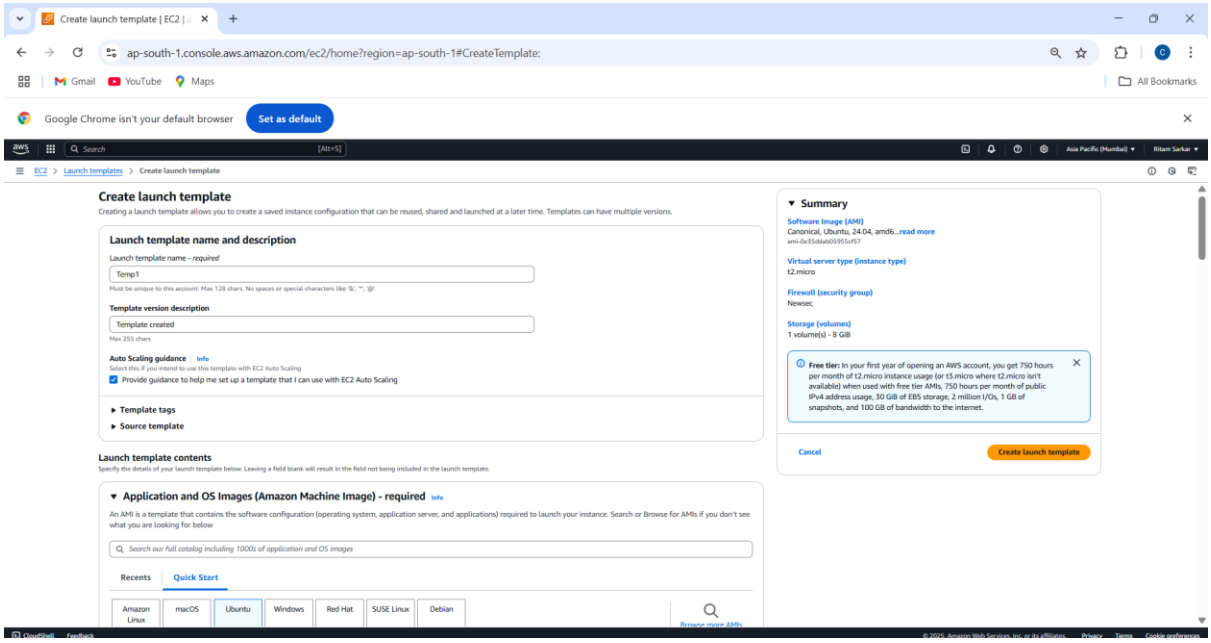
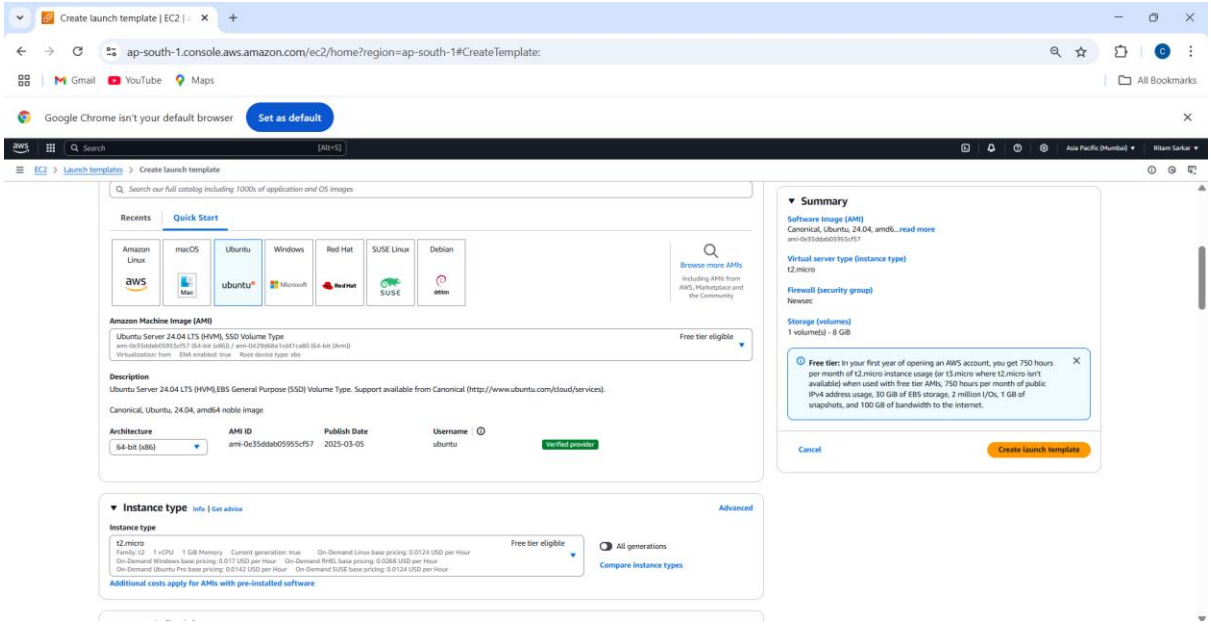
Assignment-11:Build scaling plans in AWS that balance the load on different EC2 instance.

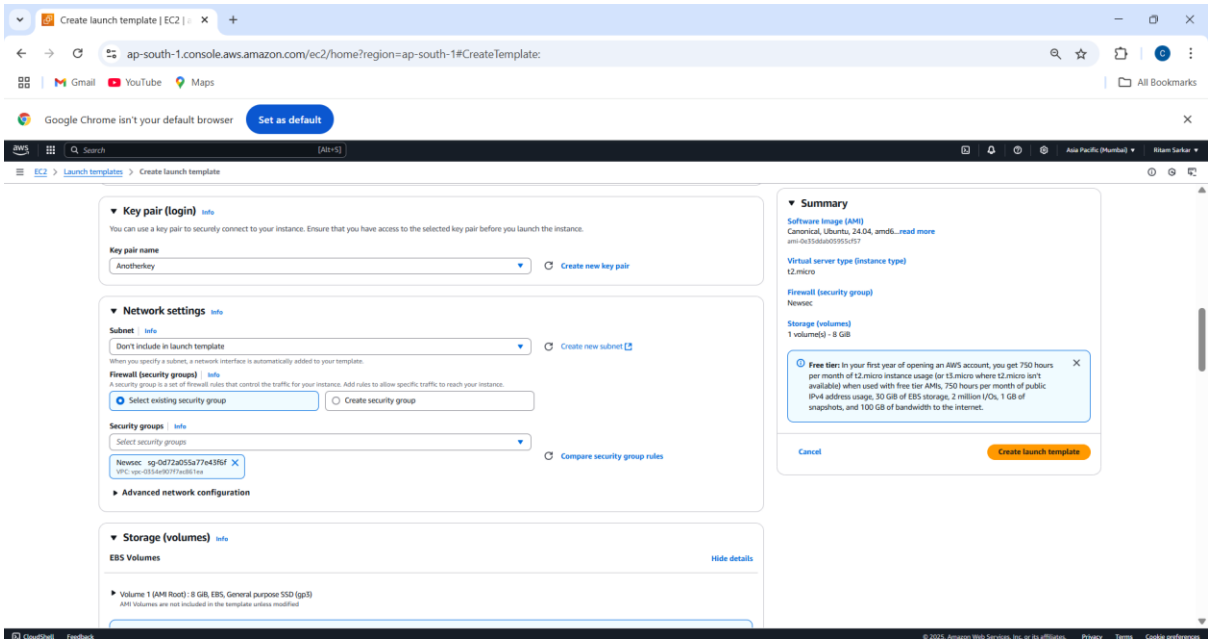
Step-1:Signing in to the AWS Management console,go to lauch template.A template name should be given along with a description and the auto-scaling option is to be checked.Then ubuntu is selected from quickstart.

