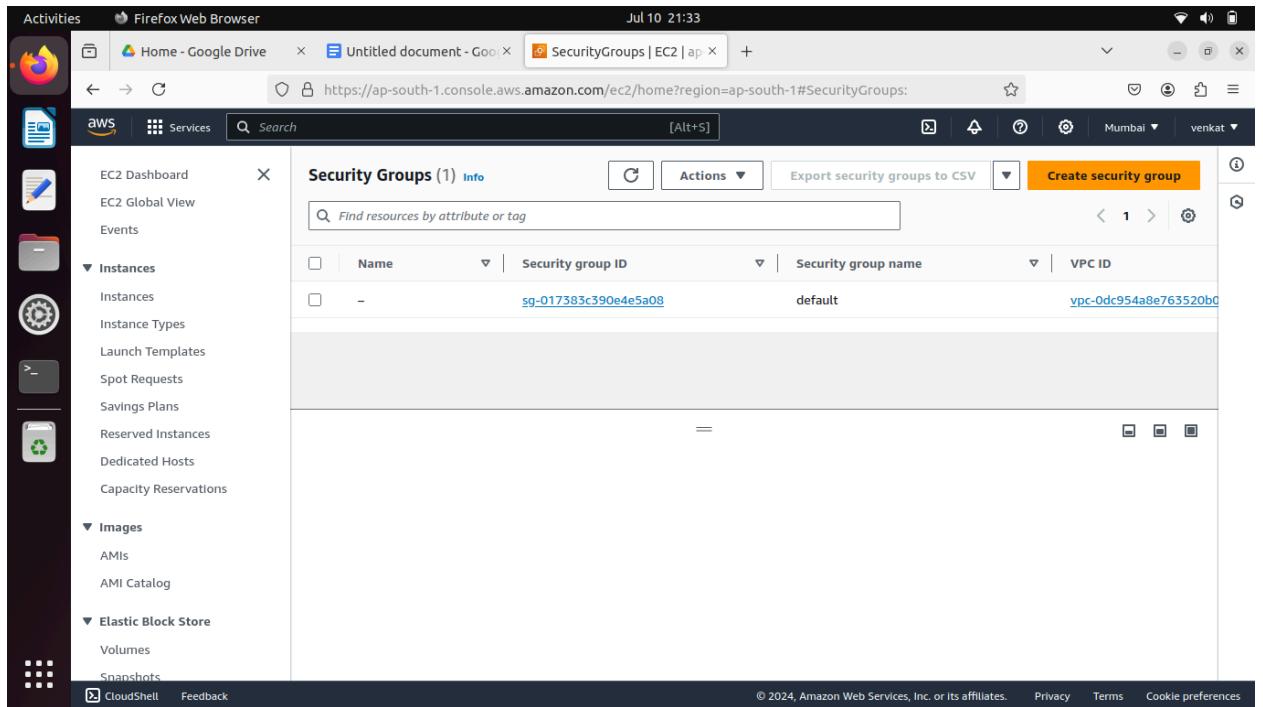


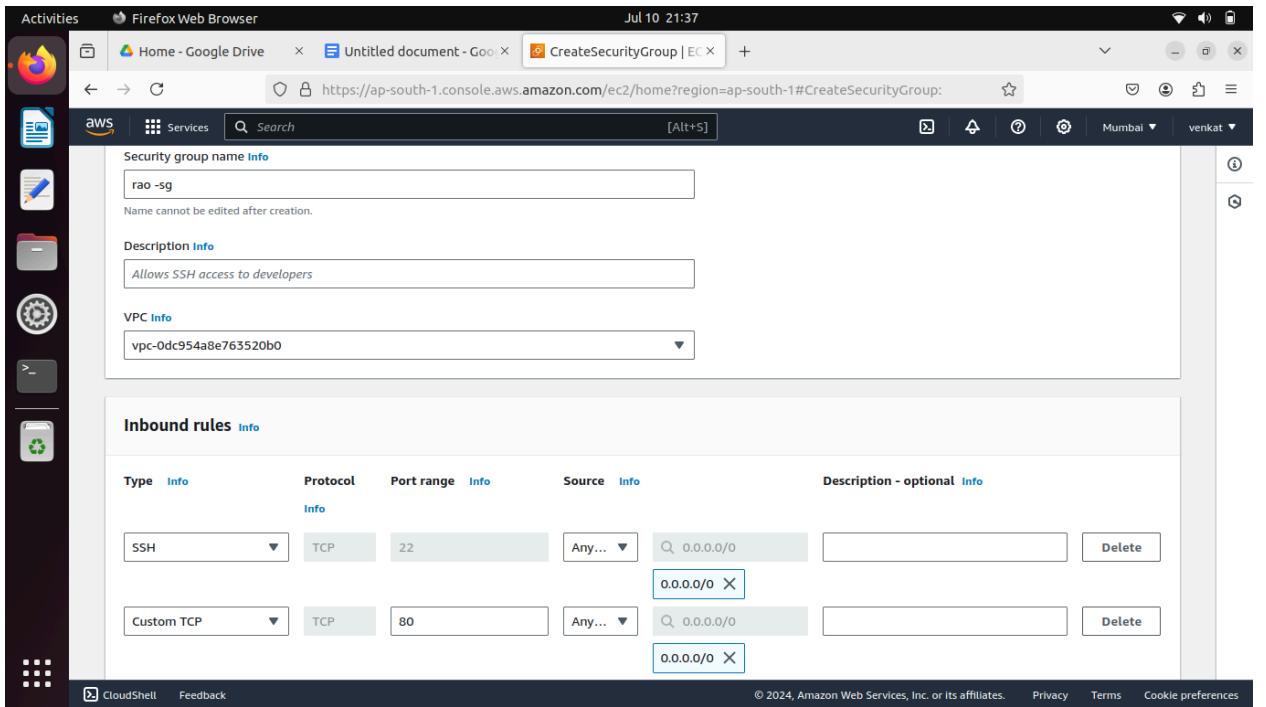
## Auto scaling

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

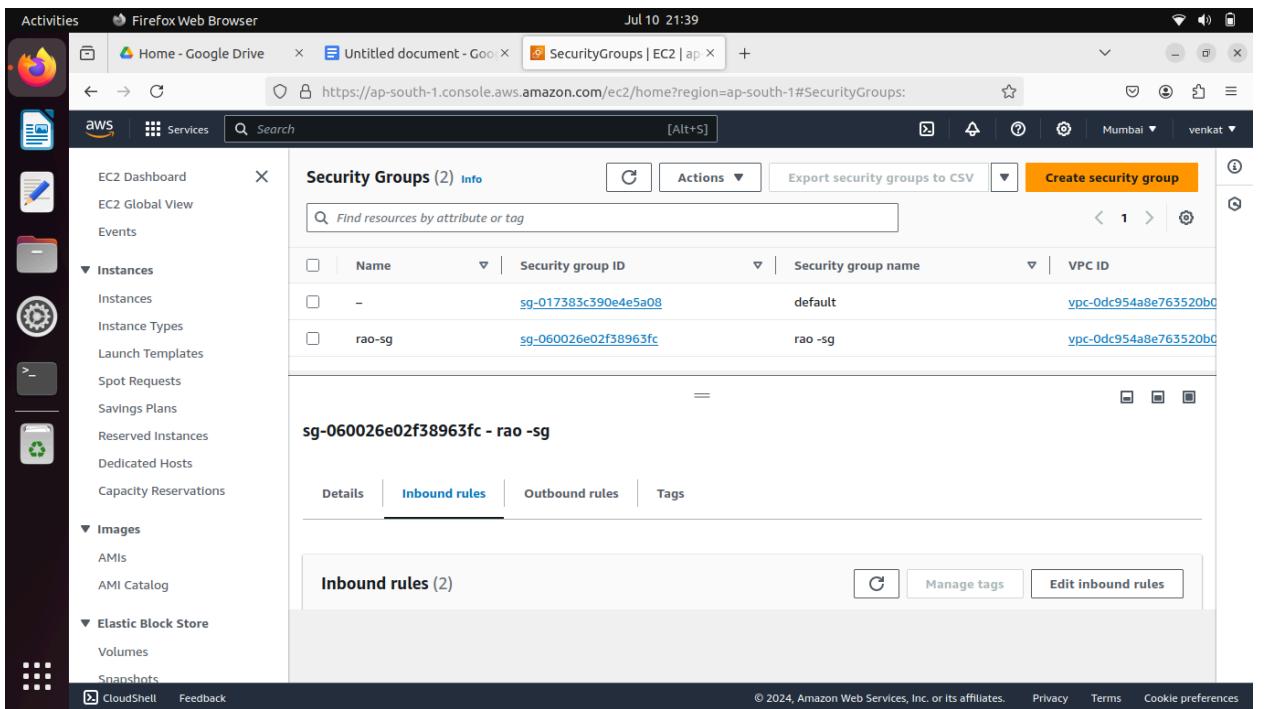


The screenshot shows the AWS Management Console interface for the EC2 service. The left sidebar has 'Instances' expanded, showing options like Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, and Capacity Reservations. The main content area is titled 'Security Groups (1)' and shows a table with one row. The table columns are 'Name', 'Security group ID', 'Security group name', and 'VPC ID'. The single row contains the value '-' for Name, 'sg-017383c390e4e5a08' for Security group ID, 'default' for Security group name, and 'vpc-0dc954a8e763520bc' for VPC ID. There are buttons for 'Actions' and 'Create security group' at the top right of the table.

- 3) Name = rao-sg
- 4) vpc= select ur wish
- 5) Inbound rules and add rule add ssh and http



## 6) Click create sg



## 7) Now use this rao-sg create 2 instances

## 8) Ec2 go to instance launch instance name = rao and another one is baby

Activities Firefox Web Browser Jul 10 22:45

Instances | EC2 | ap-south-1 Instances (1/2) Info

EC2 Dashboard EC2 Global View Events Instances Instances Instance Types Launch Templates Spot Requests Savings Plans Reserved Instances Dedicated Hosts Capacity Reservations Images AMIs AMI Catalog Elastic Block Store Volumes Snapshots

Name Instance ID Instance state Instance type Status check Alarm status

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
baby	I-018cce91db3f784b1	Running	t2.micro	...	View alarms + ap
<input checked="" type="checkbox"/> rao	I-0314e1bc1522511a9	Running	t2.micro	...	View alarms + ap

i-0314e1bc1522511a9 (rao)

Details Status and alarms Monitoring Security Networking Storage Tags

Instance summary

Instance ID	Public IPv4 address	Private IPv4 addresses
I-0314e1bc1522511a9 (rao)	13.126.72.105   open address ↗	172.31.44.141
IPv6 address	-	Public IPv4 DNS
		ec2-13-126-72-105.ap-south-1.compute.amazonaws.com
		© 2024, Amazon Web Services, Inc. or its affiliates.
		Privacy Terms Cookie preferences

9)

10) Now connect rao instance and set hostname=rao and install nginx or httpd

Activities Terminal Jul 10 22:47

```
[root@ip-172-31-44-141 ~]# yum update -y
Last metadata expiration check: 0:03:18 ago on Wed Jul 10 17:13:20 2024.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-172-31-44-141 ~]# hostnamectl set-hostname rao
[root@ip-172-31-44-141 ~]# exec bash
[root@rao ~]# yum install nginx
```

