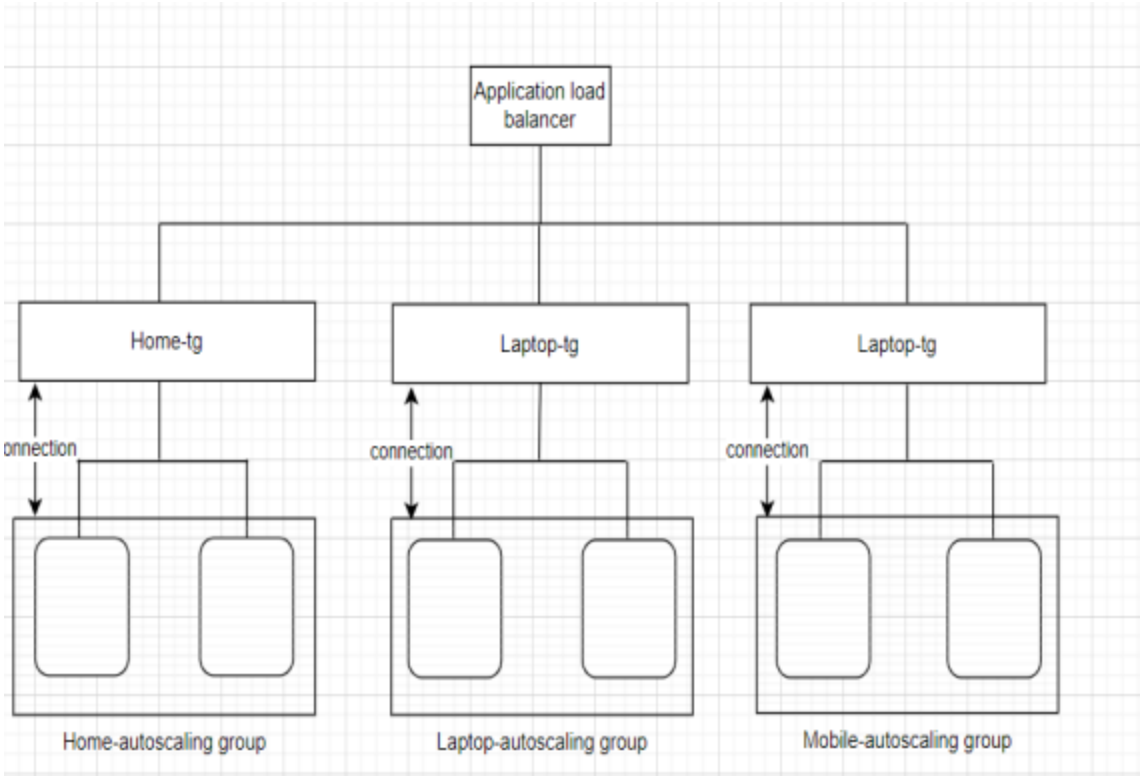
Host Secure Website using Autoscaling and Load Balancer by attaching ssl certificate

Autoscaling with application load balancer



Summary:

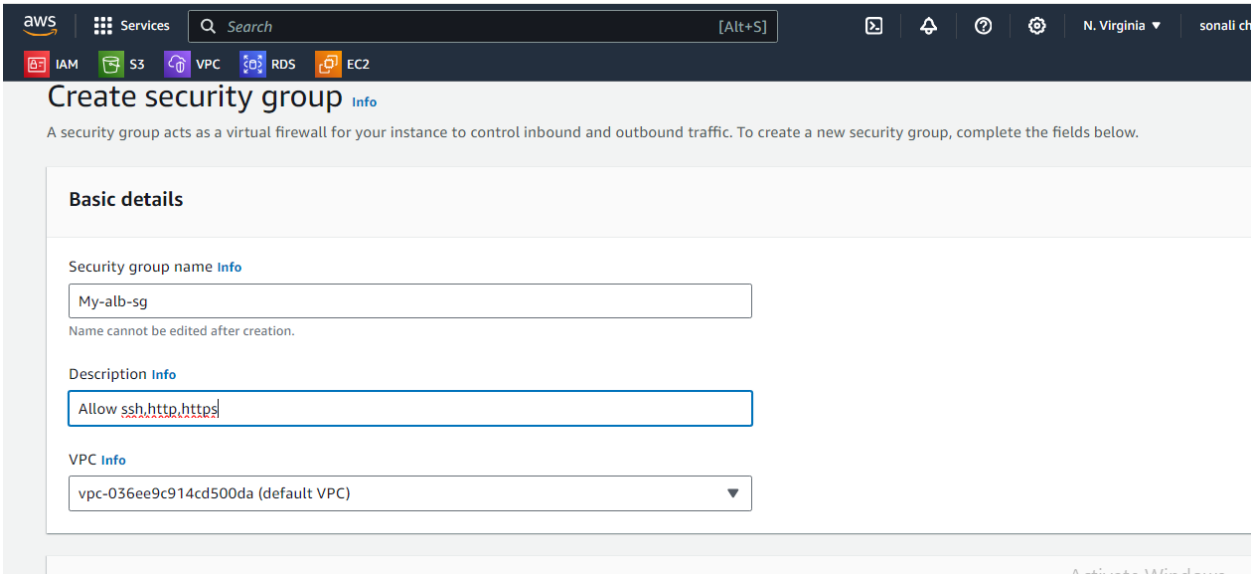
- You have set up an Application Load Balancer with three Auto Scaling groups and corresponding target groups. The ALB routes traffic based on the URL path to the appropriate target group, ensuring the load is distributed equally.

