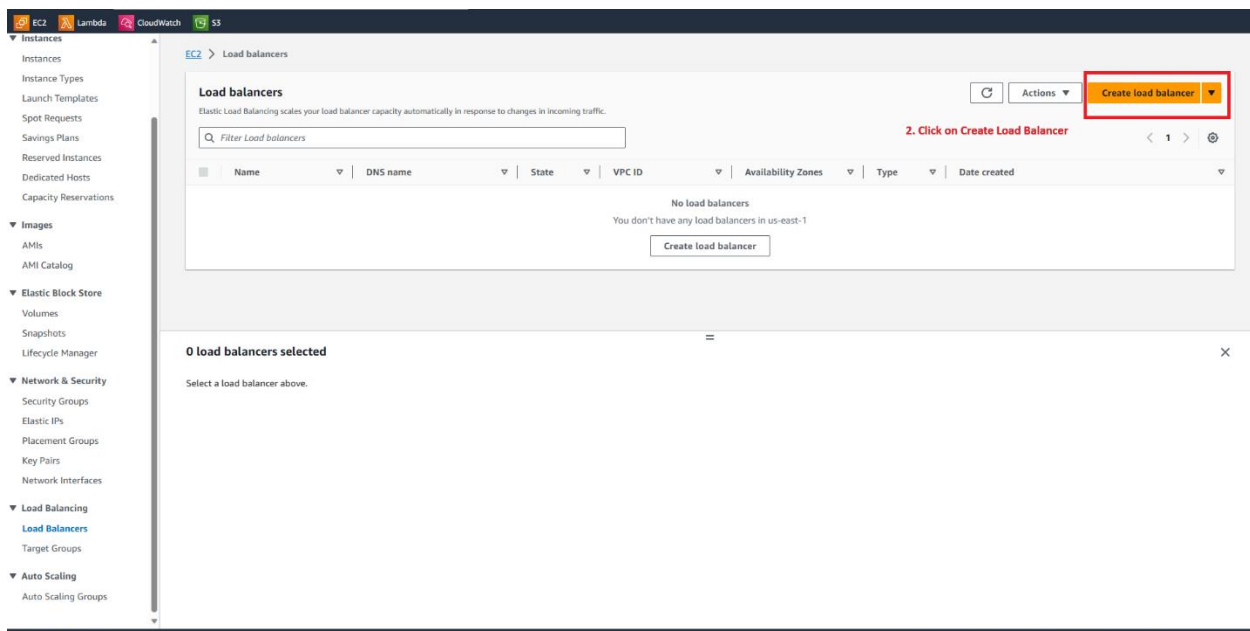
| Type | Protocol | Port range | Source | Description |
|------|----------|------------|----------------------|-------------|
| HTTP | TCP | 80 | sg-03e5e025e377518eb | - |

Create an ALB

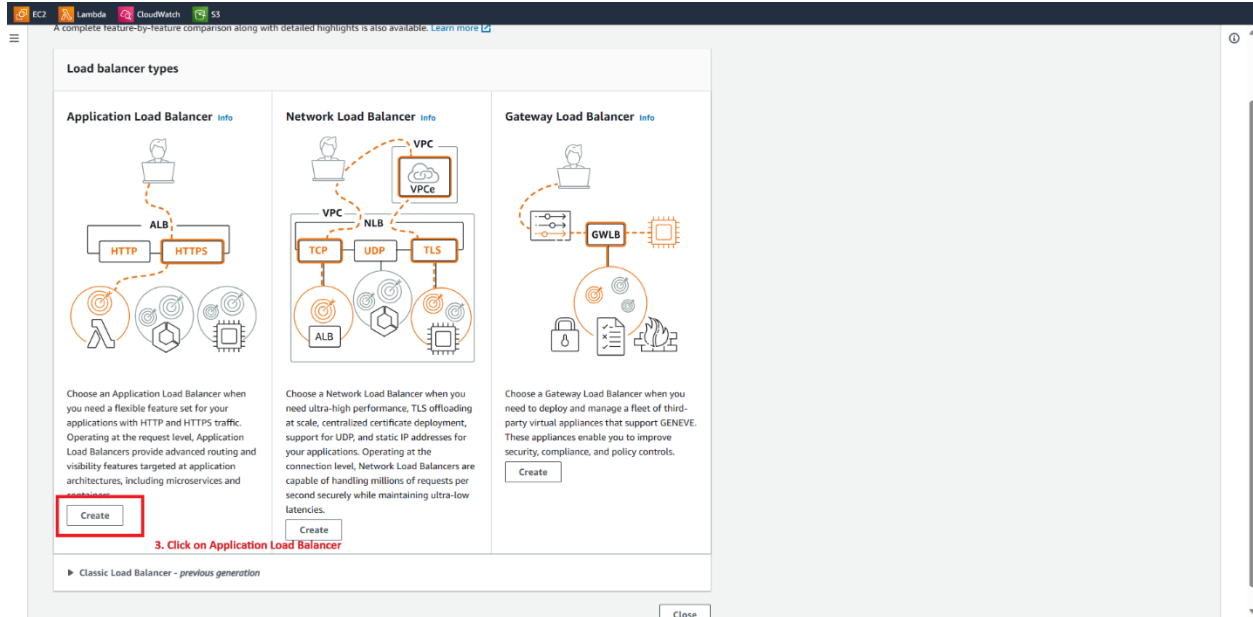
1: Go to Load Balancers Display in EC2 Dashboard.



