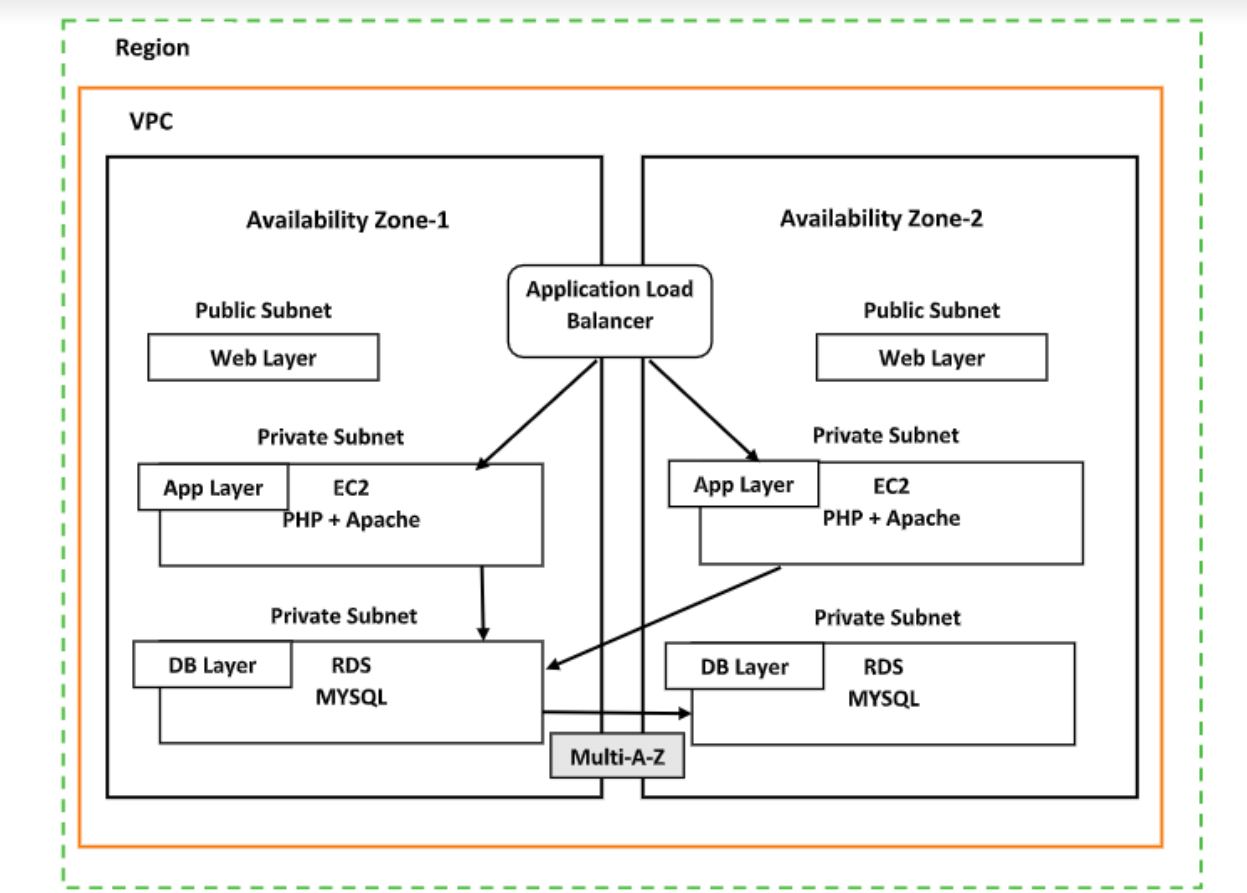
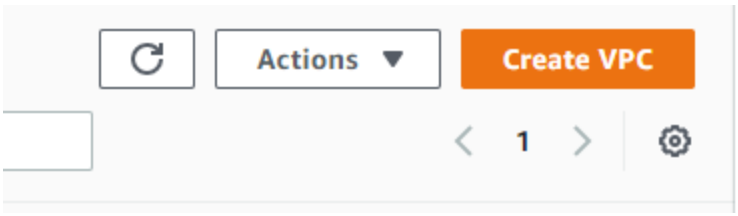
Assignment #1 (AWS)

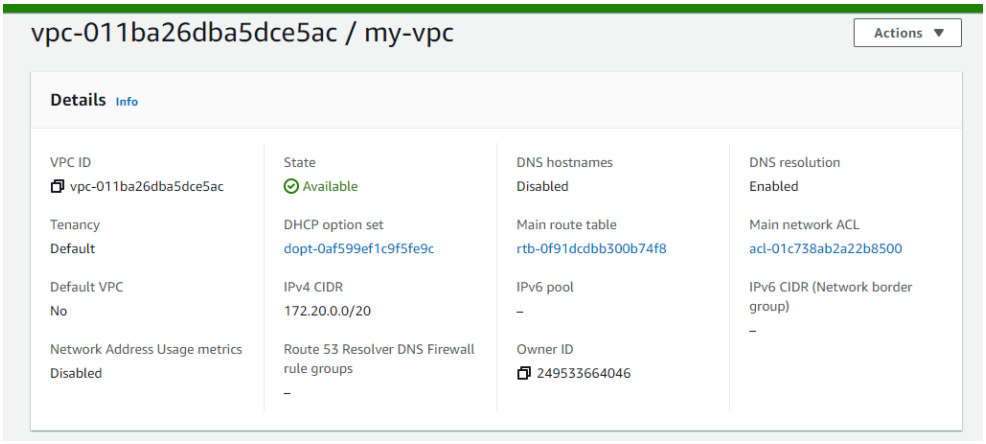
Group member Name:

P19-1652 Hifza Majeed
P19-1664 Noman
P19-1672 Ahmad



Step 1: Create a VPC:



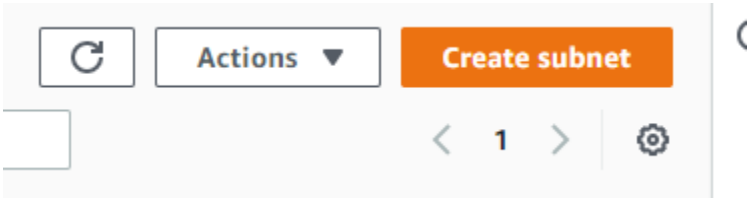


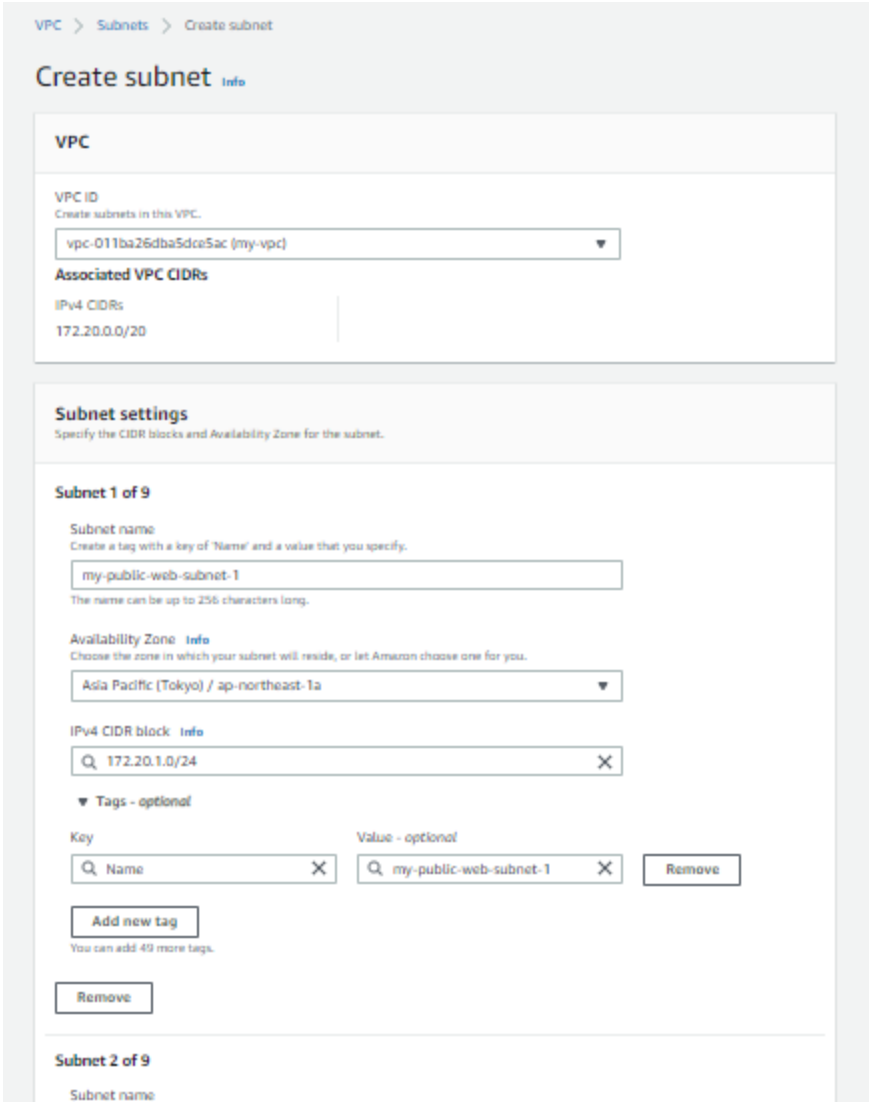
Step 2: Create Subnet:

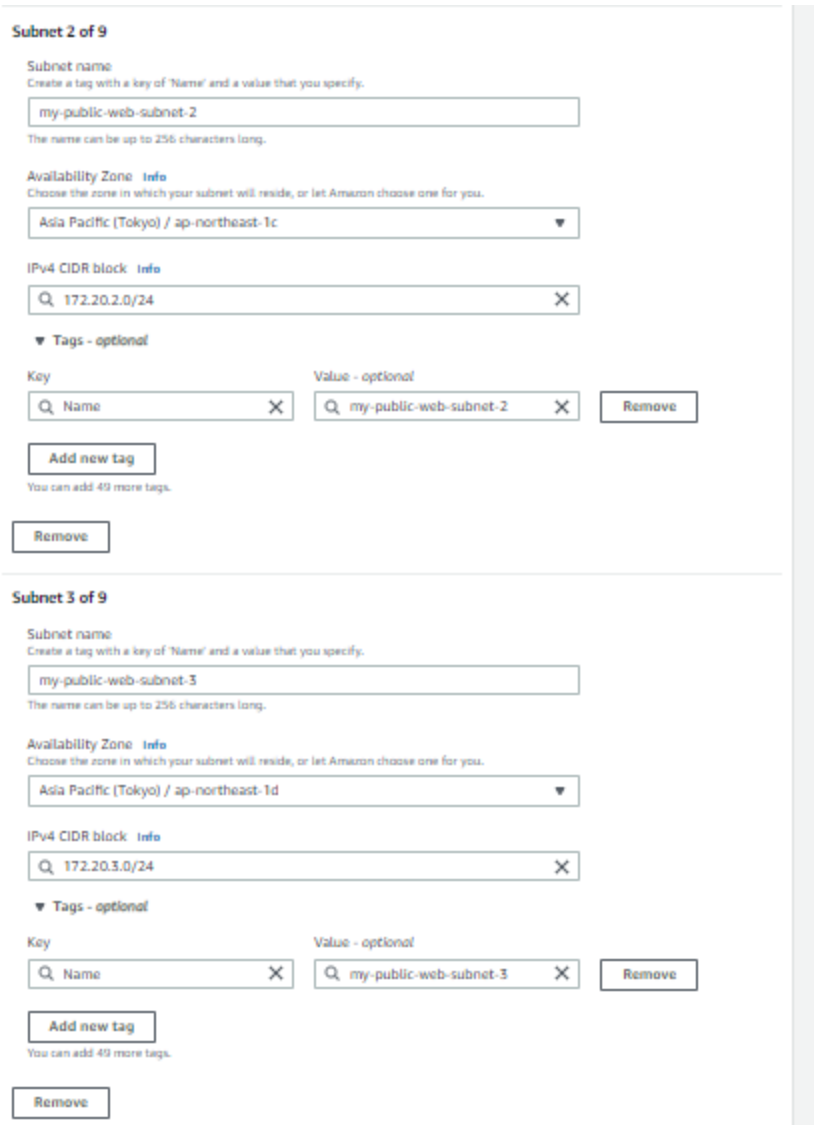
1. Create 3 public web subnets

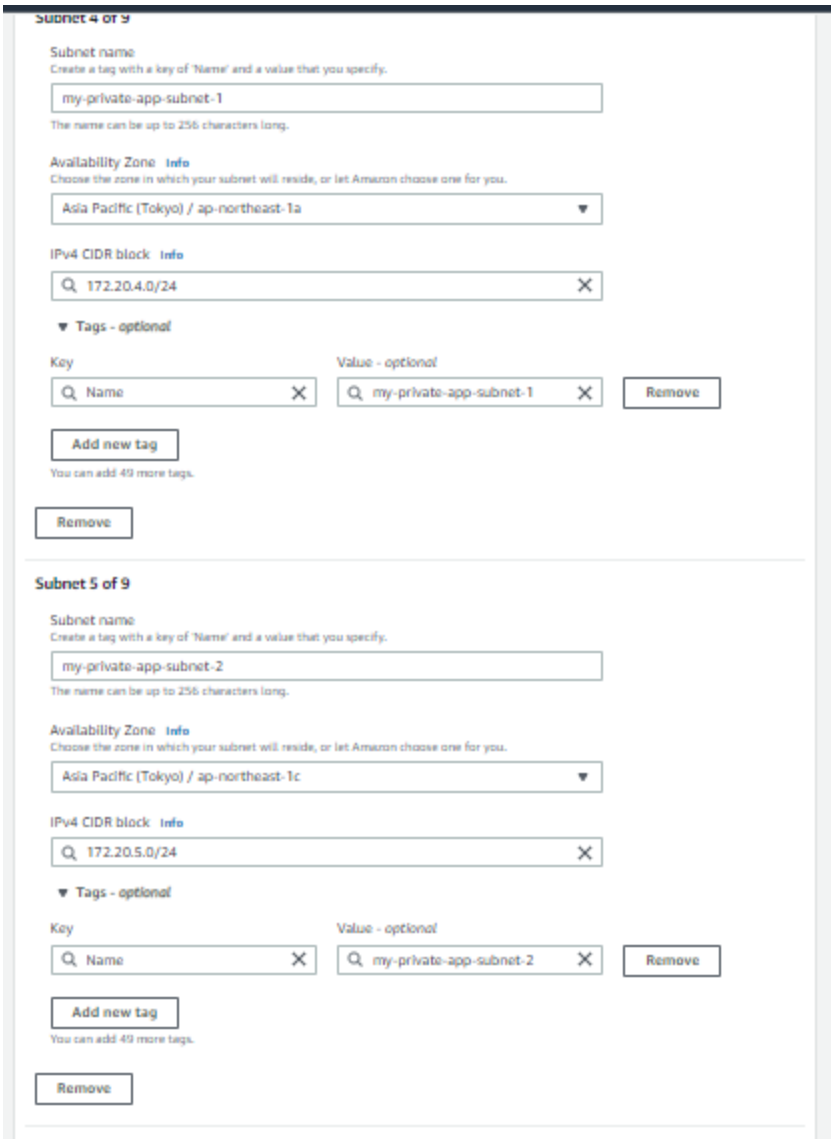
2. create 3 private app subnets

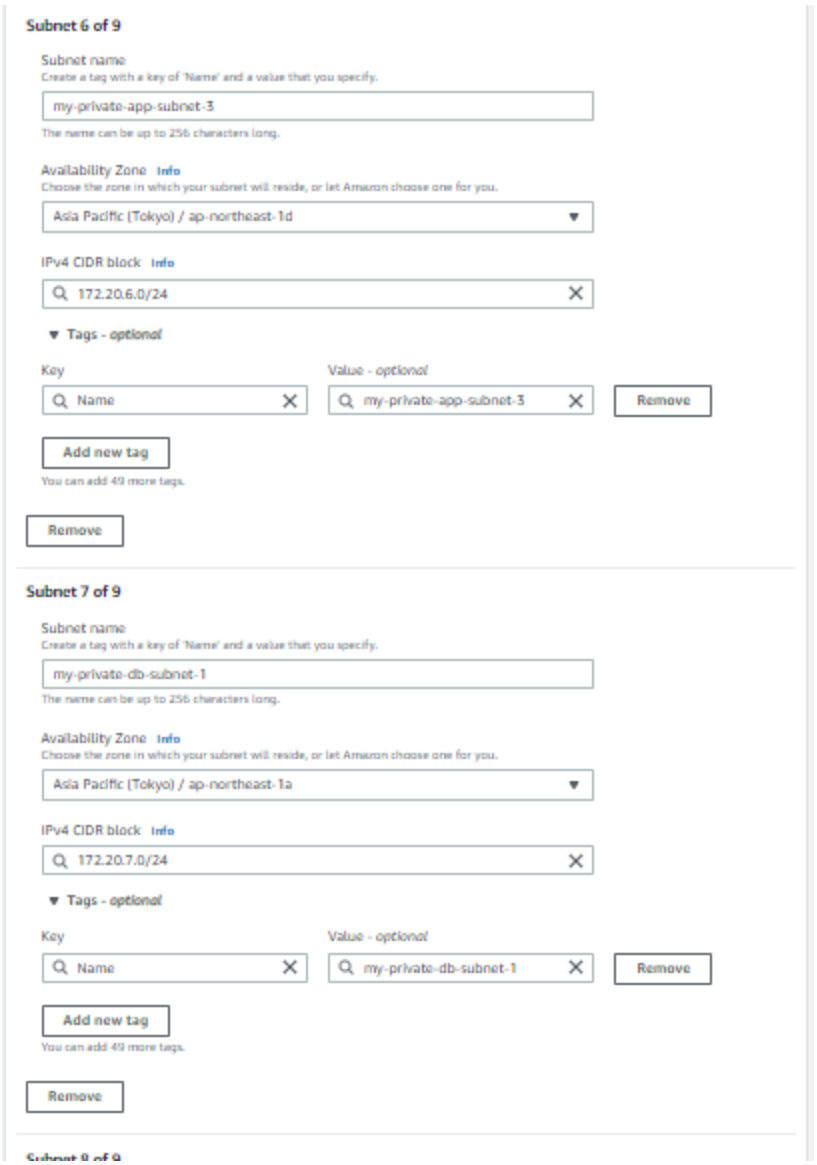
3.create 3 private DB subnet

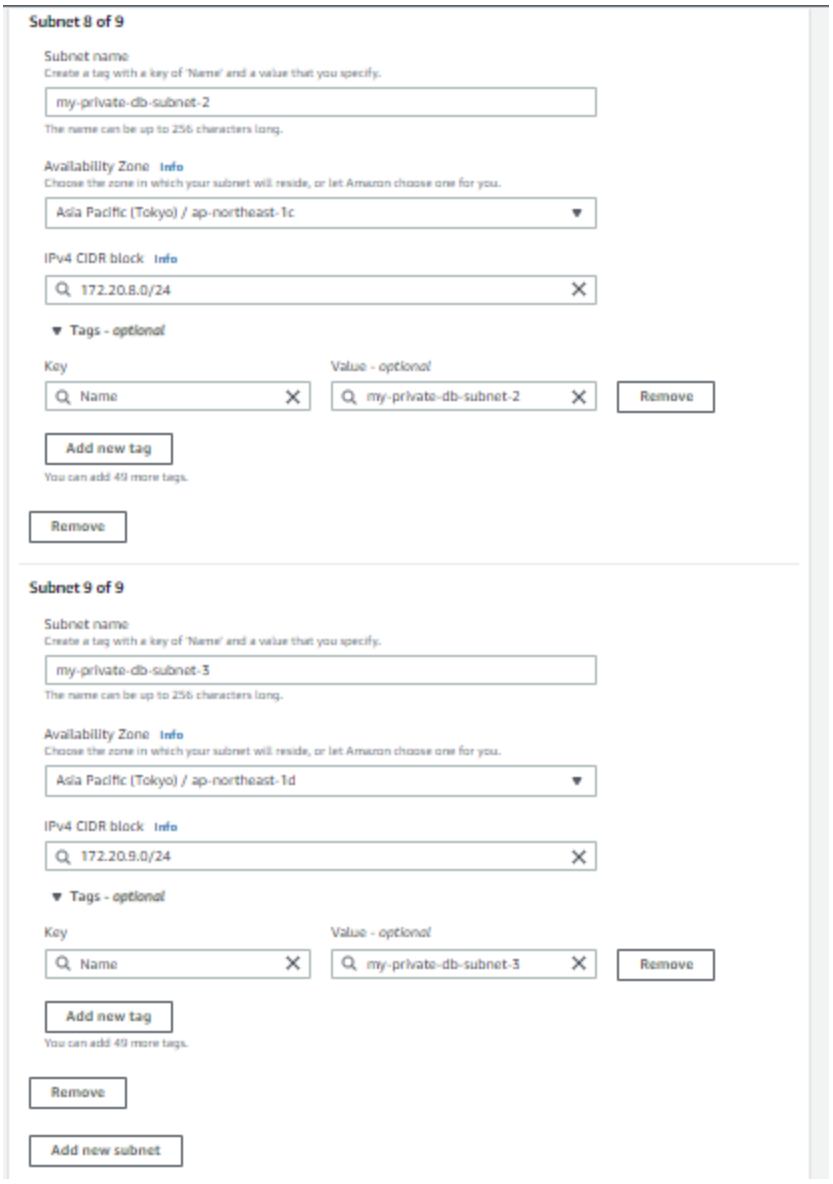


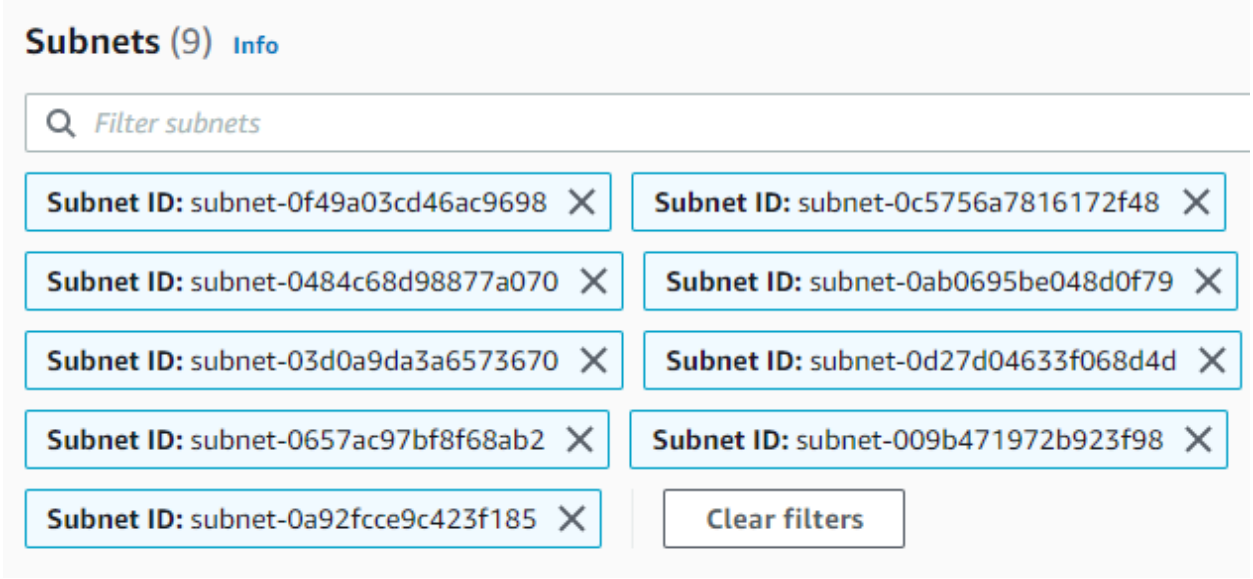

VPC > Subnets > Create subnet
Create subnet Info
VPC
VPC ID
Create subnets in this VPC.
vpc-011ba26dba5dce5ac (my-vpc)
Associated VPC CIDRs
IPv4 CIDRs
172.20.0.0/20
Subnet settings
Specify the CIDR blocks and Availability Zone for the subnet.
Subnet 1 of 9
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-public-web-subnet-1
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.
Asia Pacific (Tokyo) / ap-northeast-1a
IPv4 CIDR block Info
172.20.1.0/24
Tags - optional
Key
Value - optional
Name
my-public-web-subnet-1
Remove
Add new tag
You can add 49 more tags.
Remove
Subnet 2 of 9
Subnet name

