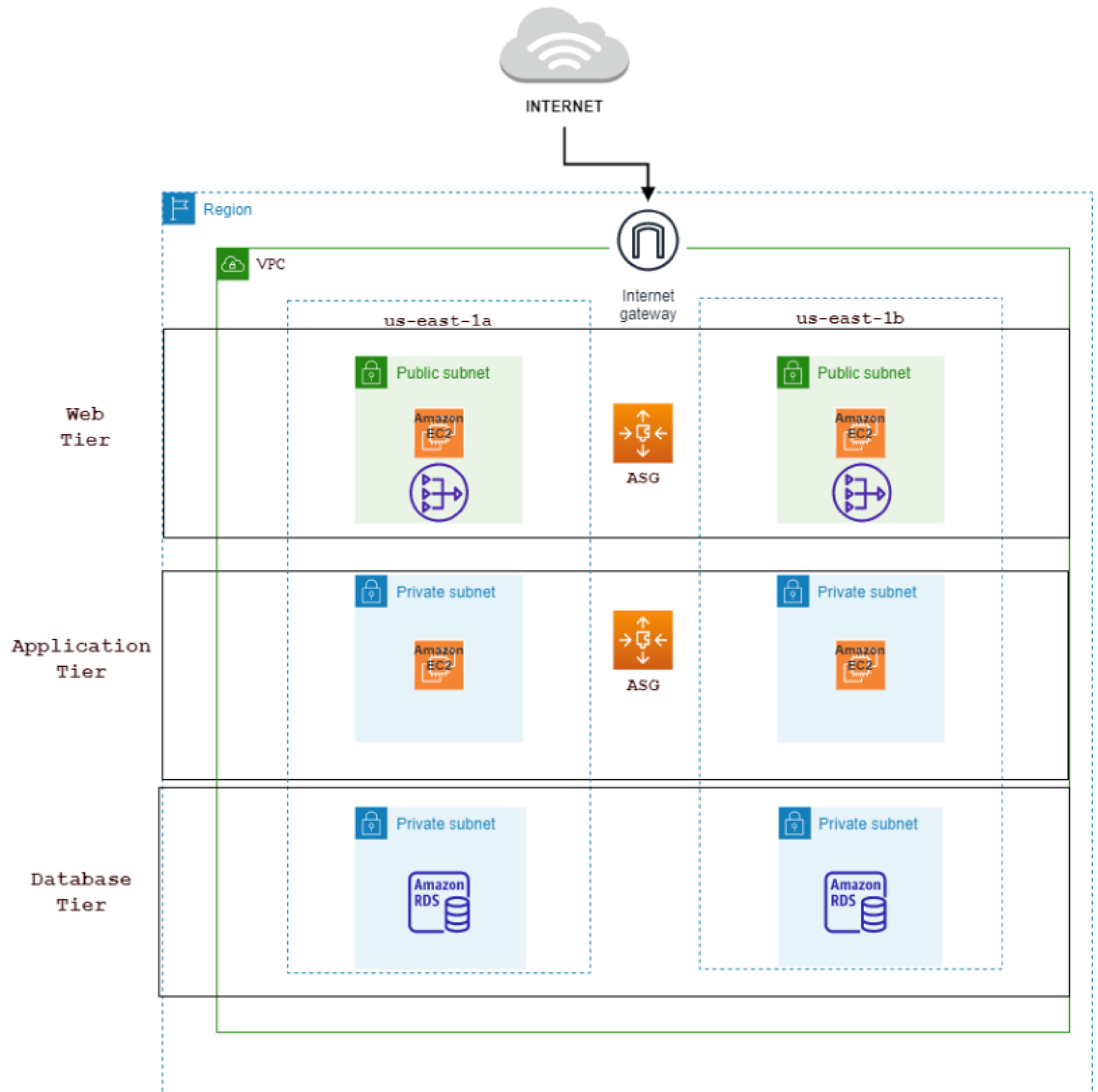


Name: N.Venkateswararao

