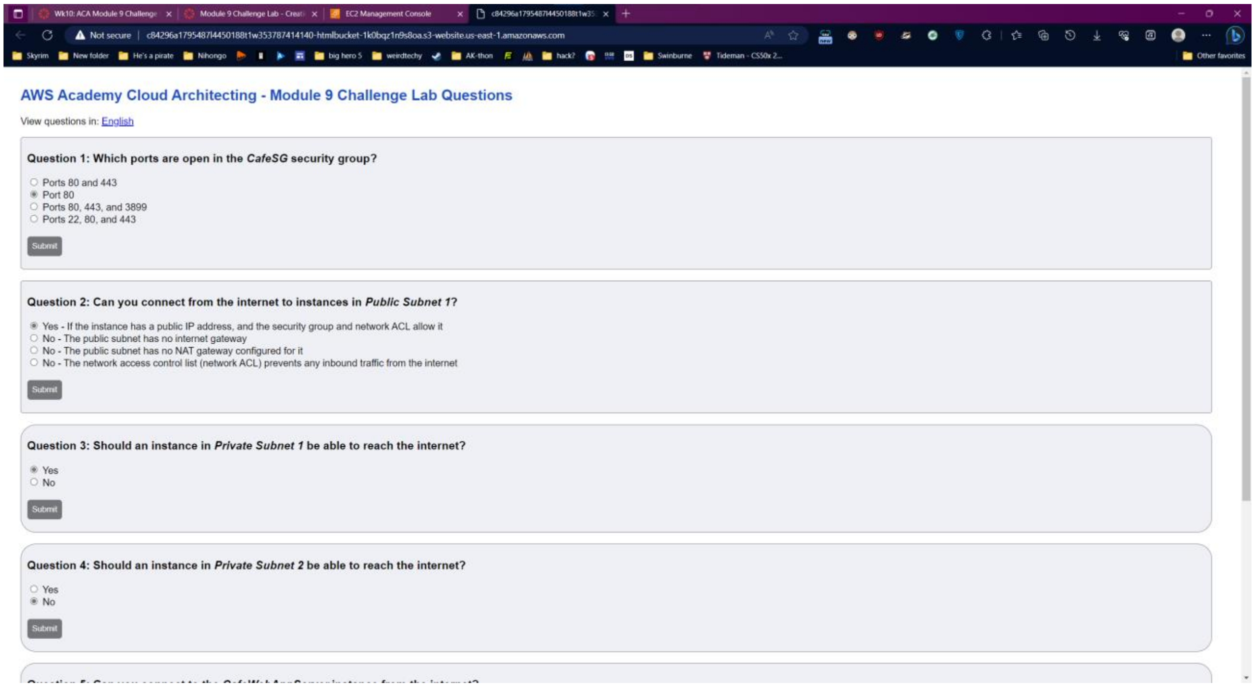
Module 9 - Challenge Lab: Creating a Scalable and Highly Available Environment for the Café

Task 1: Inspecting your environment

Answer the questions:


Wk10: ACA Module 9 Challenge
Module 9 Challenge Lab - Creati
EC2 Management Console
c84296a1795487l4450188t1w35
Not secure
c84296a1795487l4450188t1w353787414140-htmlbucket-1k0bqz1n9s8oa.s3-website.us-east-1.amazonaws.com
Skyrim
New folder
He's a pirate
Nihongo
big hero 5
weirdtechy
AK-thon
hack?
Swinburne
Tideman - CS50x 2...
Other favorites

AWS Academy Cloud Architecting - Module 9 Challenge Lab Questions

View questions in: English

Question 1: Which ports are open in the *CafeSG* security group?

○ Ports 80 and 443
● Port 80
○ Ports 80, 443, and 3899
○ Ports 22, 80, and 443

Submit

Question 2: Can you connect from the internet to instances in *Public Subnet 1*?

● Yes - If the instance has a public IP address, and the security group and network ACL allow it
○ No - The public subnet has no internet gateway
○ No - The public subnet has no NAT gateway configured for it
○ No - The network access control list (network ACL) prevents any inbound traffic from the internet

Submit

Question 3: Should an instance in *Private Subnet 1* be able to reach the internet?

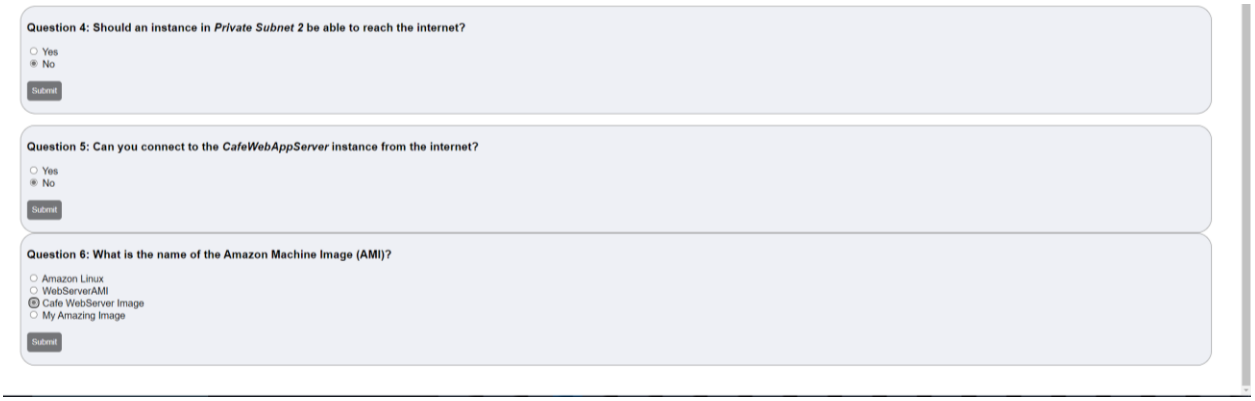
● Yes
○ No

Submit

Question 4: Should an instance in *Private Subnet 2* be able to reach the internet?

○ Yes
● No

Submit


Question 4: Should an instance in *Private Subnet 2* be able to reach the internet?

○ Yes
● No

Submit

Question 5: Can you connect to the *CafeWebAppServer* instance from the internet?

○ Yes
● No

Submit

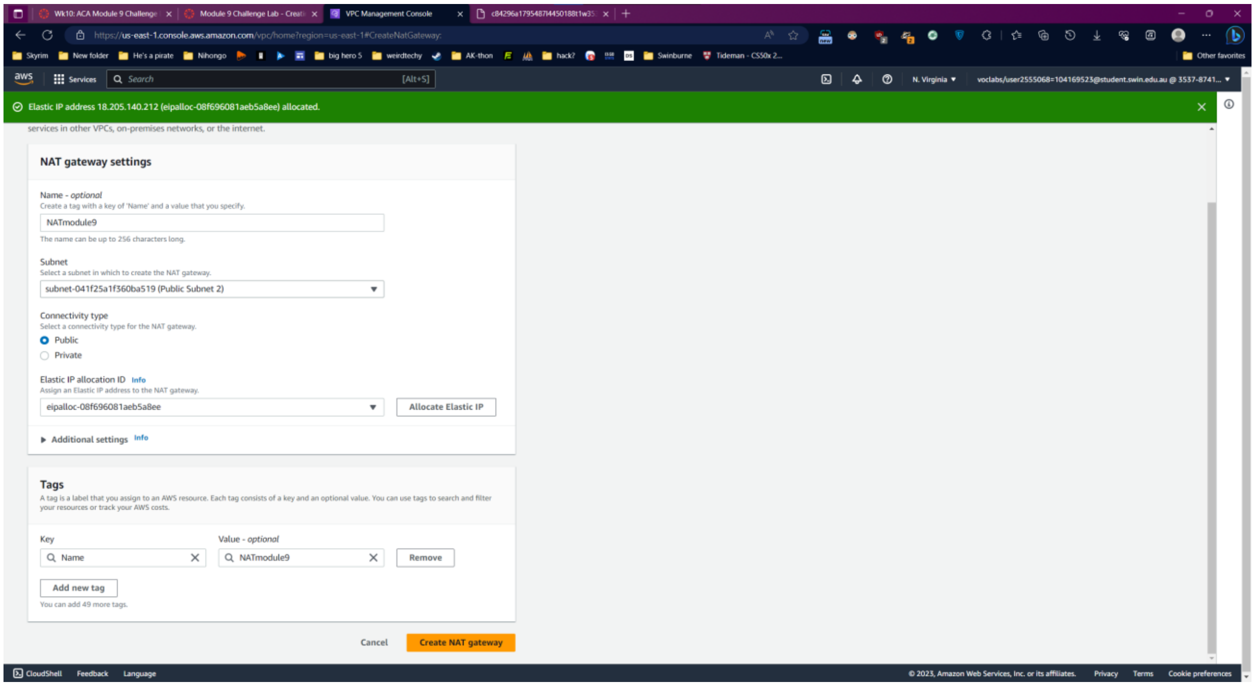
Question 6: What is the name of the Amazon Machine Image (AMI)?

○ Amazon Linux
○ WebServerAMI
● Cafe WebServer Image
○ My Amazing Image

Submit

Task 2: Creating a NAT gateway for the second Availability Zone

Create a NAT gateway



https://us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#CreateNatGateway:

Elastic IP address 18.205.140.212 (eipalloc-08f696081aeb5a8ee) allocated.

services in other VPCs, on-premises networks, or the internet.

NAT gateway settings

Name - *optional*
Create a tag with a key of 'Name' and a value that you specify.
NATmodule9
The name can be up to 256 characters long.