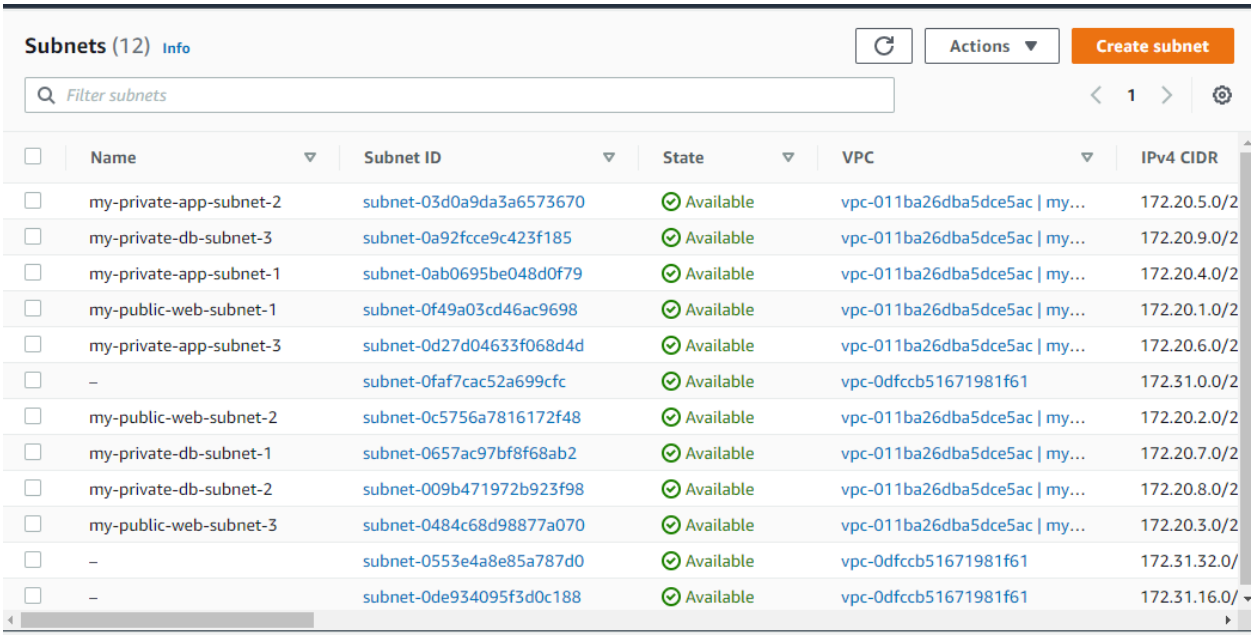

Subnet 2 of 9
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-public-web-subnet-2
The name can be up to 256 characters long.
Availability Zone Info
Choose the zone in which your subnet will reside, or let Amazon choose one for you.
Asia Pacific (Tokyo) / ap-northeast-1c
IPv4 CIDR block Info
172.20.2.0/24
Tags - optional
Key
Value - optional
Name
my-public-web-subnet-2
Remove
Add new tag
You can add 49 more tags.
Remove
Subnet 3 of 9
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-public-web-subnet-3
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.
Asia Pacific (Tokyo) / ap-northeast-1d
IPv4 CIDR block Info
172.20.3.0/24
Tags - optional
Key
Value - optional
Name
my-public-web-subnet-3
Remove
Add new tag
You can add 49 more tags.
Remove


Subnet 4 of 9
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-private-app-subnet-1
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.
Asia Pacific (Tokyo) / ap-northeast-1a
IPv4 CIDR block Info
172.20.4.0/24
Tags - optional
Key
Value - optional
Name
my-private-app-subnet-1
Remove
Add new tag
You can add 49 more tags.
Remove
Subnet 5 of 9
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-private-app-subnet-2
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.
Asia Pacific (Tokyo) / ap-northeast-1c
IPv4 CIDR block Info
172.20.5.0/24
Tags - optional
Key
Value - optional
Name
my-private-app-subnet-2
Remove
Add new tag
You can add 49 more tags.
Remove


Subnet 6 of 9
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-private-app-subnet-3
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.
Asia Pacific (Tokyo) / ap-northeast-1d
IPv4 CIDR block Info
172.20.6.0/24
Tags - optional
Key
Value - optional
Name
my-private-app-subnet-3
Remove
Add new tag
You can add 49 more tags.
Remove
Subnet 7 of 9
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-private-db-subnet-1
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.
Asia Pacific (Tokyo) / ap-northeast-1a
IPv4 CIDR block Info
172.20.7.0/24
Tags - optional
Key
Value - optional
Name
my-private-db-subnet-1
Remove
Add new tag
You can add 49 more tags.
Remove

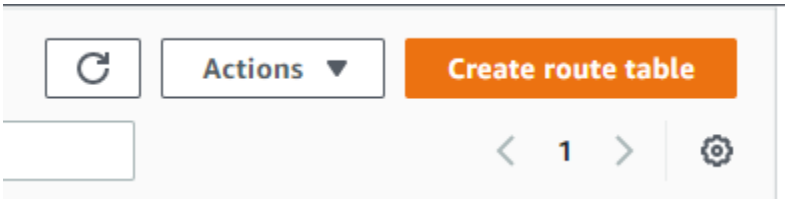

Subnet 8 of 9
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-private-db-subnet-2
The name can be up to 256 characters long.
Availability Zone Info
Choose the zone in which your subnet will reside, or let Amazon choose one for you.
Asia Pacific (Tokyo) / ap-northeast-1c
IPv4 CIDR block Info
172.20.8.0/24
Tags - optional
Key
Value - optional
Name
my-private-db-subnet-2
Remove
Add new tag
You can add 49 more tags.
Remove
Subnet 9 of 9
Subnet name
Create a tag with a key of 'Name' and a value that you specify.
my-private-db-subnet-3
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.
Asia Pacific (Tokyo) / ap-northeast-1d
IPv4 CIDR block Info
172.20.9.0/24
Tags - optional
Key
Value - optional
Name
my-private-db-subnet-3
Remove
Add new tag
You can add 49 more tags.
Remove
Add new subnet





Step 3: Create a routing table

1. **Create public web route table**
2. **Create a private app route table**
3. **Create private DB route table**



Create route table Info

A route table specifies how packets are forwarded between the subnets within your VPC, the internet, connection.

Route table settings

Name - *optional*
Create a tag with a key of 'Name' and a value that you specify.

my-public-web-route-table

VPC
The VPC to use for this route table.

vpc-011ba26dba5dce5ac (my-vpc)

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 ta your resources or track your AWS costs.

rtb-0e65798502ff1156a / my-private-app-route-table

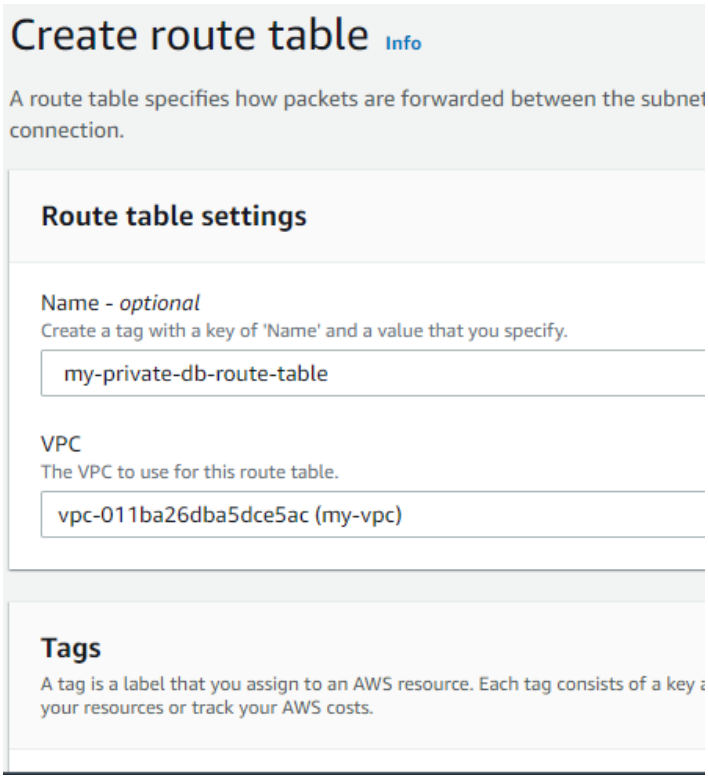
You can now check network connectivity with Reachability Analyzer

Run Reachability Analyze

Details Info

Route table ID	Main	Explicit subnet associations	Edge associations
rtb-0e65798502ff1156a	No	–	–

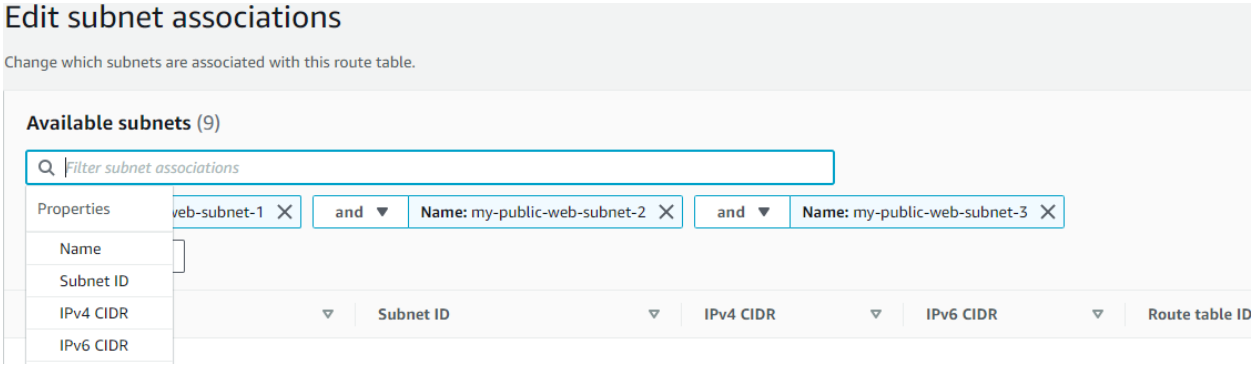
VPC	Owner ID
vpc-011ba26dba5dce5ac | my-vpc	249533664046



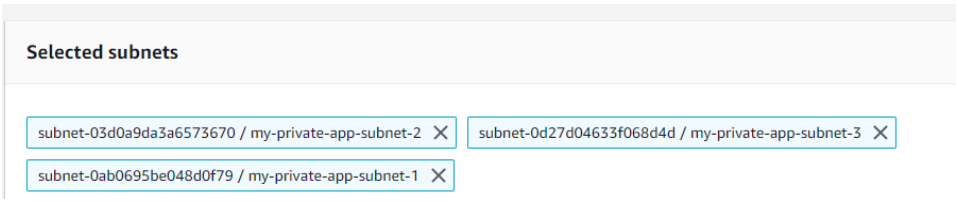
Name	Route table ID	Explicit subnet associat...	Edge associations	Main	VP(
my-private-app-route-table	rtb-0e65798502ff1156a	–	–	No	vpc
my-public-web-route-table	rtb-0b257e03300e0d477	–	–	No	vpc
–	rtb-0f91dcdbb300b74f8	–	–	Yes	vpc
my-private-db-route-table	rtb-0c8f11dff883c49a8	–	–	No	vpc

After creating the routing table now to associate with the related subnet:

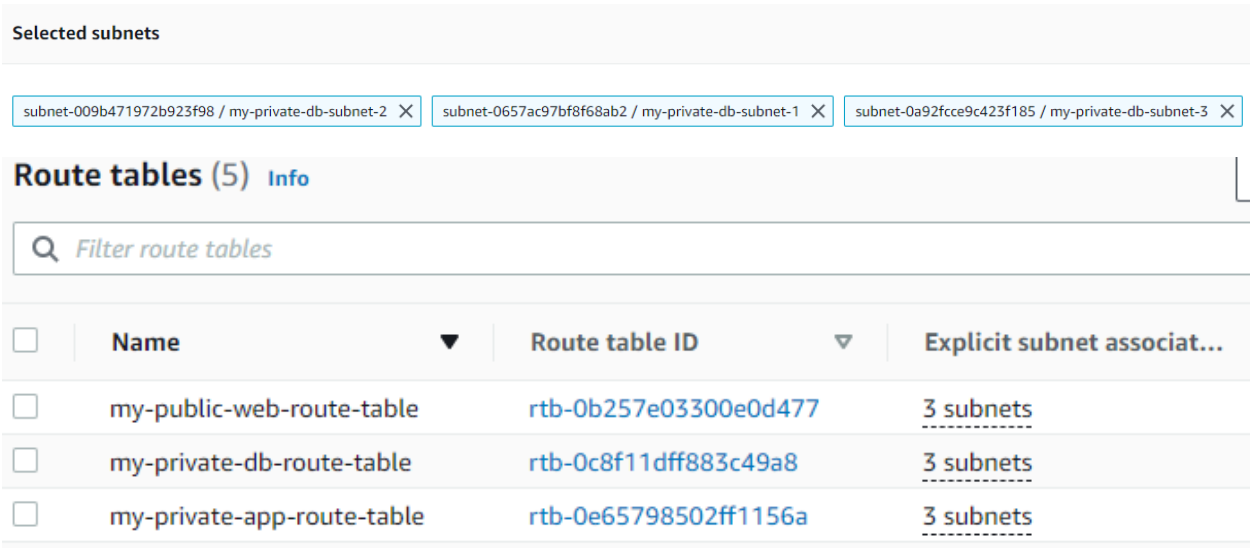
Public web router associated with public web subnet:



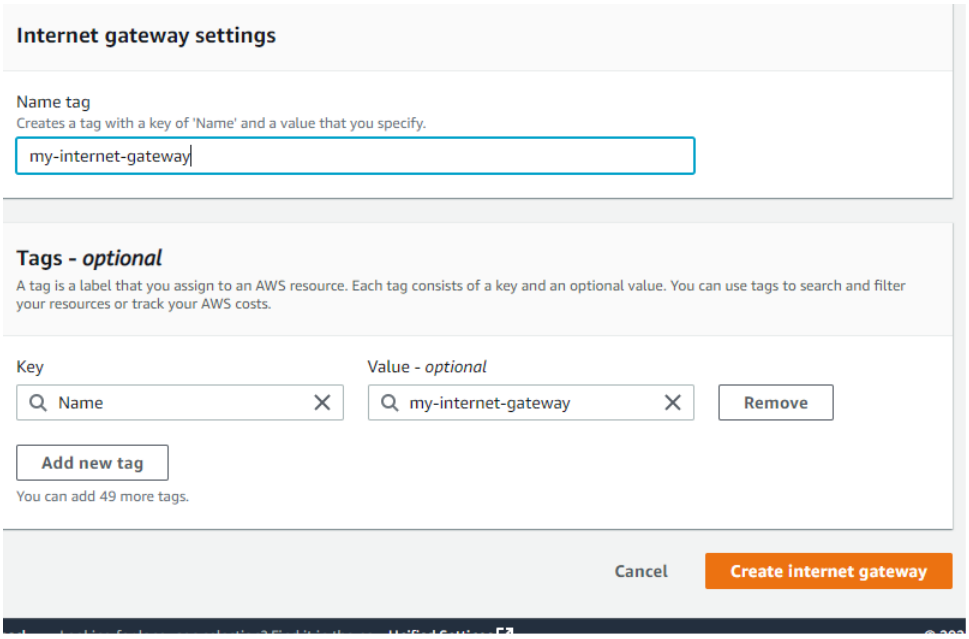
Private app router associated with Private app subnet:



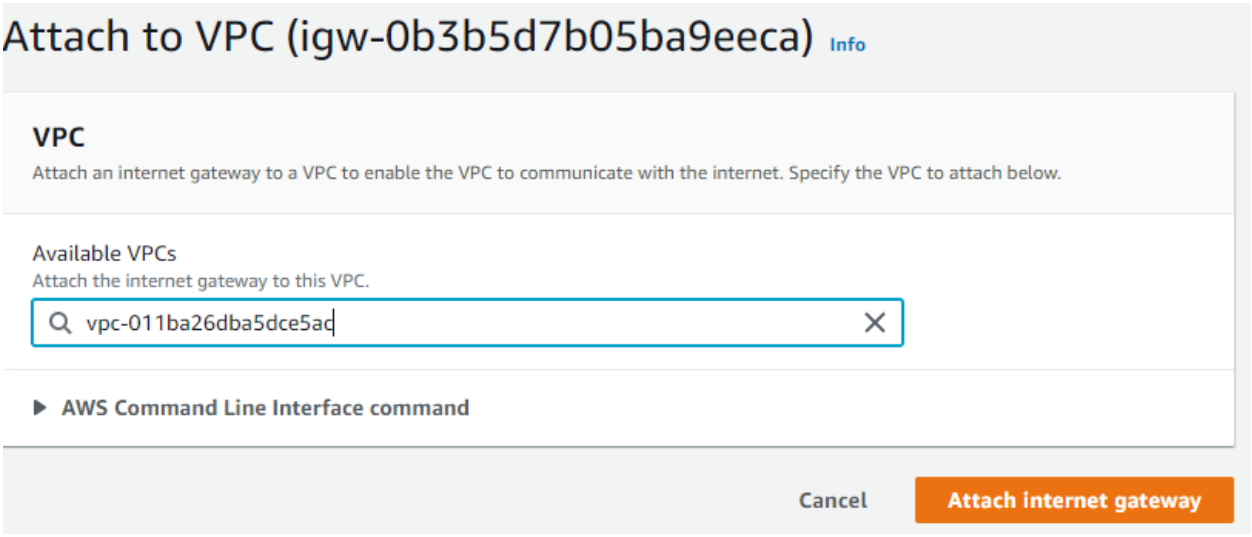
Private db router associated with Private db subnet:

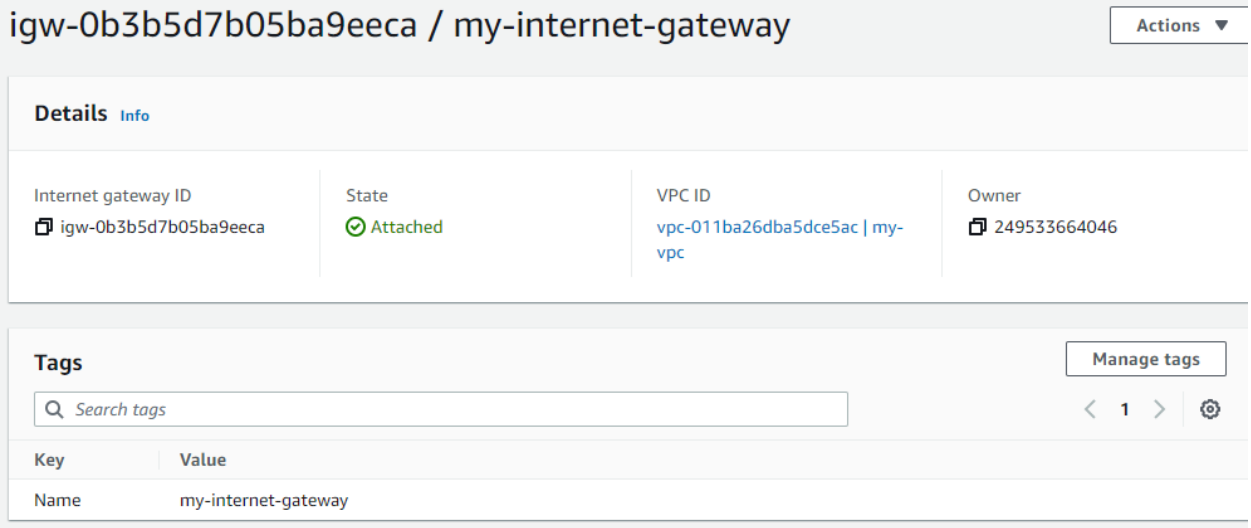


Step 4: Create Internet gateway:

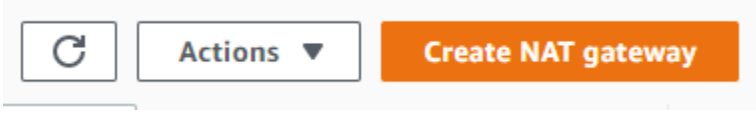


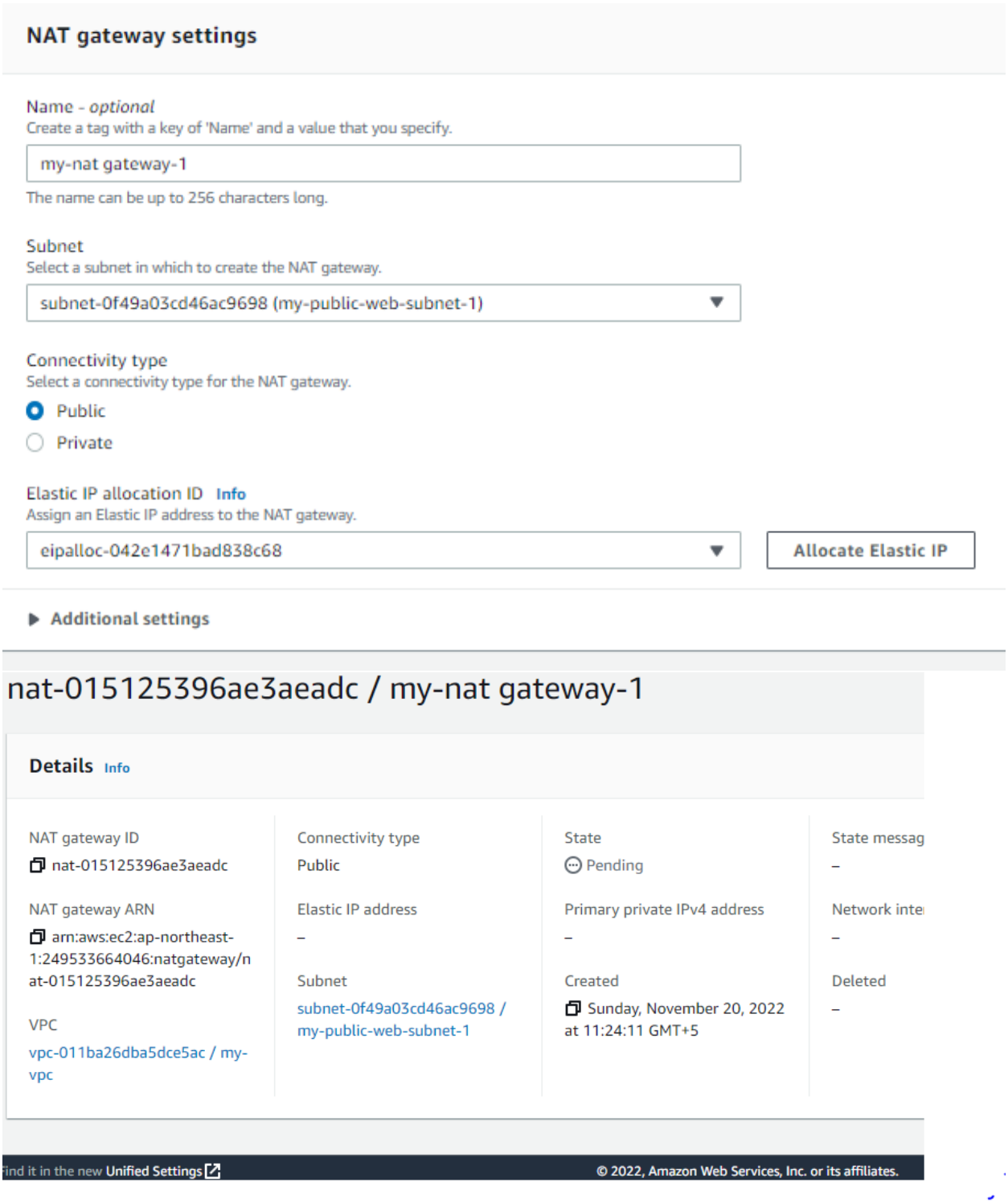
After Creating then attached to VPC:



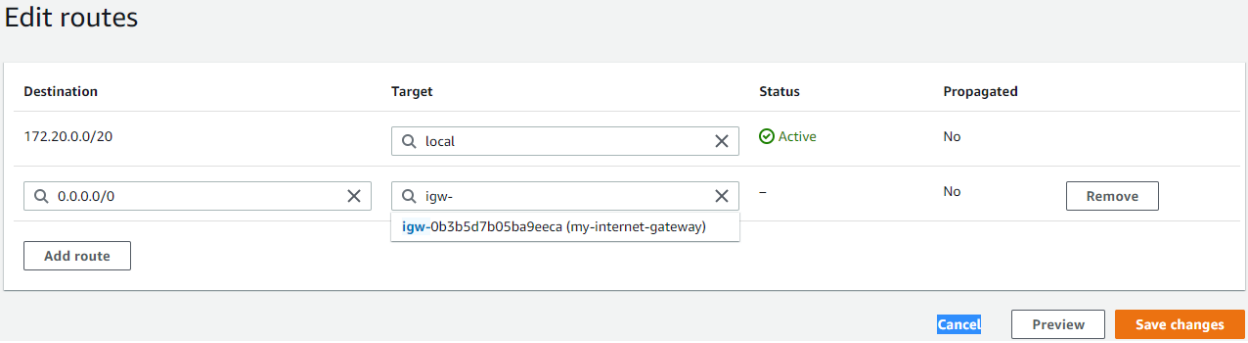


Step 5: Create NAT gateway:

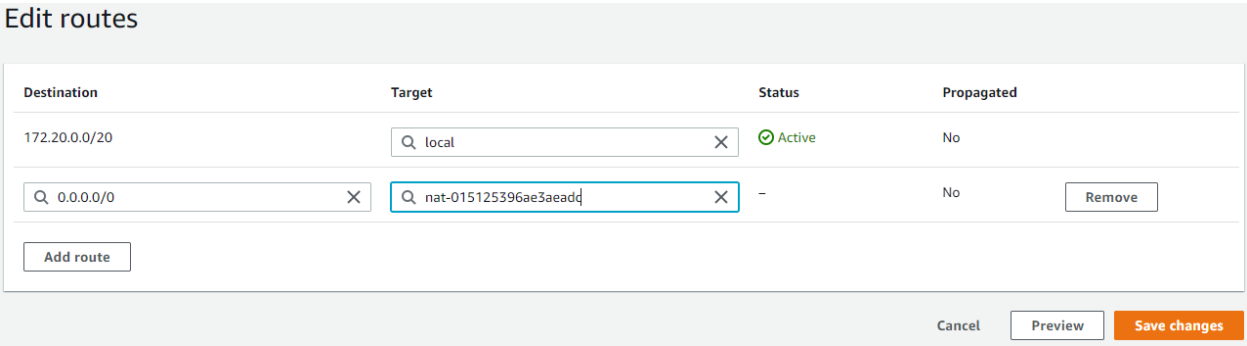




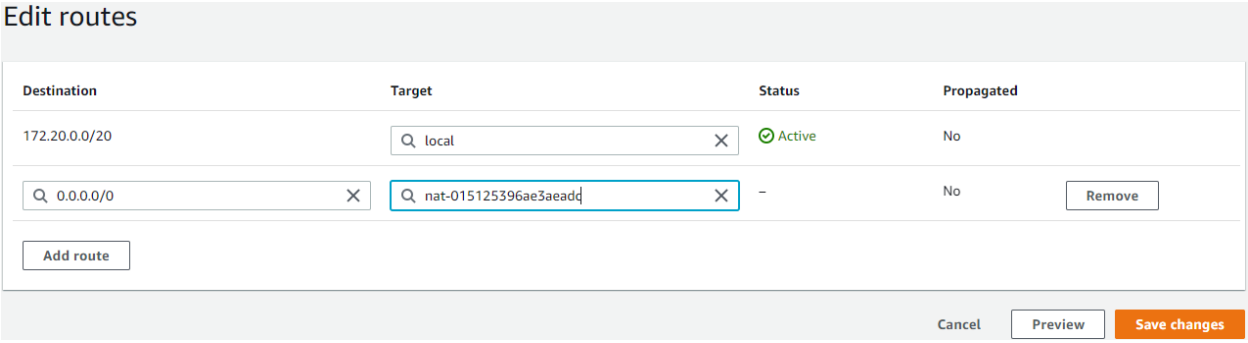
Connect the internet gateway with bublic router:



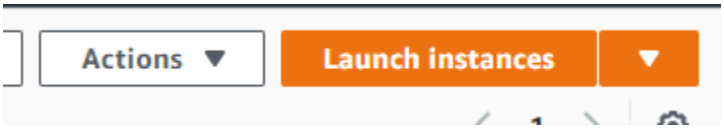
Connect the NAT gateway with the private app router:

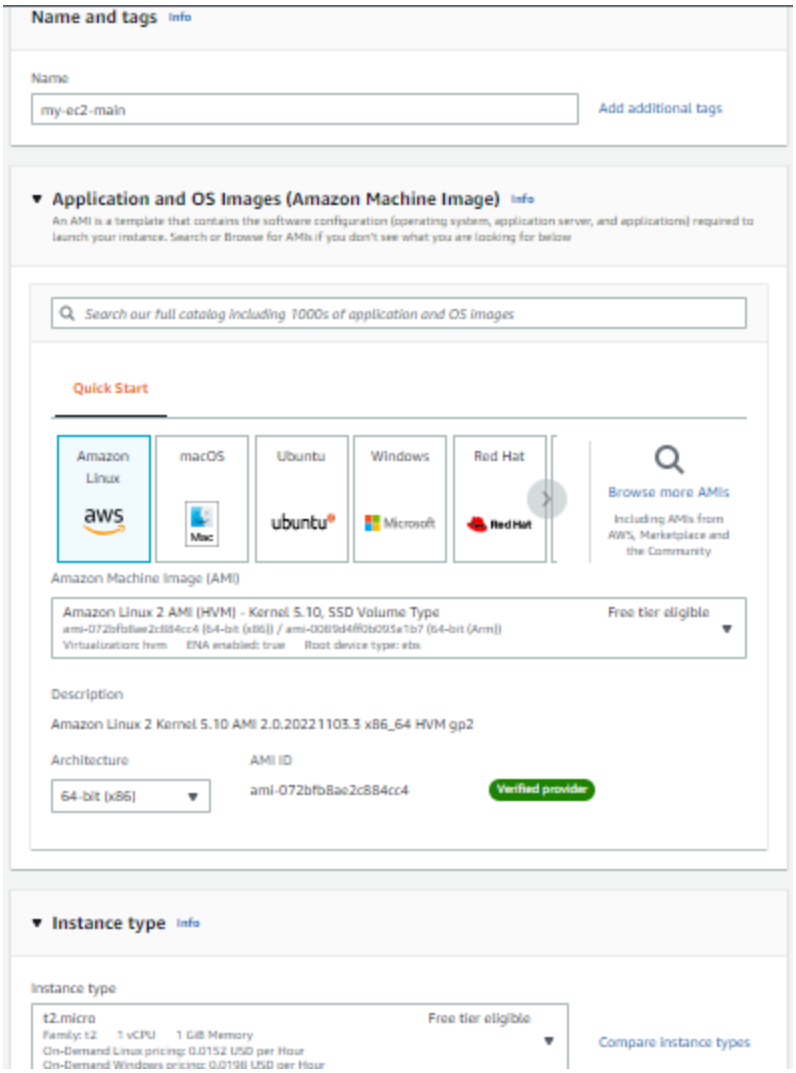


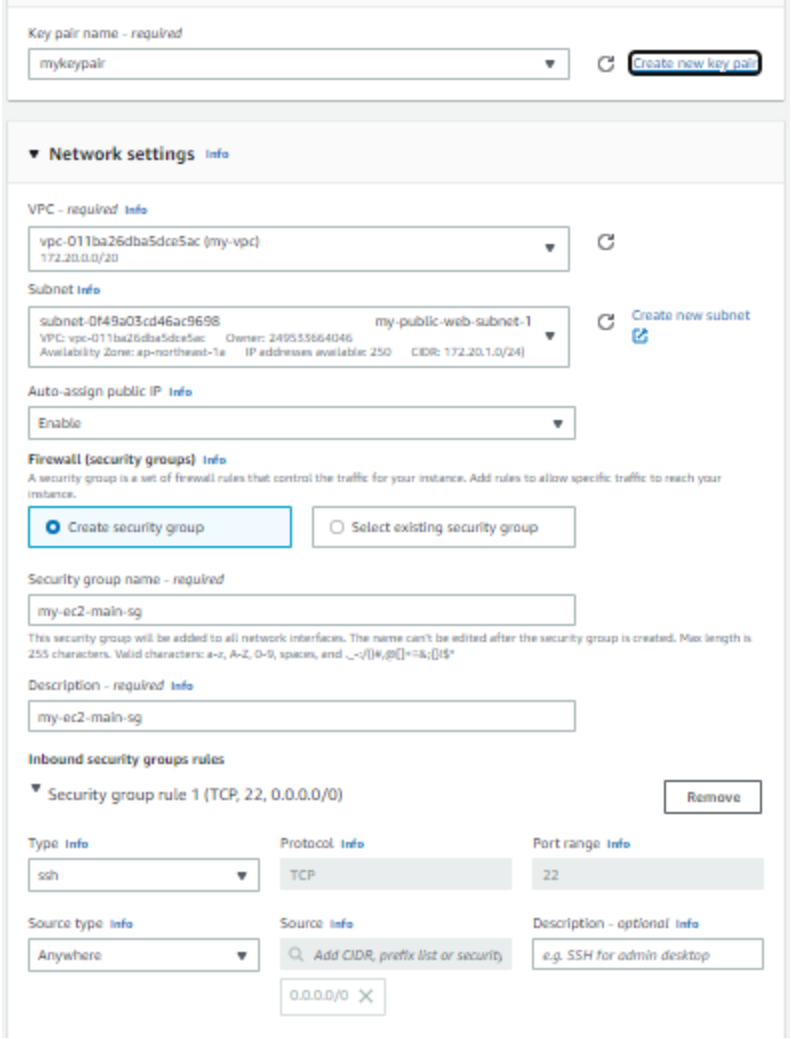
Connect the NAT gateway with a Private DB router:



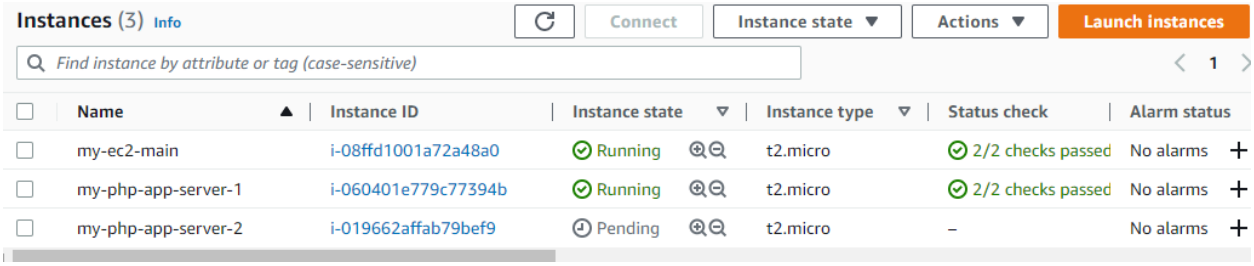
Step 6: Create Instances:



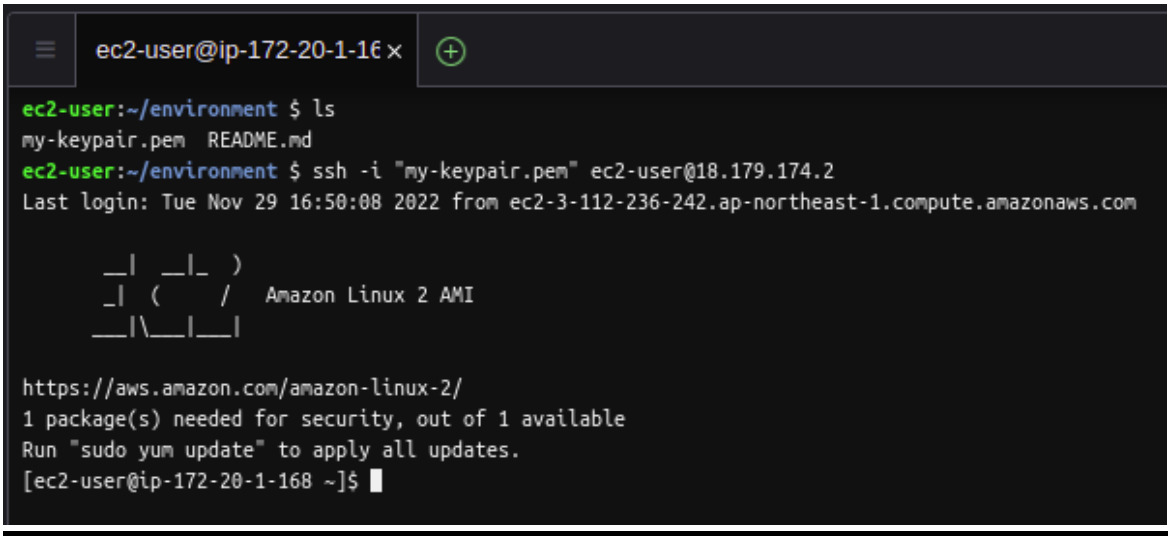

Name and tags Info
Name
my-ec2-main
Add additional tags
Application and OS Images (Amazon Machine Image) Info
An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below
Search our full catalog including 1000s of application and OS images
Quick Start
Amazon Linux
macOS
Ubuntu
Windows
Red Hat
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community
Amazon Machine Image (AMI)
Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type
Free tier eligible
Description
Amazon Linux 2 Kernel 5.10 AMI 2.0.20221103.3 x86_64 HVM gp2
Architecture
AMI ID
64-bit (x86)
ami-072bfb8ae2c884cc4
Verified provider
Instance type Info
Instance type
t2.micro
Free tier eligible
Family: t2 1 vCPU 1 GiB Memory
On-Demand Linux pricing: 0.0152 USD per Hour
On-Demand Windows pricing: 0.0196 USD per Hour
Compare instance types