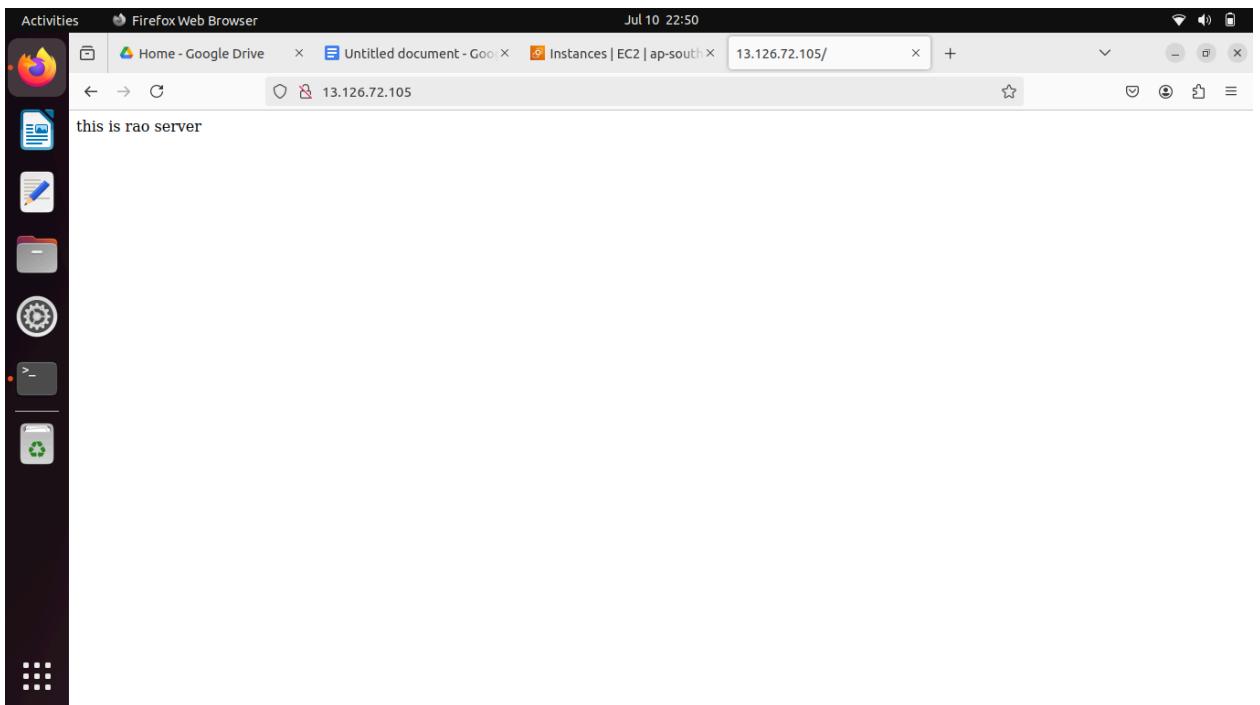
11)

Activities Terminal Jul 10 22:49  
root@ip-172-31-44-141:/usr/share/nginx/html#

```
[root@rao ~]# cd /usr/share/nginx/html/
[root@rao html]# ll
total 16
-rw-r--r--. 1 root root 3650 Oct 13 2023 404.html
-rw-r--r--. 1 root root 3693 Oct 13 2023 50x.html
drwxr-xr-x. 2 root root 27 Jul 10 17:17 icons
-rw-r--r--. 1 root root 615 Oct 13 2023 index.html
-rw-r--r--. 1 root root 368 Oct 13 2023 nginx-logo.png
lrwxrwxrwx. 1 root root 14 Oct 13 2023 poweredby.png -> nginx-logo.png
[root@rao html]# rm -f index.html
[root@rao html]# nano index.html
[root@rao html]# systemctl restart nginx
[root@rao html]#
```

12)

13) Take rao server public ip and paste google



14)

15) Now connect baby server and set hostname baby

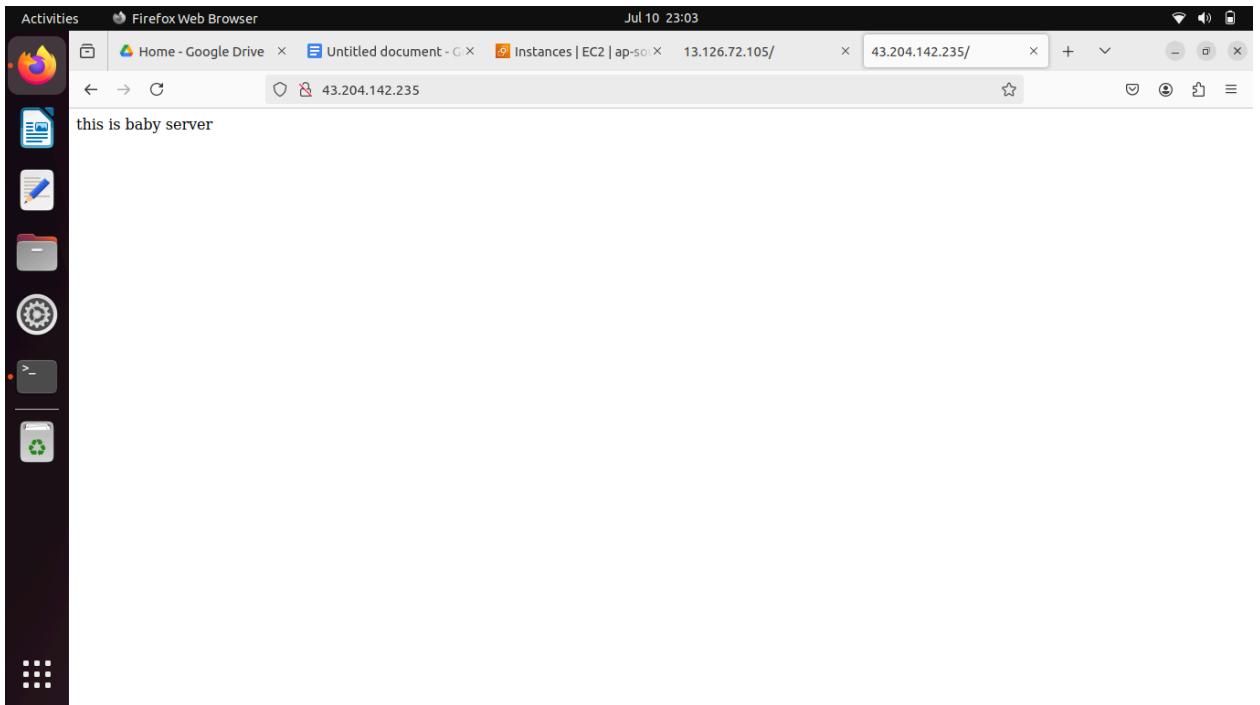
16) Install nginx

Activities Terminal Jul 10 23:00 root@ip-172-31-13-215:~

```
[root@ip-172-31-13-215 ~]# systemctl restart nginx
[root@ip-172-31-13-215 ~]# hostnamectl set-hostname baby
[root@ip-172-31-13-215 ~]# exec bash
[root@baby ~]#
```

17)

18) Now take baby server ip paste in google



19) Now go to ec2 select target group

20) Create target group

21) Select instances

22) Target group name= rao-baby-target-group

23) Click next

24)

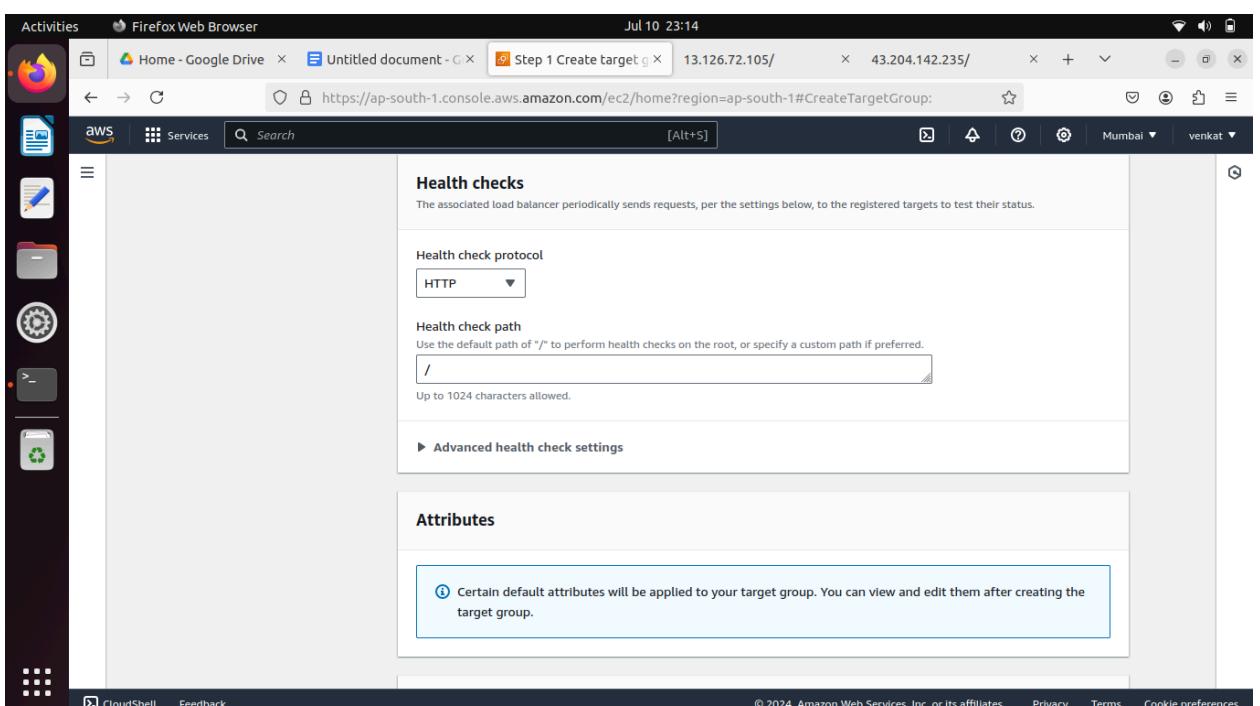
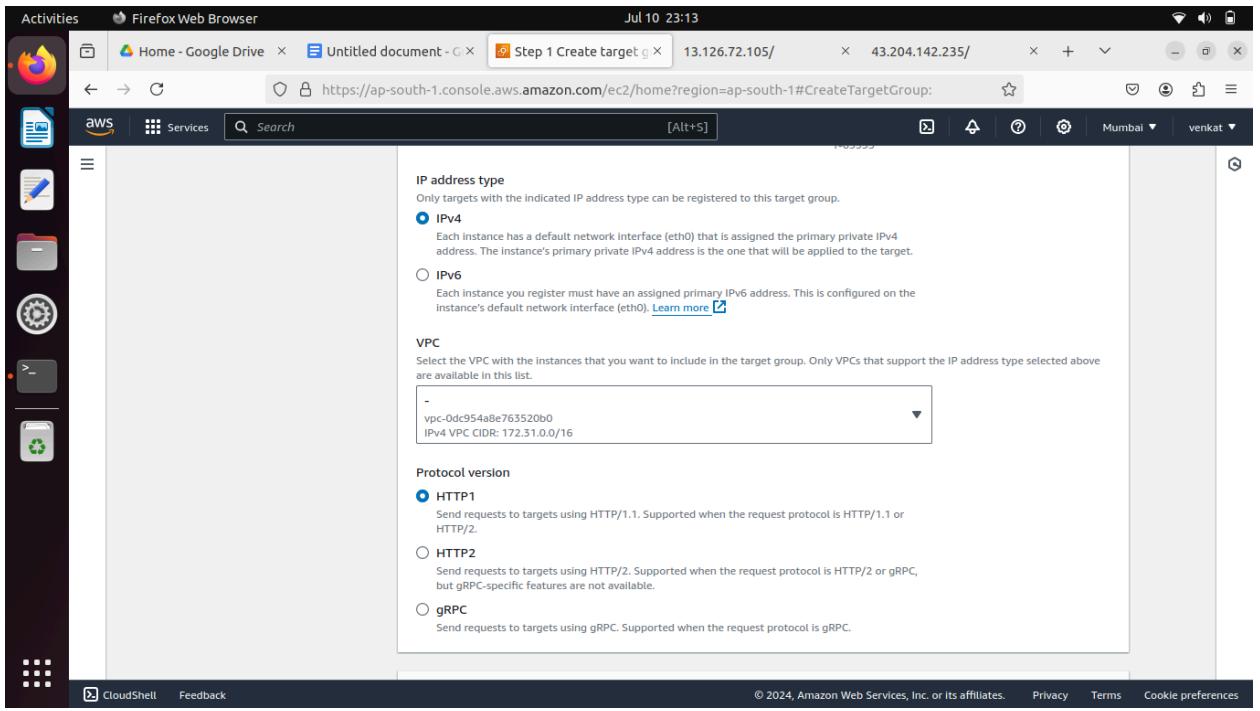
The screenshot shows the 'Specify group details' step of the AWS EC2 Target Groups creation wizard. The 'Basic configuration' section is displayed, showing the selected target type as 'Instances'. Other options like 'IP addresses' and 'Lambda function' are also listed. The 'Instances' option includes a note about supporting load balancing to instances within a specific VPC and using Amazon EC2 Auto Scaling.