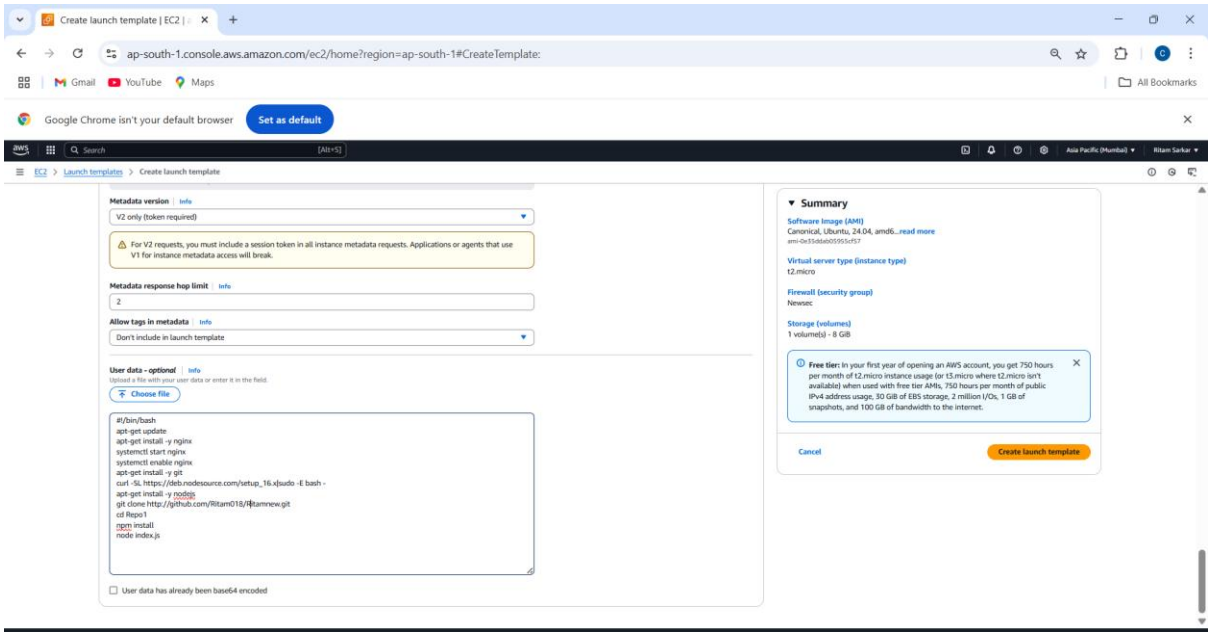


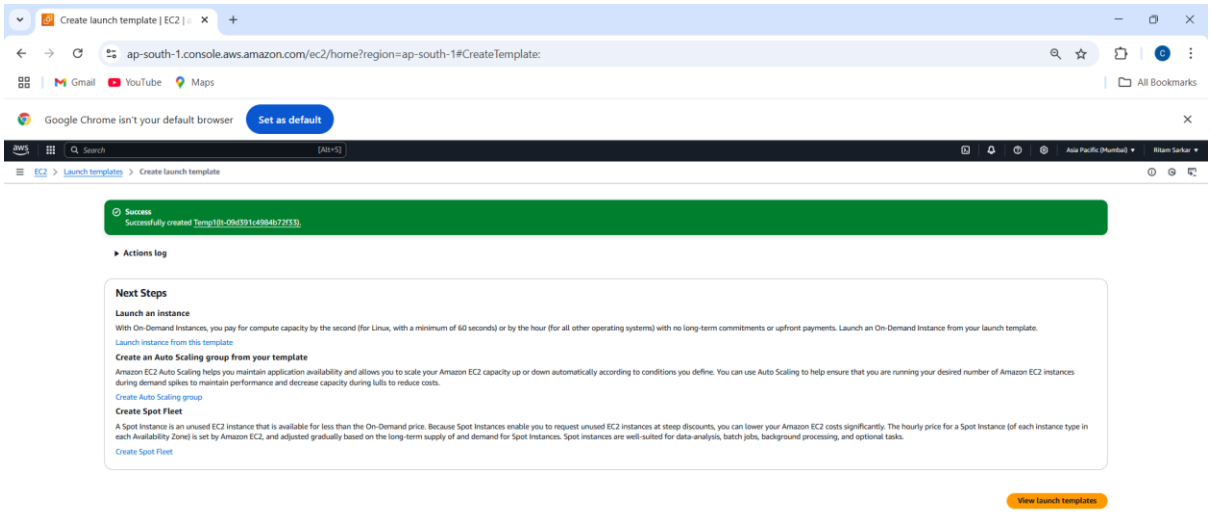

Step-2:Instance type is selected as t2.micro.




Step-3:A key-pair is selected along with the secuirity group and the user data is given.Create launch template is selected to create a new template.


Create launch template | EC2 |
ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateTemplate:
Gmail
YouTube
Maps
All Bookmarks
Google Chrome isn't your default browser
Set as default
Search
[Alt+S]
Asia Pacific (Mumbai)
Ritam Sarkar
EC2 > Launch templates > Create launch template
Key pair (login) Info
You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.
Key pair name
Anotherkey
Create new key pair
Network settings Info
Subnet Info
Don't include in launch template
Create new subnet
When you specify a subnet, a network interface is automatically added to your template.
Firewall (security groups) Info
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.
Select existing security group
Create security group
Security groups Info
Select security groups
Newsec sg-0d72a055a77e43f6f
VPC: vpc-0354e907f7ac861ea
Compare security group rules
Advanced network configuration
Storage (volumes) Info
EBS Volumes
Hide details
Volume 1 (AMI Root) : 8 GiB, EBS, General purpose SSD (gp3)
AMI Volumes are not included in the template unless modified
Summary
Software Image (AMI)
Canonical, Ubuntu, 24.04, amd6...read more
ami-0e35ddab05955cf57
Virtual server type (instance type)
t2.micro
Firewall (security group)
Newsec
Storage (volumes)
1 volume(s) - 8 GiB
Free tier: In your first year of opening an AWS account, you get 750 hours per month of t2.micro instance usage (or t3.micro where t2.micro isn't available) when used with free tier AMIs, 750 hours per month of public IPv4 address usage, 30 GB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.
Cancel
Create launch template
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


Create launch template | EC2 |
ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateTemplate:
Gmail
YouTube
Maps
All Bookmarks
Google Chrome isn't your default browser
Set as default
Search
[Alt+S]
Asia Pacific (Mumbai)
Ritam Sarkar
EC2 > Launch templates > Create launch template
Metadata version Info
V2 only (token required)
For V2 requests, you must include a session token in all instance metadata requests. Applications or agents that use V1 for instance metadata access will break.
Metadata response hop limit Info
2
Allow tags in metadata Info
Don't include in launch template
User data - optional Info
Upload a file with your user data or enter it in the field.
Choose file
#!/bin/bash
apt-get update
apt-get install -y nginx
systemctl start nginx
systemctl enable nginx
apt-get install -y git
curl -SL https://deb.nodesource.com/setup_16.x|sudo -E bash -
apt-get install -y nodejs
git clone http://github.com/Ritam018/Ritamnew.git
cd Repo1
npm install
node index.js
User data has already been base64 encoded
Summary
Software Image (AMI)
Canonical, Ubuntu, 24.04, amd6...read more
ami-0e35ddab05955cf57
Virtual server type (instance type)
t2.micro
Firewall (security group)
Newsec
Storage (volumes)
1 volume(s) - 8 GiB
Free tier: In your first year of opening an AWS account, you get 750 hours per month of t2.micro instance usage (or t3.micro where t2.micro isn't available) when used with free tier AMIs, 750 hours per month of public IPv4 address usage, 30 GB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.
Cancel
Create launch template

