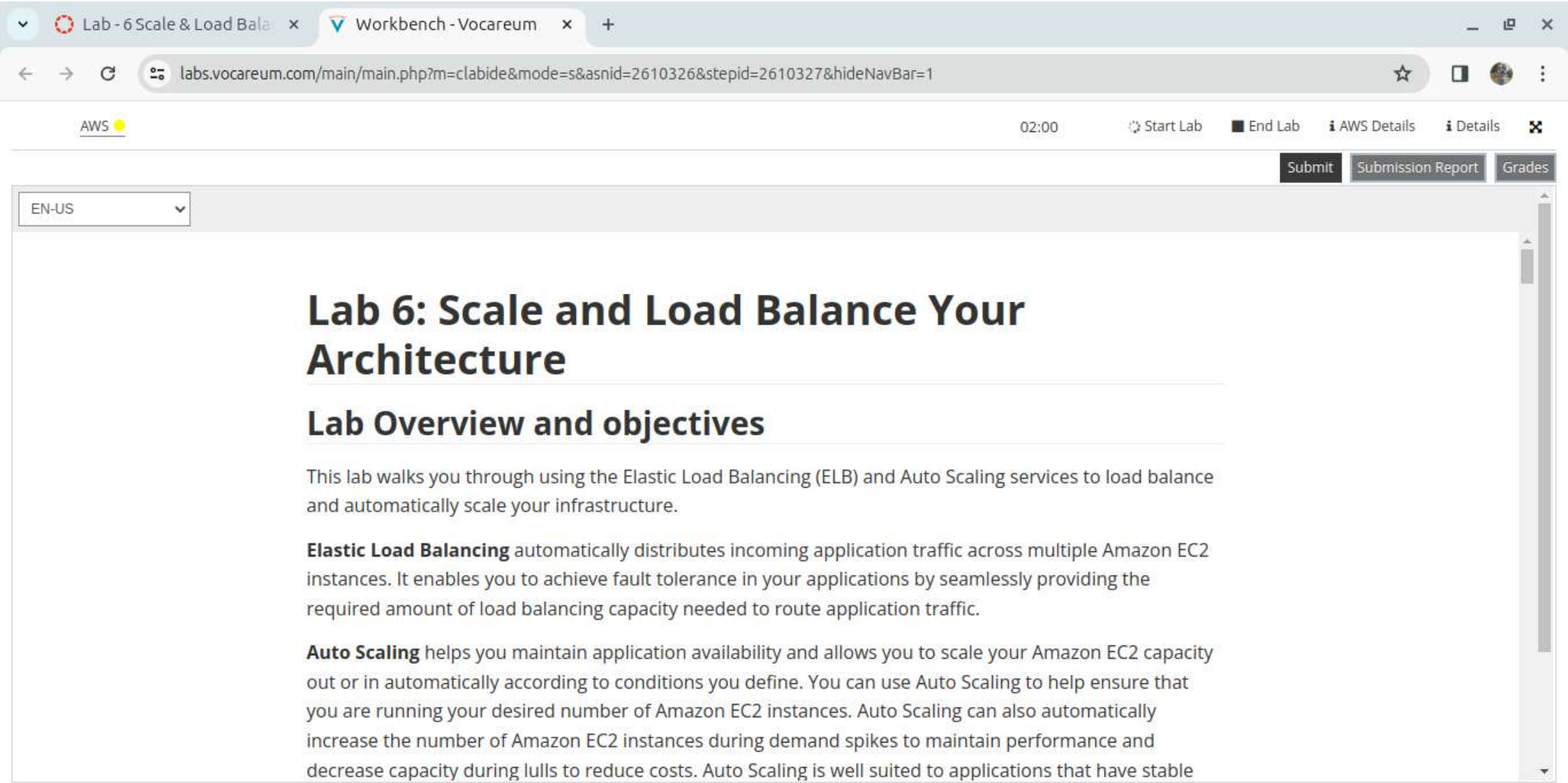
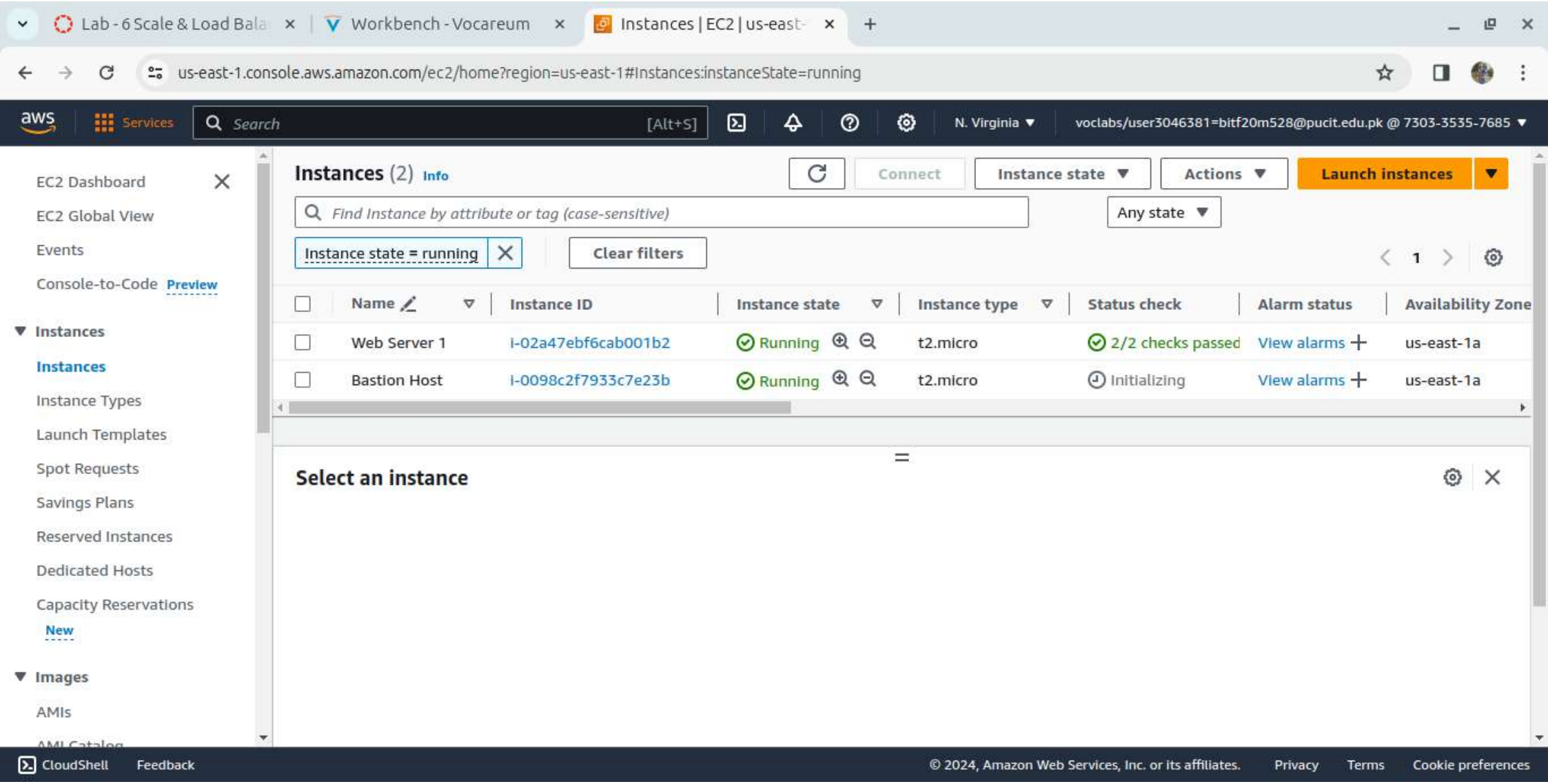
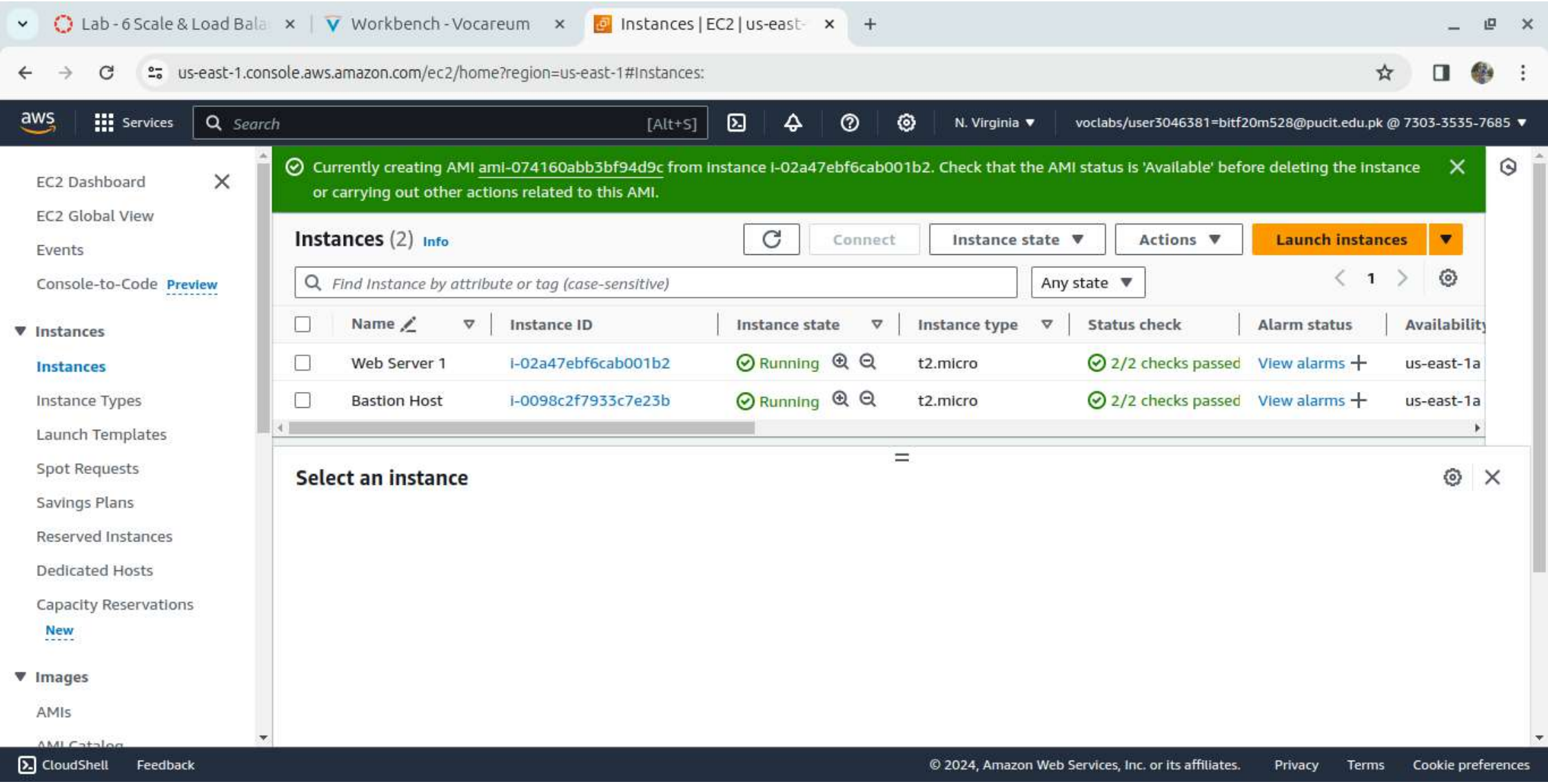

Lab - 6 Scale & Load Bala
Workbench - Vocareum
labs.vocareum.com/main/main.php?m=clabide&mode=s&asnid=2610326&stepid=2610327&hideNavBar=1
AWS
02:00
Start Lab
End Lab
AWS Details
Details
Submit
Submission Report
Grades
EN-US
Lab 6: Scale and Load Balance Your Architecture
Lab Overview and objectives
This lab walks you through using the Elastic Load Balancing (ELB) and Auto Scaling services to load balance and automatically scale your infrastructure.
Elastic Load Balancing automatically distributes incoming application traffic across multiple Amazon EC2 instances. It enables you to achieve fault tolerance in your applications by seamlessly providing the required amount of load balancing capacity needed to route application traffic.
Auto Scaling helps you maintain application availability and allows you to scale your Amazon EC2 capacity out or in automatically according to conditions you define. You can use Auto Scaling to help ensure that you are running your desired number of Amazon EC2 instances. Auto Scaling can also automatically increase the number of Amazon EC2 instances during demand spikes to maintain performance and decrease capacity during lulls to reduce costs. Auto Scaling is well suited to applications that have stable


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Instances | EC2 | us-east-
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:instanceState=running
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
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
Instances (2) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
Any state
Instance state = running
Clear filters
1
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Web Server 1
i-02a47ebf6cab001b2
Running
t2.micro
2/2 checks passed
View alarms
us-east-1a
Bastion Host
i-0098c2f7933c7e23b
Running
t2.micro
Initializing
View alarms
us-east-1a
Select an instance
CloudShell
Feedback
© 2024, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Instances | EC2 | us-east-
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
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
Currently creating AMI ami-074160abb3bf94d9c from instance i-02a47ebf6cab001b2. Check that the AMI status is 'Available' before deleting the instance or carrying out other actions related to this AMI.
Instances (2) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
Any state
1
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability
Web Server 1
i-02a47ebf6cab001b2
Running
t2.micro
2/2 checks passed
View alarms
us-east-1a
Bastion Host
i-0098c2f7933c7e23b
Running
t2.micro
2/2 checks passed
View alarms
us-east-1a
Select an instance
CloudShell
Feedback
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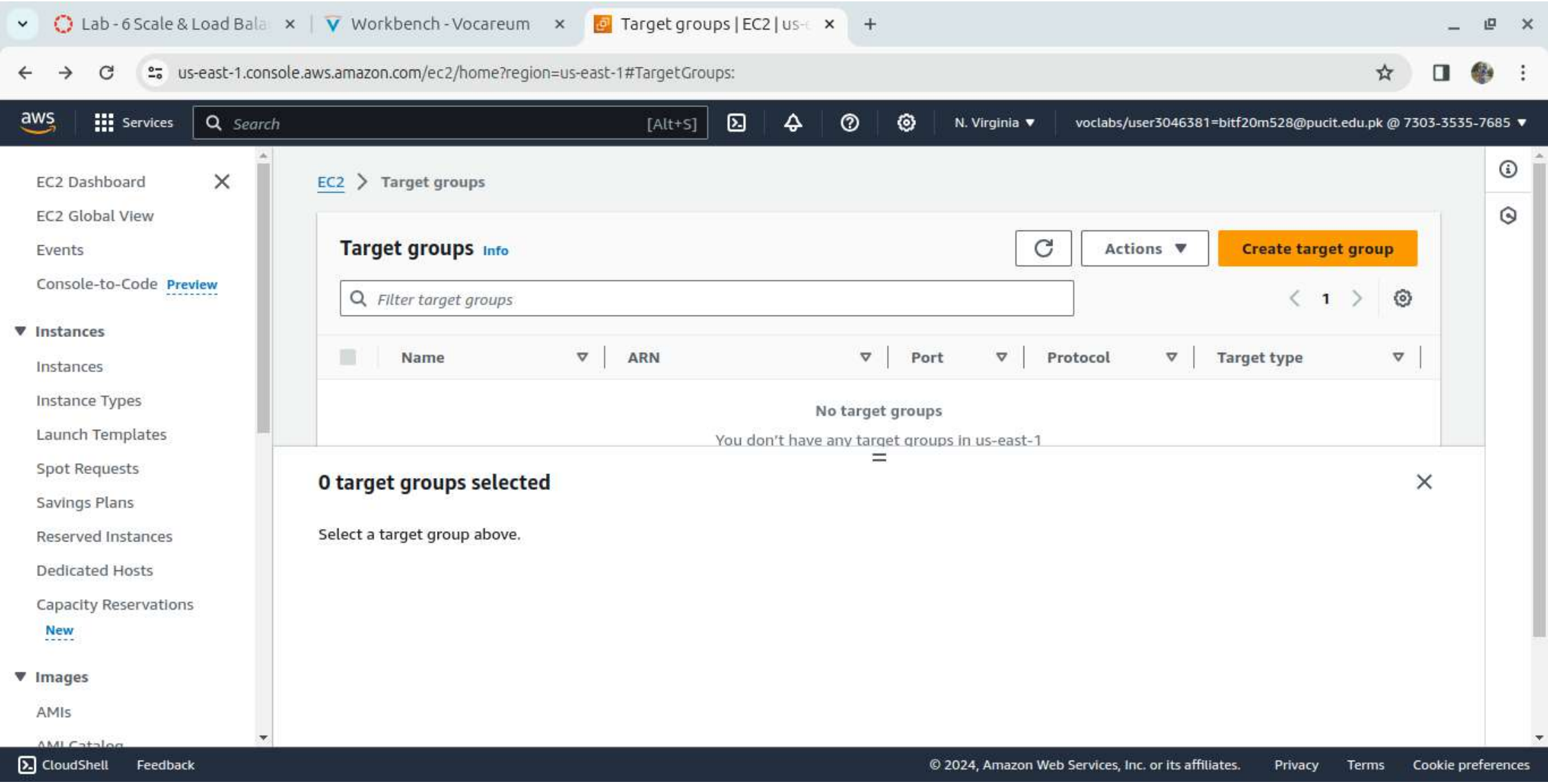
Terms
Cookie preferences