24)

25)

The screenshot shows the 'Specify group details' step of the AWS EC2 Target Groups creation wizard. The 'Basic configuration' section is displayed, showing the selected target type as 'Lambda function'. Other options like 'IP addresses' and 'Application Load Balancer' are also listed. The 'Lambda function' option includes a note about facilitating routing to a single Lambda function and being accessible to Application Load Balancers only.

25)



28)

Review targets

Targets (2)

Instance ID	Name	Port	State	Security groups	Zone	Private IP
I-018cce91db3f784b1	baby	80	Running	rao-sg	ap-south-1b	172.31.1.10
I-0314e1bc1522511a9	rao	80	Running	rao -sg	ap-south-1a	172.31.1.11

2 pending

Cancel Previous Create target group

Register target= click include as pending

29)

Specify group details

Step 2 Register targets

This is an optional step to create a target group. However, to ensure that your load balancer routes traffic to this target group you must register your targets.

Available instances (2/2)

Instance ID	Name	State	Security group
I-018cce91db3f784b1	baby	Running	rao-sg
I-0314e1bc1522511a9	rao	Running	rao -sg

2 selected

Ports for the selected instances  
Ports for routing traffic to the selected instances.  
80

1-65535 (separate multiple ports with commas)

Include as pending below

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

30) Click create as target group

31)

32)

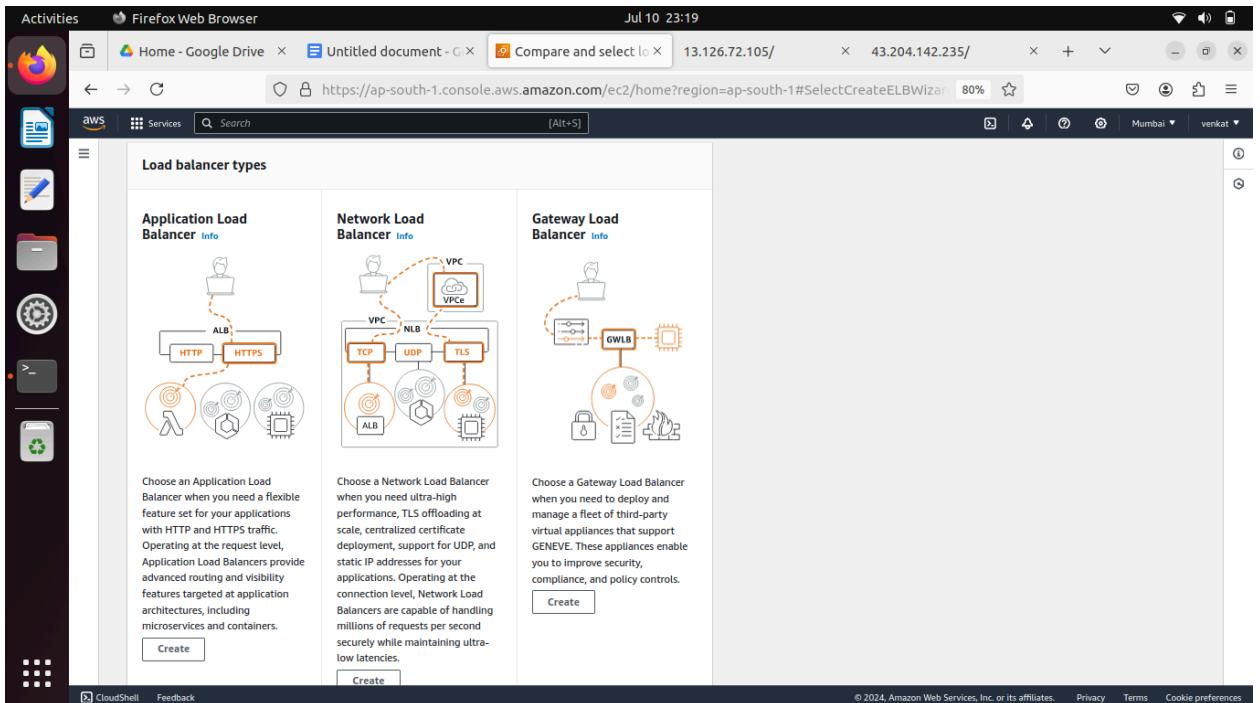
The screenshot shows the AWS EC2 Target Groups page. On the left sidebar, under 'Instances', there are links for Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, AMIs, and AMI Catalog. Under 'Elastic Block Store', there are links for Volumes and Snapshots. The main content area displays 'Target groups (1/1) Info'. A table lists one target group: 'rao-baby-target-group' with ARN 'arn:aws:elasticloadbalancing:ap-south-1:058264531590:targetgroup/rao-baby-target-group/ea60aa73ce0cf2d2', Port 80, Protocol HTTP, and Target type Instance. Below this, a detailed view for 'Target group: rao-baby-target-group' is shown with tabs for Details, Targets, Monitoring, Health checks, Attributes, and Tags. The 'Details' tab shows the ARN and configuration details.

33) Now go to load balancer click create loadbalancer

34)

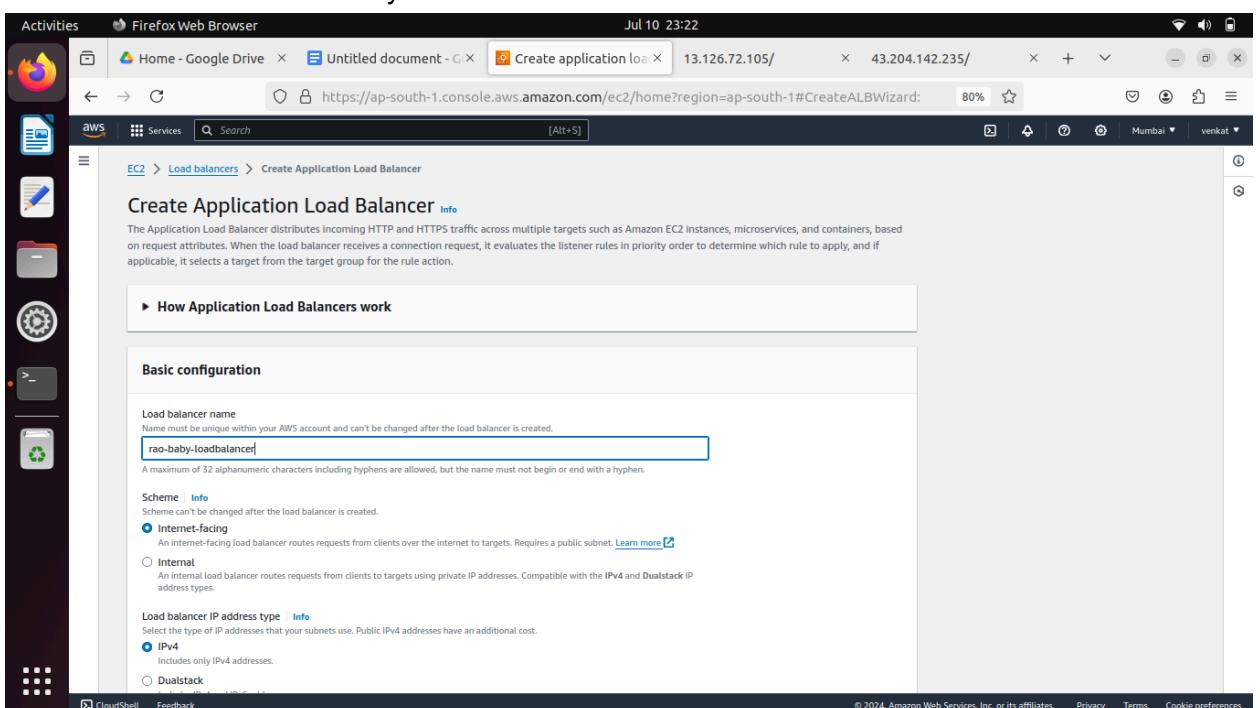
The screenshot shows the AWS Load Balancers page. On the left sidebar, under 'Network & Security', there are links for Security Groups, Elastic IPs, Placement Groups, Key Pairs, Network Interfaces, and Load Balancing (which is expanded to show Load Balancers, Target Groups, and Trust Stores). Under 'Auto Scaling', there are links for Auto Scaling Groups and Settings. The main content area displays 'Load balancers' with a note that 'Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.' A table shows 'No load balancers'. Below this, a message says '0 load balancers selected' and 'Select a load balancer above.'

35) Select application load balancer click create



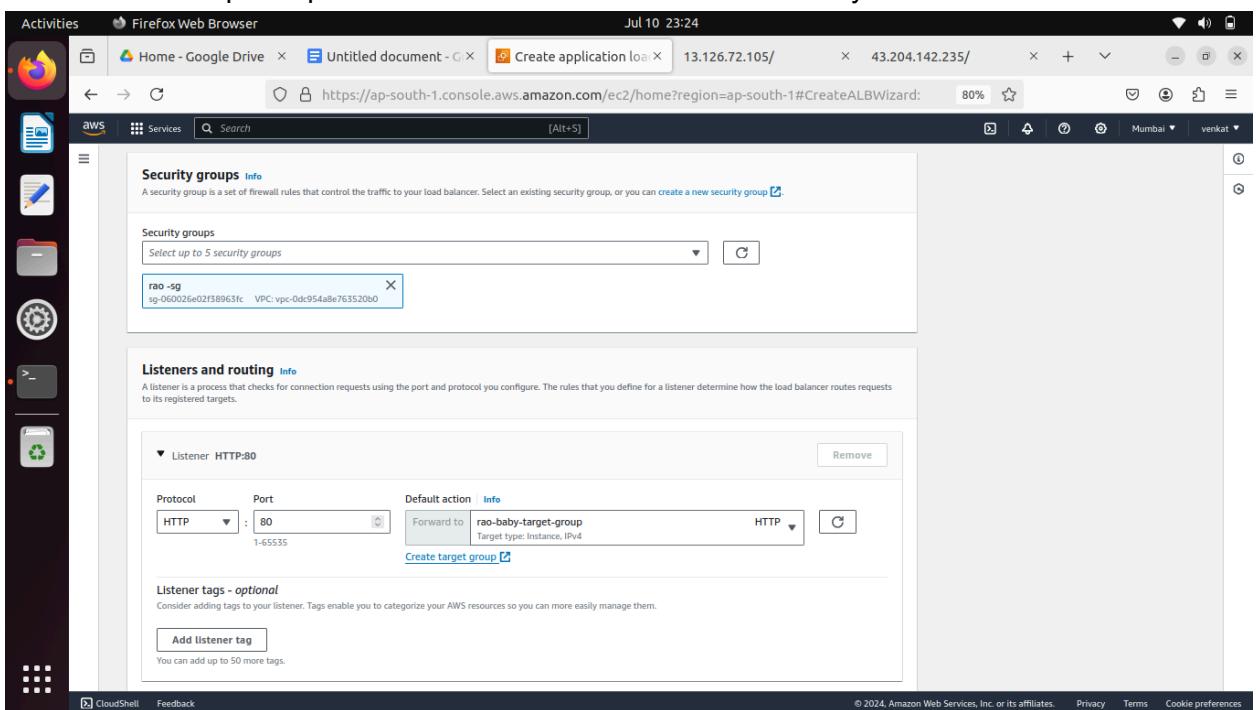
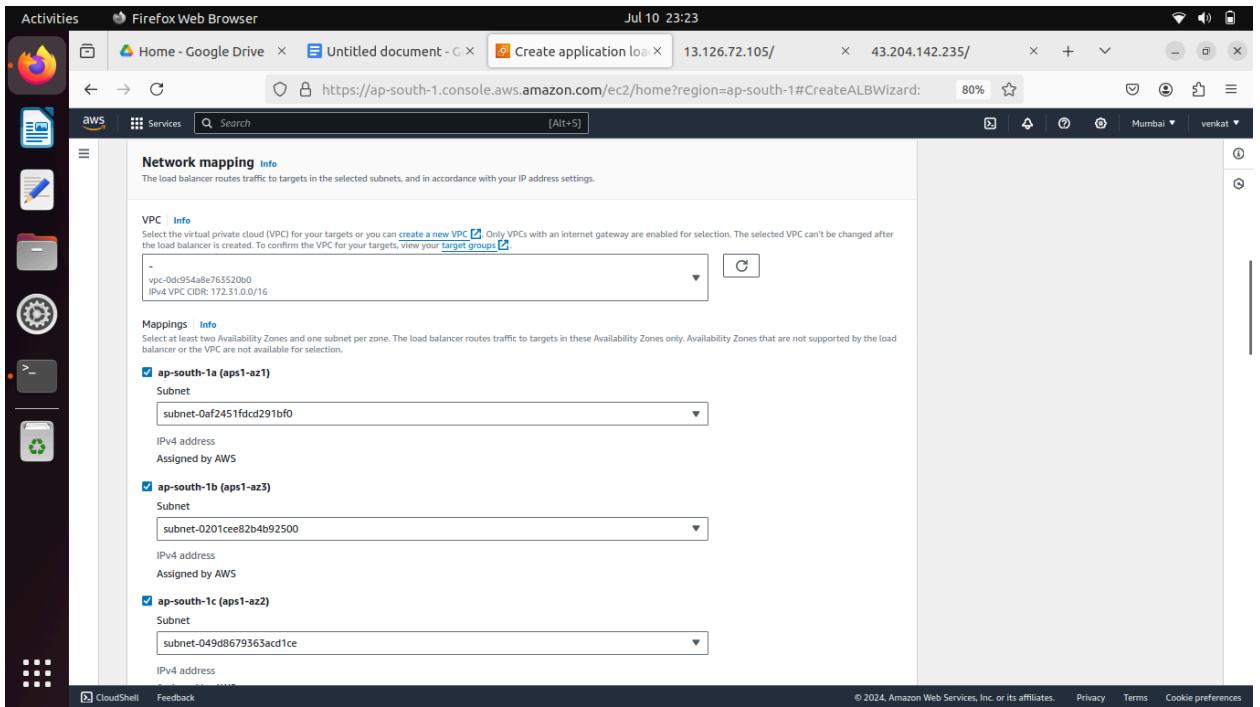
36)

