

# Auto scaling

- Create auto scaling first you need load balance for load balancer first you need create security group with add rule http&ssh
- Go to ec2 and click security group click create security group.

Name	Security group ID	Security group name	VPC ID
-	sg-0502a44363361c853	default	vpc-08007a5c76c643b
-	sg-03039d5b781d7ae22	mylb	vpc-08007a5c76c643b

- Name = mylb
- Vpc = default
- Inbound rules and add rule and ssh &http
- Now create a 3 instances in aws account

- Ec2 go to instances lunch instances name = praveen ,papa & lucky

The screenshot shows the AWS EC2 Instances page. The left sidebar is expanded, showing 'Instances' and 'Images'. Under 'Instances', 'Instances' is selected, showing options like Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity, and Reservations. The main content area is titled 'Instances Info' and displays a message: 'No instances' and 'You do not have any instances in this region'. A large 'Launch instances' button is prominently displayed.

The screenshot shows the 'Launch an instance' wizard. The current step is 'Name and tags'. It has a 'Name' input field where 'praveen' is typed. To the right, there's a 'Software Image (AMI)' section showing 'Amazon Linux 2023 AMI 2023.5.2...' and a 'Virtual server type (instance type)' section showing 't2.micro'. At the bottom right of the wizard, there's a 'Launch instance' button.

The screenshot shows the AWS EC2 Instances page. On the left, there's a sidebar with options like EC2 Dashboard, EC2 Global View, Events, Instances (with 'Instances' selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity, and Reservations. The main area displays a table of instances:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
praveen	i-00a63572028534be5	Pending	t2.micro	-	<a href="#">View alarms</a>
papa	i-0ba3038d970191cfc	Running	t2.micro	Initializing	<a href="#">View alarms</a>
lucky	i-0e8a40455f3319c8a	Running	t2.micro	Initializing	<a href="#">View alarms</a>

Below the table, a modal window is open for the instance 'i-0e8a40455f3319c8a (lucky)'. The modal title is 'i-0e8a40455f3319c8a (lucky)'. At the top of the modal, there are tabs for 'CloudShell' and 'Feedback'. The main content area of the modal is currently empty.

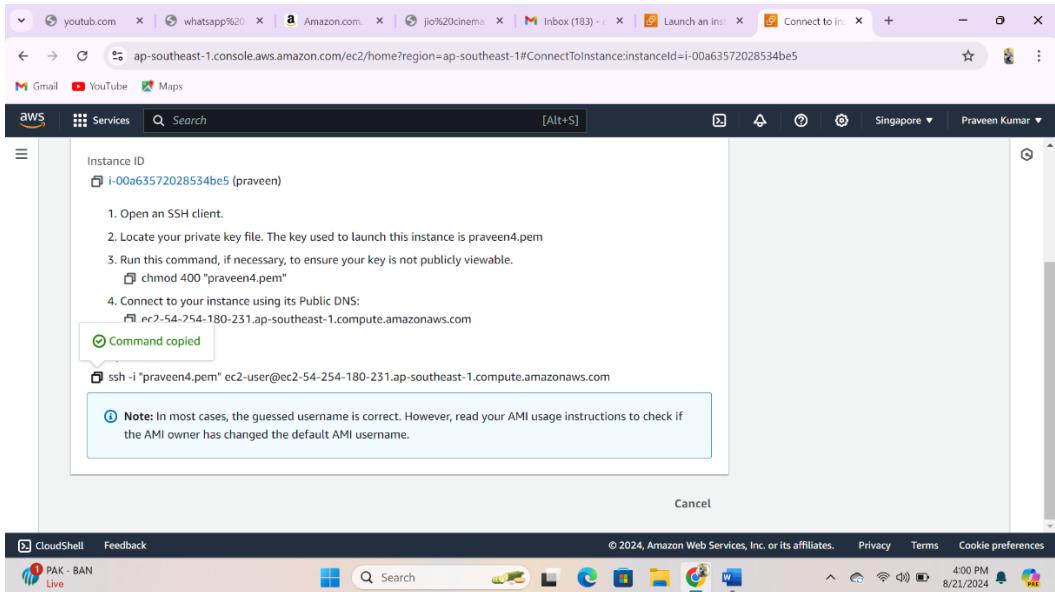
- Now connect praveen instance and set hostname= praveen and install nginx

The screenshot shows the 'Connect to instance' page for the instance 'i-00a63572028534be5 (praveen)'. The URL in the browser bar is 'ap-southeast-1.console.aws.amazon.com/ec2/home?region=ap-southeast-1#ConnectToInstance\$instanceId=i-00a63572028534be5'. The page has a header with 'aws Services Search [Alt+S]' and a footer with '© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences'.

The main content area has tabs for 'EC2 Instance Connect', 'Session Manager', 'SSH client', and 'EC2 serial console'. A warning message in a yellow box states: 'All ports are open to all IPv4 addresses in your security group. All ports are currently open to all IPv4 addresses, indicated by All and 0.0.0.0/0 in the inbound rule in [your security group](#). For increased security, consider restricting access to only the EC2 Instance Connect service IP addresses for your Region: 3.0.532/29. [Learn more](#)'.

