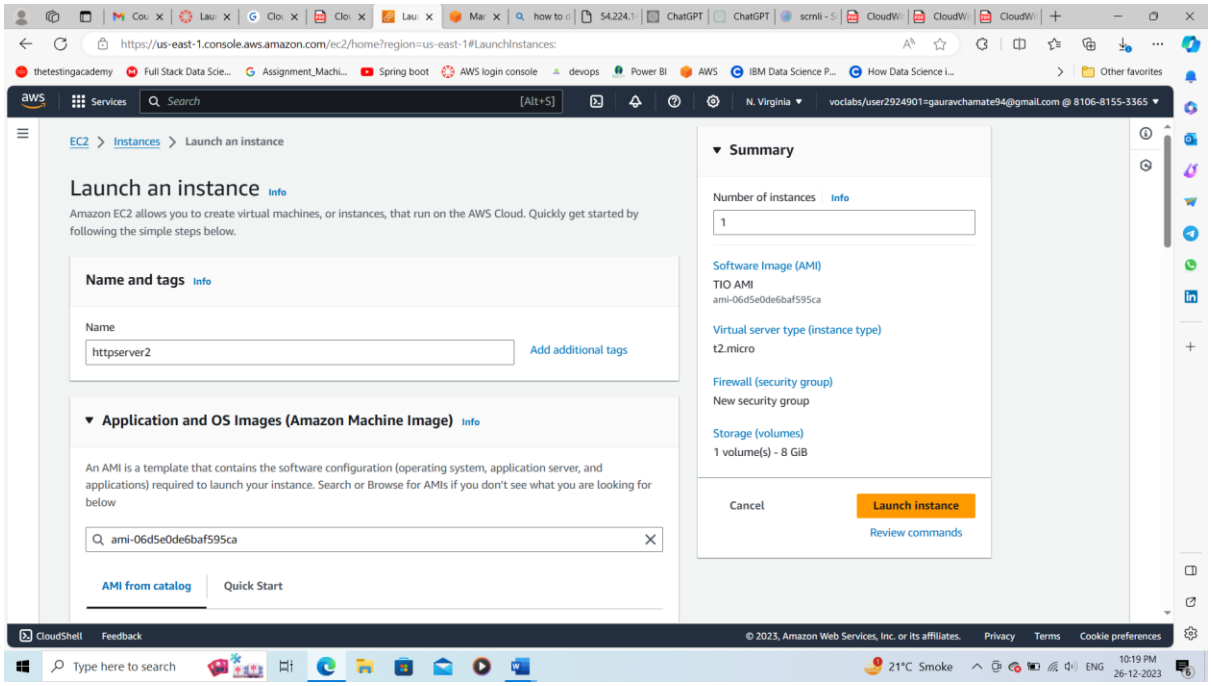
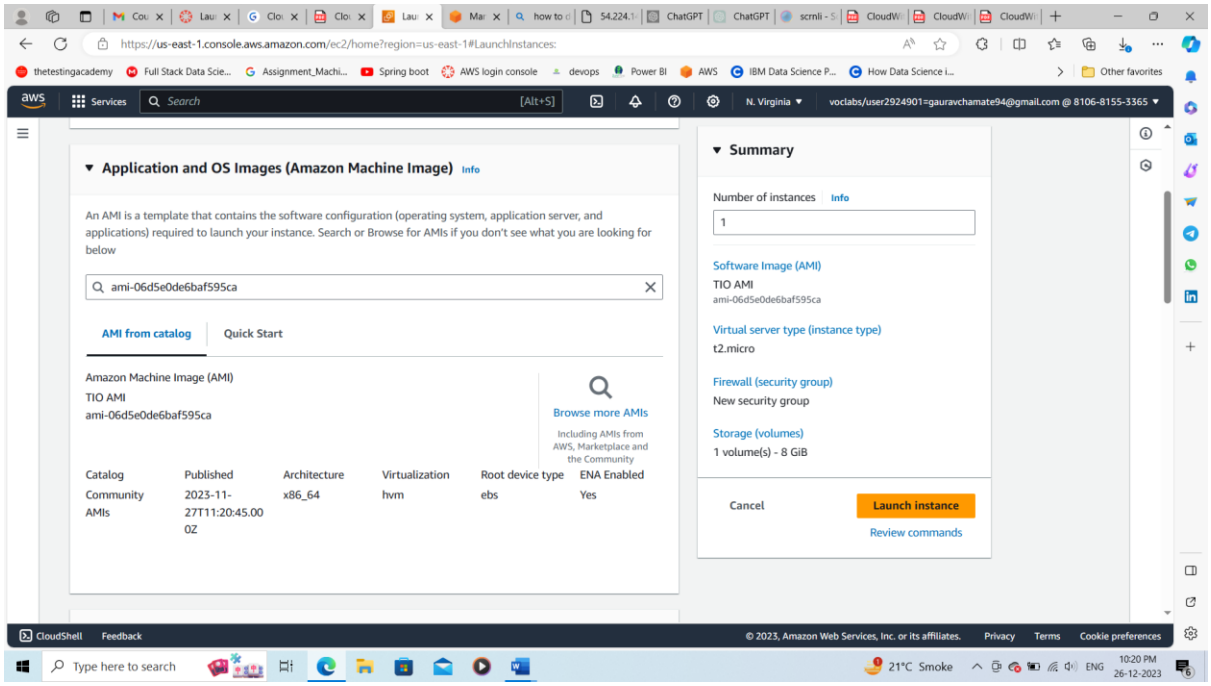
A. Hands-On: Launch two instances 1. Open the EC2 management console at https://console.aws.amazon.com/ec2/ (you will be required to sign in) 2. Ensure the region is N Virginia 3. The following steps needs to be executed twice for launching the two instances 4. Using the below parameters, create an EC2 instance using the same flow described in CloudWithAWS-TIO-1 a) Make the following changes to the EC2 instance creation pagei. Name : httpserver1 for the first instance and httpserver2 for the second instance ii. AMI : ami-06d5e0de6baf595ca iii. Instance type: t2.micro iv. Keypair : Create a new keypair called pgpcc-key1 v. VPC : Default VPC vi. Subnet : us-east-1a and us-east-1b in the drop down for the two instances vii. Security groups : Create a security group using the following values for both the instances – 1. Security Group Name : private-sg 2. Description : Opens security groups for ssh and http 3. A rule for SSH is already added , click on the Add Rule button to add the second rule for this security group using the following values - a) Type : HTTP b) Port Range : 80 c) Source Type : Anywhere 2 Try it out! PGP in Cloud Computing viii. Storage : No changes are required here 5. Confirm there are two EC2 instances running in two different availability zones with the http page working when accessing the public IP address