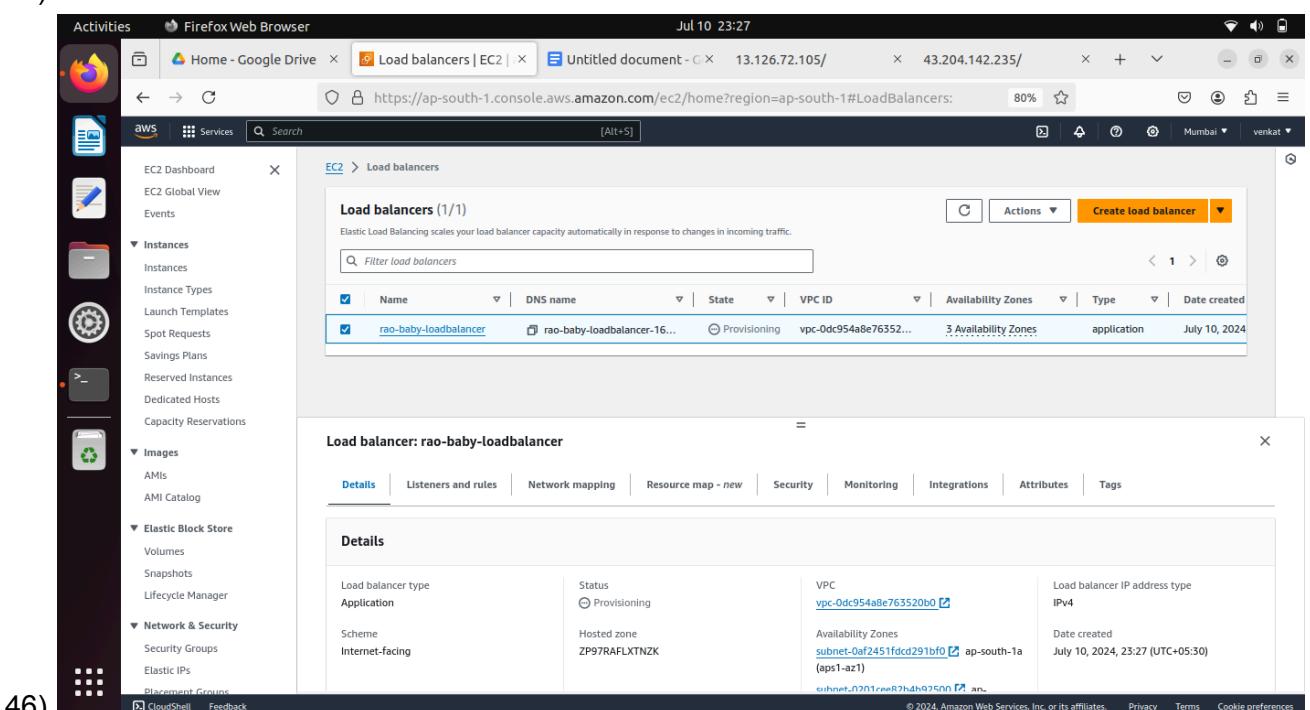
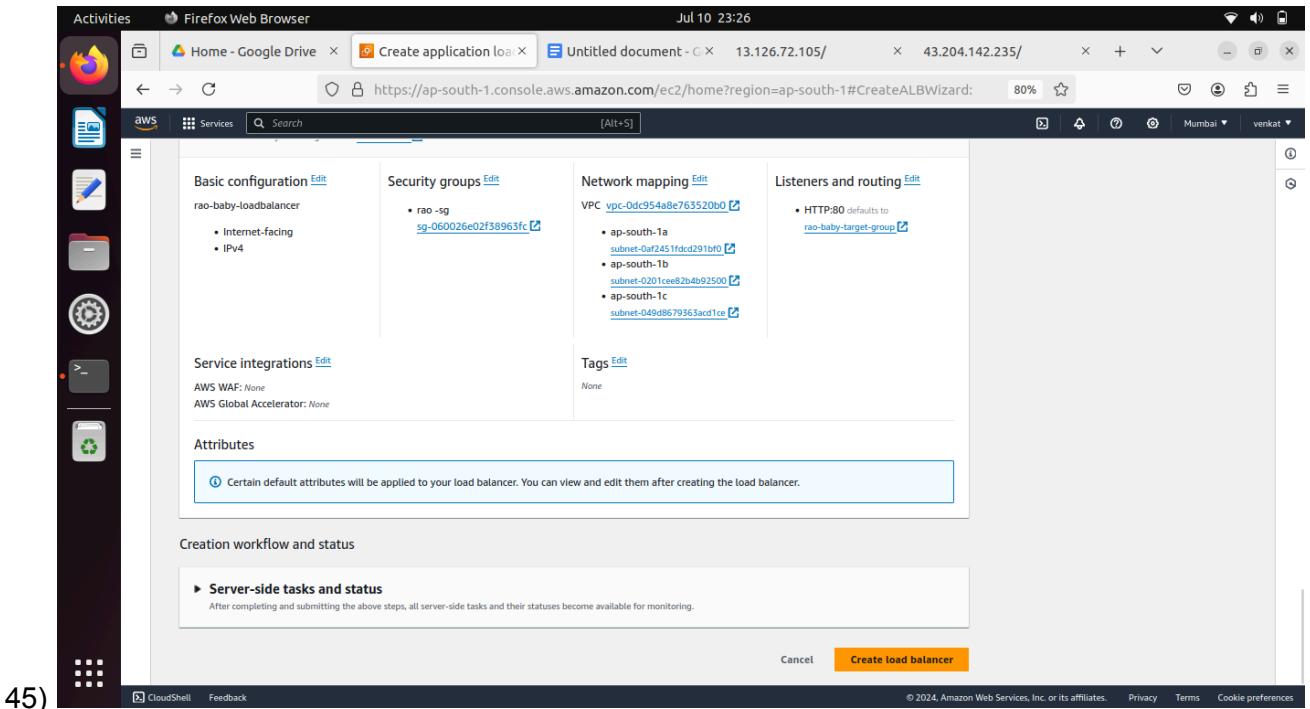
37) Loadbalancer name= rao-baby-loadbalancer



38)

39) Network mapping select ap-south 1a and 1b and 1c select how many you have all





47) Click on rao-baby-loadbalancer select dns link paste in google and refresh it change evry refresh time rao to baby

Activities Firefox Web Browser Jul 10 23:33

Load balancer de Untitled document 13.126.72.105/ 43.204.142.235/ rao-baby-loadbalancer + ×

https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#LoadBalancer:loadBalancerId=rao-baby-loadbalancer

AWS Services Search [Alt+S] Mumbai venkat

EC2 Services

EC2 Dashboard EC2 Global View Events

Instances Instances Instance Types Launch Templates Spot Requests Savings Plans Reserved Instances Dedicated Hosts Capacity Reservations

Images AMIs AMI Catalog

Elastic Block Store Volumes Snapshots

CloudShell Feedback

rao-baby-loadbalancer

Details

Load balancer type	Status	VPC	Load balancer IP address type
Application	Active	vpc-0dc954a8e763520b0	IPv4
Scheme	Hosted zone	ZP97RAFLXTNZK	Availability Zones
Internet-facing			subnet-0af2451fdcd291bf 0 ap-south-1a (aps1-az1)
			subnet-0201cee82b4b9250 0 ap-south-1b (aps1-az3)
			subnet-049d8679363acd1c e ap-south-1c (aps1-az2)
Load balancer ARN		DNS name info	
arn:aws:elasticloadbalancing:ap-south-1:058264331590:loadbalancer/app/rao-baby-loadbalancer/cd1487dacf8fc9d7		rao-baby-loadbalancer-1632555536.ap-south-1.elb.amazonaws.com (A Record)	

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48)