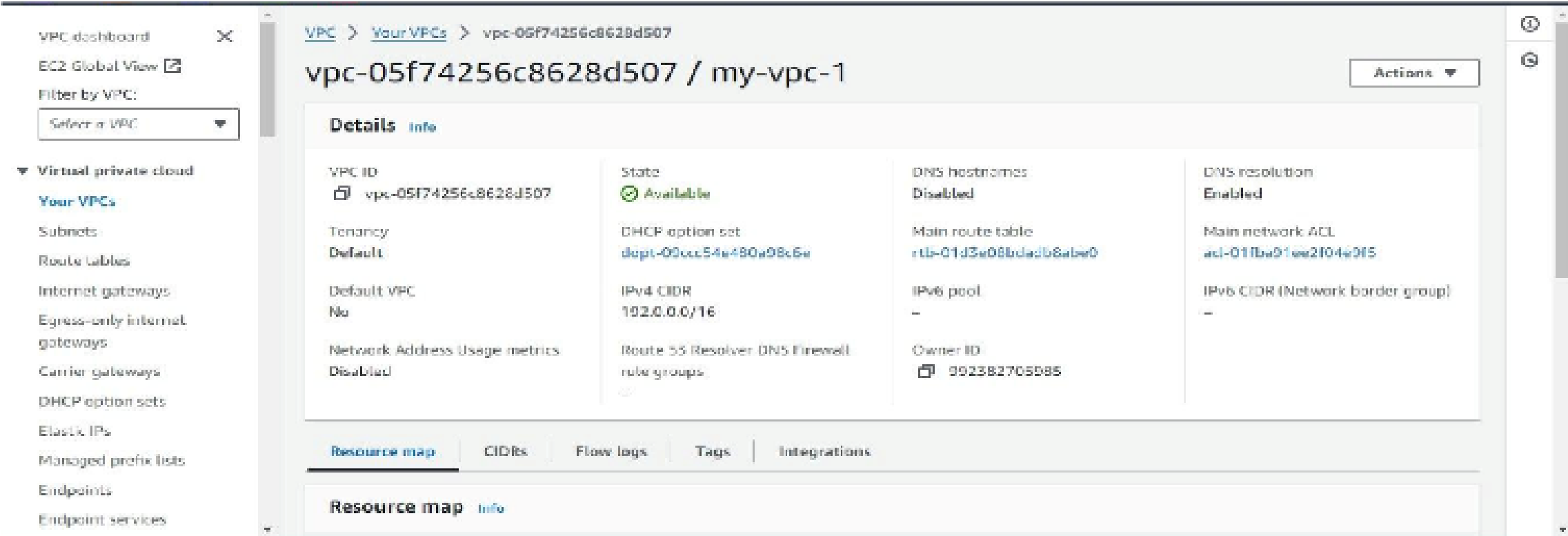
Phone no: +91-6303568924

Batch: 119(7am)