https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user2924901=gauravchamate94@gmail.com @ 8106-8155-3365
Application and OS Images (Amazon Machine Image) Info
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
ami-06d5e0de6baf595ca
AMI from catalog
Quick Start
Amazon Machine Image (AMI)
TIO AMI
ami-06d5e0de6baf595ca
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community
Catalog
Community AMIs
Published
2023-11-27T11:20:45.000Z
Architecture
x86_64
Virtualization
hvm
Root device type
ebs
ENA Enabled
Yes
Summary
Number of instances Info
1
Software Image (AMI)
TIO AMI
ami-06d5e0de6baf595ca
Virtual server type (instance type)
t2.micro
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Cancel
Launch instance
Review commands
CloudShell
Feedback
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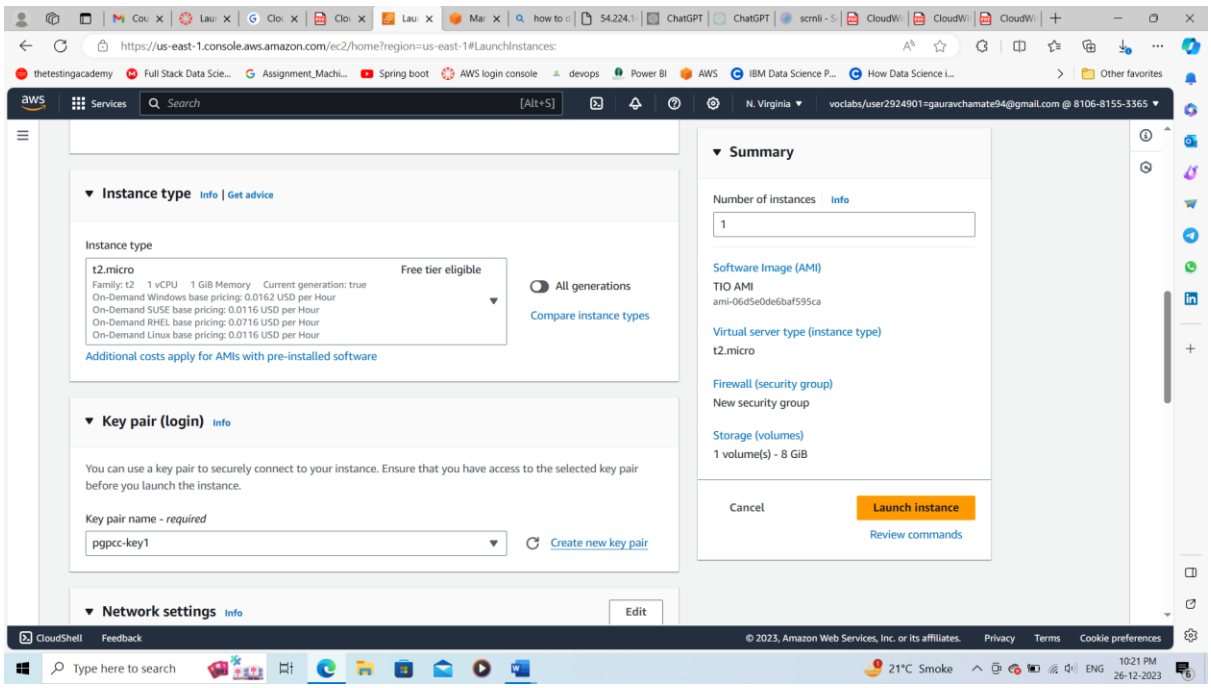
Privacy
Terms
Cookie preferences
Type here to search
21°C Smoke
ENG
10:20 PM
26-12-2023


https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user2924901=gauravchamate94@gmail.com @ 8106-8155-3365
Instance type Info | Get advice
Instance type
t2.micro
Free tier eligible
Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Windows base pricing: 0.0162 USD per Hour
On-Demand SUSE base pricing: 0.0116 USD per Hour
On-Demand RHEL base pricing: 0.0716 USD per Hour
On-Demand Linux base pricing: 0.0116 USD per Hour
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 - required
pgpcc-key1
Create new key pair
Network settings Info
Edit
Summary
Number of instances Info
1
Software Image (AMI)
TIO AMI
ami-06d5e0de6baf595ca
Virtual server type (instance type)
t2.micro
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Cancel
Launch instance
Review commands
CloudShell
Feedback
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Cookie preferences
Type here to search
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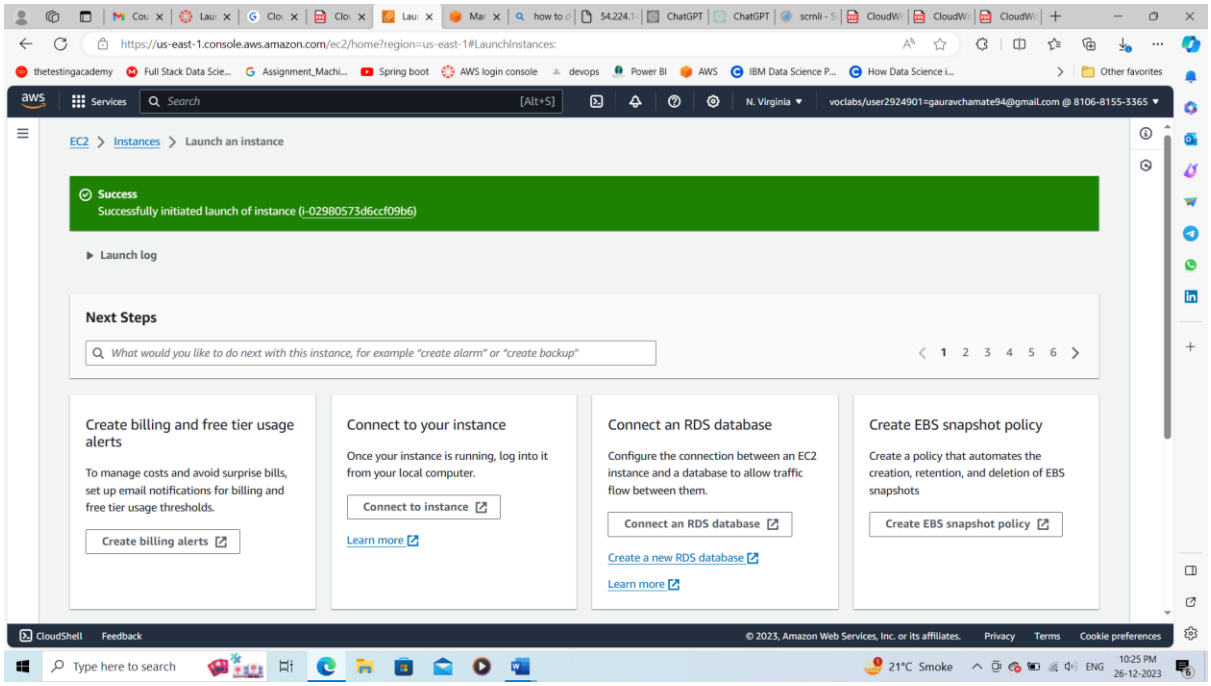
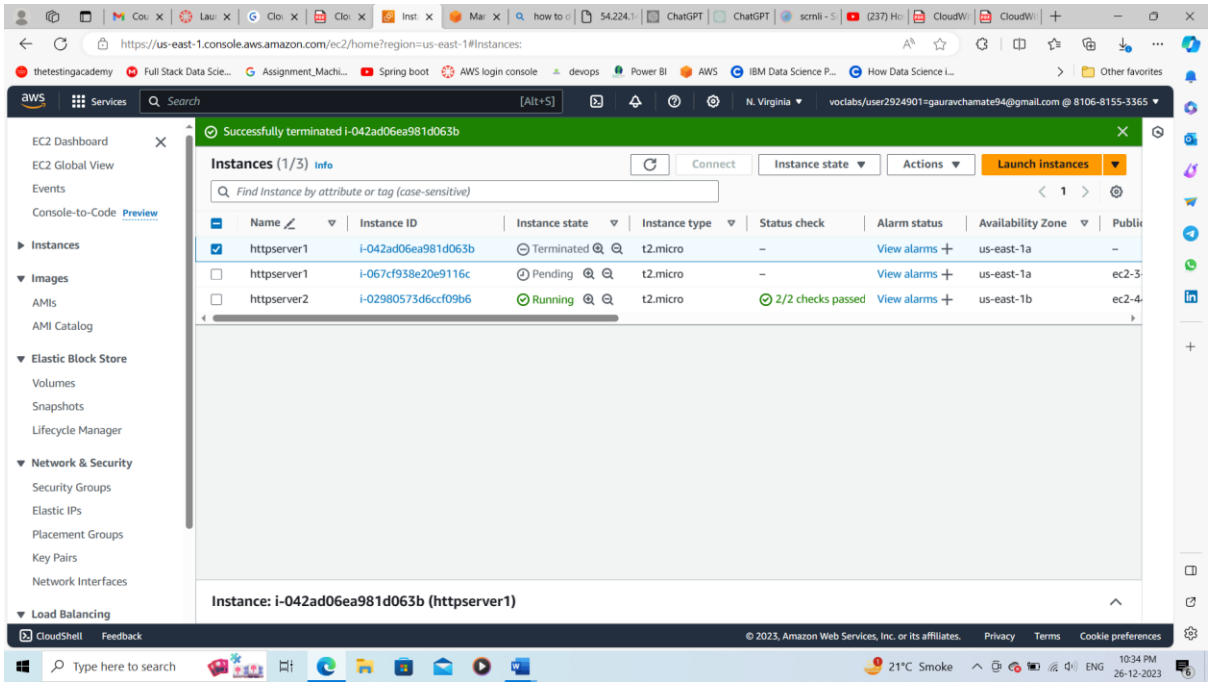
ENG
10:21 PM
26-12-2023

