

3-TIER ARCHITECTURE

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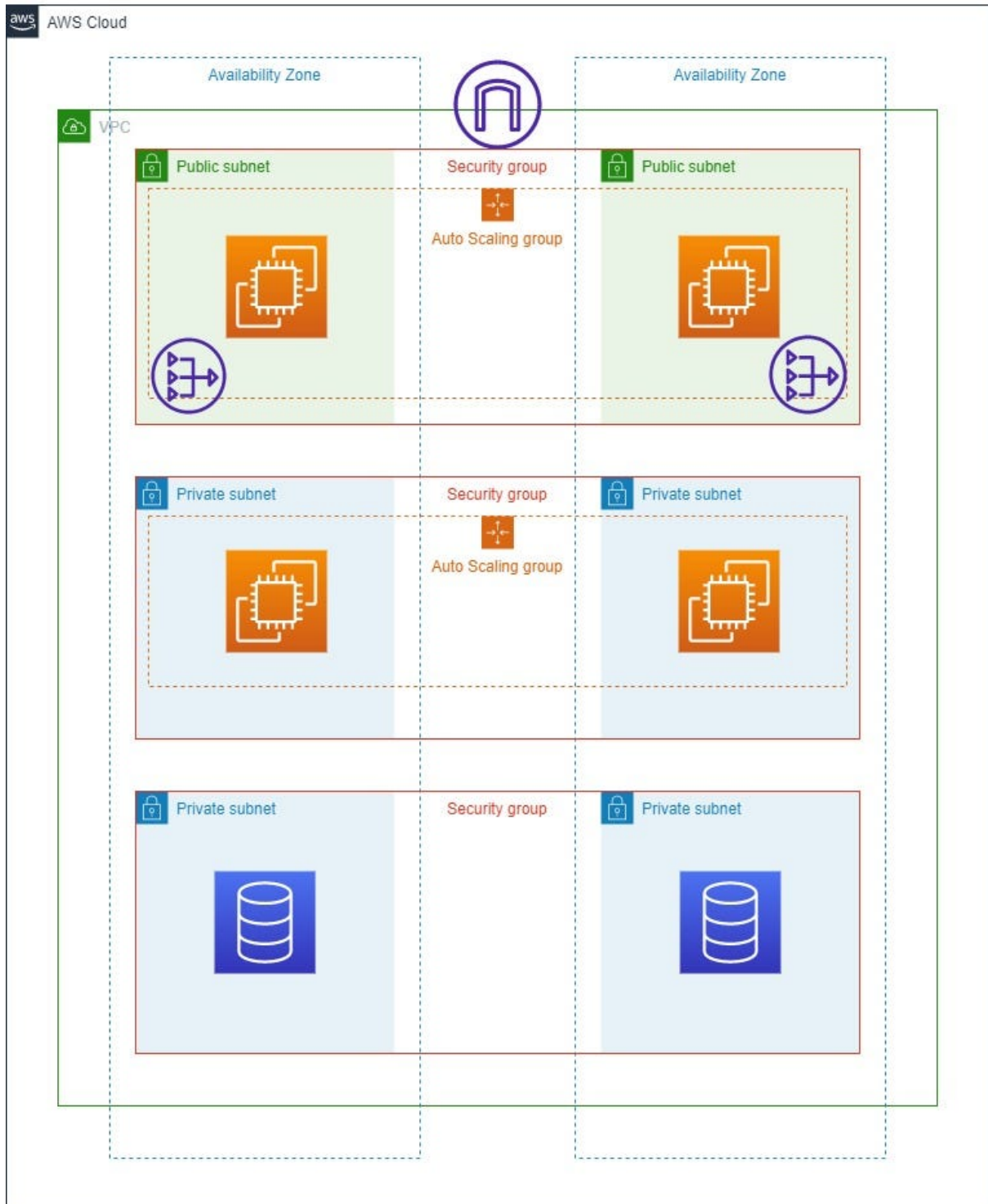
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3- Tire architecture

