3 – TIER ARCHITECTURE.

What Is Meant By 3-Tier Architecture?

Three-tier architecture is a software development model that organizes applications into three logical and physical computing tiers:

1.Presentation tier

2.Application tier

3.Data tier

1.Presentation tier:

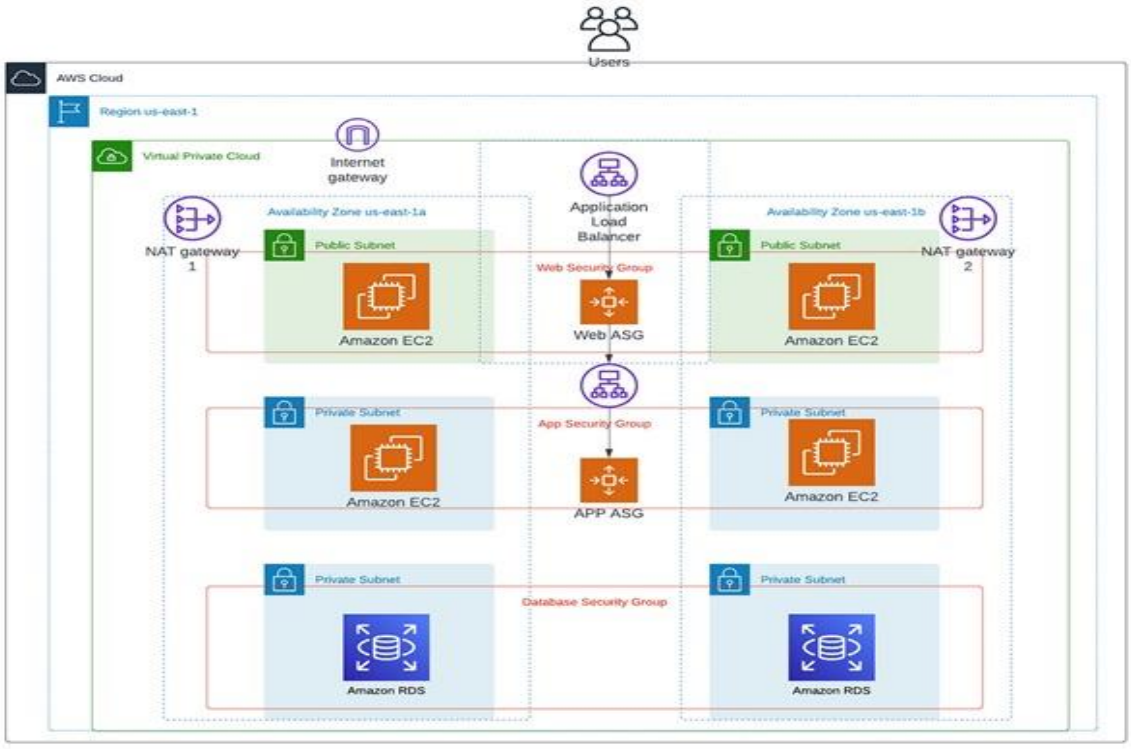
Also known as the user interface, web tier or frontend this is where the end –user interacts with the system

2.Application tier:

Also known as the middle tier or logic tier this is the core of the application where information is processed using business logic

3.Data tier:

Also known as the databases tier,back-end, or data access tier, this is where the application's data is stored ,managed ,retrieved and manipulated



Create VPC In US – EAST:

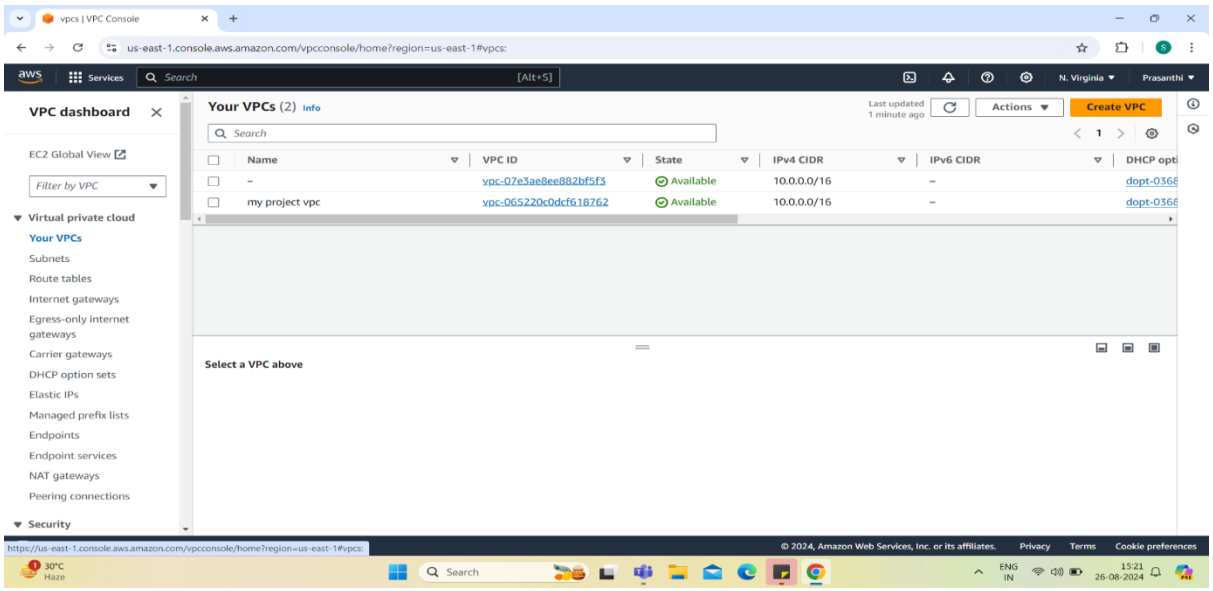
1.login to the AWS account & select VIRGINIA region & do search for VPC in the search box.

2. click on create VPC .

3. select VPC only & give name & give IPv4 CIDR and then.

4. click on create VPC.

SS



Create SUBNETS (2- Public & 4 - Private):

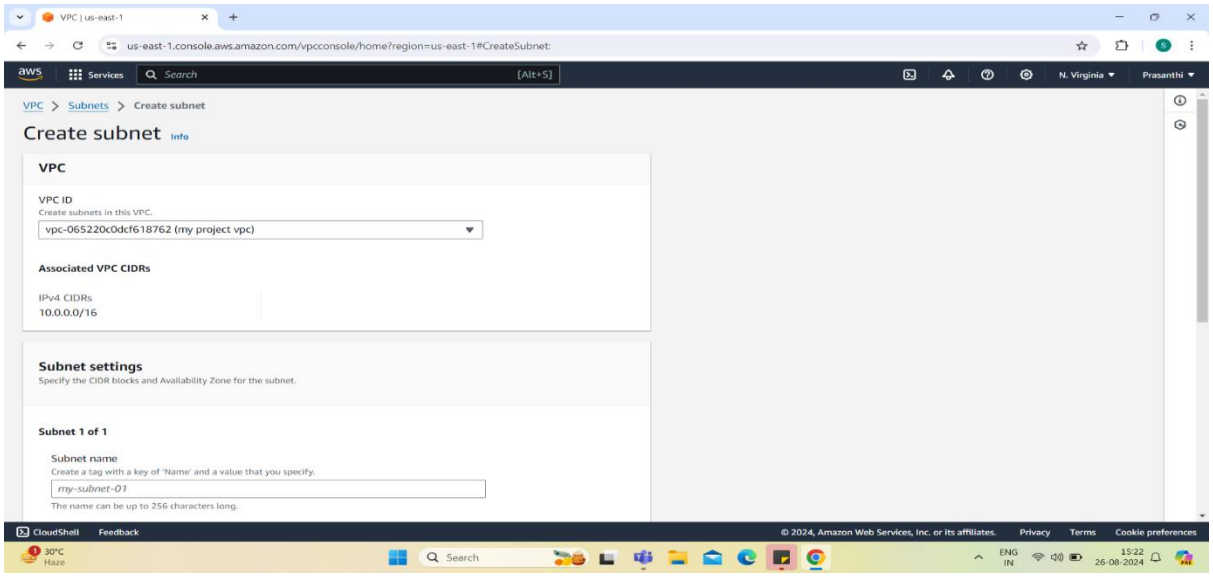
1.Click on SUBNETS & Click on create subnet & choose VPC ID (Own VPC not Default).

2. give subnet name & select availability zone (2a or 2b) & give IPv4 subnet CIDR BLOCK .

3. click on create subnet.

4. like that create 6 subnets – 2 public subnets in 2a & 2b zone and 4 private subnets – take 2 private subnets in 2a & remaining 2 private subnets in 2b zone.

5. some snapshots of subnets are added below


VPC | us-east-1
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateSubnet:
Services
Search
[Alt+S]
N. Virginia
Prasanthi
VPC > Subnets > Create subnet
Create subnet Info
VPC
VPC ID
Create subnets in this VPC.
vpc-065220c0dcf618762 (my project vpc)
Associated VPC CIDRs
IPv4 CIDRs
10.0.0.0/16
Subnet settings
Specify the CIDR blocks and Availability Zone for the subnet.
Subnet 1 of 1
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-subnet-01
The name can be up to 256 characters long.
CloudShell
Feedback
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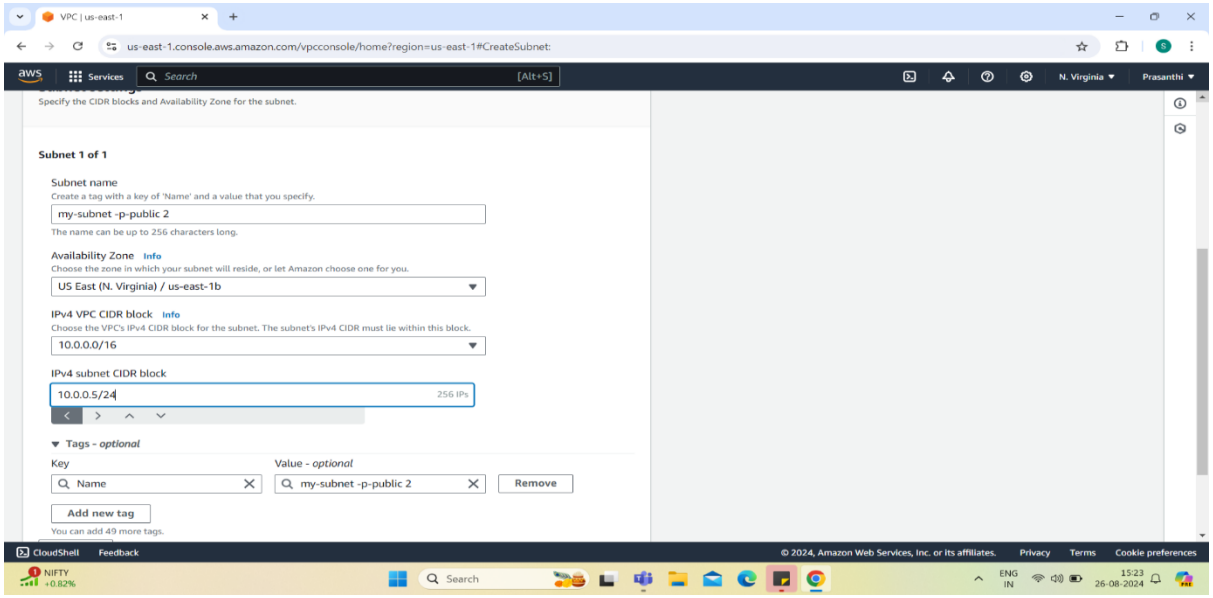
Cookie preferences
30°C
Haze
Search
ENG
IN
15:22
26-08-2024


VPC | us-east-1
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateSubnet:
Services
Search
[Alt+S]
N. Virginia
Prasanthi
Specify the CIDR blocks and Availability Zone for the subnet.
Subnet 1 of 1
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-subnet -p-public 2
The name can be up to 256 characters long.
Availability Zone Info
Choose the zone in which your subnet will reside, or let Amazon choose one for you.
US East (N. Virginia) / us-east-1b
IPv4 VPC CIDR block Info
Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.
10.0.0.0/16
IPv4 subnet CIDR block
10.0.0.5/24
256 IPs
Tags - optional
Key
Value - optional
Name
my-subnet -p-public 2
Remove
Add new tag
You can add 49 more tags.
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Cookie preferences
NIFTY
+0.82%
Search
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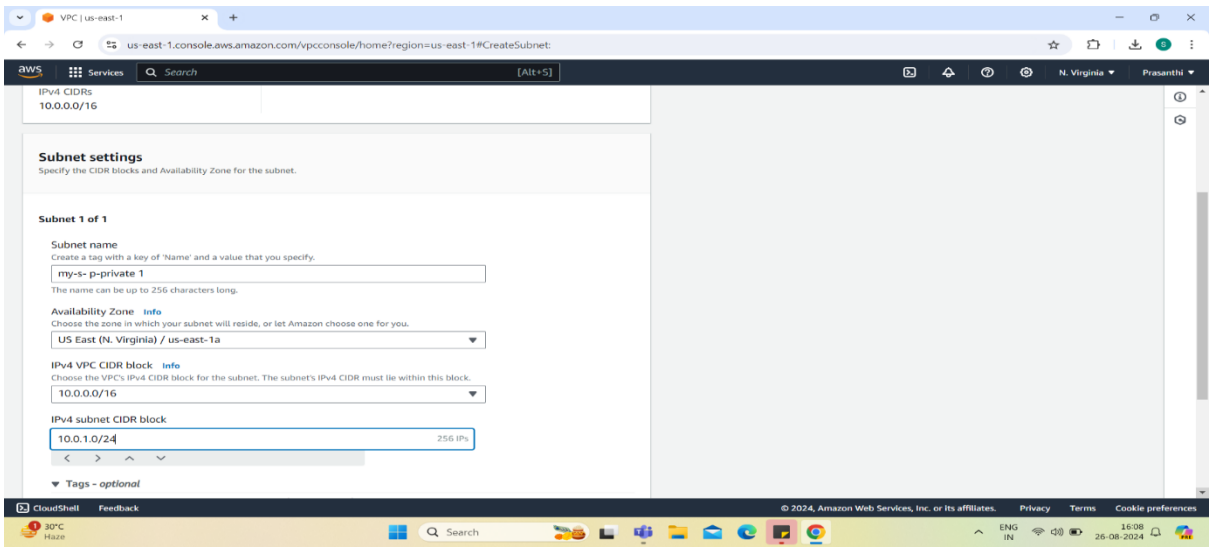
15:23
26-08-2024


VPC | us-east-1
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateSubnet:
Services
Search
[Alt+S]
N. Virginia
Prasanthi
IPv4 CIDRs
10.0.0.0/16
Subnet settings
Specify the CIDR blocks and Availability Zone for the subnet.
Subnet 1 of 1
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-s- p-private 1
The name can be up to 256 characters long.
Availability Zone Info
Choose the zone in which your subnet will reside, or let Amazon choose one for you.
US East (N. Virginia) / us-east-1a
IPv4 VPC CIDR block Info
Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.
10.0.0.0/16
IPv4 subnet CIDR block
10.0.1.0/24
256 IPs
Tags - optional
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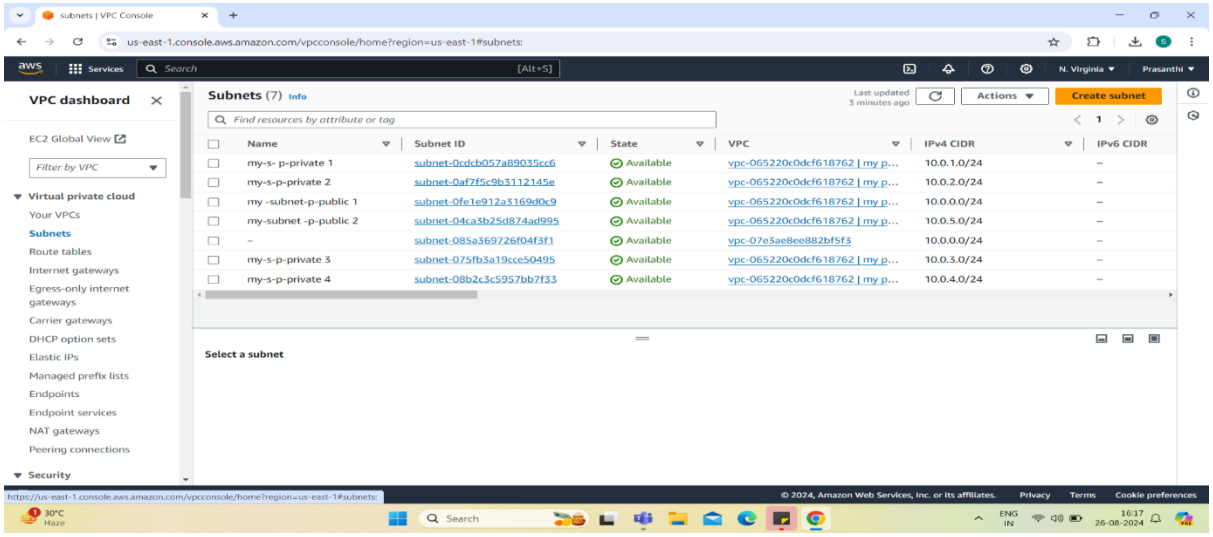


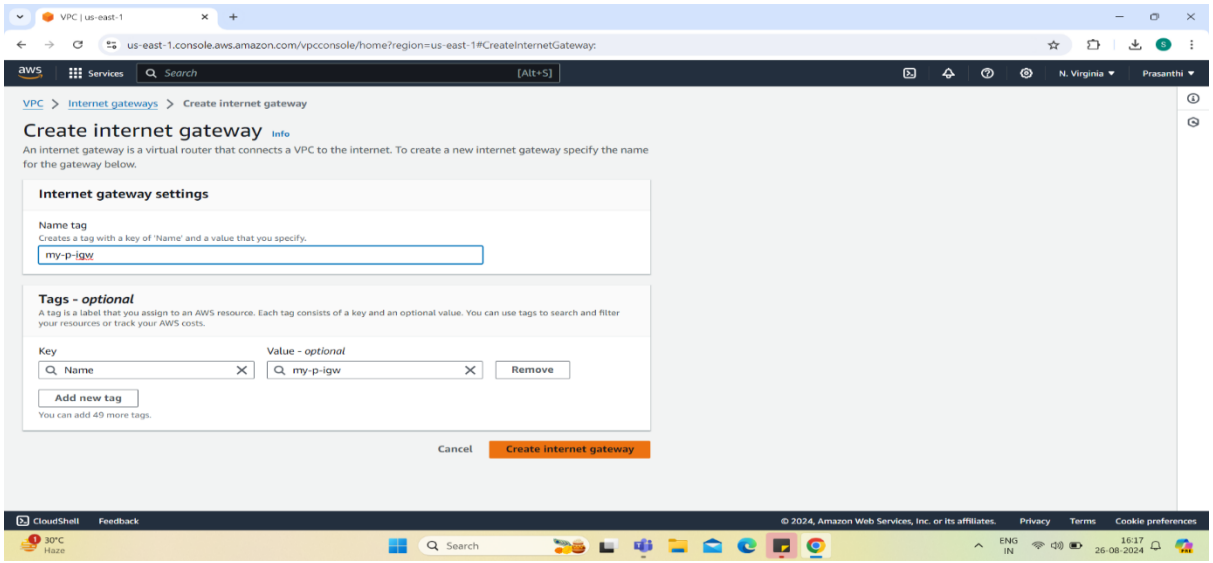
Create INTERNET GATEWAY:

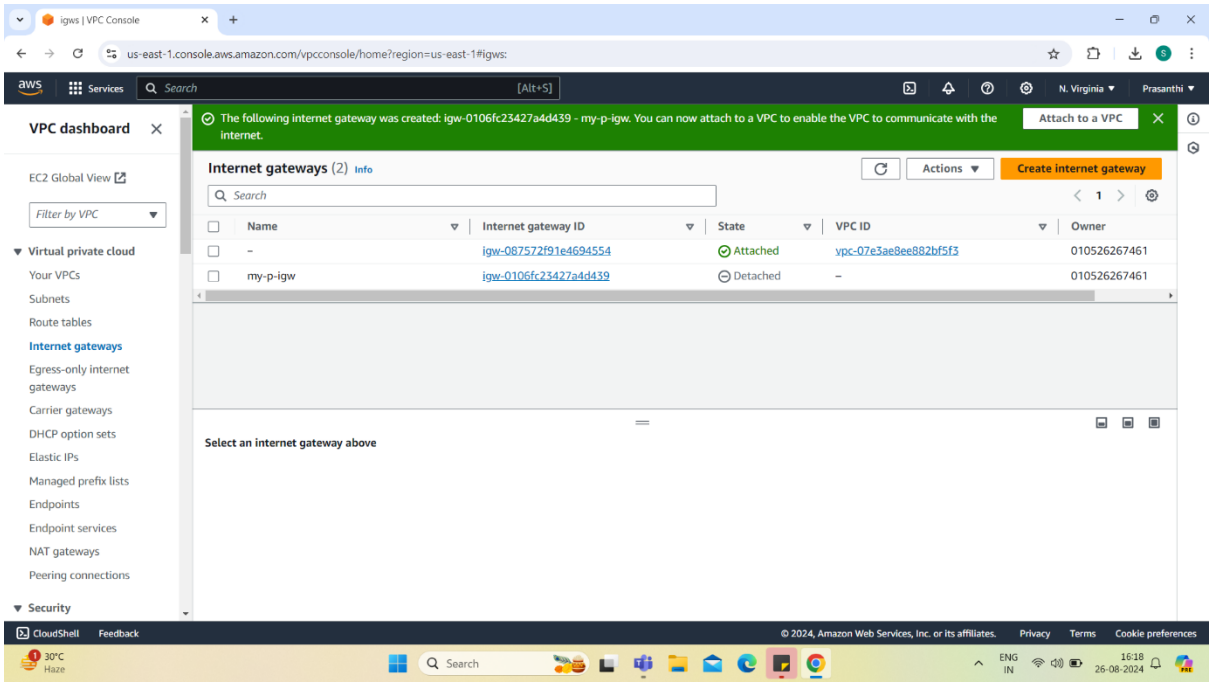
1.click on internet gateway &create internet gateway.

