Project - 1: Deploying a Multi-Tier Website Using AWS EC2

Description:

Amazon Elastic Compute Cloud (Amazon EC2) provides scalable computing capacity in the Amazon Web Services (AWS) cloud. Using Amazon EC2 eliminates your need to invest in hardware up front so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.

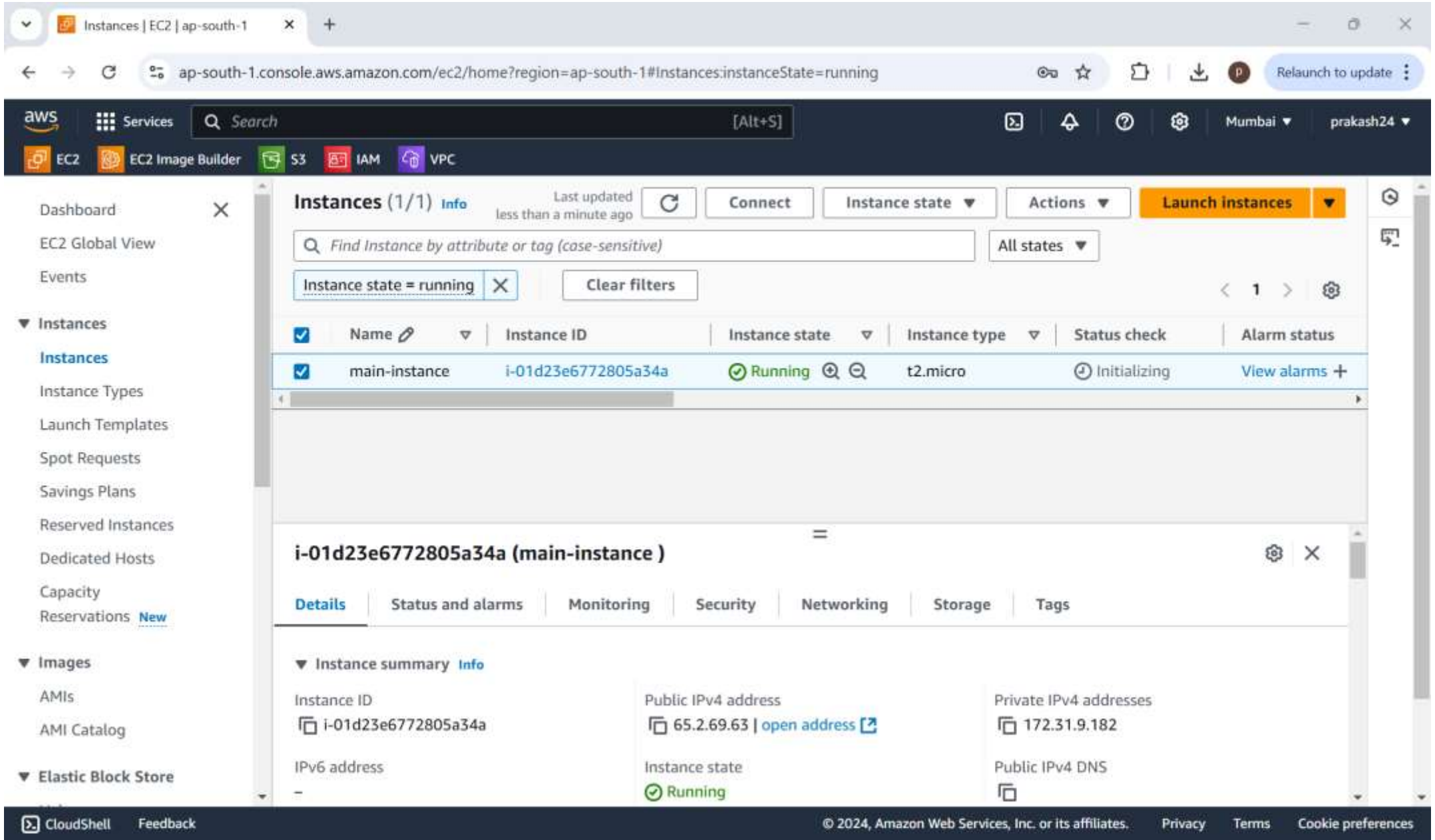
Problem Statement:

Company ABC wants to move their product to AWS. They have the following things set up right now:

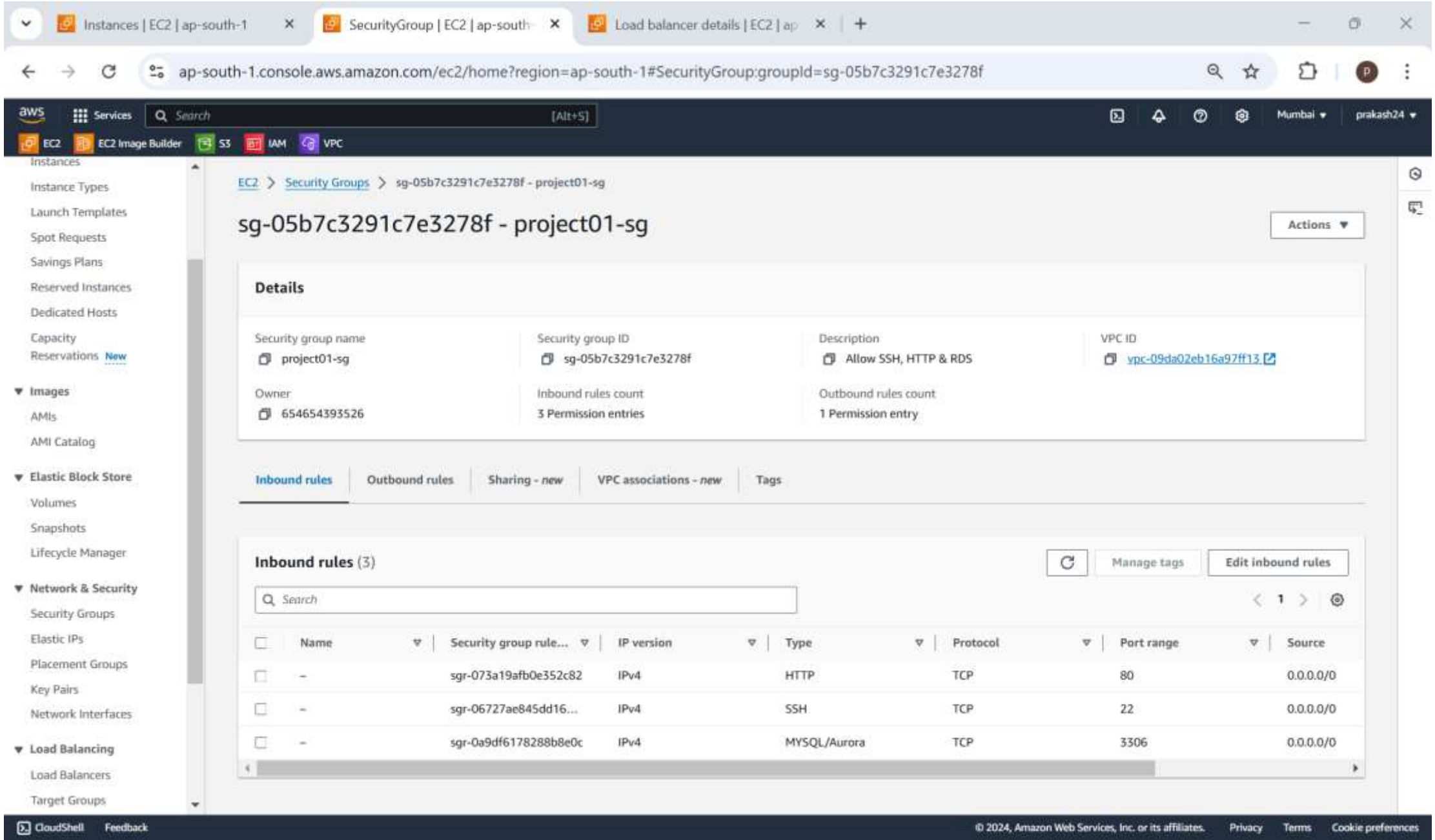
1. MySQL DB
2. Website (PHP)

The company wants high availability on this product, therefore wants Auto Scaling to be enabled on this website.

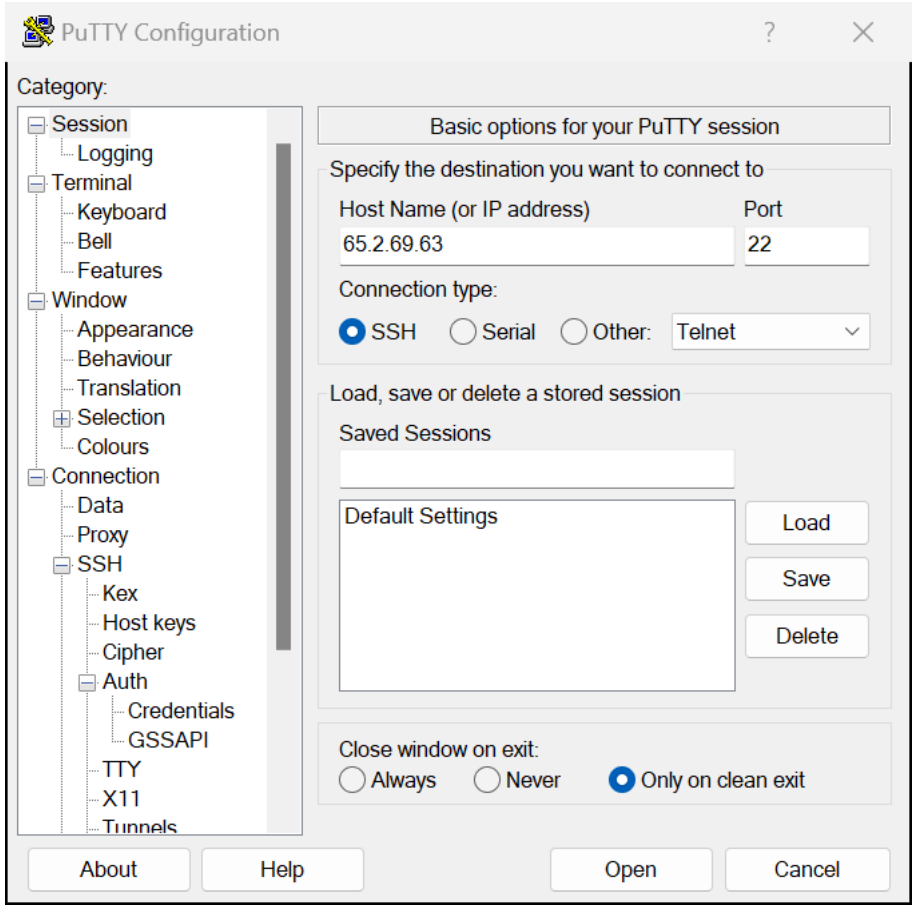
Creating ec2 Instance

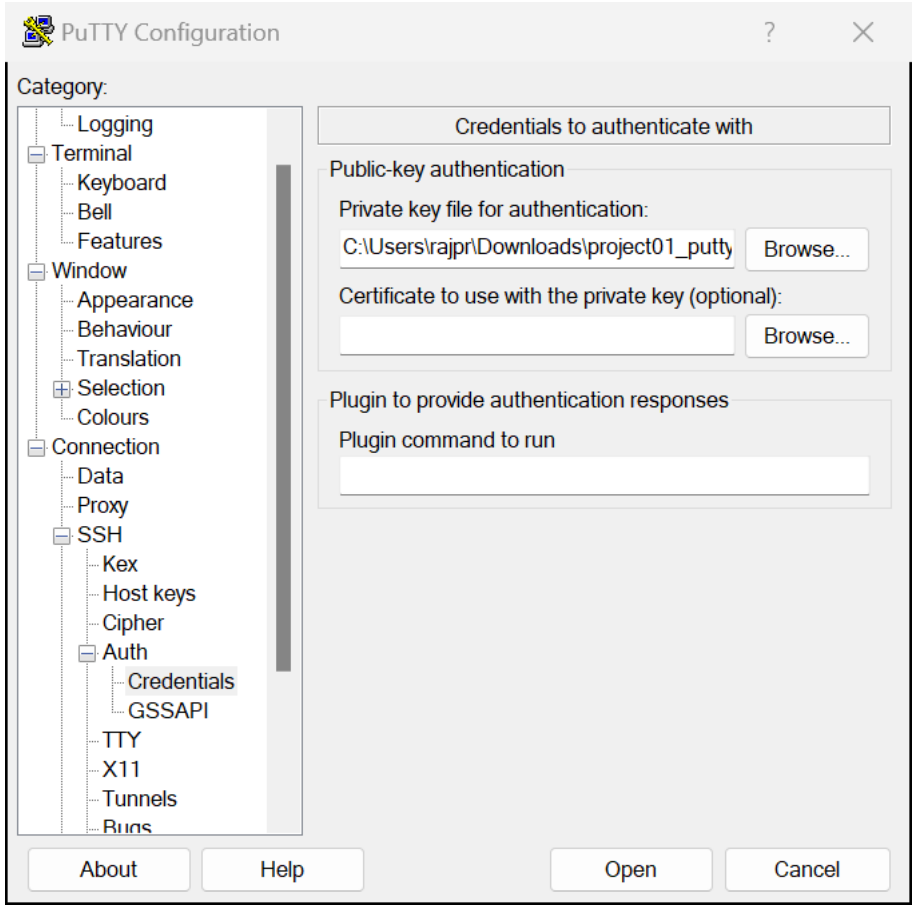


Configured Security Group & Allow SSH ,HTTP, & RDS (MySql/Aurora)

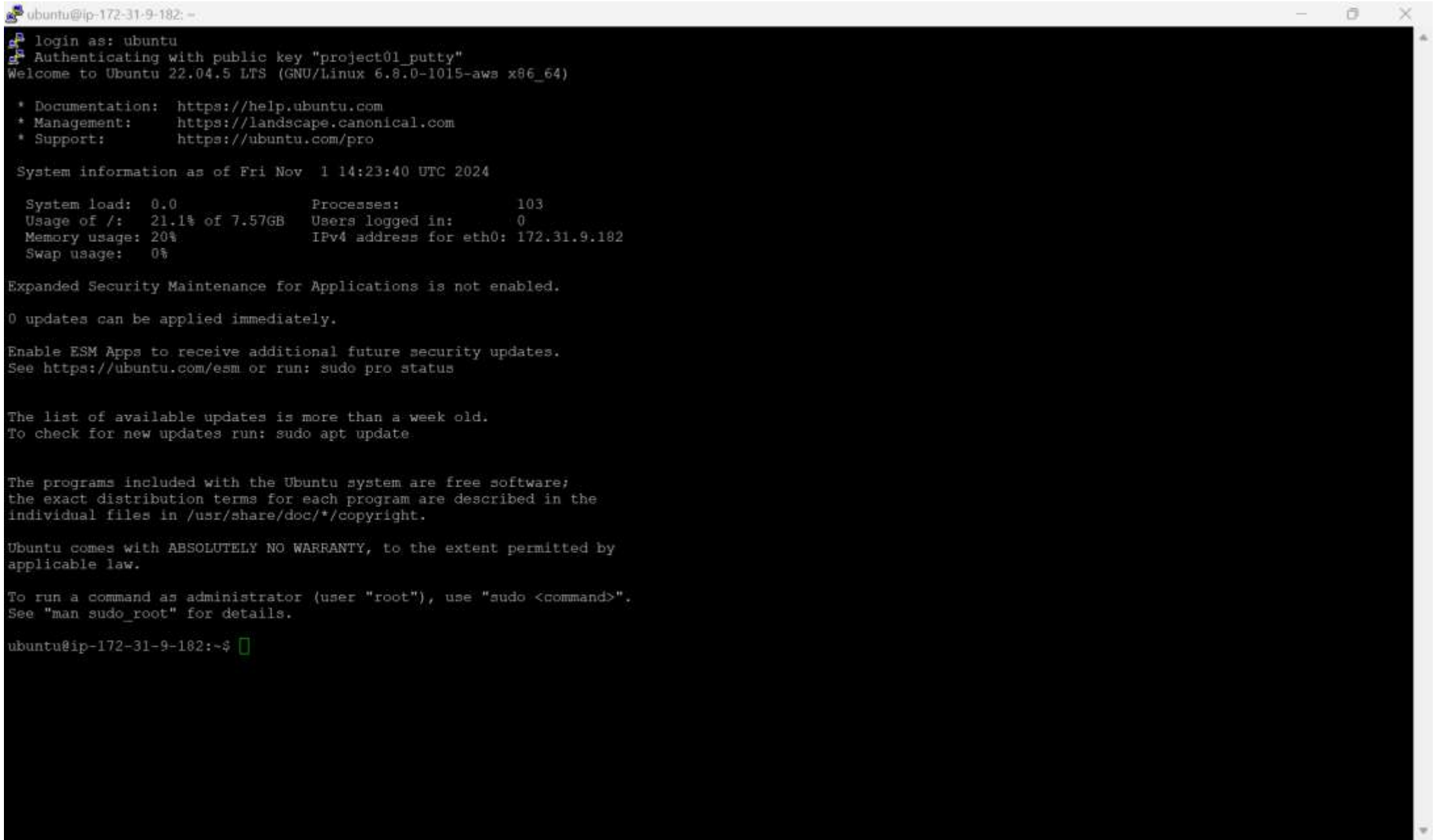


Connecting through putty





Successfully connect to console using Putty



We need to setup web server and need to install package

- First Update your system using the command

sudo apt-get update

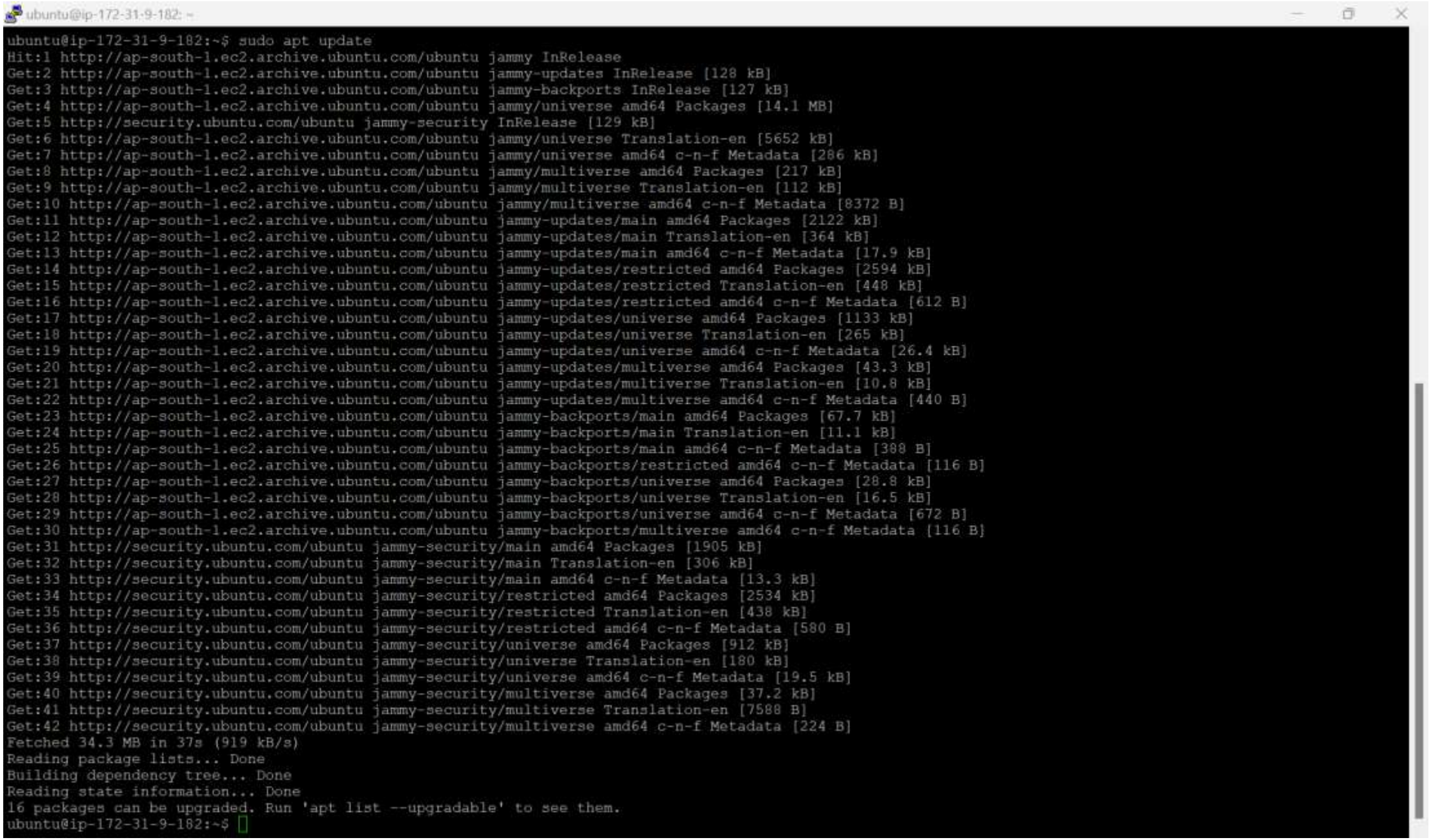
- Then use this command in PuTTY to install Apache2