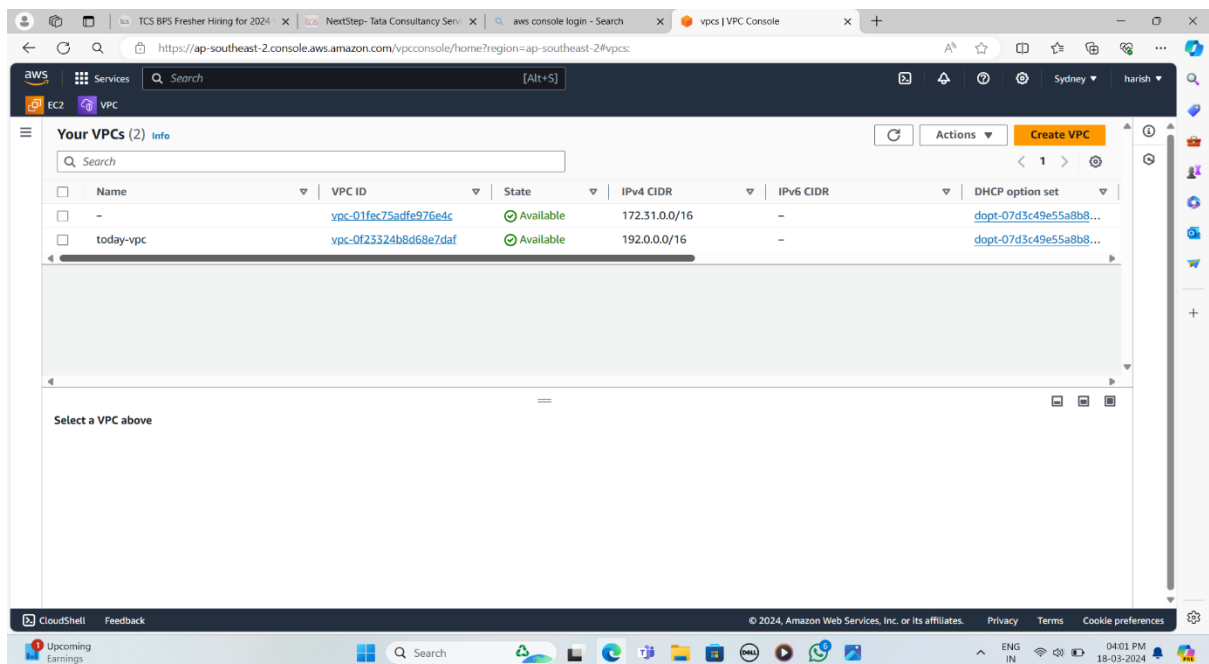
Three-tier architecture is a application architecture that organizes applications into three logical and physical computing tiers: the presentation tier, logic tier, and data tier.



- 1. Web tier:** The web tier offers a graphical user interface, which displays information to and collects information from the users.
- 2. Application tier:** In this tier, information that is collected in the presentation tier is processed - sometimes against other information in the data tier.
- 3. Data tier:** Data tier controls the servers where the information is stored, it runs a relational database management system on a database server.