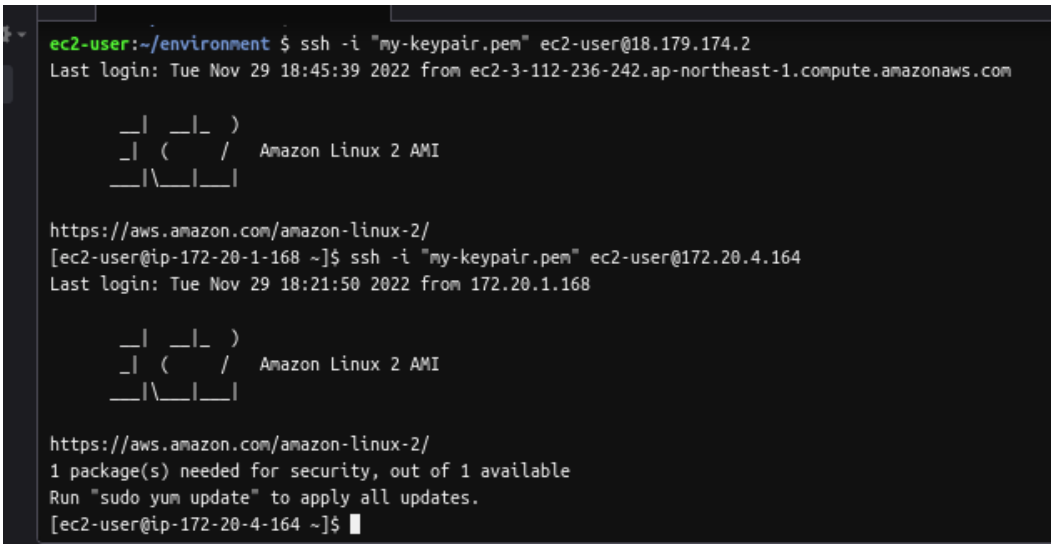
Create 3 instances:



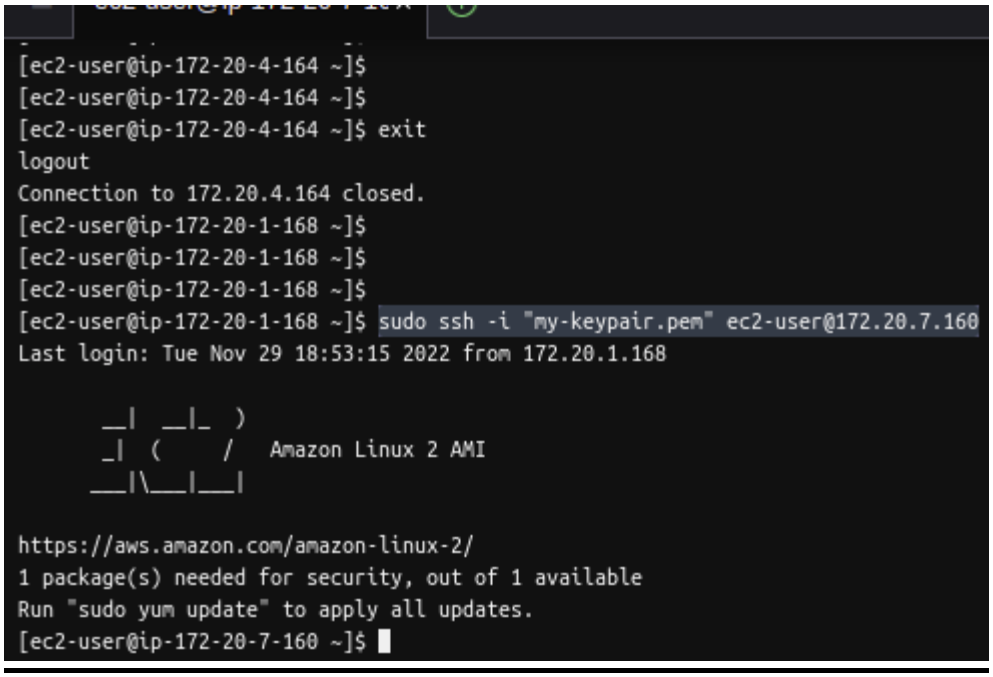
Step 7: Connect EC2 with the local machine(ubuntu)



Connect public EC2 with Private EC2:



Connect public EC2 with another Private EC2:

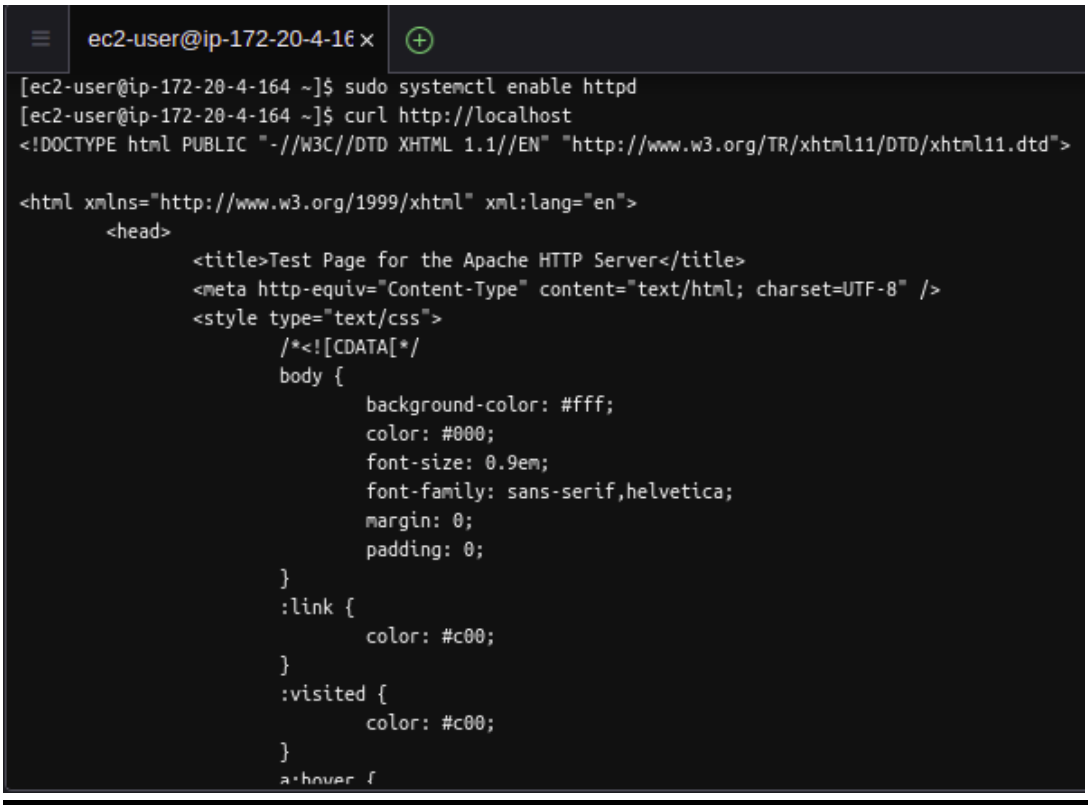


Step 8: Commands for app server php installment

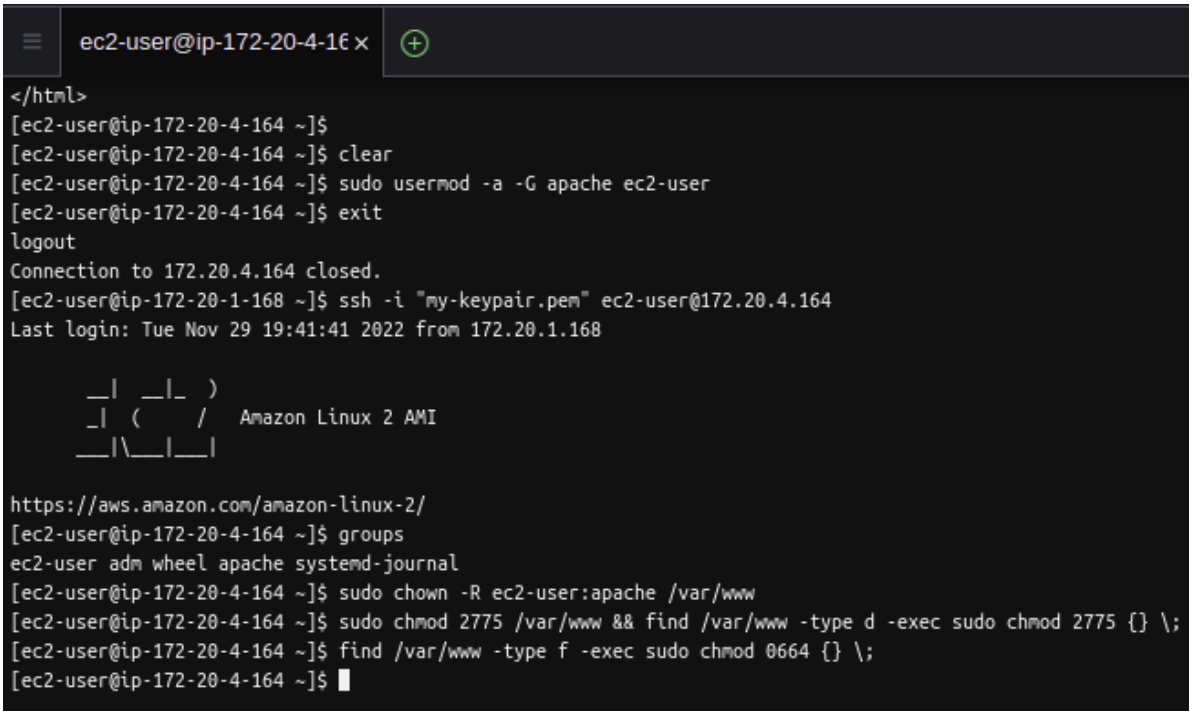
1. sudo yum update -y
2. sudo amazon-linux-extras install -y lamp-mariadb10.2 -php7.2 php7.2
3. sudo yum install -y httpd mariadb-server

Stating services

1. sudo systemctl start httpd
2. sudo systemctl enable httpd
3. curl http://localhost