Mini Project (3-tier Architecture):-



- Create a VPC with specific name my-vpc-1 in a region Oregon

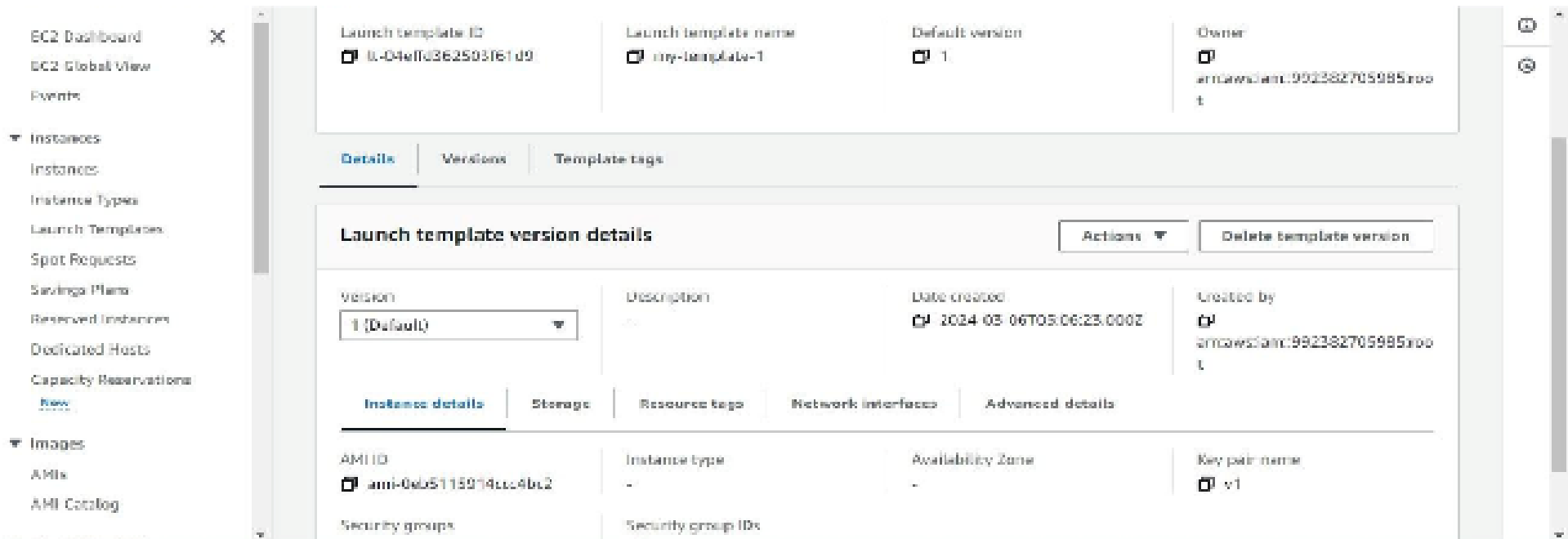


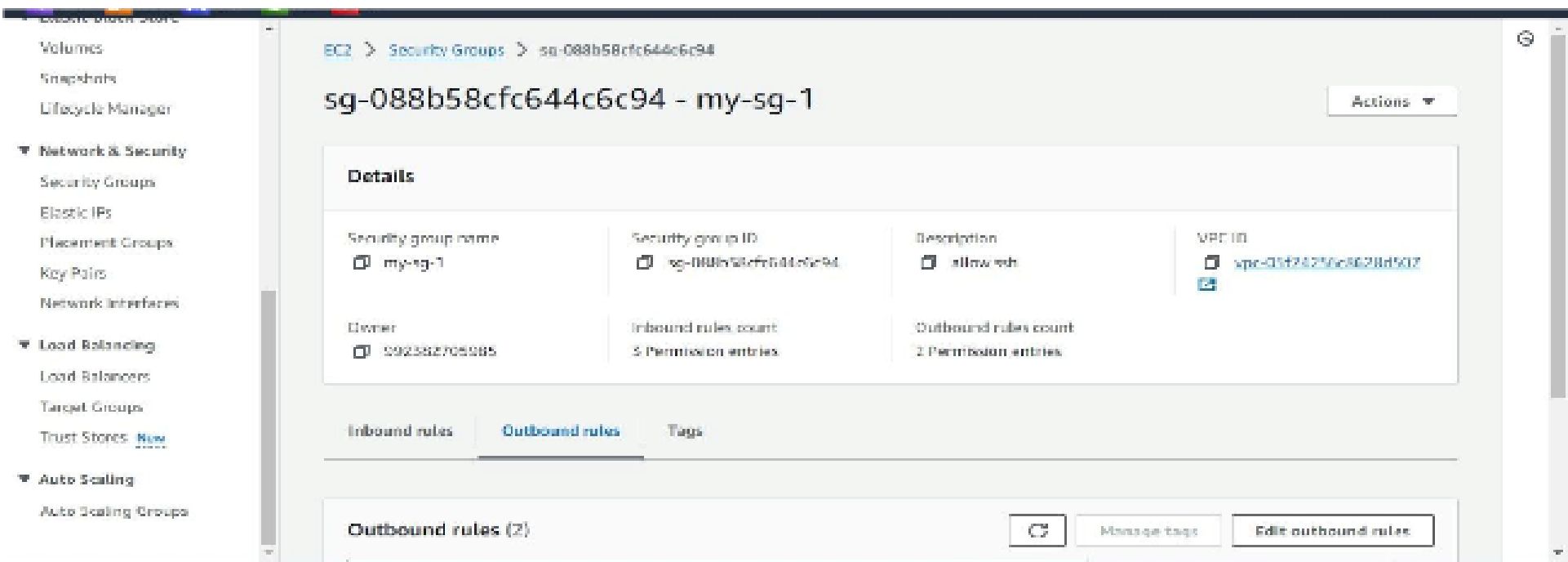
- Now create 1 public & 2 private subnet in one availability Zone(1a) and other 1 public & 2 private subnet in other availability Zone(1b) and enable auto assign ipv4 in subnet settings by attaching the route tables and Internet gateway within my-vpc-1
- And also attach the nat gateway(one-way traffic) to the private subnet