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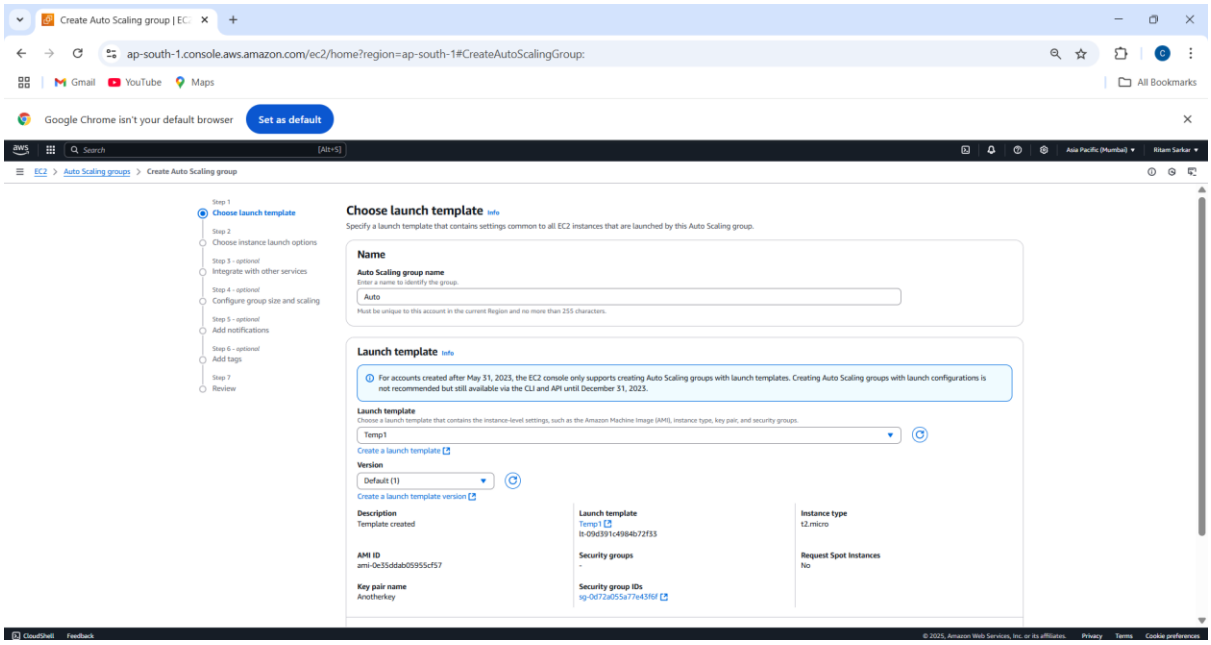
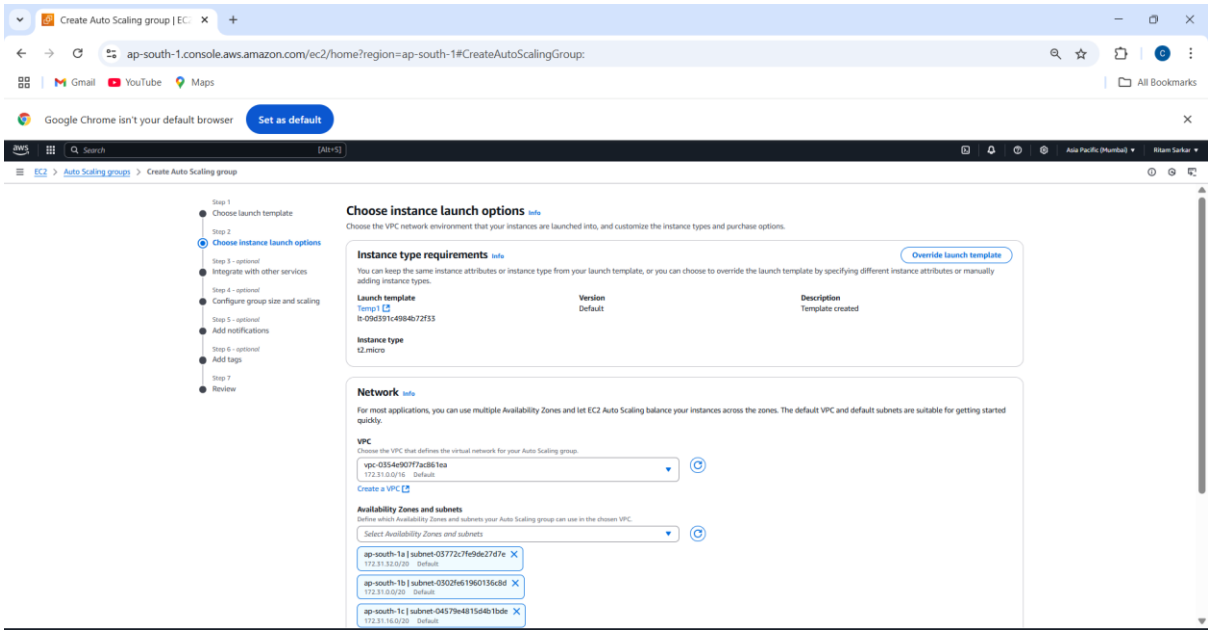
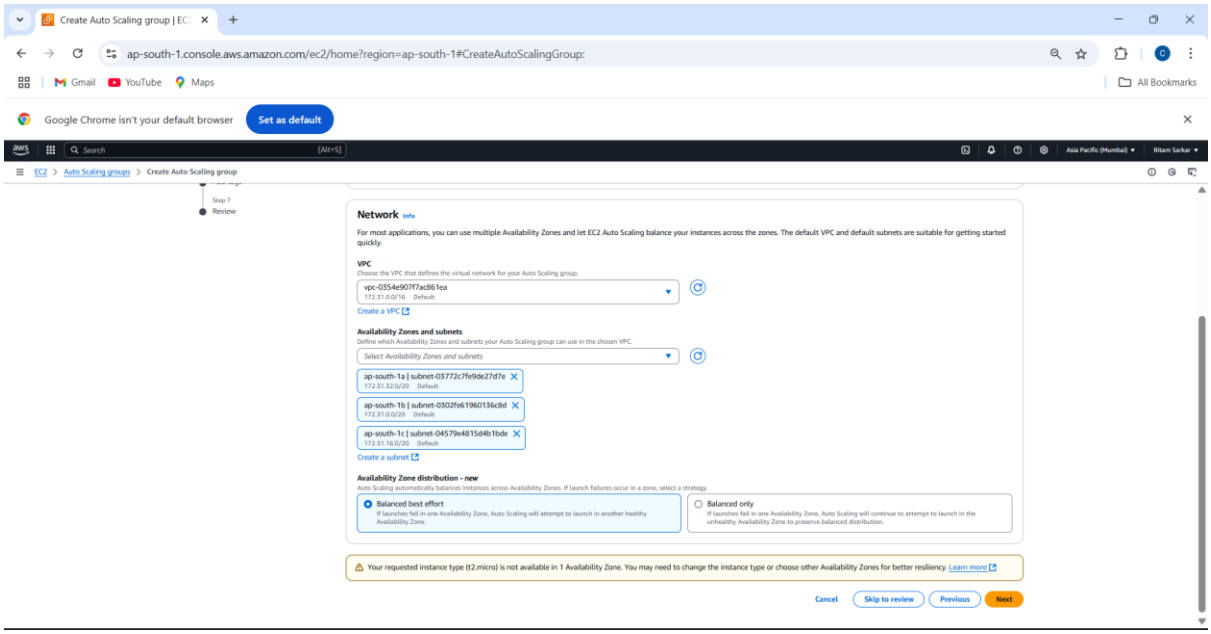
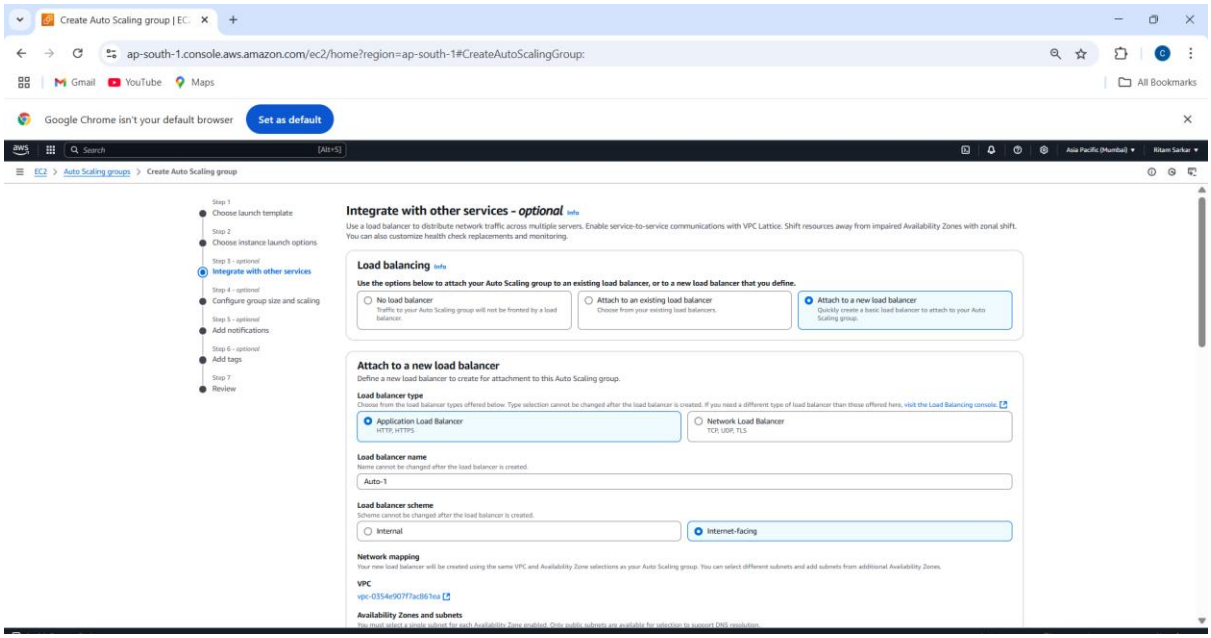
Step-4:Auto-scaling group is reached ,a name is given,template is selected,zones are selected,along with Balanced best effort.