2. after the creation of internet gateway, click on internet gateway , click on actions & attach it to VPC.

3.Snapshots of internet gateway are attached below.

3.Snapshots of internet gateway are attached below.



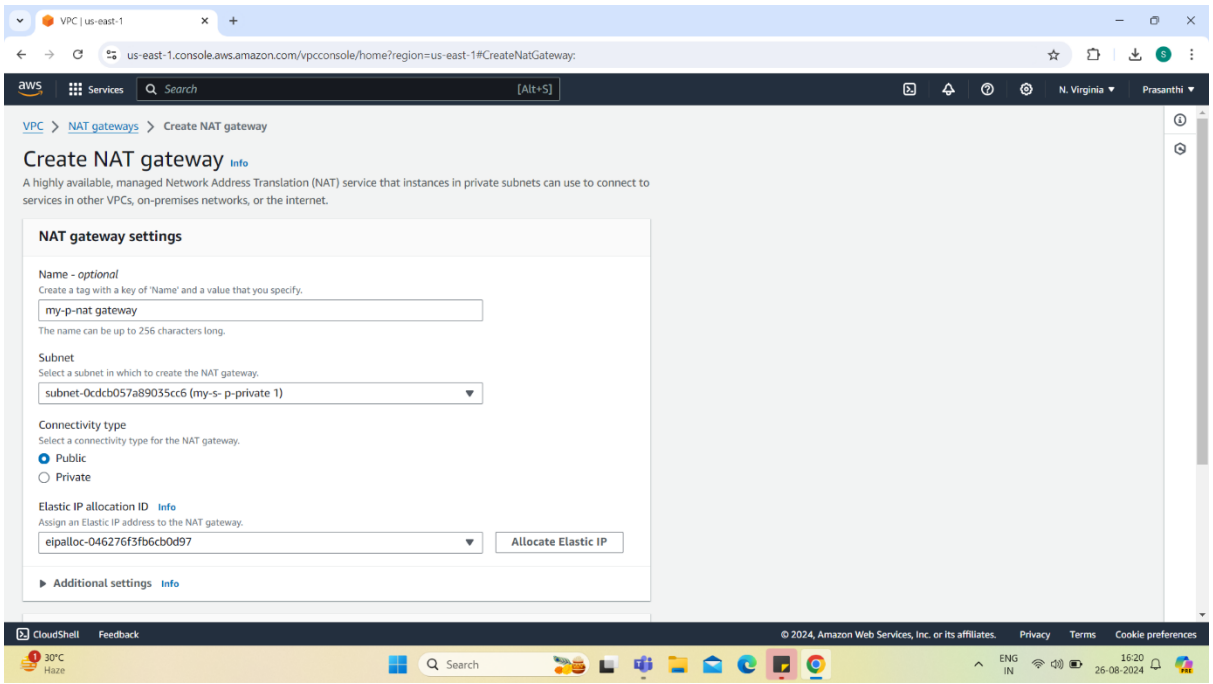


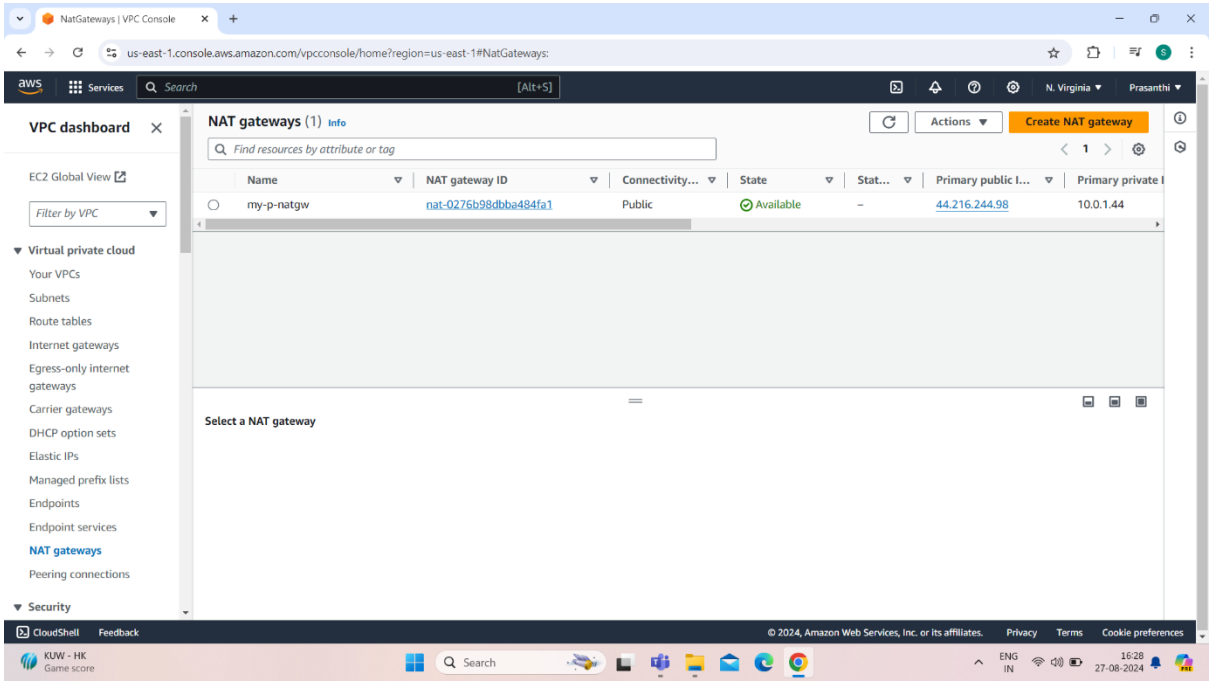
Create NATGATEWAY:

1.click on Nat gateway & click on create.

2.select PRIVATE SUBNET & choose connectivity type as PUBLIIC & Allocate ELASTIC IP.

3.Click on create NAT GATEWAY.

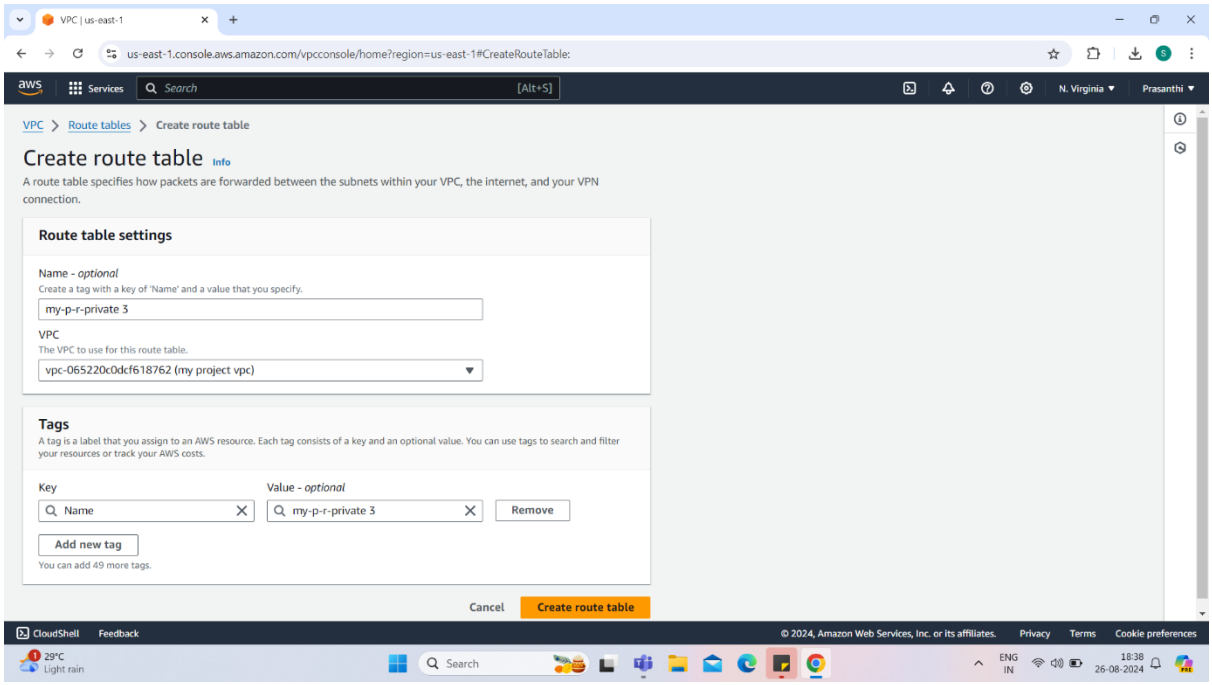




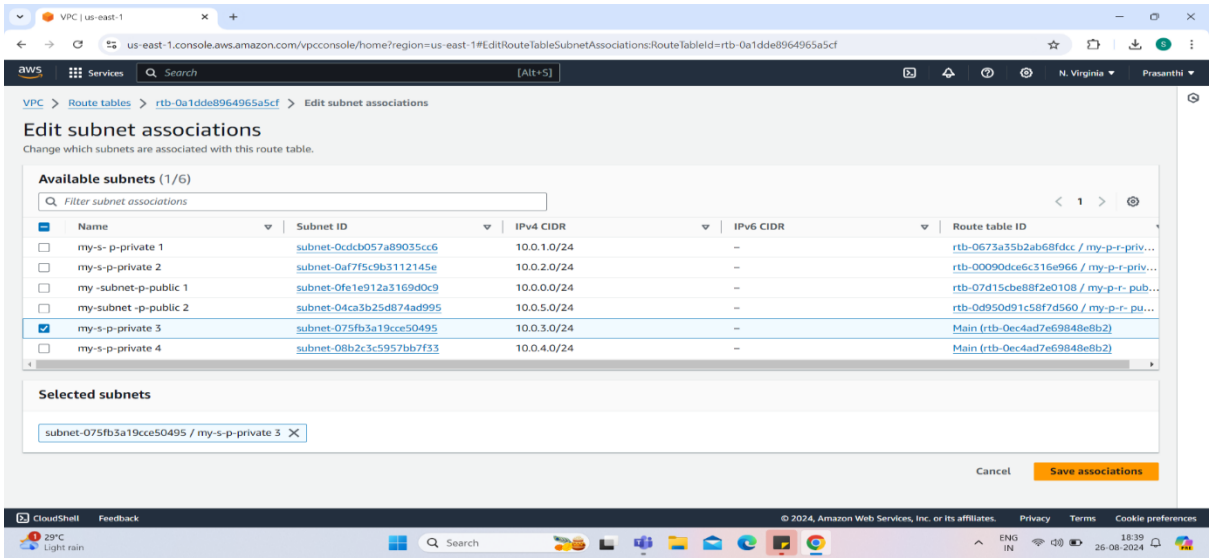
Create ROUTE TABLES:

1. We have to create 2 route tables – one is PUBLIC & another one is PRIVATE.

2.goto route table – click on create route- select VPC & create route table.



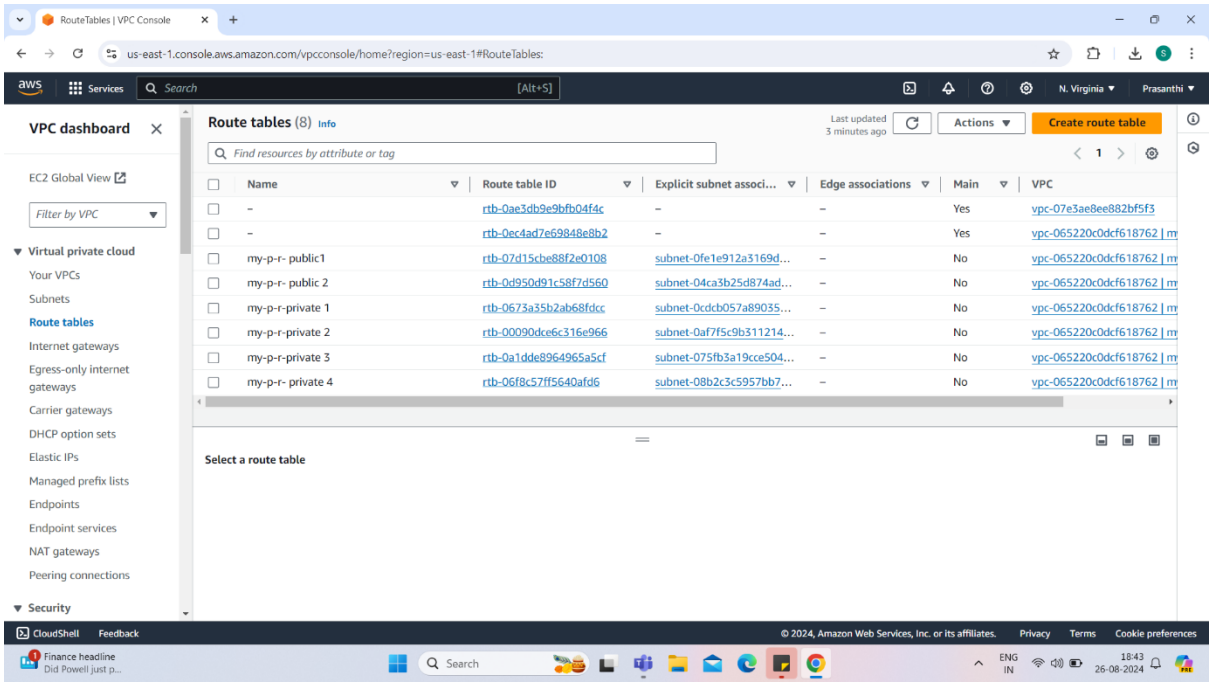
3. click on route- actions-edit subnet associations-select PUBLIC SUBNETS – save associations.



4. create another route table as PRIVATE.

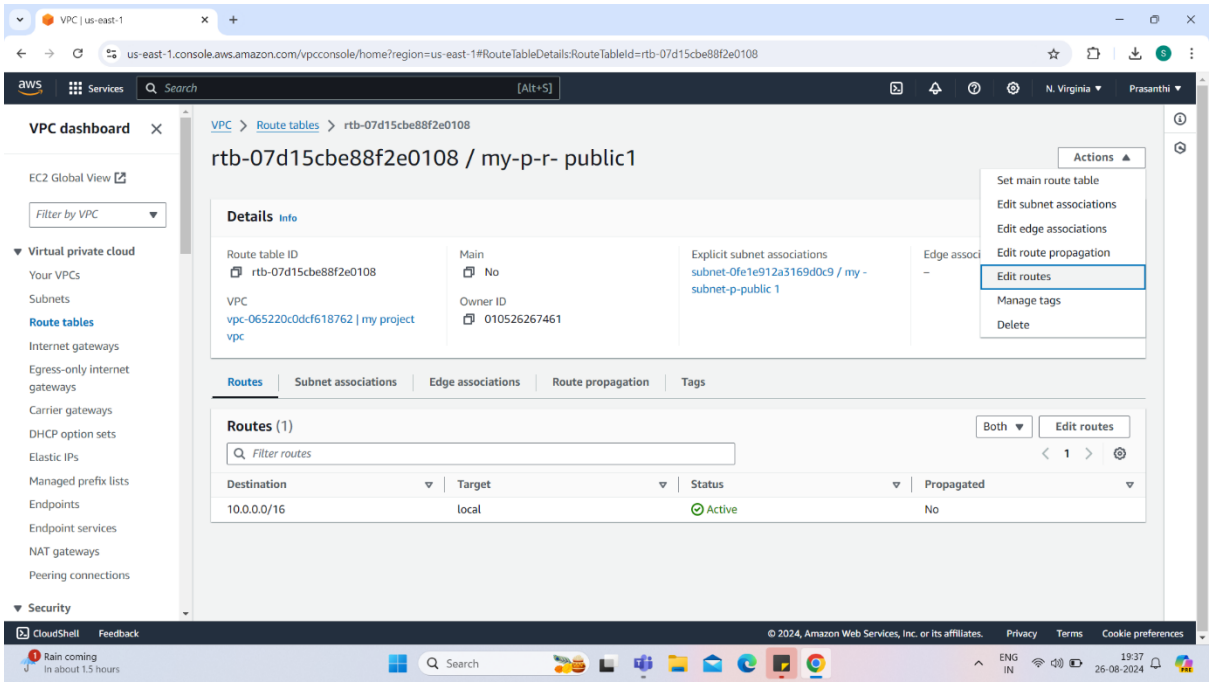
5.Select VPC – do edit subnet associations – select 4 private subnets – save associations.

6. snapshots are attached below.



7.click on public route table – edit routes – add route - attach internet gateway – save changes.

8. click on private route table – attach internet gateway & Nat gateway – save changes.


VPC | us-east-1
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#RouteTableDetails:RouteTableId=rtb-07d15cbe88f2e0108
Services
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VPC dashboard
EC2 Global View
Filter by VPC
Virtual private cloud
Your VPCs
Subnets
Route tables
Internet gateways
Egress-only internet gateways
Carrier gateways
DHCP option sets
Elastic IPs
Managed prefix lists
Endpoints
Endpoint services
NAT gateways
Peering connections
Security
VPC > Route tables > rtb-07d15cbe88f2e0108
rtb-07d15cbe88f2e0108 / my-p-r- public1
Actions
Set main route table
Edit subnet associations
Edit edge associations
Edit route propagation
Edit routes
Manage tags
Delete
Details Info
Route table ID
rtb-07d15cbe88f2e0108
Main
No
Explicit subnet associations
subnet-0fe1e912a3169d0c9 / my-subnet-p-public 1
VPC
vpc-065220c0dcf618762 | my project vpc
Owner ID
010526267461
Routes
Subnet associations
Edge associations
Route propagation
Tags
Routes (1)
Both
Edit routes
Filter routes
Destination
Target
Status
Propagated
10.0.0.0/16
local
Active
No
CloudShell
Feedback
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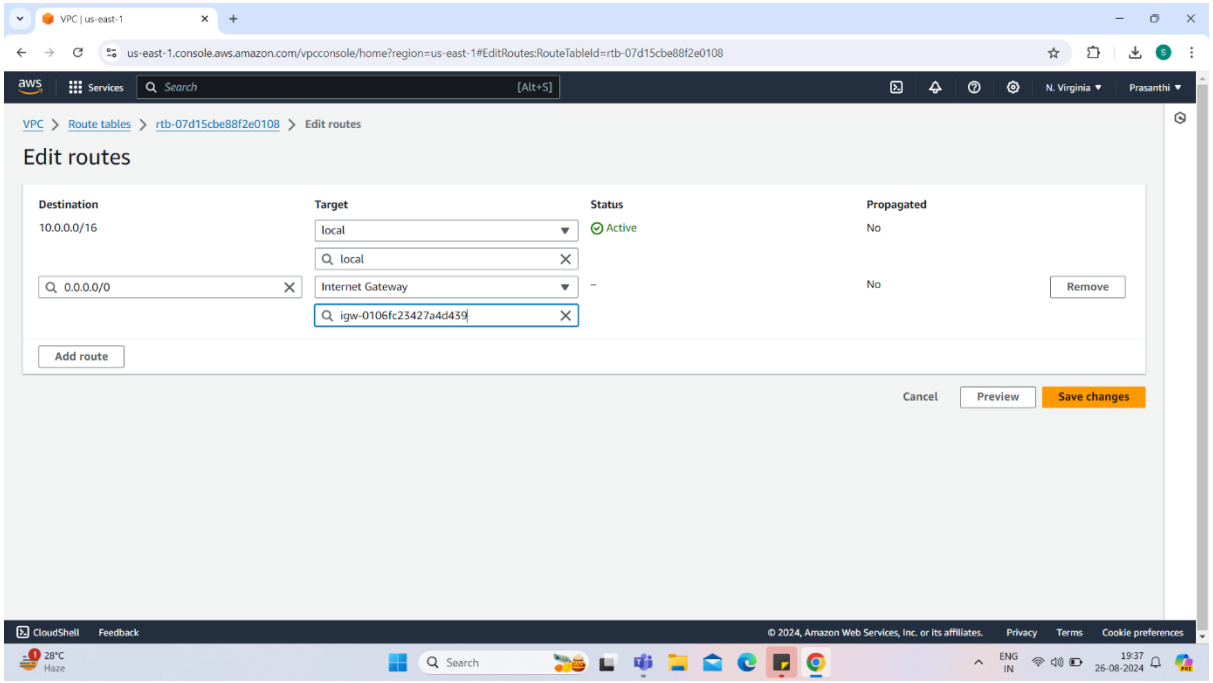
Privacy
Terms
Cookie preferences
Rain coming
In about 1.5 hours
ENG
IN
19:37
26-08-2024