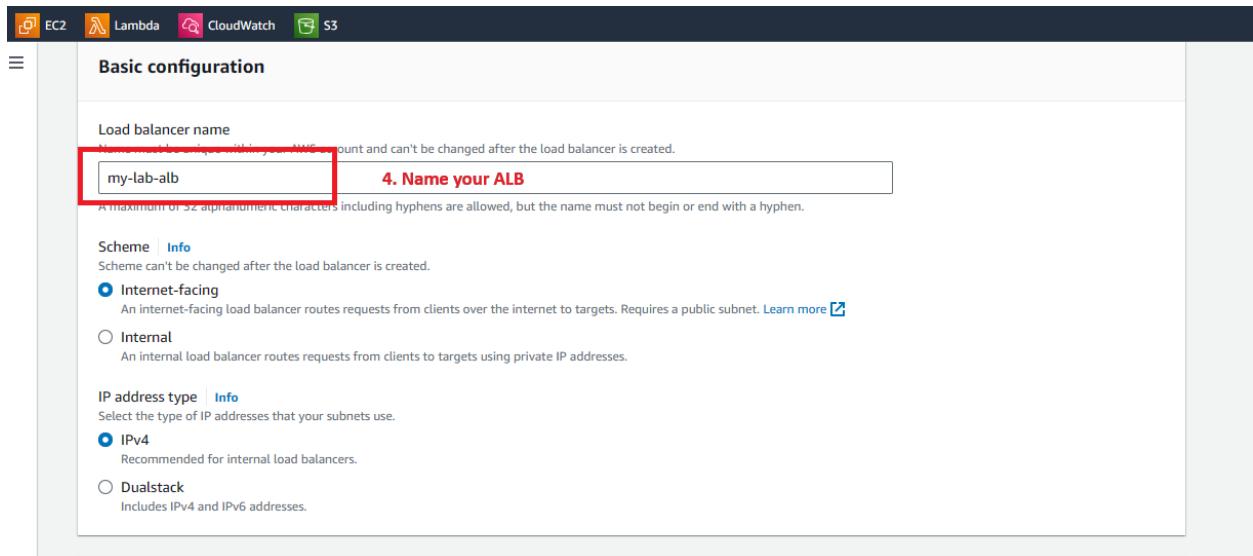
2: Once in Load Balancers Display, click on Create Load Balancer.



3: Click on Create Application Load Balancer.



4: Name your ALB.



5: Select VPC

6: Select at least 2 AZ zones/subnets

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](#). The selected VPC can't be changed after the load balancer is created. To confirm the VPC for your targets, view your [target groups](#).

-
vpc-086e6b6bfe6d77638
IPv4: 172.31.0.0/16

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-az6)**

Subnet
subnet-0b348d5147a01b3bb

⚠ The selected subnet is not a private subnet. This means that your internal load balancer can receive internet traffic.
You can proceed with this selection; however, to prevent internet traffic from reaching your load balancer, you must choose a private subnet or update this subnet's route table in the [VPC console](#).

IPv4 address
Assigned from CIDR 172.31.32.0/20

☒ **us-east-1b (use1-az1)** **5. Choose VPC and 2 AZ**

Subnet
subnet-09d9225a6915e52e8

⚠ The selected subnet is not a private subnet. This means that your internal load balancer can receive internet traffic.
You can proceed with this selection; however, to prevent internet traffic from reaching your load balancer, you must choose a private subnet or update this subnet's route table in the [VPC console](#).

7: Select ALB SG you created

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

my-lab-alb-sg
sg-0c7f375ccf041fbc8 VPC: vpc-086e6b6bfe6d77638

8: Select TG you created

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

Port

HTTP ▼

:

80

1-65535

Default action

[Info](#)

Forward to

TG1

▼

Target type: Lambda, IPv4

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

9: Create your 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

Port

HTTP ▼

:

80

1-65535

Default action

[Info](#)

Forward to

TG1

▼

Target type: Lambda, IPv4

Create target group [↗](#)

Listener tags - optional

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Add listener tag

You can add up to 50 more tags.

