

Autoscaling with Application Loadbalancer

Step 1: Launch template for microservices (Home Template, Mobile Template, Laptop Template)

The screenshot shows the AWS EC2 console with the 'Launch Templates' section selected. A table lists three launch templates:

Launch Template ID	Launch Template Name	Default Version	Latest Version	Create Time
lt-05ce366da6a641f47	HomeDemo	1	1	2024-12-14
lt-0c87890811a4b9d72	MobileDemo	1	1	2024-12-14
lt-07097222149248305	laptopDemo	1	1	2024-12-14

Home User Data:

The screenshot shows the 'Modify template (Create new version)' page for the 'HomeDemo' launch template. On the left, there is a code editor containing the following user data script:

```
#!/bin/bash
yum install httpd -y
systemctl start httpd
systemctl enable httpd
echo "<h1>Home Page: $HOSTNAME</h1>" >
/var/www/html/index.html
```

On the right, the 'Summary' section displays configuration details:

- Software Image (AMI)**: Amazon Linux 2023 AMI 2023.6.2...read more
ami-0614680123427b75e
- Virtual server type (instance type)**: t2.micro
- Firewall (security group)**: my-sg
- Storage (volumes)**: 1 volume(s) - 8 GiB

At the bottom, there are 'Cancel' and 'Create template version' buttons.

Mobile User data:

The screenshot shows the AWS CloudFormation 'Modify template (Create new version)' interface. On the left, there is a code editor containing the following user data script:

```
#!/bin/bash
yum install httpd -y
systemctl start httpd
systemctl enable httpd
mkdir /var/www/html/mobile
echo "<h1>Mobile Page: $HOSTNAME</h1>" >
/var/www/html/mobile/index.html
```

On the right, the 'Summary' section displays configuration details:

- Software Image (AMI)**: Amazon Linux 2023 AMI 2023.6.2...read more
ami-0614680123427b75e
- Virtual server type (instance type)**: t2.micro
- Firewall (security group)**: my-sg
- Storage (volumes)**: 1 volume(s) - 8 GiB

At the bottom right, there are 'Cancel' and 'Create template version' buttons.

Laptop Data:

The screenshot shows the AWS CloudFormation 'Modify template (Create new version)' interface. On the left, there is a code editor containing the following user data script:

```
#!/bin/bash
yum install httpd -y
systemctl start httpd
systemctl enable httpd
mkdir /var/www/html/laptop
echo "<h1>Laptop Page: $HOSTNAME</h1>" >
/var/www/html/laptop/index.html
```

On the right, the 'Summary' section displays configuration details:

- Software Image (AMI)**: Amazon Linux 2023 AMI 2023.6.2...read more
ami-0614680123427b75e
- Virtual server type (instance type)**: t2.micro
- Firewall (security group)**: my-sg
- Storage (volumes)**: 1 volume(s) - 8 GiB

At the bottom right, there are 'Cancel' and 'Create template version' buttons.

Step 2: Create Autoscaling group for microservices (Home, Mobile, Laptop)

Home Autoscaling Group:

The screenshot shows the 'Create Auto Scaling group' wizard on the AWS EC2 console. The current step is 'Launch template'. The 'Name' section shows 'Auto Scaling group name' set to 'HomeAsg'. The 'Launch template' section shows 'Launch template' set to 'HomeDemo'. The 'Version' section shows 'Default (1)'. The left sidebar lists steps 1 through 7.

The screenshot shows the 'Create Auto Scaling group' wizard on the AWS EC2 console. The current step is 'VPC'. The 'VPC' section shows 'vpc-0ed3067abf10c0d9f' selected. The 'Availability Zones and subnets' section shows three subnets selected: 'ap-south-1a | subnet-031407fb776a6bbce', 'ap-south-1b | subnet-0f423fa0fae75556a', and 'ap-south-1c | subnet-0c588b19bebf0df00'. The left sidebar lists steps 1 through 7.

Create Auto Scaling group | EC2 | +

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

IAM EC2 S3

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

Integrate with other services - optional Info

Use a load balancer to distribute network traffic across multiple servers. Enable service-to-service communications with VPC Lattice. Shift resources away from impaired Availability Zones with zonal shift. You can also customize health check replacements and monitoring.

Load balancing Info

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.

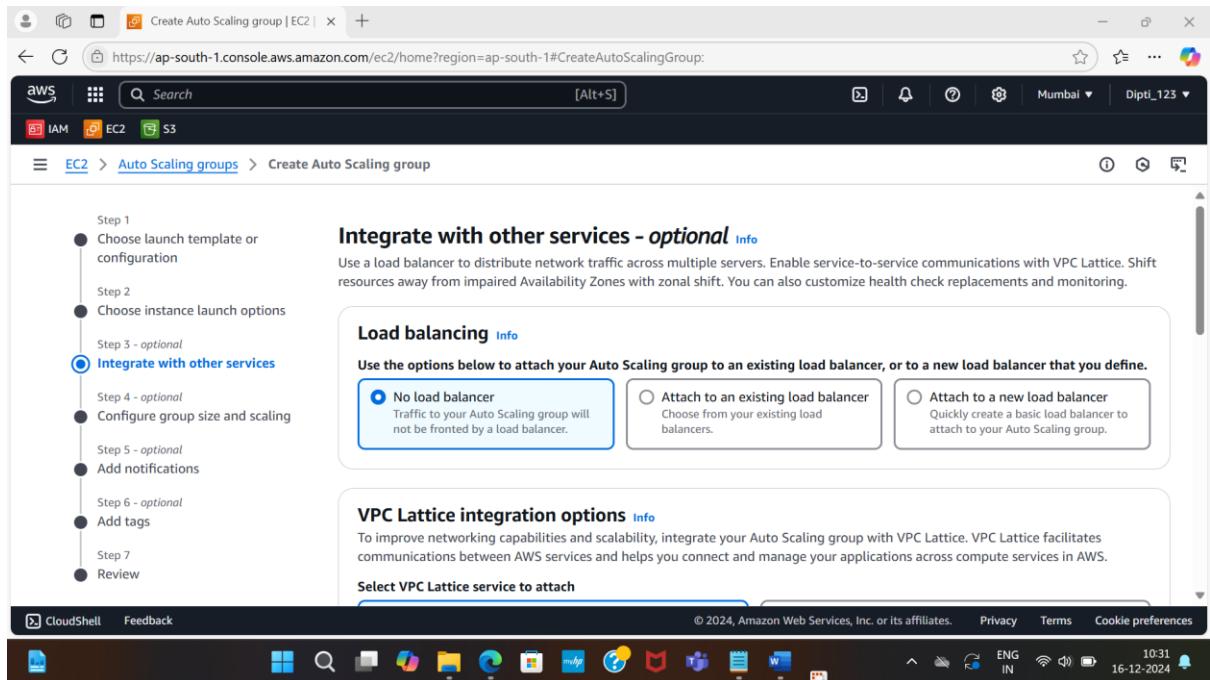
Attach to a new load balancer
Quickly create a basic load balancer to attach to your Auto Scaling group.

VPC Lattice integration options Info

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

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Create Auto Scaling group | EC2 | +

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

IAM EC2 S3

EC2 > Auto Scaling groups > Create Auto Scaling group

Integrate with other services

Configure group size and scaling

Step 4 - optional

Add notifications

Step 6 - optional

Add tags

Step 7 Review

Desired capacity type

Choose the unit of measurement for the desired capacity value. vCPUs and Memory(GiB) are only supported for mixed instances groups configured with a set of instance attributes.

Units (number of instances)

Desired capacity

Specify your group size.

3

Scaling Info

You can resize your Auto Scaling group manually or automatically to meet changes in demand.