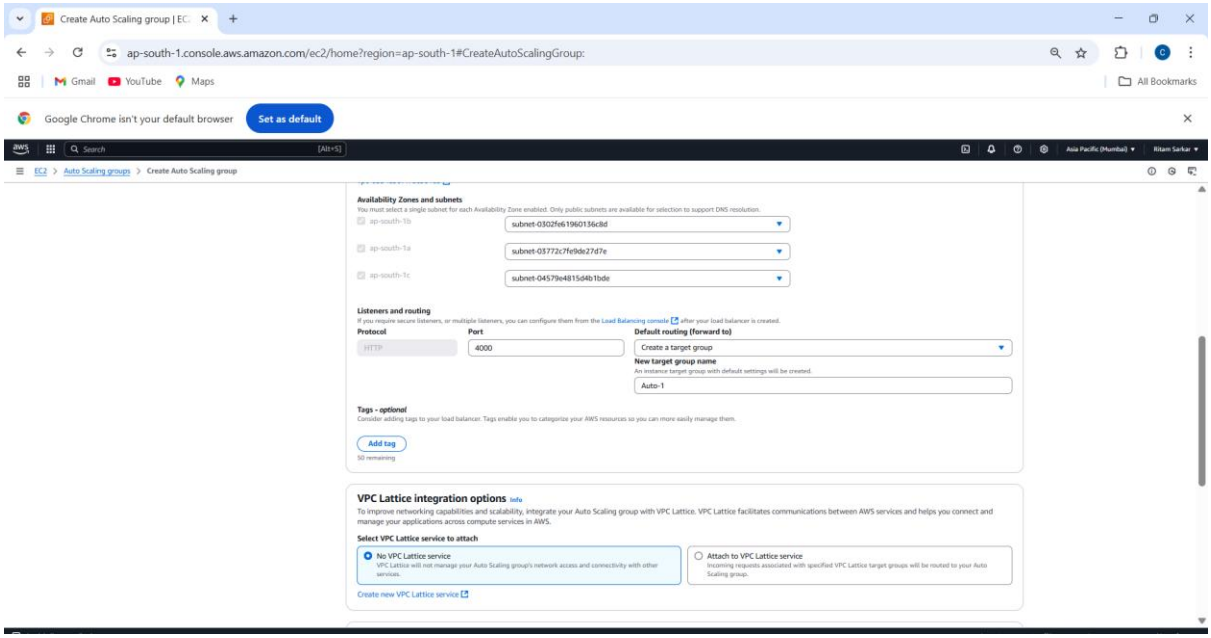


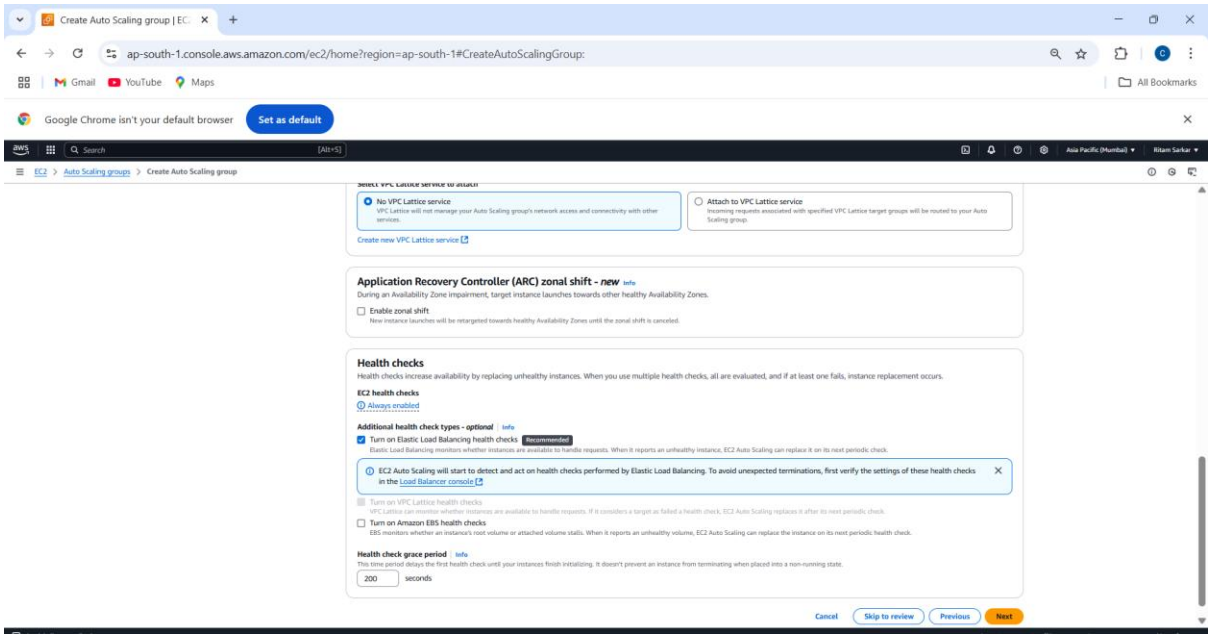


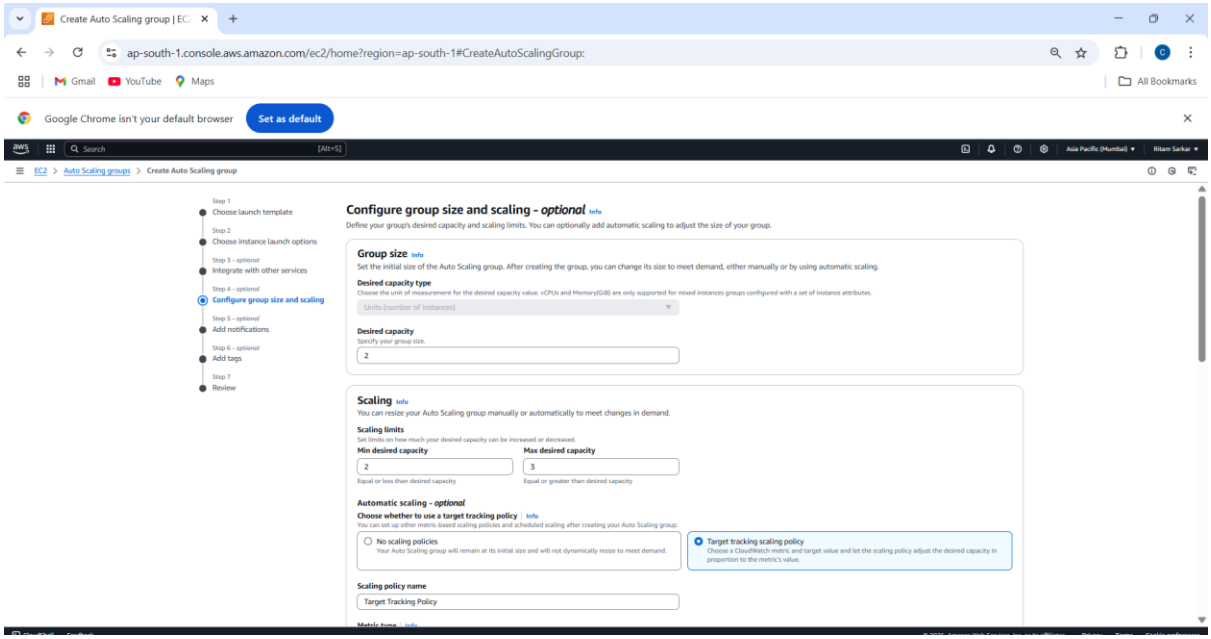

Step-5:On the next page,attach to a new load balancer is selected along with Internet-facing as the load balancer scheme.Additional health check types is enabled.