VPC | us-east-1
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#EditRoutes:RouteTableId=rtb-07d15cbe88f2e0108
Services
Search
[Alt+S]
N. Virginia
Prasanthi
VPC > Route tables > rtb-07d15cbe88f2e0108 > Edit routes
Edit routes
Destination
Target
Status
Propagated
10.0.0.0/16
local
Active
No
local
0.0.0.0/0
Internet Gateway
–
No
Remove
igw-0106fc23427a4d439
Add route
Cancel
Preview
Save changes
CloudShell
Feedback
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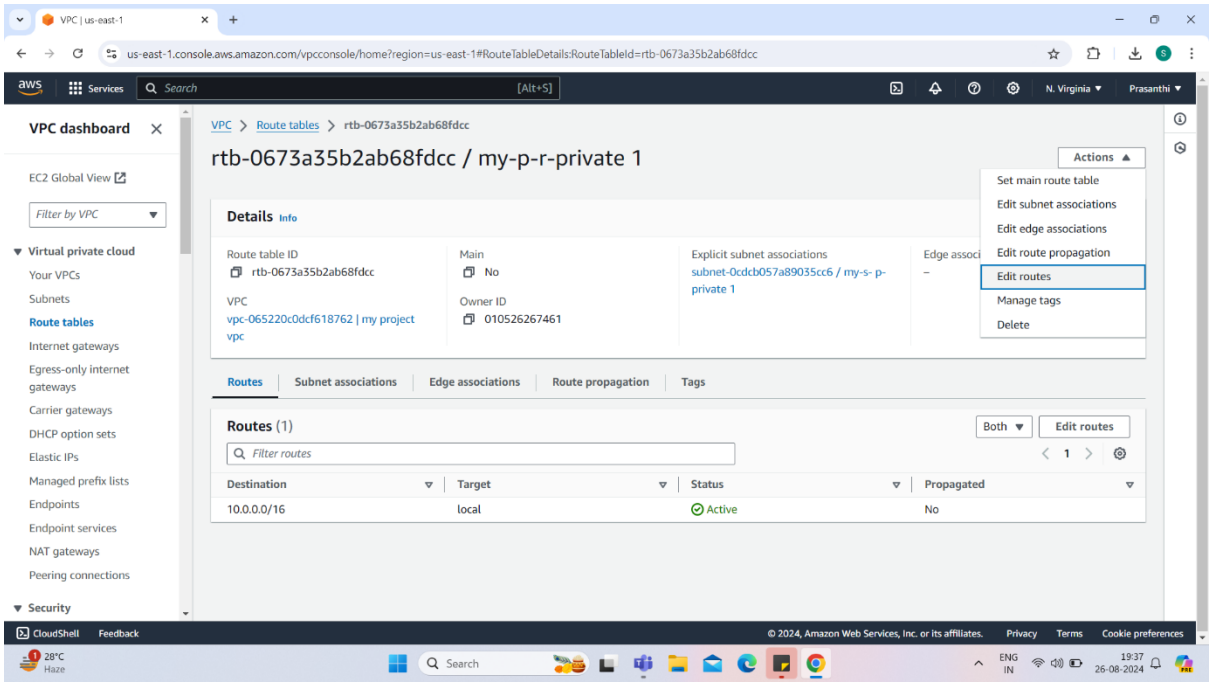
Privacy
Terms
Cookie preferences
28°C
Haze
ENG
IN
19:37
26-08-2024



9. Now go to the subnets - click on public subnet -01, click on actions – edit subnet settings – ENABLE Auto assign public IPv4 address.

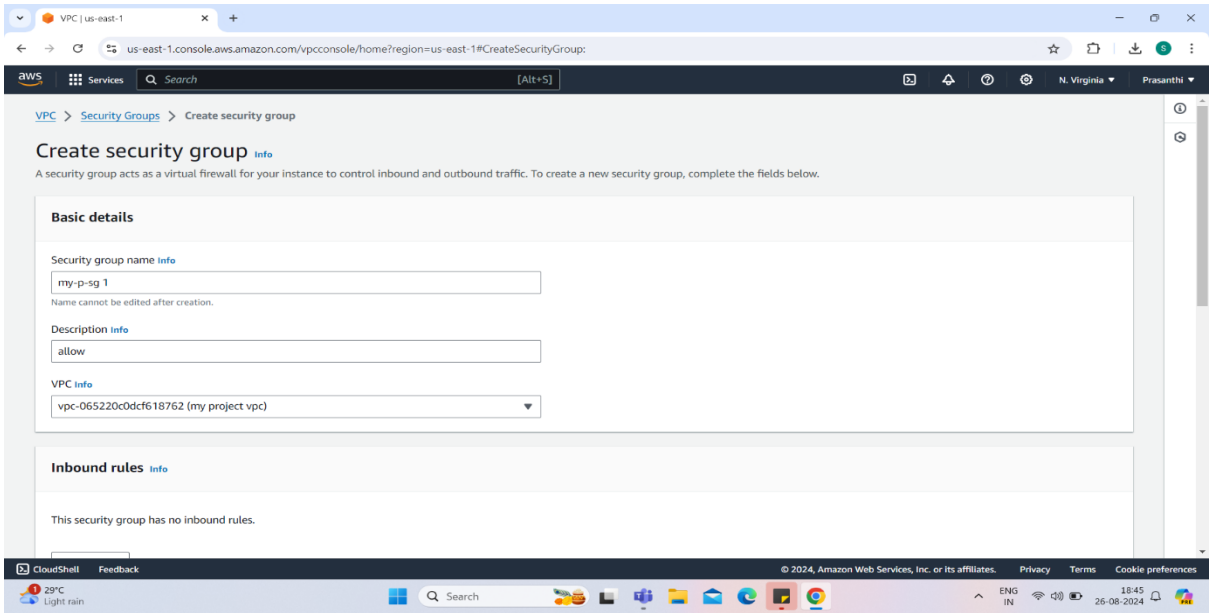
10.Do the same for remaining subnets also.

Create SECURITY GROUPS:

1.we have to create TWO security groups.

2. Goto security groups - click on create security groups- select VPC – add INBOUND (SSH & HTTP) & OUTBOUND RULES (All traffic) – click on create security group.

3. snapshots are attached below


VPC | us-east-1
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateSecurityGroup:
Services
Search
[Alt+S]
N. Virginia
Prasanthi
VPC > Security Groups > Create security group
Create security group Info
A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.
Basic details
Security group name Info
my-p-sg 1
Name cannot be edited after creation.
Description Info
allow
VPC Info
vpc-065220c0dcf618762 (my project vpc)
Inbound rules Info
This security group has no inbound rules.
CloudShell
Feedback
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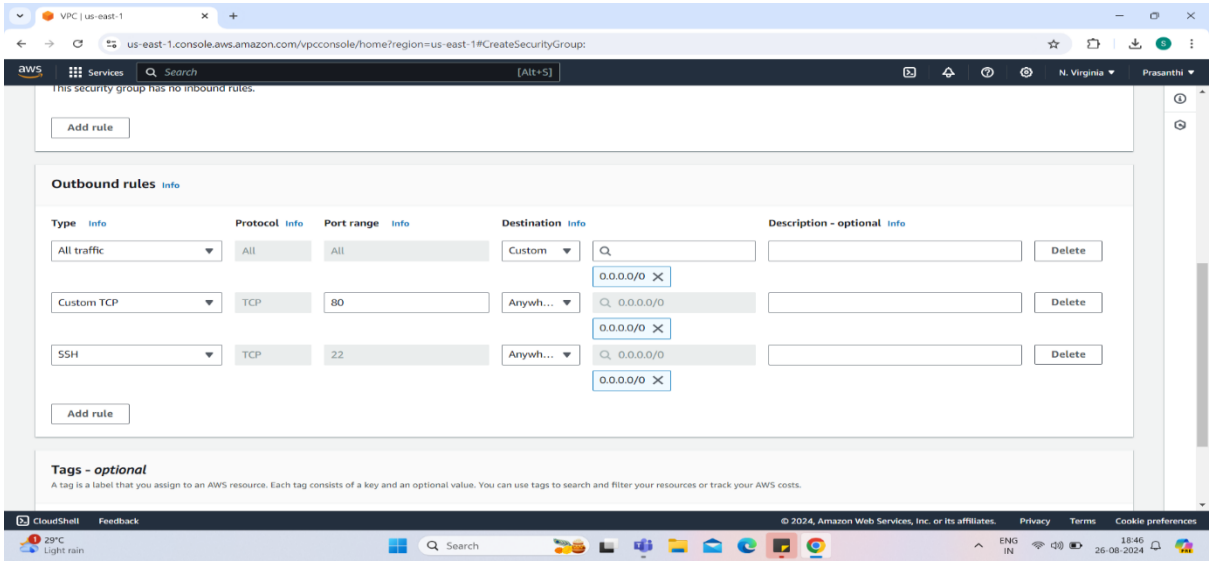
Privacy
Terms
Cookie preferences
29°C
Light rain
Search
ENG
IN
18:45
26-08-2024


VPC | us-east-1
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateSecurityGroup:
Services
Search
[Alt+S]
N. Virginia
Prasanthi
This security group has no inbound rules.
Add rule
Outbound rules Info
Type Info
Protocol Info
Port range Info
Destination Info
Description - optional Info
All traffic
All
All
Custom
0.0.0.0/0
Delete
Custom TCP
TCP
80
Anywh...
0.0.0.0/0
Delete
SSH
TCP
22
Anywh...
0.0.0.0/0
Delete
Add rule
Tags - optional
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.
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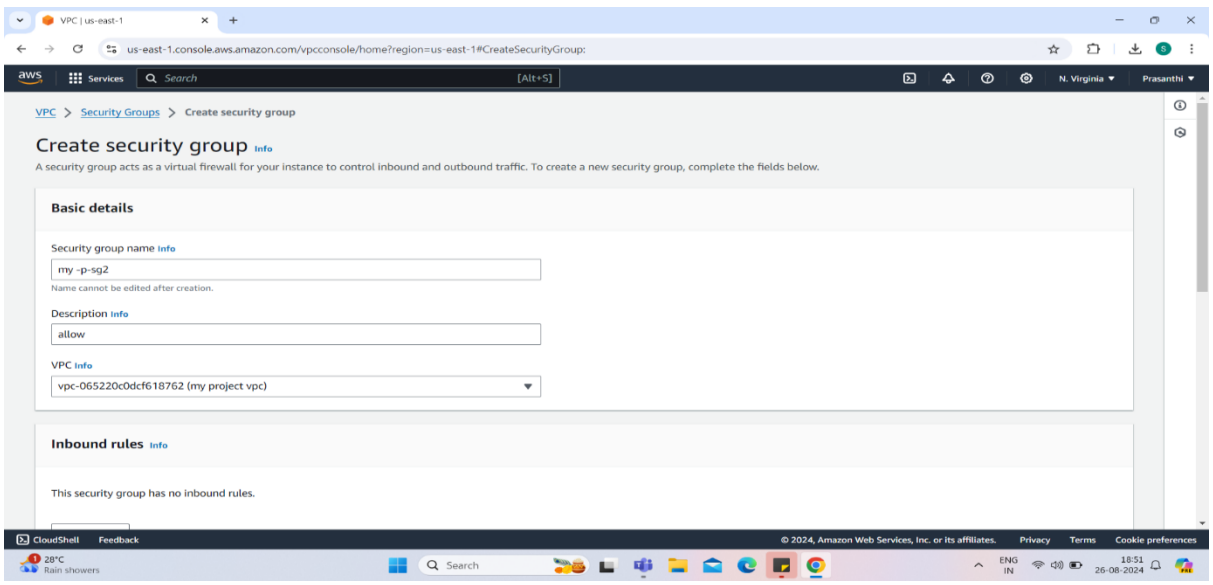
Search
ENG
IN
18:46
26-08-2024


VPC | us-east-1
us-east-1.console.aws.amazon.com/vpcconsole/home?region=us-east-1#CreateSecurityGroup:
Services
Search
[Alt+S]
N. Virginia
Prasanthi
VPC > Security Groups > Create security group
Create security group Info
A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.
Basic details
Security group name Info
my -p-sg2
Name cannot be edited after creation.
Description Info
allow
VPC Info
vpc-065220c0dcf618762 (my project vpc)
Inbound rules Info
This security group has no inbound rules.
CloudShell
Feedback
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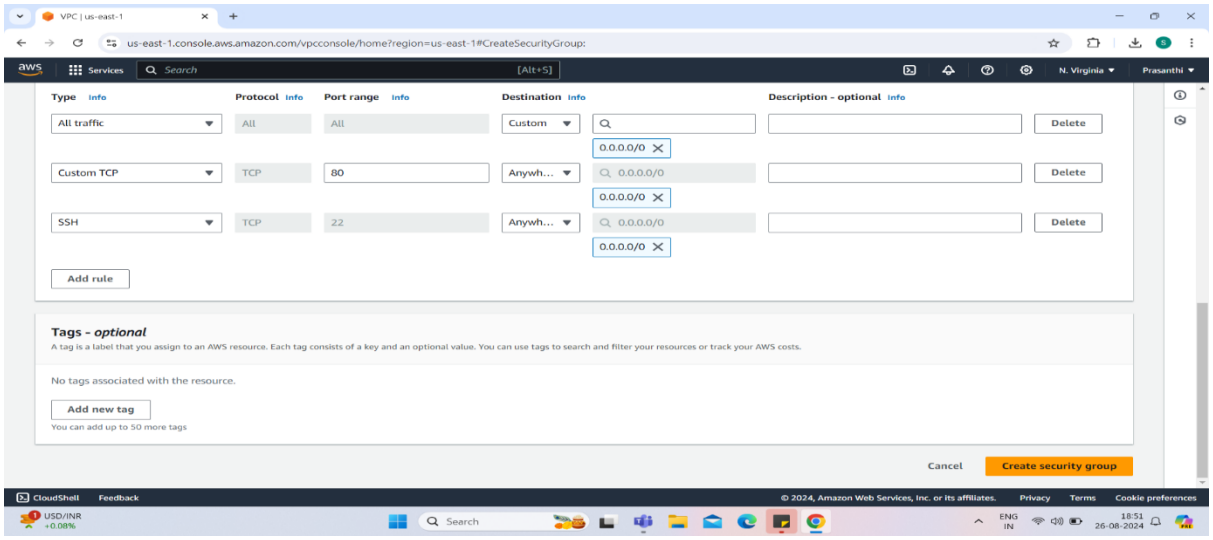
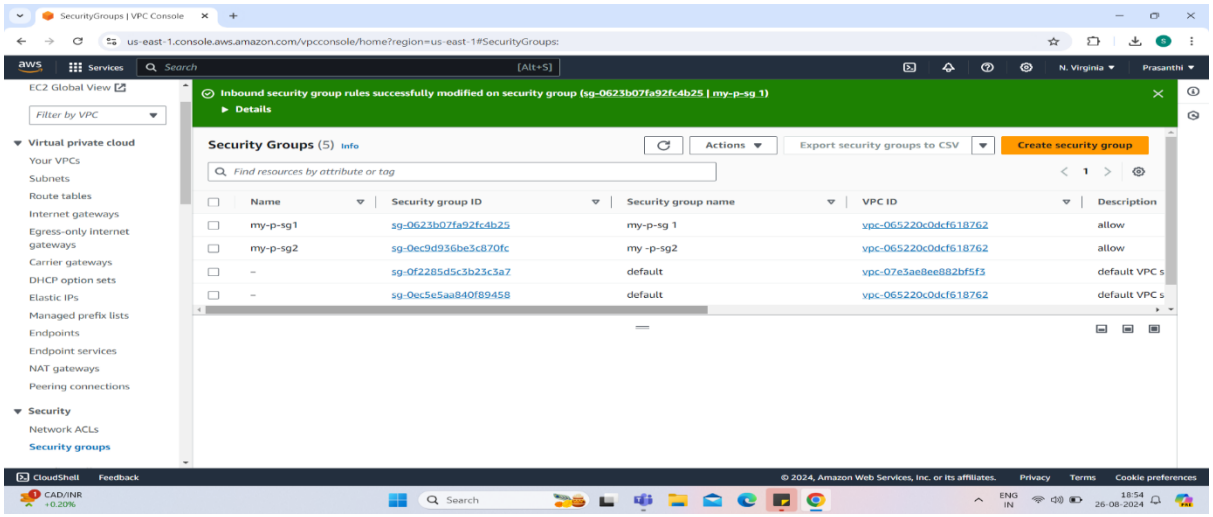
Privacy
Terms
Cookie preferences
28°C
Rain showers
Search
ENG
IN
18:51
26-08-2024





NOW LAUNCH TWO TEMPLATES (Public &Private):

PUBLIC TEMPLATE AND PRIVATE TEMPLATE:

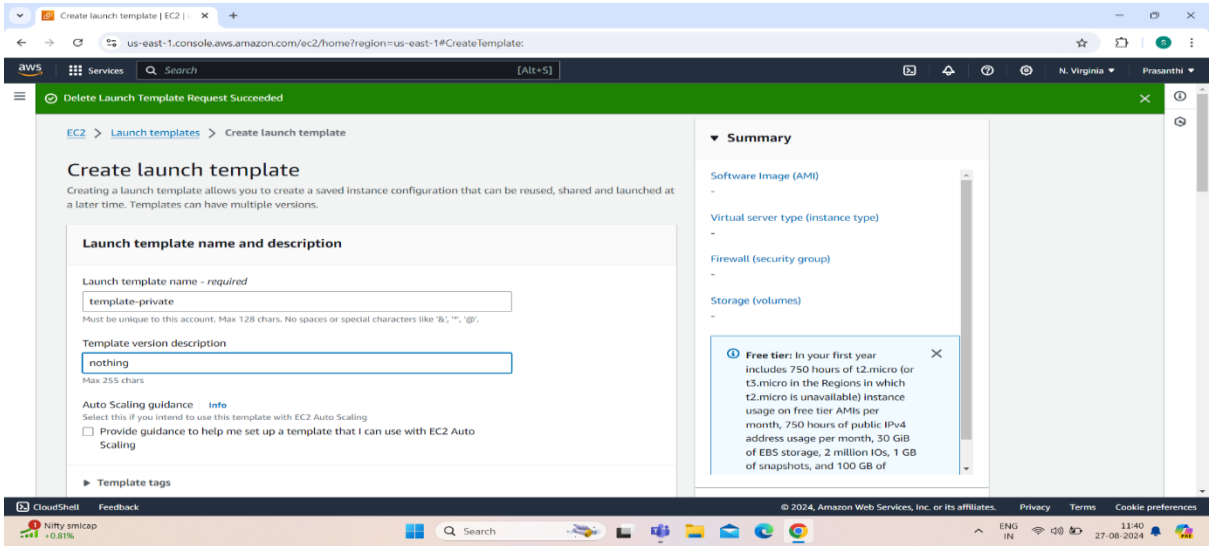
1.Search EC2 – Click on LAUNCH TEMPLATES – Click on CREATE LAUNCH TEMPLATES.

2.Select AMI – UBUNTU & instance type– t2.micro(1GB- Free Tier).

3.Select KEY PAIR – a new or existing.

4. In Network Settings, I am not going to specify subnets, but security group (SG) that I am created for the security-group-1&2 (my-sg-01&02) is selected. Make sure the proper VPC is selected.

