

COS20019, Week 4 Lab

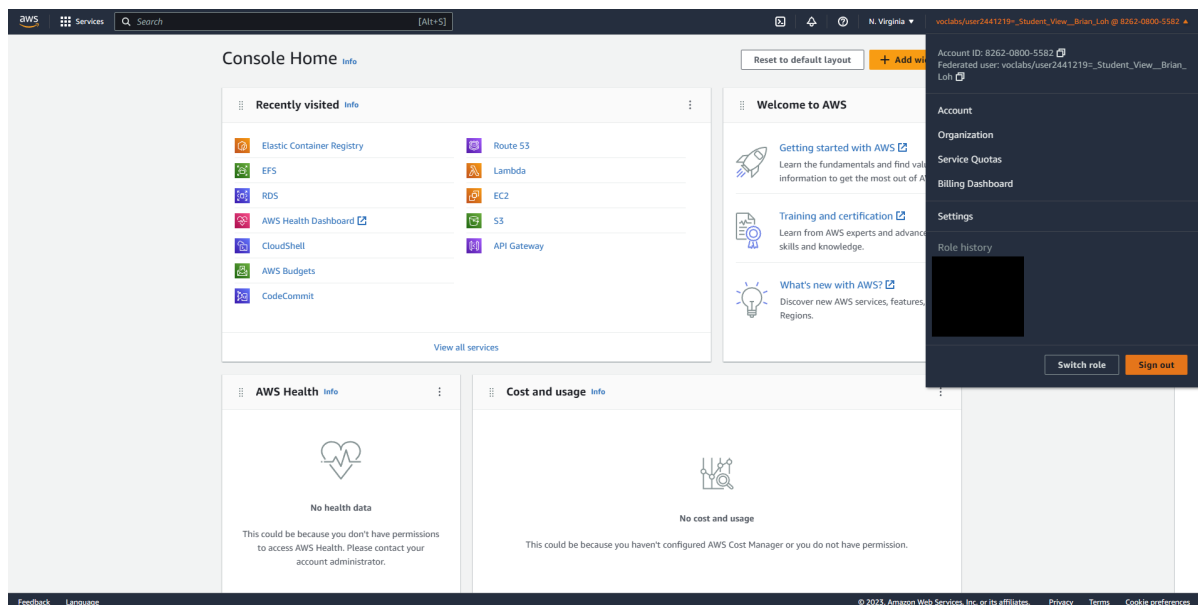
Please fill in the information below and paste screenshots in the appropriate section. You may add more sections if required.

Student Name: Abdulswamad Rama Salim

Student ID: 101229220

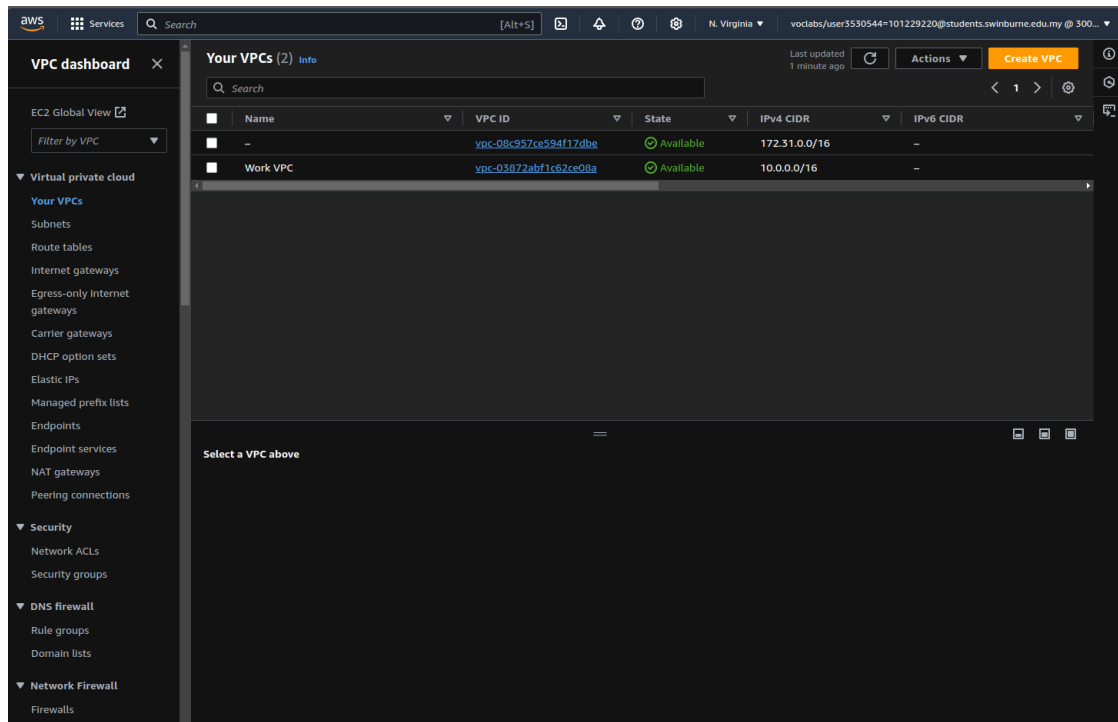
Build your VPC and Launch a Web Server

Paste screenshot of the **AWS Management Console** showing your User Account details (example shown below). Ensure that your both screenshots show the menu bar (does not need to be expanded).