sudo apt-get install apache2 –y
sudo systemctl status apache2

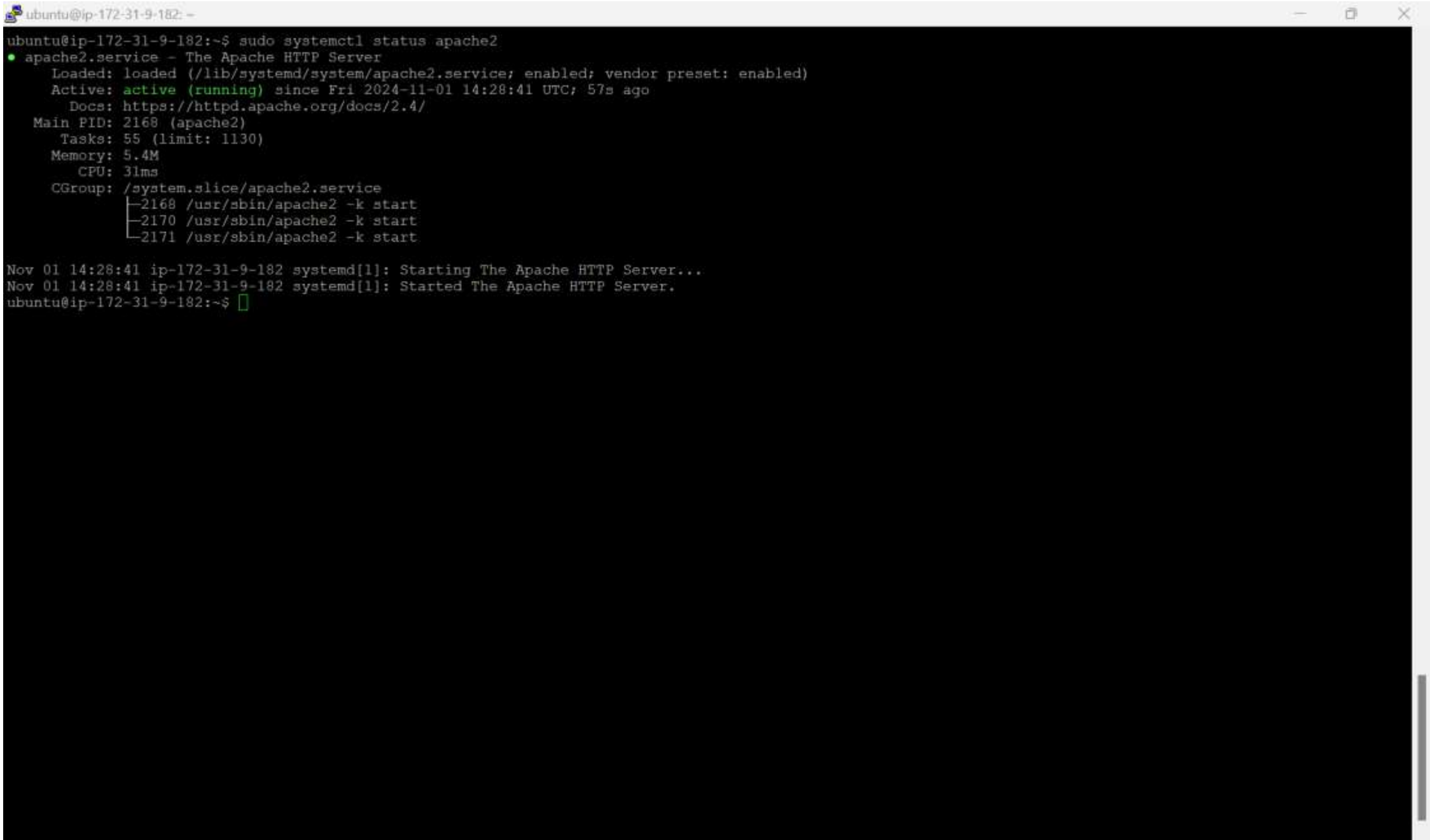
- Then install php-mysql using the following command

sudo add-apt-repository -y ppa:ondrej/php
sudo apt install php5.6 mysql-client php5.6-mysqli

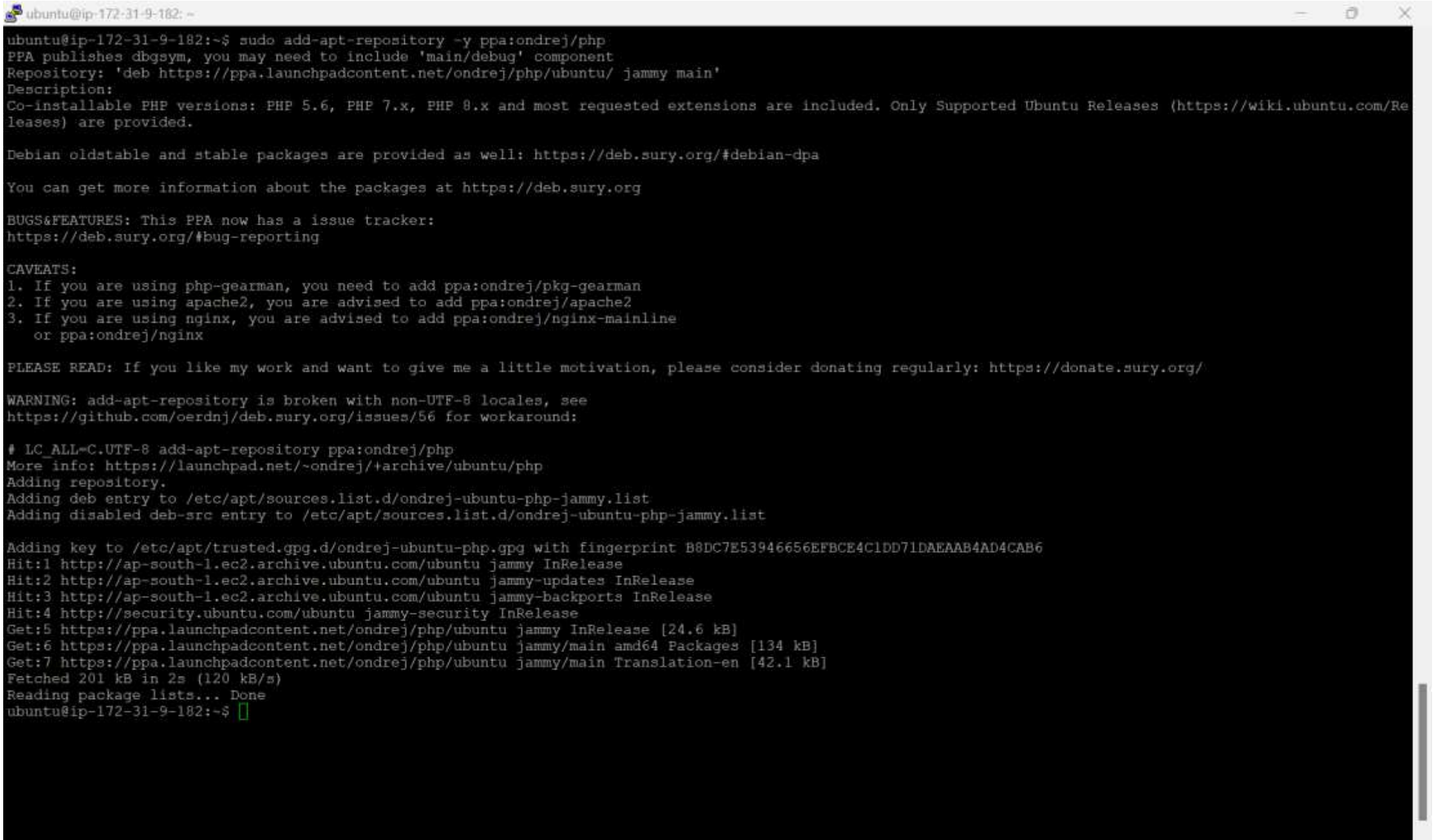
sudo apt-get update



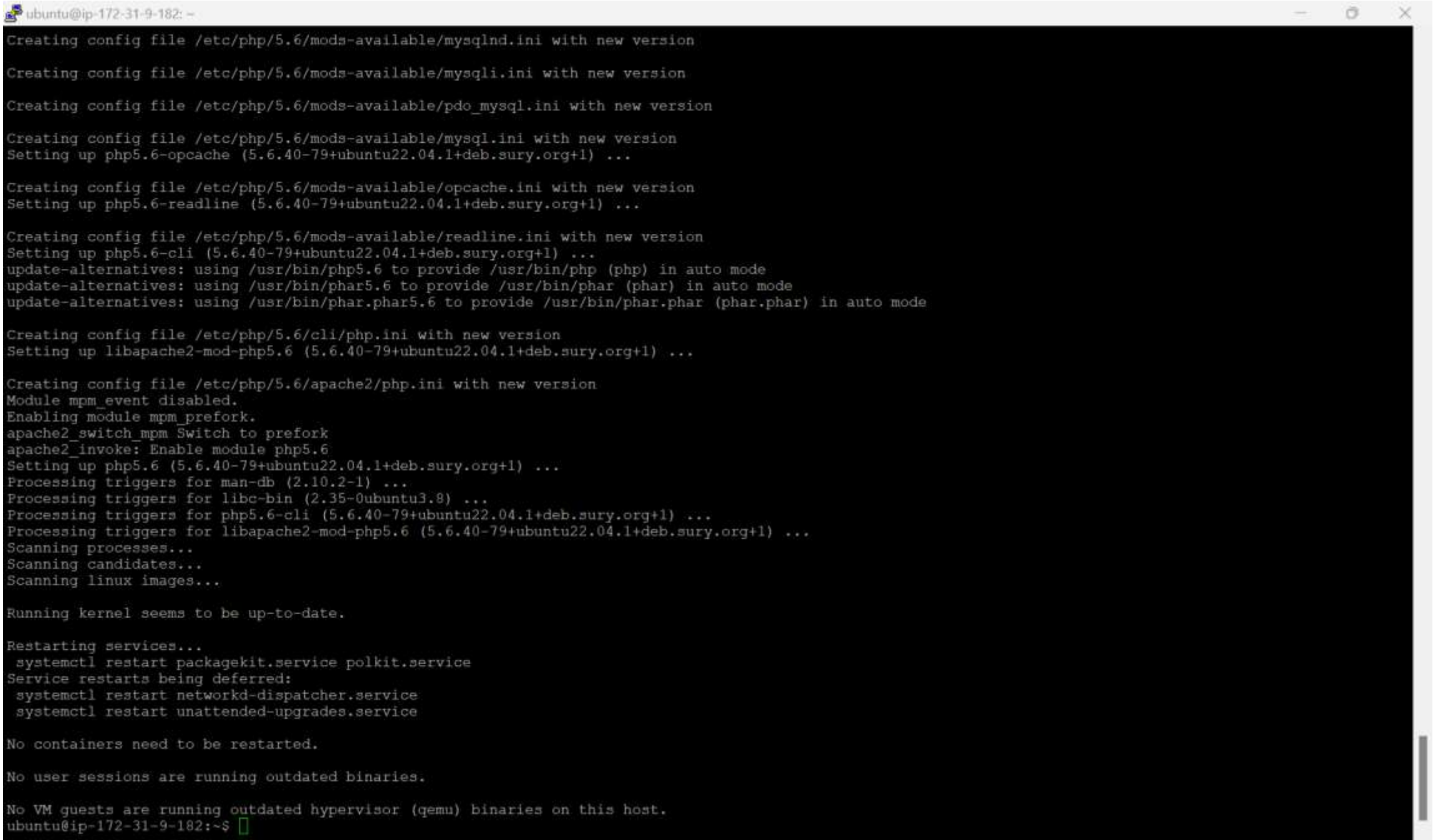
sudo systemctl status apache2



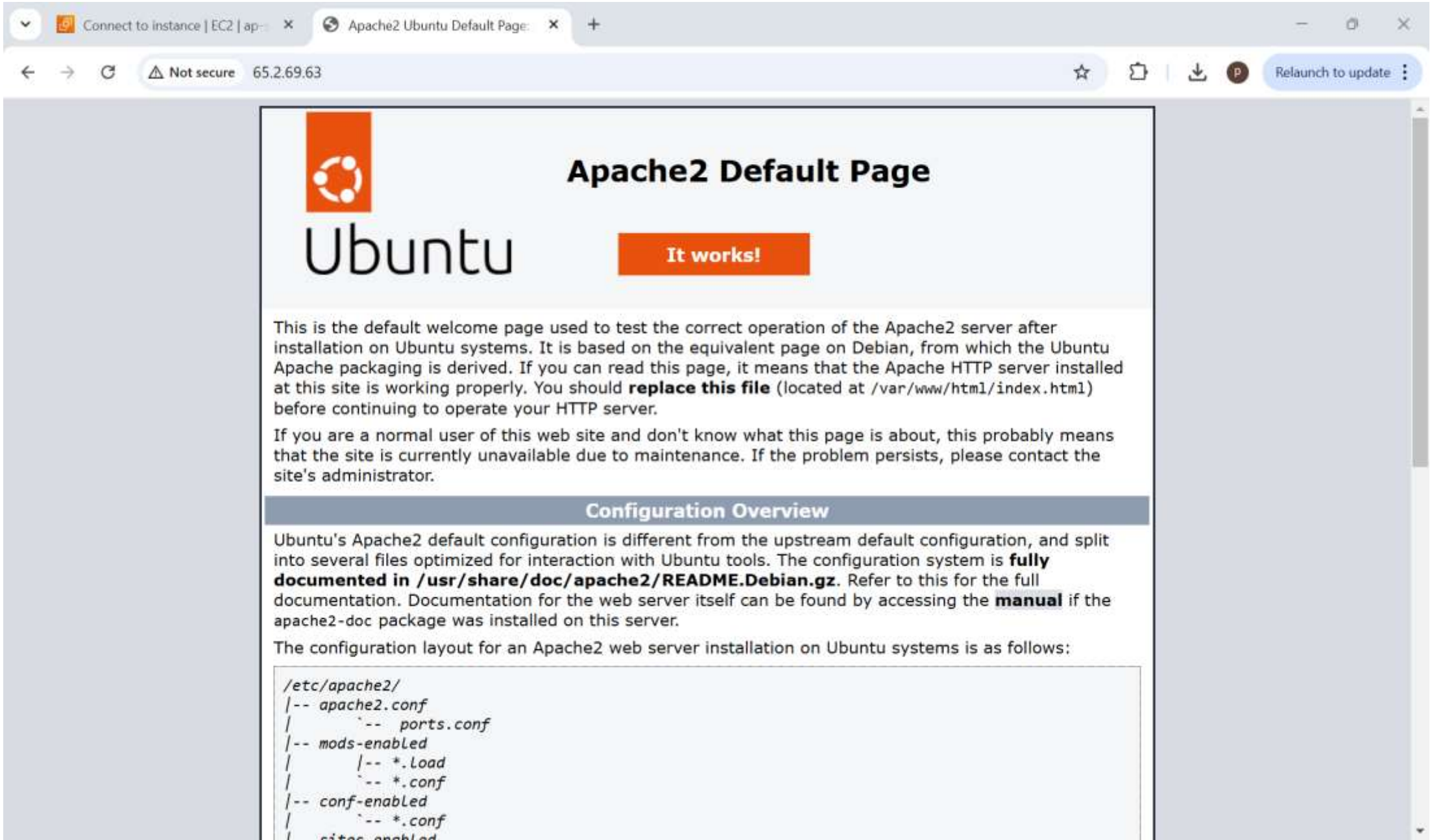
sudo systemctl status apache2



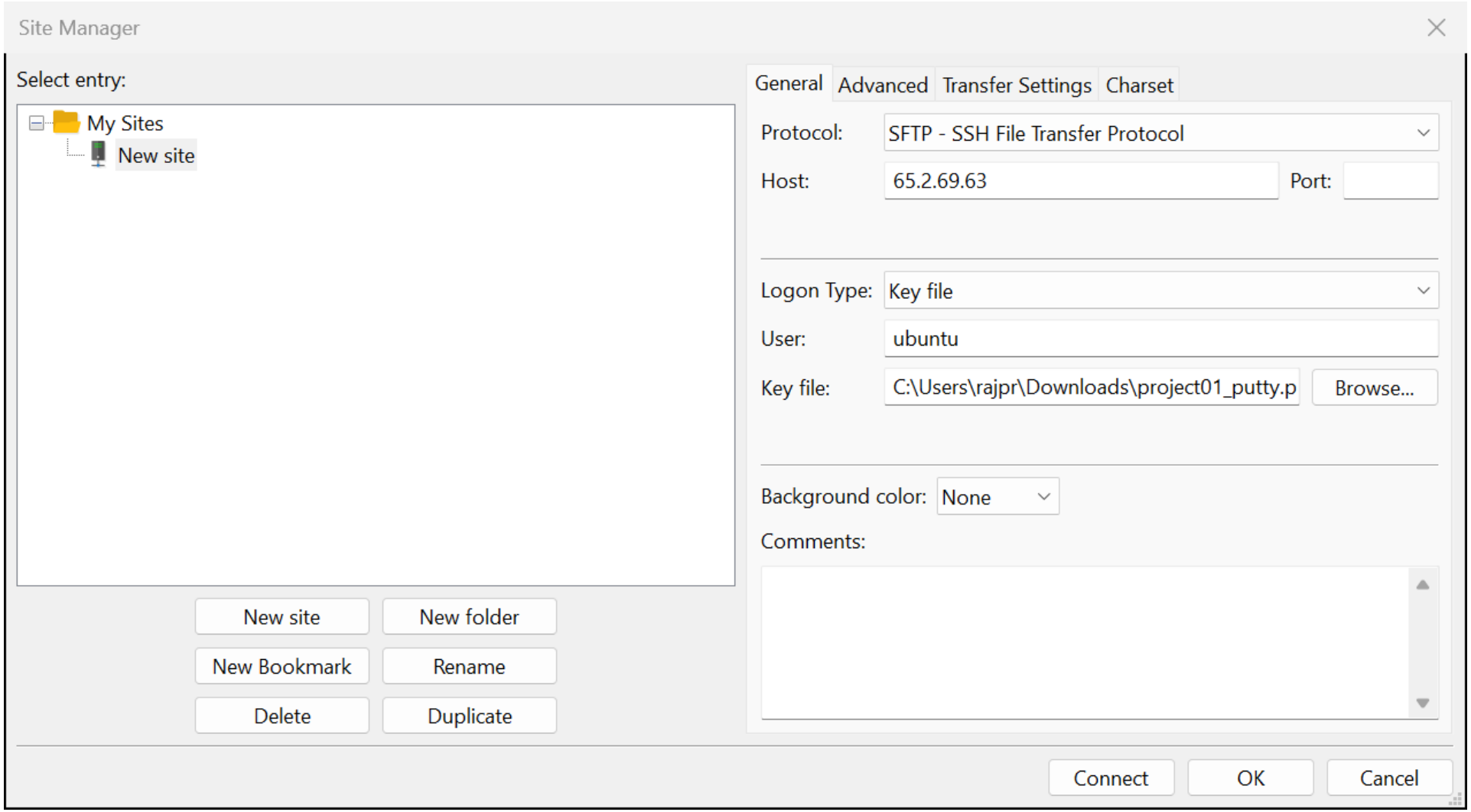
sudo add-apt-repository -y ppa:ondrej/php



We able to access Apache2 server using ec2 public IP



Connecting filezilla to transfer Images folder in web server



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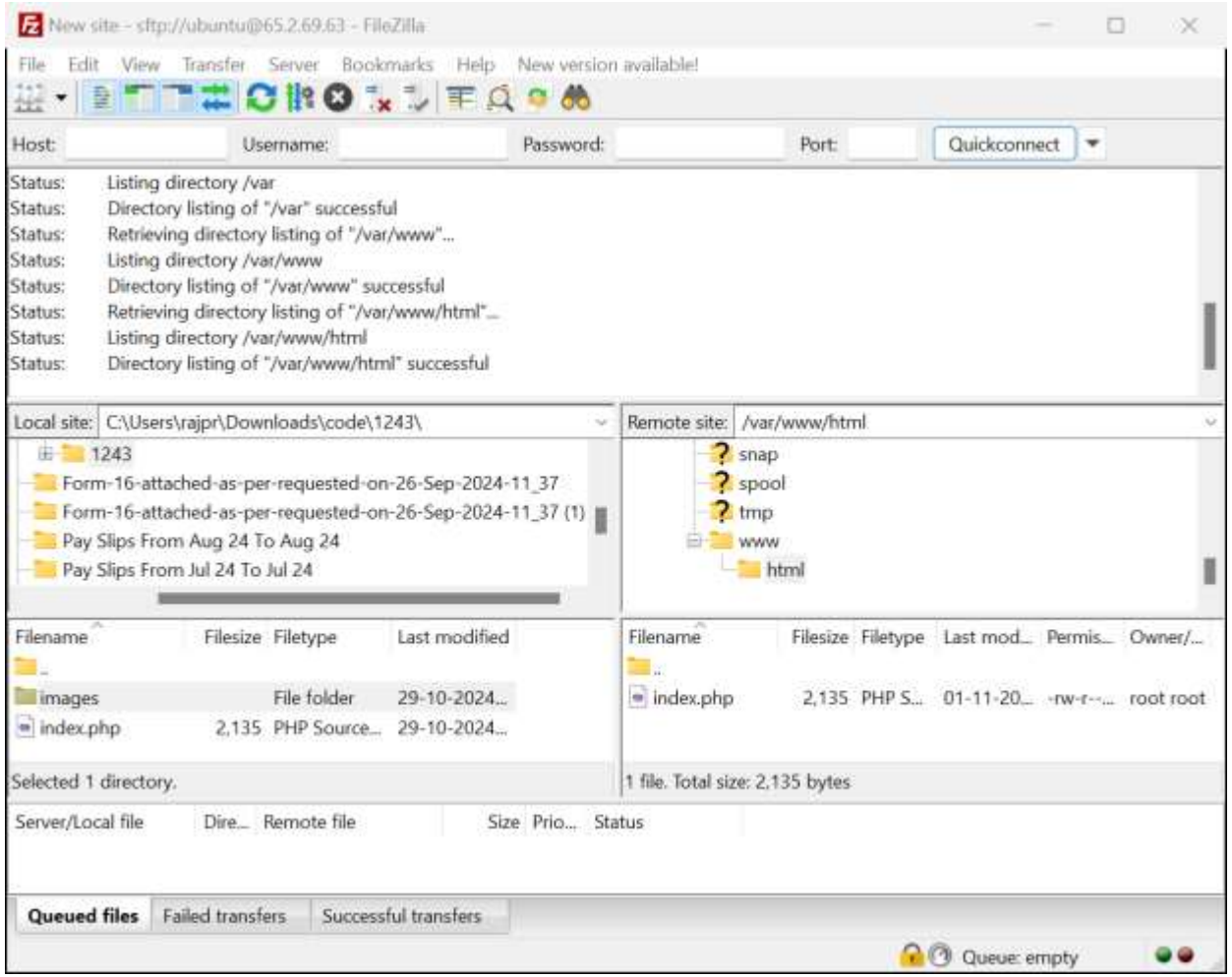
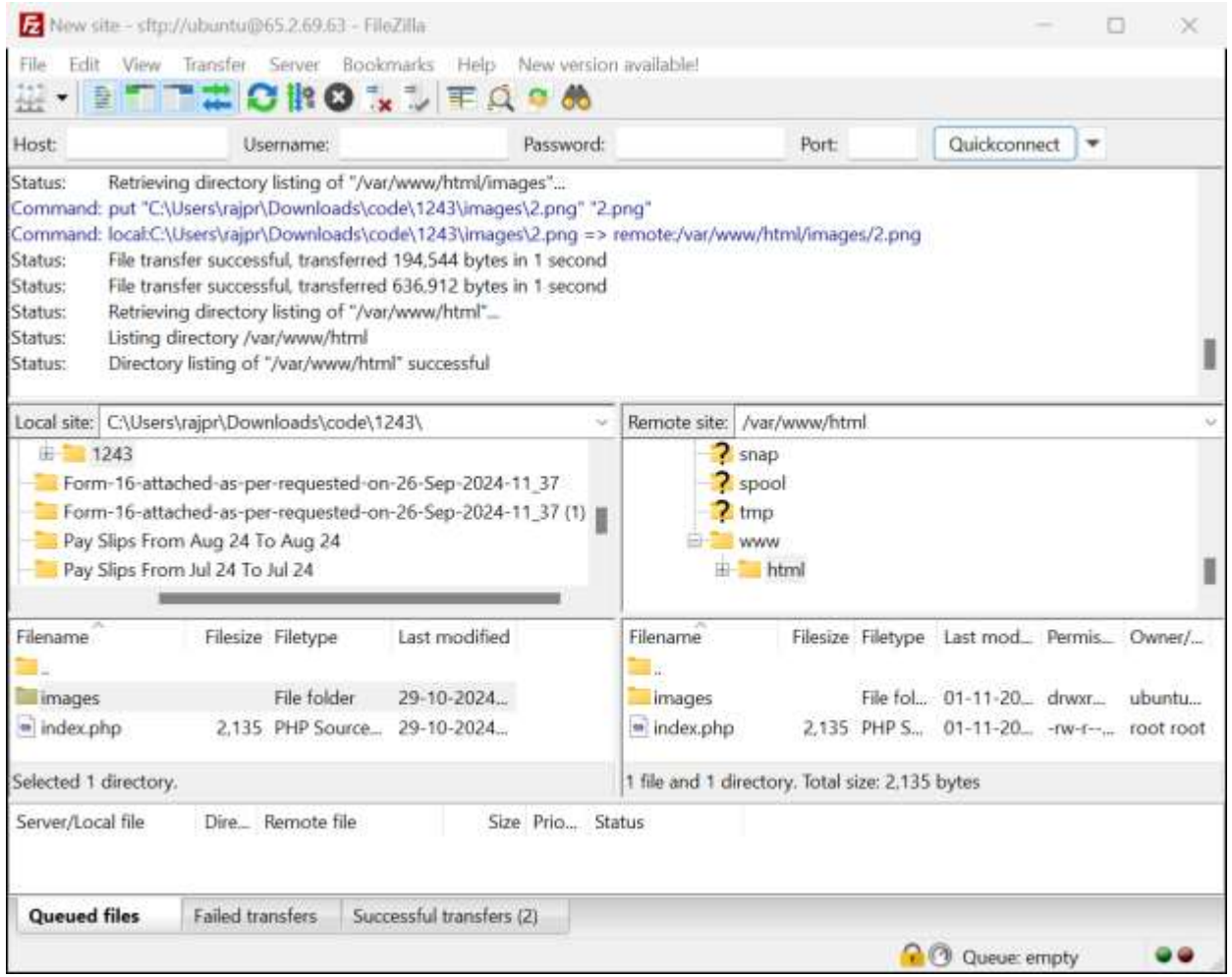
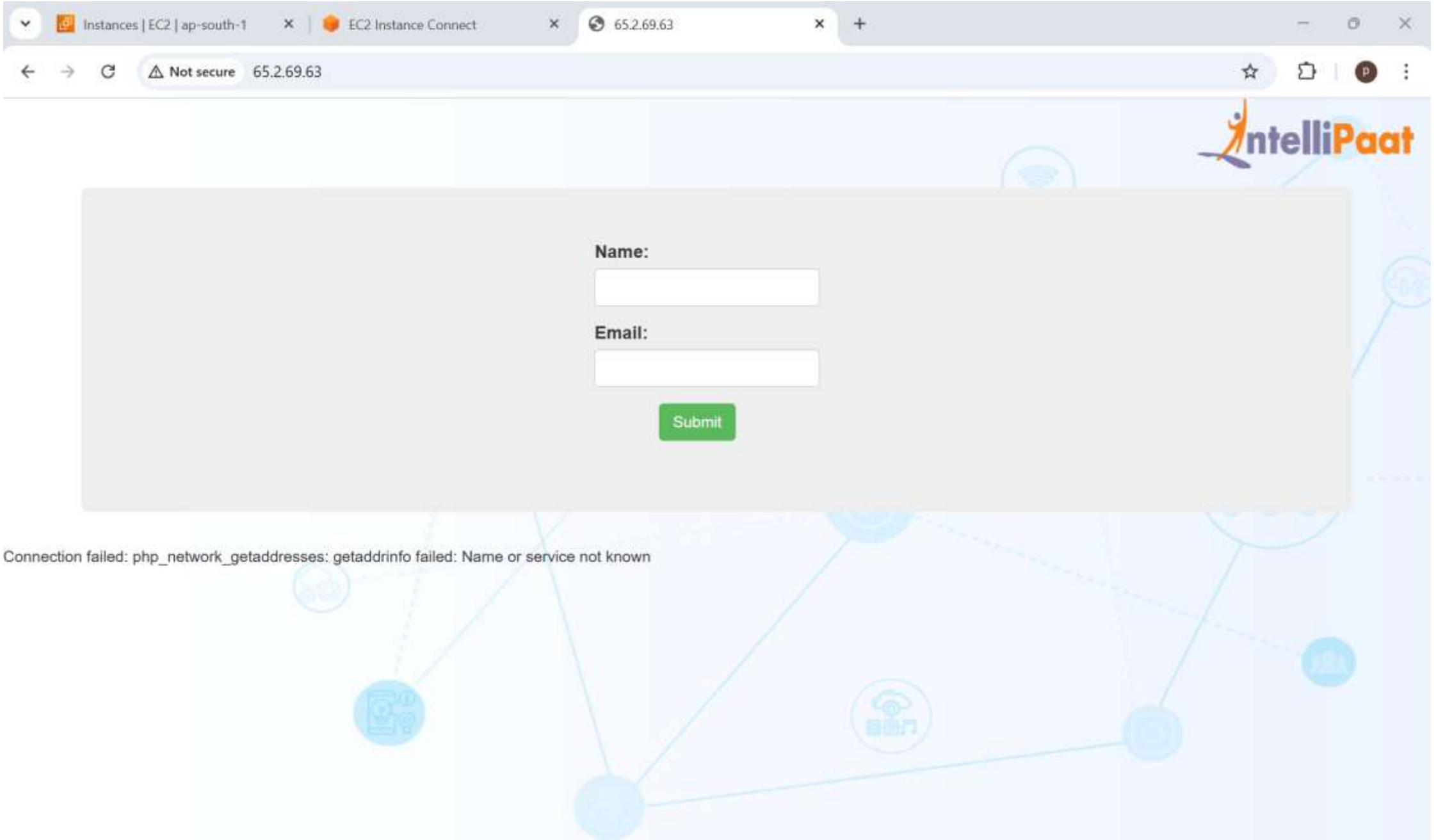
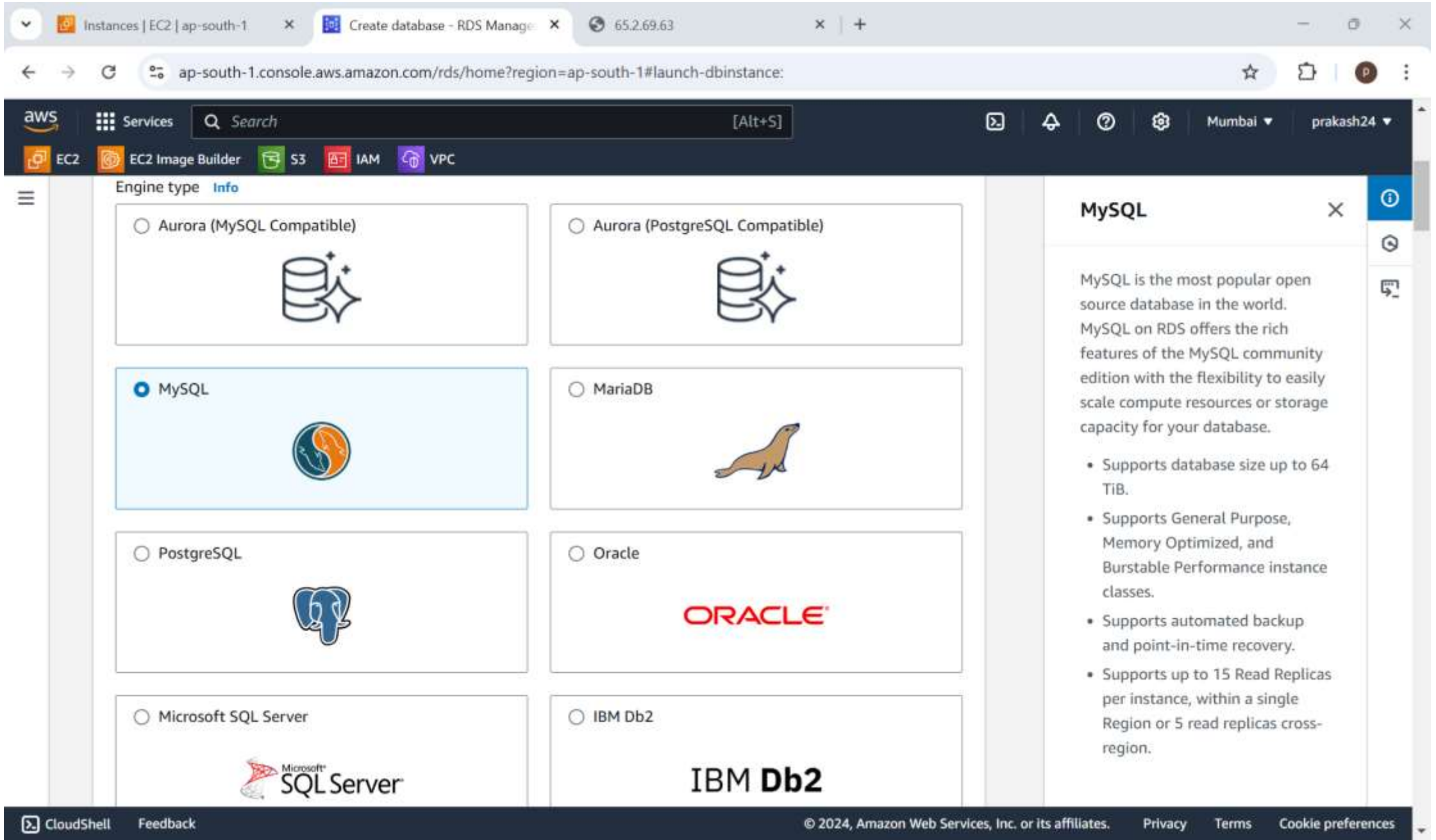




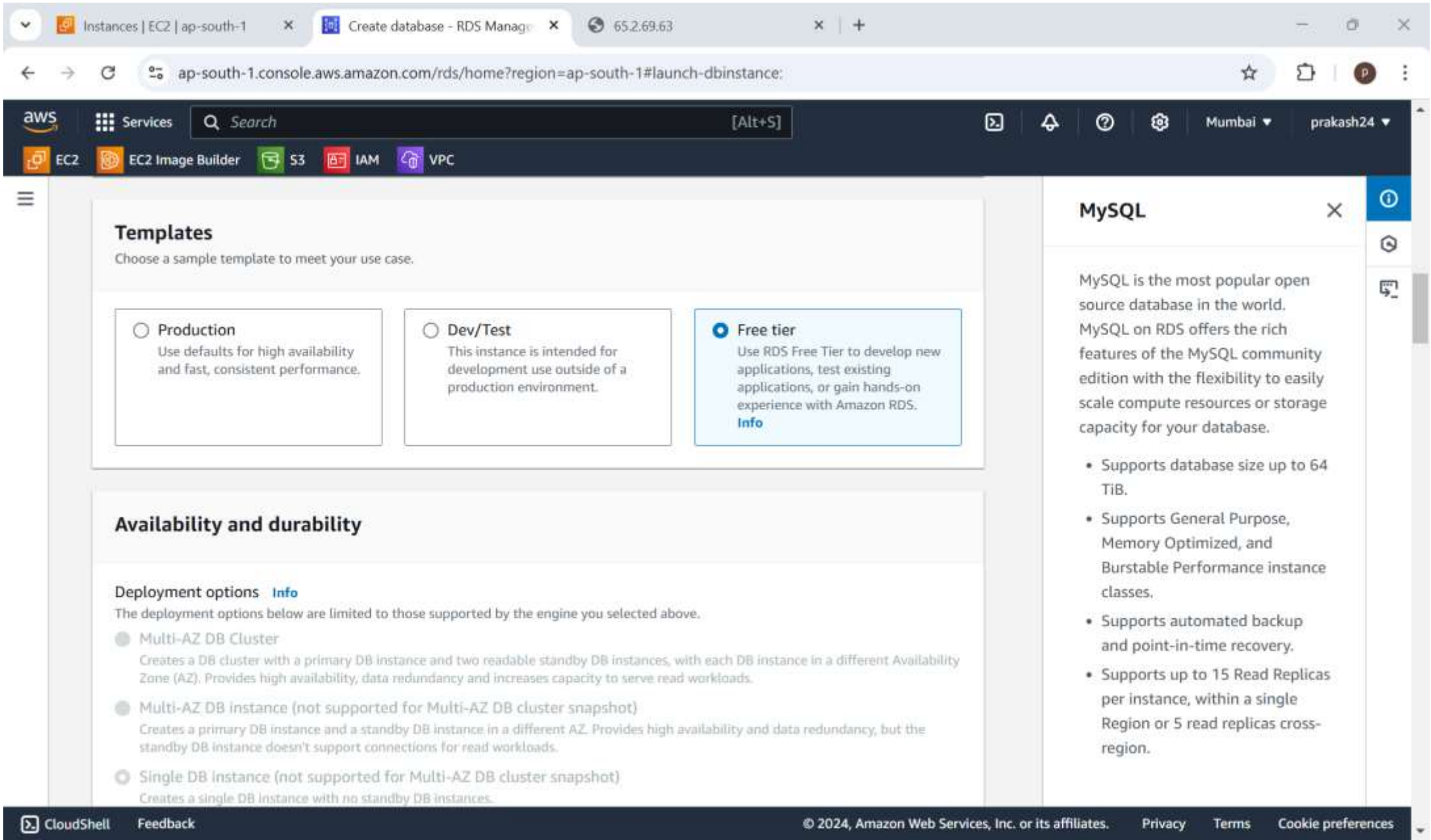
We able to web application home page through ec2



