

Module-4 Case Study-VPC

Problem Statement: You work for XYZ Corporation and based on the expansion requirements of your corporation you have been asked to create and setup distinct Amazon VPC for production and development team.

You are expected to perform the following tasks for the respective VPCs:

Production Network:

1. Design and build a 4 tier architecture
2. Create 5 subnets out of which 4 should be private with names app1, app2, dbcache and db and one should be public named web.
3. Launch instances in all subnets and name them as per the subnet that they have been launched in.
4. Allow dbcache instance and app1 subnet to send internet requests
5. Manage security groups and NACLs

Development Network:

1. Design and build 2 tier architecture with two subnets named web and db and launch instances in both subnets and name them as per the subnet names.
2. Make sure only web subnet can send internet requests
3. Create peering connection between production network and development network
4. Setup connection between db subnets of both production network and development network respectively

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

Services Search for services, features, blogs, docs, and more [Alt+S]

New VPC Experience Tell us what you think

VPC Dashboard

EC2 Global View New

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

Carrier Gateways

DHCP Options Sets

Elastic IPs

Managed Prefix Lists

Endpoints New

Endpoint Services

Your VPCs (1) Info

Filter VPCs

	Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
<input type="checkbox"/>	-	vpc-069694fa8bb5bfdee	Available	172.31.0.0/16	-

Select a VPC above

Feedback English (US)

© 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

Type here to search

VPC Management Console

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#CreateVpccreateMode=vpcOnly

Services Search for services, features, blogs, docs, and more [Alt+S]