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Target groups | EC2 | us-
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#TargetGroups:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
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
EC2 > Target groups
Target groups Info
Actions
Create target group
Filter target groups
1
Name
ARN
Port
Protocol
Target type
No target groups
You don't have any target groups in us-east-1
0 target groups selected
Select a target group above.
CloudShell
Feedback
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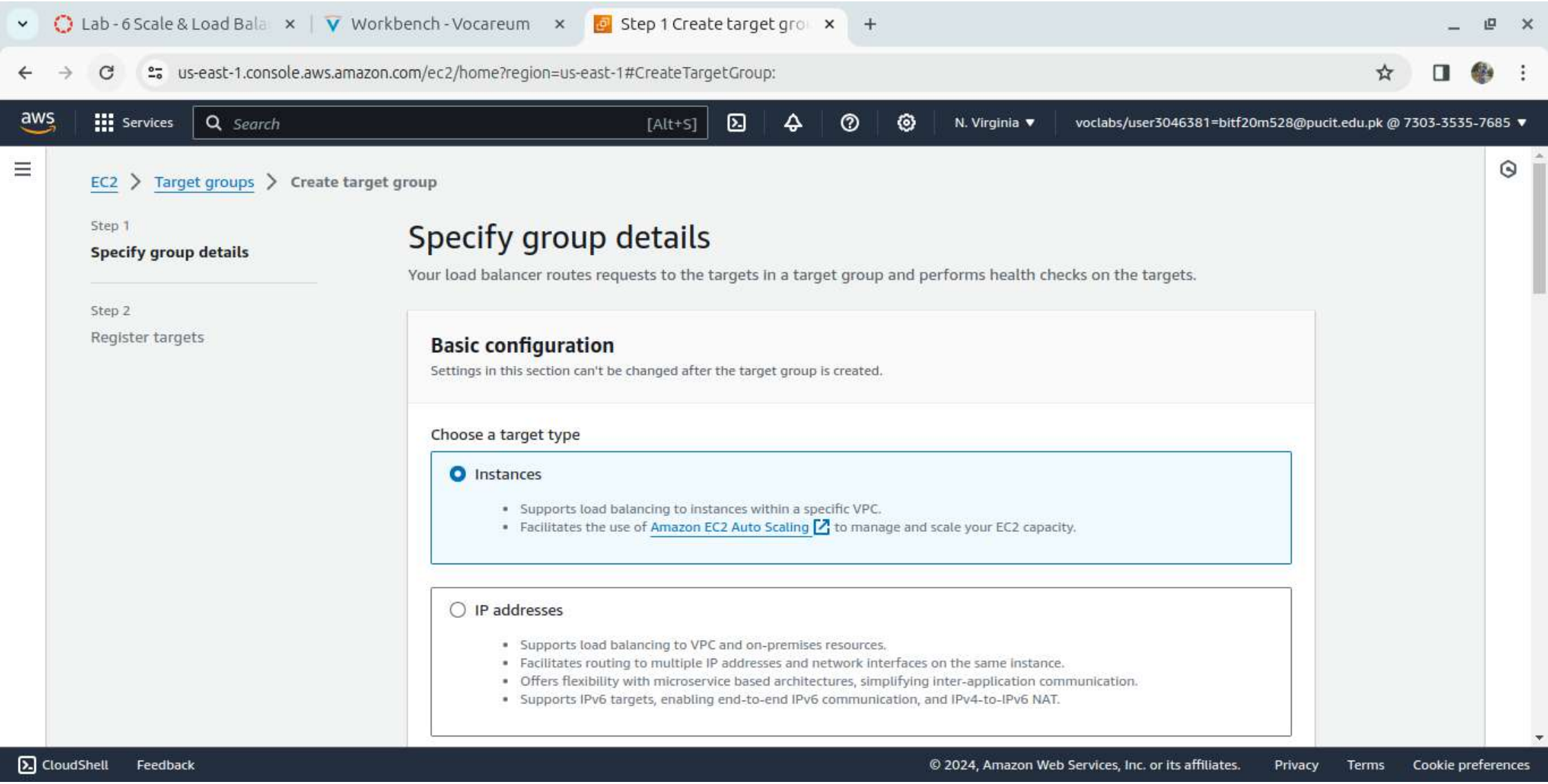
Terms
Cookie preferences


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Step 1 Create target gro
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
EC2
Target groups
Create target group
Step 1
Specify group details
Step 2
Register targets
Specify group details
Your load balancer routes requests to the targets in a target group and performs health checks on the targets.
Basic configuration
Settings in this section can't be changed after the target group is created.
Choose a target type
Instances
Supports load balancing to instances within a specific VPC.
Facilitates the use of Amazon EC2 Auto Scaling to manage and scale your EC2 capacity.
IP addresses
Supports load balancing to VPC and on-premises resources.
Facilitates routing to multiple IP addresses and network interfaces on the same instance.
Offers flexibility with microservice based architectures, simplifying inter-application communication.
Supports IPv6 targets, enabling end-to-end IPv6 communication, and IPv4-to-IPv6 NAT.
CloudShell
Feedback
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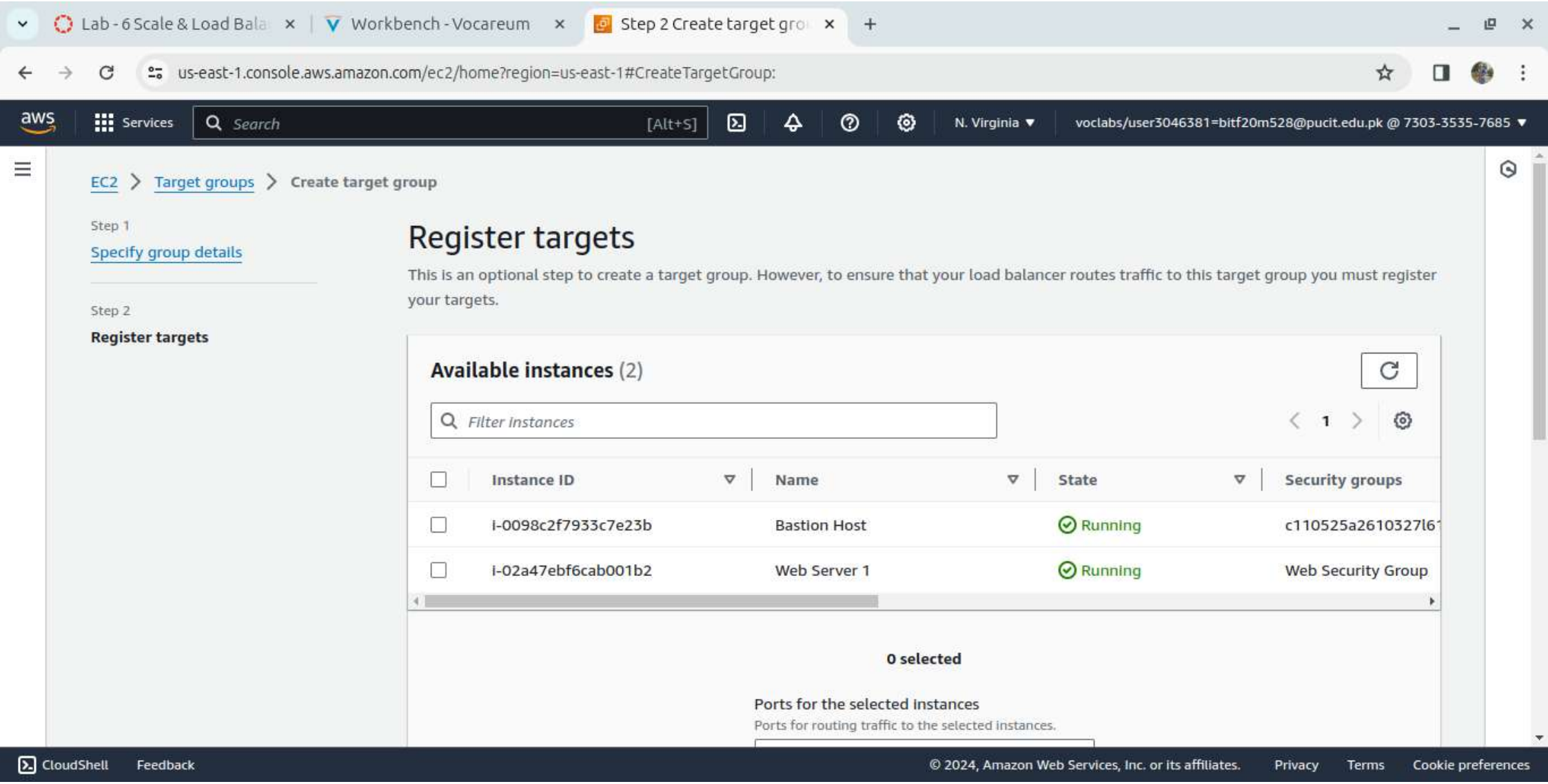
Cookie preferences


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Step 2 Create target gro
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
EC2
Target groups
Create target group
Step 1
Specify group details
Step 2
Register targets
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)
Filter instances
1
Instance ID
Name
State
Security groups
i-0098c2f7933c7e23b
Bastion Host
Running
c110525a2610327l6
i-02a47ebf6cab001b2
Web Server 1
Running
Web Security Group
0 selected
Ports for the selected instances
Ports for routing traffic to the selected instances.
CloudShell
Feedback
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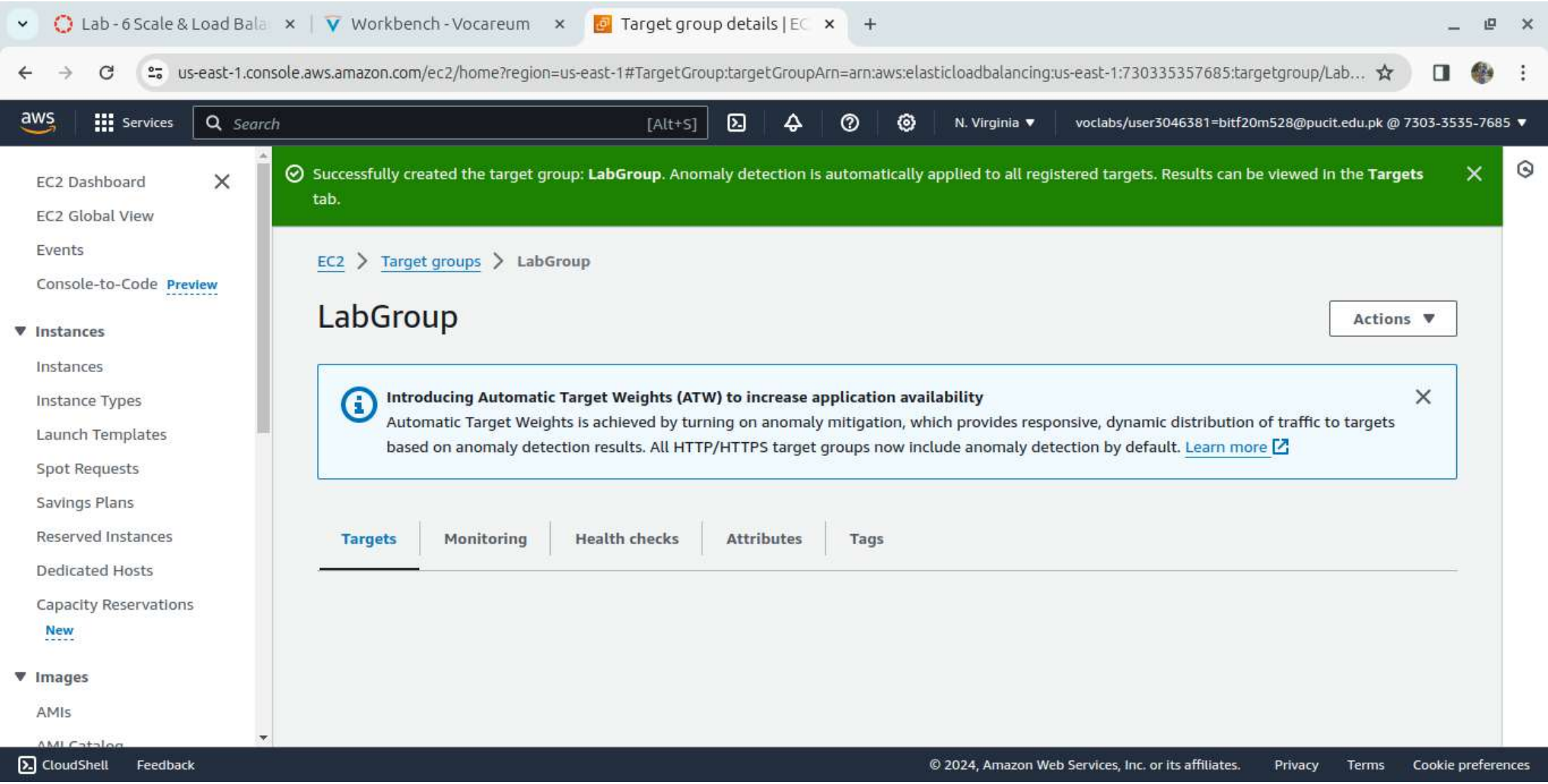
Privacy
Terms
Cookie preferences