5. Snapshots of Public Template and private Template are attached below.


Create launch template | EC2 |
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTemplate:
Services
Search
[Alt+S]
N. Virginia
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Delete Launch Template Request Succeeded
EC2 > Launch templates > Create launch template
Create launch template
Creating a launch template allows you to create a saved instance configuration that can be reused, shared and launched at a later time. Templates can have multiple versions.
Launch template name and description
Launch template name - required
template-private
Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '*', '@'.
Template version description
nothing
Max 255 chars
Auto Scaling guidance Info
Select this if you intend to use this template with EC2 Auto Scaling
Provide guidance to help me set up a template that I can use with EC2 Auto Scaling
Template tags
Summary
Software Image (AMI)
Virtual server type (instance type)
Firewall (security group)
Storage (volumes)
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, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of
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Feedback
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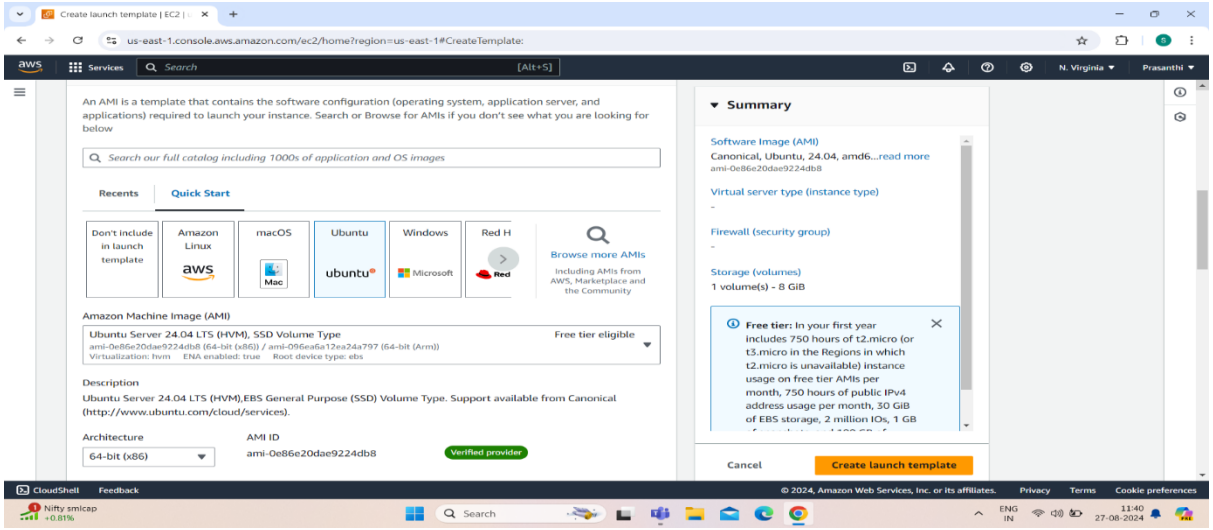
Cookie preferences
Nifty smlcap +0.81%
Search
ENG IN
11:40 27-08-2024


Create launch template | EC2 |
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTemplate:
Services
Search
[Alt+S]
N. Virginia
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An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below
Search our full catalog including 1000s of application and OS images
Recents
Quick Start
Don't include in launch template
Amazon Linux
macOS
Ubuntu
Windows
Red H
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community
Amazon Machine Image (AMI)
Ubuntu Server 24.04 LTS (HVM), SSD Volume Type
Free tier eligible
ami-0e86e20dae9224db8 (64-bit (x86)) / ami-096ea6a12ea24a797 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs
Description
Ubuntu Server 24.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical (http://www.ubuntu.com/cloud/services).
Architecture
64-bit (x86)
AMI ID
ami-0e86e20dae9224db8
Verified provider
Summary
Software Image (AMI)
Canonical, Ubuntu, 24.04, amd6...read more
ami-0e86e20dae9224db8
Virtual server type (instance type)
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, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB
Cancel
Create launch template
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Cookie preferences
Nifty smlcap +0.81%
Search
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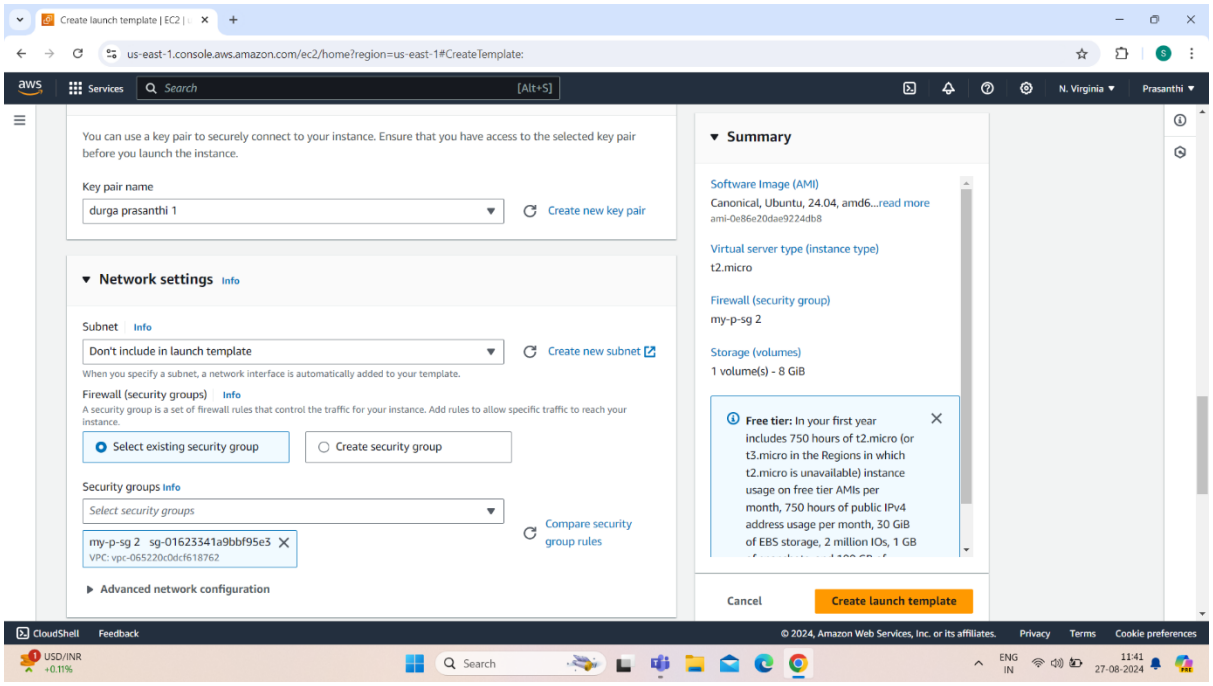
11:40 27-08-2024


Create launch template | EC2
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTemplate:
Services
Search
[Alt+S]
N. Virginia
Prasanthi
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
durga prasanthi 1
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
my-p-sg 2 sg-01623341a9bbf95e3
VPC: vpc-065220c0dcf618762
Compare security group rules
Advanced network configuration
Summary
Software Image (AMI)
Canonical, Ubuntu, 24.04, amd6...read more
ami-0e86e20dae9224db8
Virtual server type (instance type)
t2.micro
Firewall (security group)
my-p-sg 2
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, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB
Cancel
Create launch template
CloudShell
Feedback
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USD/INR +0.11%
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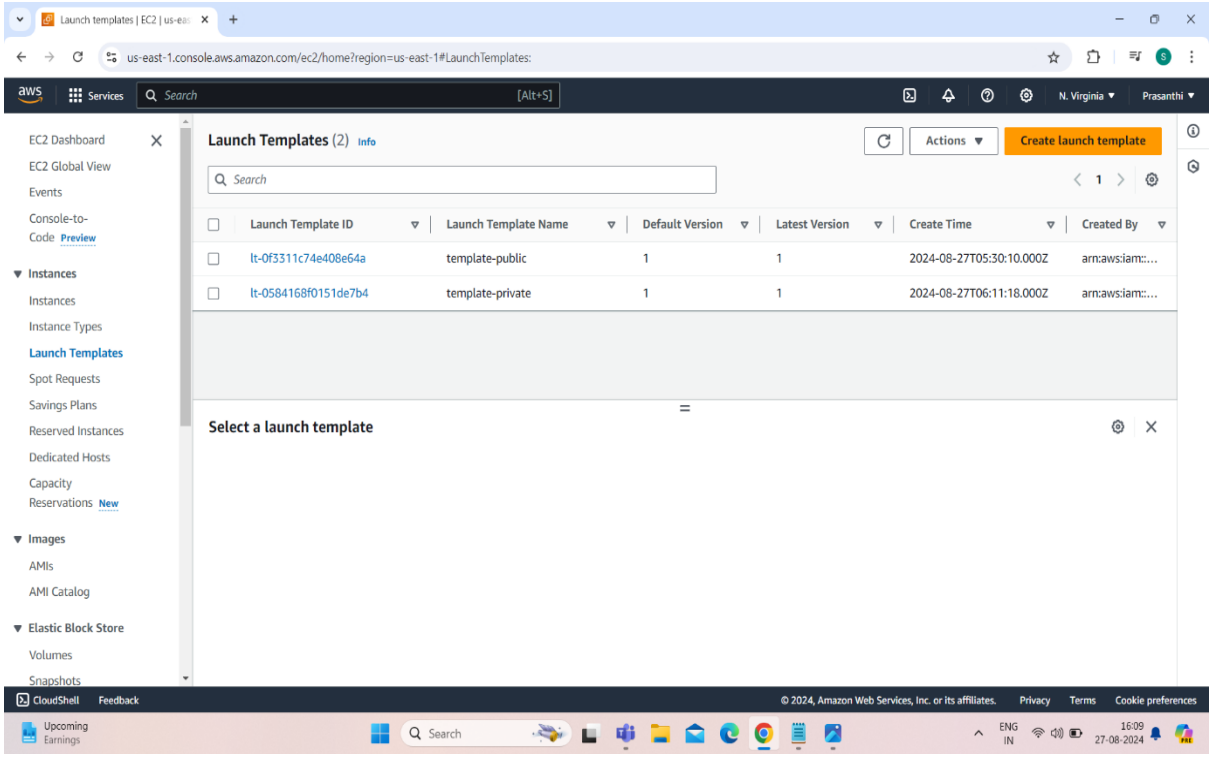
ENG IN
11:41
27-08-2024


Launch templates | EC2 | us-east-1
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchTemplates:
Services
Search
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N. Virginia
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EC2 Dashboard
EC2 Global View
Events
Console-to-Code Preview
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
Launch Templates (2) Info
Actions
Create launch template
Search
Launch Template ID
Launch Template Name
Default Version
Latest Version
Create Time
Created By
lt-0f3311c74e408e64a
template-public
1
1
2024-08-27T05:30:10.000Z
arn:aws:iam::...
lt-0584168f0151de7b4
template-private
1
1
2024-08-27T06:11:18.000Z
arn:aws:iam::...
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CREATE TWO AUTOSCALING GROUPS (Public & Private):

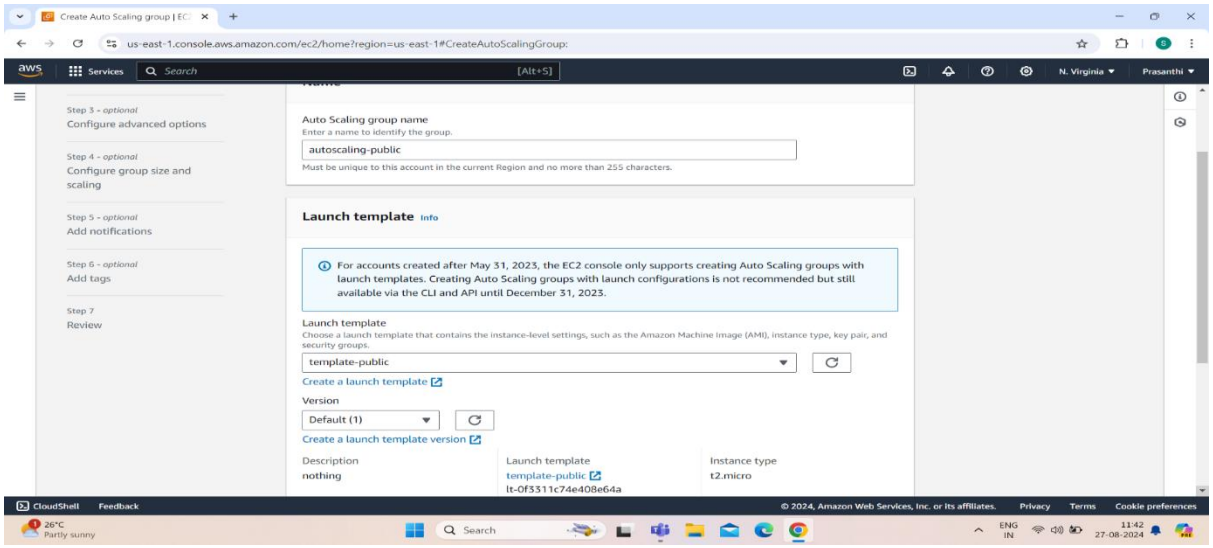
PUBLIC AUTO SCALING GROUP:

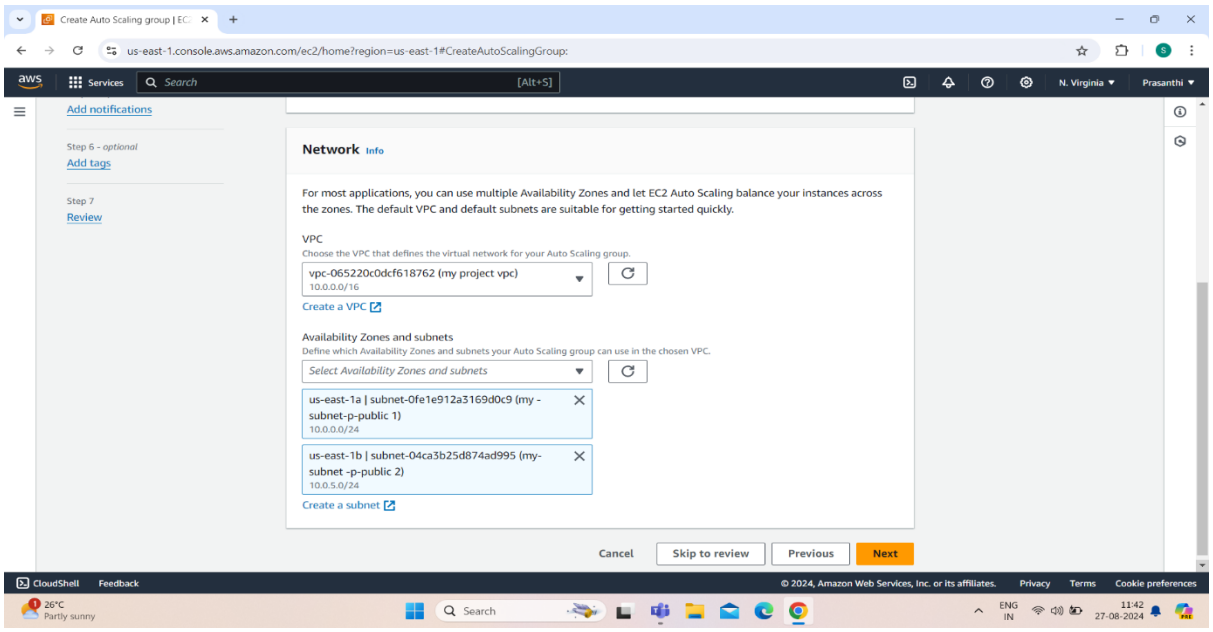
1.In EC2, go to autoscaling group – click on create autoscaling group.

2.give name to ASG – Select PUBLIC TEMPLATE (which is already created)

3.In network settings- choose VPC – choose 2 public subnets.

4. After that click on NEXT.



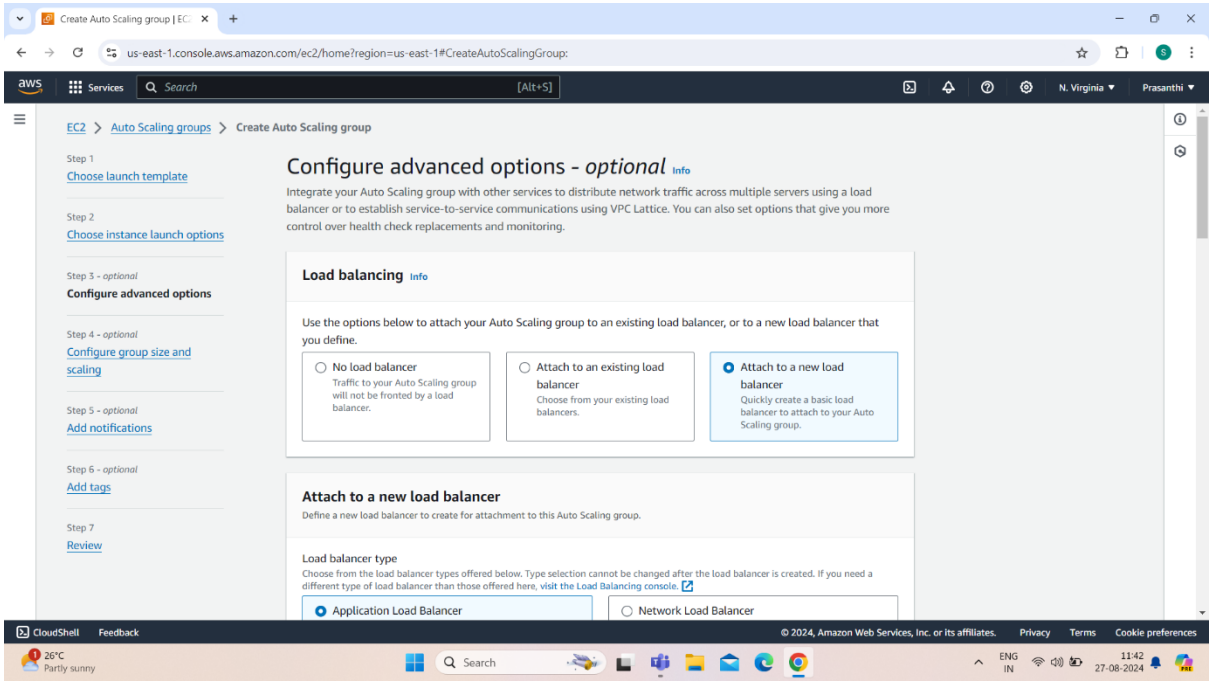


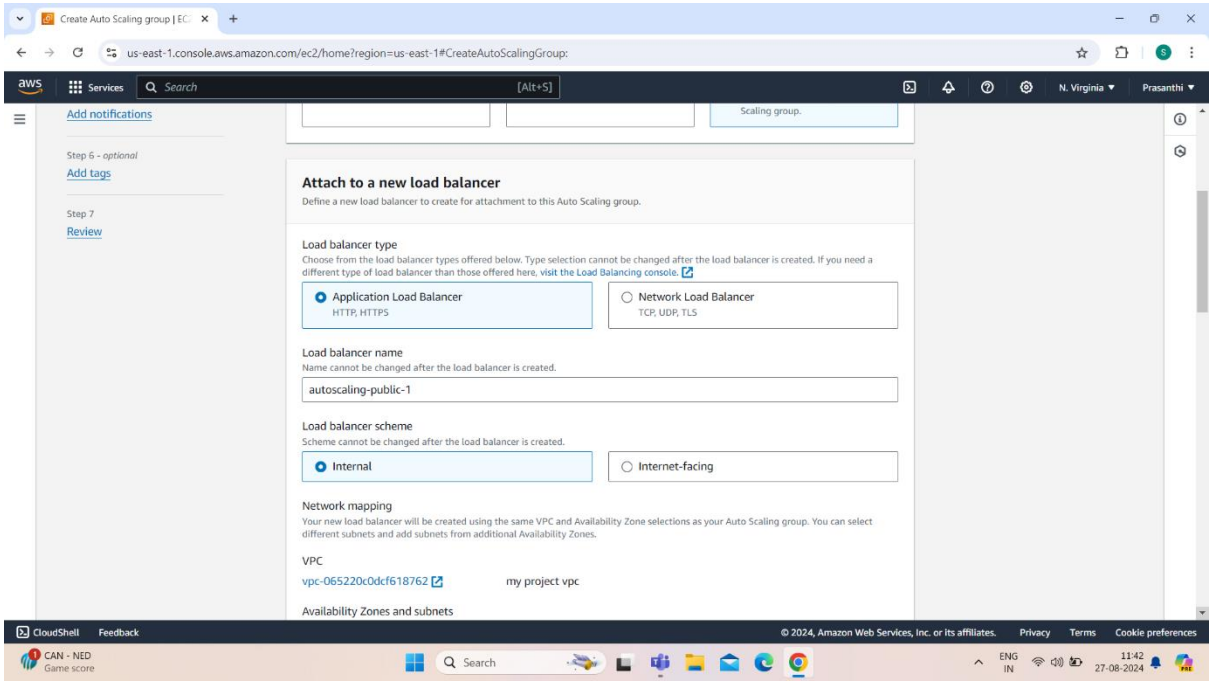
5. We have to attach LOAD BALANCER to ASG.

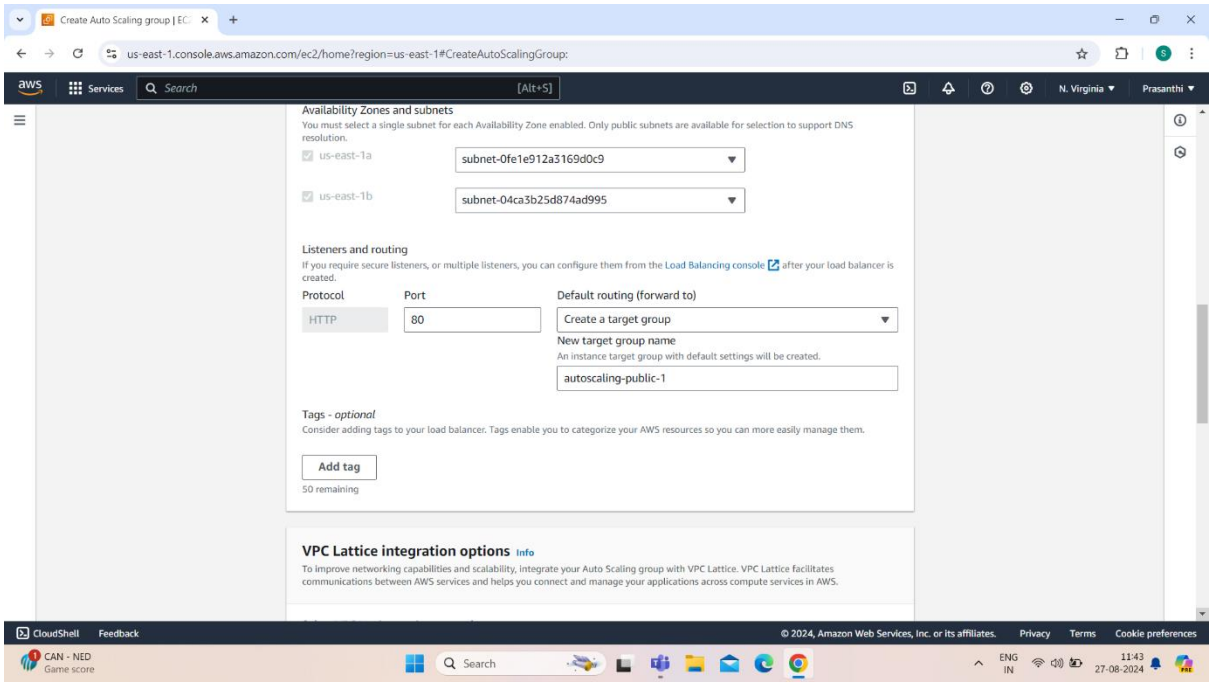
6.Attach load balancer- choose application load balancer- LB name should be same as ASG , if you want to edit it you can edit the name.