This setup allows each target group to scale independently based on their specific load and requirements

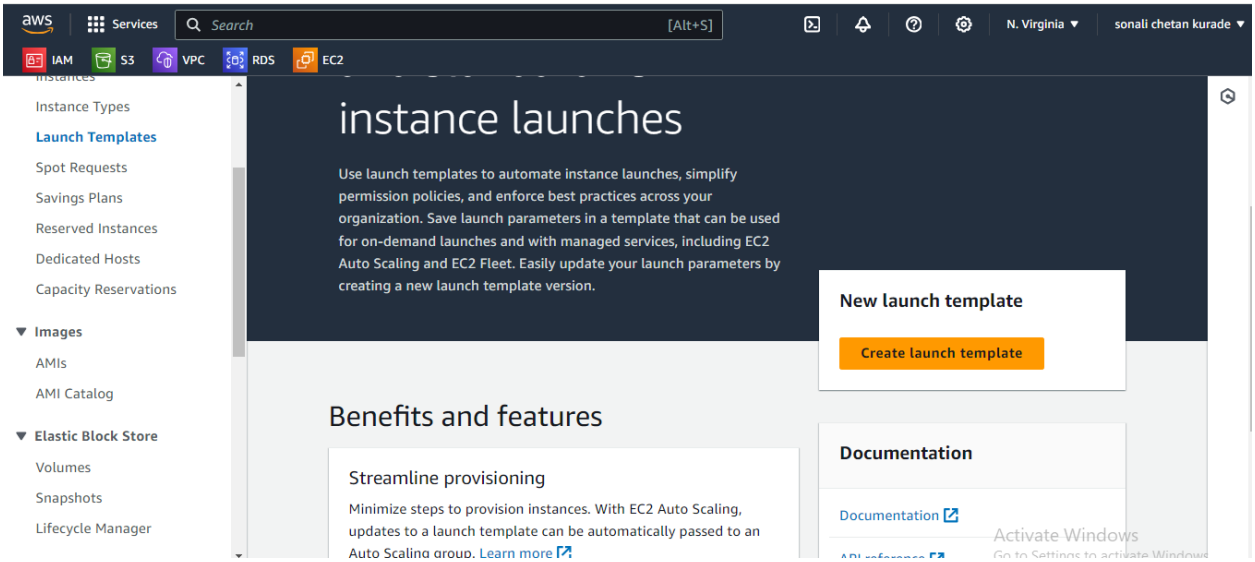
- By following these steps, you can set up a scalable, load-balanced infrastructure that secures your connections with HTTPS and SSL. This setup ensures that your application can handle increased traffic and provides a secure connection for users

Step1. Launch 3 Template and Create Security Group

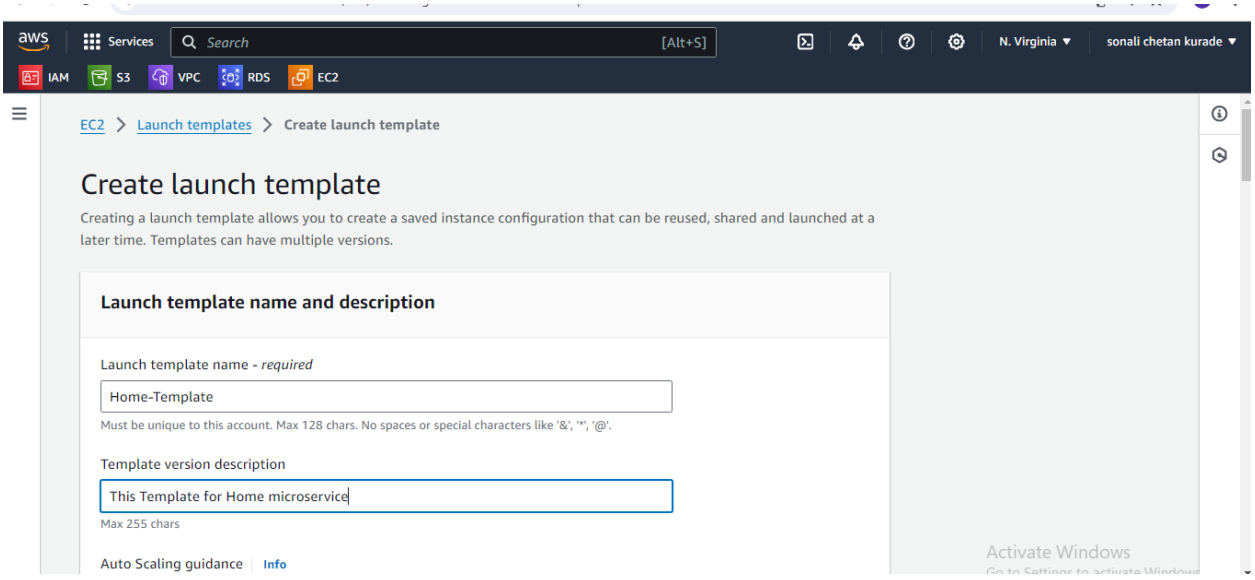
- Create Security Group and allow inbound rule of ssh , http and https.



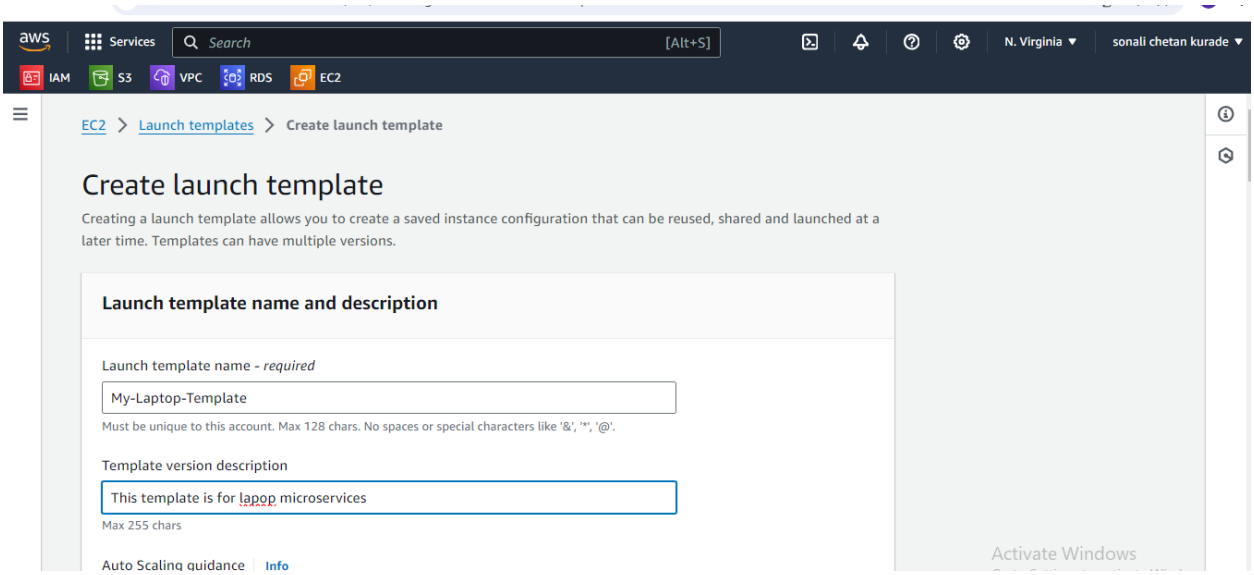
- Create 3 Template for 3 micro-services.