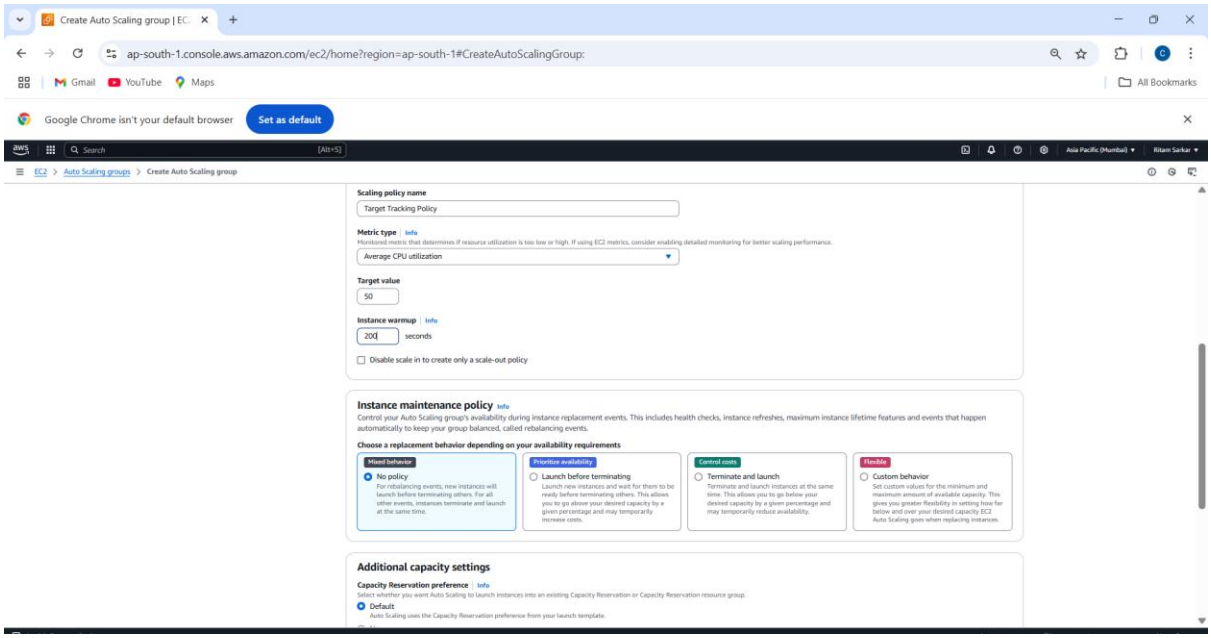

Create Auto Scaling group | EC2
ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateAutoScalingGroup:
Gmail
YouTube
Maps
All Bookmarks
Google Chrome isn't your default browser
Set as default
EC2 > Auto Scaling groups > Create Auto Scaling group
Step 1
Choose launch template
Step 2
Choose 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.
Attach to a new load balancer
Define a new load balancer to create for attachment to this Auto Scaling group.
Load balancer type
Choose from the load balancer types offered below. Type selection cannot be changed after the load balancer is created. If you need a different type of load balancer than those offered here, visit the Load Balancing console.
Application Load Balancer
HTTP, HTTPS
Network Load Balancer
TCP, UDP, TLS
Load balancer name
Name cannot be changed after the load balancer is created.
Auto-1
Load balancer scheme
Scheme cannot be changed after the load balancer is created.
Internal
Internet-facing
Network mapping
Your new load balancer will be created using the same VPC and Availability Zone selections as your Auto Scaling group. You can select different subnets and add subnets from additional Availability Zones.
VPC
vpc-0354e907f7ac861ea
Availability Zones and subnets

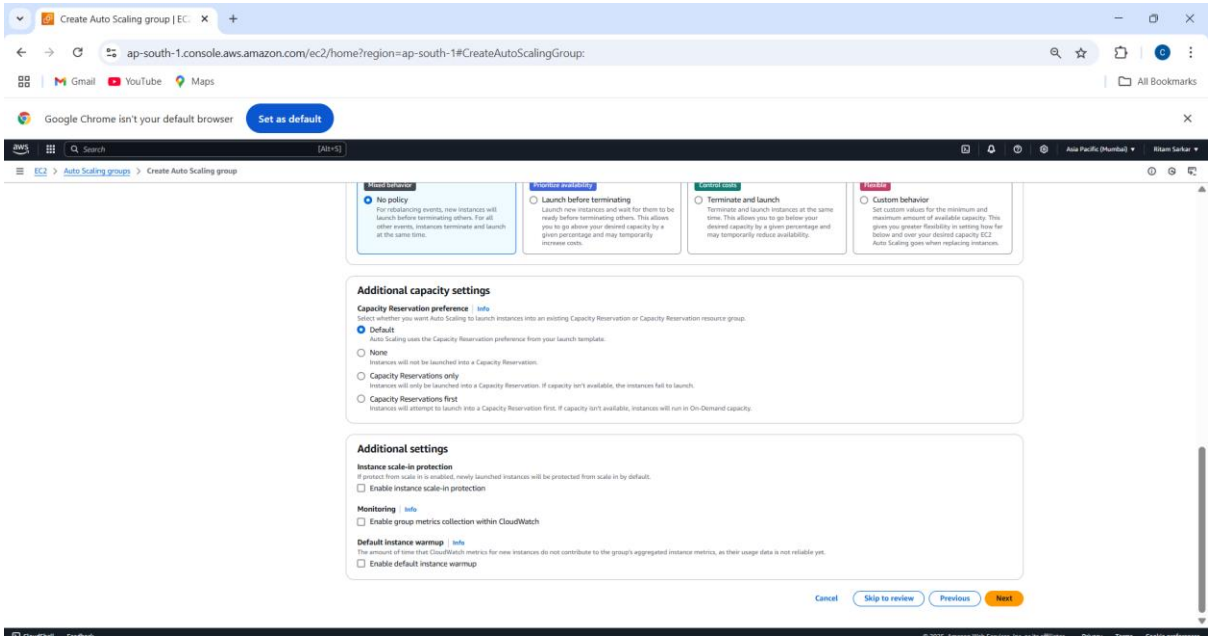

Create Auto Scaling group | EC2
ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateAutoScalingGroup:
Gmail
YouTube
Maps
All Bookmarks
Google Chrome isn't your default browser
Set as default
EC2 > Auto Scaling groups > Create Auto Scaling group
Availability Zones and subnets
You must select a single subnet for each Availability Zone enabled. Only public subnets are available for selection to support DNS resolution.
ap-south-1b
subnet-0302fe61960136c8d
ap-south-1a
subnet-03772c7fe9de27d7e
ap-south-1c
subnet-04579e4815d4b1bde
Listeners and routing
If you require secure listeners, or multiple listeners, you can configure them from the Load Balancing console after your load balancer is created.
Protocol
Port
Default routing (forward to)
HTTP
4000
Create a target group
New target group name
An instance target group with default settings will be created.
Auto-1
Tags - optional
Consider adding tags to your load balancer. Tags enable you to categorize your AWS resources so you can more easily manage them.
Add tag
50 remaining
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