Below the warning, there are fields for 'Instance ID' (set to 'i-00a63572028534be5 (praveen)') and 'Connection Type' (radio buttons for 'Connect using EC2 Instance Connect' (selected) and 'Connect using EC2 Instance Connect Endpoint'). The bottom of the page includes a 'CloudShell' tab, a feedback link, and a footer with 'PAK - BAN Live' and system status icons.

- Chosse the ssh client
-



- Copy the url
- Now we go on git bash to install nginx & connect to server

A screenshot of a Windows terminal window titled MINGW64:/c/Users/admin/Desktop. The command \$ ssh -i "praveen4.pem" ec2-user@ec2-54-254-180-231.ap-southeast-1.compute.amazonaws.com is visible. The terminal window is set against a background of a Windows desktop with various icons and system status indicators.

```
root@DESKTOP-6GKDKDP MINGW64 ~/Desktop
$ ssh -i "praveen4.pem" ec2-user@ec2-54-254-180-231.ap-southeast-1.compute.amazonaws.com
The authenticity of host 'ec2-54-254-180-231.ap-southeast-1.compute.amazonaws.com (54.254.180.231)' can't be established.
ED25519 key fingerprint is SHA256:m/92KuPlGwzy9PK21Q+2zVN8flckG7bsW62bCXEiVY.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-54-254-180-231.ap-southeast-1.compute.amazonaws.com' (ED25519) to the list of known hosts.

[ec2-user@ip-172-31-21-201 ~]$ sudo -i
[root@ip-172-31-21-201 ~]# |
```

- We have check here because of connect of root account

```
Total                                         6.1 MB/s | 1.0 MB   00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
  Preparing :
  Running scriptlet: nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch      1/1
  Installing : nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch              1/7
  Installing : nginx-mimetypes-2.1.49-3.amzn2023.0.3.noarch                1/7
  Installing : libunwind-1.4.0-5.amzn2023.0.2.x86_64                      2/7
  Installing : gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64                 3/7
  Installing : nginx-core-1:1.24.0-1.amzn2023.0.2.x86_64                   4/7
  Installing : generic-logos-httplib-18.0.0-12.amzn2023.0.3.noarch          5/7
  Installing : nginx-1:1.24.0-1.amzn2023.0.2.x86_64                        6/7
  Installing : nginx-1:1.24.0-1.amzn2023.0.2.x86_64                      7/7
  Running scriptlet: nginx-1:1.24.0-1.amzn2023.0.2.x86_64                  7/7
  Verifying   : generic-logos-httplib-18.0.0-12.amzn2023.0.3.noarch          1/7
  Verifying   : gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64                 2/7
  Verifying   : libunwind-1.4.0-5.amzn2023.0.2.x86_64                      3/7
  Verifying   : nginx-1:1.24.0-1.amzn2023.0.2.x86_64                      4/7
  Verifying   : nginx-core-1:1.24.0-1.amzn2023.0.2.x86_64                   5/7
  Verifying   : nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch              6/7
  Verifying   : nginx-mimetypes-2.1.49-3.amzn2023.0.3.noarch                7/7

  Installed:
    generic-logos-httplib-18.0.0-12.amzn2023.0.3.noarch
    libunwind-1.4.0-5.amzn2023.0.2.x86_64
    nginx-core-1:1.24.0-1.amzn2023.0.2.x86_64
    nginx-mimetypes-2.1.49-3.amzn2023.0.3.noarch

  gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64
  nginx-1:1.24.0-1.amzn2023.0.2.x86_64
  nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch

Complete!
[root@ip-172-31-21-201 ~]# |
```