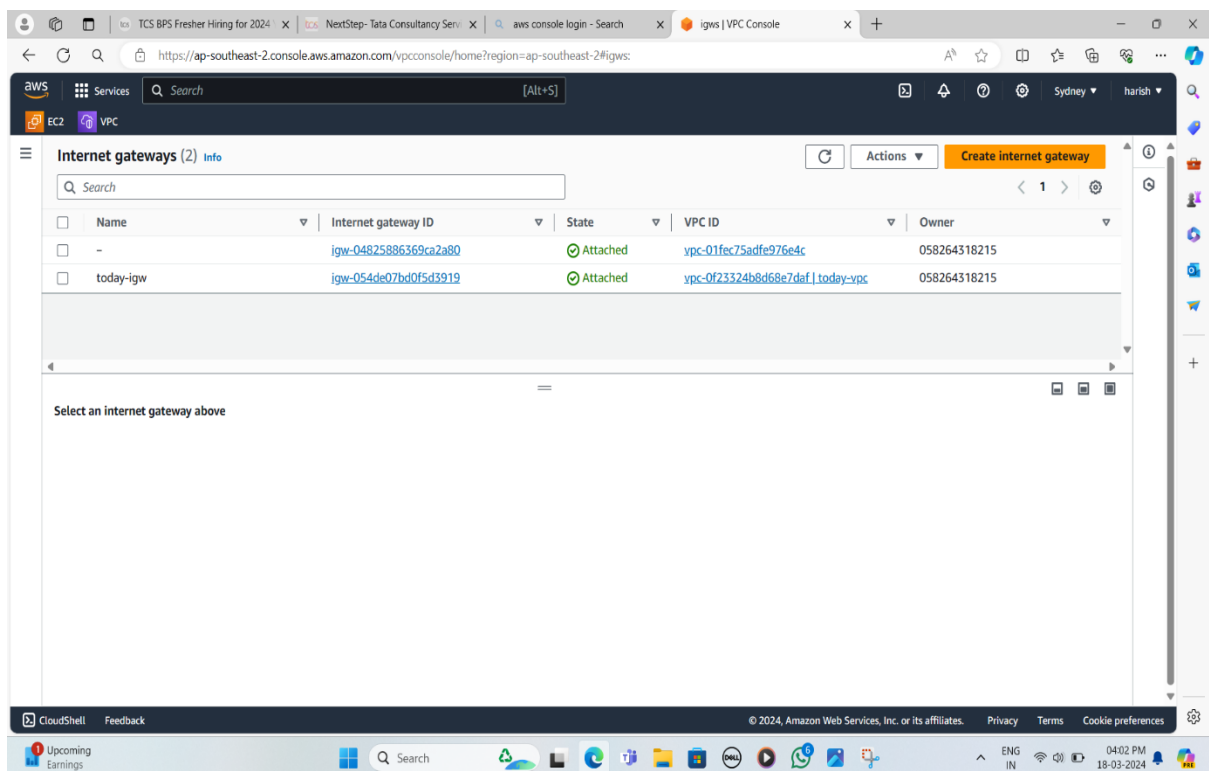


Create a vpc with specific name (today-vpc) in a region Sydney

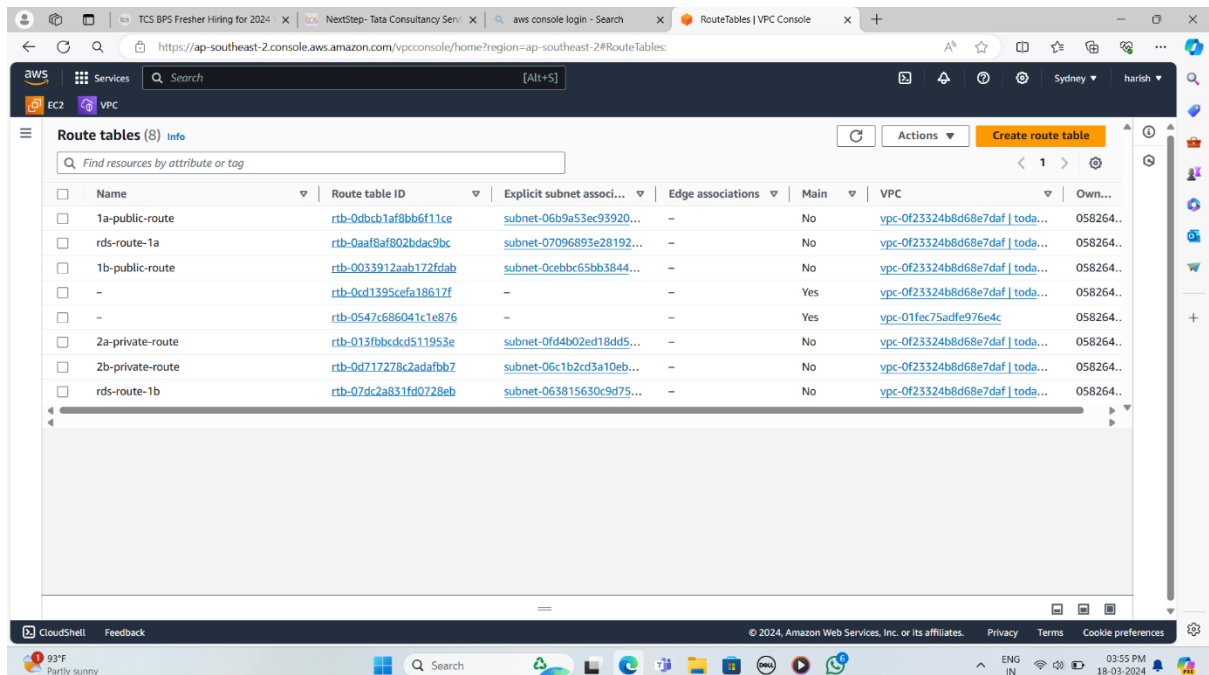


Create a 6 subnets (1 public, 2 private subnets in one AZ and other 3 subnets are