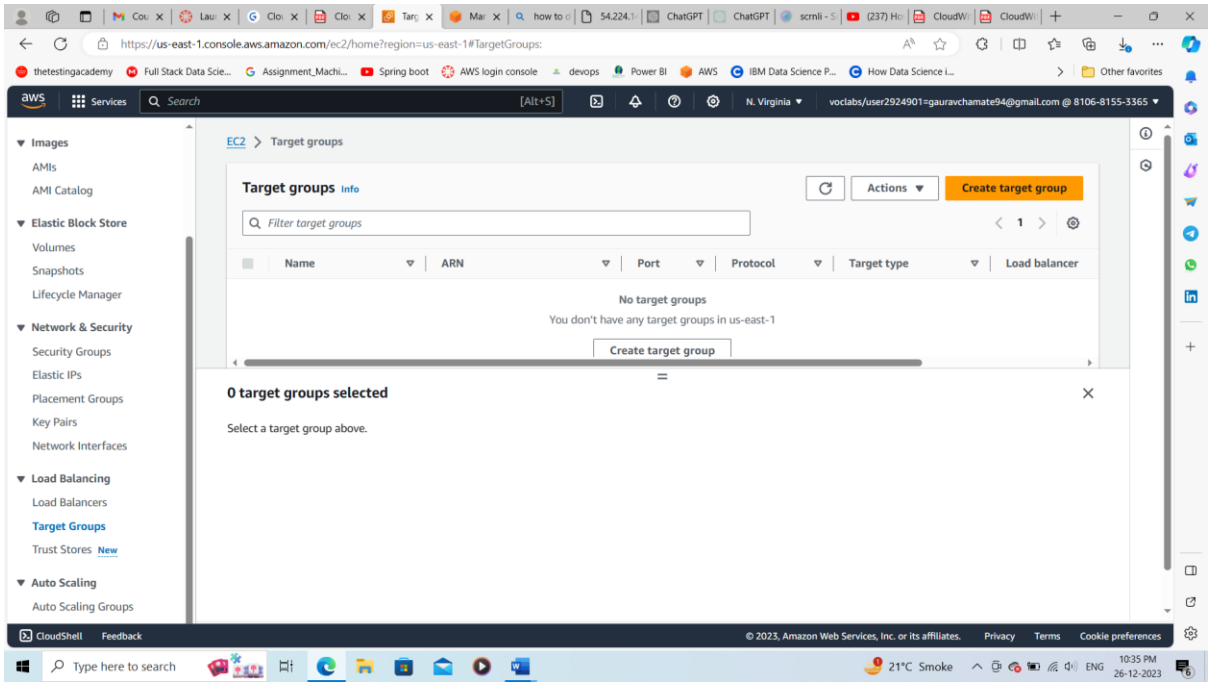




B. Hands-on: Create a Target Group (TG) 1. Go to the EC2 management console at https://console.aws.amazon.com/ec2/

2. Ensure the region is N Virginia

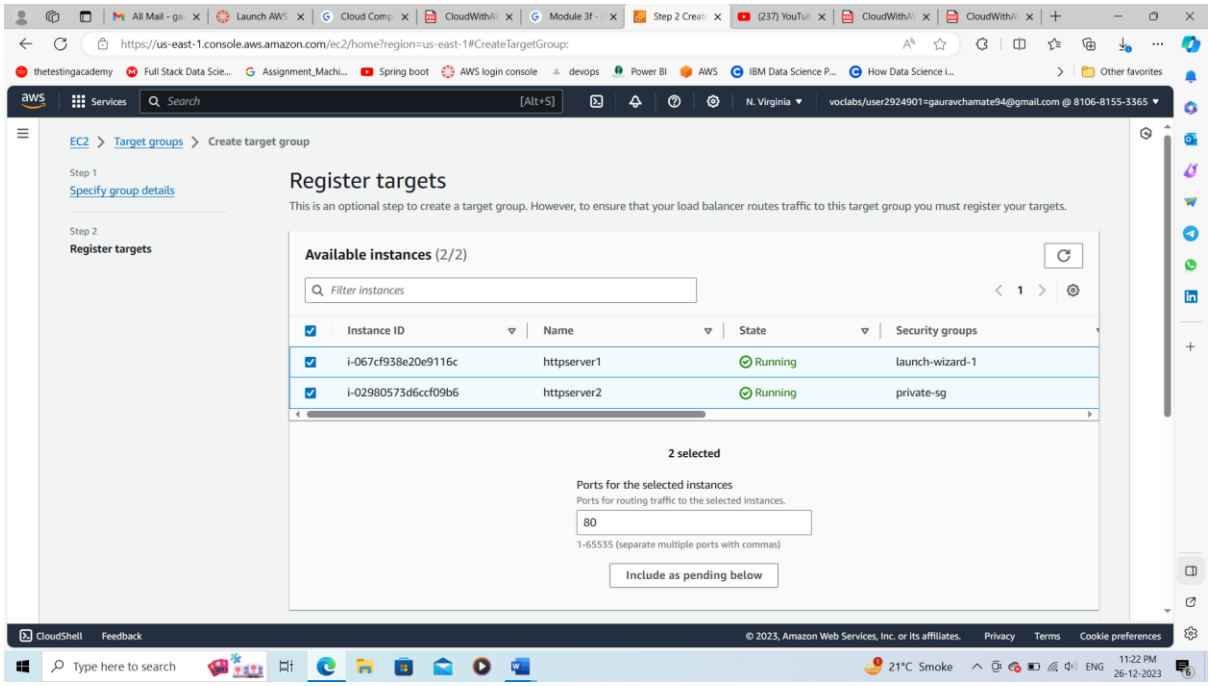
3. In the left navigation, under Load Balancing, choose Target Groups

