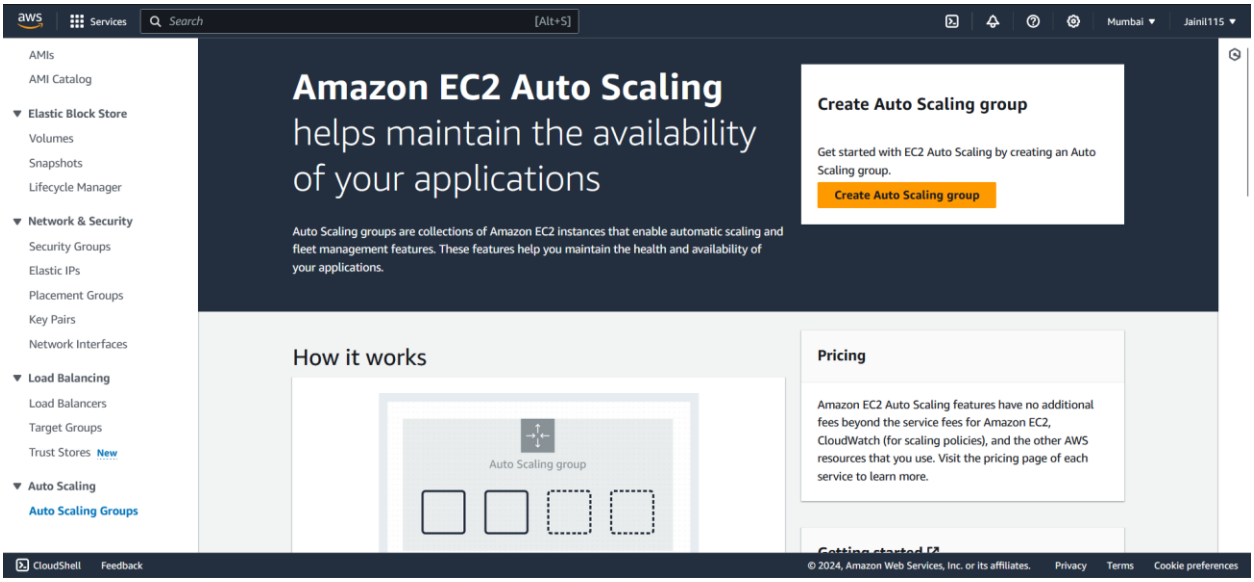
TASK 5: Create an ASG with minimum 1 and maximum 2 instance requirement.

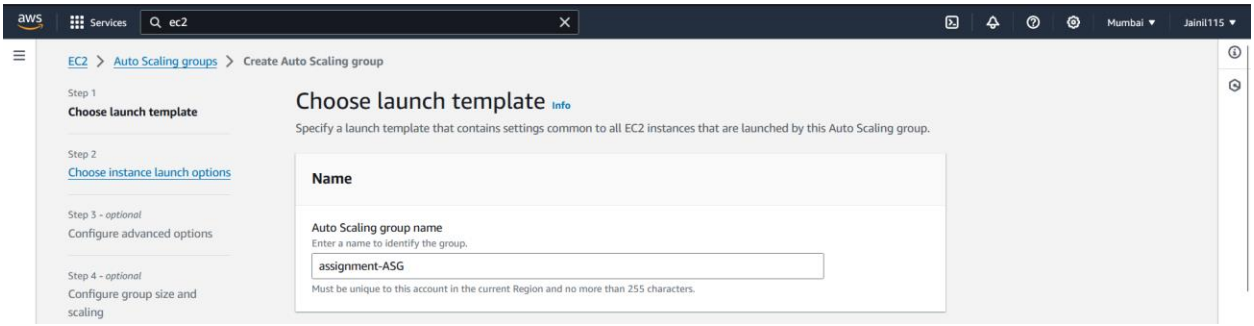
1. **Use "Stress" command for increasing CPU utilization and it should create 2nd instance automatically**

Steps to create Auto Scaling Group:

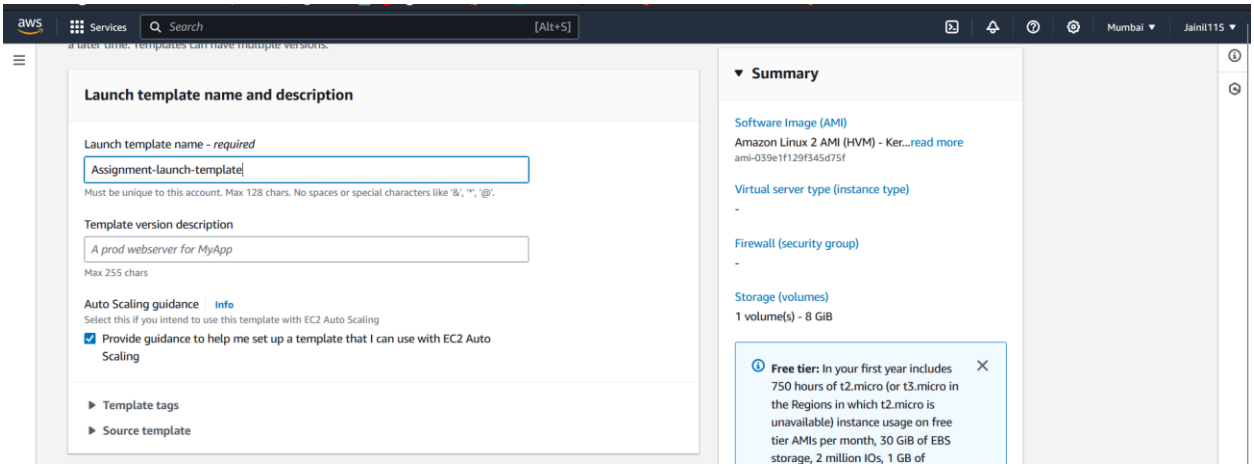
1. Click on Auto Scaling Groups from EC2 Dashboard. Then click on “Create Auto Scaling group”.