Subnet
Select a subnet in which to create the NAT gateway.
subnet-041f25a1f360ba519 (Public Subnet 2)

Connectivity type
Select a connectivity type for the NAT gateway.
● Public
○ Private

Elastic IP allocation ID Info
Assign an Elastic IP address to the NAT gateway.
eipalloc-08f696081aeb5a8ee
Allocate Elastic IP

Additional settings Info

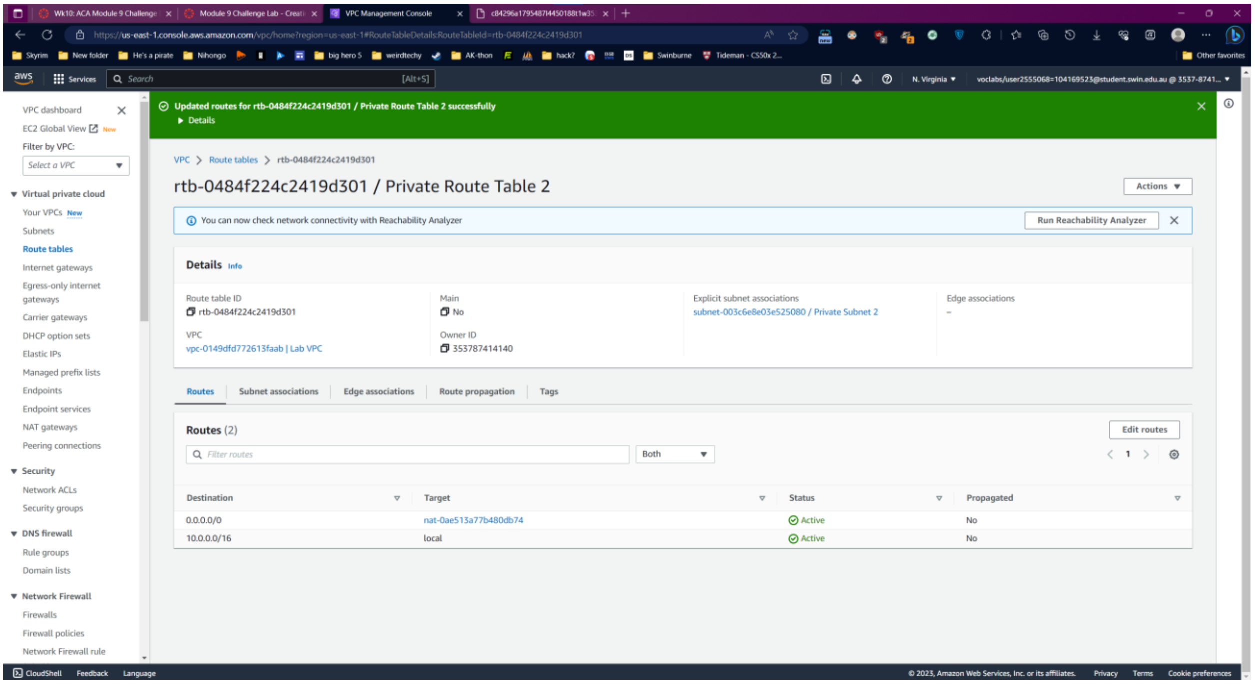
Tags
A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

Key	Value - *optional*
Name	NATmodule9

Add new tag
You can add 49 more tags.

Cancel | Create NAT gateway

Update the Private Route table 2:



https://us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#RouteTableDetails:RouteTableId=rtb-0484f224c2419d301

Updated routes for rtb-0484f224c2419d301 / Private Route Table 2 successfully

VPC > Route tables > rtb-0484f224c2419d301

rtb-0484f224c2419d301 / Private Route Table 2

You can now check network connectivity with Reachability Analyzer

Details

Route table ID	Main	Explicit subnet associations	Edge associations
rtb-0484f224c2419d301	No	subnet-003c6e8e03e525080 / Private Subnet 2	–

VPC	Owner ID
vpc-0149dfd772613faab | Lab VPC	353787414140

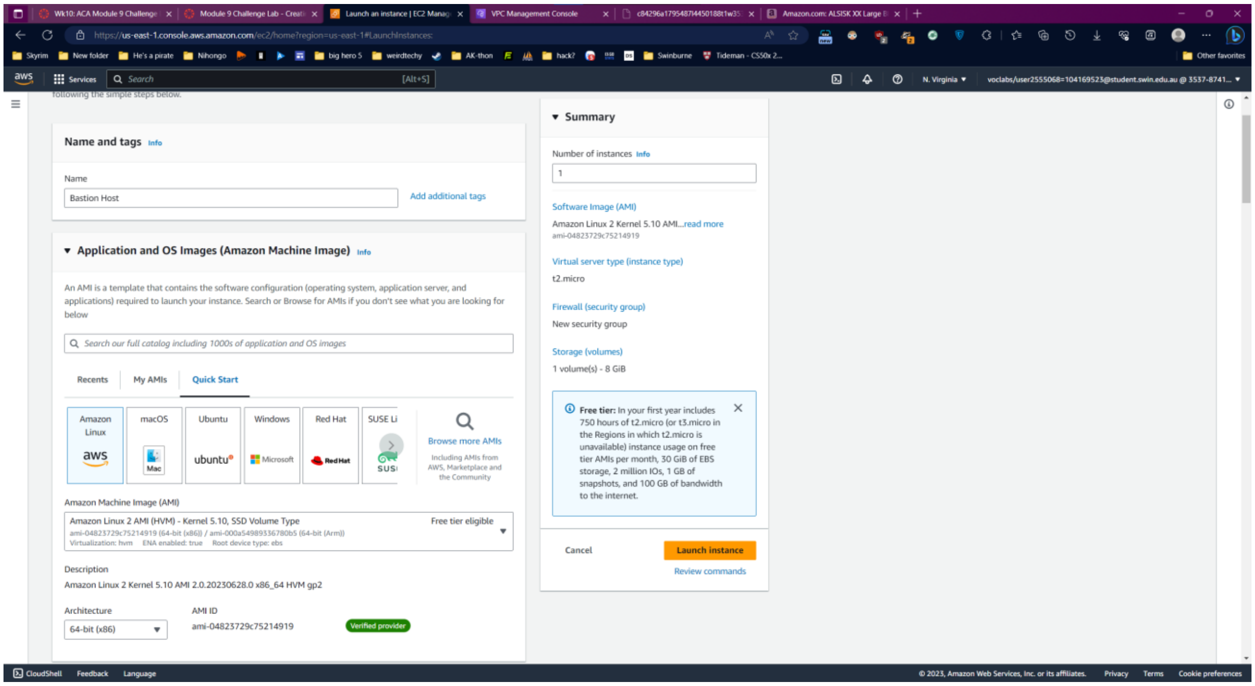
Routes | Subnet associations | Edge associations | Route propagation | Tags

Routes (2)

Destination	Target	Status	Propagated
0.0.0.0/0	nat-0ae513a77b480db74	Active	No
10.0.0.0/16	local	Active	No

Task 3: Creating a bastion host instance in a public subnet

Create EC2 instance


Wk10: ACA Module 9 Challenge
Module 9 Challenge Lab - Creati
Launch an instance | EC2 Manag
VPC Management Console
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:
Services
Search [Alt+S]
N. Virginia
CloudShell
Feedback
Language
© 2023, Amazon Web Services, Inc. or its affiliates.
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following the simple steps below.

Name and tags Info

Name: Bastion Host — Add additional tags

▼ 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

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

Recents | My AMIs | Quick Start

Amazon Linux | macOS | Ubuntu | Windows | Red Hat | SUSE Li — Browse more AMIs (Including AMIs from AWS, Marketplace and the Community)

Amazon Machine Image (AMI): Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type — Free tier eligible
ami-04823729c75214919 (64-bit (x86)) / ami-000a54989336780b5 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs

Description: Amazon Linux 2 Kernel 5.10 AMI 2.0.20230628.0 x86_64 HVM gp2

Architecture: 64-bit (x86)

AMI ID: ami-04823729c75214919 — Verified provider

▼ Summary

Number of instances: 1

Software Image (AMI): Amazon Linux 2 Kernel 5.10 AMI...read more
ami-04823729c75214919

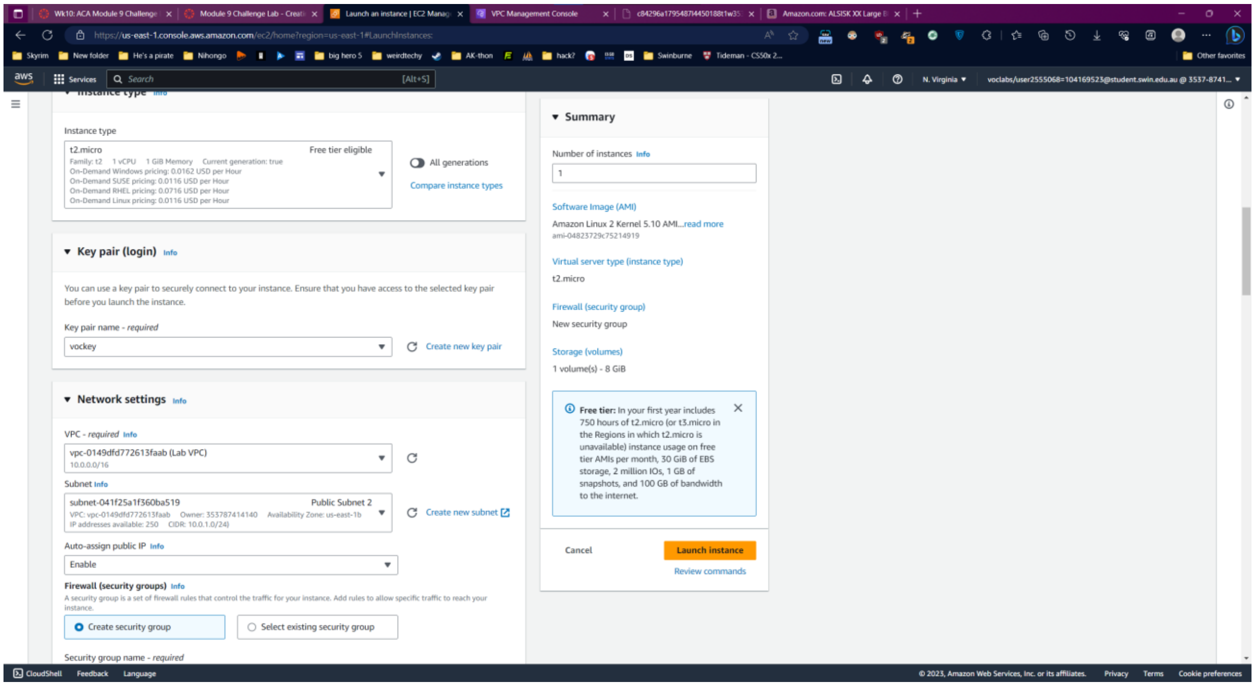
Virtual server type (instance type): t2.micro

Firewall (security group): New 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, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel | Launch instance | Review commands


Wk10: ACA Module 9 Challenge
Module 9 Challenge Lab - Creati
Launch an instance | EC2 Manag
VPC Management Console
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:
Services
Search [Alt+S]
N. Virginia
CloudShell
Feedback
Language
© 2023, Amazon Web Services, Inc. or its affiliates.
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Instance type Info

Instance type: t2.micro — Free tier eligible
Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Windows pricing: 0.0162 USD per Hour
On-Demand SUSE pricing: 0.0116 USD per Hour
On-Demand RHEL pricing: 0.0716 USD per Hour
On-Demand Linux pricing: 0.0116 USD per Hour

All generations — Compare instance types

▼ 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*: vockey — Create new key pair

▼ Network settings Info

VPC - *required*: vpc-0149dfd772613faab (Lab VPC) 10.0.0.0/16

Subnet: subnet-041f25a1f360ba519 — Public Subnet 2
VPC: vpc-0149dfd772613faab Owner: 353787414140 Availability Zone: us-east-1b
IP addresses available: 250 CIDR: 10.0.1.0/24)

Create new subnet

Auto-assign public IP: Enable

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.