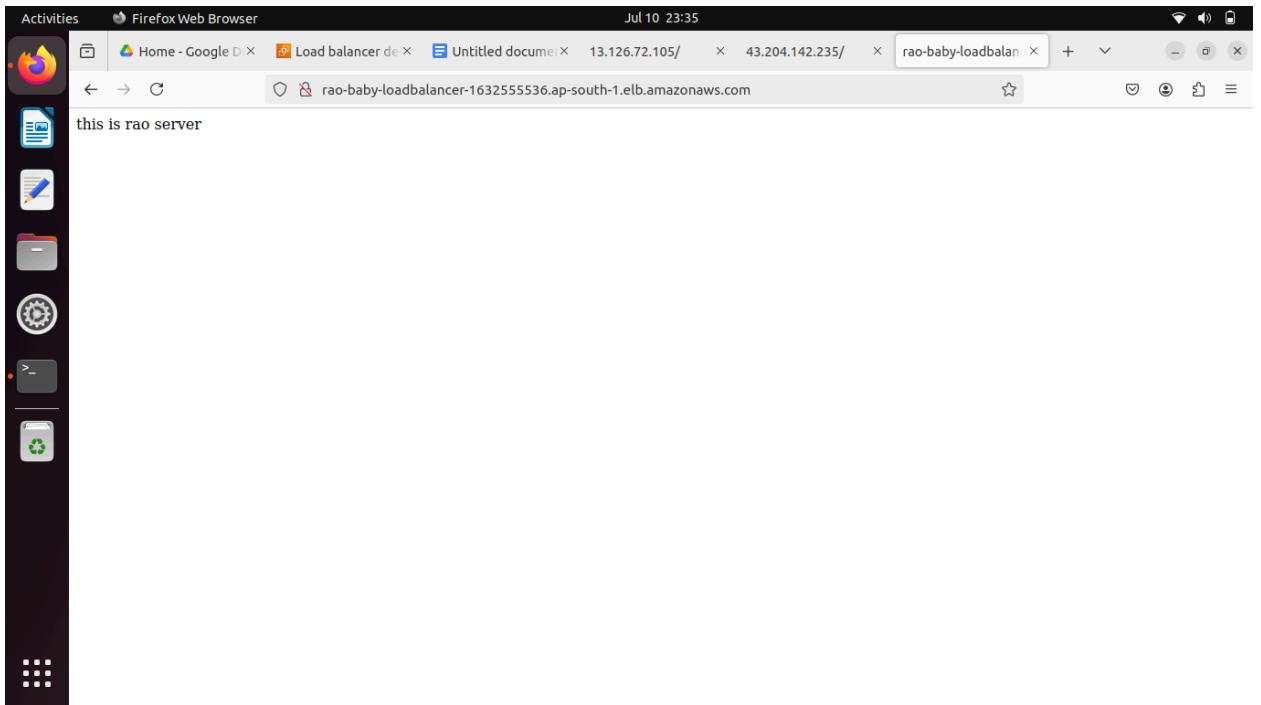
Activities Firefox Web Browser Jul 10 23:34

Load balancer de Untitled document 13.126.72.105/ 43.204.142.235/ rao-baby-loadbalancer-1632555536.ap-south-1.elb.amazonaws.com + ×

rao-baby-loadbalancer-1632555536.ap-south-1.elb.amazonaws.com

this is baby server

CloudShell



49) Go to instance select one instance rao or baby

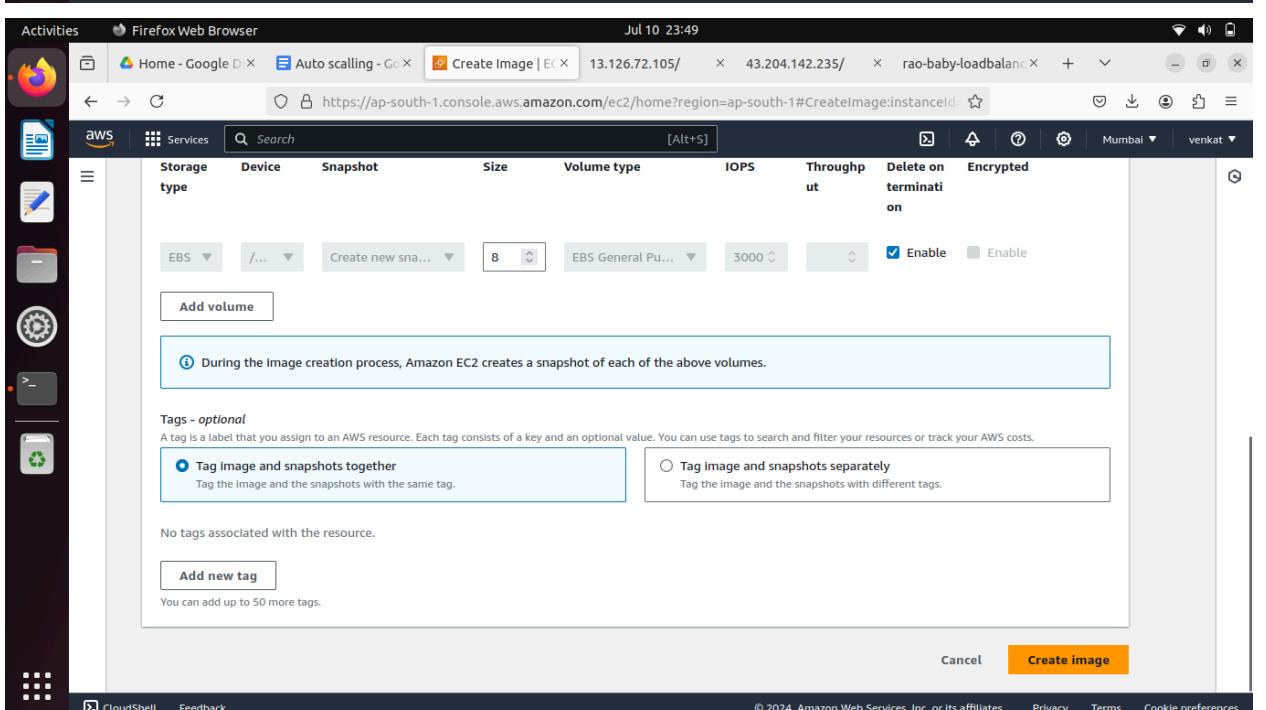
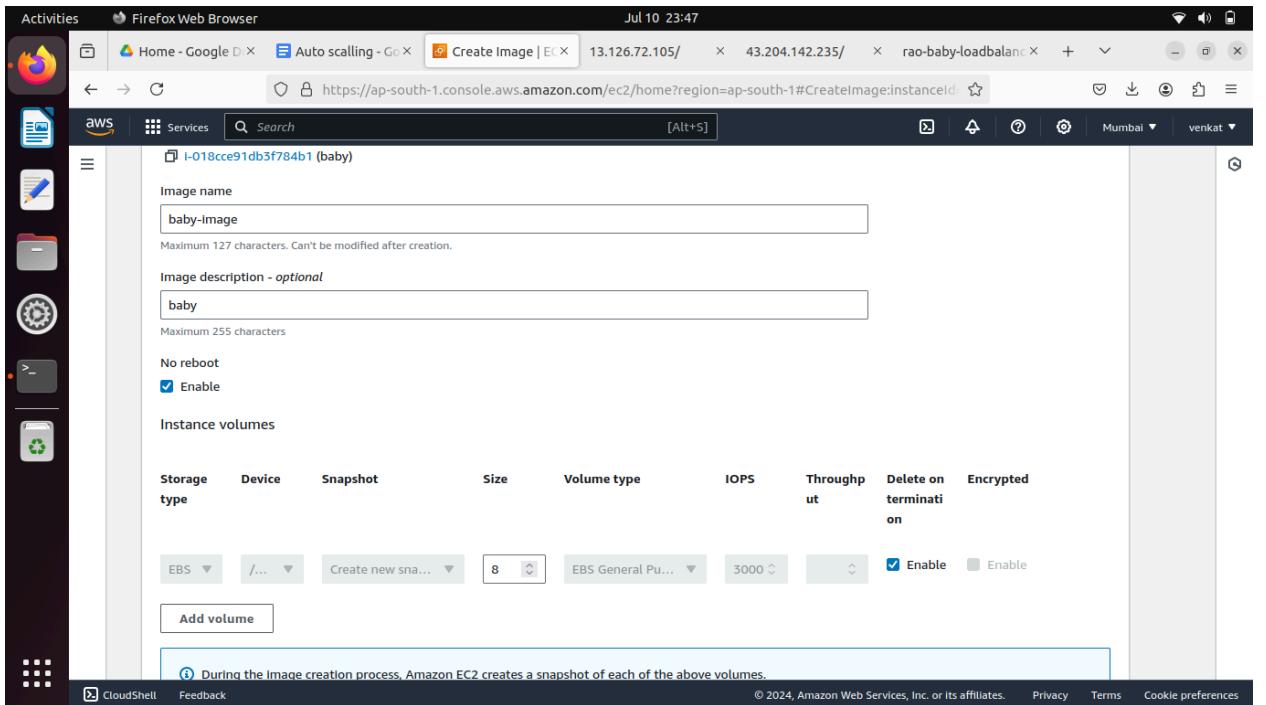
50) Select one click actions click image and template and click create image

A screenshot of the AWS Management Console, specifically the EC2 Instances page. The left sidebar shows navigation links for EC2 Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, and AMI Catalog. The main content area displays a table of instances. Two instances are listed: 'baby' (Instance ID: i-018cce91db3f784b1, State: Running, Type: t2.micro) and 'rao' (Instance ID: i-0314e1bc1522511a9, State: Running, Type: t2.micro). To the right of the table is an 'Actions' menu with options like 'Connect', 'View details', 'Manage instance state', 'Instance settings', 'Networking', 'Security', 'Create image', 'Image and templates', and 'Monitor and troubleshoot'. Below the table, a detailed view for the 'baby' instance is shown, including its instance ID, public and private IP addresses, and instance state.

51)

52) Image name = baby-image

53) No reboot =enable



56) Click create image

57) Go to ec2 images ami you see baby image

The screenshot shows the AWS EC2 Dashboard with the 'Images' section selected. Under 'AMIs', there is one entry: 'AMI ID: ami-0c319ceb82cc92be8 (baby-image)'. The details for this AMI are listed as follows:

AMI ID	Image type	Platform details	Root device type
ami-0c319ceb82cc92be8 (baby-image)	machine	Linux/UNIX	EBS

Below this, the AMI name is listed again with its owner account ID (058264331590), architecture (x86\_64), usage operation (RunInstances), and other details.

58)

59) Now go to auto scaling groups click it

60) Click create auto scaling group

The screenshot shows the AWS Services menu with 'Auto Scaling' selected. The main content area displays the following information:

## Amazon EC2 Auto Scaling

helps maintain the availability of your applications

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

**Create Auto Scaling group**

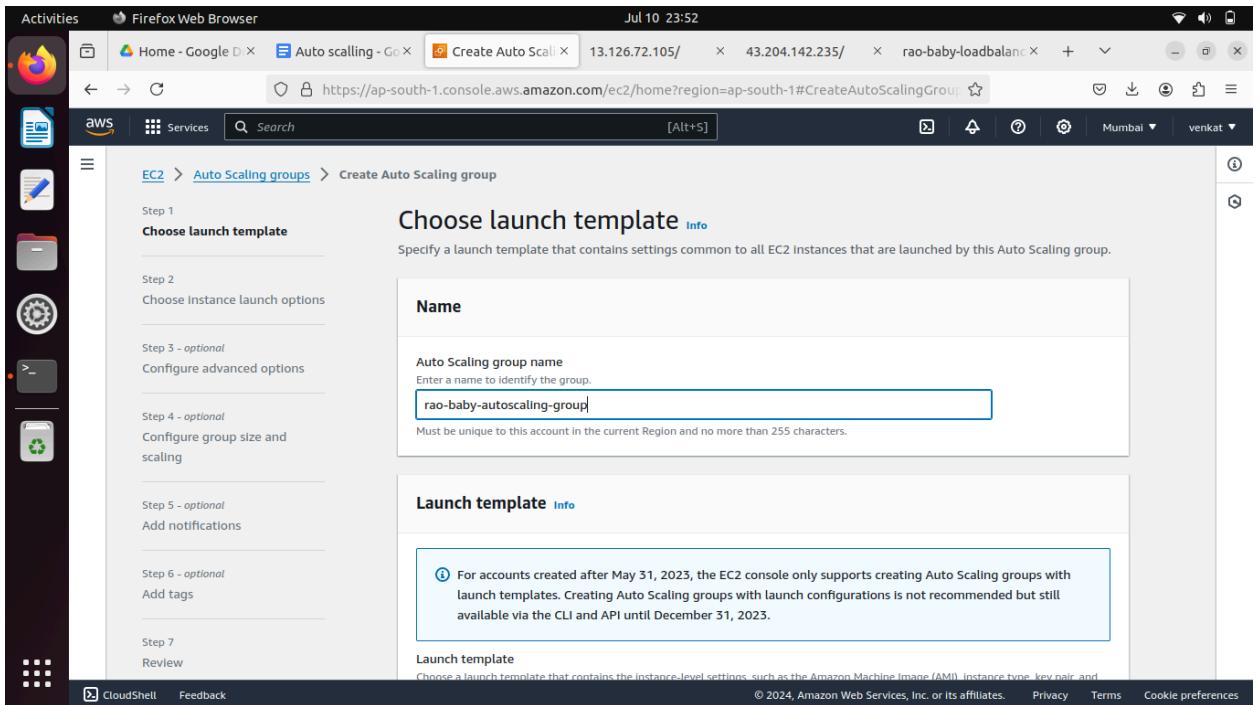
Get started with EC2 Auto Scaling by creating an Auto Scaling group.