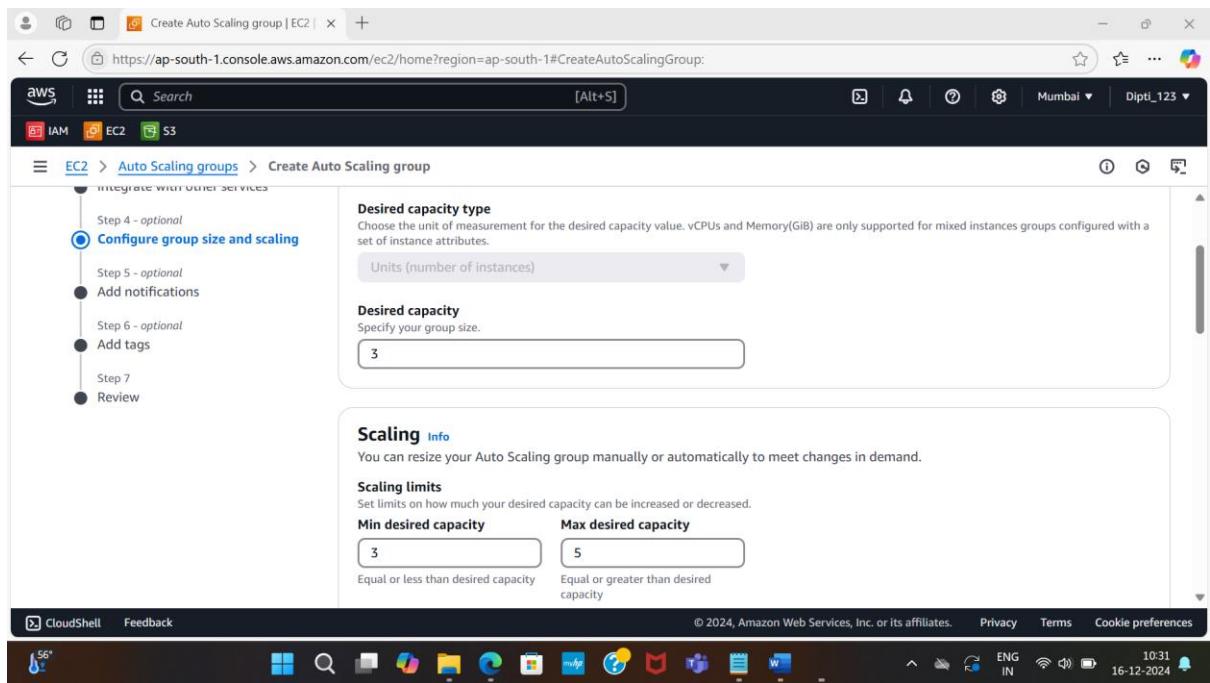
Scaling limits

Set limits on how much your desired capacity can be increased or decreased.

Min desired capacity 3 Equal or less than desired capacity

Max desired capacity 5 Equal or greater than desired capacity

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Create Auto Scaling group | EC2 | X

<https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateAutoScalingGroup>

IAM EC2 S3 Mumbai Dipti_123

EC2 > Auto Scaling groups > Create Auto Scaling group

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
Choose a CloudWatch metric and target value and let the scaling policy adjust the desired capacity in proportion to the metric's value.

Scaling policy name: Target Tracking Policy

Metric type: [Info](#)
Monitored metric that determines if resource utilization is too low or high. If using EC2 metrics, consider enabling detailed monitoring for better scaling performance.
Average CPU utilization

Target value: 50

Instance warmup: [Info](#)
300 seconds

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56% ENG IN 10:32 16-12-2024

Mobile Autoscaling Group:

Create Auto Scaling group | EC2 | X

<https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateAutoScalingGroup>

IAM EC2 S3 Mumbai Dipti_123

EC2 > Auto Scaling groups > Create Auto Scaling group

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

Name
Auto Scaling group name
 Enter a name to identify the group.
 MobileAsg
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.
 MobileDemo
[Create a launch template](#)

Version
 Default (1) [C](#)

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56% ENG IN 10:33 16-12-2024

Create Auto Scaling group | EC2 | +

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

aws Search [Alt+S] Mumbai Dipti_123

IAM EC2 S3

EC2 > Auto Scaling groups > Create Auto Scaling group

default VPC and default subnets are suitable for getting started quickly.

VPC
Choose the VPC that defines the virtual network for your Auto Scaling group.
vpc-0ed3067abf10c0d9f 172.31.0.0/16 Default Create a VPC

Availability Zones and subnets
Define which Availability Zones and subnets your Auto Scaling group can use in the chosen VPC.
Select Availability Zones and subnets
ap-south-1a | subnet-031407fb776a6bbce 172.31.32.0/20 Default ap-south-1b | subnet-0f423fa0fae75556a 172.31.0.0/20 Default ap-south-1c | subnet-0c588b19bebf0df00 172.31.16.0/20 Default
Create a subnet

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Create Auto Scaling group | EC2 | +

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

aws Search [Alt+S] Mumbai Dipti_123

IAM EC2 S3

EC2 > Auto Scaling groups > Create Auto Scaling group

● 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

Load balancing Info
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.

VPC Lattice integration options Info
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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56° ENG IN 10:39 16-12-2024

Create Auto Scaling group | EC2 | X

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

aws Search [Alt+S] Mumbai Dipti_123

IAM EC2 S3

EC2 > Auto Scaling groups > Create Auto Scaling group

Step 4 - optional
Configure group size and scaling

Step 5 - optional
Add notifications

Step 6 - optional
Add tags

Step 7
Review

Desired capacity type
Choose the unit of measurement for the desired capacity value. vCPUs and Memory(GiB) are only supported for mixed instances groups configured with a set of instance attributes.

Units (number of instances)

Desired capacity
Specify your group size.
2

Scaling info
You can resize your Auto Scaling group manually or automatically to meet changes in demand.

Scaling limits
Set limits on how much your desired capacity can be increased or decreased.

Min desired capacity
2 Equal or less than desired capacity

Max desired capacity
5 Equal or greater than desired capacity

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This screenshot shows the 'Configure group size and scaling' step of the AWS EC2 Auto Scaling group creation wizard. The 'Desired capacity type' dropdown is set to 'Units (number of instances)', and the 'Desired capacity' input field contains the value '2'. The 'Scaling info' section indicates that the group can be resized manually or automatically. The 'Scaling limits' section allows setting minimum and maximum desired capacities, both currently set to 2. The status bar at the bottom shows the date and time as 16-12-2024 and 10:40, along with system icons for battery, signal, and network.

Create Auto Scaling group | EC2 | X

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

aws Search [Alt+S] Mumbai Dipti_123

IAM EC2 S3

EC2 > Auto Scaling groups > Create Auto Scaling group

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
Choose a CloudWatch metric and target value and let the scaling policy adjust the desired capacity in proportion to the metric's value.

Scaling policy name
Target Tracking Policy

Metric type | Info
Monitored metric that determines if resource utilization is too low or high. If using EC2 metrics, consider enabling detailed monitoring for better scaling performance.
Average CPU utilization

Target value
50

Instance warmup | Info
300 seconds

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56° ENG IN 10:40 16-12-2024

This screenshot shows the 'Set scaling policies' step of the AWS EC2 Auto Scaling group creation wizard. It compares 'No scaling policies' (which keeps the group at its initial size) and 'Target tracking scaling policy' (which uses CloudWatch metrics to adjust capacity). The 'Target tracking scaling policy' is selected. The configuration includes a scaling policy name ('Target Tracking Policy'), a metric type ('Average CPU utilization'), a target value ('50'), and an instance warmup period ('300 seconds'). The status bar at the bottom shows the date and time as 16-12-2024 and 10:40, along with system icons for battery, signal, and network.

Laptop Autoscaling Group:

The screenshot shows the AWS EC2 console with the 'Create Auto Scaling group' wizard open. The current step is 'Step 2: Choose launch template or configuration'. On the left, a sidebar lists optional steps: 'Choose instance launch options', 'Integrate with other services', 'Configure group size and scaling', 'Add notifications', 'Add tags', and 'Review'. The main area is titled 'Choose launch template or configuration' and contains a 'Name' section where 'Auto Scaling group name' is set to 'LaptopAsg'. Below it is a 'Launch template' section with a dropdown menu showing 'laptopDemo' and a 'Create a launch template' button.

The screenshot shows the continuation of the 'Create Auto Scaling group' wizard. The current step is 'Step 3 - optional: Choose VPC'. It asks to choose a VPC for the virtual network. A dropdown menu shows 'vpc-0ed3067abf10c0cd9f' selected. Below this, there's a 'Create a VPC' button. The next section, 'Availability Zones and subnets', shows three subnets selected: 'ap-south-1a | subnet-031407fb776a6bbce', 'ap-south-1b | subnet-0f423fa0fae75556a', and 'ap-south-1c | subnet-0c588b19beb0df00'. Each subnet entry includes its CIDR range (172.31.0.0/16, 172.31.32.0/20, 172.31.16.0/20) and a 'Default' label. A 'Create a subnet' button is also present. At the bottom, there's a 'Availability Zone distribution - new' section.

