

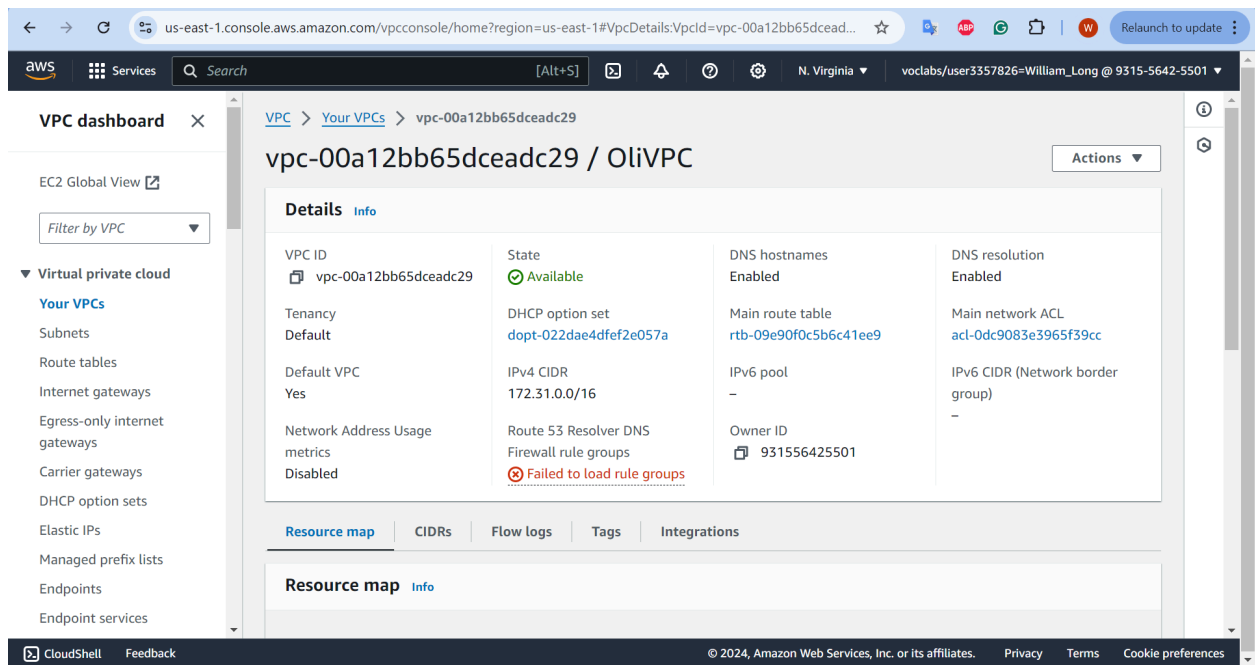
Milestone 3 Documentation

Oliver Long and Jake Jump

Deployment

Create a VPC:

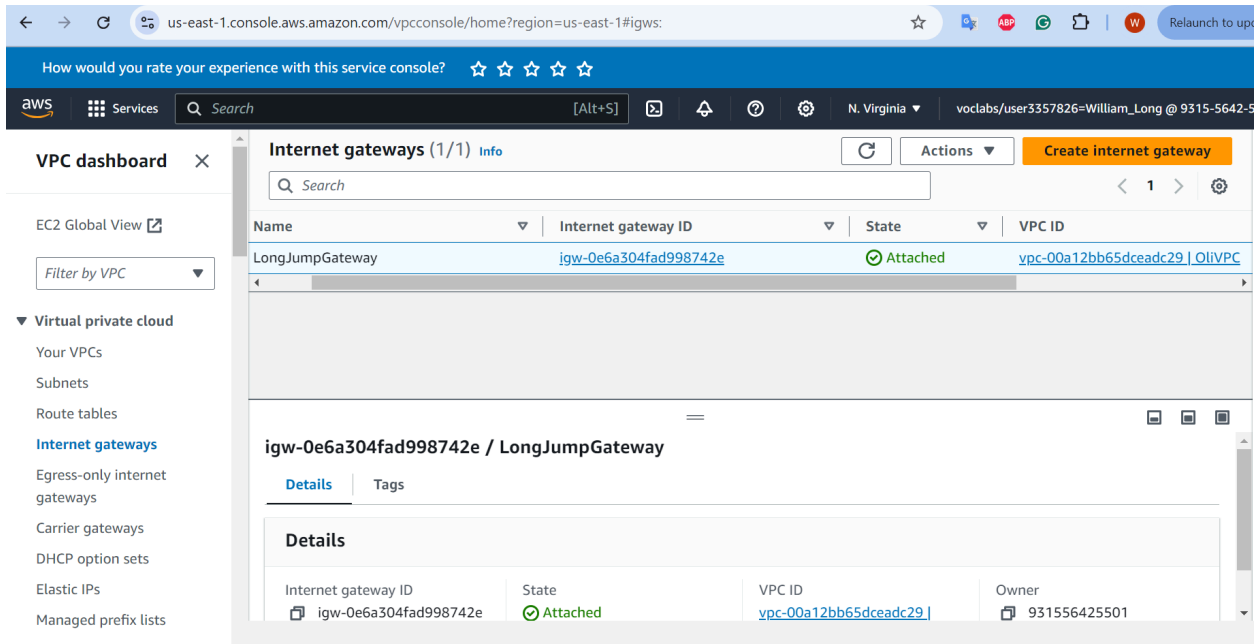
- Enter a name for VPC
- Enter a CIDR block
- Tenancy: default
- Create Subnets:
 - Enter a CIDR block



Created the VPC

Set Up Internet Gateway:

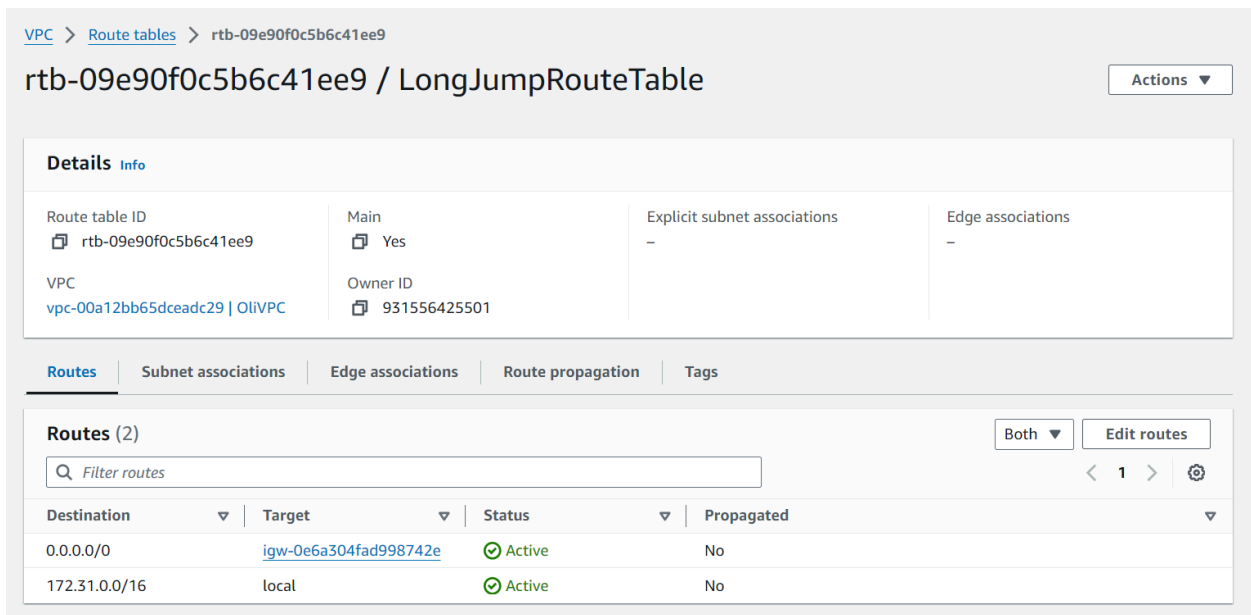
- In the VPC dashboard, select and create an Internet Gateway
- Create a name
- Click Create Internet Gateway.
- Actions -> Attach to VPC