Add listener

Task 2 – Create an NLB

1: Go to Load Balancers from EC2 dashboard and hit create Load Balancer.

The image shows two screenshots of the AWS Management Console. The top screenshot displays the EC2 dashboard with the 'Load balancers' link highlighted in the left-hand navigation menu. The right-hand pane shows the 'Resources' section with a table of EC2 resources in the US East (N. Virginia) Region. The 'Load balancers' row is highlighted with a red box. The bottom screenshot shows the 'Load balancers' page with the 'Create load balancer' button highlighted in a red box. Below the table, a message states 'No load balancers' and 'You don't have any load balancers in us-east-1'. A modal window at the bottom indicates '0 load balancers selected'.

Resources

You are using the following Amazon EC2 resources in the US East (N. Virginia) Region:

| Instances (running) | Auto Scaling Groups | Dedicated Hosts |
|---------------------|---------------------|-----------------|
| 0 | 0 | 0 |
| Elastic IPs | Instances | Key pairs |
| 0 | 0 | 1 |
| Load balancers | Placement groups | Security groups |
| 0 | 0 | 1 |
| Snapshots | Volumes | |
| 0 | 0 | |

Launch instance

To get started, launch an Amazon EC2 instance, which is a virtual server in the cloud.

[Launch instance](#) [Migrate a server](#)

Note: Your instances will launch in the US East (N. Virginia) Region

Scheduled events

US East (N. Virginia)
No scheduled events

Migrate a server

Use AWS Application Migration Service to simplify and expedite migration from physical, virtual, and cloud infrastructure to AWS.
[Get started with AWS Application Migration Service](#)

Service health

AWS Health Dashboard

Region: US East (N. Virginia)

Zones

| Zone name | Zone ID |
|------------|----------|
| us-east-1a | use1-az6 |
| us-east-1b | use1-az1 |
| us-east-1c | use1-az2 |
| us-east-1d | use1-az4 |
| us-east-1e | use1-az3 |
| us-east-1f | use1-az5 |

[Enable additional Zones](#)

Account attributes

Default VPC
vpc-086e6bb6d77638

Settings
[Data protection and security](#)
[Zones](#)
[EC2 Serial Console](#)
[Default credit specification](#)
[Console experiments](#)

Explore AWS

Save up to 90% on EC2 with Spot instances
Optimize price-performance by combining EC2 purchase options in a single EC2 ASG. [Learn more](#)

10 Things You Can Do Today to Reduce AWS Costs
Explore how to effectively manage your AWS costs without compromising on performance or capacity. [Learn more](#)

Amazon GuardDuty Malware Protection
GuardDuty now provides agentless malware detection in Amazon EC2 & EC2 container workloads. [Learn more](#)

Additional information
[Getting started guide](#)
[Documentation](#)
[All EC2 resources](#)

Load balancers

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

[Filter Load balancers](#)

[Create load balancer](#)

0 load balancers selected

Select a load balancer above.

2: Select Network Load Balancer and hit create.

The screenshot shows the AWS Management Console's 'Load balancer types' page. At the top, there's a navigation bar with icons for EC2, Lambda, CloudWatch, S3, IAM, and RDS. Below the navigation bar, the page title is 'Load balancer types'. There are three main sections, each with a diagram and a description:

- Application Load Balancer**: The diagram shows a client connecting to an ALB, which then routes traffic to various targets (Lambda, EC2, etc.). The description states: 'Choose an Application Load Balancer when you need a flexible feature set for your applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing and visibility features targeted at application architectures, including microservices and containers.' The 'Create' button is visible.
- Network Load Balancer**: The diagram shows a client connecting to an NLB, which routes traffic to targets (ALB, EC2, etc.). The description states: 'Choose a Network Load Balancer when you need ultra-high performance, TLS offloading at scale, centralized certificate deployment, support for UDP, and static IP addresses for your applications. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second securely while maintaining ultra-low latencies.' The 'Create' button is highlighted with a red box.
- Gateway Load Balancer**: The diagram shows a client connecting to a GWLB, which routes traffic to targets (EC2, etc.). The description states: 'Choose a Gateway Load Balancer when you need to deploy and manage a fleet of third-party virtual appliances that support GENEVE. These appliances enable you to improve security, compliance, and policy controls.' The 'Create' button is visible.

At the bottom of the page, there's a link for 'Classic Load Balancer - previous generation' and a 'Close' button.

