AWS Solutions Architect Certification Training

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Module 3 - Assignment COMPLETED by Nagesha. K.S.
Please check the following screenshots for each question.

Problem Statement:

You work for XYZ Corporation that uses on-premises solutions and some limited number of systems. With the increase in requests in its application, the load has increased. So, to handle the load, the company needs to buy more systems almost on a regular basis. Realizing the need to cut down the expenses on systems, the company has decided to move its infrastructure onto AWS.

You are asked to:

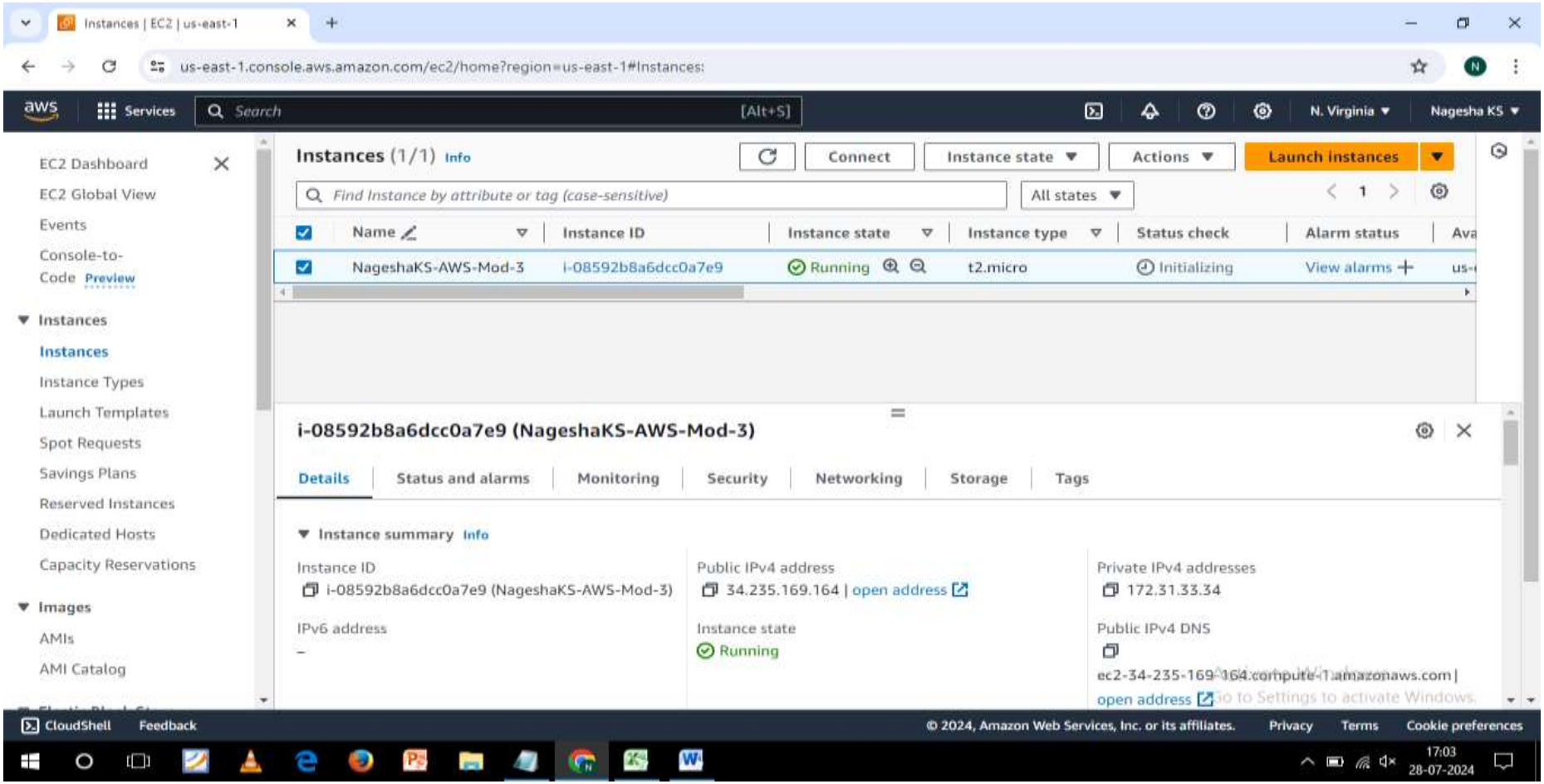
1. Manage the scaling requirements of the company by:
   - Deploying multiple compute resources on the cloud as soon as the load increases and the CPU utilization exceeds 80%
   - Removing the resources when the CPU utilization goes under 60%