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Target group details | EC
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#TargetGroup:targetGroupArn=arn:aws:elasticloadbalancing:us-east-1:730335357685:targetgroup/Lab...
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
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
Successfully created the target group: LabGroup. Anomaly detection is automatically applied to all registered targets. Results can be viewed in the Targets tab.
EC2 > Target groups > LabGroup
LabGroup
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
Targets
Monitoring
Health checks
Attributes
Tags
CloudShell
Feedback
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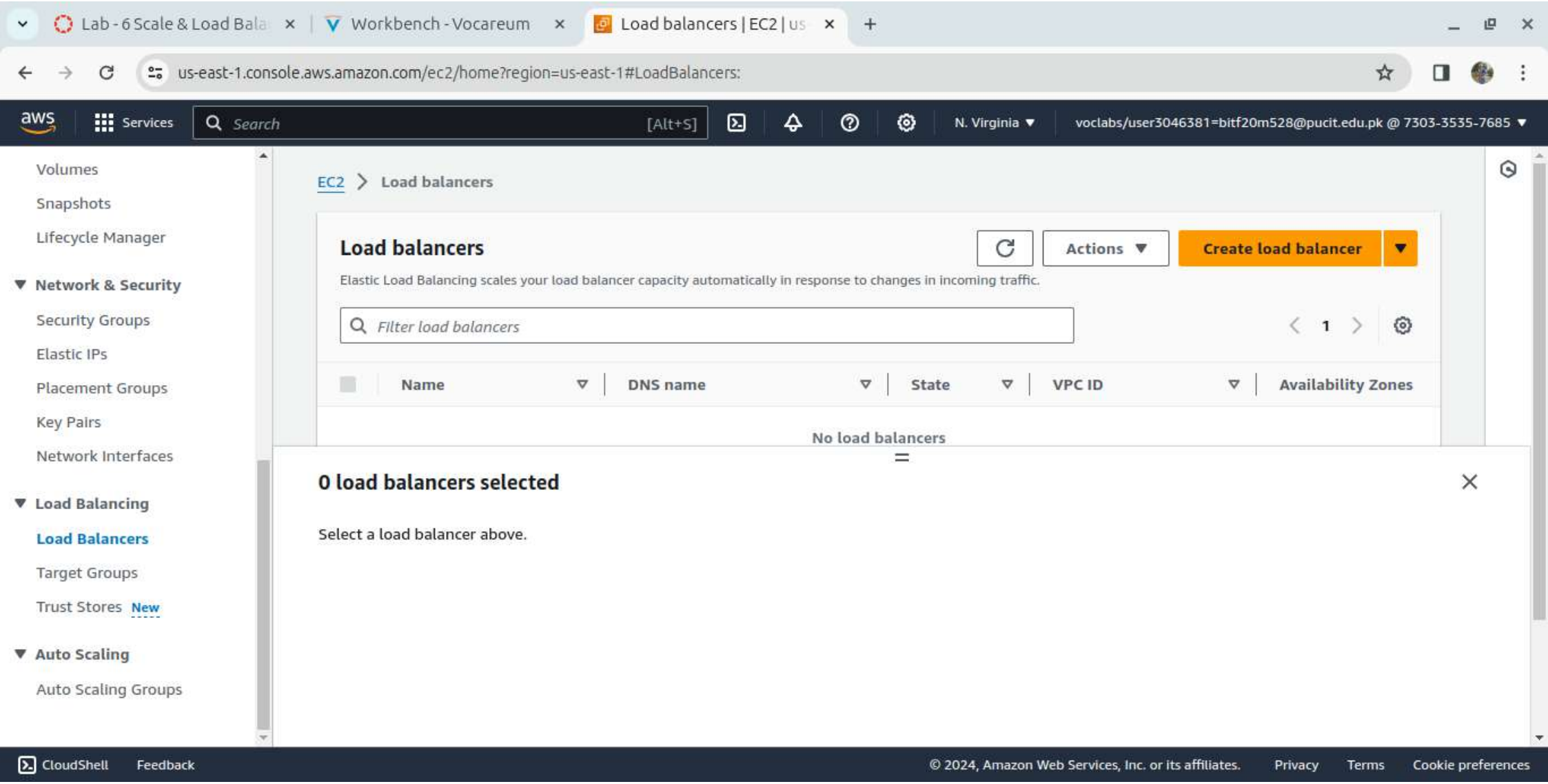
Privacy
Terms
Cookie preferences


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Load balancers | EC2 | us
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LoadBalancers:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
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
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
1
Name
DNS name
State
VPC ID
Availability Zones
No load balancers
0 load balancers selected
Select a load balancer above.
CloudShell
Feedback
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Terms
Cookie preferences

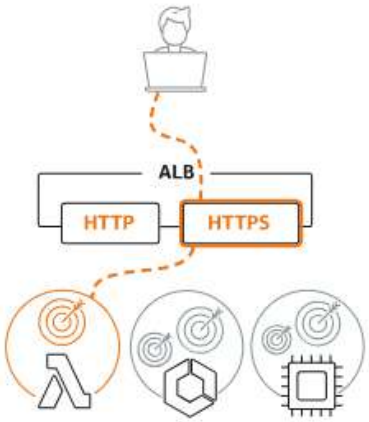
Lab - 6 Scale & Load Bala | Workbench - Vocareum | Compare and select load

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#SelectCreateELBWizard:

aws | Services | Search [Alt+S] | N. Virginia | voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685

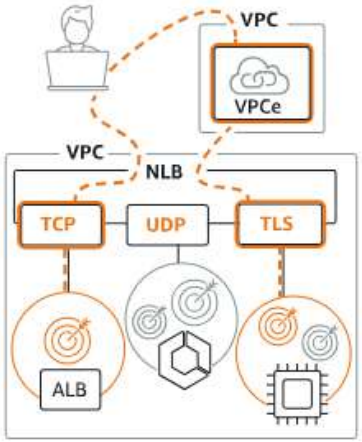
Load balancer types

Application Load Balancer Info



Choose an Application Load Balancer when you need a flexible feature set for your applications

Network Load Balancer Info



Choose a Network Load Balancer when you need ultra-high performance, TLS offloading at

Gateway Load Balancer Info

Choose a Gateway Load Balancer when you need to deploy and manage a fleet of third-party

Lab - 6 Scale & Load Bala | Workbench - Vocareum | Create application load b

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateALBWizard:

aws | Services | Search [Alt+S] | N. Virginia | voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685

EC2 > Load balancers > Create Application Load Balancer

Create Application Load Balancer Info

The Application Load Balancer distributes incoming HTTP and HTTPS traffic across multiple targets such as Amazon EC2 instances, microservices, and containers, based on request attributes. When the load balancer receives a connection request, it evaluates the listener rules in priority order to determine which rule to apply, and if applicable, it selects a target from the target group for the rule action.

▸ **How Application Load Balancers work**

Basic configuration

Load balancer name

Name must be unique within your AWS account and can't be changed after the load balancer is created.

LabELB

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Scheme Info

Scheme can't be changed after the load balancer is created.

Internet-facing

Lab - 6 Scale & Load Bala | Workbench - Vocareum | Create application load b

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateALBWizard:

aws | Services | Search [Alt+S] | N. Virginia | voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685

EC2 > Load balancers > Create Application Load Balancer

Create Application Load Balancer Info

The Application Load Balancer distributes incoming HTTP and HTTPS traffic across multiple targets such as Amazon EC2 instances, microservices, and containers, based on request attributes. When the load balancer receives a connection request, it evaluates the listener rules in priority order to determine which rule to apply, and if applicable, it selects a target from the target group for the rule action.

▸ **How Application Load Balancers work**

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LabELB

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Scheme Info

Scheme can't be changed after the load balancer is created.

(•) Internet-facing

CloudShell Feedback

Privacy Terms Cookie preferences

Lab - 6 Scale & Load Bala | Workbench - Vocareum | Create application load

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateALBWizard:

aws | Services | Search [Alt+S] | N. Virginia | voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685

Network mapping Info

The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.

VPC Info

Select the virtual private cloud (VPC) for your targets or you can create a new VPC. Only VPCs with an internet gateway are enabled for selection. The selected VPC can't be changed after the load balancer is created. To confirm the VPC for your targets, view your target groups.

Lab VPC
vpc-09b2bf4a30102031a
IPv4: 10.0.0.0/16

Mappings Info

Select at least two Availability Zones and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.

- [x] **us-east-1a (use1-az1)**

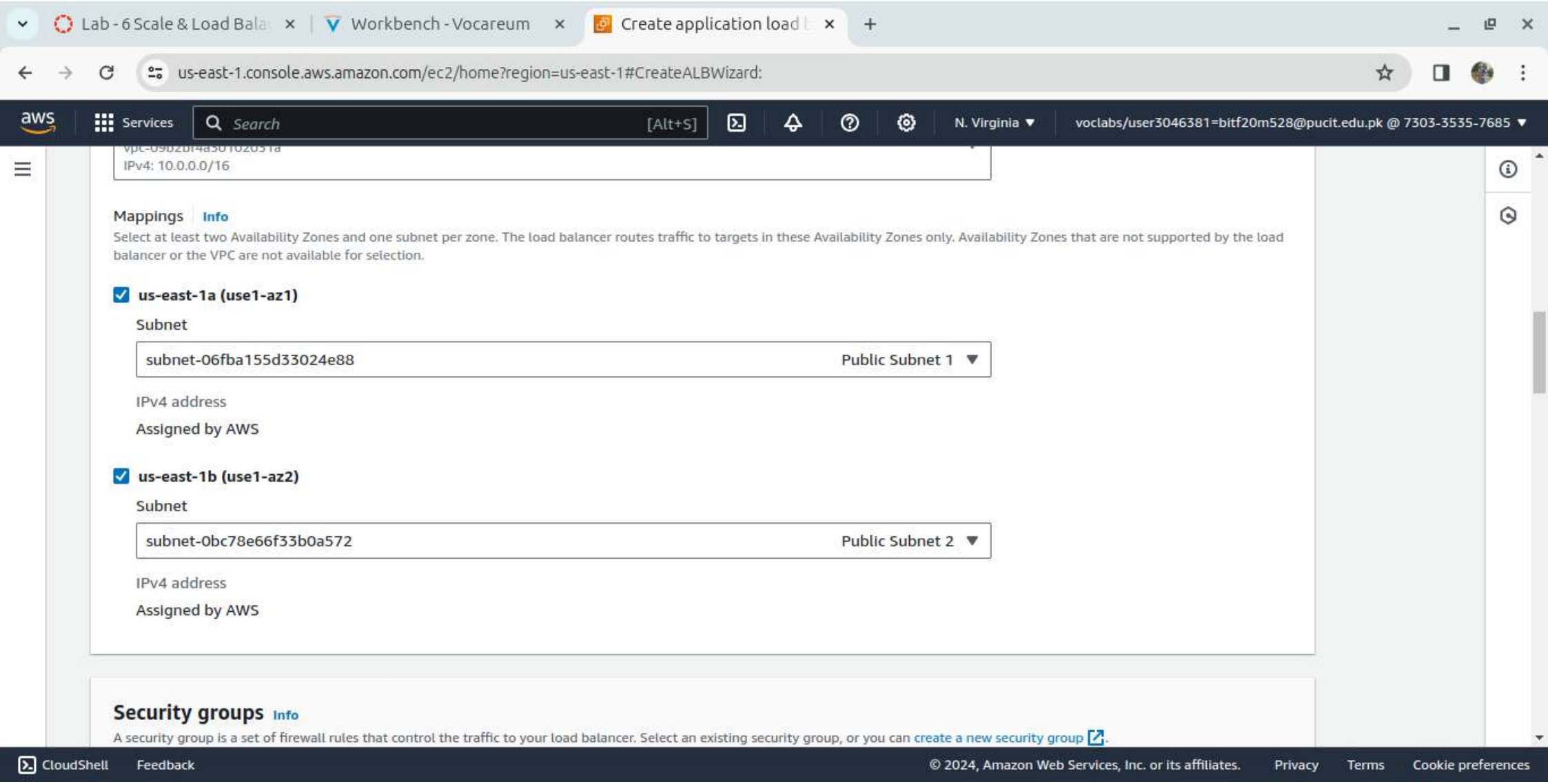
Subnet

subnet-06fba155d33024e88 Public Subnet 1

IPv4 address

Assigned by AWS

- [x] **us-east-1b (use1-az2)**


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Create application load
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateALBWizard:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
IPv4: 10.0.0.0/16
Mappings Info
Select at least two Availability Zones and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.
us-east-1a (use1-az1)
Subnet
subnet-06fba155d33024e88
Public Subnet 1
IPv4 address
Assigned by AWS
us-east-1b (use1-az2)
Subnet
subnet-0bc78e66f33b0a572
Public Subnet 2
IPv4 address
Assigned by AWS
Security groups Info
A security group is a set of firewall rules that control the traffic to your load balancer. Select an existing security group, or you can create a new security group.
CloudShell
Feedback
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Privacy
Terms
Cookie preferences

Lab - 6 Scale & Load Bala | Workbench - Vocareum | Create application load b

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateALBWizard:

aws | Services | Search [Alt+S] | N. Virginia | voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685

Security groups Info

A security group is a set of firewall rules that control the traffic to your load balancer. Select an existing security group, or you can create a new security group.

Security groups

Select up to 5 security groups

Web Security Group
sg-0ba0a072516e22062 VPC: vpc-09b2bf4a30102031a

Listeners and routing Info

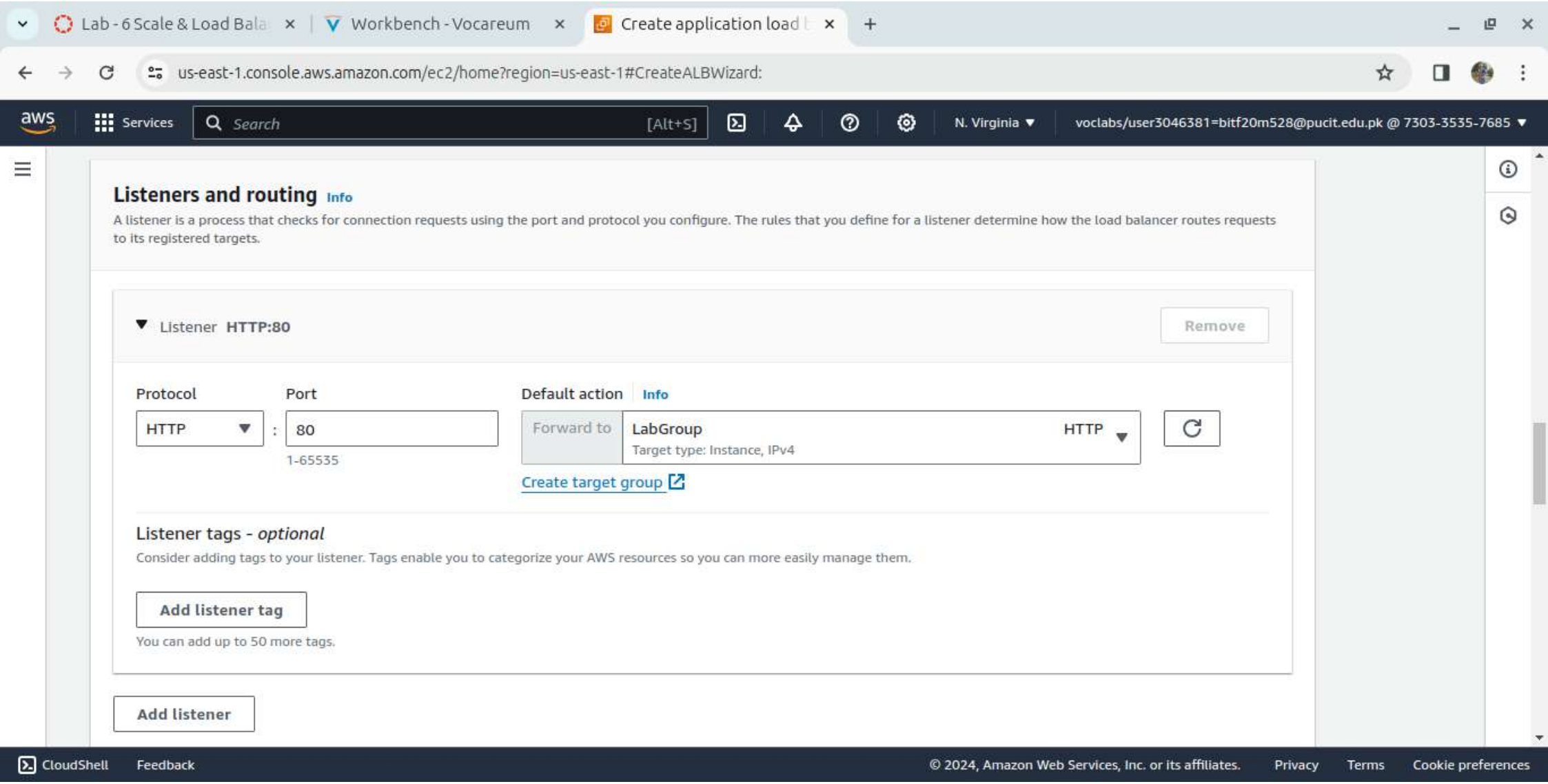
A listener is a process that checks for connection requests using the port and protocol you configure. The rules that you define for a listener determine how the load balancer routes requests to its registered targets.