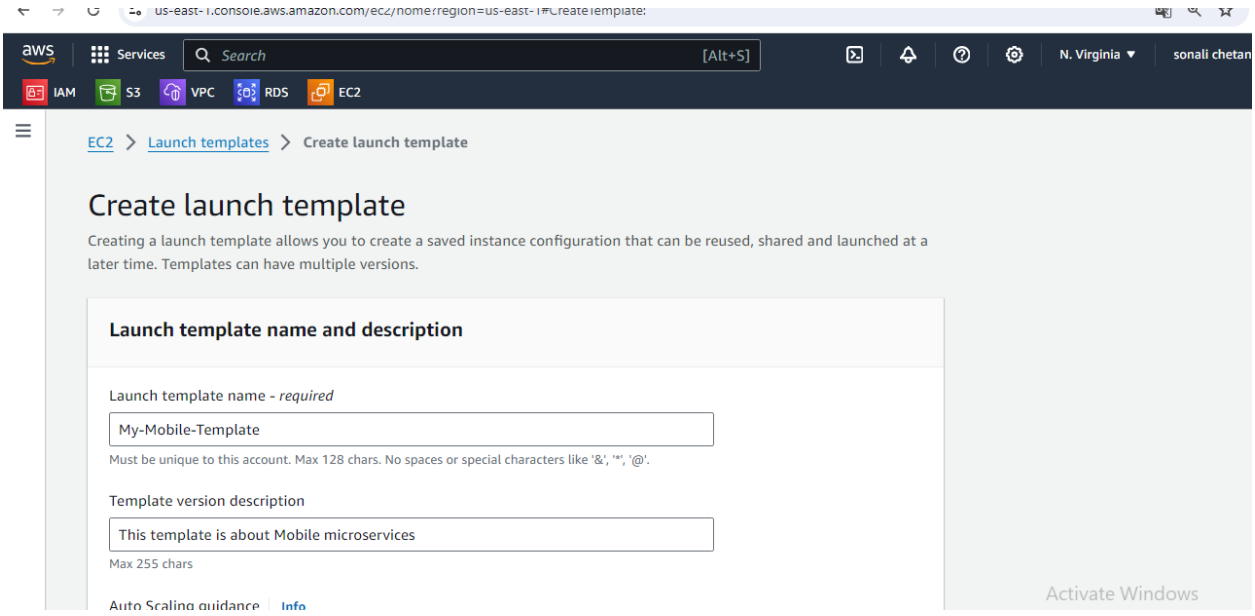
- Home Microservice Template



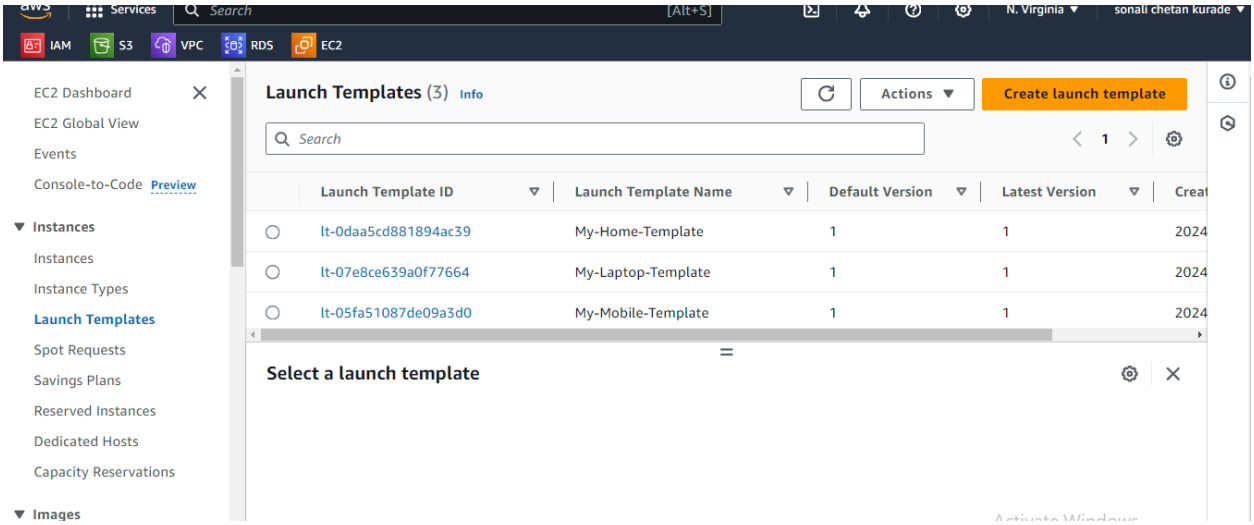
- Laptop Microservice Template.



