D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

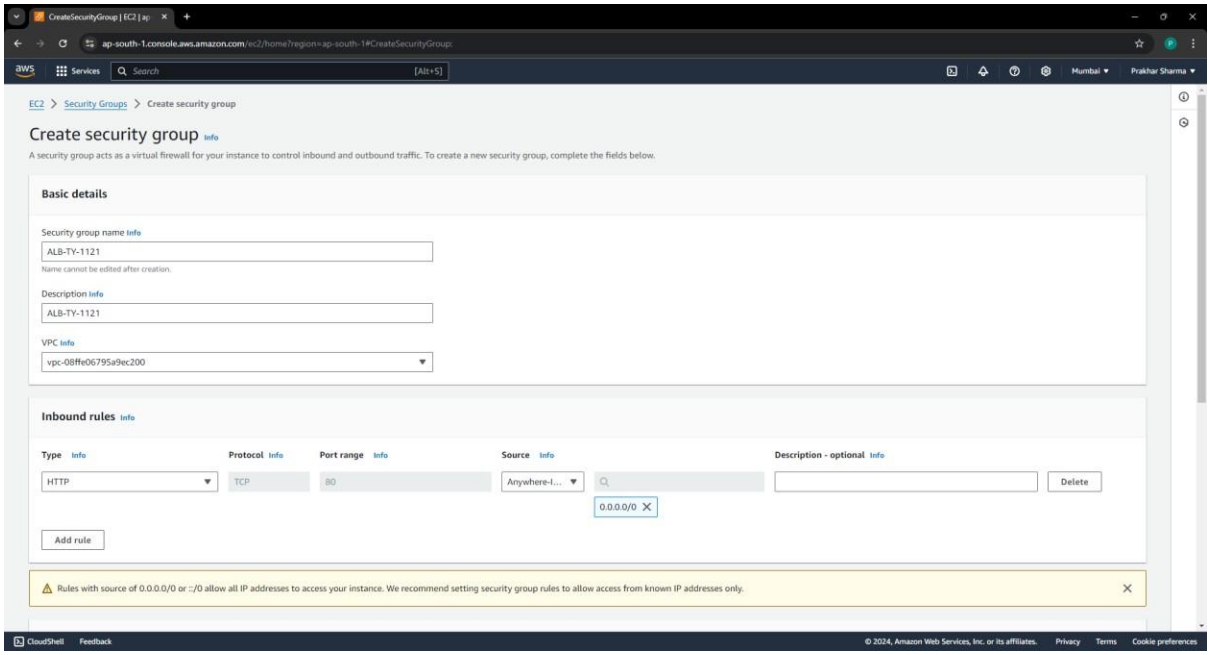
Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	

1. Go to EC2 Service

2. Create Security Groups for Application Load Balancer and Auto Scaling Group

2.1. Security Group for Application Load Balancer

- **Name:** Of Your Choice
- **Inbound Rules:**
  - **Type:** HTTP
  - **Source:** Anywhere-IPV4

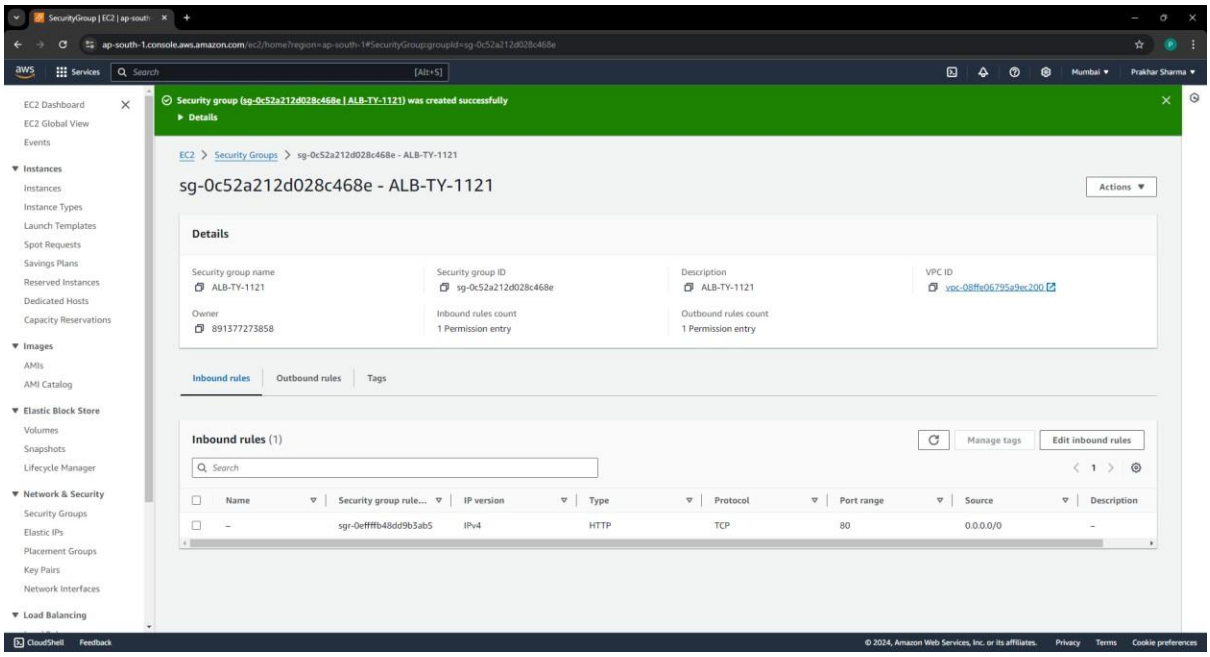


- Click **Create Security Group**

D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	



1.1. Security Group for Auto Scaling Group

- **Name:** Of Your Choice
- **Inbound Rules :**

1.

Type: SSH

Source: Anywhere-IPV4

2.

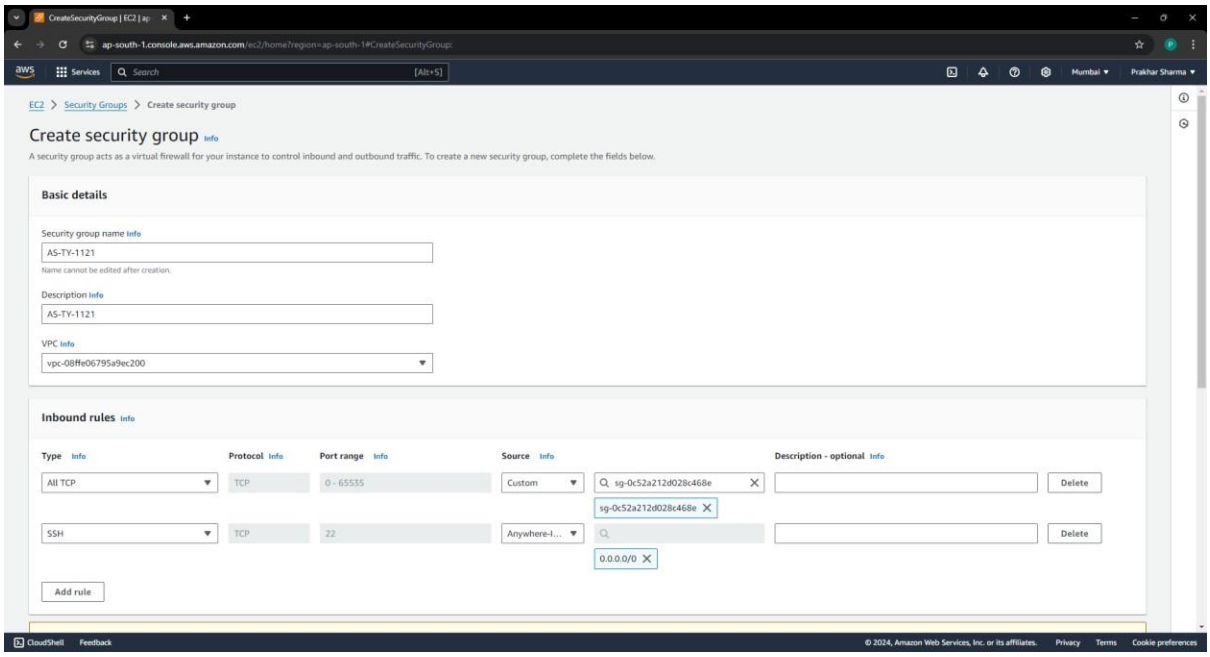
Type: All TCP

Source: (the security group we just created for application load balancer)

D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

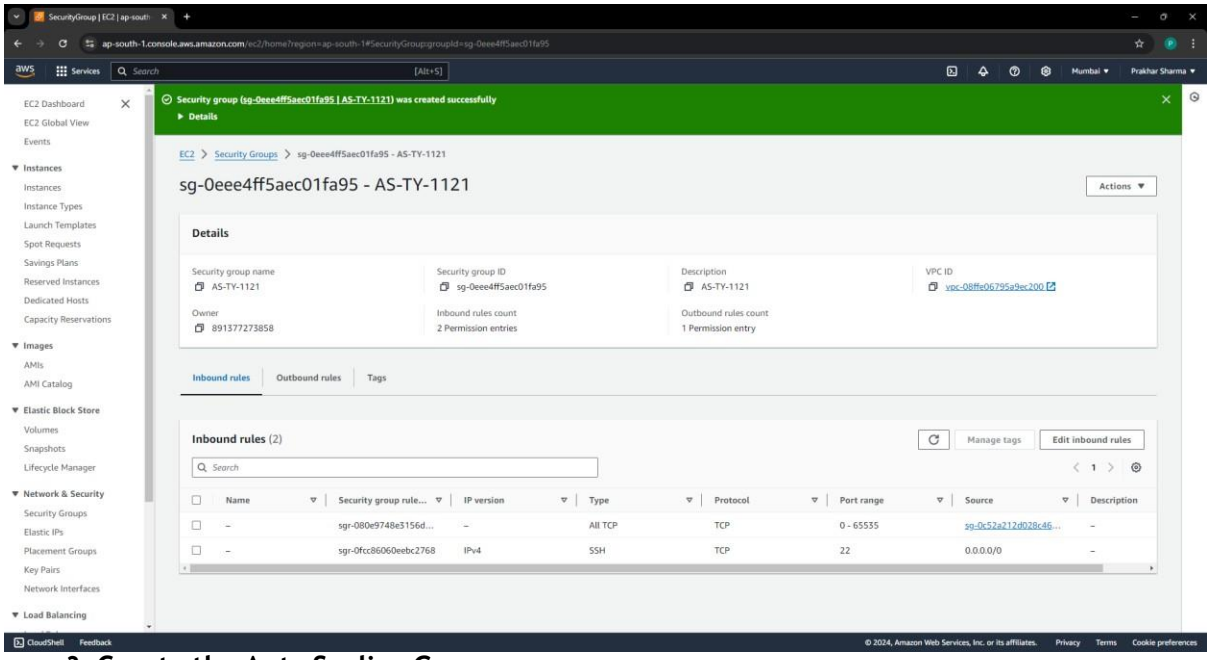
Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	



- Click **Create Security Group**

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



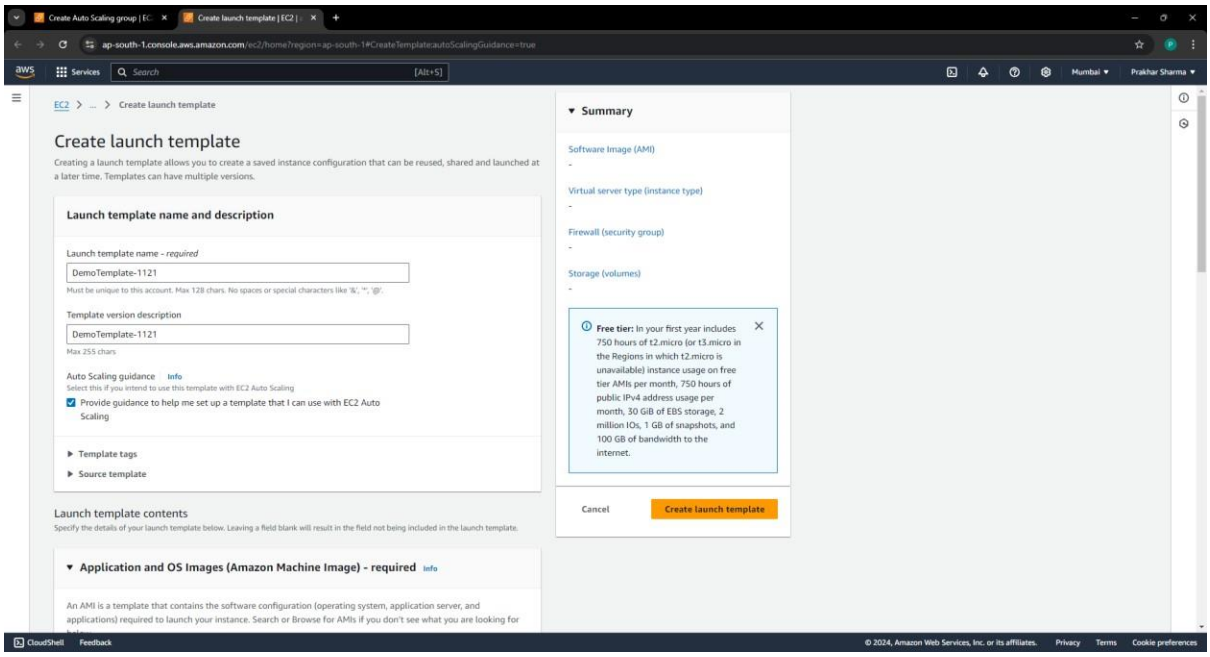
3. Create the Auto Scaling Group

- **Enter Name:** Of Your Choice
- Click **Create** on **Launch Template**
    - **Give Name:** (Choose any)