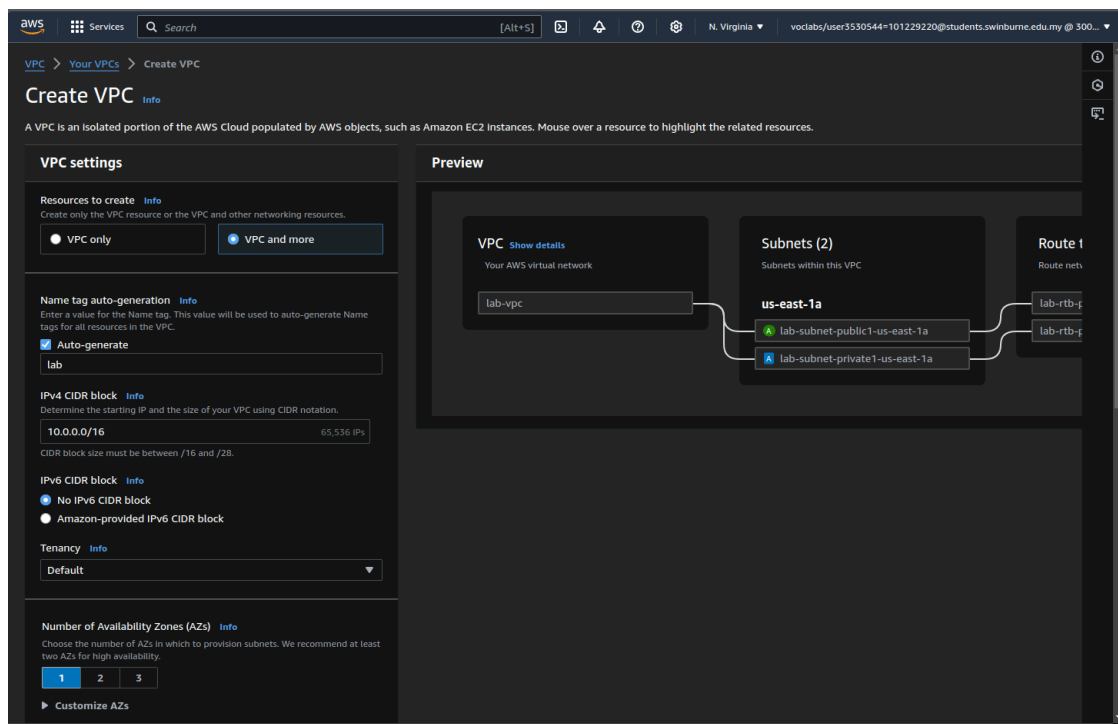


Task 1: Create Your VPC

1. Paste screenshot(s) of the **Your VPCs** screen (showing existing VPCs)



2. Paste screenshot(s) of the **Create VPC** screen (after entering / choosing the appropriate settings)



Number of Availability Zones (AZs) [Info](#)
Choose the number of AZs in which to provision subnets. We recommend at least two AZs for high availability.

1 2 3

Customize AZs

Number of public subnets [Info](#)
The number of public subnets to add to your VPC. Use public subnets for web applications that need to be publicly accessible over the Internet.

0 1

Number of private subnets [Info](#)
The number of private subnets to add to your VPC. Use private subnets to secure backend resources that don't need public access.

0 1 2

Customize subnets CIDR blocks

NAT gateways (\$) [Info](#)
Choose the number of Availability Zones (AZs) in which to create NAT gateways. Note that there is a charge for each NAT gateway.

None In 1 AZ 1 per AZ

VPC endpoints [Info](#)
Endpoints can help reduce NAT gateway charges and improve security by accessing S3 directly from the VPC. By default, full access policy is used. You can customize this policy at any time.

None S3 Gateway

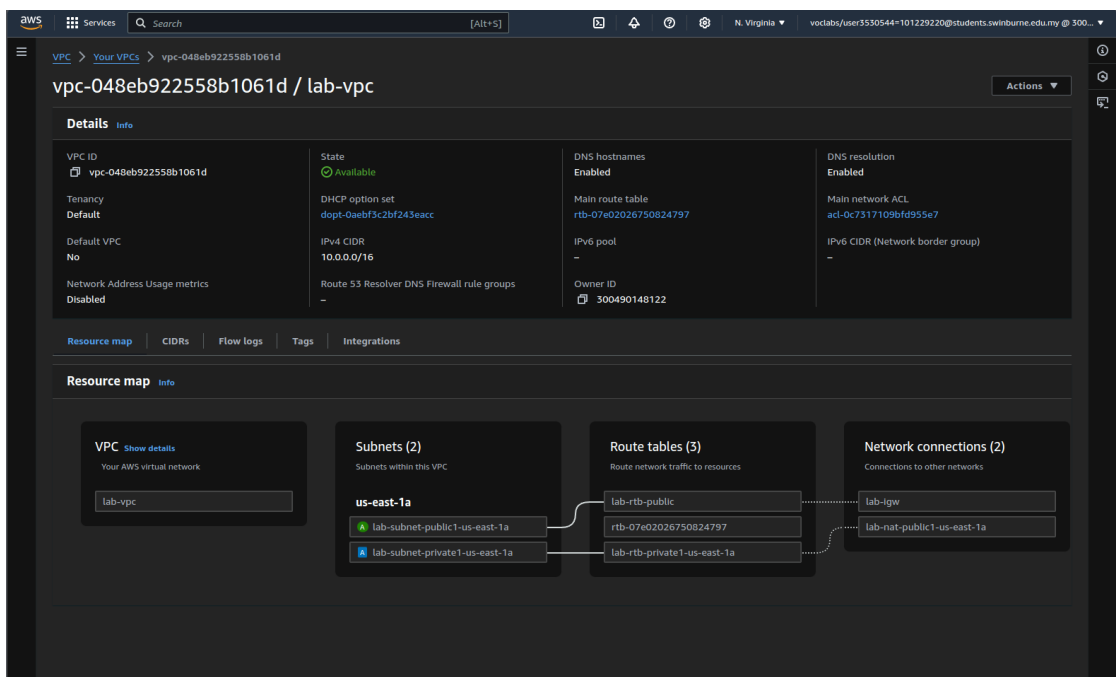
DNS options [Info](#)