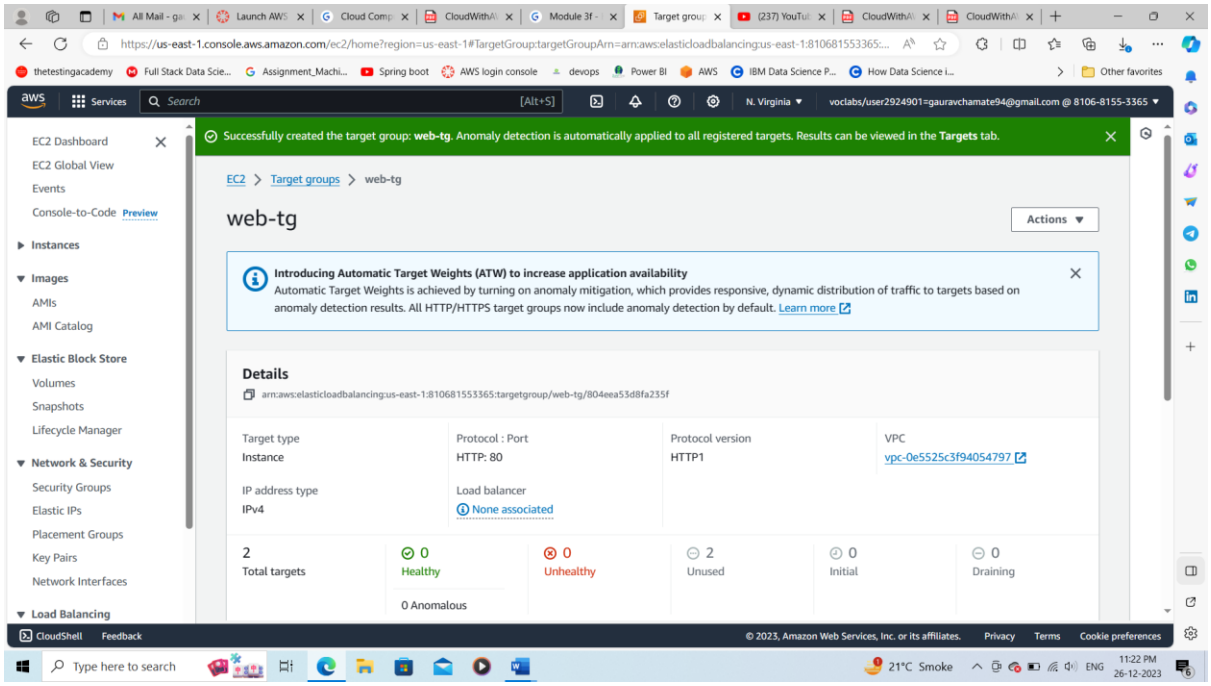


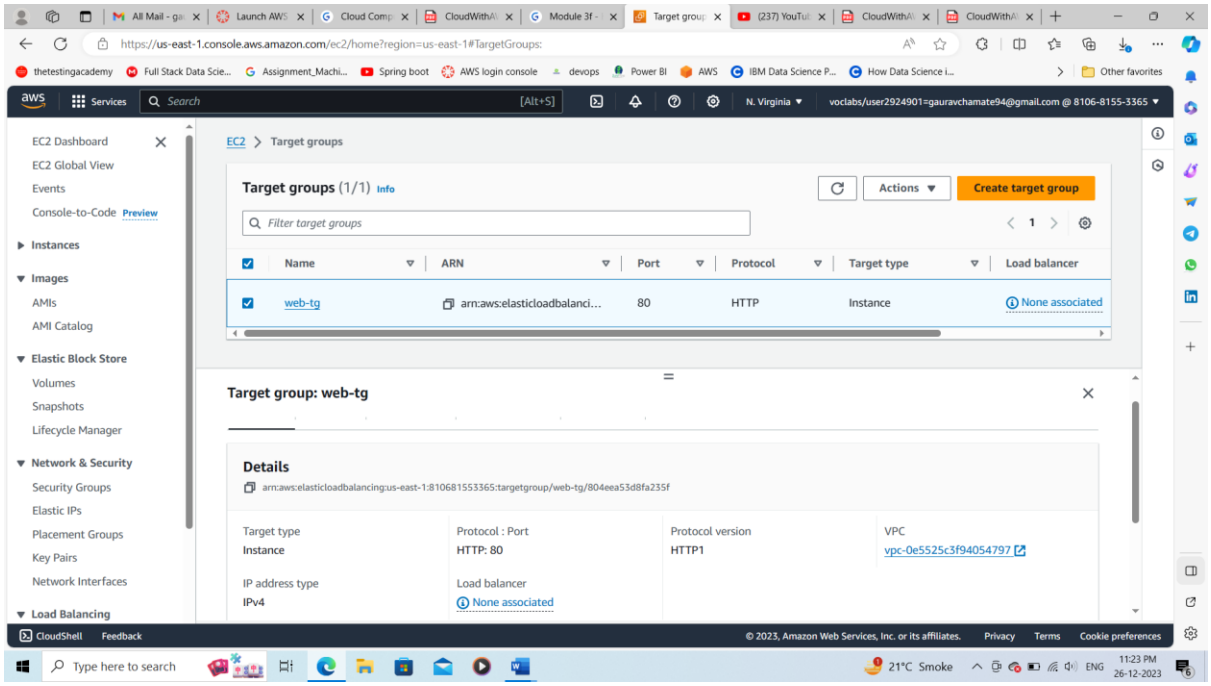
4. Click on the Create target group button (right side top of the screen)

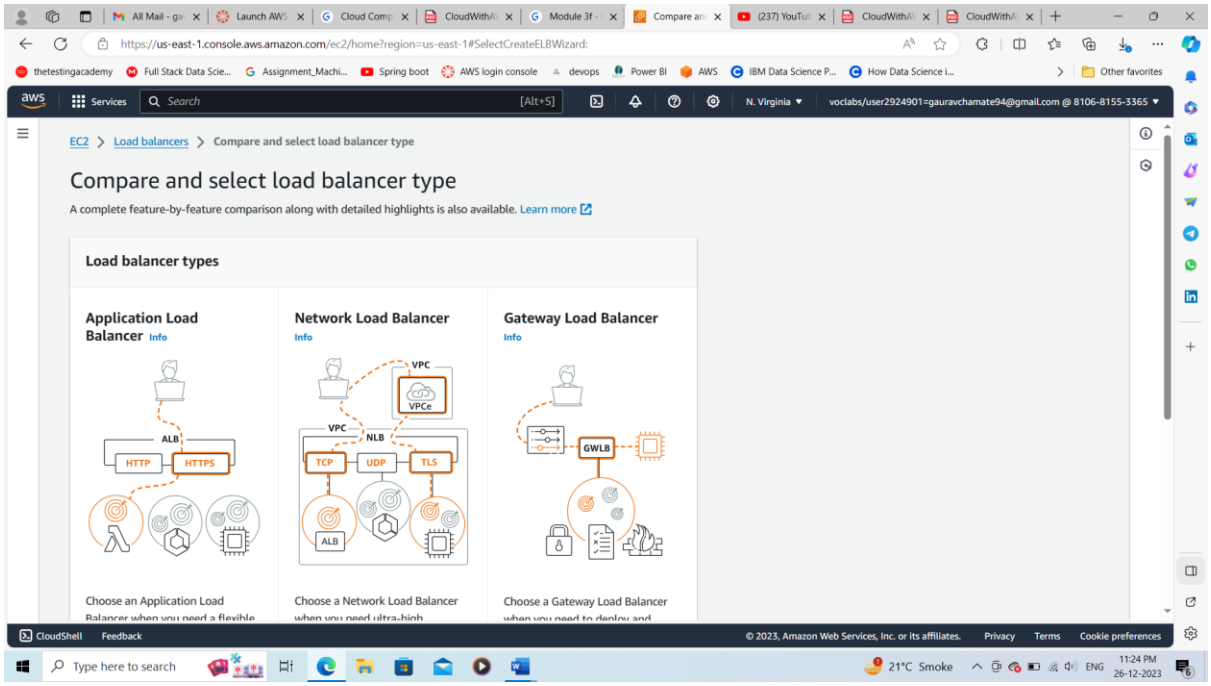
5. Under Basic configuration “card”, keep the Target type as instance

6. In the Target group name field paste the following value




Successfully created the target group: web-tg. Anomaly detection is automatically applied to all registered targets. Results can be viewed in the Targets tab.
EC2 > Target groups > web-tg
web-tg
Actions
Introducing Automatic Target Weights (ATW) to increase application availability
Automatic Target Weights is achieved by turning on anomaly mitigation, which provides responsive, dynamic distribution of traffic to targets based on anomaly detection results. All HTTP/HTTPS target groups now include anomaly detection by default. Learn more
Details
arn:aws:elasticloadbalancing:us-east-1:810681553365:targetgroup/web-tg/804eea53d8fa235f
Target type
Instance
Protocol : Port
HTTP: 80
Protocol version
HTTP1
VPC
vpc-0e5525c3f94054797
IP address type
IPv4
Load balancer
None associated
2
Total targets
0
Healthy
0 Anomalous
0
Unhealthy
2
Unused
0
Initial
0
Draining


EC2 > Target groups
Target groups (1/1) Info
Actions
Create target group
Filter target groups
Name
ARN
Port
Protocol
Target type
Load balancer
web-tg
arn:aws:elasticloadbalanci...
80
HTTP
Instance
None associated
Target group: web-tg
Details
arn:aws:elasticloadbalancing:us-east-1:810681553365:targetgroup/web-tg/804eea53d8fa235f
Target type
Instance
Protocol : Port
HTTP: 80
Protocol version
HTTP1
VPC
vpc-0e5525c3f94054797
IP address type
IPv4
Load balancer
None associated