Created and connected the internet gateway to the VPC

Configure Route Tables:

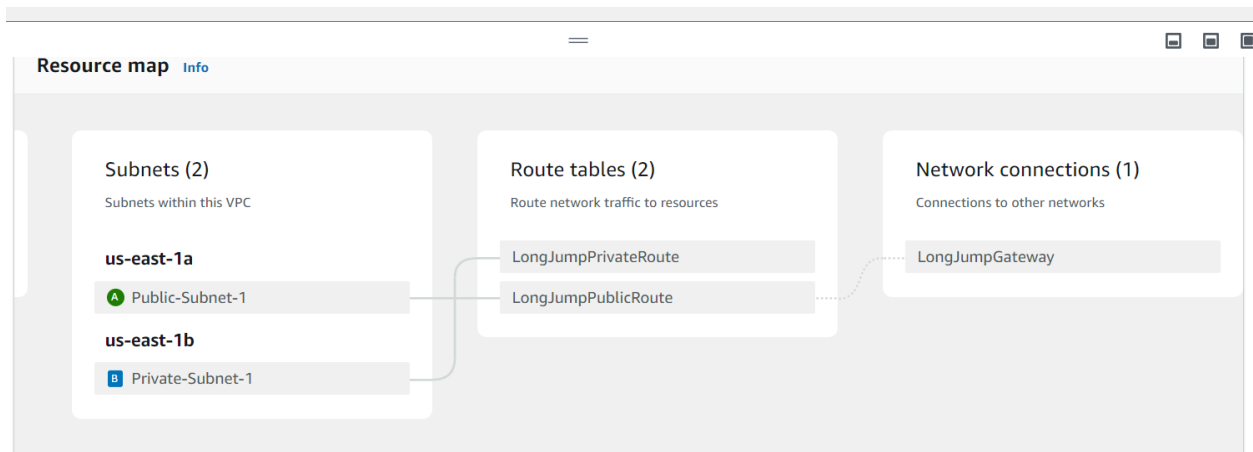
- Create route table
- Enter a name
- Select VPC
- After creating, select the route table and click Actions then Edit routes
- Add route with destination for internet 0.0.0.0/0 traffic
- Select the Internet Gateway from the dropdown as a target
- Associate this route table with the public subnet



Created the routing table, pointing to the Internet gateway

Create Subnets:

- Select Subnets
- Create Subnet
- VPC ID: VPC created
- Subnet name: cool name
- Availability Zone: select an availability zone
- IPv4 CIDR block: enter a CIDR block
- Do this again for the private subnet



Resource map of subnets and routing tables to the internet gateway inside the VPC

Create Security Groups:

Web Server Security Group:

- Enter Name
- Select your VPC
- Inbound rules:
 - HTTPS
 - Source: 0.0.0.0/0

Application Server Security Group:

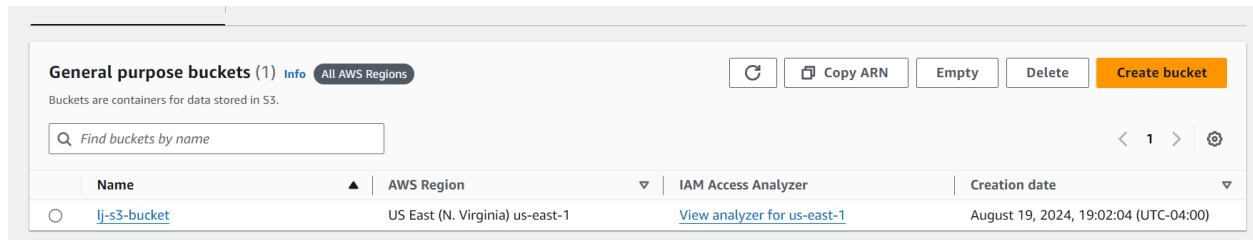
- Repeat above steps
- Inbound rules:
 - Allow traffic only from the Web Server's private IP range