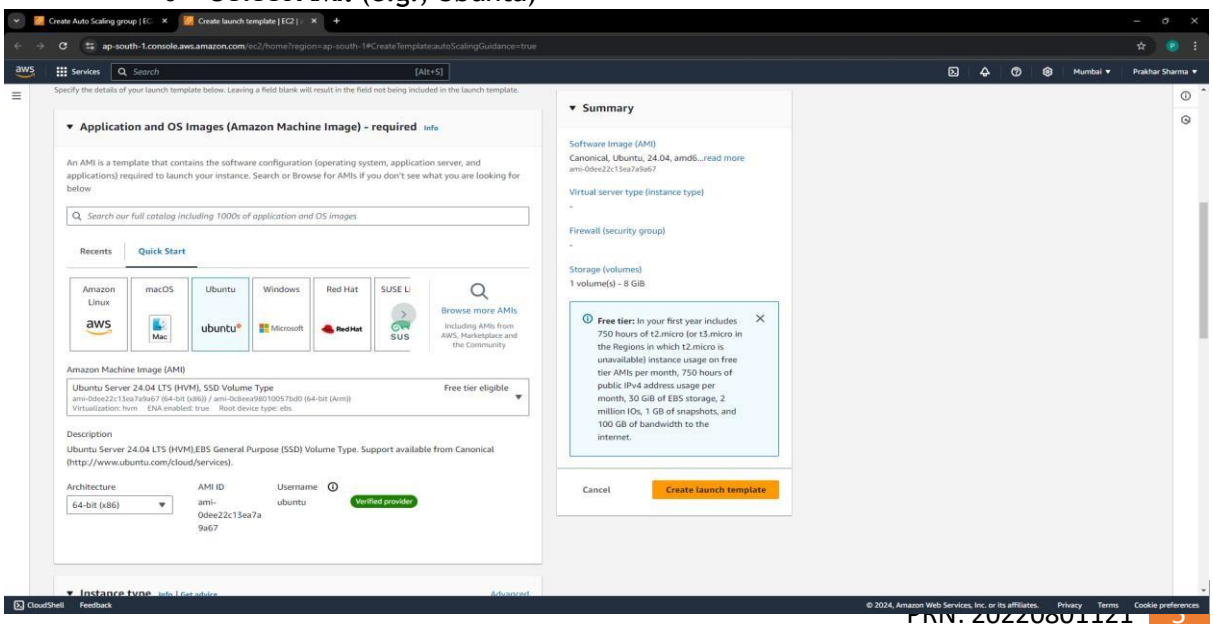
D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	



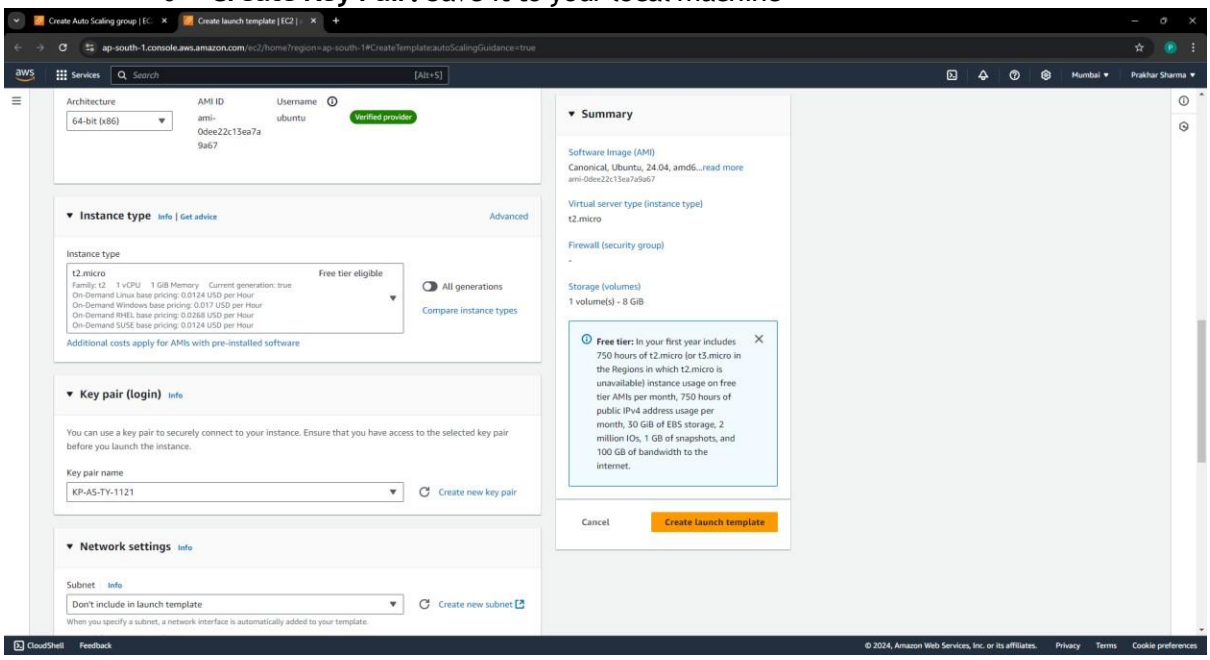
- **Select AMI:** (e.g., Ubuntu)



Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS

- **Instance Type:** t2.micro
- **Create Key Pair:** Save it to your local machine

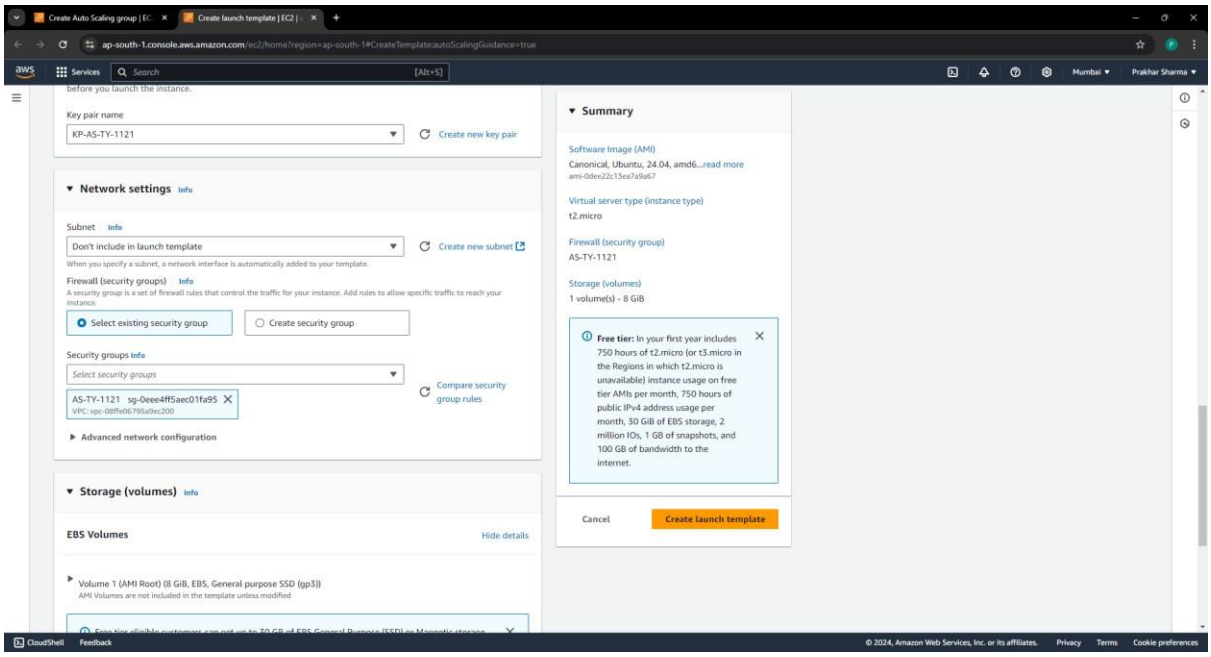


- **In Network Settings:** Select the security group we created named when creating for **AutoScaling**

D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

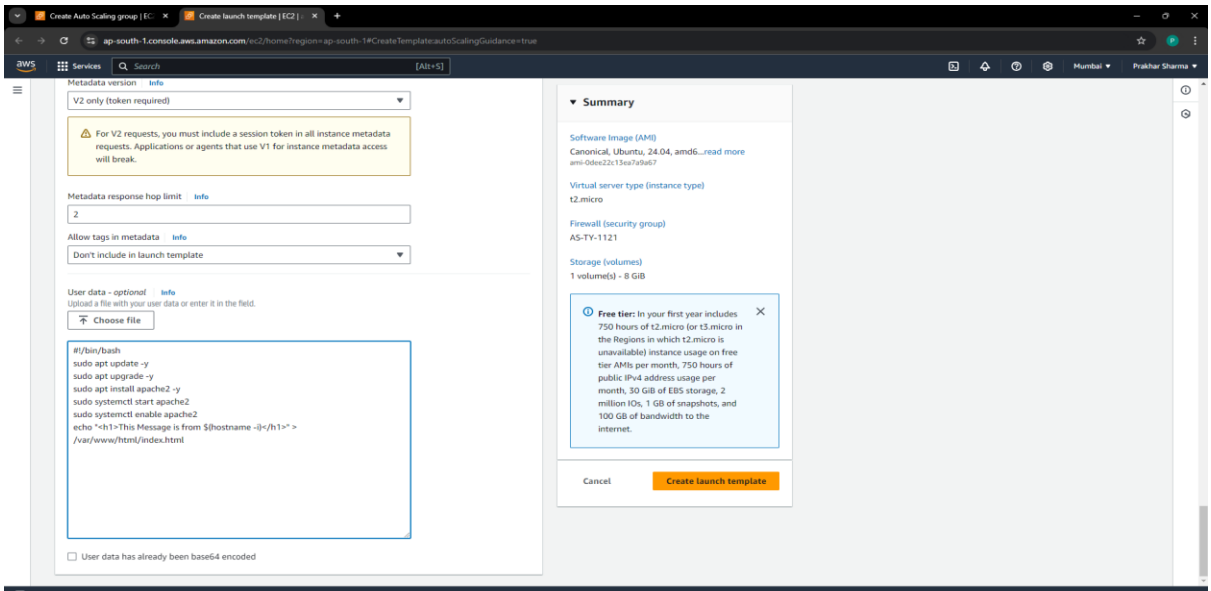
Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	



- **User Data:** (Mark as Optional)

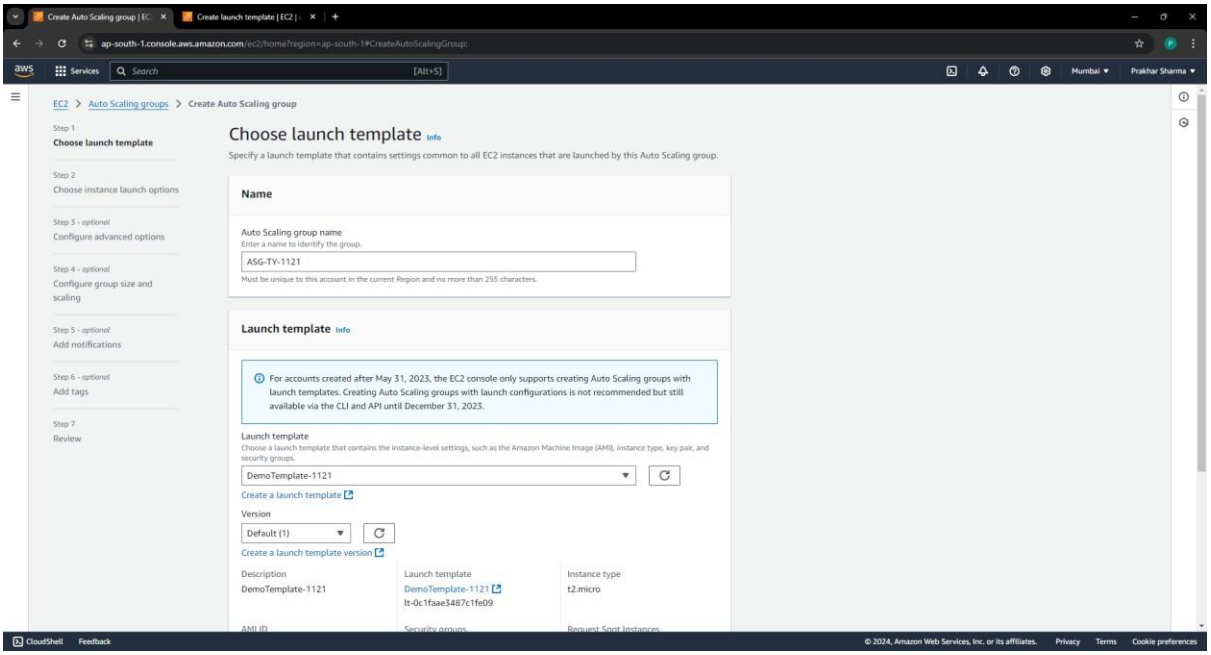
Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



- Go back to **Auto Scaling Configuration**, select our **Launch Template**,

scroll down, then click on **Next**

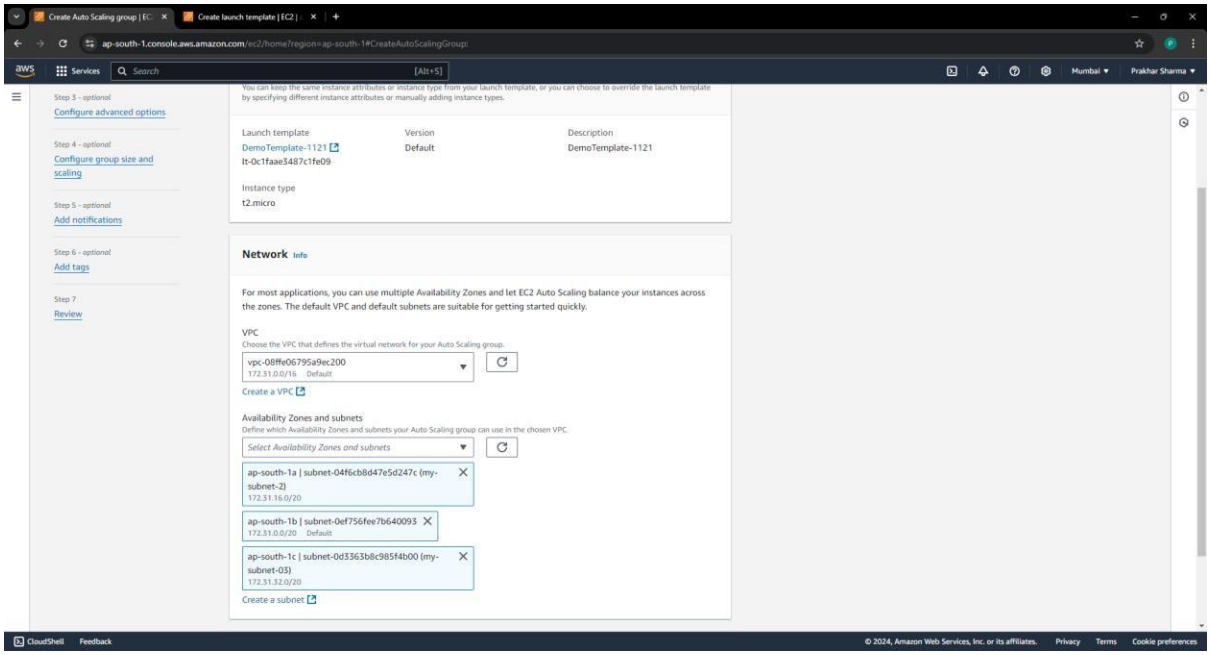


4. Network Section

- **Select Availability Zones and Subnets:** Select all available zones and subnets

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



- Click **Next**

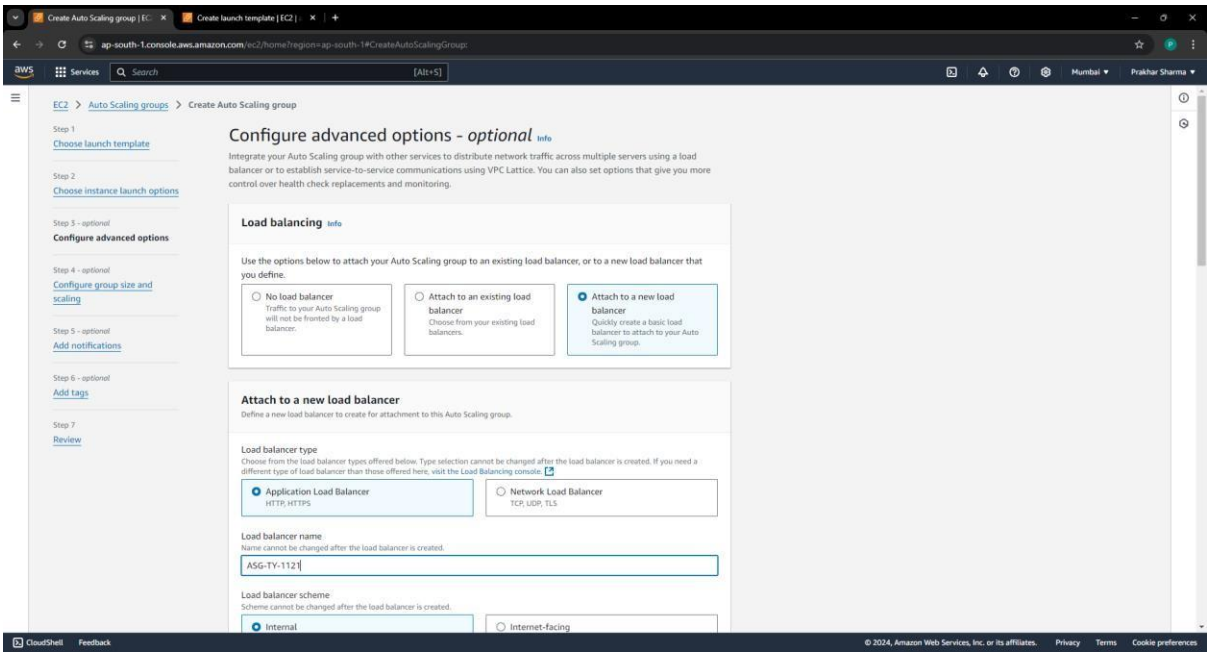
5. Load Balancing Section

- **Select Load Balancer Type:** Attach to a New Load Balancer
- **Load Balancer Type:** Application Load Balancer
- **Enter Load Balancer Name:** As per Your Choice

D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	

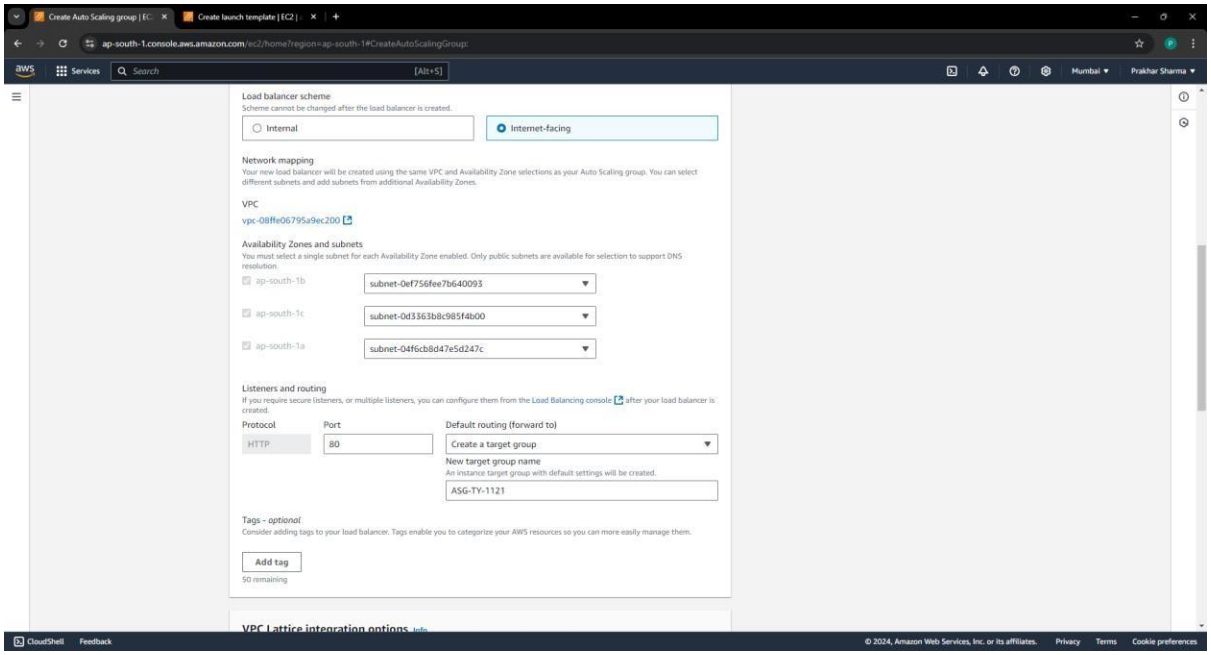


- **Load Balancer Scheme:** Internet-Facing

D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

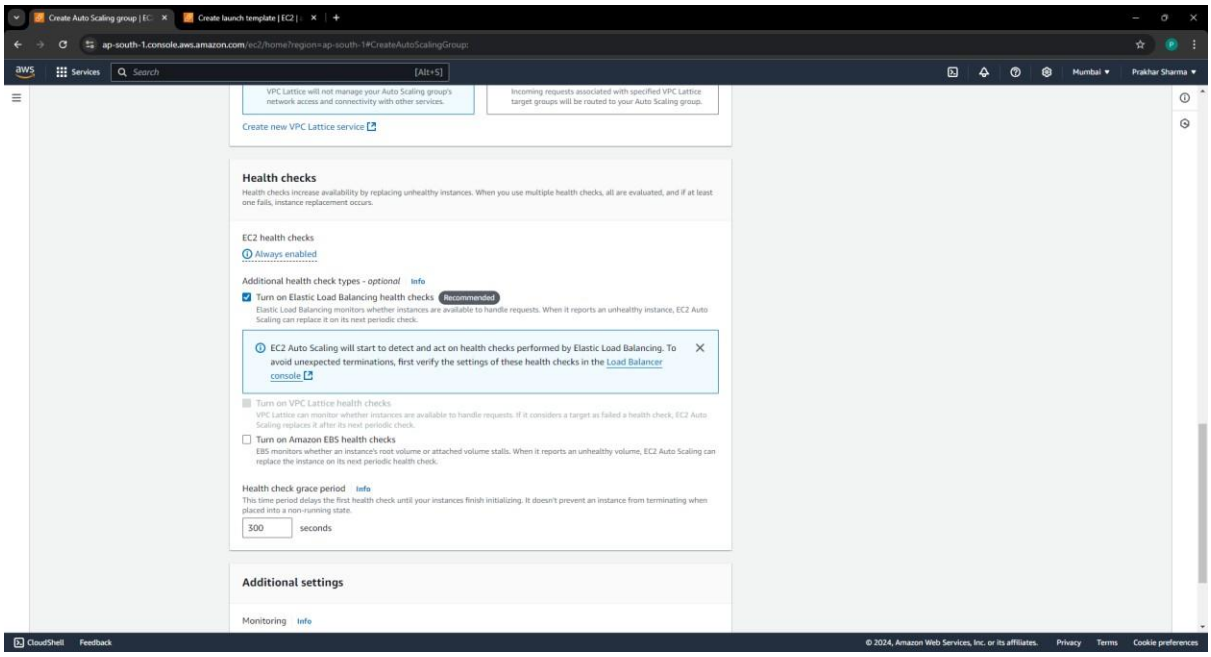
Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	



- **Listeners and Routing:**
    - **Create Target Group:** Port 80 (Automatically created when selecting from the dropdown)
    - **Health Checks:** Check the box to turn on Elastic Load Balancing health checks

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



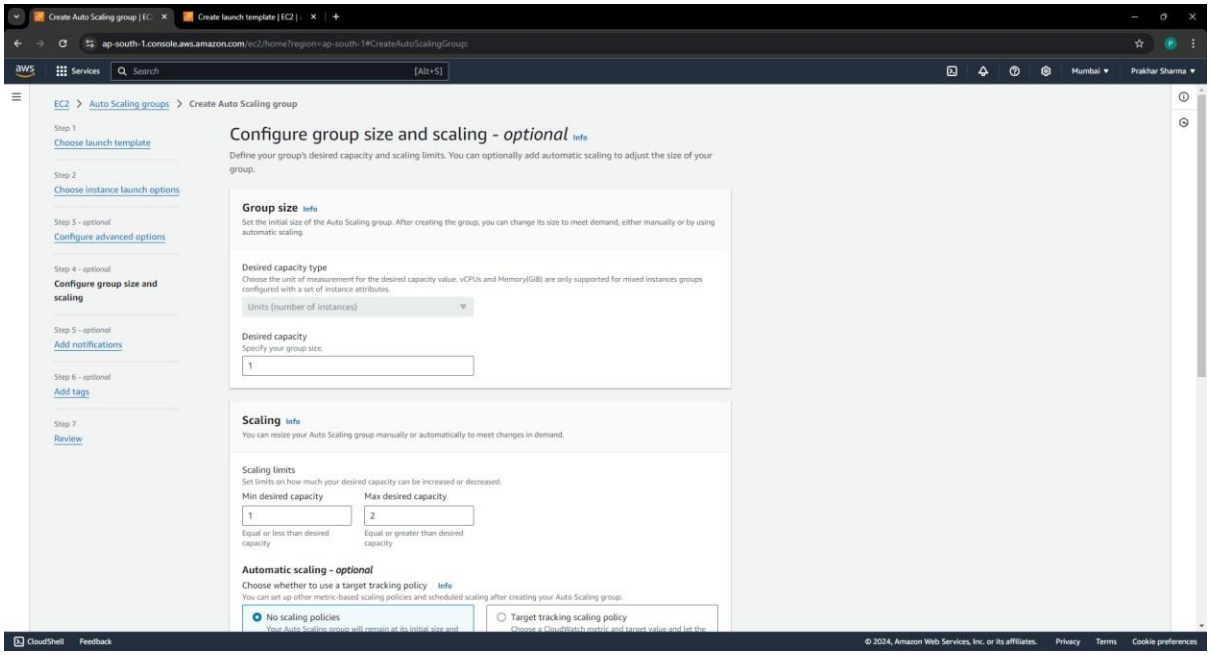
- Click **Next**

6. Group Size Section

- **Desired Capacity:** 1
- **Minimum Capacity:** 1
- **Maximum Capacity:** 2

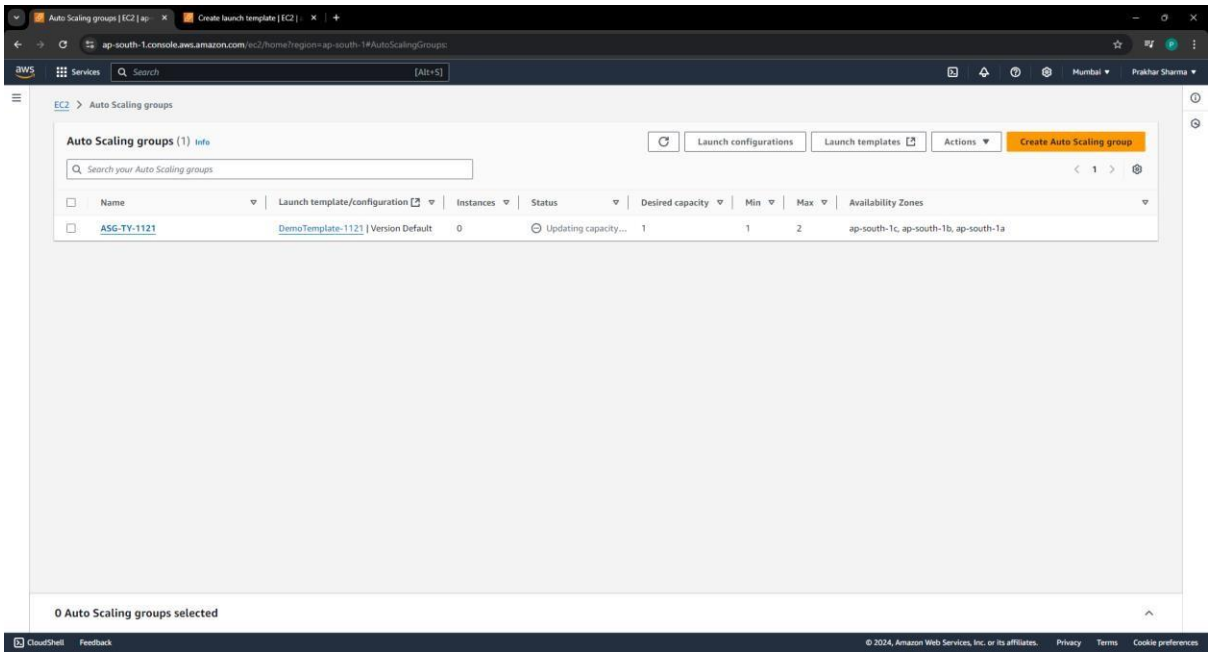
Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



- Click **Next** until you reach **Step 7 (Review)**
- Click **Create Auto Scaling Group**

Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	



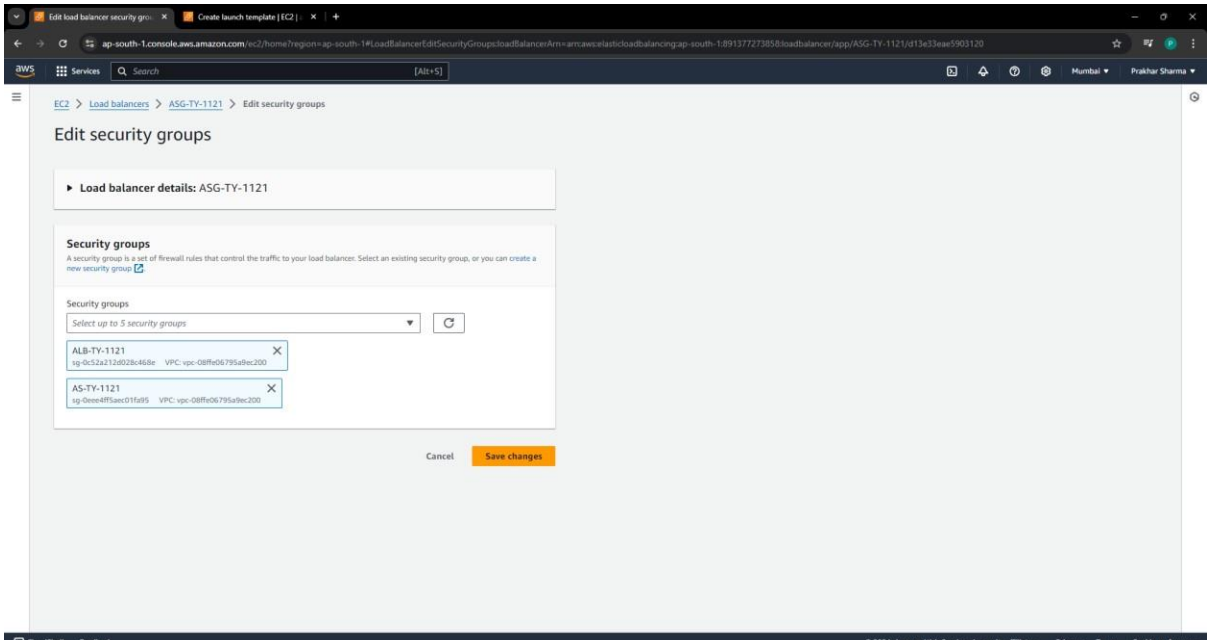
7. Modify Load Balancer Security Group

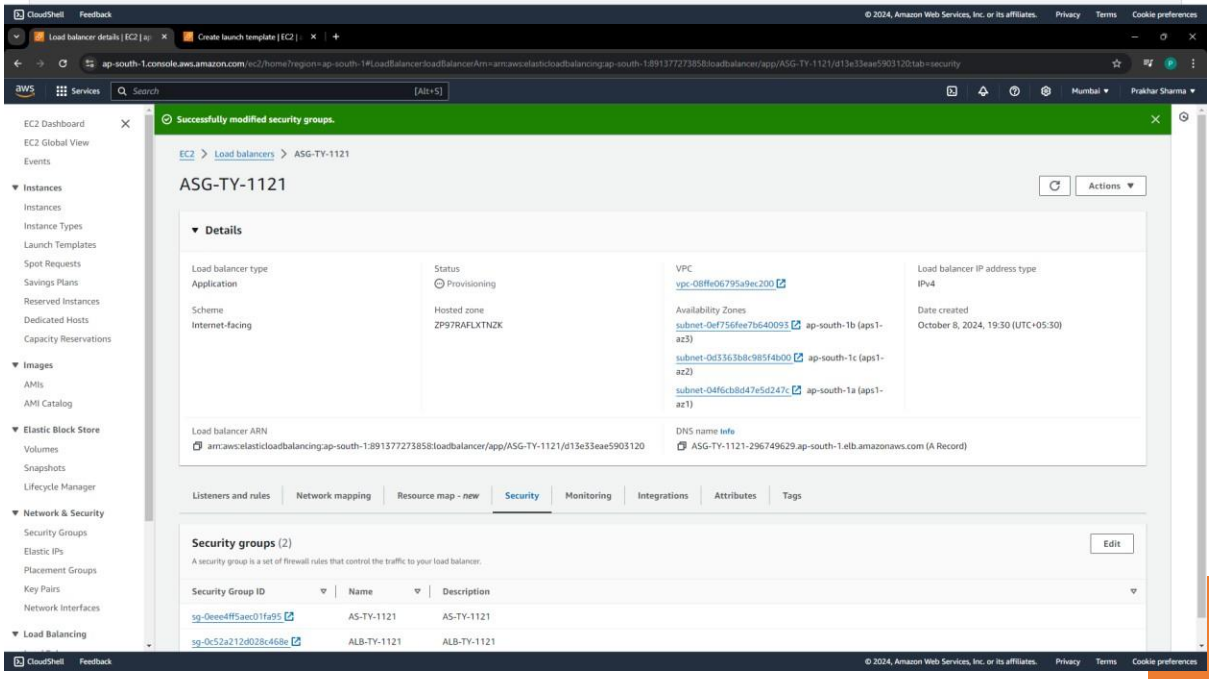
- Go to **Load Balancer**
- **Security Tab:** Verify that it uses the security group of Auto Scaling Group
- **Change Security Group:**
  - Click on **Edit**
  - Select the Security Group **Lab4-ApplicationLoadBalancer-Group**

D Y PATIL
INTERNATIONAL
UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	

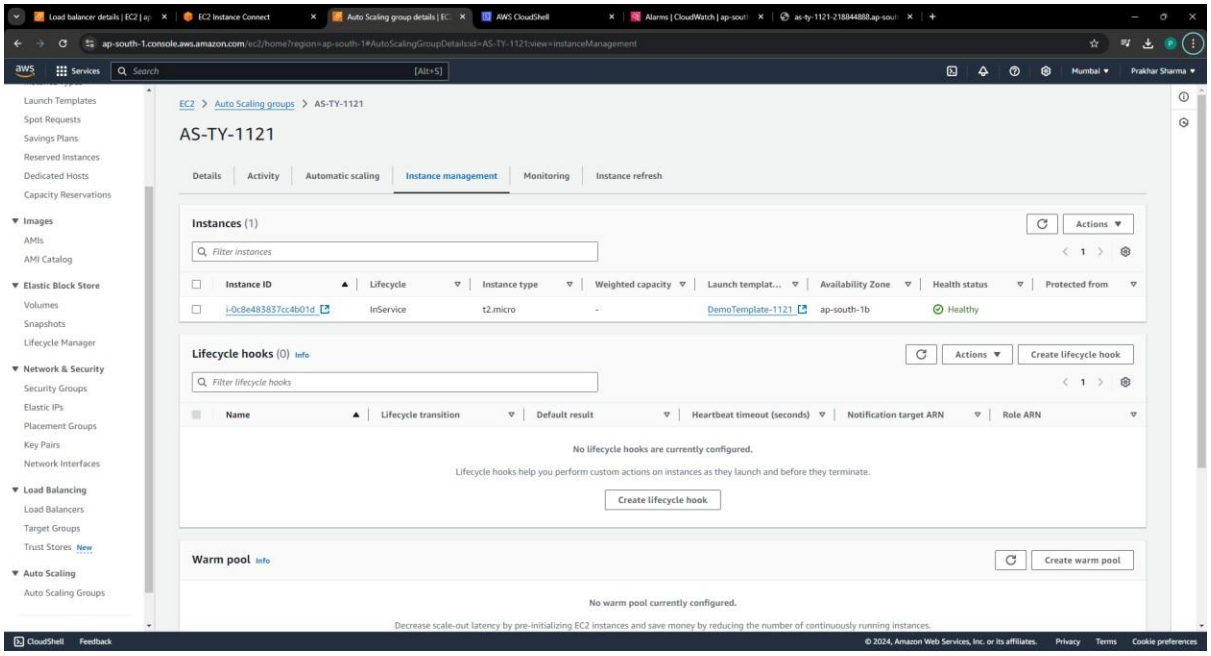




- Click **Save Changes**

8. Check EC2 Instances

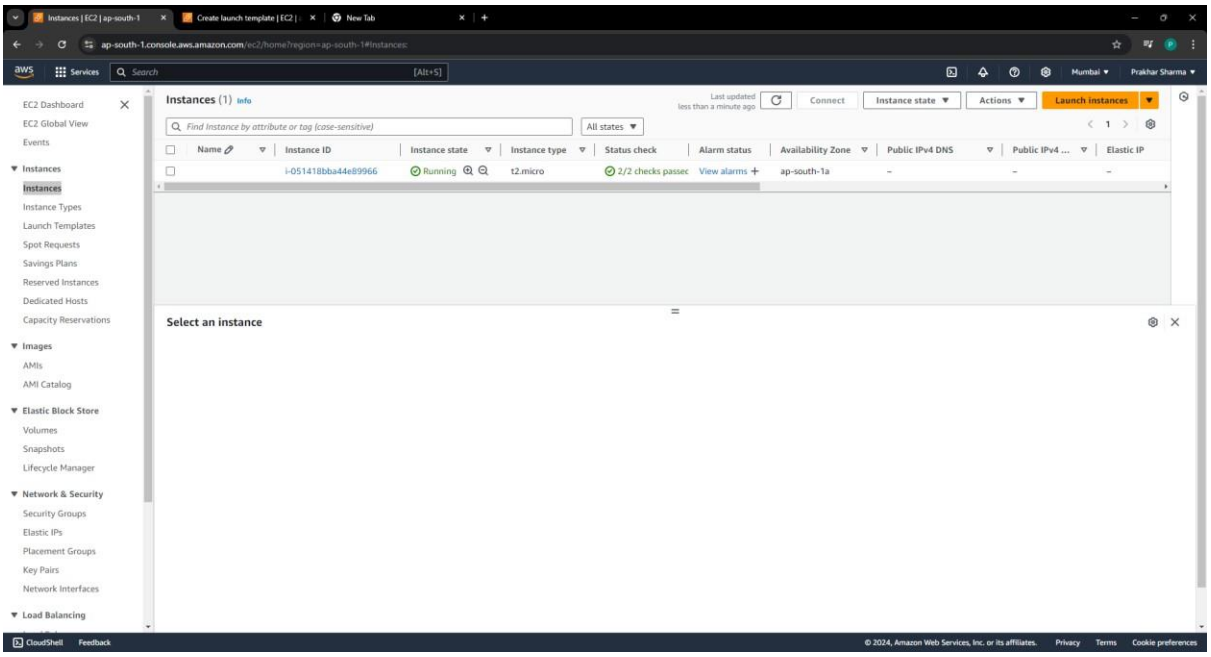
- **EC2 Instances:** It will show an instance running or being created



D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

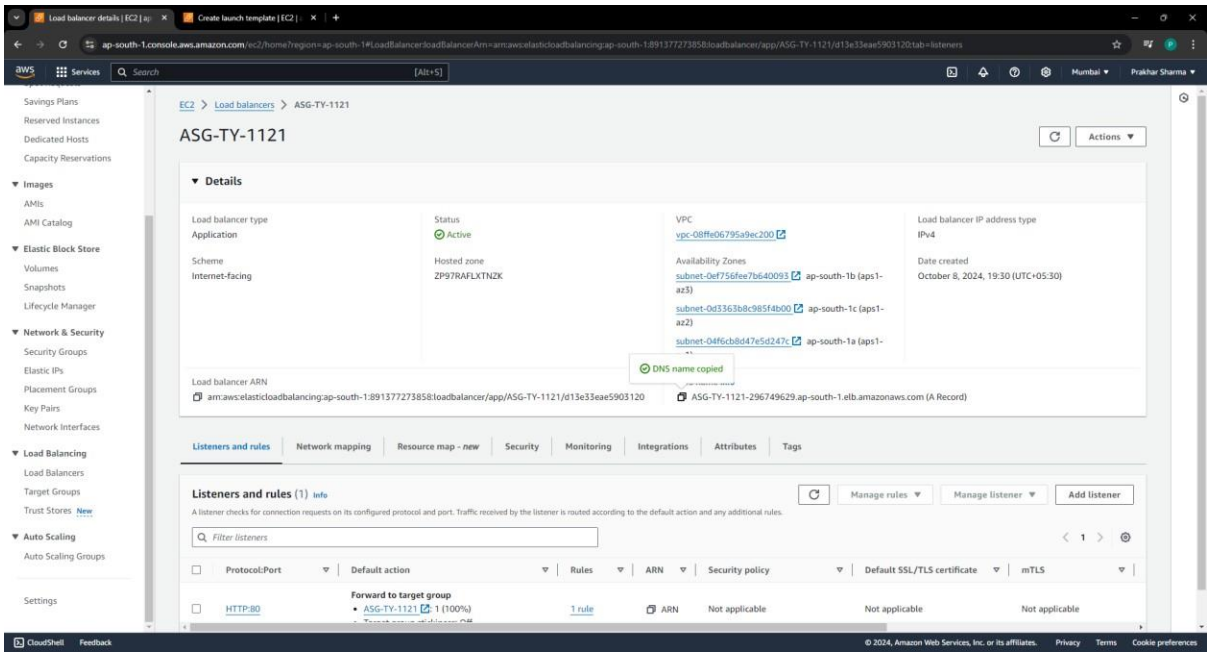
Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	



- **DNS Name:** Once the Load Balancer is active, copy its DNS name into your browser in a new tab

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



- You should see a message from your EC2 instance displaying its IP address. (In my case it is showing a message)

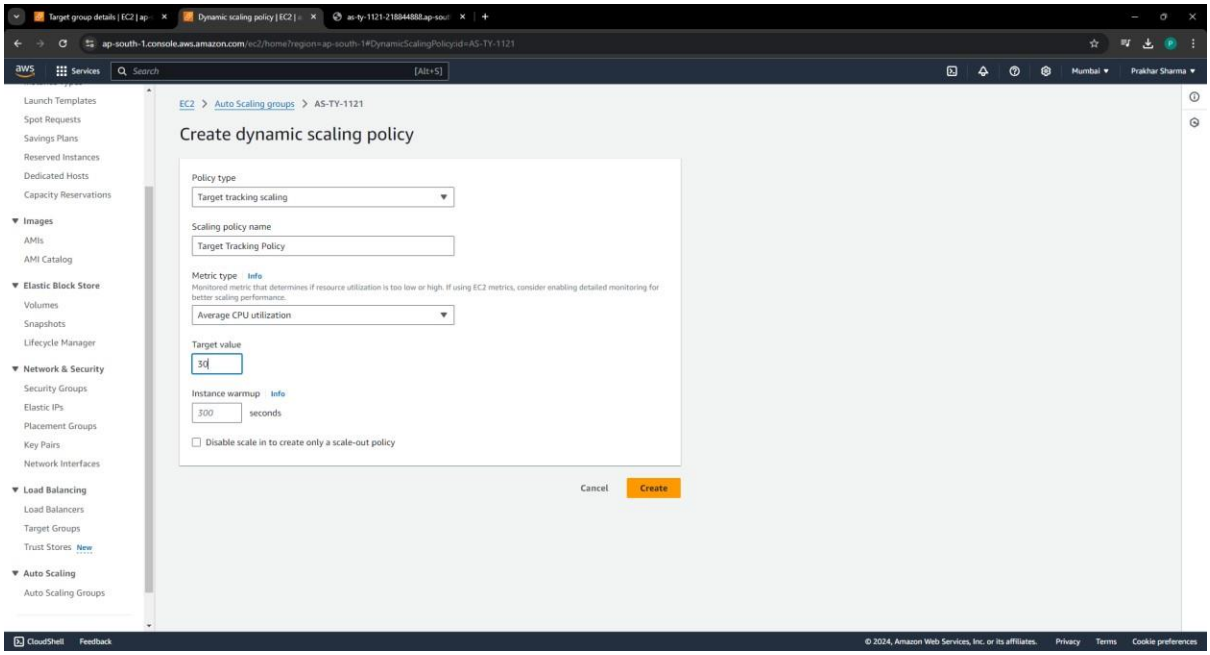
G. Dynamic Scaling Policy

- Go to the **Auto Scaling Group Page**, select the **Automatic Scaling** tab, and click on **Create Dynamic Scaling Policy**
- **Policy Type:** Target Tracking Policy
- **Policy Name:** Target Tracking Policy

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS

- **Metric Type:** Average CPU Utilization
- **Target Value:** 30

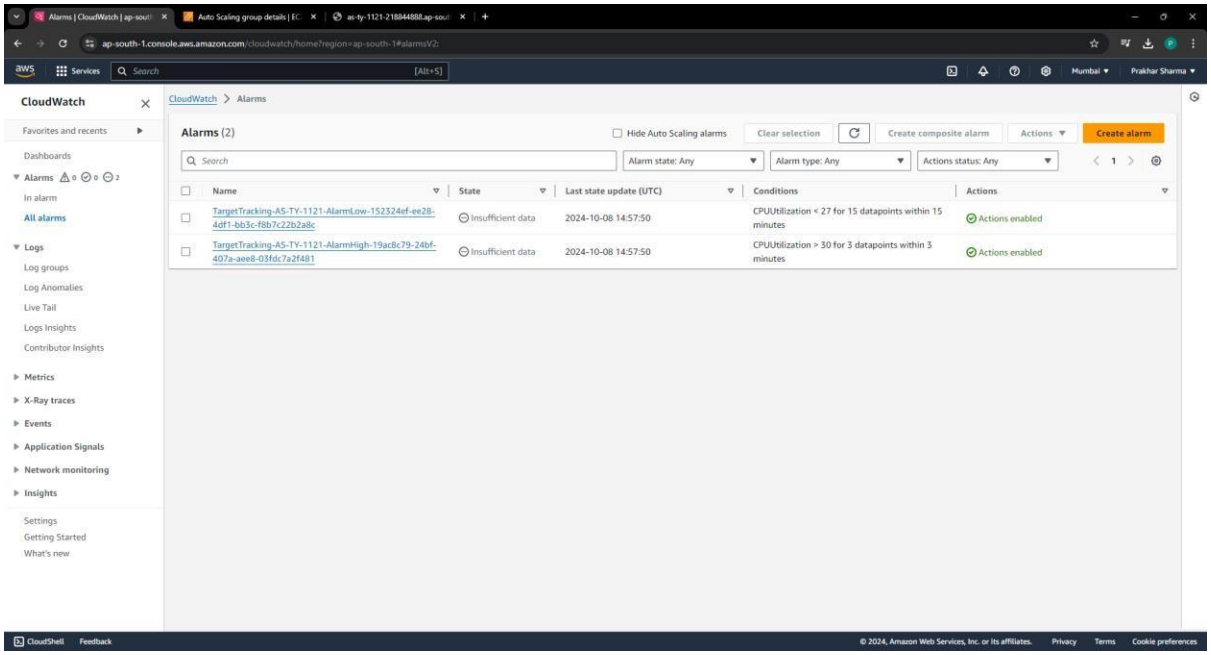


- Click **Create**
- **Check CloudWatch Alarms**
    - Go to **CloudWatch Service > All Alarms**
    - You'll see alarms for scale-in and scale-out operations automatically created by the Auto Scaling Group.

D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	

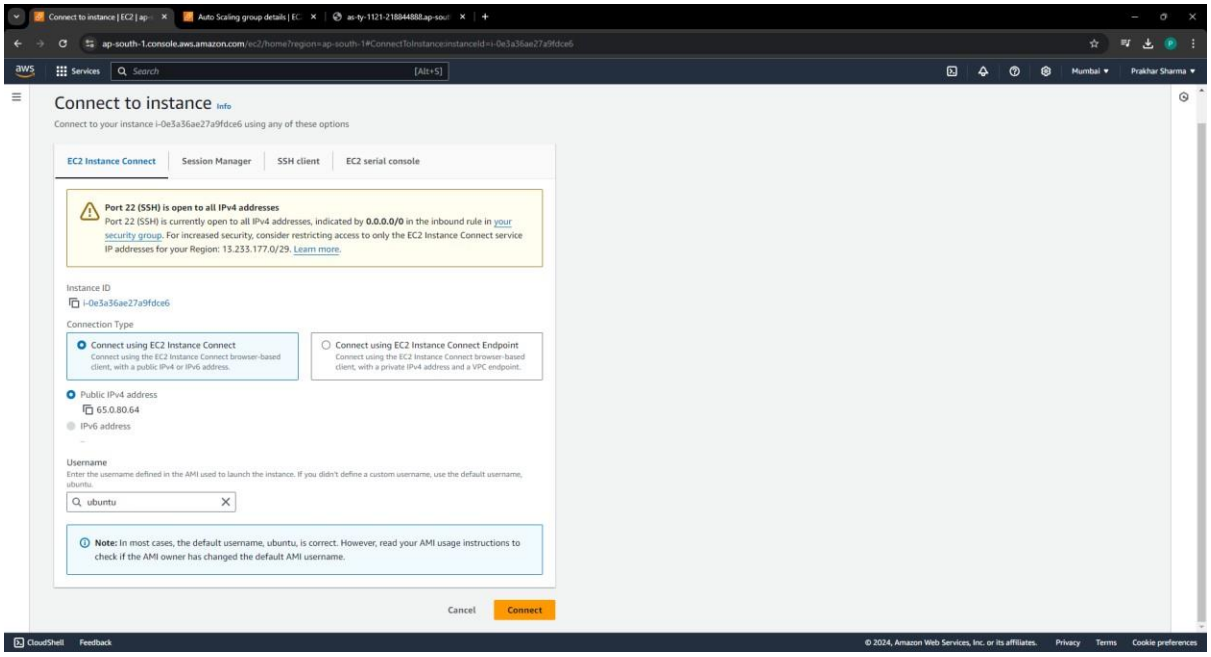


- Go to the Instanc0e Created by Auto Scaling group and connect it.

D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	

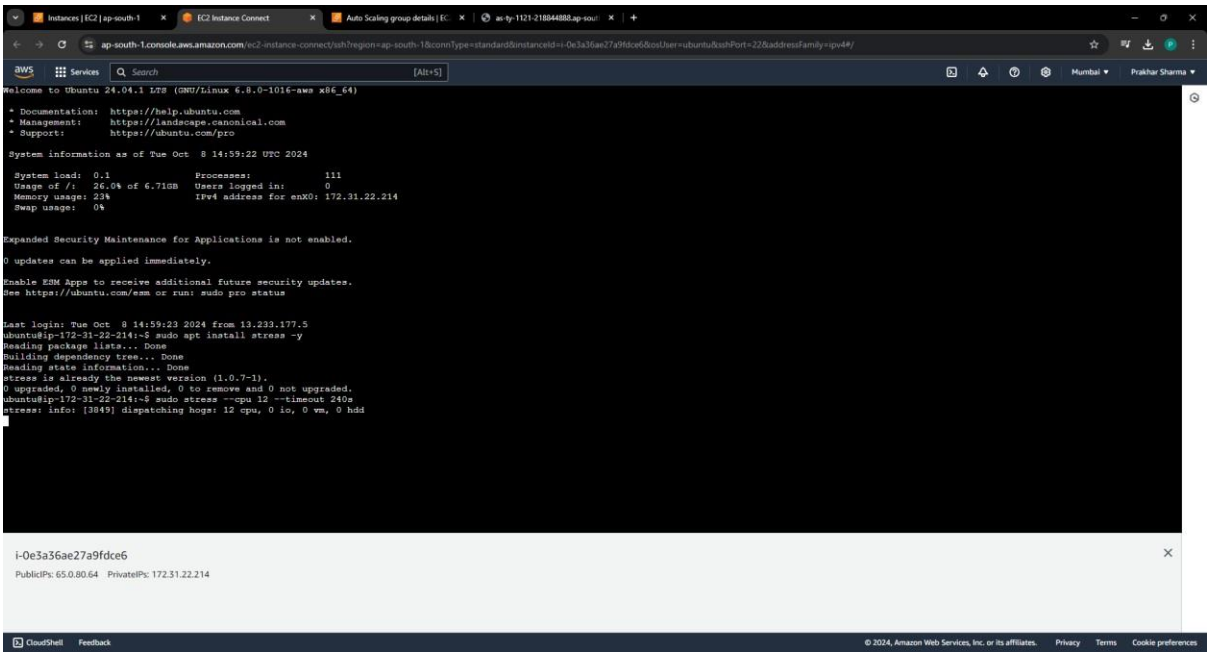


- Run the following command:

- sudo yum install stress -y

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS

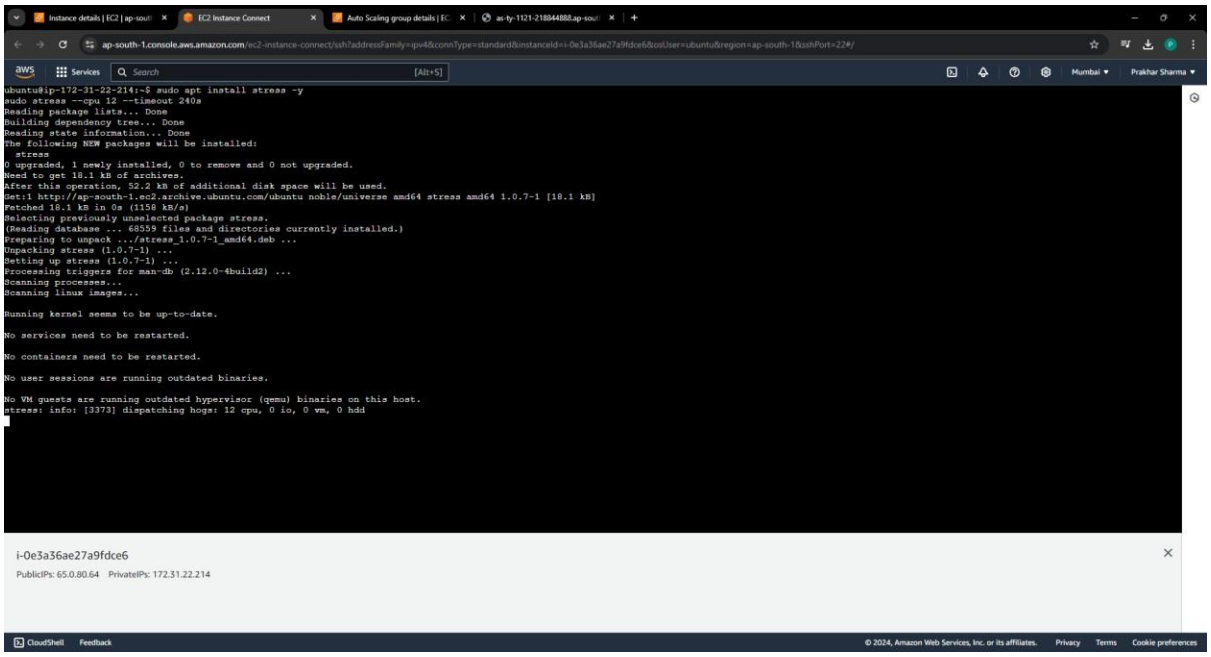


10. Then run this command:

- sudo stress –cpu 12 –timeout 240s

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



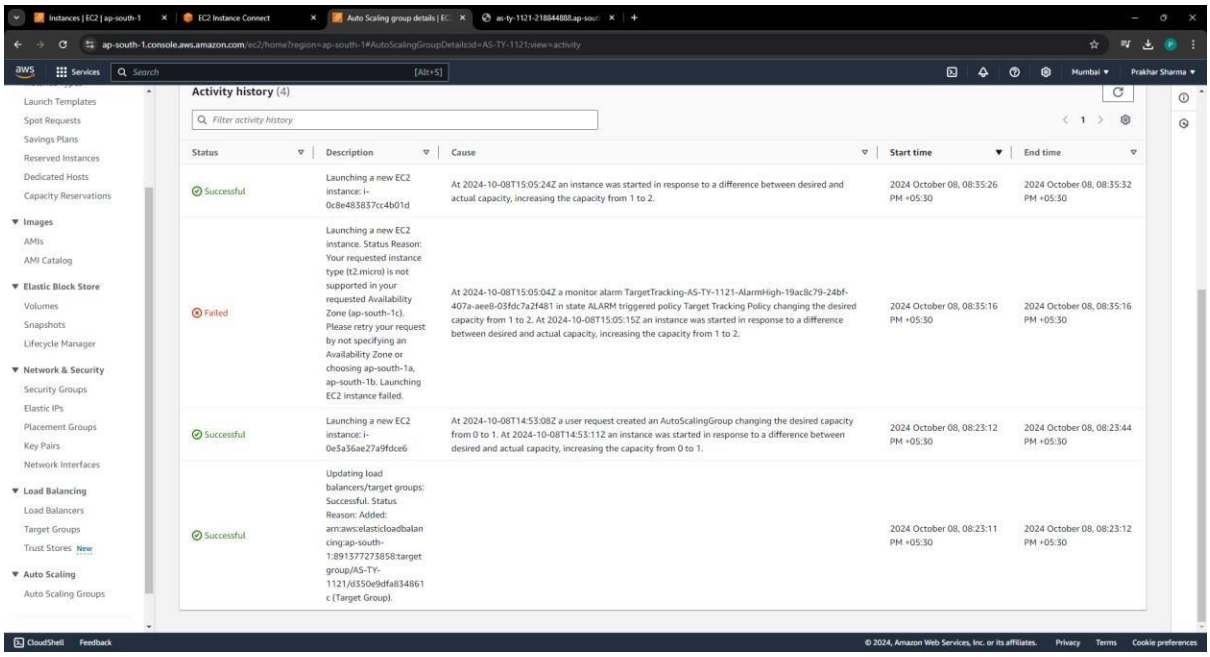
11. In Auto Scaling Group ,Monitoring Section you can see the stress in given on CPU through the graph.

In CloudWatch Alarms You'll see alarm state for scale-in and scale-out operations

10. You can see In Auto Scaling Activity Section , there is a Instance launched by Auto Scaling.

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

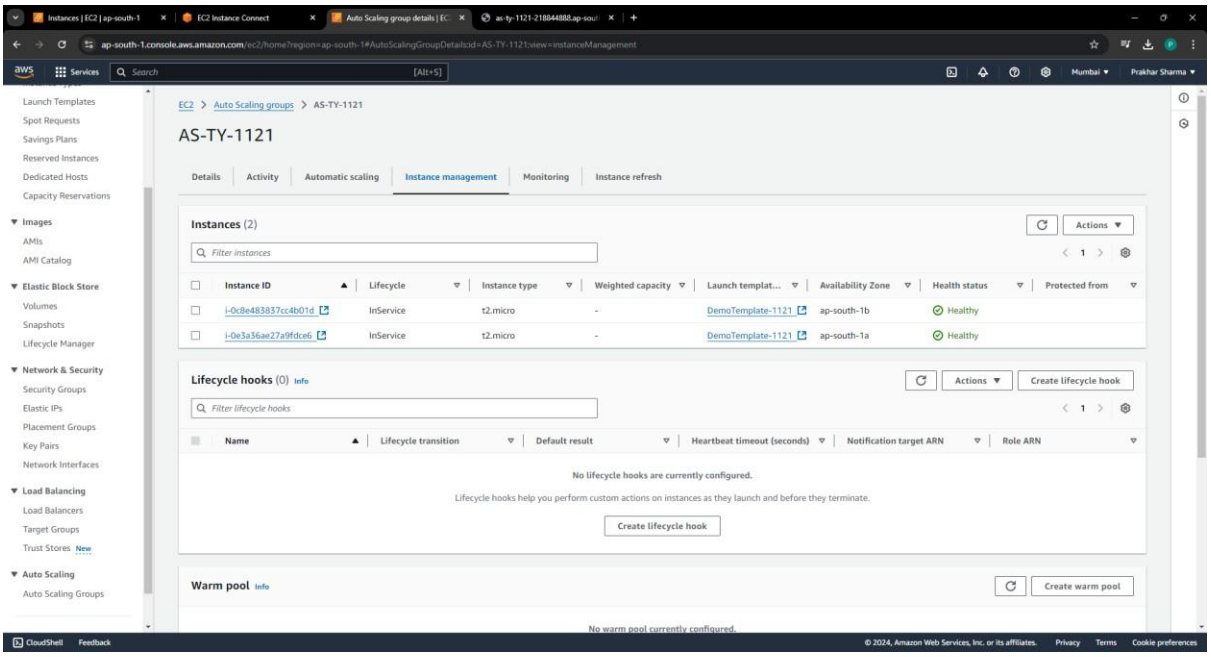
Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



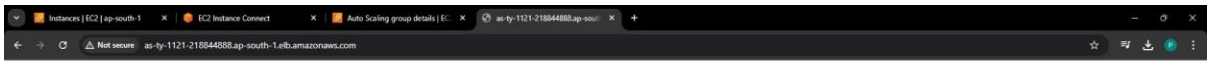
11. Also in the Instance management section ,one more instance is created and running.

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



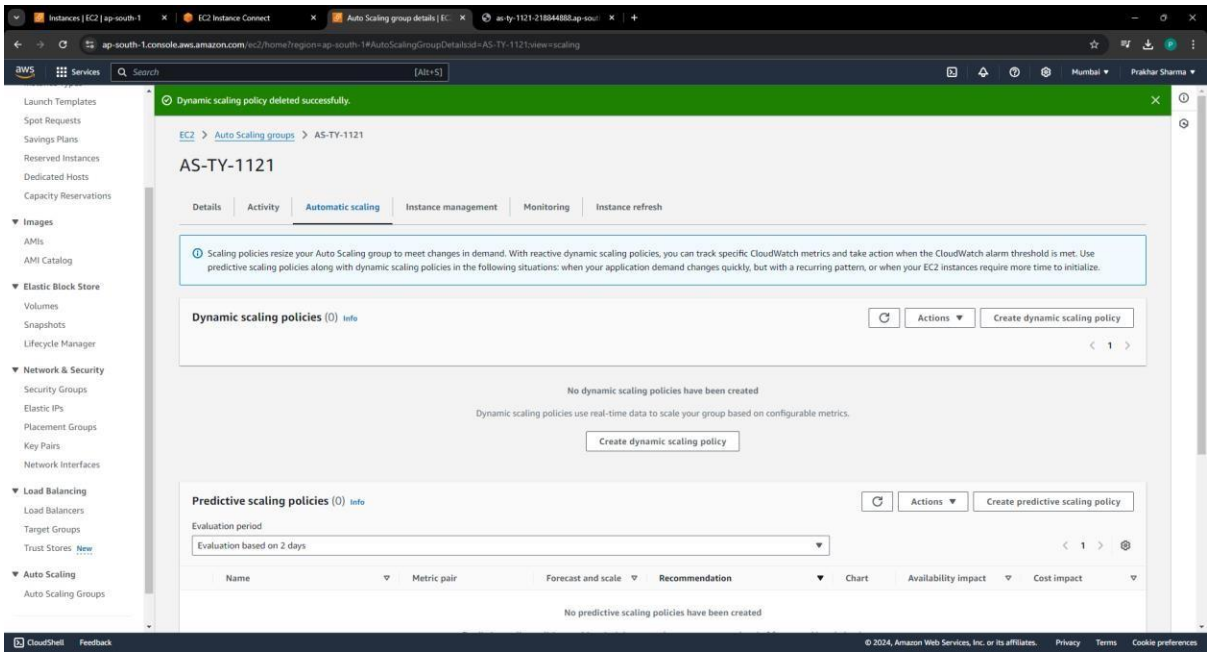
-Now refresh the browser you can see the change in ip address.



This Message is from 172.31.6.137

12. Now Delete the Dynamic Scaling Policy we created.

Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	



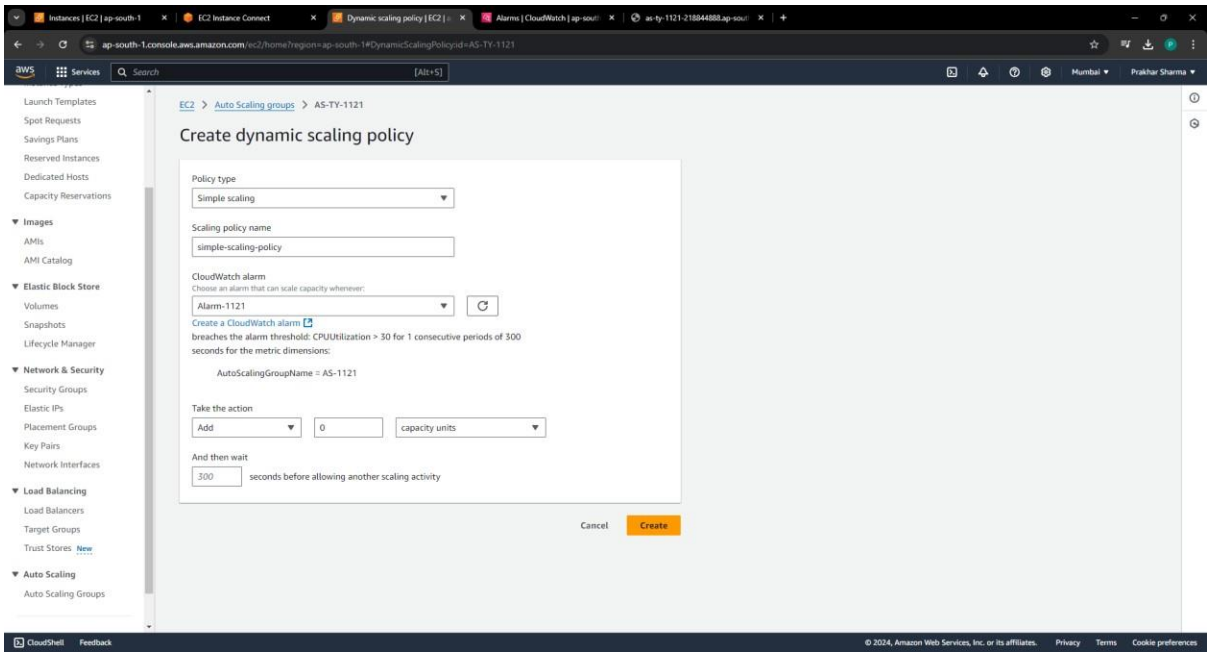
13. Now again created new dynamic policy.

- **Policy Type:** Simple Scaling Policy
- **Policy Name:** avg-cpu-policy
- Take the action: Add, 1, capacity unit.

14. Now Create a CloudWatch alarm.

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

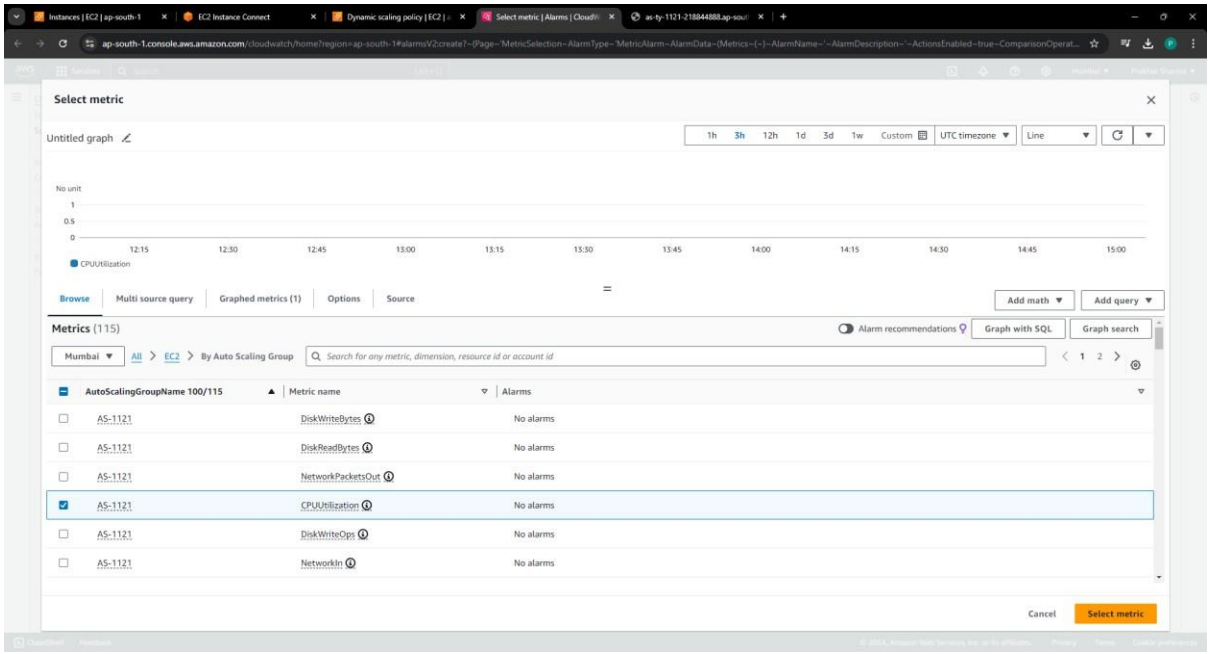
Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



-Now click on select metric
-Select EC2
-Select By Ayto Scaling Group
-Select CPU Utilization

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

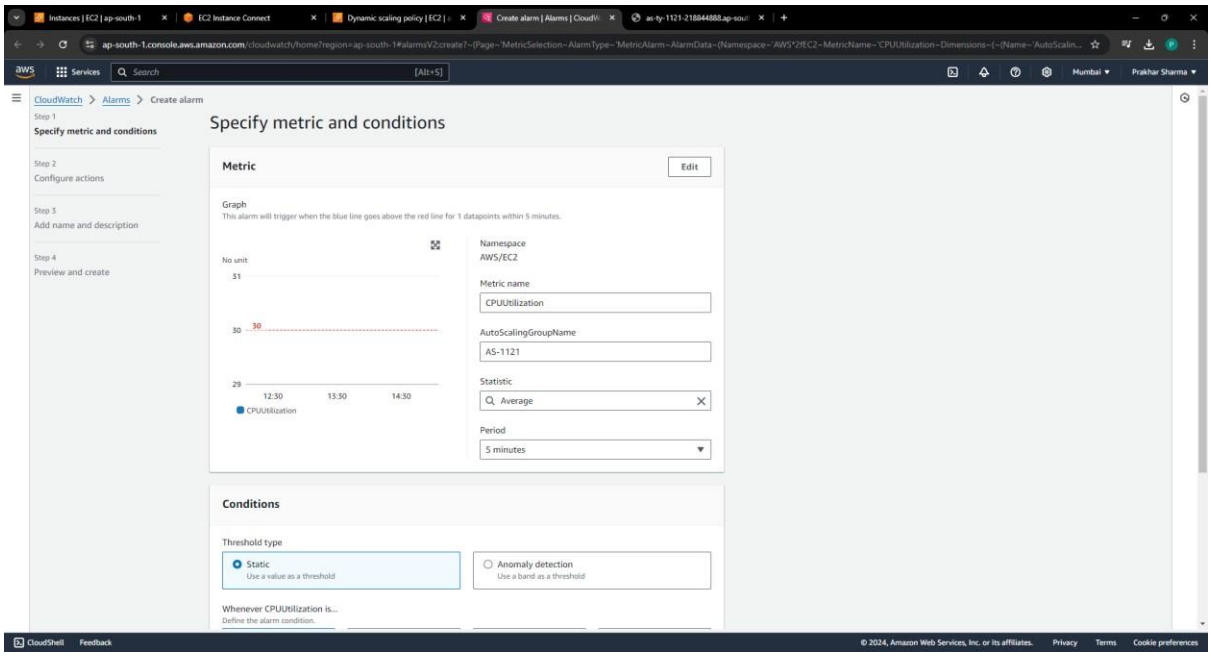
Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



-Set Period to 5 minutes.

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS

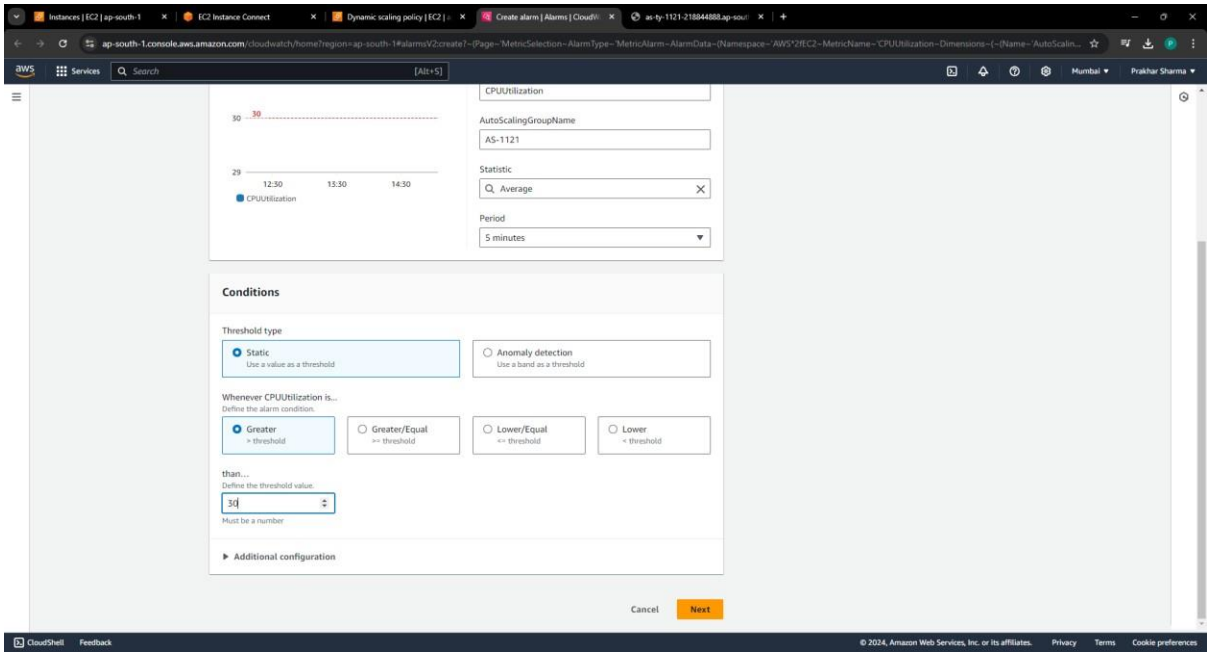


-Set threshold to 30.