Auto Scaling groups | EC2 | ap-south-1 | Create Auto Scaling group | EC2 | 3.109.155.208

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

aws Search [Alt+S] IAM EC2 S3 Mumbai Dipti_123

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

Integrate with other services - optional

Use a load balancer to distribute network traffic across multiple servers. Enable service-to-service communications with VPC Lattice. Shift resources away from impaired Availability Zones with zonal shift. You can also customize health check replacements and monitoring.

Load balancing

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.

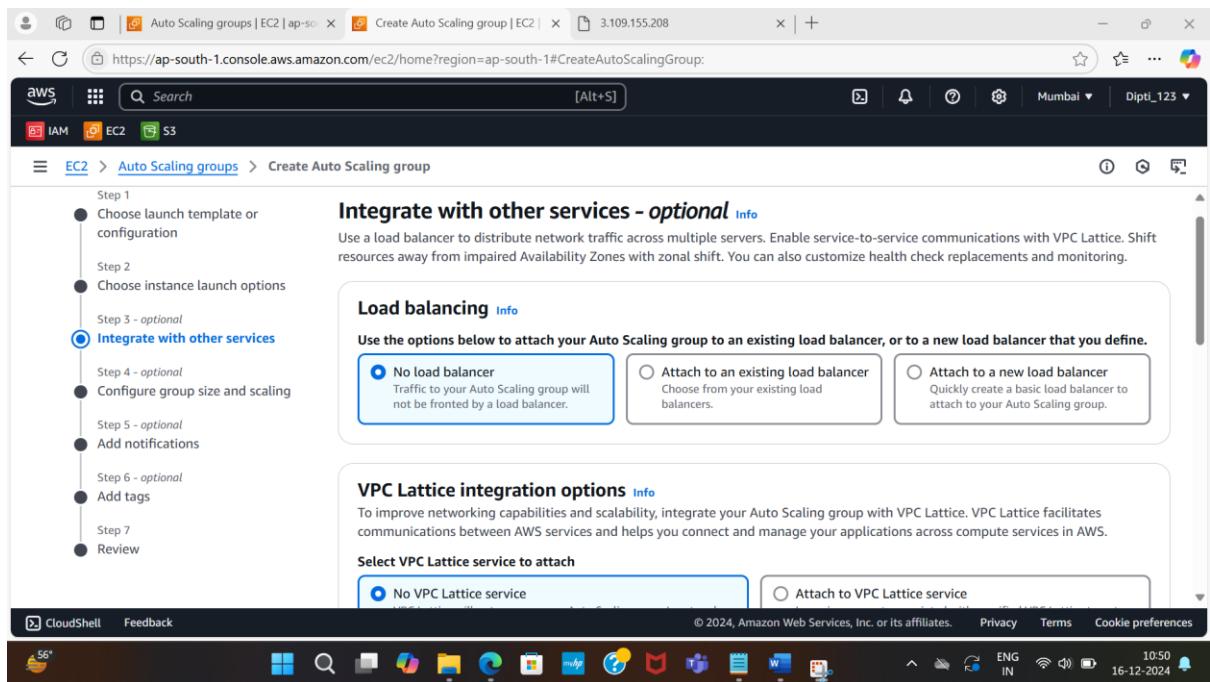
VPC Lattice integration options

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
 Attach to VPC Lattice service

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Auto Scaling groups | EC2 | ap-south-1 | Create Auto Scaling group | EC2 | 3.109.155.208

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

aws Search [Alt+S] IAM EC2 S3 Mumbai Dipti_123

EC2 > Auto Scaling groups > Create Auto Scaling group

Step 4 - optional
Configure group size and scaling
Step 5 - optional
Add notifications
Step 6 - optional
Add tags
Step 7: Review

Desired capacity type

Choose the unit of measurement for the desired capacity value. vCPUs and Memory(GiB) are only supported for mixed instances groups configured with a set of instance attributes.

Units (number of instances)

Desired capacity

Specify your group size.

2

Scaling

You can resize your Auto Scaling group manually or automatically to meet changes in demand.

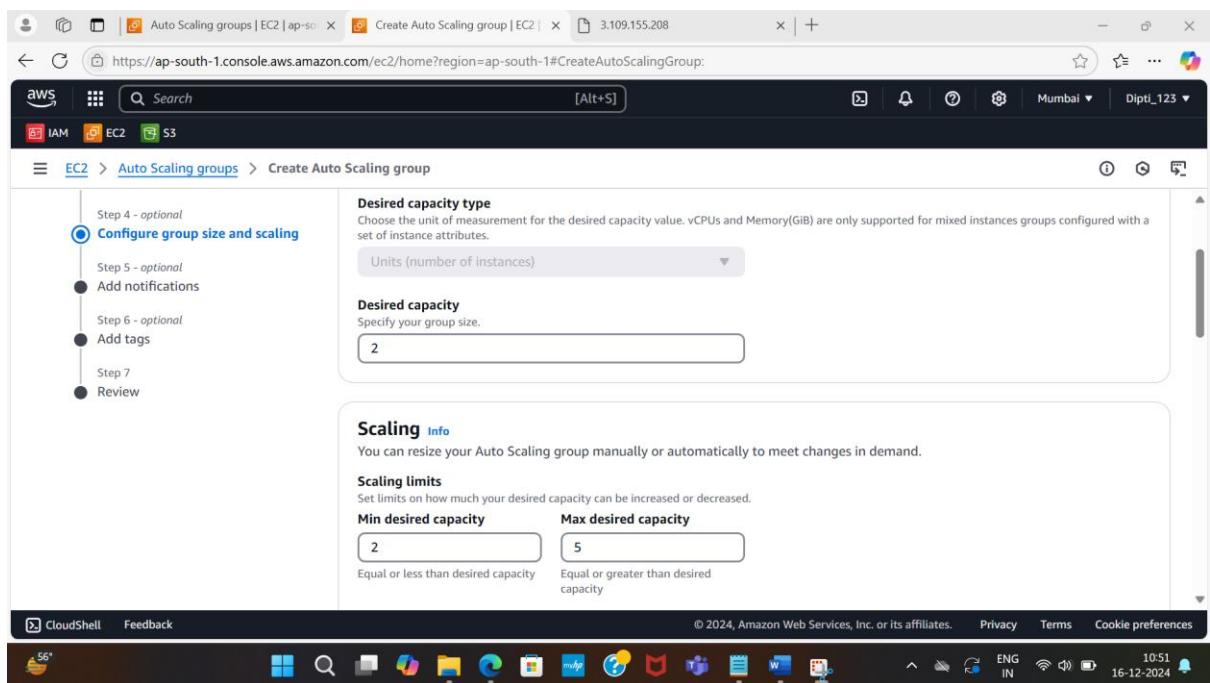
Scaling limits

Set limits on how much your desired capacity can be increased or decreased.

Min desired capacity: 2
Max desired capacity: 5

Equal or less than desired capacity
Equal or greater than desired capacity

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You can set up other metric-based scaling policies and scheduled scaling after creating your Auto Scaling group.

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
Choose a CloudWatch metric and target value and let the scaling policy adjust the desired capacity in proportion to the metric's value.

Scaling policy name
Target Tracking Policy

Metric type | [Info](#)
Monitored metric that determines if resource utilization is too low or high. If using EC2 metrics, consider enabling detailed monitoring for better scaling performance.

Average CPU utilization

Target value
50

Instance warmup | [Info](#)
300 seconds

Instances created from Autoscaling Group:

Last updated less than a minute ago

Find Instance by attribute or tag (case-sensitive)

Instance state = running

Clear filters

Name	Instance ID	Instance state	Instance type	Status check
Home 1	i-0bce108dd4360d389	Running	t2.micro	2/2 checks pass
Mobile 2	i-0a0f0793d10e011b3	Running	t2.micro	2/2 checks pass
Laptop 1	i-0fa7e0e9dbac37b94	Running	t2.micro	2/2 checks pass
Mobile 1	i-070aea44e17d1abe3	Running	t2.micro	2/2 checks pass
Home 2	i-06aaf7f514bdbf88c	Running	t2.micro	2/2 checks pass
Home 3	i-093581b21f0859672	Running	t2.micro	2/2 checks pass
Laptop 2	i-02f2d92446570960d	Running	t2.micro	2/2 checks pass

Step 3: Create Target Group for microservices (Home, Mobile, Laptop)

Home Target Group:

The screenshot shows the AWS EC2 Target Groups creation wizard. The current step is "Step 1: Specify group details". The "Basic configuration" section is displayed, showing the "Choose a target type" dropdown. The "Instances" option is selected, which is highlighted with a blue border. Below the dropdown, there are two bullet points: "Supports load balancing to instances within a specific VPC." and "Facilitates the use of [Amazon EC2 Auto Scaling](#) to manage and scale your EC2 capacity." The "IP addresses" option is also present but not selected.