**Pricing**

Amazon EC2 Auto Scaling features have no additional fees beyond the service fee for

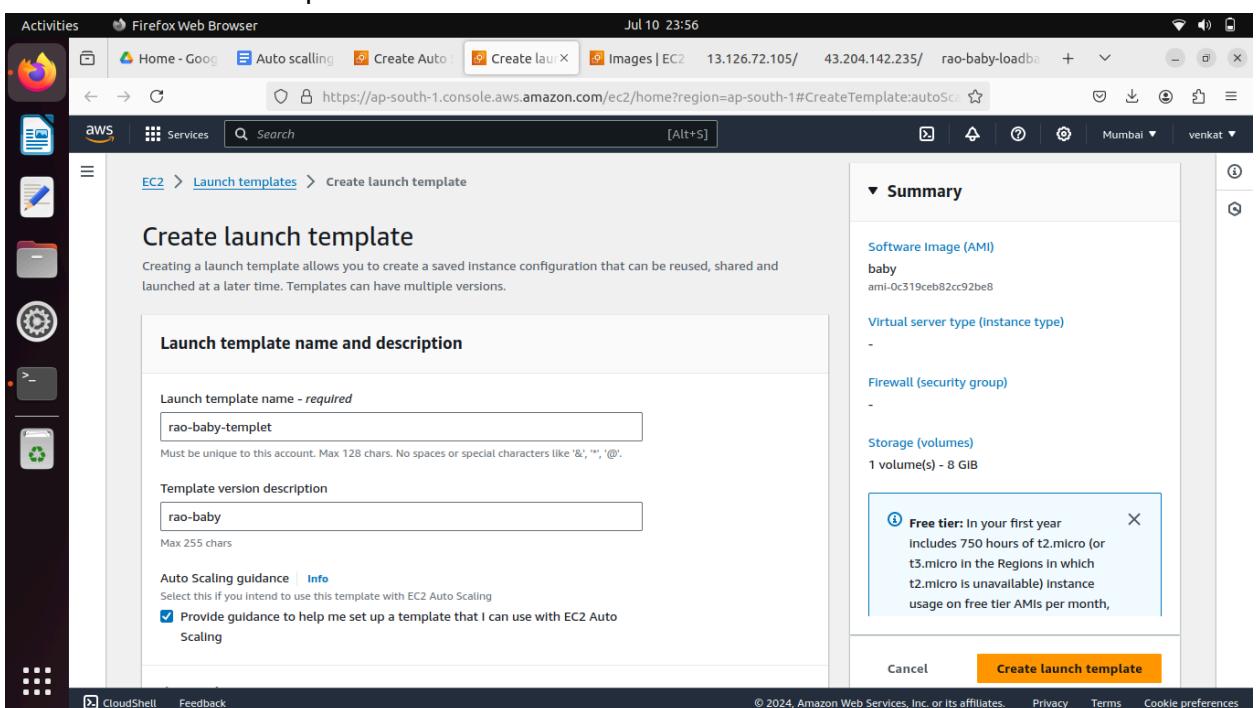
61)

62) name=rao-baby-autoscaling-group



63)

64) Click create launch template



65)

66) Template name= rao-baby-template

67) My ami =baby-image

Activities Firefox Web Browser Jul 10 23:58

Auto scaling Create Auto Create lau X Images | EC2 13.126.72.105/ 43.204.142.235/ rao-baby-loadba +

AWS Services Search [Alt+S]

My AMIs Quick Start

Owned by me Shared with me

Browse more AMIs Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

baby-Image ami-0c319ceb82cc92be8 2024-07-10T18:19:27.000Z Virtualization: hvm ENA enabled: true Root device type: ebs

Description baby

Architecture x86\_64 AMI ID ami-0c319ceb82cc92be8

Instance type Info Get advice Advanced

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**Summary**

Software Image (AMI) baby ami-0c319ceb82cc92be8

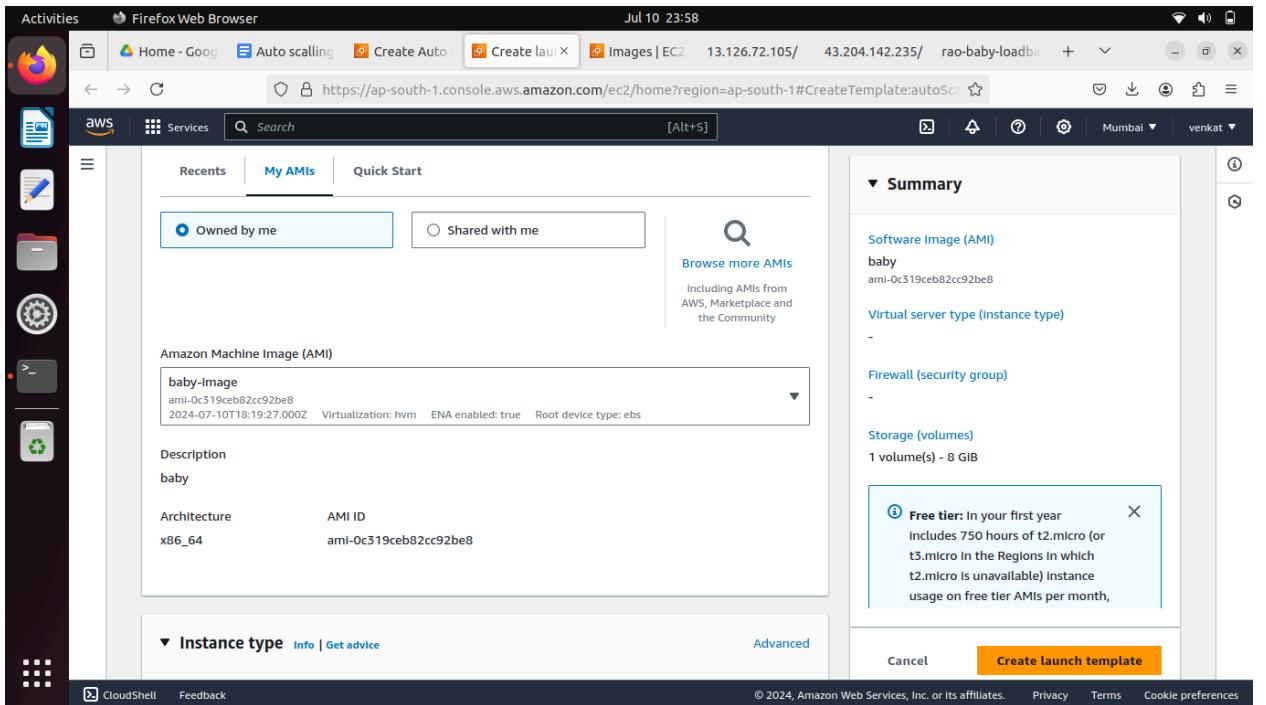
Virtual server type (instance type) t2.micro

Firewall (security group) -

Storage (volumes) 1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, X

Cancel Create launch template



68)

69) Instance type=t2 micro

70) Key pair = baby

Activities Firefox Web Browser Jul 10 23:58

Auto scaling Create Auto Create lau X Images | EC2 13.126.72.105/ 43.204.142.235/ rao-baby-loadba +

AWS Services Search [Alt+S]

Instance type Info Get advice Advanced

Instance type t2.micro Family: t2 1 vCPU 1 GiB Memory Current generation: true Free tier eligible All generations Compare instance types

Additional costs apply for AMIs with pre-installed software

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 baby Create new key pair

Network settings Info

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**Summary**

Software Image (AMI) baby ami-0c319ceb82cc92be8

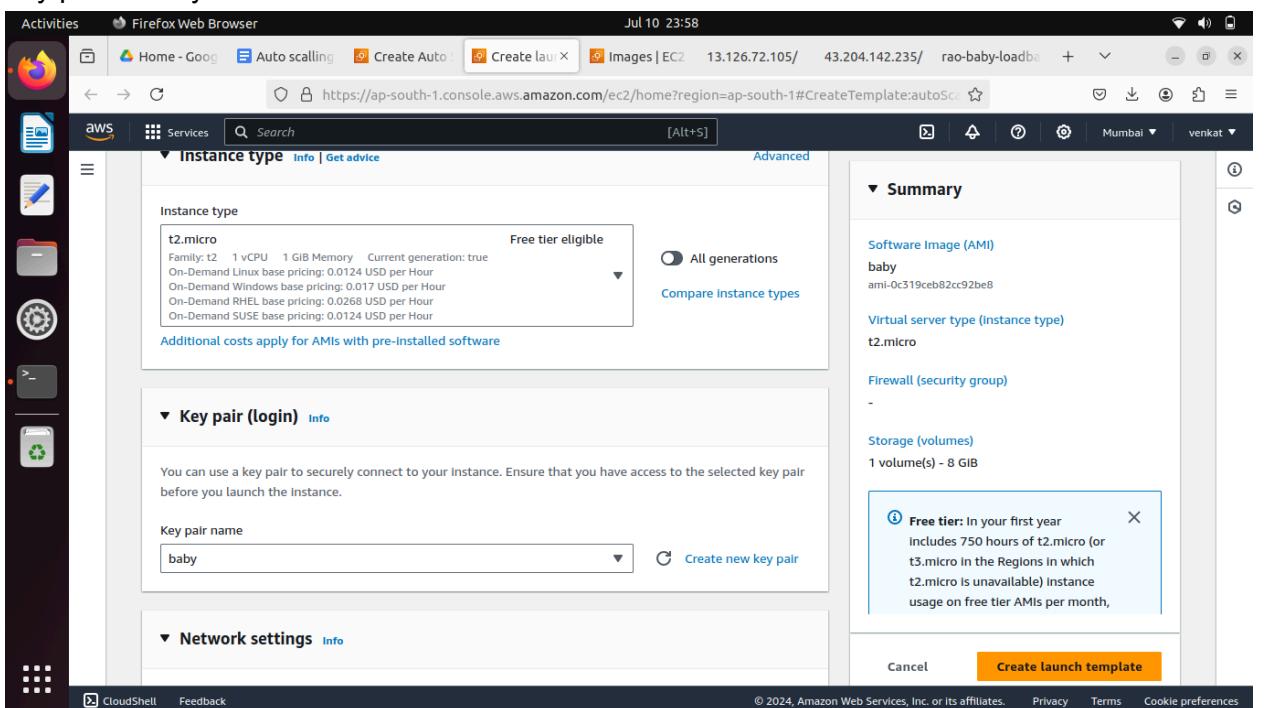
Virtual server type (instance type) t2.micro