same, but in different AZ) with same vpc.

Now, create a Internet Gateway and attach to the vpc



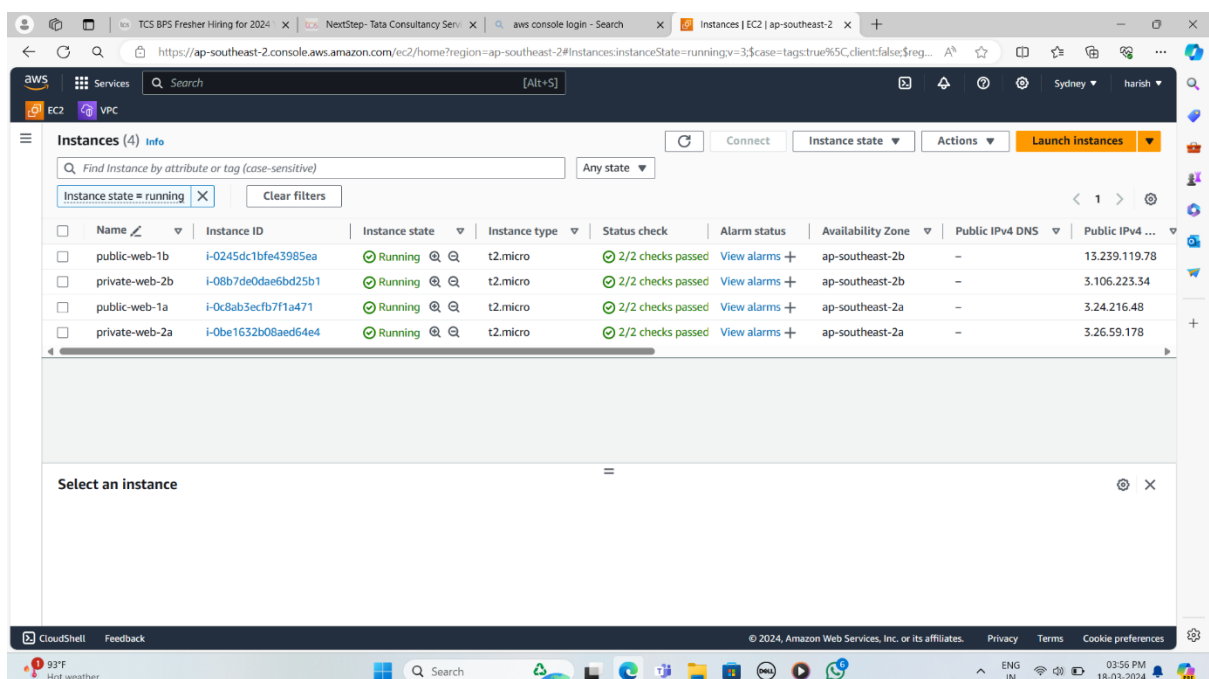
To create a route tables and associate with the subnet along with internet connection