- ☒ Enable DNS hostnames
- ☒ Enable DNS resolution

Additional tags

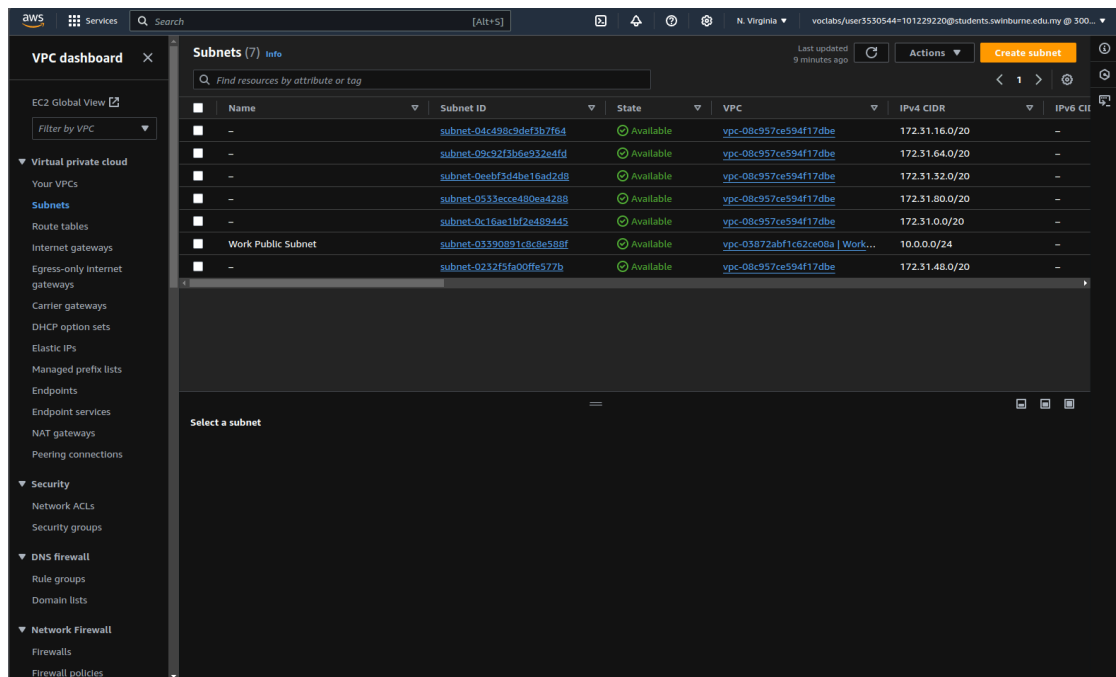
Cancel Preview code **Create VPC**

3. Paste screenshot(s) of the **View VPC** screen (showing new VPC)

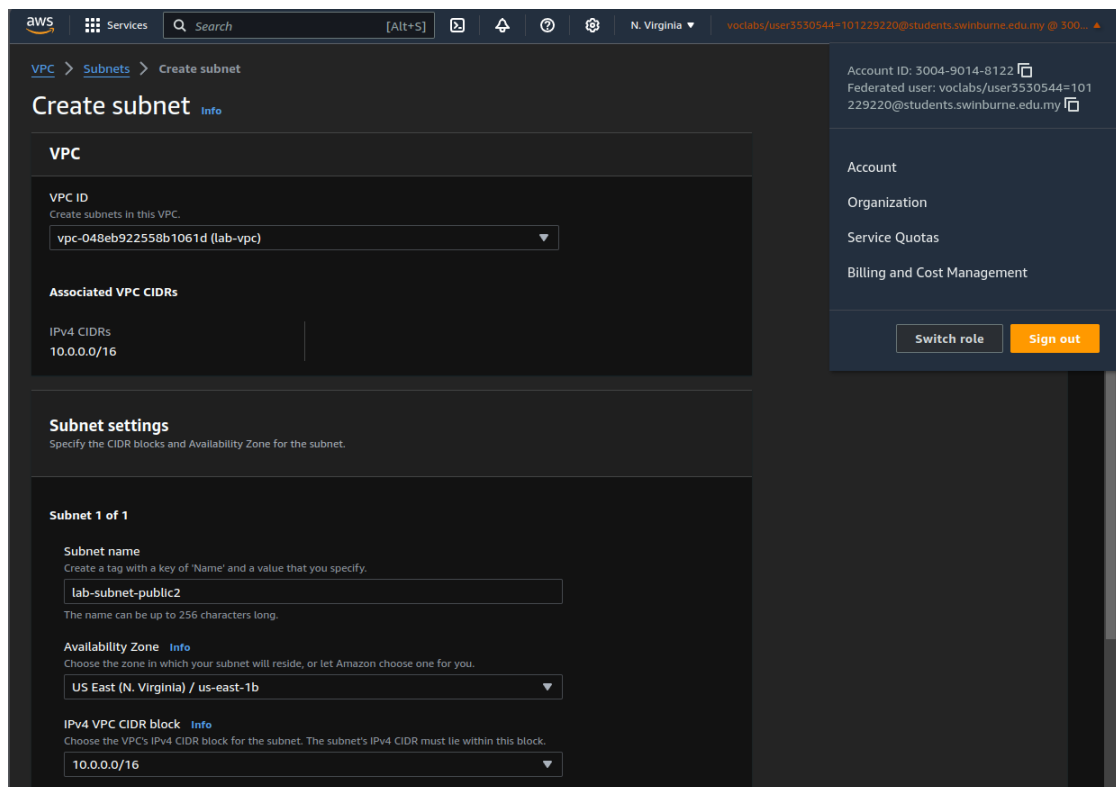


Task 2: Create Additional Subnets

4. Paste screenshot(s) of the **Subnets** screen (showing existing subnets)



5. Paste screenshot(s) of the **Create Subnet** screen (after entering / choosing the appropriate settings)



IPv4 subnet CIDR block

10.0.2.0/24 256 IPs

< > ^ v

▼ Tags - optional

| Key | Value - optional | |
|----------|------------------------|--------|
| Q Name X | Q lab-subnet-public2 X | Remove |

Add new tag

You can add 49 more tags.

Remove

Add new subnet

Cancel Create subnet

6. Paste screenshot(s) of the **Subnets** screen (showing new public subnet)

aws Services Search [Alt+S]

VPC dashboard X

EC2 Global View

Filter by VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only Internet gateways

Carrier gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

Peering connections

Security

Network ACLs

Security groups

DNS firewall

Rule groups

Domain lists

Network Firewall

Firewalls

Firewall policies

You have successfully created 1 subnet: subnet-Qad0e319e685657f1

Subnets [1] info

Find resources by attribute or tag

Subnet ID : subnet-Qad0e319e685657f1 X Clear filters

| Name | Subnet ID | State | VPC | IPv4 CIDR | IPv6 CIDR | IPv6 CIDR association ID |