Listener HTTP:80 Remove

Protocol Port Default action Info

CloudShell Feedback

Privacy Terms Cookie preferences


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Create application load
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateALBWizard:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
Listeners and routing Info
A listener is a process that checks for connection requests using the port and protocol you configure. The rules that you define for a listener determine how the load balancer routes requests to its registered targets.
Listener HTTP:80
Remove
Protocol
Port
HTTP
80
1-65535
Default action Info
Forward to
LabGroup
HTTP
Target type: Instance, IPv4
Create target group
Listener tags - optional
Consider adding tags to your listener. Tags enable you to categorize your AWS resources so you can more easily manage them.
Add listener tag
You can add up to 50 more tags.
Add listener
CloudShell
Feedback
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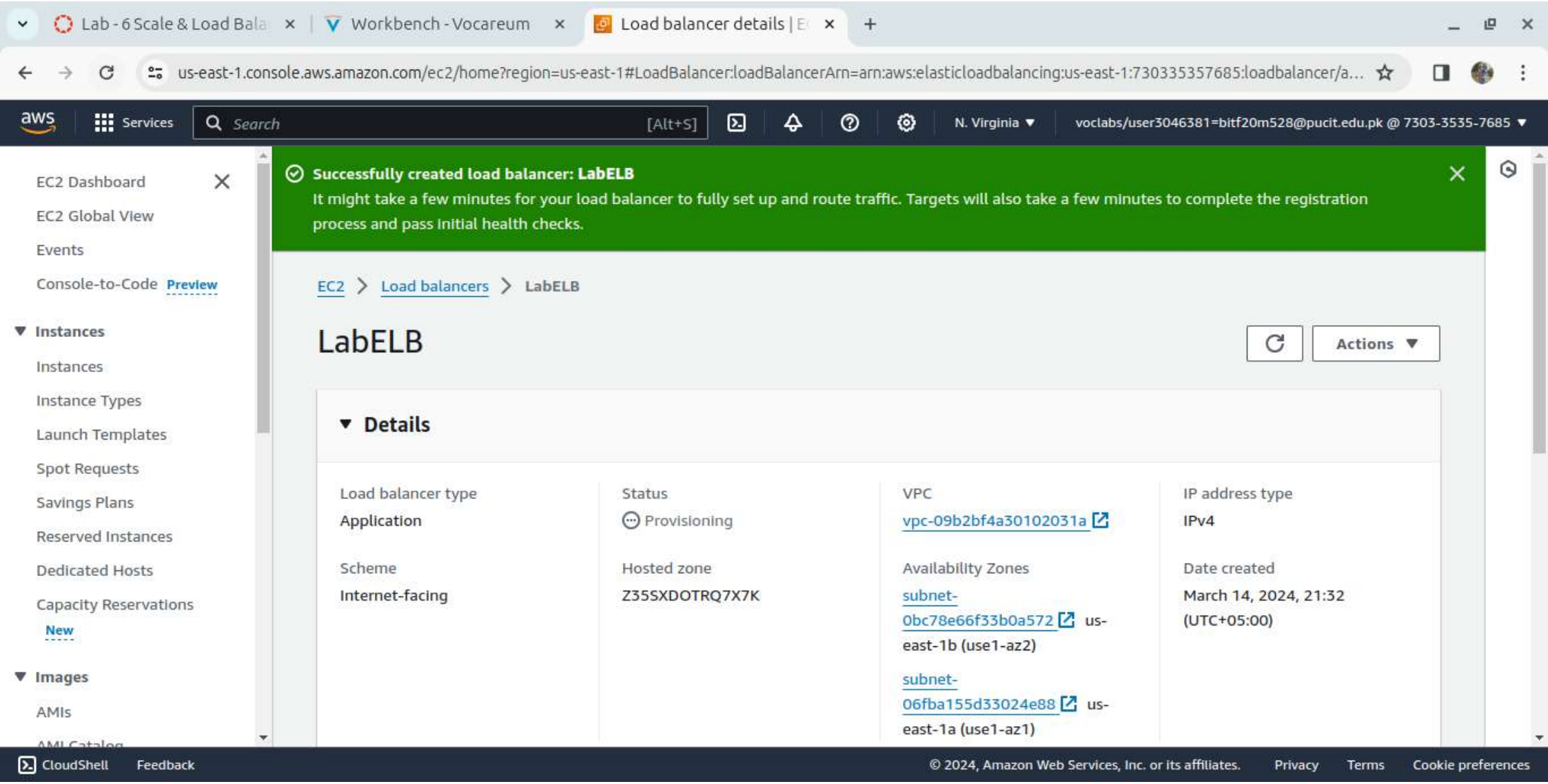
Privacy
Terms
Cookie preferences


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Load balancer details | E
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LoadBalancer:loadBalancerArn=arn:aws:elasticloadbalancing:us-east-1:730335357685:loadbalancer/a...
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
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
Successfully created load balancer: LabELB
It might take a few minutes for your load balancer to fully set up and route traffic. Targets will also take a few minutes to complete the registration process and pass initial health checks.
EC2 > Load balancers > LabELB
LabELB
Actions
Details
Load balancer type
Application
Status
Provisioning
VPC
vpc-09b2bf4a30102031a
IP address type
IPv4
Scheme
Internet-facing
Hosted zone
Z35SXDOTRQ7X7K
Availability Zones
subnet-0bc78e66f33b0a572 us-east-1b (use1-az2)
subnet-06fba155d33024e88 us-east-1a (use1-az1)
Date created
March 14, 2024, 21:32 (UTC+05:00)
CloudShell
Feedback
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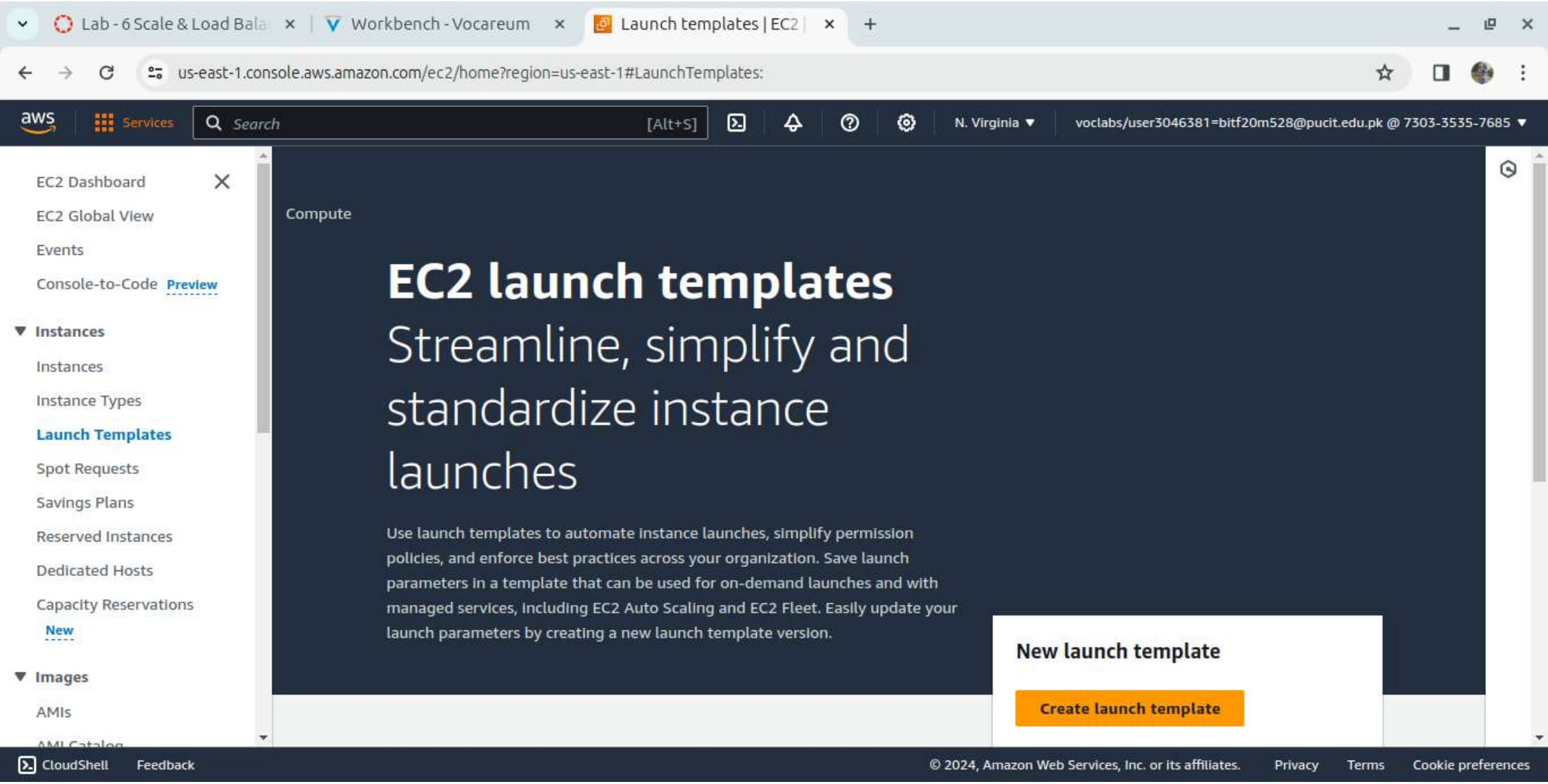
Privacy
Terms
Cookie preferences


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Launch templates | EC2
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchTemplates:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
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
Compute
EC2 launch templates
Streamline, simplify and standardize instance launches
Use launch templates to automate instance launches, simplify permission policies, and enforce best practices across your organization. Save launch parameters in a template that can be used for on-demand launches and with managed services, including EC2 Auto Scaling and EC2 Fleet. Easily update your launch parameters by creating a new launch template version.
New launch template
Create launch template
CloudShell
Feedback
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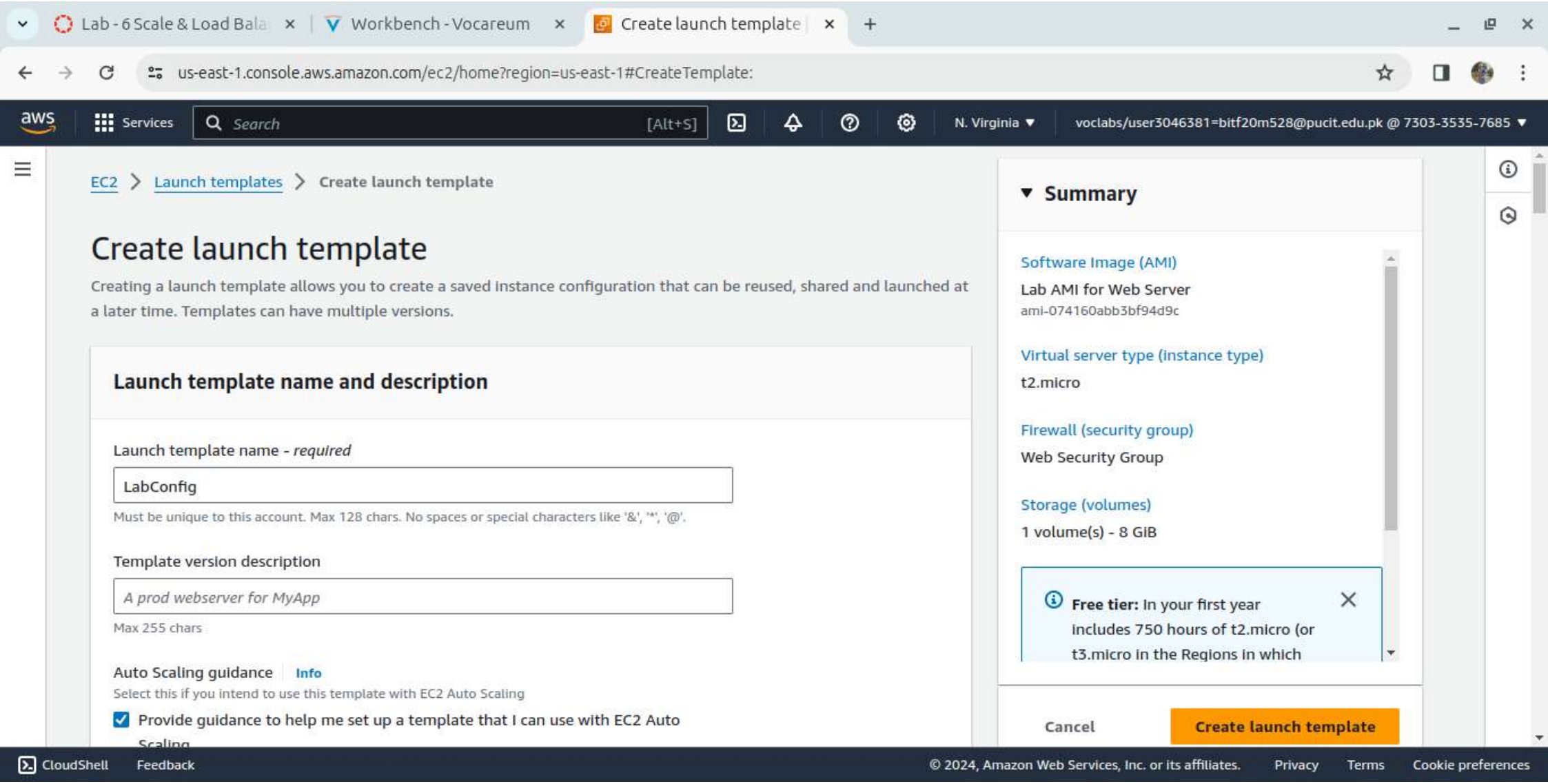
Cookie preferences


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Create launch template
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTemplate:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
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
LabConfig
Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '*', '@'.
Template version description
A prod webserver for MyApp
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
Summary
Software Image (AMI)
Lab AMI for Web Server
ami-074160abb3bf94d9c
Virtual server type (instance type)
t2.micro
Firewall (security group)
Web 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
Cancel
Create launch template
CloudShell
Feedback
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Lab - 6 Scale & Load Bala | Workbench - Vocareum | Create launch template

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTemplate:

aws | Services | Search [Alt+S] | N. Virginia | voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685

Application and OS Images (Amazon Machine Image) - required 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

Search our full catalog including 1000s of application and OS images

Recents | 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)

WebServerAMI
ami-074160abb3bf94d9c
2024-03-14T16:22:18.000Z Virtualization: hvm ENA enabled: true Root device type: ebs

Summary

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Lab AMI for Web Server
ami-074160abb3bf94d9c