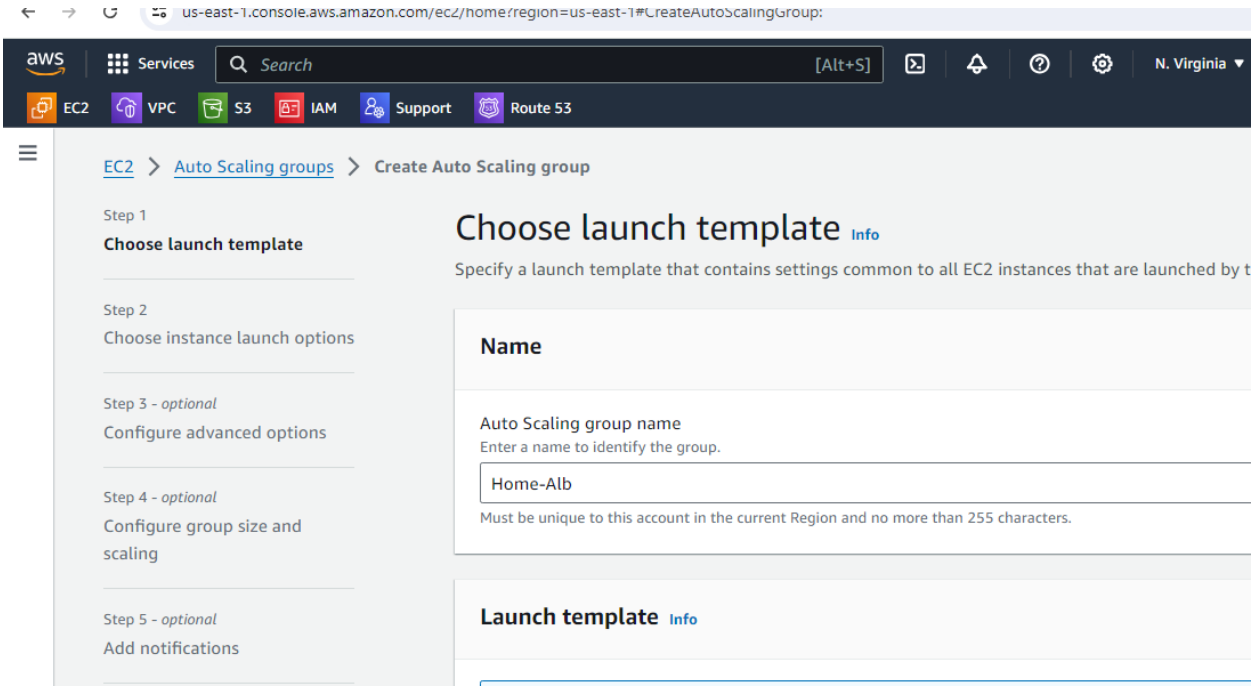
- Mobile Microservice Template

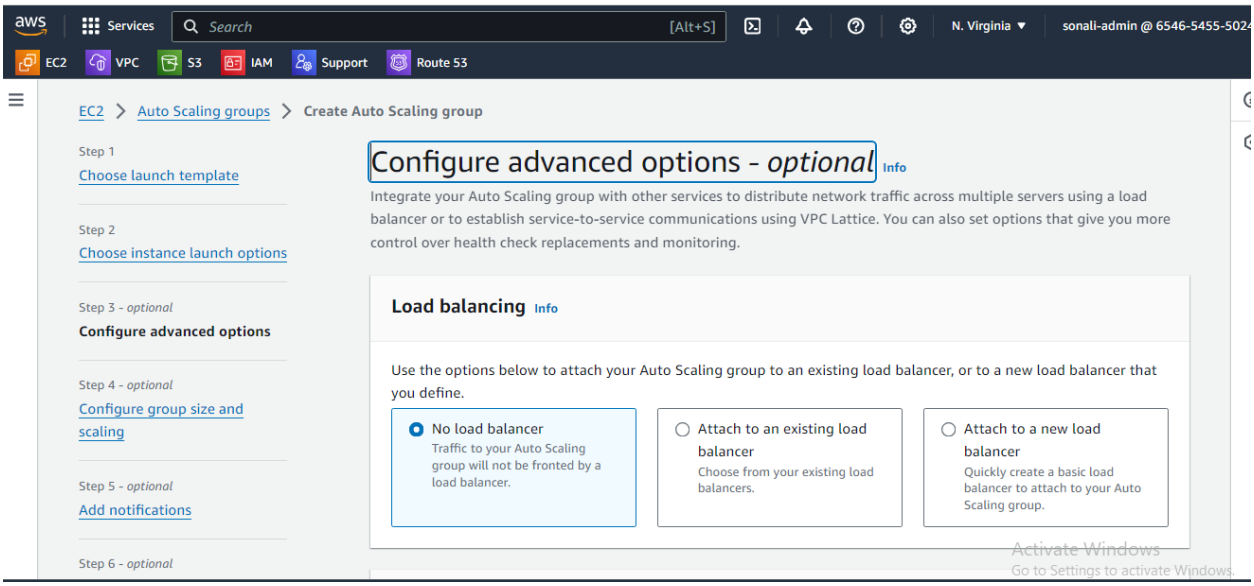


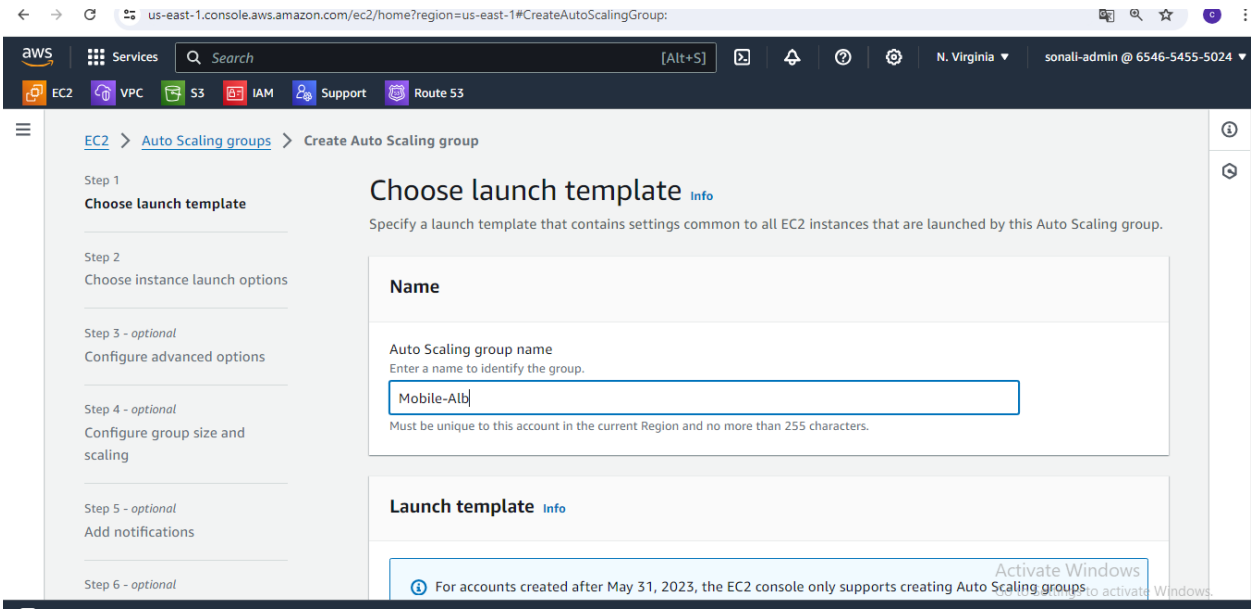
- 3 Template Created Successfully.