- Installed by nginx

```
root@ip-172-31-21-201:/usr/sl ~ + - x
Preparing : 1/1
Running scriptlet: nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch 1/1
Installing : nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch 1/1
Installing : nginx-mimetypes-2.1.49-3.amzn2023.0.3.noarch 1/1
Installing : libunwind-1.4.0-5.amzn2023.0.2.x86_64 2/7
Installing : gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64 3/7
Installing : nginx-core-1:1.24.0-1.amzn2023.0.2.x86_64 4/7
Installing : generic-logos-httplib-18.0.0-12.amzn2023.0.3.noarch 5/7
Installing : nginx-1:1.24.0-1.amzn2023.0.2.x86_64 6/7
Running scriptlet: nginx-1:1.24.0-1.amzn2023.0.2.x86_64 7/7
Verifying : generic-logos-httplib-18.0.0-12.amzn2023.0.3.noarch 1/1
Verifying : gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64 2/7
Verifying : libunwind-1.4.0-5.amzn2023.0.2.x86_64 3/7
Verifying : nginx-1:1.24.0-1.amzn2023.0.2.x86_64 4/7
Verifying : nginx-core-1:1.24.0-1.amzn2023.0.2.x86_64 5/7
Verifying : nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch 6/7
Verifying : nginx-mimetypes-2.1.49-3.amzn2023.0.3.noarch 7/7

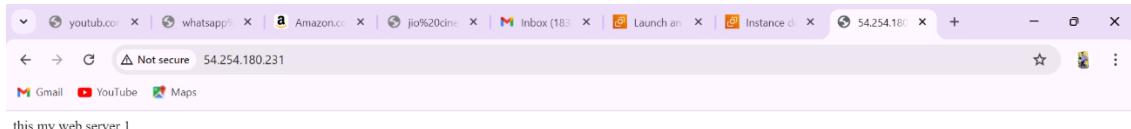
Installed:
generic-logos-httplib-18.0.0-12.amzn2023.0.3.noarch
libunwind-1.4.0-5.amzn2023.0.2.x86_64
nginx-core-1:1.24.0-1.amzn2023.0.2.x86_64
nginx-mimetypes-2.1.49-3.amzn2023.0.3.noarch

gperftools-libs-2.9.1-1.amzn2023.0.3.x86_64
nginx-1:1.24.0-1.amzn2023.0.2.x86_64
nginx-filesystem-1:1.24.0-1.amzn2023.0.2.noarch

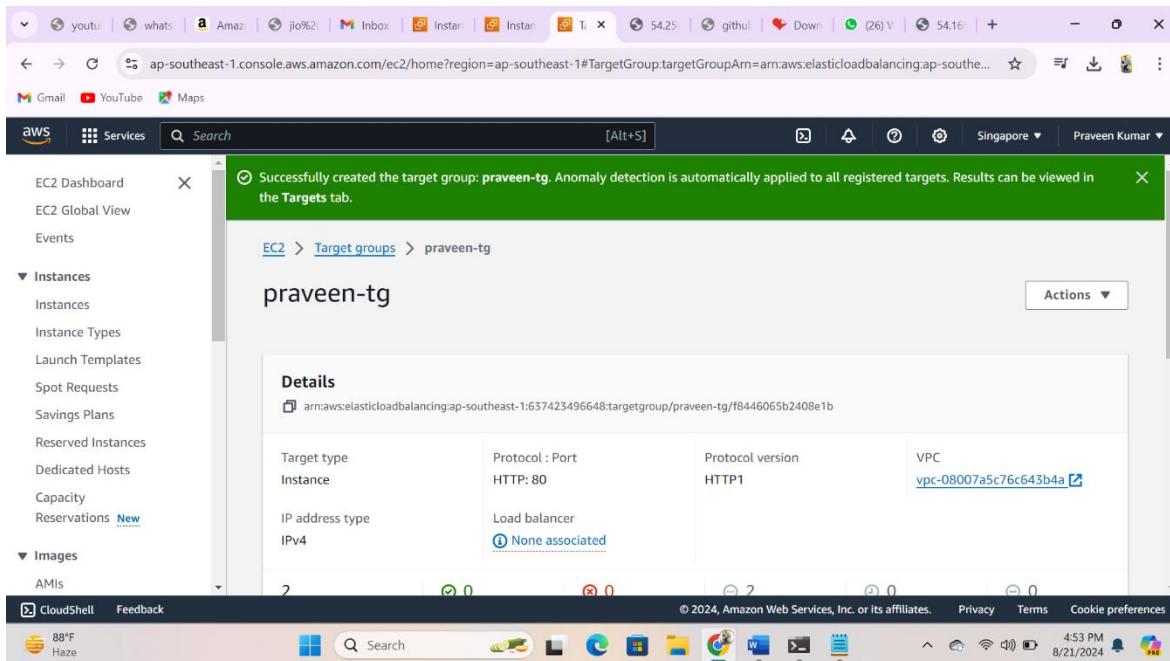
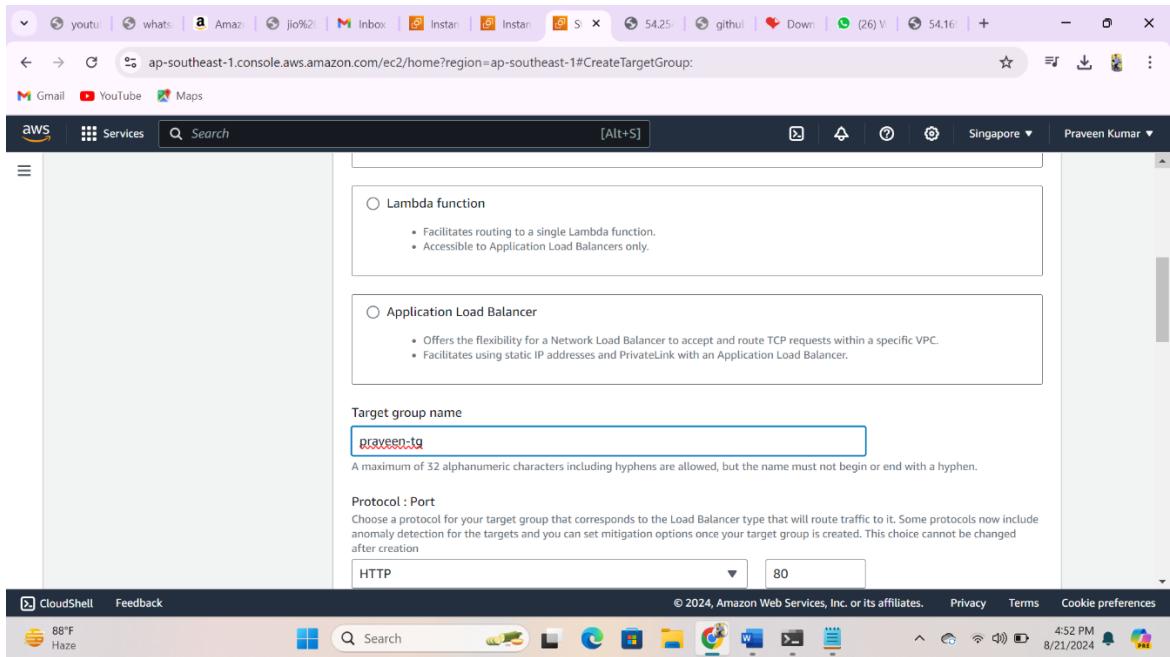
Complete!
[root@ip-172-31-21-201 ~]# ls
[root@ip-172-31-21-201 ~]# cd /urs/share/nginx/html
-bash: cd: /urs/share/nginx/html: No such file or directory
[root@ip-172-31-21-201 ~]# cd /usr/share/nginx/html/
[root@ip-172-31-21-201 html]# ls
404.html 50x.html icons index.html nginx-logo.png poweredby.png
[root@ip-172-31-21-201 html]# rm index.html
rm: remove regular file 'index.html'? yes| 4:07 PM 8/21/2024

root@ip-172-31-21-201:/usr/sl ~ + - x
[1 89°F Haze]
[Search] [File Explorer] [Task View] [Run] [Power] [Network] [Cloud] [Clipboard] [Taskbar] [System] 4:07 PM 8/21/2024
[root@ip-172-31-21-201 html]# systemctl restart nginx
Failed to restart nginx.service: Unit nginx.service not found.
[root@ip-172-31-21-201 html]# systemctl restart nginx
[root@ip-172-31-21-201 html]# | 4:09 PM 8/21/2024

root@ip-172-31-21-201:/usr/sl ~ + - x
[1 89°F Haze]
[Search] [File Explorer] [Task View] [Run] [Power] [Network] [Cloud] [Clipboard] [Taskbar] [System] 4:09 PM 8/21/2024
```