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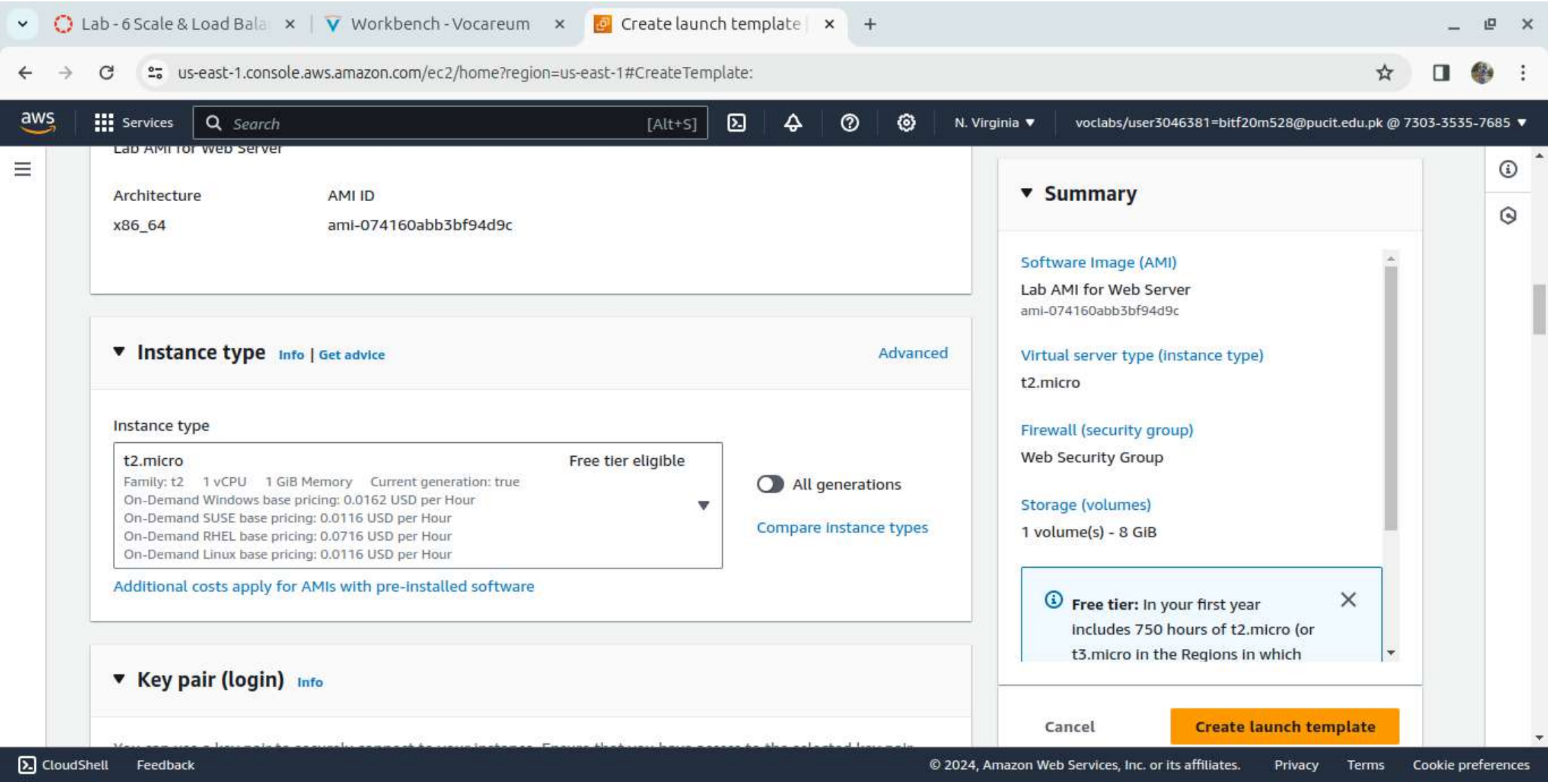
Lab - 6 Scale & Load Bala
Workbench - Vocareum
Create launch template
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTemplate:
aws
Services
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Lab AMI for Web Server
Architecture
AMI ID
x86_64
ami-074160abb3bf94d9c
Instance type Info | Get advice
Advanced
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
Summary
Software Image (AMI)
Lab AMI for Web Server
ami-074160abb3bf94d9c
Virtual server type (instance type)
t2.micro
Firewall (security group)
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Storage (volumes)
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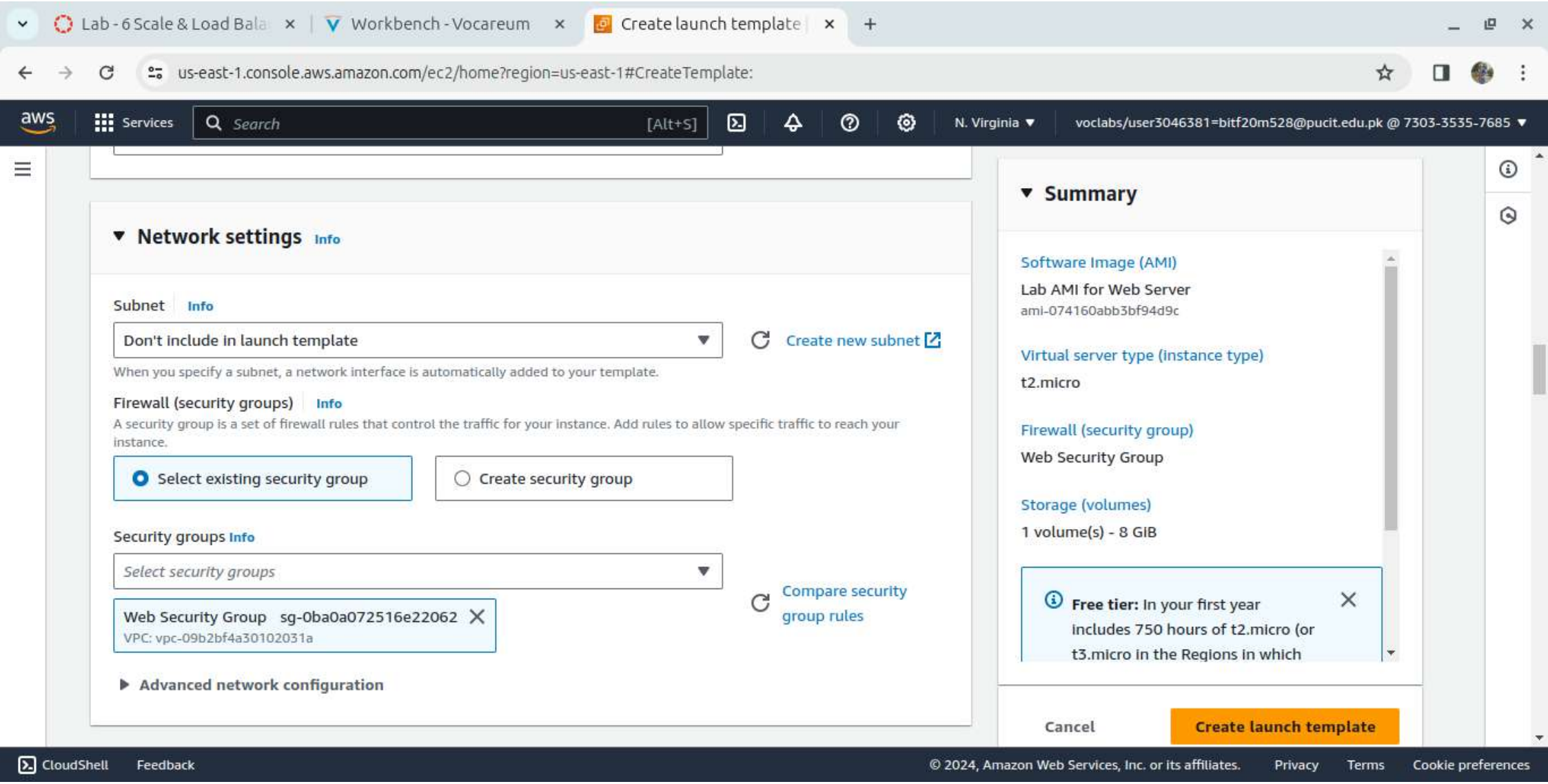
Lab - 6 Scale & Load Bala
Workbench - Vocareum
Create launch template
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTemplate:
aws
Services
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N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
Network settings 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
Web Security Group sg-0ba0a072516e22062
VPC: vpc-09b2bf4a30102031a
Compare security group rules
Advanced network configuration
Summary
Software Image (AMI)
Lab AMI for Web Server
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t2.micro
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Web Security Group
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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
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Lab - 6 Scale & Load Bala | Workbench - Vocareum | Create launch template

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTemplate:

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EC2 > Launch templates > Create launch template

Success
Successfully created LabConfig(lt-029c7c31749bdea0f).

▶ Actions log

Next Steps

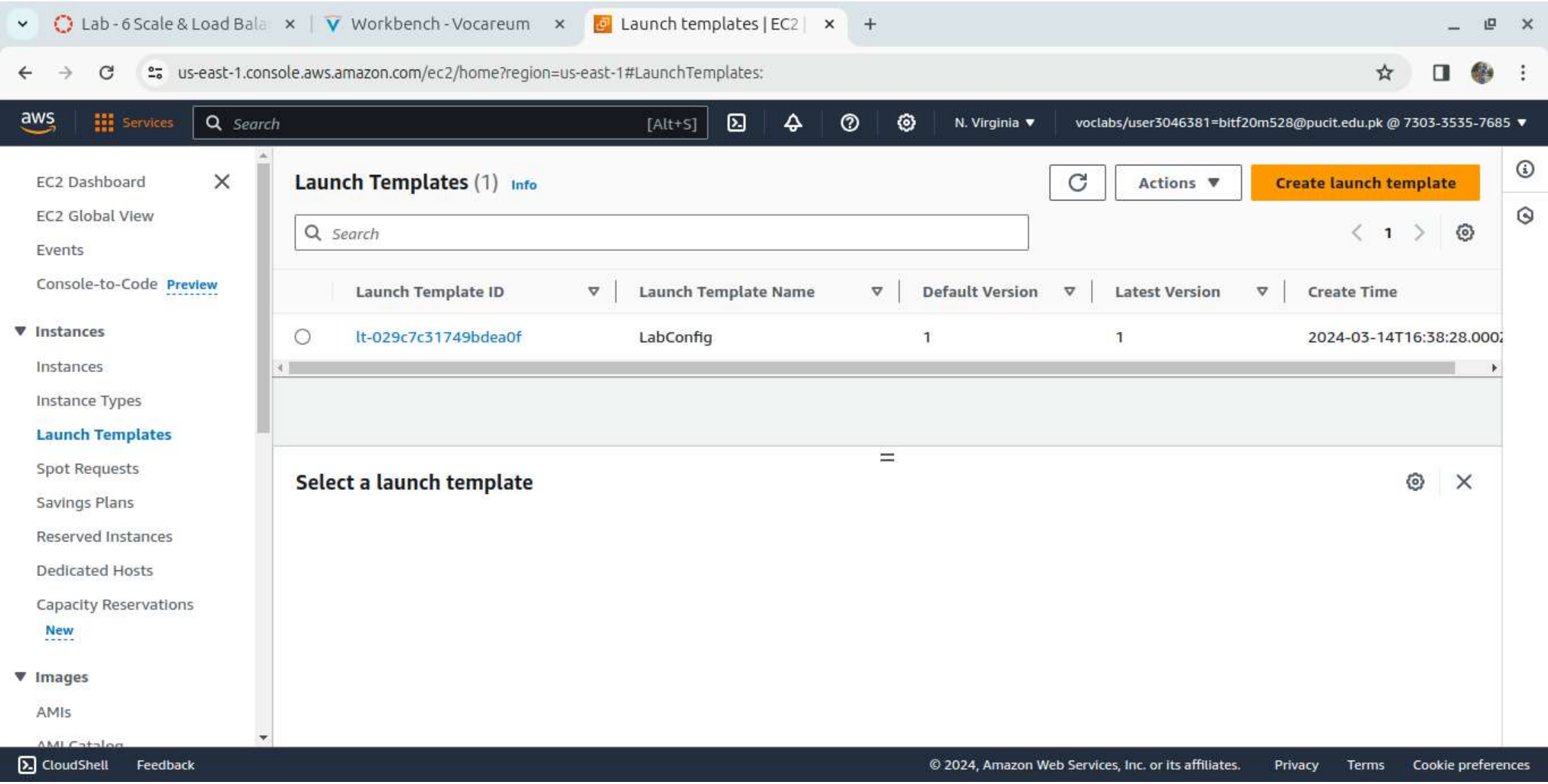
Launch an instance

With On-Demand Instances, you pay for compute capacity by the second (for Linux, with a minimum of 60 seconds) or by the hour (for all other operating systems) with no long-term commitments or upfront payments. Launch an On-Demand Instance from your launch template.

Launch instance from this template

Create an Auto Scaling group from your template

Amazon EC2 Auto Scaling helps you maintain application availability and allows you to scale your Amazon EC2 capacity up or down automatically according to conditions you define. You can use Auto Scaling to help ensure that you are running your desired number of Amazon EC2 instances during demand spikes to maintain performance and decrease capacity during lulls to reduce costs.


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Launch templates | EC2
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchTemplates:
aws
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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
Launch Templates (1) Info
Actions
Create launch template
Search
1
Launch Template ID
Launch Template Name
Default Version
Latest Version
Create Time
lt-029c7c31749bdea0f
LabConfig
1
1
2024-03-14T16:38:28.000
Select a launch template
CloudShell
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Lab - 6 Scale & Load Bala | Workbench - Vocareum | Create Auto Scaling grou

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-029c7c31749bdea0f

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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

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.

Lab Auto Scaling Group

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.

Lab - 6 Scale & Load Bala | Workbench - Vocareum | Create Auto Scaling grou

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-029c7c31749bdea0f

aws | Services | Search [Alt+S] | N. Virginia | voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685

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

Choose instance launch options Info

Choose the VPC network environment that your instances are launched into, and customize the instance types and purchase options.

Instance type requirements Info

Override launch template

You can keep the same instance attributes or instance type from your launch template, or you can choose to override the launch template by specifying different instance attributes or manually adding instance types.