D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

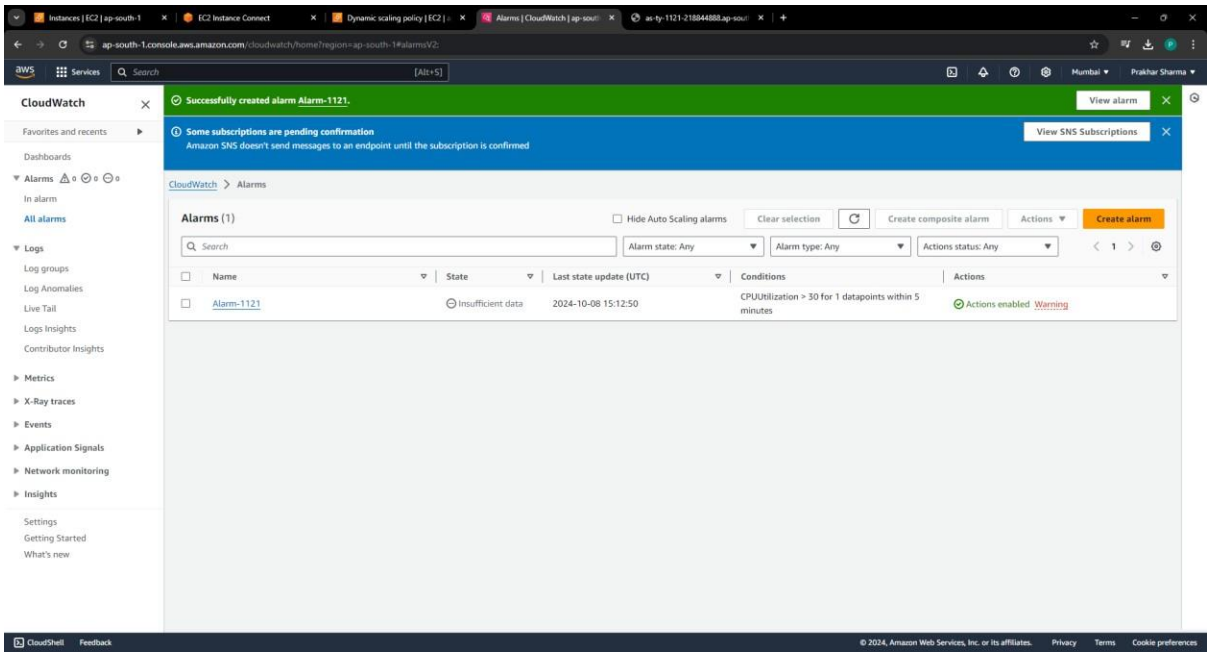
Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**	



-Click Next
-Click create Alarm

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

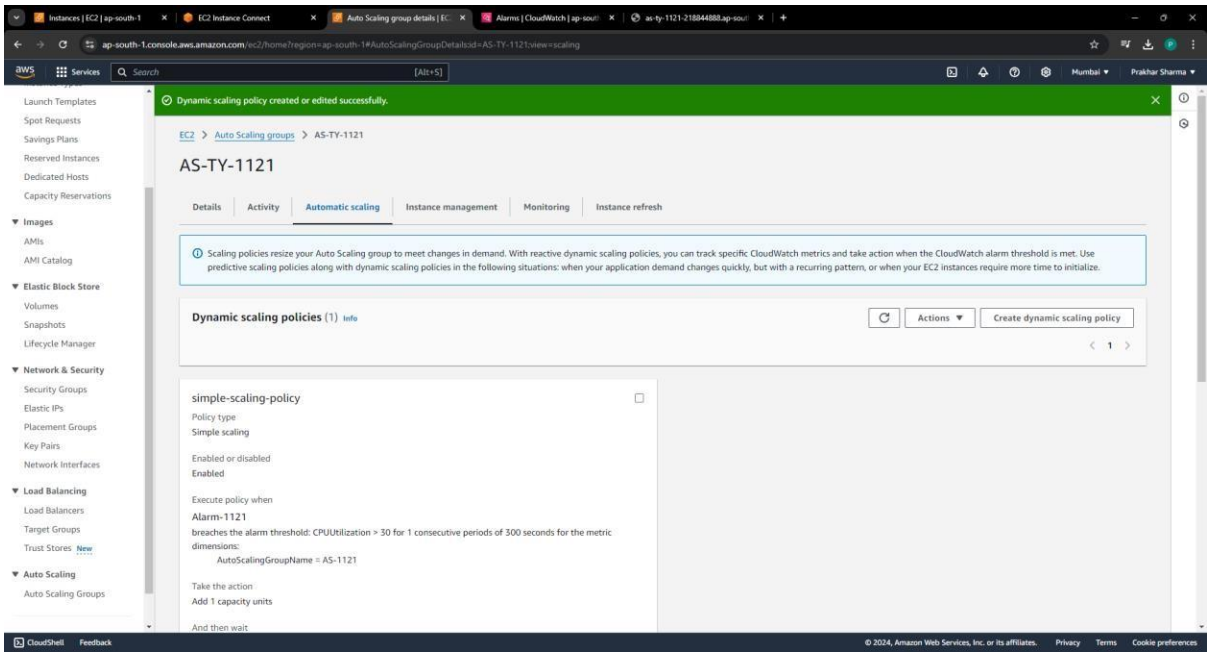
Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



10. Now after creating alarm ,select it from dropdown and click on create dynamic scaling policy.

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



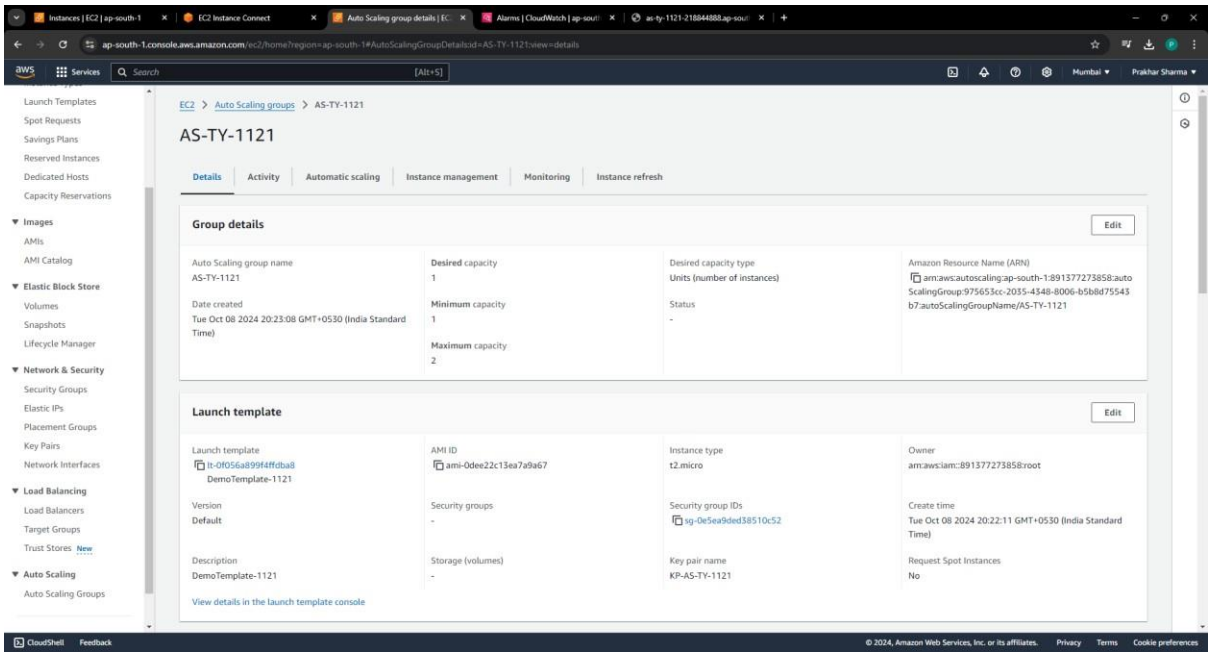
10. Now in Auto Scaling Group Details ,edit group detail.

11. Click on edit

12. Set group size desired capacity from 2 to 1.

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

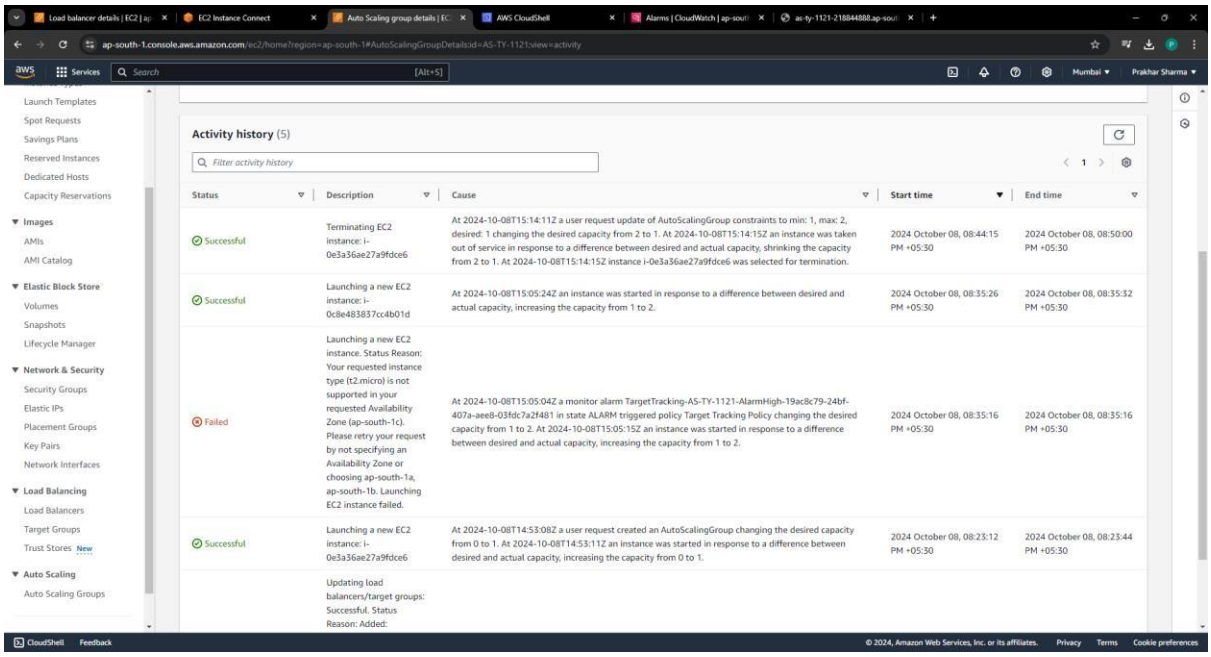
Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



15. You can see in Auto Scaling in Activity in Activity History ,a Instance is getting terminated.

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



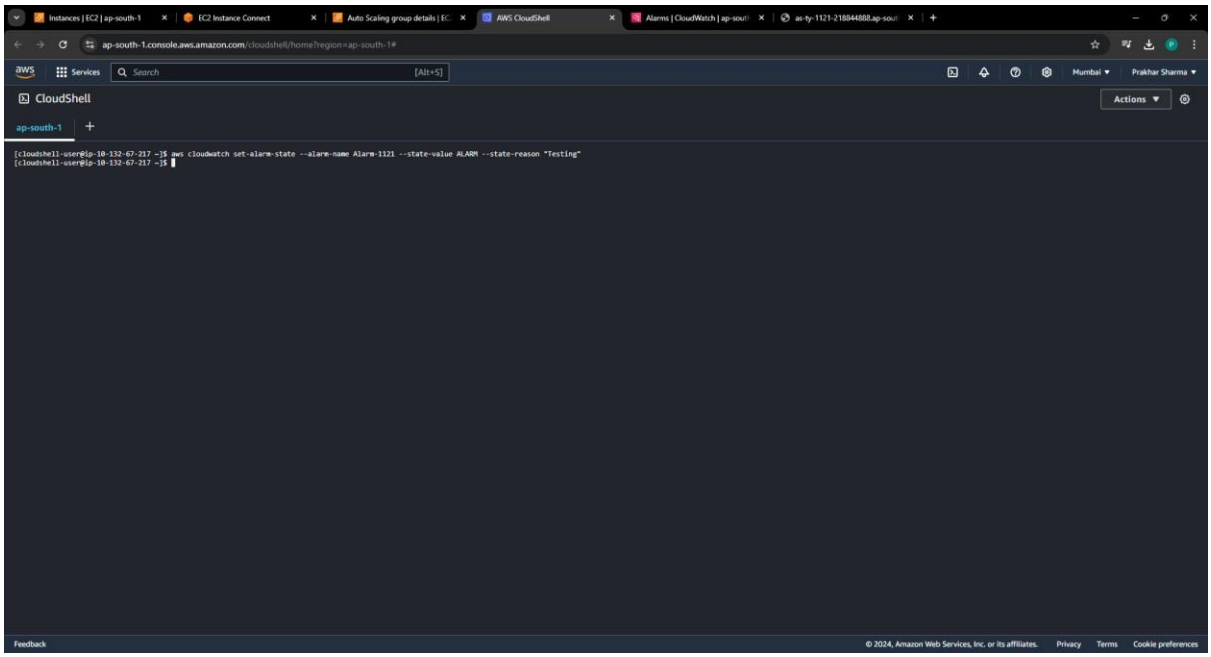
16. Open the terminal from the icon next to the notification icon in the title bar where you see your account name .

17. Run the following command :

Aws cloudwatch set-alarm-state –alarm-name YOUR ALARM NAME –state-value ALARM –state-reason “test”

Name of the Student: Prakhar Anil Sharma **PRN:** 20220801121

Title of Practical: Creating an Application Load Balancer and Auto Scaling Group in AWS



10. Now go to cloudwatch alarm in alarms you can see the alarm is in IN ALARM state after refreshing it.

D Y PATIL INTERNATIONAL UNIVERSITY
AKURDI PUNE

School of Computer Science, Engineering and Applications(SCSEA)
B.C.A. TY (SCSEA)
Subject: Advance Cloud Computing(ACC)

Name of the Student:	**Prakhar Anil Sharma**	**PRN: 20220801121**
Title of Practical:	**Creating an Application Load Balancer and Auto Scaling Group in AWS**