- After installed by nginx to connected to server
- Same process to connect another two instance
- Now go to ec2 instance select target group
- Create target group
- Select instances
- Target group name = praveen-tg
- Click next



- Now go to load balancer click create loadbalancer

The screenshot shows the AWS Management Console with the URL [ap-southeast-1.console.aws.amazon.com/ec2/home?region=ap-southeast-1#LoadBalancers](https://ap-southeast-1.console.aws.amazon.com/ec2/home?region=ap-southeast-1#LoadBalancers). The left sidebar is expanded, showing sections for Elastic Block Store, Network & Security, Load Balancing (selected), Auto Scaling, and CloudWatch Metrics. Under Load Balancing, 'Load Balancers' is selected. The main content area is titled 'Load balancers' and displays a message: 'Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.' A search bar and a 'Create load balancer' button are present. Below the message, it says 'No load balancers' and 'You don't have any load balancers in ap-southeast-1'. At the bottom, it says '0 load balancers selected'. The status bar at the bottom right shows the date as 8/21/2024 and the time as 4:57 PM.

- Choose one application load balancer

The screenshot shows the AWS Management Console with the URL [ap-southeast-1.console.aws.amazon.com/ec2/home?region=ap-southeast-1#SelectCreateELBWizard](https://ap-southeast-1.console.aws.amazon.com/ec2/home?region=ap-southeast-1#SelectCreateELBWizard). The left sidebar is collapsed. The main content area is titled 'Compare and select load balancer type' and contains a section titled 'Load balancer types' with three options: 'Application Load Balancer', 'Network Load Balancer', and 'Gateway Load Balancer'. Each option has a small diagram and a 'Info' link. Below the diagrams, there is a note: 'A complete feature-by-feature comparison along with detailed highlights is also available. [Learn more](#)'.

The screenshot shows the 'Create Application Load Balancer' wizard on the AWS CloudFront service. The 'Basic configuration' step is selected. The 'Load balancer name' field contains 'my-lb-praveen'. Below it, a note states: 'A maximum of 52 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.' The 'Scheme' dropdown is set to 'Internet facing'. The bottom of the screen shows the Windows taskbar with various pinned icons.