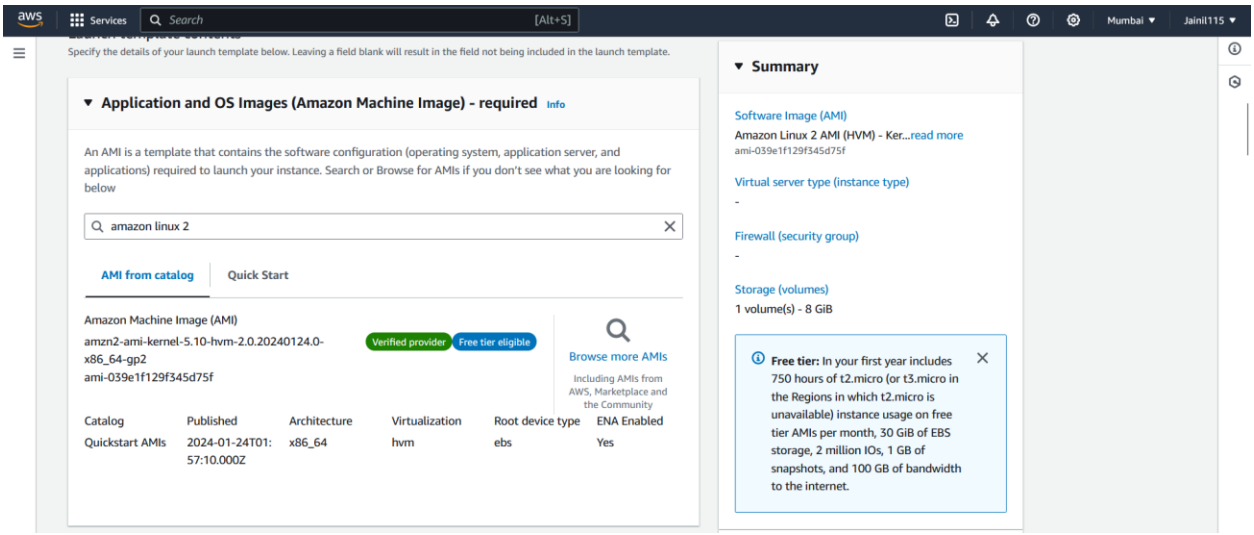
2. Then we need to enter ASG name and then click on “create a launch template”.



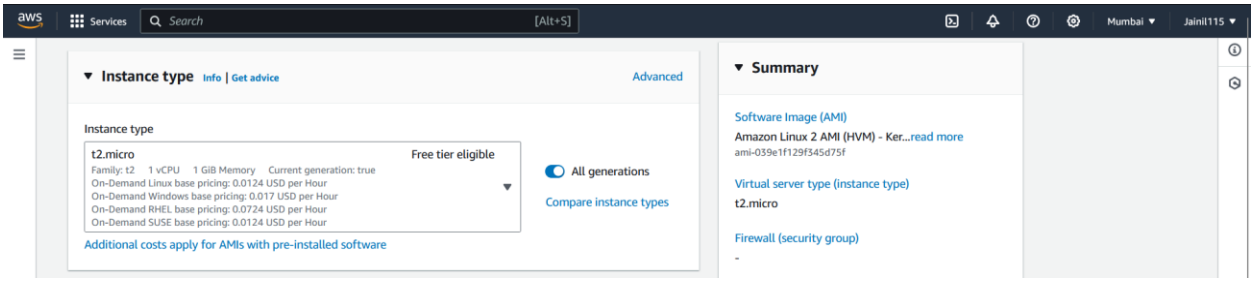
3. Then create launch template by first entering the template name “Assignment-launch-template”



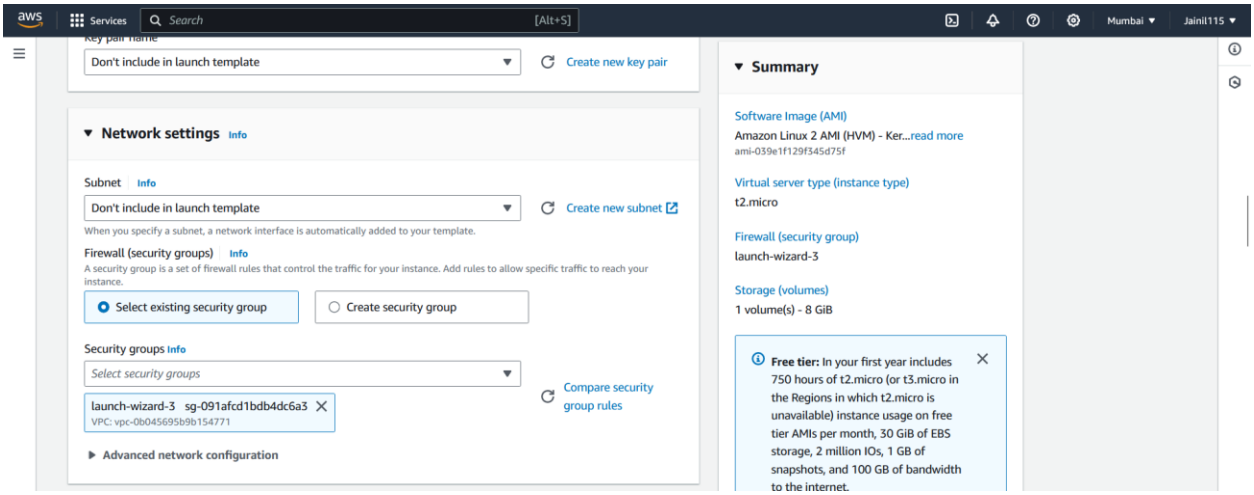
4. Then select Amazon Linux 2 as the AMI.