IPv6 CIDR block Info

☒ No IPv6 CIDR block

☐ IPAM-allocated IPv6 CIDR block

☐ Amazon-provided IPv6 CIDR block

☐ IPv6 CIDR owned by me

Tenancy Info

Default

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

Q Name X Q production-vpc-1 X Remove

Add new tag

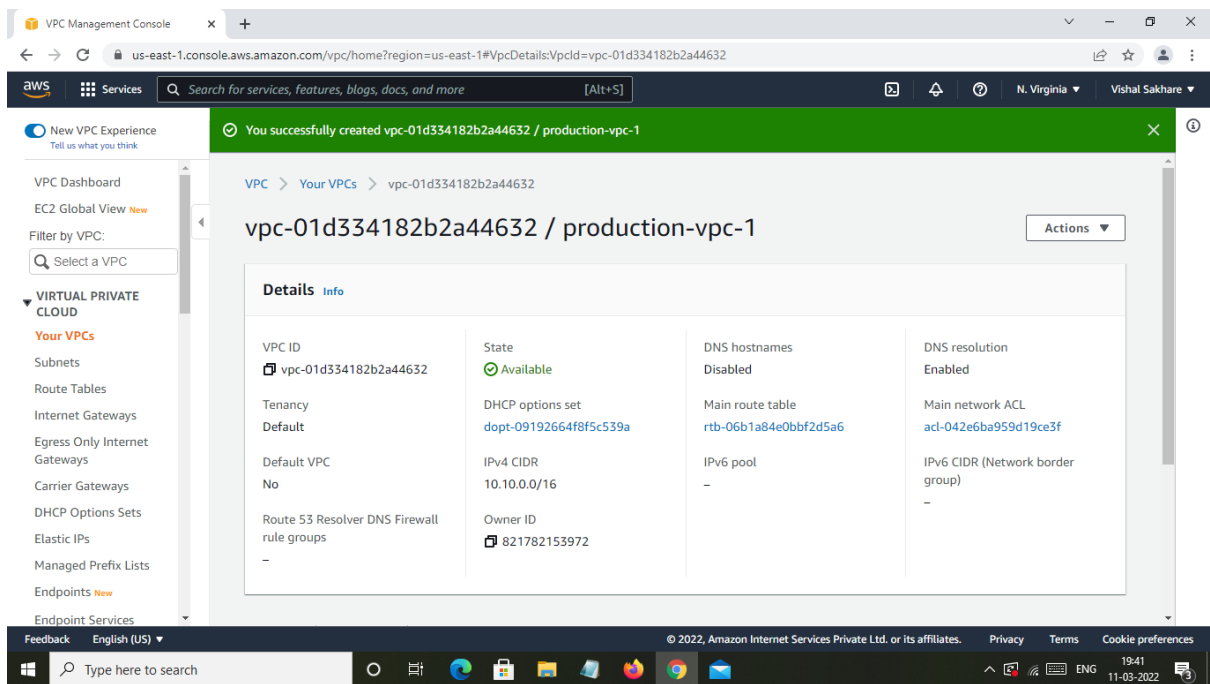
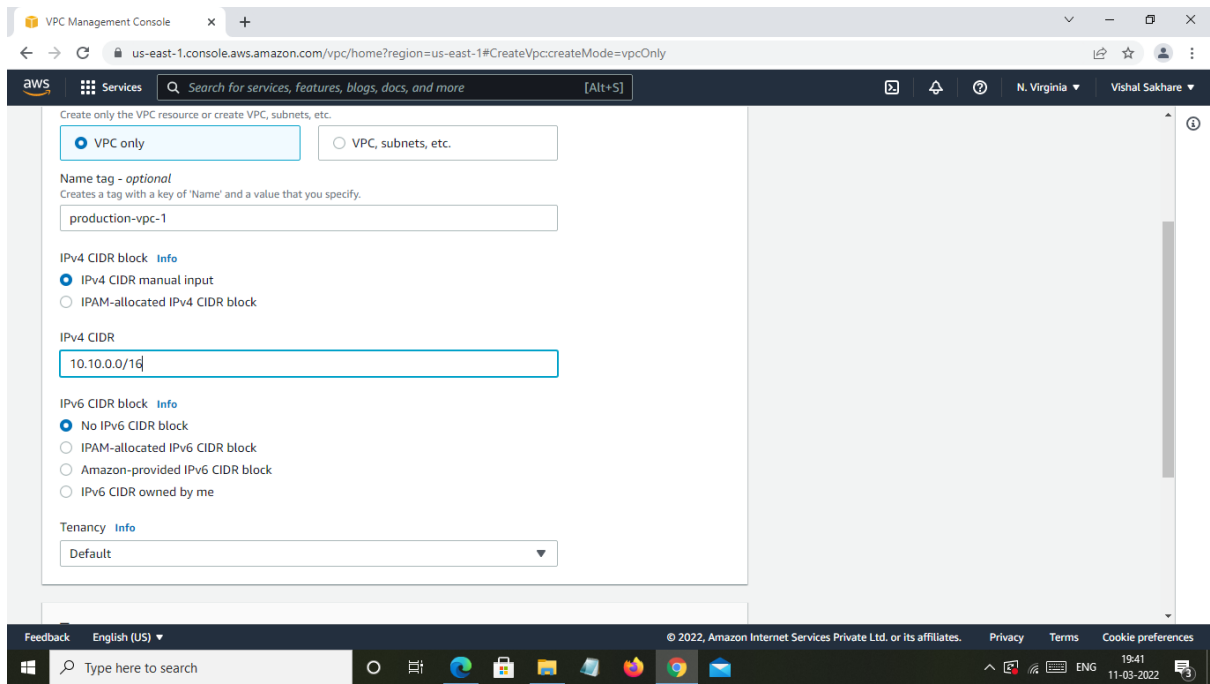
You can add 49 more tags.

Cancel Create VPC

Feedback English (US)

© 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

Type here to search



us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#subnets:SubnetId=subnet-069b38bb225667a75,subnet-0b64002a68df78b8e,subnet-07990e9569fe8de8b,subnet-0a3e33f527a06b3b2,subnet-09e1c1bbfbb915d76

Services Search for services, features, blogs, docs, and more [Alt+S]

N. Virginia Vishal Sakhare

New VPC Experience Tell us what you think

VPC Dashboard EC2 Global View **New**

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

Carrier Gateways

DHCP Options Sets

Elastic IPs

Managed Prefix Lists

Endpoints **New**

Endpoint Services

You have successfully created 5 subnets: subnet-069b38bb225667a75, subnet-0b64002a68df78b8e, subnet-07990e9569fe8de8b, subnet-0a3e33f527a06b3b2, subnet-09e1c1bbfbb915d76

Subnets (5) Info

Filter subnets

Subnet ID: subnet-069b38bb225667a75 X Subnet ID: subnet-0b64002a68df78b8e X

Subnet ID: subnet-07990e9569fe8de8b X Subnet ID: subnet-0a3e33f527a06b3b2 X

Subnet ID: subnet-09e1c1bbfbb915d76 X Clear filters

Select a subnet

Feedback English (US)

