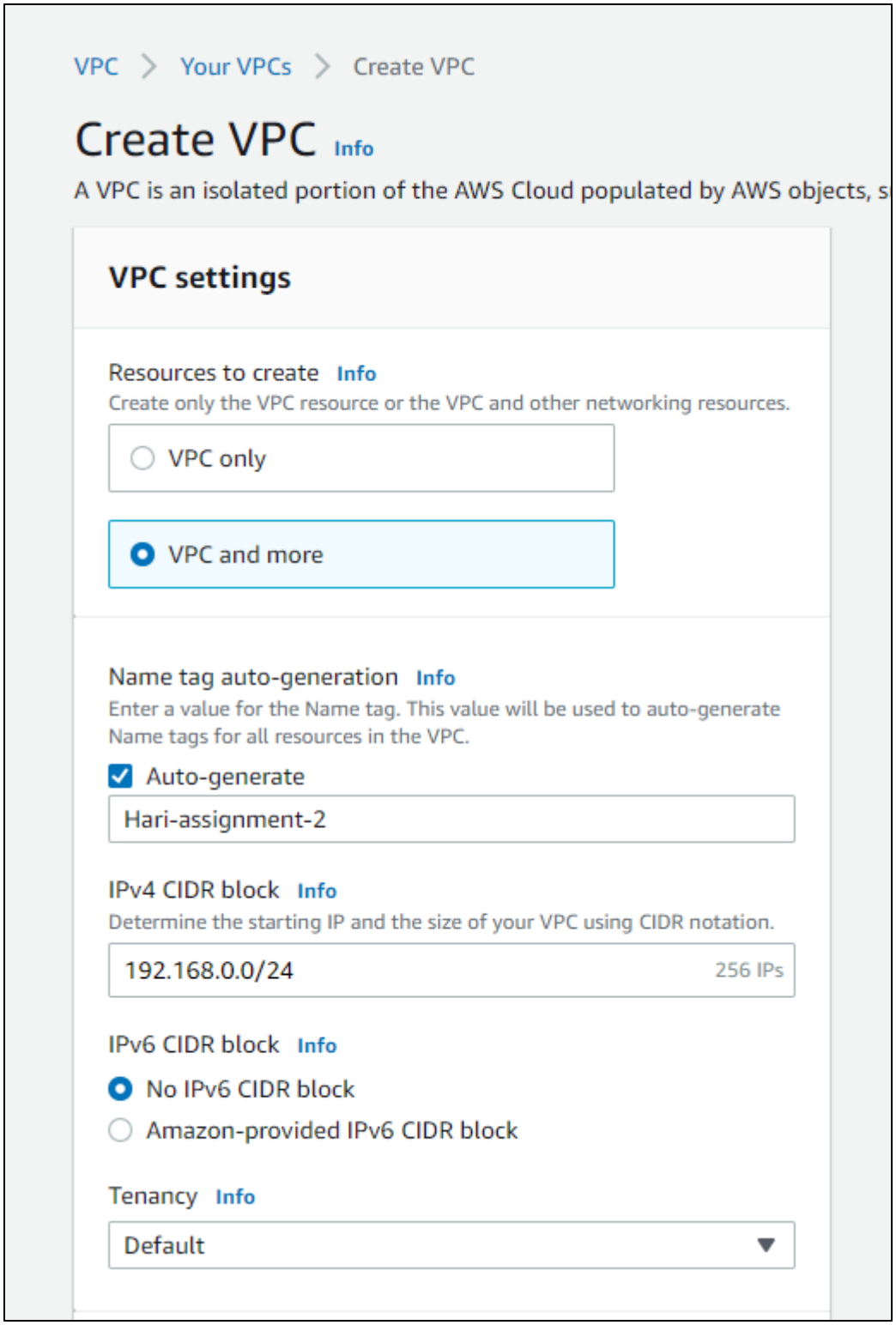
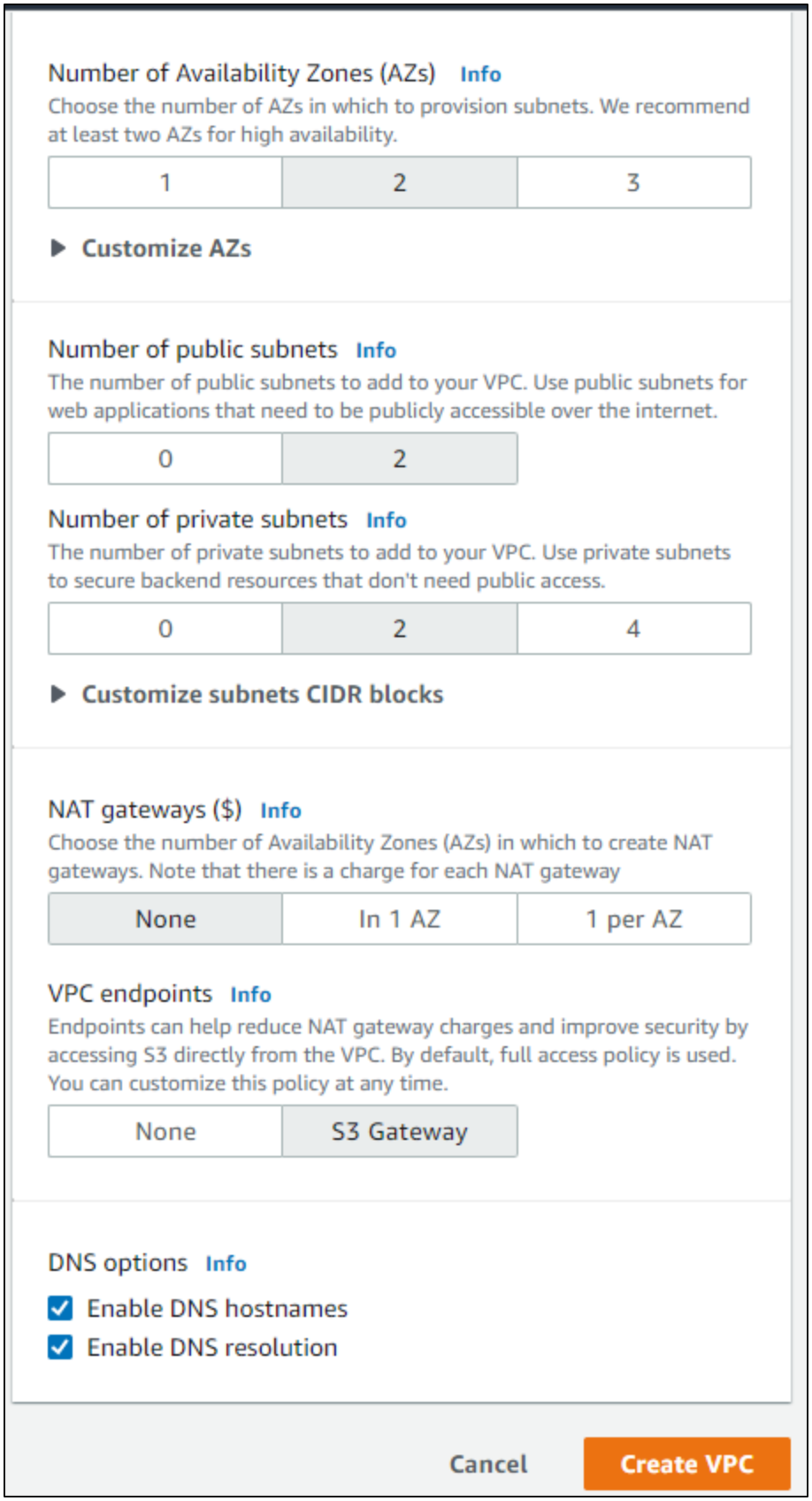
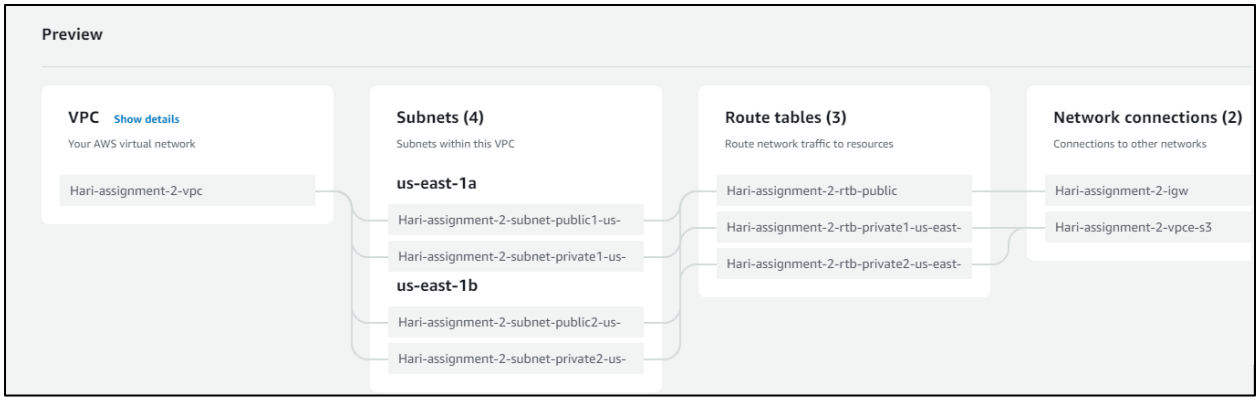