|--------------------|--------------------------|-----------|---------------------------------|-------------|-----------|--------------------------|
| lab-subnet-public2 | subnet-Qad0e319e685657f1 | Available | vpc-049eb922558b1061d lab-... | 10.0.2.0/24 | - | - |

Select a subnet

7. Paste screenshot(s) of the **Create Subnet** screen (after entering / choosing the appropriate settings)

Create subnet Info

VPC

VPC ID
Create subnets in this VPC.
vpc-048eb922558b1061d (lab-vpc)

Associated VPC CIDRs

IPv4 CIDRs
10.0.0.0/16

Subnet settings
Specify the CIDR blocks and Availability Zone for the subnet.

Subnet 1 of 1

Subnet name
Create a tag with a key of 'Name' and a value that you specify.
lab-subnet-private2
The name can be up to 256 characters long.

Availability Zone Info
Choose the zone in which your subnet will reside, or let Amazon choose one for you.
US East (N. Virginia) / us-east-1b

IPv4 VPC CIDR block Info
Choose the VPC's IPv4 CIDR block for the subnet. The subnet's IPv4 CIDR must lie within this block.
10.0.0.0/16

IPv4 subnet CIDR block
10.0.3.0/24 256 IPs

Tags - optional

Key Value - optional
Name lab-subnet-private2 Remove
Add new tag
You can add 49 more tags.
Remove
Add new subnet

Cancel Create subnet

8. Paste screenshot(s) of the **Subnets** screen (showing new private subnet)

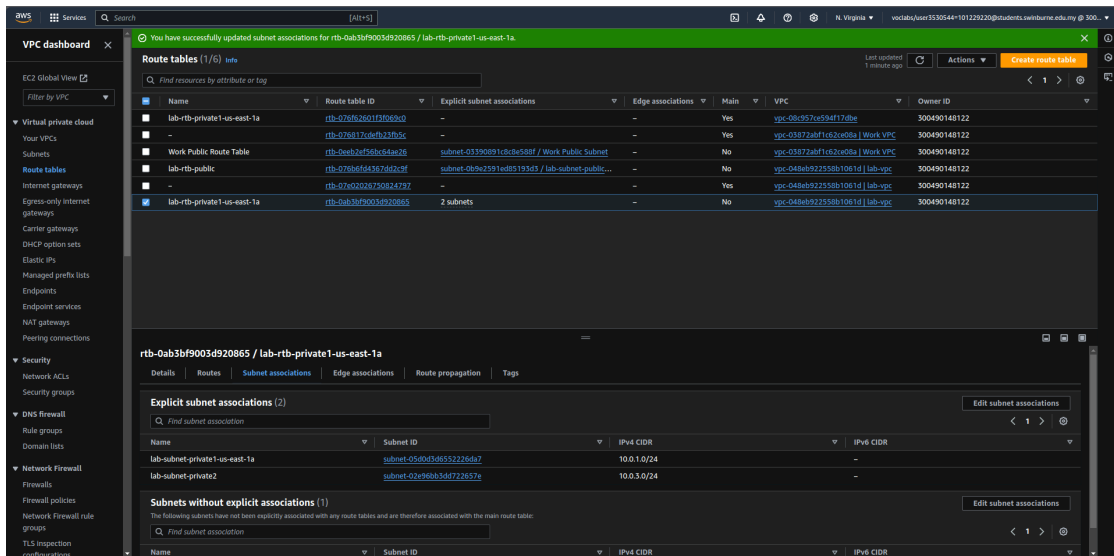
Subnets (1) Info

Find resources by attribute or tag
Subnet ID: subnet-02e96bb3dd722657e Clear filters

