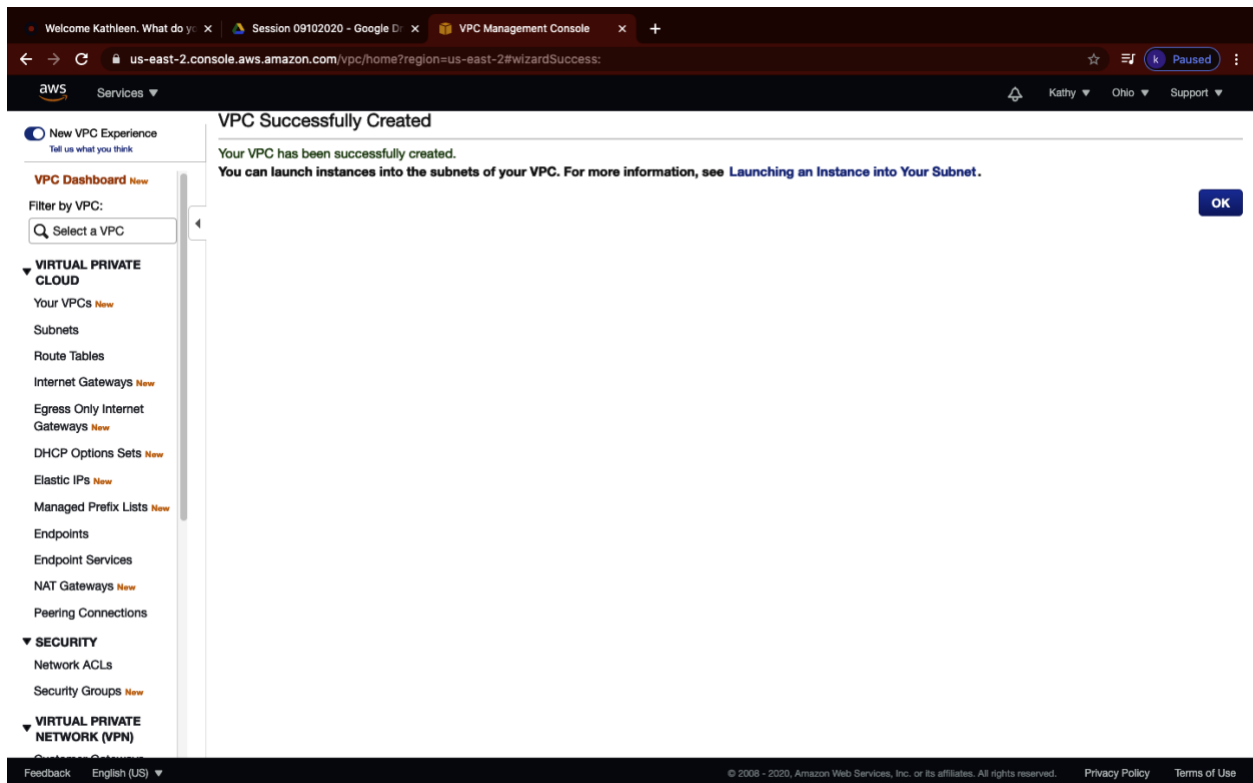


Capstone Project

In the following I:

1. Configure a security groups, subnets and basic IAM requirements
2. Configure a VPC and networking requirements
3. Deploy a CloudFormation Templates

1.



Capstone Project

Welcome Kathleen. What do you want to do today? | Session 09102020 - Google Drive | Your VPCs | VPC Management | +

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#vpcs:

Services | Kathy | Ohio | Support

New VPC Experience
Tell us what you think

VPC Dashboard **New**

Filter by VPC:
Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs **New**

Subnets

Route Tables

Internet Gateways **New**

Egress Only Internet Gateways **New**

DHCP Options Sets **New**

Elastic IPs **New**

Managed Prefix Lists **New**

Endpoints

Endpoint Services

NAT Gateways **New**

Peering Connections

SECURITY

Network ACLs

Security Groups **New**

VIRTUAL PRIVATE NETWORK (VPN)

Custom Gateways

Feedback | English (US)

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Your VPCs (3) Info

Filter VPCs

<input type="checkbox"/>	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
<input type="checkbox"/>	-	vpc-8011bdeb	Available	172.31.0.0/16	-
<input type="checkbox"/>	KathysBlockChain	vpc-0282e3e70e629a71c	Available	10.0.0.0/16	-
<input type="checkbox"/>	AWSProject	vpc-0f5193e340263c070	Available	10.0.0.0/16	-

Select a VPC above

Session 09102020 - Google Drive | VPC Management Console | +

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#securityGroups:

Services | Kathy | Ohio | Support

New VPC Experience
Tell us what you think

VPC Dashboard **New**

Filter by VPC:
Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs **New**

Subnets

Route Tables

Internet Gateways **New**

Egress Only Internet Gateways **New**

DHCP Options Sets **New**

Elastic IPs **New**

Managed Prefix Lists **New**

Endpoints

Endpoint Services

NAT Gateways **New**

Peering Connections

SECURITY

Network ACLs

Security Groups **New**

VIRTUAL PRIVATE NETWORK (VPN)

Custom Gateways

Feedback | English (US)

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Security Groups (6) Info

Filter security groups

<input type="checkbox"/>	Name	Security group ID	Security group name	VPC ID	Description	Owner
<input type="checkbox"/>	-	sg-011599dd6801984a9	launch-wizard-2	vpc-8011bdeb	launch-wizard-2 create...	30
<input type="checkbox"/>	-	sg-06e3f8c890088e951	default	vpc-0282e3e70e629a71c	default VPC security gr...	30
<input type="checkbox"/>	-	sg-0bf73b3e7e6a98a20	launch-wizard-3	vpc-8011bdeb	launch-wizard-3 create...	30
<input type="checkbox"/>	-	sg-0e1b1ab6a1f24906b	default	vpc-0f5193e340263c070	default VPC security gr...	30
<input type="checkbox"/>	-	sg-0eda86b65a7ad1e8d	launch-wizard-1	vpc-8011bdeb	launch-wizard-1 create...	30
<input type="checkbox"/>	-	sg-82aec5fe	default	vpc-8011bdeb	default VPC security gr...	30

Capstone Project

Session 09102020 - Google Dr x VPC Management Console x +

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#SecurityGroup:groupId=sg-053c2c8337e6a5b75

aws Services

New VPC Experience Tell us what you think

VPC Dashboard New

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs New

Subnets

Route Tables

Internet Gateways New

Egress Only Internet Gateways New

DHCP Options Sets New

Elastic IPs New

Managed Prefix Lists New

Endpoints

Endpoint Services

NAT Gateways New

Peering Connections

SECURITY

Network ACLs

Security Groups New

VIRTUAL PRIVATE NETWORK (VPN)

Security Groups

Security group (sg-053c2c8337e6a5b75 | KSecurityBroup) was created successfully

Details

VPC > Security Groups > sg-053c2c8337e6a5b75 - KSecurityBroup

sg-053c2c8337e6a5b75 - KSecurityBroup

Delete security group Copy to new security group

Details

Security group name	Security group ID	Description	VPC ID
KSecurityBroup	sg-053c2c8337e6a5b75	SecurityDeployment	vpc-0282e3e70e629a71c
Owner	Inbound rules count	Outbound rules count	
304364010513	0 Permission entries	1 Permission entry	

Inbound rules Outbound rules Tags

Inbound rules

Edit inbound rules

Type	Protocol	Port range	Source	Description - optional
No rules found				
This security group has no inbound rules.				

Feedback English (US)

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Session 09102020 - Google Dr x VPC Management Console x +

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#SecurityGroup:group-id=sg-053c2c8337e6a5b75

aws Services

New VPC Experience Tell us what you think

VPC Dashboard New

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs New

Subnets

Route Tables

Internet Gateways New

Egress Only Internet Gateways New

DHCP Options Sets New

Elastic IPs New

Managed Prefix Lists New

Endpoints

Endpoint Services

NAT Gateways New

Peering Connections

SECURITY

Network ACLs

Security Groups New

VIRTUAL PRIVATE NETWORK (VPN)

Security Groups

Inbound security group rules successfully modified on security group (sg-053c2c8337e6a5b75 | KSecurityBroup)

Details

VPC > Security Groups > sg-053c2c8337e6a5b75 - KSecurityBroup

sg-053c2c8337e6a5b75 - KSecurityBroup

Delete security group Copy to new security group

Details

Security group name	Security group ID	Description	VPC ID
KSecurityBroup	sg-053c2c8337e6a5b75	SecurityDeployment	vpc-0282e3e70e629a71c
Owner	Inbound rules count	Outbound rules count	
304364010513	3 Permission entries	1 Permission entry	

Inbound rules Outbound rules Tags

Inbound rules

Edit inbound rules

Type	Protocol	Port range	Source	Description - optional
HTTP	TCP	80	0.0.0.0/0	http
SSH	TCP	22	73.77.194.21/32	ssh
HTTPS	TCP	443	0.0.0.0/0	https

Feedback English (US)