- Load balancer name=my-lb-praveen

The screenshot shows the 'Listener HTTP:80' configuration page. It lists a single listener rule for port 80, which forwards traffic to the 'praveen-tg' target group. The 'Default action' is set to 'HTTP'. The 'Protocol' dropdown shows 'HTTP'. The 'Port' dropdown shows '80'. The 'Forward to' dropdown shows 'praveen-tg'. The 'Create target group' button is visible. The bottom of the screen shows the Windows taskbar with various pinned icons.

- Attach to target group

Screenshot of the AWS EC2 Load Balancers console.

The URL in the browser is `ap-southeast-1.console.aws.amazon.com/ec2/home?region=ap-southeast-1#LoadBalancers`.

The sidebar shows the following navigation:

- EC2 Dashboard
- EC2 Global View
- Events
- Instances
  - Instances
  - Instance Types
  - Launch Templates
  - Spot Requests
  - Savings Plans
  - Reserved Instances
  - Dedicated Hosts
  - Capacity
  - Reservations New
- Images
  - AMIs

The main content area displays the "Load balancers (1)" section. It includes a search bar, a table header with columns: Name, DNS name, State, VPC ID, and Availability Zone, and a single row of data:

Name	DNS name	State	VPC ID	Availability Zone
my-lb-praveeen	my-lb-praveeen-1413960...	Provisioning...	vpc-08007a5c76c643...	3 Availability Zone

Below the table, a message states "0 load balancers selected".

At the bottom of the page, there are links for CloudShell, Feedback, and various system icons.

The screenshot shows a CloudShell session with the following details:

- EC2 Dashboard**: Shows 1 instance.
- Instances**: Details for one instance:
  - Load balancer type: Application
  - Status: Active
  - VPC: vpc-08007a5c76c643b4a
  - IPV4
  - Scheme: Internet-facing
  - Hosted zone: Z1LMS91P8CMLES
  - Availability Zones:
    - subnet-04c20d3abd38cd4e0 (ap-southeast-1c)
    - subnet-03ff2514dc1866e5 (ap-southeast-1a)
    - subnet-0c07da5ce628f9887 (ap-southeast-1b)
  - Date created: August 21, 2024, 16:59 (UTC+05:30)
- Images**: Shows 1 AMI.

CloudShell status bar: © 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences. 5:06 PM 8/21/2024.

this my web server 2



- Go to instance select one instance praveen or papa.
- Select one click actions click image and template and click create image.

The screenshot shows the AWS EC2 Instances page. On the left, a sidebar lists options like EC2 Dashboard, EC2 Global View, Events, Instances (with sub-options Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity, and Reservations), and Images (with sub-option AMIs). The main area displays a table of instances:

Name	Instance ID	Instance state	Instance type
praveen	i-00a63572028534be5	Running	t2.micro
papa	i-0ba3038d970191cfc	Running	t2.micro
lucky	i-0e8a40455f3319c8a	Running	t2.micro

A context menu is open over the first instance (praveen), showing options: Connect, Instance state ▾, Actions ▾, Launch instances ▾, Connect, View details, Manage instance state, Instance settings, Networking, Security, Image and templates, Create image (which is highlighted), Create template from instance, and Launch more like this.

The screenshot shows the 'Create image' wizard for instance [i-00a63572028534be5 \(praveen\)](#). The top navigation bar includes CloudShell, Feedback, and links to Finance headline and US Crude Oil Inv... The bottom navigation bar shows icons for various services and the date/time 8/21/2024 5:12 PM.

**Create image** [Info](#)

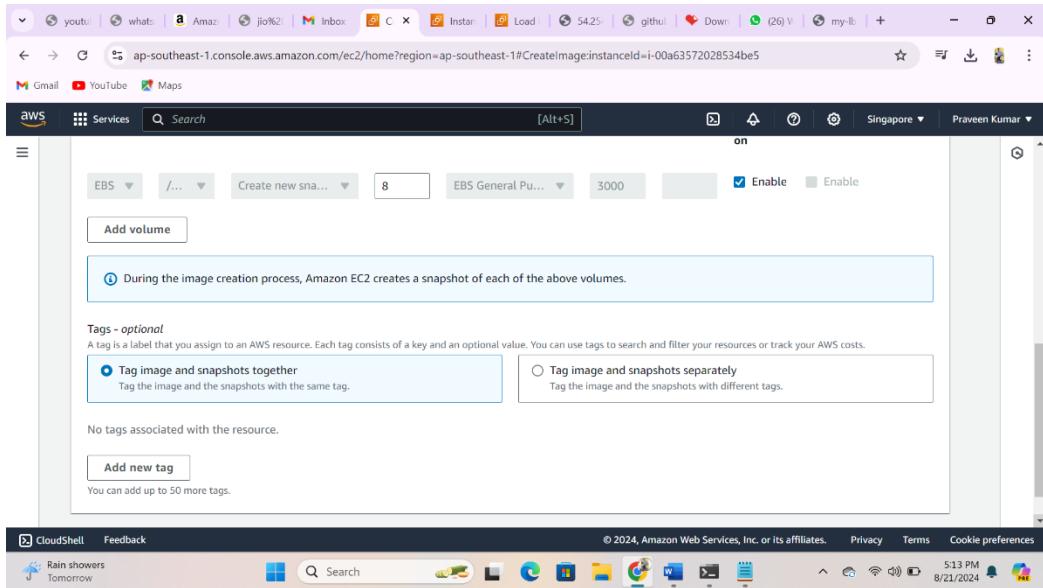
An image (also referred to as an AMI) defines the programs and settings that are applied when you launch an EC2 instance. You can create an image from the configuration of an existing instance.