© 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

Type here to search

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#subnets:SubnetId=subnet-069b38bb225667a75,subnet-0b64002a68df78b8e,subnet-07990e9569fe8de8b,subnet-0a3e33f527a06b3b2,subnet-09e1c1bbfbb915d76

Services Search for services, features, blogs, docs, and more [Alt+S]

N. Virginia Vishal Sakhare

New VPC Experience Tell us what you think

VPC Dashboard EC2 Global View **New**

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

Carrier Gateways

DHCP Options Sets

Elastic IPs

Managed Prefix Lists

Endpoints **New**

Endpoint Services

Subnets (5) Info

Filter subnets

Subnet ID: subnet-069b38bb225667a75 X Subnet ID: subnet-0b64002a68df78b8e X

Subnet ID: subnet-07990e9569fe8de8b X Subnet ID: subnet-0a3e33f527a06b3b2 X

Subnet ID: subnet-09e1c1bbfbb915d76 X Clear filters

<input type="checkbox"/>	Name	Subnet ID	State	VPC	IPv4 CIDR
<input type="checkbox"/>	app1	subnet-069b38bb225667a75	Available	vpc-01d334182b2a44632 pr...	10.10.1.0/24
<input type="checkbox"/>	dbcache	subnet-07990e9569fe8de8b	Available	vpc-01d334182b2a44632 pr...	10.10.3.0/24
<input type="checkbox"/>	app2	subnet-0b64002a68df78b8e	Available	vpc-01d334182b2a44632 pr...	10.10.2.0/24
<input type="checkbox"/>	web	subnet-09e1c1bbfbb915d76	Available	vpc-01d334182b2a44632 pr...	10.10.5.0/24
<input type="checkbox"/>	db	subnet-0a3e33f527a06b3b2	Available	vpc-01d334182b2a44632 pr...	10.10.4.0/24

Select a subnet

Feedback English (US)

© 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

Type here to search

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#InternetGateway:internetGatewayId=igw-034bd6afbcbdcff59

Services Search for services, features, blogs, docs, and more [Alt+S]

New VPC Experience Tell us what you think

VPC Dashboard EC2 Global View **New**

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

- Your VPCs
- Subnets
- Route Tables
- Internet Gateways**
- Egress Only Internet Gateways
- Carrier Gateways
- DHCP Options Sets
- Elastic IPs
- Managed Prefix Lists

The following internet gateway was created: igw-034bd6afbcbdcff59 - my-internet-gateway. You can now attach to a VPC to enable the VPC to communicate with the internet. **Attach to a VPC**

VPC > Internet gateways > igw-034bd6afbcbdcff59

igw-034bd6afbcbdcff59 / my-internet-gateway

Actions

Details Info

Internet gateway ID	State	VPC ID	Owner
igw-034bd6afbcbdcff59	Detached	-	821782153972

Tags Manage tags

Search tags

1

Key Value

Feedback English (US) © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

AllInstances-KP.pem Show all

Type here to search

20:18 11-03-2022

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#InternetGateway:internetGatewayId=igw-034bd6afbcbdcff59

Services Search for services, features, blogs, docs, and more [Alt+S]

New VPC Experience Tell us what you think

VPC Dashboard EC2 Global View **New**

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

- Your VPCs
- Subnets
- Route Tables
- Internet Gateways**
- Egress Only Internet Gateways
- Carrier Gateways
- DHCP Options Sets
- Elastic IPs
- Managed Prefix Lists

Internet gateway igw-034bd6afbcbdcff59 successfully attached to vpc-01d334182b2a44632

VPC > Internet gateways > igw-034bd6afbcbdcff59

igw-034bd6afbcbdcff59 / my-internet-gateway

Actions

Details Info

Internet gateway ID	State	VPC ID	Owner
igw-034bd6afbcbdcff59	Attached	vpc-01d334182b2a44632 production-vpc-1	821782153972

Tags Manage tags

Search tags

1

Key Value

Feedback English (US) © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

AllInstances-KP.pem Show all

Type here to search

20:19 11-03-2022

VPC Management Console | VPC Management Console | Instances | EC2 Management Console | subnet can be in multiple avail... | +

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#NatGatewayDetails:natGatewayId=nat-018396e8d846d9a64

aws Services Search for services, features, blogs, docs, and more [Alt+S] N. Virginia Vishal Sakhare

New VPC Experience Tell us what you think

VPC Dashboard EC2 Global View **New**

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

- Your VPCs
- Subnets
- Route Tables
- Internet Gateways
- Egress Only Internet Gateways
- Carrier Gateways
- DHCP Options Sets
- Elastic IPs
- Managed Prefix Lists

NAT gateway nat-018396e8d846d9a64 | my-nat-gateway was created successfully.