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Capstone Project

The screenshot shows the AWS VPC Management Console in the us-east-2 region. The left sidebar contains navigation links for VPCs, Subnets, Route Tables, Internet Gateways, Egress Only Internet Gateways, DHCP Options Sets, Elastic IPs, Managed Prefix Lists, Endpoints, Endpoint Services, NAT Gateways, Peering Connections, SECURITY (Network ACLs, Security Groups), and VIRTUAL PRIVATE NETWORK (VPN) (Customer Gateways, Virtual Private Gateways, Site-to-Site VPN). The main content area, titled 'Your VPCs (3)', displays a table of existing VPCs:

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
-	vpc-8011bdeb	Available	172.31.0.0/16	-
KathysBlockChain	vpc-0282e3e70e629a71c	Available	10.0.0.0/16	-
AWSProject	vpc-0f5193e340263c070	Available	10.0.0.0/16	-

Below the table, there is a section titled 'Select a VPC above' with three icons representing different VPC configurations.

The screenshot shows the AWS Launch Status page. It features a green success message: 'Your instances are now launching'. Below this, a blue information box advises users to 'Get notified of estimated charges'. The page also includes a section titled 'How to connect to your instances' and a list of helpful resources for getting started with EC2 instances.

Launch Status

✓ **Your instances are now launching**
The following instance launches have been initiated: i-0051097701d8f1e0a [View launch log](#)

ℹ **Get notified of estimated charges**
Create billing alerts to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.

▼ **Here are some helpful resources to get you started**

- How to connect to your Linux instance
- Learn about AWS Free Usage Tier
- Amazon EC2: User Guide
- Amazon EC2: Discussion Forum

While your instances are launching you can also

- Create status check alarms to be notified when these instances fail status checks. (Additional charges may apply)
- Create and attach additional EBS volumes (Additional charges may apply)
- Manage security groups

Capstone Project

Session 09102020 - Google Dr x Elastic IP addresses | VPC Main x +

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#Addresses:public-ip=13.58.140.163

aws Services

New VPC Experience Tell us what you think

Your VPCs New

Subnets

Route Tables

Internet Gateways New

Egress Only Internet Gateways New

DHCP Options Sets New

Elastic IPs New

Managed Prefix Lists New

Endpoints

Endpoint Services

NAT Gateways New

Peering Connections

SECURITY

Network ACLs

Security Groups New

VIRTUAL PRIVATE NETWORK (VPN)

Customer Gateways

Virtual Private Gateways

Site-to-Site VPN Connections

Elastic IP address allocated successfully.
Elastic IP address 13.58.140.163

Associate this Elastic IP address

Elastic IP addresses (1/1)

Filter Elastic IP addresses

Public IPv4 address: 13.58.140.163 Clear filters

<input checked="" type="checkbox"/>	Name	Allocated IPv4 add...	Type	Allocation ID	Associated In
<input checked="" type="checkbox"/>	-	13.58.140.163	Public IP	elpalloc-066b2a4475e271bb2	-

13.58.140.163

Summary Tags

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17.

Session 09102020 - Google Dr x Elastic IP addresses | VPC Main x +

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#Addresses:public-ip=3.13.201.168

aws Services

New VPC Experience Tell us what you think

VPC Dashboard New

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs New

Subnets

Route Tables

Internet Gateways New

Egress Only Internet Gateways New

DHCP Options Sets New

Elastic IPs New

Managed Prefix Lists New

Endpoints

Endpoint Services

NAT Gateways New

Peering Connections

SECURITY

Network ACLs

Security Groups New

Elastic IP address associated successfully.
Elastic IP address 3.13.201.168 has been associated with Instance i-0051097701d8f1e0a

Elastic IP addresses (1/1)

Filter Elastic IP addresses

Public IPv4 address: 3.13.201.168 Clear filters

<input checked="" type="checkbox"/>	Name	Allocated IPv4 add...	Type	Allocation ID	Associated In
<input checked="" type="checkbox"/>	-	3.13.201.168	Public IP	elpalloc-0c28381740ba2bd98	i-0051097701

3.13.201.168

Summary Tags

Feedback English (US)

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Capstone Project

Session 09102020 - Google Dr x VPC Management Console x Instances | EC2 Management C x Instances | EC2 Management C x +

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#CreateSecurityGroup: k Paused

aws Services

VPC > 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

KathysBlockchain2

Name cannot be edited after creation.

Description Info

CloudComputingProject

VPC Info

vpc-0282e3e70e629a71c (KathysBlockChain)

Inbound rules Info

This security group has no inbound rules.

Add rule

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20.