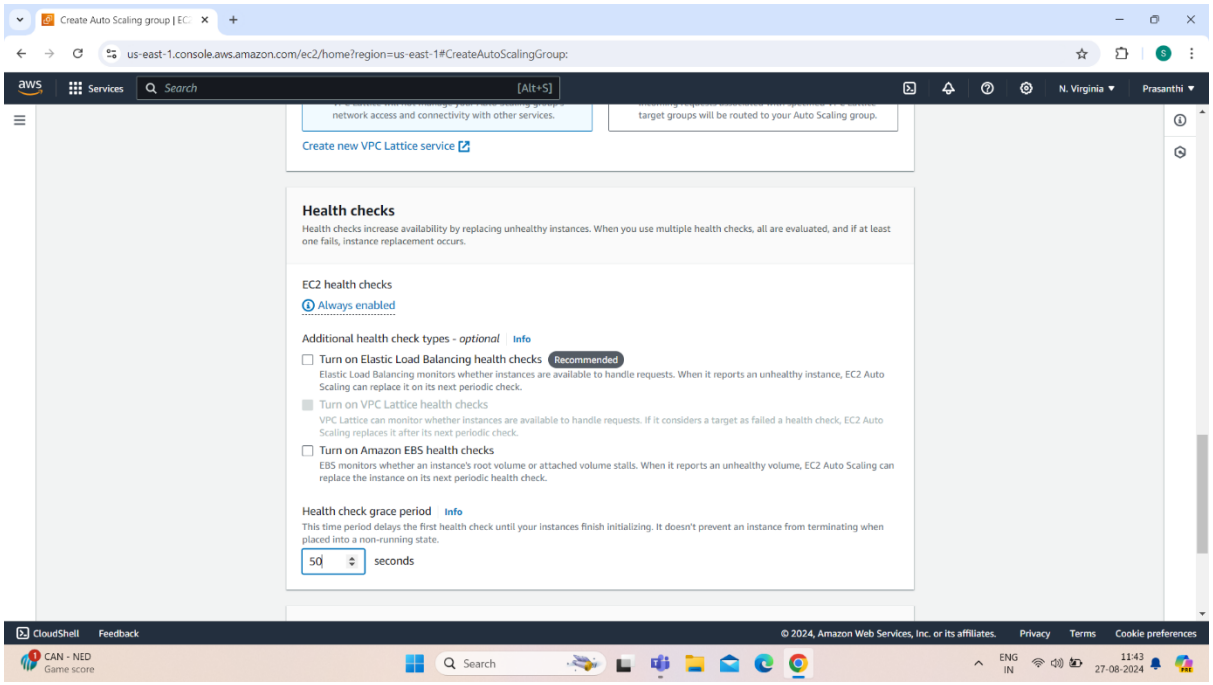
7.select subnets – give PORT NO: 80 for HTTP – Select TARGET GROUP (new or existing).

8.Give HEALTH CHECK GRACE PERIOD as your wish.







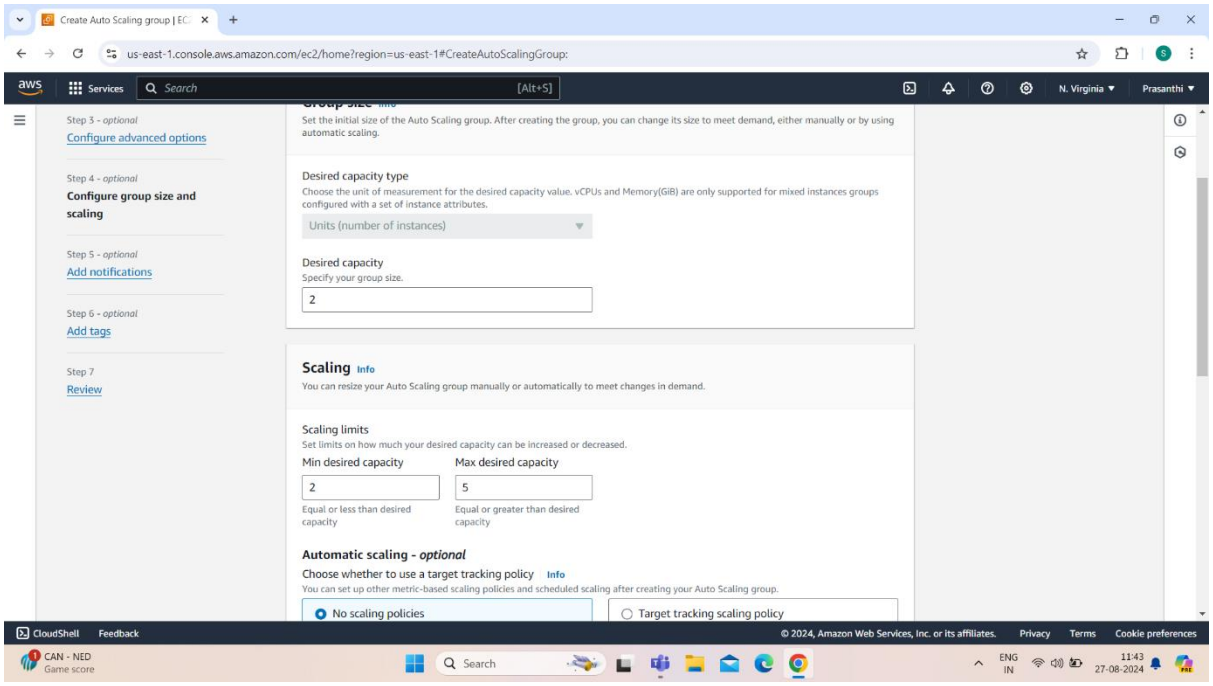


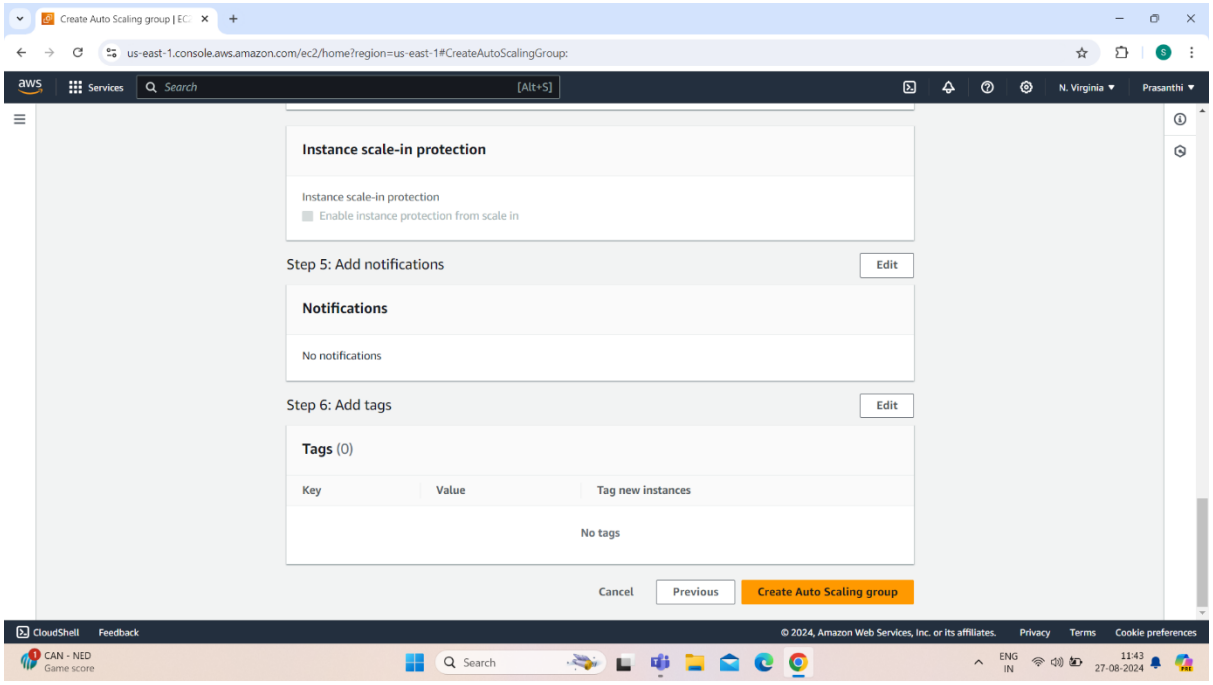
9. Select Group size

We want to set a minimum and maximum number of instances the ASG can provision:

- **Desired capacity:** 2
- **Minimum capacity:** 2
- **Maximum capacity:** 5

10. After that, click on next – next – create auto scaling group.



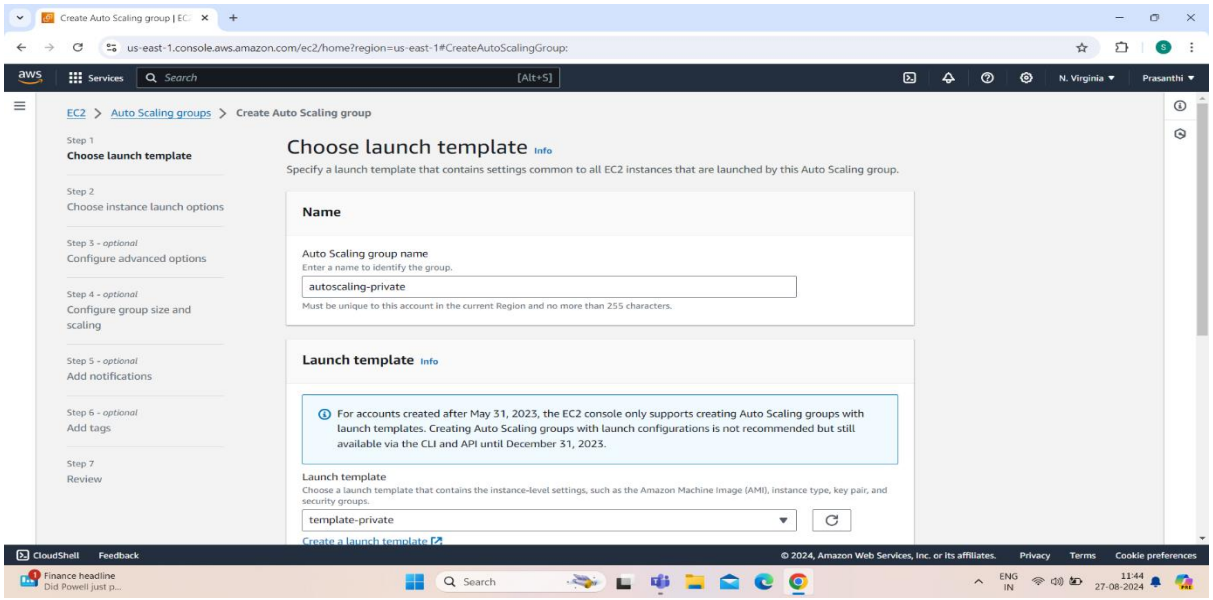


CREATE ANOTHER AUTO SCALING GROUP AS PRIVATE:

1.follow all the steps as above.