The screenshot shows the "Target group name" field containing "HomeTg". Below it, the "Protocol : Port" section is shown with "HTTP" selected as the protocol and "80" as the port. The "IP address type" section shows "IPv4" selected, with a note explaining that each instance has a default network interface (eth0) assigned the primary private IPv4 address. The "IPv6" option is also listed. The "VPC" section at the bottom lists "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." The "CloudShell" and "Feedback" buttons are visible at the bottom left, and the standard AWS navigation bar with IAM, EC2, S3, and search bar is at the top.

Step 1 Create target group | EC2 | Auto Scaling groups | EC2 | ap-south-1

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

aws IAM EC2 S3

EC2 Target groups Create target group

Health check path
Use the default path of "/" to perform health checks on the root, or specify a custom path if preferred.
/

Up to 1024 characters allowed.

Advanced health check settings

Attributes

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

Tags - optional
Consider adding tags to your target group. Tags enable you to categorize your AWS resources so you can more easily manage them.

Cancel Next

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ENG IN 11:01 16-12-2024

Step 2 Create target group | EC2 | Auto Scaling groups | EC2 | ap-south-1

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

aws IAM EC2 S3

EC2 Target groups Create target group

Review targets

Targets (3)

Remove all pending

Filter targets Show only pending 1

Instance ID	Name	Port	State	Security groups	Zone	Private IPv4 address
i-093581b21f0859672	Home 3	80	Running	my-sg	ap-south-1b	172.31.5.82
i-0bce108dd4360d389	Home 1	80	Running	my-sg	ap-south-1a	172.31.38.176
i-06aaf7f514bdbf88c	Home 2	80	Running	my-sg	ap-south-1b	172.31.2.168

3 pending Cancel Previous Create target group

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ENG IN 10:57 16-12-2024

Mobile Target Group:

The screenshot shows the AWS Management Console with the URL <https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateTargetGroup>. The page is titled "Step 1 Create target group | EC2". It displays the "Specify group details" step, which is the first step in creating a target group. The "Basic configuration" section is visible, showing the "Choose a target type" dropdown. The "Instances" option is selected, with a blue border around its description box. This box contains two bullet points: "Supports load balancing to instances within a specific VPC." and "Facilitates the use of [Amazon EC2 Auto Scaling](#) to manage and scale your EC2 capacity." Below this, the "IP addresses" option is shown with its own description box containing four bullet points: "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.", and "Supports IPv6 targets, enabling end-to-end IPv6 communication, and IPv4-to-IPv6 NAT." The navigation bar at the top includes links for IAM, EC2, and S3. The bottom navigation bar shows CloudShell, Feedback, Privacy, Terms, and Cookie preferences. The system tray at the bottom right indicates the date as 16-12-2024 and time as 10:59.

The screenshot shows the continuation of the AWS EC2 Target Groups creation wizard. The URL remains the same: <https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateTargetGroup>. The page title is now "Step 2 Register targets | EC2". The "Target group name" field is filled with "MobileTg". The "Protocol : Port" section shows "HTTP" selected as the protocol and "80" as the port. The "IP address type" section has "IPv4" selected, with a note explaining that each instance has a default network interface (eth0) assigned a primary private IPv4 address. The "VPC" section allows selecting a VPC for the target group. The bottom navigation bar and system tray are identical to the previous screenshot, showing the date as 16-12-2024 and time as 11:00.

Step 1 Create target group | EC2 | Auto Scaling groups | EC2 | ap-south-1#CreateTargetGroup: https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateTargetGroup:

aws Search [Alt+S] Mumbai Dipti_123

IAM EC2 S3

EC2 Target groups Create target group

Health check path
Use the default path of "/" to perform health checks on the root, or specify a custom path if preferred.
/ Up to 1024 characters allowed.

► Advanced health check settings

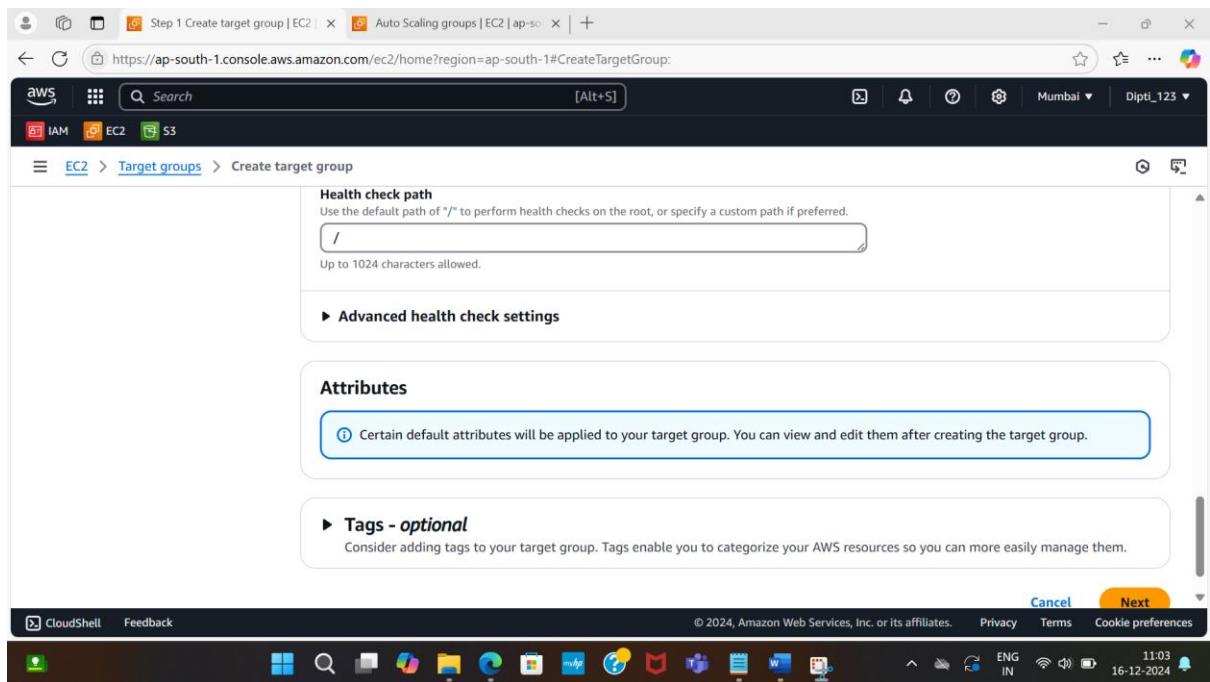
Attributes

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

► Tags - optional
Consider adding tags to your target group. Tags enable you to categorize your AWS resources so you can more easily manage them.