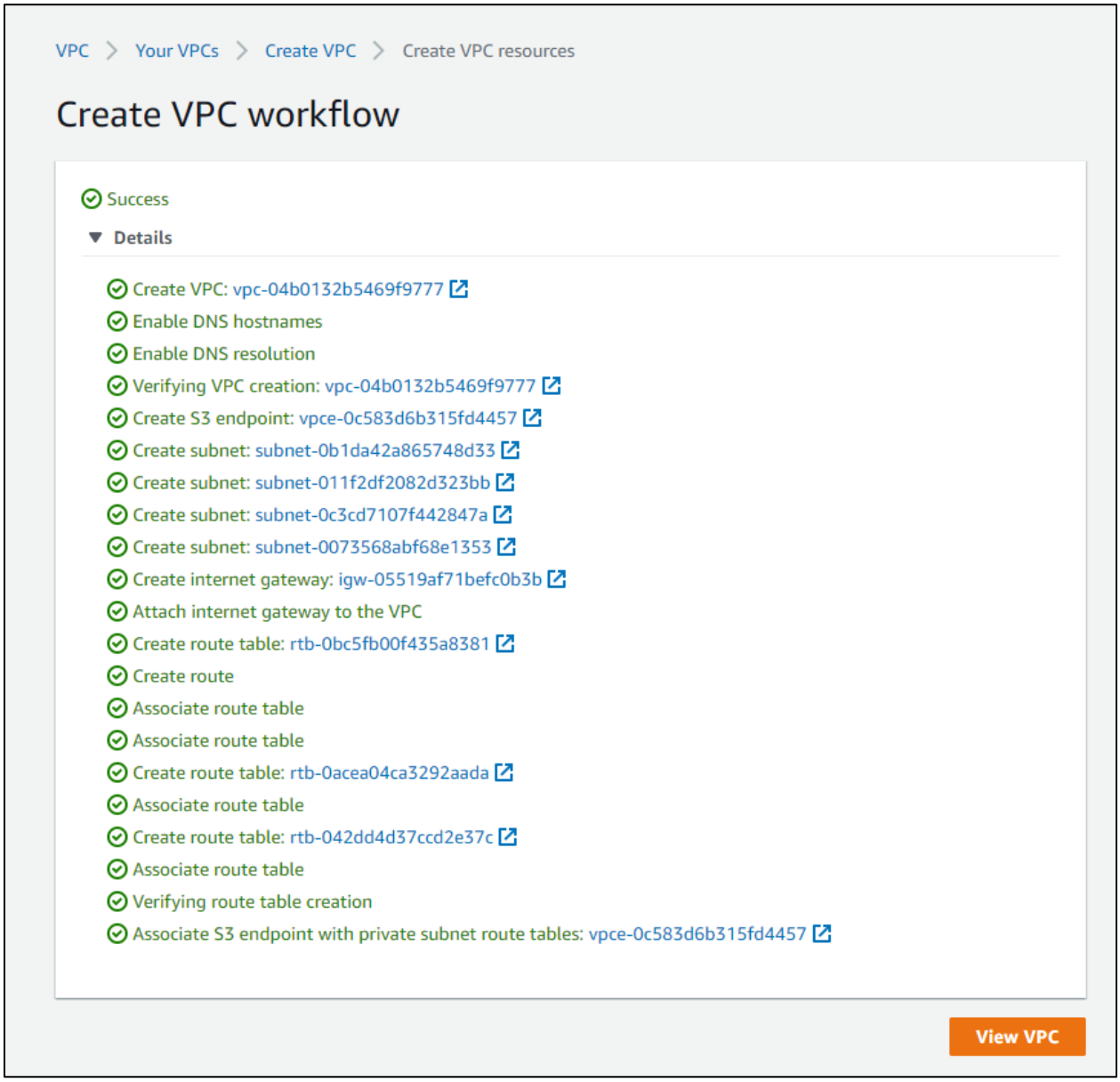
Assignment 2 :: Configure VPC with 4 subnets