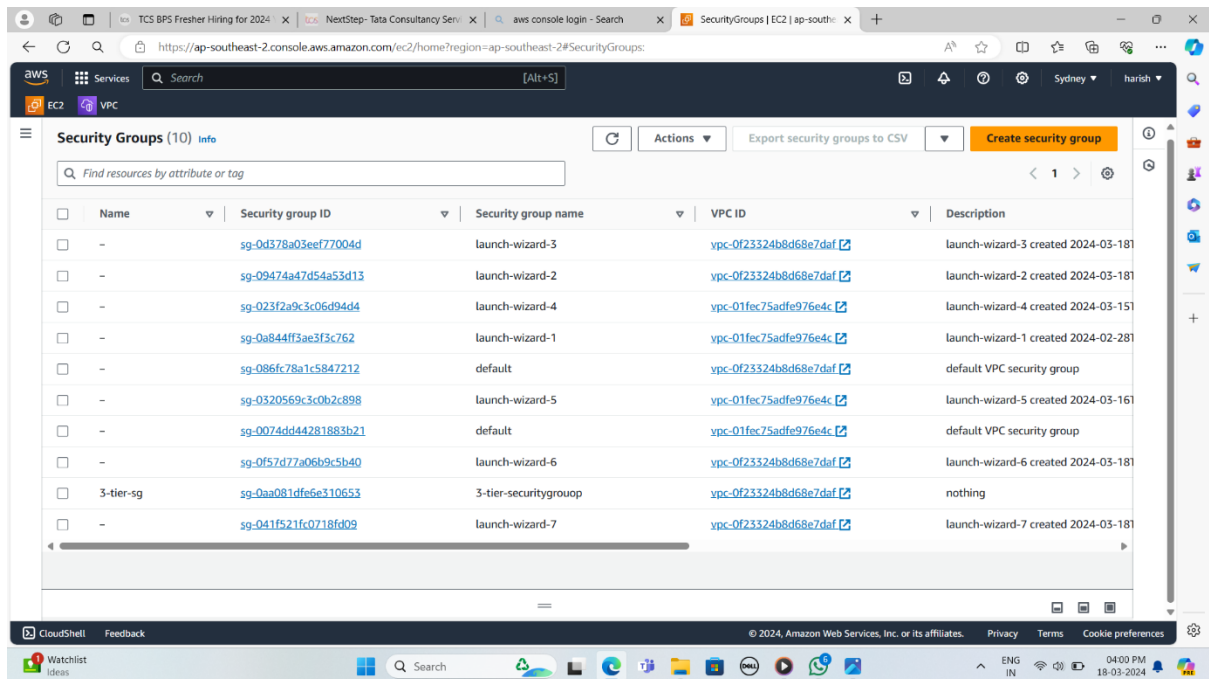
Now, Create 4 instance with the assign security group

2-public and 2-private instances with Different AZ

(public-1a, private-2a one Availability zone and public-2b, private-2b is another Availability zone).