Step 9: Giving permission

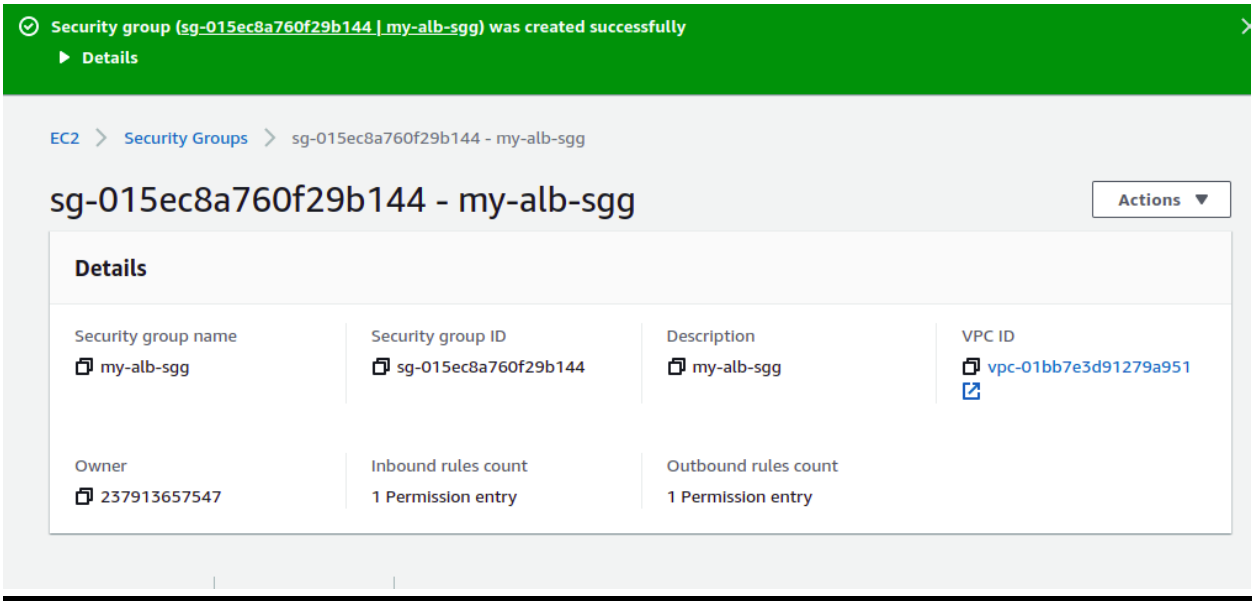


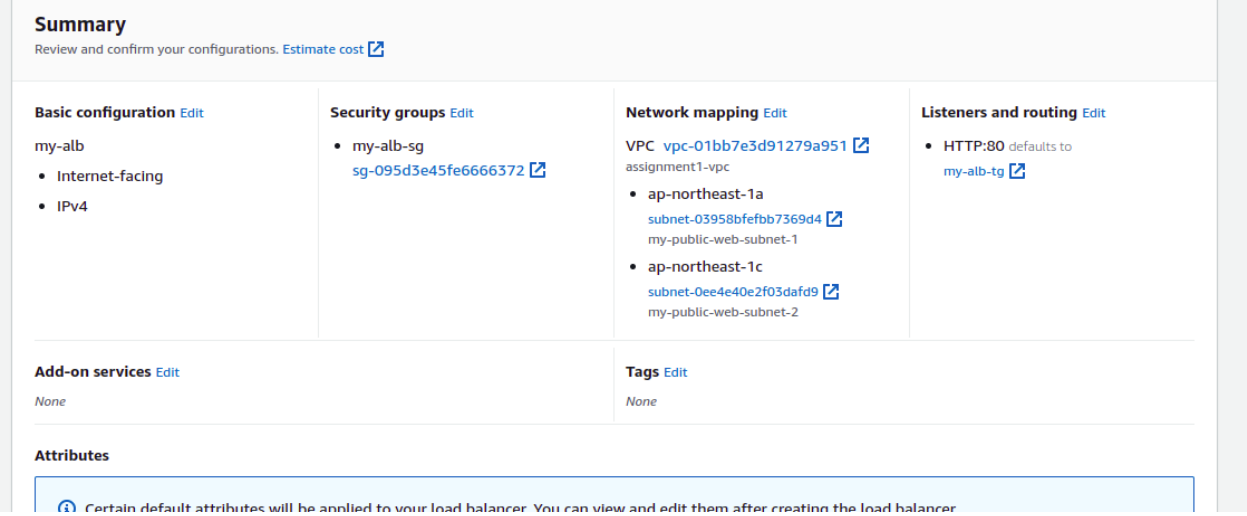
Step 10: Install PHP on my admin

Steps

1. sudo yum install php-mbstring php-xml -y
2. sudo systemctl restart httpd
3. sudo systemctl restart php-fpm
4. cd /var/www/html
5. wget https://www.phpmyadmin.net/downloads/phpMyAdmin-latest-all-languages.tar.gz
6. mkdir phpMyAdmin && tar -xvzf phpMyAdmin-latest-all-languages.tar.gz -C phpMyAdmin --strip-components 1
7. rm phpMyAdmin-latest-all-languages.tar.gz
8. sudo systemctl start MariaDB

Step 11: Load Balancers

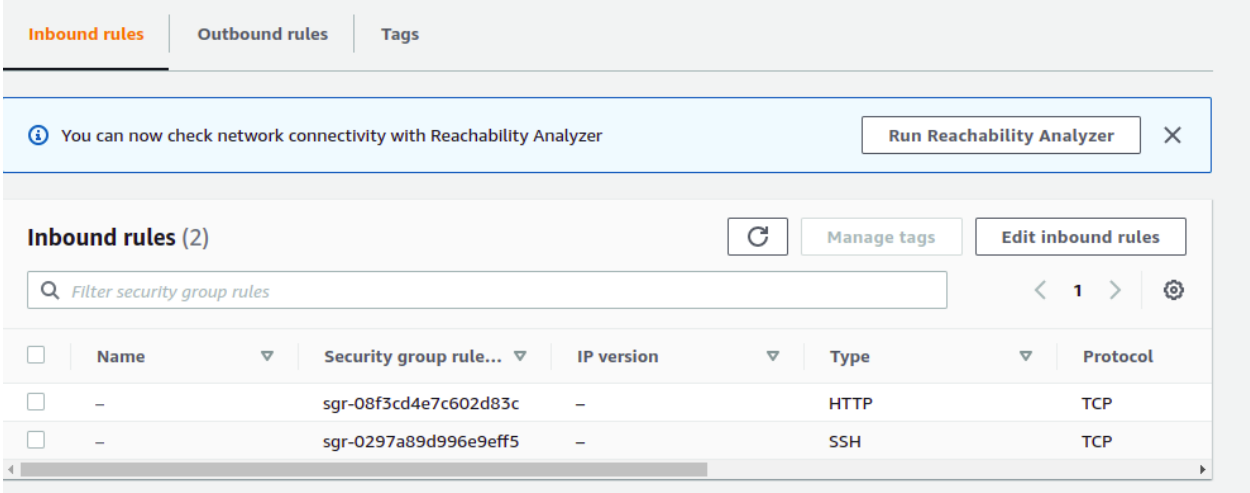




Step 12:

Editing security groups of instances

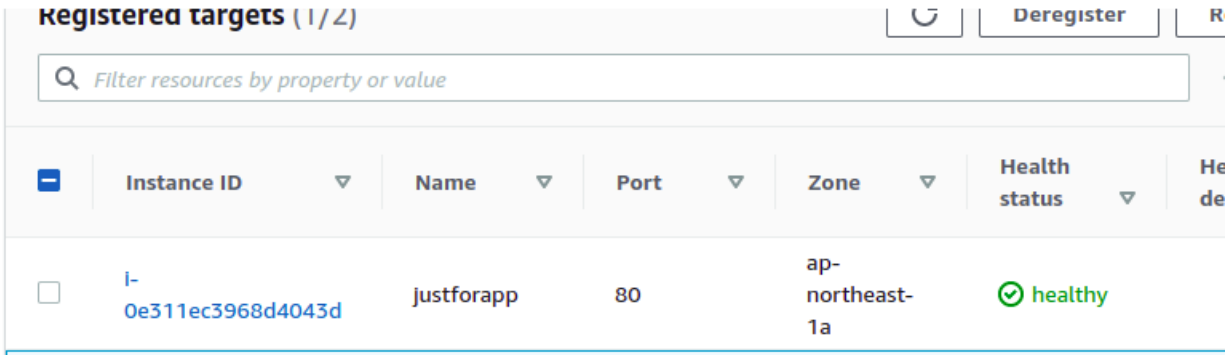
Inbound changes



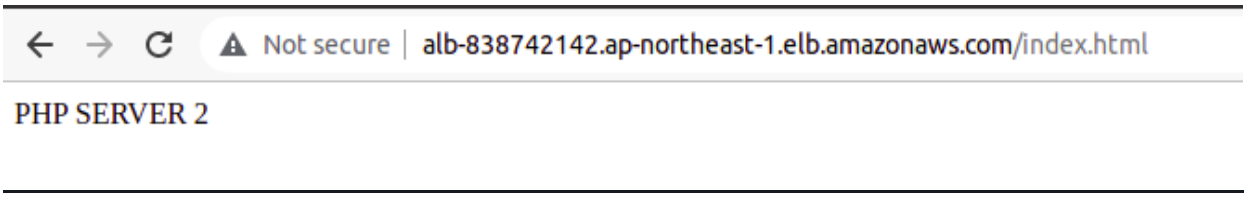
Checking the health state of target groups

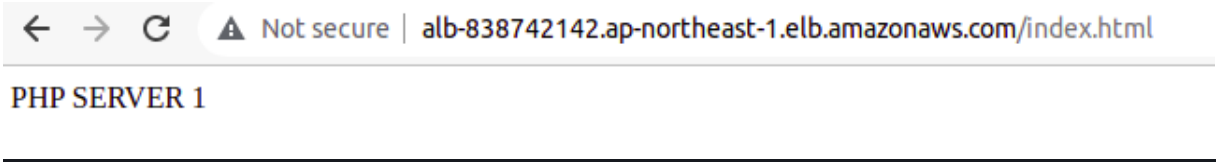
=

Target group: my-alb-tgg



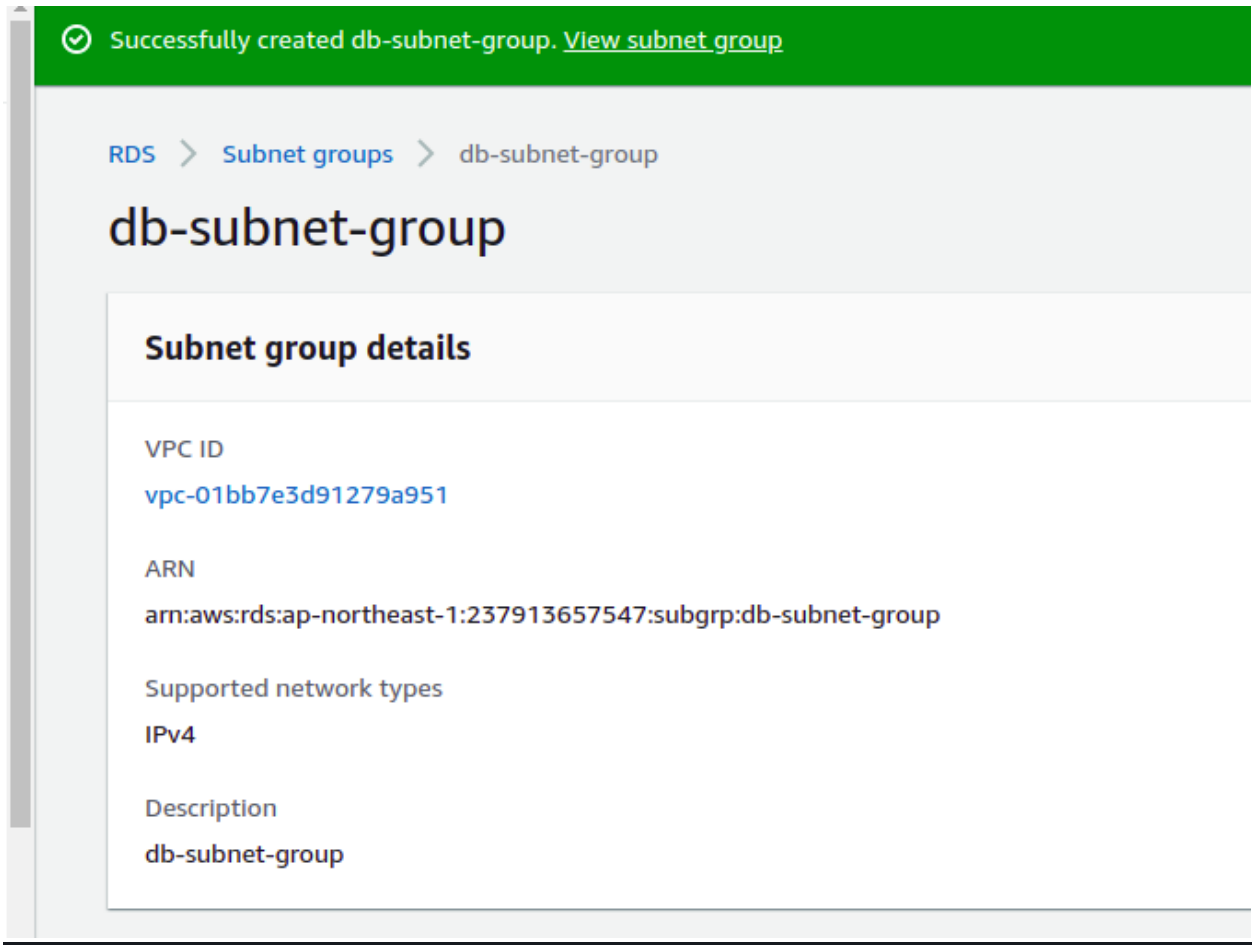
Copy the DNS NAME of the load balancer and check to work