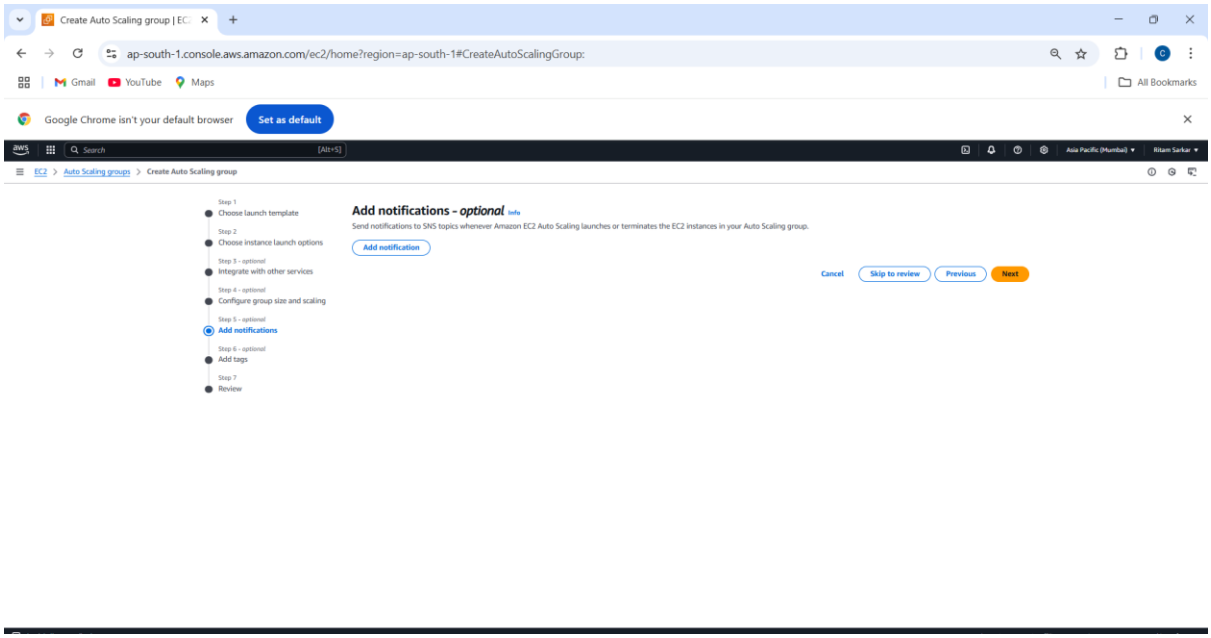


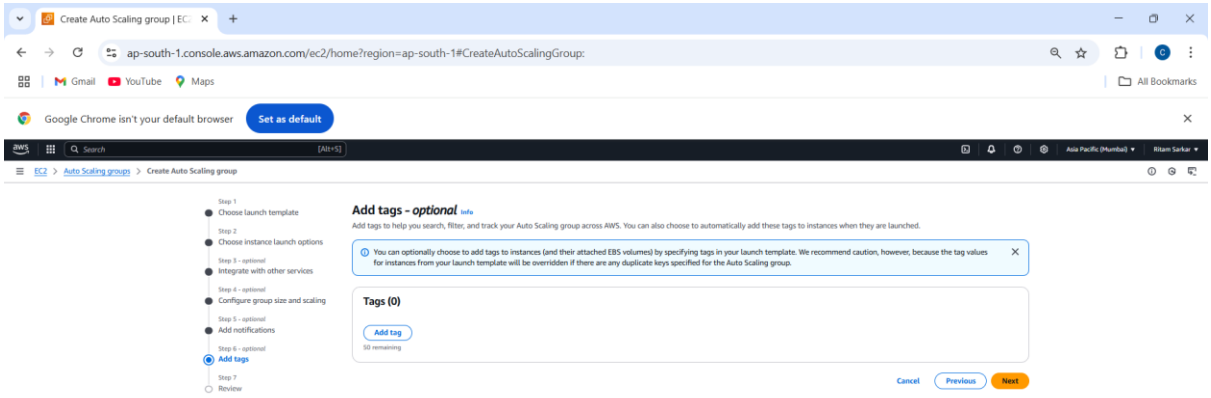

Step-6:In configure group and scaling,desired capacity is selected as 2,along with min value as 2 and max as 3.Target tracking scaling policy is selected.Instance warmup is set for 200 sec.

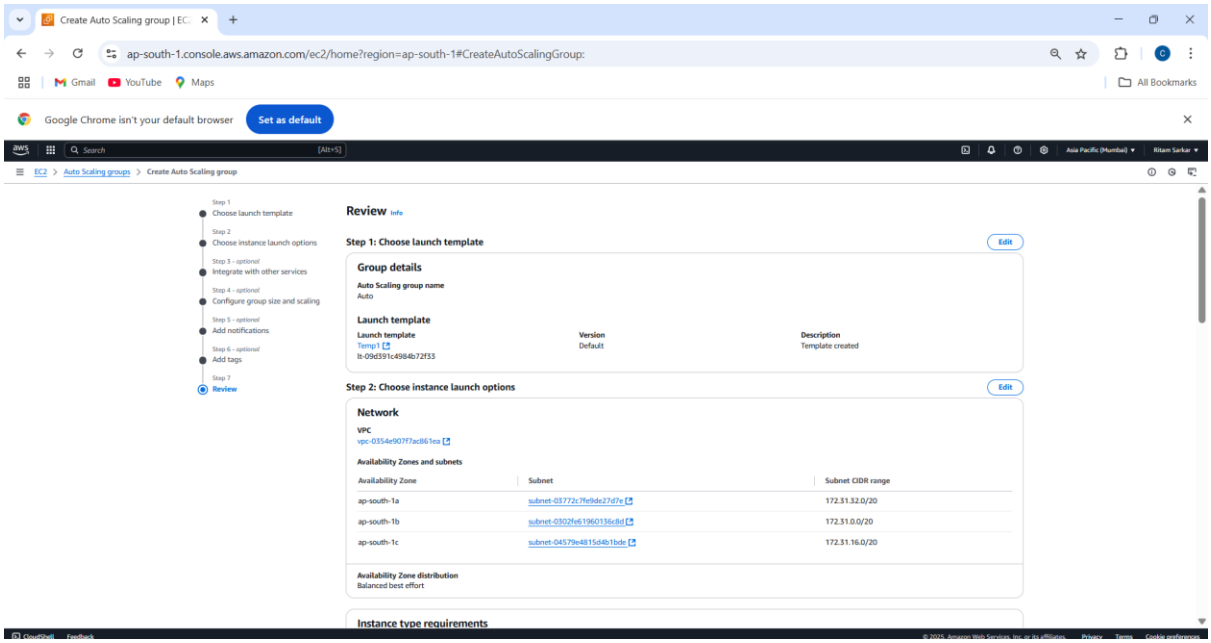



Create Auto Scaling group | EC2
ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateAutoScalingGroup:
Gmail
YouTube
Maps
All Bookmarks
Google Chrome isn't your default browser
Set as default
EC2 > Auto Scaling groups > Create Auto Scaling group
Scaling policy name
Target Tracking Policy
Metric type | Info
Average CPU utilization
Target value
50
Instance warmup | Info
200
seconds
Disable scale in to create only a scale-out policy
Instance maintenance policy Info
Control your Auto Scaling group's availability during instance replacement events. This includes health checks, instance refreshes, maximum instance lifetime features and events that happen automatically to keep your group balanced, called rebalancing events.
Choose a replacement behavior depending on your availability requirements
Mixed behavior
No policy
Prioritize availability
Launch before terminating
Control costs
Terminate and launch
Flexible
Custom behavior
Additional capacity settings
Capacity Reservation preference | Info
Default