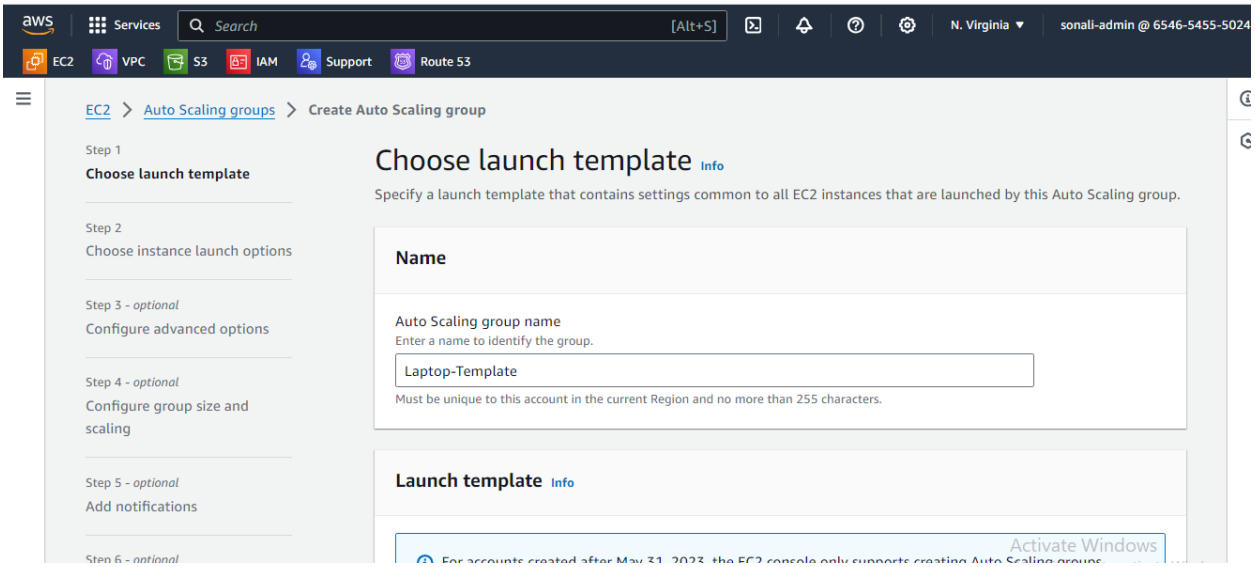


- Create 3 Autoscaling Group
  - Launch Auto Scaling group for Home (home-alb)
    - Do not add load balancer (We attach later)