Session 09102020 - Google Dr x VPC Management Console x Instances | EC2 Management C x Instances | EC2 Management C x +

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#SecurityGroup:groupId=sg-0dd3c1aa46cbad02e k Paused

aws Services

New VPC Experience Tell us what you think

VPC Dashboard New

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

- Your VPCs New
- Subnets
- Route Tables
- Internet Gateways New
- Egress Only Internet Gateways New
- DHCP Options Sets New
- Elastic IPs New
- Managed Prefix Lists New
- Endpoints
- Endpoint Services
- NAT Gateways New
- Peering Connections

SECURITY

- Network ACLs
- Security Groups New

Security group (sg-0dd3c1aa46cbad02e | KathysBlockchain2) was created successfully

Details

VPC > Security Groups > sg-0dd3c1aa46cbad02e - KathysBlockchain2

sg-0dd3c1aa46cbad02e - KathysBlockchain2

Delete security group Copy to new security group

Details

Security group name	Security group ID	Description	VPC ID
KathysBlockchain2	sg-0dd3c1aa46cbad02e	CloudComputingProject	vpc-0282e3e70e629a71c
Owner	Inbound rules count	Outbound rules count	
304364010513	0 Permission entries	1 Permission entry	

Inbound rules

Edit inbound rules

Type	Protocol	Port range	Source	Description - optional
No rules found				
This security group has no inbound rules.				

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21.

Capstone Project

The screenshot shows the AWS VPC Management Console. The left sidebar contains navigation links for VPC Dashboard, Virtual Private Cloud, and Security. The main content area displays the details for the security group 'sg-0dd3c1aa46cbad02e - KathysBlockchain2'. The details include the security group name, ID, description, VPC ID, owner, inbound rules count, and outbound rules count. Below the details, there are tabs for Inbound rules, Outbound rules, and Tags. The Inbound rules tab is active, showing a table with three rules: Custom TCP (Port 8080), Custom TCP (Port 8080), and SSH (Port 22).

Type	Protocol	Port range	Source	Description - optional
Custom TCP	TCP	8080	0.0.0.0/0	Monitoring
Custom TCP	TCP	8080	::/0	Monitoring
SSH	TCP	22	73.77.194.21/32	ssh

22.

The screenshot shows the AWS EC2 Management Console. The left sidebar contains navigation links for EC2 Dashboard, INSTANCES, IMAGES, ELASTIC BLOCK STORE, and NETWORK & SECURITY. The main content area displays the Resources section, which lists the following Amazon EC2 resources in the US East (Ohio) region:

- 1 Running Instances
- 0 Dedicated Hosts
- 1 Volumes
- 1 Key Pairs
- 0 Placement Groups
- 1 Elastic IPs
- 0 Snapshots
- 0 Load Balancers
- 8 Security Groups

Below the resources list, there are sections for Create Instance, Migrate a Machine, Quick ID filter, Service Health, and Scheduled Events. The Service Health section shows the status of the US East (Ohio) region as 'OK'.

Capstone Project

Session 09102020 - Google Dr... Instances | EC2 Management... Instances | EC2 Management... Instances | EC2 Management... +

us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#instances:instanceId=i-0051097701d8f1e0a;sort=instanceId

aws Services

Kathy Ohio Support

New EC2 Experience Learn more

Launch Instance Connect Actions

EC2 Dashboard Events Tags Limits

INSTANCES

Instances Instance Types Launch Templates Spot Requests Savings Plans Reserved Instances Dedicated Hosts Capacity Reservations

IMAGES

AMIs

ELASTIC BLOCK STORE

Volumes Snapshots Lifecycle Manager

NETWORK & SECURITY

Security Groups Elastic IPs Placement Groups Key Pairs

Instance ID: i-0051097701d8f1e0a Add filter

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)	IPv4 Public I
	i-0051097701d8f1e0a	t2.micro	us-east-2b	running	2/2 checks ...	None	ec2-3-13-201-168.us-e...	3.13.201.168

Findings

Opt-in to AWS Compute Optimizer for recommendations. [Learn more](#)

Private DNS

ip-10-0-0-233.us-east-2.compute.internal

Private IPs

10.0.0.233

Secondary private IPs

VPC ID

vpc-0282e3e70e629a71c (KathysBlockChain)

Elastic IPs

3.13.201.168*

Availability zone

us-east-2b

Security groups

KSecurityBroup. view inbound rules. view outbound rules

Scheduled events

No scheduled events

AMI ID

amazon2-ami-hvm-2.0.20200917.0-x86_64-gp2 (ami-03657b56516ab7912)

Feedback English (US)

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