Cancel Next

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Step 2 Create target group | EC2 | Auto Scaling groups | EC2 | ap-south-1#CreateTargetGroup: https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateTargetGroup:

aws Search [Alt+S] Mumbai Dipti_123

IAM EC2 S3

EC2 Target groups Create target group

Include as pending below

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

Review targets

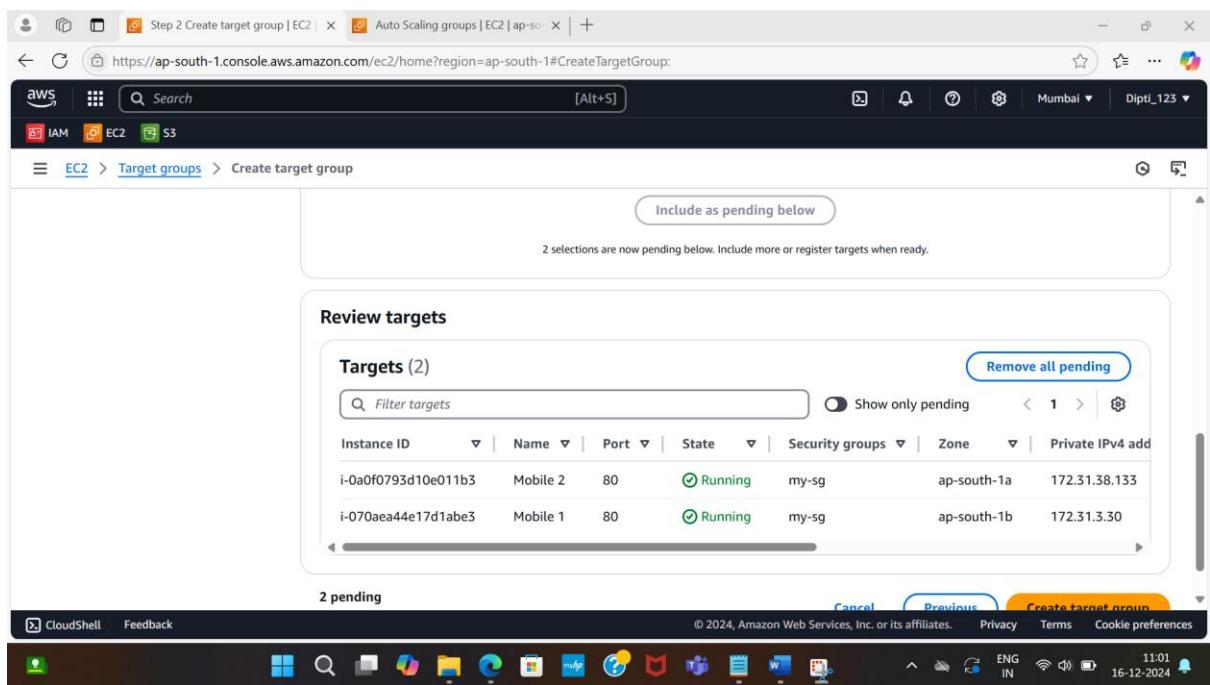
Targets (2)

Filter targets Remove all pending Show only pending < 1 > ⚙

Instance ID	Name	Port	State	Security groups	Zone	Private IPv4 add
i-0a0f0793d10e011b3	Mobile 2	80	Running	my-sg	ap-south-1a	172.31.38.133
i-070aea44e17d1abe3	Mobile 1	80	Running	my-sg	ap-south-1b	172.31.3.30

2 pending Cancel Previous Create target group

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Laptop Target Group:

The screenshot shows the 'Specify group details' step of the 'Create target group' wizard. The 'Basic configuration' section is visible, showing the 'Choose a target type' dropdown set to 'Instances'. Under 'Instances', two bullet points are listed: 'Supports load balancing to instances within a specific VPC.' and 'Facilitates the use of [Amazon EC2 Auto Scaling](#) to manage and scale your EC2 capacity.' Other options like 'IP addresses' and 'Lambda function' are also shown but not selected.

The screenshot shows the 'Specify group details' step of the 'Create target group' wizard. The 'Target group name' field contains 'LaptopTg'. Below it, the 'Protocol : Port' section shows 'HTTP' selected as the protocol and '80' as the port. The 'IP address type' section shows 'IPv4' selected. The 'VPC' section indicates that no VPCs are currently selected for inclusion in the target group.

Screenshot of the AWS Cloud Console showing the "Create target group" wizard Step 1.

The "Health check path" field is set to "/".

The "Attributes" section contains a note: "Certain default attributes will be applied to your target group. You can view and edit them after creating the target group."

The "Tags - optional" section contains a note: "Consider adding tags to your target group. Tags enable you to categorize your AWS resources so you can more easily manage them."

At the bottom right, there are "Cancel" and "Next" buttons.

Screenshot of the AWS Cloud Console showing the "Create target group" wizard Step 2.

The "Review targets" section shows two pending targets:

Instance ID	Name	Port	State	Security groups	Zone	Private IPv4 address
i-02f2d92446570960d	Laptop 2	80	Running	my-sg	ap-south-1b	172.31.13.197
i-0fa7e0e9dbac37b94	Laptop 1	80	Running	my-sg	ap-south-1a	172.31.38.6

At the bottom right, there are "Cancel", "Previous", and "Create target group" buttons.

Home, Mobile, Laptop Target Group:

The screenshot shows the AWS Management Console with the URL <https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#TargetGroups>. The left sidebar is expanded to show 'Network & Security' and 'Load Balancing' sections. Under 'Load Balancing', 'Target Groups' is selected. The main area displays a table titled 'Target groups (3)'. The table has columns for Name, ARN, Port, Protocol, and Target type. The data is as follows:

Name	ARN	Port	Protocol	Target type
LaptopTg	arn:aws:elasticloadbalancing:ap-south-1:123456789012:targetgroup/LaptopTg/5678901234567890	80	HTTP	Instance
MobileTg	arn:aws:elasticloadbalancing:ap-south-1:123456789012:targetgroup/MobileTg/5678901234567890	80	HTTP	Instance
HomeTg	arn:aws:elasticloadbalancing:ap-south-1:123456789012:targetgroup/HomeTg/5678901234567890	80	HTTP	Instance

Step 4: Attach Autoscaling groups to Application Loadbalancer

The screenshot shows the AWS Management Console with the URL <https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateALBWizard>. The left sidebar is collapsed. The main area is titled 'Basic configuration'.

Load balancer name:
Name must be unique within your AWS account and can't be changed after the load balancer is created.
ApplicationLoadBalancer
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 publicly resolvable.
- Compatible with the IPv4 and Dualstack IP address types.

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. Public IPv4 addresses have an additional cost.
 IPv4
Includes only IPv4 addresses.

The screenshot shows the AWS Cloud Console interface for managing Auto Scaling groups. The top navigation bar includes tabs for IAM, EC2, and S3. The main content area is titled "Auto Scaling groups". Under "Availability Zones", three zones are listed:

- ap-south-1a (aps1-az1)**: Subnet: subnet-031407fb776a6bbc, IPv4 address: 172.31.32.0/20
- ap-south-1b (aps1-az3)**: Subnet: subnet-0f423fa0fae75556a, IPv4 address: 172.31.0.0/20
- ap-south-1c (aps1-az2)**: Subnet: subnet-0c588b19bebf0df00, IPv4 address: 172.31.16.0/20

At the bottom of the page, there are links for CloudShell, Feedback, and a footer with copyright information and language settings.

The screenshot shows the AWS Cloud Console interface for managing Auto Scaling groups. The top navigation bar includes tabs for IAM, EC2, and S3. The main content area is titled "Auto Scaling groups". Under "Security groups", it says "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." Two security groups are listed:

- default**: sg-041eca9beb8d228af, VPC: vpc-0ed3067abf10c0d9f
- my-sg**: sg-0d711dc689216fd89, VPC: vpc-0ed3067abf10c0d9f

Below this, under "Listeners and routing", it says "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." A table for a listener named "HTTP:80" is shown:

Listener HTTP:80		Remove
Protocol	Port	Default action
HTTP	: 80	Forward to HomeTg Target type: Instance, IPv4

At the bottom of the page, there are links for CloudShell, Feedback, and a footer with copyright information and language settings.

The screenshot shows the AWS EC2 Auto Scaling Groups page. The left sidebar is collapsed. The main content area has tabs: 'Listeners and rules' (selected), 'Network mapping', 'Resource map - new', 'Security', 'Monitoring', and 'Integrations'. Under 'Listeners and rules', it says 'Listeners and rules (1/1) Info'. It describes a listener checking for connection requests on its configured protocol and port, and how the request is routed according to the default action and any additional rules. A search bar 'Filter listeners' is present. Below is a table with one row:

Protocol:Port	Action	Rules	ARN	Security policy
HTTP:80	Forward to target group • HomeTg: 1 (100%) • Target group stickiness: Off	1 rule	ARN	Not applicable

At the bottom right of the table, there are buttons for 'Add rule', 'Edit rules', and 'Reprioritize rules'. The status bar at the bottom indicates 'CloudShell Feedback'.