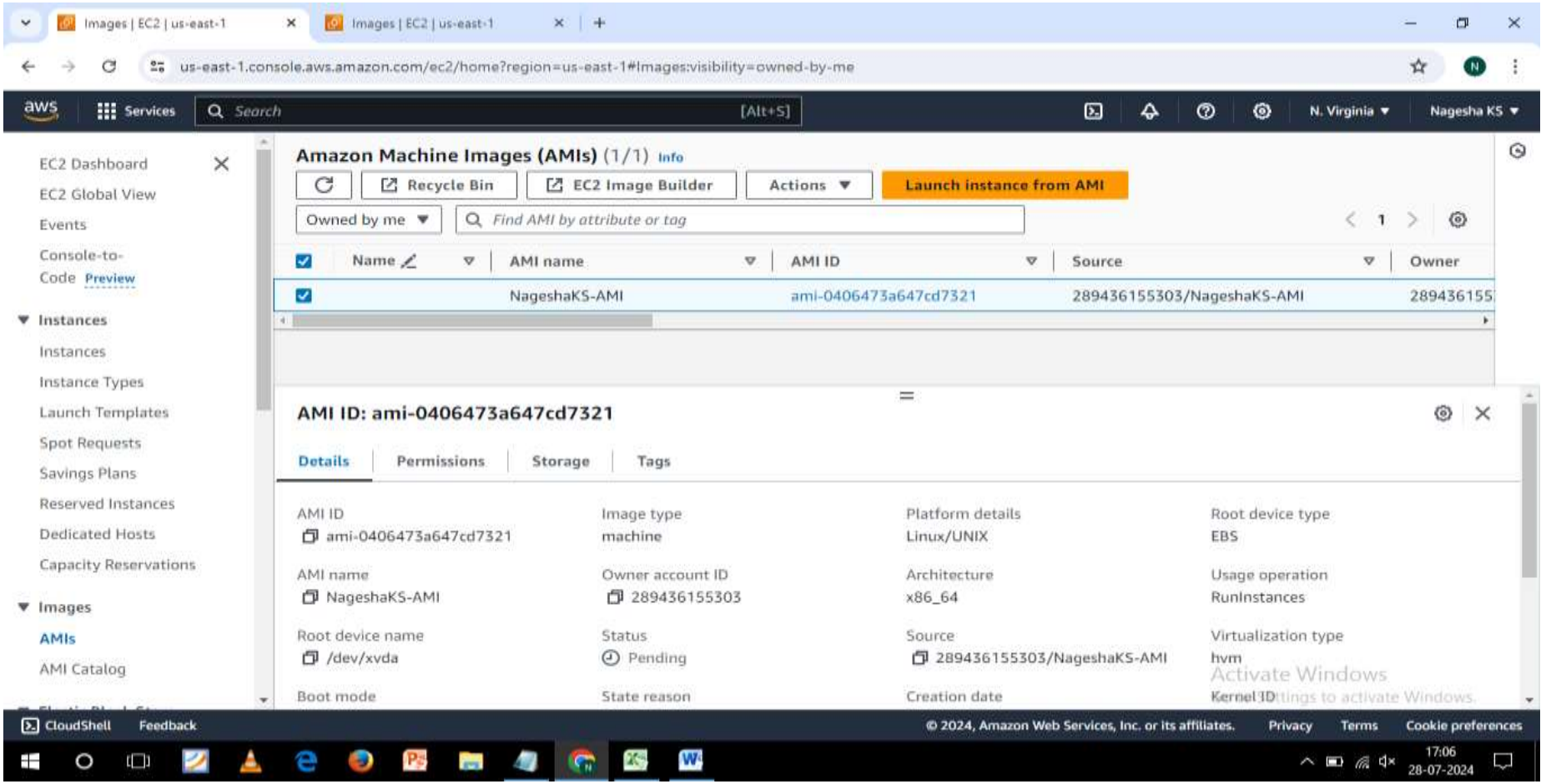
2. Create an Application Load balancer to distribute the load between compute resources
   - In your two target groups, make one for Blue deployment and the other for Green
   - Use weighted routing to route 70% of the traffic to the Blue target group and 30% of the traffic to the Green target group

3. Route the traffic to the company's domain

Note: You can get a free domain from Freenom

1. **Manage the scaling requirements of the company by:**
   - **Deploying multiple compute resources on the cloud as soon as the load increases and the CPU utilization exceeds 80%**
   - **Removing the resources when the CPU utilization goes under 60%**