Firewall (security group) -

Storage (volumes) 1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, X

Cancel Create launch template



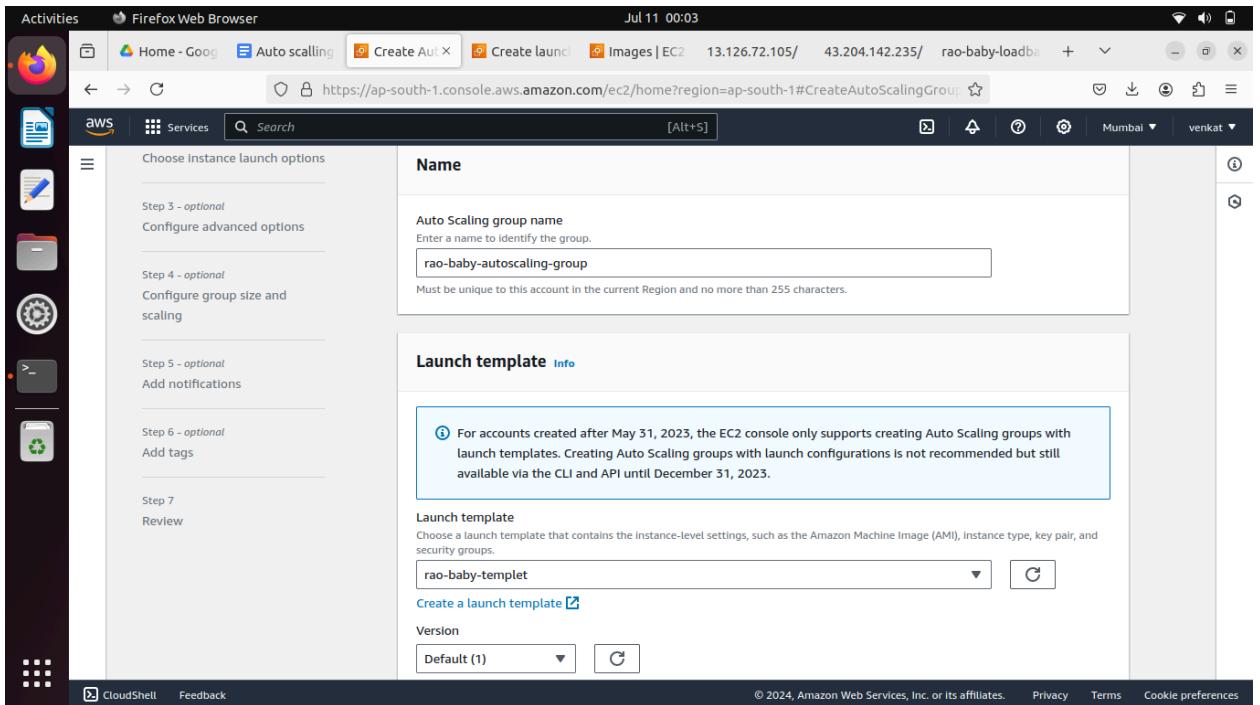
71)