Instance ID: [i-00a63572028534be5 \(praveen\)](#)

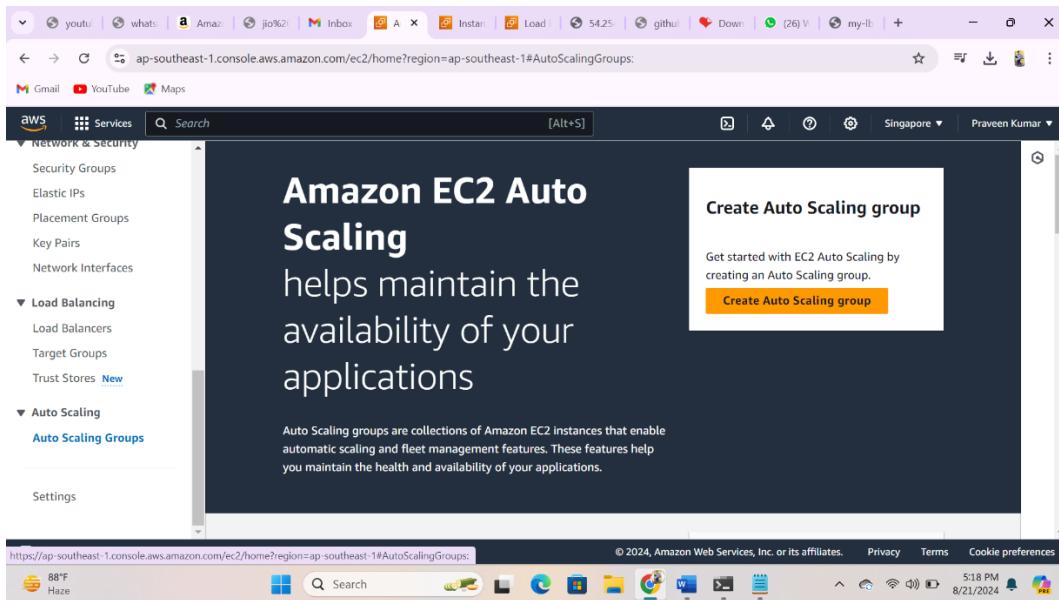
Image name:  Maximum 127 characters. Can't be modified after creation.

Image description - optional:  Maximum 255 characters

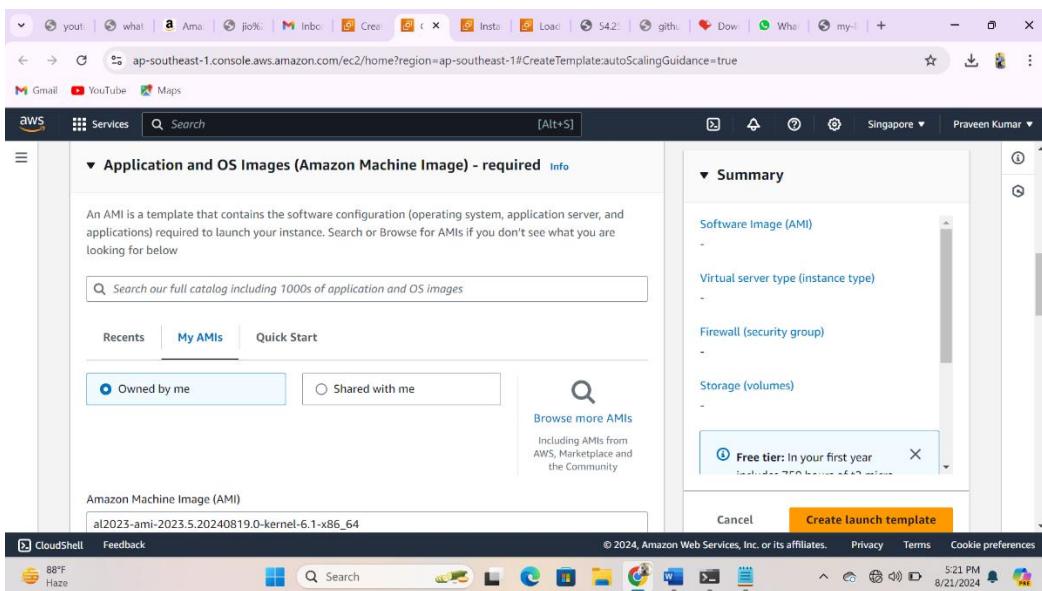
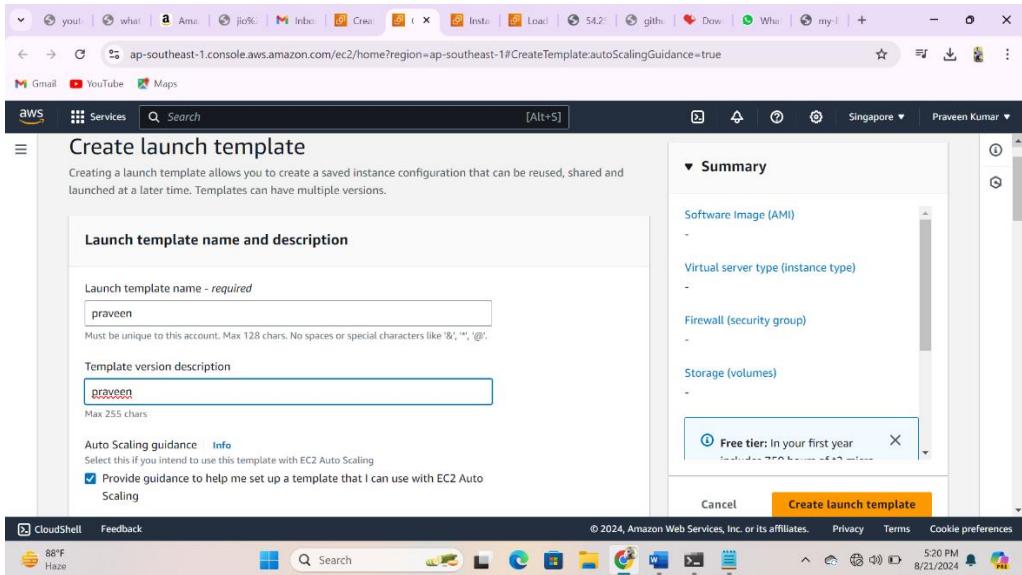
Reboot instance: When selected, Amazon EC2 reboots the instance so that data is at rest when snapshots of the attached volumes are taken. This ensures data consistency.