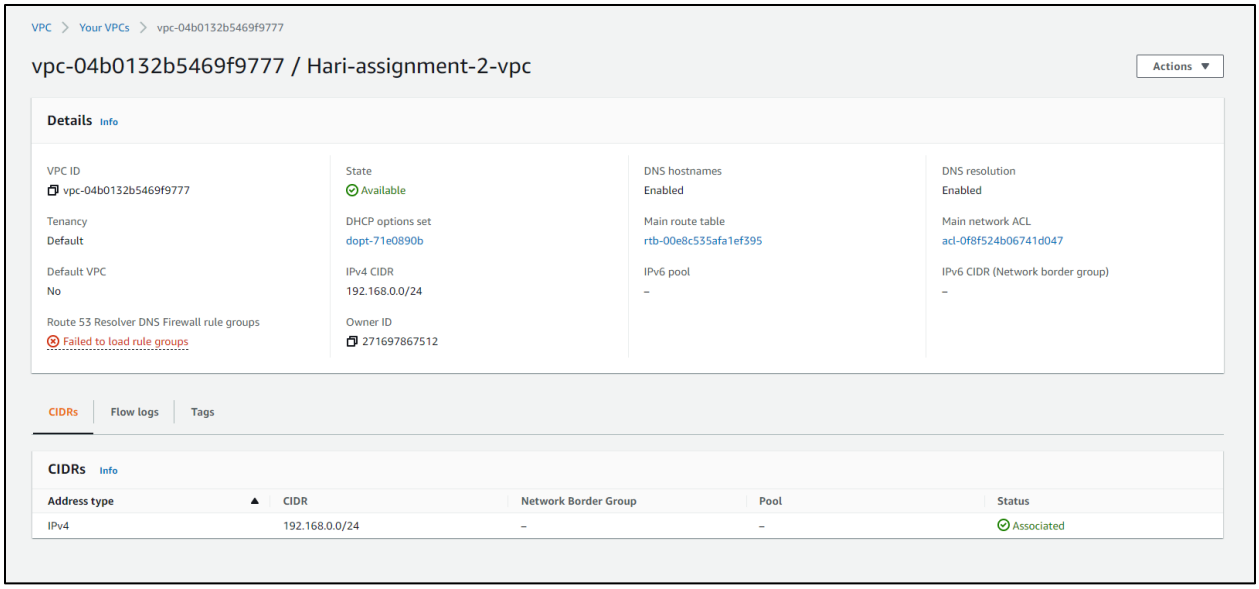
Step 1 :: Create a VPC with 2 Public and 2 Private subnets