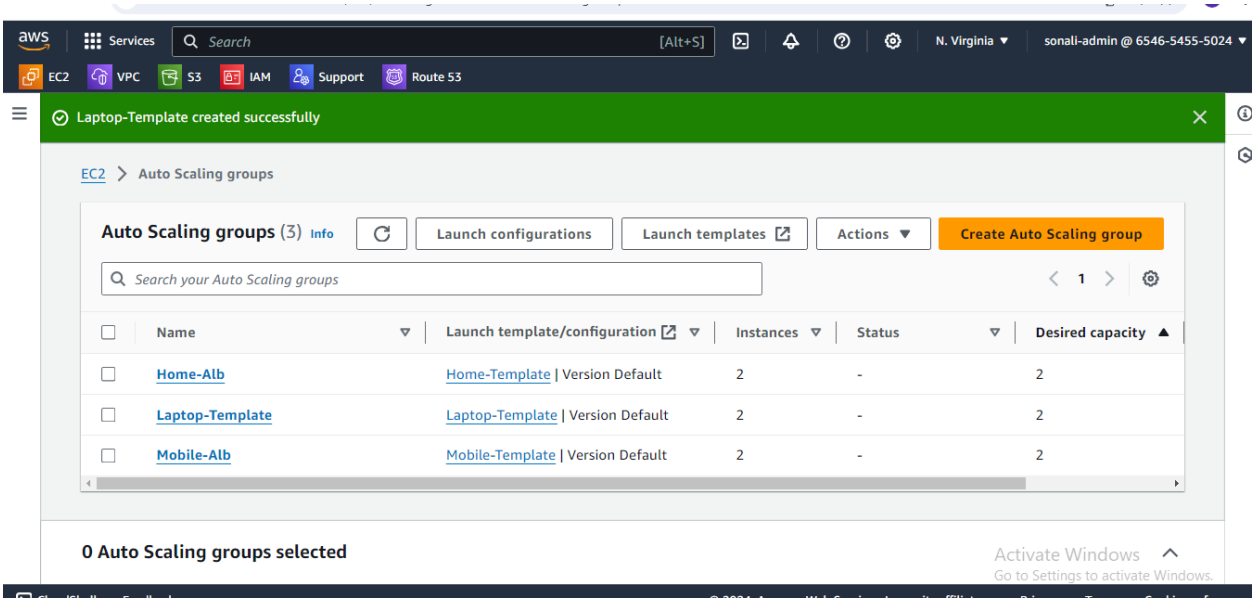



Services
Search
[Alt+S]
N. Virginia
EC2
VPC
S3
IAM
Support
Route 53
EC2 > Auto Scaling groups > Create Auto Scaling group
Step 1
Choose launch template
Step 2
Choose instance launch options
Step 3 - optional
Configure advanced options
Step 4 - optional
Configure group size and scaling
Step 5 - optional
Add notifications
Step 6 - optional
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.
Activate Windows
Go to Settings to activate Windows.


us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:
Services
Search
[Alt+S]
N. Virginia
sonali-admin @ 6546-5455-5024
EC2
VPC
S3
IAM
Support
Route 53
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
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.
Mobile-Alb
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
Activate Windows



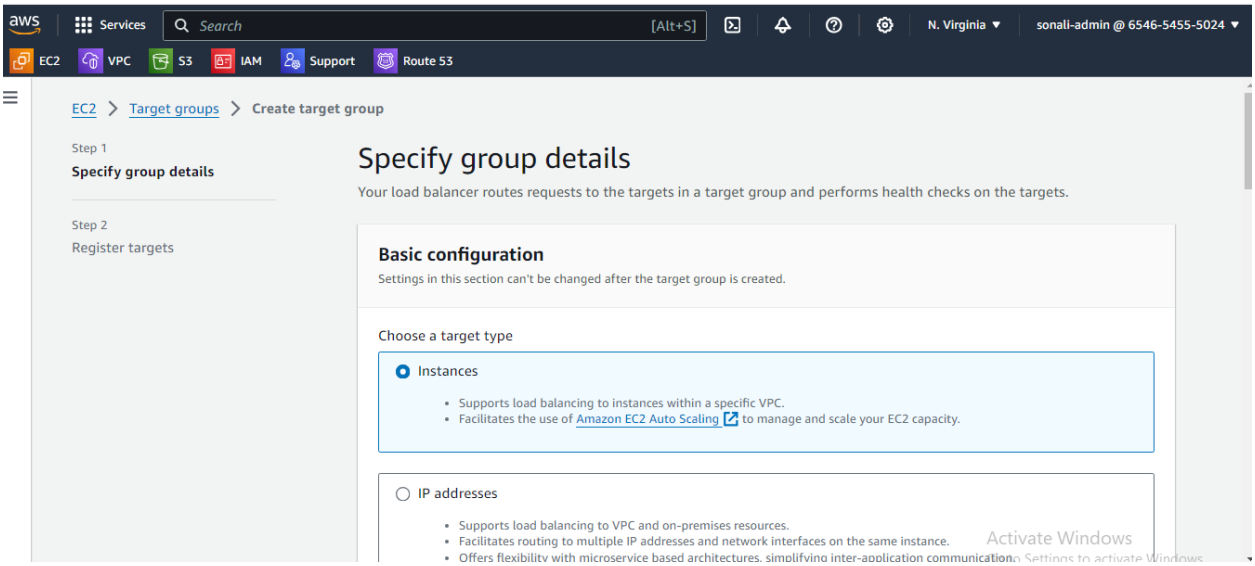
- Same create auto scaling group for laptop (Do not add load balancer) (laptop-alb)
- Same create auto scaling group for mobile (Do not add load balancer) (mobile-alb)
- Autoscaling Group Launched successfully



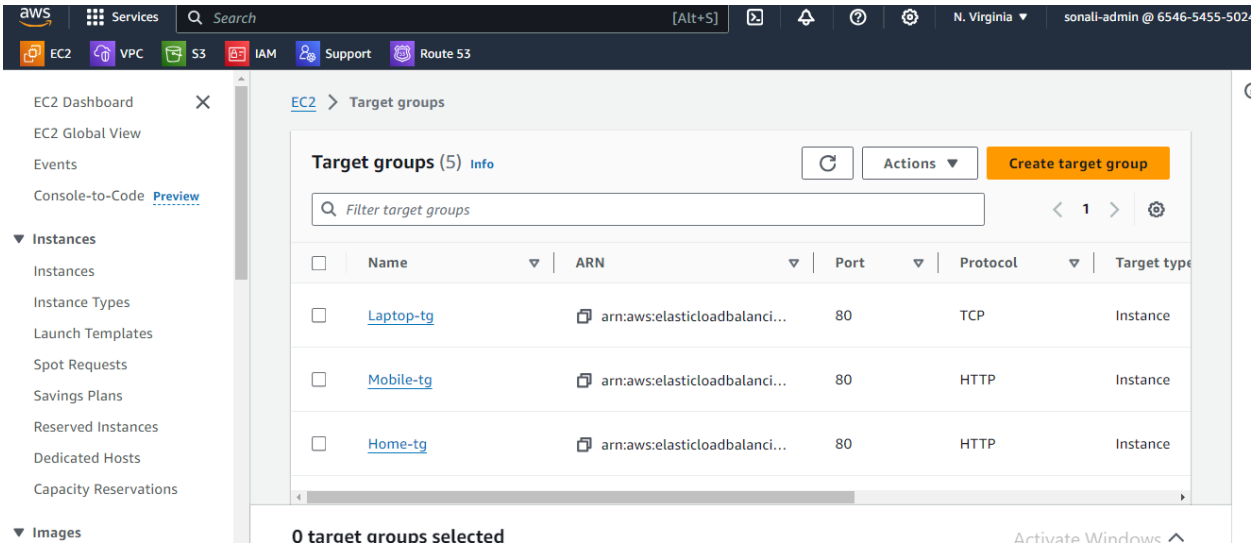
Step 3:

• Create target group for Home(home-tg)

• Do not add instances in target group.it will add automatically when we attach home-tg to auto scaling group



- Same create target group for laptop(laptop-tg)(Do not add instances in target group.it will add automatically when we attach laptop-tg to auto scaling group)
- Same create target group for mobile(mobile-tg)(Do not add instances in target group.it will add automatically when we attach mobile-tg to auto scaling group)
- Target Group is created successfully



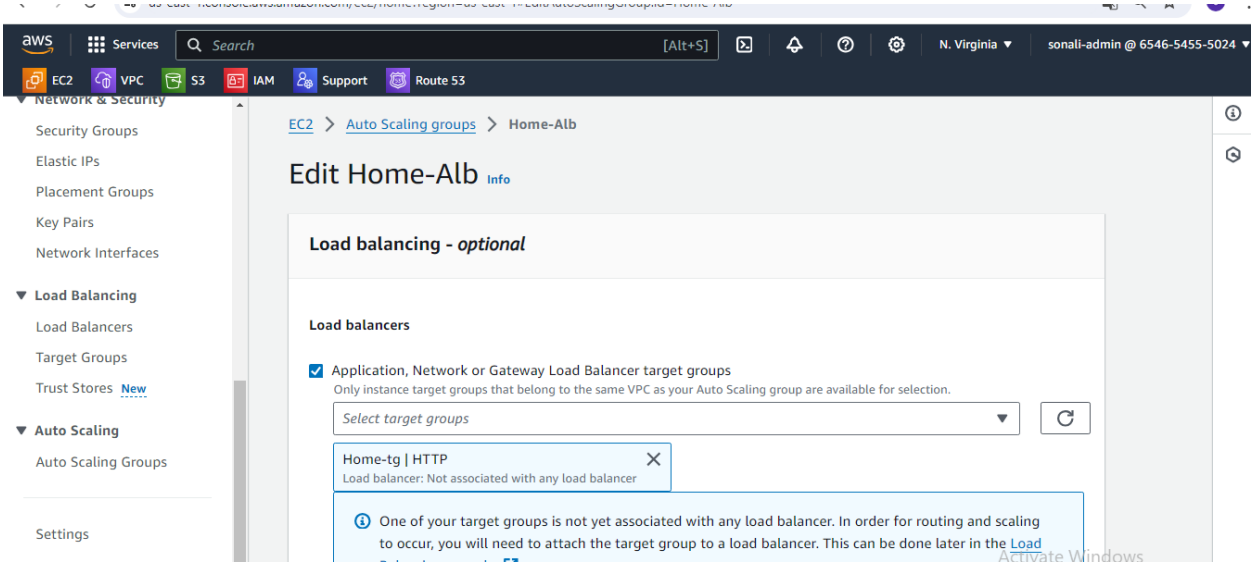
Step 4:

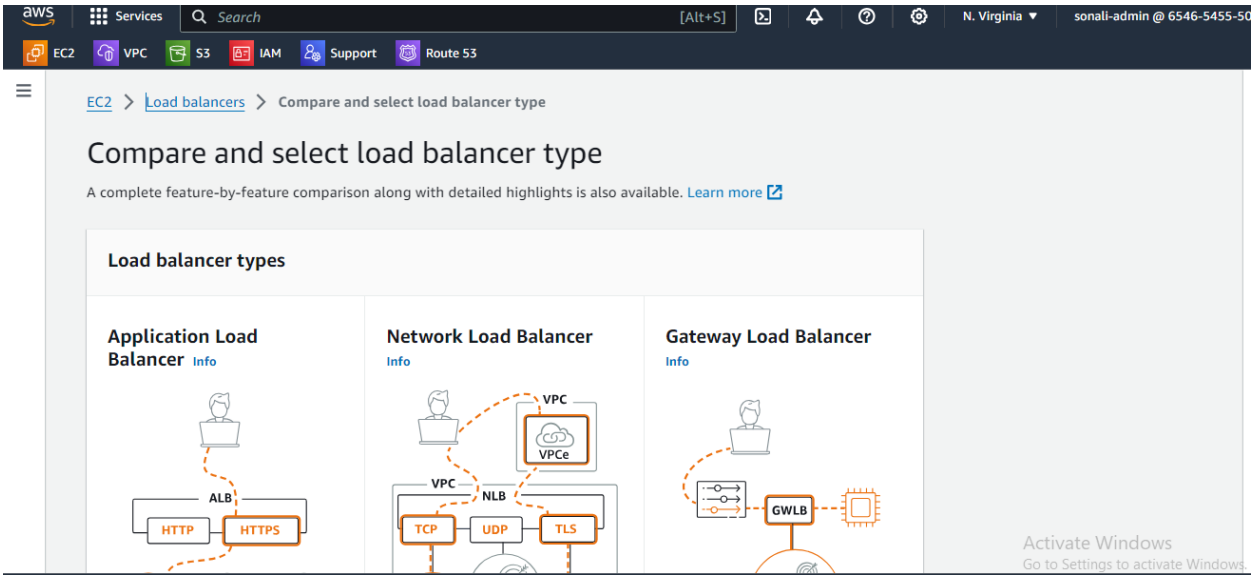
- Make a connection of target group and Autoscaling group.
- Attach home-tg target group to Auto scaling group (for home-alb)
  • Select home-alb > scroll down > load balancing > Edit > Application load balancer > select home target group > update
- Same attach laptop-tg target group to Auto scaling group (for laptopalb)
- Same attach mobile-tg target group to Auto scaling group (for mobilealb)