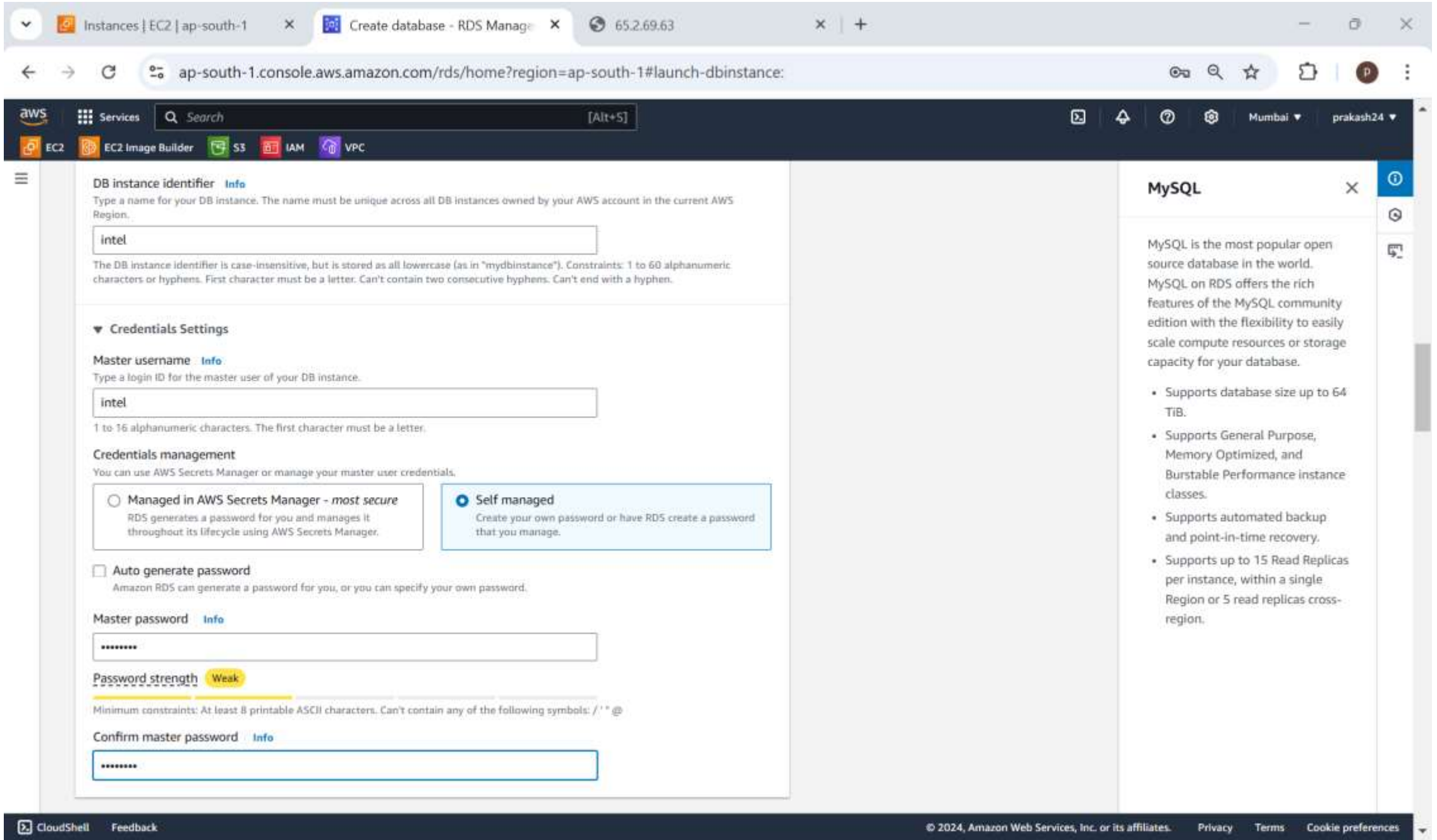
Configuring new MySQL RDS server



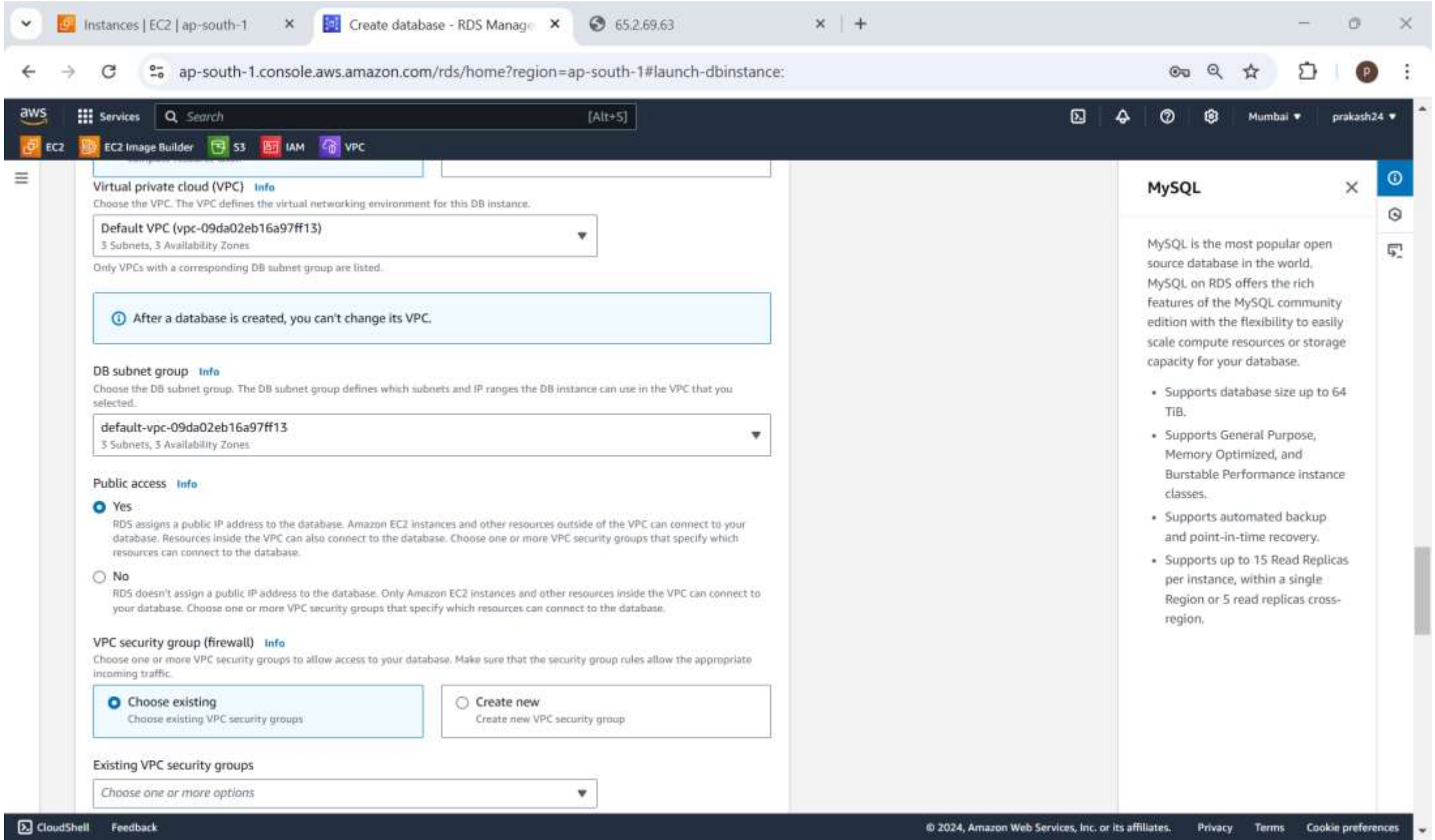
Configuring new MySQL RDS server – Free-tier



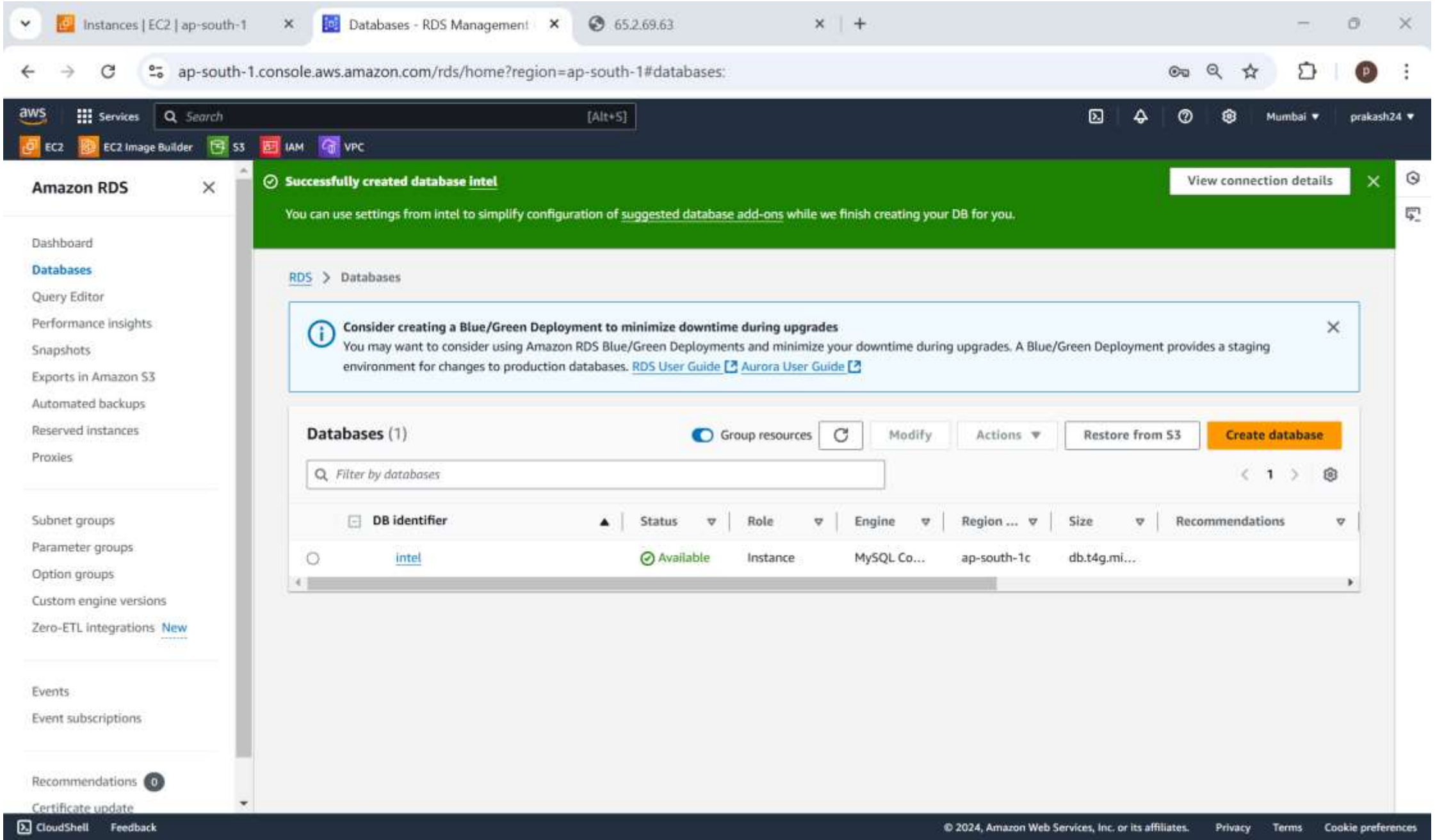
Configuring new MySQL RDS server – Setup Password



Configuring new MySQL RDS server – Public Access



Configuring new MySQL RDS server – Available Status



Configuring new MySQL RDS server – Available Status

- Connect to MySQL server

mysql -h intel.chc0yayiooqd.ap-south-1.rds.amazonaws.com -u intel -p

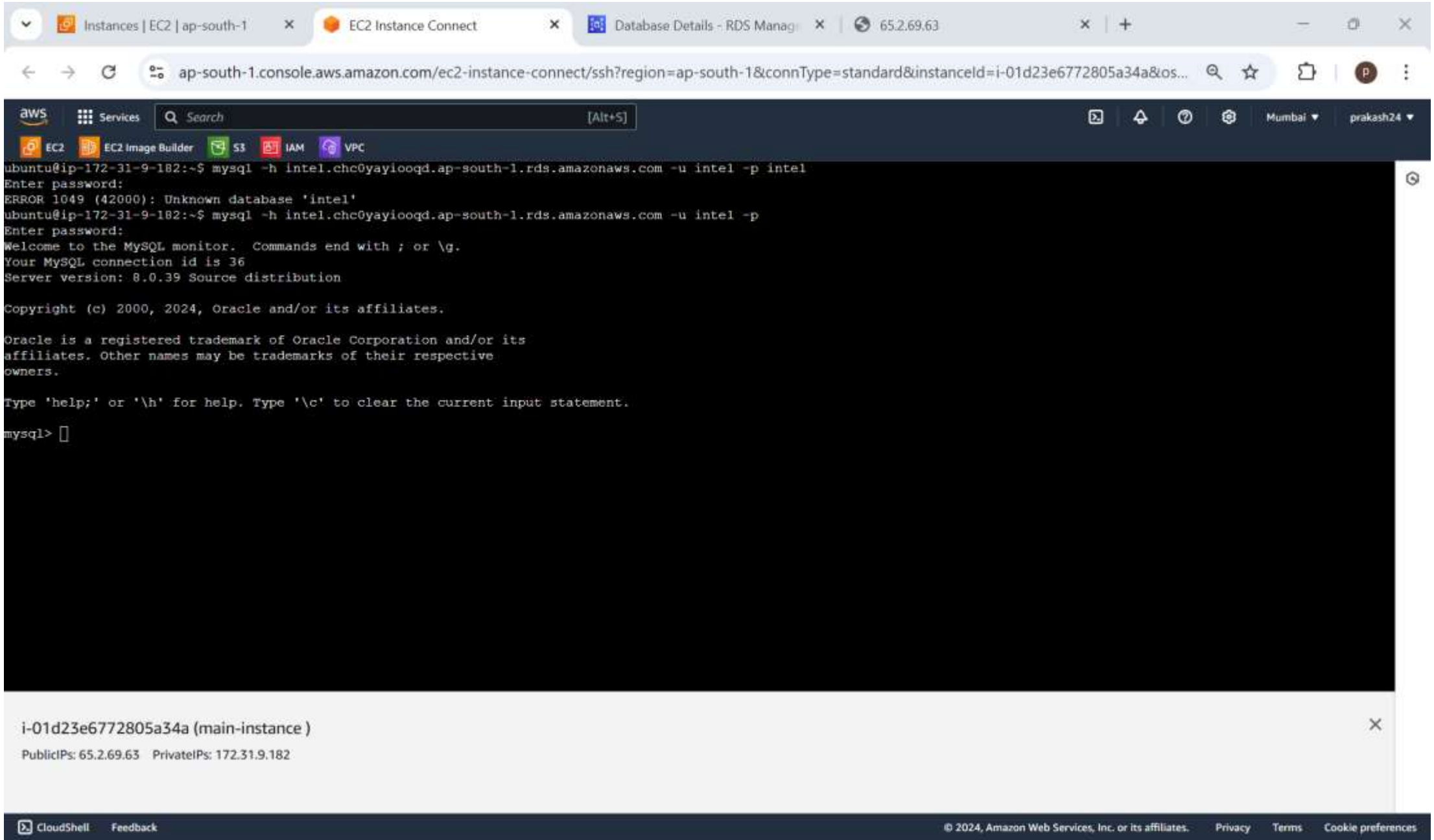
- Creating MySQL Database

CREATE DATABASE intel;

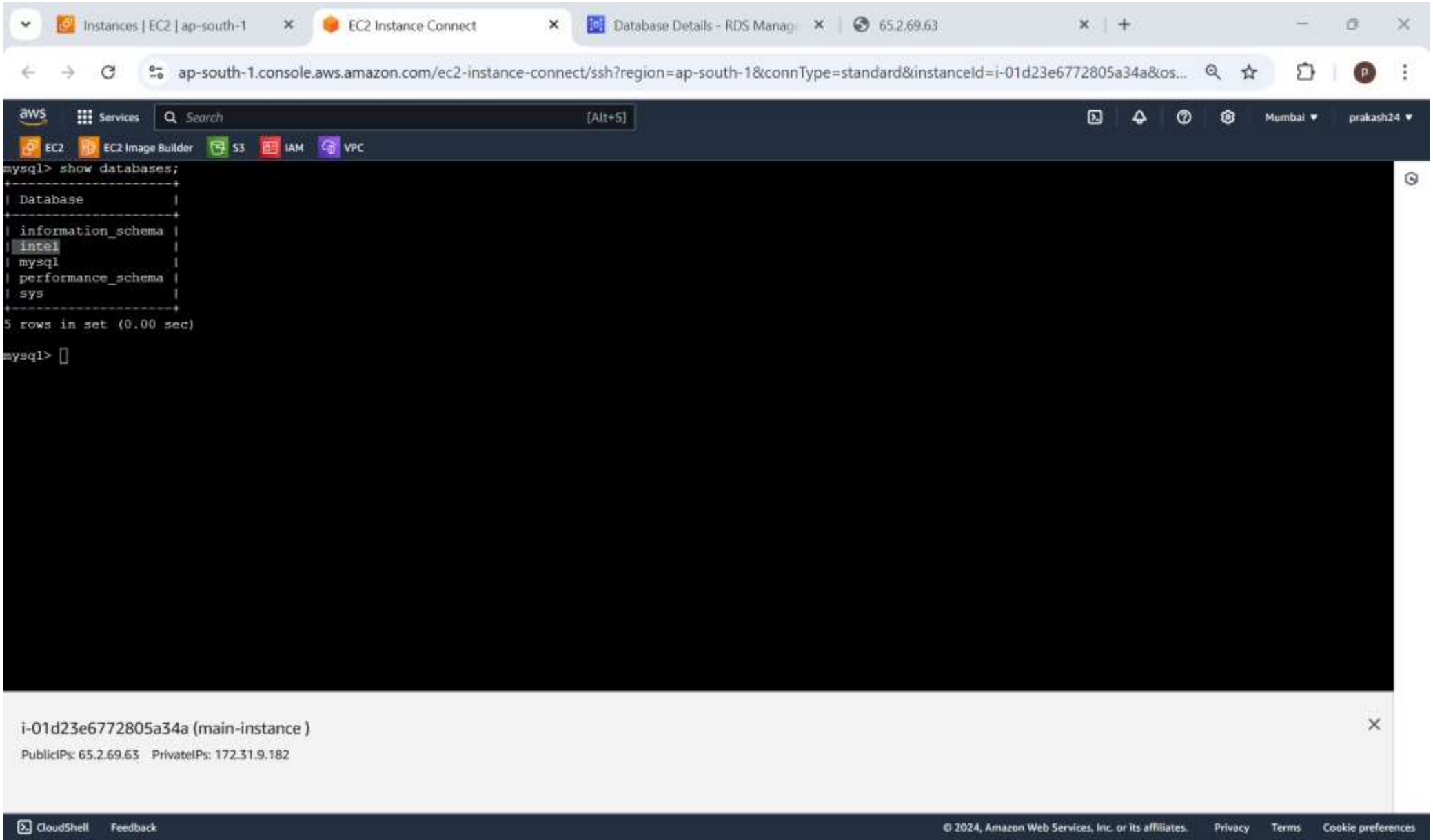
- Creating MySQL Table

```
CREATE TABLE data (
   id INT PRIMARY KEY AUTO_INCREMENT,
   firstname VARCHAR(50) NOT NULL,
   email  VARCHAR(100) UNIQUE );
```

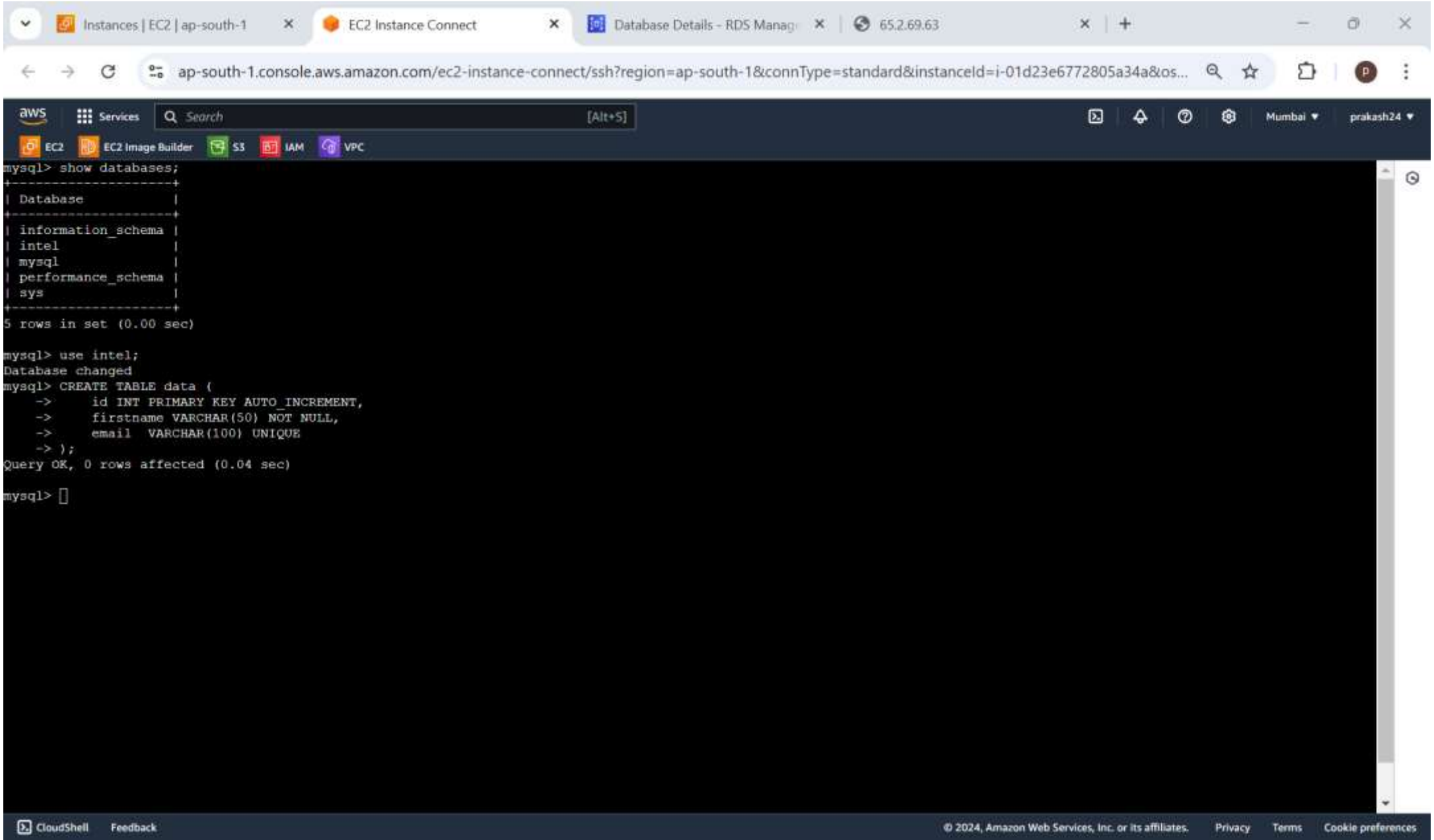
We Successfully Connect to MyQSL server using ec2



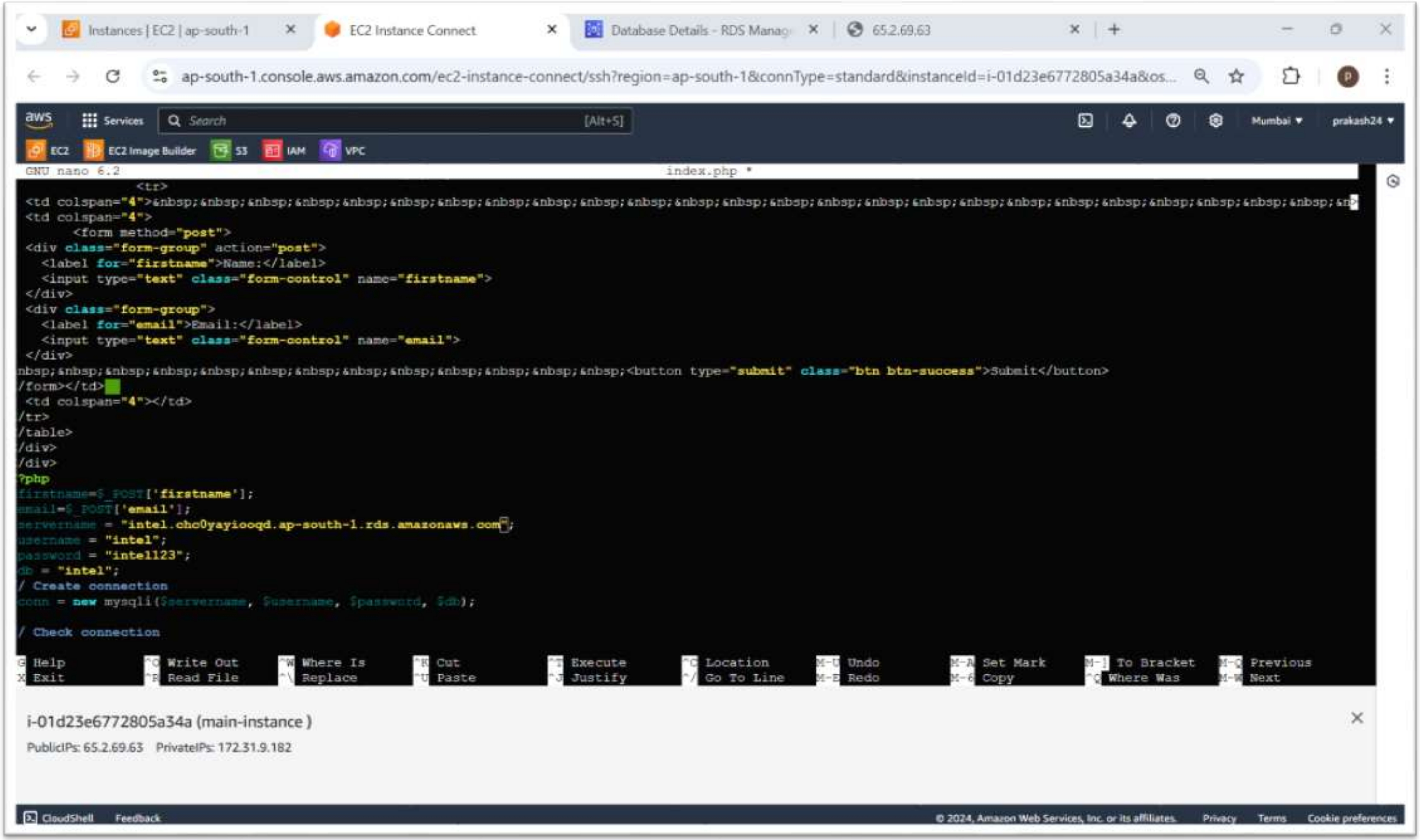
SHOW DATABASES; - MySQL Query



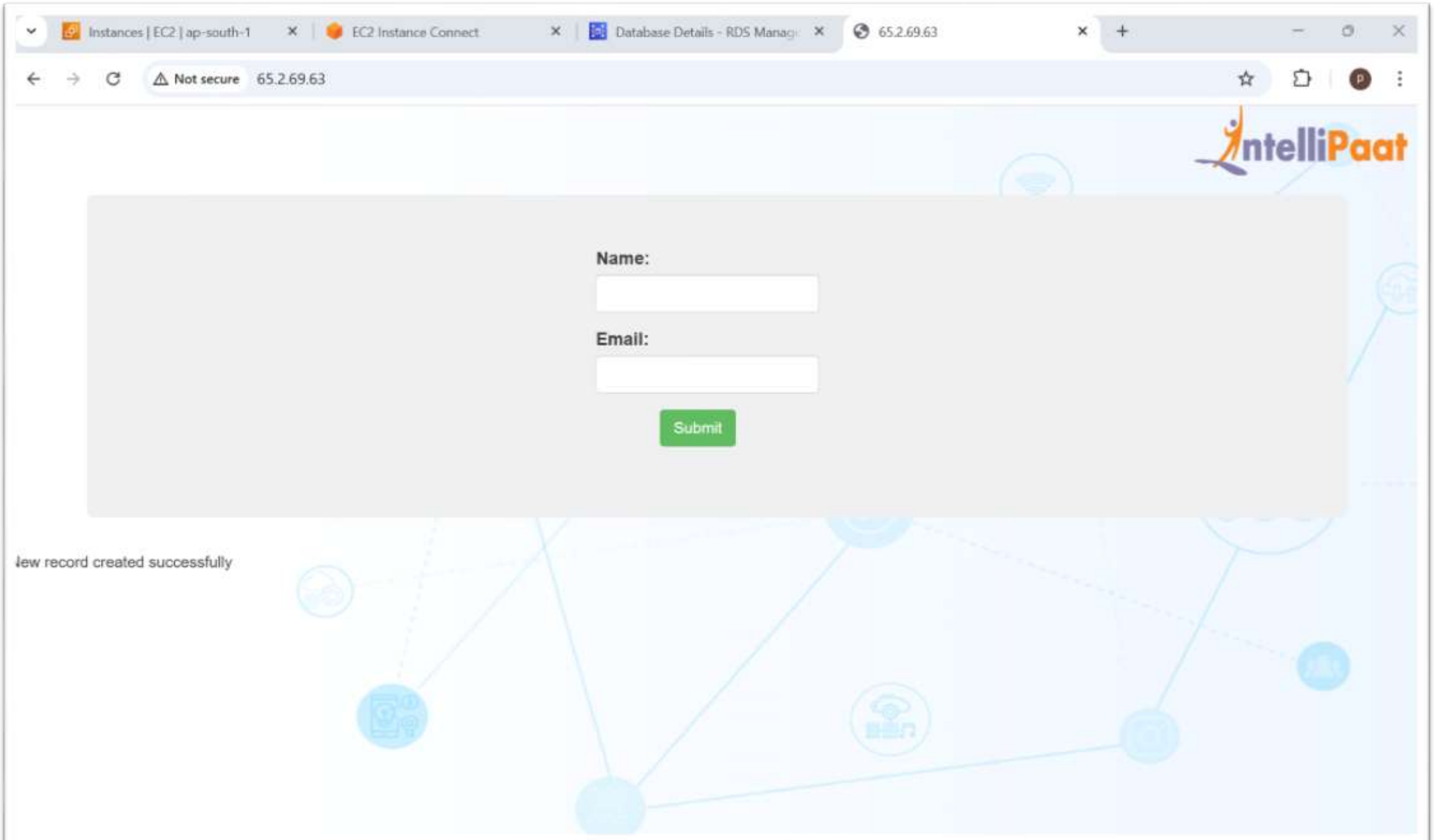
USE <DATABASE NAME> to change database and creating table



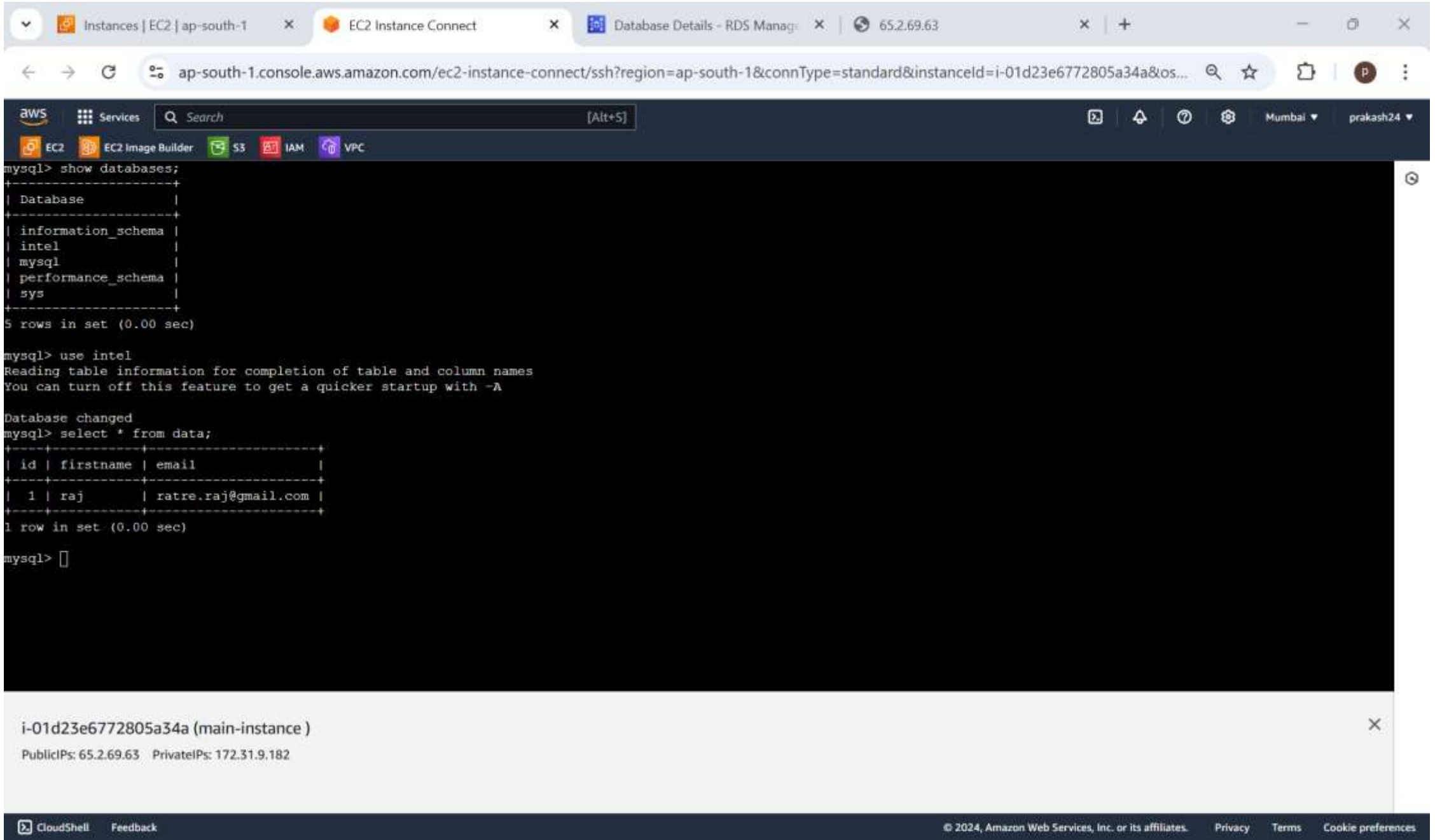
Changing MySQL public endpoint



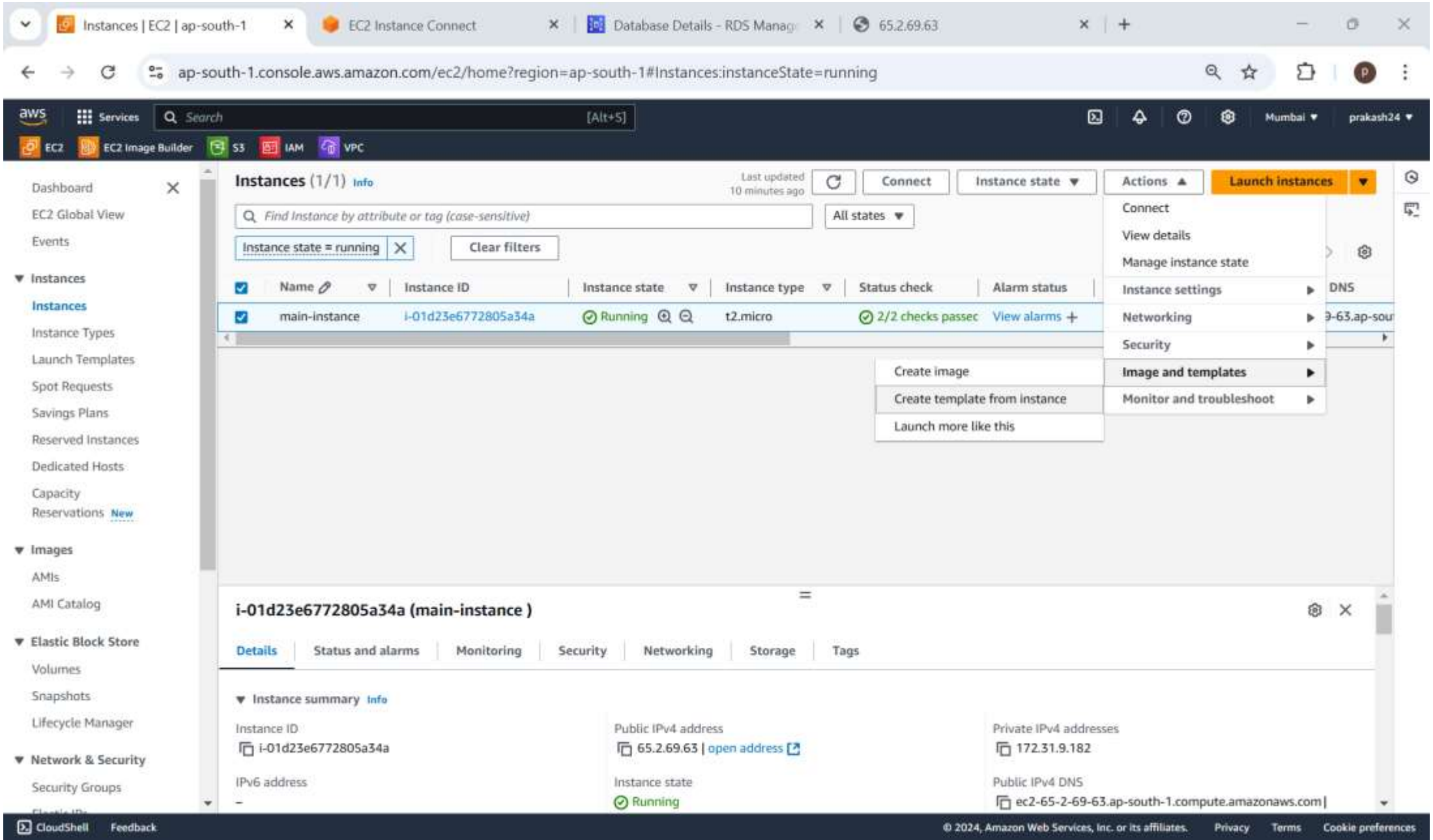
We Successfully insert the one record in database table



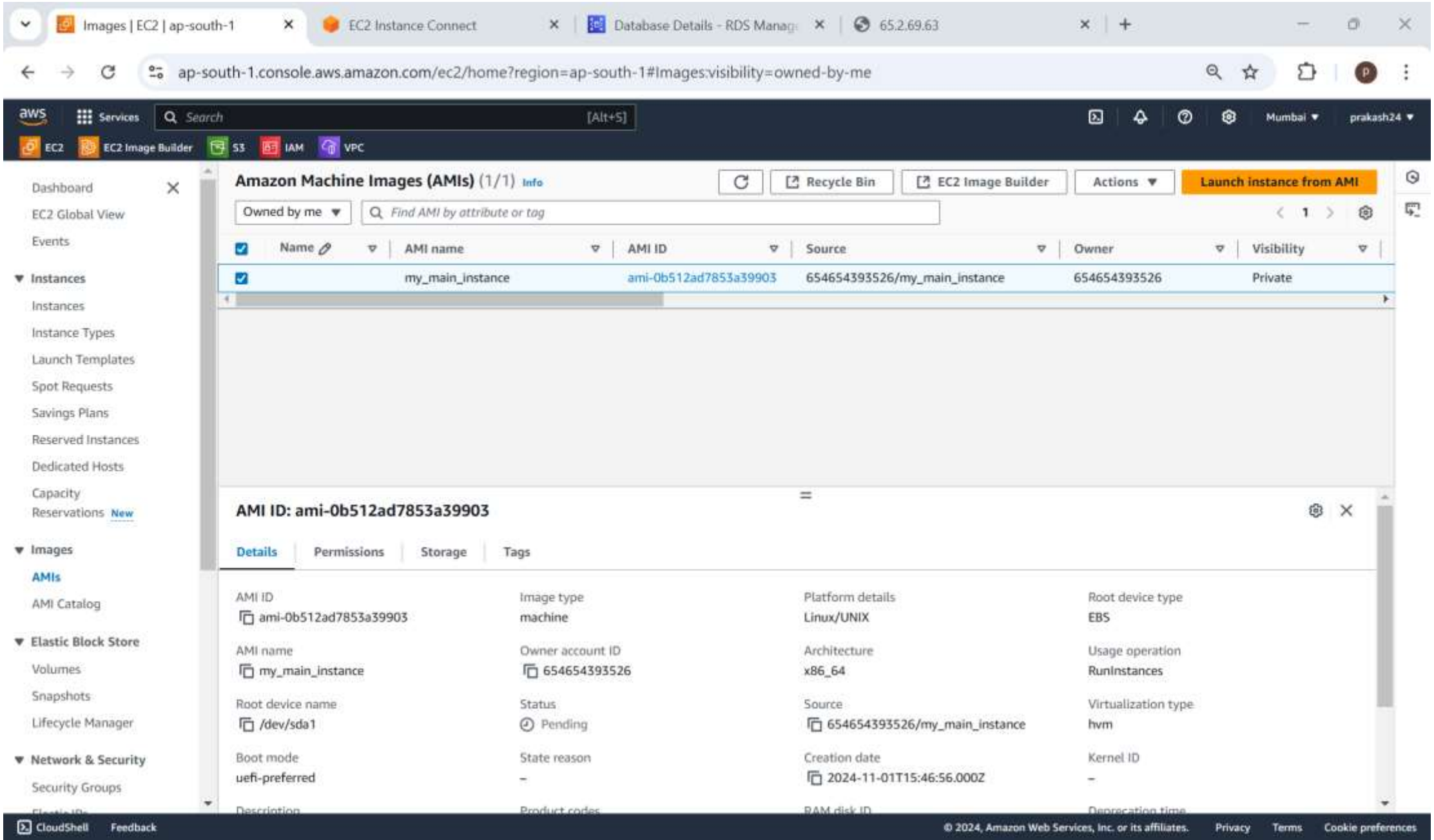
We can see the insert record in database



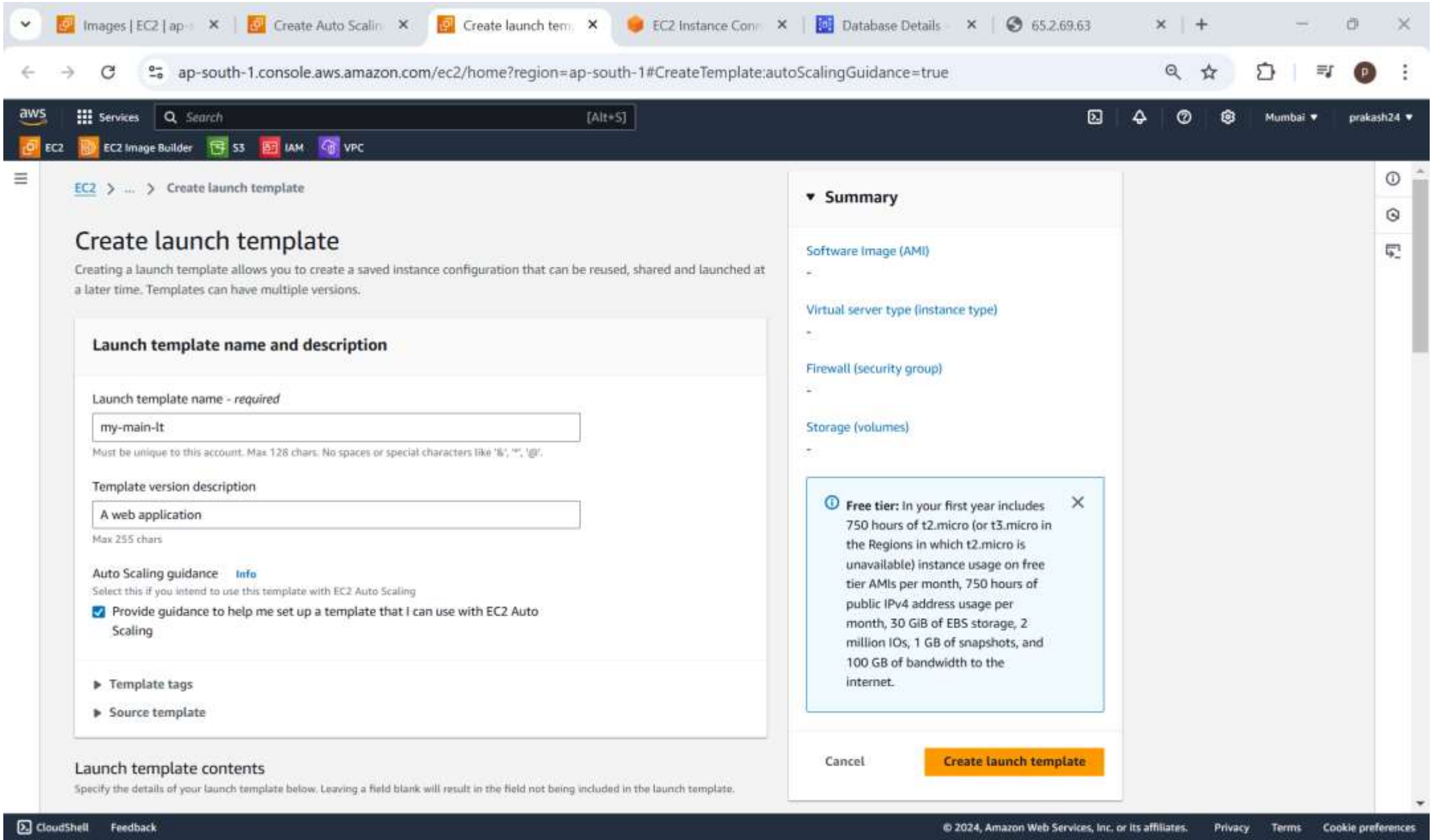
Creating a AMI from main instance



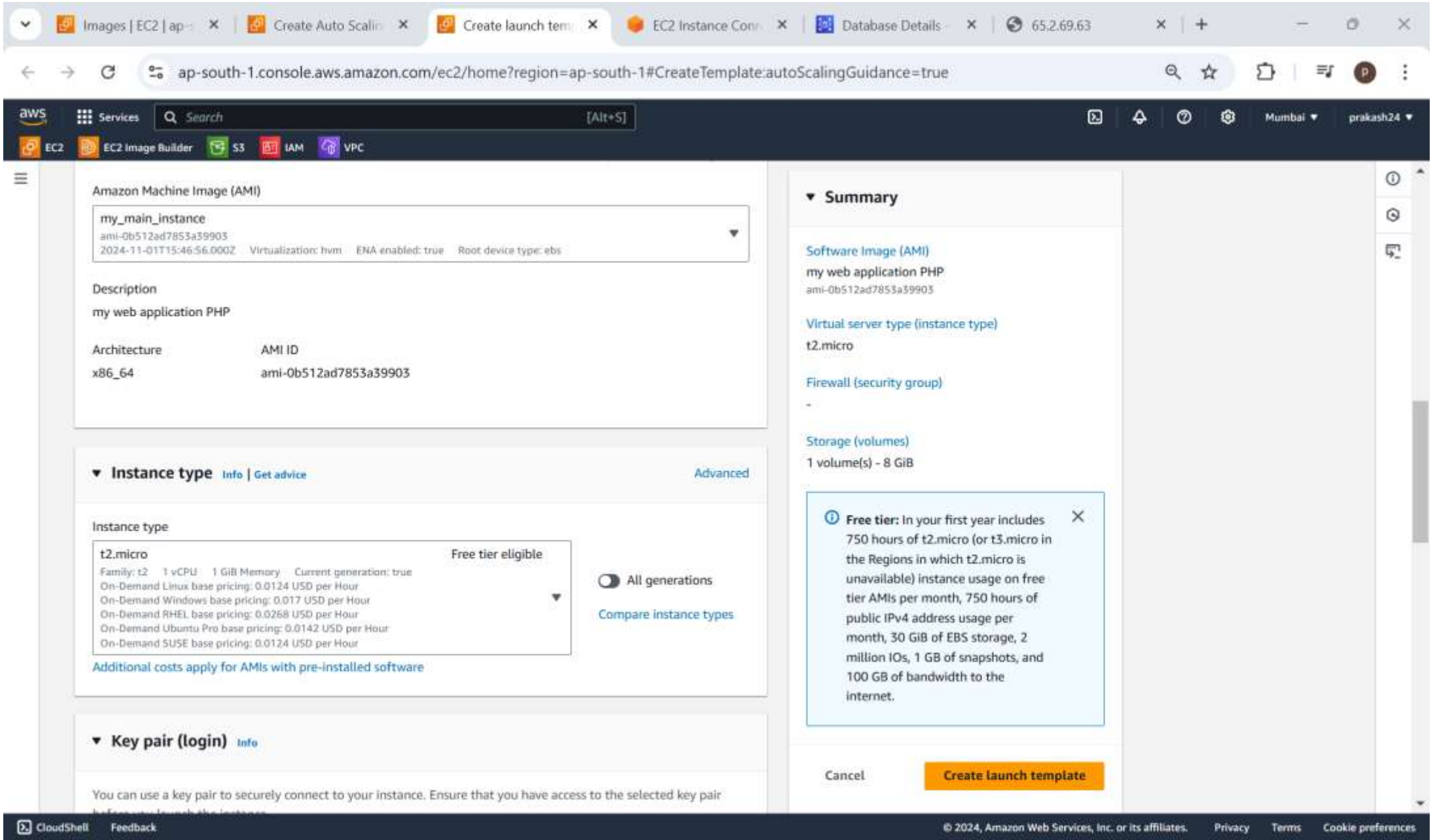
AMI Created Successfully



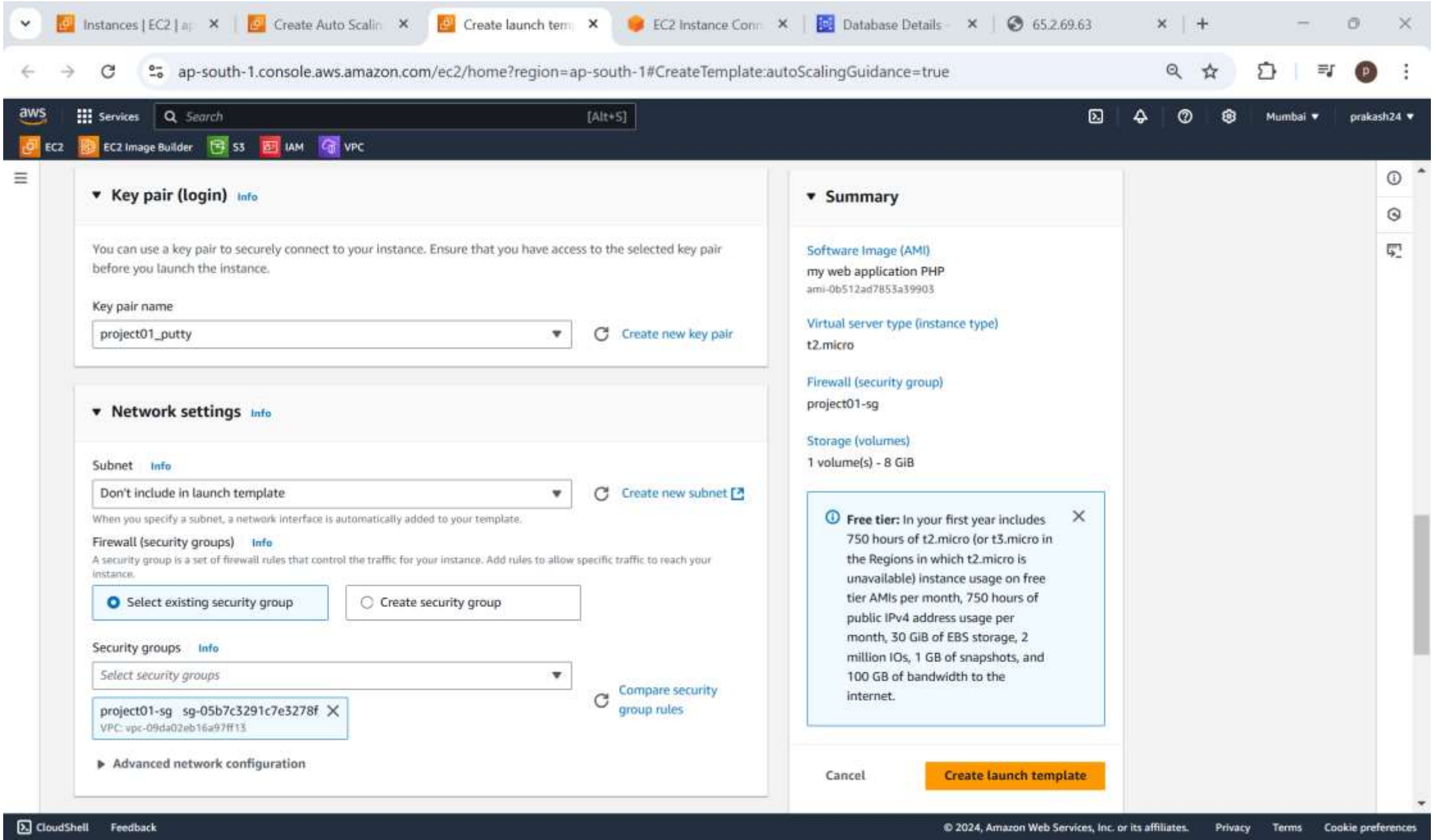
Creating a launch template so we can launch instance using Auto Scaling Group



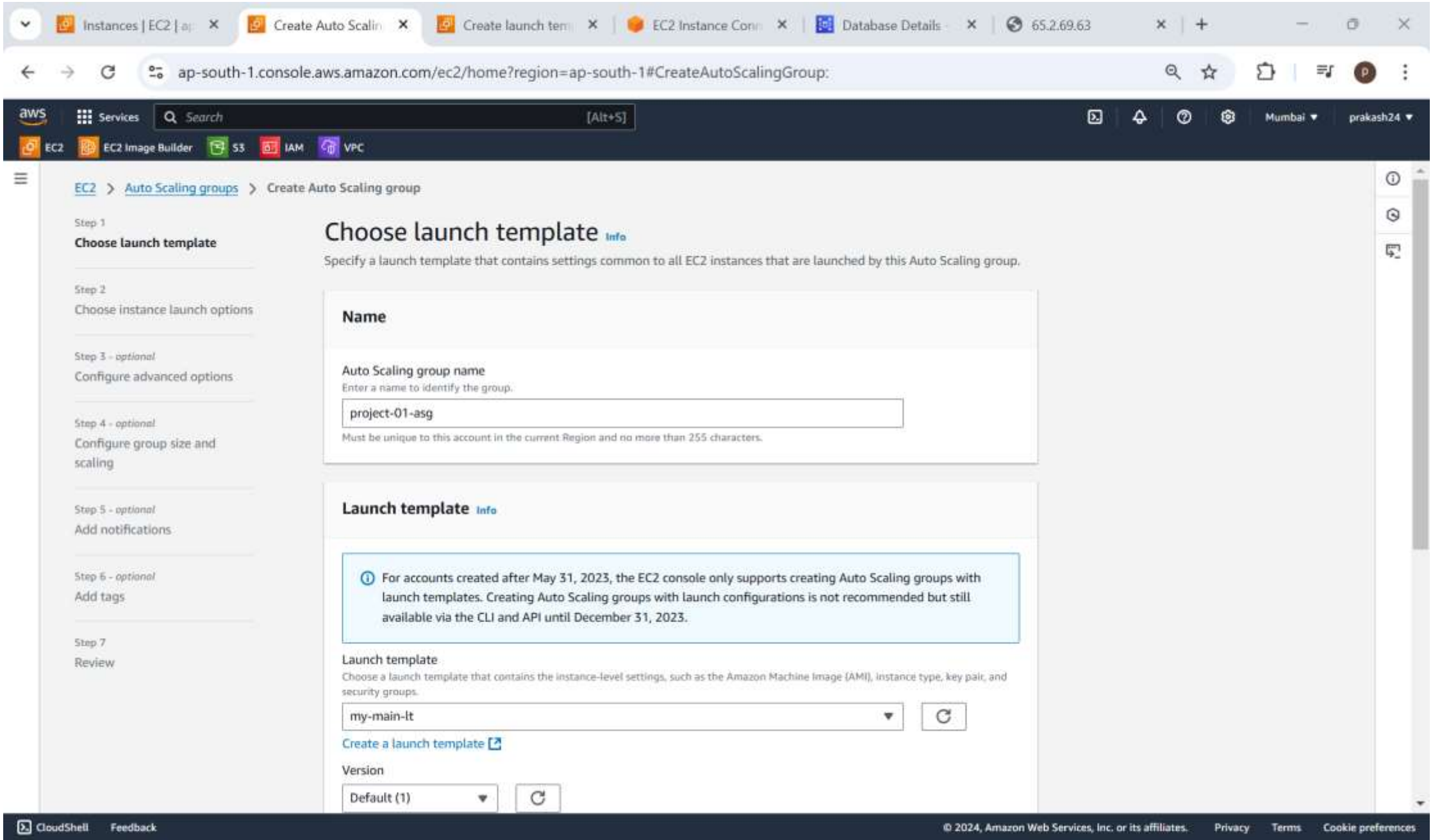
Selecting Instance Type t2:micro in launch template



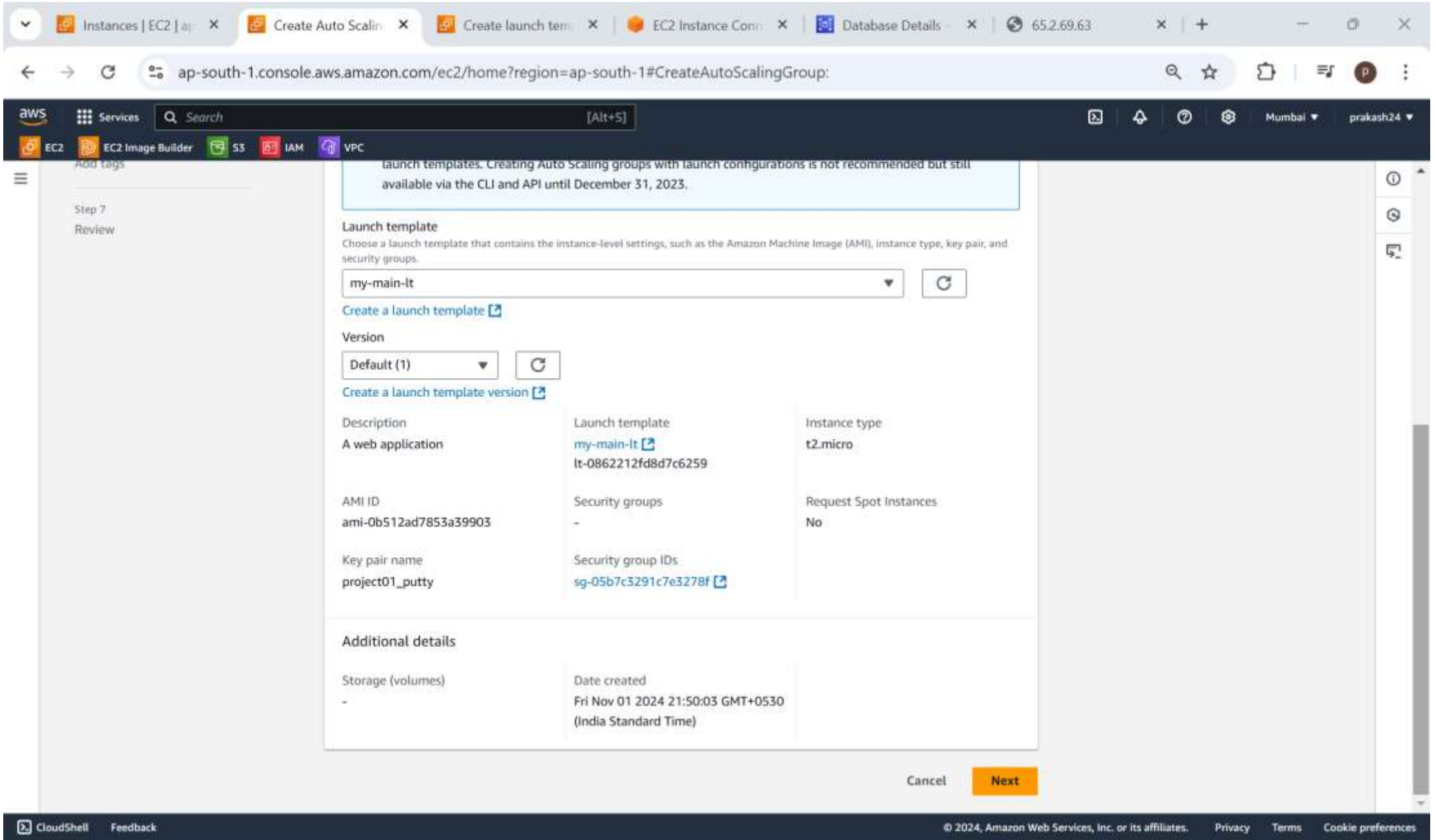
Selecting Instance Type Security Group in launch template



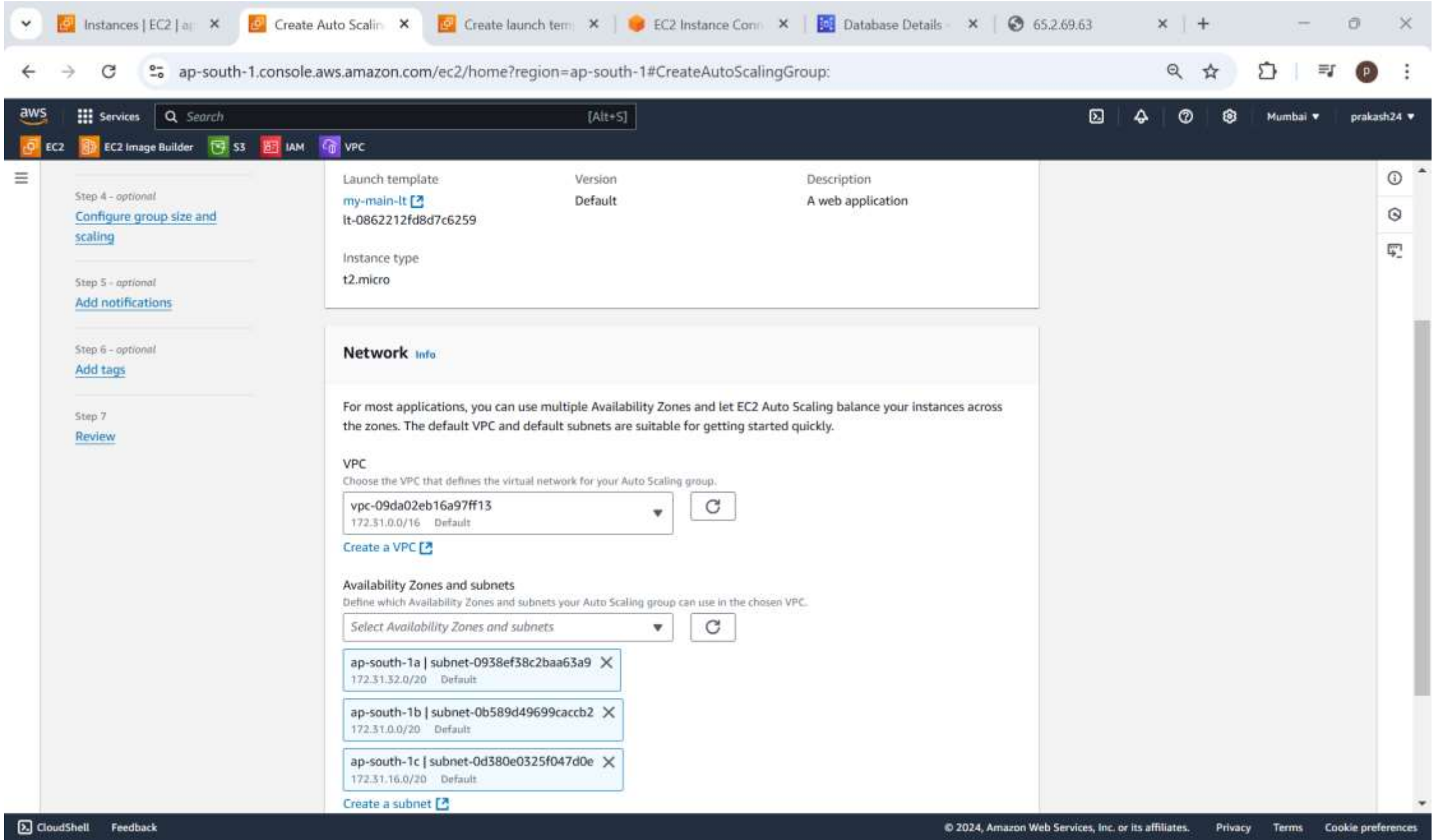
Choosing Launch Template for Auto Scaling Group



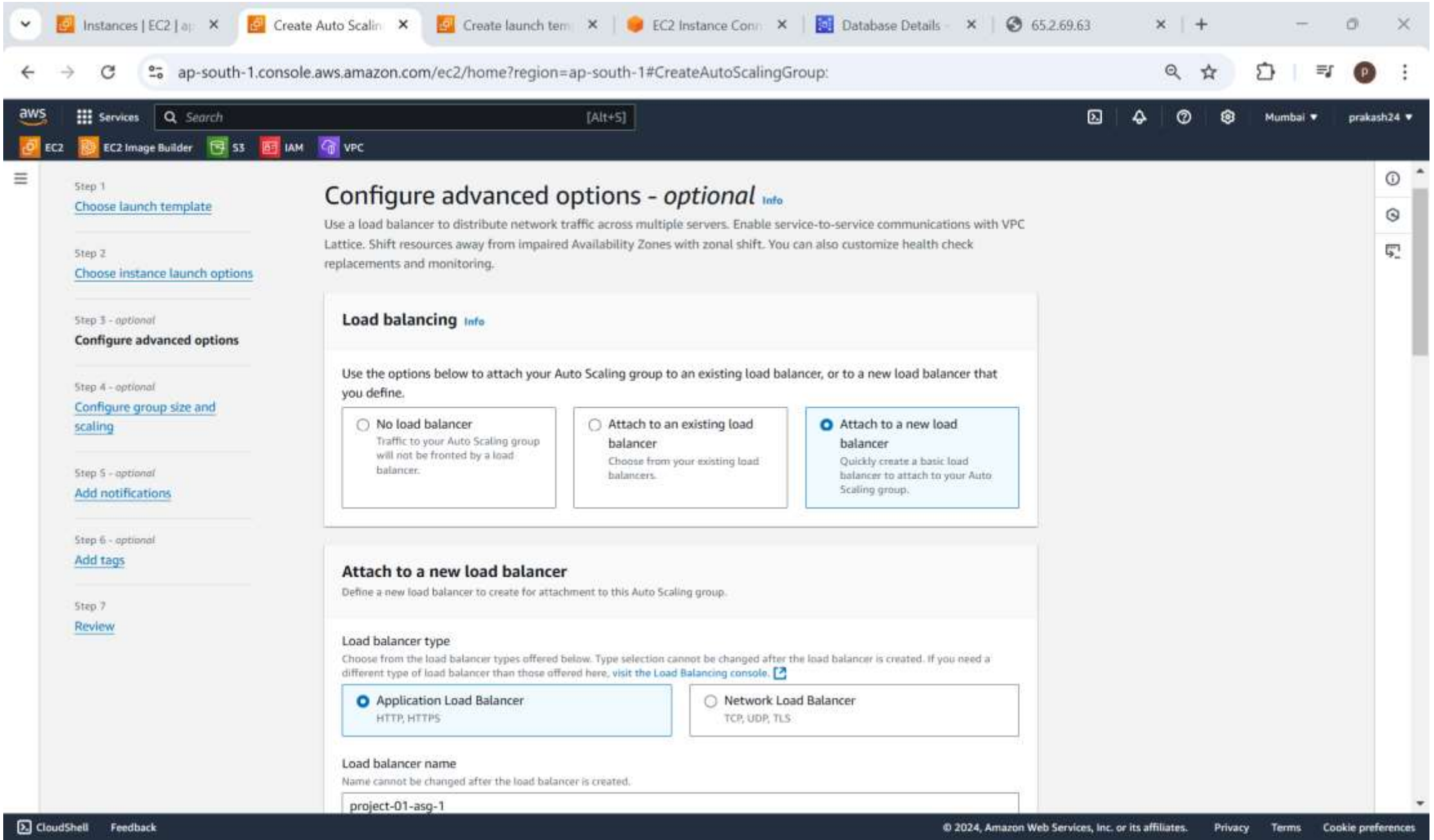
Choosing Launch Template for Auto Scaling Group



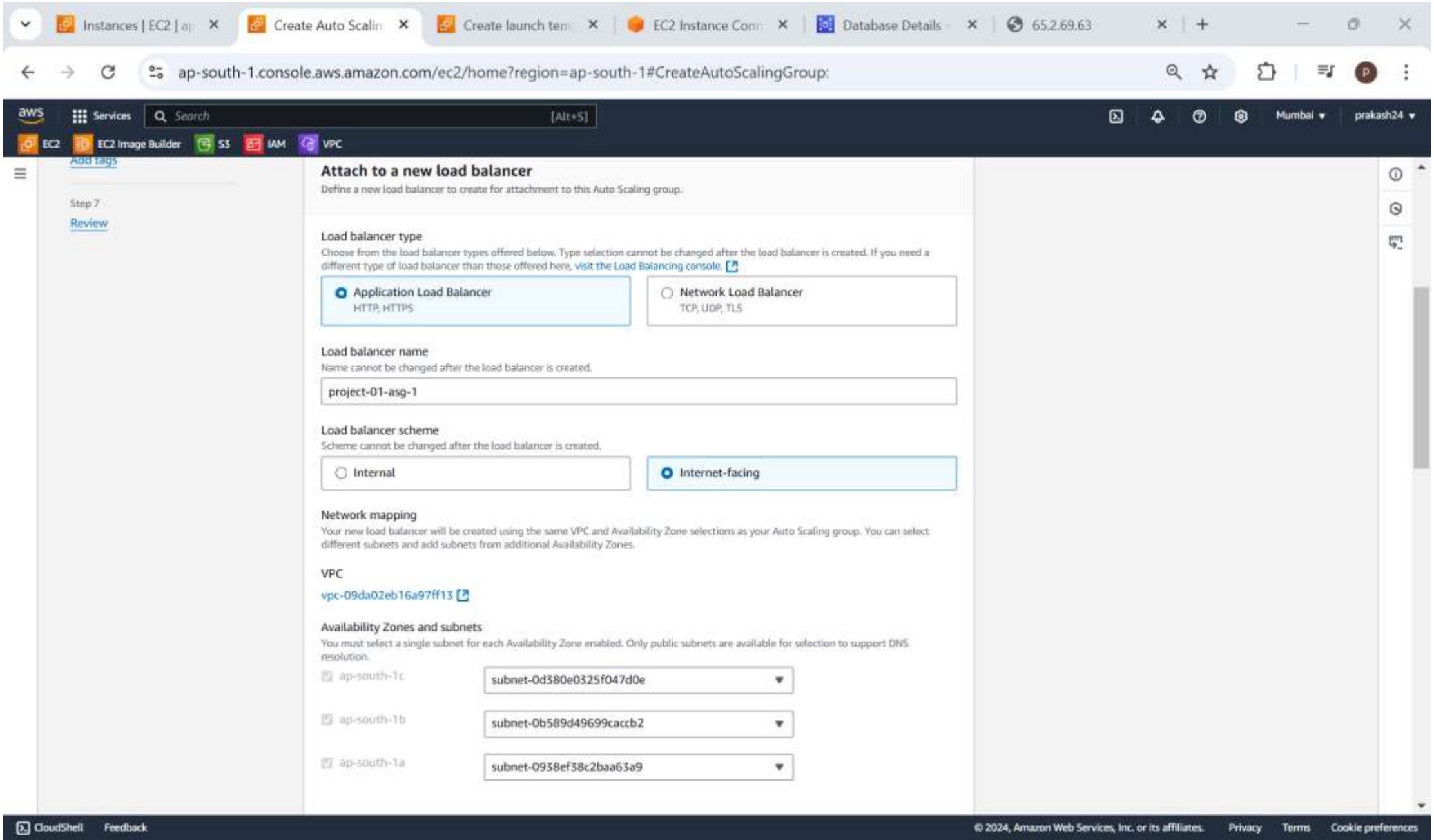
Selecting AZ show the instance can launch



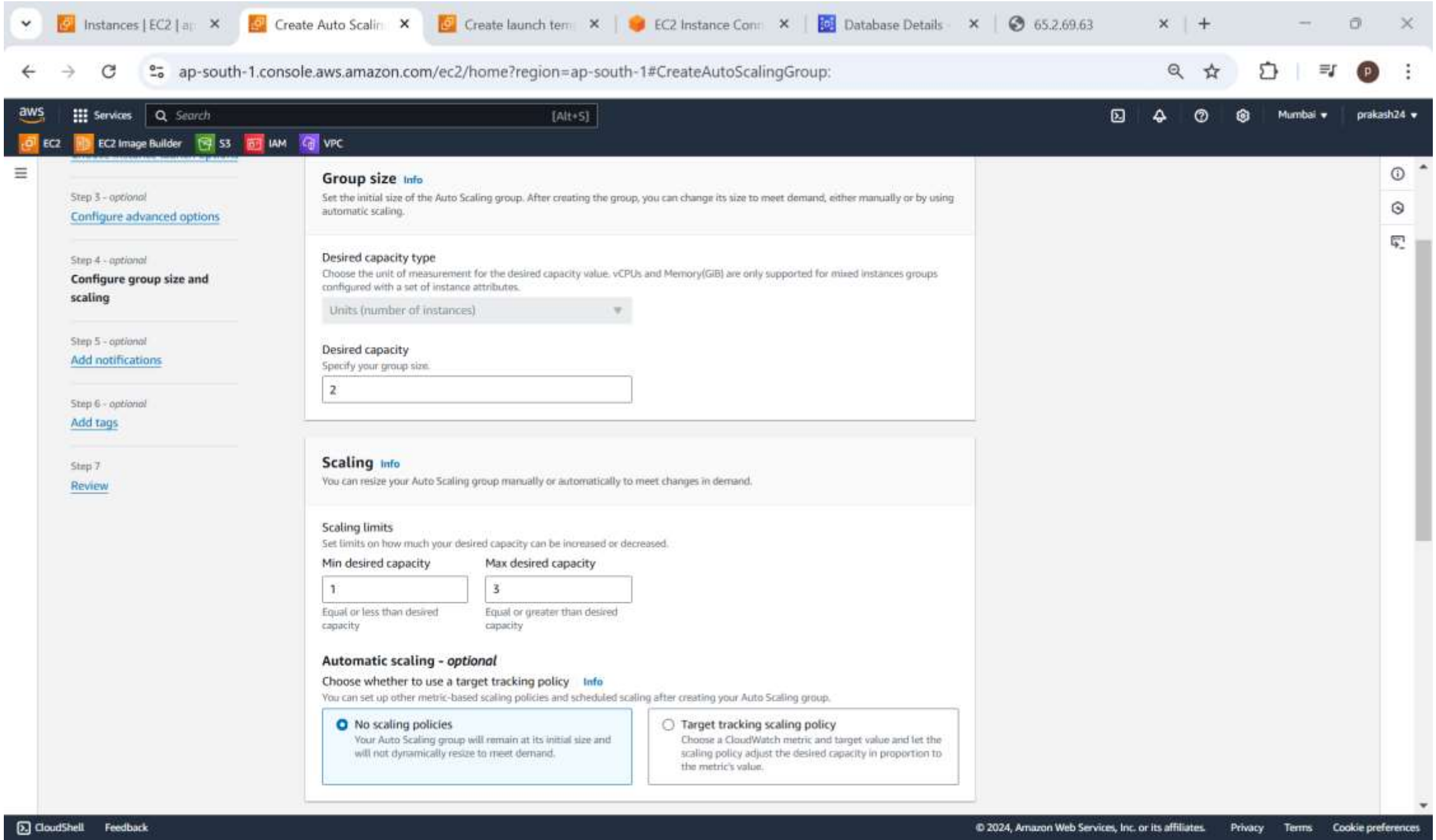
Configuring A Application Load Balancer



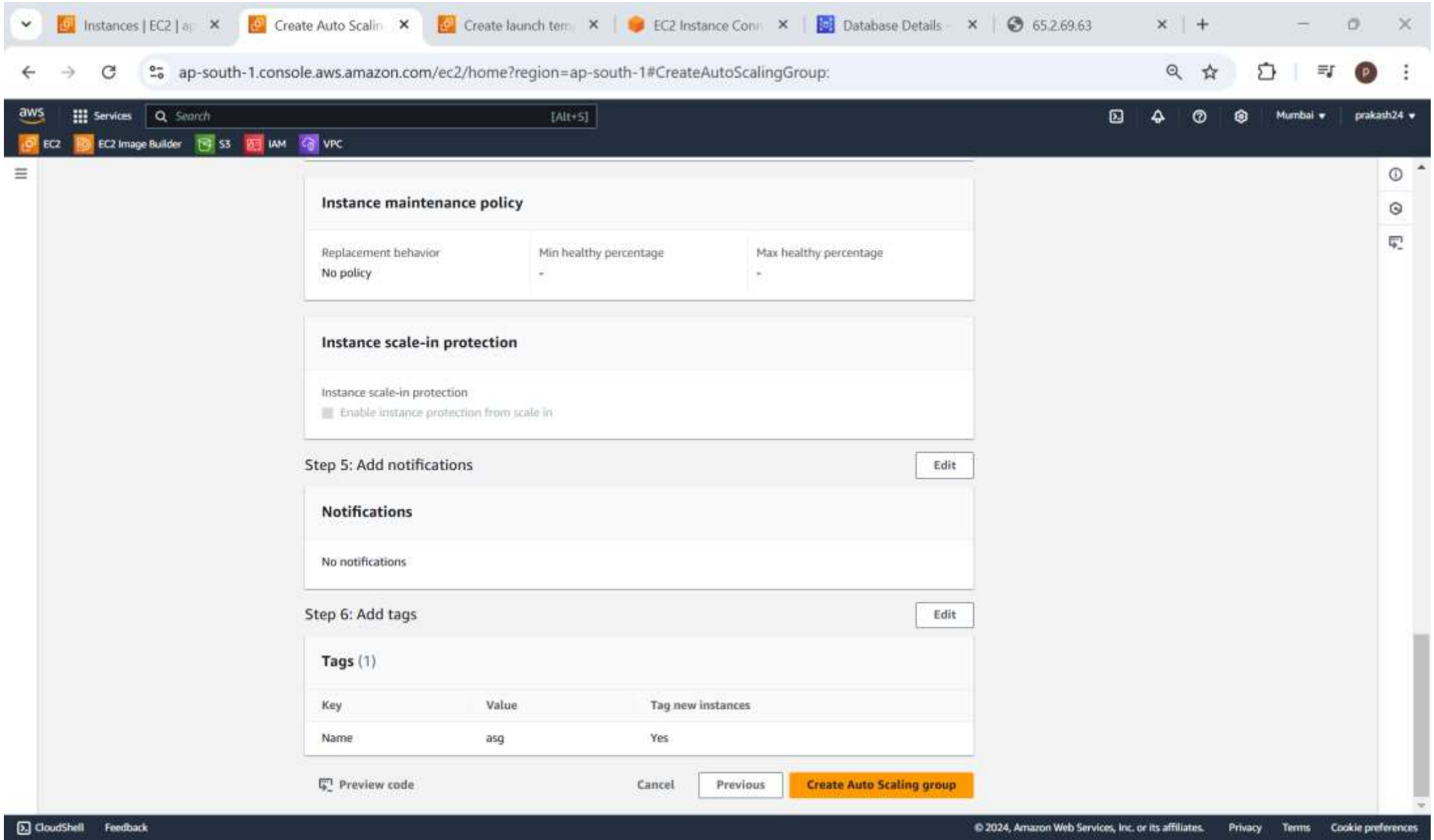
Configuring A Application Load Balancer – Internet Facing



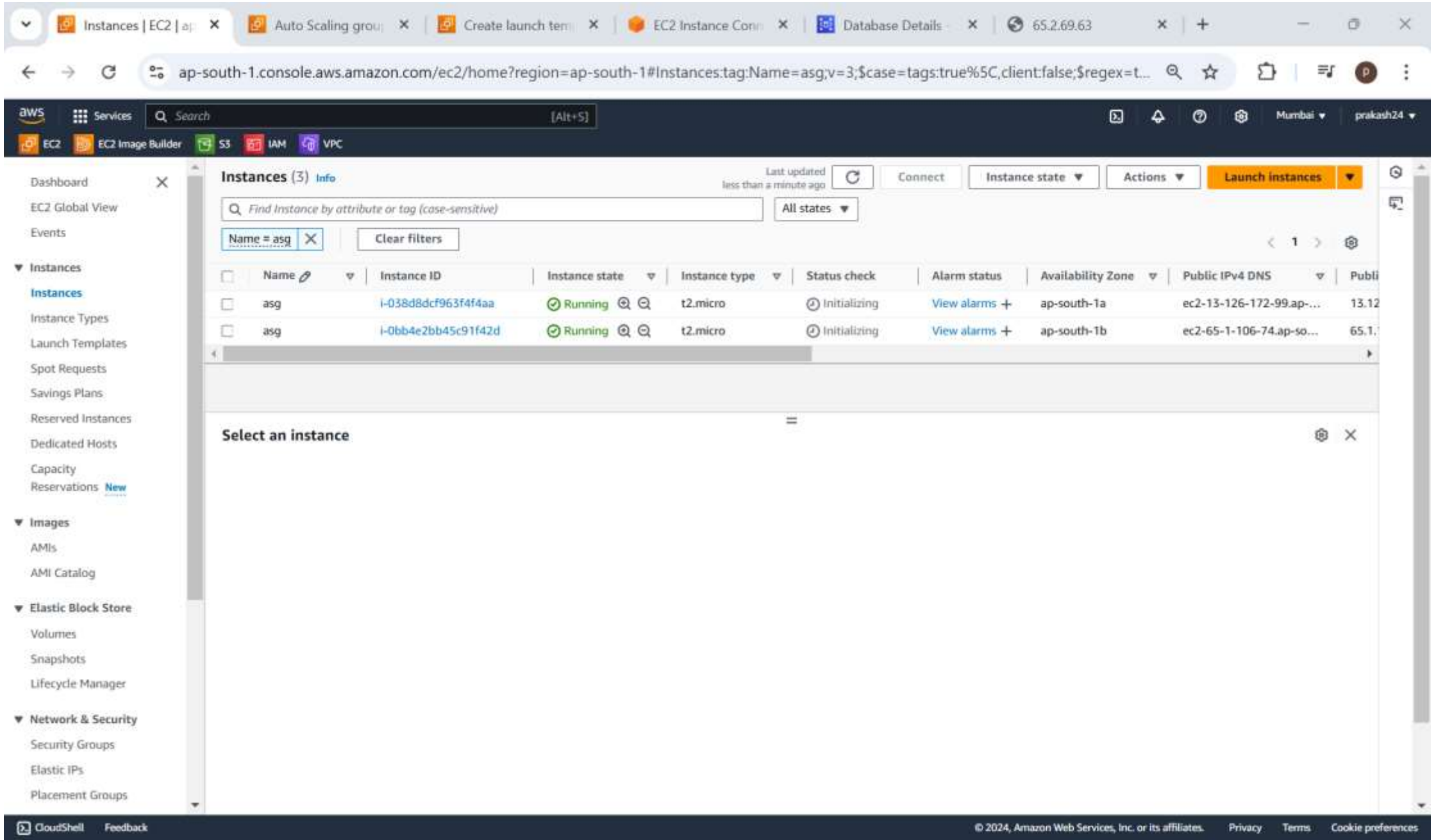
Configuring A Application Load Balancer – Group Size