The screenshot shows the 'Step 1 Add listener rule' wizard. On the left, a vertical navigation pane lists steps: Step 1 (selected), Step 2, Step 3, Step 4, Step 5, and Review and create. The main content area is titled 'Add rule Info'. It says 'Define the rule and then review it in the context of the other rules on this listener.' Below is a section titled 'Listener details: HTTP:80'. To the right is a 'Name and tags' section with the sub-instruction 'Tags can help you manage, identify, organize, search for and filter resources.' It has a 'Name' input field containing 'Mobile' and a 'Add additional tags' button. At the bottom right are 'Cancel' and 'Next' buttons. The status bar at the bottom indicates 'CloudShell Feedback'.

Step 2 Add listener rule | EC2 | ap-south-1 Auto Scaling groups | EC2 | ap-south-1

Add condition Rule limits

Rule condition types

Route traffic based on the condition type of each request. Each rule can include one of each of the following conditions: host-header, path, http-request-method and source-ip. Each rule can include one or more of each of the following conditions: http-header and query-string.

Path

Define the path. Case sensitive.

is /mobile

Valid characters are a-z, A-Z, 0-9 and special characters. Path must be 1-128 characters. Character count: 8/128

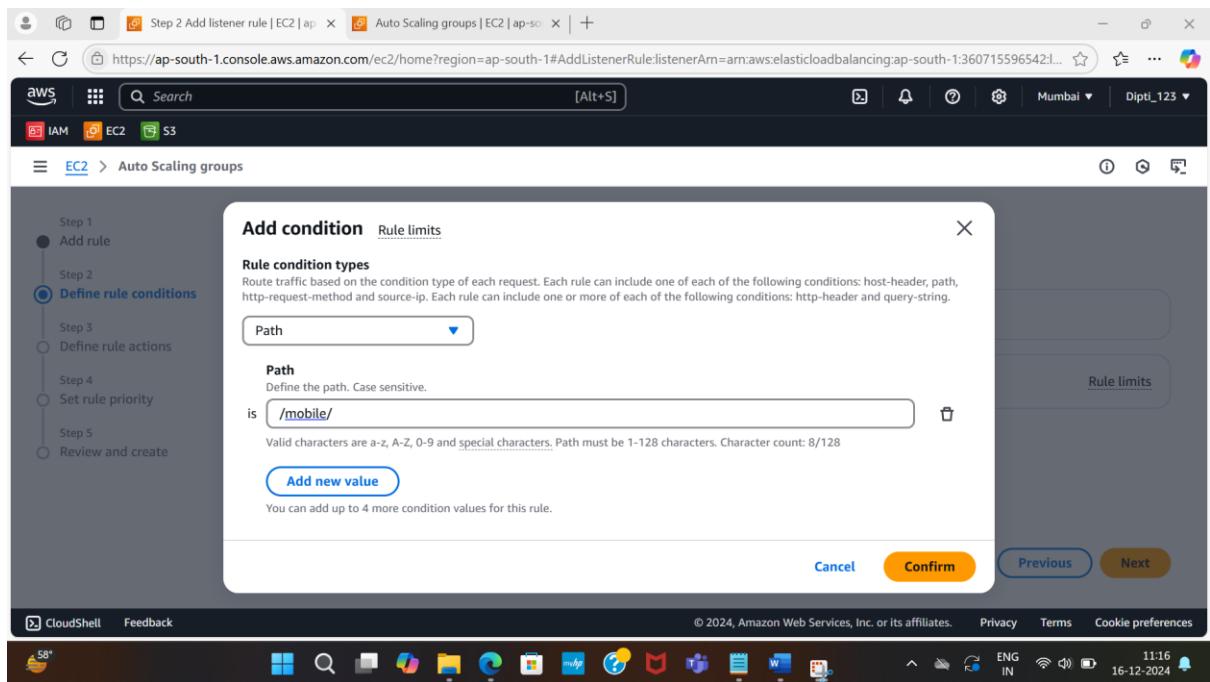
Add new value

You can add up to 4 more condition values for this rule.

Cancel Confirm Previous Next

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Step 3 Add listener rule | EC2 | ap-south-1 Auto Scaling groups | EC2 | ap-south-1

Actions

Action types

Routing actions

Forward to target groups Redirect to URL Return fixed response

Forward to target group | Info

Choose a target group and specify routing weight or [Create target group](#).

Target group

MobileTg Target type: Instance, IPv4

Weight Percent

1 100% 0-999

Add target group

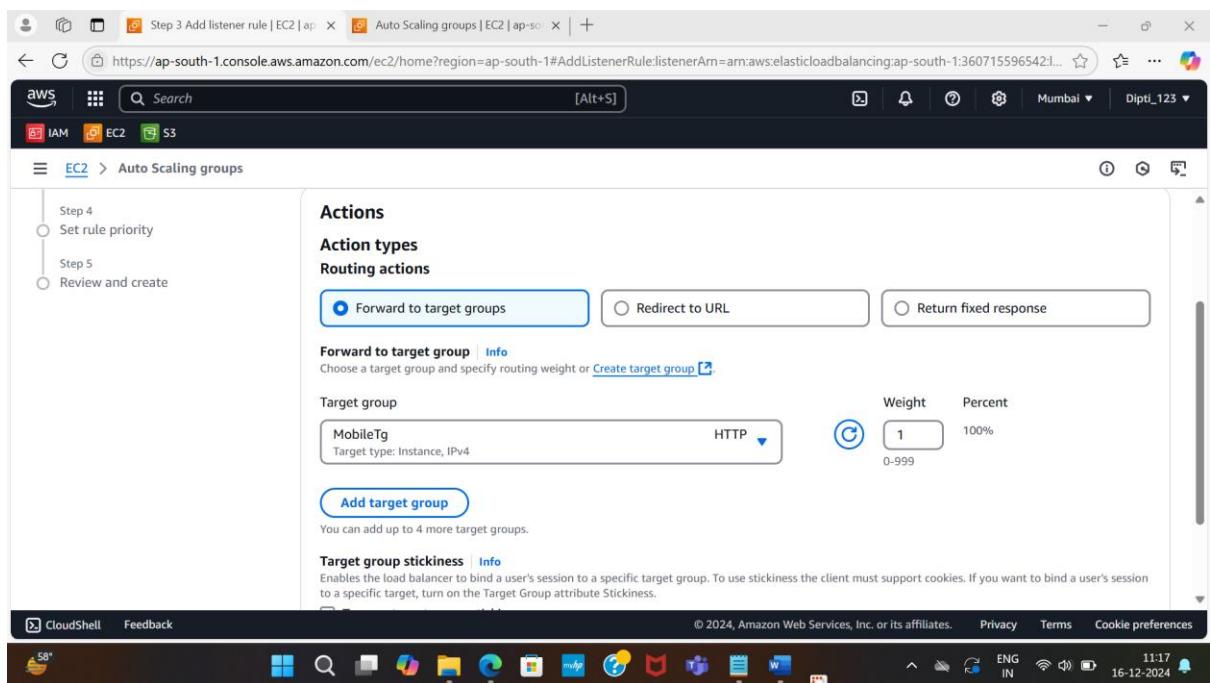
You can add up to 4 more target groups.

Target group stickiness | Info

Enables the load balancer to bind a user's session to a specific target group. To use stickiness the client must support cookies. If you want to bind a user's session to a specific target, turn on the Target Group attribute Stickiness.

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Screenshot of the AWS CloudShell interface showing the AWS Management Console. The browser tab is titled "Step 1 Add listener rule | EC2 | ap-south-1" and the URL is "https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#AddListenerRule:listenerArn=arn:aws:elasticloadbalancing:ap-south-1:360715596542:...". The AWS navigation bar shows "EC2" as the selected service. The main content area displays the "Add rule" wizard, Step 1: Add rule. It includes sections for "Listener details: HTTP:80" and "Name and tags". A sidebar on the left lists steps: Step 1 (Add rule), Step 2 (Define rule conditions), Step 3 (Define rule actions), Step 4 (Set rule priority), and Step 5 (Review and create). Buttons at the bottom right are "Cancel" and "Next".

Screenshot of the AWS CloudShell interface showing the AWS Management Console. The browser tab is titled "Step 2 Add listener rule | EC2 | ap-south-1" and the URL is "https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#AddListenerRule:listenerArn=arn:aws:elasticloadbalancing:ap-south-1:360715596542:...". The AWS navigation bar shows "EC2" as the selected service. The main content area displays the "Add condition" dialog for "Rule condition types". It shows a dropdown set to "Path" with the value "/laptop" entered. Below it is a note about valid characters and a "Add new value" button. A sidebar on the left lists steps: Step 1 (Add rule), Step 2 (Define rule conditions), Step 3 (Define rule actions), Step 4 (Set rule priority), and Step 5 (Review and create). Buttons at the bottom right are "Cancel", "Confirm", "Previous", and "Next".