2. But at network settings, choose 4 private subnets.

3.snapshots of private ASG are attached below


Create Auto Scaling group | EC2
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:
Services
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EC2 > Auto Scaling groups > Create Auto Scaling group
Step 1
Choose launch template
Step 2
Choose instance launch options
Step 3 - optional
Configure advanced options
Step 4 - optional
Configure group size and scaling
Step 5 - optional
Add notifications
Step 6 - optional
Add tags
Step 7
Review
Choose launch template Info
Specify a launch template that contains settings common to all EC2 instances that are launched by this Auto Scaling group.
Name
Auto Scaling group name
Enter a name to identify the group.
autoscaling-private
Must be unique to this account in the current Region and no more than 255 characters.
Launch template Info
For accounts created after May 31, 2023, the EC2 console only supports creating Auto Scaling groups with launch templates. Creating Auto Scaling groups with launch configurations is not recommended but still available via the CLI and API until December 31, 2023.
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.
template-private
Create a launch template
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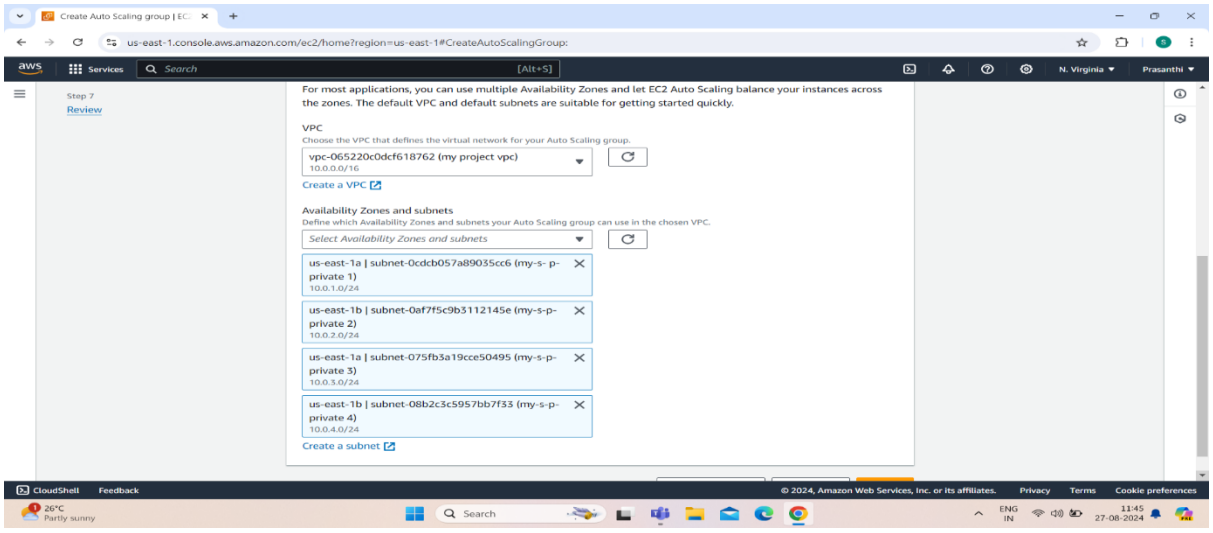
Create Auto Scaling group | EC2
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:
Services
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Step 7
Review
For most applications, you can use multiple Availability Zones and let EC2 Auto Scaling balance your instances across the zones. The 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-065220c0dcf618762 (my project vpc)
10.0.0.0/16
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
us-east-1a | subnet-0cdcb057a89035cc6 (my-s-p-private 1)
10.0.1.0/24
us-east-1b | subnet-0af7f5c9b3112145e (my-s-p-private 2)
10.0.2.0/24
us-east-1a | subnet-075fb3a19cce50495 (my-s-p-private 3)
10.0.3.0/24
us-east-1b | subnet-08b2c3c5957bb7f33 (my-s-p-private 4)
10.0.4.0/24
Create a subnet
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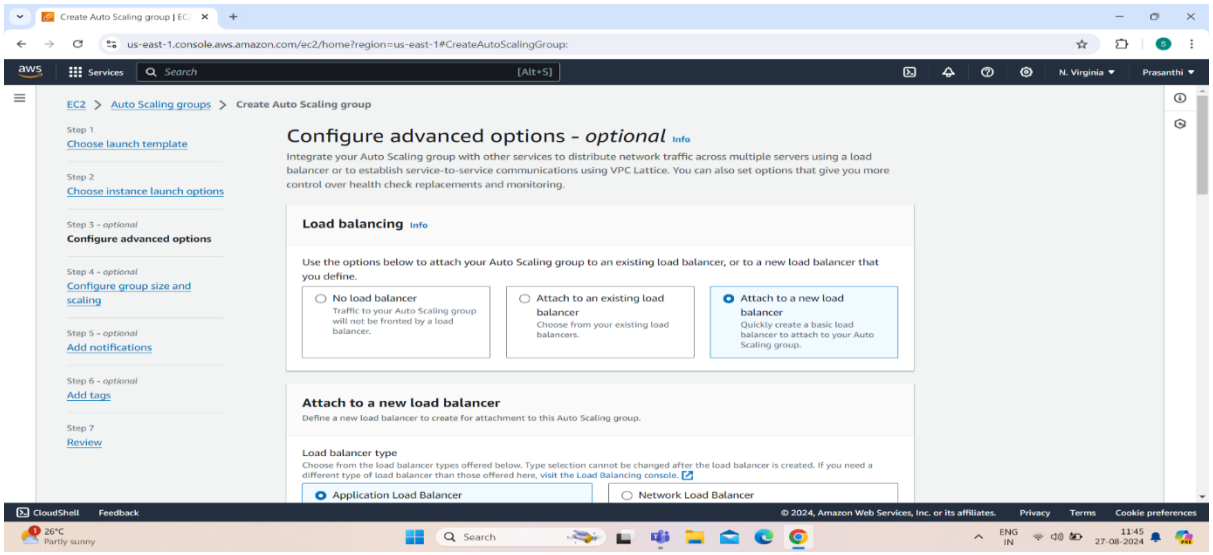
Create Auto Scaling group | EC2
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:
Services
Search
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N. Virginia
Prasanthi
EC2 > Auto Scaling groups > Create Auto Scaling group
Step 1
Choose launch template
Step 2
Choose instance launch options
Step 3 - optional
Configure advanced options
Step 4 - optional
Configure group size and scaling
Step 5 - optional
Add notifications
Step 6 - optional
Add tags
Step 7
Review
Configure advanced options - optional Info
Integrate your Auto Scaling group with other services to distribute network traffic across multiple servers using a load balancer or to establish service-to-service communications using VPC Lattice. You can also set options that give you more control over 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
Network Load Balancer
CloudShell
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Partly sunny
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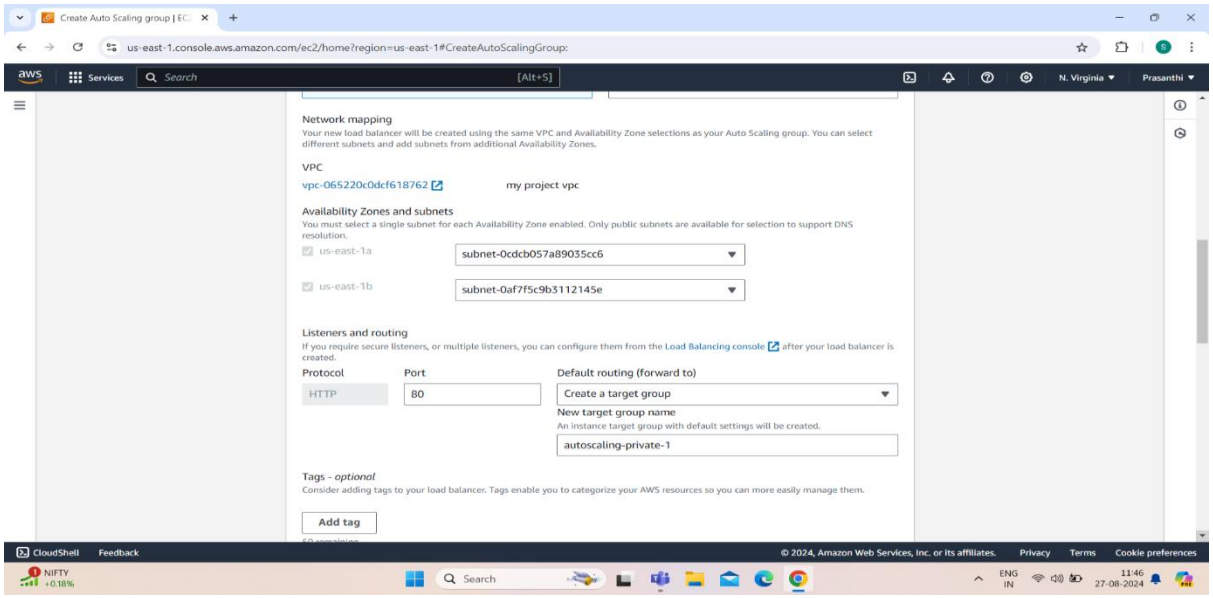
Create Auto Scaling group | EC2
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:
Services
Search
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Network mapping
Your new load balancer will be created using the same VPC and Availability Zone selections as your Auto Scaling group. You can select different subnets and add subnets from additional Availability Zones.
VPC
vpc-065220c0dcf618762
my project vpc
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.
us-east-1a
subnet-0cdcb057a89035cc6
us-east-1b
subnet-0af7f5c9b3112145e
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
80
Create a target group
New target group name
An instance target group with default settings will be created.
autoscaling-private-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
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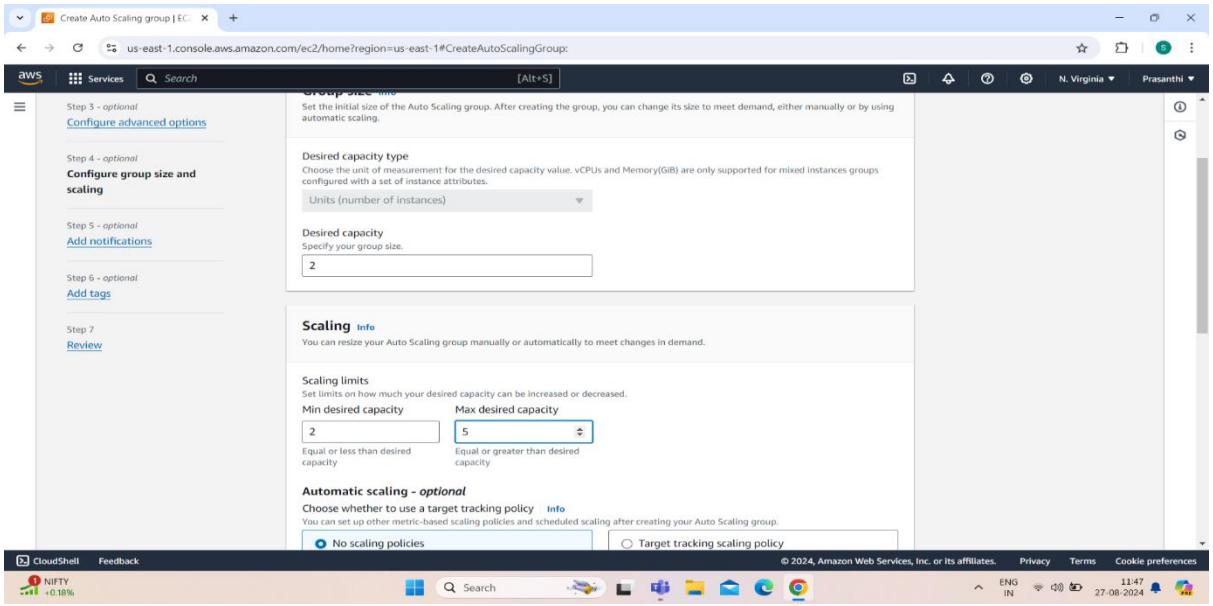
Create Auto Scaling group | EC2
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:
Services
Search
[Alt+S]
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Step 3 - optional
Configure advanced options
Step 4 - optional
Configure group size and scaling
Step 5 - optional
Add notifications
Step 6 - optional
Add tags
Step 7
Review
Set the initial size of the Auto Scaling group. After creating the group, you can change its size to meet demand, either manually or by using automatic scaling.
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
Max desired capacity
2
5
Equal or less than desired capacity
Equal or greater than desired capacity
Automatic scaling - optional
Choose whether to use a target tracking policy Info
You can set up other metric-based scaling policies and scheduled scaling after creating your Auto Scaling group.
No scaling policies
Target tracking scaling policy
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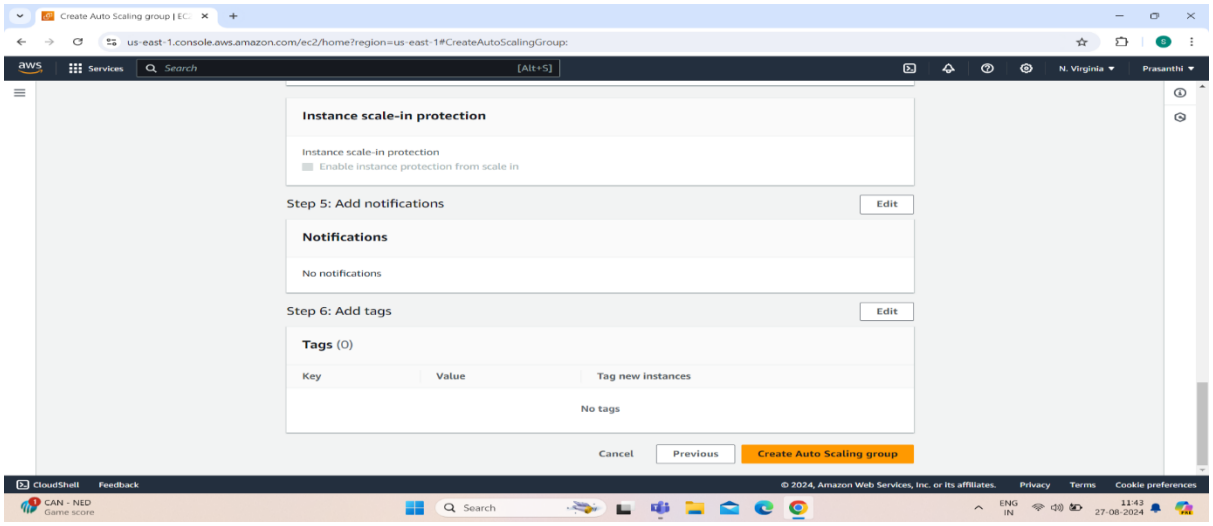
Create Auto Scaling group | EC2
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:
Services
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Instance scale-in protection
Instance scale-in protection
Enable instance protection from scale in
Step 5: Add notifications
Edit
Notifications
No notifications
Step 6: Add tags
Edit
Tags (0)
Key
Value
Tag new instances
No tags
Cancel
Previous
Create Auto Scaling group
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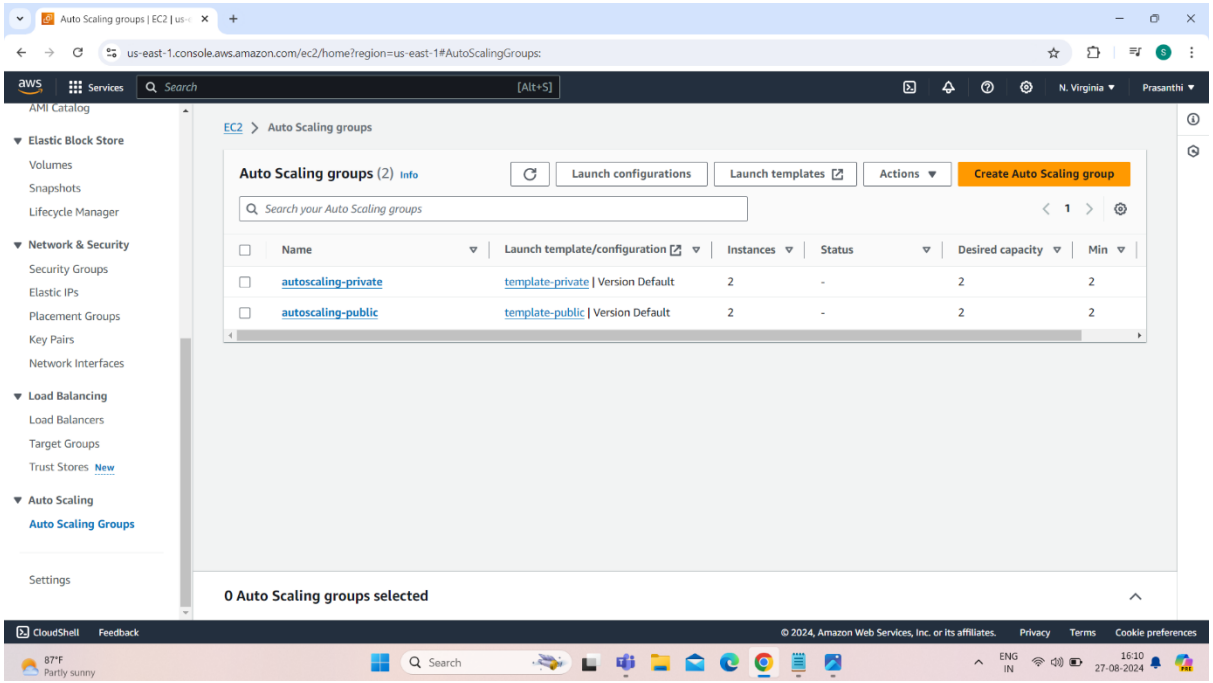
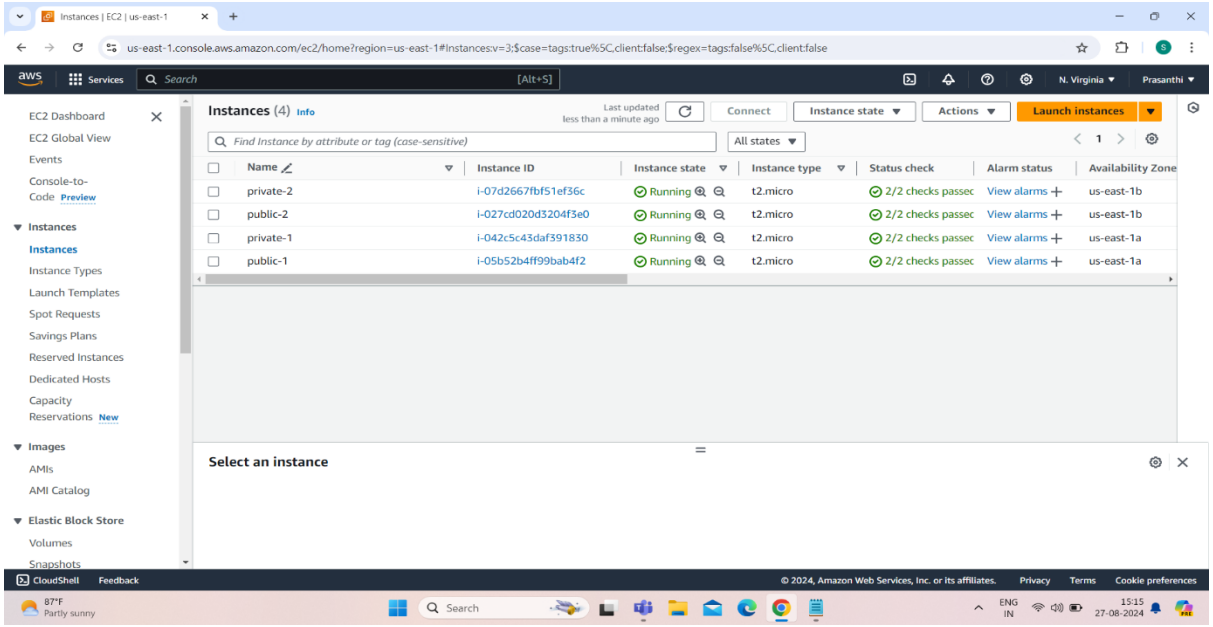
4.Successfully created TWO AUTO SCALING GROUPS.



5. Now go to EC2 dashboard- click on instances.

6. Here we can see the 4 FOUR NEW RUNNING INSTANCES.

7. Give the names to those instances as – public-1, public-2, private-1&private-2.



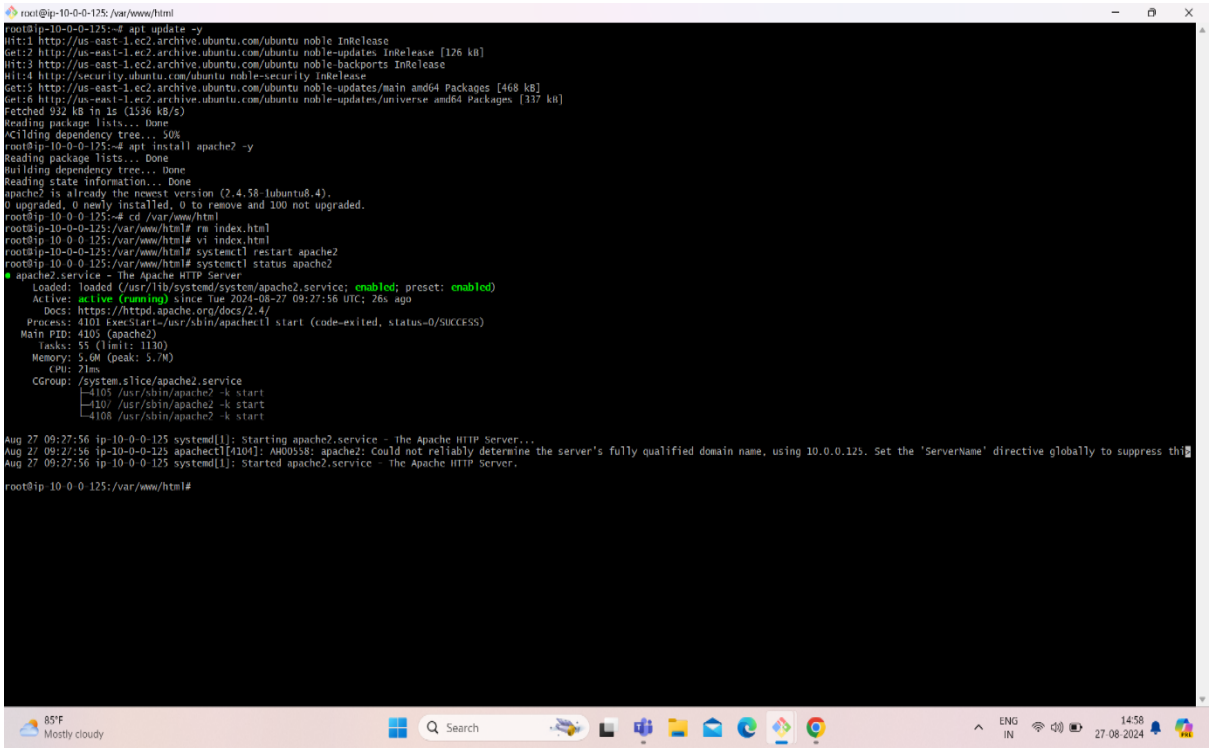
8. Click on public -1 instance – click on connect- connect to the EC2 server.

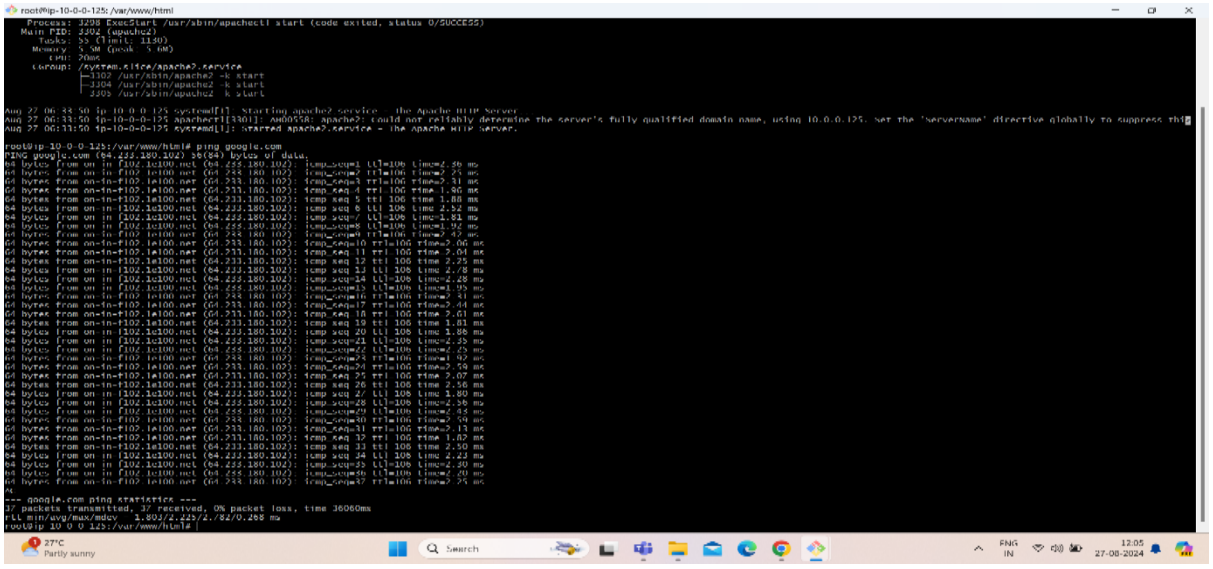
9. After connecting to the UBUNTU, give the following commands:

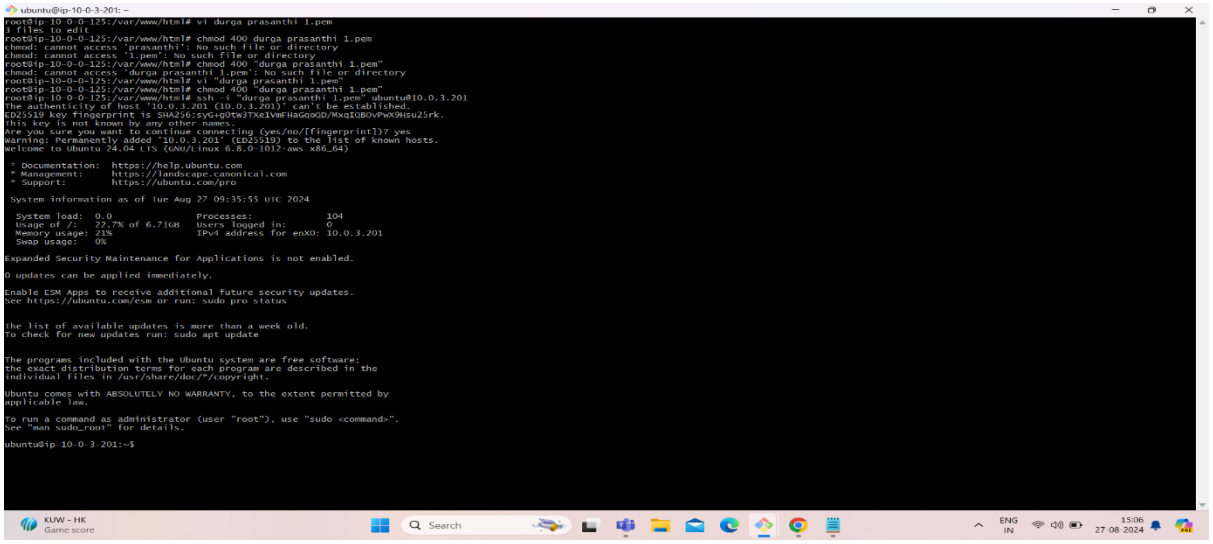
- sudo -I -- to become a root user
- apt update -y – to update packages
- apt install apache2 – to install apche2
- cd /var/www/html – path
- ls – list
- rm index.html – to remove index.html
- vi index.html – enter – press I –insert date --:x (to save) – enter
- systemctl status apache2 – to check the server status
- Ping google.com – to check whether the server is ping or not.

.

10.snapshots attached below.

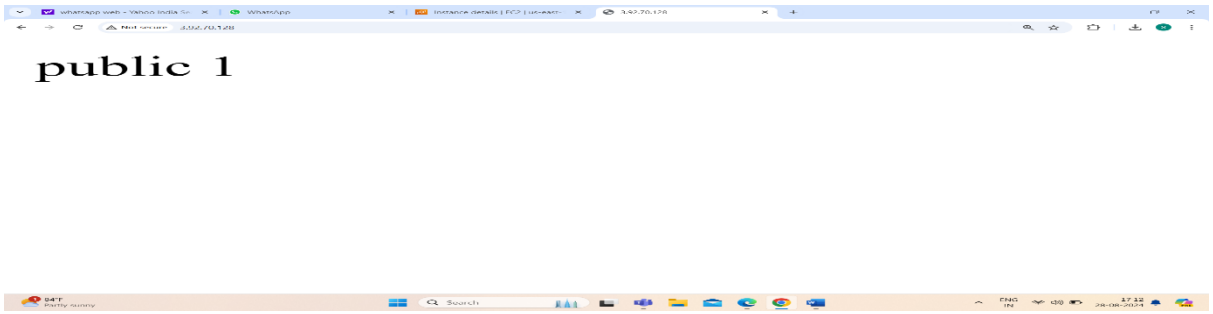






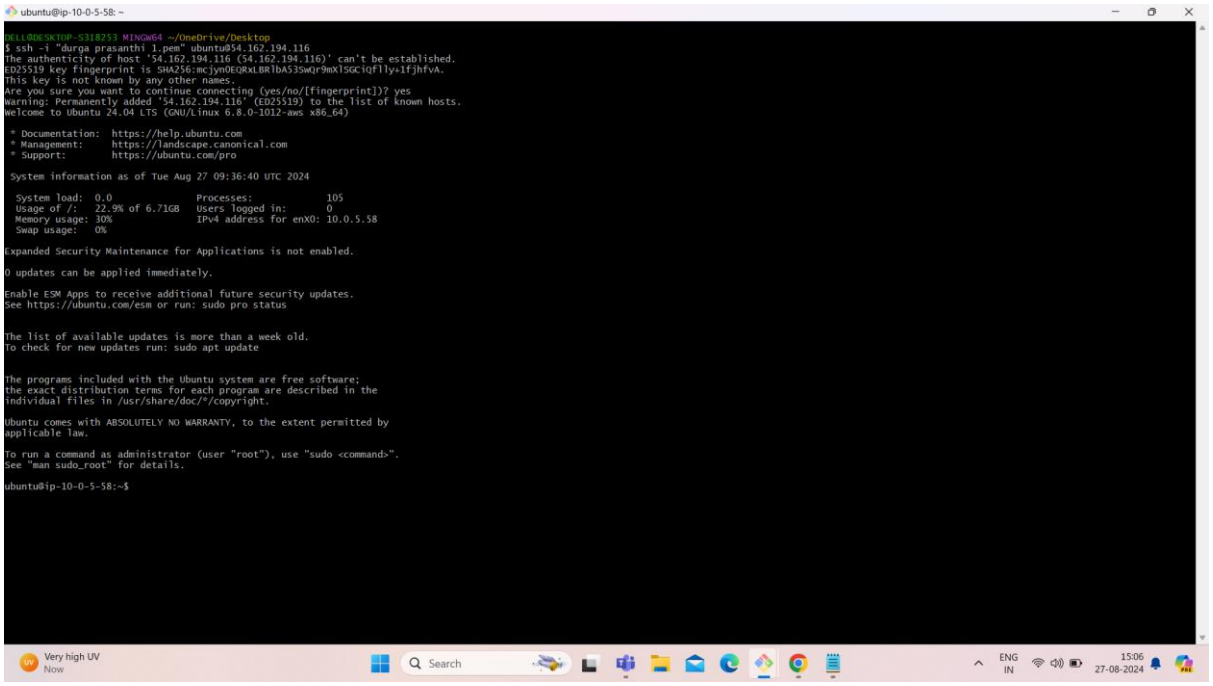
11.Copy the PUBLIC IP address & paste it in google chrome.