3: Name your NLB

The screenshot shows the AWS Management Console's 'Create Network Load Balancer' page. At the top, there's a navigation bar with icons for EC2, Lambda, CloudWatch, S3, IAM, and RDS. Below the navigation bar, the page title is 'Create Network Load Balancer'. The main content area has a description: 'The Network Load Balancer distributes incoming TCP and UDP traffic across multiple targets such as Amazon EC2 instances, microservices, and containers. When the load balancer receives a connection request, it selects a target based on the protocol and port that are specified in the listener configuration, and the routing rule specified as the default action.'

Below the description, there's a section titled 'How Elastic Load Balancing works'. Underneath, there's a 'Basic configuration' section with the following fields:

- Load balancer name**: The name must be unique within your AWS account and can't be changed after the load balancer is created. The field contains 'my-lab-nlb', which is highlighted with a red box. A note below the field states: '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. There are two radio buttons: 'Internet-facing' (selected) and 'Internal'. The 'Internet-facing' option has a link to 'Learn more'.
- IP address type**: Select the type of IP addresses that your subnets use. There are two radio buttons: 'IPv4' (selected) and 'Dualstack'. The 'IPv4' option has a note: 'Recommended for internal load balancers.'

4: Select VPC and 2 AZs

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](#). The selected VPC can't be changed after the load balancer is created. To confirm the VPC for your targets, view your [target groups](#).

-
vpc-086e6b6bfe6d77638
IPv4: 172.31.0.0/16

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-az6)**

Subnet
subnet-0b348d5147a01b3bb

⚠ The selected subnet is not a private subnet. This means that your internal load balancer can receive internet traffic.
You can proceed with this selection; however, to prevent internet traffic from reaching your load balancer, you must choose a private subnet or update this subnet's route table in the [VPC console](#).

IPv4 address
Assigned from CIDR 172.31.32.0/20

☒ **us-east-1b (use1-az1)**

5. Choose VPC and 2 AZ

Subnet
subnet-09d9225a6915e52e8

⚠ The selected subnet is not a private subnet. This means that your internal load balancer can receive internet traffic.
You can proceed with this selection; however, to prevent internet traffic from reaching your load balancer, you must choose a private subnet or update this subnet's route table in the [VPC console](#).

5: Select SG

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

my-lab-alb-sg
sg-0c7f375ccf041fbc8 VPC: vpc-086e6b6bfe6d77638

6: Select TG (remember, the protocol for NLB is TCP)

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 **Port** **Default action** [Info](#)

TCP 80 Forward to TG1 Target type: Instance, IPv4 TCP [C](#)

[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](#)

Add-on services - optional

Additional AWS services can be integrated with this load balancer at launch. You can also add these and other services after your load balancer is created by reviewing the "Integrated Services" tab for the selected load balancer.

AWS Global Accelerator [Info](#)

☐ Create an accelerator to get static IP addresses and improve the performance and availability of your applications. [Additional charges apply](#)

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

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7: Create a Load Balancer.

Task 3 – Run the Web Server behind the ALB in ASG

1: Go to Launch Template in EC2 dashboard and hit create a launch template

EC2 launch templates

Streamline, simplify and standardize instance launches

Use launch templates to automate instance launches, simplify permission policies, and enforce best practices across your organization. Save launch parameters in a template that can be used for on-demand launches and with managed services, including EC2 Auto Scaling and EC2 Fleet. Easily update your launch parameters by creating a new launch template version.

Benefits and features

Streamline provisioning

Minimize steps to provision instances. With EC2 Auto Scaling, updates to a launch template can be automatically passed to an Auto Scaling group. [Learn more](#)

Simplify permissions

Create shorter, easier to manage IAM policies. [Learn more](#)

Governance

Ensure best practices are used across your organization. [Learn more](#)

New launch template

[Create launch template](#)

Documentation

[Documentation](#)

[API reference](#)

2: Provide a name and select guidance for a detailed assistance

EC2

Lambda

CloudWatch

S3

EC2 > Launch templates > Create launch template

Create launch template

Creating a launch template allows you to create a saved instance configuration that can be reused, shared and launched at a later time. Templates can have multiple versions.

Launch template name and description

Launch template name - required

my-lab-server

Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '\', '@'.

Template version description

A prod webserver for MyApp

Max 255 chars

Auto Scaling guidance Info

Select this if you intend to use this template with EC2 Auto Scaling

☒ Provide guidance to help me set up a template that I can use with EC2 Auto Scaling

▶ Template tags

▶ Source template

Launch template contents

Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template.