Step 3 Add listener rule | EC2 | ap-south-1 | Auto Scaling groups | EC2 | ap-south-1#AddListenerRule:listenerArn=arn:aws:elasticloadbalancing:ap-south-1:360715596542:... | +

<https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#AddListenerRule:listenerArn=arn:aws:elasticloadbalancing:ap-south-1:360715596542:...>

aws Search [Alt+S] Mumbai Dipti_123

IAM EC2 S3

EC2 > Auto Scaling groups

Step 5 Review and create

Action types
Routing actions

Forward to target groups Redirect to URL Return fixed response

Forward to target group | Info
Choose a target group and specify routing weight or [Create target group](#).

Target group: LaptopTg (Target type: Instance, IPv4) HTTP 1 100% 0-999

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. To use stickiness the client must support cookies. 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

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EC2 | ap-south-1 | Auto Scaling groups | EC2 | ap-south-1#LoadBalancerArn=arn:aws:elasticloadbalancing:ap-south-1:360715596542:loadBalancer/d7e72914e5de566e/85ac0928c0c63e69 | +

<https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LoadBalancerArn=arn:aws:elasticloadbalancing:ap-south-1:360715596542:loadBalancer/d7e72914e5de566e/85ac0928c0c63e69>

aws Search [Alt+S] Mumbai Dipti_123

EC2 > Auto Scaling groups

Dedicated Hosts Capacity Reservations

Images AMIs 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 New

Auto Scaling Auto Scaling Groups Settings

Details
A listener checks for connection requests using the protocol and port that you configure. The default action and any additional rules that you create determine how the Application Load Balancer routes requests to its registered targets.

Protocol: HTTP:80 Load balancer: ApplicationLoadBalancer

Default actions:
Forward to target group:
• HomeTg (100%)
• Target group stickiness: Off

Listener ARN: arn:aws:elasticloadbalancing:ap-south-1:360715596542:listener/app/ApplicationLoadBalancer/d7e72914e5de566e/85ac0928c0c63e69

Rules Attributes Tags

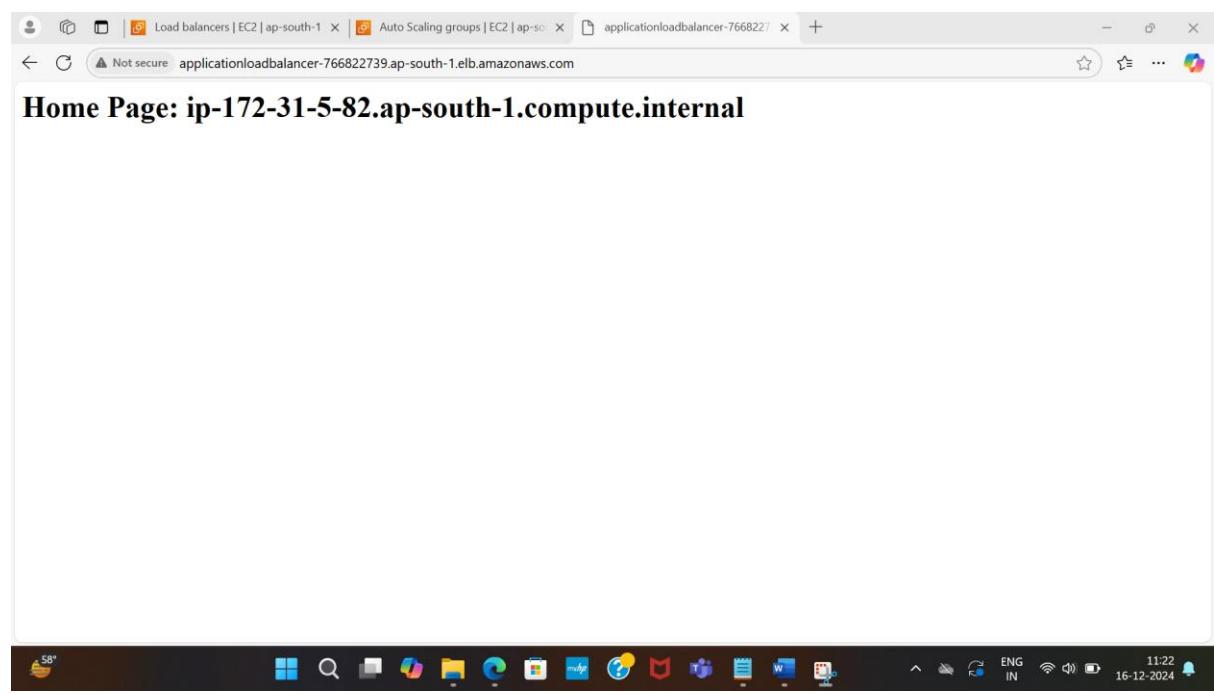
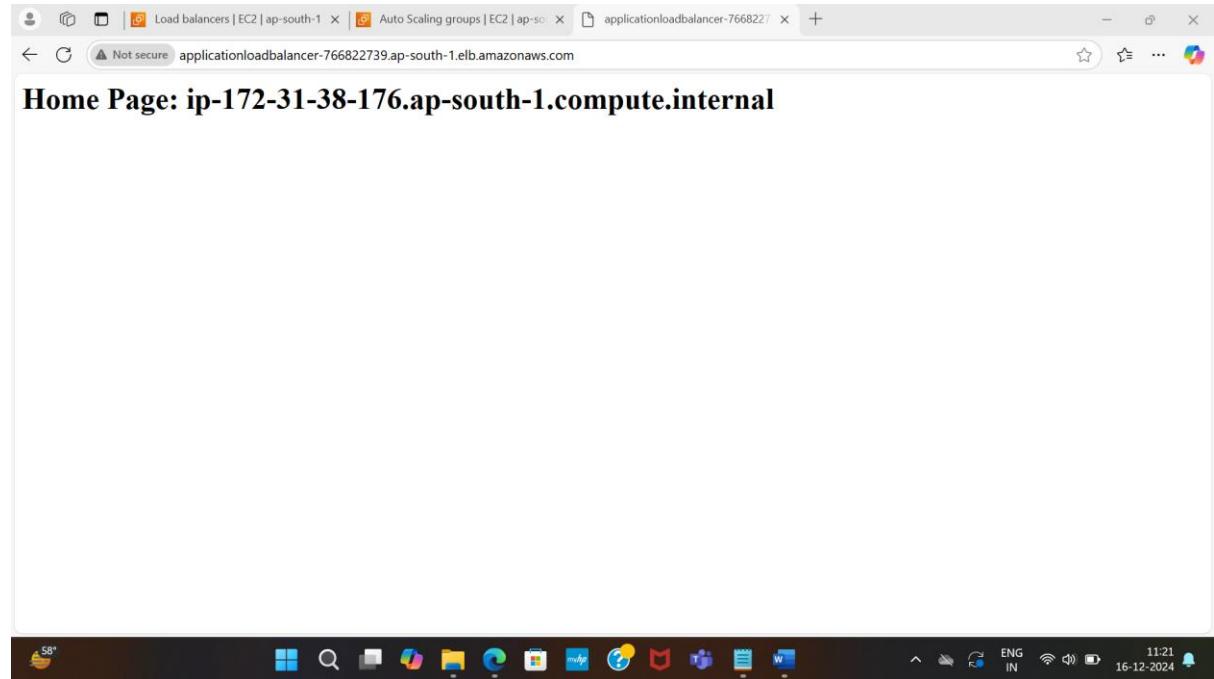
Listener rules (3) | Info
Traffic received by the listener is routed according to the default action and any additional rules. Rules are evaluated in priority order from the lowest value to the highest value.