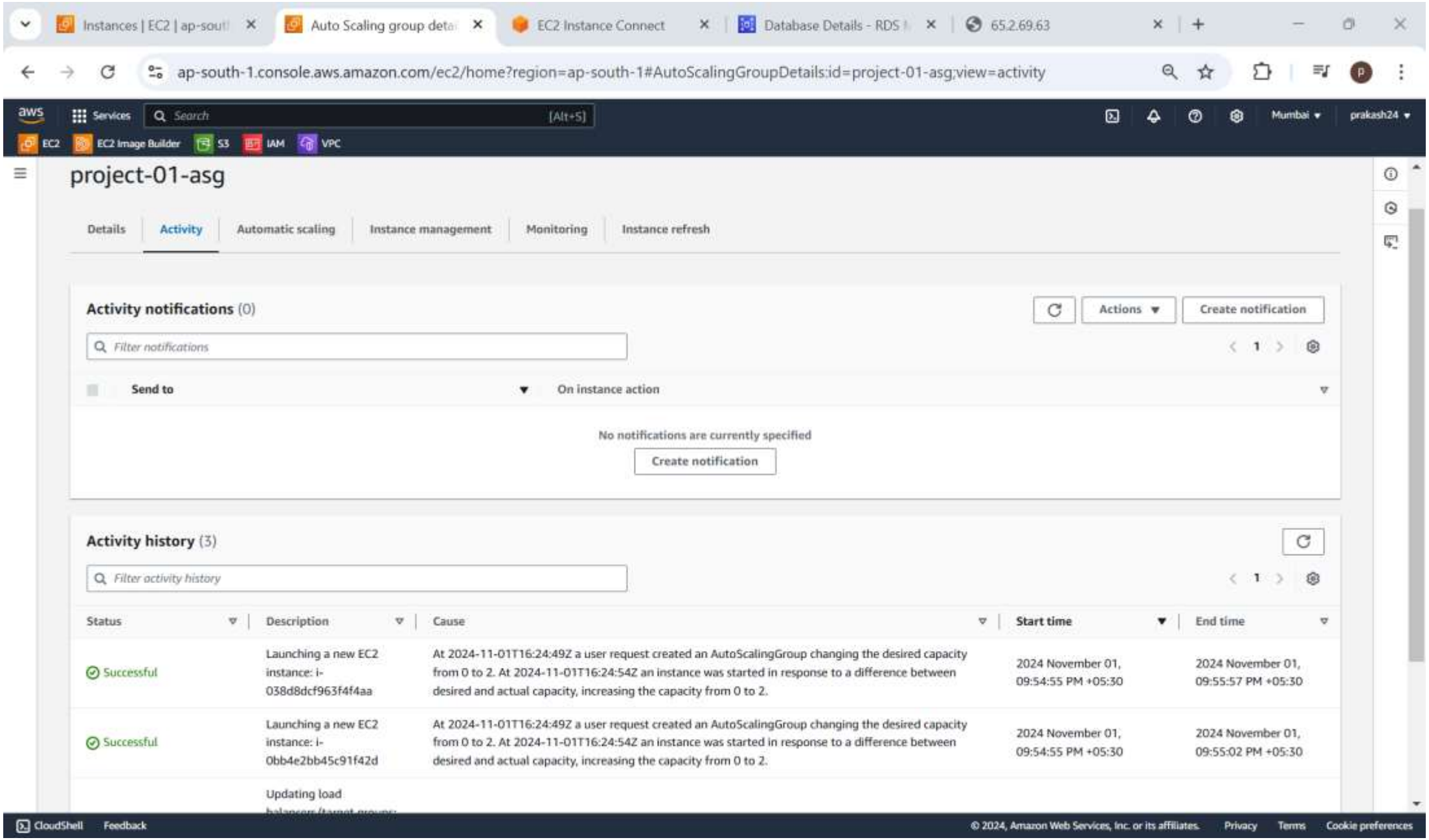
Creating a Auto Scaling Group



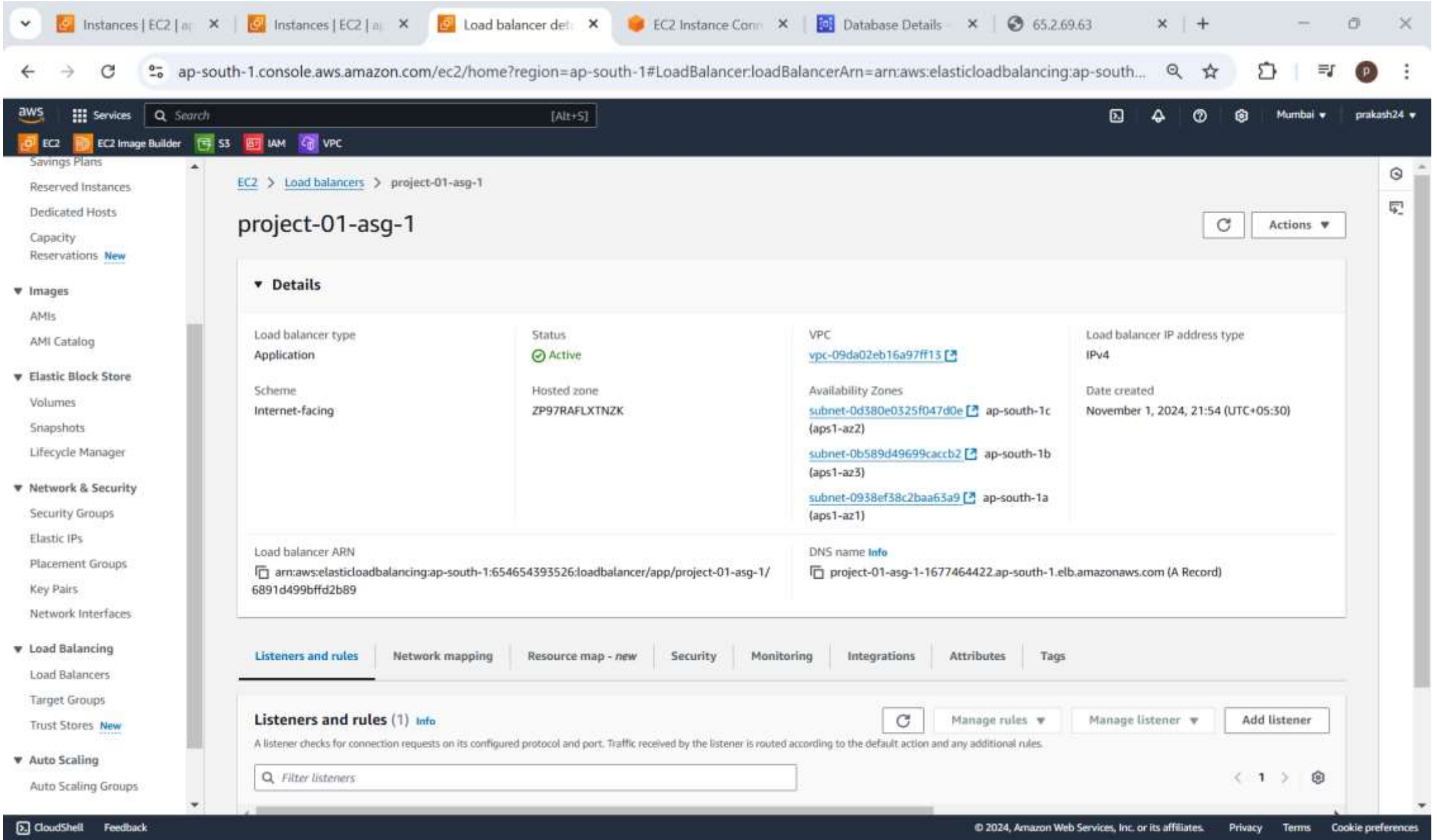
Auto Scaling Group launch the desire capacity of instance



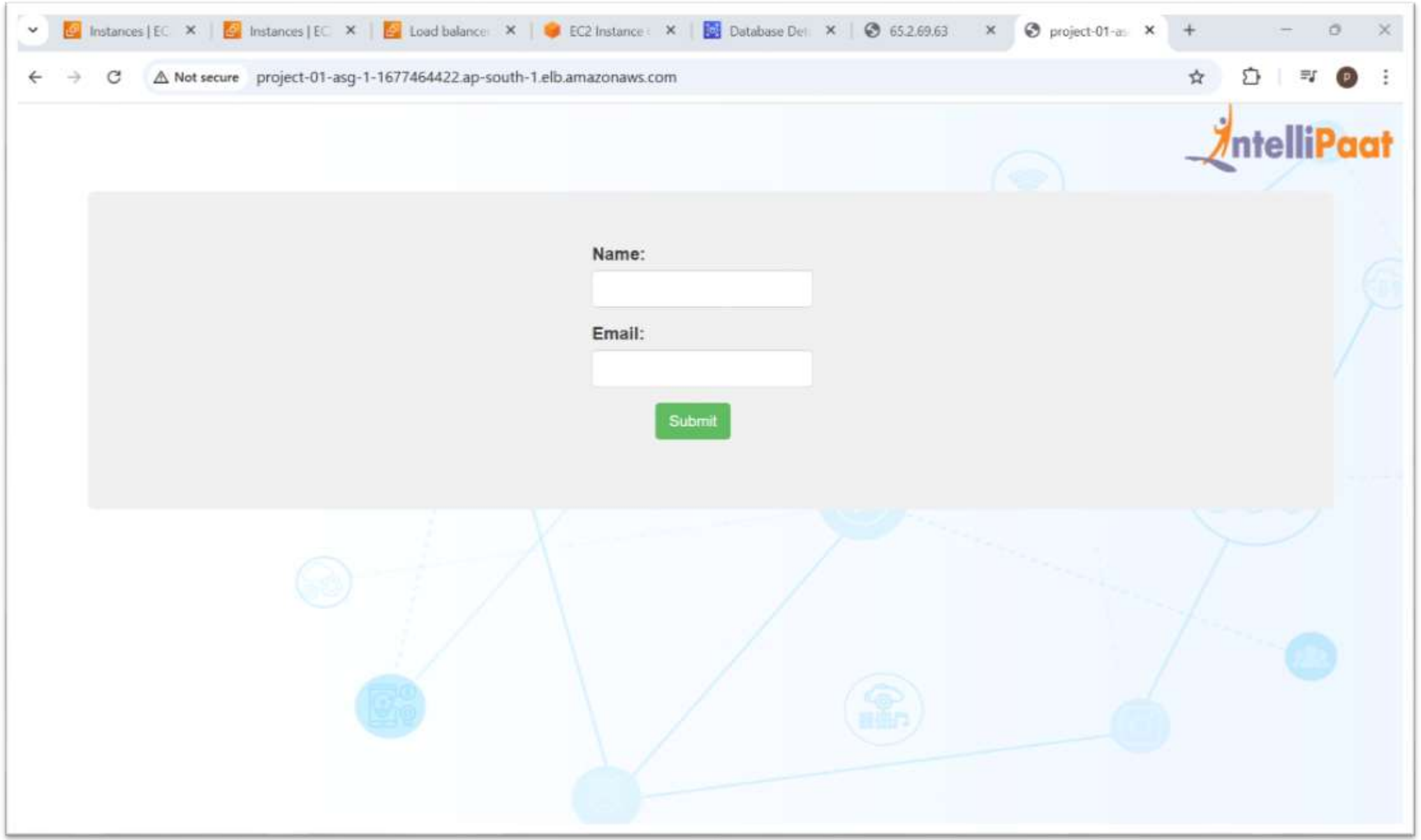
Activity Pan of Auto Scaling Group



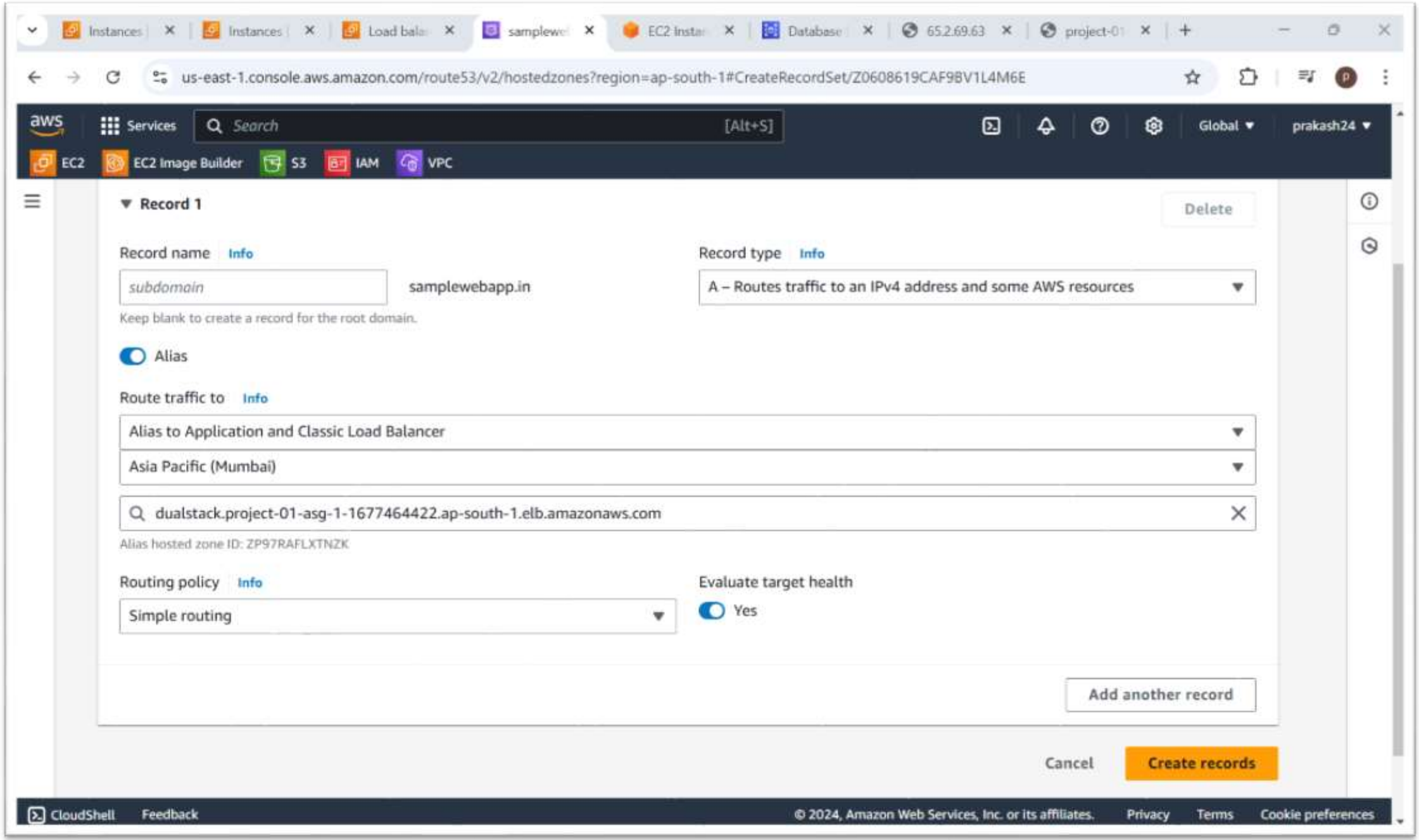
Active Application Load Balancer



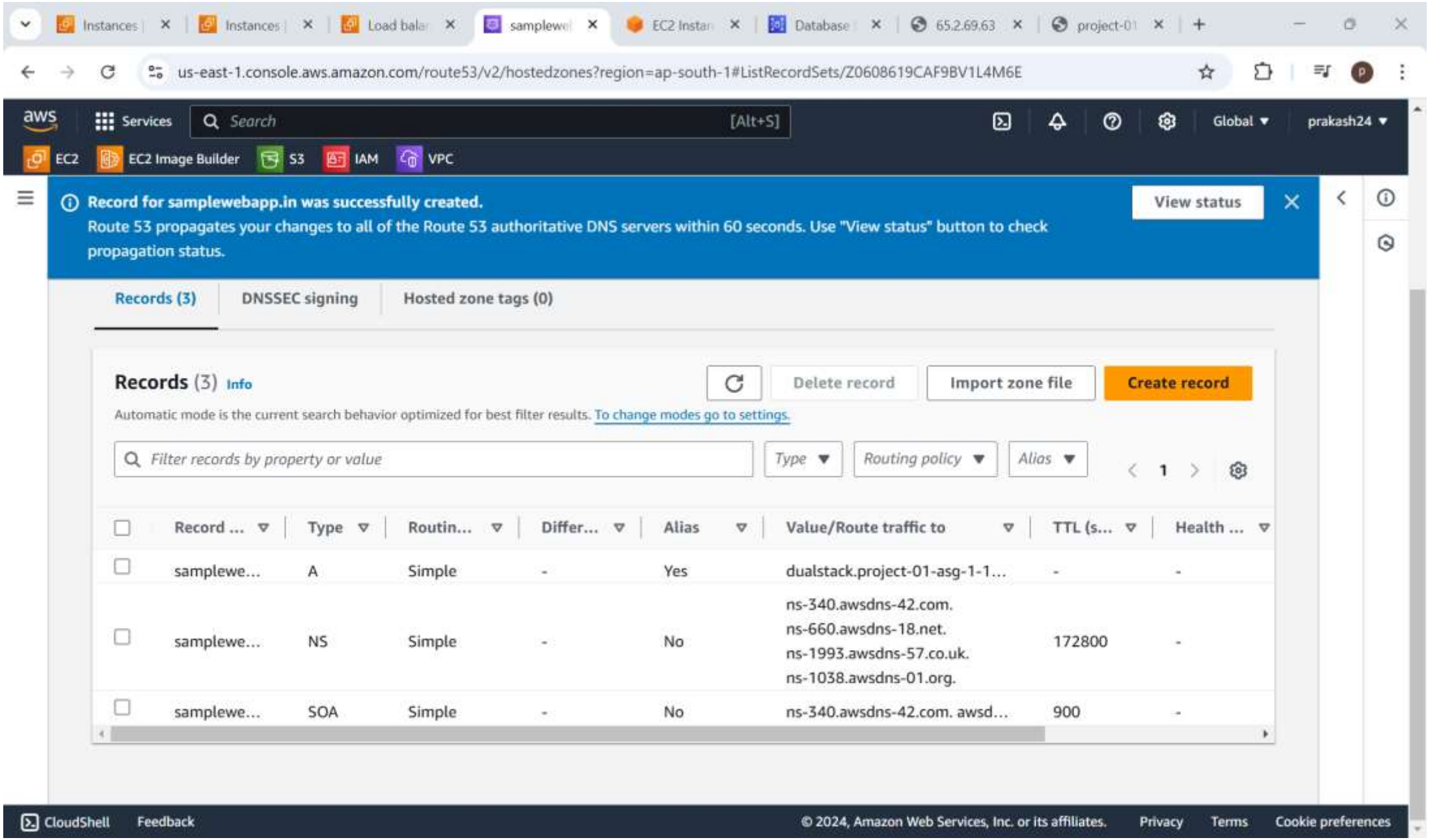
We can able to access the application using Load Balancer URL



Adding Record in Host Zone of Route 53 so we can access through DNS



Record added in Host Zone of Route 53



We can access the web application using mapped domain Name