▼ Application and OS Images (Amazon Machine Image) - required 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

▼ Summary

Software Image (AMI)
-
Virtual server type (instance type)
-
Firewall (security group)
-
Storage (volumes)
-

Free tier: In your first year includes

750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

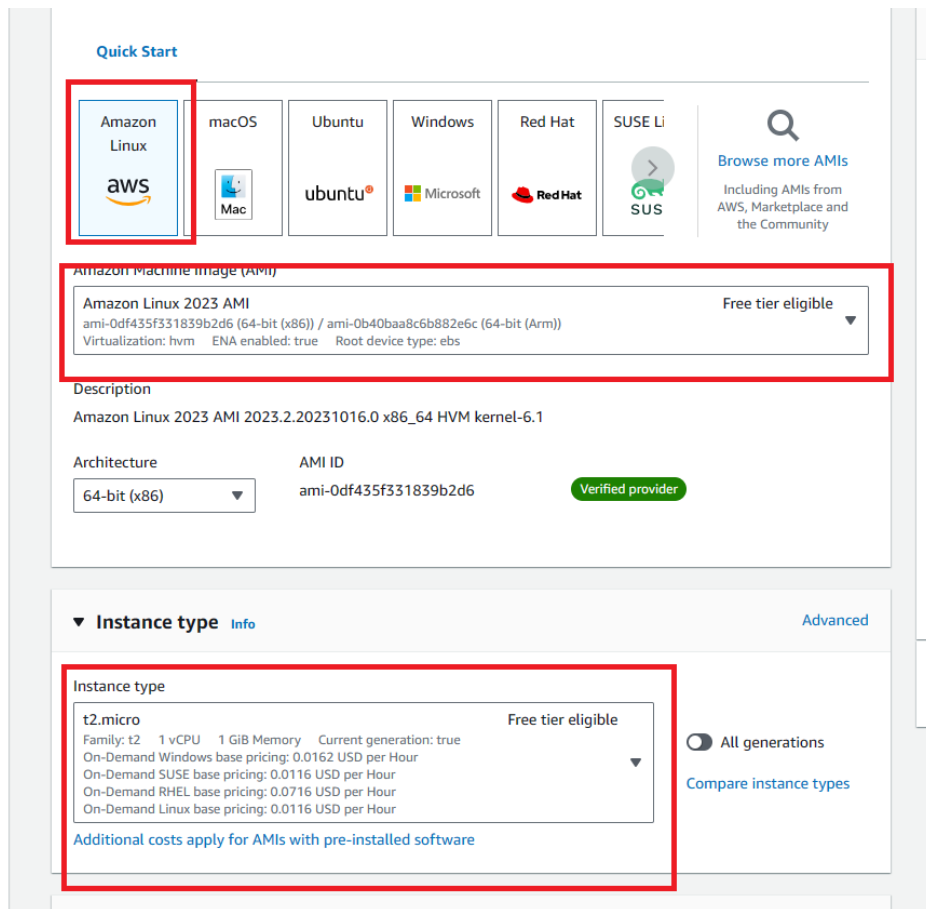
×

Cancel

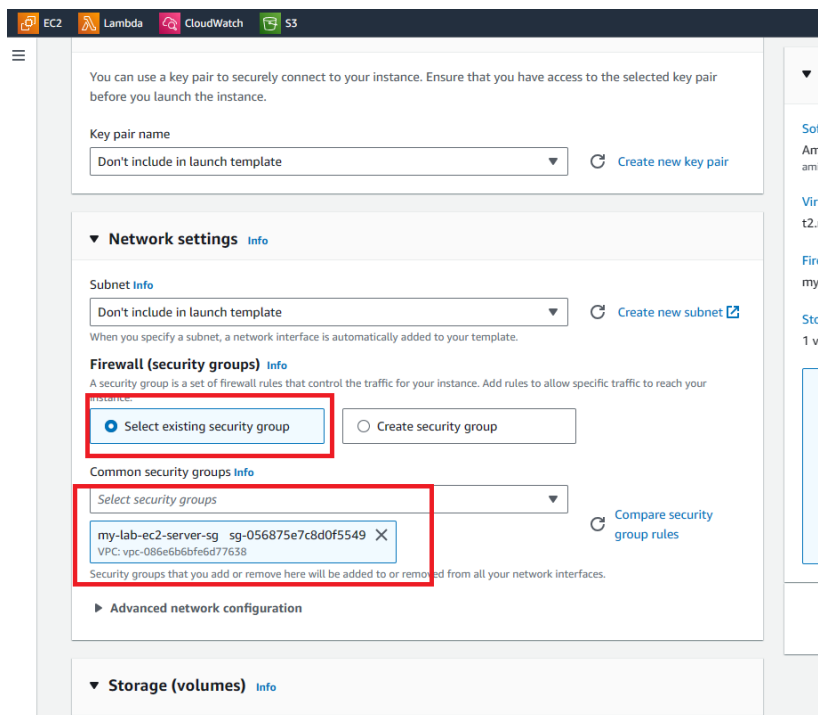
Create launch template

3: Select AMI

4: Select Instance Type

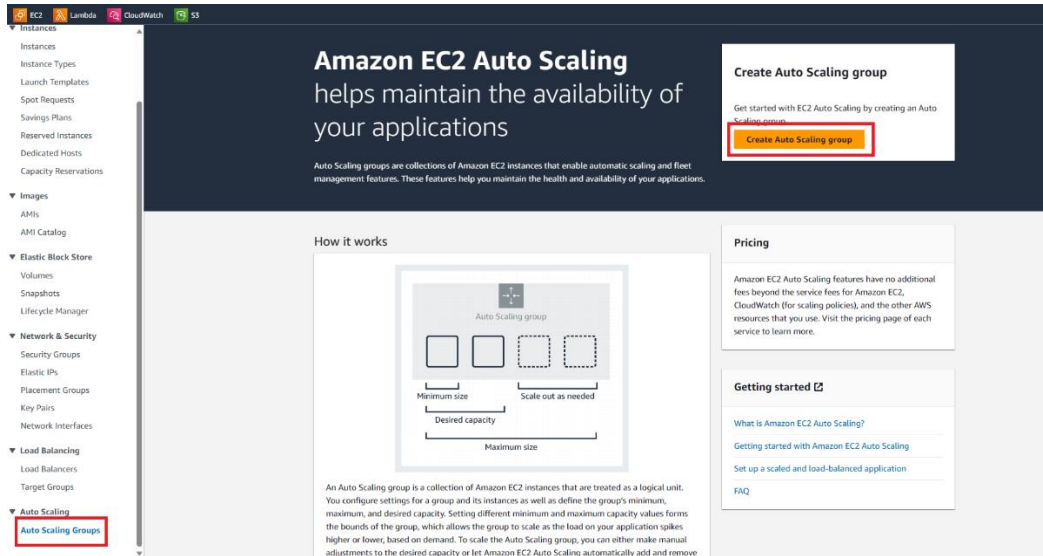


5: Select the security group you created. Then hit create.



Create an Auto-Scaling Group

1: From EC2 dashboard, go to Auto Scaling Groups and click on Create ASG



The screenshot shows the Amazon EC2 console interface. On the left, the navigation menu is visible with categories like Instances, Images, Elastic Block Store, Network & Security, Load Balancing, and Auto Scaling. The 'Auto Scaling' category is expanded, and 'Auto Scaling Groups' is highlighted. The main content area displays the 'Amazon EC2 Auto Scaling' header, a 'Create Auto Scaling group' button, and a 'How it works' diagram. The diagram illustrates an 'Auto Scaling group' with four instances, showing 'Minimum size', 'Desired capacity', and 'Maximum size' ranges. A 'Scale out as needed' label points to the right side of the group. Below the diagram, a paragraph explains that an Auto Scaling group is a collection of Amazon EC2 instances treated as a logical unit, configured with settings for minimum, maximum, and desired capacity. The right sidebar contains sections for 'Pricing' and 'Getting started'.