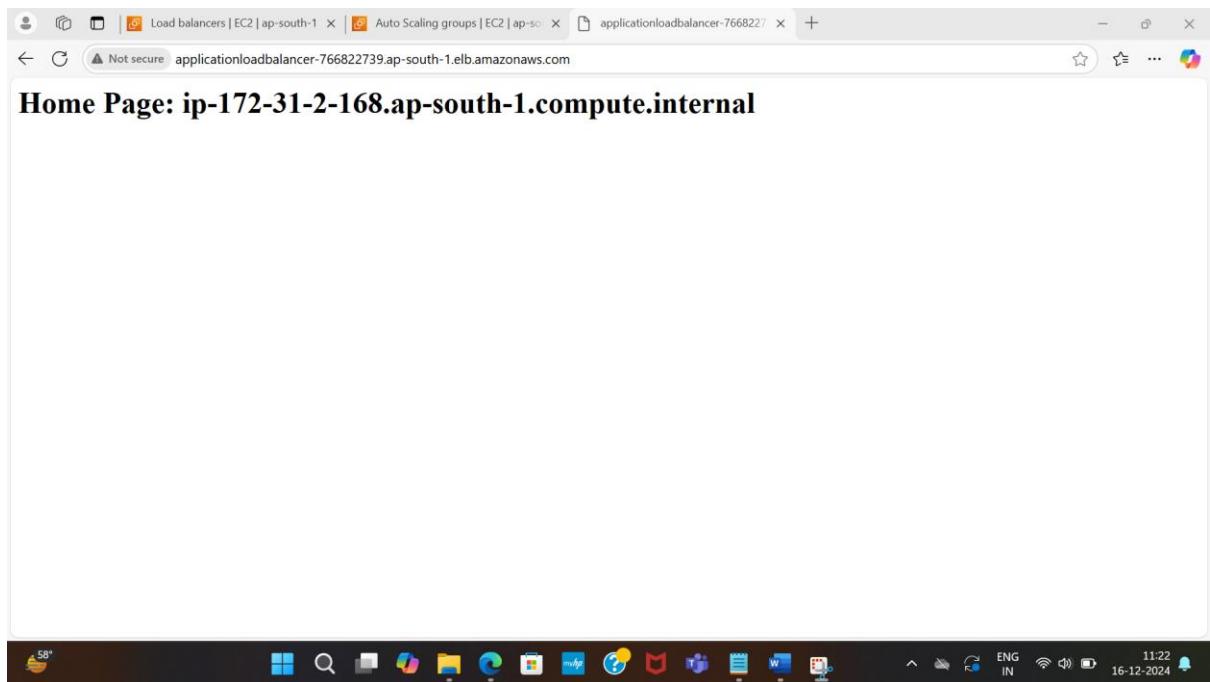
Name tag	Priority	Conditions (If)	Actions (Then)	ARN	Tags
Mobile	2	Path Pattern is /mobile/	Forward to target group: • MobileTg (100%) • Target group stickiness: Off	ARN	1 tag
Laptop	3	Path Pattern is /laptop/	Forward to target group: • LaptopTg (100%) • Target group stickiness: Off	ARN	1 tag
Default	Last (default)	If no other rule applies	Forward to target group: • HomeTg (100%) • Target group stickiness: Off	ARN	0 tags

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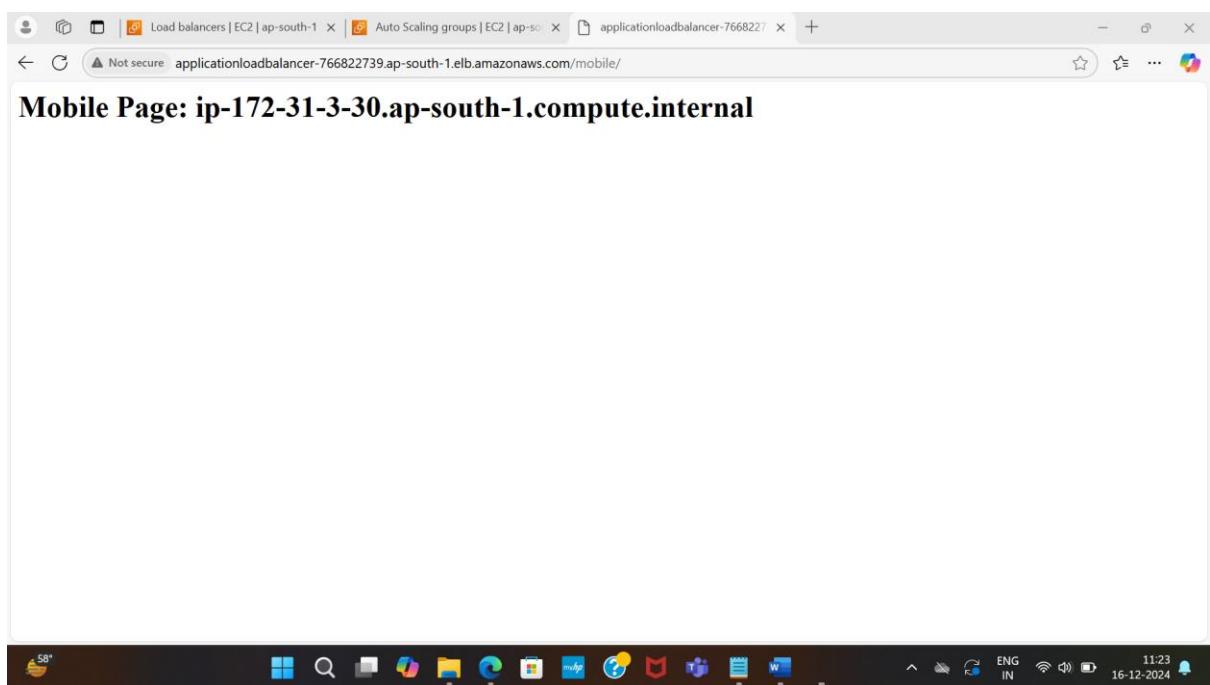
Output of Autoscaling with Loadbalancer

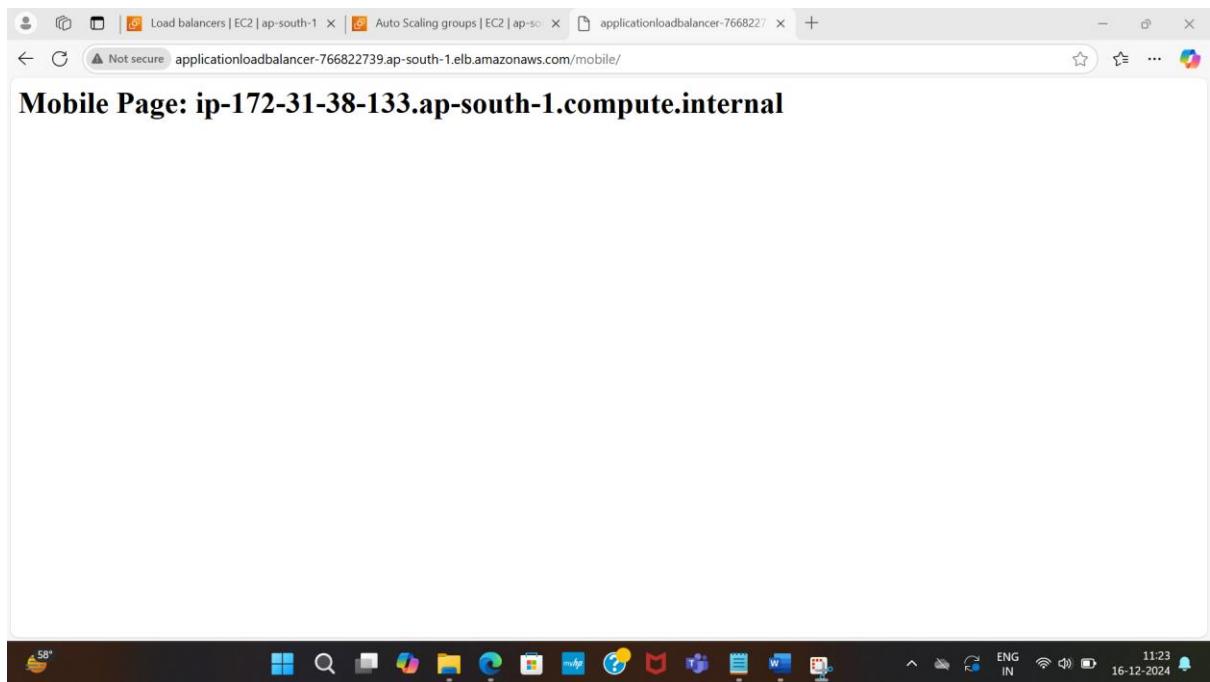
Home Page:





Mobile Page:





Laptop page:

