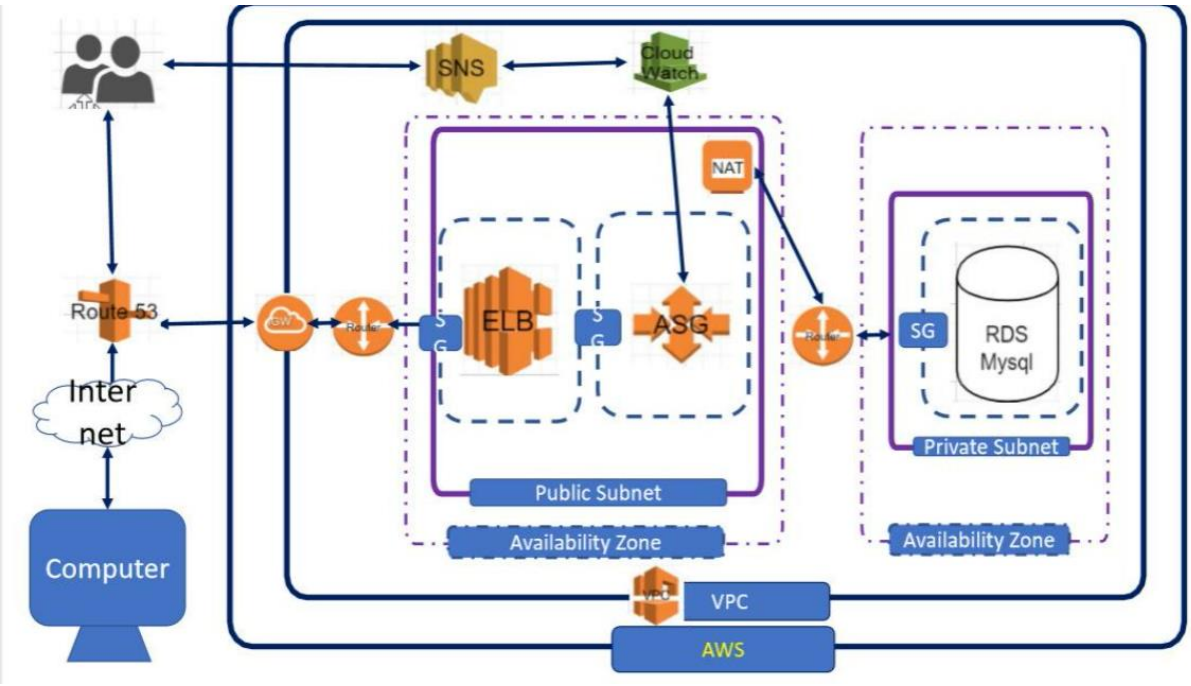
Assignment

This is my Assignment image



According to the above figure we have to create the Environment.
We have use some services from AWS like

VPC:

VPC stands for **Virtual Private Cloud**. Amazon Virtual Private Cloud (Amazon VPC) provides a logically isolated area of the AWS cloud where you can launch AWS resources in a virtual network that you define.

Application Load balancer:

A *load balancer* serves as the single point of contact for clients. Clients send requests to the load balancer, and the load balancer sends them to targets, such as EC2 instances. To configure your load balancer, you create target groups, and then register targets with your target groups. You also create listeners to check for connection requests from clients, and listener rules to route requests from clients to the targets in one or more target groups.

EC2:

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.

Auto Scaling:

Autoscaling, also spelled **auto scaling** or **auto-scaling**, and sometimes also called **automatic scaling**, is a method used in cloud computing that dynamically adjusts the amount of computational resources in a server farm - typically measured by the number of active servers - automatically based on the load on the farm.

Cloud watch:

Amazon CloudWatch monitors your Amazon Web Services (AWS) resources and the applications you run on AWS in real time. You can use CloudWatch to collect and track metrics, which are variables you can measure for your resources and applications.

SNS:

Amazon Simple Notification Service (SNS) is a fully-managed, highly-scalable service that facilitates message delivery using a publish/subscribe model. You can use Amazon Simple Notification Service (SNS) to send messages to email recipients, webhooks, or mobile devices via SMS or push notifications.

RDS:

Amazon Relational Database Service (Amazon RDS) is a web service that makes it easier to set up, operate, and scale a relational database in the AWS Cloud. It provides cost-efficient, resizable capacity for an industry-standard relational database and manages common database administration tasks.

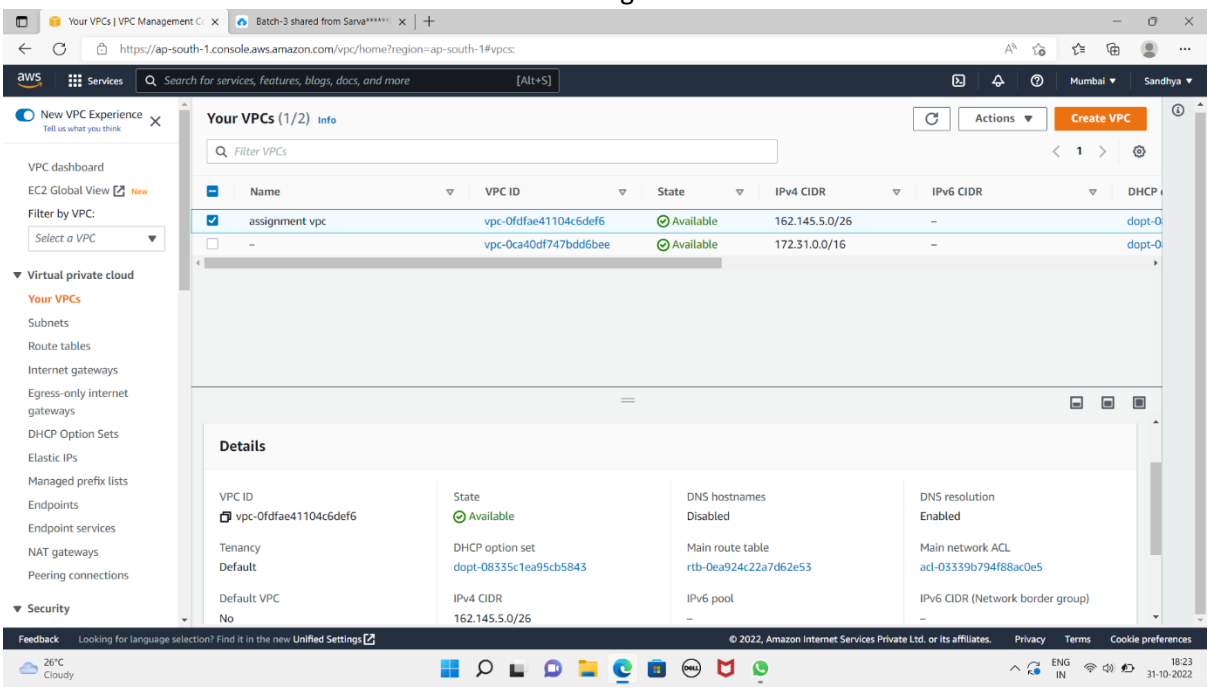
Plan for to development to create the Above environment

- Create VPC and along with Subnets (public, private) also.
- Create route table
- Create Internet Gate Way (IGW)
- Launch EC2 instance in public subnet
- Using bastion host process connect one server to another server
- Create Autoscaling group along with launch configuration
- Create alarm by using cloud watch through SNS topic
- Create Application load balancer along with target group
- After create the loab balancer, It is in active state copy the DNS name and paste into the web browser

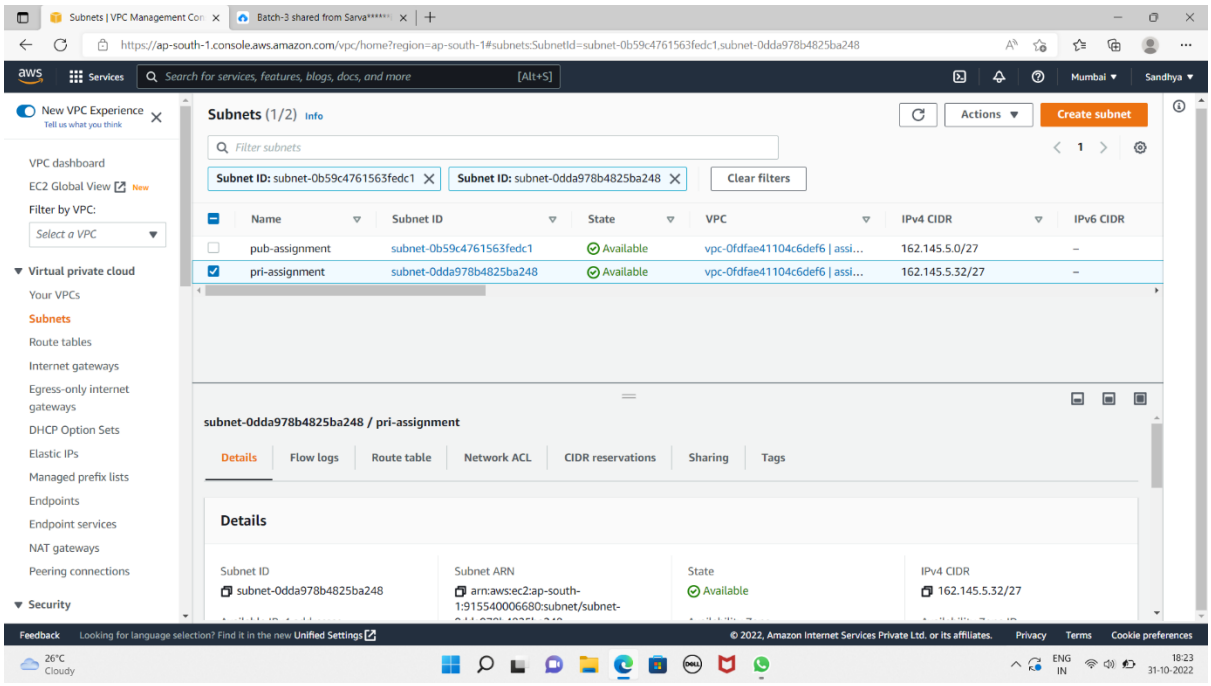
Development process as per the plan step by step

VPC Settings:

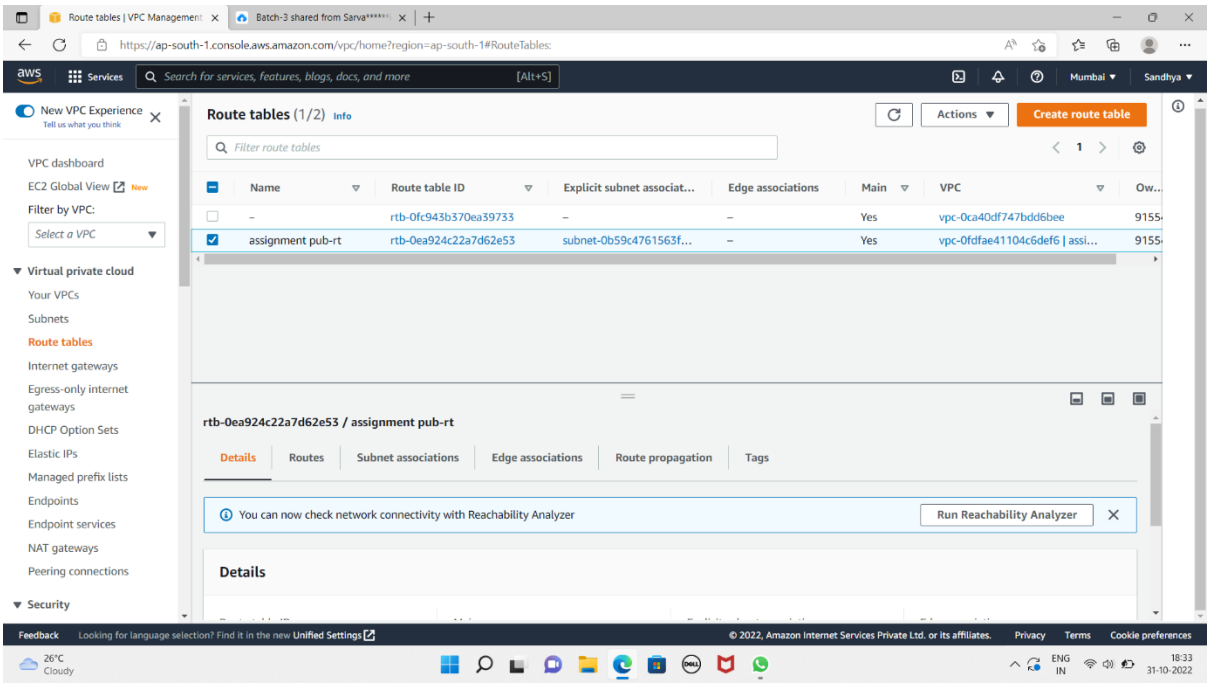
- First we create an VPC As below we can see the image



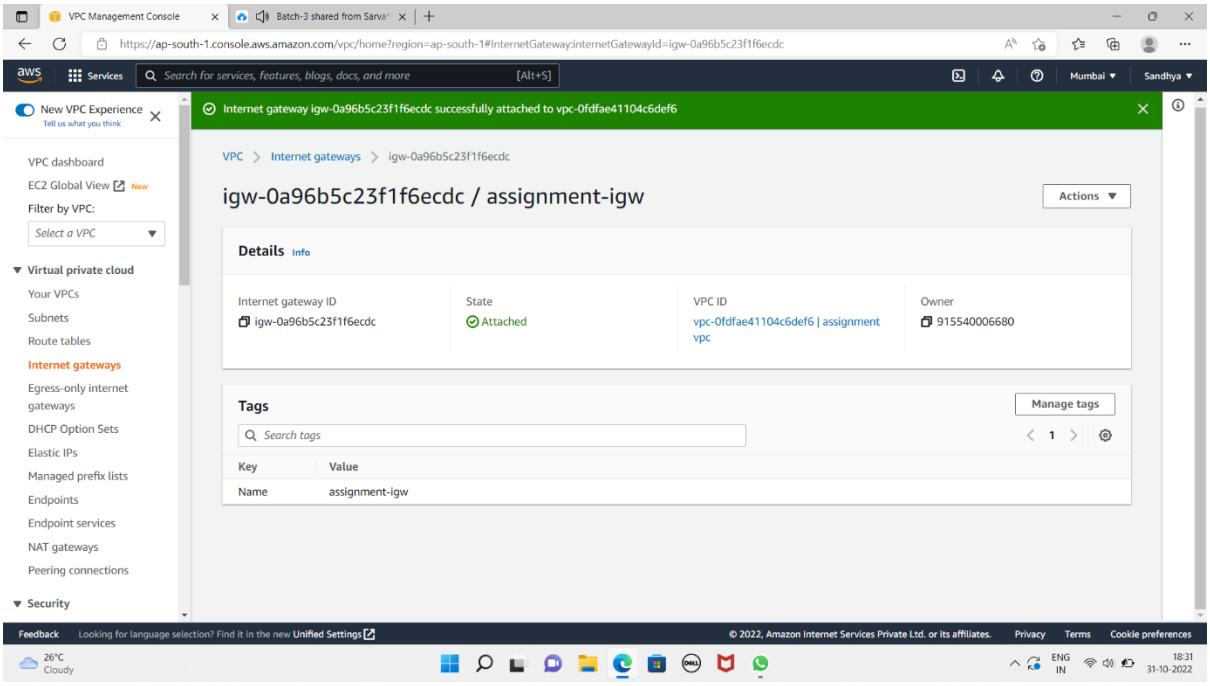
- And then, Create two subnets first one is public subnet and seconed one private subnet



- create a route table and connect to the public subnet

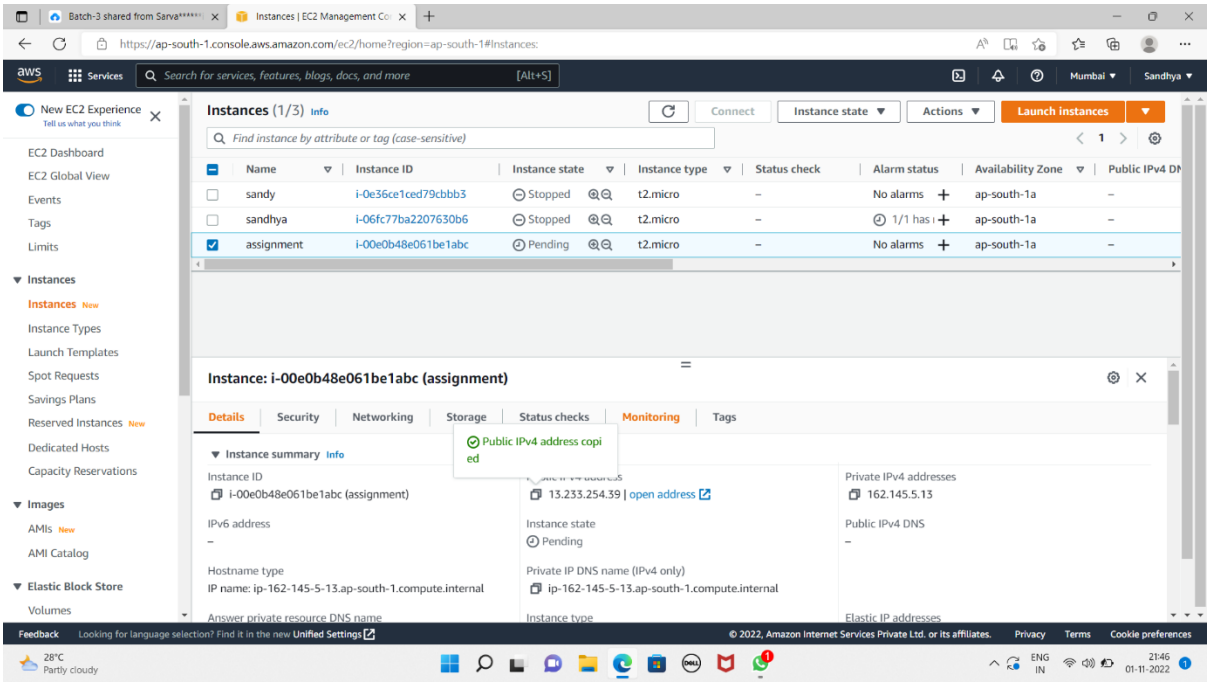


- Create internet gateway and connect to the VPC

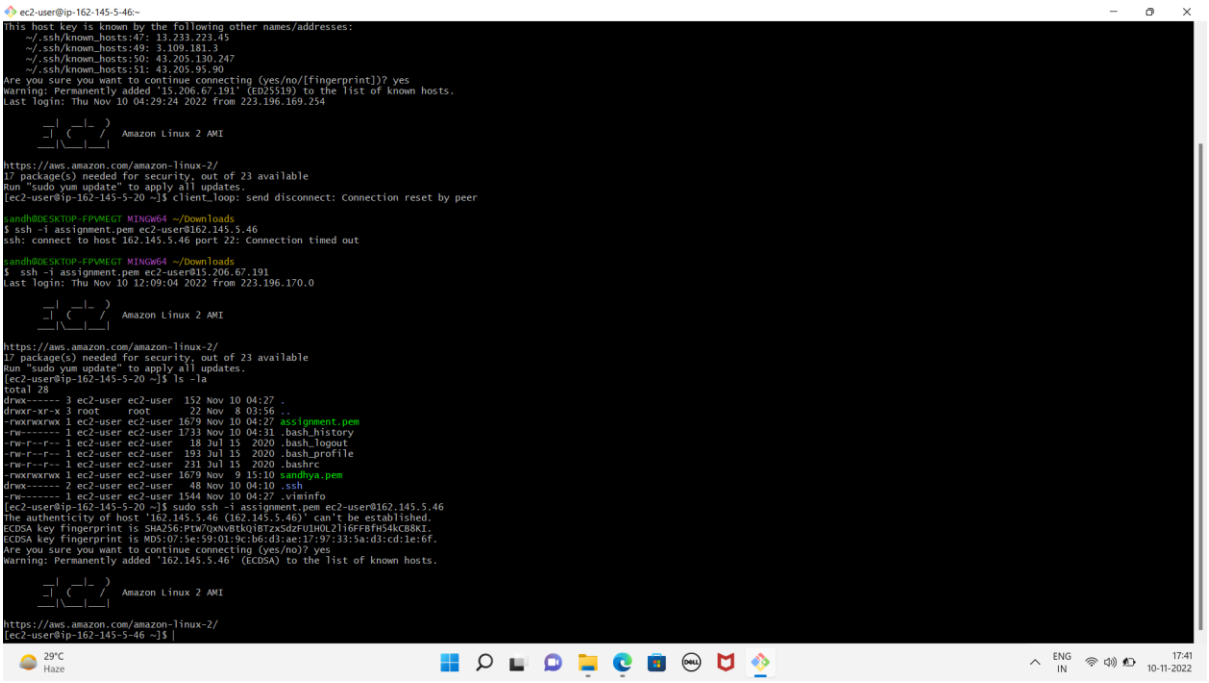


EC2:

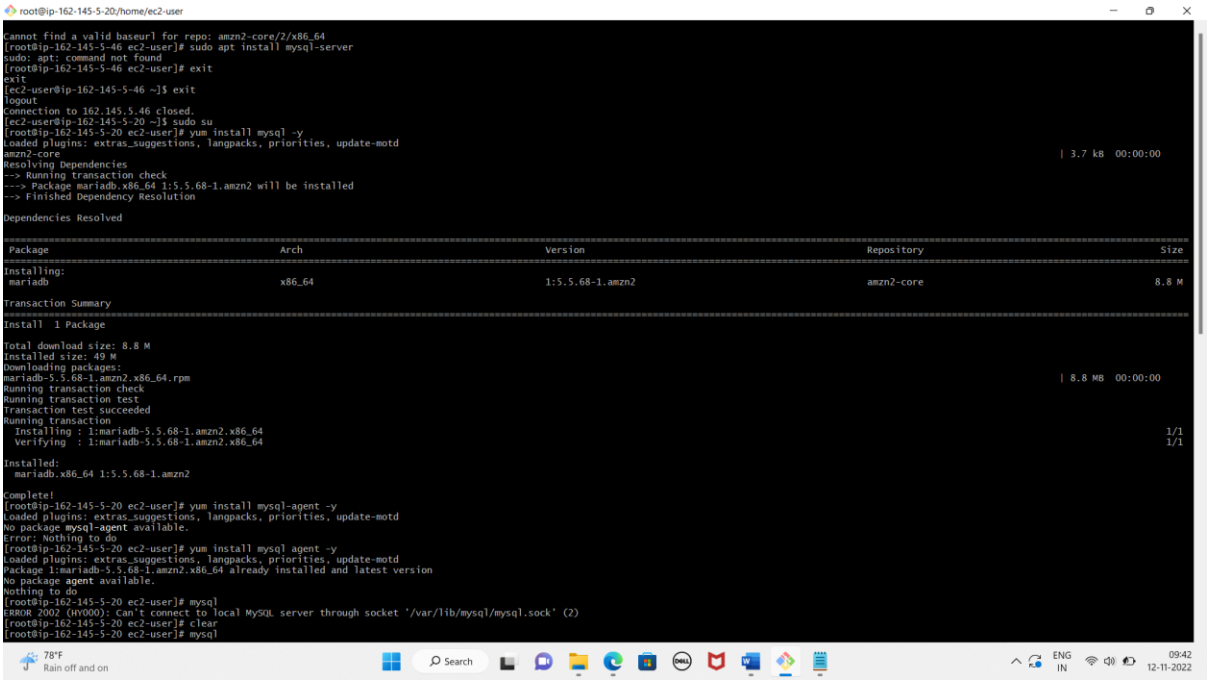
Launch ec2 instance in public subnet of VPC