5. Then select the t2.micro as the instance type.

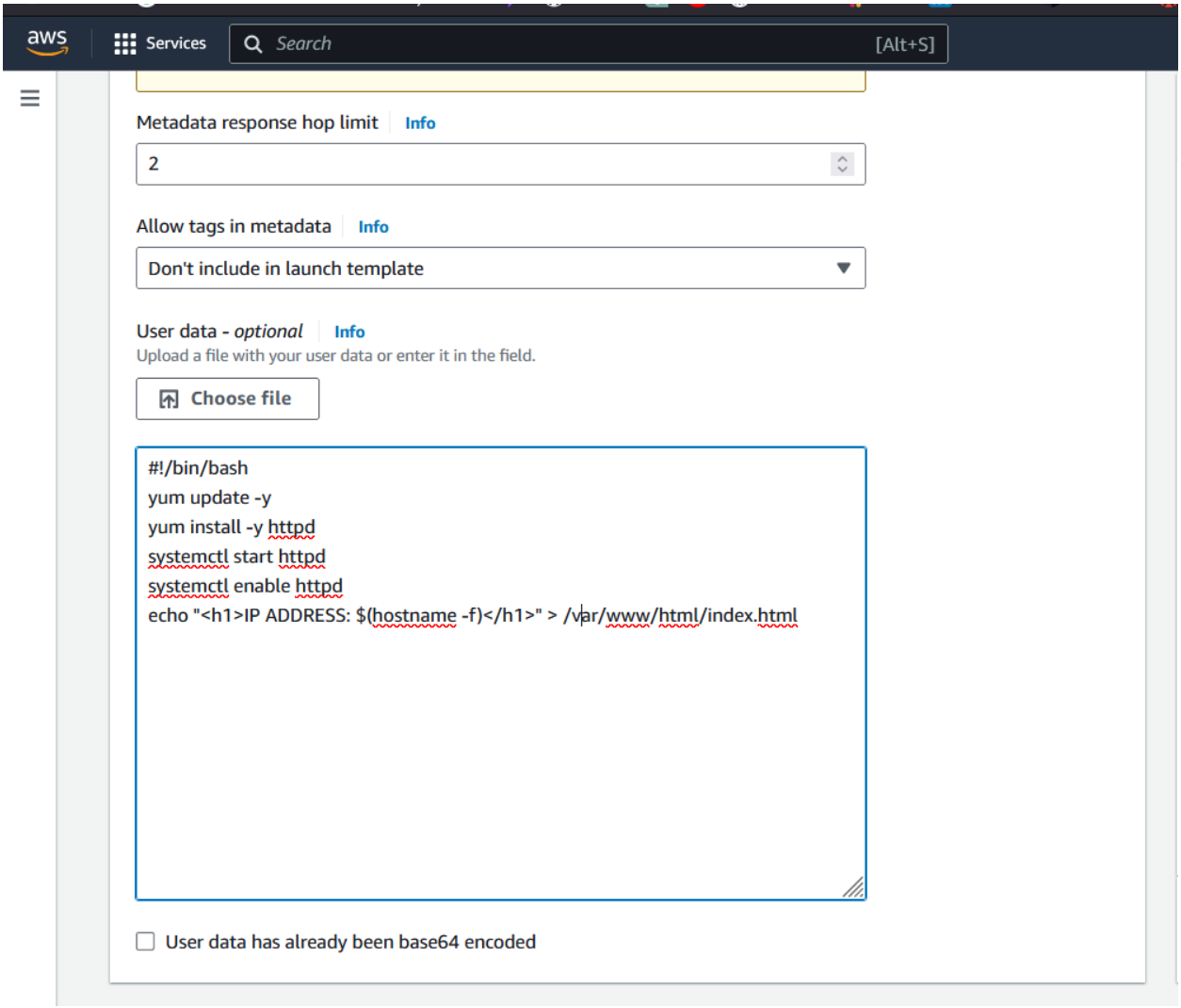


6. No need create key pair for this task, select launch-wizard-3 as the security group.

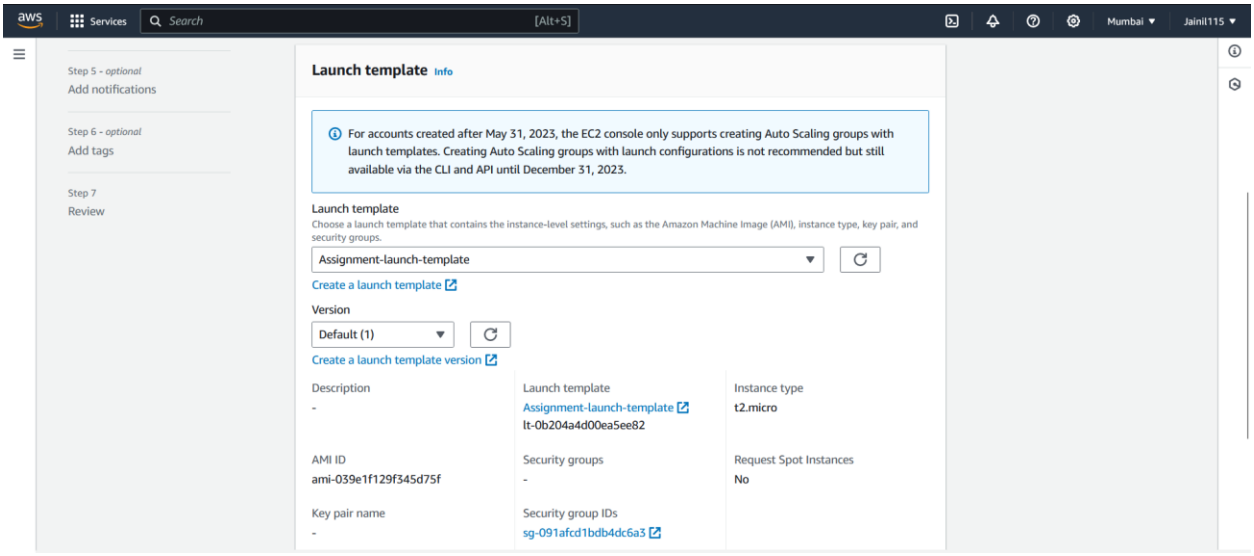


7. Keep everything as default, then add the following as user data:

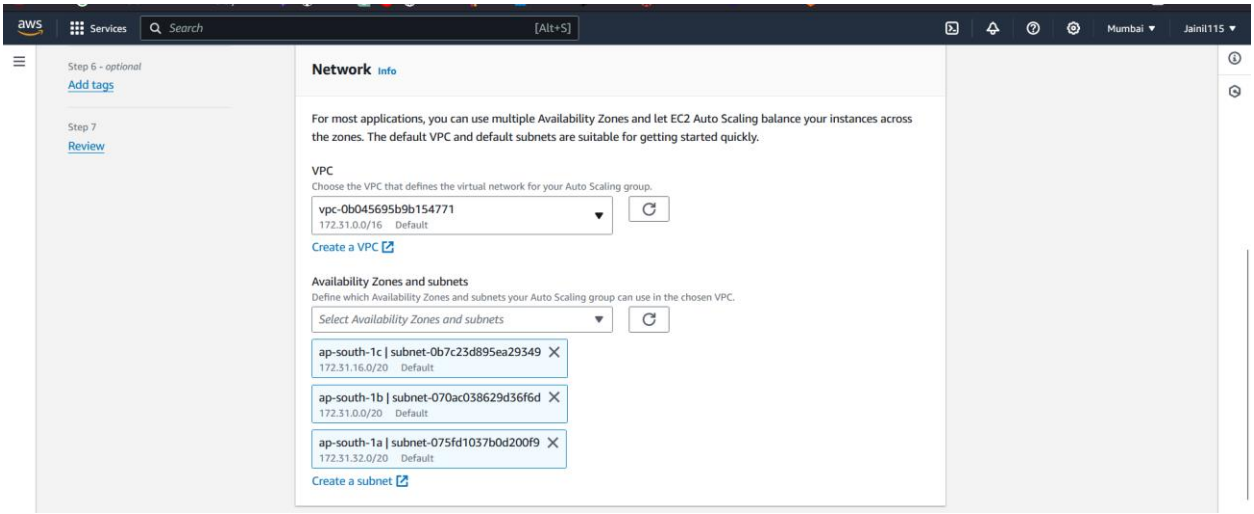
```
#!/bin/bash