● Create security group ○ Select existing security group

Security group name - *required*

▼ Summary

Number of instances: 1

Software Image (AMI): Amazon Linux 2 Kernel 5.10 AMI...read more
ami-04823729c75214919

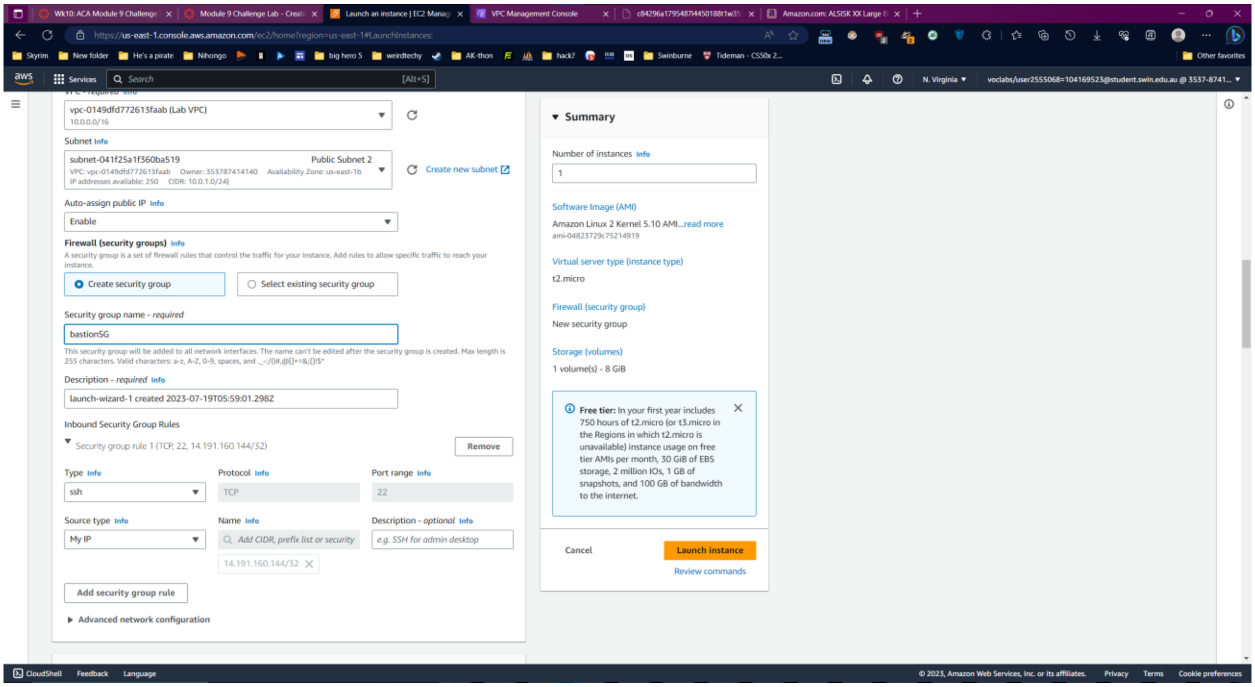
Virtual server type (instance type): t2.micro

Firewall (security group): New 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, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel | Launch instance | Review commands


Wk10: ACA Module 9 Challenge
Module 9 Challenge Lab - Creati
Launch an instance | EC2 Manag
VPC Management Console
Amazon.com: ALSISK XX Large
Services
Search
[Alt+S]
N. Virginia
voclabs/user2555068=104169523@student.swin.edu.au @ 3537-8741...
Create new subnet
Remove
Add security group rule
Advanced network configuration
Cancel
Launch instance
Review commands
CloudShell
Feedback
Language
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Privacy
Terms
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https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:

VPC - required
vpc-0149dfd772613faab (Lab VPC)
10.0.0.0/16

Subnet Info
subnet-041f25a1f360ba519 Public Subnet 2
VPC: vpc-0149dfd772613faab Owner: 353787414140 Availability Zone: us-east-1b
IP addresses available: 250 CIDR: 10.0.1.0/24)

Auto-assign public IP Info
Enable

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.

● Create security group ○ Select existing security group

Security group name - *required*
bastionSG
This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and ._-:/()#,@[]+=&;{}!$*

Description - *required* Info
launch-wizard-1 created 2023-07-19T05:59:01.298Z

Inbound Security Group Rules
Security group rule 1 (TCP, 22, 14.191.160.144/32)

Type	Protocol	Port range
ssh	TCP	22

Source type	Name	Description - *optional*
My IP	Add CIDR, prefix list or security 14.191.160.144/32	e.g. SSH for admin desktop

Summary

Number of instances Info
1

Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-04823729c75214919

Virtual server type (instance type)
t2.micro

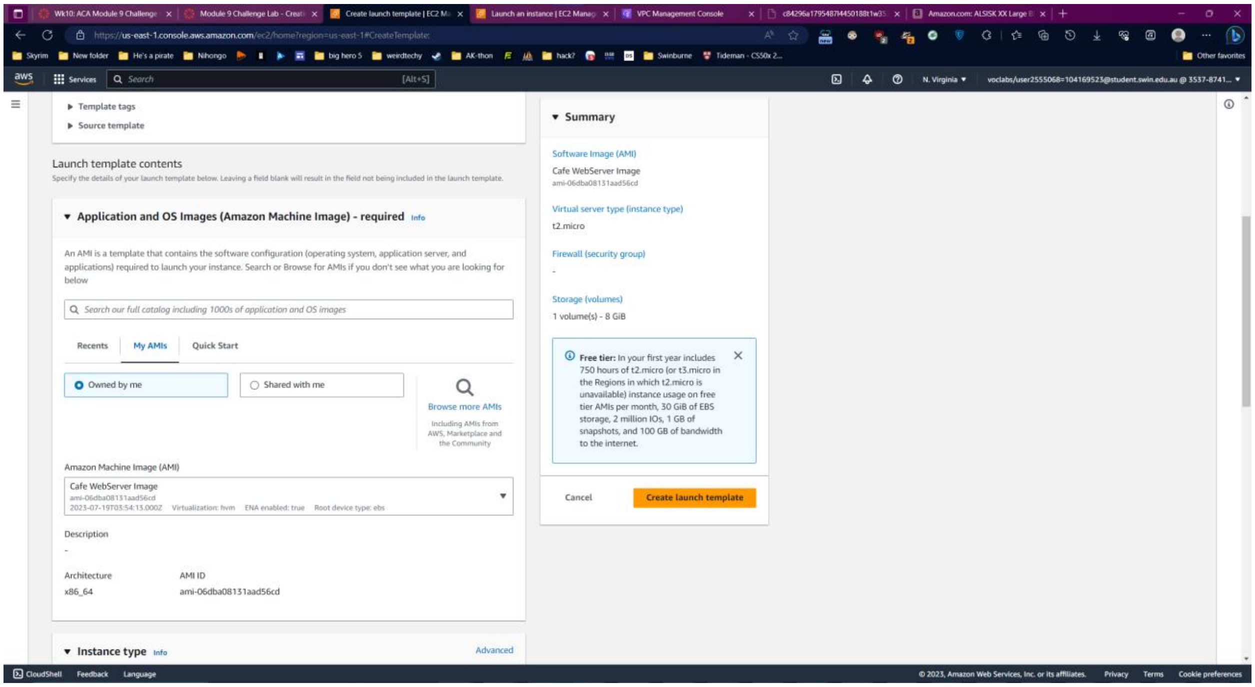
Firewall (security group)
New security group

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, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Task 4: Creating a launch template

Create launch template


Wk10: ACA Module 9 Challenge
Module 9 Challenge Lab - Creati
Create launch template | EC2 M
Launch an instance | EC2 Manag
VPC Management Console
Amazon.com: ALSISK XX Large
Services
Search
[Alt+S]
N. Virginia
voclabs/user2555068=104169523@student.swin.edu.au @ 3537-8741...
Template tags
Source template
Recents
My AMIs
Quick Start
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community
Instance type
Advanced
Cancel
Create launch template
CloudShell
Feedback
Language
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Privacy
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https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTemplate:

Launch template contents
Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template.

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

● Owned by me ○ Shared with me

Amazon Machine Image (AMI)
Cafe WebServer Image
ami-06dba08131aad56cd
2023-07-19T03:54:13.000Z Virtualization: hvm ENA enabled: true Root device type: ebs

Description
-

Architecture	AMI ID
x86_64	ami-06dba08131aad56cd

Summary

Software Image (AMI)
Cafe WebServer Image
ami-06dba08131aad56cd

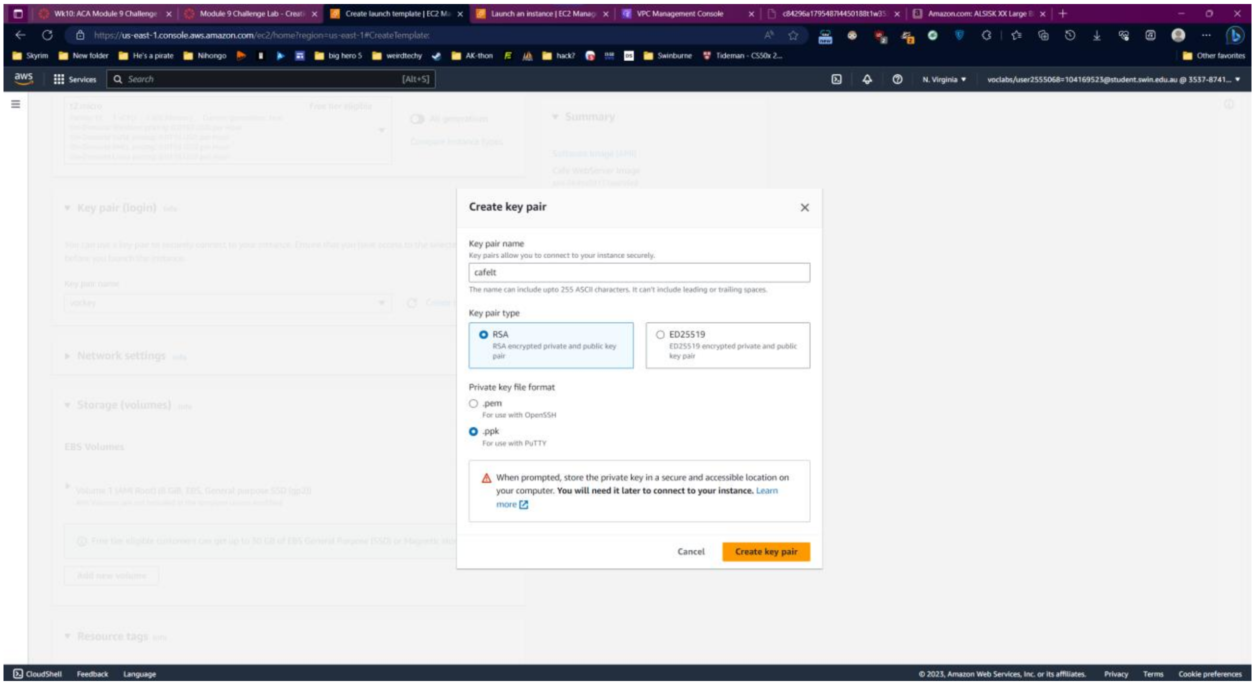
Virtual server type (instance type)
t2.micro