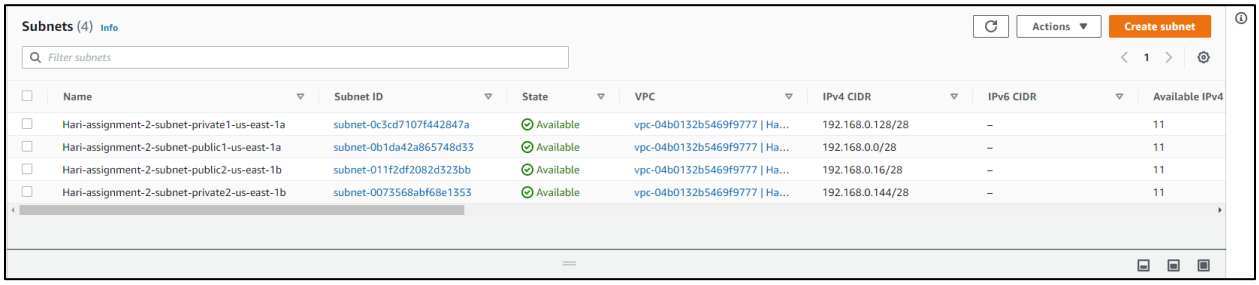


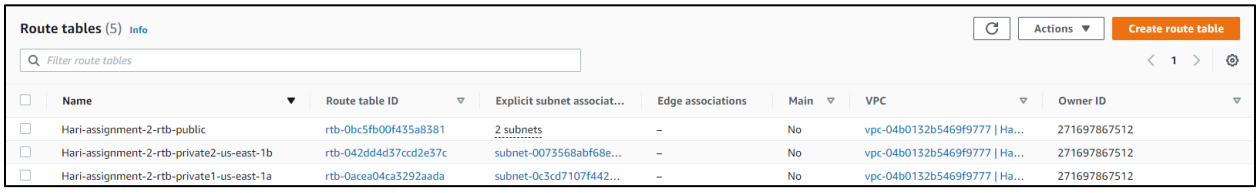

Number of Availability Zones (AZs) Info
Choose the number of AZs in which to provision subnets. We recommend at least two AZs for high availability.
1
2
3
Customize AZs
Number of public subnets Info
The number of public subnets to add to your VPC. Use public subnets for web applications that need to be publicly accessible over the internet.
0
2
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
2
4
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
Cancel
Create VPC