Images | EC2 | us-east-1
Images | EC2 | us-east-1
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Images:visibility=owned-by-me
aws
Services
Search
[Alt+S]
N. Virginia
Nagesha KS
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Amazon Machine Images (AMIs) (1/1) Info
Recycle Bin
EC2 Image Builder
Actions
Launch instance from AMI
Owned by me
Find AMI by attribute or tag
Name
AMI name
AMI ID
Source
Owner
NageshaKS-AMI
ami-0406473a647cd7321
289436155303/NageshaKS-AMI
AMI ID: ami-0406473a647cd7321
Details
Permissions
Storage
Tags
AMI ID
ami-0406473a647cd7321
Image type
machine
Platform details
Linux/UNIX
Root device type
EBS
AMI name
NageshaKS-AMI
Owner account ID
289436155303
Architecture
x86_64
Usage operation
RunInstances
Root device name
/dev/xvda
Status
Pending
Source
289436155303/NageshaKS-AMI
Virtualization type
hvm
Boot mode
State reason
Creation date
Kernel ID
Activate Windows
CloudShell
Feedback
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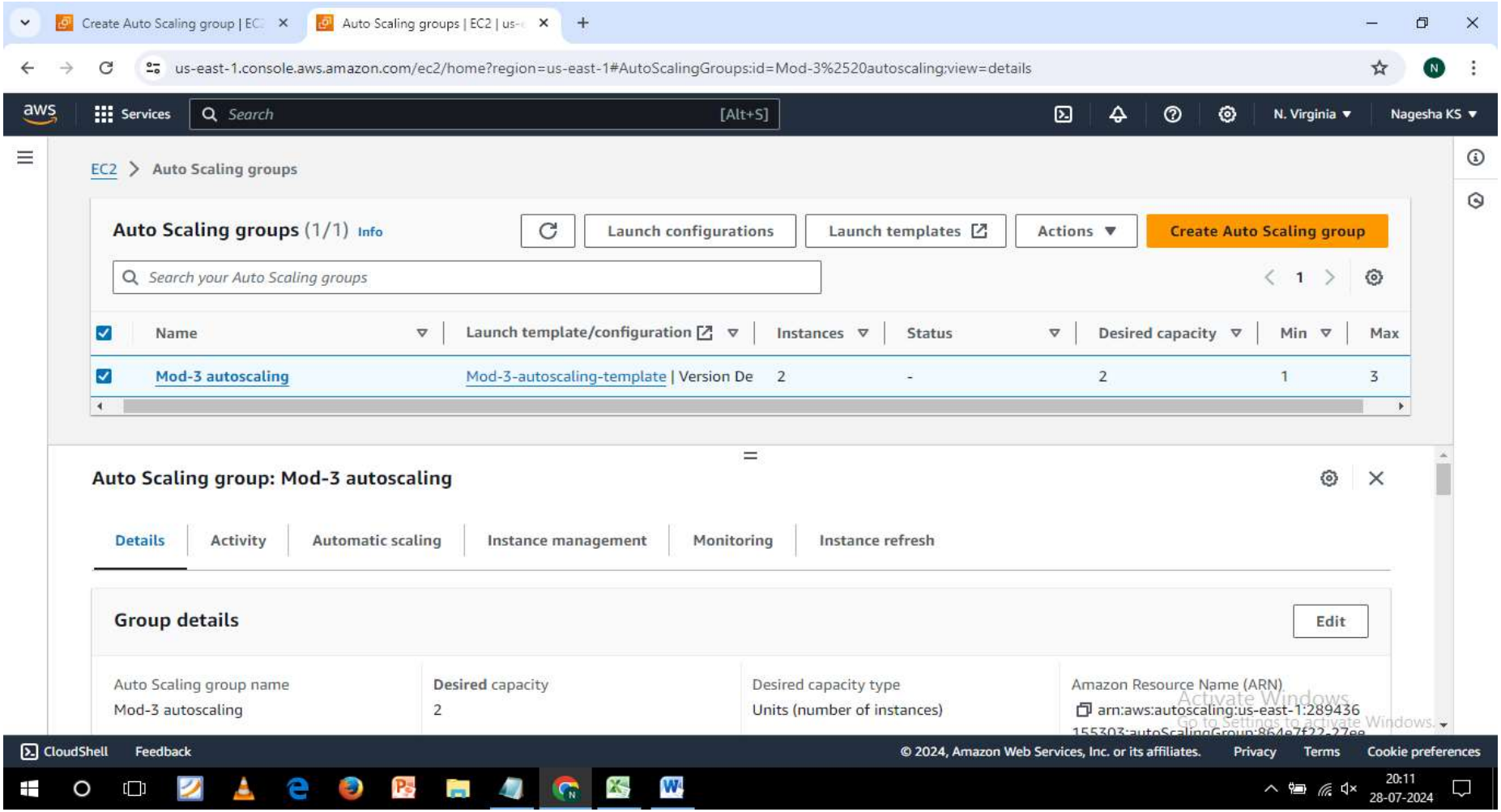
17:06
28-07-2024