Amazon EC2 Auto Scaling helps maintain the availability of your applications

Auto Scaling groups are collections of Amazon EC2 instances that enable automatic scaling and fleet management features. These features help you maintain the health and availability of your applications.

Create Auto Scaling group

Get started with EC2 Auto Scaling by creating an Auto Scaling group

[Create Auto Scaling group](#)

How it works

Auto Scaling group

Minimum size

Desired capacity

Maximum size

Scale out as needed

An Auto Scaling group is a collection of Amazon EC2 instances that are treated as a logical unit. You configure settings for a group and its instances as well as define the group's minimum, maximum, and desired capacity. Setting different minimum and maximum capacity values forms the bounds of the group, which allows the group to scale as the load on your application spikes higher or lower, based on demand. To scale the Auto Scaling group, you can either make manual adjustments to the desired capacity or let Amazon EC2 Auto Scaling automatically add and remove

Pricing

Amazon EC2 Auto Scaling features have no additional fees beyond the service fees for Amazon EC2, CloudWatch (for scaling policies), and the other AWS resources that you use. Visit the pricing page of each service to learn more.

Getting started

[What is Amazon EC2 Auto Scaling?](#)

[Getting started with Amazon EC2 Auto Scaling](#)

[Set up a scaled and load-balanced application](#)

[FAQ](#)

2: Name your group and select your Launch template you previously created.