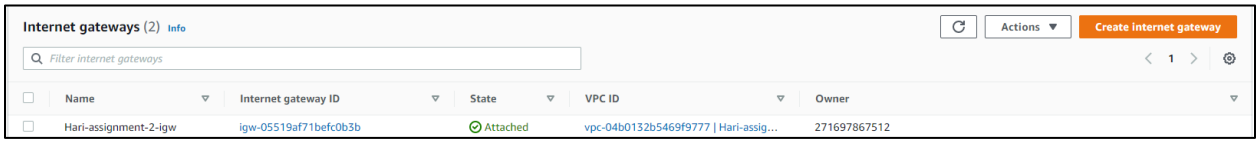

Preview
VPC Show details
Your AWS virtual network
Hari-assignment-2-vpc
Subnets (4)
Subnets within this VPC
us-east-1a
Hari-assignment-2-subnet-public1-us-
Hari-assignment-2-subnet-private1-us-
us-east-1b
Hari-assignment-2-subnet-public2-us-
Hari-assignment-2-subnet-private2-us-
Route tables (3)
Route network traffic to resources
Hari-assignment-2-rtb-public
Hari-assignment-2-rtb-private1-us-east-
Hari-assignment-2-rtb-private2-us-east-
Network connections (2)
Connections to other networks
Hari-assignment-2-igw
Hari-assignment-2-vpce-s3


VPC > Your VPCs > Create VPC > Create VPC resources
Create VPC workflow
Success
Details
Create VPC: vpc-04b0132b5469f9777
Enable DNS hostnames
Enable DNS resolution
Verifying VPC creation: vpc-04b0132b5469f9777
Create S3 endpoint: vpce-0c583d6b315fd4457
Create subnet: subnet-0b1da42a865748d33
Create subnet: subnet-011f2df2082d323bb
Create subnet: subnet-0c3cd7107f442847a
Create subnet: subnet-0073568abf68e1353
Create internet gateway: igw-05519af71befc0b3b
Attach internet gateway to the VPC
Create route table: rtb-0bc5fb00f435a8381
Create route
Associate route table
Associate route table
Create route table: rtb-0acea04ca3292aada
Associate route table
Create route table: rtb-042dd4d37ccd2e37c
Associate route table
Verifying route table creation
Associate S3 endpoint with private subnet route tables: vpce-0c583d6b315fd4457
View VPC


VPC > Your VPCs > vpc-04b0132b5469f9777
vpc-04b0132b5469f9777 / Hari-assignment-2-vpc
Actions
Details Info
VPC ID
vpc-04b0132b5469f9777
State
Available
DNS hostnames
Enabled
DNS resolution
Enabled
Tenancy
Default
DHCP options set
dopt-71e0890b
Main route table
rtb-00e8c535afa1ef395
Main network ACL
acl-0f8f524b06741d047
Default VPC
No
IPv4 CIDR
192.168.0.0/24
IPv6 pool
–
IPv6 CIDR (Network border group)
–
Route 53 Resolver DNS Firewall rule groups
Failed to load rule groups
Owner ID
271697867512
CIDRs
Flow logs
Tags
CIDRs Info
Address type
CIDR
Network Border Group
Pool
Status
IPv4
192.168.0.0/24
–
–
Associated