Create Auto Scaling group | EC2
Auto Scaling groups | EC2 | us-east-1
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#AutoScalingGroups:id=Mod-3%2520autoscaling;view=details
aws
Services
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EC2 > Auto Scaling groups
Auto Scaling groups (1/1) Info
Launch configurations
Launch templates
Actions
Create Auto Scaling group
Search your Auto Scaling groups
1
Name
Launch template/configuration
Instances
Status
Desired capacity
Min
Max
Mod-3 autoscaling
Mod-3-autoscaling-template | Version De
2
-
2
1
3
Auto Scaling group: Mod-3 autoscaling
Details
Activity
Automatic scaling
Instance management
Monitoring
Instance refresh
Group details
Edit
Auto Scaling group name
Mod-3 autoscaling
Desired capacity
2
Desired capacity type
Units (number of instances)
Amazon Resource Name (ARN)
arn:aws:autoscaling:us-east-1:289436
Activate Windows
Go to Settings to activate Windows.
CloudShell
Feedback
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20:11
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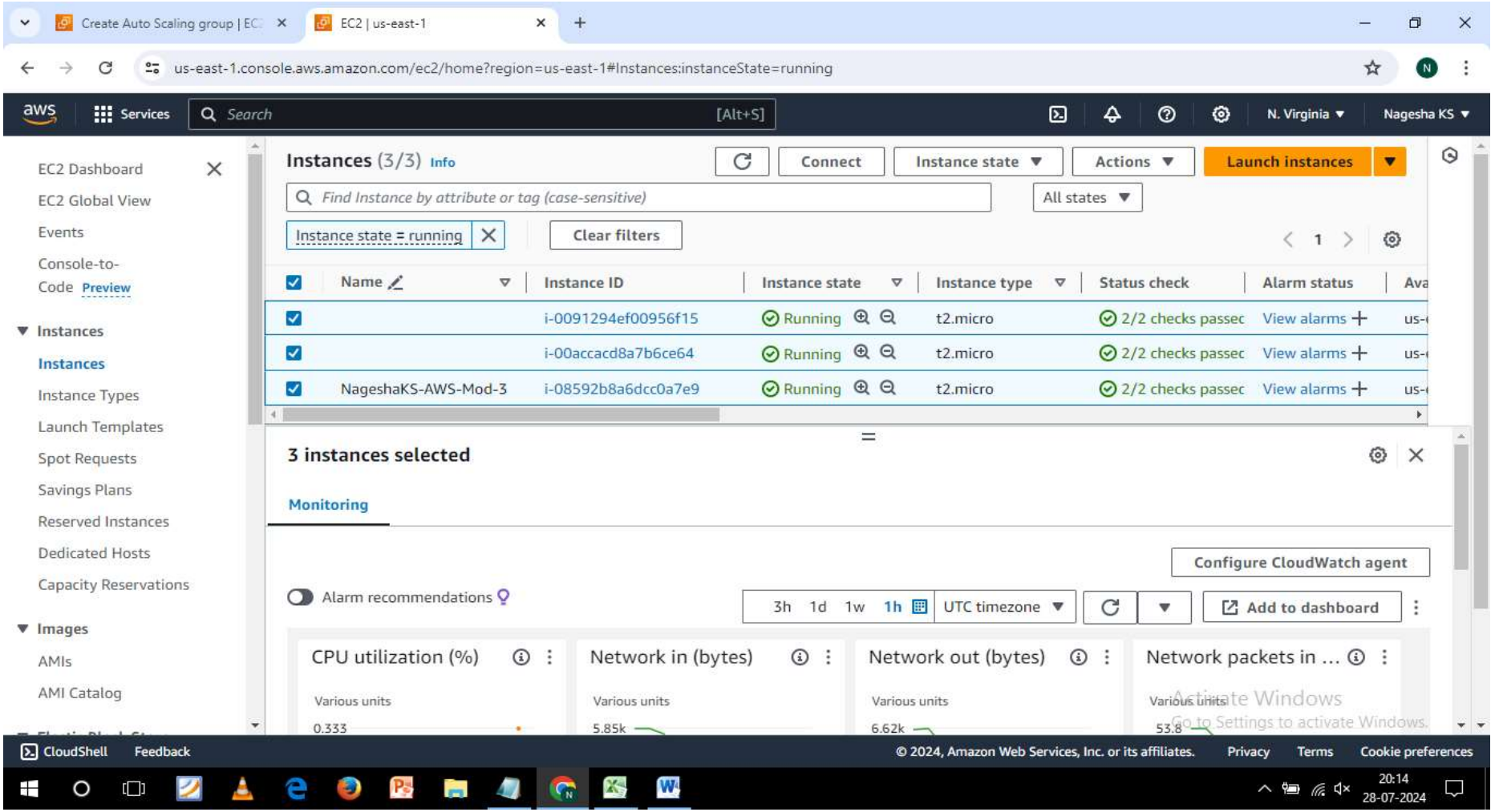