VPC > NAT gateways > nat-018396e8d846d9a64

nat-018396e8d846d9a64 / my-nat-gateway [Delete](#)

Details [Info](#)

NAT gateway ID nat-018396e8d846d9a64	Connectivity type Public	State Pending	State message Info -
Elastic IP address -	Private IP address -	Network interface ID -	VPC vpc-01d334182b2a44632 / production-vpc-1
Subnet subnet-09e1c1bfb915d76 / web	Created Friday, March 11, 2022, 20:23:40 GMT+5:30	Deleted -	

Feedback English (US) © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

AllInstances-KP.pem [Show all](#)

Type here to search

VPC Management Console | VPC Management Console | VPC Management Console | Instances | EC2 Management Console | subnet can be in multiple avail... | +

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#VpcDetails:VpcId=vpc-06bae46761b1c9e6f

aws Services Search for services, features, blogs, docs, and more [Alt+S] Ohio Vishal Sakhare

New VPC Experience Tell us what you think

VPC Dashboard EC2 Global View **New**

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

- Your VPCs**
- Subnets
- Route Tables
- Internet Gateways
- Egress Only Internet Gateways
- DHCP Options Sets
- Elastic IPs
- Managed Prefix Lists
- Endpoints **New**

You successfully created vpc-06bae46761b1c9e6f / development-vpc

VPC > Your VPCs > vpc-06bae46761b1c9e6f

vpc-06bae46761b1c9e6f / development-vpc [Actions](#)

Details [Info](#)

VPC ID vpc-06bae46761b1c9e6f	State Available	DNS hostnames Disabled	DNS resolution Enabled
Tenancy Default	DHCP options set dopt-0e67650b63f886786	Main route table rtb-00299b9a1048717ea	Main network ACL acl-0c990aa54b6cd4a5
Default VPC No	IPv4 CIDR 20.20.0.0/16	IPv6 pool -	IPv6 CIDR -
Route 53 Resolver DNS Firewall rule groups -	Owner ID 821782153972		

https://us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#RouteTables:routeTableId=rtb-00299b9a1048717ea © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

AllInstances-KP.pem [Show all](#)

Type here to search

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

Services Search for services, features, blogs, docs, and more [Alt+S]

New VPC Experience Tell us what you think

VPC Dashboard EC2 Global View New

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Elastic IPs

Managed Prefix Lists

Endpoints New

Subnets (5) Info

Filter subnets

	Name	Subnet ID	State	VPC	IPv4 CIDR
<input type="checkbox"/>	-	subnet-0a578b6cf3f2f32e	Available	vpc-06cc4628b2d8538bc	172.31.0.0/20
<input type="checkbox"/>	db-dev	subnet-07087663478306a9b	Available	vpc-06bae46761b1c9e6f dev...	20.20.2.0/24
<input type="checkbox"/>	-	subnet-00dc53ea1174e8a9f	Available	vpc-06cc4628b2d8538bc	172.31.32.0/20
<input type="checkbox"/>	web-dev	subnet-0ff5e7b2855ac4fd0	Available	vpc-06bae46761b1c9e6f dev...	20.20.1.0/24
<input type="checkbox"/>	-	subnet-0d127bb26d3edf987	Available	vpc-06cc4628b2d8538bc	172.31.16.0/20

Feedback English (US) © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

AllInstances-KP.pem Show all

Type here to search

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#InternetGatewayinternetGatewayId=igw-0745fb4fc868892b3

Services Search for services, features, blogs, docs, and more [Alt+S]

New VPC Experience Tell us what you think

VPC Dashboard EC2 Global View New

Filter by VPC: Select a VPC

VIRTUAL PRIVATE CLOUD

Your VPCs

Subnets

Route Tables

Internet Gateways

Egress Only Internet Gateways

DHCP Options Sets

Elastic IPs

Managed Prefix Lists

Endpoints New

The following internet gateway was created: igw-0745fb4fc868892b3 - my-internet-gateway-dev. You can now attach to a VPC to enable the VPC to communicate with the internet. Attach to a VPC

VPC > Internet gateways > igw-0745fb4fc868892b3

igw-0745fb4fc868892b3 / my-internet-gateway-dev

Actions

Details Info

Internet gateway ID	State	VPC ID	Owner
igw-0745fb4fc868892b3	Detached	-	821782153972

Tags

Search tags

Manage tags

Key	Value
-----	-------

Feedback English (US) © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

AllInstances-KP.pem Show all

Type here to search

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#NatGatewayDetails:natGatewayId=nat-0b9b813f865643185

NAT gateway nat-0b9b813f865643185 | my-nat-gateway-dev was created successfully.