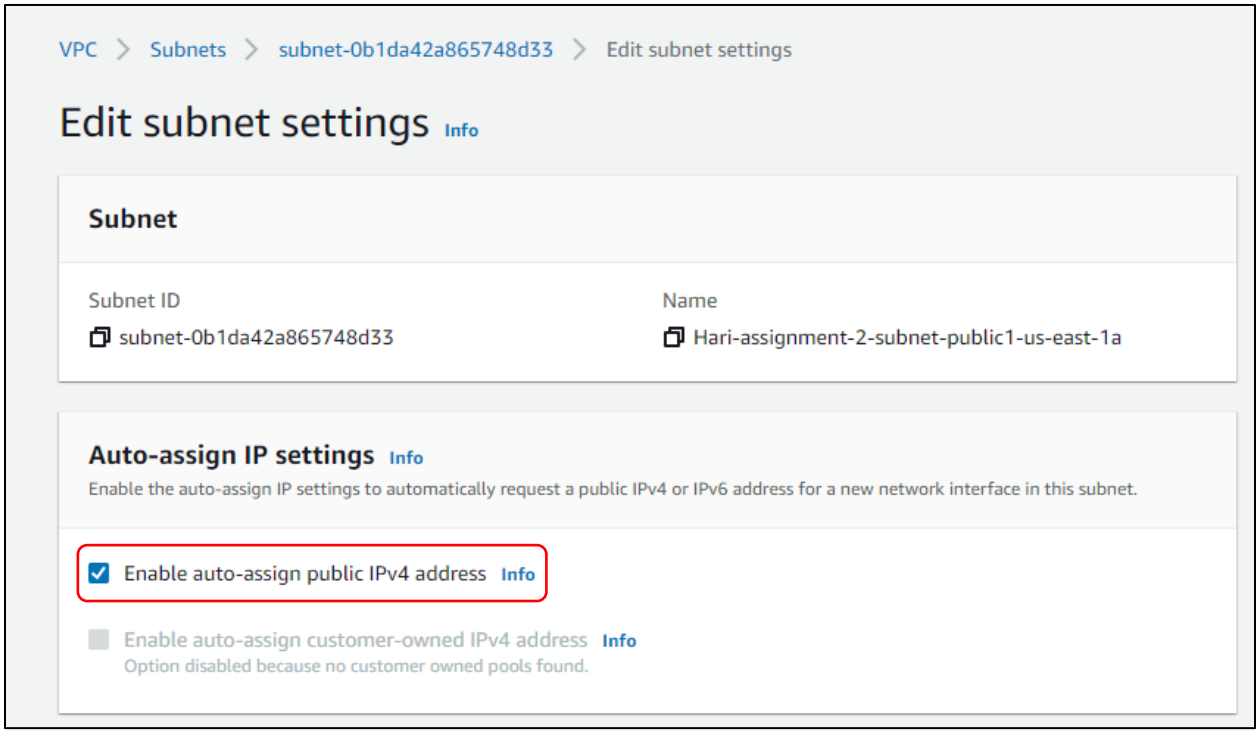

Subnets (4) Info
Actions
Create subnet
Filter subnets
Name
Subnet ID
State
VPC
IPv4 CIDR
IPv6 CIDR
Available IPv4
Hari-assignment-2-subnet-private1-us-east-1a
subnet-0c3cd7107f442847a
Available
vpc-04b0132b5469f9777 | Ha...
192.168.0.128/28
–
11
Hari-assignment-2-subnet-public1-us-east-1a
subnet-0b1da42a865748d33
Available
vpc-04b0132b5469f9777 | Ha...
192.168.0.0/28
–
11
Hari-assignment-2-subnet-public2-us-east-1b
subnet-011f2df2082d323bb
Available
vpc-04b0132b5469f9777 | Ha...
192.168.0.16/28
–
11
Hari-assignment-2-subnet-private2-us-east-1b
subnet-0073568abf68e1353
Available
vpc-04b0132b5469f9777 | Ha...
192.168.0.144/28
–
11


Route tables (5) Info
Actions
Create route table
Filter route tables
Name
Route table ID
Explicit subnet associat...
Edge associations
Main
VPC
Owner ID
Hari-assignment-2-rtb-public
rtb-0bc5fb00f435a8381
2 subnets
–
No
vpc-04b0132b5469f9777 | Ha...
271697867512
Hari-assignment-2-rtb-private2-us-east-1b
rtb-042dd4d37ccd2e37c
subnet-0073568abf68e...
–
No
vpc-04b0132b5469f9777 | Ha...
271697867512
Hari-assignment-2-rtb-private1-us-east-1a
rtb-0acea04ca3292aada
subnet-0c3cd7107f442...
–
No
vpc-04b0132b5469f9777 | Ha...
271697867512