Create a Security group (3-tier-sg)

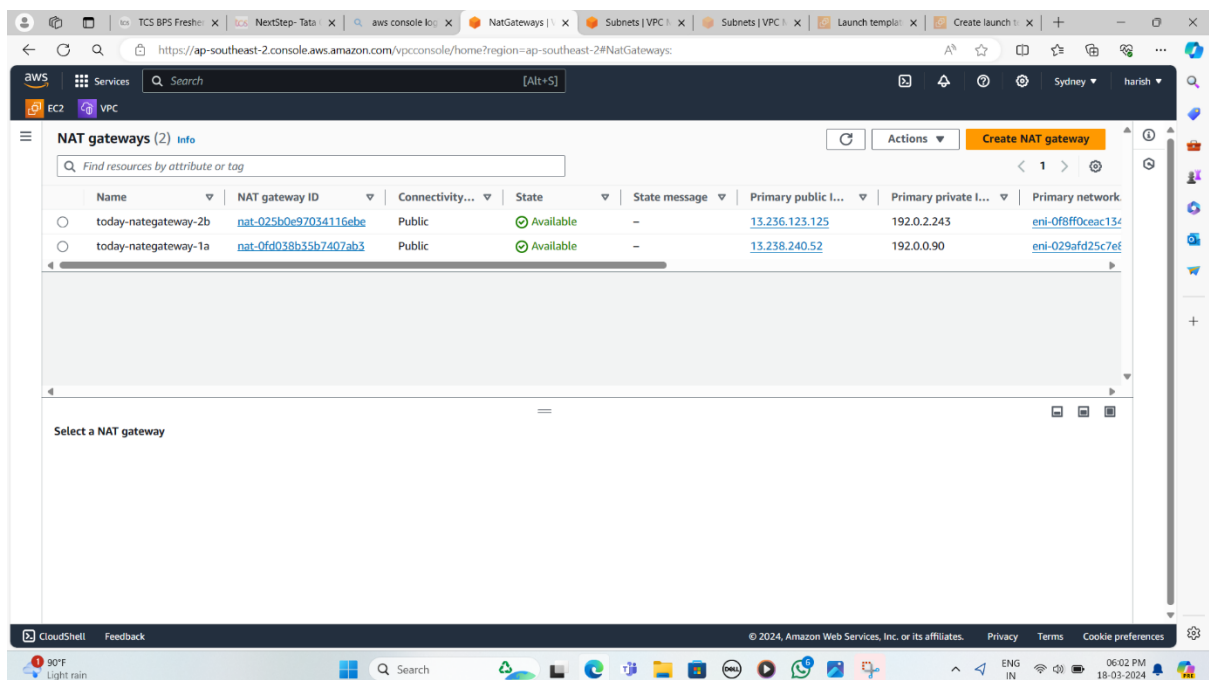


The screenshot shows the AWS Management Console for the 'Security Groups' page. The table lists several security groups, with '3-tier-sg' selected. The table columns are Name, Security group ID, Security group name, VPC ID, and Description.

Name	Security group ID	Security group name	VPC ID	Description
-	sg-0d378a03eef77004d	launch-wizard-3	vpc-0f23324b8d68e7daf	launch-wizard-3 created 2024-03-18
-	sg-09474a47d54a53d13	launch-wizard-2	vpc-0f23324b8d68e7daf	launch-wizard-2 created 2024-03-18
-	sg-023f2a9c3c06d94d4	launch-wizard-4	vpc-01fec75adfe976e4c	launch-wizard-4 created 2024-03-15
-	sg-0a844ff3ae3f3c762	launch-wizard-1	vpc-01fec75adfe976e4c	launch-wizard-1 created 2024-02-28
-	sg-086fc78a1c5847212	default	vpc-0f23324b8d68e7daf	default VPC security group
-	sg-0320569c3c0b2c898	launch-wizard-5	vpc-01fec75adfe976e4c	launch-wizard-5 created 2024-03-16
-	sg-0074dd44281883b21	default	vpc-01fec75adfe976e4c	default VPC security group
-	sg-0f57d77a06b9c5b40	launch-wizard-6	vpc-0f23324b8d68e7daf	launch-wizard-6 created 2024-03-18
3-tier-sg	sg-0aa081dfe6e310653	3-tier-securitygroup	vpc-0f23324b8d68e7daf	nothing
-	sg-041f521fc0718fd09	launch-wizard-7	vpc-0f23324b8d68e7daf	launch-wizard-7 created 2024-03-18

Then launch instance and install nginx, to check communication in private subnet, Does not communicates the public subnet. So we want one way communication

Now, create a Nat gateway



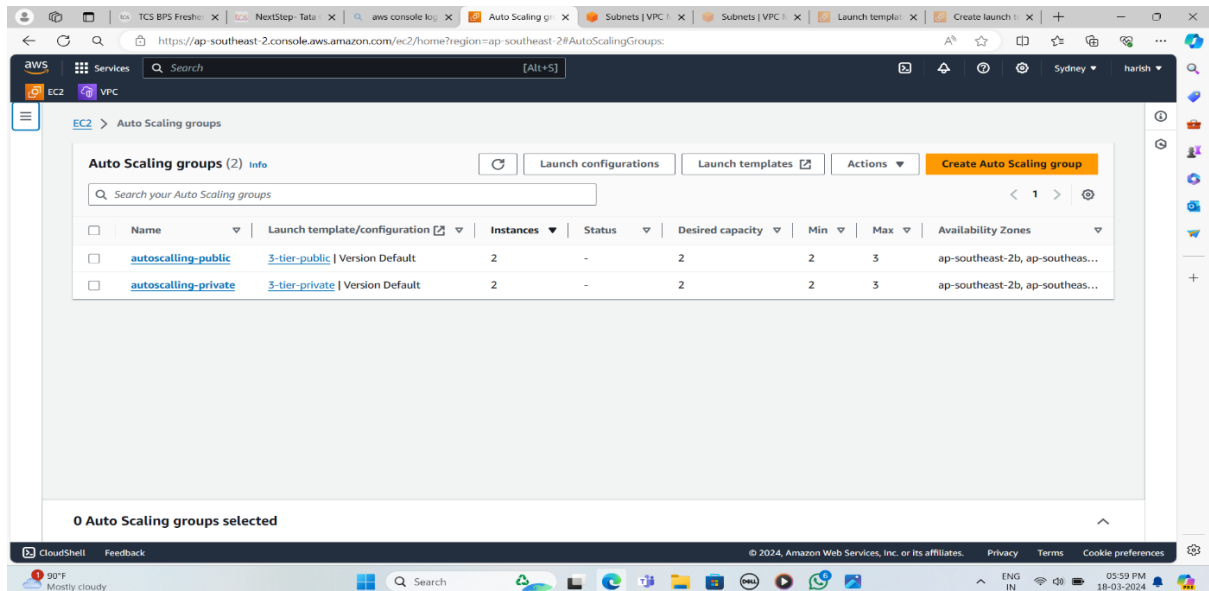
The screenshot shows the AWS Management Console for the 'NAT Gateways' page. The table lists two NAT gateways, both in an 'Available' state. The table columns are Name, NAT gateway ID, Connectivity..., State, State message, Primary public IP, Primary private IP, and Primary network.

Name	NAT gateway ID	Connectivity...	State	State message	Primary public IP	Primary private IP	Primary network
today-nategateway-2b	nat-025b0e97034116ebe	Public	Available	-	13.236.123.125	192.0.2.243	eni-0f8ff0ceac134
today-nategateway-1a	nat-0fd038b35b7407ab3	Public	Available	-	13.238.240.52	192.0.0.90	eni-029afd25c7ef

After we create a Nat Gateway, we have edit route tables in edit routes with different availability zone

To create a target group purpose of autoscaling.

Now, to create a two Autoscaling group (1-public and 1-private)



Now, create a RDS in 2 subnets with different availability zones

Create a database subnet group and create rds in there subnet with any one engine.

The RDS connect only vpc connection.