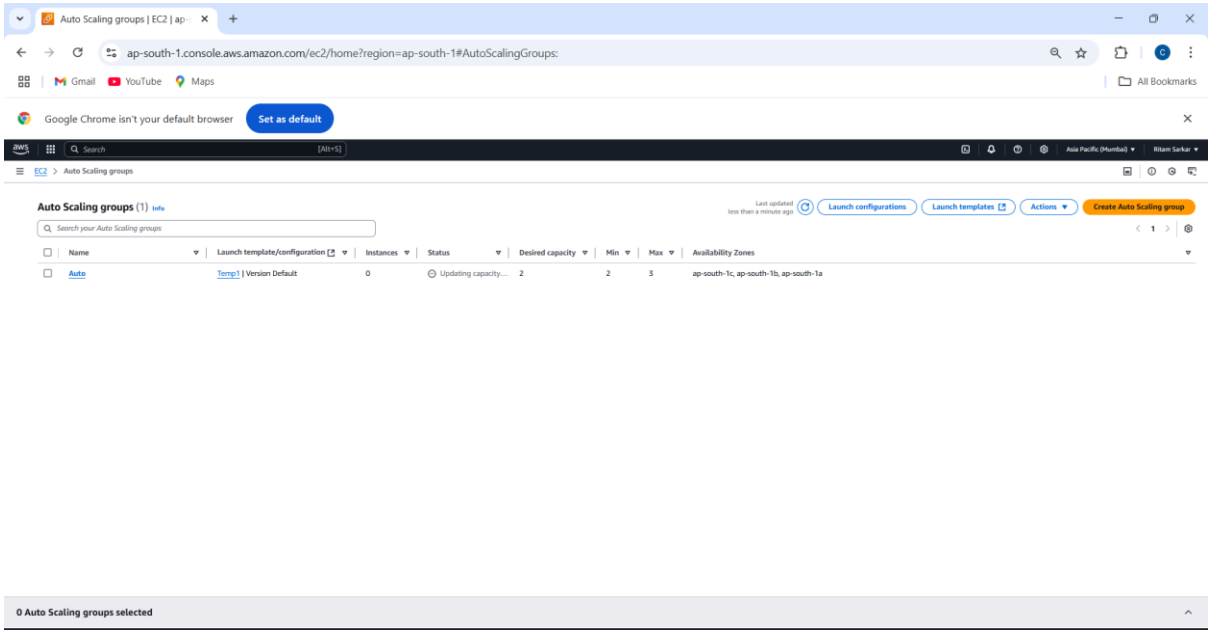

Create Auto Scaling group | EC2
ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateAutoScalingGroup:
Gmail
YouTube
Maps
All Bookmarks
Google Chrome isn't your default browser
Set as default
EC2 > Auto Scaling groups > Create Auto Scaling group
No policy
Launch before terminating
Terminate and launch
Custom behavior
Additional capacity settings
Capacity Reservation preference | Info
Default
Auto Scaling uses the Capacity Reservation preference from your launch template.
None
Instances will not be launched into a Capacity Reservation.
Capacity Reservations only
Capacity Reservations first
Additional settings
Instance scale-in protection
Enable instance scale-in protection
Monitoring | Info
Enable group metrics collection within CloudWatch
Default instance warmup | Info
Enable default instance warmup
Cancel
Skip to review
Previous
Next

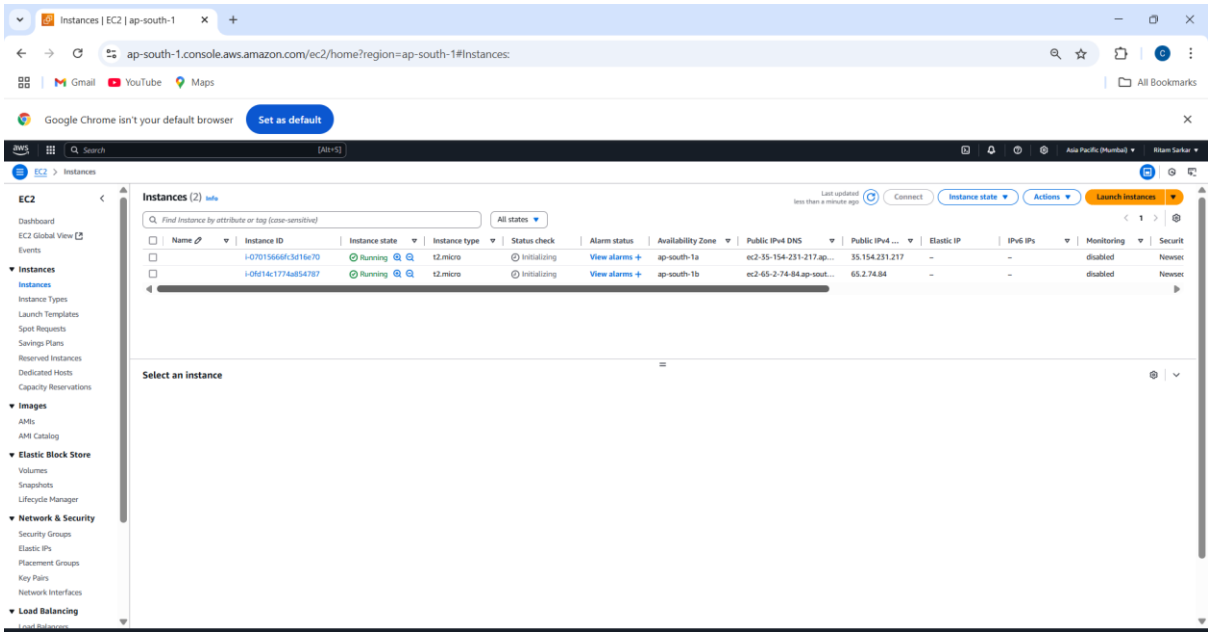

Create Auto Scaling group | EC
ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateAutoScalingGroup:
Gmail
YouTube
Maps
All Bookmarks
Google Chrome isn't your default browser
Set as default
Search
[Alt+S]
Asia Pacific (Mumbai)
Ritam Sarkar
EC2 > Auto Scaling groups > Create Auto Scaling group
Step 1
Choose launch template
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
Add notifications - optional
Info
Send notifications to SNS topics whenever Amazon EC2 Auto Scaling launches or terminates the EC2 instances in your Auto Scaling group.
Add notification
Cancel
Skip to review
Previous
Next


Create Auto Scaling group | EC
ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#CreateAutoScalingGroup:
Gmail
YouTube
Maps
All Bookmarks
Google Chrome isn't your default browser
Set as default
Search
[Alt+S]
Asia Pacific (Mumbai)
Ritam Sarkar
EC2 > Auto Scaling groups > Create Auto Scaling group
Step 1
Choose launch template
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
Add tags - optional
Info
Add tags to help you search, filter, and track your Auto Scaling group across AWS. You can also choose to automatically add these tags to instances when they are launched.
You can optionally choose to add tags to instances (and their attached EBS volumes) by specifying tags in your launch template. We recommend caution, however, because the tag values for instances from your launch template will be overridden if there are any duplicate keys specified for the Auto Scaling group.
Tags (0)
Add tag
50 remaining
Cancel
Previous
Next