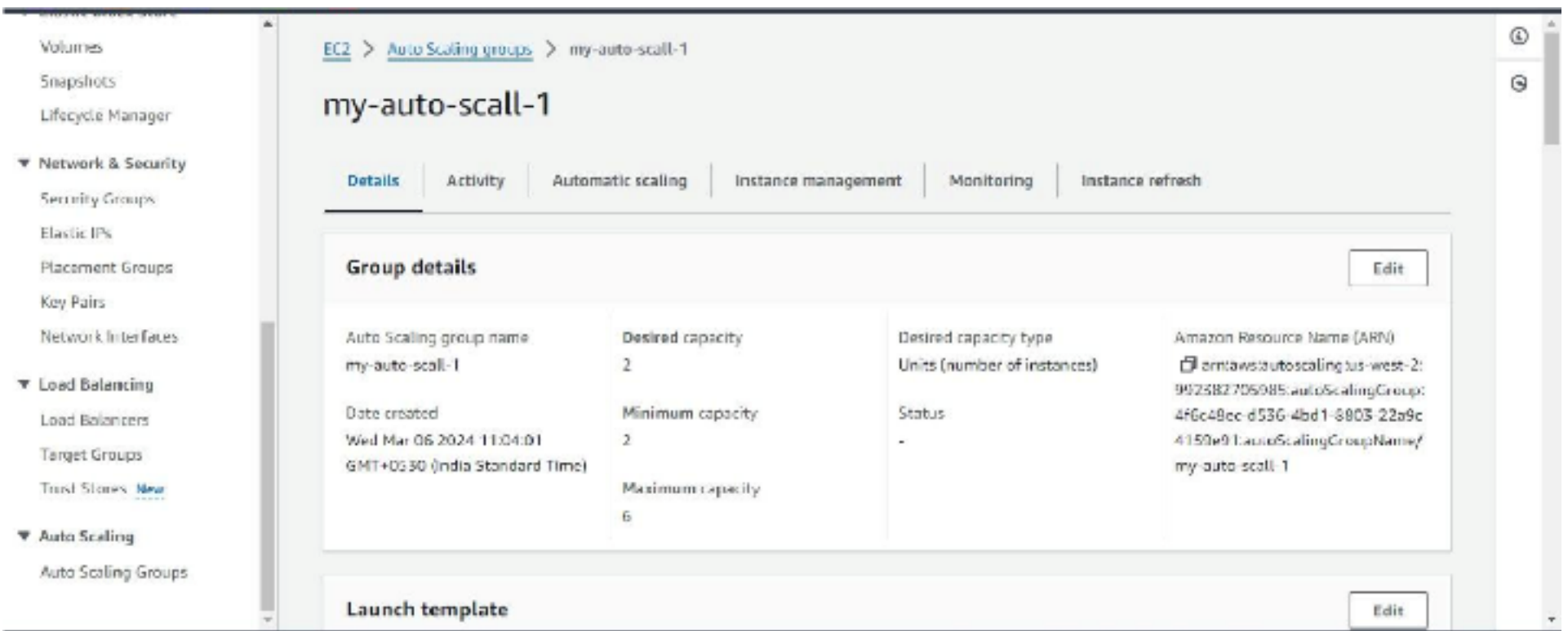
WebTier:

- Create a web tier launch template
 - 1) AMI: Amazon 2 Linux
 - 2) Instance type: t2.micro (1GB – Free Tier)
 - 3) A new or existing key pair
 - 4) Create a new security group and add inbound rules (SSH & HTTP)





- Create auto -scaling groups with following settings
 - 1) Attach the created template
 - 2) Select the my-3 tier-vpc along with two public subnets
 - 3) Create a new application load balancer

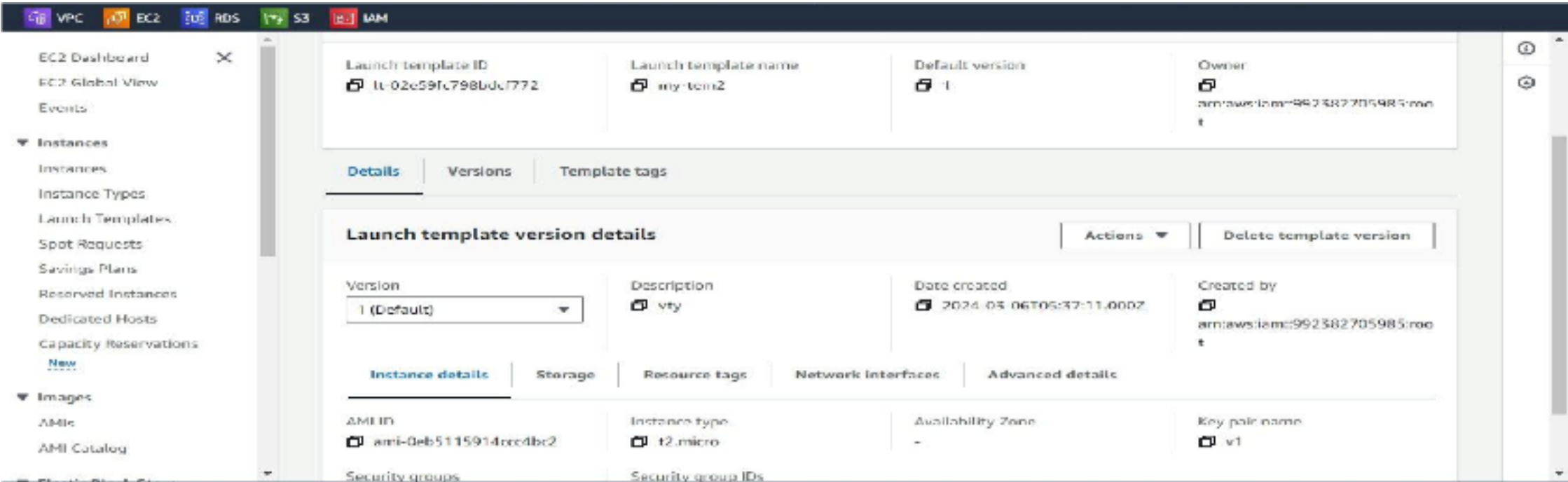


- Now, Lets launch the SSH to see if the application is working

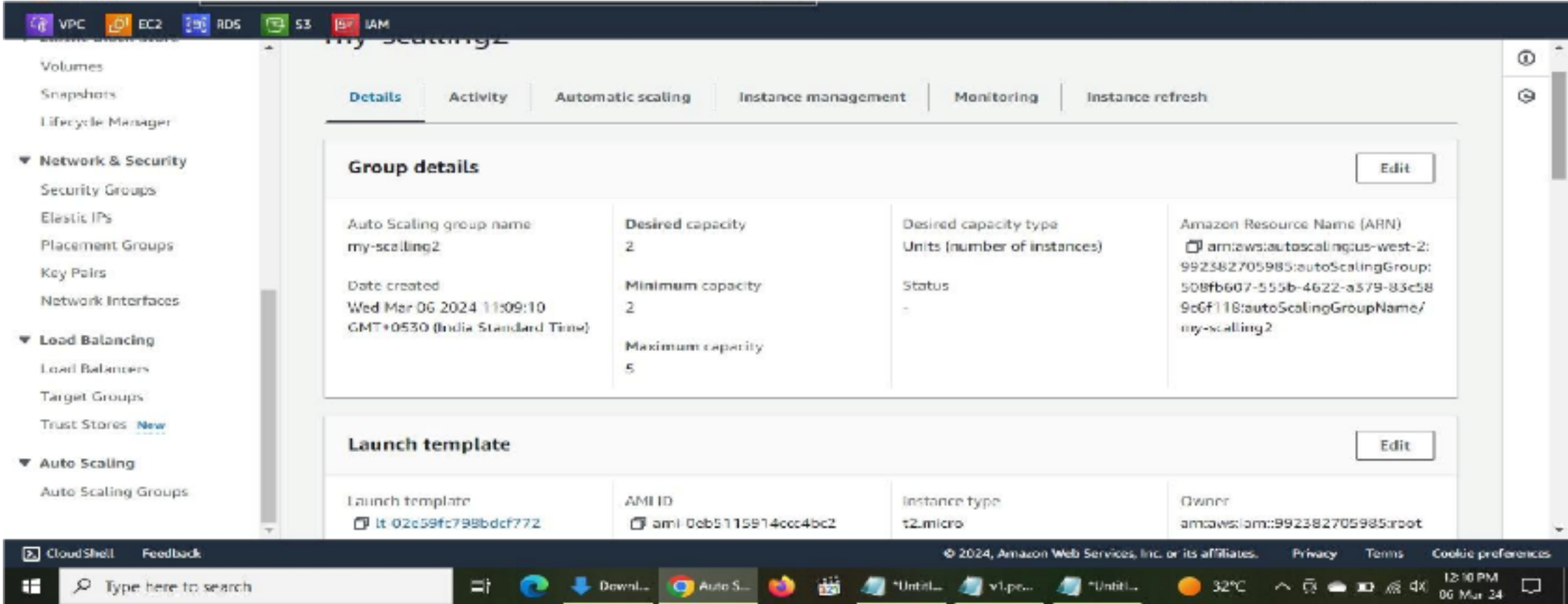


Application Tier:

- Launch an Template to define EC2 instance type



- An auto scaling to dynamically provision Ec2
- An application Load Balancer to route the traffic from web tier

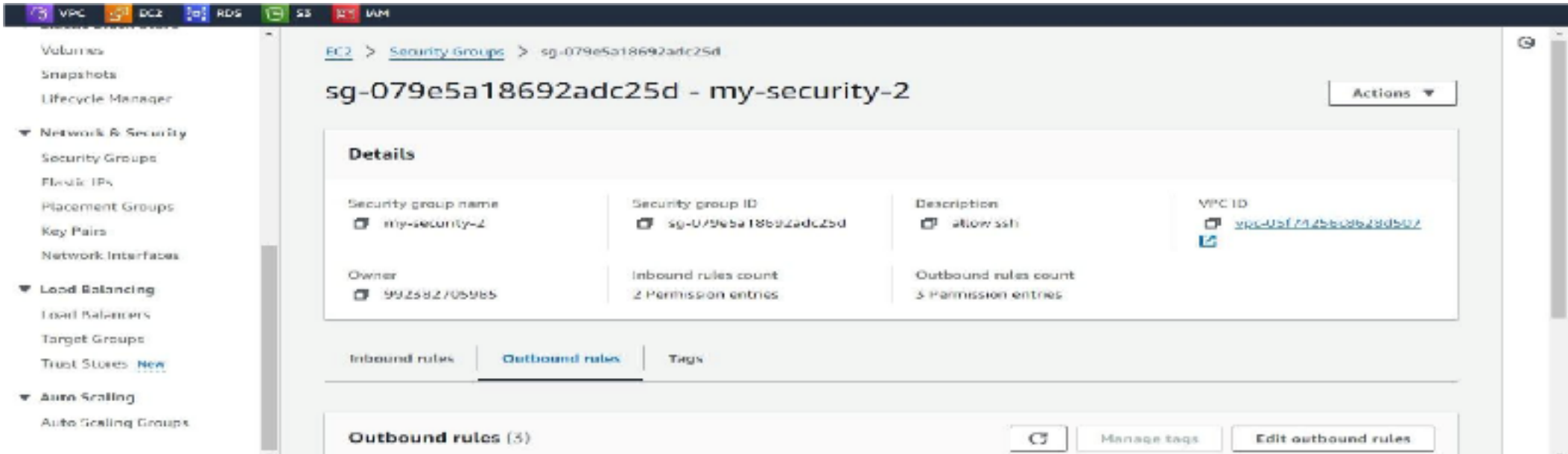


```
[ec2-user@ip-192-0-1-213 ~]$ sudo -i
[root@ip-192-0-1-213 ~]# vi key.pem
[root@ip-192-0-1-213 ~]# ls
key.pem
[root@ip-192-0-1-213 ~]# chmod -400 "key.pem"
[root@ip-192-0-1-213 ~]# ssh -i "key.pem" ec2-user@192.0.2.63
The authenticity of host '192.0.2.63 (192.0.2.63)' can't be established.
ED25519 key fingerprint is 8BA256:F95mY9iJDVv/L0uBHsuZiAilTixltagMupXdQu2osOU.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '192.0.2.63' (ED25519) to the list of known hosts.
#####
$ WARNING: UNPROTECTED PRIVATE KEY FILE!
#####
Permissions 0244 for 'key.pem' are too open.
It is required that your private key files are NOT accessible by others.
This private key will be ignored.
Load key "key.pem": bad permissions
ec2-user@192.0.2.63: Permission denied (publickey,gssapi-keyex,gssapi-with-mic).
[root@ip-192-0-1-213 ~]# cd
```

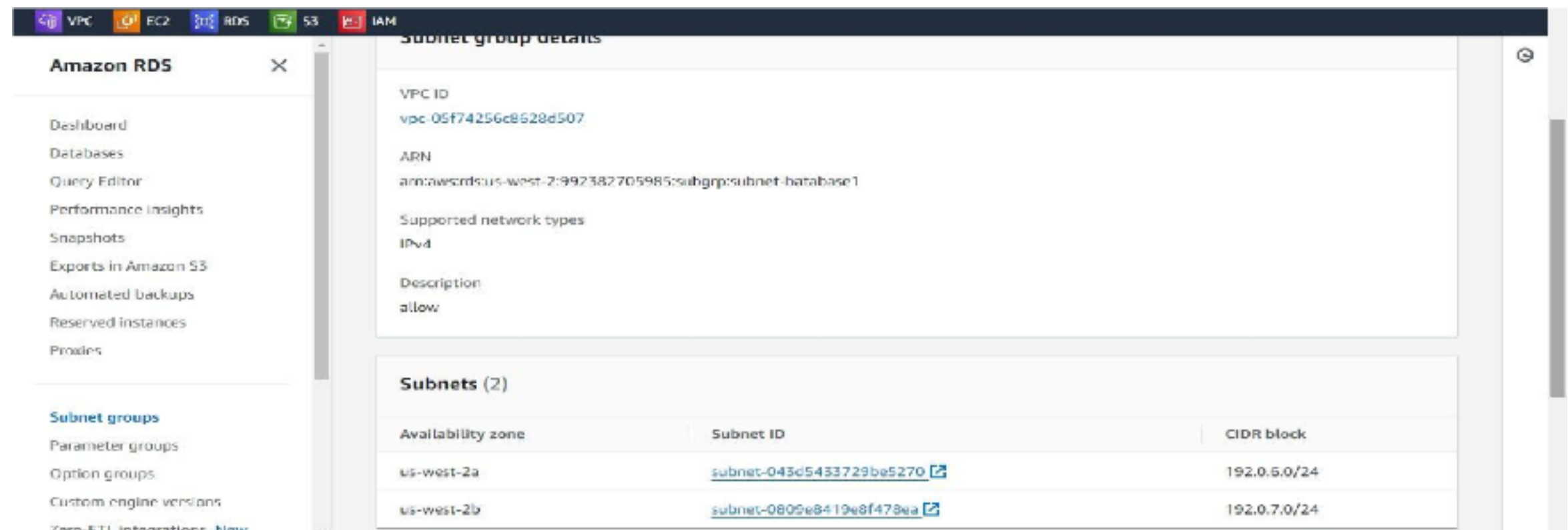
- Now connect to the public instance and connect using .pem to the private instance