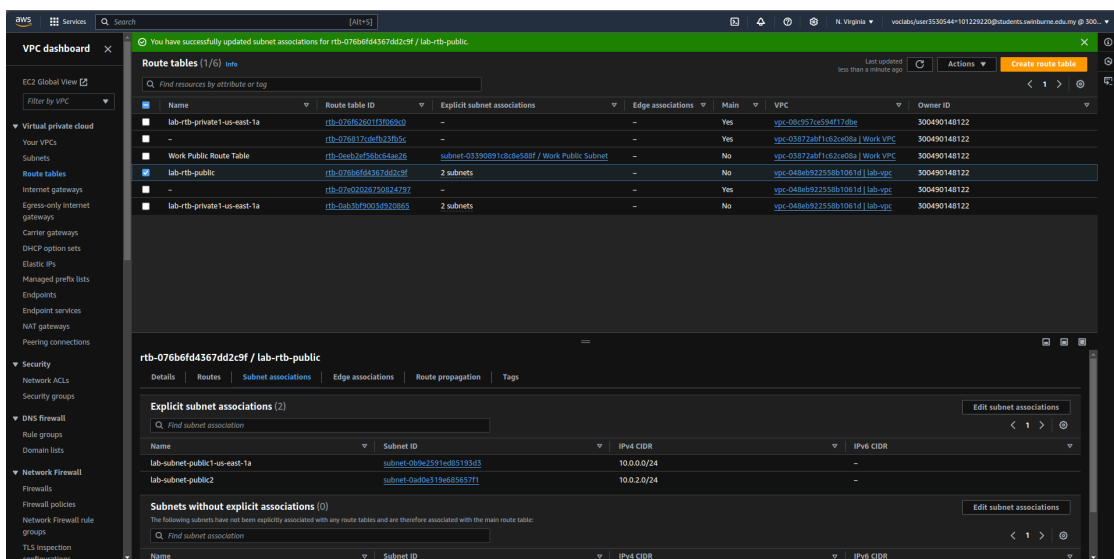
| Name | Subnet ID | State | VPC | IPv4 CIDR | IPv6 CIDR | IPv6 CIDR association ID |
|---------------------|--------------------------|-----------|---------------------------------|-------------|-----------|--------------------------|
| lab-subnet-private2 | subnet-02e96bb3dd722657e | Available | vpc-048eb922558b1061d lab-... | 10.0.3.0/24 | - | - |

Select a subnet

9. Paste screenshot(s) of the **Subnet associations** tab screen for private route table (after entering / choosing the appropriate settings)



10. Paste screenshot(s) of the **Subnet associations** tab screen for public route table (after entering / choosing the appropriate settings)



Task 3: Create a VPC Security Group

11. Paste screenshot(s) of the **Security Groups** screen

Create security group

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: Web Security Group
Description: Enable HTTP access
VPC: vpc-048eb922558b1061d (lab-vpc)

Inbound rules

| Type | Protocol | Port range | Source | Description - optional |
|------|----------|------------|---------------|------------------------|
| HTTP | TCP | 80 | Anywhere-IPv4 | Permit web requests |

Rules with source of 0.0.0.0/0 or ::0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Outbound rules

| Type | Protocol | Port range | Destination | Description - optional |
|-------------|----------|------------|-------------|------------------------|
| All traffic | All | All | Custom | |

12. Paste screenshot(s) of the **Create Security Group** screen (after entering / choosing the appropriate settings)

Create security group

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: Web Security Group
Description: Enable HTTP access
VPC: vpc-048eb922558b1061d (lab-vpc)

Inbound rules

| Type | Protocol | Port range | Source | Description - optional |
|------|----------|------------|---------------|------------------------|
| HTTP | TCP | 80 | Anywhere-IPv4 | Permit web requests |

Rules with source of 0.0.0.0/0 or ::0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Outbound rules

| Type | Protocol | Port range | Destination | Description - optional |
|-------------|----------|------------|-------------|------------------------|
| All traffic | All | All | Custom | Permit web requests |

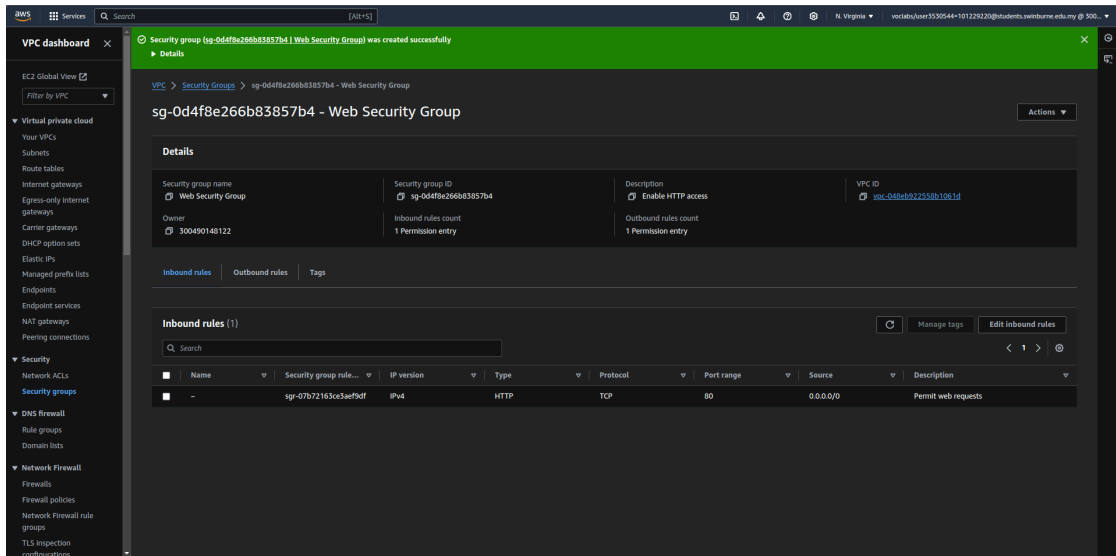
Rules with destination of 0.0.0.0/0 or ::0 allow your instances to send traffic to any IPv4 or IPv6 address. We recommend setting security group rules to be more restrictive and to only allow traffic to specific known IP addresses.