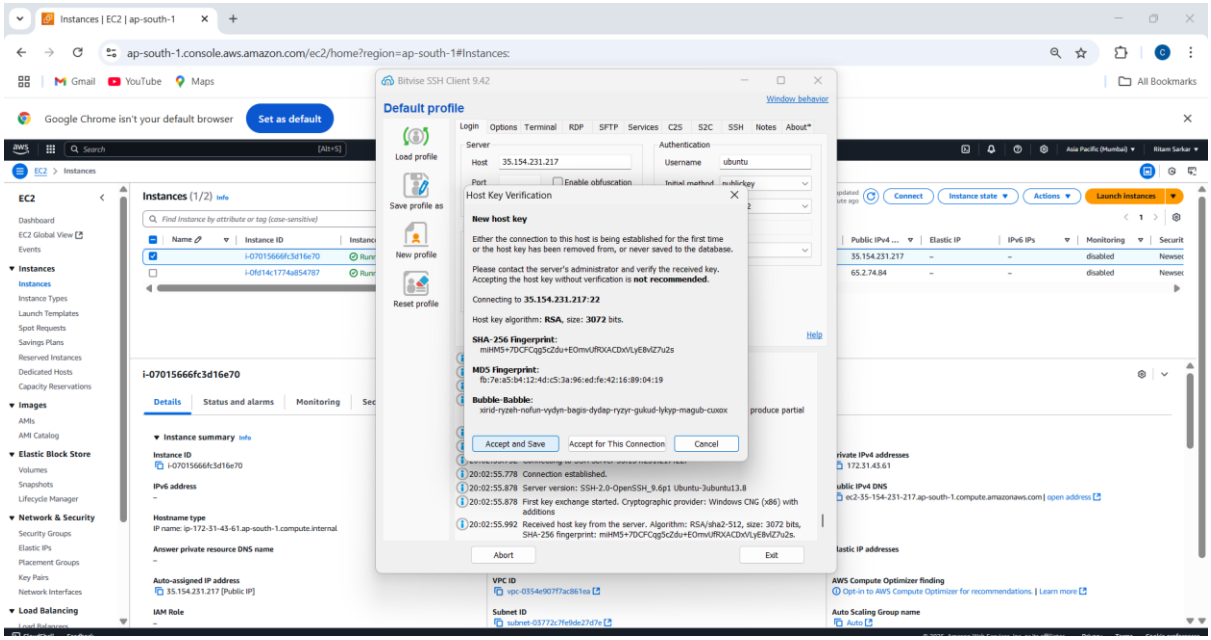



Step-7:Without making further modifications,simply clicking on next ,finally the auto scaling group has been created.






Step-8:Bitvise is opened,properly logged in with the key-pair and in the terminal following commands are written.




//Sudo nano ri.sh

Inside the file we have to write

#!/bin/bash

while(true)

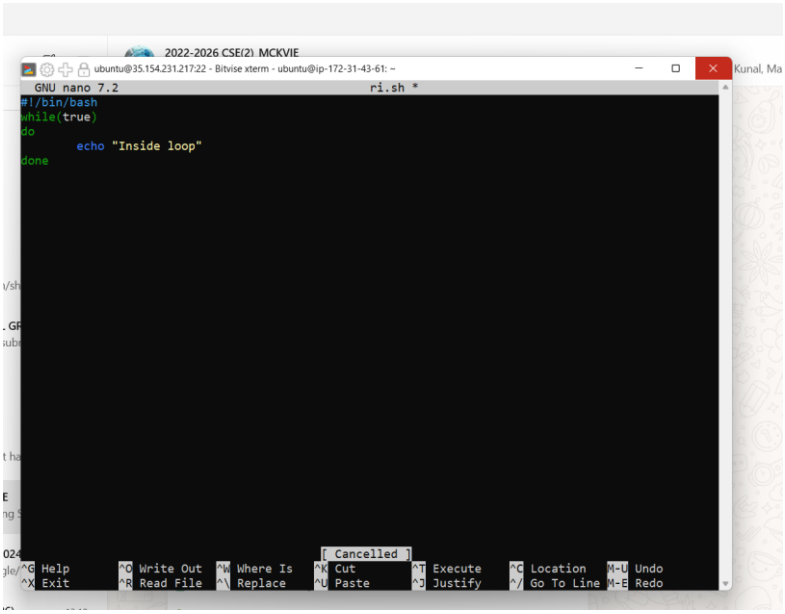
do

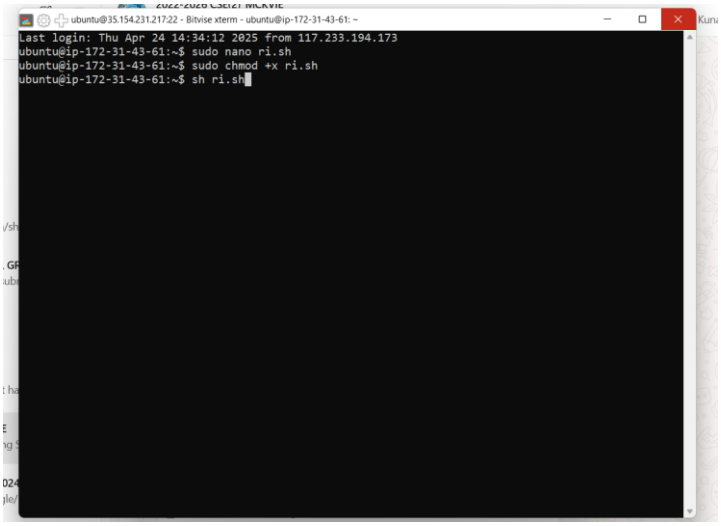
echo "Inside loop"

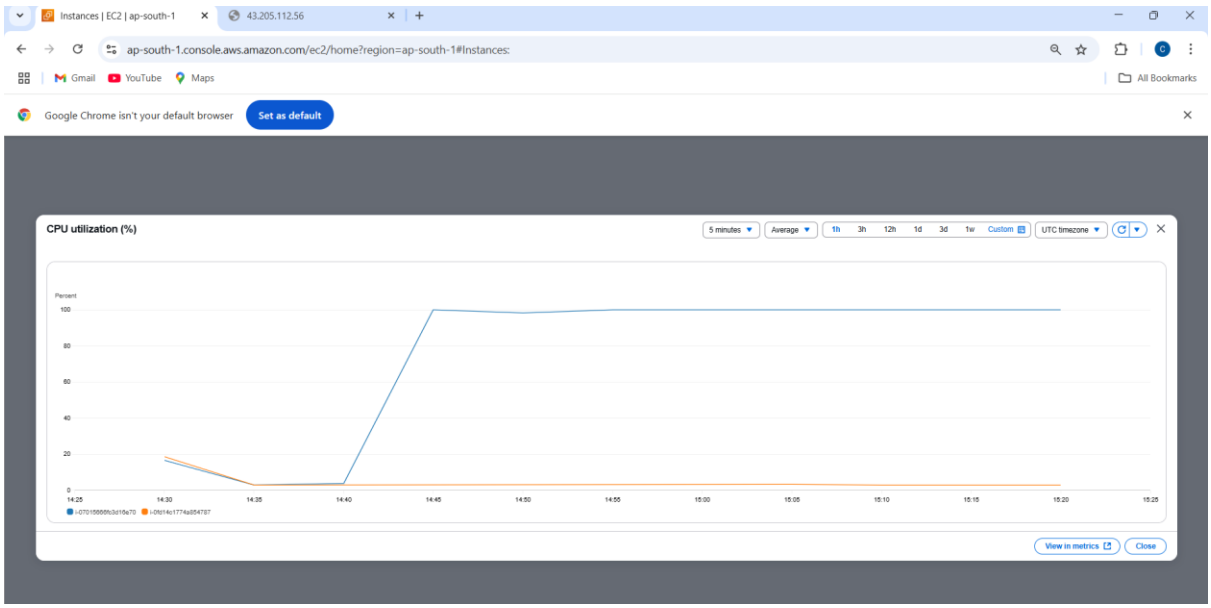
done

//sudo chmod +x ri.sh

//sh ri.sh


ubuntu@35.154.231.217:22 - Bitvise xterm - ubuntu@ip-172-31-43-61: ~
GNU nano 7.2 ri.sh *
#!/bin/bash
while(true)
do
echo "Inside loop"
done
[ Cancelled ]
^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo
^X Exit ^R Read File ^\ Replace ^U Paste ^J Justify ^/ Go To Line M-E Redo


ubuntu@35.154.231.217:22 - Bitvise xterm - ubuntu@ip-172-31-43-61: ~
Last login: Thu Apr 24 14:34:12 2025 from 117.233.194.173
ubuntu@ip-172-31-43-61:~$ sudo nano ri.sh
ubuntu@ip-172-31-43-61:~$ sudo chmod +x ri.sh
ubuntu@ip-172-31-43-61:~$ sh ri.sh


Instances | EC2 | ap-south-1
43.205.112.56
ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#Instances:
Gmail
YouTube
Maps
All Bookmarks
Google Chrome isn't your default browser
Set as default
CPU utilization (%)
5 minutes
Average
1h
3h
12h
1d
3d
1w
Custom
UTC timezone
Percent
100
80
60
40
20
0
14:25
14:30
14:35
14:40
14:45
14:50
14:55
15:00
15:05
15:10
15:15
15:20
15:25
View in metrics
Close

Step-8:CPU utilization is checked on the  monitoring section after the bash file is executed and the third instance is created as a result of it.