yum update -y
yum install -y httpd
systemctl start httpd
systemctl enable httpd
echo "<h1>IP ADDRESS: $(hostname -f)</h1>" >
/var/www/html/index.html
```



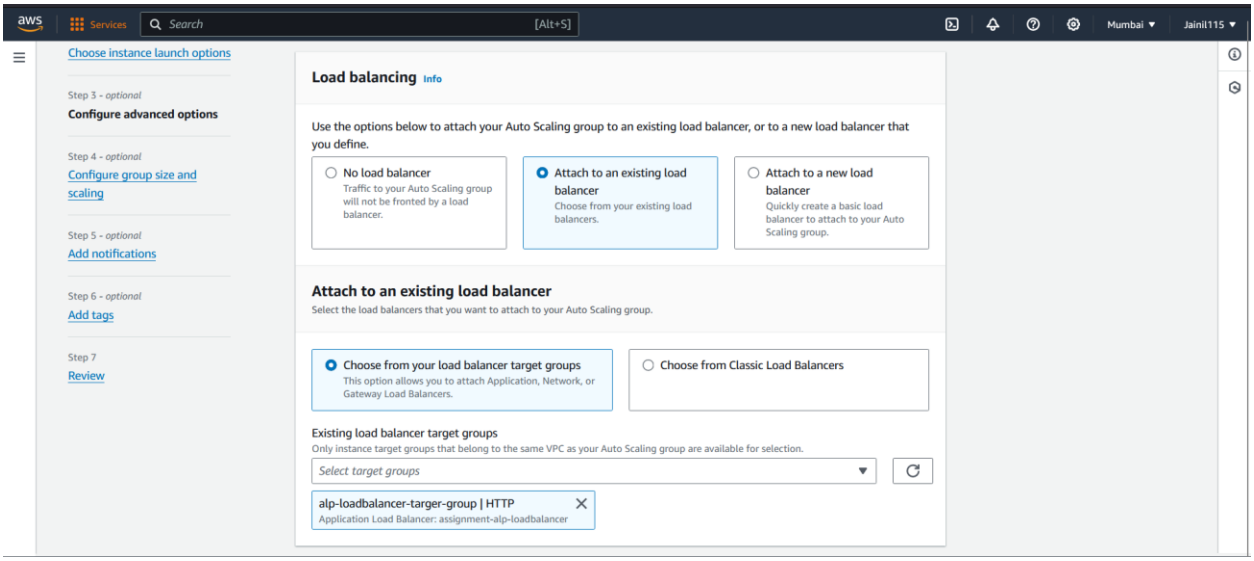
8. Then click on create launch template to create this template, Now select Assignment-launch-template in Launch Template, then click on next.