Tags - optional

No tags associated with the resource.

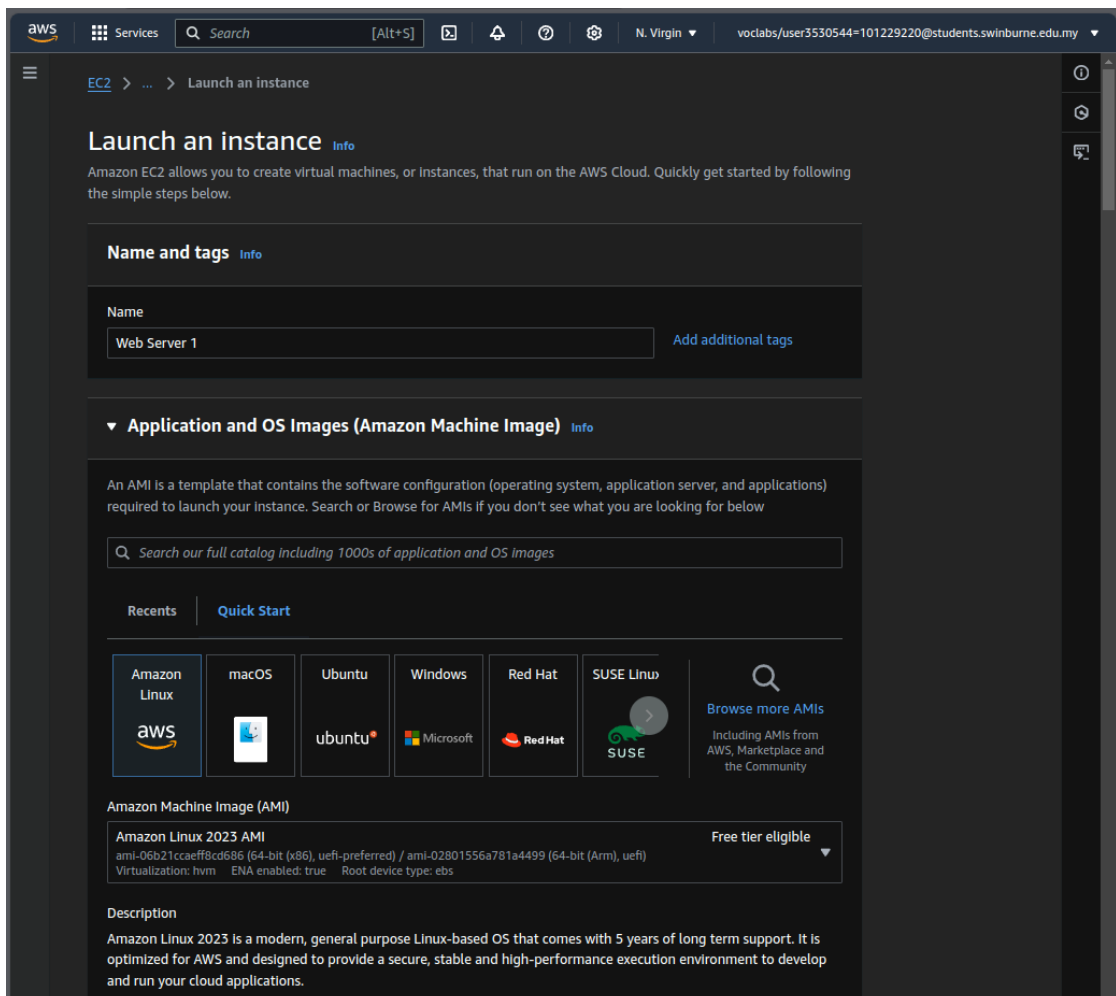
Cancel Create security group

13. Paste screenshot(s) of the **Security Group** screen (showing the inbound rules)



Task 4: Launch a Web Server Instance

14. Paste screenshot(s) of the **Launch Instance** screen (after entering / choosing the appropriate settings)



aws

Services

Search

[Alt+S]

N. Virgin

voclabs/user3530544=101229220@students.swinburne.edu.my

Amazon Linux 2023 AMI 2023.6.20241010.0 x86_64 HVM kernel-6.1

Architecture

64-bit (x86)

Boot mode

uefi-preferred

AMI ID

ami-06b21ccea8f8cd686

Username

ec2-user

Verified provider

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: 0.026 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

vockey

Create new key pair

aws

Services

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Network settings

Info

VPC - required

Info

vpc-048eb922558b1061d (lab-vpc)

10.0.0.0/16

Subnet

Info

subnet-0ad0e319e685657f1

lab-subnet-public2

VPC: vpc-048eb922558b1061d

Owner: 300490148122

Availability Zone: us-east-1b

Zone type: Availability Zone

IP addresses available: 251

CIDR: 10.0.2.0/24

Create new subnet

Auto-assign public IP

Info

Enable

Additional charges apply when outside of free tier allowance

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

Common security groups

Info

Select security groups

Web Security Group sg-0d4f8e266b83857b4

VPC: vpc-048eb922558b1061d

Compare security group rules

Security groups that you add or remove here will be added to or removed from all your network interfaces.