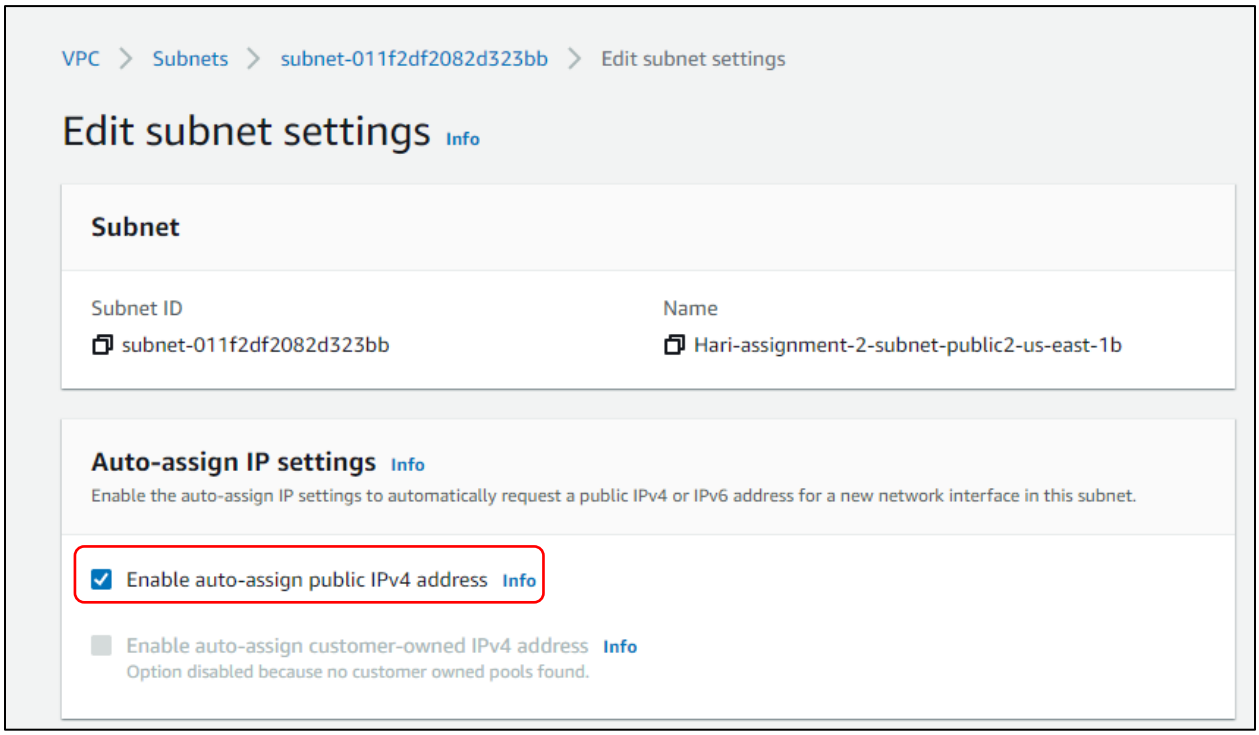

Internet gateways (2) Info
Actions
Create internet gateway
Filter internet gateways
Name
Internet gateway ID
State
VPC ID
Owner
Hari-assignment-2-igw
igw-05519af71befc0b3b
Attached
vpc-04b0132b5469f9777 | Hari-assig...
271697867512