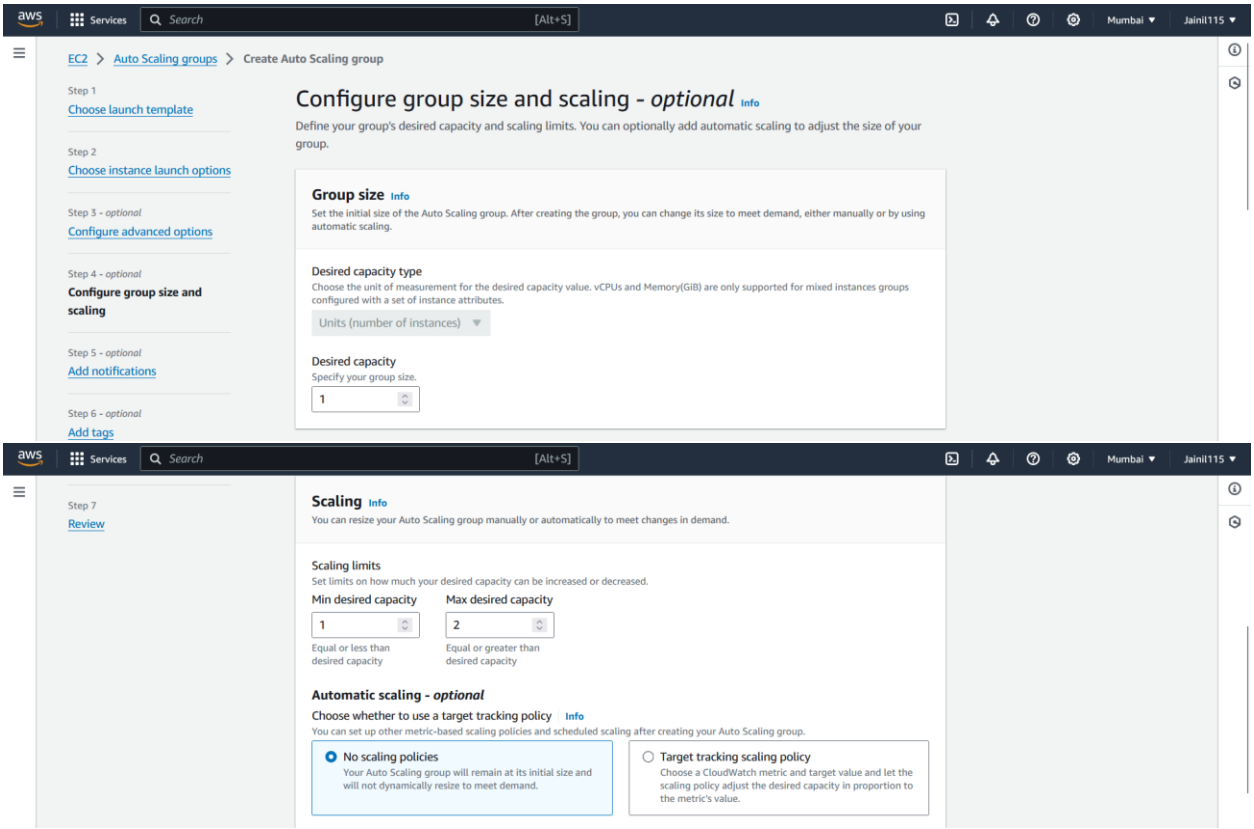
9. Now inside Network select multiple availability zones, Then click on next.