Advanced network configuration

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▼ Configure storage

Info

Advanced

1x

8

GiB

gp3

Root volume (Not encrypted)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage

×

Add new volume

Click refresh to view backup information

↺

The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems

Edit

▼ Advanced details

Info

Domain join directory

Info

Select

↺

Create new directory

IAM instance profile

Info

Select

↺

Create new IAM profile

Hostname type

Info

IP name

DNS Hostname

Info

☐ Enable IP name IPv4 (A record) DNS requests
 ☐ Enable resource-based IPv4 (A record) DNS requests
 ☐ Enable resource-based IPv6 (AAAA record) DNS requests

aws

Services

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voclabs/user3530544=101229220@students.swinburne.edu.my

Capacity reservation

Info

Select

Tenancy

Info

Select

RAM disk ID

Info

Select

Kernel ID

Info

Select

Nitro Enclave

Info

Select

Nitro Enclaves are not compatible with instance types that have less than 2 vCPUs.

License configurations

Info

Select

↺

CPU options

Info

Configure CPUs for your instance to optimize performance and save on licensing costs.

☒ None
 ☐ Specify CPU options

The t2.micro instance type does not support configuring CPUs.

Metadata accessible

Info

Enabled

Metadata IPv6 endpoint

Info

Select

aws

Services

Search

[Alt+S]

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Metadata version

Info

V2 only (token required)

⚠

For V2 requests, you must include a session token in all instance metadata requests. Applications or agents that use V1 for instance metadata access will break.

Metadata response hop limit

Info

2

Allow tags in metadata

Info

Select

User data - optional

Info

Upload a file with your user data or enter it in the field.

Choose file

```
#!/bin/bash
# Install Apache Web Server and PHP
dnf install -y httpd wget php mariadb105-server
# Download Lab files
wget https://aws-tc-largeobjects.s3.us-west-2.amazonaws.com/CUR-TF-100-ACCLFO-2/2-lab2-vpc/s3/lab-app.zip
unzip lab-app.zip -d /var/www/html/
# Turn on web server
chkconfig httpd on
service httpd start
```

☐ User data has already been base64 encoded

aws

Services

Search

[Alt+S]

N. Virgin

voclabs/user3530544=101229220@students.swinburne.edu.my

```
# Turn on web server
chkconfig httpd on
service httpd start
```

☐ User data has already been base64 encoded

Summary

Number of Instances

Info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.6.2...read more

ami-06b21ccaeff8cd686

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 t2.micro is unavailable) Instance usage on free tier AMIs per month, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