EC2 > Load balancers > Compare and select load balancer type
Compare and select load balancer type
A complete feature-by-feature comparison along with detailed highlights is also available. Learn more
Load balancer types
Application Load Balancer Info
Network Load Balancer Info
Gateway Load Balancer Info
ALB
HTTP
HTTPS
VPC
VPCe
NLB
TCP
UDP
TLS
GWLB
Choose an Application Load
Choose a Network Load Balancer
Choose a Gateway Load Balancer
CloudShell
Feedback
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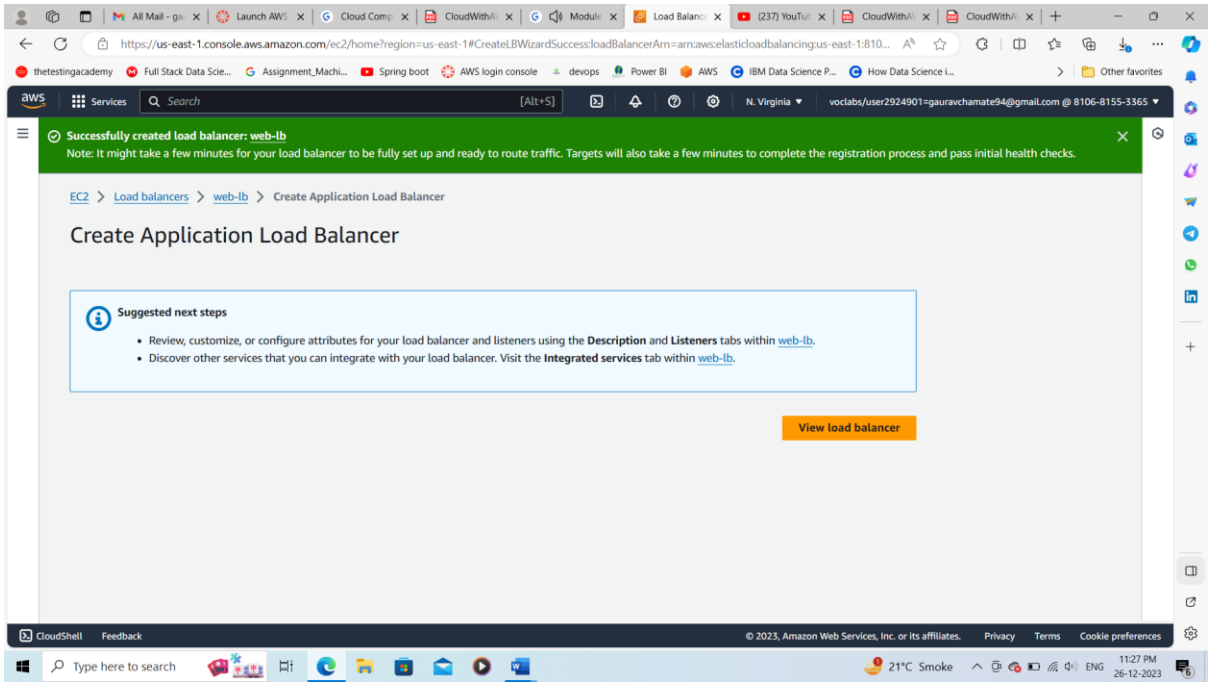
Successfully created load balancer: web-lb
Note: It might take a few minutes for your load balancer to be fully set up and ready to route traffic. Targets will also take a few minutes to complete the registration process and pass initial health checks.
EC2 > Load balancers > web-lb > Create Application Load Balancer
Create Application Load Balancer
Suggested next steps
Review, customize, or configure attributes for your load balancer and listeners using the Description and Listeners tabs within web-lb.
Discover other services that you can integrate with your load balancer. Visit the Integrated services tab within web-lb.
View load balancer
CloudShell
Feedback
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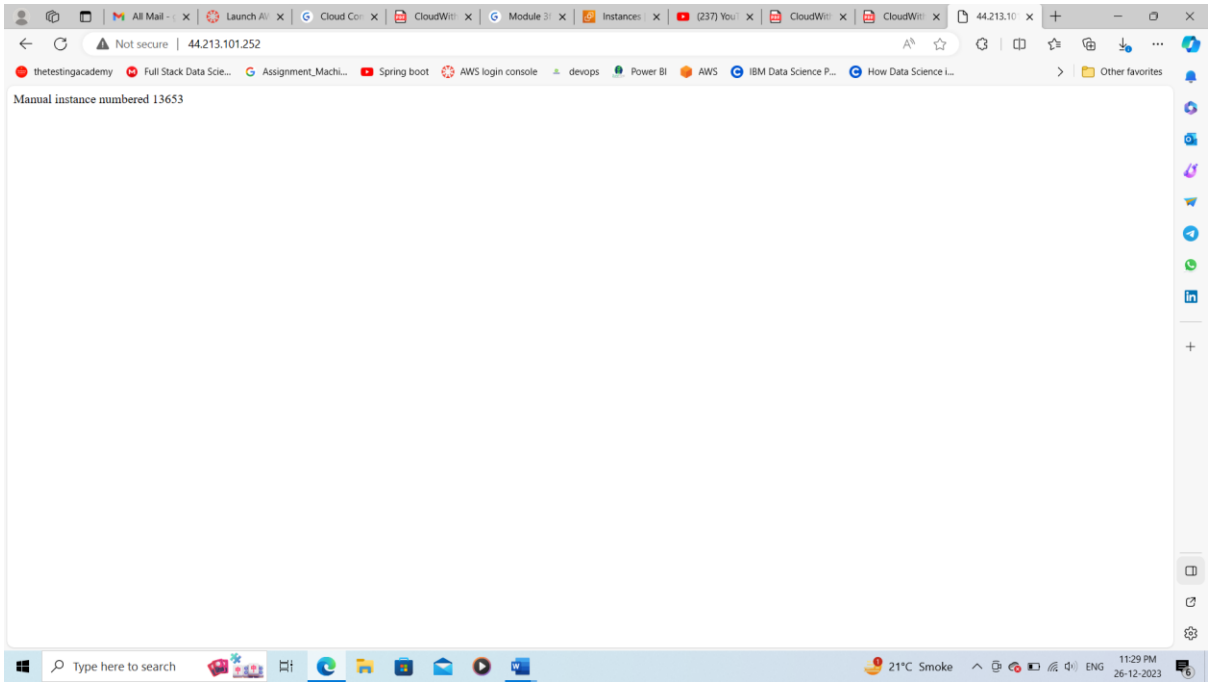
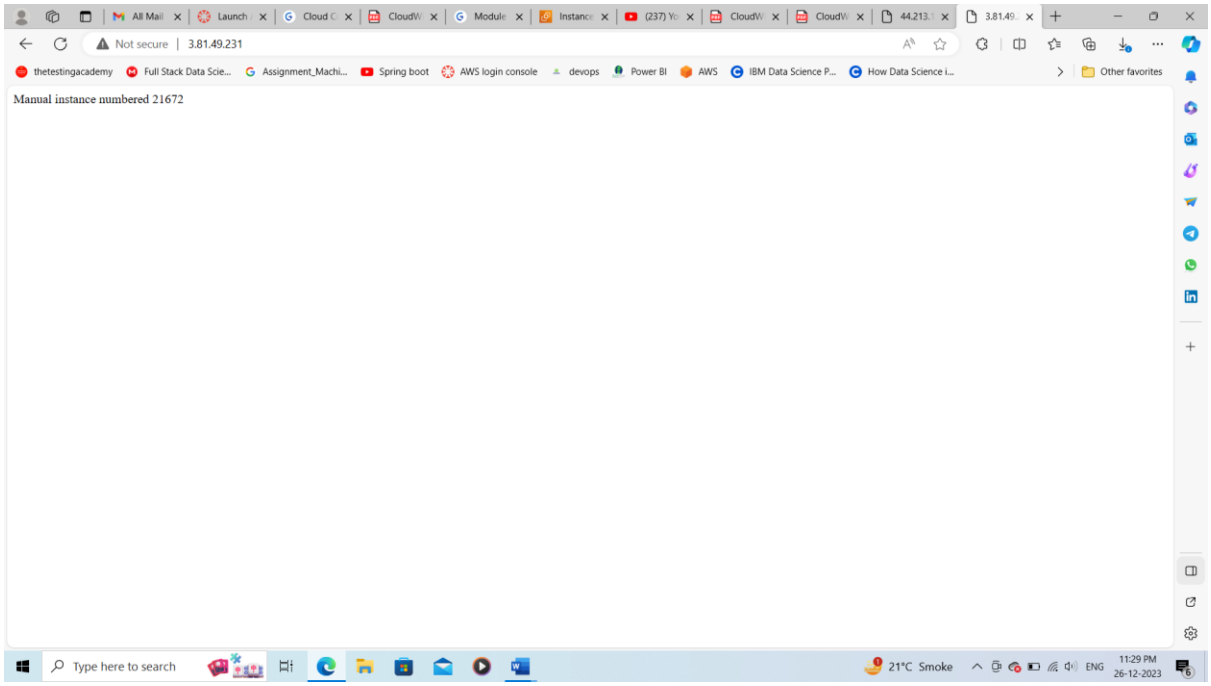
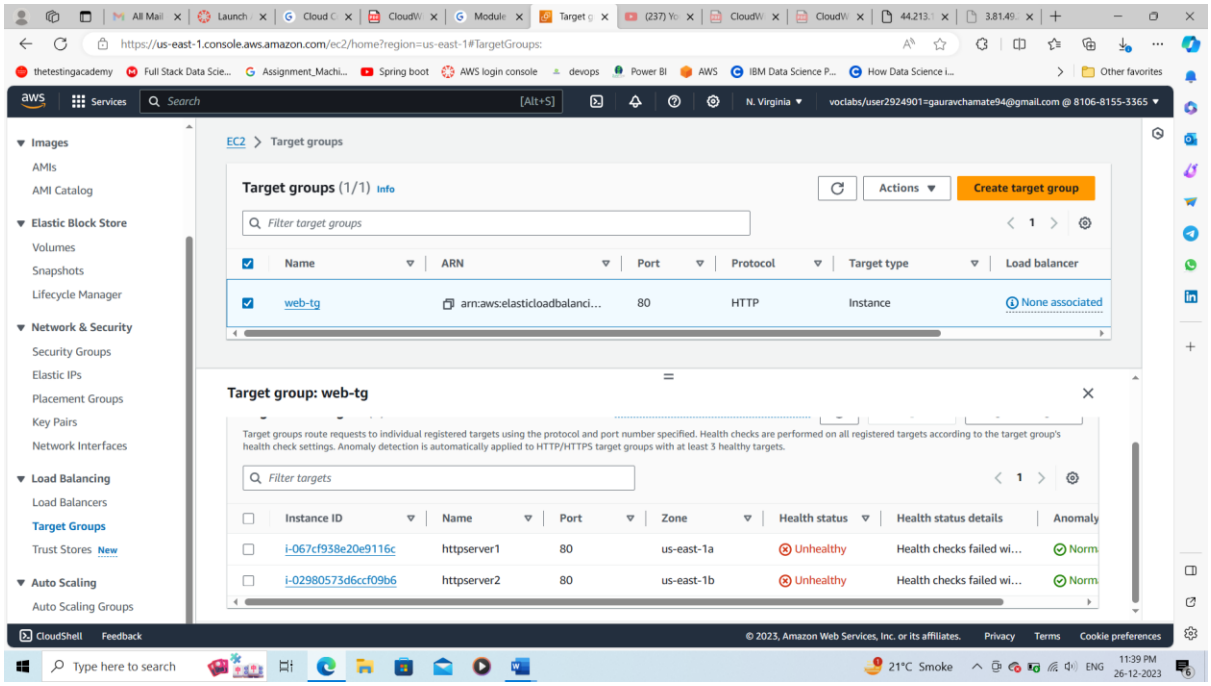
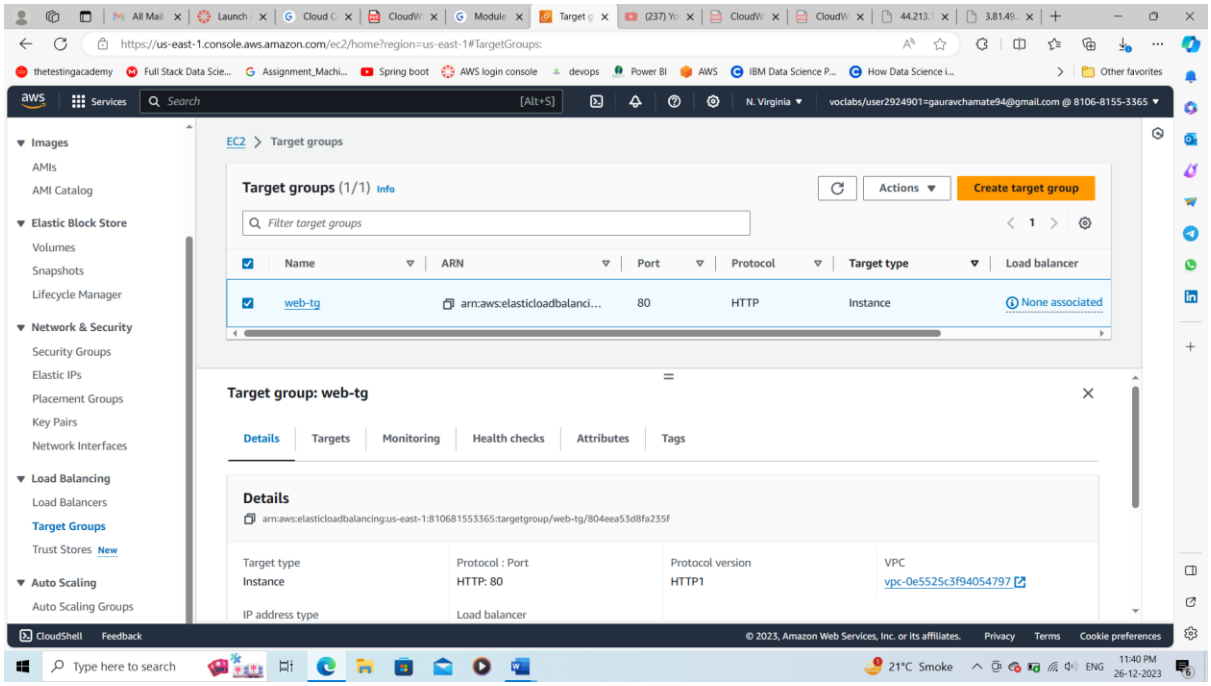
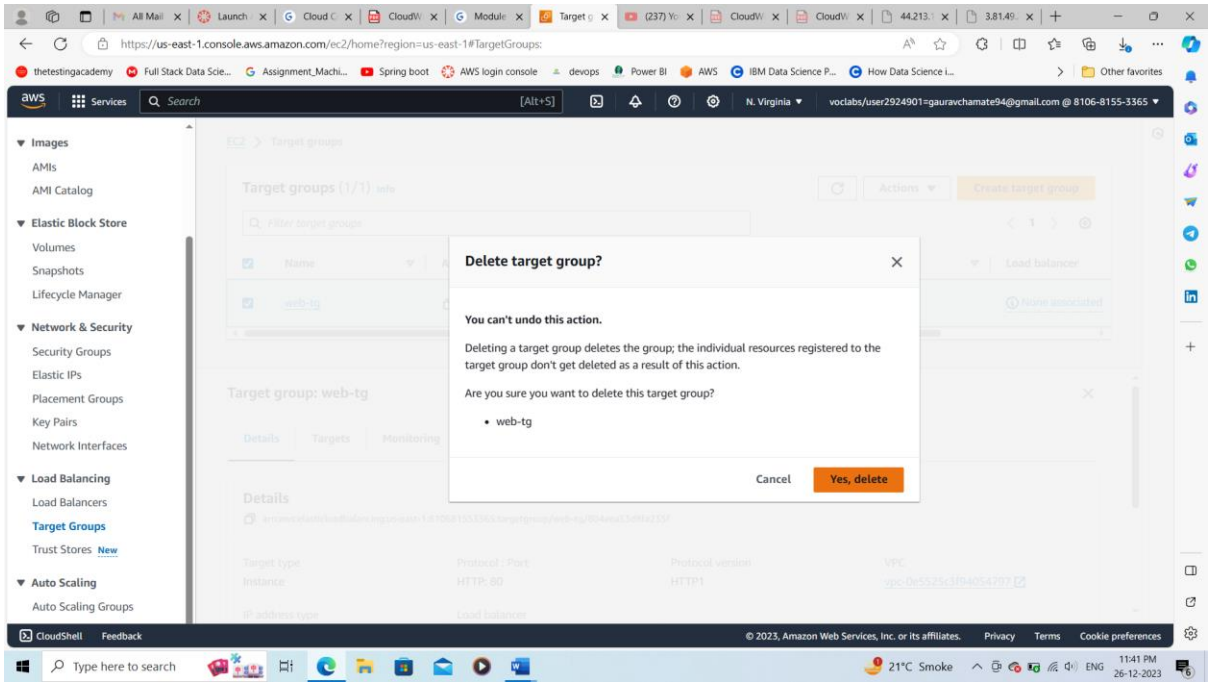

Not secure | 44.213.101.252
Manual instance numbered 13653
Type here to search
21°C Smoke
ENG
11:29 PM
26-12-2023

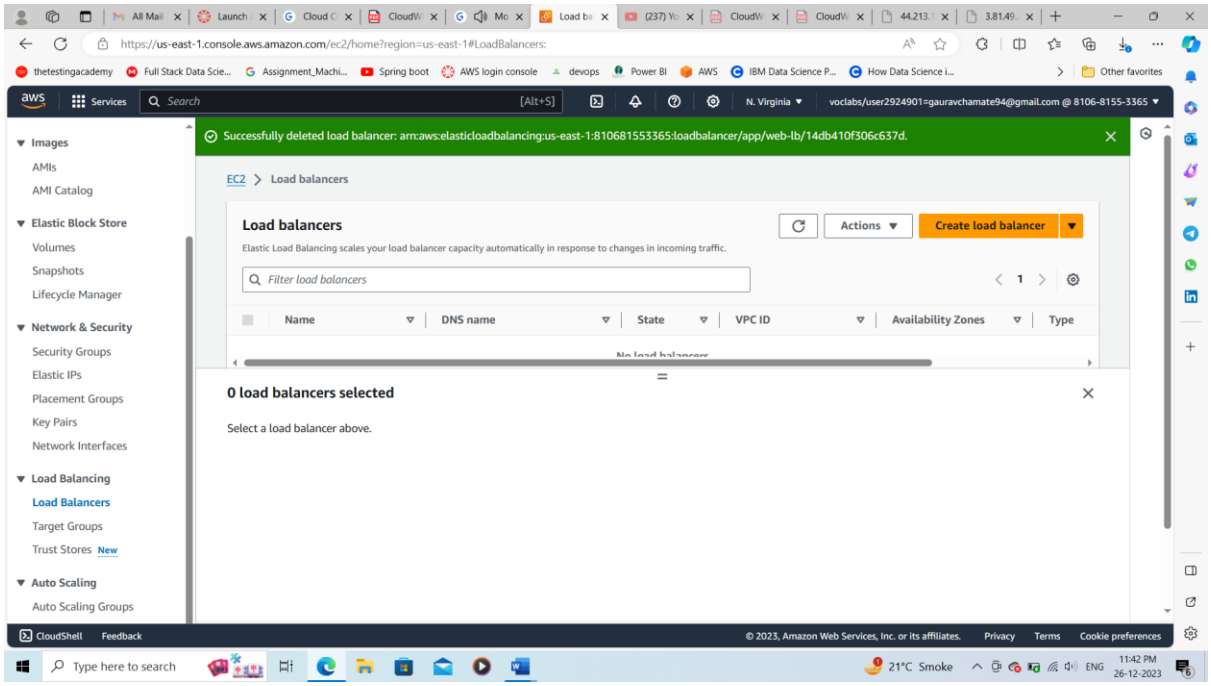

Not secure | 3.81.49.231
Manual instance numbered 21672
Type here to search
21°C Smoke
ENG
11:29 PM
26-12-2023



D. Hands-On: Cleaning up! 1. Go back to the browser tab EC2 management console 2. Visit the load balancer page and delete it 3. Visit the target groups page and delete the TG 4. Terminate both the EC2 instances


Target groups (1/1) Info
Actions
Create target group
Filter target groups
Name
ARN
Port
Protocol
Target type
Load balancer
web-tg
arn:aws:elasticloadbalanci...
80
HTTP
Instance
None associated
Target group: web-tg
Details
Targets
Monitoring
Health checks
Attributes
Tags
Target type
Instance
Protocol : Port
HTTP: 80
Protocol version
HTTP1
VPC
vpc-0e5525c3f94054797
IP address type
Load balancer


Delete target group?
You can't undo this action.
Deleting a target group deletes the group; the individual resources registered to the target group don't get deleted as a result of this action.
Are you sure you want to delete this target group?
web-tg
Cancel
Yes, delete