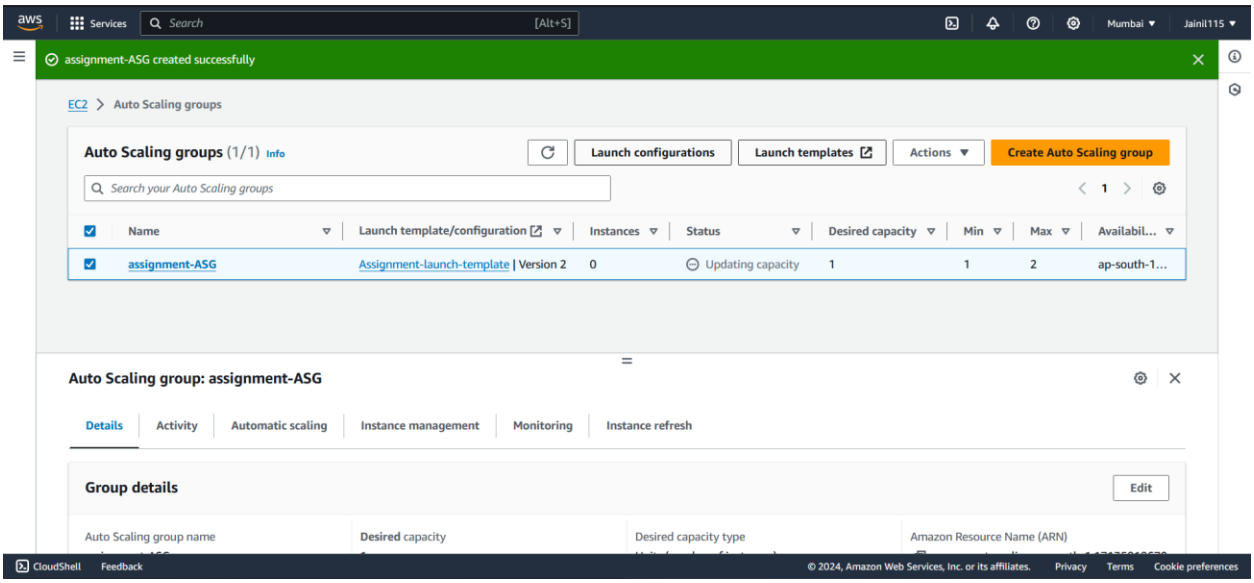


10. Now inside load balancer choose Attach to an existing load balancer. Select alp-loadbalancer-targer-group from existing load balancer groups. Then click on next.



11. Now desired group size should be 1 and set minimum group size to 1 and maximum group size to 2, then click on skip for review. Then click on create Auto Scaling group.





Using stress command:

In order for stress command to work enable ELB and set health update to 10s.

1. To install stress connect to ec2 instance and enter the following command:
   - `sudo amazon-linux-extras install epel`

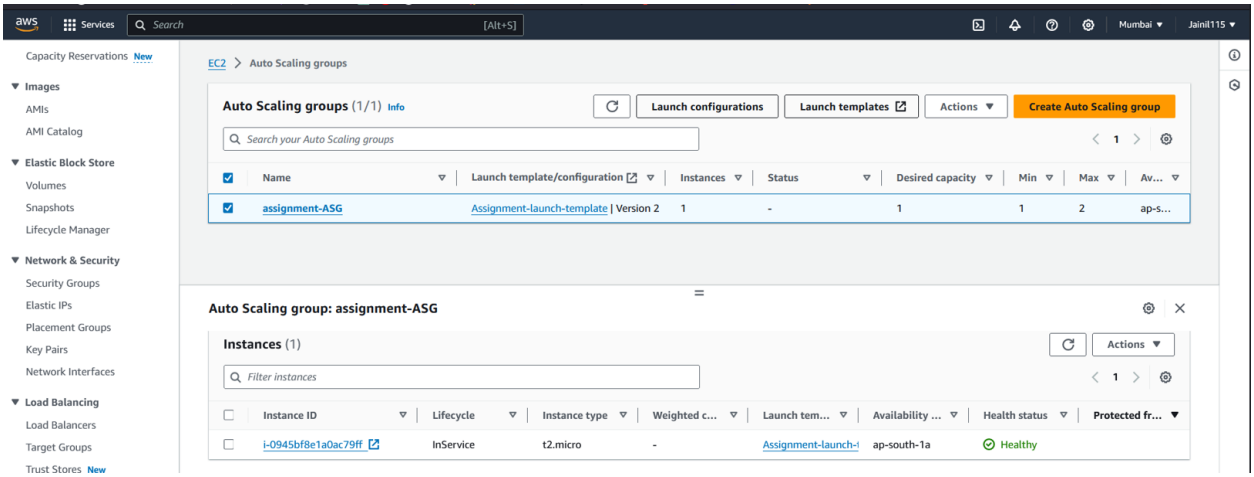
   - `sudo yum install stress`

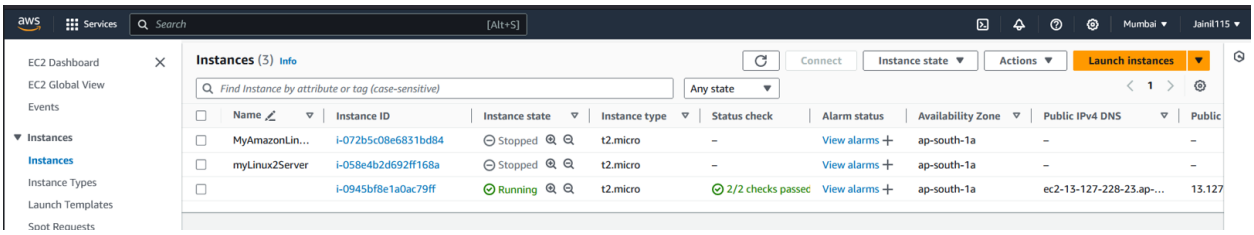
2. To run stress command in order to max out CPU utilization use the following command:

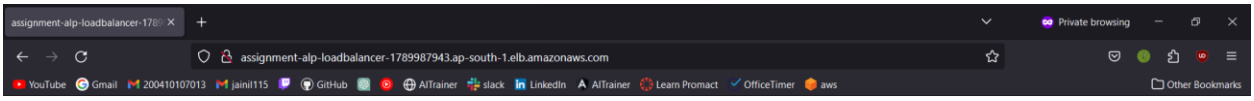
   - `sudo stress --cpu 8000000000000000000 --timeout 120`

Results of stress command:

Before:

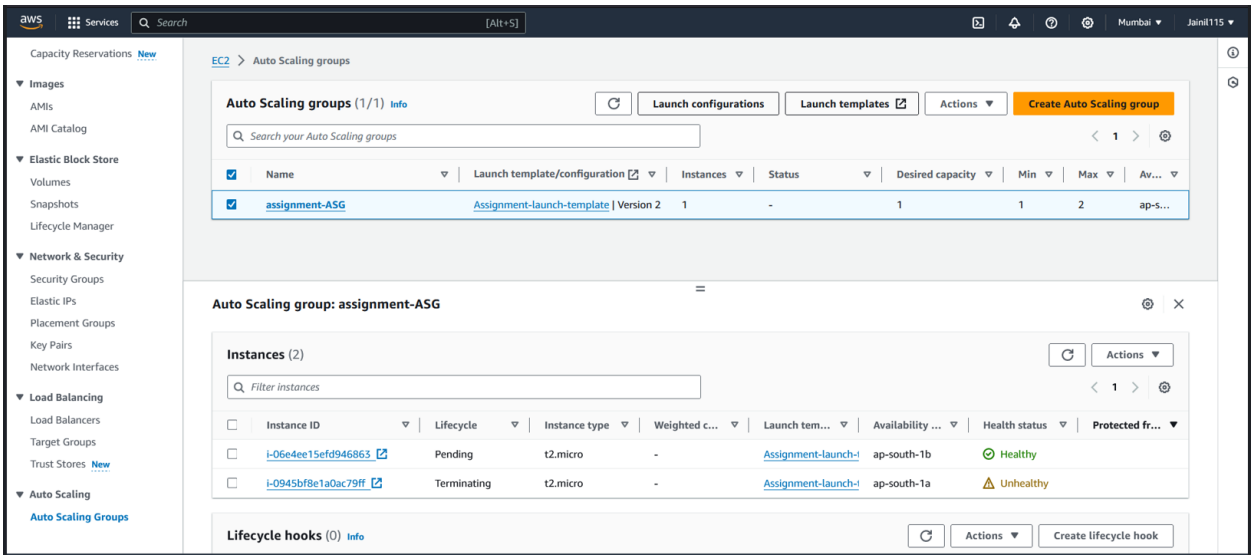


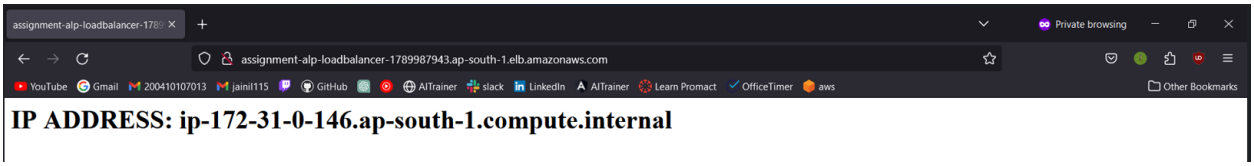


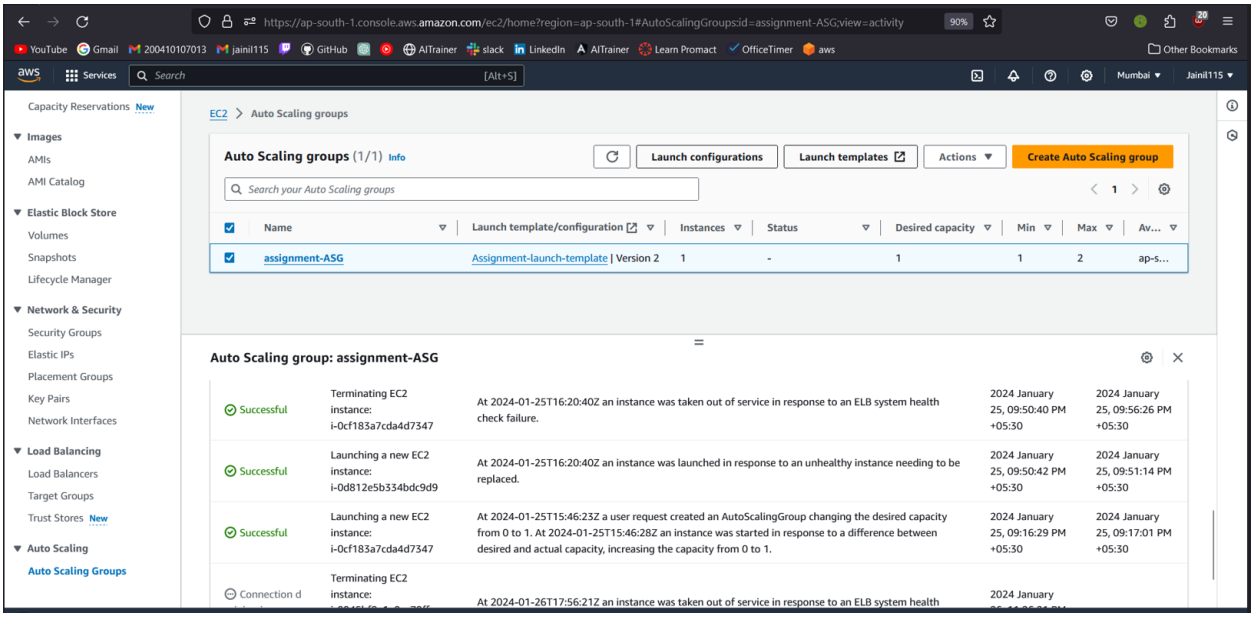


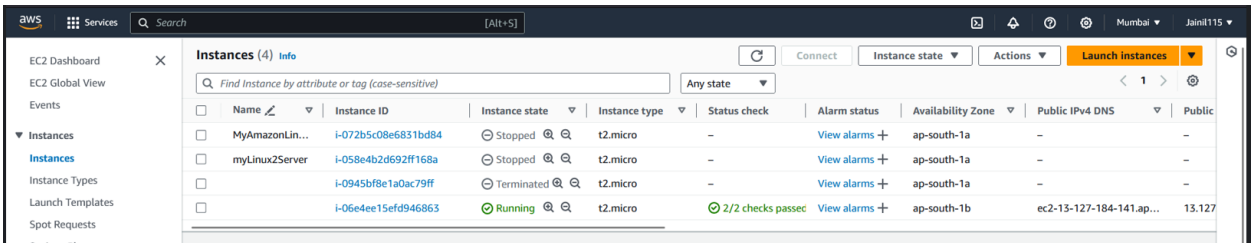
IP ADDRESS: ip-171-31-33-128.ap-south-1.compute.internal