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, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Create new keypair



Create key pair

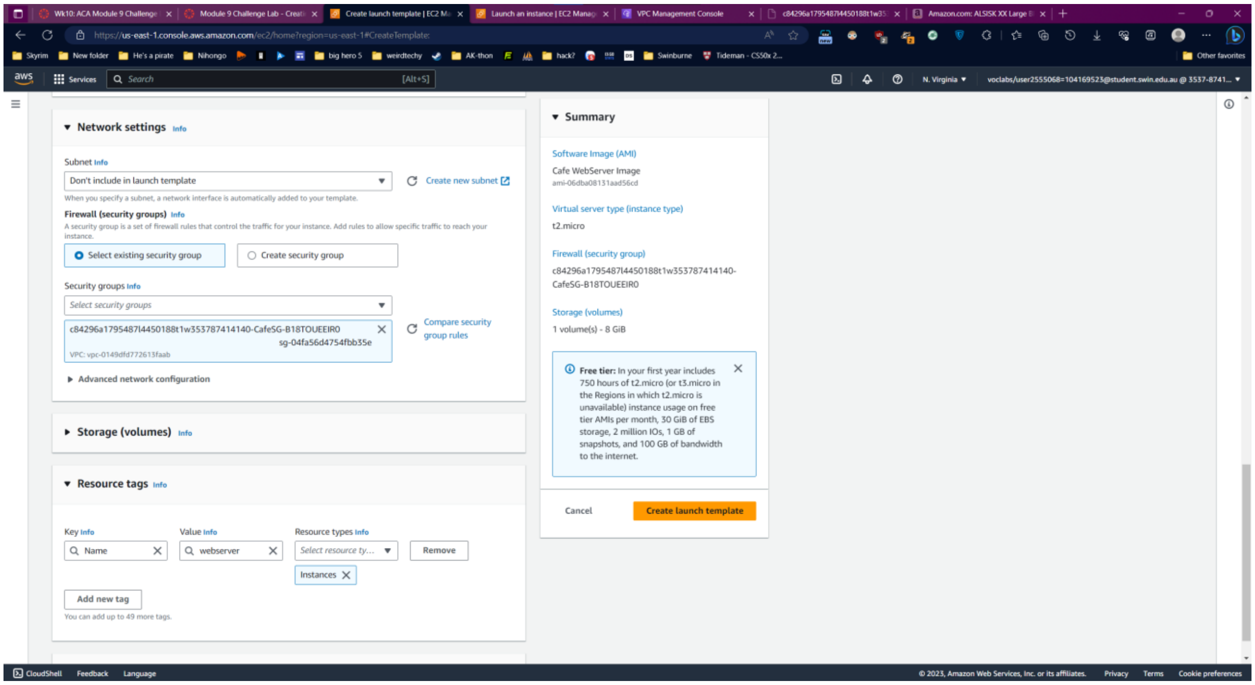
Key pair name
Key pairs allow you to connect to your instance securely.
cafelt
The name can include upto 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type
- ● RSA — RSA encrypted private and public key pair
- ○ ED25519 — ED25519 encrypted private and public key pair

Private key file format
- ○ .pem — For use with OpenSSH
- ● .ppk — For use with PuTTY

⚠ When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** Learn more

Network settings and Resources tags



Network settings

Subnet: Don't include in launch template
When you specify a subnet, a network interface is automatically added to your template.

Firewall (security groups)
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: c84296a1795487l4450188t1w353787414140-CafeSG-B18TOUEEIR0 sg-04fa56d4754fbb35e
VPC: vpc-0149dfd772613faab

Resource tags

Key	Value	Resource types
Name	webserver	Instances

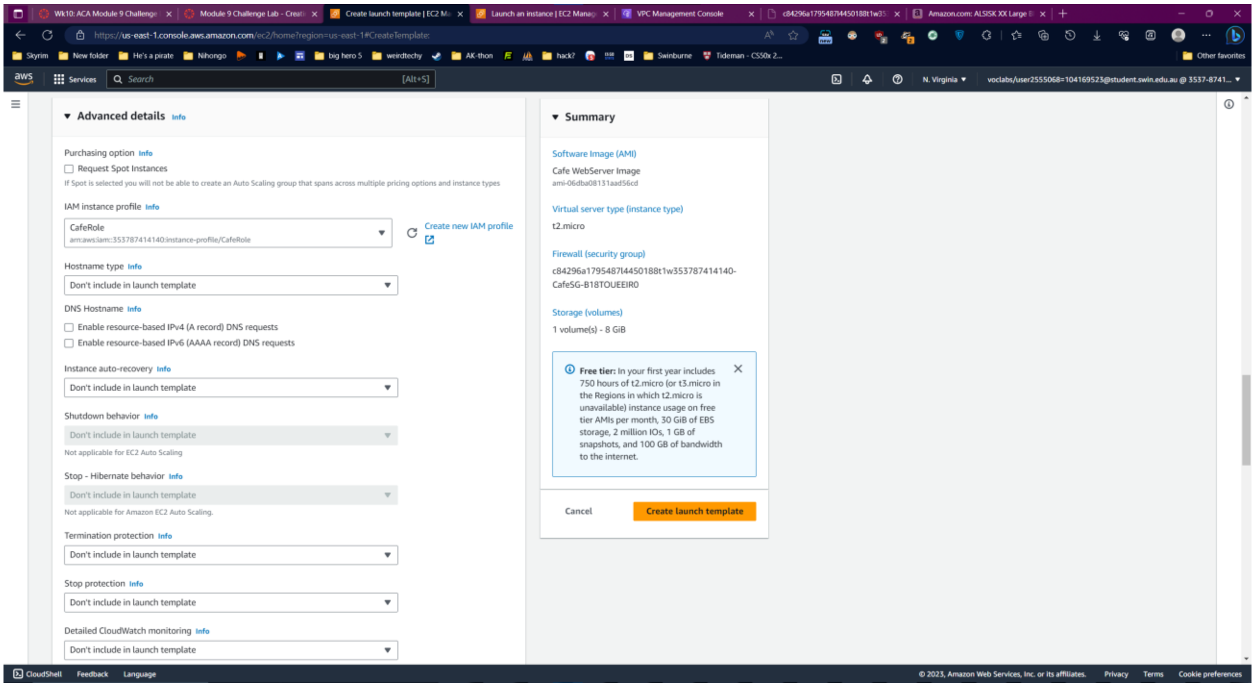
You can add up to 49 more tags.

Summary

Software Image (AMI): Cafe WebServer Image ami-06dba08131aad56cd
Virtual server type (instance type): t2.micro
Firewall (security group): c84296a1795487l4450188t1w353787414140-CafeSG-B18TOUEEIR0
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, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

IAM role: CafeRole



Advanced details

Purchasing option
□ Request Spot Instances
If Spot is selected you will not be able to create an Auto Scaling group that spans across multiple pricing options and instance types

IAM instance profile
CafeRole
arn:aws:iam::353787414140:instance-profile/CafeRole

Hostname type
Don't include in launch template

DNS Hostname
□ Enable resource-based IPv4 (A record) DNS requests
□ Enable resource-based IPv6 (AAAA record) DNS requests

Instance auto-recovery
Don't include in launch template

Shutdown behavior
Don't include in launch template
Not applicable for EC2 Auto Scaling

Stop - Hibernate behavior
Don't include in launch template
Not applicable for Amazon EC2 Auto Scaling.

Termination protection
Don't include in launch template

Stop protection
Don't include in launch template

Detailed CloudWatch monitoring
Don't include in launch template

Summary

Software Image (AMI)
Cafe WebServer Image
ami-06dba08131aad56cd

Virtual server type (instance type)
t2.micro

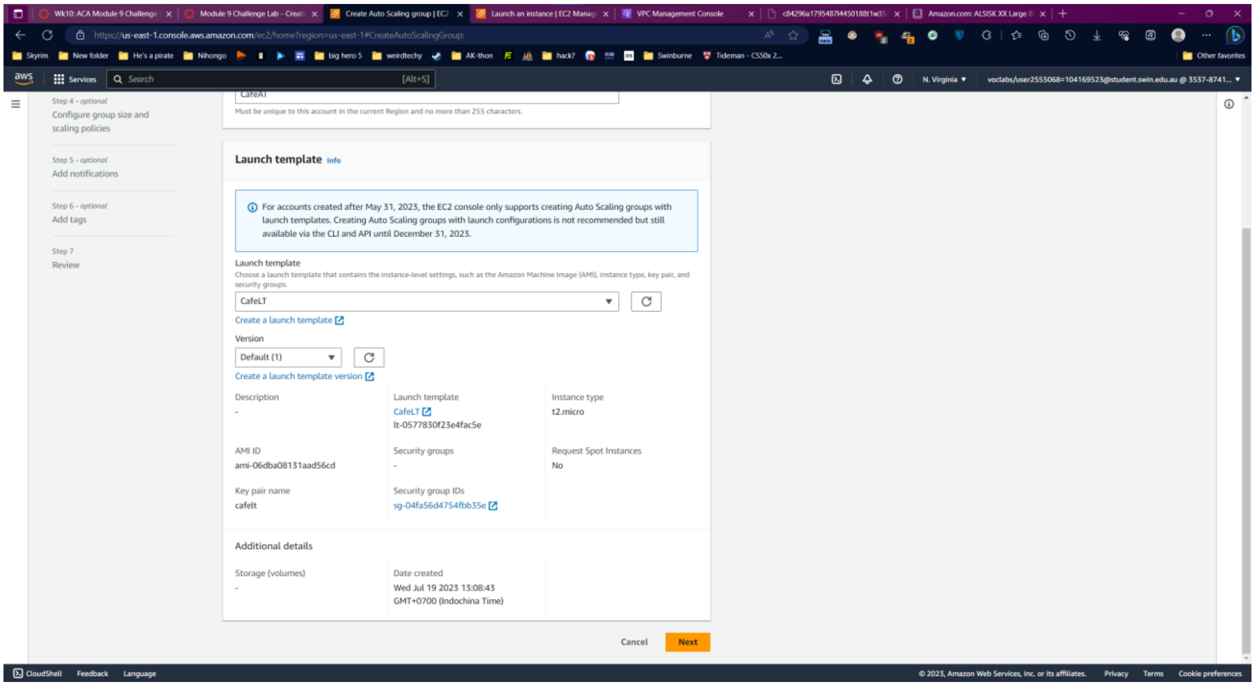
Firewall (security group)
c84296a1795487l4450188t1w353787414140-CafeSG-B18TOUEEIR0

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, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Task 5: Creating an Auto Scaling group

Launch template: the previous one



Step 4 - *optional*
Configure group size and scaling policies

Step 5 - *optional*
Add notifications

Step 6 - *optional*
Add tags

Step 7
Review

CafeAT
Must be unique to this account in the current Region and no more than 255 characters.

Launch template

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.
CafeLT

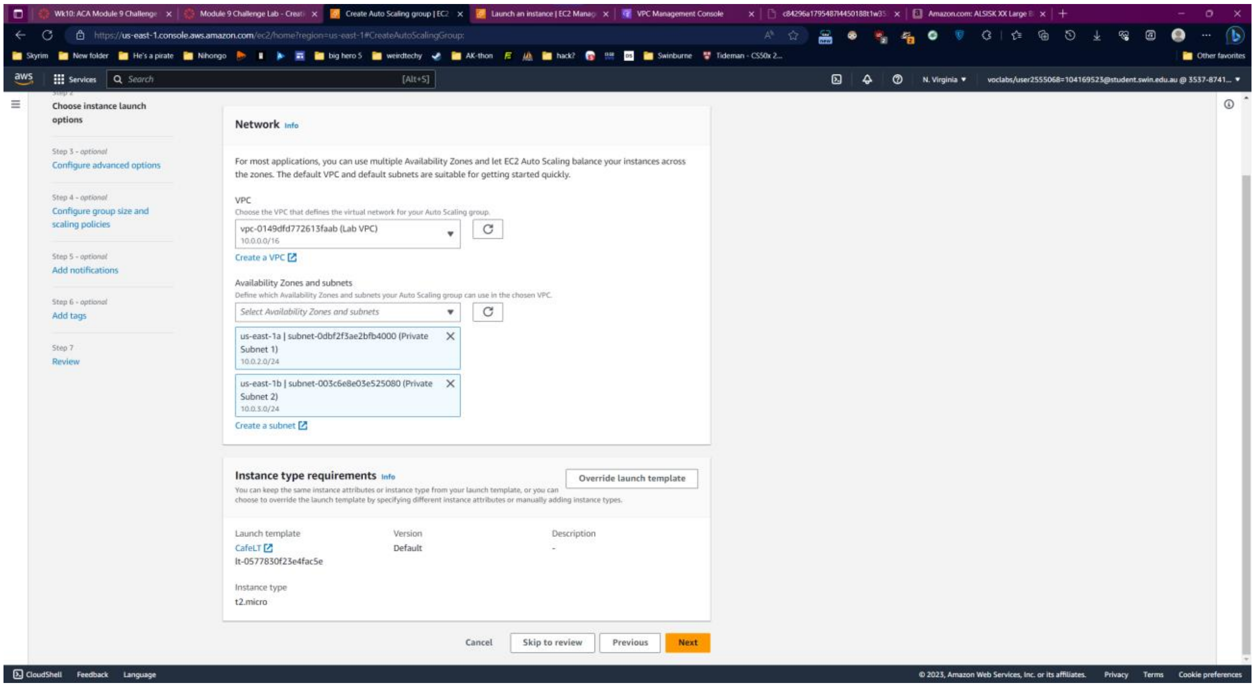
Version
Default (1)

Description	Launch template	Instance type
-	CafeLT lt-0577830f23e4fac5e	t2.micro
AMI ID	Security groups	Request Spot Instances
ami-06dba08131aad56cd	-	No
Key pair name	Security group IDs	
cafelt	sg-04fa56d4754fbb35e	

Additional details

Storage (volumes)	Date created
-	Wed Jul 19 2023 13:08:43 GMT+0700 (Indochina Time)

VPC and subnet


Create Auto Scaling group | EC2
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:
Services
Search
[Alt+S]
N. Virginia
CloudShell
Feedback
Language
© 2023, Amazon Web Services, Inc. or its affiliates.
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Choose instance launch options

Step 3 - *optional*
Configure advanced options

Step 4 - *optional*
Configure group size and scaling policies

Step 5 - *optional*
Add notifications

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-0149dfd772613faab (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-0dbf2f3ae2bfb4000 (Private Subnet 1)
10.0.2.0/24

us-east-1b | subnet-003c6e8e03e525080 (Private Subnet 2)
10.0.3.0/24

Create a subnet

Instance type requirements Info

Override launch template

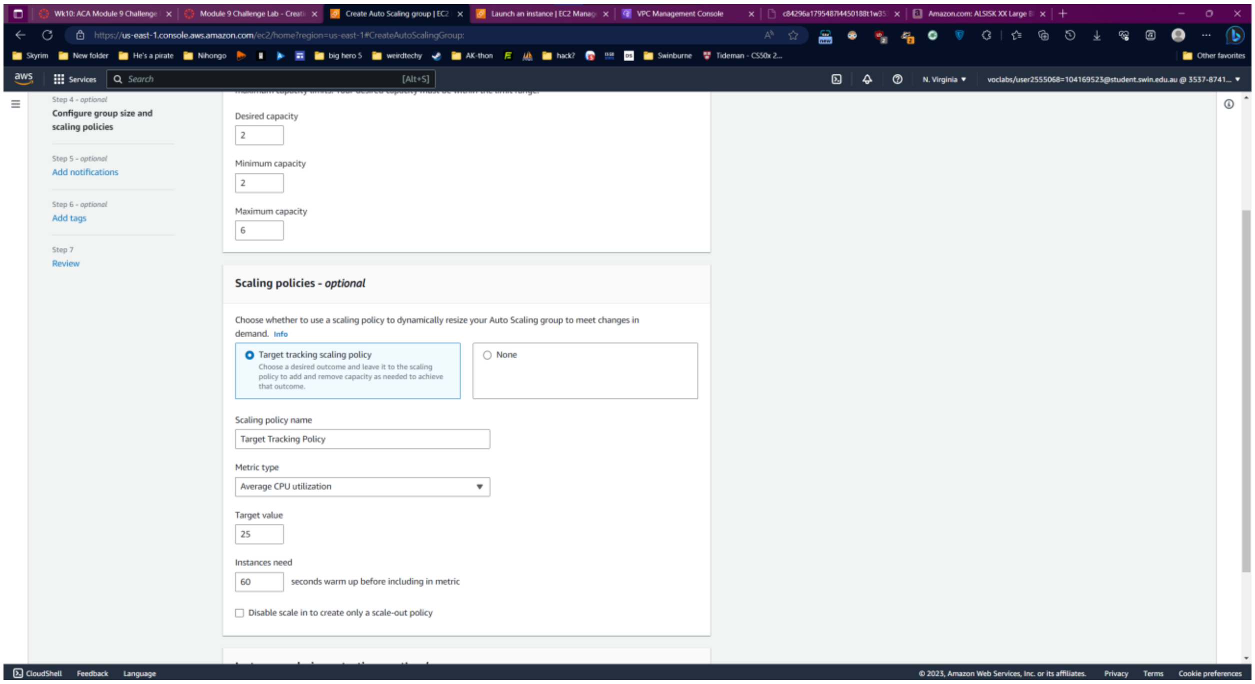
You can keep the same instance attributes or instance type from your launch template, or you can choose to override the launch template by specifying different instance attributes or manually adding instance types.

Launch template	Version	Description
CafeLT lt-0577830f23e4fac5e	Default	-

Instance type
t2.micro

Cancel | Skip to review | Previous | Next

Group sizes and Scaling policy


Create Auto Scaling group | EC2
https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateAutoScalingGroup:
Services
Search
[Alt+S]
N. Virginia
CloudShell
Feedback
Language
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Cookie preferences

Step 4 - *optional*
Configure group size and scaling policies

Step 5 - *optional*
Add notifications

Step 6 - *optional*
Add tags

Step 7
Review

Desired capacity
2

Minimum capacity
2

Maximum capacity
6

Scaling policies - *optional*

Choose whether to use a scaling policy to dynamically resize your Auto Scaling group to meet changes in demand. Info

● Target tracking scaling policy
Choose a desired outcome and leave it to the scaling policy to add and remove capacity as needed to achieve that outcome.

○ None

Scaling policy name
Target Tracking Policy

Metric type
Average CPU utilization

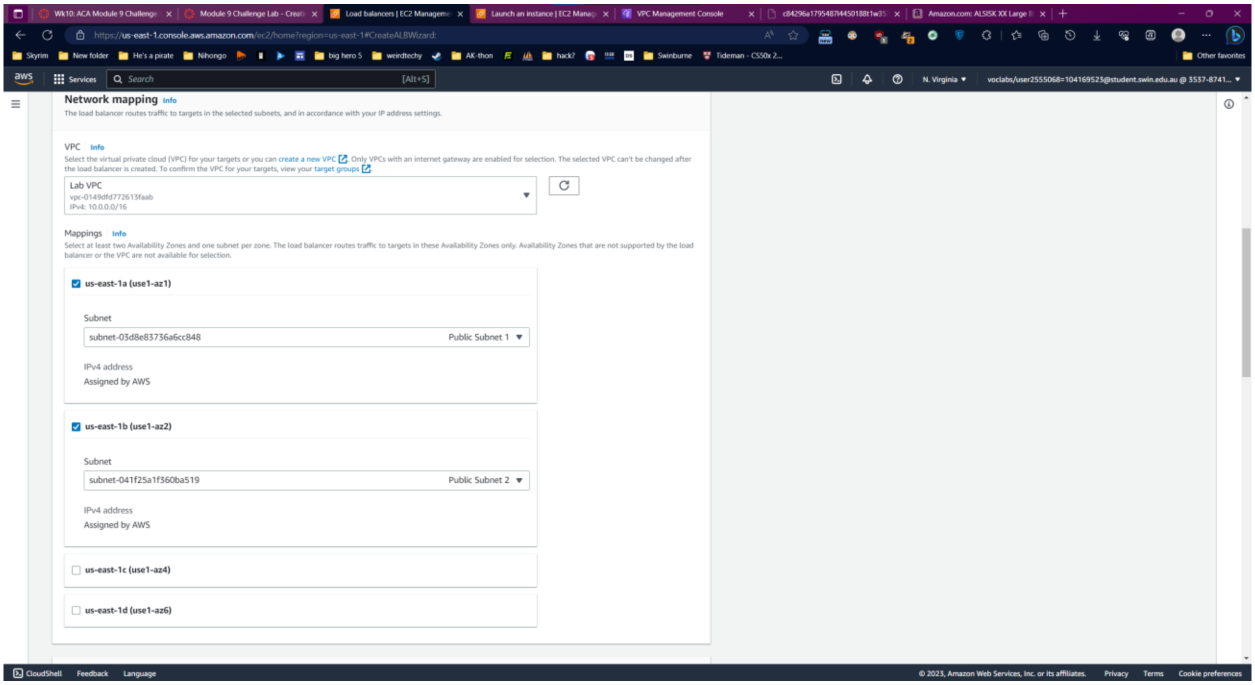
Target value
25

Instances need
60 seconds warm up before including in metric

□ Disable scale in to create only a scale-out policy

Task 6: Creating a load balancer

Network Mapping



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-0149dfd772613faab
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-03d8e83736a6cc848 Public Subnet 1

IPv4 address
Assigned by AWS

☑ **us-east-1b (use1-az2)**

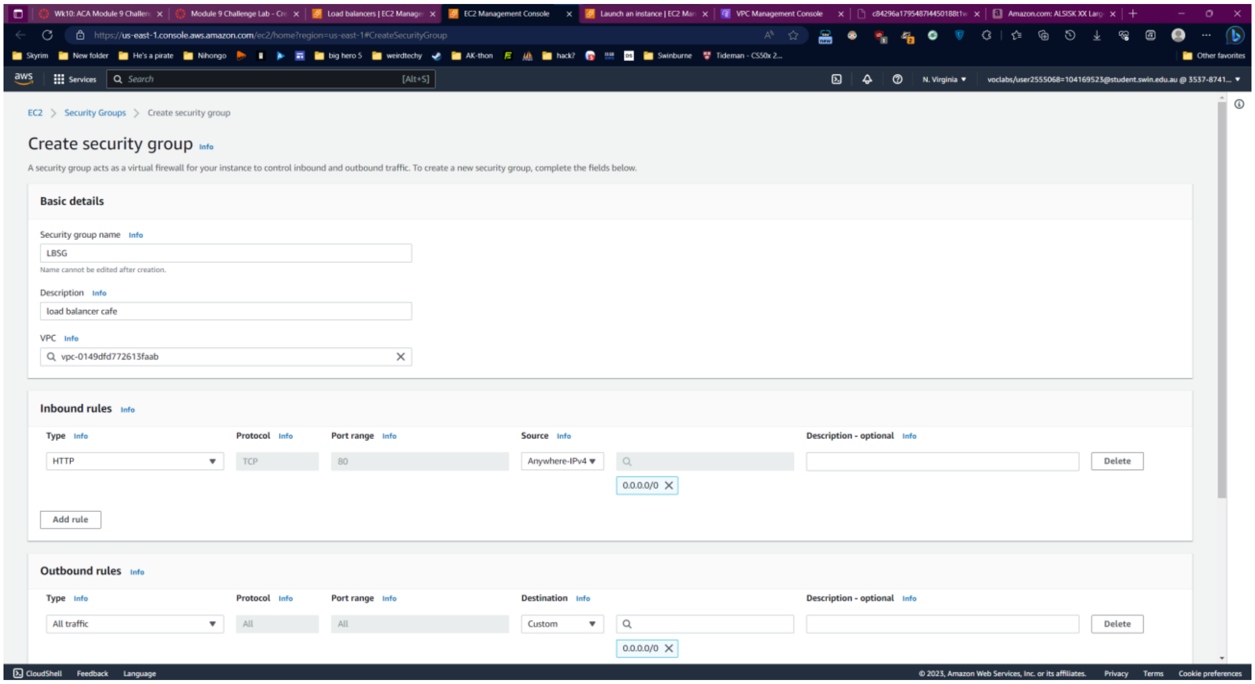
Subnet
subnet-041f25a1f360ba519 Public Subnet 2

IPv4 address
Assigned by AWS

□ **us-east-1c (use1-az4)**

□ **us-east-1d (use1-az6)**

Create new security group



EC2 > 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
LBSG
Name cannot be edited after creation.

Description Info
load balancer cafe

VPC Info
vpc-0149dfd772613faab

Inbound rules Info

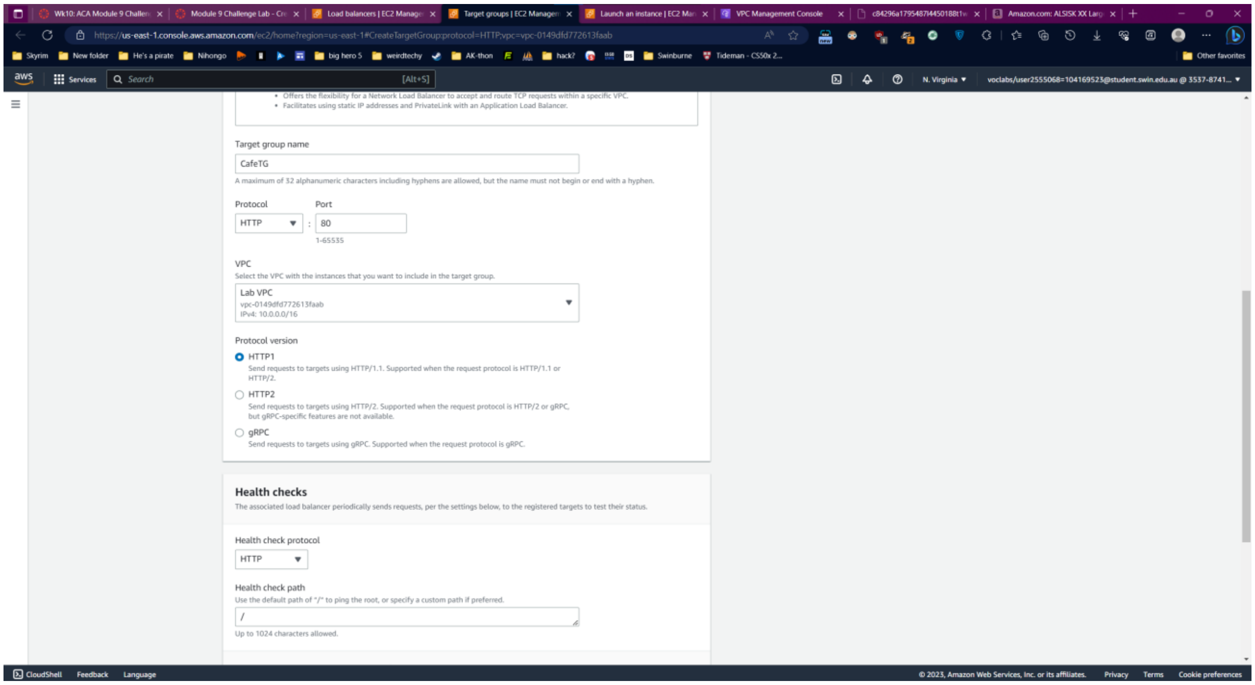
Type	Protocol	Port range	Source		Description - optional
HTTP	TCP	80	Anywhere-IPv4	0.0.0.0/0	

Add rule

Outbound rules Info

Type	Protocol	Port range	Destination		Description - optional
All traffic	All	All	Custom	0.0.0.0/0	

Create new target group


https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateTargetGroup:protocol=HTTP;vpc=vpc-0149dfd772613faab
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Language
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- Offers the flexibility for a Network Load Balancer to accept and route TCP requests within a specific VPC.
- Facilitates using static IP addresses and PrivateLink with an Application Load Balancer.

Target group name: CafeTG

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

Protocol: HTTP : Port: 80

1-65535

VPC

Select the VPC with the instances that you want to include in the target group.

Lab VPC
vpc-0149dfd772613faab
IPv4: 10.0.0.0/16

Protocol version

● HTTP1
Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTP/2.

○ HTTP2
Send requests to targets using HTTP/2. Supported when the request protocol is HTTP/2 or gRPC, but gRPC-specific features are not available.

○ gRPC
Send requests to targets using gRPC. Supported when the request protocol is gRPC.

Health checks

The associated load balancer periodically sends requests, per the settings below, to the registered targets to test their status.

Health check protocol: HTTP

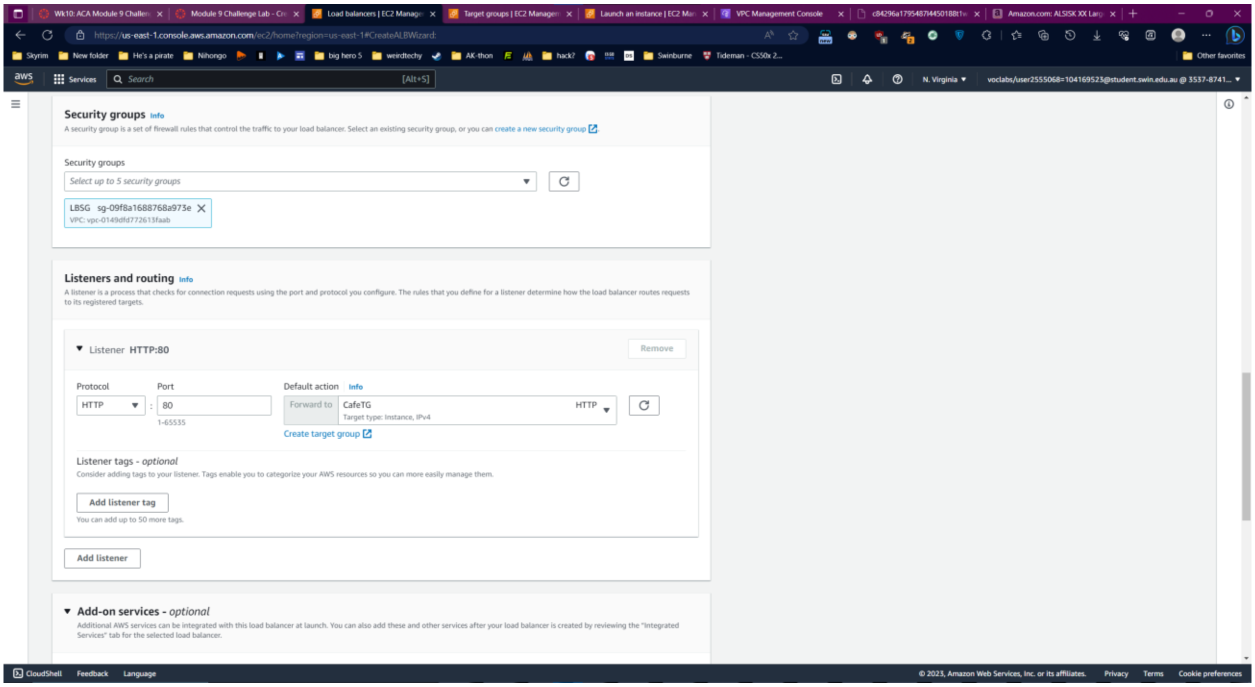
Health check path

Use the default path of "/" to ping the root, or specify a custom path if preferred.

/

Up to 1024 characters allowed.

Add security group and target group:


https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#CreateALBWizard:
Services
Search
[Alt+S]
N. Virginia
CloudShell
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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

LBSG sg-09f8a1688768a973e
VPC: vpc-0149dfd772613faab

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: HTTP : Port: 80

1-65535

Default action Info

Forward to CafeTG 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

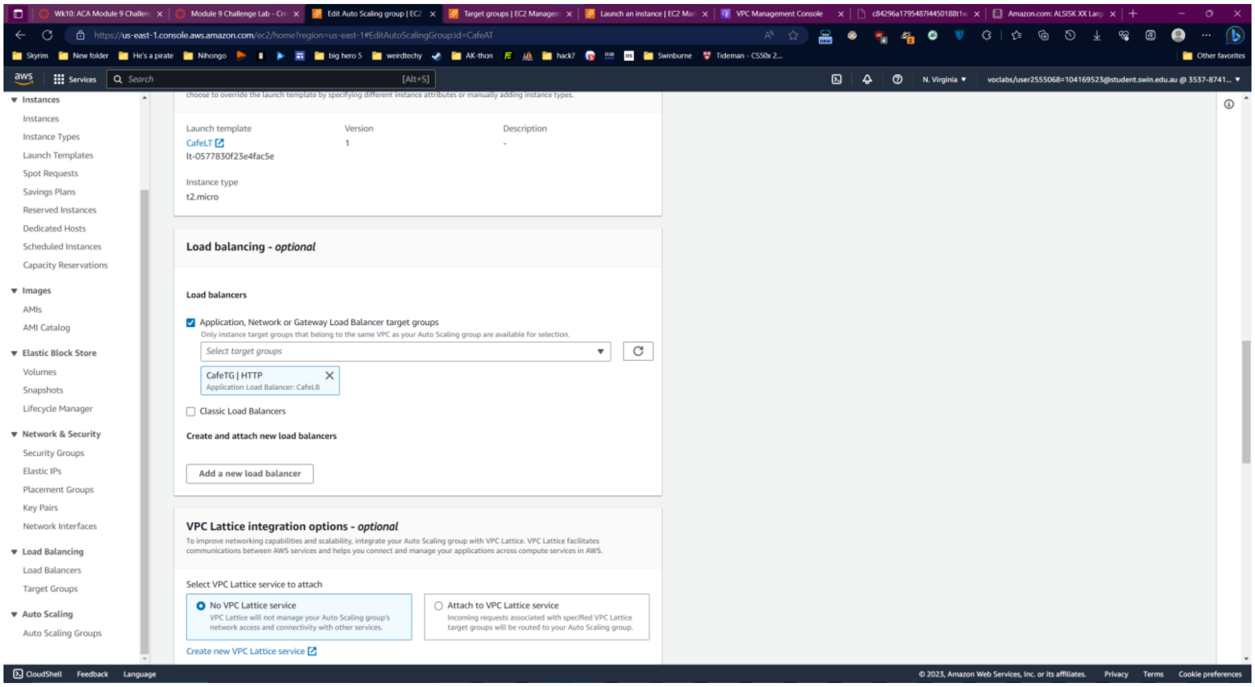
You can add up to 50 more tags.

Add listener

▼ **Add-on services** - *optional*

Additional AWS services can be integrated with this load balancer at launch. You can also add these and other services after your load balancer is created by reviewing the "Integrated Services" tab for the selected load balancer.

Add Load Balancer to Auto Scaling Group



https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#EditAutoScalingGroup:id=CafeAT

choose to override the launch template by specifying different instance attributes or manually adding instance types.

Launch template	Version	Description
CafeLT lt-0577830f23e4fac5e	1	-

Instance type
t2.micro

Load balancing - *optional*

Load balancers

☑ Application, Network or Gateway Load Balancer target groups
Only instance target groups that belong to the same VPC as your Auto Scaling group are available for selection.

Select target groups

CafeTG | HTTP
Application Load Balancer: CafeLB

□ Classic Load Balancers

Create and attach new load balancers

Add a new load balancer

VPC Lattice integration options - *optional*
To improve networking capabilities and scalability, integrate your Auto Scaling group with VPC Lattice. VPC Lattice facilitates communications between AWS services and helps you connect and manage your applications across compute services in AWS.

Select VPC Lattice service to attach

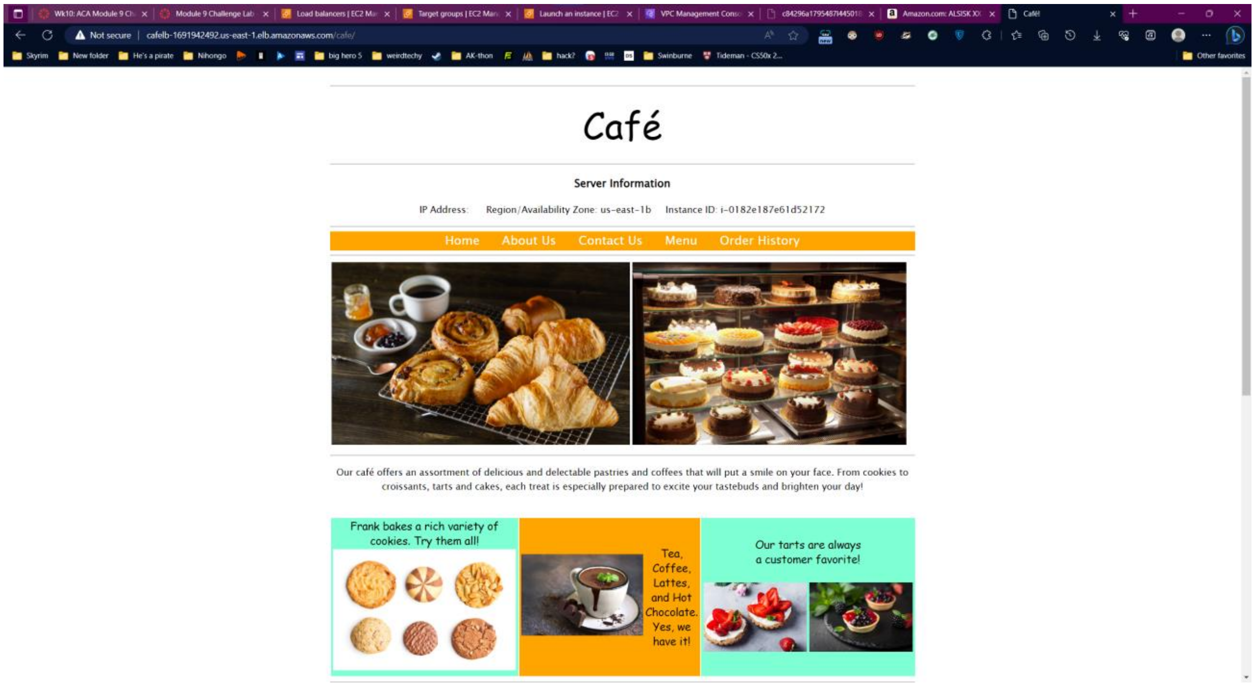
● No VPC Lattice service
VPC Lattice will not manage your Auto Scaling group's network access and connectivity with other services.

○ Attach to VPC Lattice service
Incoming requests associated with specified VPC Lattice target groups will be routed to your Auto Scaling group.

Create new VPC Lattice service

Task 7: Testing the web application

Test the website



Not secure cafelb-1691942492.us-east-1.elb.amazonaws.com/cafe/

Café

Server Information

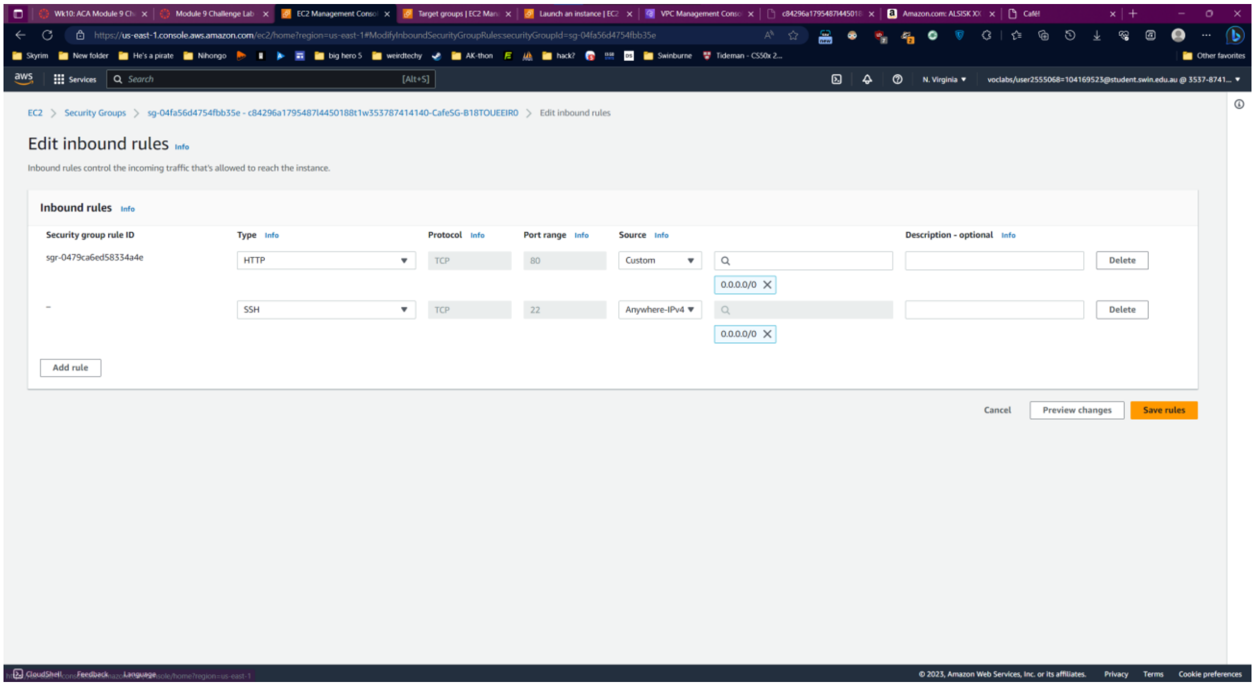
IP Address: Region/Availability Zone: us-east-1b Instance ID: i-0182e187e61d52172

Our café offers an assortment of delicious and delectable pastries and coffees that will put a smile on your face. From cookies to croissants, tarts and cakes, each treat is especially prepared to excite your tastebuds and brighten your day!