72) sg= rao-sg

73) Don't select subnet here

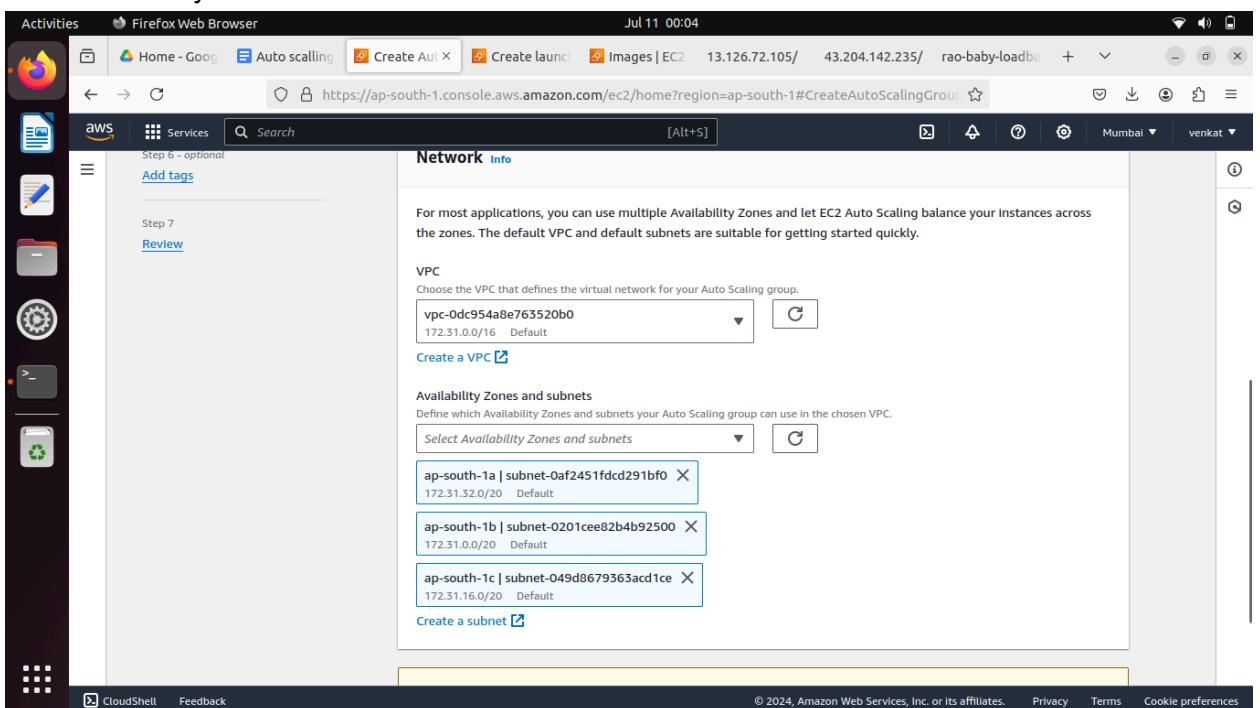
74) Click create launch template

75) Now select template = rao-baby-template



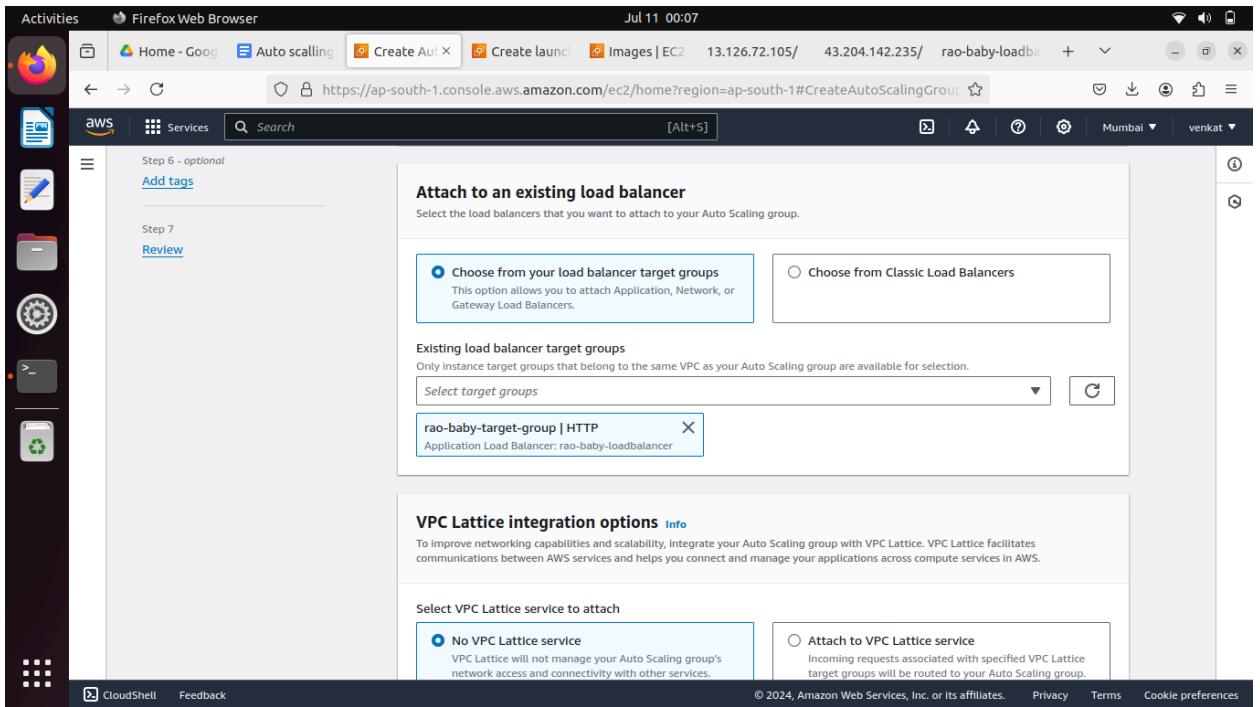
77) Click next

78) Click availability zones select all click next

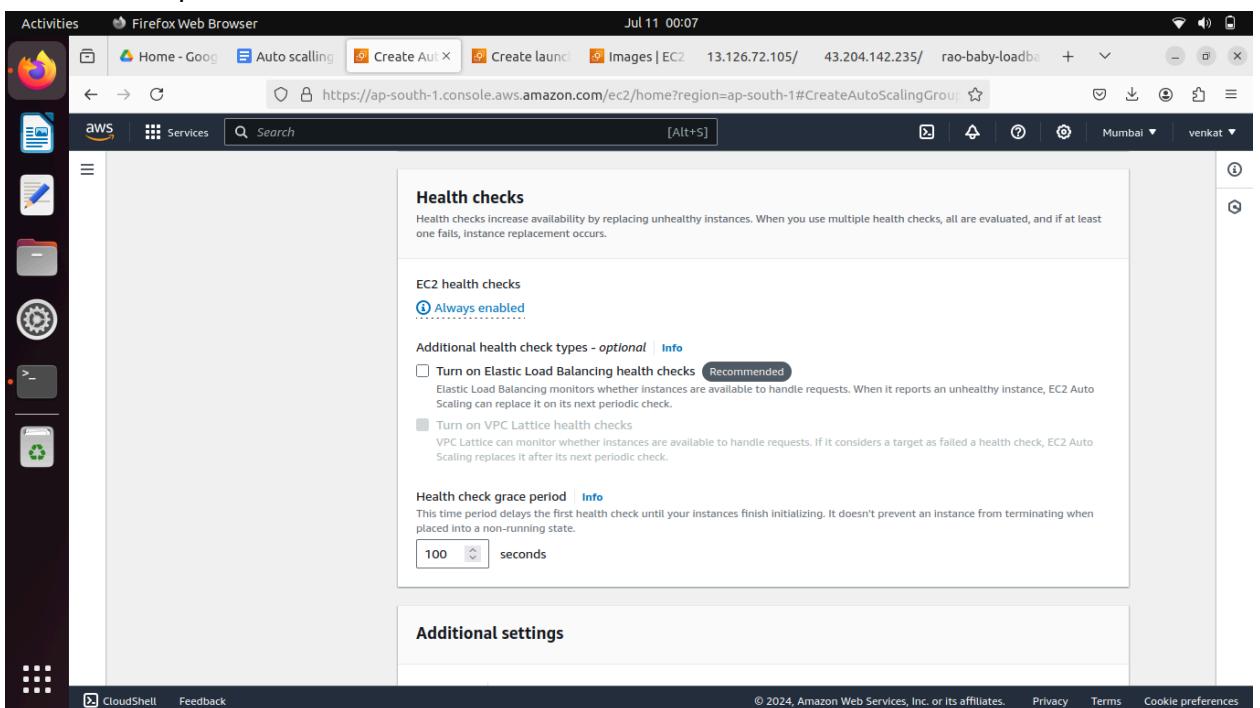


80) Click attach existing load balancer

81) Load balancer= rao-baby-loadbalancer select



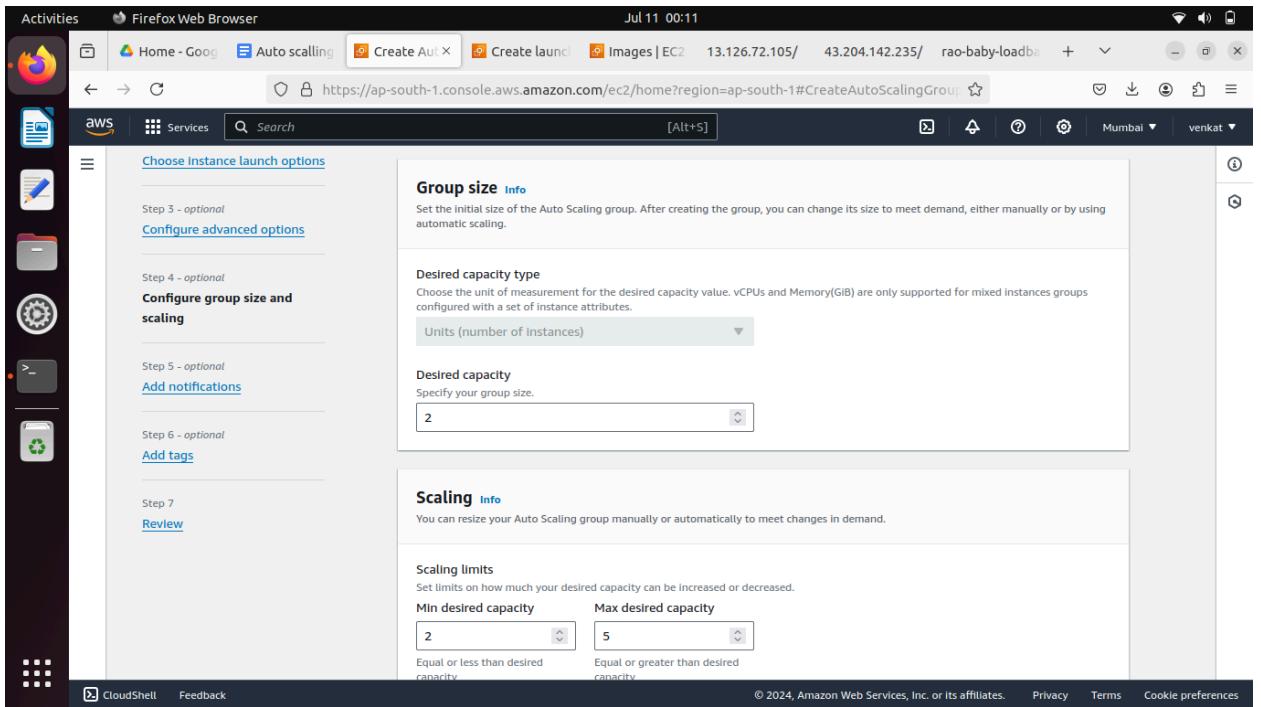
83) Health check period =100 seconds



85) Click next

86) Group size=desidered=2

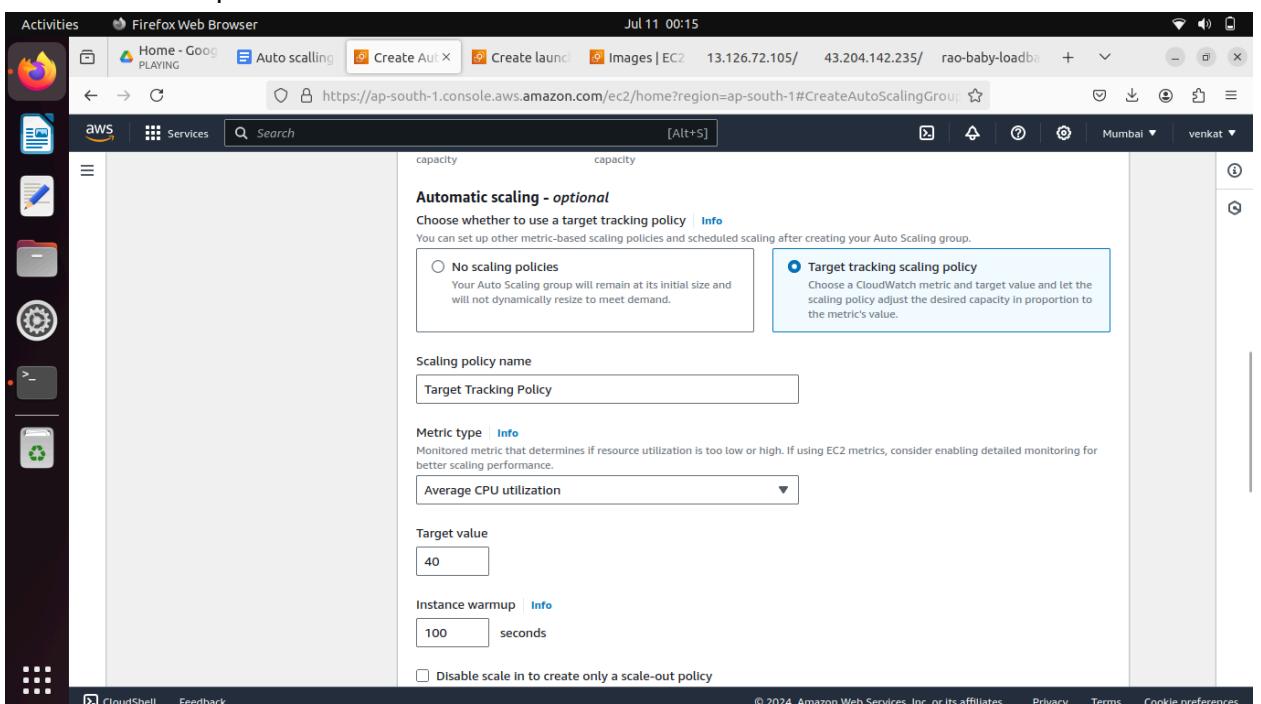
87) Scaling = Min desired capacity =2 and max desired capacity=5



89) Automatic scaling policy= target taking policy

90) Target value = 40

91) Instance warm up= 100 seconds



93) Click next here you want add sns notification topic and next and next create auto scaling

Activities Firefox Web Browser Jul 11 00:18

The screenshot shows the AWS Auto Scaling Groups page. A green success message at the top says "rao-baby-autoscaling-group, 1 Scaling policy created successfully". Below it, the table lists one Auto Scaling group:

Name	Launch template/configuration	Instances	Status	Desired capacity	Min
rao-baby-autoscaling-group	rao-baby-templet   Version Default	0	Updating capacity	2	2

Auto Scaling group: rao-baby-autoscaling-group

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94)

95) Now go ec instance check instances

96) You see add 2 server automatically and remove old baby rao servers

97) Set new server s names

Activities Firefox Web Browser Jul 11 00:20

The screenshot shows the AWS Instances page. The left sidebar shows navigation links like EC2 Dashboard, EC2 Global View, Events, Instances, Images, and Elastic Block Store. The main table displays two instances:

Name	Instance ID	Instance state	Actions
baby	i-018cce91db3f784b1	Running	Stop instance Start instance Reboot instance Hibernate instance Terminate instance
rao	i-0314e1bc1522511a9	Running	2/2 checks passed View alarms +

2 instances selected

Monitoring

CPU utilization (%) Network in (bytes) Network out (bytes) Network packets in... UTC timezone 3h 1d 1w 1h Add to dashboard

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98)

Successfully Initiated termination of i-018cce91db3f784b1,i-0314e1bc1522511a9

**Instances (1/4) Info**

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Available
baby	i-006efd13e089b1470	Running	t2.micro	2/2 checks passed	View alarms +	ap-south
<b>baby2</b>	<b>i-024f428e5e3e1e0bb</b>	<b>Running</b>	<b>t2.micro</b>	<b>2/2 checks passed</b>	<b>View alarms +</b>	<b>ap-south</b>

**i-024f428e5e3e1e0bb (baby2)**

**Details** | Status and alarms | Monitoring | Security | Networking | Storage | Tags

**Instance summary**

Instance ID	Public IPv4 address	Private IPv4 addresses
i-024f428e5e3e1e0bb (baby2)	13.232.212.167   open address	172.31.36.168
IPv6 address	Instance state	Public IPv4 DNS
-	Running	

99)

- 100) If delete all server its automatically create 2 servers
- 101) Connect one server and increase cpu usage using stress command
- 102) When connect time ssh use ec2-user in root place ex; ssh -i "baby.pem"

ec2-user@ec2-13-232-212-167.ap-south-1.compute.amazonaws.com

```

root@ip-172-31-213-215:~# ssh -i "baby.pem" root@ec2-13-232-212-167.ap-south-1.compute.amazonaws.com
The authenticity of host 'ec2-13-232-212-167.ap-south-1.compute.amazonaws.com (13.232.212.167)' can't be established.
ED25519 key fingerprint is SHA256:Lf91qjxdBLcM5T6qP45Bv2syxCeW9vTIQmEDxtfrSo.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-13-232-212-167.ap-south-1.compute.amazonaws.com' (ED25519) to the list of known hosts.
Please login as the user "ec2-user" rather than the user "root".
Connection to ec2-13-232-212-167.ap-south-1.compute.amazonaws.com closed.
challa@challa-HP-Laptop-15-da0xxx:~/Downloads$ ssh -i "baby.pem" ec2-user@ec2-13-232-212-167.ap-south-1.compute.amazonaws.com

A newer release of "Amazon Linux" is available.
Version 2023.5.20240708:
Run "/usr/bin/dnf check-release-update" for full release and version update info
,
#_
~\_\_ #####      Amazon Linux 2023
~~\_#####\
~~ \|##| |
~~ \#/   _->
~~ \~`-`-
~~ .-` /`-
~~ /` /`-
Last login: Wed Jul 10 17:28:40 2024 from 115.99.154.125
[ec2-user@ip-172-31-36-168 ~]$
```

103) #sudo -i

104) # yum install stress -y

105) # stress --cpu 12 --timeout 500

- 106) You enter this command the cpu increase and create new server automatically

The screenshot shows the AWS EC2 Instances page. The left sidebar lists services like EC2 Dashboard, Instances, Images, and Elastic Block Store. The main area displays two instances:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
baby	i-006efd13e089b1470	Running	t2.micro	2/2 checks passed	<a href="#">View alarms</a>
baby2	i-024f428e5e3e1e0bb	Running	t2.micro	2/2 checks passed	<a href="#">View alarms</a>

Below the table, a message says "Select an instance".

107)

Activities Terminal Jul 11 00:35

root@ip-172-31-36-168:~

```
[root@ip-172-31-36-168 ~]# yum install stress -y
Last metadata expiration check: 1:48:14 ago on Wed Jul 10 17:14:55 2024.
Package stress-1.0.4-28.amzn2023.0.2.x86_64 is already installed.
Dependencies resolved.
Nothing to do.
Complete!
[root@ip-172-31-36-168 ~]# stress --cpu 12 --timeout 500
```

108)

Activities Firefox Web Browser Jul 11 00:43

Home - Google Drive Auto scaling - Google Do Instances | EC2 | ap-south-1

aws Services Search [Alt+S]

Instances (5) Info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status
baby	I-018cce91db3f784b1	Terminated	t2.micro	-	View alarms +
baby	I-006efd13e089b1470	Running	t2.micro	2/2 checks passed	View alarms +
	I-0c6c2e90d008d2efd	Pending	t2.micro	-	View alarms +
rao	I-0314e1bc1522511a9	Terminated	t2.micro	-	View alarms +
baby2	I-024f428e5e3e1e0bb	Running	t2.micro	2/2 checks passed	View alarms +

Select an instance

<https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#InstanceDetails:instanceId=i-0c6c2e90d008d2efd> Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

109) When increase cpu percentage its increase servers

Activities Firefox Web Browser

Jul 11 00:44

Home - Google Drive Auto scaling - Google Doc Instances | EC2 | ap-south 1 Instances | EC2 | ap-south 1 https://ap-south-1.console.aws.amazon.com/ec2/home?region=ap-south-1#Instances:instanceState=running

Mumbai venkat

AWS Services Search [Alt+S]

EC2 Dashboard EC2 Global View Events Instances Instances Instance Types Launch Templates Spot Requests Savings Plans Reserved Instances Dedicated Hosts Capacity Reservations Images AMIs AMI Catalog Elastic Block Store Volumes Snapshots CloudShell Feedback

Instances (3) Info Connect Instance state Actions Launch instances

Find Instance by attribute or tag (case-sensitive)

Instance state = running Clear filters All states

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Av
<input type="checkbox"/>	baby	i-006efd13e089b1470	Running	t2.micro	2/2 checks passed	View alarms +	ap
<input type="checkbox"/>		i-0c6c2e90d008d2ef0	Running	t2.micro	Initializing	View alarms +	ap
<input type="checkbox"/>	baby2	i-024f428e5e3e1e0bb	Running	t2.micro	2/2 checks passed	View alarms +	ap

Select an instance

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110) 111) =====