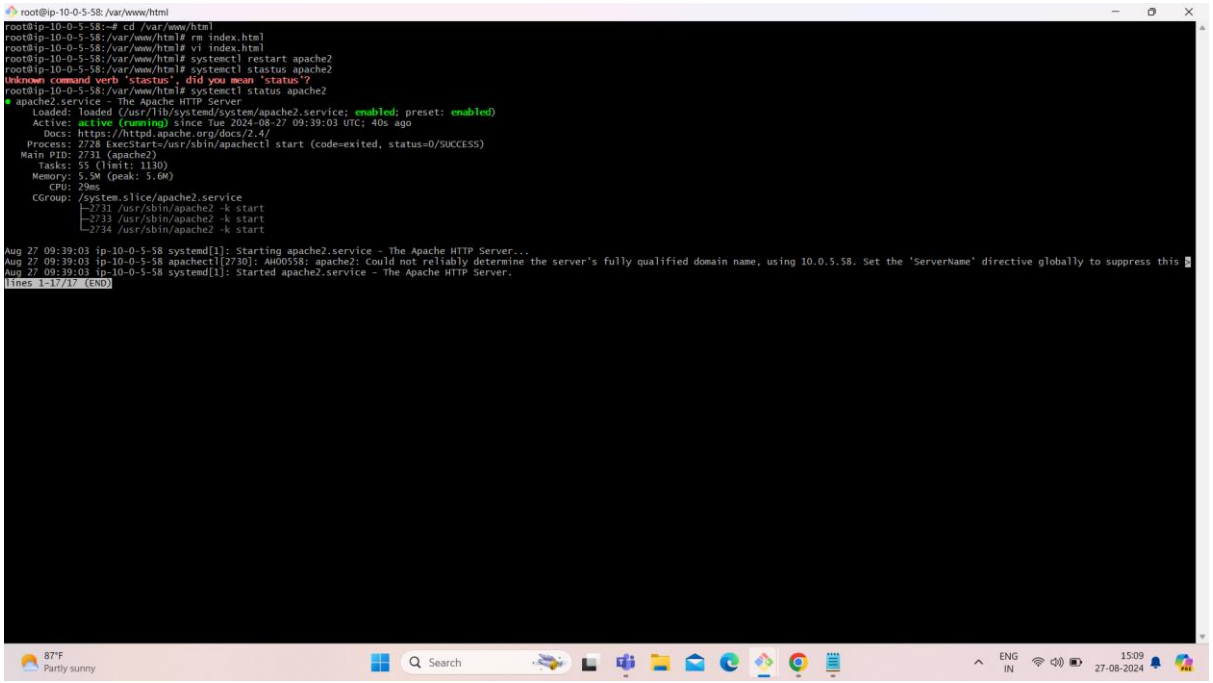
12.It will shows the data which we inserted

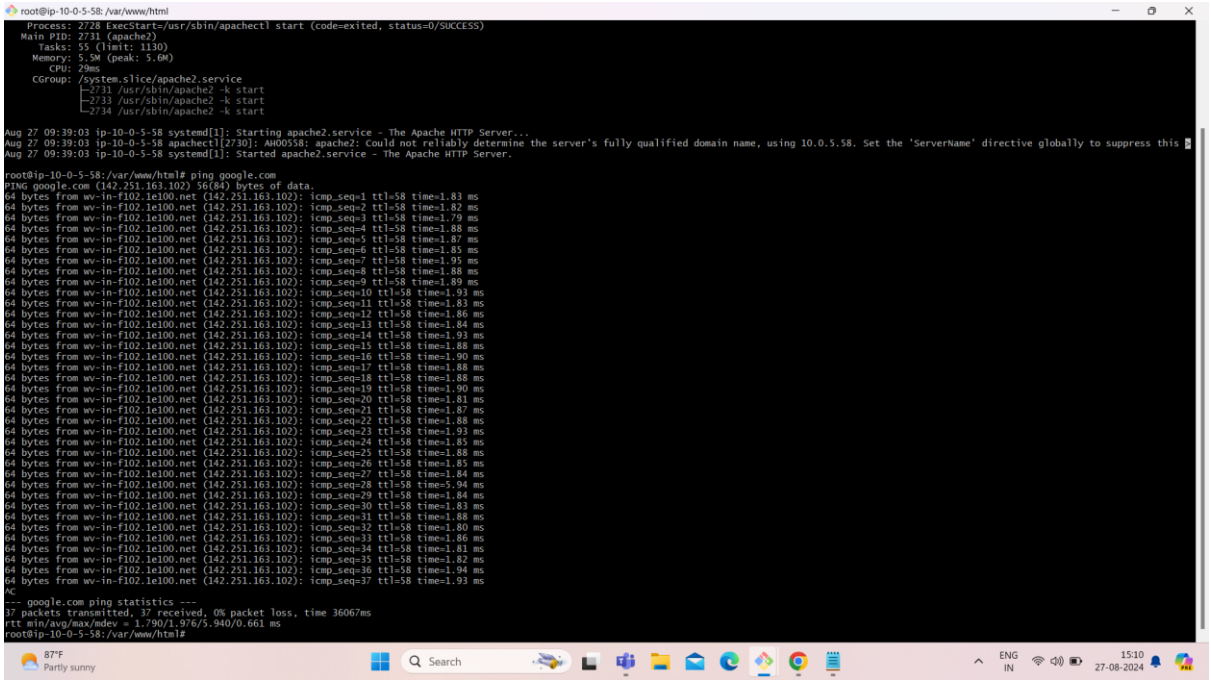


NOW CONNECT TO THE PRIVATE INSTANCE THROUGH THE PUBLIC INSTANCE:

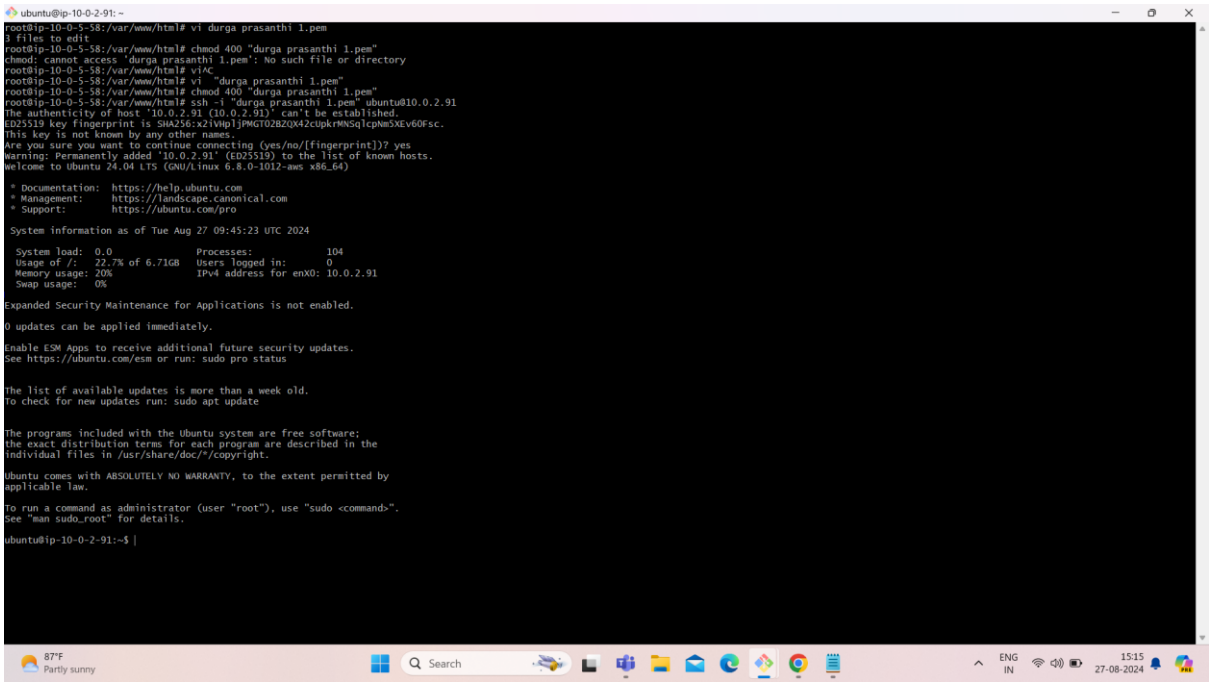
1.Follow the steps as mentioned in the snapshots.







2.Successfully connected to the PRIVATE INSTANCE.

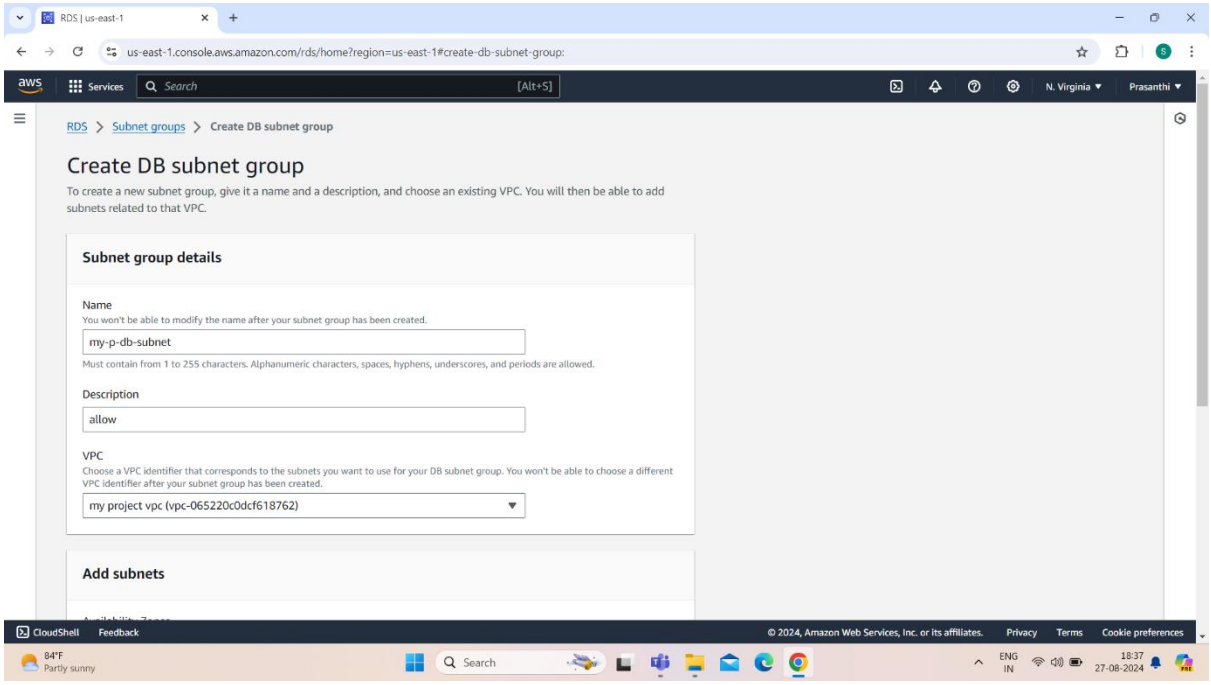


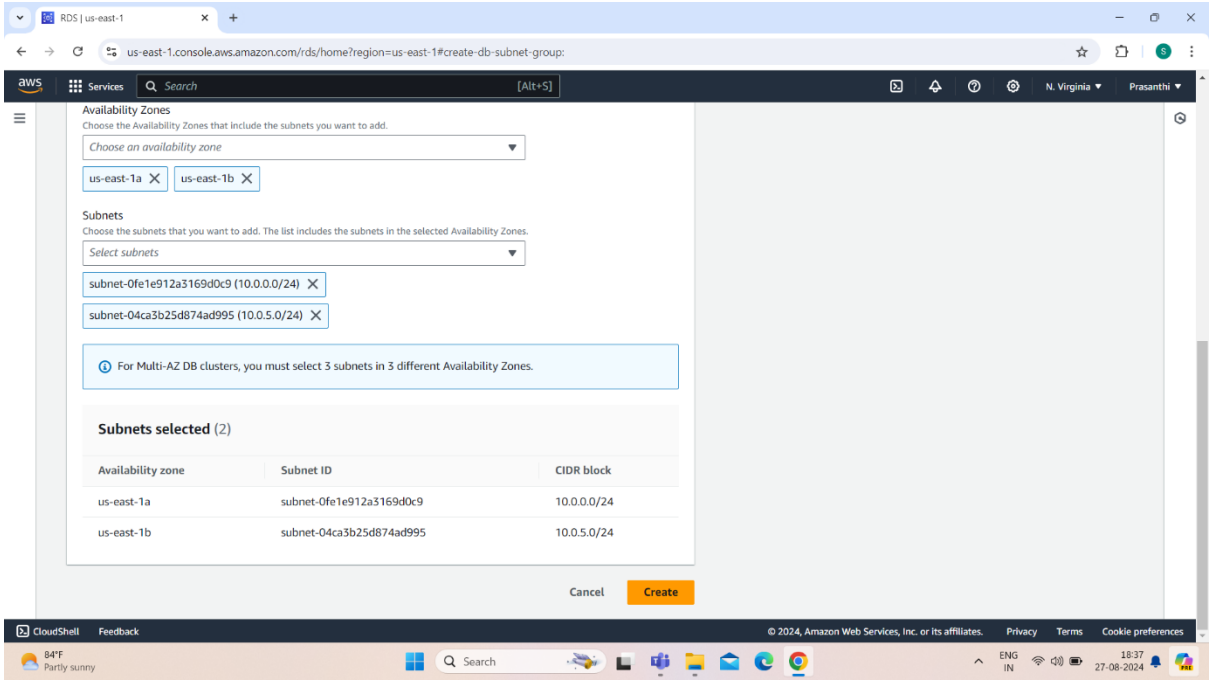
Create SUBNET GROUP :

1.select create subnet group on rds dashboard.

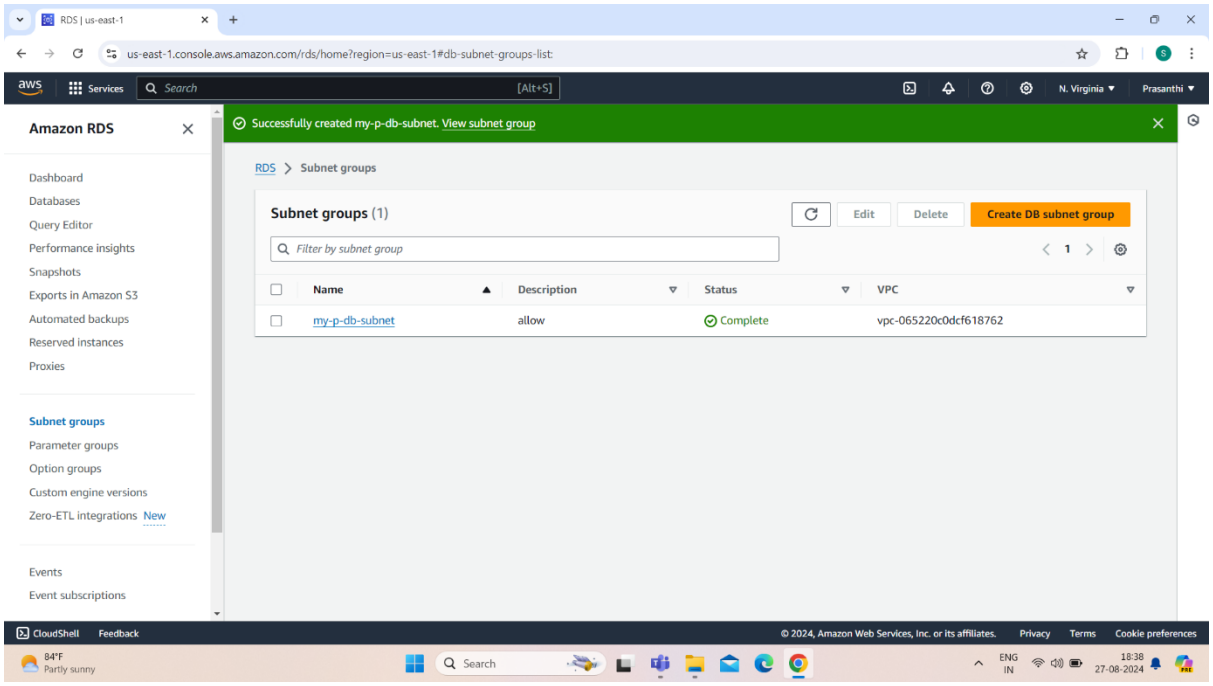
2.give a name to new subnet group-select vpc.

3.add avalibility zones (us-east-1a & us-east-1b) and 6 subnets.





4.successfully created a db subnet group.



Create DATABASE:

1.select database on rds dashboard and click create database .

2.choose STANDARD in creation method and MYSQL in engine methods.

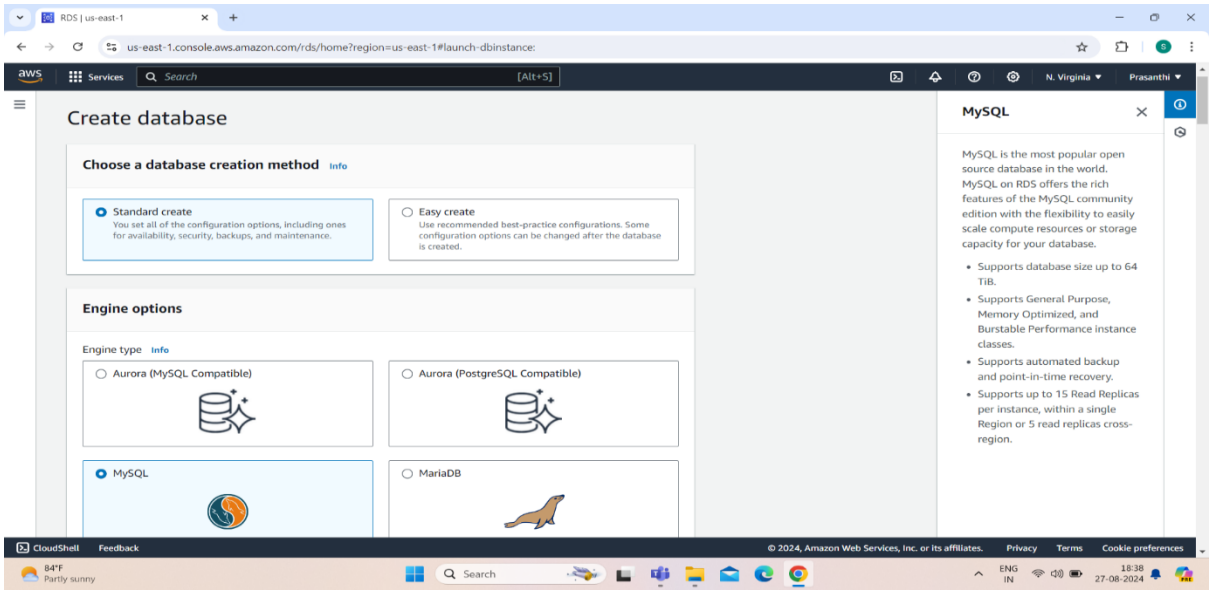
3.select FREE TIER in template .

4. choose SELF MANAGED in settings and give PASSWORD.

5.Go to connectivity and choose CONNECT TO EC2 INSTANCE and select public instance

6.we don’t have to give vpc and db subnet group it will take by default.

7.choose existing security groups and select both public (public-sg) and private (private-sg) security groups.