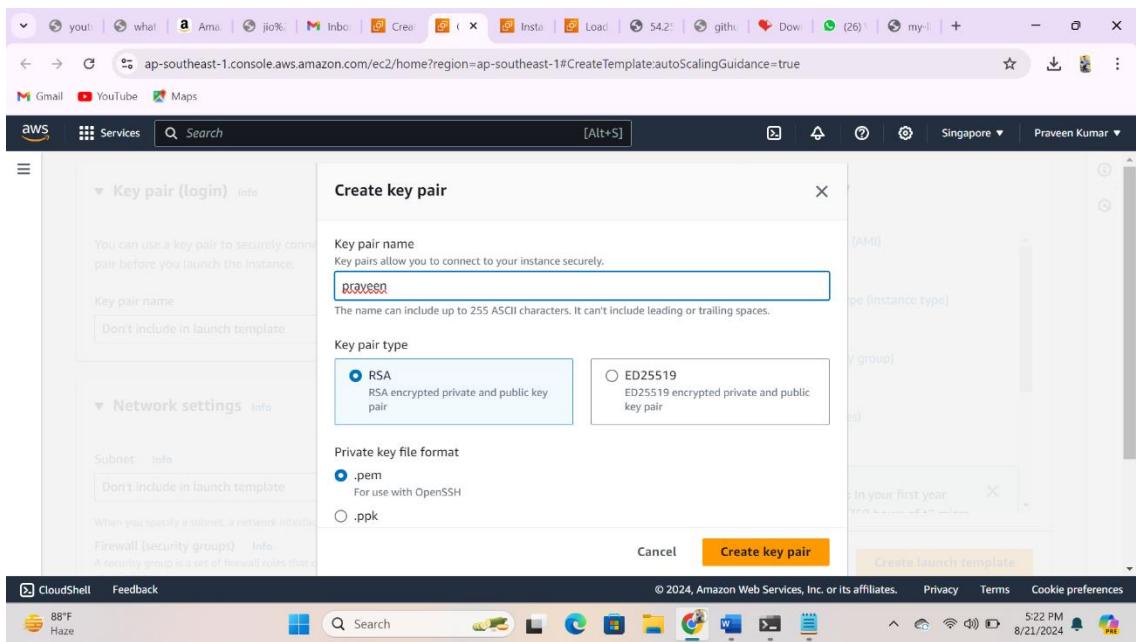
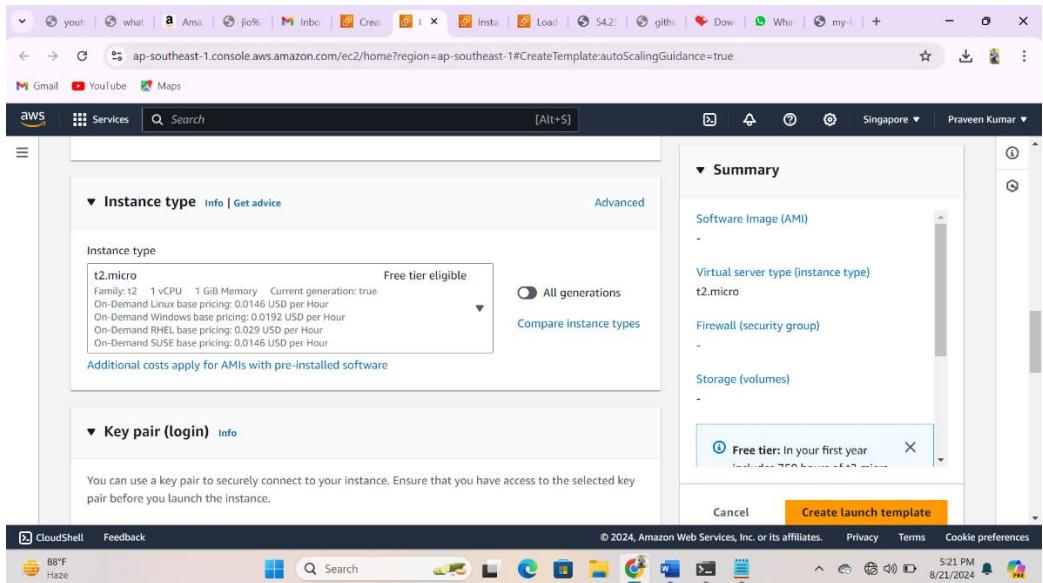
- Now go to auto scaling group click it
- Click create auto scaling group