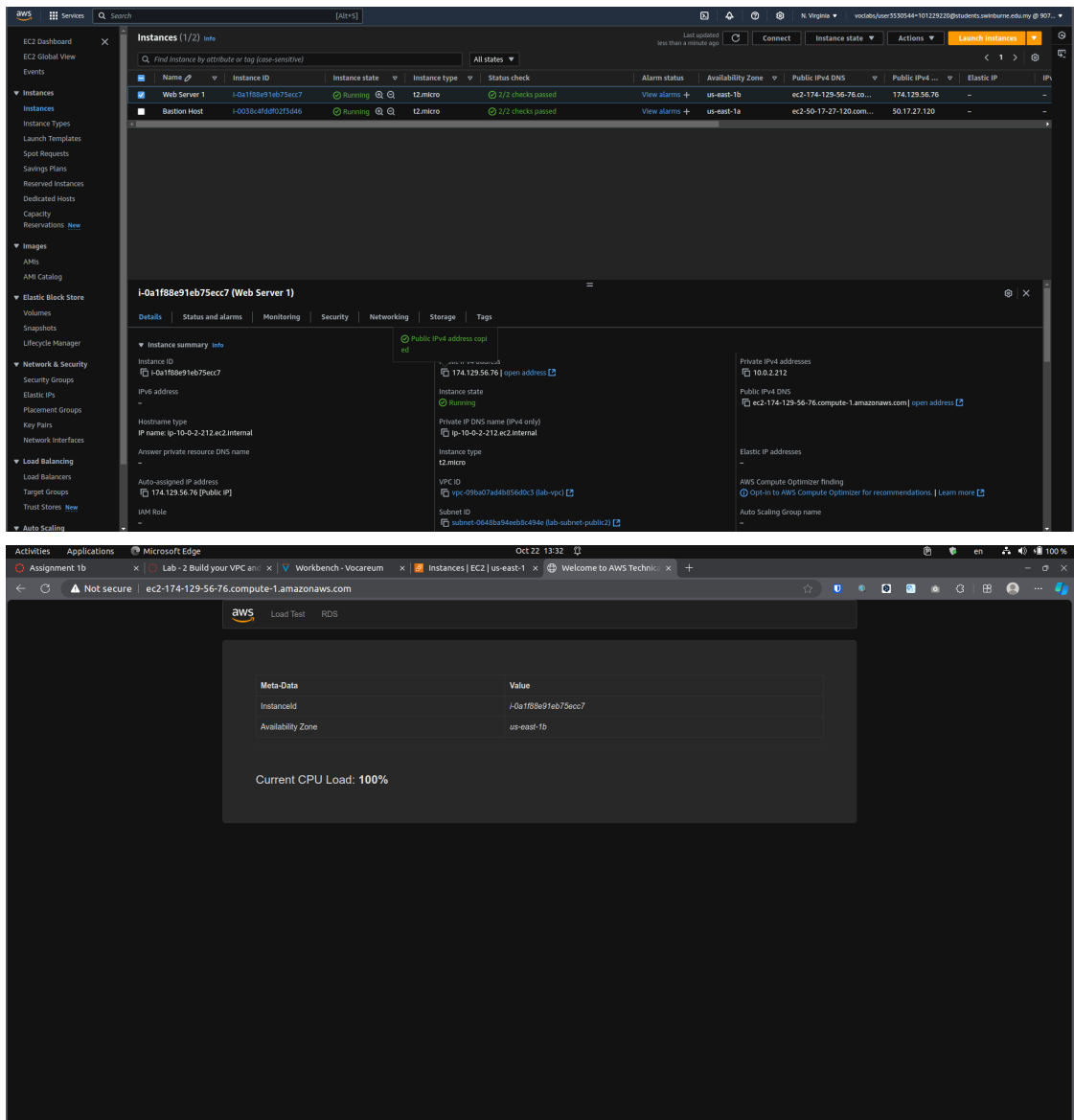
×

Cancel

Launch instance

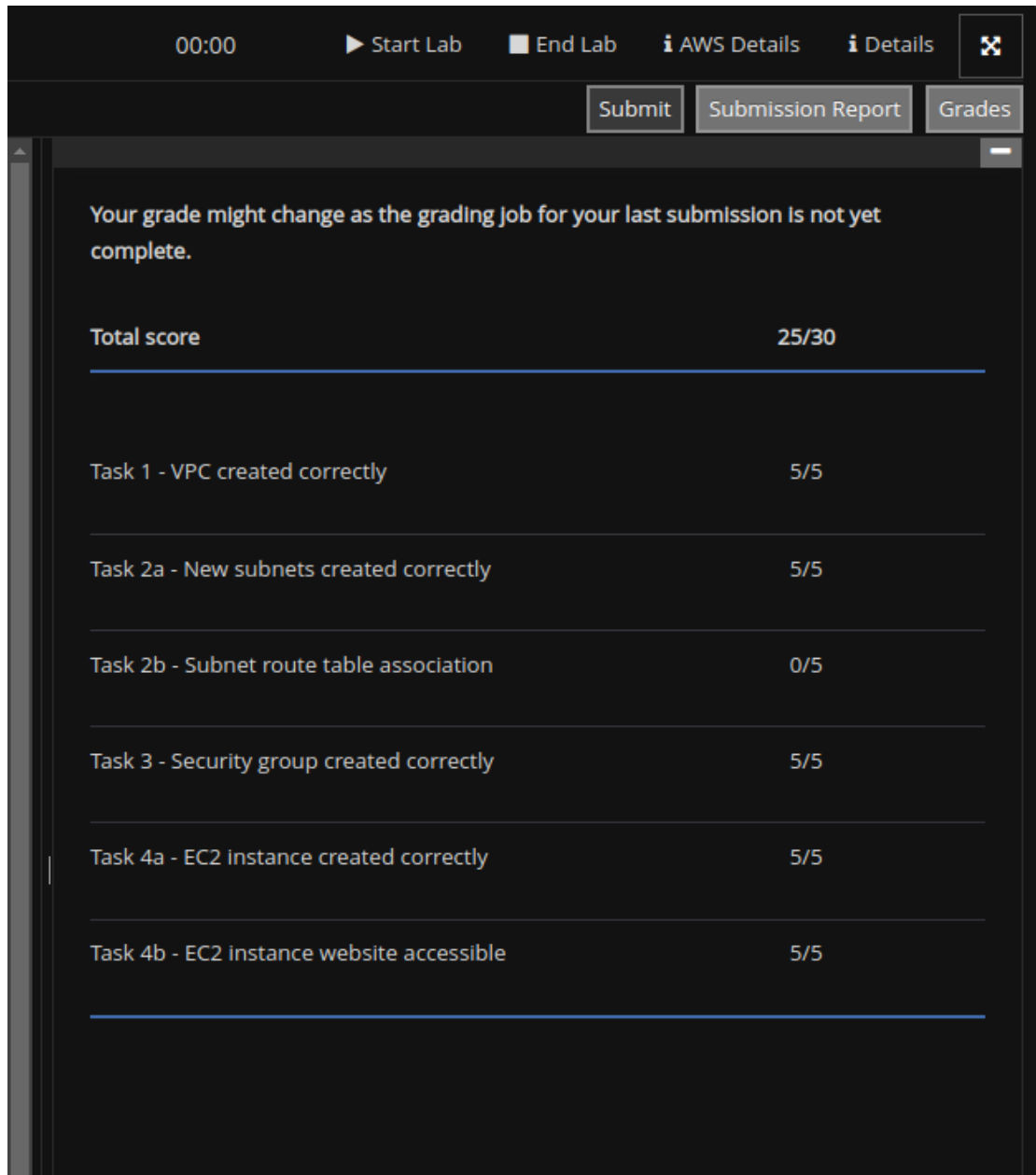
Preview code

15. Paste screenshot(s) of the **Instance Web Page** screen



Submission Report

Paste screenshot (s) of the **Grades** screen showing your Total score and Tasks



The screenshot displays the 'Grades' tab of an AWS Lab submission report. At the top, there is a timer at 00:00 and buttons for 'Start Lab', 'End Lab', 'AWS Details', 'Details', and a close button. Below these are buttons for 'Submit', 'Submission Report', and 'Grades'. A message states: 'Your grade might change as the grading job for your last submission is not yet complete.' The main content is a table with two columns: task description and score.

| | |
|---|-------|
| Total score | 25/30 |
| Task 1 - VPC created correctly | 5/5 |
| Task 2a - New subnets created correctly | 5/5 |
| Task 2b - Subnet route table association | 0/5 |
| Task 3 - Security group created correctly | 5/5 |
| Task 4a - EC2 instance created correctly | 5/5 |
| Task 4b - EC2 instance website accessible | 5/5 |