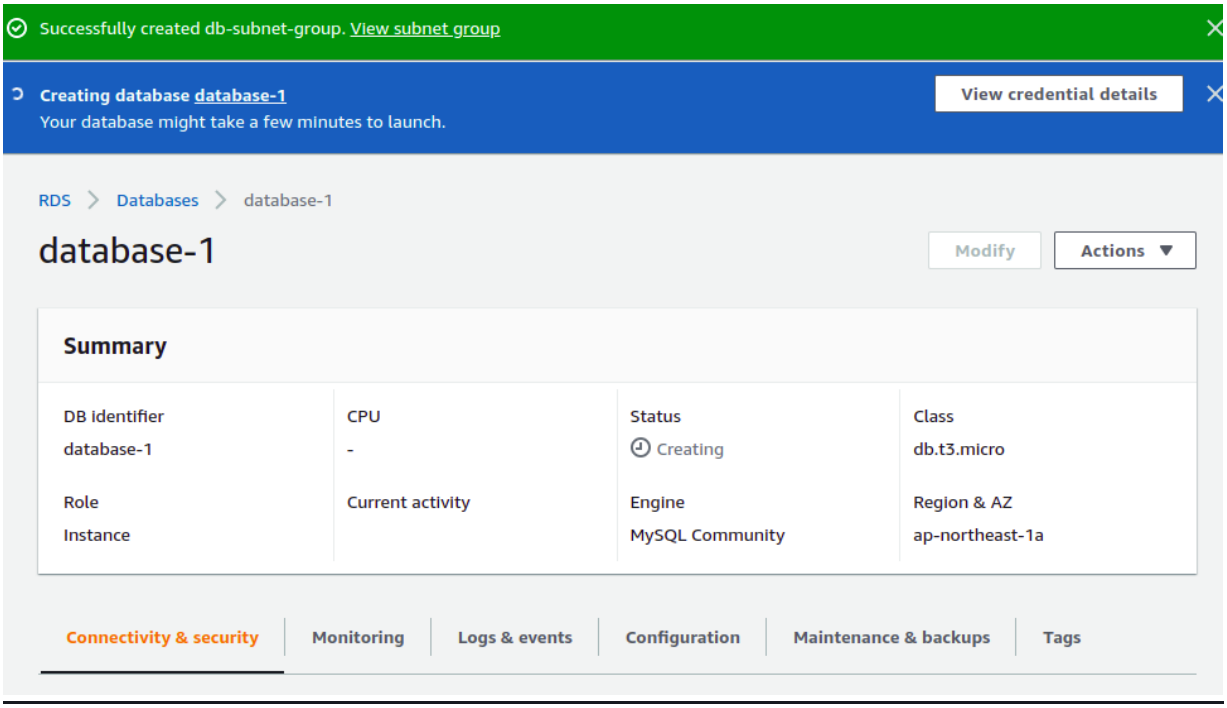


NOW DATA BASE

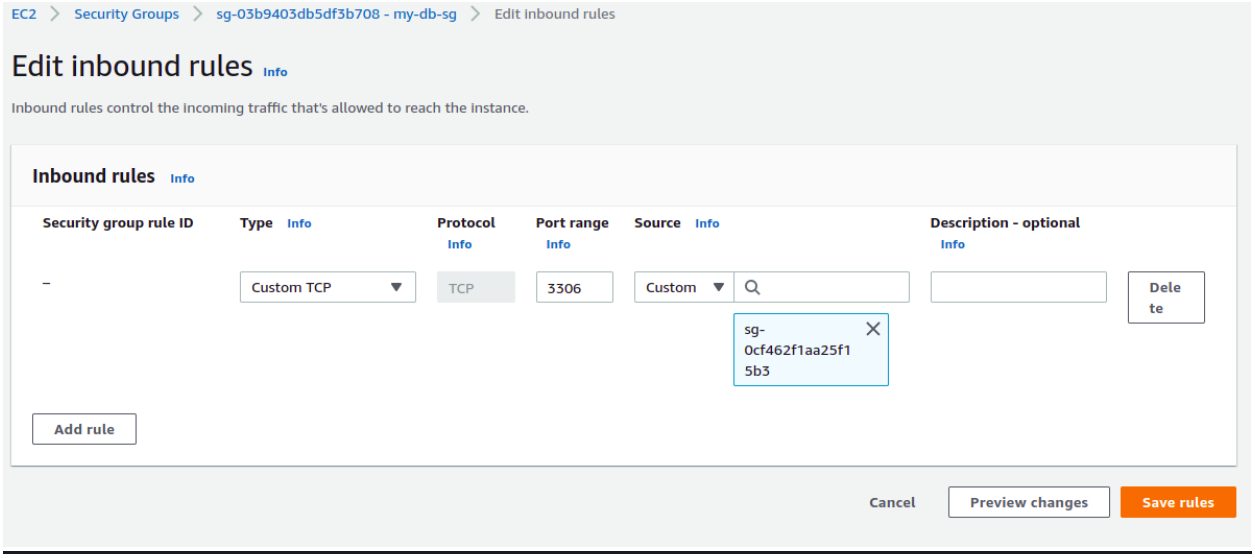
CREATE SUBNETS


Successfully created db-subnet-group. View subnet group
RDS
Subnet groups
db-subnet-group
db-subnet-group
Subnet group details
VPC ID
vpc-01bb7e3d91279a951
ARN
arn:aws:rds:ap-northeast-1:237913657547:subgrp:db-subnet-group
Supported network types
IPv4
Description
db-subnet-group

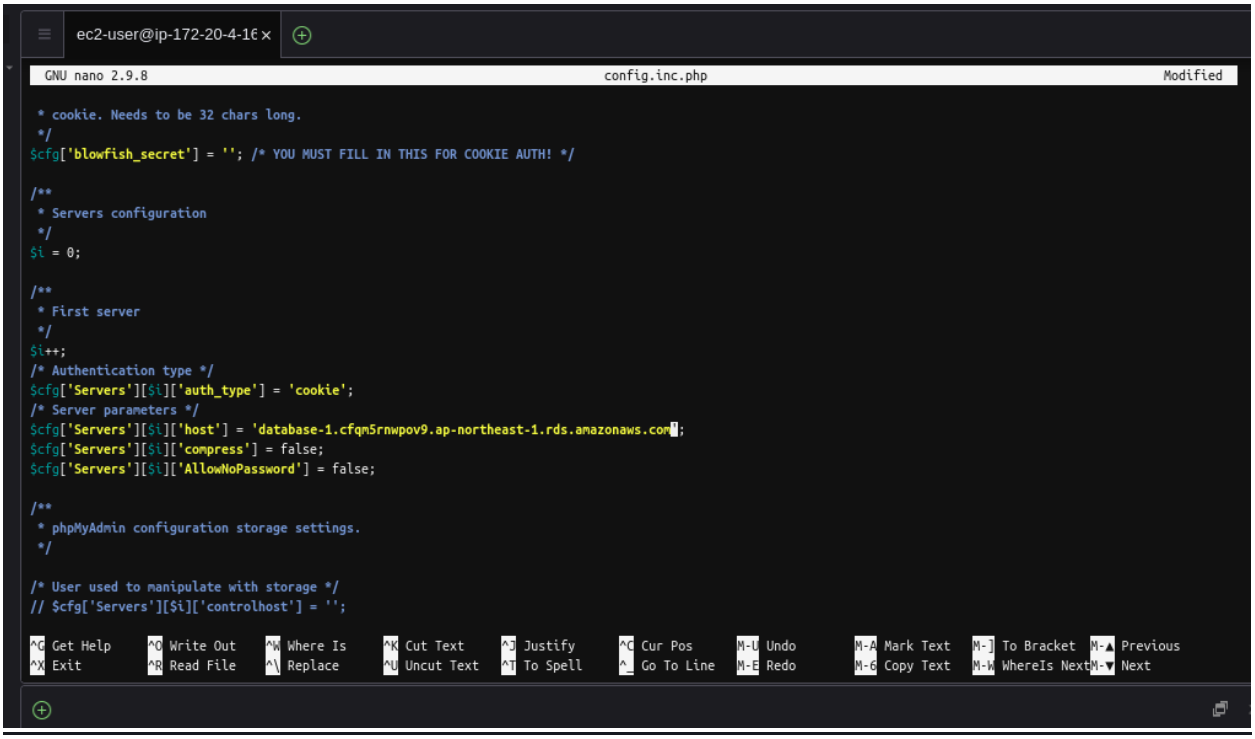
Creating database



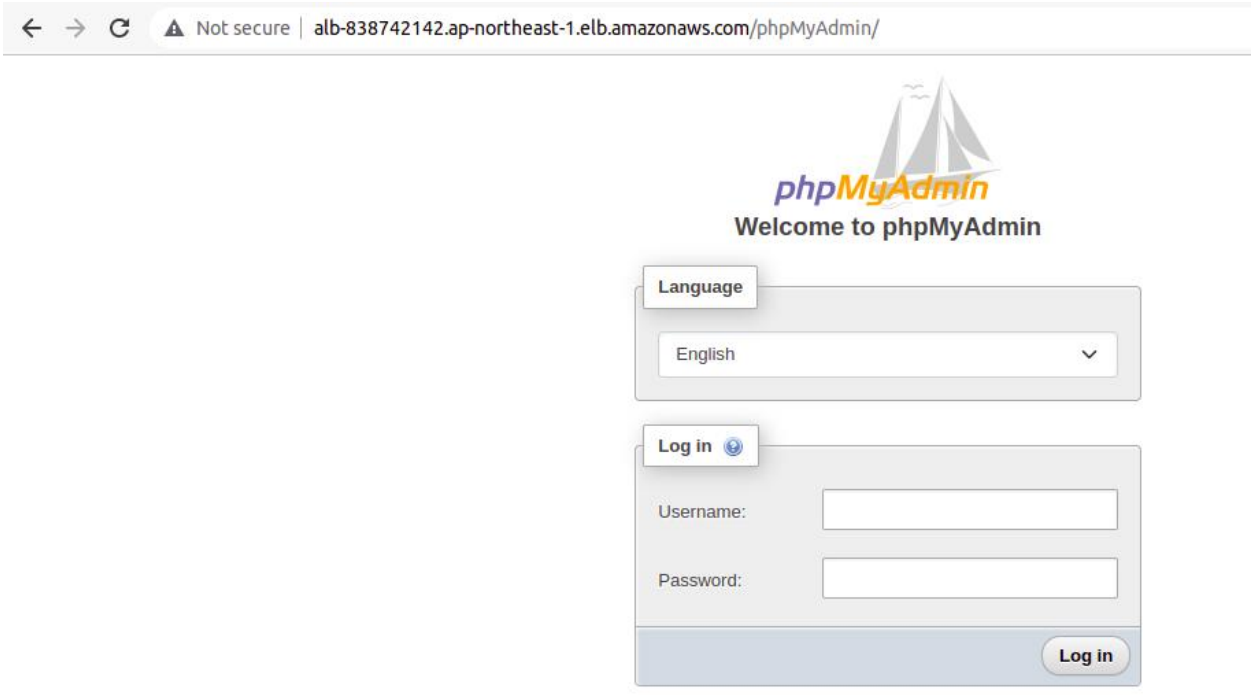
Db security group inbound rules

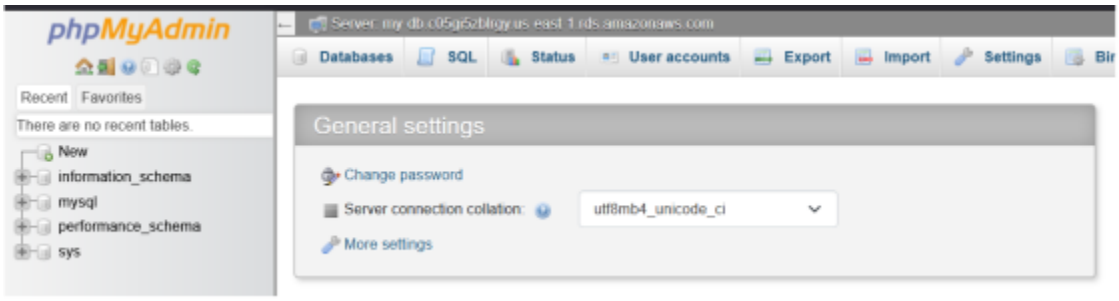


File local host to DB



PHP my admin




phpMyAdmin
Recent
Favorites
There are no recent tables.
New
information_schema
mysql
performance_schema
sys
Server: my-db.c05g62blogy.us-east-1.rds.amazonaws.com
Databases
SQL
Status
User accounts
Export
Import
Settings
General settings
Change password
Server connection collation:
utf8mb4_unicode_ci
More settings