Launch template	Version	Description
LabConfig lt-029c7c31749bdea0f	Default	-

Instance type
t2.micro

Network Info

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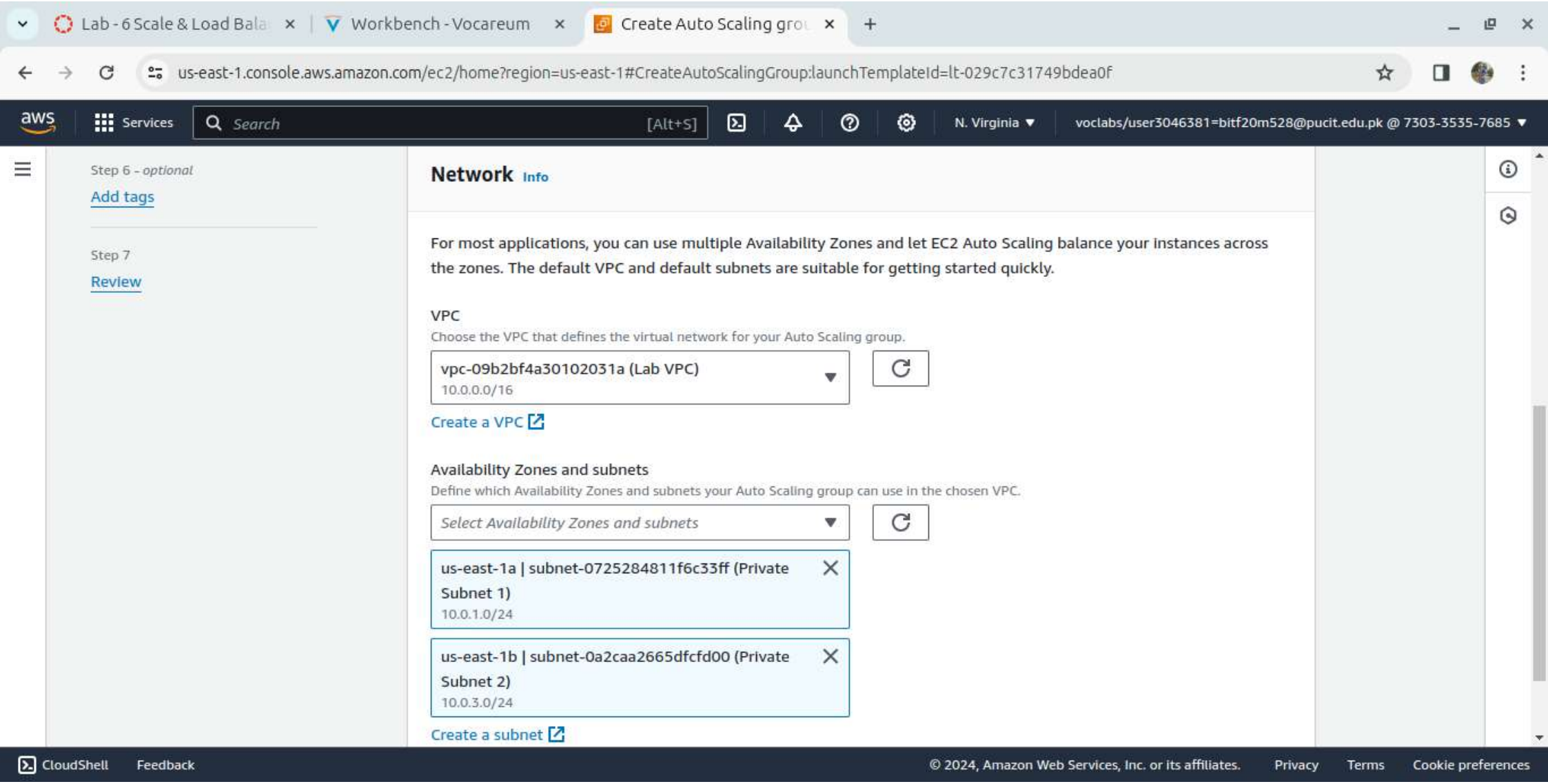
Lab - 6 Scale & Load Bala
Workbench - Vocareum
Create Auto Scaling grou
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-029c7c31749bdea0f
aws
Services
Search
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N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
Step 6 - optional
Add tags
Step 7
Review
Network Info
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-09b2bf4a30102031a (Lab 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-0725284811f6c33ff (Private Subnet 1)
10.0.1.0/24
us-east-1b | subnet-0a2caa2665dfcfd00 (Private Subnet 2)
10.0.3.0/24
Create a subnet
CloudShell
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Lab - 6 Scale & Load Bala | Workbench - Vocareum | Create Auto Scaling grou

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-029c7c31749bdea0f

aws | Services | Search [Alt+S] | N. Virginia | voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685

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

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 an existing load balancer

Select the load balancers that you want to attach to your Auto Scaling group.

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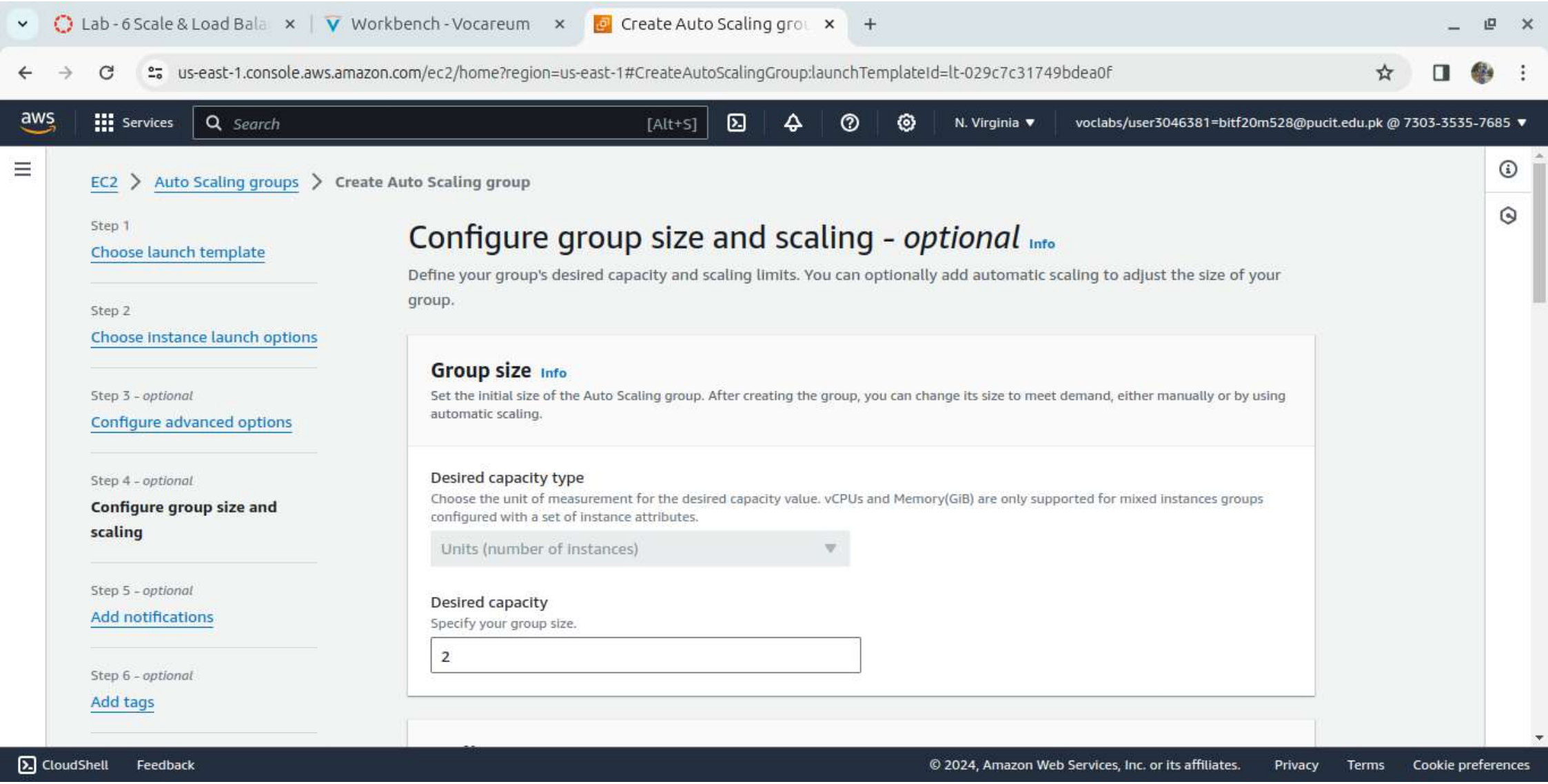
Lab - 6 Scale & Load Bala
Workbench - Vocareum
Create Auto Scaling grou
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-029c7c31749bdea0f
aws
Services
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voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
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
Configure group size and scaling - optional Info
Define your group's desired capacity and scaling limits. You can optionally add automatic scaling to adjust the size of your group.
Group size Info
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
CloudShell
Feedback
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Lab - 6 Scale & Load Bala | Workbench - Vocareum | Create Auto Scaling grou

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-029c7c31749bdea0f

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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

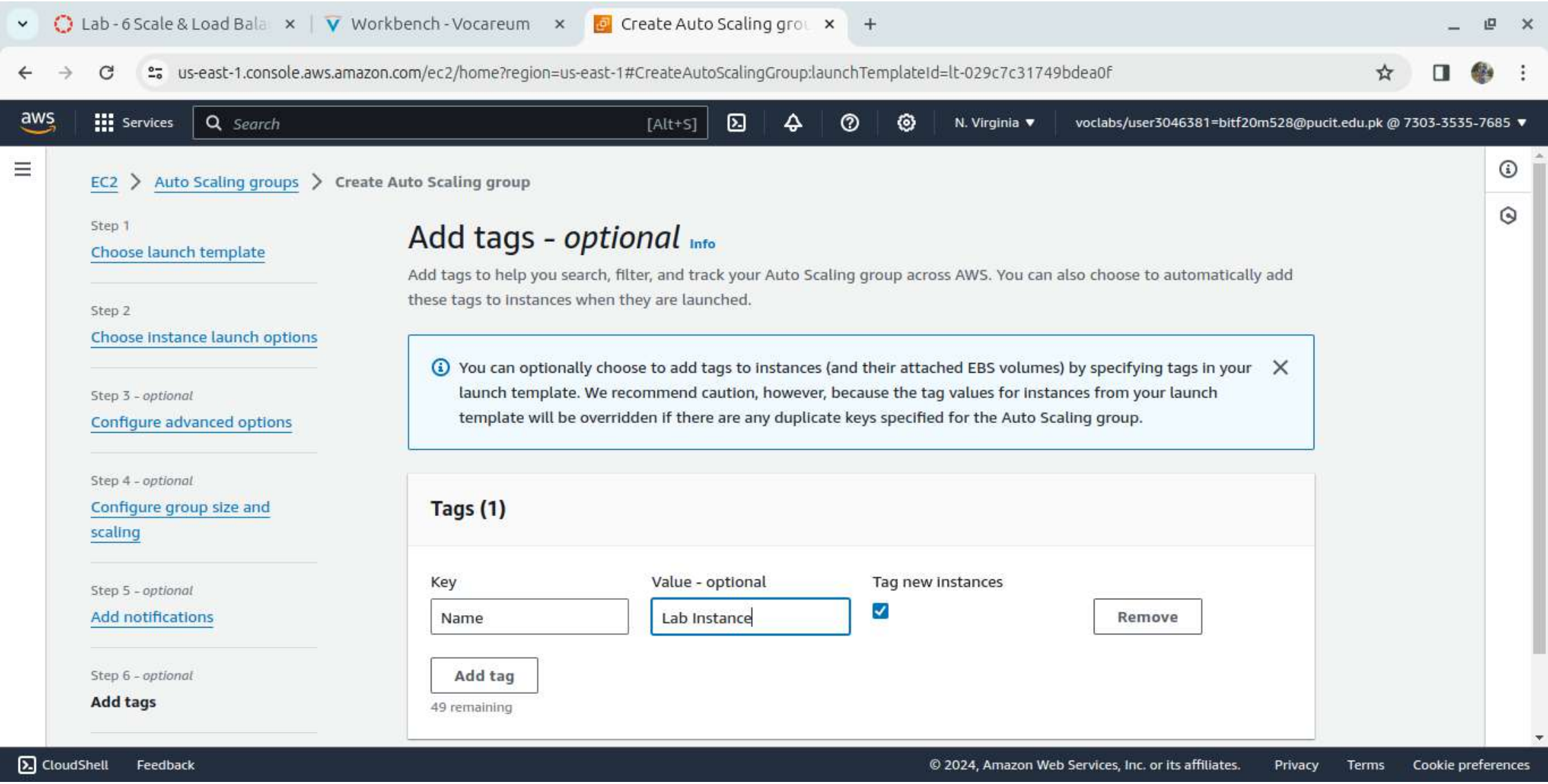
Step 6 - *optional*
Add tags

Add notifications - *optional* Info

Send notifications to SNS topics whenever Amazon EC2 Auto Scaling launches or terminates the EC2 instances in your Auto Scaling group.