Home
About Us
Contact Us
Menu
Order History
Frank bakes a rich variety of cookies. Try them all!
Tea, Coffee, Lattes, and Hot Chocolate. Yes, we have it!
Our tarts are always a customer favorite!

Task 8: Testing automatic scaling under load

Change CafeSG security group



EC2 > Security Groups > sg-04fa56d4754fbb35e - c84296a179548714450188t1w353787414140-CafeSG-B18TOUEEIR0 > Edit inbound rules

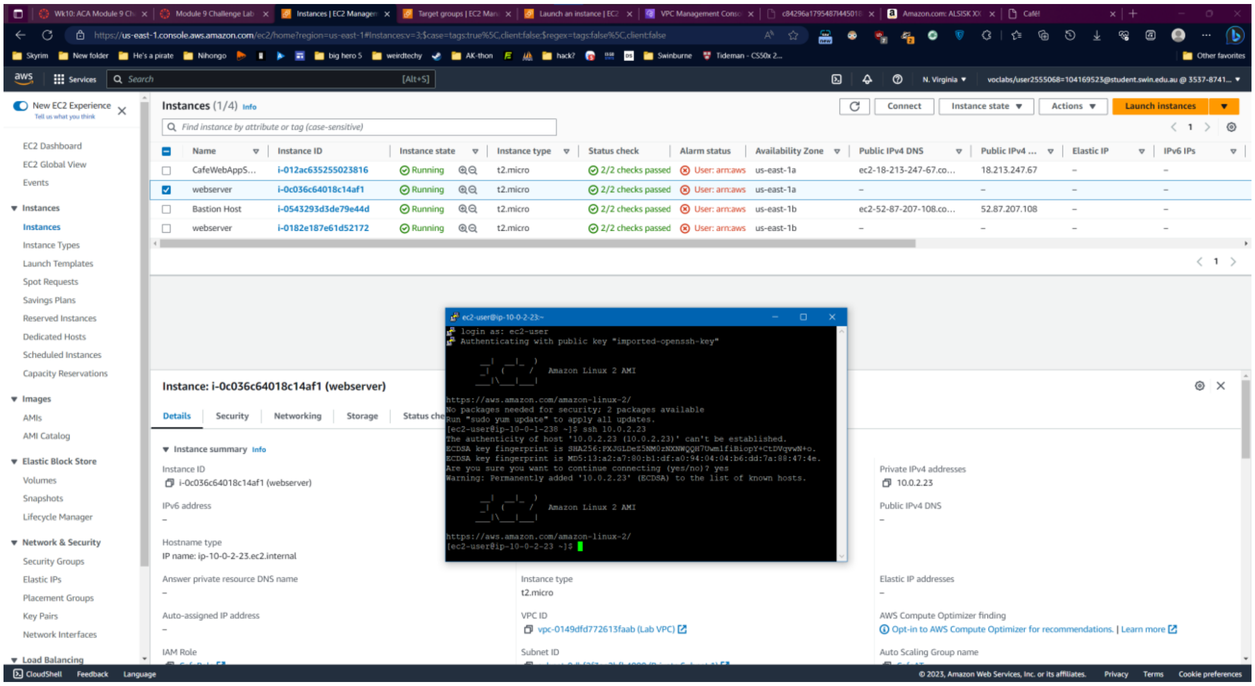
Edit inbound rules

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules

Security group rule ID	Type	Protocol	Port range	Source		Description - optional
sgr-0479ca6ed58334a4e	HTTP	TCP	80	Custom	0.0.0.0/0	
–	SSH	TCP	22	Anywhere-IPv4	0.0.0.0/0	

SSH to a webserver instance:



Instances (1/4)

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs
CafeWebAppS...	i-012ac635255023816	Running	t2.micro	2/2 checks passed	User: arn:aws	us-east-1a	ec2-18-213-247-67.co...	18.213.247.67	–	–
webserver	i-0c036c64018c14af1	Running	t2.micro	2/2 checks passed	User: arn:aws	us-east-1a	–	–	–	–
Bastion Host	i-0543293d3de79e44d	Running	t2.micro	2/2 checks passed	User: arn:aws	us-east-1b	ec2-52-87-207-108.co...	52.87.207.108	–	–
webserver	i-0182e187e61d52172	Running	t2.micro	2/2 checks passed	User: arn:aws	us-east-1b	–	–	–	–

```
login as: ec2-user
Authenticating with public key "imported-openssh-key"

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
No packages needed for security; 2 packages available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-10-0-1-238 ~]$ ssh 10.0.2.23
The authenticity of host '10.0.2.23 (10.0.2.23)' can't be established.
ECDSA key fingerprint is SHA256:PXJGLDeZ5NM0zNXNWQQH7Uwm1fiBiopY+CtDVqvwN+o.
ECDSA key fingerprint is MD5:13:a2:a7:80:b1:df:a0:94:04:04:b6:dd:7a:88:47:4e.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '10.0.2.23' (ECDSA) to the list of known hosts.

       __|  __|_  )
       _|  (     /   Amazon Linux 2 AMI
      ___|\___|___|

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-10-0-2-23 ~]$
```

Instance: i-0c036c64018c14af1 (webserver)

Instance ID: i-0c036c64018c14af1 (webserver)

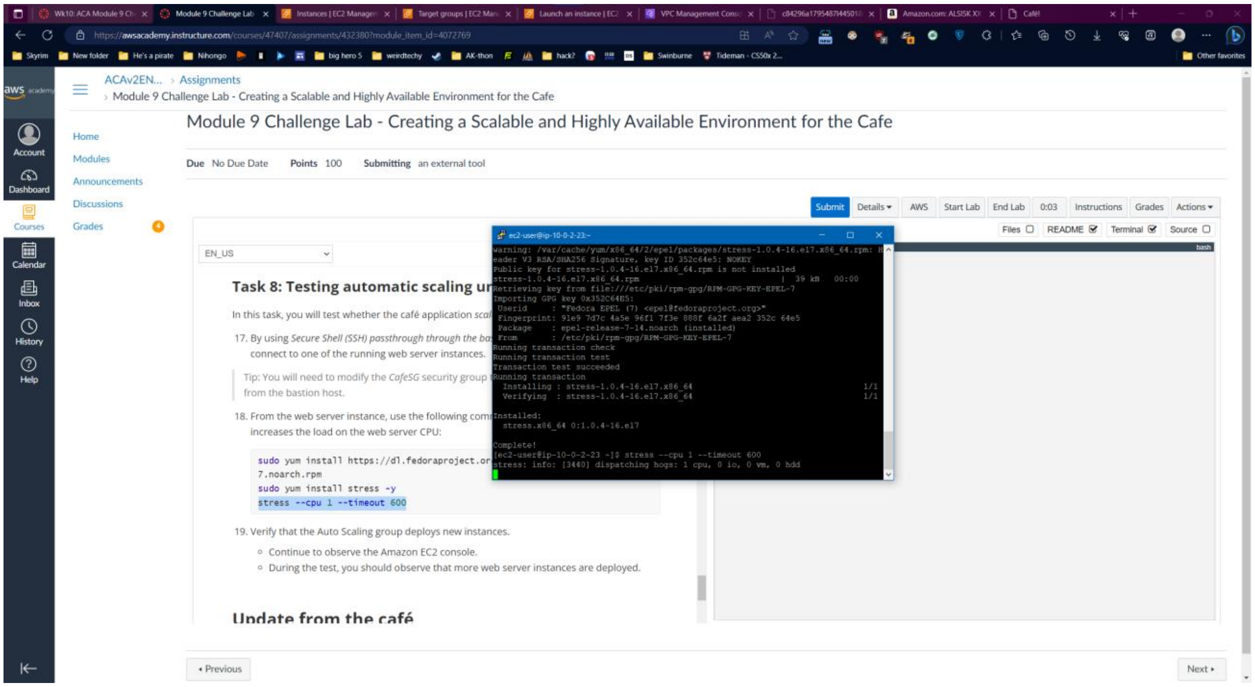
Private IPv4 addresses: 10.0.2.23

Hostname type: IP name: ip-10-0-2-23.ec2.internal

Instance type: t2.micro

VPC ID: vpc-0149dfd772613faab (Lab VPC)

Copy the test command:



Module 9 Challenge Lab - Creating a Scalable and Highly Available Environment for the Cafe

Due No Due Date **Points** 100 **Submitting** an external tool

Task 8: Testing automatic scaling ur

In this task, you will test whether the café application *scal*

17. By using *Secure Shell (SSH) passthrough through the ba* connect to one of the running web server instances.

> Tip: You will need to modify the *CafeSG* security group from the bastion host.

18. From the web server instance, use the following com increases the load on the web server CPU:

```
sudo yum install https://dl.fedoraproject.or
7.noarch.rpm
sudo yum install stress -y
stress --cpu 1 --timeout 600
```

19. Verify that the Auto Scaling group deploys new instances.
    - Continue to observe the Amazon EC2 console.
    - During the test, you should observe that more web server instances are deployed.

Update from the café

```
warning: /var/cache/yum/x86_64/2/epel/packages/stress-1.0.4-16.el7.x86_64.rpm: H
eader V3 RSA/SHA256 Signature, key ID 352c64e5: NOKEY
Public key for stress-1.0.4-16.el7.x86_64.rpm is not installed
stress-1.0.4-16.el7.x86_64.rpm                                |  39 kB   00:00
Retrieving key from file:///etc/pki/rpm-gpg/RPM-GPG-KEY-EPEL-7
Importing GPG key 0x352C64E5:
 Userid     : "Fedora EPEL (7) <epel@fedoraproject.org>"
 Fingerprint: 91e9 7d7c 4a5e 96f1 7f3e 888f 6a2f aea2 352c 64e5
 Package    : epel-release-7-14.noarch (installed)
 From       : /etc/pki/rpm-gpg/RPM-GPG-KEY-EPEL-7
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : stress-1.0.4-16.el7.x86_64                                    1/1
  Verifying  : stress-1.0.4-16.el7.x86_64                                    1/1

Installed:
  stress.x86_64 0:1.0.4-16.el7

Complete!
[ec2-user@ip-10-0-2-23 ~]$ stress --cpu 1 --timeout 600
stress: info: [3440] dispatching hogs: 1 cpu, 0 io, 0 vm, 0 hdd
```