Create Auto Scaling group | EC2
EC2 | us-east-1
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:instanceState=running
aws
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Instances (3/3) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Instance state = running
Clear filters
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
i-0091294ef00956f15 Running t2.micro 2/2 checks passec View alarms
i-00accacd8a7b6ce64 Running t2.micro 2/2 checks passec View alarms
NageshaKS-AWS-Mod-3 i-08592b8a6dcc0a7e9 Running t2.micro 2/2 checks passec View alarms
3 instances selected
Monitoring
Configure CloudWatch agent
Alarm recommendations
3h 1d 1w 1h UTC timezone
Add to dashboard
CPU utilization (%)
Network in (bytes)
Network out (bytes)
Network packets in ...
Various units
0.333
5.85k
6.62k
53.8
Activate Windows
Go to Settings to activate Windows.
CloudShell
Feedback
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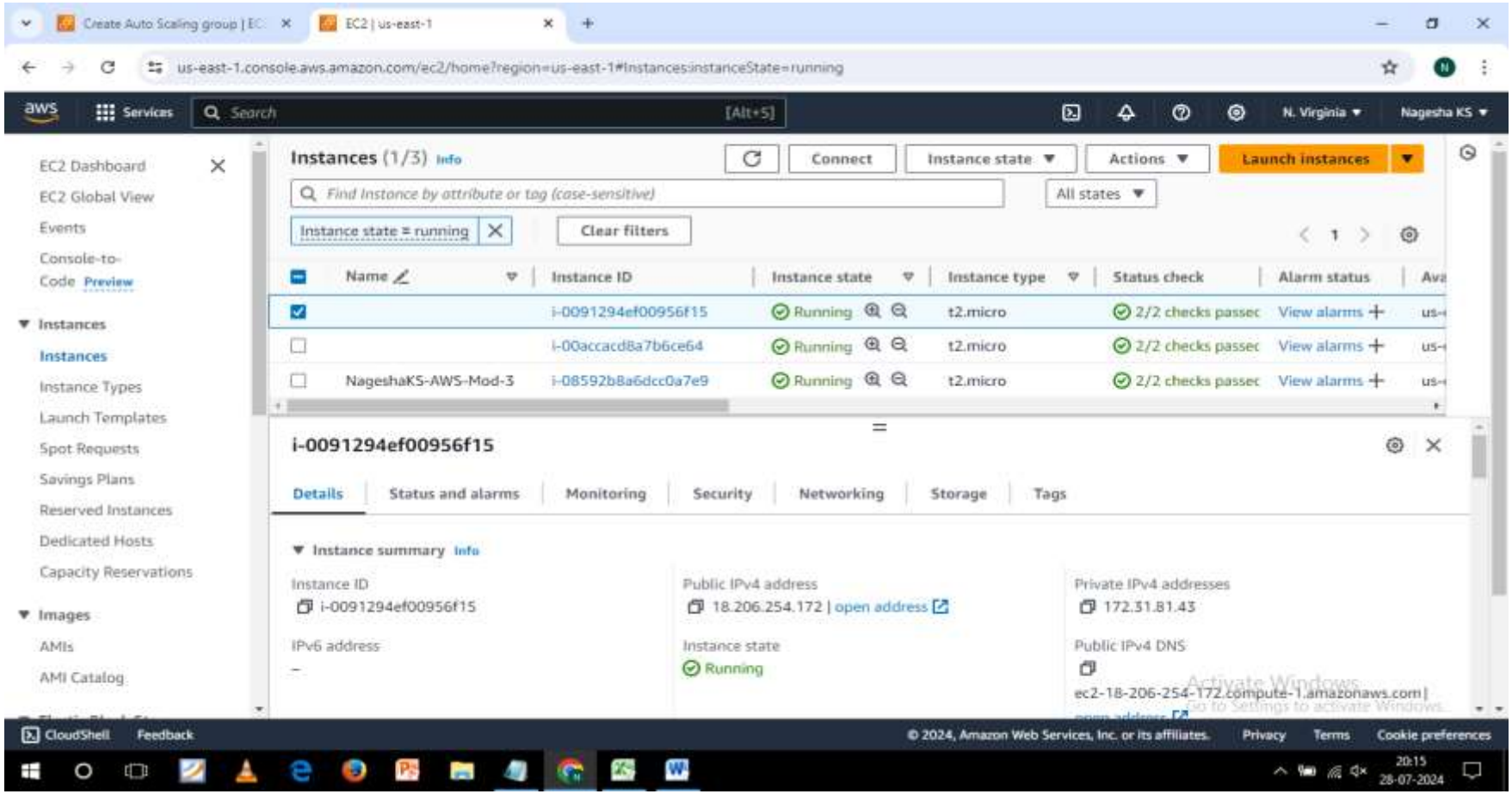
Create Auto Scaling group | EC
EC2 | us-east-1
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:instanceState=running
aws
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Instances (1/3) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Instance state = running
Clear filters
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
i-0091294ef00956f15
Running
t2.micro
2/2 checks passed
View alarms
i-00accacd8a7b6ce64
Running
t2.micro
2/2 checks passed
View alarms
NageshaKS-AWS-Mod-3
i-08592b8a6dcc0a7e9
Running
t2.micro
2/2 checks passed
View alarms
i-0091294ef00956f15
Details
Status and alarms
Monitoring
Security
Networking
Storage
Tags
Instance summary Info
Instance ID
i-0091294ef00956f15
Public IPv4 address
18.206.254.172 | open address
Private IPv4 addresses
172.31.81.43
IPv6 address
–
Instance state
Running
Public IPv4 DNS
ec2-18-206-254-172.compute-1.amazonaws.com | open address
Activate Windows
Go to Settings to activate Windows.
CloudShell
Feedback
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20:15
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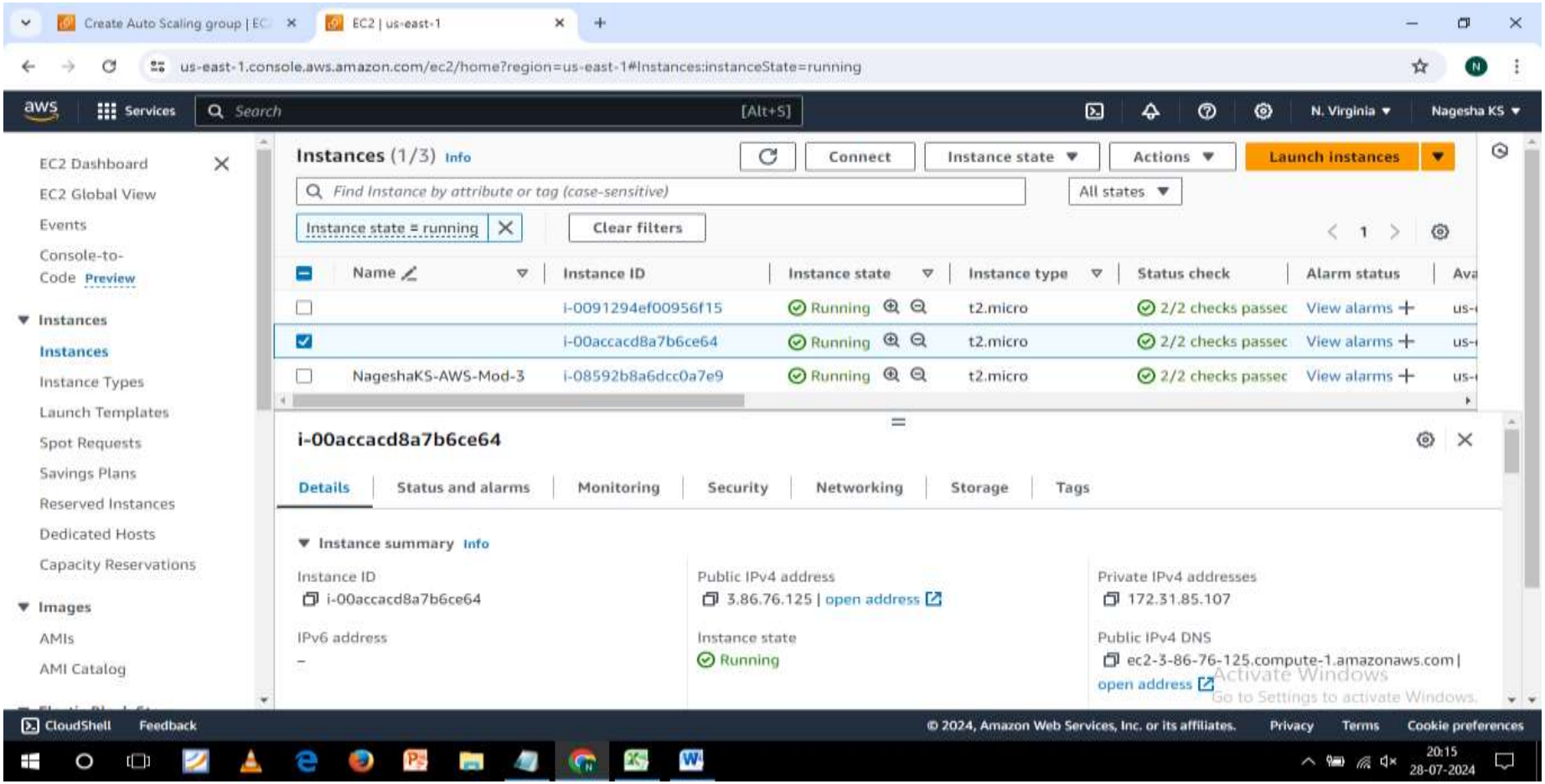
Create Auto Scaling group | EC
EC2 | us-east-1
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:instanceState=running
aws
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Instances (1/3) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Instance state = running
Clear filters
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
i-0091294ef00956f15
Running
t2.micro
2/2 checks passec
View alarms
i-00accacd8a7b6ce64
Running
t2.micro
2/2 checks passec
View alarms
NageshaKS-AWS-Mod-3
i-08592b8a6dcc0a7e9
Running
t2.micro
2/2 checks passec
View alarms
i-00accacd8a7b6ce64
Details
Status and alarms
Monitoring
Security
Networking
Storage
Tags
Instance summary Info
Instance ID
i-00accacd8a7b6ce64
Public IPv4 address
3.86.76.125 | open address
Private IPv4 addresses
172.31.85.107
IPv6 address
-
Instance state
Running
Public IPv4 DNS
ec2-3-86-76-125.compute-1.amazonaws.com | open address
Activate Windows
Go to Settings to activate Windows.
CloudShell
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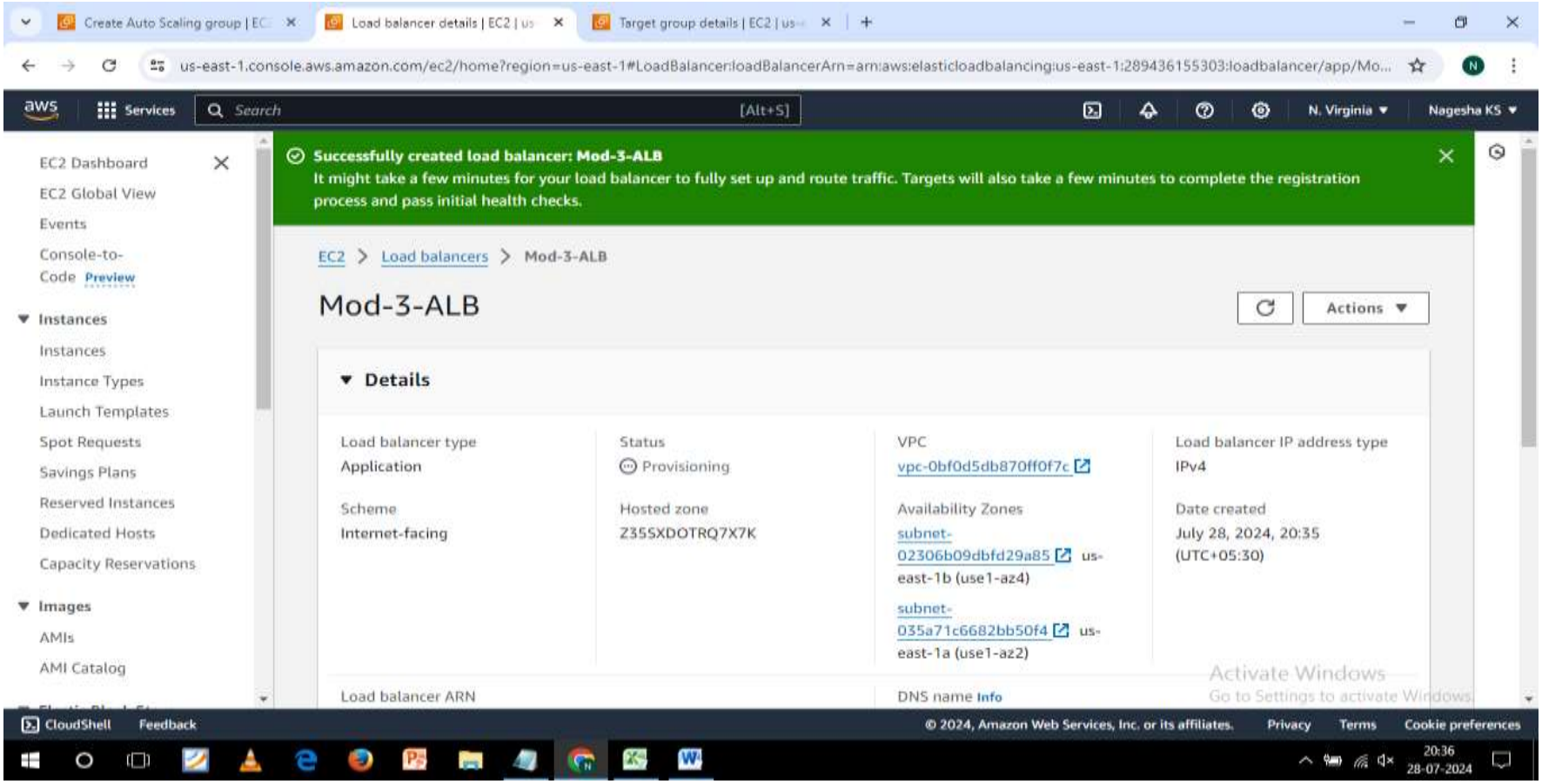
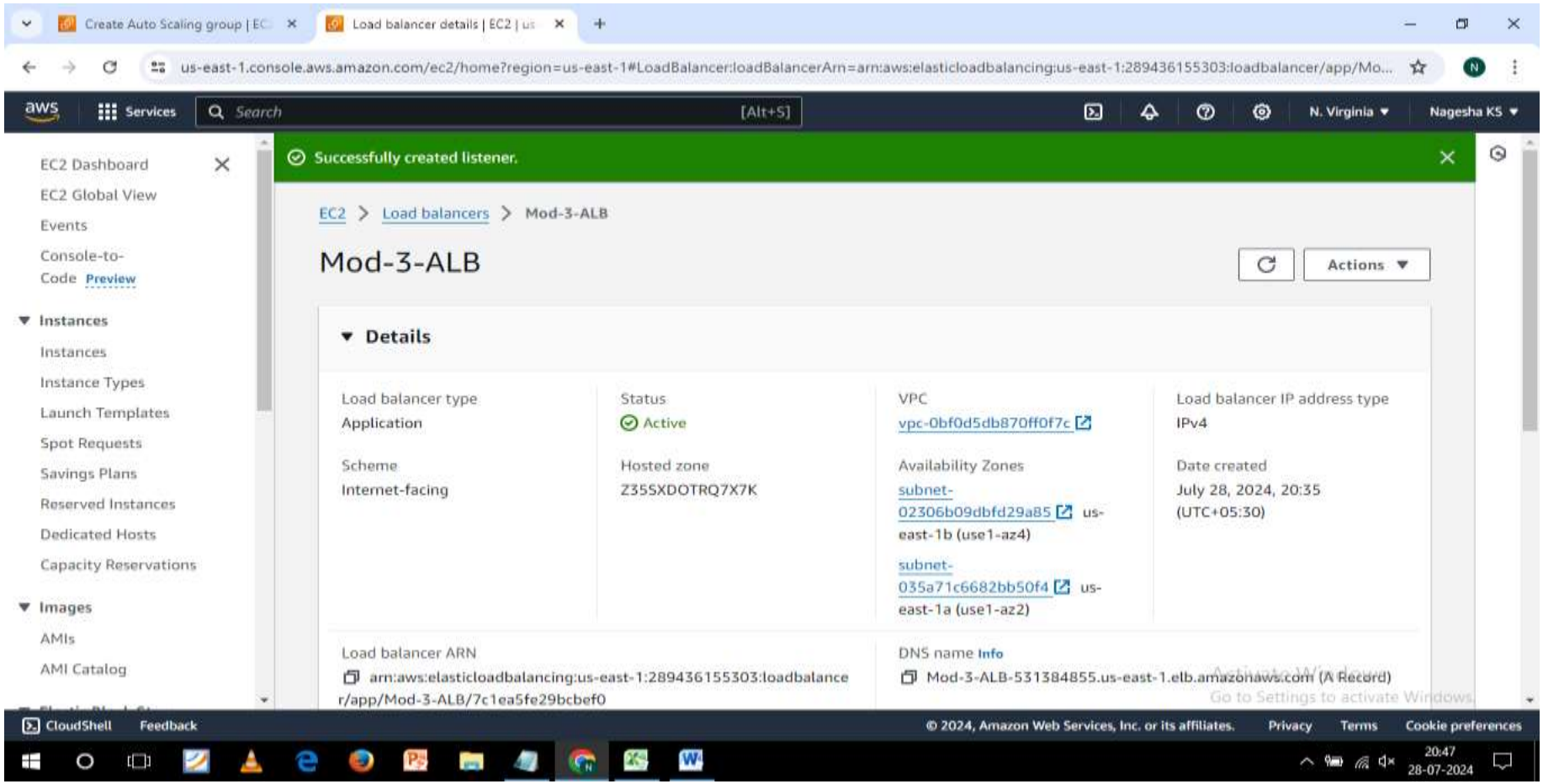
20:15
28-07-2024

2. Create an Application Load balancer to distribute the load between compute resources
   - In your two target groups, make one for Blue deployment and the other for Green
   - Use weighted routing to route 70% of the traffic to the Blue target group and 30% of the traffic to the Green target group




Create Auto Scaling group | EC
Load balancer details | EC2 | us
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LoadBalancer:loadBalancerArn=arn:aws:elasticloadbalancing:us-east-1:289436155303:loadbalancer/app/Mo...
aws
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Successfully created listener.
EC2 > Load balancers > Mod-3-ALB
Mod-3-ALB
Actions
Details
Load balancer type
Application
Status
Active
VPC
vpc-0bf0d5db870ff0f7c
Load balancer IP address type
IPv4
Scheme
Internet-facing
Hosted zone
Z35SXDOTRQ7X7K
Availability Zones
subnet-02306b09dbfd29a85 us-east-1b (use1-az4)
subnet-035a71c6682bb50f4 us-east-1a (use1-az2)
Date created
July 28, 2024, 20:35 (UTC+05:30)
Load balancer ARN
arn:aws:elasticloadbalancing:us-east-1:289436155303:loadbalancer/app/Mod-3-ALB/7c1ea5fe29bcbef0
DNS name Info
Mod-3-ALB-531384855.us-east-1.elb.amazonaws.com (A Record)
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3. Route the traffic to the company's domain

Note: You can get a free domain from Freenom

freenom is not accepting new domain names as mentiod below. I tried with AWS Route 53 but it charges in USD.