RDS | us-east-1
us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-dbinstance:
Services
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Create database
Choose a database creation method Info
Standard create
You set all of the configuration options, including ones for availability, security, backups, and maintenance.
Easy create
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.
Engine options
Engine type Info
Aurora (MySQL Compatible)
Aurora (PostgreSQL Compatible)
MySQL
MariaDB
MySQL
MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.
Supports database size up to 64 TiB.
Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
Supports automated backup and point-in-time recovery.
Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.
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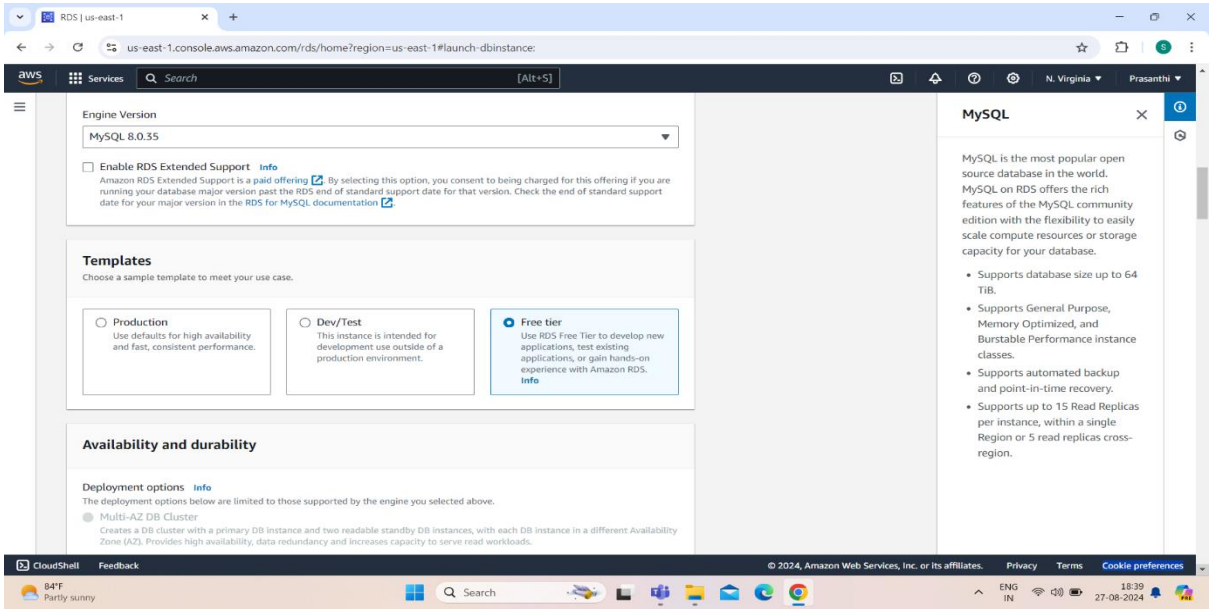
RDS | us-east-1
us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-dbinstance:
Services
Search
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N. Virginia
Prasanthi
Engine Version
MySQL 8.0.35
Enable RDS Extended Support Info
Amazon RDS Extended Support is a paid offering. By selecting this option, you consent to being charged for this offering if you are running your database major version past the RDS end of standard support date for that version. Check the end of standard support date for your major version in the RDS for MySQL documentation
Templates
Choose a sample template to meet your use case.
Production
Use defaults for high availability and fast, consistent performance.
Dev/Test
This instance is intended for development use outside of a production environment.
Free tier
Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS. Info
Availability and durability
Deployment options Info
The deployment options below are limited to those supported by the engine you selected above.
Multi-AZ DB Cluster
Creates a DB cluster with a primary DB instance and two readable standby DB instances, with each DB instance in a different Availability Zone (AZ). Provides high availability, data redundancy and increases capacity to serve read workloads.
MySQL
MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.
Supports database size up to 64 TiB.
Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
Supports automated backup and point-in-time recovery.
Supports up to 15 Read Replicas per instance, within a single Region or 5 read replicas cross-region.
CloudShell
Feedback
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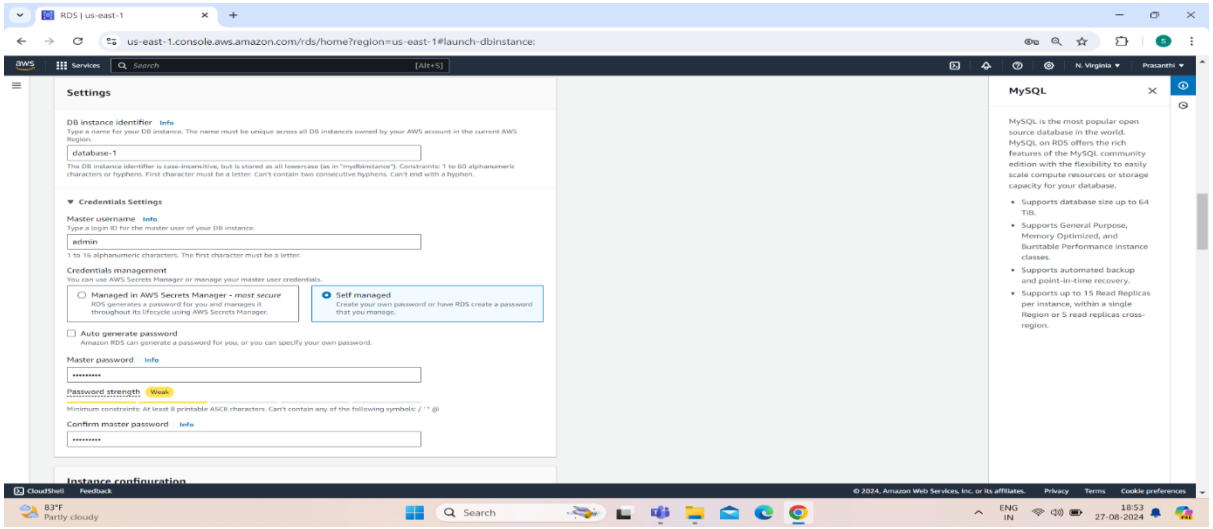
Privacy
Terms
Cookie preferences
84°F
Partly sunny
Search
ENG
IN
18:39
27-08-2024


RDS | us-east-1
us-east-1.console.aws.amazon.com/rds/home?region=us-east-1#launch-dbinstance:
Settings
DB instance identifier Info
Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.
database-1
The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.
Credentials Settings
Master username Info
Type a login ID for the master user of your DB instance.
admin
1 to 16 alphanumeric characters. The first character must be a letter.
Credentials management
You can use AWS Secrets Manager or manage your master user credentials.
Managed in AWS Secrets Manager - most secure
RDS generates a password for you and manages it throughout its lifecycle using AWS Secrets Manager.
Self managed
Create your own password or have RDS create a password that you manage.
Auto generate password
Amazon RDS can generate a password for you, or you can specify your own password.
Master password Info
Password strength Weak
Minimum constraints: At least 8 printable ASCII characters. Can't contain any of the following symbols: / ' " @
Confirm master password Info
Instance configuration
MySQL
MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.
Supports database size up to 64 TiB.
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CloudShell
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Privacy
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Cookie preferences
83°F
Partly cloudy
Search
ENG
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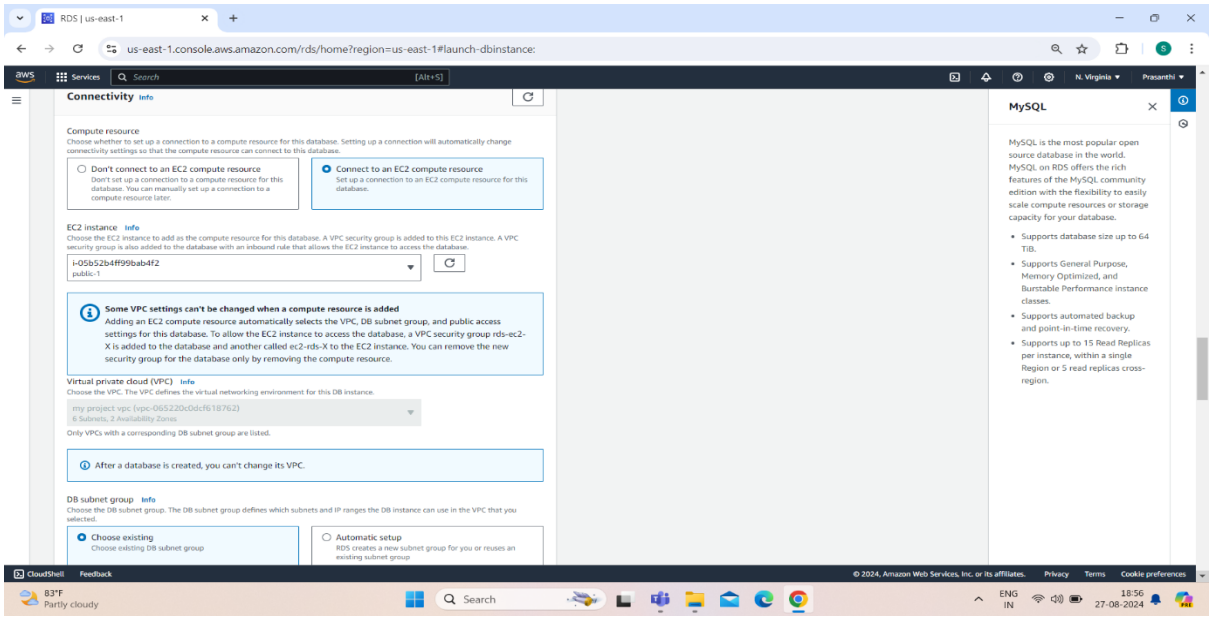
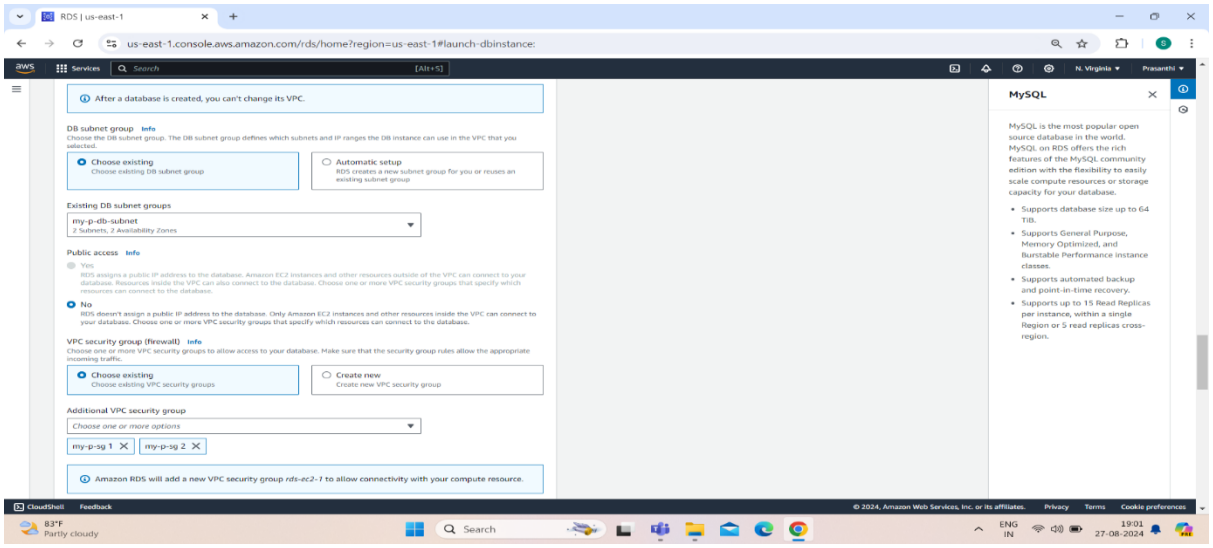
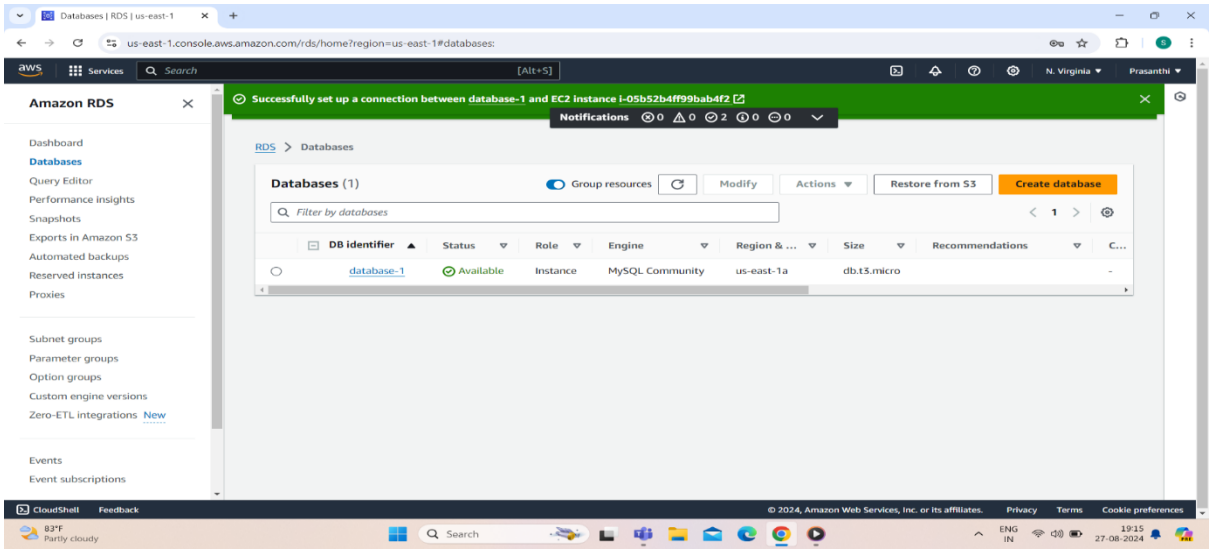
18:53
27-08-2024





8.successfully database is created.

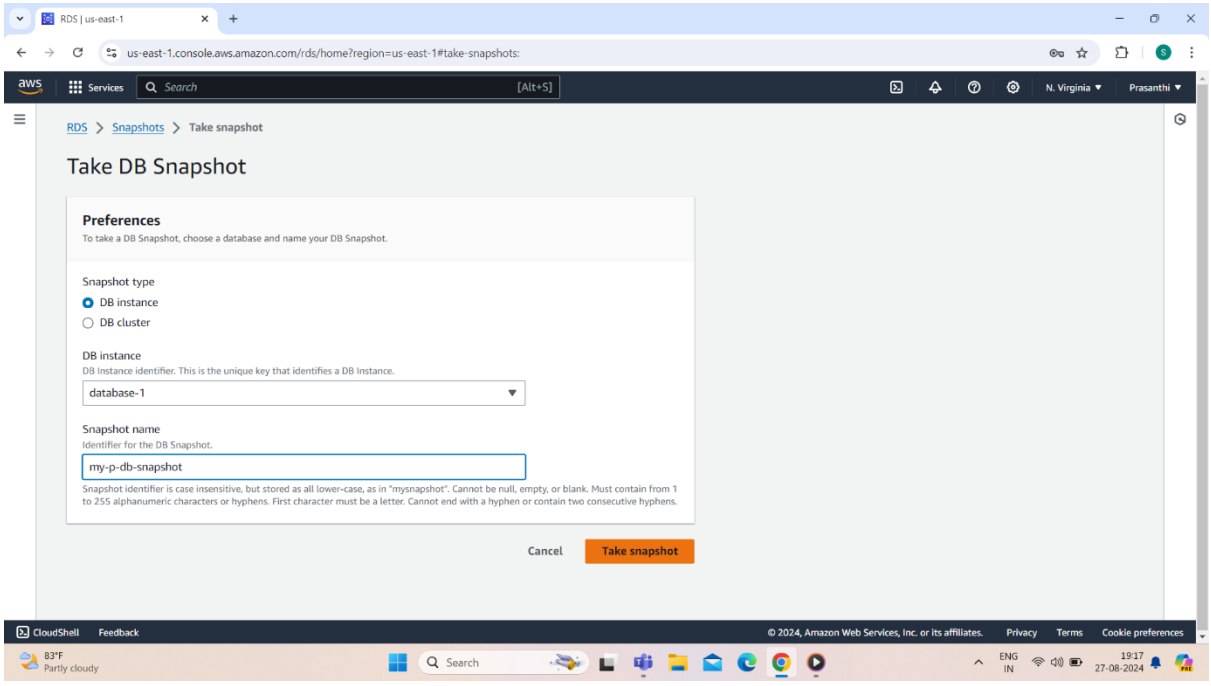


Take DB SNAPSHOT :

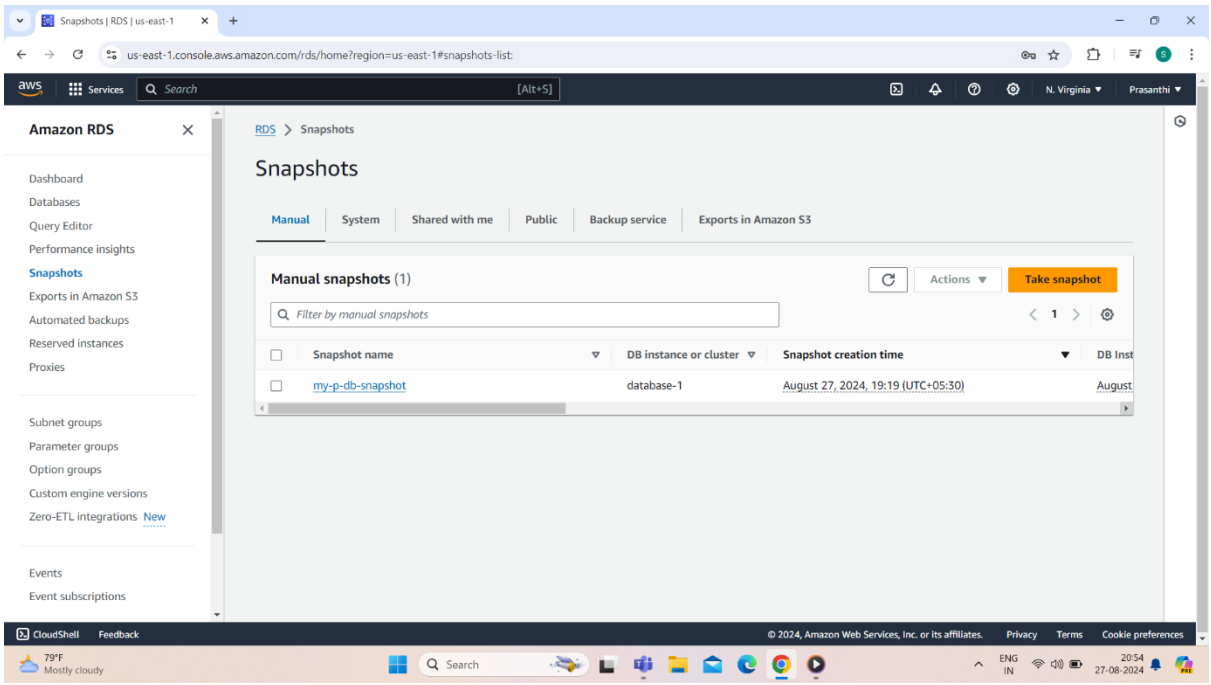
1.Go to rds dashboard - select snapshot –click on take snapshot.

2.select db instance and give a new name to snapshot.

3.click on take snapshot.



4.successfully snapshot is created.



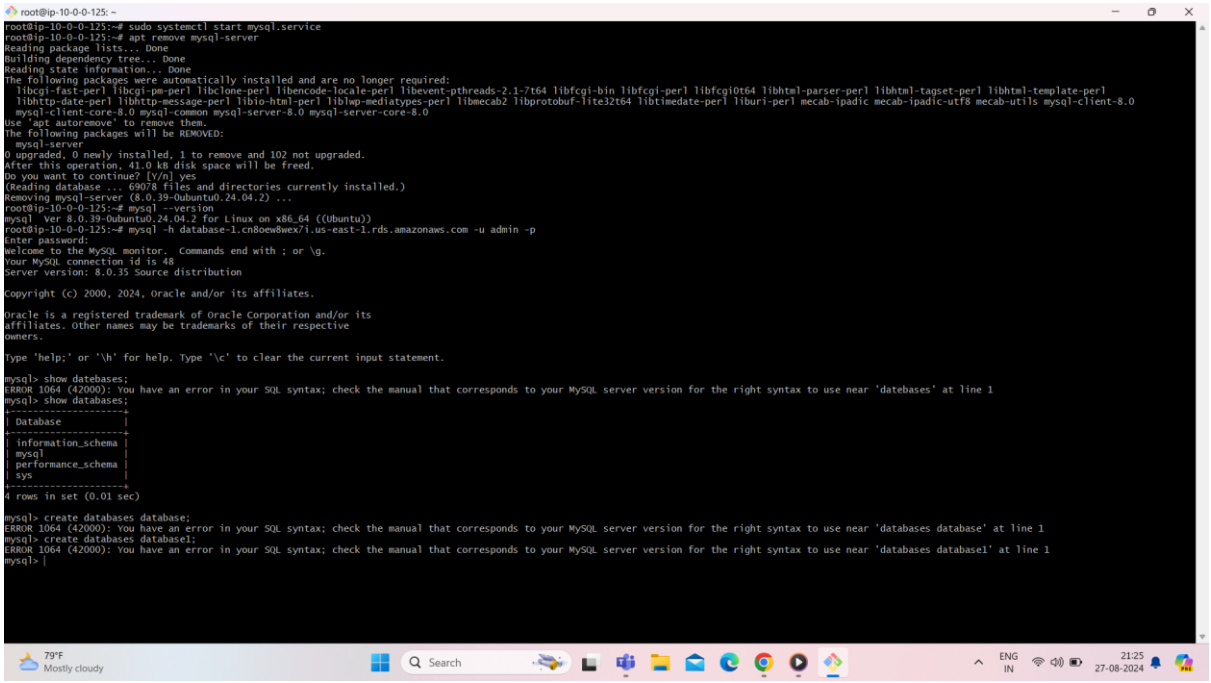
MYSQL installation :

1.Go to public instance web and give the following commands

- Sudo apt update –y
- Sudo apt install mysql –sever -y
- mysql -h database-1. cn8oew8wex7i.us-east-1.rds.amazonaws.com -u admin -p

(database-1.cn8oew8wex7i.us-east-1.rds.amazonaws.com – end point of database)

2.once you complete giving the commands it displays as following in below snapshots



THE END