https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LoadBalancers:
Successfully deleted load balancer: arn:aws:elasticloadbalancing:us-east-1:810681553365:loadbalancer/app/web-lb/14db410f306c637d.
EC2 > Load balancers
Load balancers
Actions
Create load balancer
Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.
Filter load balancers
Name
DNS name
State
VPC ID
Availability Zones
Type
0 load balancers selected
Select a load balancer above.
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
Load Balancers
Target Groups
Trust Stores New
Auto Scaling
Auto Scaling Groups
CloudShell
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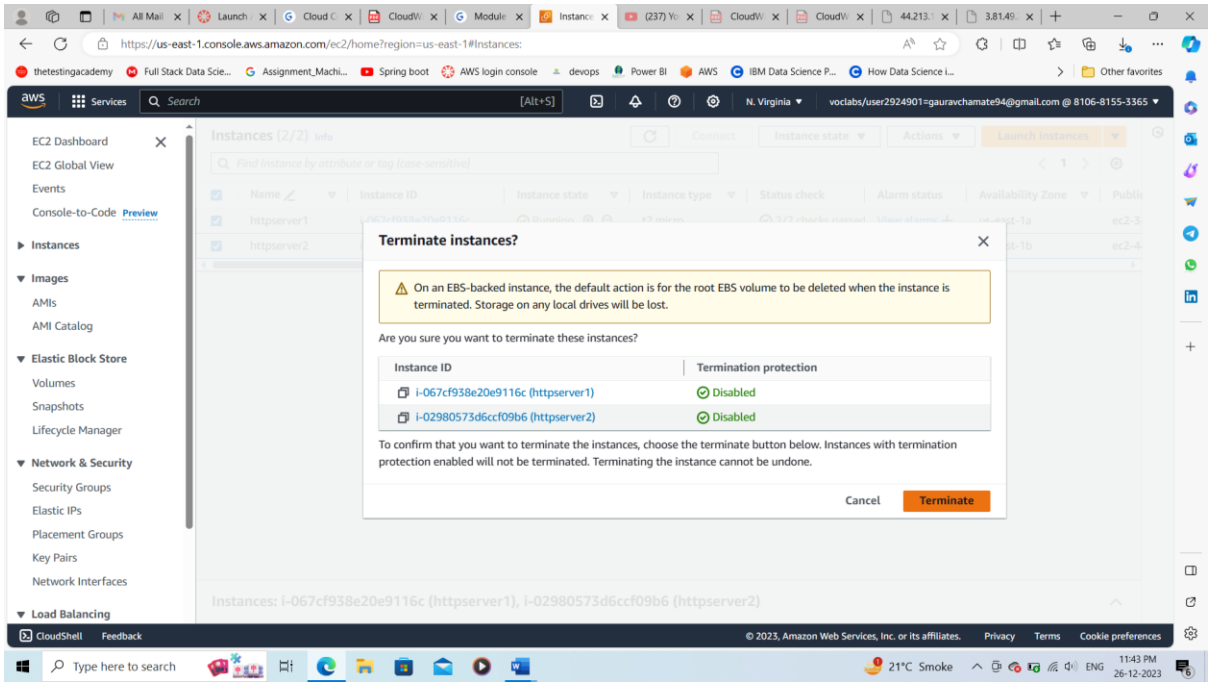
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:
Terminate instances?
On an EBS-backed instance, the default action is for the root EBS volume to be deleted when the instance is terminated. Storage on any local drives will be lost.
Are you sure you want to terminate these instances?
Instance ID
Termination protection
i-067cf938e20e9116c (httpserver1)
Disabled
i-02980573d6ccf09b6 (httpserver2)
Disabled
To confirm that you want to terminate the instances, choose the terminate button below. Instances with termination protection enabled will not be terminated. Terminating the instance cannot be undone.
Cancel
Terminate
Instances: i-067cf938e20e9116c (httpserver1), i-02980573d6ccf09b6 (httpserver2)
EC2 Dashboard
EC2 Global View
Events
Console-to-Code Preview
Instances
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
CloudShell
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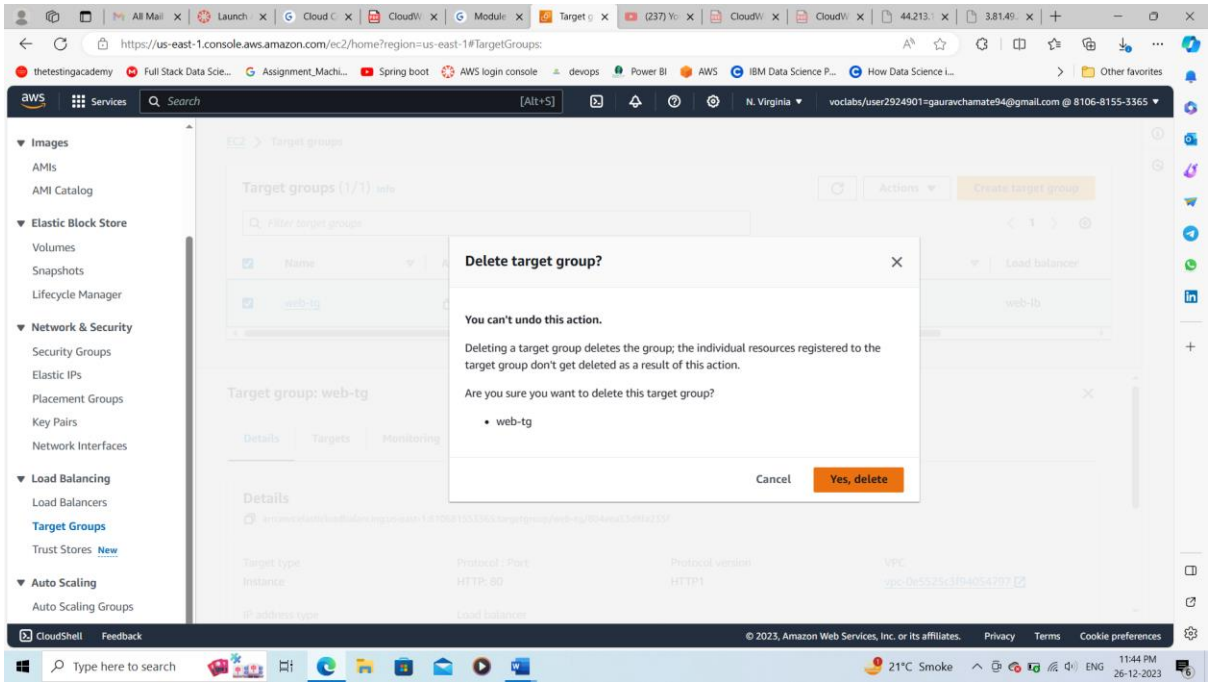
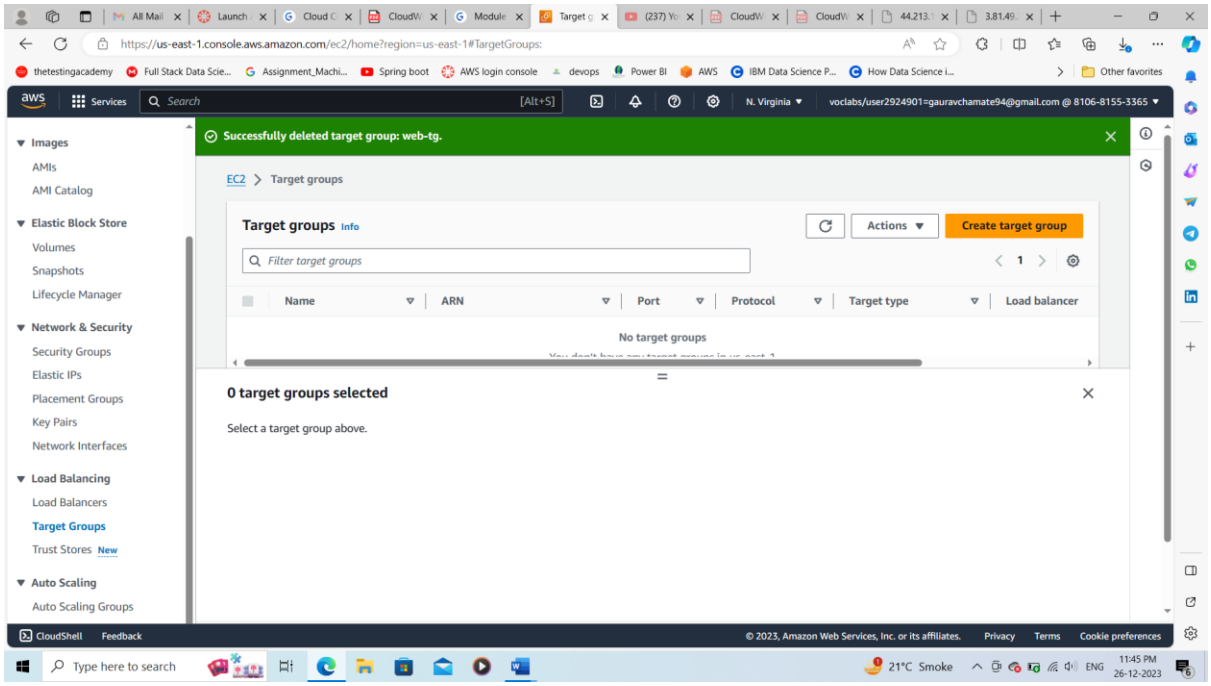
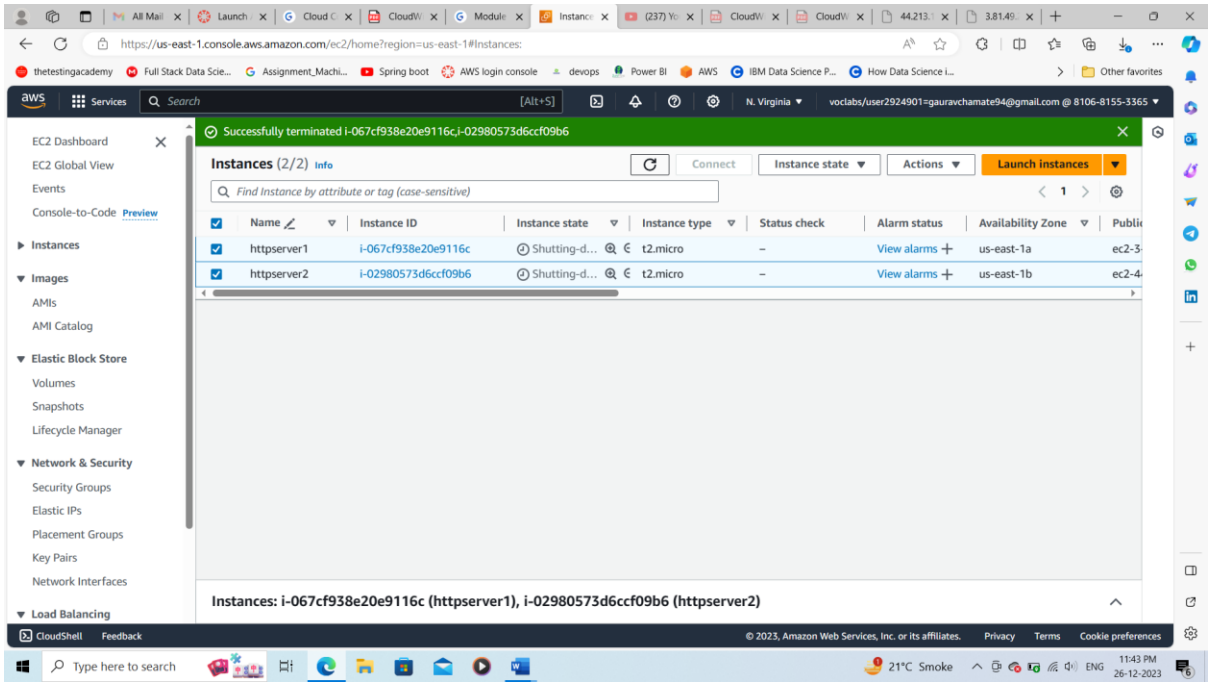

Delete target group?
You can't undo this action.
Deleting a target group deletes the group; the individual resources registered to the target group don't get deleted as a result of this action.
Are you sure you want to delete this target group?
web-tg
Cancel
Yes, delete


Successfully deleted target group: web-tg.
Target groups
Actions
Create target group
Filter target groups
Name
ARN
Port
Protocol
Target type
Load balancer
No target groups
0 target groups selected
Select a target group above.


https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user2924901=gauravchamate94@gmail.com @ 8106-8155-3365
EC2 Dashboard
EC2 Global View
Events
Console-to-Code Preview
Instances
Images
AMIs
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
Successfully terminated i-067cf938e20e9116c,i-02980573d6ccf09b6
Instances (2/2) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
httpserver1
i-067cf938e20e9116c
Shutting-d...
t2.micro
View alarms
us-east-1a
httpserver2
i-02980573d6ccf09b6
Shutting-d...
t2.micro
View alarms
us-east-1b
Instances: i-067cf938e20e9116c (httpserver1), i-02980573d6ccf09b6 (httpserver2)
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