Add notification

Cancel | Skip to review | Previous | Next


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Create Auto Scaling grou
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-029c7c31749bdea0f
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voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
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
Add tags - optional
Info
Add tags to help you search, filter, and track your Auto Scaling group across AWS. You can also choose to automatically add these tags to instances when they are launched.
You can optionally choose to add tags to instances (and their attached EBS volumes) by specifying tags in your launch template. We recommend caution, however, because the tag values for instances from your launch template will be overridden if there are any duplicate keys specified for the Auto Scaling group.
Tags (1)
Key
Value - optional
Tag new instances
Name
Lab Instance
Remove
Add tag
49 remaining
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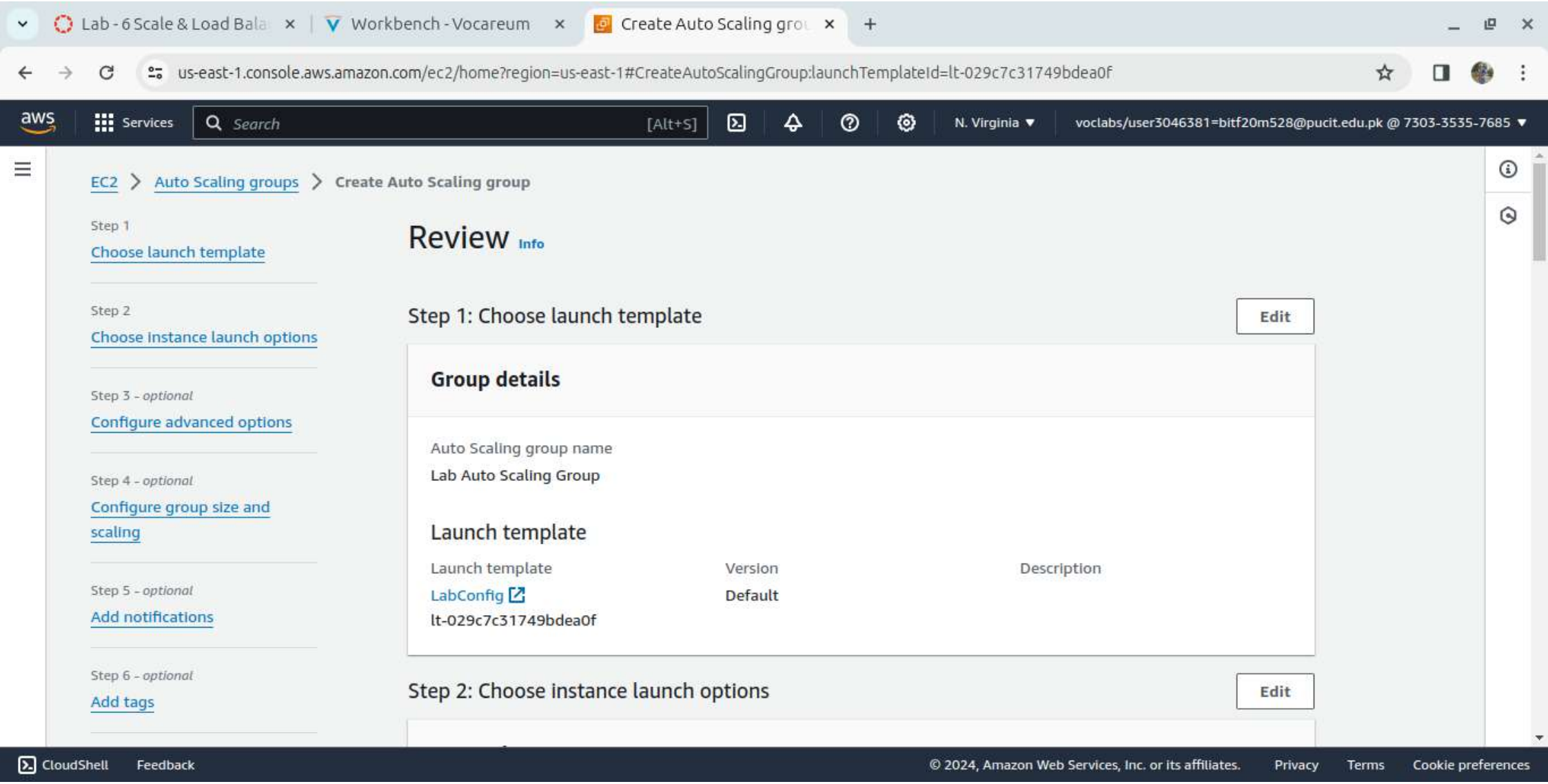
Lab - 6 Scale & Load Bala
Workbench - Vocareum
Create Auto Scaling grou
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:launchTemplateId=lt-029c7c31749bdea0f
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voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
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
Review
Info
Step 1: Choose launch template
Edit
Group details
Auto Scaling group name
Lab Auto Scaling Group
Launch template
Launch template
LabConfig
lt-029c7c31749bdea0f
Version
Default
Description
Step 2: Choose instance launch options
Edit
CloudShell
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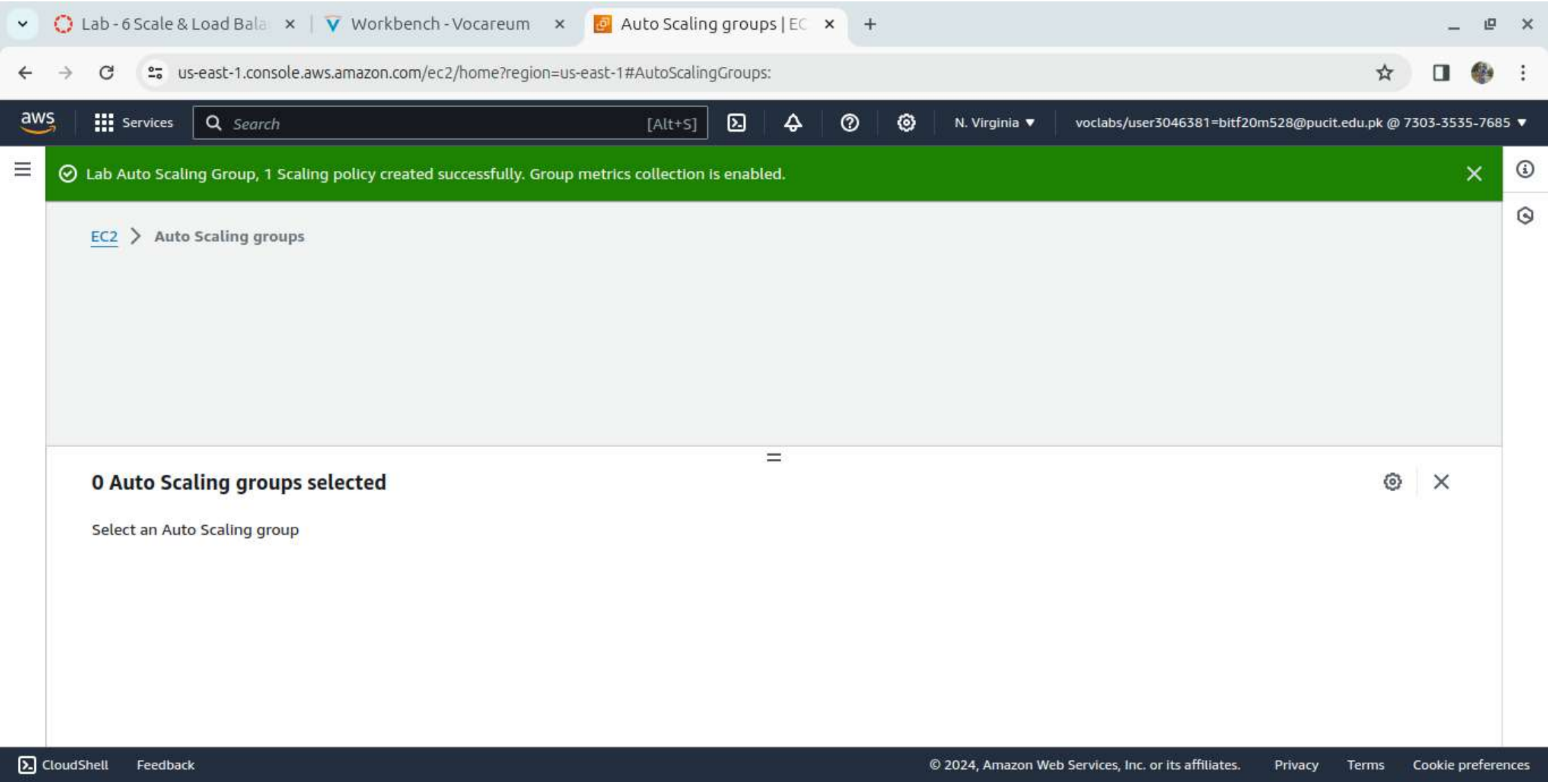
Lab - 6 Scale & Load Bala
Workbench - Vocareum
Auto Scaling groups | EC
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#AutoScalingGroups:
aws
Services
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N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
Lab Auto Scaling Group, 1 Scaling policy created successfully. Group metrics collection is enabled.
EC2
Auto Scaling groups
0 Auto Scaling groups selected
Select an Auto Scaling group
CloudShell
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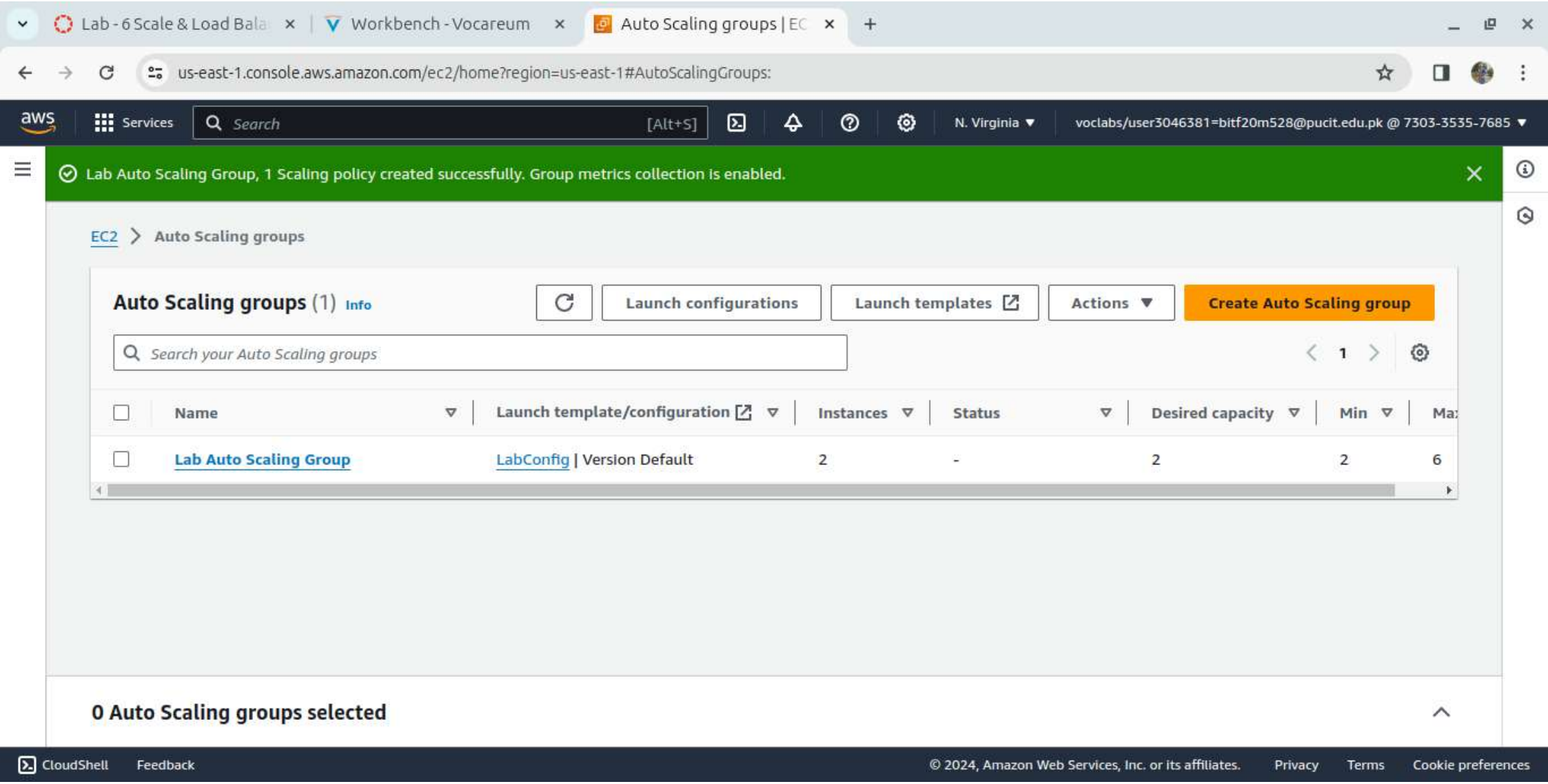
Lab - 6 Scale & Load Bala
Workbench - Vocareum
Auto Scaling groups | EC
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#AutoScalingGroups:
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
Lab Auto Scaling Group, 1 Scaling policy created successfully. Group metrics collection is enabled.
EC2
Auto Scaling groups
Auto Scaling groups (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
Lab Auto Scaling Group
LabConfig | Version Default
2
-
2
2
6
0 Auto Scaling groups selected
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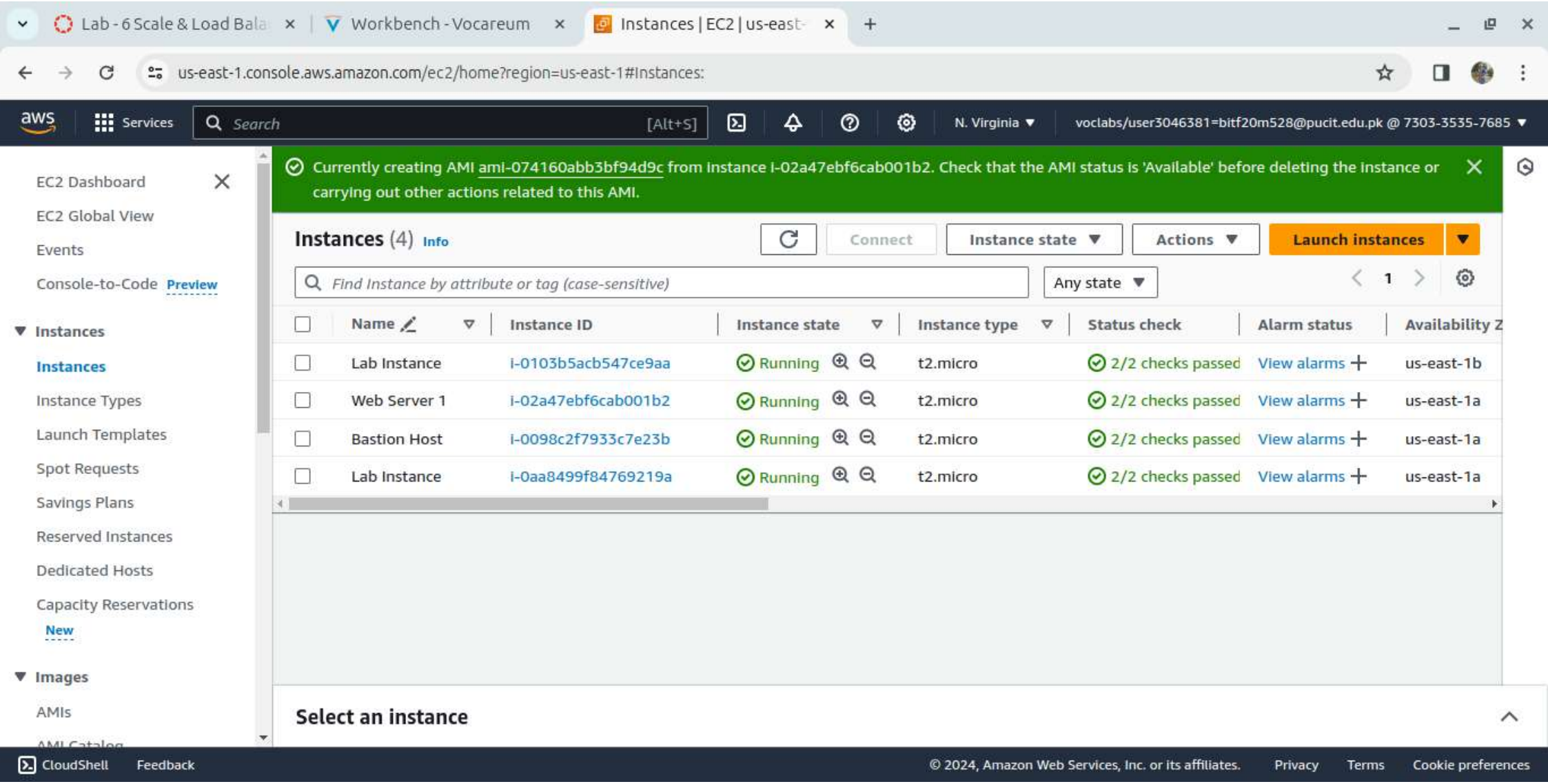
Lab - 6 Scale & Load Bala
Workbench - Vocareum
Instances | EC2 | us-east-
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:
aws
Services
Search
[Alt+S]
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voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
EC2 Dashboard
EC2 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
Currently creating AMI ami-074160abb3bf94d9c from instance i-02a47ebf6cab001b2. Check that the AMI status is 'Available' before deleting the instance or carrying out other actions related to this AMI.
Instances (4) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
Any state
1
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Z
Lab Instance
i-0103b5acb547ce9aa
Running
t2.micro
2/2 checks passed
View alarms
us-east-1b
Web Server 1
i-02a47ebf6cab001b2
Running
t2.micro
2/2 checks passed
View alarms
us-east-1a
Bastion Host
i-0098c2f7933c7e23b
Running
t2.micro
2/2 checks passed
View alarms
us-east-1a
Lab Instance
i-0aa8499f84769219a
Running
t2.micro
2/2 checks passed
View alarms
us-east-1a
Select an instance
CloudShell
Feedback
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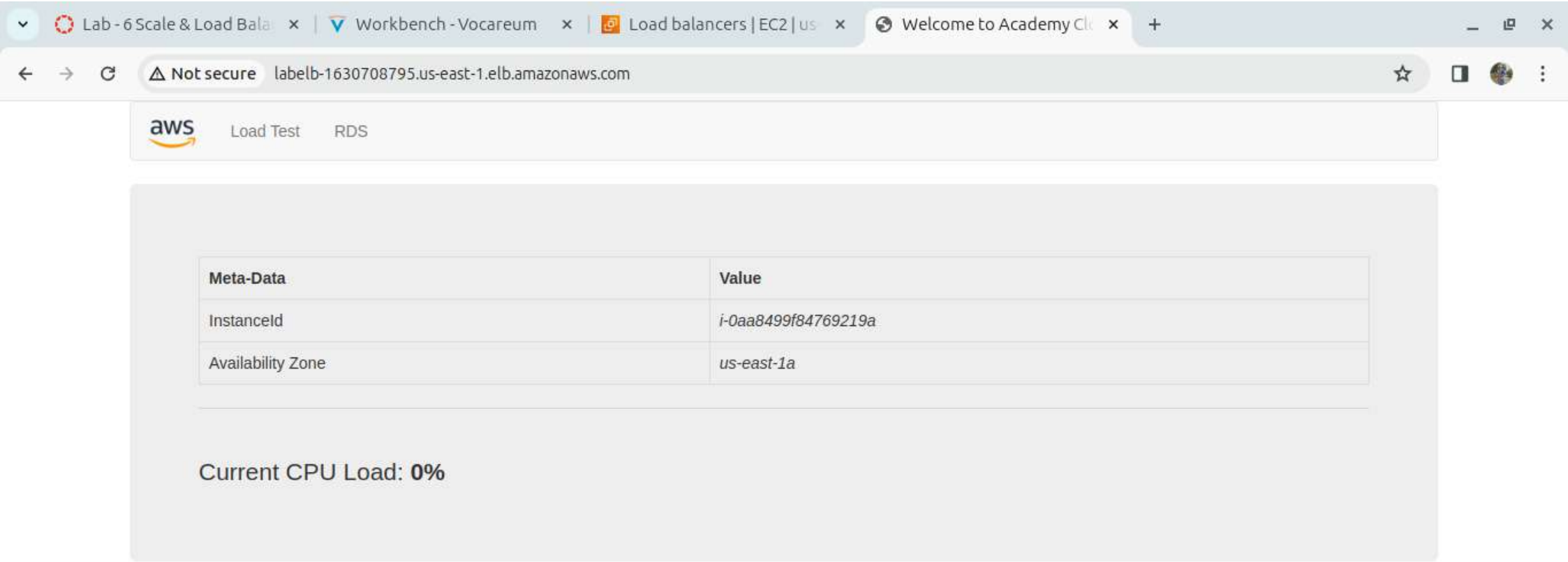
Lab - 6 Scale & Load Bala
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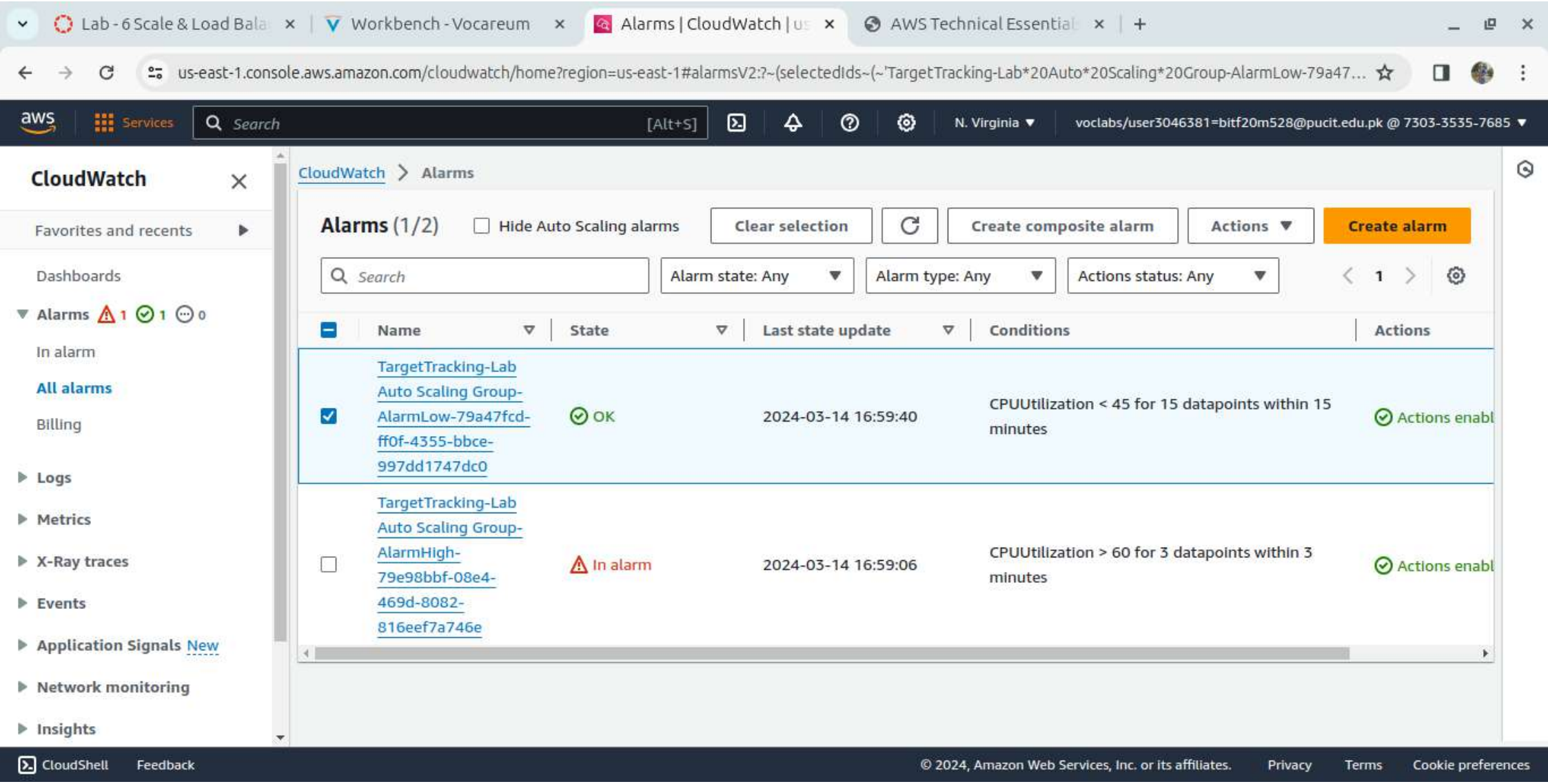
Load balancers | EC2 | us
Welcome to Academy Cl
Not secure
labelb-1630708795.us-east-1.elb.amazonaws.com
aws
Load Test
RDS
Meta-Data
Value
InstanceId
i-0aa8499f84769219a
Availability Zone
us-east-1a
Current CPU Load: 0%