<input type="checkbox"/>	Name ▾	Security group ID ▾	Security group name ▾	VPC ID ▾
<input type="checkbox"/>	-	sg-0d0ad197362c07a3d	default	vpc-00a12bb65dceadc29
<input type="checkbox"/>	-	sg-0de5e9d41c4a5284e	LongJumpWebServer	vpc-00a12bb65dceadc29
<input type="checkbox"/>	-	sg-0c513ac6089ea3689	LongJumpApplicationServer	vpc-00a12bb65dceadc29

Security Groups

Create an S3 Bucket:

- Select s3 in the console
- Create bucket
- Make a bucket name
- Region: Same region as the VPC
- Object Ownership: Enable bucket owner enforced
- Bucket settings: Enable default encryption using AWS KMS



S3 Bucket

Instance Set Up:

- Create 3 EC2 instances:
 - One in the public subnet for front-end development
 - One in the private subnet for backend
 - One “Bastion” to access the EC2 in the private subnet

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
LJWebServerl...	i-0a062aba1fce81bd4	Running	t2.micro	2/2 checks passed	View alarms	us-east-1a
bastion	i-042ca41e47c574ea5	Running	t2.micro	2/2 checks passed	View alarms	us-east-1a
LJ-Application...	i-0504e138b7ede8ba9	Running	t2.micro	2/2 checks passed	View alarms	us-east-1b

Instances set up

Testing

```
ubuntu@ip-172-31-23-7: ~  
Connection to ec2-54-204-50-216.compute-1.amazonaws.com closed.  
C:\Users\14065\Downloads>ssh -i "cosc55key.pem" ubuntu@ec2-54-204-50-216.compute-1.amazonaws.com  
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1009-aws x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/pro  
  
System information as of Tue Aug 20 01:19:53 UTC 2024  
  
System load:  0.0          Processes:           108  
Usage of /:   26.3% of 6.71GB Users logged in:       0  
Memory usage: 20%         IPv4 address for enX0: 172.31.23.7  
Swap usage:   0%  
  
* Ubuntu Pro delivers the most comprehensive open source security and  
  compliance features.  
  
  https://ubuntu.com/aws/pro  
  
Expanded Security Maintenance for Applications is not enabled.  
  
60 updates can be applied immediately.  
35 of these updates are standard security updates.  
To see these additional updates run: apt list --upgradable  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
Last login: Tue Aug 20 01:19:54 2024 from 129.170.197.92  
ubuntu@ip-172-31-23-7:~$
```

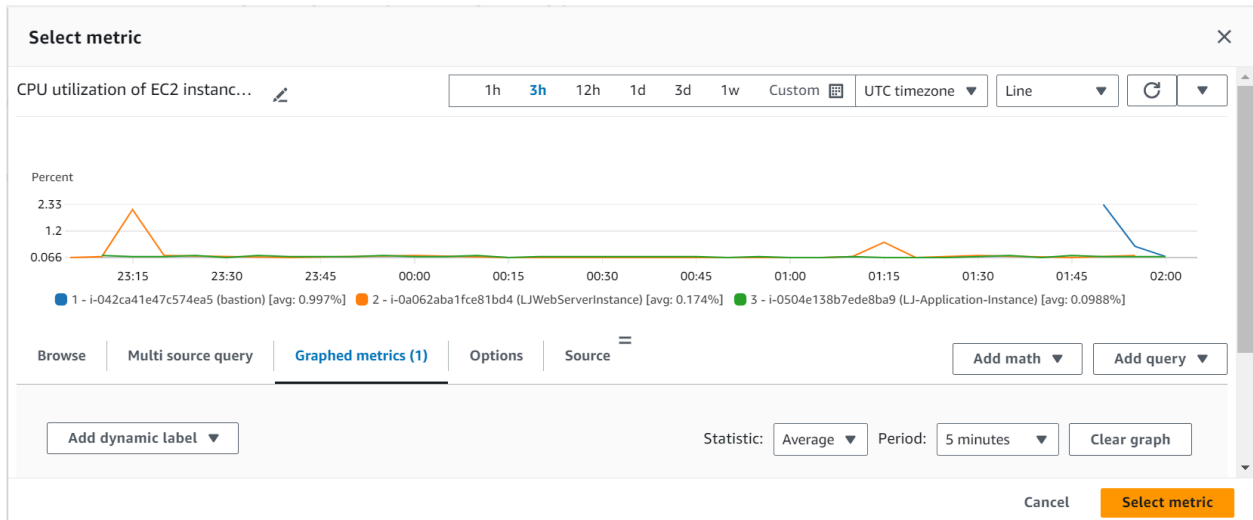
Successful SSH into the Web Server instance