Name = praveen



- Sg = mylb
- Don't select subnets here
- Click create launch template
- Now select template =praveen



- Click next here you want add sns notification topic next and next create auto scaling.

The screenshot shows the AWS EC2 Launch Template Details page. The URL in the browser is [ap-southeast-1.console.aws.amazon.com/ec2/home?region=ap-southeast-1#LaunchTemplateDetails:launchTemplateId=lt-02fa24e7a29ed6aee](https://ap-southeast-1.console.aws.amazon.com/ec2/home?region=ap-southeast-1#LaunchTemplateDetails:launchTemplateId=lt-02fa24e7a29ed6aee). The page title is "praveen (lt-02fa24e7a29ed6aee)". The left sidebar shows navigation options like EC2 Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity, Reservations, Images, and AMIs. The main content area displays "Launch template details" with fields: Launch template ID (lt-02fa24e7a29ed6aee), Launch template name (praveen), Default version (1), and Owner (arn:aws:iam::637423496648:root). Below this are tabs for Details, Versions, and Template tags. A separate section titled "Launch template version details" lists one version (Version 1, Date created: 2024-08-21T05:25:00Z, Created by: Praveen Kumar). The bottom of the screen shows the Windows taskbar with various pinned icons.

The screenshot shows the AWS EC2 Create Auto Scaling Group page. The URL in the browser is [ap-southeast-1.console.aws.amazon.com/ec2/home?region=ap-southeast-1#CreateAutoScalingGroup:launchTemplateId=lt-02fa24e7a29ed6aee](https://ap-southeast-1.console.aws.amazon.com/ec2/home?region=ap-southeast-1#CreateAutoScalingGroup:launchTemplateId=lt-02fa24e7a29ed6aee). The page title is "Create new VPC Lattice service". The main content area includes sections for "Health checks" (described as increasing availability by replacing unhealthy instances), "EC2 health checks" (with "Always enabled" checked), "Additional health check types - optional" (with "Turn on Elastic Load Balancing health checks" checked and "Turn on VPC Lattice health checks" uncheckable), and "Health check grace period" (set to 300 seconds). The bottom of the screen shows the Windows taskbar with various pinned icons.

The screenshot shows the AWS EC2 Auto Scaling groups page. At the top, a success message states: "praveen, 1 Load balancer, 1 Target group, 1 Listener created successfully. 1 new target group has been attached to ASG. Group metrics collection is enabled." Below this, the "Auto Scaling groups (1) Info" section is displayed. It includes a search bar and a table with one row for "praveen". The table columns are: Name, Launch template/configuration, Instances, Status, Desired capacity, and Minimum. The instance count is 0, status is "Updating capacity...", desired capacity is 1, and minimum is 1. At the bottom, it says "0 Auto Scaling groups selected".

Now go ec2 instance check instance  
You see add 2 server automatically and remove old instance  
Set new server names

The screenshot shows the AWS EC2 Instances page. A green banner at the top indicates: "Successfully initiated termination (deletion) of i-00a63572028534be5.i-0ba3038d970191fc". The main table lists two instances: "praveen" and "papa". The "praveen" instance is listed under the "Instances" section of the sidebar. The table columns are: Name, Instance ID, Instance state, Instance type, Status check, and Alarm status. Both instances are marked as "Running" and have "2/2 checks passed". The "papa" instance is selected, indicated by a checked checkbox. At the bottom, a modal window titled "i-085a4369446877c80 (papa)" is open.

- This is the process of the auto scaling