Lab - 6 Scale & Load Bala
Workbench - Vocareum
Alarms | CloudWatch | us
AWS Technical Essential
us-east-1.console.aws.amazon.com/cloudwatch/home?region=us-east-1#alarmsV2:?~(selectedIds~(~'TargetTracking-Lab*20Auto*20Scaling*20Group-AlarmLow-79a47...
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
CloudWatch
Favorites and recents
Dashboards
Alarms 1 1 0
In alarm
All alarms
Billing
Logs
Metrics
X-Ray traces
Events
Application Signals New
Network monitoring
Insights
CloudWatch > Alarms
Alarms (1/2)
Hide Auto Scaling alarms
Clear selection
Create composite alarm
Actions
Create alarm
Search
Alarm state: Any
Alarm type: Any
Actions status: Any
1
Name
State
Last state update
Conditions
Actions
TargetTracking-Lab Auto Scaling Group-AlarmLow-79a47fcd-ff0f-4355-bbce-997dd1747dc0
OK
2024-03-14 16:59:40
CPUUtilization < 45 for 15 datapoints within 15 minutes
Actions enabl
TargetTracking-Lab Auto Scaling Group-AlarmHigh-79e98bbf-08e4-469d-8082-816eef7a746e
In alarm
2024-03-14 16:59:06
CPUUtilization > 60 for 3 datapoints within 3 minutes
Actions enabl
CloudShell
Feedback
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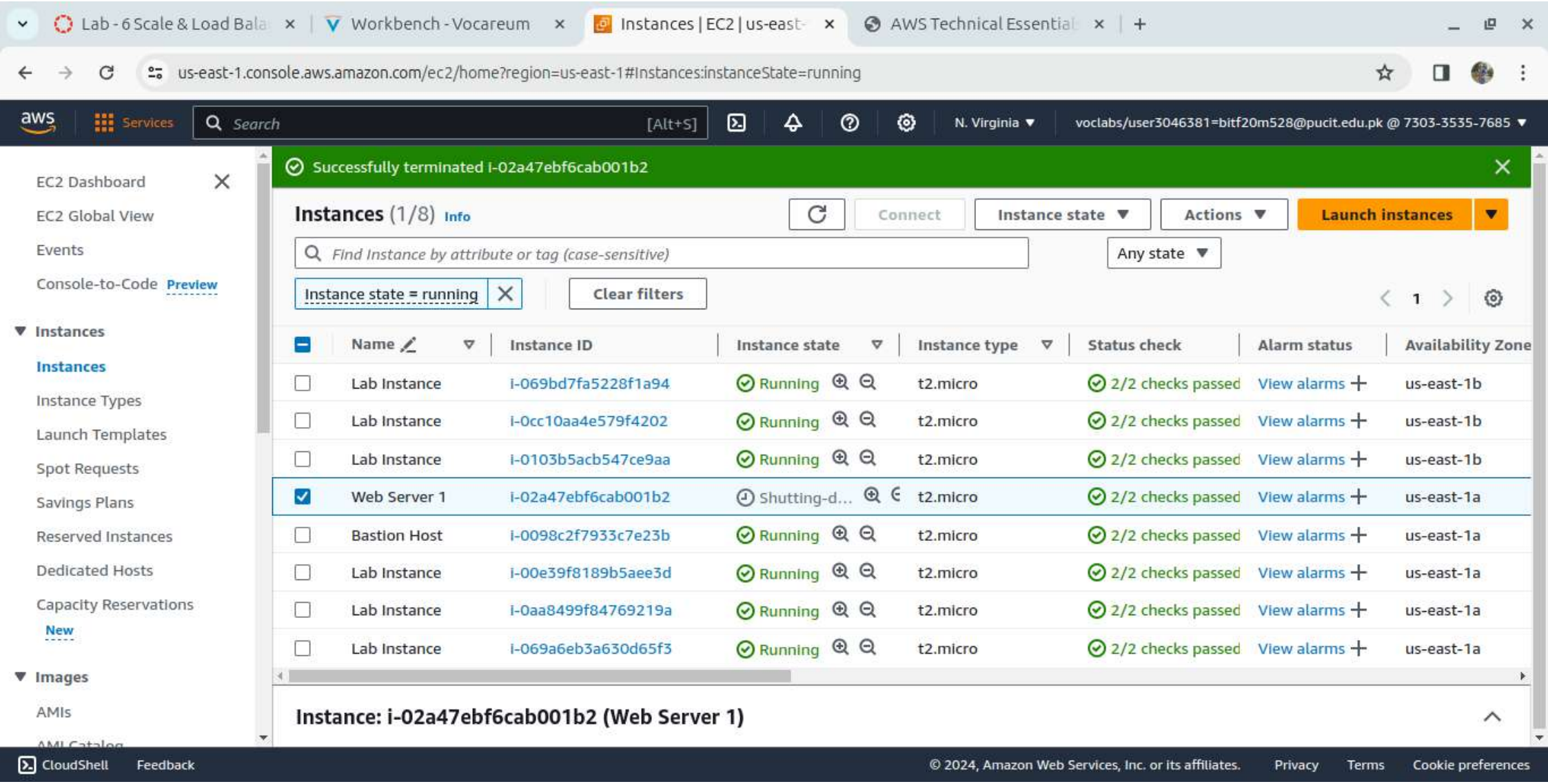
Lab - 6 Scale & Load Bala
Workbench - Vocareum
Instances | EC2 | us-east-
AWS Technical Essential
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:instanceState=running
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
EC2 Dashboard
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
Successfully terminated i-02a47ebf6cab001b2
Instances (1/8) Info
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
Any state
Instance state = running
Clear filters
1
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Lab Instance i-069bd7fa5228f1a94 Running t2.micro 2/2 checks passed View alarms us-east-1b
Lab Instance i-0cc10aa4e579f4202 Running t2.micro 2/2 checks passed View alarms us-east-1b
Lab Instance i-0103b5acb547ce9aa Running t2.micro 2/2 checks passed View alarms us-east-1b
Web Server 1 i-02a47ebf6cab001b2 Shutting-d... t2.micro 2/2 checks passed View alarms us-east-1a
Bastion Host i-0098c2f7933c7e23b Running t2.micro 2/2 checks passed View alarms us-east-1a
Lab Instance i-00e39f8189b5aee3d Running t2.micro 2/2 checks passed View alarms us-east-1a
Lab Instance i-0aa8499f84769219a Running t2.micro 2/2 checks passed View alarms us-east-1a
Lab Instance i-069a6eb3a630d65f3 Running t2.micro 2/2 checks passed View alarms us-east-1a
Instance: i-02a47ebf6cab001b2 (Web Server 1)
CloudShell
Feedback
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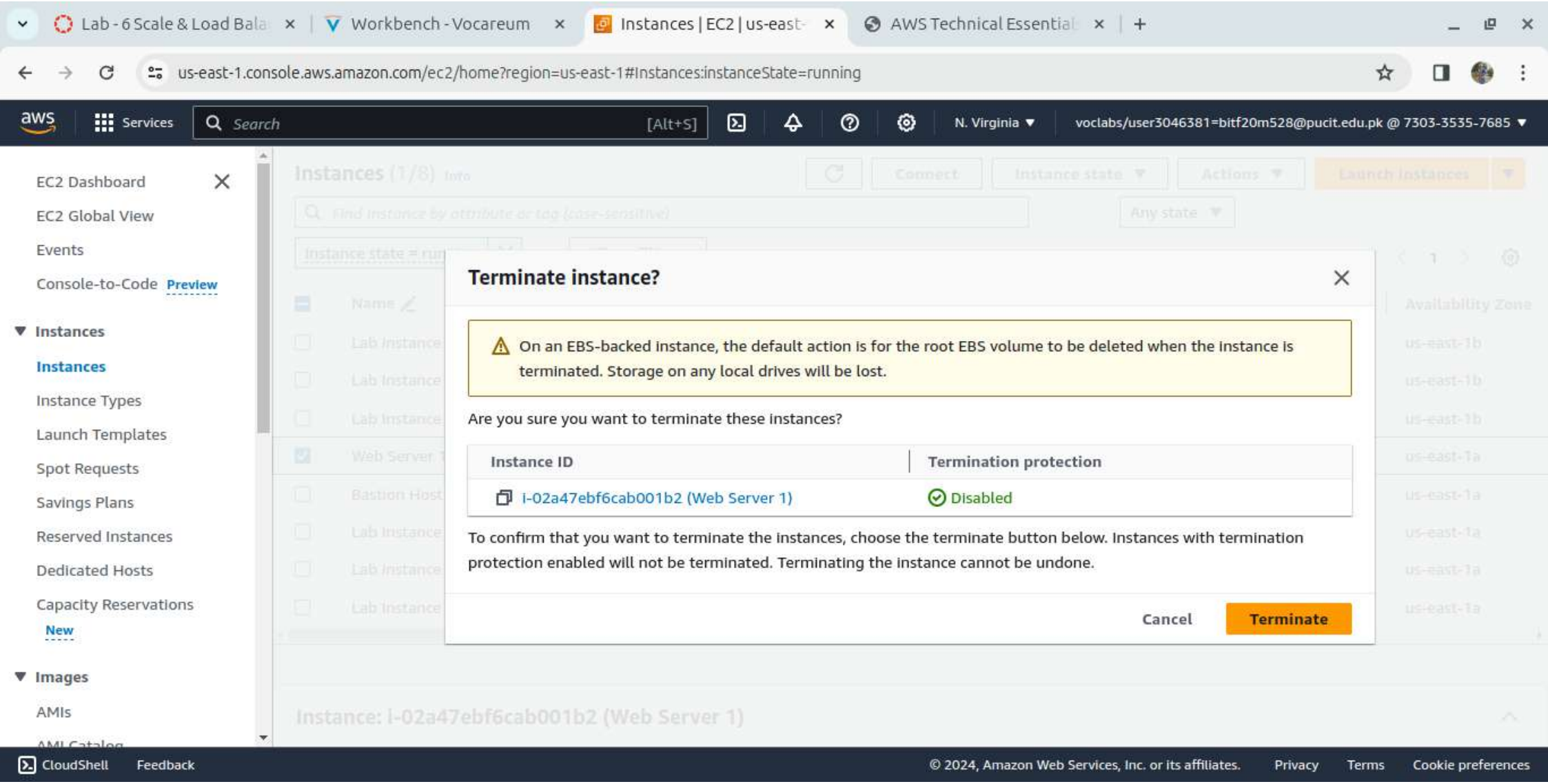
Lab - 6 Scale & Load Bala
Workbench - Vocareum
Instances | EC2 | us-east-
AWS Technical Essential
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#Instances:instanceState=running
aws
Services
Search
[Alt+S]
N. Virginia
voclabs/user3046381=bitf20m528@pucit.edu.pk @ 7303-3535-7685
EC2 Dashboard
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Dedicated Hosts
Capacity Reservations
New
Images
AMIs
Terminate instance?
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-02a47ebf6cab001b2 (Web Server 1)
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
Instance: i-02a47ebf6cab001b2 (Web Server 1)
CloudShell
Feedback
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