Database Tier:-

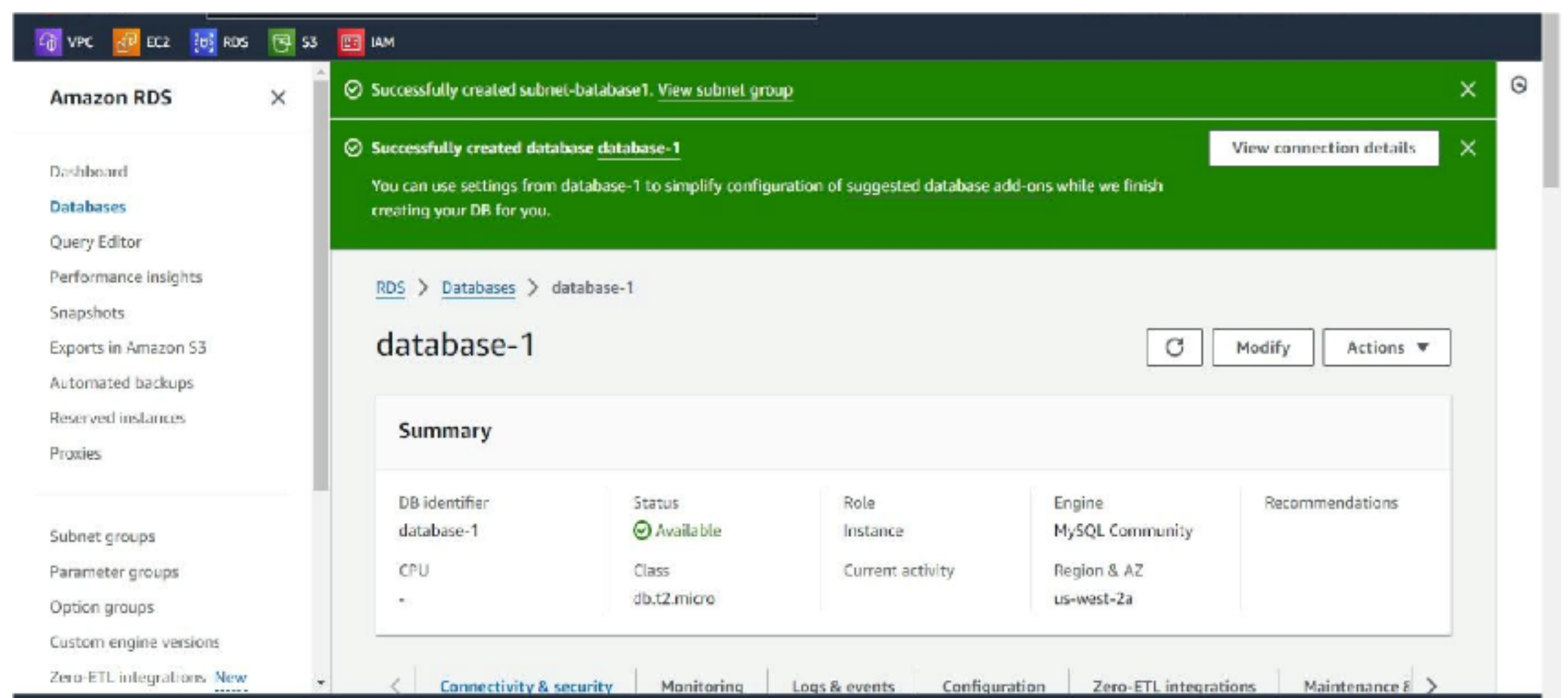
- Create a security group add inbound and outbound rules for mysql/Arora



- Create database subnet groups by attaching the 2 private subnets which are in different availability zones in RDS and attach the my-vpc-01



- Now, create RDS DataBase



- Connect to the database
 - 1) Connect to the server
 - 2) Install mysql
 - 3) And enter command `mysql -h YOUR_DB_ENDPOINT -P 3306 -u YOUR_DB_USERNAME -p` in these command instead of [your_dB_endpoint](#) we should enter our database endpoint and also edit username as well after that enter password that you have given while creating a relational database.

```
[ec2-user@ip-10-0-156-224 ~]$ mysql -h brainiac-webapp-db.cgwzuzkgdaxy.us-east-1
.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 115
Server version: 8.0.28 Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> |
```