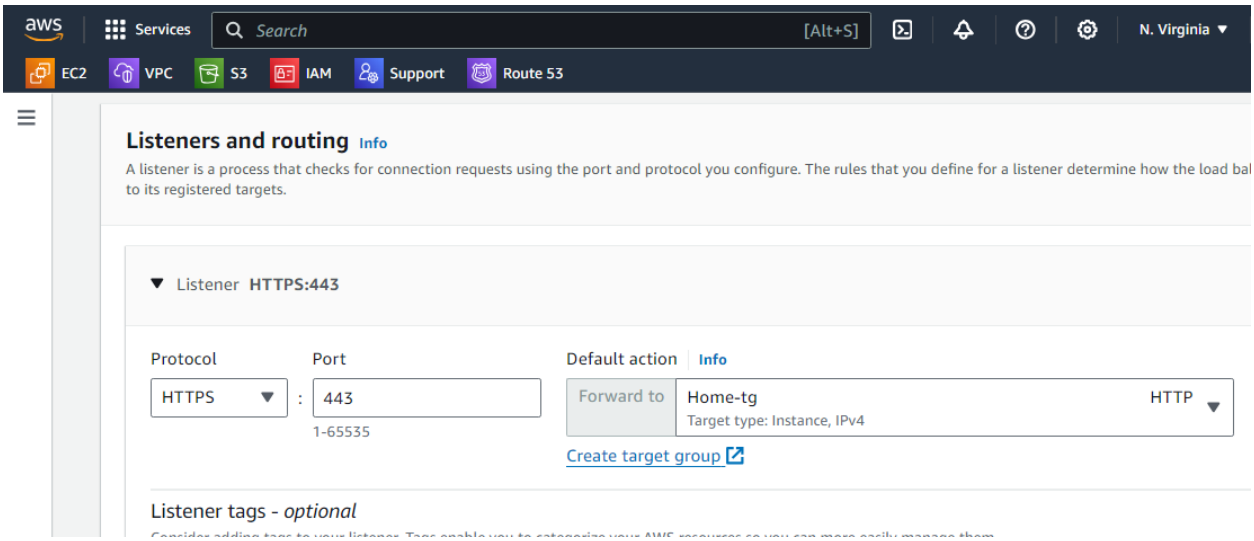
Step 5:

- Now create application load balancer
- Ec2 > create load balancer > name(autoscaling-alb) > internet facing >ipv4 > mapping (select all region) > select security group > listner port [443] [forward to (home-tg)] > create load balancer
- Add laptop-tg to our application load balancer
- Select our ALB > listner and rule > select existing rule > manage rule >add rule >name(laptop) > add condition > choose condition(path) >value(/laptop) > next > forward target group > target group(laptop-tg) >priority (10) > next > create.
- Same add mobile-tg to our application load balancer

- Select load balancer then hit its DNS.
- If it's not worked then add instances in target group.







Summary:

• By following these steps, you ensure that your domain is correctly pointed to your load balancer, providing seamless access to your web application

Step 6:

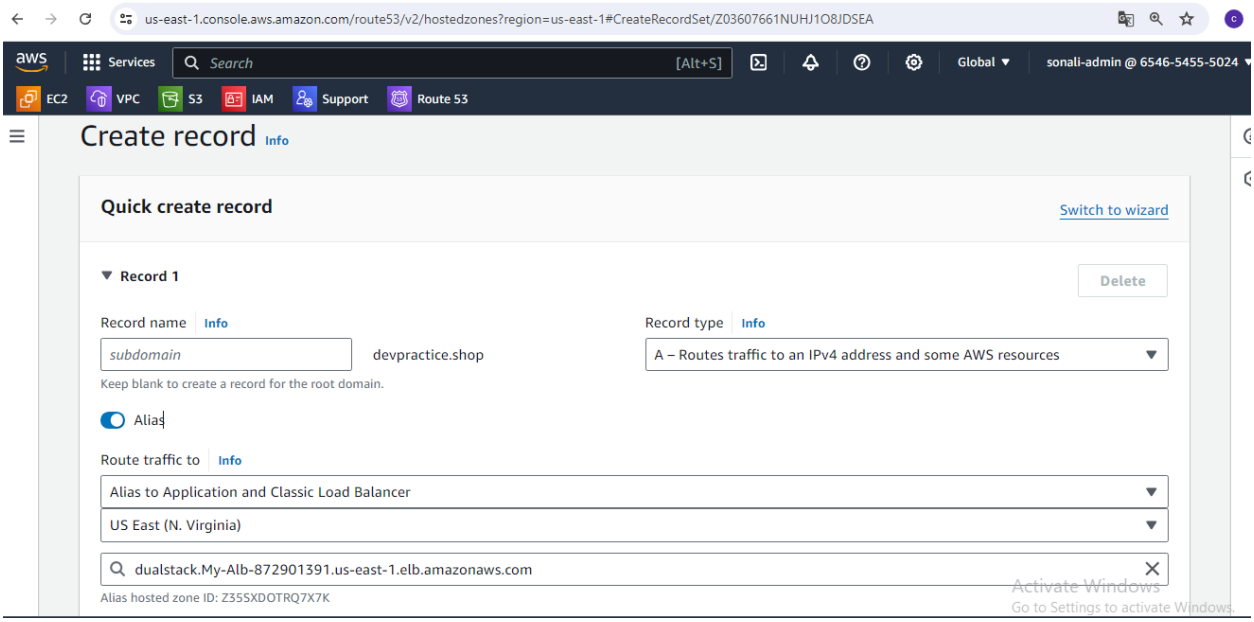
• Create a Hosted Zone (if not already created)

• Go to Route 53 Console

• Go to Hosted Zones.

• Click Create Hosted Zone.

• Enter your domain name and configure settings as needed.



Step 7:

- Create a one Record with alias
- Name Enter the desired subdomain or leave blank for the root domain.
- Alias Select Yes
- Alias Target Choose your ALB from the below list

- Now wait for to create record
  - And then hit our domain name with https (www.devpractice.shop)
  - Done


10:21
devpractice.shop
8
Hello World from Home ip-172-31-36-76.ec2.internal