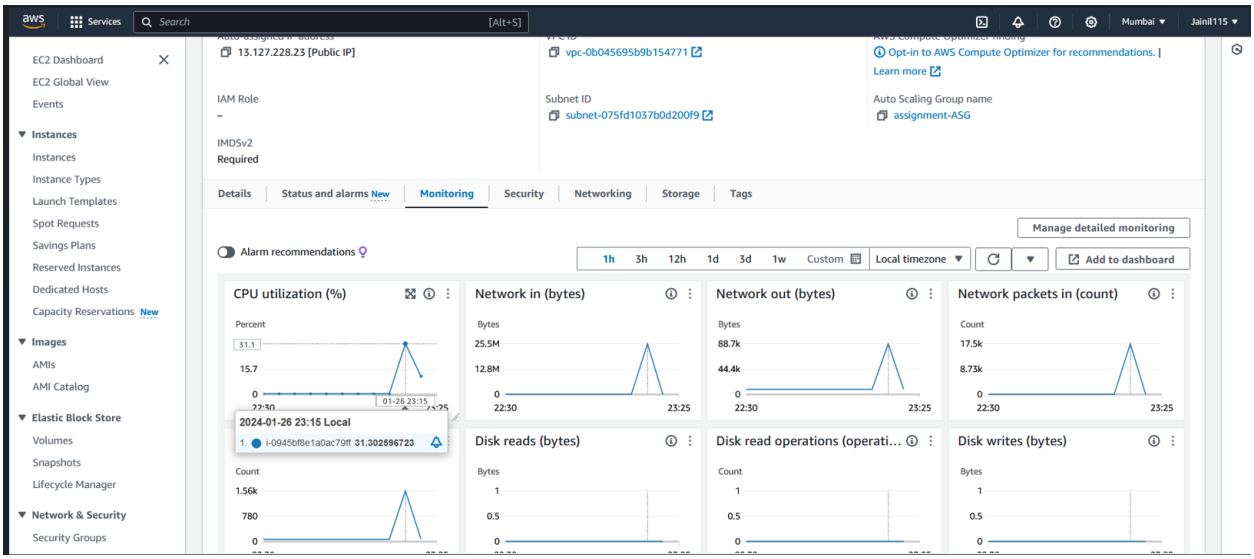
After:


Auto Scaling groups (1/1) Info
Launch configurations
Launch templates
Actions
Create Auto Scaling group
assignment-ASG
Assignment-launch-template | Version 2
Auto Scaling group: assignment-ASG
Instances (2)
i-06e4ee15efd946863
Pending
t2.micro
Healthy
i-0945bf8e1a0ac79ff
Terminating
t2.micro
Unhealthy
Lifecycle hooks (0) Info
Create lifecycle hook


assignment-alp-loadbalancer-1789987943.ap-south-1.elb.amazonaws.com
IP ADDRESS: ip-172-31-0-146.ap-south-1.compute.internal


Auto Scaling group: assignment-ASG
Successful
Terminating EC2 instance: i-0cf183a7cda4d7347
At 2024-01-25T16:20:40Z an instance was taken out of service in response to an ELB system health check failure.
Successful
Launching a new EC2 instance: i-0d812e5b334bdc9d9
At 2024-01-25T16:20:40Z an instance was launched in response to an unhealthy instance needing to be replaced.
Successful
Launching a new EC2 instance: i-0cf183a7cda4d7347
At 2024-01-25T15:46:23Z a user request created an AutoScalingGroup changing the desired capacity from 0 to 1. At 2024-01-25T15:46:28Z an instance was started in response to a difference between desired and actual capacity, increasing the capacity from 0 to 1.


Instances (4) Info
Launch instances
MyAmazonLin...
i-072b5c08e6831bd84
Stopped
t2.micro
myLinux2Server
i-058e4b2d692ff168a
Stopped
t2.micro
i-0945bf8e1a0ac79ff
Terminated
t2.micro
i-06e4ee15efd946863
Running
t2.micro
2/2 checks passed


aws
Services
Search
[Alt+S]
Mumbai
Jainil115
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
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
13.127.228.23 [Public IP]
vpc-0b045695b9b154771
Opt-in to AWS Compute Optimizer for recommendations. |
Learn more
IAM Role
–
Subnet ID
subnet-075fd1037b0d200f9
Auto Scaling Group name
assignment-ASG
IMDSv2
Required
Details
Status and alarms New
Monitoring
Security
Networking
Storage
Tags
Manage detailed monitoring
Alarm recommendations
1h
3h
12h
1d
3d
1w
Custom
Local timezone
Add to dashboard
CPU utilization (%)
Percent
31.1
15.7
0
22:30
01-26 23:15
2024-01-26 23:15 Local
i-0945bf8e1a0ac79ff 31.302596723
Count
1.56k
780
0
Network in (bytes)
Bytes
25.5M
12.8M
0
22:30
23:25
Network out (bytes)
Bytes
88.7k
44.4k
0
22:30
23:25
Network packets in (count)
Count
17.5k
8.73k
0
22:30
23:25
Disk reads (bytes)
Bytes
1
0.5
0
Disk read operations (operati...
Count
1
0.5
0
Disk writes (bytes)
Bytes
1
0.5
0