EC2 > Auto Scaling groups > Create Auto Scaling group

Step 1
Choose launch template or configuration

Step 2
Configure settings

Step 3 (optional)
Configure advanced options

Step 4 (optional)
Configure group size and scaling policies

Step 5 (optional)
Add notifications

Step 6 (optional)
Add tags

Step 7
Review

Choose launch template or configuration Info

Specify a launch template that contains settings common to all EC2 instances that are launched by this Auto Scaling group. If you currently use launch configurations, you might consider migrating to launch templates.

Name

Auto Scaling group name
Enter a name to identify the group.

my-lab-as-group

Must be unique to this account in the current Region and no more than 255 characters.

Launch template Info [Switch to launch configuration](#)

Launch template
Choose a launch template that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.

my-lab-server

[Create a launch template](#)

Version
Default (1)

[Create a launch template version](#)

| | | |
|-----------------------|----------------------|------------------------|
| Description | Launch template | Instance type |
| - | my-lab-server | t2.micro |
| | lt-0ca69b78349a3fb83 | |
| AMI ID | Security groups | Request Spot Instances |
| ami-0dc2d3e4c0f9ebd18 | - | No |
| Key pair name | Security group IDs | |
| - | sg-0a370c15c5b405b61 | |

Additional details

| | |
|-------------------|---|
| Storage (volumes) | Date created |
| - | Sun Jul 11 2021 11:24:24 GMT-0500 (Central Daylight Time) |

Cancel **Next**

Step 1
Choose launch template or
configuration

Step 2
Configure settings

Step 3 (optional)
Configure advanced options

Step 4 (optional)
Configure group size and
scaling policies

Step 5 (optional)
Add notifications

Step 6 (optional)
Add tags

Step 7
Review

Configure settings [Info](#)

Configure the settings below. Depending on whether you chose a launch template, these settings may include options to help you make optimal use of EC2 resources.

Instance purchase options [Info](#)

Use the launch template to create a uniform configuration among all of the instances in the group. Or define options to accommodate a wide variety of requirements, such as launching Spot and On-Demand Instances.

☒ **Adhere to launch template**

The launch template determines the purchase option (On-Demand or Spot) and instance type.

☐ **Combine purchase options and instance types**

Specify how much On-Demand and Spot capacity to launch and multiple instance types (optional). This choice is most helpful for optimizing the scale and cost for a fleet of instances.

Network [Info](#)

For most applications, you can use multiple Availability Zones and let EC2 Auto Scaling balance your instances across the zones. The default VPC and default subnets are suitable for getting started quickly.

VPC

vpc-0b978358e22761686 (my-lab-vpc)
10.0.0.0/16

5) Select VPC

[Create a VPC](#)

Subnets

Select subnets

us-east-1a | subnet-0ef43ef1cfcb561a0 (lab-sn-public-1A)
10.0.0.0/24

6) Select Some Subnets

us-east-1b | subnet-03b7f8298553c4646 (lab-sn-public-1B)
10.0.2.0/24

7) Click Next

[Create a subnet](#)

Cancel

Previous

Skip to review

Next

Configure advanced options [Info](#)

Choose a load balancer to distribute incoming traffic for your application across instances to make it more reliable and easily scalable. You can also set options that give you more control over health check replacements and monitoring.

Load balancing - *optional* [Info](#)

8) Select Attach to Existing Load Balancer

Use the options below to attach your Auto Scaling group to an existing load balancer, or to a new load balancer that you define.

☐ No load balancer
Traffic to your Auto Scaling group will not be fronted by a load balancer.

☒ Attach to an existing load balancer
Choose from your existing load balancers.

☐ Attach to a new load balancer
Quickly create a basic load balancer to attach to your Auto Scaling group.

Attach to an existing load balancer

Select the load balancers that you want to attach to your Auto Scaling group.

☒ Choose from your load balancer target groups
This option allows you to attach Application, Network, or Gateway Load Balancers.

☐ Choose from Classic Load Balancers

Existing 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

my-lab-target | HTTP
Application Load Balancer: my-lab-alb

9) Select Your Load Balancer Target Group

Health checks - *optional*

Health check type [Info](#)

EC2 Auto Scaling automatically replaces instances that fail health checks. If you enabled load balancing, you can enable ELB health checks in addition to the EC2 health checks that are always enabled.

☒ EC2 ☐ ELB

Health check grace period

The amount of time until EC2 Auto Scaling performs the first health check on new instances after they are put into service.