- Use SSH key found in AWS gui

```
ubuntu@ip-172-31-25-157: ~  
Welcome to Ubuntu 24.04 LTS (GNU/Linux 6.8.0-1009-aws x86_64)  
  
* Documentation:  https://help.ubuntu.com  
* Management:    https://landscape.canonical.com  
* Support:       https://ubuntu.com/pro  
  
System information as of Tue Aug 20 02:00:36 UTC 2024  
  
System load:  0.0          Processes:           104  
Usage of /:   22.9% of 6.71GB Users logged in:       0  
Memory usage: 19%         IPv4 address for enX0: 172.31.25.157  
Swap usage:   0%  
  
Expanded Security Maintenance for Applications is not enabled.  
  
0 updates can be applied immediately.  
  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
The list of available updates is more than a week old.  
To check for new updates run: sudo apt update  
  
Last login: Tue Aug 20 01:57:11 2024 from 129.170.197.92  
To run a command as administrator (user "root"), use "sudo <command>".  
See "man sudo_root" for details.  
  
ubuntu@ip-172-31-25-157:~$
```

Successful SSH into the bastion instance to connect to the private instance for the application server

- Used public ip on bastion and private ip on the application instance



Monitors CPU Utilization of EC2 instances in CloudWatch

- Navigate to CloudWatch and use “Add query” to select what metrics you would like visually represented

Summary

Destination

s3://lj-s3-bucket

Succeeded

1 file, 832.7 KB (100.00%)

Failed

0 files, 0 B (0%)

Files and folders

Configuration

Files and folders (1 Total, 832.7 KB)

Find by name

<

1

>

Name	Folder	Type	Size	Status	Error
Oliver Long - ...	-	application/pdf	832.7 KB	<div><div></div>Succeeded</div>	-

Object overview

Owner

awslabsc0w3898175t1645875021

AWS Region

US East (N. Virginia) us-east-1

Last modified

August 19, 2024, 22:10:52 (UTC-04:00)


Size

832.7 KB


Type

pdf


Key

 Oliver Long - Class Lab 8-1_ AWS with CLI.pdf


S3 URI

 s3://lj-s3-bucket/Oliver Long - Class Lab 8-1_ AWS with CLI.pdf


Amazon Resource Name (ARN)

 arn:aws:s3:::lj-s3-bucket/Oliver Long - Class Lab 8-1_ AWS with CLI.pdf

Entity tag (Etag)

 4da7c3f4df7bcf73bf9e39e1148c7fa2

Object URL

 https://lj-s3-bucket.s3.amazonaws.com/Oliver+Long+-+Class+Lab+8-1_+AWS+with+CLI.pdf

 Oliver Long - Class Lab 8-1_ AWS with CLI (1) 8/19/2024 10:13 PM Adobe Acrobat Docu... 833 KB

Upload and Download to s3 bucket with a testing file

- Went into the s3 bucket interface and uploaded and downloaded a testing file to make sure the bucket works.