Step 1.1 :: Editing Public subnets to auto assign IPv4 address

Subnet 1

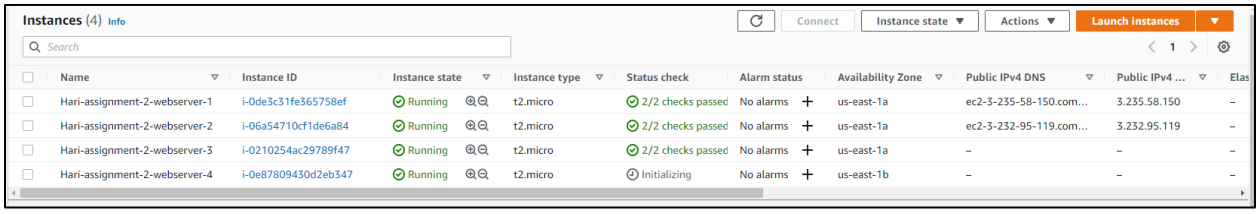


Subnet 2

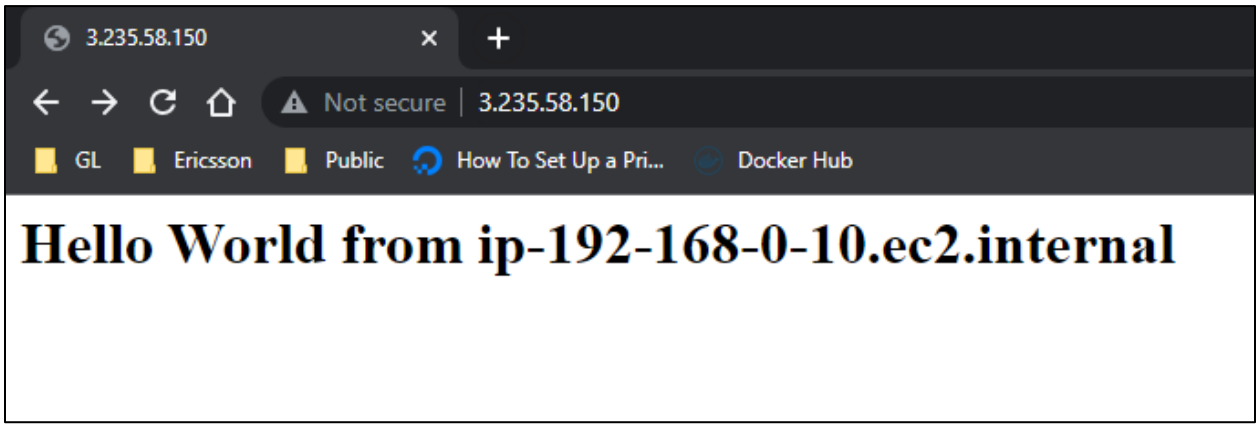


Step 2 :: Creating EC2 instance

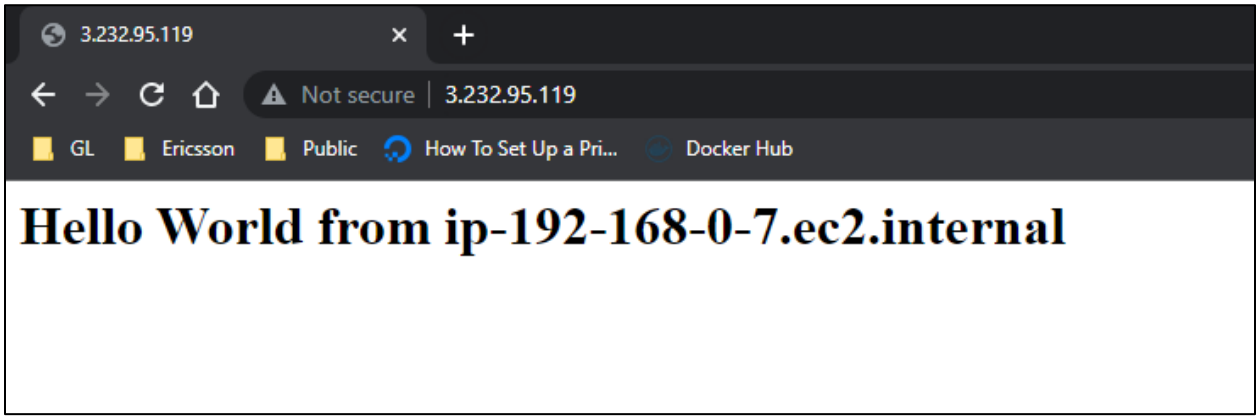
Step 2.1 :: Create 2 instances in Public Subnet and 2 in Private subnet



Webserver 1 :: 3.235.58.150



Webserver 2 :: 3.232.95.119



Webserver 3 :: Reachability from server 1

```
[root@ip-192-168-0-10 ~]# ssh -i /home/ec2-user/DevOps.pem ec2-user@192.168.0.135
The authenticity of host '192.168.0.135 (192.168.0.135)' can't be established.
ECDSA key fingerprint is SHA256:nqeh6r2g68Jljb7tog/sJujSL+1JC1EyxGBIxwAo7qw.
ECDSA key fingerprint is MD5:85:c7:41:b6:09:fc:42:8a:94:ee:b0:0b:bf:3d:10:70.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.0.135' (ECDSA) to the list of known hosts.

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

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-192-168-0-135 ~]$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9001 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 02:d8:a5:82:3d:83 brd ff:ff:ff:ff:ff:ff
    inet 192.168.0.135/28 brd 192.168.0.143 scope global dynamic eth0
       valid_lft 2715sec preferred_lft 2715sec
    inet6 fe80::d8:a5ff:fe82:3d83/64 scope link
       valid_lft forever preferred_lft forever
[ec2-user@ip-192-168-0-135 ~]$
```

Webserver 4 :: Reachability from server 1

```
[root@ip-192-168-0-10 ~]# ssh -i /home/ec2-user/DevOps.pem ec2-user@192.168.0.155
The authenticity of host '192.168.0.155 (192.168.0.155)' can't be established.
ECDSA key fingerprint is SHA256:AN7YxmfRRJchwG/65DEq1435tIe2kmubJtU88e6Ik5g.
ECDSA key fingerprint is MD5:47:9e:50:11:60:50:0f:cc:a6:27:c8:df:e6:9a:7d:46.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '192.168.0.155' (ECDSA) to the list of known hosts.

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

https://aws.amazon.com/amazon-linux-2/
[ec2-user@ip-192-168-0-155 ~]$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
       valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
       valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 9001 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 12:b8:88:61:26:1b brd ff:ff:ff:ff:ff:ff
    inet 192.168.0.155/28 brd 192.168.0.159 scope global dynamic eth0
       valid_lft 2781sec preferred_lft 2781sec
    inet6 fe80::10b8:88ff:fe61:261b/64 scope link
       valid_lft forever preferred_lft forever
[ec2-user@ip-192-168-0-155 ~]$
```