- Using bastion host process connect public subnet through private subnet

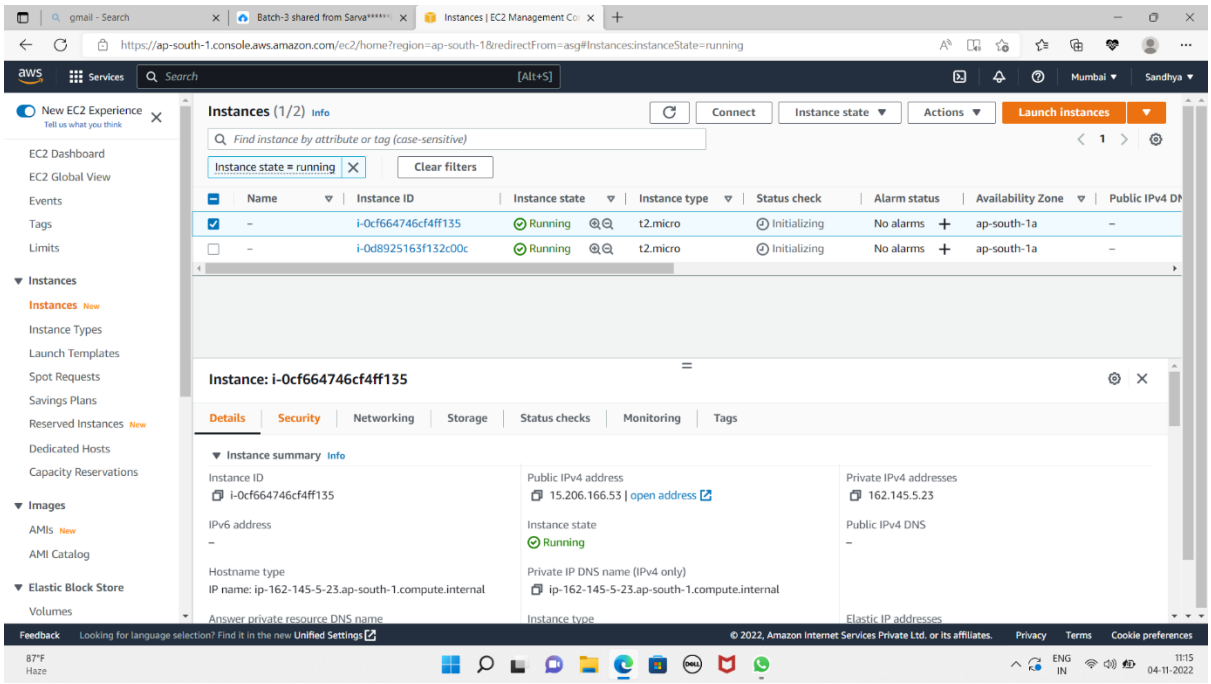


Install mysql in the server

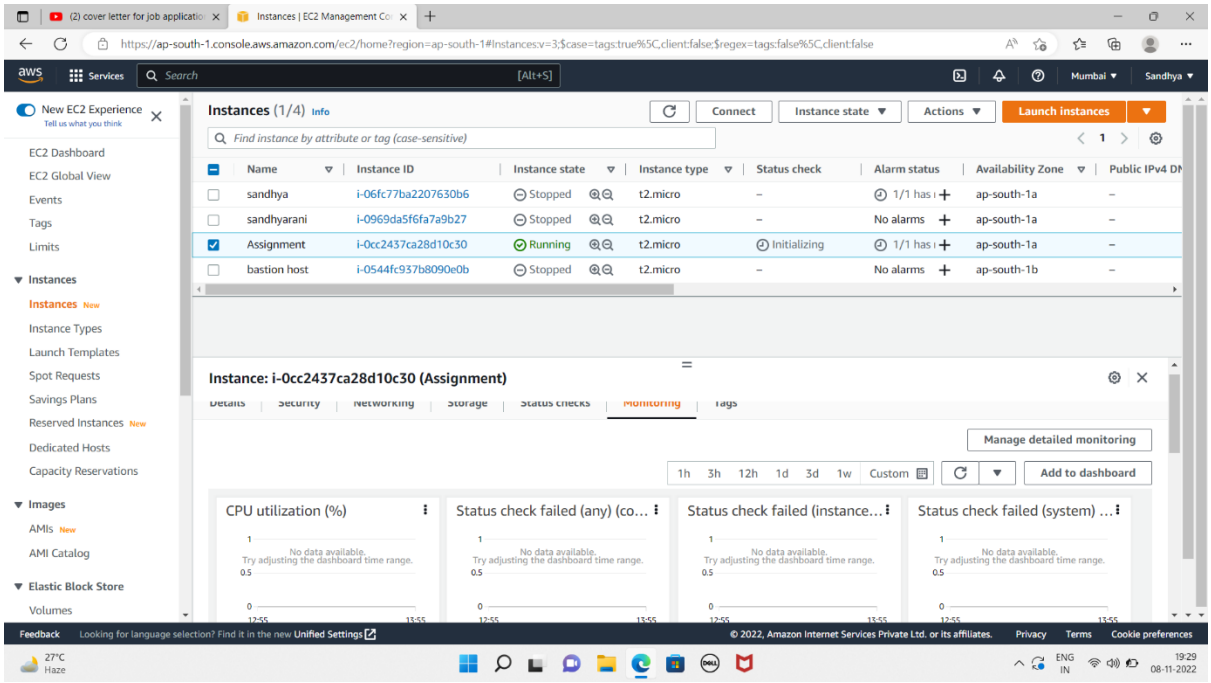


Auto scaling groups:

- Create auto scaling group with launch configuration

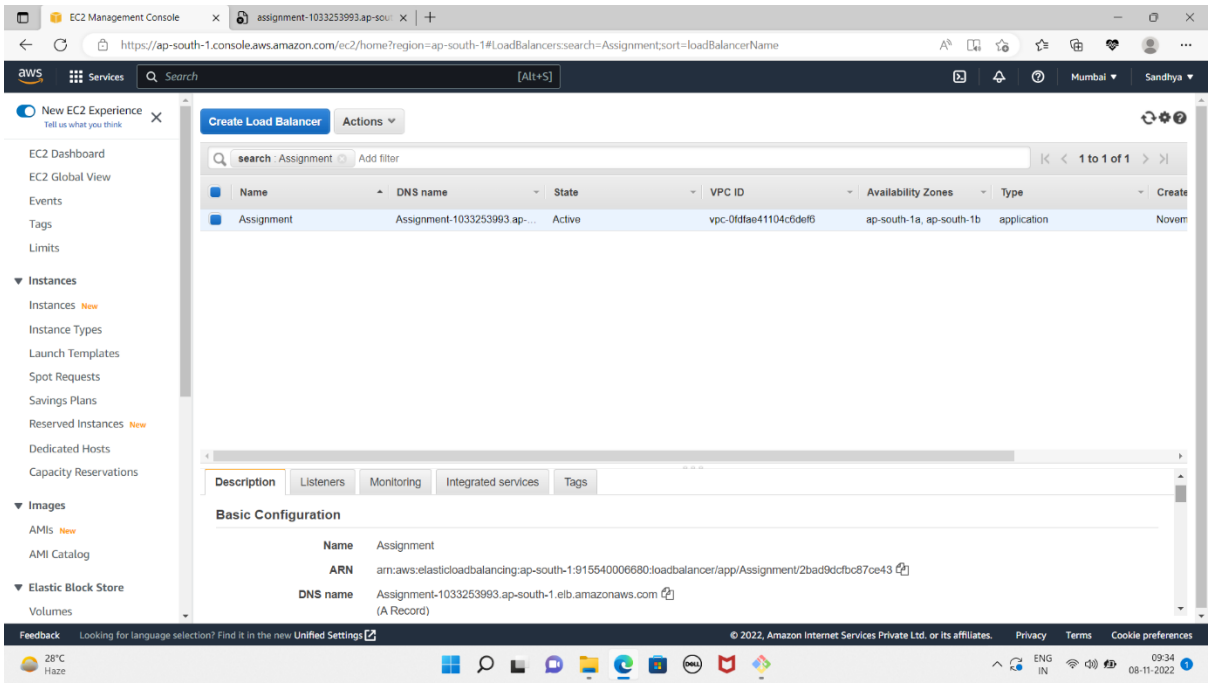


- Create an alarm by using cloud watch and SNS topic



Application load balancer:

- Create Application Load balancer by using the target groups
- Launch an ec2 instance by using the bootstrap process that helps the what we want to execute
- Bootstrap means add some data to the user data



- In the above image , we have copy the DNS name and paste into the web browser.

- We can see the result in the figure below