300 seconds

Additional settings - *optional*

Monitoring [Info](#)

☐ Enable group metrics collection within CloudWatch

10) Click Next

Cancel

Previous

Skip to review

Next

Health checks
Health checks increase availability by replacing unhealthy instances. When you use multiple health checks, all are evaluated, and if at least one fails, instance replacement occurs.

EC2 health checks
Always enabled

Additional health check types - optional [Info](#)

☒ **Turn on Elastic Load Balancing health checks** [Recommendation](#)
Elastic Load Balancing monitors whether instances are available to handle requests. When it reports an unhealthy instance, EC2 Auto Scaling can replace it on its next periodic check.

☐ **EC2 Auto Scaling will start to detect and act on health checks performed by Elastic Load Balancing.** To avoid unexpected terminations, first verify the settings of these health checks in the [Load Balancer console](#).

Health check grace period [Info](#)
This time period delays the first health check until your instances finish initializing. It doesn't prevent an instance from terminating when placed into a non-running state.
300 seconds

Additional settings

Monitoring [Info](#)
☐ Enable group metrics collection within CloudWatch

Default instance warmup [Info](#)
The amount of time that CloudWatch metrics for new instances do not contribute to the group's aggregated instance metrics, as their usage data is not reliable yet.
☐ Enable default instance warmup

Cancel Skip to review Previous **Next**

Configure group size and scaling policies [Info](#)

Set the desired, minimum, and maximum capacity of your Auto Scaling group. You can optionally add a scaling policy to dynamically scale the number of instances in the group.

Group size - optional [Info](#)

Specify the size of the Auto Scaling group by changing the desired capacity. You can also specify minimum and maximum capacity limits. Your desired capacity must be within the limit range.

Desired capacity
2

Minimum capacity
1

Maximum capacity
3

11) Set Desired, Min, and Max Capacity

Scaling policies - optional

Choose whether to use a scaling policy to dynamically resize your Auto Scaling group to meet changes in demand. [Info](#)

☒ **Target tracking scaling policy**
Choose a desired outcome and leave it to the scaling policy to add and remove capacity as needed to achieve that outcome.

☐ None

Scaling policy name
Target Tracking Policy

Metric type
Average CPU utilization

Target value
50

Instances need
300 seconds warm up before including in metric

☐ Disable scale in to create only a scale-out policy

12) Set Target Tracking for CPU Utilization

Instance scale-in protection - optional

Instance scale-in protection
If protect from scale in is enabled, newly launched instances will be protected from scale in by default.

☐ Enable instance scale-in protection

13) Click Next

Cancel Previous Skip to review **Next**

4: Finally create the ASG.

Verify and Test the ALB

View the Health check in your Target Group Details. Both instances should be healthy.

The screenshot shows the AWS Management Console interface for an Elastic Load Balancing Target Group. The left sidebar contains navigation links for EC2 Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, Lifecycle Manager, and Network & Security.

The main content area displays the 'Details' tab for the target group `arn:aws:elasticloadbalancing:us-east-1:779331046761:targetgroup/my-lab-tg/0868688935427375`. The details include:

- Target type: Instance
- Protocol : Port: HTTP: 80
- Protocol version: HTTP1
- VPC: `vpc-005c2c5c828aaf34`
- IP address type: IPv4
- Load balancer: [None associated](#)

Below the details, a summary table shows the status of targets:

| Total targets | Healthy | Unhealthy | Unused | Initial | Draining |
|---------------|---------|-----------|--------|---------|----------|
| 2 | 2 | 0 | 0 | 0 | 0 |

The 'Healthy' count of 2 is highlighted with a red box.

Below the summary table, the 'Distribution of targets by Availability Zone (AZ)' section indicates that values in the table correspond to filters applied to the Registered targets table below.

The 'Targets' tab is selected, showing a table of registered targets:

| Instance ID | Name | Port | Zone | Health status | Health status details |
|----------------------------------|--------------------------|------|------------|---------------|-----------------------|
| <code>i-0b9f7e760e45ae4c4</code> | lab4-my-ec2-first-ins... | 80 | us-east-1a | healthy | |
| <code>i-02dc3b774ae789f85</code> | lab4-my-ec2-second ... | 80 | us-east-1b | healthy | |

The 'Health status' column for both instances shows 'healthy' with a green checkmark, and these entries are highlighted with a red box.

Test DNS with Web Browser

The screenshot shows a web browser window with the address bar displaying `my-lab-alb-613824474.us-east-1`. The page title is `my-lab-alb-613824474.us-east-1.elb.amazonaws.com`. The page content displays the message:

Hello from my EC2 Instance in Autoscaling Group Behind an ALB

2: You can use EC2 stress tool to test out the scaling out.