VPC > NAT gateways > nat-0b9b813f865643185

nat-0b9b813f865643185 / my-nat-gateway-dev

Details Info

NAT gateway ID nat-0b9b813f865643185	Connectivity type Public	State Pending	State message Info -
Elastic IP address -	Private IP address -	Network interface ID -	VPC vpc-06bae46761b1c9e6f / development-vpc
Subnet subnet-0ff5e7b2855ac4fd0 / web-dev	Created Friday, March 11, 2022, 20:42:20 GMT+5:30	Deleted -	

Waiting for us-east-2.console.aws.amazon.com...

AllInstances-KP.pem

Type here to search

us-east-2.console.aws.amazon.com/ec2/v2/home?region=us-east-2#Instances:

Instances (3) Info

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input type="checkbox"/>	-	i-0d291083c8b1ed9a7	Terminated	t2.micro	-	No alarms	us-east-2a
<input type="checkbox"/>	-	i-03fedc4c4cc55dcaa	Running	t2.micro	2/2 checks passed	No alarms	us-east-2a
<input type="checkbox"/>	-	i-0214fef16947796f1	Running	t2.micro	2/2 checks passed	No alarms	us-east-2a

Select an instance

Feedback English (US)

AllInstancesdev-KP.pem AllInstances-KP.pem

Type here to search

us-east-1.console.aws.amazon.com/vpc/home?region=us-east-1#RouteTableDetails:RouteTableId=rtb-0831b7912fb86b6ad

Services Search for services, features, blogs, docs, and more [Alt+S]

New VPC Experience Tell us what you think

VPC Dashboard
EC2 Global View **New**

Filter by VPC:
Select a VPC

VIRTUAL PRIVATE CLOUD
Your VPCs
Subnets
Route Tables
Internet Gateways
Egress Only Internet Gateways
Carrier Gateways
DHCP Options Sets
Elastic IPs
Managed Prefix Lists

Route table rtb-0831b7912fb86b6ad | Production-route-table- was created successfully.

VPC > Route tables > rtb-0831b7912fb86b6ad

rtb-0831b7912fb86b6ad / Production-route-table- Actions

You can now check network connectivity with Reachability Analyzer Run Reachability Analyzer

Details Info

Route table ID rtb-0831b7912fb86b6ad	Main No	Explicit subnet associations -	Edge associations -
VPC vpc-01d334182b2a44632 production-vpc-1	Owner ID 821782153972		

Feedback English (US) © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

Allinstancesdev-KP.pem Allinstances-KP.pem Show all

Type here to search

us-east-2.console.aws.amazon.com/vpc/home?region=us-east-2#RouteTableDetails:RouteTableId=rtb-058dc89aa4db8cac1

Services Search for services, features, blogs, docs, and more [Alt+S]

New VPC Experience Tell us what you think

VPC Dashboard
EC2 Global View **New**

Filter by VPC:
Select a VPC

VIRTUAL PRIVATE CLOUD
Your VPCs
Subnets
Route Tables
Internet Gateways
Egress Only Internet Gateways
Carrier Gateways
DHCP Options Sets
Elastic IPs
Managed Prefix Lists
Endpoints **New**

Route table rtb-058dc89aa4db8cac1 | development-route-table was created successfully.

VPC > Route tables > rtb-058dc89aa4db8cac1

rtb-058dc89aa4db8cac1 / development-route-table Actions

You can now check network connectivity with Reachability Analyzer Run Reachability Analyzer

Details Info

Route table ID rtb-058dc89aa4db8cac1	Main No	Explicit subnet associations -	Edge associations -
VPC vpc-06bae46761b1c9e6f development-vpc	Owner ID 821782153972		

Feedback English (US) © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

Allinstancesdev-KP.pem Allinstances-KP.pem Show all

Type here to search

